

BHARAT HEAVY ELECTRICALS LIMITED
HPEP, RAMACHANDRAPURAM, HYDERABAD-32
(Township Administration Department)

Schedule - A Price Bid

Tender Notice No.
HY/TA/OT-04/2020-21
Date: 09.05.2020

Name of Work: Maintenance of Road Works in Township Area-Rate Contract.

S.No	Description	Qty	Units	RATE (Rs.)	Aamount
1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonnes capacity after excavating earth to an average of 22.5cm depth dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surface earth lead upto 50mtr	1200	Sq.m	44.05	52856.24
2	Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density)	1	Sq.m	5.58	5.58
3	Supplying and stacking at site				
a	90mm to 45mm size stone aggregate	30	Cu.m	698.96	20968.66
b	63mm to 45mm size stone aggregate	100	Cu.m	760.93	76092.69
c	53mm to 22.4mm size stone aggregate	100	Cu.m	822.84	82284.14
d	Good earth	100	Cu.m	187.46	18746.28
e	moorum	200	Cu.m	432.85	86570.09
4	Laying spreading and compacting stone aggregate of specified sizes to WBM specifications including spreading in uniform thickness hand picking rolling with 3 wheeled road/ vibratory roller 8-10 tonnes in stages to proper grade and camber applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate watering and compacting to the required density.	210	Cu.m	237.40	49853.79
5	Scarifying metalled (water bound) road surface including disposal of rubbish lead upto 50m and consolidation of the aggregate received from scarifying with power road roller of 8 to 10 tonnes capacity	2	Sq.m	7.84	15.67
6	Dry stone pitching 22.5cm thick including supply of stones and preparing surface completes	4	Sq.m	238.22	952.86
7	Cutting road and making good the same including supply of extra quantities of material ie aggregate moorum screening red bajri and labour required				
a	Water bound macadam	2	Cu.m	702.81	1405.62
8	Engraving letters in hard Granite stone	100	per cm ht per letter	2.16	215.63
9	Providing and fixing precast reinforced cement concrete 1:1.5:3(1cement 1.5 coarse sand 3 graded stone aggregate 20mm nominal size) kilometres stones as per standard design including finishing smooth in 1:3 cement mortar (1cement fine sand) but excluding the cost of earth work concrete in foundation painting and lettering etc. which shall be paid for separately				
a	50x152.5x25cm size	1	Each	1631.54	1631.54
10	Cement concrete 1:2:4(1cement 2 coarse sand 4 grade stone aggregate 40mm nominal size) in pavements laid to required slope and camber in panels as required including consolidation finishing and tamping complete	1	Cu.m	1845.50	1845.50
11	Providing and laying design mix cement concrete in roads taxi tracks and runways having a minimum works test beam flexural strength of 30 kg per cm ² at 28days using not less than 430kg. Of cement per cum of finished concrete coarse sand and grade stone aggregate of 40mm nominal size in appropriate proportions as per specified design criteria approved by engineer in charge mechanically vibrated using needle and surface vibrators including steel form work with sturdy MS channel sections including curing and approved joint filler and filling construction joints and dummy joints with approved joint filler and primer including rouding of the edges and filling the grooves 10x25mm deep at top for construction joints and 10mmx50mm deep at top for dummy joints with joint sealing compound (conforming to grade B of IS 1834) including making necessary arrangements for expansion joints etc. all complete with readymix concrete.	1	Cu.m	1187.13	1187.13
12	Extra for providing and mixing hard crete of approved quality as per manufactures specification in cement concrete	1	Ltr	29.59	29.59
13	Painting runway/ taxi track/ apron marking with adequate no of coats to give uniform finish with road marking paint of superior make as approved by the engineer in charge i/c cleaning the surface of all dirt scales oil grease and other foreign material etc., and lining out complete				
a	New work (two or more coats)	259	Sq.m	66.53	17231.53
b	Old work(one or more coats)	20	Sq.m	41.38	827.55

14		Painting road surface marking with adequate no of coats to give uniform finish with ready mixed road marking paint conforming to IS 164 on bituminous surface in white / yellow/black shade including cleaning the surface of all dirt scales oil grease and foreign material etc. complete				
	a	New work (two or more coats)	2	Sq.m	68.21	136.42
	b	Old work(one or more coats)	2	Sq.m	44.27	88.55
15		making bell mouth opening/ entrance of size 100x50x50cm for drainage pipe under footpath including providing cement concrete 1:3:6(1cement 3 coarse sand 6 grade stone aggregate 20mm nominal size) for shape of bell mouth including plastering providing and fixing precast RCC/SFRC slab including plastering with cement mortar 1:3(1 cement 3 fine sand) of 6 mm thickness on exposed surface of the slab and bell mouth including centring shuttering and neat cement punnig inside the bell mouth etc. all complete	1	Each	780.13	780.13
16		Providing and fixing glow studs of size 100x20mm made of heavy duty body shall be moulded ASA (acrylic styrene acryloetrite) or HIP (high impact polystyrene) or ABC having electronically welded micro prismatic lens with abrasion resistant coating as approved by engineer in charge, the cats eye shall support a load of 13635kg tested in accordance with ASTM D 4280. the slope of retro- reflective surface shall be 35 +/-5 degrees to base. the reflective panels on both sides with at least 12cm of reflective area up each side. the luminance intensity should be as per the specification and shall be tested as described in ASTM I:809 as recommended in BS 873 part 4 :1973. the studs shall be fixed to the road surface using the adhesive conforming to IS as per procedure recommended by the manufacturer complete and as per direction of engineer in charge	1	Each	161.80	161.80
17		Providing and fixing concertina coil fencing with required dia 610mm(having 15nos round per 6metre length) up to 3m height of wall with existing angle iron Y shape placed 2.4m or 3.00m apart and with 9 horizontal RBT stud tied with GI staples and GI clips to retain horizontal including necessary bolts or GI barbed wire tied to angle iron all complete as per direction of engineer in charge with reinforced barbed tape(RBT) / spring core (2.5mm thick) wire of high tensile strength of 165kg/ sqmm with tape (0.52mm thick) and weight 43.478gm / metre (cost of MS angle CC blocks shall be paid separately)	1	Mts	185.89	185.89
18		Manufacturing supplying and fixing retro reflective sign boards made up of 2mm thick aluminium sheet, face to be fully covered with high intensity encapsulated type heat activated retro reflective sheeting conforming to type - IV of ASTM-D 4956-01 in blue and silver white or other colour combination including subject matter, message (bi-lingual), symbols and borders etc. as per IRC ; 67:2001, pasted on substrate by an adhesive backing which shall be activated by applying heat and pressure conforming to class -2 of ASTM-D-4956-01 and fixing the same with suitable sized aluminium alloy rivets @ 20 cm c/c to back support frame of M.S. angle iron of size 25x25x3 mm along with theft resistant measures, mounted and fixed with 2 Nos. M.S. angles of size 35x35x5mm to a vertical post made up to M.S. Tee section ISMT 50x50x6 mm welded with base plate of size 100x100x5 mm at the bottom end and including making holes in pipes, angles flats, providing & fixing M.S. message plate of required size steel work to be painted with two or more coats of synthetic enamel paint of required shade and of approved brand & manufacture over priming coat of zinc chromate yellow primer (vertical MS Tee support to be painted in black and white colours). Backside of aluminium sheet to be painted with two or more coats of epoxy paint over and including appropriate priming coat including all leads and lifts etc. complete as per drawing , specification and direction of Engineer in charge				
	a	Mandatory / Regulatory sign boards of 900mm dia metre with part as length of 3750mm	1	Sq.m	3162.59	3162.59
	b	cautionary / warning sign boards of equilateral triangular shape having each side of 900mm with support length of 3650mm	1	Sq.m	2236.76	2236.76

19		Manufacturing supplying and fixing retro reflective overhead signage boards made up of 2mm thick aluminium sheet face to be fully covered with high intensity and encapsulated lens type heat activated retroreflective sheeting conforming to type - III of ASTM-D-4956-01 as approved by Engineer-in-charge letters, borders etc. as per IRC : 67-2001 in silver white with blue colour back ground and with high intensity grade, pasted on substrate by pressure sensitive adhesive backing which shall be activated by applying pressure conforming to class II of ASTM-D-4956-01 and fixing the same to the plate of structural frame work by means of suitable sized aluminium alloys, rivets or bolts & nuts @ 300mm centre to centre all along the periphery as well as in two vertical rows along with theft resistant measures including the cost of painting with two more coats of epoxy paint in grey colour on the back side of aluminium sheet including appropriate priming coat. The rate includes the cost of rounding off the corners, lowering down the structural frame work from the gantry, fixing and erecting the same in position all complete as per drawings, specification and direction of the engineer-in-charge. (Structural frame work including M.S. plate to be provided separately. Rectangular area of the sheet only shall be measured for payment).				
	a	Overhead informatory road signage	1	Sq.m	3126.10	3126.10
20		Providing Retro-reflective regulatory sign board of size 900mm dia meter made out of 2mm thick aluminium sheet, face to be fully covered with high intensity encapsulated lens type retro -reflective sheeting as approved by Engineer-in-charge . Letter, symbols, borders etc. will be as per IRC - 67 with required colour scheme on the boards and with the high intensity grade A. The aluminium sheet to be riveted to M.S. frame of angle iron of size 40x40x4mm The boards will be fixed to 1 No. 50x50mm square post made of M.S. angle 50x50x4mm, 4m long welded to the frame with adequate anti-theft arrangement .Sheet work to be painted with two more coats of synthetic enamel paint over an under coat (primer) and back side of aluminium sheet to be painted with two or more coats of epoxy paint including appropriate priming coat complete in all respects as per direction of Engineer-in-charge.	1	Sq.m	3508.47	3508.47
21		Providing and applying 2.5mm thick road marking strips (retro reflective) of specified shade / colour using hot thermoplastic material by fully / semi automatic thermoplastic paint applicator machine fitted with profile shoe glass beads dispenser propane tank heater and profile shoe heater driven by experienced operator on road surface including cost of material labour T& P cleaning the road surface of all dirt seals oil grease and foreign material etc. complete as per direction of engineer in charge and accordance with applicable specification	1	Sq.m	351.26	351.26
22		providing and fixing post delineators (made of ABS body fitted with 2 nos 100mm dia) reflective and reflectors are mounted on MS pipe of 65mm dia dully power coated anti rust and theft steel not to be installed as per direction of engineer in charge	1	Each	393.37	393.37
23		providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction and of approved size and design / shape laid in required colour and pattern over and including 50mm thick compacted as per the direction of engineer in charge	1	Sq.m	371.85	371.85
24		Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line level and curvature jointed with cement mortar 1:3(1 cement 3 coarse sand) including making joints with or without grooves (thickness of joints expect at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of engineer in charge (length of finished kerb edging shall be measured for payment) precast CC kerb stone shall be approved by engineer in charge	1	Cu.m	3597.22	3597.22
25		Supplying and stacking of hard stone (for stone pitching) 22.5cm thick at site	1	Cu.m	421.77	421.77
26		Dry stone pitching 22.5mm thick laid in courses and required profile with hammer dressed stones having no side less than 15cm with minimum depth of 20cm including preparing the bedding surfaces ect, all complete (payment for stone to be made separately)	1	Sq.m	130.18	130.18
27		75mm thick back filling for pitching including supplying of required materials and consolidation etc. complete with				
	a	moorum	10	Sq.m	36.14	361.44
	b	stone aggregate 20mm nominal size	10	Sq.m	72.92	729.24
	c	Stone aggregate 40mm nominal size	10	Sq.m	67.44	674.43
28		Providing and laying CC pavement of mix M25 with ready mixed concrete from batching plant . The ready mixed concrete shall be laid and finished with screed board vibrator vacuum dewatering process and finally finished by floating brooming with wire brush etc. complete as per specification and directions of engineer in charge (the panel shuttering work shall be paid for separately)	1	Cu.m	4330.54	4330.54

29		Deduct for using of M20 grade concrete instead of M25 grade concrete in CC pavement	1	Cu.m	118.43	118.43
30		Scarifying the existing bitumen road surface to a depth of 50mm and disposal of scarified material within all lifts and lead upto 1000mtr (by mechanical means)	1	Sq.m	2.09	2.09
31		Providing and laying Bituminous Macadam using crushed stone aggregates of specified grading premixed with bituminous binder and filler,transporting the hot mix to work site by tippers,laying with paver finisher equipped with lectronic sensor to the required grade,level and alignment and rolling with smooth wheeled,vibratory and tandem rollers to achieve the desired compaction and density, as per specifications,complete and as per directions of Engineer in charge.				
	a	40/50 mm compacted thickness with bitumen of grade VG-30(60/70 grade)@ 5.5% (Percentage by weight of total mix) and lime filler @ 3% (percentage by weight of aggregate) prepared in batch type Hot mix plant of 100-120 TPH capacity.etc. complete all as directed by Engineer-in-charge.	70	Cu.m	5457.71	382039.52
32		2.5 cm premix carpet surfacing (hot mix plant) with 2.25 cum and 1.12 cum of granite stone chippings of 13.2 mm and 11.2 mm size respectively per 100 sqm. and 52 kgs and 56 kgs of Hot Bitumen per cum of stone chippings of 13.2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen including consolidation with road roller of 6 to 9 tonne capacity etc. complete. (tack coat to be paid for separately),with paving asphalt grade VG-10(80/100 grade) heated and then mixed with solvent at the rate of 70 gms per kg of asphalt all as directed by Engineer-in-charge.	1500	Sq.m	103.10	154653.22
33		Providing and applying tack coat using bitumen emulsion (Rapid setting) conforming with IS 8887-1995, on W.B.M./W.M.M. surface @ 0.40 kg/sqm by using emulsion pressure distributor including preparing the road surface and cleaning with mechanical broom etc., complete all as directed by Engineer-in-charge.	1500	Sq.m	6.03	9047.80
34		Providing and applying tack coat using hot straight run bitumen of grade VG- 10(80/100 grade), including heating the bitumen , spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications. On bituminous surface @0.50 kg/Sqm all as directed by Engineer-in-charge.	500	Sq.m	16.97	8487.36
35		Providing,laying,spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam(WMM) specification including premixing the material with water at OMC in mechanical mix plant,carriage of mixed material by tipper to site,for all leads & lifts,laying in uniform layers with mechanical paver finisher in sub-base/base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density,complete as per specifications and directions of Engineer in charge.	1	Cu.m	1368.11	1368.11
36		Taking out existing kerb stones of all types from footpath/central verge ,including removal of mortar etc,disposal of unserviceable material to the dumping ground ,for which payment shall be made separately and stacking of serviceable material within 50 metre lead and as per direction of Engineer in charge.	1	Rmt	7.77	7.77
37		laying at or near ground level old kerb stones of all types in position to the required line,level and curvature,jointing with cement mortar 1:3 (1 cement : 3 coarse aggeregate) including making joints with or without grooves (thickness of joints,except at sharp curve,shall not be more than 5 mm) including making drainage opening eherever required etc complete as per direction of Engineer in charge.(Length of finished kerb edging shall be measured for payment).(Old kerb stone shall be supplied by the department free of cost)	1	Rmt	10.71	10.71
38		Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line level and curvature jointed with cement mortar 1:3(1 cement 3 coarse sand) including making joints with or without grooves (thickness of joints expect at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of engineer incharge(length of finished kerb edging shall be measured for payment) precast CC kerb stone shall be approved by engineer in charge	1	Rmt	3617.98	3617.98
39		Providing and laying premix bituminous macadam base course with stone aggregate of quality size and grading as specified in CPWD specification and straight run bitumen of grade 80/100 @ 4% by weight of total mix including hot mixing of stone aggregate and bitumen in hot mix plant, transporting mixed material and laying mixed material with paver finisher to the required level and grade, rolling with road roller of 8 to 10 tonne capacity to achieve the required compaction and densit of any thickness etc complete all as directed by Engineer-in-charge.	1	Cu.m	7308.54	7308.54

40		Providing and laying seal coat over prepared surface of road with bitumen heated in bitumen boiler fitted with the spray set spraying using 98 kg of bitumen of grade 80/100 and blinding surface with 0.90 cm of stone aggregate of 6.7 mm size (Passing 11.2 mm sieve and retained on 2.36 mm sieve) per 100 sqm of road surface including rolling and finishing with power road roller etc complete, all as directed by Engineer-in-charge.	1	Sq.m	50.26	50.26
41		Supply and fixing of kerb stones of size 1.00 M x 0.15 m x 0.30 m twice dressed exposed faces and pointing with CM 1:3 including necessary excavation and refilling the gaps etc., complete all as directed by Engineer-in-charge.	1	Rmt	460.21	460.21
42		supply of JCB	20	Hrs	575.26	11505.19
43		Conveyance by Manual or Mechanical means of Lime, Murram, building Rubbish including loading un-loading with lift of 50 m upto lead mentioned below all complete all as directed by Engineer in charge				
	a	1 Km	10	Cu.m	47.63	476.28
	b	2 Km	26	Cu.m	54.04	1405.04
	c	3 Km	10	Cu.m	60.39	603.95
44		Providing radium sticker letters and arrow marks of approved colour and design and size. The base board will be supplied by the department and as directed by the Engineer-in-charge.	2	Sq.m	2071.38	4142.76
		Painting with synthetic enamel paint of approved brand and manufacture to give an even shade (Iron work/Plastered surface/Signboards frames/wood work/Road speed breakers etc.)				
	a	Two or more coats on new work	1400	Sq.m	38.07	53300.79
45		providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction and of approved size and design / shape laid in required colour and pattern over and including 50mm thick compacted as per the direction of engineer in charge	10	Sq.m	371.85	3718.48
46		Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centering shuttering finishing and reinforcement All work up to plinth level				
	a	1:1.5:3 (Cement 1.5 coarse sand 3 grade stone aggregate 20mm nominal size)	5	Cu.m	1943.96	9719.80
	b	1:2:4 (Cement 2 coarse sand 4 grade stone aggregate 20mm nominal size)	5	Cu.m	1994.62	9973.10
47		Reinforcement for RCC work including straightening, cutting bending placing in position and binding all complete.				
	a	Cold twisted bars	50	Kgs	5.30	265.02
	b	Hot rolled deformed bars	10	Kgs	5.30	53.00
Total Amount Rs.						10,99,803.50

Agency to quote in below format only.

Tender %	In words	Figures
Excess		
Less		
Estimate		

Notes:

1	A penalty of 0.5% of the gross value of work will be levied for every week's delay of work subject to a maximum penalty of 10% of the gross value of work, please refer penalty clause in the agreement.
2	If the contractor do not execute the work / budget within stipulated time, 20% of the executed awarded value of work / budget shall be imposed as penalty and shall be recovered from the bills. This is in addition to point 1.
3	Any liquidity damages, a penalty of 0.5% of the gross value of the work subject to a maximum penalty of the gross value of the work shall be recovered from the bills.
4	If any complaint delayed by more than two working days, after getting signature of the agency's supervisor or email sent to the agency in this regard, penalty upto 10% of the value of such complaint shall be imposed in bills.
5	All the bills of the contractors will be cleared subject to the production of clearance certificate by the contractors in respect of compliance of all statutory requirement, issued by IR section of HR department BHEL.
6	The agency shall submit the I.R. clearance certificate for the above work and arrange to get the final bill sent to Finance within one month from the actual date of completion of work.
7	The Contract period of the work is 12 months and maintenance period of the work is 03 months. The security deposit will be released after completion of maintenance period only.
8	All the terms & conditions of the contract with respect to Taxes & Duties are subject to the new taxation laws introduced from time to time (e.g., GST). The terms & conditions will be modified in accordance with the provisions of new laws (e.g., GST)
9	Required Cement, Reinforcement and Structural steel will be free issued from BHEL Stores.