

**NAME OF WORK:- CONSTRUCTION OF VARIOUS STRUCTURE MINOR BRIDGE, BOX CULVERT, PROTECTION WALL, GABION WALL AND SLAB DRAIN OF WAGHODIA, KARJAN, DABHOI, SINOR, SAVLI AND PADRA TALUKA DIST. VADODARA UNDER MMGSY(N) PACKAGE NO. 53/ 2025-26 1) JHAJHAD MOLETHA ROAD AT ROAD KM. 1/200 TO 1/400 TA:- SHINOR 2) AWAKHAL TERSA ROAD AT ROAD KM. 0/400 TO 0/600 IN TA. SHINOR 3) MANJROL DAMAPURA ROAD AT KM. 0/600 TO 0/800 IN TA.DABHOI. 4) HADOD SABHOI ROAD AT KM. 1/800 TO 2/000 IN DIST. KARJAN. 5) DABHOI KARNET ROAD AT KM.4/600 TO 4/800 IN TA.DABHOI. 6) SHANKARPURA BODINDRA ROAD AT KM.0/6 TO 0/8 TA.WAGHODIA. 7) PATOD TO ZAVERIPURA ROAD AT KM 0/200 TO 0/400 TA.PADRA 8) RANU TO VADADLA ROAD AT 1) 0/800 TO 1/000 , 2) 1/400 TO 1/600 TA. PADRA. 9) TUNDAV TO NAMISARA ROAD AT CH. 1/6 TO 1/8 TA:-SAVLI. 10) CHORANDA RANAPUR ROAD AT KM 6/2 TO 6/4 IN TA.KARJAN.**

<b>Item No.</b>	<b>Item of work</b>	<b>Applicable Specification referencees</b>
<b>1</b>	Dismentaling the existing structure including removing and stacking the dismentelled materials as and where directed. (A) R.C.C. work	As Per Separate Sheet Attached.
<b>2</b>	Demolition of Brick work and stone masonry including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift.(ii) In Cement Mortar.	As Per Separate Sheet Attached.
<b>3</b>	Diversion of watercourse / providing cofferdam and bund or island as may be necessary for foundation and maintaining the same for the period as may be necessary.	As Per Separate Sheet Attached.
<b>4</b>	Demarkation of road alingment including marking out road line by providing and fixing wooden pegs or steel rod of required size at every 25 M to 50 M. including excavating trenches ion both sodes of 0.30 m. x 0.30M. including supplying of labours and all materials for every work etc. complete.	As Per Separate Sheet Attached.
<b>5</b>	Providing flood gauge marks on substructure as per design including painting complete.	As Per Separate Sheet Attached.
<b>6</b>	Providing masonry steps with cement pointing on approaches as directed .	As Per Separate Sheet Attached.
<b>7</b>	Filling available excavated earth/wethered rock in trenches,sides of foundations etc. in layers not exceeding 20 cm in depth consolidating each dispoisited layer by ramming and watering.	As Per Separate Sheet Attached.
<b>8</b>	Excavation for foundation in sand , gravel , clay soft soils & murrum etc. Including sorting and strutting and dewatering as necessary and disposing of excavated stuff as directed. (A) Depth upto 3.0M. (B) Depth from 3.0 m to 6.0 m	As Per Separate Sheet Attached.
<b>9</b>	Providing & filling in foundation as base course with ordinary cement concrete of M 15 mix and providing necessary vertical pin headers including formwork vibrating ramming & curing complete.	As Per Separate Sheet Attached.
<b>10</b>	Providing and Casting in situ controlled Cement Concrete M-30 for R.C.C. Raft and cutt-off walls including necessary shuttering laying, vibrating, ramming and curing complete.	As Per Separate Sheet Attached.
<b>11</b>	Providing and fixing in position of steel grade FE-500D/FE-550D For R.C.C./P.C.C Work for RCC Raft, Retaining wall, Pier, Abutment, return wall, pier, Abutments, Aburment cap , pier cap , sesmic arrester , Pedestal. Including cutting hooking, tying, welding etc., complete as per detailed drawing and specification.	As Per Separate Sheet Attached.
<b>12</b>	Providing and casting in situ controlled cement with of M30 for R.C.C. work in piers and abutment as per drawing including centering shuttering scaffolding where necessary laying vibrating curing and finishing complete. (A) Height from 0.0 to 5.0 M. (B) Height from 5.0 to 10.0 M.	As Per Separate Sheet Attached.
<b>13</b>	Providing and casting in situ controlled cement concrete of M 30 Mix for R.C.C. works in pier cap abutment cap and dirt wall including controlled cement concrete of required drawings, centering shuttering, scaffolding wherever necessary laying vibrating curing and finishing complete.	As Per Separate Sheet Attached.
<b>14</b>	Providing and Fixing in position Tar paper as bearing as per detailed drawings.	As Per Separate Sheet Attached.
<b>15</b>	Providing and casting in situ controlled cement concrete M-35 for R.C.C. solid slab including centering,scaffolding, curing and finishing complete.	As Per Separate Sheet Attached.

<b>16</b>	Providing and fixing in position steel bar reinforcement for Super Structure, Approach slab & wearing coat of steel grade FE-500D / FE-550D including cutting ,bending, hooking, tying, welding etc., complete as per detailed drawing and specification.	As Per Separate Sheet Attached.
<b>17</b>	Provision of an Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with M-40 grade concrete with FE-500D/550D reinforcement conforming to IRC:21 and dowel bars 25 mm dia, 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design given in the enclosure to MOST circular No. RW/NH - 33022/1/94-DO III dated 24 June 1994 as per dimensions in the approved drawing and at locations directed by the Engineer, all as specified as per drawing attached.	As Per Separate Sheet Attached.
<b>18</b>	Providing P.V.C. 100 mm. diameter water spouts including necessary iron gratings as per drawings.	As Per Separate Sheet Attached.
<b>19</b>	Providing and fixing marble slab including engraving and painting complete. (A) size 75 cm x 60 cm x 40 cm	As Per Separate Sheet Attached.
<b>20</b>	Providing and casting in situ controlled cement concrete of M 30 for approach slab including form work curing and finishing complete.	As Per Separate Sheet Attached.
<b>21</b>	Providing and fixing in position 20 mm thick premoulded joint filler in expansion joint for fixed ends of simply supported spans not exceeding 10 m to cater for a horizontal movement upto 20 mm, covered with sealant complete as per drawing and technical specifications.	As Per Separate Sheet Attached.
<b>22</b>	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.
<b>23</b>	Providing and laying Filter material underneath pitching in slopes complete as per drawing and Technical specification	As Per Separate Sheet Attached.
<b>24</b>	Providing and laying - Filter Media 600mm thick directed at the back of abutments, returns and wing walls as per detailed specifications.	As Per Separate Sheet Attached.
<b>25</b>	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.
<b>26</b>	Providing and laying of Extruded Bioaxial Polypropylene Geogrid 30 KN as per clause no 3102.8 and approval design and specification with accesories like tie strips,nuts & bolts and loops/lugs for joining reinforcing elements with the facia ,pannels and overlaps and other protective elements as per detailed specification.	As Per Separate Sheet Attached.
<b>27</b>	Providing and fixing in position Mild steel dowel bars in pier caps or abutment caps for anchorage in fixed end as per detailed drawings including cutting, bending and welding complete.	As Per Separate Sheet Attached.
<b>28</b>	Providing and fixing in position Mild steel dowel bars in pier caps or abutment caps for anchorage in free end as per detailed drawings including cutting, bending and welding complete.	As Per Separate Sheet Attached.
<b>29</b>	Clearing and grubbing road land including uprooting rank vegetation , grass , bushes , shrubs , saplings and trees of girth upto 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials (I) By Mechanical means in area of light jungle.	As Per Separate Sheet Attached.
<b>30</b>	Back filling between returnwall shall be selected soil having properties as $C=0\text{Kg/Sq. } \phi=30^\circ$ 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 depressing which occur during the process using Vibratory roller 8T to 10T. (E) From Borrow area With all lead & lift.	As Per Separate Sheet Attached.
<b>31</b>	Construction of 150/200 mm thick compacted coarsed granular subbase (Grade-I crushed B.T materials of 53 mm to 26.5 mm @ 35 %,26.5 mm to 4.75 mm @ 45% ,Below 2.36 mm @ 20 %) by providing close graded material , mixing in a mechanical mix plant at OMC,carriage of a mix material to work site, spreading uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve desire density , complete clause as per 401.	As Per Separate Sheet Attached.

<b>32</b>	Providing and Laying 150/250 mm thick W.B.M. of Grading - II, of required compacted thickness in each layer of 100 mm using B.T.M.C. metal of size 53mm to 22.4mm in layers including 13% stone screening 11.2mm size and 7% stone dust as filler, including spreading, watering and consolidation by vibratory roller as per MoRTH specifications etc. complete as directed by Engineer-in-charge.	As Per Separate Sheet Attached.
<b>33</b>	Providing & Laying bituminous grout 37.5 mm.thick compacted with bitumen of grade VG 30 at rate 1.99% by weight of mix for mixing & 2.5Kgs/10Smt bitumen grade VG 30 for tack coat and using B.T. Chips of required gradation including cleaning and heating asphalt premix materials by hot mix process in proper gradation and laying with paver finisher and consolidation work as per MORT & H specification including cost of labour , materials & plants, fuel , oil etc complete.	As Per Separate Sheet Attached.
<b>34</b>	Providing laying and rolling 25 mm thick open graded premixed bituminous carpet with B.T. aggregate as specified and using bitumen for mixing with aggregate at the rate of 3.36% i.e 33.60 kg/M.T. of total mix including heating and mixing in drum mix plant and spreading the same with paver finisher and consolidation with power roller including necessary firewood oil, lubricants, labour charges etc. using contractor's own drum mix plant and equipment, tool etc. completed in accordance with the requirement of specification.	As Per Separate Sheet Attached.
<b>35</b>	Providing and laying seal coat with B.T. aggregate as specified using aggregate at the rate of 0.18cum/10sqmt and bitumen grade VG-30 for mixing with aggregate at the rate of 4.5 % i.e. 45.00 Kg/M.T. of total mix including heating and mixing in drum mix plant and spreading the same by paver finisher and consolidation with power roller including necessary fire wood oil, lubricants, labour charges using contractor's own drum mix plant, machineries and equipment, tools (including flushing & screened stone dust etc. complete in accordance with the requirement of specification.	As Per Separate Sheet Attached.
<b>36</b>	Providing and applying tack coat with emulsion RS1 grade at the rate of 4.0 kg/ 10 Sq.mt. including cost of asphalt and preparing the surface heating, and applying etc. complete.	As Per Separate Sheet Attached.
<b>37</b>	Road marking with hot applied thermo plastic paints with reflectorising glass beads on bitumin surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorsing glass beads@ 250 gms 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 luminance coefficient on cement road shall be min 130mcd/m <sup>2</sup> /lux and Asphalt road shall be min 100 mcd/m <sup>2</sup> /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 IRC35-2015. warranty for retro reflectivity shall be two years.	As Per Separate Sheet Attached.
<b>38</b>	Cautionary Warning Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet; size 90 x 90 x 90 cms. equilateral triangle as per design of IRC-67-1977. Pre treated with phosphating 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; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm, 75 x 75 x 6mm as required; painted with best quality 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 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) Engineer Grade(VR)	As Per Separate Sheet Attached.
<b>39</b>	Hazard Marker Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet; size 90 x 30cms. rectangle as per the design/drawing attached (IRC) pretreated with phosphating 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; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm & 50 x 50 x 5mm painted with best quality epoxy coatings The fixing at site shall be in 1:2:4 CC block of size 45x45x 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.

40	Regulatory/Mandatory signs :Providing and fixing sing boards made out of 2mm aluminium sheet; size 60cms. diameter circle as per the design of IRC-67-1977 pre treated with phospheting process & acid eteching; 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; 3.1m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3mm 75x75x6mm as required; painted with best quality 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 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(VR)...	As Per Separate Sheet Attached.
41	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 of35x35x3mm; 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. (A) Class-B Type-4 Retro Reflective sheeting	As Per Separate Sheet Attached.
42	Providing and fixing hectometer as per I.R.C. type design including painting lettering etc. complete fixing in C.C. 1:5:10.	As Per Separate Sheet Attached.
43	Cat Eye/ Road Stud / RPM: Supplying Raised Pavement Markers made of polycarbonate and ABS moulded body and reflective panles with micro prismatic lens (No Glass lens) capable of providing total internal reflection of light entering the lens face and shall support a load of 13635 kgs. tested in accordance to ASTM D 4280 Type H and Complyinh to Specification 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 20mm, 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 degre. 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.
44	Metal Beam Crash Barrier (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)	As Per Separate Sheet Attached.
45	Citizens information Board:Providing and fixing of typical information board as per instruction.Two MS plates of 1.6m thick, of 900mm x 750mm size fixed at top & bottom duly welded with MS angles pf 25 x 25 x 5mm thick M.S plate shall be welded by two vertical M.S flates 5 mm thick to 75 mm x 75 mm of 12 SWG square tubes posts duly embedded in cement concrete M-15 graze blocks of 600mm x 600mm x 750mm, below ground level.Painting new letters & figure of any shade with ready mixed synthetic enample paint of superior quality in required shade and colour, All sections of framed posts and steel tube will be painted with primer and two coats of epoxy paints as per drawing	As Per Separate Sheet Attached.
46	Supply & fixing logo board of diamond size (600 x 600 mm) 16 gauge & board plate size (900 x250 mm) 16 gauge thick M S Plate and 2.40 meter deep length single angle 75 x 75 x 6 mm size including fitting and painting lettering with luminous colour as per drawing etc.	As Per Separate Sheet Attached.
47	Providing and fixing guard stone as per I.R.C. type design including white washing etc. complete fixing in C.C. 1:5:10	As Per Separate Sheet Attached.
48	Providing & casting in situ controlled cement concrete M-20 mix for retaining wall and providing necessary pin headers including shuttering, scaffolding, laying, vibrating, curing and finishing complete without V-Groves.(A) 0 to 5 mt	As Per Separate Sheet Attached.

49	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 vibratory roller 8T to 10T.(A) From Borrow pits with all leads and lifts.	As Per Separate Sheet Attached.
50	Construction of 200 mm thick compacted coarsed granular subbase by providing coarse graded machine crushed B.T. material satisfying MOST specification (Grade-V crushed B.T. stone aggregate 26.5 mm to 9.5 mm @ 50 %, 9.5 mm to 2.36 mm @ 20% and 2.36 mm below @ 30 % ) including spreading in uniform layer 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 etc. complete.	As Per Separate Sheet Attached.
51	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 reflective sheeting as per latest M.O.S.T. Specifications; 3.1m long stand postand frame fabricated from suitable sizeiron 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 ofengineer 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.
52	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.
53	Supplying and fixing reinforced concrete heavy duty nonpressure pipes with collars for culverts including setting and joining the pipes in C.M. 1:2 watering and laying (To level of slops of I.S. 458 / 1971 Class NP4 of following internal diameter. (v) 900 mm dia.	As Per Separate Sheet Attached.
54	Providing and casting in situ controlled cement concrete M-30 for R.C.C. solid slab including centering,scaffolding, curing and finishing complete.	As Per Separate Sheet Attached.
55	Providing and casting in situ ordinary cement concrete M 200 forKerbs/Kerb blocks including formwork, curing and finishing complete	As Per Separate Sheet Attached.
56	Providing & casting in situ controlled cement concrete M-25 mix and providing necessary pin headers including shuttering, scaffolding, laying, vibrating, curing and finishing complete without V-Groves. (A) Height from 0.0 to 5.0 M. (B) Height from 5.0 to 10.0 M.	As Per Separate Sheet Attached.
57	Providing and casting in situ controlled cement concrete of M 40 for average 100 mm. thick wearing coat laid as directed including tamping vibrating finishing curing and filling in joints with bitumen complete.	As Per Separate Sheet Attached.
58	Providing G.I. 100 mm. diameter water spouts including necessary iron gratings as per drawings.	As Per Separate Sheet Attached.
59	Supplying and fixing reinforced concrete heavy duty nonpressure pipes with collars for culverts including setting and joining the pipes in C.M. 1:2 watering and laying (To level of slops of I.S. 458 / 1971 Class NP4 of following internal diameter. (v) 1000 mm dia.	As Per Separate Sheet Attached.
60	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.	As Per Separate Sheet Attached.

61	<p>Cautionary Warning Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 90 x 90 x 90 cms. equilateral triangle as per design of IRC-67-2012. Pre treated with phospheting process &amp; 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; 3.6mtr 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 7years for the Retro reflective sheeting from original manufacturer &amp; 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</p>	As Per Separate Sheet Attached.
62	<p>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 &amp; 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 &amp; 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</p>	As Per Separate Sheet Attached.
63	<p>Regulatory / Mandatory Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 60 cms. Dia Circle as per design of IRC-67-2012. Pre treated with phospheting process &amp; 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; 3.6mtr 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 &amp; 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.</p>	As Per Separate Sheet Attached.
64	<p>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 &amp; 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 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 &amp; 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</p>	As Per Separate Sheet Attached.
65	<p>Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length,30cm height and 15cm thick of M20 grade concret as per approved design and including excavation for fixing in proper line and level,filling the joint with C:M 1:3 (1cement:3 fine sand) etc complete.</p>	As Per Separate Sheet Attached.

<b>66</b>	Facility Informatory Sign :-Providing and fixing sign boards made out of 2mm aluminium sheet / 4mm ACP (Aluminum composite Panel); size 80 x 60 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; 3.6mtr 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.	As Per Separate Sheet Attached.
<b>67</b>	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 ; reflectorised with High Intensity Prismatic Grade retro reflectivesheeting of Type-4 as per ASTM D-4956 and latest M.O.S.T.Specifications; 3.1 mtr long stand post (2 Nos.) of Iron Angle 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 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	As Per Separate Sheet Attached.
<b>68</b>	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.(v) 900mm dia.	As Per Separate Sheet Attached.
<b>69</b>	Supplying and laying of mechanically bonded polypropylene non woven geotextile (250gsm) as filter media behind gabion units, Beneath the mattress and application as per MoRTH 700 Type-I geotextile. The width of geotextile roll shall not be less than 4.5 m, at easily accessible location including top and bottom, with all leads and lifts, manpower and machinery, materials, labour etc. complete and as directed by Engineer - In - Charge.	As Per Separate Sheet Attached.
<b>70</b>	Supplying & Laying of Mechanically Woven, Double twisted hexagonal shaped Galmac(Zinc+10% Aluminum)+PVC Coated Gabion Units, Mesh Type 10x12, Mesh wire dia 2.7/3.7 mm and Selvedge wire Dia. 3.4mm /4.4mm of dimension including transportation & placing at indicated places as direction of Engineer incharge including tools ,plants ,labour,material ,royalty charges etc. in all respect with safety precautions & all lead & lift.	As Per Separate Sheet Attached.
<b>71</b>	Providing and laying rubble for apron (each stone weighing not less than 40 Kg.) including hand packing and filling in the interstices with quarry spall.	As Per Separate Sheet Attached.
<b>72</b>	Providing and laying Filter Media 600mm Thick directed at the back of Abutment, return and wing walls as per detailed specification.	As Per Separate Sheet Attached.
<b>73</b>	Supplying & Laying of Mechanically Woven, Double twisted hexagonal shaped Galmac(Zinc+10% Aluminum)+PVC Coated Gabion Units, Mesh Type 10x12, Mesh wire dia 2.7/3.7 mm and Selvedge wire Dia. 3.4mm /4.4mm of dimension including transportation & placing at indicated places as direction of Engineer incharge including tools ,plants ,labour,material ,royalty charges etc. in all respect with safety precautions & all lead & lift. A) 3 x 2 x 1 m	As Per Separate Sheet Attached.
<b>74</b>	Supplying & Laying of Mechanically Woven, Double twisted hexagonal shaped Galmac(Zinc+10% Aluminum)+PVC Coated Gabion Units, Mesh Type 10x12, Mesh wire dia 2.7/3.7 mm and Selvedge wire Dia. 3.4mm /4.4mm of dimension including transportation & placing at indicated places as direction of Engineer incharge including tools ,plants ,labour,material ,royalty charges etc. in all respect with safety precautions & all lead & lift. A) 3 x 2.5 x 1 m	As Per Separate Sheet Attached.

<b>75</b>	Supplying & Laying of Mechanically Woven, Double twisted hexagonal shaped Galmac(Zinc+10% Aluminum)+PVC Coated Gabion Units, Mesh Type 10x12, Mesh wire dia 2.7/3.7 mm and Selvedge wire Dia. 3.4mm /4.4mm of dimension including transportation & placing at indicated places as direction of Engineer incharge including tools ,plants ,labour,material ,royalty charges etc. in all respect with safety precautions & all lead & lift. A) 3 x 1.5 x 1 m	As Per Separate Sheet Attached.
<b>76</b>	Quantity of Stones for filling mattress & terramesh unit with all leads and lifts, manpower and machinery, materials, labour etc. complete and as directed by Engineer - In - Charge.	As Per Separate Sheet Attached.
<b>77</b>	Providing and fixing in position of steel grade FE 500D/ FE-550D (TMT) for Box Culvert & Approach Slab,Retaining wall Including cutting hooking, tying, welding etc., complete as per detailed drawing and specification.	As Per Separate Sheet Attached.
<b>78</b>	Dismantling steel work including distempering and stacking the materials with all lead and lift.	As Per Separate Sheet Attached.
<b>79</b>	Providing parapet of controlled cement concrete M-30 as per detailed detailed drawings with necessary reinforcement including, shuttering, laying vibrating and finishing to line and level complete. (ii) Cast in situ.	As Per Separate Sheet Attached.

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