

**SCHEDULE OF ITEMS FOR CONSTRUCTION OF HIGH LEVEL BRIDGE ACROSS KSHIPRA RIVER FROM TAPOBHUMI TO HAMUKHEDI, UJJAIN.**

**(M.P.P.W.D. Schedule Of Rates For Road and Bridge Works in P.A.C. 1727.67 Lacs Force From 25-3-2022)**

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
	<b>FOUNDATION</b>				
12.1	<b>Excavation for Structures</b> 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 as per relevant clauses of section 300 & 2100 in				
I	<b>Ordinary soil ( including back filling with approved material)</b>				
i)	up to 3 m depth	892.82	cum	61.00	54462.02
ii)	Depth 3 m to 6 m	314.88	cum	70.00	22041.60
12.11	Providing steel liner 10 mm thick for curbs and 6mm thick for steining of wells including fabricating and setting out as per detailed drawing as per section 1200 & 1900.	201.620	tonne	92628.00	18675661.87
12.14	Bored cast-in-situ M35 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter-1200 mm)as per specification 1100, 1600 and 1700.	1074.2	metre	13463.00	14461954.60
12.27	Pile load test on single vertical pile in accordance with IS:2911(Part-IV)	350	tonne	482.00	168700.00
12.28	Cement concrete for reinforced concrete in pile cap complete as per drawing and Technical Specification and as per relevant clauses of sections 1100, 1500 & 1700.				
C	RCC Grade M30	535.770	cum	5325.00	2852975.25
12.29	Levelling course for Pile cap PCC in M-15 below Pile cap as per drawing and as per section 1100 and 1700.	41.890	cum	4404.00	184485.75
12.3	Providing Plain cement concrete M-15 nominal mix in foundation as per relevant clauses of sections 1500, 1700 and 2100.	0.000	cum	4349.00	0.00

SOR LNO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
12.6	Providing and laying Plain/Reinforced cement concrete in open foundation including form work shuttering etc. complete as per drawing and technical specifications and as per relevant clauses of sections 1500, 1700 & 2100 with .				
G	RCC Grade M30	0.000	cum	5419.00	0.00
12.30	Supplying , fitting and placing un-coated HYSD bar reinforcement in foundation complete as per drawing and technical specifications and as per relevant clauses of section 1600 FE 500 D/FE550/FE550D	296.4322	tonne	81349.00	24114463.04
12.32	Taking, exploratory boring 100mm dia at the location of piers and abutments or for high embankments in approaches in all types of strata as per IRC-78_1983 and section 2400 of specifications.				
a)	up to 1.0 m below bed level	7	metre	2722.00	19054.00
b)	Beyond 1.0 m depth upto 5.0m	28	metre	2847.00	79716.00
c)	Beyond 5.0 m depth	175	metre	2970.00	519750.00
				<b>Total</b>	<b>61153264.00</b>
	<b>SUB-STRUCTURE</b>				
13.1	Plain/reinforced cement concrete in sub-structure complete as per drawing and technical specifications.				
G	RCC grade M30				
1	Height upto 5m	274.717	cum	6335.00	1740331.40
2	Height 5 to 10m	215.816	cum	6500.00	1402806.44
13.2	Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and technical specifications and as per relevant clauses of sections 1600 .FE500/FE550/FE550D	49.05	tonne	81530.00	3999317.59
13.9	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	39.6	metre	185.00	7326.00

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
13.10	Back filling behind abutment, wing wall and return wall complete as per drawing and Technical specification and as per relevant clauses 305 of specifications and as per appendix				0.00
A	Granular material	486.858	cum	665.00	323760.57
13.11	Providing and laying of Filter media with granular materials/stone crushed aggregates 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.	55.116	cum	750.00	41337.00
13.13	Supplying, fitting and fixing in position true to line and level elastomeric bearing conforming to IRC: 83 (Part-II) section IX and clause 2005 of MoRTH specifications complete including all accessories as per drawing and Technical Specifications.	508200	tonne	0.86	437052.00
				<b>Total</b>	<b>7951931.00</b>
	<b>SUPER STRUCTURE</b>				
14.1	Furnishing & placing reinforced/prestressed cement concrete in super-structure as per drawing and technical specification and as per relevant clauses of section 1500, 1700 and 2300 in				
C	<b>RCC Grade M 30</b>				
(ii)	For Cast in Situ RCC T beam and slab				
2	Height 5m to 10m	496.032	cum	6623.00	3285220.00
3	Height 10m to 15m	248.016	cum	6878.00	1705854.00
C	<b>RCC Grade M 30</b>				
(i)	For Solid slab & voided slab				
2	Height 5 to 10m	0	cum	6368.00	0.00
D	<b>RCC/PSC Grade M35</b>				
(iv)	For RCC/PSC I beam, i/c launching	817.20	cum	9261.00	7568089.00
14.4	a) Supplying, fitting and placing HYSD bar reinforcement in super-structure completes as per drawing and technical specification as per relevant clauses of section 1600 of specification. FE500/FE550/FE550D	259.26	tonne	82810.00	21469419.97

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
14.5	High tensile steel wires/strands including all accessories for stressing, stressing operations and grouting complete as per drawing and Technical Specifications and as per relevant clauses of section 1800.	36.00	cum	112185.00	4038660.00
14.6	Providing and laying Cement concrete wearing coat M-30 grade including reinforcement complete as per drawing and technical specifications and as per relevant clauses of section 1500,1700 and clauses 2702 of specifications	158.18	cum	11685.00	1848274.88
14.13	PCC M15 Grade leveling course below approach slab complete as per drawing and Technical specification and as per relevant clauses of section 1700.	13.541	cum	4664.00	63152.89
14.14	Reinforced cement concrete non-structural approach slab (Grade of concrete M 30) as per MOST standard drawing including reinforcement and formwork complete as per drawing and Technical specification and as per relevant clauses of section 1500, 1600,	36.00	cum	9683.00	348588.00
14.23	Providing and laying of a strip seal expansion joint catering to maximum horizontal movement upto 70 mm, complete as per approved drawings and standard specifications to be installed by the manufacturer/supplier or their authorised representative ensuring compliance to the manufacturer's instructions for installation..	84.00	metre	5532.00	464688.00
14.11	Crash Barriers for Bridge provision of an Reinforced cement concrete M40 crash barrier at the bridge decks & approaches to bridge structures, constructed with Reinforced Cement concrete with HYSD reinforcement Conforming MoRT&H Specification and as per details given IRC-S including dowel bars, excluding reinforcement expansion joints filled with pre-moulded asphalt filler board etc. and approved drawing and at locations directed by the Engineer, all as specified.	126.54	cum	7031.00	889703.00
14.26	Testing of span of bridge deflection due to live load with platforms for loading arrangements apparatus for measurement including unloading etc. complete as per approved drawing.	77	tonne	905.00	69685.00

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
8.28	Painting Two Coats on New Concrete Surfaces Painting two coats after filling the surface with synthetic enamel paint in all shades on new plastered concrete surfaces	570.00	Sqm	65.00	37050.00
14.28	Providing & fixing position marble plates of size 0.9 m x1.2m with inscribed details as per detailed drawing .	2	each	1521.00	3042.00
	<b>Total</b>				<b>41791427.00</b>
	<b>ROAD WORK</b>				
3.3	Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 metres. Excavation for roadwork in soil with hydraulic excavator including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross sections, and transporting suitable earth to the embankment location and disposing off unsuitable earth with all lifts and lead upto 1000m as per relevent clauses of section-300 of specification.n.	288.00	cum	55.00	15840.00
3.13	Embankment Construction with Material Obtained from Borrow Pits Construction of embankment with approved material having CBR>7 obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-1, 300-2 and as per relevent clauses of section-300.	288.00	cum	155.00	44640.00
4.12	Crusher Run Macadam Sub Base/Base Course Providing crushed stone aggregate, depositing on a prepared surface by hauling vehicles, spreading and mixing with a motor grader, watering and compacting with a vibratory roller as per clause 410 to form a layer of sub-base/Base in accordance to Table No. 400-14, 400-15 and as per clause of section 407 of specifications.				
i)	For 53 mm maximum Size	900	cum	1145.00	1030500.00

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
4.13	Construction of Shoulders with approved material/selected soil i/c excavation all lifts & leads i/c grading to required slope & camber of 4% and compacting using vibratory roller of 80 to 100 kN static weight to meet requirement as per relevant clause of 400.				
B	Hard Shoulders (CBR value >12)	197.6	cum	223.00	44064.80
6.1	Dry Lean Cement Concrete Sub- base Construction of dry lean cement concrete Sub base over a prepared sub-grade or drainage layer with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver finisher with electronic sensor, compacting with 8- 10 tonnes vibratory roller, finishing and curing as per clause 601 of specification complete in all respect	333	cum	2767.00	921411.00
6.2	Deduct from Item No.6.1 above if paver finisher with electronic sensor, vibratory roller are not used and laying, compaction is done by any other method. (The acceptance criteria regarding level, thickness, surface regularity, texture finish, strength of concrete and all other quality control measures shall be the same as in case of machine laid work.) .	333	cum	150.00	-49950.00

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
6.3	Cement Concrete Pavement Construction of un-reinforced, dowel jointed, plain cement Construction of un-reinforced, dowel jointed, plain cement concrete pavement with M-40 grade concrete over a prepared sub base with cement , coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with electronic sensor slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, admixtures as approved, curing compound, finishing to lines and grades as per drawing as per IRC 15 2011 and as per relevant clauses of section 602 of specifications complete but excluding cost of steel in dowel bar and tie rods etc.	999	cum	6103.00	6096897.00
6.5	Deduct from Item No.6.3 & 6.4 above if slip from paver with electronic sensor is not used and laying, compaction is done by any other method (The acceptance criteria regarding level, thickness, surface regularity, texture finish, strength of concrete and all other quality control measures shall be the same as in case of machine laid work.)	999	cum	350.00	-349650.00
6.8	Add extra in Item No.6.3, 6.4, 6.6 & 6.10 above for the cost of steel in dowel bar and tie rod including craddle, laps etc. complete required as per design.				
i	Mild steel	7.475	MT	63587.00	475286.88
iii)	Tor steel	0.320	MT	68297.00	21833.18

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
8.3	<p>Retro- reflectorised Traffic signs</p> <p>Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign board as per IRC 67-2012 made of high intensity Micro-Prismatic Grade Sheeting (Type IV) vide IRC: 67:2012 clause 6.7.3.2 and clause 801.3.3 of MoRT &amp;H fixed over Aluminum composite material sheet with thermoplastic core of Low density polyethylene (LDPE) between two thick skins/sheets of aluminum with overall thickness of 4mm and aluminum skin of thickness 0.3 on both side, the ACM shall conform to Table 6.1 of IRC:67:2012 and Table 800-1 of MoRT &amp;H specification and High Intensity Micro Prismatic Grade Sheeting shall conform to Table 6.6 of IRC:67:2012 and Table 800-3 of MoRT &amp;H specification of in the clause IRC 6.8 of the IRC 67-2012 and clause 801.3.7 of MORTH message legend numerical letter etc. and borders shall be screen printed on high intensity micro prismatic sheeting shall conform to clause 801.3.7 with digital</p>				
i)	90 cm equilateral triangle	4.00	each	4184.00	16736.00
iii)	60 cm circular	2.00	each	3779.00	7558.00
iv)	80 cm x 60 cm rectangular	2.00	each	4971.00	9942.00




SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
8.7	<p>Providing and fixing of retro-reflectorised cautionary, mandatory and informatory sign board as per IRC 67-2012 made of high intensity Micro-Prismatic Grade Sheeting (Type IV) vide IRC: 67:2012 clause 6.7.3.2 and clause 801.3.3 of MoRT&amp;H fixed over Aluminum composite material sheet with thermoplastic core of Low density polyethylene (LDPE) between two thick skins/sheets of aluminum with overall thickness of 4mm and aluminum skin of thickness 0.3 on both side, the ACM shall conform to Table 6.1 of IRC:67:2012 and Table 800-1 of MoRT&amp;H specification and High Intensity Micro Prismatic Grade Sheeting shall conform to Table 6.6 of IRC:67:2012 and Table 800-3 of MoRT&amp;H specification of in the clause IRC 6.8 of the IRC 67-2012 and clause 801.3.7 of MORTH message legend numerical letter etc. and borders shall be screen printed on high intensity micro prismatic sheeting shall conform to clause 801.3.7 with digital printing ink or of cutout from transparent durable overlay or cutout from the same type of</p>	2.40	sqm	6479.00	15549.60


SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
0	<p><b>Road Delineators</b></p> <p>Supplying and installation road delineators (road way indicators). as per MORT&amp;H Clause 806.</p> <p>The structure shall be made in roll forming process having height of 80-100 cm above the ground level, width not less than 100 mm and shall extend not more than 300mm below the ground while being installed, buried or pressed in to the ground in confirmation with IRC:79: 1981, are as directed by the by. the Engineer painted black with powder coat of minimum 40 microns thickness for protection against corrosion, on top of which Type XI retro reflective sheeting shall be pasted on both sides complying to IRC:79:1981. The delineator should consist of minimum retro reflective unit exposed area of 330 cm<sup>2</sup> 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 label specification. The delineator shall have grooves across the- length to make the reflective sheets vandal- proof.</p>	40	nos	990.00	39600.00

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
0	<p>Road Markers/Road Stud with Lense Reflector</p> <p>Providing and fixing single mound twin shanked molded Road Markers/Road Stud made of poly carbonate or ABS body and shall support a load of 13635 Kg tested in accordance to ASTM D 4280 and complying lo specifications of Section-5 of IRC:35-2015 and clause 804.2.2 of MORT&amp;H and Section-5 of IRC:35-2015. he reflecting panels shall consist of number of lenses containing single or dual prismatic cubes capable of providing total internal reflection of the light entering the lens face. The slope or retro-reflecting surface should be 35 + 5 degree to base. The reflective marker shall be fixed to the road surface using the epoxy/ adhesives and the procedure recommended by the manufacturer. No nails shall be used to affix the markers so Cubes capable of that they do not pose safety hazard on the road.. The contractor shall submit a two year replacement warranty. for satisfactory field performance including stipulated retro-reflectance of the reflecting panel.</p>	500	nos	673.00	336500.00
8.25	<p>Road Marking with Hot Applied Thermoplastic Compound with Reflectorising Glass Beeds on Concrete surface. Providing and applying (Cleaning of concrete surface and after applying Concrete primer) thermoplastic compound having composition of binder (Regin) minimum 18 %, titanium dioxide minimum 10 % and intermixed glass beed, minimum 30% of brand like Asian, Burger or equivalent make of 2.5 mm thick including drop down reflectorizing, glass beeds @ 250 gms per sqm area thickness of 2.5 mm is exclusive of surface applied glass beeds as per IRC:35 along with concrete primer. The finished surface to be level, uniform and free from streaks and holes, all complete as per clause 803 of specifications. Note:- The guarantee of Thermoplastic should be minimum 3 Years.</p>	171.500	Sqm	661.00	113361.50

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
	<b>Total</b>				<b>8790120.00</b>
	<b>RETAINING WALL</b>				
12.1	<b>Excavation for Structures</b> 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 as per relevant clauses of section 300 & 2100 in				
I	<b>Ordinary soil ( including back filling with approved material)</b>				
i)	up to 3 m depth	4988.000	cum	61.00	304268.00
12.3	Providing Plain cement concrete M-15 nominal mix in foundation as per relevant clauses of sections 1500, 1700 and 2100.	348.000	cum	4349.00	1513452.00
12.6	Providing and laying Plain/Reinforced cement concrete in open foundation including form work shuttering etc. complete as per drawing and technical specifications and as per relevant clauses of sections 1500, 1703 & 2100 with .				
G	RCC Grade M30	2351.981	cum	5419.00	12745385.04
B	PCC Grade M20	128.700	cum	5162.00	664349.40
12.30	Supplying , fitting and placing un-coated HYSD bar reinforcement in foundation complete as per drawing and technical specifications and as per relevant clauses of section 1600 FE 500D/FE 550/FE 550D	213.609	tonne	81349.00	17376861.46
13.1	Plain/Reinforced cement concrete in sub-structure complete as per drawing and technical specifications				
G	RCC Grade M30				
I	<b>Height up to 5 m</b>	1149.690	cum	6335.00	7283286.15
B	PCC Grade M20	29.700	cum	5727.00	170091.90
13.2	Supplying, fitting and placing HYSD bar reinforcement in sub-structure complete as per drawing and technical specifications and as per relevant clauses of sections 1600. FE 500D/ FE 550/ FE 550D	115.415	tonne	81530.00	9409744.19

SOR I.NO.	Description	Qty.	Unit	Rate	Amount
1	2	3	4	5	6
3.14	Construction of Embankment with Material Deposited from Roadway Cutting Construction of embankment with approved materials having CBR>7 deposited at site from roadway cutting and excavation from drain or foundation of structures graded and compacted to meet requirement of table 300-1, 300-2 and as per relevant clauses of section-300.	-118.404	cum	60.00	-7104.24
13.11	Providing and laying of Filter media with granular materials/stone crushed aggregates 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.	1140	cum	750.00	855000.00
13.9	Providing weep holes in Brick masonry/Plain/ Reinforced concrete abutment, wing wall/return wall with 100 mm dia AC/PVC pipe, extending through the full width of the structure with slope of 1V :20H towards drawing face. Complete as per drawing and Technical specifications	144	metre	185.00	26640.00
3.13	Embankment Construction with Material Obtained from Borrow Pits Construction of embankment with approved material having CBR>7 obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-1, 300-2 and as per relevant clauses of section-300.	13228.404	cum	155.00	2050402.62
14.29	Providing and fixing and erecting 40mm dia steel pipe (medium weight) railing in 3 rows on steel channel ISMC-100mmx50mm and 0.95 in height and fixed at 1.8m. center to center and duly painted etc. complete as per standard drawing No.STD-33R, dtd.11.05.1987 of MP Rajya Setu Nirman Nigam Bhopal.	440	RM	1564.00	688160.00
Total					53080537.00

  
 Sub Divisional Officer  
 P.W.D. Bridge Sub Division Shajapur

  
 Executive Engineer  
 P.W.D. Bridge Division Ujjain