

**Name of Work : Reconstruction of High Level Major Bridge at CH. 7/00 to 7/20 Near
Umarkui Village on Sagbara - Borda - Sherula Road Km 0/00 to 10/800 Ta. Sagbara
Dist.Narmada (Bridge Diversion)**

BILL OF QUANTITIES

Item No.	Description of Item (with brief specification and reference to book of specifications)	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
1	Clearing and grubbing site/road/land [including uprooting all vegetation, grass, bush shrubs, saplings and trees with girth, removal of stumps of trees of girth of all sizes including removing stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials as directed by Engineer with all leads and lifts etc. complete as per specification. before commencement and after completion of the work.	1.00	Hectare	28455.09	28455.09
2	Detailed survey of site using Total station, and Marking out the centre line of bridge along longitudinal and transverse axis, and taking Various utilities and all other details of all component , structures, boundary and complete line out and levelling with precise levels using total station /theodolite including constructing necessary CC pillars for lines and levels and establishing necessary bench marks including making AUTOCAD drawings showing all levels, details of utilities, boundary etc all and providing soft copies in AUTOCAD etc. complete as directed.	1.00	Hectare	3636.00	3636.00
3	Providing and installation of barricades including supplying, painting with fluorescent paint and fixing CGI sheets 24 SWG of 1.8 m height and M.S. Posts angle 40 x 40 x 5 mm at 2.0 m c/c and dismantling the same after completion of work as directed by Engineer and as per site requirements.	40.00	Sqm.	273.71	10948.40
4	Excavation for foundation in sand, gravel, clay soft soils and murrum (Soft and Hard) etc. Including shoring, strutting dewatering including pumping as necessary, backfilling the trenches with suitable excavated material in layers of 15 to 20 cms and disposing of the surplus excavated stuff with all leads and lift , preparation of bed for concreting of foundations etc. complete as directed by Engineer and as per specification. (a) Depth upto 3.0m.	836.00	Cum.	523.28	437462.08
5	Excavation for foundation in sand, gravel, clay soft soils and murrum (Soft and Hard) etc. Including shoring, strutting dewatering including pumping as necessary, backfilling the trenches with suitable excavated material in layers of 15 to 20 cms and disposing of the surplus excavated stuff with all leads and lift , preparation of bed for concreting of foundations etc. complete as directed by Engineer and as per specification. (a) Depth from 3.0m. to 6.0m.	524.00	Cum.	613.92	321694.08
6	Excavation for foundation in sand, gravel, clay soft soils and murrum (Soft and Hard) etc. Including shoring, strutting dewatering including pumping as necessary, backfilling the trenches with suitable excavated material in layers of 15 to 20 cms and disposing of the surplus excavated stuff with all leads and lift , preparation of bed for concreting of foundations etc. complete as directed by Engineer and as per specification. (a) Depth from 6.0m. to 9.0m.	50.00	Cum.	677.18	33859.00

7	Excavation in large boulders and soft rock by welding including shoring, strutting and dewatering as necessary and disposing of the excavated stuff as directed.	154.00	Cum.	733.62	112977.48
8	Providing and laying in situ M-15 grade bedding concrete in foundation / below pile cap including dewatering, shuttering, mixing in mechanised batch mix plant, compacting, curing etc. complete true to level and position as directed by Engineer and as per specification.	42.00	Cum.	3583.27	150497.34
9	Providing and laying in-situ RCC M-35 grade Controlled Cement Concrete in foundations of piers, abutments, return wall, pile caps etc. including centering, shuttering, mixing in mechanised batch mix plant, compaction, curing and dewatering if necessary, excluding reinforcement as per specification and as directed by Engineer.	441.00	Cum.	5007.58	2208342.78
10	Providing and placing in position High Yield Strength Deformed (HYSD) bars reinforcement (TMT Fe 550D grade) with fusion bonded epoxy coating conforming to IS 1786 of all categories for piers, abutments, returns and retaining wall including cutting, bending, hooking and tying with 18 gauge mild steel binding wires, supporting in position to ensure lines and levels during concreting, maintaining proper cover / spacing etc. complete as per specification and detailed drawing.	56.00	MT	87541.75	4902338.00
11	Box cutting the road surface to proper slope, and chamber for making a base for road work including removing the excavated stuff and depositing on the road side as directed up to all lead & Lift.	1089.00	Cum.	112.02	121989.78
12	Earth work in embankment using selected soil and hard murrum, approved by engineer in charge, with contractor's own earth by all lead, and lift, including breaking clods dressing with all lead and lift including watering rolling and consolidation of subgrade in layers of 300 mm or as directed by engineer in charge, at OMC to required dry density including filling the depressions which occur during the process using power roller 8T to 10T	5897.00	Cum.	324.21	1911866.37
13	Construction of Granular Sub Base (GSB) / Granular Sub Base (GSB) cum Drainage Layer by providing coarse graded material/crushed stone, 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, including all material, labour, machinery with all leads and lifts etc. complete as per MORTH specification CI 401. For Grading - I Material	283.00	Cum	1801.84	509920.72
14	Construction of Granular Sub Base (GSB) / Granular Sub Base (GSB) cum Drainage Layer by providing coarse graded material/crushed stone, 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, including all material, labour, machinery with all leads and lifts etc. complete as per MORTH specification CI 401. For Grading - VI Material	283.00	Cu.m	1762.45	498773.35

15	Providing and Laying dense graded Bituminous Macadam (Grading II) of 50 mm thickness with mixing in drum mix plant using crushed aggregates of specified grading, premixed with VG-30 bituminous binder @ 4.5 percent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydraustatic 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. 505 complete in all respects.	12.00	Cum	2061.41	24736.92
16	Mixed Seal Surfacing - Providing, laying and rolling of open - graded premix surfacing of 25 mm thickness composed of 11.2 mm to 0.9 mm aggregates using Viscosity grade bitumen to required line, grade and level to serve as a wearing course on a previously prepared base, including mixing in a suitable hot mix plant of appropriate capacity not less than 200 tonnes/hour, laying and rolling with a smooth wheeled roller, finished to required level and grades.	1500.00	Sqm	191.90	287850.00
17	Providing and fixing guard stone as per IRC type design including white washing, etc. complete including fixing in CC 1:5:10.	50.00	Nos.	350.80	17540.00
18	Providing and fixing post and pipe railing as per detailed drawing including 3 coats of painting to steel works complete.	400.00	Rmt.	1210.38	484152.00
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	800.00	Sqm.	907.99	726392.00
20	Prime coat (Providing and applying primer coat with bitumen emulsion -SS1 on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.75kg/sqm using mechanical means.) 7.5 Kg / 10 Sqm	1680.00	Sqm	89.89	151015.20
21	Providing and applying tack coat with bitumen emulsion using emulsion pressure distributor at the rate of 0.25 kg per sqm on the prepared bituminous cleaned with mechanical broom. 2.5 Kg / 10 Sqm	1740.00	Sqm	15.15	26361.00
22	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 beads 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 coefficinet on cemend road shall be min 130 mcd/m2/lux and asphalt road shall be min 100mcd/m2/lux during the service life during the day time.the marking should meet the performancecriteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section -15 of IRC 35-2015.warranty for retro reflectivity shall be two year	93.00	Sqmt	367.72	34197.96

23	<p>Cat eye/Road stud/ RPM:Supplying of 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 13635kgs.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 130mm 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 the height not less than 30+/-2 mm) from the body is to be a minimum value of 500 kgf. Fixing will be by drilling hole on the road for the shanks to go inside, without nails and using epoxy based adhesive as per manufacturers recommendation and color of the marker should be as per the IRC 35-2015 and as directed by engineer-in-charge.</p>	39.00	Nos.	326.23	12722.97
24	<p>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 phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint ;reflectorisised 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</p>	4.00	Each	10671.66	42686.64

25	Standard Delineator: Providing and fixing of Standard Metal Delineator consisting of minimum retro reflective unit exposed area of 330 cm ² white color, full cube corner micro prismatic non-metallic retro reflective sheeting on each side conforming with IRC 67 2012 and meeting the coefficient of retro reflection values as per ASTM D 4956 Type XI table specification. The delineator shall be painted with powder coat of minimum 40 microns thickness, on top of which retro reflective sheeting shall be pasted on both sides. The structure shall be manufactured in roll forming process and shall have height not less than 800 mm above the ground, width not less than 100 mm and shall extend not more than 300mm below the ground while being installed. height of sheeting should be minimum 150mm whereas width of sheeting should not be less than 75mm (should be placed every alternative 15cm). The front and back faces of the delineator should be curved with a radius of not more than 200 mm and with delta angle (or central angle of curve) lying between 20o and 30o, to increase the visibility of the delineator for vehicles moving in continuous curves. The delineator shall have grooves across the length to make the reflective sheets vandal-proof. The delineator is meant for application on gaps in median, traffic islands, dangerous bends, roundabouts, narrow bridges etc. or as desired by site engineer.	2.00	Each	1027.17	2054.34
Total...					13062469.50

In Words: One Crore Thirty Lakh Sixty Two Thousand Four Hundred Sixty Nine Rupees And Fifty Paise.

I/We am/are willing to carry out the work at... % above/below percent(Should be written in figures and words) of the estimated rate mentioned above. Amount of my /our tender works out as under.

*** Estimated Amount**

put to tender

Deduct :.....% Below

Net

In Words

.....

*** Estimated Amount**

put to tender

Add :.....%Above

Total

In Words.....

.....

* (Please strike out whichever is not applicable).

- 1 The Contractor shall exhibit a board with detailed specification and details of work as directed by the Engineer-In-Charge for which no extra payment shall be made.
- 2 The labour cess will be deducted as per prevailing rules i.e. 1% of the work done.
- 3 GST and Income tax TDS will be deducted at a source while making payments of bills
- 4 In all R.C.C. Items in Rate Analysis Standard Cement Consumption has been taken as per Govt. G.R.: PRC-10/2017 Cement Consumption/16/C Date:11/05/2017 as stated in S.O.R. therefore in R.C.C. items where there is a change as per actual mix design the cost of difference of cement consumption have been deducted from the rate of original item at the rate of input rate mentioned in all the tender.
- 5 The amount of dismantled credit materials at Rs. 1764611.71 shall be deducted from first R.A. Bill.
- 6 The Contractor will have to submit the mix design for different grades his own cost before execution as directed and to be approved from the engineer in charge.

**Dy. Executive Engineer
Const. R&B Sub-Division
Dediapada**

**Executive Engineer
Rajpipla R&B Division
Rajpipla**