



**DRAFT DETAILED PROJECT REPORT
VOL-V BILL OF QUANTITIES
PKG-1
TAMENGLONG-DIALONG SECTION
(FROM KM 0+000 TO KM 10+000) LENGTH-10.0KM**



M/s L.N Malviya Infra Projects PVT. LTD. Bhopal.
Head Office:- T-10, IIIrd Floor, City Centre, Press
Complex Plot No.-1, M.P Nagar, Zone-1, Bhopal (M.P.)
Tel: +91-7771011298, +91-7771011300

Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur Road the state of Manipur on EPC mode.

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Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur Road the state of Manipur on EPC mode.

Abstract of Bill wise Cost

Design Length	10.000 Km
Construction Period	24 Months

S No.	Bills		Amount (Rs.)	% of Total Cost
1	Bill 1	Site Clearance and Dismantling	0.07 Crs	0.05%
2	Bill 2	Earth Work	34.93 Crs	25.74%
	Bill 3	Granular Sub Base and Base Courses		
3	Bill 3A	Granular Sub Base Courses	6.40 Crs	4.71%
4	Bill 3B	Non Bituminuos Base Courses	8.13 Crs	5.99%
	Bill 4	Bituminous Course (Flexible Pavement)		
5	Bill 4A	Bituminous Base Course	10.82 Crs	7.97%
6	Bill 4B	Bituminous Wearing Course	4.01 Crs	2.96%
5	Bill 5	Culverts		
7	Bill 5A	Pipe Culvert	0.00 Crs	0.00%
8	Bill 5B	Box & Slab Culvert	15.89 Crs	11.71%
	Bill 6	Bridges		
9	Bill 6A	Major Bridges	0.00 Crs	0.00%
10	Bill 6B	Minor Bridges	8.60 Crs	6.34%
	Bill 7	Drainage and Protection works		0.00%
11	Bill 7A	Drainage works	2.52 Crs	1.86%
12	Bill 7B	Protection works	40.93 Crs	30.17%
13	Bill 9	Traffic Signs, marking and Appurtenances	3.35 Crs	2.47%
14	Bill 10	Miscellaneous	0.03 Crs	0.02%
Total Civil Construction Cost			135.68 Crs	100.00%
Price Escalation as per WPI index @ 3%			4.07 Lacs	
Total Civil Construction Cost (A)			139.75 Lacs	

Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur Road the state of Manipur on EPC mode.

Bill of Quantities (BILL No. - 1)

<i>Item No.</i>	<i>SOR Ref.</i>	<i>Descriptions</i>	<i>Total Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Amount</i>
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BILL No. - 1 SITE CLEARANCE AND DISMANTLING

1.01	<i>Ch - 1/3</i>	Clearing and grubbing road land including uprooting rank vegetation, grass, brush shrubs, saplings and trees of girth upto 300mm. Remobal of stumps, disposal of unserviceable material and stacking of serviceable materials upto 100m. From road boundary.				
	<i>b</i>	By Mechanical Means				
A	<i>i</i>	In area of light jungle	13.54	hectare	48711	659431

Total of Site Clearance & Dismantling					Rs.	659431
					Lac	6.594

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Road the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 2)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
<u>BILL No. - 2 EARTH WORK</u>						
2.01	Ch - 2/ 31	Earthwork in excavation (Excavation in soil in hilly area by mechaniclal means including cutting and trimming of side slopes and disposing of excavated earth with all lifts and lead upto 1000 meters)	1082451	cum	211	228819354
2.02	Ch - 2/ 32	Excavation in hilly area in Ordinary Rock by Mechanical Means not Requiring Blasting. (Excavation in hilly area in ordinary rock not requiring blasting by mechanical means including cutting and trimming of slopes and disposal of cut material with all lift and lead upto 1000 metres)	190983	cum	305	58165926.38
2.02	Ch - 3/ 33	Earth work in excavation of foundation of structure as per drawing and technical specification, including setting out, construction of shoring and bracing, removal of stumps and other deleterious matter, dressing of sides and bottom, backfilling				
	C1	the excavation earth to the extent required and utilising the remaining earth locally for road work.				
(i)	i	Ordinary soil				
(i) B	b	Mechanical Means (Depth upto 3m)	7189	cum	106	761141
2.04	Ch - 2/ 12	Construction of Embankment with Material obtained from borrowpits. (Construction of embankmement with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slop and compacting to meet requirement of table 300-2)	11	cum	226	2516
2.05	Ch - 2/ 13	Construction of Embankment with material Deposited from Roadway Cutting (Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structure graded and compacted to meet requirement of table 300-2)	379540	cum	160	60802304
2.06	Ch - 2/ 16	Compacting original ground supporting embankment (Loosening, leveling and Compacting original ground supporting embankment to facilitate placement of first layer of embankment, scarified to a depth of 150mm, mixed with water at OMC and then compacted by rolling so as to achieve minimum dry density as given in table 300-2 for embankment construction.)	17362.28	cum	42.0	729216
Total of Earth work					Rs. Lac	349280458 3492.805

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur
Road the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 3)

<i>Item No.</i>	<i>SOR Ref.</i>	<i>Descriptions</i>	<i>Total Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Amount</i>
<u>BILL No. - 3 GRANULAR SUB-BASES, BASES COURSES</u>						
3.01		Granular Sub-base with Close Graded Material (Table:- 400-1)				
A	Ch -3/ 2	By Mix in Place Method (Construction of Granular Sub-base by providing close Graded Material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per Clause 401.)				
(i)	i	for grading- II Material	26504	cum	2413	63957254
3.02	Ch -4/ 2	Providing, laying, spreading and compacting stone aggregats to wet mix macadam specification including premixing the material with water to OMC in mechanical mix(Pug Mill), carriage of of mixed material by tiper/dumper to site, laying uniform layers in base course on a well prepared underbase and compacting with ower vibratory roller to achive the desiried density i/c Lighting, guarding, barricading and maintenace of diversion etc.(By Mechanical Means)	27420	cum	2965	81310618
Total of Granular Sub-Bases & Base Courses						Rs. 145267872 Lac 1452.679

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur
Road the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 4A)

<i>Item No.</i>	<i>SOR Ref.</i>	<i>Descriptions</i>	<i>Total Quantity</i>	<i>Unit</i>	<i>Rate</i>	<i>Amount</i>
<u>BILL No. - 4 (A) BITUMINOUS COURSES (FLEXIBLE PAVEMENT)</u>						
4A.01	Ch -5/ 1	Providing and applying primer coat (Providing and applying primer coat with bitumen emulsion on prepared surface of granular base including clearing of road surface and spraying primer using mechanical means.)	107286	sqm	57.540	6173227
4A.02	Tack coat					
	Ch -5/ 2	Providing and applying tack coat (Providing and applying track coat with bitumen emulsion using emulsion pressure distributor m on the prepared bituminous/granular surface cleaned with mechanical broom.)				
A	iii	On Granular surface pre treated with priming coat @ 0.25-0.30 kg/sqm	107286	sqm	17.160	1841025
B	i	On bituminous surface @ 0.20-0.30 Kg/Sqm	107286	sqm	15.630	1676878
4A.03	Ch -5/ 6	Dense Graded Bituminous Macadam (Providing and laying dense graded bituminous macadam with 40-60 TPH batch type HMP producing an average output of 35 tonnes per hour using crushed aggregates of specified grading primixed with bituminous binder @ 4.25 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause no. 507 compete in all respects.)				
(ii)	ii B	Grading - II 19 mm (Nominal Size) Using Bitumen 60/70	9357	cum	10707	100184784
4A.04	Ch -5/ 8	Bituminous Concrete (Providing and laying bituminous Concrete with 40-60 TPH batch type hot mix plant producing an average output of 35 tonnes per hour using crushed aggregates of specified grading, primixed with bituminous binder @ 5.5 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRTH specification clause no. 509 compete in all respects.)				
(i)	ii A	for Grading II (13 mm nominal size) Using Bitumen 60/70	3219	cum	11950	38463129
Total of Bituminous Course					Rs. Lac	148339042 1483.390

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 5B)

Sr. No.		ITEM	Quantity	Rate (Rs)	Amount (Rs)
		Chapter No. 8 - TRAFFIC AND TRANSPORTATION			
	5	Painting two coat after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	539.600	93.41	50404.04
	17	Reinforced Cement Concrete Crush Barrier			
		Provision of an Reinforced cement concrete crush barrier at the edges of the road, approaches to bridge structures and medians constructed with M 20 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre- moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular no. RW/NH - 33022/1,94-DO III dated 24 june 1994 as per dimensions in the approved drawing and at locations directed by the Enginee, all as specified	269.800	5277.53	1423877.59
		Chapter No. 13 - EARTH WORK			
1	1	Earth work in excavation in foundation for structures complete as per drawing and technical specification			
	a)	Ordinary Soil			
	ii)	Depth 3.0 m.			
			14361.369	218.93	3144134.41

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 5B)

Sr. No.		ITEM	Quantity	Rate (Rs)	Amount (Rs)
	3	Back filling behind abutment, wing wall and return wall complete as per drawing and technical specification.			
	a)	Gravelly material	16353.560	1007.86	16482098.98
	4	Filter medium behind abutment, wing wall and return wall complete as per drawing and technical specification.	2900.500	1274.65	3697122.15
		Chapter No. 14 - FOUNDATION			
3	3	Cement concrete for plain concrete/reinforced concrete in open foundation i/c cost of form work complete as per Drawing and technicle specification.			
	f)	P.C.C. M-15 grade			
			923.041	8348.21	7705739.63
		Chapter No. 15 - Sub Structure			
	3	Cement concrete for plain concrete/reinforced concrete for sub-structure i/c form work complete as per drawing and technical specification.			
	b)	PCC M-20 grade			
	i)	Upto 5m. Height			
		Wing Wall Height	2603.838	9067.33	23609858.64

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 5B)

Sr. No.		ITEM	Quantity	Rate (Rs)	Amount (Rs)
	f)	RCC M-30 grade			
		Upto 5m. Height			
			1443.288	11786.08	17010707.83
	5	HYSD bar reinforcement in substructure complete as per drawing and technical specification.	165.978	77427.7	12851295.78
	12	Providing weep holes in plain concrete reinforced concrete abutment, wing wall/ return wall complete as per drawing and technical specification.	4584.000	445.75	2043318.00
		Chapter No. 16 - Superstructure			
	1	Cement concrete for reinforced concrete in superstructure i/c form work complete as per drawing and technical specification.			
	a)	M-30 grade			
		Top Slab	488.880	11740.55	5739720.08
	3	HYSD bar reinforcement in substructure complete as per drawing and technical specification.	56.221	85183.86	4789138.83
7	5.0	Cement concrete wearing coat M-30 grade including form work and reinforcement complete as per drawing and technical specification.	1487.200	18782.51	27933348.87

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Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 5B)

Sr. No.		ITEM	Quantity	Rate (Rs)	Amount (Rs)
	11.0	Drainage spouts complete as per drawing and technical specification. (Size 260 x 260 mm)	84.000	2158.99	181355.16
	12.0	Reinforced cement concrete approach slab M-25 grade including reinforcement and form work complete as per drawing and technical specification.	1033.200	14481.39	14962172.15
	13.0	Plain cement concrete M-15 ordinary grade levelling coarse below approach slab complete as per drawing and technical specification.	516.600	8109.93	4189589.84
	NSOR	Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.	1008.000	621.00	625968.00
		Chapter No. 17 - Protective Work			
	1.0	Laying apron complete as per drawing and technical specifications.			
		Boulder	3113.100	2280.25	7098646.28
	2.0	Filter material underneath pitching in slop complete as per drawing and technical specification	478.104	2426.95	1160334.79

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Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 5B)

Sr. No.		ITEM	Quantity	Rate (Rs)	Amount (Rs)
	3.0	Pitching on slopes completes as per drawing and technical specification.			
		Stone	955.826	1655.65	1582513.61
	4.0	Flooring complete as per drawing and technical specification.			
	a)	Rubble Stone laid in cement mortar 1:3			
		P.C.C. M-15 grade			
			523.997	4996.59	2618200.64
				Total	158899545.31
				Say `	15.89

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 6B)

Item No.	Item Description	Unit	QTY	Item Rate	Amount
	Total of Chapter - 4				0
	Chapter No. 5 - BASE				
3	Construction of footpath/separater by providing a 150mm compected granular sub base as per clouse 401 and 25mm thick cement concrete grade M15, over laid with pre-cast concrete tiles in cement motar 1:3 including provision of all drainage arrangements but excluding kerb channel .	Sqm	111.60	1374.51	153395.316
	Total of Chapter - 5				153395.316
	Chapter No. 8 - TRAFFIC AND TRANSPORTATION				
5	Painting two coat after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	sqm	74.40	93.4	6949.704
17	Reinforced Cement Concrete Crash Barrier				0
	Provision of an Reinforced cement concrete crush barrier at the edges of the road, approches to bridge structures and medians constructed with M 20 grade concrete with HYSD reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre- moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular no. RW/NH - 33022/1,94-DO III dated 24 june 1994 as per dimensions in the approved drawing and at locations directed by the Enginee, all as specified	Linear metre	148.80	5277.53	785296.464
	Total of Chapter - 8				792246.168

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 6B)

Item No.	Item Description	Unit	QTY	Item Rate	Amount
	Chapter No. 13 - EARTH WORK				
1	Earth work in excavation in foundation for structures complete as per drawing and technical specification	--			-
a)	Ordinary Soil	cum			-
(i)	Depth 3.0 m.	cum	2,223.62	218.93	486,816.88
3	Back filling behind abutment, wing wall and return wall complete as per drawing and technical specification.	cum			-
a)	Gravelly material	cum	4,317.42	1007.86	4,351,351.34
4	Filter medium behind abutment, wing wall and return wall complete as per drawing and technical specification.	cum	453.00	1274.65	577,416.45
	Total of Chapter - 13				5415584.674
	Chapter No. 14 - FOUNDATION				
3	Cement concrete for plain concrete/reinforced concrete in open foundation i/c cost of form work complete as per Drawing and technicle specification.	--			-
a)	P.C.C. M-15 grade	cum	164.80	8348.21	1,375,810.52
b)	P.C.C. M-20 grade	cum	20.36	9333.75	190,012.45
	Total of Chapter - 14				1565822.974
	Chapter No. 15 - Sub Structure				
3	Cement concrete for plain concrete/reinforced concrete for sub-structure i/c form work complete as per drawing and technical specification.				-

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 6B)

Item No.	Item Description	Unit	QTY	Item Rate	Amount
g)	RCC M-30 grade				-
i)	Upto 5m. Height	Cum	1,308.84	11786.08	15,426,034.02
5	HYSD bar reinforcement in substructure complete as per drawing and technical specification.	MT	154.08	77427.65	11,930,214.91
12	Providing weep holes in plain concrete reinforced concrete abutment, wing wall/ return wall complete as per drawing and technical specification.	Rm	704.00	445.75	313,808.00
	Total of Chapter - 14				27670056.93
	Chapter No. 16 - Super structure				
5	Cement concrete wearing coat M-30 grade including form work and reinforcement complete as per drawing and technical specification.	cum	30.69	18782.51	576,435.23
11	Drainage spouts complete as per drawing and technical specification. (Size 260 x 260 mm)	Each	12.00	2158.99	25,907.88
NSOR	Providing & fixing 20 mm thick compressible fibre board in expansion joint complete as per drawing & Technical Specification.	RM	128.00	621	79,488.00
12	Reinforced cement concrete approach slab M-25 grade including reinforcement and form work complete as per drawing and technical specification.	cum	134.40	14481.39	1,946,298.82
13	Plain cement concrete M-15 ordinary grade levelling coarse below approach slab complete as per drawing and technical specification.	cum	69.12	8109.93	560,558.36
	Total of Chapter - 16				3188688.29
	Chapter No. 17 - Protective Work				
NSOR	Curtain wall complete as per drawing and Technical specification				

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Mahur Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 6B)

Item No.	Item Description	Unit	QTY	Item Rate	Amount
	B. Cement concrete Grade M15	cum	144.11	9452.00	1,362,137.32
1	Laying apron complete as per drawing and technical specifications.				-
a)	Boulder	cum	485.60	2280.25	1,107,279.22
b)	Boulder in wire crates	cum		2169.83	-
c)	Cement concrete blocks (M-15) i/c form work	cum		8348.21	-
2	Filter material underneath pitching in slop complete as per drawing and technical specification	cum	51.61	2426.95	125,253.52
3	Pitching on slopes completes as per drawing and technical specification.				-
a)	Stone	cum	103.22	1655.65	170,894.32
b)	Cement concrete block (M-15 grade)	cum		8515.17	-
4	Flooring complete as per drawing and technical specification.				-
a)	Rubble Stone laid in cement mortar 1:3	cum	99.12	4996.59	495,238.05
b)	Cement Concrete Block in M-15 i/c form work.	cum		8348.21	-
	Total of Chapter - 17				3,260,802
	Total Cost of BOX MNB				42,046,596.78
	Total Cost of RCC Girder 1x25				43,940,944.18
	Total Cost (say) in Cr.				8.60

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur
Road the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 7A)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
<u>BILL NO. - 7A DRAINAGE WORKS</u>						
7.01	10-1 c	Cement concrete for plain concrete/reinforced concrete for sub-structure i/c form work complete as per drawing and technical specification.	3703.04	cum	6674	24712349
7.02	Ch -10/ 12	Random rubble masonry (uncoursed) in cement sand mortar 1:3 in foundation upto a depth of 1.5m. And 1.5m. From ground/bed level				
(b)		Random Rubble Masonry	13.37	cum	5663	75740
7.03	Ch -10/ 2	Providing and laying Plain cement concrete mix with stone aggregate 20 mm nominal size mechanically mixed and C.C. grade M-15 in foundation & plinth upto 1.5 mtr. From ground level	25.63	cum	7496	192139
A	a					
Case I	Ch -14-3	Providing and laying Plain/Reinforced cement concrete in sub-structure complete as per drawing and technical specifications section 1500, 1700 and 2200	10.44	cum	9459	98749
7.04	Ch -14-8	Providing and laying steel reinforcement at any level in foundation complete as per drawing and technical specification. [MoRTH Specification : Section 1600].	0.29	MT	77428	22209
7.05	Ch -15/ 4	Pointing with cement mortar 1:3 on brick work in substructure as per technical specification.	35.18	sqm	922.56	32459
7.06	Ch -10/ 24	Laying Reinforced Cement concrete pipe NP4 / Prestressed Concrete Pipe on first class bedding in Single Row. (cost of NP-4 pipe to be paid seperately) Layting Reinforced Cement comcrete pipe NP4 / Prestressed Concrete Pipe for culverts on first class bedding of granular material in single row including fixing collar with cement mortar 1:2 but excluding excavation, protection work, backfilling, concrete and masonry work in head walls and parapets				
B		1200 mm dia	130.00	Mtr	878	114137
Total of Drainage & Protection work					Rs.	25247783
					Lac	252.478

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Haflong Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities- 7B

Item No.	Item Description	Unit	QTY	Item Rate	Amount
	Total of Chapter - 12				0
	Chapter No. 13 - EARTH WORK				
1	Earth work in excavation in foundation for structures complete as per drawing and technical specification	--			-
a)	Ordinary Soil	cum			-
(i)	Depth 3.0 m.	cum	58,820.00	218.93	12,877,462.60
3	Back filling behind abutment, wing wall and return wall complete as per drawing and technical specification.	cum			-
a)	Gravelly material	cum	4,758.90	1007.86	4,796,304.95
4	Filter medium behind abutment, wing wall and return wall complete as per drawing and technical specification.	cum	13,393.80	1274.65	17,072,407.17
	Total of Chapter - 13				34746174.72
	Chapter No. 14 - FOUNDATION				
3	Cement concrete for plain concrete/reinforced concrete in open foundation i/c cost of form work complete as per Drawing and technicle specification.	--			-
a)	P.C.C. M-15 grade	cum	2,056.45	8348.21	17,167,676.45
e)	R.C.C. M-20 grade	cum			-
	Case-II: With Batching Plant, Transit Mixer and Concrete Pump		19,165.55	8327.62	159,603,417.49

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Haflong Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quntities- 7B

Item No.	Item Description	Unit	QTY	Item Rate	Amount
8	HYSD Bar reinforcement in foundation complete as per drawing & technical specification.	cum	1,533.24	77427.65	118,715,479.80
	Total of Chapter - 14				295486573.7
	Chapter No. 15 - Sub Structure				
12	Providing weep holes in plain concrete reinforced concrete abutment, wing wall/ return wall complete as per drawing and technical specification.	Rm	5,470.00	445.75	2,438,252.50
	Total of Chapter - 14				2438252.5
	Chapter No. 17 - Protective Work				
NSOR	Seeding and Mulching				
	Preparation of seed bed on previously laid top soil, furnishing and placing of seeds, fertilizer, mulching material, applying bituminous emulsion at the rate of 0.23 litres per sqm and laying and fixing jute netting, including watering for 3 months all as per clause 308.	sqm	114,600.00	192.00	22,003,200.00
NSOR	Gabian Structure for Retaining Earth				

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong- Dialong
Section of Tamenglong-Haflong Road (Pkg-1) in the state of Manipur on EPC mode.**

Bill of Quantities- 7B

Item No.	Item Description	Unit	QTY	Item Rate	Amount
	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	Cum	12,352.50	4421.00	54,610,402.50
	Total of Chapter - 17				76,613,603
	Total Cost				409,284,603.47
	Total Cost (say) in Cr.				40.93

**Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur
Road the state of Manipur on EPC mode.**

Bill of Quantities (BILL No. - 9)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
<u>BILL No. - 9 TRAFFIC SIGNS, MARKINGS & APPURTENANCES</u>						
9.01	Ch - 8/ 1	Cast in Situ Cement Concrete M20 kerb (Precast Cement Concrete M20 kerb including fixing at site) Using Concrete Batching and Mixing Plant	52	Mtr	623	32654
9.02	Ch - 5/ 11	Supply of mandatory/ regulatory reflective sign board fixed on 3 meter long angle iron of size 65x65x6 mm complete as per IRC -67-1977 made of 2 mm thick M.S. sheet stove enameled paint and reflective symbol.				
	i	90 cm equilateral triangle	99	each	4931	488204
	vii	90 cm high octagon	8	each	8165	65322
9.03	Ch - 5/ 12	Direction and Place Identification Signs upro 0.9 sqm Size Board. Providing and erecting direction and place identification retro-reflectorised sign as per IRC:67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminum sheeting, 2 mm thick with area not exceeding 0.9 sqm supported on a mild steel single angle iron post 75 x 75 x 6 mm firmly fixed to the ground cement concrete 45 x 45 x 60 cm, 60 cm beow ground level as per approved drawing for 600 X 900 mm size broard (For Villages) for 900 X 600 mm size broard (For Minor Junction) for 1200 X750 mm size broard for 900 X 750 mm size broard	2 8 5 5	sqm sqm sqm sqm	6600 6600 11001 8251	13201 52804 55004 41253
9.04	NS	Overhead Signs (Providing and erecting overhead signs with a corrosion resistant aluminium alloy sheet reflectorised with high intensity retro-reflective sheeting of encapsulated lense type with vertical and lateral clearance given in clause 802.2 and 802.3 and installed as per clause 802.7 over a designed support system of aluminium alloy or galvanised steel trestles and trusses of sections and type as per structural design requirements and approved plans) Truss and Vertical Support Aluminium alloy plate for over head sign	8 234	MT sqm	135474 711	1016055 166019
9.05	Ch - 8/ 14	Road Making with Hot Applied Thermoplastic Compound with Reflectorising Glass Beads on Bituminous Surface (Providing and laying of hot applied Thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm is exclusive of surface applied glass beads as per IRC:35. The finished surface to be level, uniform and free from streaks and holes.)	3301	sqm	1002	3308014

Bill of Quantities (BILL No. - 9)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
9.06	Ch - 5/ 2	Reinforced cement concrete M15 kilometre stone of standard design fixed in position including painting, and printing letters etc.				
	a	(a) 5th Km. Stone	2	each	4557	9114
	b	(b) Ordinary Km. Stone	8	each	2676	21410
	Ch -	Providing and Fixing in position reinforced cement concrete 200 mtr. Stone of standard IRC design, including painting and	40	each	843	33721
9.07	Road Delin eator s	Road Delineators (Supplying and installation of delineators (road way indicators, hazard markers, object markers), 80-100 cm high above ground level, painted black and white in 15 cm wide stripes, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or pressed into the ground and confirming to IRC-79 and the drawings.)	894	each	1063	950492
9.08	Ch - 5/ 4	Providing and fixing in position reinforced cement concrete boundary pillars of standard IRC-25 design including finishing but excluding painting. (MoRTH specification : section 800).	60	each	843	50582
		"W" : Metal Beam Crash Barrier Providing and erecting a "w" metal beam crash barrier comprising of 3 mm thick corrugated sheet metal beam rail, 70 cm above road/ground level, fixed on ISMC series channel vertical post ISMB 150 x 75 x 5 mm spaced 2 m centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fittings to be galvanised by hot dip process, all fittings to conform to IS:1367 and IS:1364 metal beam rail to be fixed on the vertical post with a spacer of channel section 150 x 75 x 5 mm, 330 mm long compete as per clause 810				
9.09	Ch - 5/ 18		7926	metre	2758	21858402
9.11	Ch - 5/ 19	Providing and laying of a reinforced cement concrete pipe duct, 300 mm dia, across the road (new construction), extending from drain to drain in cuts and toe of slop to toe of slop in fills, constructing head walls at both ends, providing a minimum fill of granular material over top and sides of RCC pipe as per IRC:98-1997, bedded on a 0.3 m thick layer of granular material free of rock pieces, outer to outer distance of pipe at least half dia of pipe subject to minimum 450 mm in case of double and triple row ducts, joints to be made leak proof, invert level of duct to be above higher than ground level to prevent entry of water and dirt, all as per IRC:98-1997 and approved drawings.				
	b	Double row for two utility services	400	metre	5687	2274996
9.12	Ch - 5/ 20	Road Markers/Road Stud with Lense Reflector (Providing and fixing stud 100 x 100 mm, die-cast in aluminium, resistant to corrosive effect of salt and grit, fitted with lense reflectors, installed in concrete or asphaltic surface by drilling hole 30 mm upto a depth of 60 mm and bedded in a suitable bituminous grout or epoxy mortar, all as per BS 873 part4:1973)	1731	each	384	664184
9.13	NS	Supply of Chevron sign of size 600x450 mm thick with fixing provision on MS angle iron post 50x50x6mm 3M long screwed with stainless steel nut bolts of 8mm dia plate is covered by high intensity grade retro reflective sheeting and black reflective arrow, complete in all respect	516	each	3500	1806000

Bill of Quantities (BILL No. - 9)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
9.14	Ch - 5/ 4	Guide Stone on CD works	184	each	843	155118
		Providing and fixing of precast concrete interlocking blocks of 100mm thick (M-30 Grade) manufactured from fully computerized automatic stationery hydraulic vibro pressed machine & full computerized automatic batching plant of class A-I as per BS: 6717-2001. The CC interlocking paving blocks be laid on average 50mm thick bed of coarse sand and the joint is to be filled with fine sand. Laying procedure on compacted sub base as defined. The work includes earth work in cutting of B/T road, cutting of WBM road and disposal of unserviceable Material with all leads & lifts and stacking of serviceable Material complete job is to be executed as per the instructions of Engineer-in- charge. The rates to be inclusive of all lead, lifts & taxes General specification of Blocks				
9.15	NS	Item Taken From "BASIC SCHEDULE OF RATES FOR – 2016 Road and Bridge Works for NH, Circle Kota" and escalated by 5% for 1 year (Item No 68.2, Ch-9)				
		1. Shape : As specified by Engineer-in-charge.				
		2. Tensile splitting strength and breaking load as per BS : 6717-2001.	558	Sqm	569.9925	318116
		3. Colour : Grey cement natural colour				
		4. Variation in Dimension : Less than 1.6mm				
		5. Variation in thickness : Less than 3.2mm				
Total of Traffic Signs, Markings & Appurtenances					Rs.	33548349
					Lac	335.483

Consultancy Services for preparation of Detailed Project Report for Two Lane with Paved Shoulders of Tamenglong-Dialong Section (Pkg-1) of Tamenglong – Mahur Road the state of Manipur on EPC mode.

Bill of Quantities (BILL No. - 10)

Item No.	SOR Ref.	Descriptions	Total Quantity	Unit	Rate	Amount
<u>BILL No. - 10 MISCELLANEOUS</u>						
10.01	NS	Bus Shelter	2	each	100000	200000
10.07	Ch -5/3	Footpaths and Separators (Construction of footpath/separater by providing a 150mm compected granular sub base as per clouse 401 and 25mm thick cement concrete grade M15, over laid with pre-cast concrete tiles in cement motar 1:3 including provision of all drainage arrangements but excluding kerb channel .)	37	Sqm	1375	50943.46413
Total of Miscellaneous					Rs. Lac	250943.4641 2.509