

Name of Work :-

Patan-Deesa Road Km.118/200 to 118/600 (Near Chakkar Major Bridge) (Diversion Work), Dist.Patan

INDEX OF SPECIFICATION

Tender Item No.	Description of Item	Booklet Name	Item No. as per Standard specification booklet	Page No. as per Standard specification booklet	Remarks
1	2	3	4	5	6
1	Earthwork for embankment with soft murrum including breaking clods, dressing with all lead and lift and including watering rolling and consolidation of subgrade in layers at O.M.C. to required dry density including filling the depression which occur during the process using power roller 8T to 10T. (E) From Borrow area		As per Seperate Sheet Attached.		
2	Construction of granular Sub base 100 mm thick by providing coarse graded material BTMC using metal 53 mm to 26.5 mm@ 27.5%, aggregate 26.5 mm to 9.5 @ 22.5%, aggregate 9.5 mm to 4.75 mm @ 10% and stone dusts 4.75 mm & below @ 40% including 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 401.2 Table 400.1 grade-I		As per Seperate Sheet Attached.		
3	Construction of granular Sub base 150 mm thick by providing coarse graded material BTMC using metal 26.5 mm to 9.5 mm @ 68%, 9.5 mm to 4.75 mm @ 12% and 4.75 & below @ 20% 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 401.2 Table 400.1 grade-III.		As per Seperate Sheet Attached.		
4	Providing and laying spreading and compacting graded stone aggregate to wet mix macadam 250 mm thick as per MORT&H specification including pre mixing the material with water at OMC in mechanical mix plant, carriage of mixed material by tippers 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 desire density.		As per Seperate Sheet Attached.		
5	Providing & laying priming coat with emulsion SS-1 grade and spraying emulsion with spray set fitted on mechanical buzzer using emulsion at the rate of 7.5 Kg./10 Sqm. On WMM surface incl. cleaning the surface etc. complete.		As per Seperate Sheet Attached.		
6	Providing and laying 50 mm Thick Bituminous Macadam B.T. Aggregate as per MORT & H specification and VG - 30 for tack coat @ 2.50 Kg./10 smt. with Mechanical sprayer & Bitumen Grade (VG-30) for mixing @ 34 Kg./Mt. i.e. 3.40 % by weight of total mix including heating and mixing the aggregate & asphalt in continuous batch mix plant and spreading the same by sensor paver finisher & consolidation with vibratory roller including providing all materials equipment's, tools & plant, fire wood, oil, kerosene, labour charges etc. complete using contractor's own machinery drum mix plant & paver finisher etc. complete		As per Seperate Sheet Attached.		

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7	Providing and laying 25 mm thick (Compacted) Semi dance Bituminous concrete on exiting bituminous surface and using specified graded black trapped machine crushed aggregate with 5% Bitumen VG-30 - 60/70 grade bitumen by Wt. of total mix as per MORTH specification including heating and mixing of asphalt with B.T. chips in continuous batch mix plant and transporting same at site and spreading by sensor paver finisher and consolidation the same with pair of 8 tones to 10 tones vibratory roller to achieve desire density and including flusing the stone dust @0.03 cum/10smt including cost of required tools , plants, all machineries, equipment fire wood , oil, kerosene, charges etc. complete.		As per Seperate Sheet Attached.		
8	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil		As per Seperate Sheet Attached.		
9	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		As per Seperate Sheet Attached.		
10	Providing and casting in situ Ordinary cement concrete M-150 for R.C.C. Raft and cut-off walls including necessary shuttering laying, vibrating, ramming and curing complete.		As per Seperate Sheet Attached.		
11	Providing TMT Bar FE 500D reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level		As per Seperate Sheet Attached.		
12	Supplying and fixing reinforced concrete heavy duty non-pressure pipes with collars for culverts carrying heavy traffic as per IS 458-1991 specifications including setting the pipes in C.M. 1:2 watering and laying (to level or slopes) of class NP3 of following internal daimeters.(vii) 1200mm dia.		As per Seperate Sheet Attached.		
13	Providing and laying rubble for apron (each stone weighting not less than 40Kg.) including and packing and filing in the interstices with quarry-spalls.		As per Seperate Sheet Attached.		
14	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		As per Seperate Sheet Attached.		
15	Providing and casting in site Controlled cement concrete M-200 for average 250 mm thick as directed including compacting with surface mechanical screed vibrating, mechanical floater, channeling form work and grooving including filling asphalt filer joint including dowel bar ,tie bar expansion, construction and construction joint as per instruction engineer in charge.		As per Seperate Sheet Attached.		
16	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 coefficinnet on cemend road shall be min 130 mcd/m2/lux and Asphalt road shall be min 100 mcd/m2/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.		As per Seperate Sheet Attached.		

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17	Cat Eye / Road Stud/ RPM: Supplying Raised Pavement Markers made of polycarbonate and ABS moulded body and reflective panels with Micro prismatic lens (No Glass bead 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 D 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 body of the marker should having finger grip for easy and accurate placement and application with epoxy / bituminous Adhesive as recommended by the manufacturer of the marker. The color of the marker should be as per the IRC 35-2015 and as directed by Engineer-in-charge.		As per Seperate Sheet Attached.		
18	Hazard Marker Sign :-Providing and fixing sign boards made out of 2.0 mm aluminum sheet/ 4 mm ACP (Aluminum composite Panel); size 90x30 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 ;reflectorized with Micro Prismatic Grade retro reflective sheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T. Specifications; 1.8mtr long stand post of 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 best quality epoxy coatings in black and white bends. The details of symbol foreach 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 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		As per Seperate Sheet Attached.		
19	Regulatory/ Mandatory Sign :-Providing and fixing sign boards made out of 2mm aluminum sheet / 4mm ACP (Aluminum composite Panel); size 60 cms Dia Circle 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 ;reflectorized with Micro Prismatic Grade retro reflective sheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T. Specifications; 3.6mtr long stand post of 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 best quality epoxy coatings in black and white bends. The details of symbol foreach 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 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		As per Seperate Sheet Attached.		

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20	Chevron sign (Double) :-Providing and fixing sign boards made out of 1.5mm aluminum sheet/ 3mm ACP (Aluminum composite Panel); size 2 No of 60x50 cm 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 ;reflectorized with Micro Prismatic Grade retro reflective sheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T. Specifications; 3.3 mtr long stand post of 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 50 x 50 x 5mm; 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 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		As per Seperate Sheet Attached.		
21	Wall painting (two coats) with plastic emulsion paint of approved brand (Asian/Birla ISI or similar etc.) and manufacture on undecorated wall surface to give an even shade including throughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.		As per Seperate Sheet Attached.		
22	Sign board per Square Meter :-Providing and fixing sign boards made out of 2mm aluminum sheet / 4mm ACP (Aluminum composite Panel); size 1meter x1 meter 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 ;reflectorized with Micro Prismatic Grade retro reflective sheeting of Type-11 as per ASTM D-4956 and latest M.O.S.T. Specifications; 4 mtr long stand post (2 No.) of 75 x 75 x 6mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 50 x 50 x 5mm; 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 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		As per Seperate Sheet Attached.		

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23	Diversion Ahead Sign :-Providing and fixing sign boards made out of 2mm aluminum 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 ;reflectorized with Micro Prismatic Grade retro reflective sheeting 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 best quality epoxy coatings in black and white bends. The details of symbol foreach 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 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		As per Seperate Sheet Attached.		
24	Providing and fixing guard stone as per I.R.C. type design including white washing etc. complete. (i) Fixing in Earth		As per Seperate Sheet Attached.		

**Deputy Executive Engineer
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