

Check List

	Name of Project		Four laning of Demow (at km 534.800) to Bogibil (at km 580.778) section of NH-37 in the State of Assam under NHDP Phase III on BOT (Annuity) Basis (Project Design length 45.978 km)	
1				
2	Project Features			
	Sr. No.	Feature	No. / Particular	Justification with reference to Manual (if applicable)
	i)	Length	45.978 km	
	ii)	Major Bridge	3	2-lane
	iii)	Minor Bridges	1	2-lane
	iv)	Rail over Bridge	Nil	
	v)	Grade Separator/Flyover	1	2-lane flyover at Bogibil Junction.
	vi)	Culverts	52	34 nos. widening / Reconstruction & 18 nos. new 4-lane construction at Moren bypass
	vii)	Vehicular Underpass	3	4-lane
	viii)	Pedestrian Underpasses	2	4-lane
	ix)	Cattle Underpass	Nil	
	x)	Bypass/realignment	Bypass : Length = 11.200km Realignment : length = 4.15 km	
	xi)	Service Road	9.50 km(4.75km Each side)	
	xii)	Toll Plaza & its location with justification	at km 570.000	This is fixed keeping in view of the guiding factors like municipality limits, terrain, CD/structures and the distance from the nearest Toll Plaza, etc.
	xiii)	Bus bays	4 nos. (both side)	
	xiv)	Truck lay bays	1 no. (both side)	
3	Deviation from IRC Manual of Standards and Specifications, if any with justification			
4	Length of Concentric widening		1.3 km	
5	Length of Eccentric widening		28.328 km	
6	Length of New Construction/New Alignment		16.350 km (Bypass/ Realignment + 1 km Flyover/Vehicular Underpass Approaches)	
7	Traffic		Total traffic = 8209 PCU ,near Khowang at km 565	
8	Estimated Cost			
	(i) Civil Cost		Rs. 360.62 Crores	
	(ii) TPC		-	
9	Basis for rates		Rates analysed as per MOST standard data book, with the labour, machinery and material rates have been taken from Assam PWD (NH Division), schedule of rates (SOR) 2009-10 and updated with 5% escalation for year 2010-11.	
10	Civil cost of provision other than carriageway			
	Provision		Length	Cost in Rs. Crores
	(i) bypasses/realignment*		11.200 km Bypasses + 4.150 km (Realignamnt)	99.78
	(ii) structures**		3 Major Bridge to be Retain and New 2-lane on other side shall be constructed, 1 Minor Bridge to be Retain and New 2-lane on other side shall be constructed , 3 New VUPs, 2 New PUP/CUP and 1 New Flyover at Bogibil	46.90
	(iii) service roads		9.500 km	13.25
	(iv) special treatment, if any		Nil	-
	Total			159.92
11	Cost of carriageway construction [8(i)-10] year 2009-10		183.53	

* Individual cases

** Individual major bridges, minor bridges, ROB/RUB, Flyover, underpasses or any other structures

ABSTRACT OF COST ESTIMATE

S. No.	Items	Unit	Quantity	Rate	Amount in Crores	Annexure
A	ROAD WORKS					
1	EACH INDIVIDUAL CROSS SECTION (TCS1, TCS2, ETC)	km	45.978		240.79	Annexure-I
B	BRIDGES AND STRUCTURES					
2	MAJOR BRIDGES	m	365.9		29.38	3 Nos.
3	MINOR BRIDGES	m	29.248		1.40	1 No
4	ROB/RUB	m	Nil		Nil	
5	FLYOVER with RE wall	m	30		6.29	2-lane
6	UNDERPASSES	m	46		9.82	3 nos. VUPs and 2 Nos PUPs including RE wall etc.
7	CULVERTS (pipe/slab/box)	m/No.	52		10.74	
	Sub total for length	km*	45.978		298.44	as per SOR: 2009-010
C	OTHER ROAD APPURTENANCE/MISCELLENEOUS ITEMS					
8	JUNCTIONS					
	MAJOR	No.	2.00		0.50	Annexure-II
	MINOR	No.				Annexure-III
9	SERVICE ROAD	km	9.500		13.25	Annexure-IV
10	SLIP ROAD	km	Nil		Nil	Annexure-V
11	DRAIN (Type-I, Type-II etc)	km	15.90		9.61	Annexure-VI U-Type
12	CRASH BARRIER	m	6150		2.04	3.2 km Concrete & 2.95 km W baem
13	TOLL PLAZA	No.	1		8.00	(5x5 lane)
14	BUS BAYS	No.	2x4		1.64	Annexure-VII
15	TRUCK LAY BYES	No.	2x1		0.87	Annexure-VIII
16	OTHER MISCELLENEOUS ITEMS (sign boards, rest areas, medical/traffic aid post, HTMS, embulences, cranes etc to be listed out seperately)	No.			9.11	
	TOTAL AMOUNT	Crores			343.45	Rs. 360.62**

* Should confirm to design length

2009-10 year 2010-11

** Should confirm to civil construction cost

**TCS-1&2:Eccentric Widening
Eccentric Widening Strengthening (one Side)**

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	1	1000	8.75	0.050	438	9050	3959375
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	8.75	0.070	613	8119	4972888
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	1.75	0.070	123	8119	994578
Tack	Sqm	1	1000	1.75	-	1750	9	15750
PCC	Cum	1	1000	-	-	70	6707	469490
Tack	Sqm	1	1000			418	9	3761
Prime	Sqm	1	1000	1.75	-	1750	26	45500
WMM I	Cum	1	1000	1.88	0.125	234	2352	551250
WMM II	Cum	1	1000	2.00	0.125	250	2352	588000
GSB I	Cum	1	1000	2.12	0.115	243	2113	513934
GSB II	Cum	1	1000	5.09	0.115	585	2039	1193529
Subgrade	Cum	1	1000	5.59	0.500	2795	260	726700
Shoulder	Cum	1	1000	2.56	0.555	1418	260	368687
Kerb	m	1	1000	-	-	1000	300	300000
Median Filling	Cum	1	1000	2.09	0.780	1626	234	380554
Earthen Drain	Rm	1	1000			1000	104	104000
C/L Marking	Sqm	1	333	0.15	-	50	477	23850
Edge Marking	Sqm	2	1000	0.15	-	300	477	143100
Clearing & Grubbing	Sqm	1	1000	6.09	-	6090	38897	23688
Dismantling Pavement	Cum	1	1000	1.50	0.070	105	197	20685

New Carriageway one side

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	1	1000	8.75	0.050	438	9050	3959375
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	8.75	0.140	1225	8119	9945775
Tack	Sqm	1	1000	8.75	-	8750	9	78750
Prime	Sqm	1	1000	8.75	-	8750	26	227500
WMM I	Cum	1	1000	8.88	0.125	1109	2352	2609250
WMM II	Cum	1	1000	9.00	0.125	1125	2352	2646000
GSB I	Cum	1	1000	9.12	0.115	1048	2113	2214899
GSB II	Cum	1	1000	12.09	0.115	1390	2039	2834924
Subgrade	Cum	1	1000	12.59	0.500	6295	260	1636700
Shoulder	Cum	1	1000	2.56	0.555	1418	260	368687
Kerb	m	1	1000	-	-	1000	300	300000
Median Filling	Cum	1	1000	2.09	0.780	1626	234	380554
Earthen Drain	Rm	1	1000			1000	104	104000
C/L Marking	Sqm	1	333	0.15	-	50	477	23850
Edge Marking	Sqm	2	1000	0.15	-	300	477	143100
Clearing & Grubbing	Sqm	1	1000	13.09	-	13090	38897	50916
Dismantling Pavement	Cum	1	1000	1.50	0.070	105	197	20685
							For 1 km	43180533
							For 26.678 km	1,137,720,688
Excavation for roadwork in soil	Cum					8443	52.3	441868
Embankment by Barrow earth for 1 km	Cum					33225	226	7508936
Embankment by Cutting earth for 1 km	Cum					3527	122	430329
							Earth work For 1 km By MX	8381134
							Earth work For 45.978 km	381,453,490

TCS-3: Realignment/Bypass

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	2	1000	8.75	0.050	875	9050	7918750
Tack	Sqm	2	1000	8.75	-	17500	9	157500
DBM	Cum	2	1000	8.75	0.140	2450	8119	19891550
Tack	Sqm	2	1000	8.75	-	17500	9	157500
Prime	Sqm	2	1000	8.75	-	17500	26	455000
WMM I	Cum	2	1000	8.88	0.125	2219	2352	5218500
WMM II	Cum	2	1000	9.00	0.125	2250	2352	5292000
GSB I	Cum	2	1000	9.12	0.115	2096	2113	4429799
GSB II	Cum	2	1000	12.09	0.115	2781	2039	5669847
Subgrade	Cum	2	1000	12.59	0.500	12590	260	3273400
Shoulder	Cum	2	1000	2.56	0.555	2836	260	737373
Kerb	m	2	1000	-	-	2000	300	600000
Median Filling	Cum	1	1000	4.17	0.780	3253	234	761108
Earthen Drain	Rm	2	1000			2000	104	208000
C/L Marking	Sqm	2	333	0.15	-	100	477	47700
Edge Marking	Sqm	4	1000	0.15	-	600	477	286200
Clearing & Grubbing	Sqm	2	1000	13.09	-	26180	38897	101832
							For 1 km	55206060
							For 13.150 km	725,959,688

TCS-4: Concentric Widening with SR & Covered Drain

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	2	1000	8.75	0.050	875	9050	7918750
Tack	Sqm	2	1000	8.75	-	17500	9	157500
DBM	Cum	2	1000	8.75	0.070	1225	8119	9945775
Tack	Sqm	2	1000	8.75	-	17500	9	157500
DBM	Cum	2	1000	7.50	0.070	1050	8119	8524950
Tack	Sqm	2	1000	7.50	-	15000	9	135000
PCC	Cum	2	1000	-	-	50	6707	335350
Tack	Sqm	2	1000	-	-	2500	9	22500
Prime	Sqm	2	1000	8.75	-	17500	26	455000
WMM I	Cum	2	1000	7.89	0.125	1973	2352	4639320
WMM II	Cum	2	1000	8.02	0.125	2004	2352	4712820
GSB I	Cum	2	1000	8.13	0.115	1870	2113	3951099
GSB II	Cum	2	1000	8.25	0.115	1896	2039	3866658
Subgrade	Cum	2	1000	10.00	0.500	10000	260	2600000
Shoulder/Seprator	Cum	2	1000	2.17	0.780	3385	260	880152
Kerb	m	2	1000	-	-	2000	300	600000
Median Filling	Cum	1	1000	4.17	0.780	3253	234	761108
C/L Marking	Sqm	2	333	0.15	-	100	477	47700
Edge Marking	Sqm	4	1000	0.15	-	600	477	286200
Dismantling Pavement	Cum	1	1000	4.50	0.070	315	197	62055
Clearing & Grubbing	Sqm	2	1000	10.00	-	20000	38897	77794
							For 1 km	50137231
							For 1.30 km	61,710,508

TCS-6: Eccentric widening with SR & Coverd Drain
Eccentric Widening Strengthening (One Side)

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	1	1000	8.75	0.050	438	9050	3959375
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	8.75	0.070	613	8119	4972888
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	1.75	0.070	123	8119	994578
Tack	Sqm	1	1000	1.75	-	1750	9	15750
PCC	Cum	1	1000	-	-	70	6707	469490
Tack	Sqm	1	1000			418	9	3761
Prime	Sqm	1	1000	1.75	-	1750	26	45500
WMM I	Cum	1	1000	2.21	0.125	276	2352	648270
WMM II	Cum	1	1000	2.33	0.125	291	2352	685020
GSB I	Cum	1	1000	2.45	0.115	281	2113	594123
GSB II	Cum	1	1000	2.56	0.115	294	2039	600282
Subgrade	Cum	1	1000	4.58	0.500	2290	260	595400
Shoulder/Separator	Cum	1	1000	2.34	0.555	1296	260	336941
Kerb	m	1	1000	-	-	1000	300	300000
Median Filling	Cum	1	1000	2.09	0.780	1626	234	380554
C/L Marking	Sqm	1	333	0.15	-	50	477	23850
Edge Marking	Sqm	2	1000	0.15	-	300	477	143100
Clearing & Grubbing	Sqm	1	1000	4.58	-	4580	38897	17815
Dismantling Pavement	Cum	1	1000	1.50	0.070	105	197	20685
New Carriageway one side								
Description	Unit	No.	L (m)	B (m)	D (m)	Quantity		
BC	Cum	1	1000	8.75	0.050	438	9050	3959375
Tack	Sqm	1	1000	8.75	-	8750	9	78750
DBM	Cum	1	1000	8.75	0.140	1225	8119	9945775
Tack	Sqm	1	1000	8.75	-	8750	9	78750
Prime	Sqm	1	1000	8.75	-	8750	26	227500
WMM I	Cum	1	1000	9.41	0.125	1176	2352	2765070
WMM II	Cum	1	1000	9.53	0.125	1191	2352	2801820
GSB I	Cum	1	1000	9.65	0.115	1109	2113	2343687
GSB II	Cum	1	1000	14.25	0.115	1638	2039	3340239
Subgrade	Cum	1	1000	14.98	0.500	7488	260	1946750
Shoulder/Sperator	Cum	1	1000	2.34	0.780	1821	260	473538
Kerb	m	1	1000	-	-	1000	300	300000
Median Filling	Cum	1	1000	2.09	0.780	1626	234	380554
C/L Marking	Sqm	1	333	0.15	-	50	477	23850
Edge Marking	Sqm	2	1000	0.15	-	300	477	143100
Clearing & Grubbing	Sqm	1	1000	11.36	-	11355	38897	44168
Dismantling Pavement	Cum	1	1000	1.50	0.070	105	197	20685
							For 1 km	43838490
							For 1.65 km	508,526,489

TCS-7&8 :High Embankment

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
BC	Cum	2	1000	8.75	0.050	875	9050	7918750
Tack	Sqm	2	1000	8.75	-	17500	9	157500
DBM	Cum	2	1000	8.75	0.140	2450	8119	19891550
Tack	Sqm	2	1000	8.75	-	17500	9	157500
Prime	Sqm	2	1000	8.75	-	17500	26	455000
WMM I	Cum	2	1000	8.88	0.125	2219	2352	5218500
WMM II	Cum	2	1000	9.00	0.125	2250	2352	5292000
GSB I	Cum	2	1000	9.12	0.115	2096	2113	4429799
GSB II	Cum	2	1000	12.00	0.115	2760	2039	5627640
Subgrade	Cum	2	1000	12.00	0.500	12000	260	3120000
Kerb	m	2	1000	-	-	2000	300	600000
Median Filling	Cum	1	1000	4.17	0.780	3253	234	761108
Earthen Drain	Rm	2	1000			2000	104	208000
C/L Marking	Sqm	2	333	0.15	-	100	477	47700
Edge Marking	Sqm	4	1000	0.15	-	600	477	286200
Clearing & Grubbing	Sqm	2	1000	12.00	-	24000	38897	93352.80
							For 1 km	54264600
							For 3.2 km	170,092,389

New Service Road

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
SDBC	Cum	2	1000	7.00	0.025	350	8812	3084200
Tack	Sqm	2	1000	7.00	-	14000	9	126000
DBM	Cum	2	1000	7.00	0.050	700	8119	5683300
Tack	Sqm	2	1000	7.00		14000	9	126000
Prime	Sqm	2	1000	7.00	-	14000	26	364000
WMM I	Cum	2	1000	7.58	0.125	1895	2352	4457040
WMM II	Cum	2	1000	7.58	0.125	1895	2352	4457040
GSB I	Cum	2	1000	7.58	0.150	2274	2039	4636686
Subgrade	Cum	2	1000	7.58	0.500	7580	260	1970800
Embankment	Cum	2	1000	7.58	0.200	3032	226	685232
Clearing & Grubbing	Ha.	2	1000	10.58		2	38897	82306
Center Marking	Sqm	2	1000	0.15		300	477	143100
Kerb	m	2	1000			2000	572	1144000
							For 1 km	26959704
							For 4.750 km	128,058,594

Line ,Covered Drain & Transverse Drain

Description	Unit	No.	L (m)	B (m)	D (m)	Quantity	Rate in Rs.	Amount in Rs.
Excav. Of U Drain	Cum	2	1000	2.00	1.20	4800	58	278400
PCC M-15	Cum	2	1000	2.00	0.10	400	5507	2202800
RCC M-20 grade cover slab	cum	2	1000	1.2	0.2	480	6938	3330240
HYSD bars for cover slab	T	2	1000	18		36	61229	2204244
Brick masonry work in 1:3	cum	2	1000	0.99		1980	4839	9581220
Plastering with CM (1:3)	10 sqm	2	1000	3.3		660	99	65340
							For 1 km	17662244
							For 4.750km	83,895,659

Construction of lined drains as per drawing and Technical Specifications of clause 309.	LM	2	3200			6400	2978	19059200
Construction of precast drains at the edge of RE wall as per drawing and Technical Specifications.	LM	2	3200			6400	1494	9561600
Providing and constructing open Transverse drains in paved median with PCC grade M-20 with levelling concrete M-15 as per drawing Technical Specifications Section 1500 and 1700.	LM					4090	1428	5840520
							Grand Total	118,356,979

No. of Busway**4 Both side**

S.N.	Description of item	Unit	Nr	Length in m	Width in m	Depth in m	Total	Grand Total	Rate in Rs.	Amount in Rs.
1	Clearing & grubbing									
	For both sides		4	45	8.38		0.038			
			2	15	10.88		0.016			
		Ha.					0.054	0.22	38897	8406.4196
2	Subgrade									
			4	45	8.38	0.5	754.2			
			2	15	10.88	0.5	163.2			
		Cum					917	3669.60	260	954096
3	GSB									
			4	45	7.13	0.23	295.182			
			2	15	9.63	0.23	66.447			
		Cum					362	1446.52	2113	3056488.3
4	WMM									
			4	45	6.38	0.25	287.1			
			2	15	8.88	0.25	66.6			
		Cum					354	1414.80	2352	3327609.6
5	DBM									
			4	45	2.5	0.14	63			
			2	15	5	0.14	21			
		Cum					84.00	336.00	8119	2727984
6	BC									
			4	45	2.5	0.05	22.5			
			2	15	5	0.05	7.5			
		Cum					30.00	120.00	9050	1086000
7	Marking Pedestrian crossing		38	3	0.5		57			
		Sqm					57	228.00	477	108756
8	Flushing of Footpath	Sqm	2	105	3.5		735			
							735	2940.00	1547	4548180
9	Passenger shelter	No.	2				2	8.00	150000	1200000
10	Tringular Sign Boards	No.					2	8.00	4508	36064
11	Bus Stop Sign (80 x60)	No.					2	8.00	5589	44712
									Total	17,098,296

No. of Truck laybay **1**

ITEM	Qty for 1 side	Grand total	Rate in Rs.	Amount in Rs.
Clearing & grubbing	0.20	0.4	38897	15556
Subgrade	957	1914.6	260	497796
GSB	411	822.1	2113	1737025
WMM	409	818.8	2352	1925700
DBM	140.00	280.0	8119	2273320
BC	50.00	100.0	9050	905000
Flushing of Footpath	595	1190.0	1547	1840930
Kerb	120	240.0	300	72000
Median Filling	60.75	121.5	234	28431
Total Amount				9,295,758

Sl.No.	Chainage	Side	Name/
1	562.65	Both Side	

Bill No. 5

Box / Pipe Culvert

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
A	Box Culverts				
5.01A	a) Earthwork in excavation of foundation for structure including pipe culverts in all types of	cu.m	9,654	58	559,907
5.02A	Cement concrete M15 grade leveling course including centering and shuttering all complete	cu.m	1,055	5,507	5,811,334
5.03 A	Backfilling with filter media behind abutments, wing walls and return walls including all material, labour, equipment carriage etc all complete as per drawing and Technical Specifications Clauses 305 & 2907	cu.m	3,397	1,849	6,280,645
5.04A	Reinforced cement concrete M-30 grade including centering & shuttering but excluding the cost of reinforcement, all complete as per drawing and Technical Specifications Sections 1500 & 1700				
	i) Box culvert	cu.m	7,779	6,959	54,136,196
5.05A	Cement concrete M15 grade leveling course on below approach slab including centering and shuttering all complete	cu.m	233	5,296	1,232,154
5.06A	Reinforced cement concrete M-30 grade in approach slab including cost of reinforcement, all complete as per drawing and Technical Specifications Sections 1500, 1600 & 2704	cu.m	486	9,515	4,625,717
5.07A	Reinforced cement concrete M-30 grade including reinforcement, all complete as per drawings and Technical Specifications Clauses/Sections 809, 1500, 1600, 1700 &				
	Crash barrier on Box culvert	m	753	4,276	3,219,486
5.08A	Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and Technical Specifications	MT	159	60,612	9,647,280
5.09A	Bituminous wearing course comprising of 40 mm thick bituminous concrete and 25mm thick bitumen mastic with a prime coat complete as per drawing and Technical Specifications Clause 2702				
	a) BC	cu.m	147	9,050	1,328,716
	b) Mastic Asphalt	sq.m	3,670	647	2,374,804
5.10A	Providing and fixing drainage spouts for bridges as per drawing and Technical Specifications Clause 2705	Nr.	210	7,360	1,545,600
5.11A	Providing Weep holes in abutments, wing walls, retaining walls, return walls etc complete as per drawing and Technical Specifications Clause 2706	Nr.	5,274	1,118	5,896,332

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
5.12A	Providing 20mm thick compressible fiber board type expansion joint for VUP/PUP, capped with 10mm deep coarse sand mixed with Bitumen (6% by Weight) total depth of board shall be equal to the thickness of the slab as per Technical Specification Cla	m	444	298	132,288
5.13A	Providing and laying Tar Paper Bearing	sq.m	271	60	16,236
5.14A	Providing and laying of asphaltic plug joint to	m	902	819	738,738
B	Pipe Culverts				
5.01B	Earthwork in excavation of foundation for structures complete as per drawing and Technical Specification Clause 304 in all types of soils	Cum	1010.72	58.00	58,622
5.02B	Plain cement concrete/Reinforced cement concrete in open foundation and substructure complete as per drawing and Technical Specifications section 1500/1700.				
	i) M-15 grade leveling course	Cum	57.91	5507.00	318,936
5.03B	Plain cement concrete/reinforced concrete in substructure complete as per Technical Specification Section 1400.				
	i) M-15 grade	Cum	566.84	5825.00	3,301,832
5.04B	Laying Reinforced cement concrete pipe NP3 concrete pipe for culverts on first class bedding of granular material including fixing collar with cement mortar 1:2 but excluding excavation, protection works, backfilling, concrete and masonry works in head walls and parapets .				
	i) Dia 1200 mm	m	467.5	9714.00	4,541,295
5.05B	Providing and laying M 15 grade concrete in pipe bedding as per drawing and Technical Specifications Section 2900	Cum	211.74	5507.00	1,166,069

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
5.06B	Boulder apron complete as per drawings and Technical Specifications Clause 2500.	Cum	94.62	1757.00	166,241
5.07B	Filter material underneath stone pitching in slopes complete as per drawing and Technical specifications Section 2500.	Cum	56.95	1918.00	109,233
5.07B	Stone pitching in slopes complete as per drawing and Technical Specifications Section 2500	Cum	113.90	1757.00	200,128
5.08B	Painting of culvert No. and span arrangement as per Technical Specifications Clause 803	Nr	34	100	3,400
	SUBTOTAL				107,411,191

Bill No. 6

Bridges/Structures

BRIDGE- COST ESTIMATE

Item No.	Description	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
Well Foundation					
1.01	Earth work in excavation of foundation of structures complete as per drawing and technical specification 304				
	Ordinary soil	cum	0		0.00
1.02	Reinforced Cement Concrete in well cap complete as per technical specification 1200, 1500, 1700.				
	(a) M35 grade	cum	1745	6649.00	11604108.16
1.03	Reinforced Cement Concrete in well steining complete as per technical specification 1200, 1500, 1700.				
	(a) M30 grade	cum	8149	6959.00	56708554.05
1.04	Reinforced cement concrete in well curb complete as per technical specification 1200, 1500, 1700.				
	(a) M35 grade	cum	717	7988.00	5729949.87
1.05	Plain Cement Concrete in bottom plug, complete as per technical specification 1200, 1500, 1700.				
	(a) M25 grade	cum	2253	6730.00	15161344.00
1.06	Plain Cement Concrete in intermediate plug or top plug complete as per technical specification 1200, 1500, 1700.				
	(a) M25 grade	cum	114	6432.00	736354.74
1.07	Sinking of well complete as per technical specification 1200				
	A) through sandy soil all depths (a) 6.5m dia. Well				
	i) 0 to 3.0m	LM			0.00
	ii) 3.0m to 10.0m	LM			0.00
	iii) 10.0m to 20.0m	LM			0.00
	iv) Above 20.0m	LM			0.00
	A) through sandy soil all depths (b) 7.0 m dia. Well				
	i) 0 to 3.0m	LM	19	12209.93	227104.61
	ii) 3.0m to 10.0m	LM	43	8471.00	367641.40
	iii) 10.0m to 20.0m	LM	40	11189.00	447560.00
	iv) Above 20.0m	LM	22	20987.00	461714.00
	A) through sandy soil all depths (c) 7.50 m dia. Well				
	i) 0 to 3.0m	LM	15	9910.46	148656.94
	ii) 3.0m to 10.0m	LM	35	8965.50	313792.50
	iii) 10.0m to 20.0m	LM	15	11842.00	177630.00

Item No.	Description	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
	A) throughsandy soil all depths (d) 8.0 m dia. Well				
	i) 0 to 3.0m	LM	12	7611.00	91332.00
	ii) 3.0m to 10.0m	LM	28	9460.00	264880.00
	iii) 10.0m to 20.0m	LM	32	12495.00	399840.00
					0.00
	A) throughsandy soil all depths (e) 8.5 m dia. Well				
	i) 0 to 3.0m	LM	6	7631.00	45786.00
	ii) 3.0m to 10.0m	LM	14	9930.50	139027.00
	iii) 10.0m to 20.0m	LM	20	13115.50	262310.00
	iv) Above 20.0m	LM	8	25766.00	206128.00
1.08	Sand filling in wells complete as per drawing and technical specifications 1207.	cum	7154	1316.00	9414082.33
1.09	Providing and fixing in position thermomechanically treated (TMT) HYSD Fe 415 corrosion resistant grade reinforcement bar in foundation, well curb, well steining and in well cap as per technical specification 1600	MT	796	60548.00	48187938.99
1.10	Providing and laying cutting edge of mild steel for well foundation complete as per drawing and technical specification 1200, 1900.	MT	48	54674.00	2621879.54
1.11	Providing steel liner 10mm thick for curbs of wells including fabricating and setting out as per detailed drawing	MT	46	54674.00	2520305.52
				Sub Total	156,237,920

Item No.	Description	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
Substructure					
1.12	Reinforced cement concrete in sub-structure complete as per drawing and Technical Specifications 1500, 1700 & 2200				
	a) M45 grade(pedestal,siesmic restrainer,abt Piers)	cum			0.00
	b) M 35 grade	cum	399	7322.00	2922801.02
1.13	Providing and fixing in position thermomechanically treated (TMT) HYSD Fe 415 corrosion resistant grade reinforcement bar in sub-structure complete as per drawing and Technical Specifications 1600 & 2200	MT	311	60612.00	18824686.53
1.14	Back filling behind retaining walls and abutment walls and other structures with selected granular material of approved quality complete as per drawing and Technical Specification clause 305	cum	0		0.00
1.15	Providing, laying and compacting filter material behind retaining walls and abutments complete as per drawing and Technical Specification clause 305.	cum	514	1849.00	951023.70
1.16	Providing weep holes in plain concrete/reinforced concrete in abutment, wing wall/return wall complete as per drawing and technical specifications 2706	No.	192	1118.00	214656.00
1.20	Providing and laying 300mm thick dry stone pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and technical specifications as laid down in Clause 2504.	Cum	172	1757.00	302500.89
1.21	Providing and laying filter material underneath stone boulder pitching in slopes complete as per drawing and technical specifications as per clause 2504.	Cum	86	1918.00	165110.05
1.22	Supplying, fitting and fixing in position true to the level fixed/guided POT-PTFE bearings for moderate condition of exposure complete as per drawings and Technical specifications 2006				
	(a)200 t capacity	No.	84	38400.00	3225600.00
1.23	Supplying, fitting and fixing in position true in line and level, shock transmission unit (STU) for moderate condition of exposure (As directed by the Engineer)				
	a) Axial Load-300 t	No.	48	600000.00	28800000.00
				SUBTOTAL	55,406,378

Item No.	Description	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
Superstructure					
1.24	Reinforced cement concrete in super structure complete as per drawing and Technical Specifications				
	b) M 35 Grade	cum	282	7963.00	2245034.49
	b) M 40 Grade	cum	1993	8759.30	17454221.35
1.25	Cement concrete for prestressed concrete in Box girder superstructure complete as per drawing and technical specifications 1700 & 2300				
	a) M45 Grade	cum	1300	10949.13	14230460.80
1.26	Providing and fixing in position thermomechanically treated (TMT) HYSD Fe 415 corrosion resistant grade reinforcement bar in super-structure complete as per drawing and technical specifications 1600	MT	555	61229.00	33997349.09
1.27	Supplying, Providing and stressing High tensile steel wires/strands including all accessories for stressing operations and grouting complete as per drawing and Technical Specifications 1800	MT	102	174780.00	17855121.10
1.28	Strip seal type expansion joint complete as per approved drawing and approved Manufacturer's specification by MOST including acceptance testing as specified to be installed under supervision of the approved manufacturer 2600.				
	a) 50mm-100 mm movement	LM	168.00	11798.00	1982064.00
1.29	Providing 65 mm thick wearing course comprising of 45 mm thick Bituminous Concrete over laid with 15mm thick mastic asphalt complete as per Technical Specification 2700	Sqm	4231	647.00	2737215.28
1.30	Reinforced cement concrete crash barrier in M40 Grade complete as per drawing and technical specification including shuttering, Vibration and reinforcement, 1500, 1600, 1700, 2700	cum	431	4276.00	1841213.10
1.31	Drainage Spouts complete as per drawing and Technical specification 2700	No.	82	7360.00	603649.54
1.32	Supplying and fixing 150mm Dia longitudinal runner and drainage down take pipes with all bends, clamps complete as per drawings and technical specifications 2700	LM	125	150.00	18750.00
1.33	PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification 2700	cum	55	5296.00	292275.65
1.34	Reinforced cement concrete Grade M30 approach slab including reinforcement and formwork complete as per drawing and Technical specification 1500, 1600, 1700, 2700	cum	106	9515.00	1007067.60

Item No.	Description	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
1.35	Providing and filling joint sealing compound in approach slab complete as per Technical Specifications and drawing.	m	156	13.00	2028.00
1.36	Painting of Bridge No. and span arrangement as per Technical Specification clause 800.	sqm	8	100.00	756.00
1.37	Providing and laying of RCC pipe duct along the road in footpath Single row for one utility service.	meter	2274	650.00	1478100
1.38	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M-10 grade foundation having 50 mm projection beyond the kerb stone, complete as per Clause 408	m	861	572.00	492597.71
				SUBTOTAL	96,237,904

VUP & PUP

SI No.	Description	Unit	Estimated Quantity	Unit Rate (Rs.)	Amount (Rs.)
1	a) Earthwork in excavation of foundation for structure including pipe culverts in all types of	cu.m	2,163	58	125,475
2	Backfilling behind abutments, wing walls, earth retaining walls, and return walls and pipe culverts with selected granular material of approved quality including all material, labour, equipment carriage etc all complete as per drawing and Technical Speci	cu.m	0		0
3	Backfilling with filter media behind abutments, wing walls and return walls including all material, labour, equipment carriage etc all complete as per drawing and Technical Specifications Clauses 305 & 2907	cu.m	714	1,849	1,319,631
4	Cement concrete M15 grade leveling course including centering and shuttering all complete	cu.m	240	5,507	1,320,083
5	Reinforced cement concrete M-30 grade including centering & shuttering but excluding the cost of reinforcement, all complete as per drawing and Technical Specifications Sections 1500 & 1700				
	i) Box of Pup/VUP	cu.m	2,772	6,959	19,290,070
	ii) Retaining wall on the road sides	cu.m	17	6,959	118,025
6	Cement concrete M15 grade leveling course on below approach slab including centering and shuttering all complete	cu.m	103	5,296	545,594
7	Reinforced cement concrete M-30 grade in approach slab including cost of reinforcement, all complete as per drawing and Technical Specifications Sections 1500, 1600 & 2704	cu.m	215	9,515	2,048,104
8	Reinforced cement concrete M-30 grade including reinforcement, all complete as per drawings and Technical Specifications Clauses/Sections 809, 1500, 1600, 1700 &				
	Crash barrier on VUP/PUP	m	326	4,276	1,391,924
9	Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and Technical Specifications	MT	181	60,612	10,981,229

SI No.	Description	Unit	Estimated Quantity	Unit Rate (Rs.)	Amount (Rs.)
10	Bituminous wearing course comprising of 40 mm thick bituminous concrete and 25mm thick bitumen mastic with a prime coat complete as per drawing and Technical Specifications Clause 2702				
a	BC	cu.m	59	9,050	530,330
b	Mastic Asphalt	sq.m	1,465	647	947,751
11	Providing and fixing drainage spouts for bridges as per drawing and Technical Specifications Clause 2705	Nr.	10	7,360	73,600
12	Providing Weep holes in abutments, wing walls, retaining walls, return walls etc complete as per drawing and Technical Specifications Clause 2706	Nr.	715	1,118	799,370
13	Providing and laying of RCC (M30) in footpath, kerb etc. including shuttering but excluding cost of reinforcement as per drawing and Technical Specifications Sections	cu.m	26	6,959	180,238
14	Providing 20mm thick compressible fiber board type expansion joint for VUP/PUP, capped with 10mm deep coarse sand mixed with Bitumen (6% by Weight) total depth of board shall be equal to the thickness of the slab as per Technical Specification Cla	m	275	298	81,950
15	150 mm dia PVC Pipe at 2000m c/c	m	25	150	3,675
16	RE Wall				
	a) Construction of RE with precast RCC facing Panels in M-35 including steel strips	Sqm	13910	3000	41,731,200
	b) Const. of PCC Strip level footing (50cmx15cm) M-15	RM	3024	413	1,248,988
	c) Fillter Media 600 mm	Cum	8346	1,849	15,432,198
TOTAL					98,169,434

SUMMARY OF FLYOVER ON NH-52A

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1.0	SUPERSTRUCTURE				
1.1	M40 Concrete	m ³	350.56	8279	2902286
1.2	HYSD reinforcement Fe 415	MT	29.31	61229	1794622
1.3	High Tensile steel Wires	MT	8.65	174780	1511224
2.0	PIER CAP & ABUTMENT CAP				
2.1	M35 Concrete	m ³	181.87	7266	1321467
2.2	HYSD reinforcement Fe 415	MT	21.82	60612	1322554
3.0	PIER, ABUTMENT & DRIT WALL				
3.1	M35 Concrete	m ³	112.07	7266	814301
3.2	HYSD reinforcement Fe 415	MT	13.45	60612	815231
4.0	FOUNDATION				
4.1	M35 Concrete	m ³	217.47	6657	1447698
4.2	HYSD reinforcement Fe 415	MT	26.10	60548	1580085
4.3	M15 PCC	m ³	26.19	5507	144217
4.4	Back filling of Earth	m ³	137.28		0
5.0	PEDESTAL				
5.1	M35 Concrete	m ³	11.28	7266	81960
5.2	HYSD reinforcement Fe 415	MT	0.56	60612	34185
6.0	CRASH BARRIER				
6.1	M40 Crash barrier	m ³	489.44	8279	4052074
6.2	HYSD reinforcement Fe 415	MT	97.89	61229	5993584
7.0	APPROACH SLAB				
7.1	M35 Concrete	m ³	37.44	9515	356242
7.2	HYSD reinforcement	MT	1.87	61229	114621
7.3	M15 PCC	m ³	23.33	5296	123556
8.0	WEARING COURSE				
8.1	65 thk (40mm BC + 25mm Bitumen Mastic)	m ²	16087.20	647	10408418
9.0	DRAINAGE SYSTEM				
9.1	Drainage spout as per MOST type design	Nos	12.00	7360	88320
10.0	BEARINGS				
10.3	POT Bearing (150 MT Capacity)	Nos	28.00	15672	438816
11.0	EXPANSION JOINT				
11.3	Strip Seal 50mm Gap	Rm	63.96	11798	754600
12.0	EXCAVATION				
12.1	In any kind of soil	m ³	354.75	58	20576

Sl. No.	Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
14.0	REINFORCED EARTH WALL				
14.1	Precast Concrete Facing Pannel M35 Grade Concrete	m ²	7459.54	3000	22378620
14.2	Footing M15 Concrete	m ³	307.82	297	91423
14.3	Excavation	m ³	334.00	58	19372
18.0	Filter media	m ³	2346.68	1849	4339011
					62,949,063

Bill No. 8

***Traffic Signs, Markings and other
Road Appurtenances***

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
8.00	TRAFFIC SIGNS, MARKINGS & OTHER ROAD APPURTENANCES				
8.01	Construction of cement concrete kerb with top and bottom width 115 and 165 mm respectively, 250 mm high in M 20 grade PCC on M10 grade foundation 150 mm thick, kerb channel 300 mm wide, 50 mm thick in PCCM20 grade, sloped towards the kerb, kerb stone with channel laid with kerb laying machine, foundation concrete laid manually, all complete as per clause 408				
a)	Normal	Rm	91956	300	27586800
b)	Channel	Rm	9740	572	5571280
8.02	Providing and fixing of retro- reflectorised cautionary, mandatory and informatory sign as per IRC :67 made of high intensity grade sheeting vide clause 801.3, fixed over aluminium sheeting, 1.5 mm thick supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm firmly fixed to the ground by means of properly designed foundation with M15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing				
	I) 90 cm equilateral triangle	Nos.	11	4508	49588
	II) 60 cm equilateral triangle	Nos.	22	2895	63690
	III) 60 cm circular	Nos.	53	3951	209403
	IV) 80 mm x 60 mm rectangular	Nos.	11	5589	61479
	V) 60 cm x 45 cm rectangular	Nos.	6	3843	23058
	VI) 60 cm x 60 cm square	Nos.	3	4591	13773
	VII) 90 cm high octagon	Nos.	3	7186	21558
8.03	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 aluminium 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 by means of properly designed foundation with M15 grade cement concrete 45 x 45 x 60 cm, 60 cm below ground level as per approved drawing	Sqm	19.8	10088	199742.4

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
8.04	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 aluminium sheeting, 2 mm thick with area exceeding 0.9 sqm supported on a mild steel angle iron post 75 mm x 75 mm x 6 mm, 2 Nos. firmly fixed to the ground by means of properly designed foundation with M 15 grade cement concrete 45 cm x 45 cm x 60 cm, 60 cm below ground level as per approved drawing	Sqm	3.6	17375	62550
8.05	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, <u>uniform and free from streaks and holes.</u>	Sqm	34458	477	16436466
8.06	Providing and applying two coats of synthetic enamel paint of approved brand on new concrete surface or after through cleaning of old concrete surface to give an even shade complete as per the drawing and as directed by the engineer.	Sqm	465	45	20925.0
8.07	Reinforced cement concrete M20 grade kilometre stone of standard design as per IRC:8-1980, <u>fixing in position including painting and printing etc</u>				
	I) 5th kilometre stone (precast)	Nos.	21	3829	80409
	II) Ordinary kilometer stone (precast)	Nos.	71	2420	171820
	III) Hectometer stone (precast)	Nos.	368	613	225584
8.08	Supplying and installation of delineators (road way indicators) 80-100 cm high above ground level, painted black and white in 15 cm wide strips, fitted with 80 x 100 mm rectangular or 75 mm dia circular reflectorised panels at the top, buried or <u>pressed into the ground and conforming to IRC-79 and the drawings</u>	Nos.	3682	527	1940414

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
8.09	Reinforced cement concrete M20 grade boundary pillars of standard design as per IRC:25-1967, fixed in position including finishing and lettering but excluding painting	Nos.	460	563	258980
8.10	Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 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 and dimensions in the approved drawing and at locations directed by the Engineer, all as specified	Rm	3200	4276	13683200
8.11	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, 150 x 75 x 5 mm spaced 2 m center to center, 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 complete as per clause 810.	Rm	2950	2264	6678800
8.12	Providing and erecting gantry mounted variable message sign board electronically operated capable of flashing the desired message over a designed support system of aluminium alloy or galvanised steel, erected as per approved design and drawings and with lateral clearance as per clause 802.3	Nos.	6	73943	443658
8.13	Providing and laying of a reinforced cement concrete pipe duct , 300 mm dia in single row, across the road (new construction), extending from drain to drain in cuts and toe of slope to toe of slope 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	Rm	1133	1922	2177626
8.14	Providing and fixing of road stud 100x 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 part 4:1973	Nos.	1817	460	835820
	SUB TOTAL				76,816,623

Bill No. 9

Toll Plaza and Junction

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
9.00	TOLL PLAZA				
9.01	Clearing and grubbing of road land including uprooting rank vegetation, grass, brush shrubs, saplings and trees of girth upto 300 mm, removal of stumps, disposal of unserviceable material and stacking of serviceable material upto 1000 meters from road boundary.	Ha.	0.41	38897	16087
9.02	Filling in median/island with approved material with all leads and lifts complete as per Technical Specifications Clauses 305.	Cu.m.	168	234	39409
9.03	Construction of Sub Grade & earthen / Un Paved shoulders satisfying the requirements of minimum CBR value as indicated in the specification with approved material with all leads & lifts all complete as per Technical Specification Clause No 305.	Cu.m.	6440	260	1674377
9.04	Constructing Granular Sub Base (GSB) with approved materials as per Technical Specification Clause 401 conforming to Grade - 1 Table 400 - 1	Cu.m.	2604	2039	5309678
9.05	Constructing Wet Mix Macadam (WMM) to full width or part width for widening with approved material complete as per Technical Specification Clause 406.	Cu.m.	1819	2352	4277330
9.06	Providing bituminous Primer Coat complete as per Technical Specification Clause 502.	Sq.m.	7222	26	187762
9.07	Providing and laying Tack coat over bituminous courses with bituminous emulsion all complete as per Technical Specifications Clause 503.(Table 500-2)	Sq.m	6458	9	58118
9.08	Providing and laying Tack coat over granular surface with bituminous emulsion all complete as per Technical Specifications Clause 503.(Table 500-2).	Sq.m	7222	9	64995
9.09	Providing Dense Bituminous Macadam Course (DBM) complete as per Technical Specification Clause 507.	Cu.m.	904	8119	7340016
9.10	Providing Bituminous Concrete (BC) wearing course complete as per Technical Specification Clause 509 & 521.	Cu.m.	323	9050	2922032
9.11	Providing and laying DLC (M15) for toll plaza as per Technical Specification Clause 601.	Cum	608	3614	2198581
9.12	Providing and laying of PQC for toll plaza as per Technical Specification Clause 602.	Cum	1298	7289	9459781
9.13	Toll booths	Nos.	7	50000	350000
9.14	Canopy Roof over toll plaza	Sq.m	990	2820	2791800
9.15	Office building at toll plaza	Sq.m	3660	10760	39381600
9.16	Pavement marking, Chavran marking etc.	Sq.m	95	474	44793
9.17	Toll plaza sign boards	Nos.	2	67232	134464
9.18	Installation of semi automatic toll collection system	Nos.	14	150000	2100000

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
9.19	Supply and fixing overhead sign complete as shown in drawings, as per Technical Specification Clause 802, and as directed by the Engineer.	Nos.	4	100848	403392
9.20	Providing Plain Cement Concrete of M20 grade for Kerbs including form work , machinery, labour , material and all leads and lifts etc. complete as per drawing and Technical Specification Sections 408 1500, 1700.	LM	1798	572	1028458
9.21	Painting of Road Kerbs in alternate bands of 500 mm wide in white and Black as per drawing and Technical Specification	Sq.m.	405	83	33578
9.22	Electrification and other misc. works	Lumsum			21396710
9.23	Junction improvement as MORTH drawing	No.	2	2500000	5000000
					106,212,959

Bill No. 10

Maintenance of Roads

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
10.00	MAINTENANCE OF ROADS				
10.01	Restoration of rain cuts with soil, moorum, gravel or a mixture of these, clearing the loose soil, benching for 300 mm width, laying fresh material in layers not exceeding 250 mm and compacting with plate compactor or power rammers to restore the original alignment, levels and slopes.	Cum	46038.96	90	4143506.4
10.02	Making up loss of material/ irregularities on shoulder to the design level by adding fresh approved soil and compacting it with appropriate equipment.	Sqm	104634	47	4917798
10.03	Removal of all failed material, trimming of completed excavation to provide firm vertical faces, cleaning of surface, painting of tack coat on the sides and base of excavation as per clause 503, back filling the pot holes with hot bituminous material as per clause 504, compacting, trimming and finishing the surface to form a smooth continuous surface all as per clause 3004.2	Sqm	36621.9	353	12927530.7
10.04	Filling of crack using slow - curing bitumen emulsion and applying crusher dust in case crack are wider than 3mm.	Rm	18311.0	3	54932.85
10.05	Applying crusher dust to areas of road where bleeding of excess bitumen has occurred.	Sqm	29297.52	1.81	53028.5112
10.06	Providing and applying crack sealing course consisting of slurry seal confirming to clause 516.	Sqm	36621.9	21	769059.9
10.07	Providing and laying surface dressing course consisting of bituminous binder sprayed over prepared base, followed by 13 mm nominal size stone chips complete as per clause 3004.6 & 510 and as directed by the engineer.	Sqm	118585.2	68	8063793.6
10.07	Filling Pot-holes and Patch Repairs with Bituminous concrete, 40mm.	Rm	6975.6	353	2462386.8
	SUB TOTAL				33,392,037

Bill No. 11
Miscellaneous

Sl. No.	Description of Items	Unit	Quantity	Unit Rate in Rs.	Amount in Rs.
11.00	MISCELLANEOUS				
11.01	Providing passenger shelters for busbays as per drawing and technical specifications Sections 1500, 1700, 2100, 2200 and 2300. complete with Bus Stop location name, route no. and social message display boards and as directed by the engineer.	Nos.	8.00	150000	1200000
11.02	Providing and laying pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment and stone spurs etc. complete as per drawing and Technical Specifications.				
	Stone / Boulder	Cum	6037	1757	10607683
11.03	Providing and laying filter media underneath pitching in slopes complete as per drawing and technical specification.	Cum	3019	1918	5789851
11.04	Construction of stepped Chute @ 20m c/ c on high embankment slope,including M-20 grade side wall, 100mm thick M-20 grade steps and 100mm thk. M-15 grade foundation below steps as per drawing and technical specification sections 1700.	Rm	1352	1385	1872109
	SUB TOTAL				19,469,642