

BILL OF QUANTITIES

(A) Percentage Rate Tender (Up to INR 50 Cr.)

Item No.	Quantity	Description of Item (with brief specification and reference to book of specification)	Rate in figures	Unit	Amount
1	8.00	Clearing and grubbing road land including uprooting rank vegetation grass bushes, shrubs, saplings and trees girth upto 300mm removal of stumps of trees cut earlier and disposal of unserviceable materials (C) By mechanical means in area of light jungle	28455.09	Hect	227640.72
2	1918.00	Dismantling the existing structure including removing and stacking the dismantled materials as and where directed. (A) R.C.C. work	974.66	Cum	1869397.88
3	390.00	Providing and casting in situ controlled cement concrete M-250 for Kerb/ kerb blocks including formwork curing and finishing, complete.	5010.54	Cum	1954110.60
4	143.00	Providing and Fixing in position FE 500/500D TMT bar reinforcement including cutting, bending and tying complete as per detailed drawings.(A) R.C.C. Kerb.(B) R.C.C. Footpath.(C) R.C.C. Approach Slab. (D) Wearing coat.	73243.01	MT	10473750.43
5	2024.00	Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	81.81	Sqmt	165583.44
6	6031.00	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc. layers not exceeding 20cm. In depth consolidating deposited layer by ramming and watering	137.47	Cum	829081.57
7	136193.00	Scarifying gravelled macadam or bitumen macadam surface 6 cm to 10 cm.depth including stacking useful materials on road side and disposing off remaining stuff.	43.58	Sqmt	5935290.94
8	28222.00	Box cutting the road surface to proper slope and camber for making a base for road work including removing the excavated stuff and depositing on the road side slope as directed upto all lead.	114.44	Cum	3229725.68
9	37747.00	Providing and laying Granular Sub Base Layer by providing coarse graded material grading - I using B.T. M.C. metal crushed stone aggregates 53.00mm To 9.50mm @ 50%, 9.50mm To 2.36mm @20 % And Stone Dust @30% as per table 400-1 of MORTH Fifth Revision gradation including levelling the material at site of work, mixing & spreading into grade and camber, watering & consolidation at O.M.C. with vibratory roller including cost of material, labour, etc. complete.	1044.76	Cum	39436555.72
10	22000.00	Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam 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.	1282.45	Cum	28213900.00

11	68846.00	Earthwork for embankment including breaking clods, dressing with all lead and lift (excluding watering and consolidation) (E) From Borrow area within 7.0 Km. lead	236.65	Cum	16292405.90
12	77746.00	Rolling & Watering of earthwork in layers with Vibratory roller 80 to 100 KN static weight including filling in depressions which occur during the process as directed.	23.41	Cum	1820033.86
13	94675.00	Providing and Applying Prime Coat with Bitumen Emulsion on prepared surface of granular base coarse including clearing the surface and spraying priming coat at the rate of 0.75 Kg/Sqm Using mechanical means mechanically mix (pug mill) carriage of mix material by contractor's own tipper to site of work incl. laying, spreading and compacting in sub base, base course on well prepared under base of compacting as per MOST specification to achieve the desired density	67.61	Sqmt	6400976.75
14	24524.00	Providing, laying And rolling 50.00 mm thick compacted Bituminous Macadam (B.M.) in one layer with B.T. aggregates as specified and using RS-1 Emulsion for tack coat at the rate of 2.50 Kg/ 10Sqm. on B. T. Surface (As per IRC- 16) and using bitumen for mixing with aggregate at the rate of 3.40 % i.e. 34.00 kg/ MT of total mix, including heating and mixing in Batch mix plant and spreading the same by Paver finisher and consolidation with Vibratory roller including necessary including cost of Hire charges, firewood, fl, Lubricants, labour charges, etc. by using contractor's own Drum mix plant, machineries and equipment, tools etc. complete in accordance with the requirement of specification.	2745.94	MT	67341432.56
15	12917.00	Providing & Laying 25 mm thick S.D.B.C. using stone chips as per Gradation of M.O.R.T. & H. specification using bitumen at rate of 50 Kg./M.T. including heating the asphalt (VG-30 grade) and aggregate and laid by paver finisher including consolidation with vibratory roller including machineries, equipments, tools, plants, oil, firewood, kerosene and all labour charges etc. complete.	3355.77	MT	43346481.09
16	8144.00	Excavation for foundation in sand, gravel, clay soft soils and murrum etc. including shoring, strutting dewatering as necessary and disposing of the excavated stuff as directed. (A) Depth upto 3.0 M. and lead upto 100m for 10 Cum	535.45	Cum	4360704.80
17	1146.00	Providing and filling in foundation with ordinary Cement Concrete M-100 mix and providing necessary vertical pin headers including formwork vibrating ramming and curing complete	3378.92	Cum	3872242.32
18	9764.10	Providing and casting in situ ordinary cement concrete M-150 mix and providing necessary pin headers including shuttering, scaffolding, laying, vibrating, curing and finishing complete without V-Grooves	3954.98	Cum	38616820.22

19	189.10	Providing and laying in position FE 500/500D TMT bar reinforcement including cutting, bending, hooking and tying complete as per detailed drawings for the following.(A) Piers (B) Abutments (C) R.C.C. Returns	73858.69	MT	13966678.28
20	1340.00	Providing & Cating in situ controlled cement concrete M-250 mix with trimix C.C. Road laid as directed including temping, vibrating, finishing, curing and filling joint with bitumen etc as Directed and approved by engineer in charge.	5923.53	Cum	7937530.20
21	4683.00	Filling around the pipes with murrum including dressing, tampering etc. complete.	88.72	Cum	415475.76
22	160.00	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts including setting and joining the pipes in C.M.1:2 watering and laying (to level or slope) of I.S. class NP3 of following internal diameters.(Vii) 1200mm dia.	5831.74	Rmt	933078.40
23	860.00	Providing Temporary diversion suitable for traffic during the construction period of the CD work by levelling existing ground and supplying and spreading Hard Murrum in layear etc complete as per specification	705.50	Rmt	606730.00
24	638.00	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts including setting and joining the pipes in C.M. 1:2 watering and laying (to level or slope) of I.S. class NP3 of following internal diameters.(V) 900mm dia.	3740.98	Rmt	2386745.24
25	452.00	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts including setting and joining the pipes in C.M. 1:2 watering and laying (to level or slope) of I.S. class NP3 of following internal diameters.(IV) 750mm dia.	2786.72	Rmt	1259597.44
26	343.00	Providing parapet of ordinary cement concrete M-200 as per detailed drawings with necessary reinforcement including, shuttering, laying vibrating and finishing to line and level complete.(ii) Cast in situ.	1206.58	Rmt Cum	413856.94
27	645.00	Providing and laying rubbles for Apron (Each stone weighing not less than 40kg) including and packing and filling in the interstices with quarry spall.	1101.22	Cum	710286.90
28	457.00	Providing and filling in foundation with ordinary cement concrete M-150 mix and providing necessary vertical pin headers including form work, vibrating, ramming and curing complete .	3748.96	Cum	1713274.72
29	898.00	Providing and casting in situ controlled cement concrete M - 250 for R.C.C. raft and cut-off walls including necessary shuttering, laying, vibrating, ramming and curing complete	4765.74	Cum	4279634.52
30	879.00	Providing and casting in situ controlled cement concrete M - 250 for R.C.C. return as per drawing including centering, shuttering, scaffolding where necessary laying, vibrating, curing and finishing complete (A) Height from 0.00 to 5.0 Mt (1) Piers (2) Abutments (3) R.C.C. Return.	5372.45	Cum	4722383.55

31	1029.00	Providing and casting in situ controlled cement concrete M - 250 for R.C.C. solid slab including centering, scaffolding curing and finishing complete.	5493.53	Cum	5652842.37
32	274.00	Providing and casting in situ controlled cement concrete M - 250 for wearing coat laid as directed including tamping, vibrating, curing and finishing, curing and filling joints with bitumen complete.	5445.65	Cum	1492108.10
33	1082.00	Providing and laying filter media 600mm thick as directed at the back of abutment return & wing wall as per detailed specification.	1298.37	Sqmt	1404836.34
34	3998.00	Providing and laying weep holes in abutments, and returns by using A.C. / PVC Pipe of 100mm including laying in proper grade and jointing the complete as per detailed specification.	90.82	Nos	363098.36
35	8900.00	Earthwork for embankment including breaking clods, dressing with all lead and lift (Excluding rolling & watering) (E) From borrow area with 3 Km. lead	177.34	Cum	1578326.00
36	1002.00	Providing and laying 150mm thick Granular sub base by providing coarse graded material grading - II using B.T. M.C. metal crushed stone aggregates 26.5 mm to 4.75 mm @ 75% & below 2.36 mm as per table 400-2 of MORTH Fifth Revision gradation including levelling the material at site of work, mixing & spreading into grade and camber, watering & consolidation at O.M.C. with vibratory roller including cost of material, labour, etc. complete.	1102.85	Cum	1105055.70
37	308.00	Providing and laying and rolling of 20mm thick compacted mix seal surface with B.T. and aggregate as specified using bitumen for mixing with aggregate at the rate of 5.10% i.e. 51.00kg/ M.T. of total mix, including heating and mixing in drum mix plant and spreading the same by paver finisher and consolidation with vibratory roller including necessary frewood, oil, lubricants, labour charges, using contractor's own drum mix plant, machineries and equipment, tools etc including fushing of sand 0.30 cum/10sqm. etc complete in accordance with the requirement of specification	3346.88	MT	1030839.04
38	330.00	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts carrying heavy traffic as per IS 458 1971 specifications including setting the pipes in C.M. 1 :2 watering and laying (to level or slopes) of class NP 3 of following internal diameters. (III) 600 mm dia	2149.53	Rmt	709344.90

39	22.00	Diversion Ahead Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 180x60 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ;reflectorisred with Micro Prismatic Grade retro reflectivesheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.1 mtr long stand post (2 Nos.) of 50 x 50 x 5mm / 50NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol foreach board shall be as per theinstruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg.including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 10 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (A) Class-C Type-11 Retro Reflective sheeting	10671.66	Nos	234776.52
40	19.00	Providing and fixing ordinary Kilometer stone of precast C.C. 1:2:4 including necessary reinforcement as per I.R.C. type design in C.C. 1:4:8 including letter and paints etc. complete (For N.H., S.H. and M.D.R.)	1293.38	Nos	24574.22
41	3.00	Providing and fixing 5Th Kilometer stone of precast C.C. 1:2:4 including necessary reinforcement as per I.R.C. type design in C.C. 1:4:8 including letter and paints etc. complete (For N.H., S.H. and M.D.R.)	1935.14	Nos	5805.42
42	180.00	Providing and fixing Hectometer of pecast C.C. 1:2:4 including necessary reinforcement as per I.R.C. type design including painting lettering and etc. complete. (II) Fixing in C.C. 1:5:10	356.49	Nos	64168.20
43	249.00	Providing and fixing guard stone as per IRC type design including white washing etc complete (i) Fixing in C.C. 1:5:10	350.80	Nos	87349.20
44	1122.00	Providing and fixing indicator stone of approved stone as per I.R.C. type design in C.C. 1:4:8 including white washing etc. complete.(ii) Fixing in C.C. 1:5:10	343.26	Nos	385137.72
45	150.00	Supplying and fixing road sign board of M.S. plate and angle IR including painting, lettering etc complete including fixing in CC 1:4:8 with necessary excavation etc. complete as per IRC Type design (II) Reflective Type .	3072.98	Sqmt	460947.00

46	16.00	Direction (Junction) Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 244x122 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 4.0mtr (2 Nos.) long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 50x50x5mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	21287.50	Nos	340600.00
47	6.00	Village name Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 90x60 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.3mtr long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. the details of symbol or inscription / numerals for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	6397.43	Nos	38384.58

48	160.00	Chevron sign :-Providing and fixing sign boards made out of 1.5mm aluminium sheet / 3mm ACP (Aluminum composite Panel); size 60x50cm rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.3 mtr long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35x35x3mm; painted with best quality epoxy coatings in black and white bends. the details of symbol or inscription / numerals for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (A) Class-B Type-4 Retro Reflective sheeting	3711.75	Nos	593880.00
49	6629.00	Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumin surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/ edge line/cut patta. The white color marking should provide liminance coefficient on cement road shall be min 130 mcd/m ² /lux and Asphalt road shall be min 100 mcd/m ² /lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity should be two years.	367.72	Sqmt	2437615.88

50	8844.00	Cat Eye / Road Stud / RPM: Supplying of Molded Twin Shanks Raised Pavement Markers made of polycarbonate and ABS moulded body and reflective panels with micro prismatic lens capable of providing total internal reflection of the light entering the lens face and shall support a load of 13635 kgs. tested in accordance to ASTM D 4280 Type H and complying to Specifications of Category A of MORTH Circular No RW/NH/33023/10-97 DO III Dt 11.06. 1997. The height, width and length shall not exceed 20 mm, 130 mm and 130 mm and with minimum reflective area of 13 Sqcm on each side and the slope to the base shall be 35 +/- 5 degree. The strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30 +/- 2 mm) from the body is to be a minimum value of 500 Kgf. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturers recommendation and The color of the marker should be as per the IRC 35-2015 and as directed by Engineer- in-charge.	326.23	Nos	2885178.12
51	22.50	Painting lines, deashes, arrows, letters etc on roads, Air fields and like in two coats with road marking paint, brushing including cleaning the surface of all dirt, dust and other foreign matter. (i) Over 10cm in width	136.49	Sqmt	3071.03
52	74.00	Hazard Marker Sign :-Providing and fixing sign boards made out of 2.0 mm aluminium sheet / 4 mm ACP (Aluminum composite Panel); size 90x30 cms. rectangular as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 1.8mtr long stand post of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	3518.68	Nos	260382.32

53	6.00	Four (Two) LAne Ahead Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 120x120 cms. square plus 120x60cm additional plate as per design of IRC-67-2012. Pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 4 mtr long stand post (2 Nos.) of Iron Angle 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3mm; painted with bestquality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC blockof size 45 x 45 x 60 Cms. for each leg including excavation, curing etc.complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor. (B) Class-B Type-4 Retro Reflective sheeting	17946.02	Nos	107676.12
54	14.00	Kerb guard sign board (small) :-Providing & Fixing sign boards made out of 2mm aluminium sheet, size 240 x 30 cms in U spape; as per the attached drawing pre treated with phospheting process & acid etching. coated with one coat of epoxy priemr and two coats of best quality epoxy paint reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; stand post and frame fabricated from iron angle of 50x50x5mm, 10mm sq. bar as required, painted with best quality epoxy coating the fixing at site shall be in 1:2:4 CC block of size 45 x 45x 60cms for each leg, including excavation curing etc. complete under the supervision of engineer in charge. A warranty for 7 years for the Retro reflective sheeting from original manufacturer & a certified copy of 3 year outdoor exposure test report from third party test lab for the product offered shall be submitted by contractor.(B) Class-B Type-4 Retro Reflective sheeting	6973.00	Nos	97622.00
55	14.00	Supply & fixing Jumbo bollard Swiss type: Made out of 1.5mm croc sheet,height 188cms,Bottom diameter 30cms.Top diameter 18cms with direction plate of 45cms diameter, fabricated as per attached drawing. Pre treated with phosheting process,painted with epoxy coatings. Reflectorised with retro reflective sheeting's specified by M.O.S.T's specifications. (B) High Intensity Grade	6034.75	Nos	84486.50

56	35.00	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.)	1046.36	Nos	36622.60
57	1308.00	Anti-Glare screen: Providing and erecting Safety Light Barrier Anti-Glare screen of dimension 1335 mm x 600 mm x 80 mm leaf shape of High durable virgin premium grade Polyethylene material (L.L.D.P.E.) resistant to wind load 6m/s, and good aging resistance. The fixing at site shall be in 1:2:4 CC block of size 30 x 30 x 40 Cms by drilling of 30 cm x 30 cm x 30 cm size in existing median and anchoring by 2 nos of 8 mm Dia Fe500 D Reinforcement Bar and Fixing Radium strip of 225 mm x 215 mm size both side including excavation, curing etc.complete Block for proper level and smooth surface below the ground and antli glare screen having clear the 1600mm height over the ground at every 1.5m c/c spacing. INCLUDING Labour Charges Fitting and Transportation at site. All Installation, fitting and material be as per instruction approved by the engineer incharge at site	1726.84	Nos	2258706.72
58	555.00	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 centre to centre, 1.8 m high, 1.1 m below ground/road level, all steel parts and fitments 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 811	3468.34	Rmt	1924928.70
Total					339399770.09

Rs.

(Rs. THIRTY THREE CRORES NINETY THREE LACS NINETY NINE THOUSAND SEVEN HUNDRED SEVENTY AND PAISA ZERO NINE ONLY)

Note Credit for dismantled material amounting to Rs. -5801972.76 should be recovered from 1st R.A.Bill.

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