

Name of Work :- Pamol Khadol Road Km 0/00 to 4/200 (FDR, Asphaltic Work, CC Road, Structure Work, Road Furniture & Miscellaneous work) - CRIF Work-2025-26

SECTION - 5 TECHNICAL SPECIFICATION
INDEX OF SPECIFICATION

Item No. as per Tender	Description of Item	Applicable Specification	Specification Booklet Attached
1.	Clearing and grubbing road length including uprooting plank, vegetation grass bushes, shrubs, saplings, and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of un serviceable materials. (C) By mechanical means in area of light jungle.	Item No. 1 (C) / P-10 The payment will be made on Hectare basis of the finished work.	Road Work
2.	Providing and laying 50 mm thick Bituminous Macadam (BM) with B.T. aggregate as per MORT&H specification & using bitumen VG-30 for tack coat @ 2.50 KG / 10 Sqm with mechanical sprayer & bitumen VG-30 for mixing @ 34.00 KG / M.T. i.e., 3.40 % of total weight of mix, including heating and mixing the aggregate & asphalt in drum mix plant and hot laid process spreading the same by paver finisher & consolidation with vibratory roller as per MORT&H specification to achieve desire density, including providing all materials equipments, tools & plants, fire wood, oil, kerosene, labour charges etc. complete using contractor's own machinery drum mix plant & paver finisher etc. complete.	As per separate sheet attached herewith	Separate sheet
3.	Providing and laying 25 mm thick Semi Dense Bituminous Concrete (SDBC) with B.T. aggregate as per MORT&H gradation using bulk bitumen Grade VG-30 for mixing @ 50.00 KG / M.T. i.e., 5.0 % by weight of total mix, including heating and mixing the aggregates and bitumen in drum mix plant and hot laid process laying with paver finisher and consolidation with roller as per MORT&H specification to achieve desire density, including cost of all materials, equipments, tools, and plants, fire wood, oil, kerosene, labour charges etc. complete using contractor's own machineries drum mix plant and paver finisher etc. complete.	As per separate sheet attached herewith	Separate sheet
4.	Providing and laying compacted 75 mm thick of specified quarry spall in side shoulder , including carriage of material and spreading on prepared base, including compacting by vibratory roller as per MORT&H specification etc. complete as directed by Engineer in charge.	As per separate sheet attached herewith	Separate sheet
5.	Earthwork for embankment , including breaking clods, dressing with all lead and lift, including watering rolling and consolidation of subgrade in layers at OMC to required dry density, including filling the depression which occur during the process using power roller 8 T to 10 T. From Borrow area with all lead and lift.	Item No. 5 / P-16 The item should be carried out as per item description and as per the instruction of Engineer in charge.	Road Work
6.	Box cutting the road surface to proper slope and camber for making a base for road work including removing the excavated stuff and depositing on the road side slope as directed with all lead and lift.	Item No. 9 / P-22	Road Work

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7.	Construction of 150 mm thick Granular sub base in required layer by providing coarse graded material Grading I using B.T. M.C. metal 53 mm to 26.5 mm at 35%, aggregate 26.5 to 4.75 mm at 45% and stone dust at 20% (CBR more than 30%) as per Table 400-2 of MoRTH gradation including conveying the material at site of work, mixing and spreading in to grade and camber, watering and consolidating at OMC with vibratory roller including the cost of materials, labours etc. complete.	As per separate sheet attached herewith	Separate sheet
8.	Providing and laying controlled cement concrete M-150 and curing complete, excluding the cost of formwork and reinforcement for reinforced concrete work in (a) Foundations, footings Bases of columns and mass concrete.	Item No. 71 / P-80. The payment will be made on cubic meter basis of the finished work.	Road Work
9.	Providing and laying controlled cement concrete M-25 , including adding surface hardner @ of 5.0 KG / square meter and curing complete excluding the cost of reinforcement of reinforced concrete work in Road by Trimix method by providing and fixing 'C' channels of 75 mm x 75 mm as per required level slope and thickness of concrete road levelling of placed concrete with surface vibrator finishing the surface with power floater and trowel light brooming on the surface including providing and filling expansion joint having size 20 mm x 20 mm as per manufacturers specifications and making construction joint of 3 mm x 20 mm by using concrete cutter machine, with curing compound etc. complete as directed.	As per Separate sheet attached herewith	Separate Sheet
10.	Providing and placing T.M.T. FE-500D bars reinforcement (I.S.I. mark) conforming to I.S. 1786 for R.C.C. work including cutting, bending, binding and placing in position etc. complete.	As per Separate sheet attached herewith	Separate Sheet
11.	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 up to 3.0 M and lead up to 100 m for 10 Cum.	Item No. 7 / P-6	Bridge Work
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 NP-3 of following internal diameters. (v) 900 mm diameter .	Item No. 63 (v) / P-74. The payment will be made on running meter basis of the finished work.	Road Work
13.	Providing, supply and fixing of manhole chemical fabricated with High-strength precast reinforced cement concrete M-25 grade chamber with top cover as per specification and drawing attached with tender for size as mention herewith, including lowering, laying and joining the RCC Precast Pipe in premixed cement mortar in proper position, grade and alignment at all level including conveyance to site of work, labour, giving hydraulic testing as per ISI code etc. complete as directed by Engineer in charge. (Size 1400 x 1600 x 2000 mm deep and suitable for 900 mm dia NP-3 pipe)	As per separate sheet attached herewith	Separate sheet
14.	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth consolidating each deposited layer by ramming and watering.	As per separate sheet attached herewith	Separate sheet

Item No. as per Tender	Description of Item	Applicable Specification	Specification Booklet Attached
15.	Providing and fixing Hectometre stone as per I.R.C. type design including painting, lettering and fixing in C.C. 1:5:10 etc. complete.	Item No. 43 / P-67	Road Work
16.	Providing and fixing guard stone as per I.R.C. type design including white washing and fixing in C.C. 1:5:10 etc. complete.	Item No. 44 / P-67 + Item No. 43 / P-67. Except that Guard stone shall be fixed in C.C. 1:5:10 as directed.	Road Work
17.	Providing and fixing Ordinary Kilometer Stone of precast C.C. 1:2:4 including necessary reinforcement as per I.R.C. type design and fixing in C.C. 1:4:8 including letter and paints etc. complete.	Item No. 45 / P-68 The payment will be made on number basis of the finished work.	Road Work
18.	Providing and fixing Indicator stone of approved stone as per I.R.C. type design in C.C. 1:4:8, including white washing and fixing in C.C. 1:5:10 etc. complete.	Item No. 47 / P-68 The payment will be made on number basis of the finished work.	Road Work
19.	Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumen surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250 gms per sqm area, thickness of 2.5 mm 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 / centre line / edge line / cut patta. The white colour marking should provide luminance coefficient on cement road shall be min 130 mcd/m ² /lux and asphalt road shall be min 100 mcd/m ² /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.	Item No. 40 / P-64 The payment will be made on square meter basis of the finished work.	Road Work
20.	Providing and laying rumble strip road marking with hot applied thermoplastic paints with reflectorizing glass beads on bitumen surface by providing hot applied thermoplastic compound 8 mm thick including reflectorizing glass beads @ 250 gms per Sqm area, thickness of 8 mm is excluding of surface applied glass beads as per IRC: 35-2015. The finished surface to be level, uniform and free from streaks and holes etc. complete.	Item No. 40 / P-64 Thermoplastic paint for rumble strip shall be applied in continuous lines of uniform thickness of at least 8 mm unless specified otherwise. The payment will be made on square meter basis of the finished work.	Road Work
21.	Cat Eye / Road Stud / RPM: Supplying of Molded Twin Shanks 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 – 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 strength of detachment of the integrated cylindrical shanks, (of diameter not less than 19 +/- 2 mm and height not less than 30 +/- 2 mm) from the body is to be a minimum value of 500 Kgf. Fixing will be by drilling holes on the road for the shanks to go inside, without nails and using epoxy resin based adhesive as per manufacturer's recommendation and the colour of the marker should be as per the IRC 35-2015 and as directed by Engineer-in-charge.	As per separate sheet attached herewith	Separate sheet

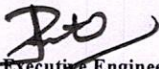
Item No. as per Tender	Description of Item	Applicable Specification	Specification Booklet Attached
22.	Providing and fixing Cautionary Warning sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 90 x 90 x 90 cm equilateral triangle as per design of IRC-67-2012. Pre-treated with phosphating process & acid etching; coated with one coat of epoxy primer & two coats of best quality epoxy paint; reflectorized with High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 & latest MOST Specifications; 3.6 mtr long stand post of iron angle 75 x 75 x 6 mm / 65NB circular MS pipe as required & frame fabricated from suitable size iron angle of 35 x 35 x 3 mm; painted with best quality epoxy coatings in black & 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 cm for each leg, including excavation, curing etc. complete under the supervision of Engineer-in-charge. A warranty for 7-year 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 herewith	Separate sheet
23.	Providing and fixing Facility Informatory sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 80 x 60 cm 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 3.6 mtr long stand post of iron angle 75 x 75 x 6 mm / 65NB circular MS pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm; 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 cm 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 herewith	Separate sheet

Item No. as per Tender	Description of Item	Applicable Specification	Specification Booklet Attached
24.	Providing and fixing Regulatory / Mandatory sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 60 cm 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 3.6 mtr long stand post of iron angle 75 x 75 x 6 mm / 65NB circular MS pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm; 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 cm 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 herewith	Separate sheet
25.	Providing and fixing Stop sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 90 cm octagonal 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 3.6 mtr long stand post of iron angle 75 x 75 x 6 mm / 65NB circular MS pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm; 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 C.C. block of size 45 x 45 x 60 cm 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 herewith.	Separate sheet

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26.	Providing and fixing Direction (Junction) sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 244 x 122 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 4.0 mtr long (2 Nos) stand post of 75 x 75 x 6 mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 50 x 50 x 5 mm; 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 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 herewith	Separate sheet
27.	Providing and fixing Village name / Bump Ahead Sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 90 x 60 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 3.3 mtr long stand post of 75 x 75 x 6 mm / 65NB Circular MS Pipe as required and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm; painted with best quality epoxy coatings in black and white bends. The details of symbol or inscription / letters / 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 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 herewith	Separate sheet

Item No. as per Tender	Description of Item	Applicable Specification	Specification Booklet Attached
28.	Providing and fixing Hazard Marker sign boards made out of 2 mm aluminium sheet / 4 mm ACP (Aluminium composite Panel); size 90 x 30 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 High Intensity Prismatic Grade retro reflective sheeting of Type-4 as per ASTM D-4956 and latest MOST Specifications; 1.8 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 35 x 35 x 3mm; 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 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 herewith	Separate sheet
29.	Providing and fixing Tree Guard sign board made out of 2 mm aluminium sheet / 3 mm ACP (Aluminium composite Panel), size 30 cms diameter circle, pre-treated with phosphating process and acid etching, painted with one coat of epoxy primer and two coats of best quality epoxy paint reflectorized with retro reflective sheeting as per latest MOST specifications. 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 herewith	Separate sheet
30.	Providing and erecting a Type-B, "Thrie" Metal Beam Crash Barrier comprising of 3 mm thick corrugated sheet metal beam rail, 85 cm above road / ground level, fixed on ISMC series channel vertical post, 150 x 75 x 5 mm spaced 2 m centre to centre, 2 m high with 1.15 m below ground 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 space of channel section 150 x 75 x 5 mm, 546 mm long complete as per clause 811) etc. complete as directed by Engineer in charge.	As per separate sheet attached herewith	Separate sheet

Dated Signature of
the Contractor.


Deputy Executive Engineer
R & B Sub Division,
ANAND.


Executive Engineer
R & B Division,
ANAND.

