



NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED
(MINISTRY OF ROAD TRANSPORT & HIGHWAYS)
GOVT. OF INDIA

**Consultancy Services for preparation of Feasibility Study and DPR
for upgradation of Dergaon Town Section of NH-37 from Km 426.800
to Km. 437.800 in the state of Assam**



Detailed Project Report

**Volume - VI
Cost Estimate**

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ABSTRACT OF COST			
Item	Bill Description	Rate (Rs.)	Amount (Rs)
BILL# 01	Site Clearance & Dismantling	Rs.	25,45,360
BILL# 02	Earthwork	Rs.	8,86,27,201
BILL# 03	Base & Sub Base	Rs.	30,46,78,500
BILL# 04	Pavement (Flexible)	Rs.	38,43,77,100
BILL# 05	Drainage & Protection	Rs.	10,25,31,825
BILL# 06	Landscaping	Rs.	74,40,909
BILL# 07	Junction	Rs.	2,67,16,655
BILL# 08	Bus Bay	Rs.	78,34,894
BILL# 09	Truck Lat Bye	Rs.	60,58,373
BILL# 10	Illumination	Rs.	2,15,51,380
BILL# 11	Road Furniture	Rs.	14,66,15,561
A.	Civil Cost for Highways	Rs.	1,09,89,77,758
BILL# 12	Box Culvert	Rs.	15,36,35,216
BILL# 13	Bridge	Rs.	5,01,82,859
BILL# 14	Repair & Rehabilitation	Rs.	5,98,911
B.	Civil Cost for Structures	Rs.	20,44,16,987
C.	Total Civil Cost (A+B)	Rs.	1,30,33,94,745
	Civil cost per Km (in Cr.)		12.35
D.	GST @ 12% of civil cost	Rs.	15,64,07,369
E.	Contingency Charges @ 2.8% of civil cost	Rs.	3,64,95,053
F.	Supervision Charges @ 3% of civil cost	Rs.	3,91,01,842
G.	Administrative charges @3% of civil cost	Rs.	3,91,01,842
H.	Maintenance charge @ 2.5% of Civil cost	Rs.	3,25,84,869
I.	Total Cost (C+D+E+F+G)		1,60,70,85,720
J.	Cost for Pre-Construction Activities		
1	Cost of Land Acquisition	Rs	1,01,30,17,345
2	Cost of R&R	Rs	21,00,00,000
3	Shifting of Utility Service	Rs	3,62,58,673
4	Environment Cost	Rs	99,00,000
K.	Total Project Cost	Rs	2,87,62,61,738

BOQ for Dergoan Town road

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
BILL#1	SITE CLEARANCE & DISMANTLING				
1.01	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	HA	40	40,291	16,11,640
1.02	Dismantling of Flexible Pavements (Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately) : By Mechanical means	Cum	3720	251	9,33,720
	Total for Bill-1 Site Clearance				25,45,360
BILL#2	EARTHWORK & SUBGRADE PREPARATION				
2.01	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m				
	i) All types of soil	CUM	2,56,080	84	21510751
2.02	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.	CUM	50,950	103	5247850
2.03	Construction of embankment with approved material obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2.	CUM	50,950	238	12126100
2.04	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	CUM	1,47,500	290	42775000
2.05	Construction of Median and Island with Soil Taken from Borrow Areas (Construction of median and Island above road level with approved material brought from borrow pits, spread, sloped and compacted as per clause 407)	CUM	20,000	264	5280000
2.06	Compacting original ground supporting subgrade (Loosening of the ground upto a level of 500 mm below the subgrade level, watered, graded and compacted in layers to meet requirement of table 300-2 for subgrade construction.)	CUM	22,500	75	1687500
	Total for Bill-2 Earthwork				88627201
BILL#3	BASE AND SUB-BASE COURSES				
3.01	Construction of granular sub-base (GSB) by providing coarse 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.	CUM	52,500	1570	8,24,25,000
3.02	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam (WMM) specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	CUM	91,500	2429	22,22,53,500
	Total for Bill-3 Base and Base Course				30,46,78,500
BILL#4	PAVEMENT COURSES[FLEXIBLE]				

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
4.01	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 to 0.90 kg/sqm using mechanical means.	SQM	366000	30	1,09,80,000
4.02	Providing bituminous Tack coat with bituminous emulsion as per Clause 503				-
	i) On Bituminous Surface/ Granular surface @ 0.2 to 0.25 Kg/Sqm	SQM	732000	11	80,52,000
4.03	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	CUM	32400	7749	25,10,67,600
4.04	Providing and laying bituminous concrete with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 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 to 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 complete in all respects.	CUM	13500	8465	11,42,77,500
	Total for Bill-4 Flexible & Rigid				38,43,77,100
BILL# 5	Drainage				
5.01	Surface Drains in Soil (Construction of unlined surface drains of average cross sectional area 0.40 sqm in soil to specified lines, grades, levels and dimensions to the requirement of clause 301 and 309.	Rm	12512	81	10,13,472
5.02	RCC Covered Drain including PCC foundation , catchpits, grating etc.	Rm	8600	10,257	8,82,10,200
5.03	Median drain in superelevation portions	Rm	500	7,000	35,00,000
5.04	300 dia NP3 pipe for utility crossing	Rm	700	4,171	29,19,700
5.05	Construction of drainage chute in cement concrete M-20 with M-15 foundation	RM	200	2,413	4,82,510
5.06	Construction of energy dissipation basin at toe of chutes in M-20	Nos	40	5,948	2,37,924
5.07	Stone Pitching (300 mm)	CUM	200	1,919	3,83,800
5.08	Filter Media below pitching (150 mm)	CUM	100	2,069	2,06,900
5.09	Embankment protection with Turfing	SQM	37536	31	11,63,616
5.10	Toe wall at Bus Bay and Truck Lay Bye locations	Rm	200	22,069	44,13,703
	Total for Bill-5 Drainage				10,25,31,825
BILL#6	Landscaping				
6.01	Providing Landscaping complete as per technical specifications	SQM	1500	228	3,42,000
6.02	Shrubs & flowering plants (ht. maintained at 1.5 m) in median of Expressway including one year maintenance	km	11	2,18,082	23,11,669
6.03	Planting and Maintaining of Single rows of trees at either/Both side on ROW side	Nos	707	831	5,87,240
6.04	Rain water Harvesting	Nos	24	1,75,000	42,00,000
	Total for Bill-6 Landscaping				74,40,909
BILL# 7	Junctions (01 Major & 16 Minor)				
7.01	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Hec	1.04	40,291	41,902.64

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
7.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m to match link road profile	Cum	5200	84	4,36,800.00
7.03	Construction of embankment with approved materials deposited at site from roadway cutting and excavation from drain and foundation of other structures graded and compacted to meet requirement of table 300-2.	Cum	5200	103	5,35,600.00
7.04	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	Cum	5200	290	15,08,000.00
7.05	Construction of granular sub-base by providing coarse 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.	Cum	2080	1,570	32,65,600.00
7.06	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam (WMM) specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	Cum	2600	2,429	63,15,400.00
7.07	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	10400	30	3,12,000.00
7.08	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	Cum	1248	7,749	96,70,752.00
7.09	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	20800	11	2,28,800.00
7.10	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	Cum	520	8,465	44,01,800.00
Total for Bill-7 Junction					2,67,16,655
BILL# 8	Bus Bays (06 Nos), BUS SHELTERS(06 Nos.)				
8.01	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Hec	0.31	40,291	12,510.36
8.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m to match link road profile	Cum	776.5	84	65,226.00
8.03	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	Cum	776.5	290	2,25,185.00

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
8.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	621	1,570	9,74,970.00
8.05	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam (WMM) specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	Cum	777	2,429	18,87,333.00
8.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	3105	30	93,150.00
8.07	Providing and applying <u>tack coat</u> with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	6210	11	68,310.00
8.08	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.5 to 5. per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	Cum	373	7,749	28,90,377.00
8.09	Providing and laying <u>bituminous concrete</u> with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	Cum	78	8,465	6,60,270.00
8.10	Bus Shelters	Nos.	6	125000	7,50,000.00
8.11	Construction of Bus Stand by providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with precast concrete tiles in cement mortar 1:3 including provision of all drainage arrangements but excluding kerb channel.	Sqm	113	1285	1,44,562.50
8.12	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 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine	Rm	180	350	63,000.00
	Total for Bill-8 Bus bay and Bus shelter.				78,34,894
BILL# 9	Truck Lay bye (2 Nos)				
9.01	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness.	Hec	0.238	40,291	9,589.26
9.02	Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting to the embankment location within all lifts and lead upto 1000m to match link road profile	Cum	595	84	49,980.00
9.03	Construction of sub-grade and earthen shoulders with approved material obtained from borrow pits with all lifts & leads, transporting to site, spreading, grading to required slope and compacted to meet requirement of table No. 300-2	Cum	1190	290	3,45,100.00
9.04	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with motor grader on prepared surface, mixing by <u>mix in place method</u> with rotavator at OMC, and compacting with vibratory roller to achieve the desired density, complete as per clause 401.	Cum	476	1,570	7,47,320.00

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
9.05	Providing, laying, spreading and compacting graded stone aggregate to <u>wet mix macadam</u> specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.	Cum	595	2,429	14,45,255.00
9.06	Providing and applying Prime coat with bitumen emulsion on prepared surface of granular Base including clearing of road surface and spraying Prime at the rate of 0.60 kg/sqm using mechanical means.	Sqm	2380	30	71,400.00
9.07	Providing and applying <u>tack coat</u> with bitumen emulsion using emulsion pressure distributor at the rate of 0.20 kg per sqm on the prepared bituminous/granular surface cleaned with mechanical broom.	Sqm	2380	11	26,180.00
9.08	Providing and laying <u>dense graded bituminous macadam</u> with 100-120 TPH batch type HMP producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 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 to 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 complete in all respects.	Cum	286	7,749	22,16,214.00
9.09	Providing and laying <u>bituminous concrete</u> with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to 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 complete in all respects	Cum	119	8,465	10,07,335.00
9.10	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 150 mm thick, foundation having 50 mm projection beyond kerb stone, kerb stone laid with kerb laying machine	Rm	400	350	1,40,000
Total for Truck lay Bye					60,58,373
BILL# 10	Illumination				
	Street Lighting (Providing and erecting street light mounted on a steel circular hollow pole of standard specifications for street lighting, 9 m high spaced 40 m apart, 1.8 m overhang on both sides if fixed in the median and on one side if fixed on the foot path , fixed with sodium vapour lamp and fixed on the concrete foundation.				
10.01	Single arm Illuminare including Bulbs and all accessories	Nos	287	24,650	70,66,333
10.02	Double arm Illuminare including Bulbs and all accessories	Nos	353	34,769	1,22,85,047
10.03	High mast lighting including Vapour Lights	Nos	2	6,00,000	12,00,000
10.04	Fidder pillar & other accessories	Ls			10,00,000
Total for Bill-10 Illumination					2,15,51,380

Item	Bill description	Unit	Quantity	Rate as per SOR 18-19	Amount
BILL# 11	Road Furniture				
11.01	Thermoplastic pavement marking	Sqm	16000	876	1,40,16,000
11.02					
11.03	Road Signages				-
a	Advance Direction Sign/Direction Sign (2400x2400)	Nos	26	79,142	20,57,702
b	Place Identification sign (1200x800)	Nos	20	12,662	2,53,248
c	Triangle Sign 900mm	Nos	107	6,106	6,53,342
d	Octagonal Sign 900mm	Nos	17	9,515	1,61,755
e	Circular Sign 600mm	Nos	50	5,397	2,69,850
f	Single chevron 600mm x 450mm	Nos	124	5,259	6,51,017
g	Hazard Marker	Nos	144	5,259	7,57,296
h	Facility Sign Rectangular	Nos	14	6,212	86,968
i	Circular Sign 900mm	Nos	47	9,515	4,47,205
j	Service Area Ahead Sign (600x450)	Nos	8	5,259	42,072
k	Overhead Cantilevel Gantry	tonne	0		-
l	Overhead Gantry full width	tonne	6	1,02,607	6,15,642
m	NH Route Marker	Nos	424	5,259	22,29,816
n	Destination sign	Nos	4	12,662	50,650
11.04	Stones				
	i)5th kilometer Stone	Nos	4	4,171	17,685
	i) Kilometer Stones	Nos	17	2,592	44,064
	ii)Hectometre Stone Stones	Nos	85	688	58,315
	iv)Boundary Stones	Nos	212	707	1,49,884
11.05	Metal Beam Crash Barrier	Rm	12512	3691	4,61,81,792
	Fencing with welded steel wire Fabric	Rm	8600	660	56,76,000
11.06	Roadway Delineator	Nos	100	480	48,000
11.07	Studs	Nos	3321	320	10,62,678
11.08	Kerb	Rm	29712	350	1,03,99,200
11.09	Solar Traffic Blinkers signals with pole	Nos	20	3199	63,980
11.10	Pedestrian Railing	Rm	8600	2731	2,34,86,600
11.11	RCC Crash Barrier at Median (A-type)	Rm	4300	4781	2,05,58,300
11.12	Construction of Fothpath providing a 150 mm compacted granular sub base as per clause 401 and 25 mm thick cement concrete grade M15, over laid with precast concrete tiles in cement mortar 1:3 including provision of all drainage arrangements but excluding kerb channel.	Sqm	12900	1285	1,65,76,500.00
	Total for Bill-11 Road Furniture				14,66,15,561

BILL# 13 : MINOR BRIDGES

Item No	Descriptions	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
BILL# 13	FOUNDATION AND SUBSTRUCTURE				
13.01	Earth work in excavation of foundation of structures 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 and backfilling with approved material.				
a	In ordinary soil by Mechanical means upto 3m depth	cum	1858	82	1,52,356
13.02	Plain/Reinforced cement concrete in open foundation using concrete Mixer complete as per drawing and technical specifications PCC-M15	cum	123	5644	6,93,038
a	M 30 Grade	cum	693	8673	60,06,989
b	M 35 Grade	cum	0	8781	-
13.03	Plain/Reinforced cement concrete in sub-structure, complete as per drawing and technical specifications.				
a	M 30 Grade	cum	538	10196	54,86,590
b	M 35 Grade	cum	0	10393	-
13.04	Supplying, fitting and placing un-coated HYSD bar reinforcement in foundation, sub-structure and superstructure complete as per drawing and technical specifications	MT			-
a	In Foundation	MT	67	78391	52,59,566
b	Sub Structure	MT	51	78525	39,78,391
13.05	Providing weep holes in Brick masonry/Plain/Reinforced concrete abutment, wing wall/return wall with 100 mm dia AC pipe, extending through the full width of the structure with slope of 1V:20H towards drawing face. Complete as per drawing and Technical specifications	Number	681	199	1,35,519
13.06	Back filling behind abutment, wing wall and return wall with granular material, complete as per drawing and Technical specification. Granular material	cum	814	1420	11,55,582
13.07	Providing and laying of Filter media with granular materials/stone crushed aggregate satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications to a thickness of not less than 600 mm with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and technical specification	cum	409	1896	7,74,876
	Total for (Foundation+Sub Structure) :				2,36,42,907
13.08	SUPER STRUCTURE				
a	Furnishing and Placing Reinforced/Prestressed cement concrete in super-structure as per drawing and Technical Specification.				
	T- Beam & Slab-structure, RCC grade M30	cum	493	11811	58,25,658
	T- Beam & Slab-structure, RCC grade M40	cum	0	11973	-
	I- Beam & Slab-structure, PSC grade M45	cum	0	12804	-

BILL# 13 : MINOR BRIDGES

Item No	Descriptions	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
13.09	Supplying, fitting and placing un-coated HYSD bar reinforcement in foundation, sub-structure and superstructure complete as per drawing and technical specifications	MT	54	80072	43,32,856
13.10	Bituminous (Type 2) Wearing Coat as per drawings and Technical Specification Section 2700.	sqm	1134	784	8,88,798
13.11	Tar Paper Bearings	sqm	34	70	2,394
13.12	Expansion Joints, of following Type as per drawings and Technical Specification Section 2600	m	114	27761	31,64,754
13.13	Drainage Spouts complete as per drawing and Technical specification.	Number	12	8866	1,06,392
13.14	Construction of precast RCC railing with cast-in-situ vertical post of M30 Grade, aggregate size not exceeding 12 mm, true to line and grade, tolerance of vertical RCC post not to exceed 1 in 500, centre to centre spacing between vertical post not to exceed 2000 mm, leaving adequate space between vertical post for expansion, complete as per approved drawings and technical specifications.	Rm	130	2312	3,00,560
13.15	RCC Crash Barrier (M 40 Grade) excluding cost of reinforcement complete as per drawings and Technical Specification Section 1700 and 2700	Rm	260	4781	12,43,060
13.16	Printing new letter and figures in English and Roman of any shade with synthetic enamel paint black or any other approved colour to give an even shade. English and Roman	Number	6	240	1,440
13.17	Painting on concrete surface (Providing and applying 2 coats of water based cement paint to unplastered concrete surface after cleaning the surface of dirt, dust, oil, grease, efflorescence and applying paint @ of 1 litre for 2 Sq.m.)	sqm	546	51	27,846
Total for (Super Structure) :					1,58,93,758
13.18 Protection Work					
a	Excavation in soil	cum	2145	82	1,75,858
b	Concrete grade M 15 for levelling course	cum	28	5644	1,56,356
c	Filter media underneath stone pitching	cum	73	2069	1,51,660
d	Flexible Apron	cum	744	1963	14,60,994
e	Rigid Apron	Cum	572	8284	47,40,718
f	Curtain Wall M-15	Cum	275	6128	16,88,154
13.19	Providing and laying Pitching on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications	cum	147	1919	2,81,329
13.20	Conformatory boring	l.m.	45	3000	1,35,000
Total for Protection work					87,90,068
13.19 APPROACHES (INCLUDING RETAINING WALL)					
a	Plain/Reinforced cement (M-15) concrete in open foundation using batching plant complete as per drawing and technical specifications	cum	41	6001	2,46,281

BILL# 13 : MINOR BRIDGES

Item No	Descriptions	Unit	Estimated Quantity	Rate (Rs.)	Amount (Rs.)
b	Plain/Reinforced cement concrete in open foundation using concrete Mixer complete as per drawing and technical specificatons				-
	RCC M 30 Grade	cum	120	13449	16,09,845
	Total for Approaches				18,56,126

Project : Dergaon (Assam)

Quantity Calculation Summary Sheet

BILL# 12	Description	Unit	Total Qty CD	Box Culvert		Rate	Cost
				New Culvert			
				Upto 2m(N)	5m to 6m(N)		
			33	29	4		
12.01	Earthwork in excavation of foundation for structures, including all lifts and leads complete as per drawing and Technical Specification Clause 304 and 2903						
	a)Ordinary and soft Soils (material to be used in embankments)	Cum	8827	6742.478	2084.816	82	723838
	b)Ordinary and soft Soils (material to disposal)	Cum					
	c)Hard rock	Cum					
12.02	Providing Plain Cement Concrete M15 for levelling course etc. including centering all complete as per drawing and Technical Specifications Section Section 1500 & 1700						
	PCC M15 grade	Cum	3950	3081.802	867.789	6128	24203098
12.03	Providing Back filling behind abutments, wing walls and return walls, with selected imported granular material of approved quality including all leads and lifts complete as per Technical Specification Clause 305.	Cum	1877	1173.830	702.956	1420	2665036
12.04	Providing and laying of Filter media of Stone aggregate conforming to Technical Specifications Clause 2504.2.2 behind abutment, wing wall, retaining wall and return walls, complete as per drawing and Technical Specifications Clause 305 & 2504.	Cum	2092	1559.752	532.239	1896	3966415
12.05	Providing Plain Cement Concrete for Curtainwalls /toe walls etc. including centering all complete as per drawing and Technical Specifications Section Section 1500 & 1700						
	PCC M15 grade	cum	1194	947.355	246.480	6128	7315819
	PCC M20 grade	Cum					
12.06	Providing and laying Plain/Reinforced cement concrete for Foundation complete as per drawing and Technical Specification Section 1500, 1700, 2100 & 2200						
	RCC M 20	Cum					
	RCC M 25	Cum					
	RCC M 30	Cum	1702	1193.222	508.491	8444	14369263
	RCC M 35	Cum					
	Providing, cutting, bending and fixing in position of TMT bar reinforcement in reinforced concrete Foundation complete as per drawing and Technical Specification Section 1600	MT	116	81.098	34.604	78525	9085450
12.07	Providing and laying Plain/Reinforced cement concrete for substructure complete as per drawing and Technical Specification Section 1500, 1700, 2100 & 2200						
	RCC M 20	Cum					
	RCC M 25	Cum					
	RCC M 30	Cum	1611	1218.923	391.727	10196	16422185
	RCC M 35	Cum					
12.08	Providing, cutting, bending and fixing in position of TMT bar reinforcement in reinforced concrete substructure complete as per drawing and Technical Specification Section 1600	MT	111	83.824	26.869	78525	8692164
12.09	Providing and laying Reinforced cement concrete in superstructure excluding cost steel complete as per drawing and Technical Specification Section 1500, 1700, 2100 & 2300						
	RCC M 25	Cum					
	RCC M 30	Cum	1522	1016.233	506.074	10015	15245896
	RCC M 35	Cum					
12.10	Providing, cutting, bending and fixing in position of TMT bar reinforcement in reinforced concrete superstructure complete as per drawing and Technical Specification Section 1600 for 5,07a	MT	107	71.136	35.425	78525	8367736
12.11	Providing Weep holes in abutments, wing walls and return walls complete as per drawing and Technical Specification clause 2706.	Nos	1652	1276.000	376.000	199	328748

Quantity Calculation Summary Sheet

BILL# 12	Description	Unit	Total Qty CD	Box Culvert		Rate	Cost
				New Culvert			
				Upto 2m(N)	5m to 6m(N)		
5.12	Providing and laying Wearing Coat comprising of 65mm Bituminous concrete on top of deck slab including cost of tack coat, using modified bitumen meeting the requirements given in table 500-29, laid to the required level and slope after cleaning the surface						
	Wearing Coat	Sqm				843.04	
12.13	Providing and fixing drainage spouts complete as per drawing ,Technical Specification Clause 2705.	Nos	66	58.00	8.00	8866	585156
12.14	Plain Cement Concrete (Grade M15) for levelling course below approach slabs complete as per drawings and Technical Specification Section clause 2704	Cum	624	533.052	90.852	6001	3744048
12.15	Providing Reinforced Cement Concrete M30 grade in Approach slabs including reinforcement complete as per drawings and Technical Specification Sections 1500,1600 1700 and 2700						
	RCC M30 grade	Cum	1956	1670.760	284.760	13499	26397564
12.16	Filter media (150 mm thick) underneath pitching in slopes and flat surfaces complete as per drawing & Technical Specification Clause 2504	Cum	175	116.851	58.341	2069	362472
12.17	Providing and laying stone pitching on sloped surfaces (300 mm thick) for earth protection complete (for Quadrants) as per drawings and Technical Specification Clause 2504	Cum	467	326.471	140.063	1919	895279
12.18	Providing and laying Dry Boulder apron complete as per Drawings and Technical Specifications Clause 2503	Cum	2395	1900.341	494.424	2288	5479222
12.19	Providing and fixing expansion joints complete as per drawing and Technical Specification No. 2600 and confirming to MoRT&H modified interim specifications						
	a) 20 mm thick compressible fibre board	LM	1902	1625.972	276.000	362	688514
12.20	Painting of CD No. and Span arrangement as per Technical specifications	Nos	66	58.000	8.000	140.0	9240
12.21	150 mm Flat Stone Apron Embedded in 300 mm Thick M15	Cum	382	253.776	127.809	8284	3161055
12.22	Providing & Construction of Parapet Wall RCC M20 as per Technical Specification	Rm	194	145.000	48.896	4781	927017
	Total		32984	25133.877	7850.613		15,36,35,216