

CONSTRUCTION OF MINOR BRIDGE BOX CELL ON MANDAL-RAKHIYANA ROAD, TA VIRAMGAM, DIST AHMEDABAD.(PKG. NO. MMGSY/SCSP/STRUCTURE/03/2025-26)

SPECIFICATION INDEX

It No	Discription of item as per schedule "B" of the tender.	standard specification Booklet	Page no.
1	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	As per separate sheet attached	
2	Providing and laying plain cement concrete in levelling course complete as per drawings and technical specifications as per sections 1500, 1700 and 2100 of MORTH. (M-15)	As per separate sheet attached	
3	Providing and laying plain cement concrete grade M-15 PCC Toe wall for toe protection i.e. to prevent the slope pitching from sliding down, with graded machine mixed stone aggregate from 6 mm to 40 mm including tamping, vibrating, leveling and curing complete with all formwork, dewatering wherever required including all materials, labours, plants, machineries & tools, all leads and lifts, etc. complete as per specification.	As per separate sheet attached	
4	Providing and fixing in position (Thermo mechanically Treated bars) TMT Fe550D FBEC conforming to IS 1786 reinforcing bars of various diameters for Box structure , retaining wall, etc. as per detailed designs and drawings and schedule including cutting, bending, hooking the bars, binding with 18 SWG GI wires with cost of all labour, materials, tools, plants, equipments, supporting as required with all lifts and leads etc. all complete as per specification and as directed by Engineer The rate includes for supply, loading, unloading, transporting to site, cutting, bending, lap length, hooking, placing, tying in position with contractor's own binding wire, welding, forming the cage and lowering it in position in pile bore etc. Welding and supporting in position to ensure lines and levels during concreting, maintaining proper cover/ spacing, all leads & lifts, etc. including contractor's own equipment, labour, supervisor, taxes, machineries, etc. complete as per drawings and specification.	As per separate sheet attached	
5	Providing fusion bonded Epoxy coating not less than 175 micron thickness and up to 300 micron to reinforcement bars as per IS-13620-1993/ASTM-775 M including testing of coating at plant and all taxes	As per separate sheet attached	
6	Providing and casting in situ controlled cement concrete M-25 for R.C.C. box structure, as per drawings (pier shall be cast in single lift or as per direction of Engineer in charge), Stem of Retaining wall etc. using 6 mm to 20 mm machine crushed well graded stone aggregate, sand of approved quality, OPC 53 grade cement with contractor's own concrete mix design etc. complete as per specification. The rate is inclusive of all materials, including necessary mixing in fully automatic batch mix plant, transport, curing, vibrating, placing in position, scaffolding, staging, normal shuttering, formworks, deshuttering carefully, making good the damages, fixing embedment, inserts, pockets, wherever necessary, with all lead and lift with contractor's labour, tools & plants, machineries, as required, with including cost of fair finish form work.	As per separate sheet attached	
7	Providing & laying weep hole in Abutments, and returns by using A.C. pipe of 100mm including laying in proper grade and jointing the completed as per detailed specification.	As per separate sheet attached	
8	Providing and laying of Filter media 600mm thk with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications.	As per separate sheet attached	

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9	Back filling behind Abutment, wing wall and return wall with selected granular material of approved quality including all the materials, compacting, labour, equipment charges, etc all complete as per drawing and Technical Specification Section 300 (Percentage of fine content maximum 15%, Backfill soil phi 30°, Density 20 kN/m ³ , Field compaction 95±2% modified proctor density.	As per separate sheet attached	
10	Providing and laying rubble for apron (each stone weighting not less than 40Kg.) including and packing and filing in the interestices with quarry-spalls for Rigid Apron.	As per separate sheet attached	
11	Providing and laying plain cement concrete grade M-20 protection wall and curtain wall with minimum depth below floor level of 2m on upstream and 2.5m on downstream side as per clause 20.1.2.3 of IRC:SP:13:2004 and section 2507.1 of MORTH specification.	As per separate sheet attached	
12	Providing and laying rubble for apron (each stone weighting not less than 40Kg.) including and packing and filing in the interestices with quarry-spalls for Flexible Apron.	As per separate sheet attached	
13	Providing and laying of Filter media 150mm thk with granular materials/stone crushed aggregates below pitching on slopes satisfying the requirements laid down in clause 2504.2.2. of MoRTH specifications.	As per separate 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 separate sheet attached	
15	Providing and laying rubble for soling (each stone weighting not less than 40Kg.) including and packing and filing in the interestices with quarry-spalls. For rubble soling work under pcc.	As per separate sheet attached	
16	Providing and casting in-situ Reinforced Controlled Cement Concrete M40 grade controlled cement concrete in Crash barrier for using 6 mm to 20 mm machine crushed well graded stone aggregate, sand of approved quality, OPC 53 grade cement with contractor's own concrete mix design etc complete as per specification. The rate is inclusive of all materials, necessary mixing, transport, curing, vibrating, placing in position, scaffolding, staging, normal shuttering, formworks, deshuttering carefully, cut-out etc in formwork, making good the damages, fixing embedment, inserts, pockets, wherever necessary, with all lead and lift with contractor's labour, tools & plants, machineries, as required, with including cost of fair finish form work.	As per separate sheet attached	
17	Providing and casting in situ controlled cement concrete M-40 for average 100 mm thick wearing coat laid as directed dincluding tamping, vibrating, finishing, curing and fillingin joints with bitumen complete	As per separate sheet attached	
18	Providing Pre-moulded asphalt filler joints as per drawings.(A) 12mm	As per separate sheet attached	
19	Providing and laying geogrid below approach slab and in approach road portion as specified in GR No. PRC/102020/1293/C and as mentioned in the drawings.	As per separate sheet attached	

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20	<p>MMGSY "LOGO" Board : Providing and fixing of MMGSY LOGO informatory sign ward with Logo as per section 1700 of MORD specifications and drawing. The board will be a composite unit consisting of Two Plates of Aluminum Material specifications as per clause 17001.3. The top most plate will be of 3mm Aluminium sheet in diamond shape of 600x600mm size, riveted with MS angle iron frame of 25mmx25mmx5mm size on back on edges. The Lower plate will be of 4mm Aluminium sheet of 1100x300mm size riveted with MS angle iron frame of 25mmx25mmx5mm size on back on edges. Riveting of all the sheets over angle and flat iron frame will be done neatly to lave plain surface on one side. The angle iron frame of Both the plates will be welded to a 75mm x75mmx6mm Mild steel post at Centre and this post will be embeded in cement concrete M15 grade block of 450x450x600mm below ground level. The height of the bottom of the lower plate will be 1200mm from normal ground level. The spacing between the diamond shaped plate and Lower Plate is kept 150mm. MMGSY logo, etters and numerals on the ACM should be made up of Retro Reflective sheeting of Type-1 AEGP Class-A grade as per the latest MORD section 1700 and IRC 67-2012 specifications. Al the section of the frame and posts shall be painted with primer and two coats of epoxy paint. The design, painting and lettering shall be done as per the MMGSY Logo sign Design and as directed by Engineer in-charge. A warranty for 5 years for the Retro reflective sheeting for Type-1 Class-A from original manufacturer shall be submitted by contractor.</p>	As per separate sheet attached	
21	<p>Citizen's information Board- Providing and fixing of typical MMGSY information board as per instruction. Two Aluminium sheets of 3 mm thick, of 900 mm x 750mm size fixed at top & bottom duly rivetted with MS angles of 25 x 25 x 5 mm thick M.S angle shall be welded by two vertical M.S angle of 5 mm thick to 75 mm x 75 mm of 12 SWG square tubes posts duly embedded in cement concrete M-15 grade blocks of 600mm x 600mm x 75mm, below ground level. The letters & figure of any shade reflectorised with High Intensity Prismatic Grade Retro Reflective Sheeting of Type-4 as per ASTM D- 4956 and latest MORD specifications; All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paints as per drawing Clause 1701 and Annexure 1700.1 (10.16). (A) Class-B High intensity Grade Retro Reflective sheeting.</p>	As per separate sheet attached	

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22	MMGSY Project Information Board: Providing and fixing of typical PMGSY Project informatory sign board with Logo as per 1700 of MORD specifications and drawing. The board will be a composite unit consisting of Three Plates Aluminum material specifacaitons as per clause 17001.3. The top most plate will be of 3mm ACM in diamond shape of 600x600mm size, riveted with MS angle iron frame of 25mmx25mmx5mm size on back on edges. The middle 4mm ACM plate of will be 1200x150mm size riveted with MS angle iron frame of 25mmx25mmx5mm size on back on edges. The main 4mm ACM lower most plate will be 1500mmx600mm size, riveted with MS angle iron frame of 25mmx25mmx5mm size. Riveting of all the sheets over angle and flat iron frame will be done neatly to have plain surface on one side. The angle iron frame of lower most plate and flat iron frame of the middle plate will be welded to two nos. 75mm x75mm (12 SWG) sheet tubes posts placed at 1125mm apart centre to centre, the top of the middle plate will be flushed with the top of 75mm dia medium steel tube posts and these posts will be embeded in cement concrete M15 grade block of 450x450x600mm below ground level. The height of the bottom of the lower plate will be 1200mm from normal ground level and the bottom of the middle plate will be 100mm above the top level of the lower most plate, the diamond shaped plate mounted over flat angle iron frame will be connected to middle plate by square steel section of 47mmx 47mm , thickness 12SWG having a spacing of 100mm between the diamond shaped plate and middle plate and this square section will be riveted to the bottom point of the diamond shaped plate. MMGSY logo, letters and numerals on the ACM should be made up of Retro Reflective sheeting of Type-1 AEGP Class-A grade as per the latest MORD section 1700 and IRC 67- 2012 specifications. Al the section of the frame and posts shall be painted with primer and two coats of epoxy paint. The design, painting and lettering shall be done as per the MMGSY Signage Guide and as directed by Engineer-In-charge. . A warranty for 5 years for the Retro reflective sheeting for Class-A respectively, from original manufacturer shall be submitted by contractor.	As per separate sheet attached	
23	Clearing and grubbing road land including uprooting rank vegetation grass bushes,shrubs,sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials (C) By mechanical means in area of light jungle.	As per separate sheet attached	
24	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 1000 metres, stacking serviceable and unserviceable materials separately		
	Dismantaling of Bituminous Layer	As per separate sheet attached	
	Dismantaling of Granular Layer	As per separate sheet attached	
25	Earthwork for embankment 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 within 3.0KM lead.	As per separate sheet attached	
26	Construction of sub-grade and earthen shoulders with all lead and lift and including watering and rolling and consolidation of sub grade in layers at OMC to required dry density including filling the depressions which occur during the process using power roller 8T to 10 T	As per separate sheet attached	
27	Granular sub base Grade 1 with black trap crushed stone well graded material (Table-400.1) by mix in place method construction of granular sub base by providing black trap crushed stone well 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 technical specification clause-401) for Gr-I Material	As per separate sheet attached	
28	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tonnes in stages to proper grade and camber, applying and brooming requisite type of screening/ binding Materials to fill up the interstices of coarse aggregate, watering and compacting to the required density.-Grading 1, Using Screening Crushable type such as Moorum or Gravel.	As per separate sheet attached	

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29	Providing and laying plain cement concrete below Cement concrete pavement complete as per drawings and technical specifications as per sections 1500, 1700 and 2100 of MORTH. (M-15)	As per separate sheet attached	
30	Cement Concrete Pavement (Construction of un-reinforced, dowel jointed, plain cement concrete pavement over a prepared sub base with 53 grade cement @ 380 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, transported to site, 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, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing)	As per separate sheet attached	
31	Providing and fixing "W" type metal beam crash safety barrier comprising of single row 3 mm thick galvanized sheet to be fixed on ISMC 150 (150 mm x 75 mm x 5.4 mm) series channel vertical post to be spaced 2.0 mtr c/c to be kept 1.65 mtr height including necessary foundation, fittings with bolts, painting and required all process as per specification and as per drawing.	As per separate sheet attached	
32	Village name/ Bump Ahead sign :-Providing and fixing sing boards made out of 2mm aluminium sheet; size 90 x 60cms. rectangle as as per the design of IRC-67-1977 pre treated with phospheting process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorised with retro reflective sheeting as per latest M.O.S.T. Specifications; Letters and numerals should be as per IRC-30-1968, 3.1m long (2 nos) stand post 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 60cms. for each leg. including excavation curing etc. complete under the supervision of engineer in charge.(A) Engineer Grade	As per separate sheet attached	
33	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 separate sheet attached	
34	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 shalll 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 separate sheet attached	
35	Supplying and fixing reinforced concrete heavy duty nonpressure 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.(v) 900mm dia.	As per separate sheet attached	
36	Providing & laying tack coat with VG 30 grade bitumen with spray set fitted on mechanical bouzer at the rate of 4 Kg./10 Sqm. On WBM surface incl. cleaning the surface etc. complete.	As per separate sheet attached	

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37	Providing & laying 20mm thick premix seal surfacing using specified graded machine crushed aggregates with VG-30 grade bitumen at the rate of 5.1 Yo i.e. 51.0 Kg/ M.T. by weight mix including heating & mixing in drum mix plant transporting the mix spreading the same by paver finisher and consolidation by vibratory roller as per MORT&H specification including cost of all materials fuel, labours, tools and plant etc. comp. and flushind sand @ rate of 0.30 cmt / 100 smt.(typeB)	As per separate sheet attached	
38	Diversion sing board :-Providing & Fixing sign boards made out of 2mm aluminium sheet, size 180 x 60 cms. rectangle 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 retro reflective sheeting as per latest M.O.S.T. Specifications; Letters and numerals should be as per IRC-30-1968,3.1m long (2nos) stand post and frame fabricated from iron angle of 35x35x3mm, 50x50x5mm painted with best quality epoxy coatings in blak and white bends. 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) Engineer Grade(VR).	As per separate sheet attached	
39	Informatory Signs :-Providing and fixing sing boards made out of 2mm aluminium sheet; size 80 x 60cms. rectangle as per the design of IRC-67-1977 pre treated with phospheting process & acid teching; coated with one coat of epoxyprimer and two coats of best qualityepoxy paint; reflectorised with retro refiective sheeting as per latest M.O.S.T. Specifications; 3.1m long stand postand frame fabricated from suitable size iron angle of 35 x 35 x 3mm75x75x6mm as required; painted with best qualityepoxy coatings in black and whitebends. the details of symbol for eachboard shall details of symbol for eachboard 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 x45 x 60cms. for each leg. including excavation curing tec. complete under the supervision of engineer in charge.(A) Engineer Grade(VR).	As per separate sheet attached	

Signature of Contractor

Deputy Executive Engineer
R&B (p) Sub Division,
Viramgam

Executive Engineer
R&B (P) Division
Ahmedabad