

<b>Name of the work: Shifting of Signalling &amp; Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.</b>		
<b>Summary</b>		
<b>Sl. No.</b>	<b>Description</b>	<b>Estimate value (₹.)</b>
<b>1</b>	<b>Schedule - A (SOR)</b>	<b>51,62,286.00</b>
<b>2</b>	<b>Schedule - B (Supply)</b>	<b>48,15,996.00</b>
<b>3</b>	<b>Schedule - C (Execution)</b>	<b>79,17,804.00</b>
<b>4</b>	<b>Schedule - D (Supply &amp; Execution)</b>	<b>2,29,73,000.00</b>
<b>6</b>	<b>Schedule - H (Axle Counters)</b>	<b>19,84,524.00</b>
<b>7</b>	<b>Schedule - J (Cables)</b>	<b>3,32,50,440.00</b>
<b>8</b>	<b>Schedule - K (LEDs)</b>	<b>5,26,775.00</b>
<b>9</b>	<b>Schedule - L (Misc.)</b>	<b>95,57,914.16</b>
<b>10</b>	<b>Schedule - N (Relays)</b>	<b>15,66,527.00</b>
<b>Total in Rupees (₹.)</b>		<b>8,77,55,266.16</b>

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.							
Schedule - A							
Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
1	10-101	Excavation of cable trench in all kinds of soil except hard rocky areas including clearing of roots of trees, rocks, bushes etc. to a depth of 1.0 Mtr. and to a width of 0.3 Mtr. Laying of cables is not included in this schedule.	Mtr.	34.65	3000	103950.00	
2	10-102	Excavation of cable trench in all kinds of soil except hard rocky areas including clearing of roots of trees, rocks, bushes etc. to a depth of 1.0 Mtr. and to a width of 0.5 Mtr. Laying of cables is not included in this schedule.	Mtr.	42.98	5000	214900.00	
3	10-106	Excavation of trench to a depth of 1 Mtr. for track crossing of cables, laying of DWC/ RCC pipes with collar/coupling, refilling of trench by ramming and consolidating it as per the instructions of K-RIDE representative at site. During excavation of trench it has to be ensured that the excavated soil does not mix with the ballast available. The depth of 1m trench shall be from the bottom of sleepers for track crossings. Laying of cables is not included in this schedule. (Supply of DWC/RCC pipes with couplers/ collars is not included in this schedule).	Mtr.	208.35	200	41670.00	
4	10-107	Excavation of trench to a depth of 1 Mtr. for road crossing of cables, laying of DWC/ RCC pipes with collar/ coupling, refilling of trench by ramming and consolidating it and resurfacing it to the original position. Laying of cables is not included in this schedule. (Supply of DWC/RCC pipes with couplers/ collars is not included in this schedule).	Mtr.	270.83	100	27083.00	
5	10-108	Provision of GI pipes (50/100mm dia.) for cable laying with offset at both ends and with couplings over RCC Bridges/ Drainage/ Culverts with concrete masonry supports of size 300 mm x 300 mm x 300 mm at an interval of 2 Mtr. The ends of the pipes shall be closed with brick masonry abutments work so that no cable is exposed, The work shall be carried out as per the instructions of KRIDE representative at site. (Supply of GI pipes with couplings and laying of cables is not included ). [Stone jelly of size 20/25mm, bricks, sand, cement and all other miscellaneous materials required for the work shall be supplied by the Contractor].	Mtr.	181.95	180	32751.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
6	10-109	Provision of GI pipes-(50/100 mm. dia.) for cable laying with offset at both ends and with couplings over girder bridges by fixing on suitable MS Clamps at an interval of 2 Mtrs. The ends of the pipes shall be closed with brick masonry abutments work so that no cable is exposed, The work shall be carried out as per the instructions of KRIDE representative at site. (Supply of GI pipes with couplings and laying of cables is not included ). [MS angles, flats, bolts and nuts for manufacturing fixing clamps, bricks, river sand , cement and all other miscellaneous required for the work shall be supplied by the Contractor].	Mtr.	215.25	240	51660.00	
7	10-110	Provision of GI pipes (50/100 mm. dia.) for cable laying in hard rocky area with off sets at both ends duly supported by concrete blocks of size 300mm x 300 mm x 300 mm at an interval of 2 Mtrs. The ends of the pipes shall be closed with brick masonry abutments work so that no cable is exposed, The work shall be carried out as per the instructions of K-RIDE representative at site. (Supply of GI pipes with couplings and laying of cables is not included in this schedule).[Stone jelly of size 20/25 mm, bricks, sand, cement and all other miscellaneous materials required for the work shall be supplied by the Contractor].	Mtr.	168.08	210	35297.00	
8	10-111	Laying of signaling/power/telecommunication cables as per cable plan in cable trenches, masonry ducts, RCC Pipes, DWC pipes, GI Pipes etc. (Supply of cables is not included ).	Mtr.	9.83	111000	1091130.00	
9	10-115	Refilling of cable trench 1Mtr. depth by 0.3 Mtr. width throughout, with earth after laying of cables, and consolidating the trench by ramming and leveling.	Mtr.	8.33	3000	24990.00	
10	10-116	Refilling of cable trench 1m depth by 0.5 Mtr. width throughout, with earth after laying of cables, and consolidating the trench by ramming and leveling.	Mtr.	10.43	5000	52150.00	
11	10-118	Supply of RCC cable markers as per drawing No.CSTE/CN/OFC/1. The lettering on the cable marker shall be "SIG" / "TELE" / "OFC" as per the instructions of K-RIDE representative at site.	No.	166.29	500	83145.00	Consignee
12	10-119	Digging of pit to a depth of 800mm of size 300 mm X 300 mm, casting of concrete foundation of size 300 mm X 300 mm X 300 mm and Placing of RCC cable markers on top of the foundation and refilling the pit and consolidating it by ramming. The cable markers shall be provided at an interval of 20 Mtrs. within station limits and 50 Mtrs. outside station limits throughout the cable route, diversions and also at every track/road crossing.	No.	121.43	500	60715.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
13	10-121	Supply of Double walled corrugated pipe -103.5 mm. inner dia. & 120 mm. outer dia conforming to specification No. IS 14930(Part 2): 2001 with one coupler for every 6m of pipe as specified in Vol.II of the Tender document.	Mtr.	263.20	300	78960.00	rites
14	10-122	Supply of GI pipes-50 mm. dia. 3.65 mm. thick as specified in Vol.II of the Tender document.	Mtr.	343.20	100	34320.00	rites
15	10-123	Supply of GI pipes-100mm dia. 4.5 mm. thick as specified in Vol.II of the Tender document	Mtr.	838.8	200	167760.00	rites
16	10-201	Excavation of pit, casting concrete foundation and erection of apparatus case full size as per Drg. No.SG/CN/02/6 and fixing of 2 Nos. of 'E' type locks, one for the front door and another for the back door, fixing of one hard wood shelf plank 37mm thick and painting the apparatus case inside and outside with one coat of red-oxide and two coats of aluminium paints.(Supply of apparatus case is not included in this schedule).[Foundation bolts & nuts, 'E' type locks, cement, river sand, stone jelly of size 20/25 mm, hardwood plank of 37mm thick, paints, varnish, fixing bolts & nuts and all other miscellaneous materials required for the work shall be supplied by the Contractor.]	No.	9875.28	15	148129.00	
17	10-202	Excavation of pit, casting concrete foundation and erection of apparatus case half size as per Drg, No.SG/CN/02/7, fixing one 'E' type lock for the front door and latching arrangement for the back door, and fixing of one hardwood shelf plank 37 mm. thick and painting the apparatus case inside and outside with one coat of red-oxide and two coats of aluminium paints.(Supply of apparatus case is not included). [Foundation bolts and nuts, cement, 'E' type locks, river sand, stone jelly of size 20/25 mm, 37 mm. hard wood planks, latching arrangements, paints, varnish, fixing bolts & nuts and all other miscellaneous materials required for the work shall be supplied by the Contractor]	No.	6966.60	25	174165.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
	10-208	Excavation of pit in and around the existing location boxes very carefully without damaging the working cables and shifting and turning the location boxes to clear of the infringement as instructed by the K-RIDE/Railway representative at site. The work includes ensuring the safety of the signaling system, releasing the cable coils to give access for shifting/turning the location boxes. Necessary masonry work and earth work in and around the location boxes to the required level shall be done as instructed by the Railway representative at site. If the existing earth connections to the location boxes are disturbed, the earth wires shall be properly re-connected. [All materials required for the work shall be supplied by the Contractor].					

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
18		a. Shifting of apparatus case (full)	No.	2895.00	10	28950.00	
19		b. Shifting of apparatus case (half)	No.	1916.25	10	19163.00	
20	10-209	Termination of new main/tail cables on the existing terminals/ fuse blocks in apparatus cases/ battery boxes/ CT boxes/ cable termination racks as per approved circuit diagram. The terminal particulars are to be repainted /corrected on the doors of apparatus cases/ battery boxes/ cable termination boxes and FTOT index board as instructed by Railway representative at site. This work includes closing the opening created for entry of new cables in the apparatus cases with masonry brick work and sealing the bottom of the apparatus cases/ cable termination racks with cable compound. [Paints, wire PVC 3/0.75mm and 16/0.2mm copper, sealing compound, bricks, cement, river sand and all other required miscellaneous materials shall be supplied by the contractor].	Per Terminal Block	39.78	500	19890.00	
	10-210	Termination of main, tail, Signaling and power cables and internal wiring on terminal/ fuse blocks in new apparatus cases, cable termination boxes and in gate Lodges excluding cable termination rack at relay room. The work includes fixing of all new cables by teakwood clamp on teakwood base plank, fixing of Phynolic synthetic industrial fibre base fine weave cotton fibre board 6mm thick for terminal board to suit each apparatus case, varnishing all teakwood items, fixing of terminals/ fuse blocks on the terminal board, drilling of necessary holes, termination of cables, wiring, identification of cables using aluminium tags with letters punched neatly, as per approved circuit diagram and cable plan, painting of particulars on sleeves and also on the inner side of the doors of apparatus cases. After terminations are over, the side openings of apparatus case foundation shall be closed with brick work, cement plastered, the inter-space filled with river sand up to base level and the bottom surface shall be sealed with sealing compound. (Supply of PBT terminals and Fuse blocks is not covered in this schedule). [Cement, teakwood cable clamp 50 mm x 50 mm, base					
21		a. Termination on 25/60mm PBT terminals (new location) (Phynolic sheet)	Per Terminal Block	93.16	2400	223584.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
22		<b>b.</b> Termination on PBT fuse block (new location) (Phynolic sheet)	Per Fuse Block	113.56	60	6814.00	
	10-211	Termination of main, tail, Signaling and power cables and internal wiring by fixing additional terminals/ fuse blocks on the existing terminal boards of apparatus cases, cable termination boxes etc. The work includes fixing of all new cables by teakwood clamp on teakwood base plank, varnishing all teakwood items, fixing of terminals/ fuse blocks, on the existing terminal boards, drilling of necessary holes, termination of cables, wiring, identification of cables using aluminium tags with letters punched neatly, as per approved circuit diagram and cable plan, painting of particulars on sleeves and also on the inner side of the doors of apparatus cases. After terminations are over, the side openings of apparatus case foundation shall be closed with brick work, cement plastered, the inter-space filled with river sand up to base level and the bottom surface shall be sealed with sealing compound.(Supply of PBT terminals and Fuse blocks is not covered in this schedule).[Cement, teakwood cable clamp 50mm x 50mm, base planks 100mm x 25mm, PVC/Nylon sleeves, varnish, paints, bolts, nuts and washers, Non-deteriorating type of fuses of various capacities,					
23		<b>a.</b> Termination of cables on 25/60mm PBT terminals (existing location)	Per Ter. Block	81.68	400	32672.00	
24		<b>b.</b> Termination of cables on PBT fuse block (existing location)	Per Fuse Block	102.08	40	4083.00	
	10-212	Manufacture and supply of M.S. relay frames of suitable size to hold up to 4/ 8/ 12/ 20 relays /plug in type HMU as required by Railways and fixing them in apparatus cases for all types of signal control circuits, LC gate control circuit and Point control circuits, fixing of plug boards, relays, resistors and electrolytic condensers on Phynolic synthetic industrial fibre base fine weave cotton fibre sheet - 6mm thick to IS specification 2036 - 1995 - Type F5, wiring and termination as per approved circuit diagram and painting the particulars. (Supply of all types of relays, plug boards, connectors, retaining clips and plug in type HMU is not covered in this schedule). [Wire PVC copper, 3/0.75 mm and 16/0.2 mm copper, Phynolic synthetic industrial fibre base fine weave cotton fibre sheet - 6 mm thick to IS specification 2036 - 1995 - Type F5, for fixing resistors and condensers, MS flats 25 mm x 6 mm brass bolts and nuts, paints, soldering materials, resistors, condensers and all other miscellaneous materials required for the work shall be supplied by the contractor].					

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
25		a. Wiring of Signal/ point/ LC control circuit (up to 4 relays/Plug in type HMU)	Set	2673.25	10	26733.00	Consignee
26		b. Wiring of Signal/ Point/ LC control circuit (up to 8 relays/plug in type HMU)	Set	4739.60	2	9479.00	Consignee
27		c. Wiring of Signal/ Point/ LC control circuit (up to 12 relays/plug in type HMU)	Set	6137.85	2	12276.00	Consignee
28		d. Wiring of Signal/ Point/ LC control circuit (up to 20 relays/Plug in type HMU)	Set	7349.95	4	29400.00	Consignee
	10-213	Painting of existing apparatus cases without disturbing the terminations and equipments inside. The work involves scraping of old paint, applying one coat of Red oxide and two coats of Aluminium paint on the inside and outside the apparatus cases, and painting of termination and equipment particulars on the doors of the apparatus cases, as instructed by Railway/K-RIDE representative at site. [Aluminium paint, red-oxide and all other miscellaneous materials required for the work shall be supplied by the Contractor].					
29		(a) Painting of existing Apparatus Case - Full size	No.	1278.75	10	12788.00	
30		(b) Painting of existing Apparatus Case - Half size.	No.	1223.25	10	12233.00	
31	10-215	Painting of existing colour light Signals as per standard practice. The work involves scraping of old paint, applying one coat of Red oxide and two coats of Aluminium/ enamel paint on the Signals - complete as instructed by Railway/K-RIDE representative at site. [Aluminium paint, red-oxide and all other miscellaneous materials required for the work shall be supplied by the Contractor].	No.	1320.00	4	5280.00	
	10-216	Alterations to painted termination/wiring particulars of functions in the existing apparatus cases, cable termination boxes etc., on the PVC/nylon sleeves and painting of new nomenclature on the existing signaling gadgets. This work includes carrying out alterations of particulars on the inner side of the doors of apparatus cases, re-numbering of apparatus cases and cable termination boxes. [Paints and all other miscellaneous materials required for the work shall be supplied by the Contractor].					
32		(a) Alteration to painting particulars (Apparatus case - Full size)	No.	884.85	10	8849.00	
33		(b) Alteration to painting particulars (Apparatus case - Half size)	No.	464.10	10	4641.00	



Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
34	10-218	Excavation of pit, casting concrete foundation as per Drg.No.SG/CN/02/9 using metallic templates, for erection of colour light signals up to 4 aspects. [Foundation bolts, cement, river sand, stone jelly of size 20/25 mm. dia and all other miscellaneous materials required for the work shall be supplied by the Contractor].	No.	5008.20	6	30049.00	
35	10-219	Erection of surface base, signal pole, mounting of colour light signal up to 4 aspects complete on Signal pole/ Off-set bracket, (for LED/ filament bulbs) with lenses, triple pole lamp holder, filament switching units, CLS transformer, current regulators (whichever is applicable), fixing of ladder with platform complete and concreting of ladder shoe, fixing of number plates, marker board, lens guard, fixing of speed limit board wherever necessary, termination of tail cables, wiring of signal unit with PVC wire 3/0.75mm copper,provision of EWS locks, and painting of one coat of red oxide and two coats of aluminium/ enamel paints. When the aspect is fixed on Offset bracket using 'U' bolts and nuts, a through bolt shall be provided by drilling a hole in the signal pole to prevent the offset bracket from sliding down. (Supply of surface base, Offset bracket, CLS pole, CLS aspects complete, ladder with shoes and platform, Speed limit board, LED aspects, current regulators, lamp holders, lamps, filament switching unit and CLS transformer is not covered in this schedule). ['U' bolts and nuts, through bolts and nuts, cement, stone jelly 20/25 mm dia, river sand, Signal Collar Rings, wire PVC 3/0.75 mm copper, lens-guard, all fixing bolts and nuts, lead wool, paints PVC/Nylon sleeves, enameled number plates. enameled marker boards, EWS locks, and all other miscellaneous materials for the work shall be	No.	5501.20	6	33007.00	
36	10-220	Excavation of pit and casting concrete foundation as per Drg, No.SG/CN/02/10 using metallic templates, for erection of ground type colour light shunt signal. [Foundation bolts and nuts, cement, river sand, stone jelly of size 20/25 mm and all other miscellaneous materials for the work shall be supplied by the Contractor].	No.	2518.55	6	15111.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
37	10-221	Erection of Ground type shunt signal complete including surface base, signal pole, LED aspects/ lenses, bulbs with holders (whichever is applicable), fixing of lens guards, number plate, termination of tail cables, wiring of signal unit with PVC wire 3/0.75mm copper, provision of EWS locks and painting of one coat of red oxide and two coats of Aluminium/ enamel paint.(Supply of Ground type shunt signal complete including surface base, signal pole, LED aspects, holder, bulbs, and lenses is not covered in this schedule). [Wire PVC 3/0.75 mm copper, lens guards, EWS locks, Enameled number plates, bolts and nuts, lead wool, paints and all other miscellaneous materials shall be supplied by the Contractor].	No.	2097.00	2	4194.00	
38	10-224 (b)	Fixing of junction type route indicators - 1 way to 6 way - complete/ fixing of additional limb to the existing route indicators, termination of tail cables, wiring as per approved circuits diagram using wire PVC 3/0.75 mm copper, provision of required No of EWS locks, wire mesh, and painting. (Supply of junction type Route Indicators - complete and additional limb is not covered in this schedule). [3/0.75 mm wire PVC, fixing bolts and nuts, EWS locks, wire mesh, PVC/Nylon sleeves, paints and all other miscellaneous materials shall be supplied by the Contractor]. <b>(b)</b> Fixing and wiring of direction type route indicator - 2 way	No.	1824.00	2	3648.00	
39	10-226	Releasing of existing tail cables and drawal of new tail cables for colour light signals up to four aspects with or without route indicator, post type shunt signal and Calling on signals, termination of new tail cables and wiring using wire PVC 3/0.75mm copper. This work includes drawal of new tail cables into the signal post duly releasing the existing tail cables from the relevant signals and re-surfacing the earth excavated as instructed by Railway/K-RIDE representative at site. [Wire PVC 3/0.75mm copper, paints and all other miscellaneous materials shall be supplied by the Contractor].	Per Cable	824.25	25	20606.00	
40	10-227	Excavation of pit in and around the existing signals very carefully without causing damage to the working cables and shifting the Signals along with the concrete foundations for approximately 1m to a nearby position so as to clear the infringement from the nearest track centre as instructed by K-RIDE representative at site.The existing cable coils shall be released carefully so as to give access for shifting. Necessary masonry work and earth work shall be carried out in and around.the signals after shifting as instructed by K-RIDE representative at site. [All materials required for the work shall be supplied by the Contractor].	No.	2591.25	6	15548.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
	10-232	Alteration to existing DC Track Circuits to suit RE/Non RE standard as per approved signaling plan. This work includes provision of double bonding and parallel jumpers, provision of bond wire clips, wherever required, shifting of relay end and feed end equipments and re-wiring them, provision of track lead connections wherever necessary using 2c x 2.5 sq.mm cable, provision of TLD boxes and termination of jumpers and tail cables in track lead junction boxes, shifting of Track feed/Track relay set wherever required and wiring with PVC 3/0.75 mm. copper wire. (Supply of TLD boxes, 2c x 2.5 sq.mm. cable and TLD boxes with stumps is not covered in the schedule. Existing Track relays, Track Feed Resistance, Track feed battery chargers, 'B' type Chokes and Charged secondary Cells shall used for this work). [Wire PVC 3/0.75 mm, PVC/ Nylon bushes for TLD boxes, PVC sleeves, all types of bolts and nuts with spring and flat washers, teakwood stand for fixing track feed resistance, GI bond wire 8 SWG, Channel bond pins, bond wire clips, paints and all other miscellaneous materials shall be supplied by the Contractor].					
41		a. Alteration to existing track circuits at feed end	No.	2289.00	6	13734.00	
42		b. Alteration to existing track circuits at relay end	No.	2127.00	6	12762.00	
43	10-234	Provision of earth electrodes as per drawing No.SG/SN/02/13 and earthing of metallic sheath and armour of all cables in all apparatus cases, relay room, equipment room, SM's room for block and control, and earthing of all equipments in apparatus cases, power room, relay rack, cable termination rack, control panel, signals, lever frames with MS flat 35 mm X 6 mm/19c cable (MS flat for closer by areas and MS flat/19c cable combination for farther areas) as per the instructions of Railway representative at site. The work includes painting of earth resistance value on the earth pit.(Supply of 19C cable is not covered in the scope of this schedule).[MS flat for earthing 35 mm X 6 mm, cement, GI earth electrodes, common salt, charcoal, country bricks, river sand, soldering materials and all other miscellaneous materials required for the work shall be supplied by the Contractor].	No.	1799.00	40	71960.00	
	10-238	Supply of Colour light Signal pole 140 mm dia, 4.6 Mtr/3.6 Mtr. tall with necessary inspection as per specification/ drawing/ description enclosed in this document.					
44		a. Supply of colour light Signal pole (4.6 Mtr)	No.	3318.00	8	26544.00	<b>RITES</b>
45		b. Supply of colour light Signal pole (3.6 Mtr)	No.	2974.00	8	23792.00	<b>RITES</b>

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
46	10-239	Supply of surface base to suit CLS Signal pole 140 mm. dia. with necessary inspection as per specification/ drawing/ description enclosed in this document.	No.	4118.00	16	65888.00	RITES
	10-240	Supply of ladder with platform and shoes to suit CLS pole 4.6 Mtr/ 3.6 Mtr. tall, with necessary inspection as per specification/ drawing/ description enclosed in this document.					
47		a. Supply of ladder with platform and shoes for 4.6 Mtr. CLS pole	No.	3203.00	8	25624.00	Consignee
48		b. Supply of ladder with platform and shoes for 3.6 Mtr. CLS pole	No.	3089.00	8	24712.00	Consignee
49	10-242	Supply of ground type shunt signal - complete with surface base, signal pole, hood etc., with necessary inspection as per specification/ drawing/ description enclosed in this document.	No.	4118.00	2	8236.00	RITES
	10-243	Supply of Colour Light Signal Multi Unit type - complete for 4/ 3/ 2 aspect with mounting socket, with necessary inspection as per specification/ drawing/ description enclosed in this document.					
50		a. Supply of colour light Signal unit - 4 aspect	No.	12584.00	8	100672.00	RITES
51		b. Supply of colour light Signal unit - 3 aspect	No.	10296.00	4	41184.00	RITES
52		c. Supply of colour light Signal unit - 2 aspect	No.	8580.00	4	34320.00	RITES
53	10-244 (b)	Supply of Junction type route indicator - 5 unit arm - 1/ 2/ 3/ 4/ 5/ 6 way with mounting sockets, with necessary inspection as per specification/ drawing/ description enclosed in this document. (b) Supply of Junction type route indicator - 2 way	No.	14300.00	2	28600.00	RITES
54	10-248	Supply of track lead junction box - FRP type with 4 terminals and stumps with necessary inspection as per specification/ drawing/ description enclosed in this document.	No.	1030.00	48	49440.00	RITES
	10-249	Supply of PBT terminals 25mm/ 60mm centre and PBT Fuse blocks with necessary inspection as per specification/ drawing/ description enclosed in this document.					
55		a. Supply of PBT terminal - 25 mm. centre	No.	44.00	2400	105600.00	RDSO
56		b. Supply of PBT terminal - 60 mm. centre	No.	60.00	400	24000.00	RDSO
57	10-251	Supply of apparatus cases (full/ half/ quarter size) to suit Southern Railway standard with necessary inspection as per specification/ drawing/ description enclosed in this document:					
57		a. Supply of apparatus case - Full size	No.	12012.00	15	180180.00	RITES
58		b. Supply of apparatus case - Half size	No.	8580.00	25	214500.00	RITES
59	10-253	Supply of lamp proving relays for LED aspects with plug boards, connectors and retaining clips with necessary inspection as per RDSO specification/ drawing/description enclosed in this document.	No.	3591.00	32	114912.00	RDSO
60	10-254	Supply of QBCA1 - heavy duty contact relays with necessary inspection as per RDSO specification/ drawing/ description enclosed in this document.	No.	4140.00	12	49680.00	RDSO

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
61	10-255	Supply of QTA2 - track relays with plug boards, connectors and retaining clips with necessary inspection as per specification/ drawing/ description enclosed in this document.	No.	2524	24	60576.00	RDSO
62	10-256	Supply of QSPA1 type relays with plug boards, connectors and retaining clips with necessary inspection as per specification/ drawing/ description enclosed in this document.	No.	3897	24	93528.00	RDSO
63	10-261	Supply of 'B' type choke as per specification/ description enclosed in this document.	Nos	2076.00	36	74736.00	RDSO
	10-250	Supply of Low maintenance secondary cells of the following capacities with necessary inspection as per specification/ drawing/ description enclosed in this document.					
64		b. Supply of secondary cells-2V-80 AH capacity	Nos	2077.00	108	224316.00	RDSO
65		c. Supply of secondary cells-2V-120 AH capacity	Nos	2745.00	56	153720.00	RDSO
	10-314	Installation of charged secondary cells of the following capacities in apparatus cases, connecting them with strips, wiring with wire PVC 3/0.75mm copper and termination. This work also includes charging of cells through reputed agencies. The details of the batteries shall be written on the inside of the doors of the apparatus cases. (Supply of secondary cells is not included in this schedule). [Wire PVC 3/0.75mm copper, connecting strips, paint and all other miscellaneous materials required for the work shall be supplied by the Contractor].					
66		a. Installation of 2V-120AH cell in apparatus case	Per cell	311.55	56	17447.00	
67		b. Installation of 2V-80AH cell in apparatus case	Per cell	265.72	108	28698.00	
68	10-502	Releasing of existing Route indicators of different types including tail cables, carefully without causing any damage, accounting and stacking them neatly at a place as instructed by Railway/K-RIDE representative at site.	No.	833.25	2	1667.00	
69	10-503	Breaking of concrete and releasing of STOP board/Warning board/ LEGEND boards along with rails, accounting and stacking them neatly at a place as instructed by Railway/K-RIDE representative at site. Also the resultant pits shall be re-surfaced and consolidating by ramming and levelling.	No.	854.25	4	3417.00	
70	10-507	Releasing of existing apparatus cases (Full/ Half/ Quarter size) without damage after releasing the shelf planks, Terminal blocks, Fuse Blocks, Terminal Boards, Relays of all types EKTs, Secondary Cells, power equipments, 'E' type locks, etc., and breaking the concrete foundation. After releasing, the resultant pits are to be closed and consolidated by ramming and levelling. The released materials shall be accounted and stacked at a place as instructed by Railway/K-RIDE representative at site.	No.	1625.25	20	32505.00	

Sl. No.	SOR No.	Item Description	Unit	Rate in (₹.)	Qty.	Amount in (₹.)	Inspection Clause
71	10-510	Dismantling and releasing of existing Colour light Signals complete (upto 4 aspects) with or without Route Indicators, calling on signals, shunt signals etc., carefully without any damage to the gadgets, accounting and stacking them neatly at a place as instructed by Railway/K-RIDE representative at site. The work includes breaking the concrete foundation, closing the resultant pit and resurfacing it by ramming and levelling.	No.	1666.50	6	9999.00	
72	10-518	Releasing of existing TLD boxes with stumps and terminals after releasing all the bond wires. The released materials shall be accounted and stacked neatly at a place as instructed by K-RIDE representative at site.	No.	86.1	40	3444.00	
73	10-521b	Transportation of Signalling materials by road as per the instructions of K-RIDE representative at site. The work also includes loading and unloading of the aterials. (b) Transportation more than 100 Km.	Ton Km.	7.52	6000	45120.00	
74	10-522	Engaging mechanical excavators like JCB or other machineries for regarding and levelling the formation, dismantling any infringing structures, clearing and removing debris etc., with all leads and lifts etc., complete and as per the instruction of KRIDE representative at site.	Per Hour	650.00	300	195000.00	
<b>Schedule: A Total in Rupees</b>						<b>51,62,286.00</b>	

**Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.**

**Schedule - B**

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	Supply of joint kit conforming to RDSO Spec. No.IRS-TC 77/2006 Revision or latest for quad cable.	No.	3891.00	36	140076.00	<b>RDSO</b>
2	Supply of solid lubricated HDPE PLB Duct of size 40/33 mm. with end plug, sealing and coupler as per the technical Specification. (For the use of blow/laying of OFC).	Mtr.	89.11	20000	1782120.00	<b>RDSO</b>
3	High Density Polyethylene Pipes (HDPE) of 110 mm. outer Dia, 10 mm. wall thickness, along with one coupler for every 6 Mtrs. as per specification No. IS 4984: 2016 with latest ammendments and Material Grade:PE 80.	Mtr.	675.00	3000	2025000.00	<b>ITES</b>
4	Basic material to construct unit maintenance free earth as per RDSO Spec No. RDSO/ SPN/197/2008 or latest and as per Technical specification. (Inspection Clause: RDSO)	Set	22780.00	30	683400.00	<b>RDSO</b>
5	Track feed battery charger, 110V AC as per Specification.No.IRS: S-89-2013 ver 1.0 or latest. charger shall be of 10Amp output capacity suitable for charging 80 AH battery and No. of Lead acid cells 2/3/4.	No.	6180.00	30	185400.00	<b>RDSO</b>
<b>Schedule: B total in Rupees</b>					<b>48,15,996.00</b>	

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A. 7						
Schedule - C						
Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	Provision of normal joint of Heat Shrinkable type complete for 6 quad cable. After the jointing the through cable has to be tested for insulation resistance and loop resistance in presence of Engineer and in case of any defects the jointing has to be done free of cost by the contractor. Heat Shrinkable joint kit conforming to RDSO Spec. No.IRS-TC77/2006 covered in the supply has to be used for this purpose. The contractor should supply all other small items free of cost which are required for making a joint. Only gas blower to be used for blowing.	No.	3553.00	8	28424.00	
2	Provision of derivation joint for Emergency Control using thermoshrinkable jointing kit using miniature tapping transformer of 470:1120 ohms impedance. One pair for auto phone wires should be taken out and dropped in separately and terminated in the EMC box. After the jointing the through cable has to be tested for insulation resistance and loop resistance in presents of Railway Engineer and in case of any defects the jointing has to be re-done free of cost by the contractor. [Thermoshrinkable jointing kit confirming to RDSO specification No. IRS-TC 77/2006 and 2T transformer of impedene 470:1120 ohms covered in the supply portion should be used for this work.The Contractor should supply all other small items free of cost which are required for making a joint. Only gas blower to be used for jointing.	No.	4200.00	18	75600.00	
3	Track crossing by horizontal boring method based on RDSO Report No. BS - 105. This also includes insertion of HDPE Pipe of 110 mm. outer Dia. in the Bore drilled. (Supply of HDPE Pipe is not included).	Mtr.	2264.00	2800	6339200.00	
4	Concreting of cable laid in the trench or GI pipe/DWC/HDPE pipe in which cable is already laid to a size of 300*300 mm. with 1:3:6 mortar. (All the matetrials required for the work should be supplied by the contractor)	RMT	495.00	1800	891000.00	
5	Provision of 2 machine cut grooves in parallel at a separation of 8 cm. each to a depth of 150 mm. in the platform surfaced/tiled floor for laying cable.	Mtr.	674.00	500	337000.00	
6	Installation of Unit Maintenance Free Earth Pit as per RDSO specification No.RDSO/ SPN/197/ 2008 or latest and as per Technical Specification.	Set	12329.00	20	246580.00	
<b>Schedule: C Total in Rupees</b>					<b>79,17,804.00</b>	



Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.						
Schedule - D						
Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	Supply and placing of Polyolefin cable channel of size, width 240/340 mm, height 155/230 internal/external, length 1 Mtr produced of polyolefin with fire protection class k-1 in accordance with DIN-53438 Part II for laying Signalling/Telecom cables, channel attachable to each other with male-female swallow tail connectors and having suitable detachable cover.	Mtr.	2521.00	9000	22689000.00	ITES
2	Supply and laying of split DWC pipe of 120/103 mm dia, 2 Mtr. long in already dug cable trenches. The unit of RMT means two split pipes of 1 Mtr. each. Material shall be supplied as per specification RDSO/SPN/204/2011 or latest	RMT.	284.00	1000	284000.00	ITES
Schedule: D Total in Rupees					2,29,73,000.00	

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.						
Schedule - H						
SL. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	High Availability Single Section Digital Axle counter( HA-SSDAC) with Dual Track Sensor Devices as per RDSO specification No. RDSO/SPN/177/2012 version 3.0 or latest (Phase Reversal Type) as per details given below a) Configuration - 2 DP 1 section b) Length of cable required with each track device- 25 mtrs	Set	941760.00	2	1883520.00	RDSO
2	Installation, testing and commissioning of Single Section digital Axle counter (SSDAC) with High Availability. HA-SSDAC to be installed, wired, tested and commissioned by OEM as per guidelines issued by RDSO, wiring discipline should be as per RDSO TAN No. STS/E/TAN/6001 Version 1.0 or latest. The pre-commissioning checklist issued by RDSO for SSDAC to be prepared by OEM and jointly signed by OEM & Railway. Before commissioning of HA-SSDAC, OEM should submit site installation certificate.	Set	50502.00	2	101004.00	
Schedule: H total in Rupees					19,84,524.00	

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.						
Schedule - J						
SL. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	Supply of Railway signalling cable 2 core X 2.5 sq.mm. confirming to spec. no. IRS:S-63/2014 Rev 4.0 with latest ammendment if any.	Mtr.	94.20	2000	188400.00	RDSO
2	Supply of Railway signaling cable 12 core x 1.5 sq.mm confirming to spec. no. IRS:S-63/2014 Rev 4.0 with latest ammendment if any.	Mtr.	197.33	24000	4735920.00	RDSO
3	Supply of Railway signaling cable 19 core x 1.5 sq.mm confirming to spec. no. IRS:S-63/2014 Rev 4.0 with latest ammendment if any.	Mtr.	314.93	15000	4723950.00	RDSO
4	Supply of Railway signaling cable 30 core x 1.5 sq.mm confirming to spec. no. IRS:S-63/2014 Rev 4.0 with latest ammendment if any.	Mtr.	518.44	13000	6739720.00	RDSO
5	Supply of Aluminium Conductor Power cable 2 core X 35 sq.mm. confirming to spec. no. IRS:S-63-2014 Rev 4.0 & IS:1554 (Part-1) with latest ammendment if any.	Mtr.	141.24	12000	1694880.00	RDSO
6	Supply of Aluminium Conductor Power cable 2 core X 25 sq.mm. confirming to spec. no. IRS:S-63-2014 Rev 4.0 & IS:1554 (Part-1) with latest ammendment if any.	Mtr.	108.40	10000	1084000.00	RDSO
7	Supply of Underground Jelly filled 0.9 mm. dia, 6 quad cable as per RDSO Spec No IRS:TC: 30/2005 (Ver I) Amdt no.5 or latest in drum length of 1000 mtrs	Mtr.	298.95	36000	10762200.00	RDSO
8	Supply PIJF Polythene insulated polythene sheathed jelly filled telephone cable 50 pair X 0.63 mm. as per Spec. No. IRS:TC-41/97 ammendment No. 1 or latest if any.	Mtr.	351.30	2000	702600.00	Consignee
9	Supply PIJF Polythene insulated polythene sheathed jelly filled telephone cable 20 pair X 0.63 mm. as per Spec. No. IRS:TC-41/97 ammendment No. 1 or latest if any.	Mtr.	145.70	2000	291400.00	Consignee
10	Supply PIJF Polythene insulated polythene sheathed jelly filled telephone cable 10 pair X 0.63 mm. as per Spec. No. IRS:TC-41/97 ammendment No. 1 or latest if any.	Mtr.	96.11	3000	288330.00	Consignee
11	Supply of 24 fibre armoured Optic Fibre Cable as per RDSO specification IRS:TC:55/2006 Rev-1 (Amedt. 1.1, 2.0 & 3.0)	Mtr.	84.96	24000	2039040.00	RDSO
Schedule: J Total in Rupees					3,32,50,440.00	

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottgollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.						
SCHEDULE-K						
Sl. No.	Description	Unit	Rate (₹.)	Qty.	Amount in (₹.)	Inspection Clause
1	Supply of LED Signal unit for Red aspect integrated type as per spec. No. RDSO/SPN /199/2010 Rev 1.0 or latest.	No.	8496.00	8	67968.00	RDSO
2	Supply of LED Signal unit for Yellow aspect integrated type as per spec. No. RDSO/SPN/199/2010 Rev 1.0 or latest.	No.	9055.32	10	90553.00	RDSO
3	Supply of LED Signal unit for Green aspect integrated type as per spec. No. RDSO/SPN/199/2010 Rev 1.0 or latest.	No.	9440.00	8	75520.00	RDSO
4	Supply of calling on LED 110V AC as per spec. No. RDSO/SPN/153/ 2011 Rev 4.1 or latest.	No.	7251.10	4	29004.00	RDSO
5	Supply of Junction type route indicator LED 110VAC as per spec. No. RDSO/SPN / 153 /2011 Rev 4.1 or latest.	No.	6549.00	18	117882.00	RDSO
6	Supply of shunt signal LED 110V AC as per spec. No. RDSO/SPN/153 /2011 Rev 4.1 or latest.	No.	6077.00	24	145848.00	RDSO
Schedule: K Total in Rupees					5,26,775.00	

**Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.**

Schedule - L						
Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
1	Video recording of trench which is made for cable laying shall be submitted in soft copy in USB pen drive.	Km.	2882.27	18	51881.00	
2	Provision of one skilled and one unskilled staff round the clock with tools to attend to teething trouble of the installation along with K-RIDE official (i.e., Wiremen/Fitter /Carpenter/Painter /Blacksmith/ Quad cable jointer /OFC splicer) .The work includes routine maintainence, failure restoration as per the direction of the K-RIDE official.	Per Month	65000.00	12	780000.00	
3	Providing the services of Computer oriented Technical manpower to carryout works like drawing, computation, write up etc., using computer, software like AUTOCAD, MS office etc., between 08.00 Hrs. and 20.00 Hrs. of the day with all expenses of transportation, accomodation, food, consumables etc., with all ascents, descents, taxes, octroi, cess, fees, duties with contractors cost etc., as per special conditions/specifications/regulations and as directed by Engineer-in-charge. Note: The person engaged for providing the services shall be convergent with computer working knowledge in above softwares.	Man Day	900.00	450	405000.00	
4	Provision of lookout person round the clock in 12 Hrs. shift beat from Up Home Signal to Down Home Signal to avoid theft of signalling assets.	Per 12 Hours shift	750.00	900	675000.00	
5	Providing services of helping hand man power to carry out miscellaneous /sundry works in the office/field between 08.00 Hrs. and 20.00 Hrs. of the day and accompanying Railway/K-RIDE staff with all expenses of transportation, accomodation, food, consumables etc., with all ascents/descents, taxes, octroi, cess, fees, duties, with contractors tools and plants, materials, consumables, labour, crew, machineries with all lead and lift etc., complete as per special conditions, specification, regulation and as directed by K-RIDE Engineer-in-charge.	Man day	675.00	450	303750.00	
6	Supply and Laying of PVC warning tape colour orange, width of 250 mm. (10") by printing with black letters 'Indian Railway Signal/Telecom/OFC Cable' on both sides.	Km.	39366.66	20	787333.00	<b>Consignee</b>

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
7	Supply and provision of MS cable tray of thickness 1.6 mm, including top cover for closing, with all required miscellaneous materials for installation. Installation to be carried out as per the instructions of site Engineer. MS cable tray including cover should be powder coated with Siemens gray color. <b>MS cable Tray - 100 * 100</b>	RMT	1845.43	20	36909.00	Consignee
8	Supply, fixing and testing the functioning of Body camera as per specification h=gibven below -Android 9.0, · 8-core 1.8 GHz High-Performance CPU.· 2.0" touch screen. Supports 1080p@30 fps recording,the image resolution up to 34MP (7808 × 4400).· H.265/H.264 high compression coding. Support 2G/3G/4G Cellular network, WiFi, Bluetooth, NFC, GPS/GLONALL positioning. · LED illumination, and auto IR mode, OSD overlay.· Power saving mode optional, prerecord and post-record up to 60 s. · 16 GB internal storage and support external TF card storage which can be expanded up to 256 GB. · Electronic Image Stabilization (EIS) technology to provide better image quality. · One press to record video/audio/alarm/PTT. Supports IP68, drop test 2 meters. With 128 GB SD Card.	No.	39800.99	4	159204.00	Consignee
9	Laying of PLB HDPE duct, 40/33 mm. Dia, in the trenches and in the protective works already provided including in HDD portion and supply pulling of Nylone rope through it at diffeent places as per direction of engineerin charge or site Engineer.	Km.	9573.68	20	191474.00	
10	Duct Integrity test for PLB HDPE duct, 40/33 mm. Dia, as per specification.	Km.	1189.32	20	23786.00	
11	Blowing of OFC cable (24F as per RDSO specn.TC 55-2006 Rev.1 with amendment 1.1) in already laid PLB HDPE duct, 40/33 mm. Dia. by using blowing machine, providing the sufficient loops in loop/joint chambers and other associated works.	Km.	13670.21	24	328085.00	Consignee
12	Excavation of jointing pit without damaging the fiber and provision of joint chamber of 1.2 Mtr. dia , 0.60 Mtr. height and 50 mm. thickness with two piece top cover and bottom cover with holes for drainage and cable entry (The reinforcement drawing enclosed ). This includes backfilling and ramming of the trench after placing the joint closure and cable loop in the chamber without causing any damage to the same and consolidation of soil as well as disposal of soil as per plan and as advised by K-RIDE Representative.	No.	3696.40	12	44357.00	

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
13	Supply , Transport and filling of the RCC Joint Chamber with dry sand mixed with anti-termite chemical as per required in specification upto 400 mm height and cover is refixed.	No.	739.28	20	14786	Consignee

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
14	Supply and provision of mid section OFC joint including splicing of 24-fibre inside already prepared jointing pit( this doesn't include provision of joint chambers, top plate and back filling . Th joint enclosure shall be as recommended in the technical specification.	No.	12937.4	12	155249	Consignee
15	Supply of Rodometer (Distance Recorder) similar to Bosch make Model No.1011662 or better	No	6000.00	2	12000.00	Consignee
16	Supply of Cable Termination Rack (with 150 no.s of Wago)(Telecom)	No.	49069.71	4	196279.00	Consignee
17	Supply, Installation, Testing and Commissioning of Smart Online Earthing Management system (EMS SAFE100) for continuous, real-time monitoring of the earth pits resistance value and their connection with the equipment to ensure safe and reliable operation of Electrical and electronic equipment. It shall have provision to connect at least three individual Earth pits/Grids. The system setup shall have provision to transmit measured data via TCP/IP over LAN or Wi-Fi port for remote monitoring of the measured parameters. The device shall have local display to read measured values and local webpage for data record and view purpose. The system shall also have provision to upload these data to a cloud server with data storage for a year in graphical and table format for further evaluation purpose to improve the efficacy of the earth pits.(Cloud subscription charges for only one year is included) The System shall consist of: 1. Earthing Management Device, DEHN record SD EPMS - o1 No. 2. IP67 ABS Transparent Cover Enclosure 280x 190x   30mm with all accessories - 1 no. 3. Auxiliary Spikes - 6 nos.(2 nos per earth/earth grid) 4. One sq mm flexible copper cable - 300 mtrs (100 mtrs per earth / earth grid) NOTE: 1. Cable.reel length beyond 300m will be charged extra on running mtr as per site requirement. 2. Installation to be done by OEM or its authorized channel partner only	Set	190826.65	1	190827.00	Consignee
18	Supply of 110V AC/DC hand drilling machine 13 mm capacity,wolf better	No.	12500.00	2	25000.00	Consignee
19	Supply of Flash light with rechargeable 2600mAH Li-ion batteries Size 70mm x 210mm & cree 3W LED with throw@Turbo mode -400m Model-Trackmate 400M	No.	5700.00	4	22800.00	Consignee
20	Supply of Flash light with rechargeable 2600mAH Li-ion batteries Size 56mm x 196mm & cree- 3W LED with throw@Turbo mode -300m Model-Soulmate 300M	No.	5500.00	4	22000.00	Consignee
21	Supply of IPM for Krone modules.	No.	500.00	100	50000.00	Consignee



Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
22	Supply of Mounting table Godrej make Model no companion C-13 & Revolving Chair or better. ONE number each.	No.	35000.00	1	35000.00	Consignee
23	Supply of Auto telephones with Caller ID facility to wayside stations.	No.	2000.00	8	16000.00	Consignee
24	Supply of Digital AC/DC clamp meter capable of measuring Low currents in mA range as well as high current upto 60A in AC & DC similar to model no.211B of Stanley make or better (inspection by Consignee)	No.	22079.60	2	44159.00	Consignee
25	Supply of Digital multimeter similar to Stanley make Model No.195M or better with accessories ( Inspection by Consignee)	No.	25624.00	2	51248.00	Consignee
26	Supply of 1Quad /2T VF transformer 470:1120 ohms impedance conforming to specification No. IRS-TC-76/2000 with amendment no.1 or latest.	No.	1900.00	30	57000.00	RDSO
27	Supply of 230/12 V DC PSU for Telecom installation at wayside station as per RDSO specification No. IRS-TC-72/97 with amendment No.1 or latest with 12V/7AH MF battery	No.	6000.00	4	24000.00	RDSO
28	Supply of universal DTMF way station 2/4W Control Telephone as per conforming to RDSO Spec.No.IRS:TC-82 /2005 with amendment-3 or latest.	No.	6500.00	4	26000.00	RDSO
29	Supply 10 Pair switch board telephone cable 0.5 mm dia annealed copper conductor PVC insulated core each twisted into pair as per TEC Spec No. GR/WR-09/04 Oct-2005 or latest.	Mtr.	51.63	1000	51630.00	Consignee
30	Supply of CAT 6 Cable of Digisol Make or better ( 305 mtr length)	Coil	6815.24	2	13630.00	Consignee
31	Supply of Digital Ground tester model DET3TD part no. DET3D 2 & 3 Terminal earth tester, digital display with case & kit.(Inspection Agency Consignee)	No.	80600.00	1	80600.00	Consignee
32	Supply of 24-40V, 10A modules of DC-DC converter for IPS systems of Amara Raja/ Statcon make a)Amara Raja, suitable for Axlecounter (Inspection Clause: RDSO)	No.	35872.00	10	358720.00	RDSO
33	Supply of 24-40V, 10A modules of DC-DC converter for IPS systems of Amara Raja/Statcon make a)Statcon, suitable for Axle counter (Inspection Clause: RDSO),	No.	35872.00	10	358720.00	RDSO
34	Supply & configuration of PCM TDM integrated access multiplexer 1u height /19 rack mountable with 8e1 port (with 1+1 protection ) cable E1 db 37/8 RJ 45- 1 no. Unit to support 124/128 DSO level cross connect unit to support dual dc/48v & power supply adopter- 1 no. Suitable for existing equipment make 4cs. Make: MROTEK or Team Engg. (Inspection Clause: RDSO)	No.	81951.00	2	163902.00	RDSO

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
35	Supply of signal transformer 230/110 500VA	No.	7000.00	4	28000.00	RDSO
36	Supply of E&M card suitable in mapel 4C multi plexer (Inspection Clause: RDSO)	No.	37760.00	2	75520.00	RDSO
37	Supply of 24v DC power supply unit with MF battery	No.	4805.32	6	28832.00	RDSO
38	Supply of Non-deteriorating (ND) type of fuse holders for Railway signalling, rated voltage 240 AC/DC to Specn. No. IRS S.78/92 (IRS-S-78/97 tentative) IS:13703 (part 2/sec2):1993 suitable for E1 fuse 20Amps SC-20 Holder Safe Clip / knife edge type size E1 (R-SS) amp. Fuse block	No.	187.59	100	18759.00	Consignee
39	Non-Deteriorating type of fuse holders and fuse links of following rating. (a) Fuse Link 20 Amps IRS Spec.S.78/92 or latest.	No.	27.26	20	545.00	RDSO
40	Non-Deteriorating type of fuse holders and fuse links of following rating. (b) Fuse Link 10 Amps IRS Spec.S.78/92 or latest.	No.	24.95	20	499.00	RDSO
41	Non-Deteriorating type of fuse holders and fuse links of following rating. (c) Fuse Link 2 Amps IRS Spec.S.78/92 or latest	No.	21.25	100	2125.00	RDSO
42	Supply of Adjustable Track Feed Resistance, Disc type, 30 Ohm, with phenolic moulded base, as per Drg.No.SA-20166/M(Adv.) or latest.	No.	436.00	30	13080.00	RDSO
43	Final location joint survey of proposed cable route plan (Quad / OFC cable) and submission for, approval of K-RIDE/ Railway. The details instruction / guide lines regarding joint survey and preparation of cable route plan are given in Tender document. Contractor will submit two copies of prints with soft copy to checking by K-RIDE. If alterations are suggested by K-RIDE/Railways, then again two copies of prints will be provided for advance approval after carrying out all the alterations as suggested & proposed by K-RIDE/ Railways. Tracing sheets shall be submitted for approval by K-RIDE / Railway. All drawings will be prepared in CAD. It also includes preparation and submission of final cableroute plan on 75 microne standard polyster film which includes details of entire section in which quad / OFC / Signaling cables are laid. Once Railway has approved and signed tracings for cable route plan then contractor will submit 6 (six) sets of zerox copies for cable route plan in proper binding form.	Km.	966	18	17388	

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
44	Excavation of joint pit/coil pit upto a size of 1 Mtr x1.5 Mtr x1.5 Mtr for providing joint/coil pit at joint locations and at culverts, bridges, LC gates LC gates etc., This includes back filling and ramming of the pit after the cable laying and consolidation of the soil well as disposal of soil as per plan or as advised by the K-RIDE representative.	No.	850	30	25500	
45	Provision of derivation joint for LC gates using thermoshrinkable jointing kits . This includes tapping of nominated quads for EMC and LC phone and auto phone at a specific location shown by Railway representative at site, to jelly filled cable laid. 2T VF Transformer confirming to RDSO specification No. IRS - TC 76/2000 with impedane 470:1100 are to be used.After the jointing the through cable has to be tested for insulation resistance and loop resistance in presents of Railway Engineer and in case of any defects the jointing has to be re-done free of cost by the contractor. [Thermoshrinkable jointing kit confirming to RDSO specification No. IRS-TC 77/2006 and 2T transformer of impedene 470:1120 ohms covered in the supply portion should be used for this work.The Contractor should supply all other small items free of cost which are required for making a joint. Only gas blower to be used for jointing].	No.	3300.00	4	13200.00	
46	Excavation of cross trench across the existing cable route, to identify the signals and other utilities under the ground for a depth of 1 meter, 0.3 meter width. This work includes, careful digging of trench slowly to avoid the damage to signal and other utilities using a HOE. Crowbars and Pig Axe should not to be used. Back filling of trench to be done after identified the cables. The rate is inclusive of tools and plants required for this work.	Mtr.	130.30	3000	390900.00	
47	Fabrication and erection of emergency rail post complete with emergency socket box made of FRP material as per Spec. No.RDSO/SPN/TC/44/2002 Ver.2 (with latest amendment) and its wiring along with the Railway track at locations to be indicated by the Engineer (Rail post shall be supplied by K-RIDE/Railway and issued to the contractor for execution. Emergency Socket and Emergency socket box will be procured through separate schedule of this contract and issued to the contractor for execution. All other items shall be supplied/arranged by the contractor.	No.	4435.68	18	79842.00	<b>Consignee</b>
48	Supply and installation of station telephone (master telephone) for electronic LC gate telephone system as per RDSO Specn. No. RDSO/SPN/TC /51/2009 Rev1. or latest consisting of a)body of telephone b)Transmitter and receiver c)coradge d)Push button switches e)Visual LED	No.	4158.45	4	16634.00	<b>RDSO</b>

Sl. No.	Item description	Unit	Rate (₹.)	Qty.	Amount (₹.)	Inspection Clause
49	Supply and installation of station telephone (Slave telephone) for electronic LC gate telephone system as per RDSO Specn. No. RDSO/SPN/TC/51/2009 Rev1. or latest consisting of a)body of telephone b)Transmitter and receiver c)coradge d)Push button switches e)Visual LED indication f) Power on LED indication g) Surge protection	No.	4158.45	6	24951.00	RDSO
50	Track crossing in the yard for taking cables to Station and End goomty bv Horizontal Boring method by Using Heavy Duty Horizontal drilling machine at the ocaion as advised by Engineer at site. This includes Supply and insertion of 160 mm PE 100 PN8 HDPE in the bore drilled with Horizontal drilling machine as per site condition.	Mtrs.	4518.67	500	2259335.00	RITES
51	Supply , Installation & Wiring of Battery Charger 230/24V/20A As per RDSO spec No.IRS-S-86/2000 Amend -4 or latest. Inspection by RDSO	No.	72028.74	2	144057.00	RDSO
52	Supply , Installation & Wiring of Battery Charger 230/110V/30A As per RDSO spec No.IRS-S-86/2000 Amend -4 or latest. Inspection by RDSO	No.	85195.29	2	170391.00	RDSO
53	Supply and installation of fiber Management system and termination of IN and OUT 24 fiber OFC cable as per RDSO/ SPN /TC-37/2000 (Rev.3.0) Amdt-2. (with all	No.	22178.40	8	177427.00	Consignee
54	Supply of emergency socket 6 pin flat as epr RDSO specn. IRS/TC 142187 or latest with amdt.	No.	540.59	24	12974.00	RDSO
55	Supply of Emergency Socket boxes of FRP make confbrn- ring to specification RDSO/SPN ITCI44I2OO2 or latest with amdt.	No.	4574.29	24	109783.00	Consignee
56	Supply of TX/RX coils for HASSDAC as per RDSO SPN/177/2012 ver.3 or latest. Each set consist of 1 TX & RX coil of 15 mtrs length <b>(Inspection Agency RDSO)</b>	Set	47960.79	4	191843.16	RDSO
<b>Schedule: L Total in Rupees</b>					<b>95,57,914.16</b>	

Name of the work: Shifting of Signalling & Telecommunication under ground utilities in KSR Bengaluru city Jn. to Yelahanka section via Yeshwanthpur, Lottegollahali of Bangalore Division to facilitate Bangalore Suburban Railway Project (BSRP) Corridor-1A.						
Schedule - N						
Sl. No.	Item description	Unit	Rate (₹.)	Qty	Amount (₹.)	Inspection Clause
1	Supply of Relay DC QN1 8F/8B plug in type Metal to carbon with plug board, retaining clip and connectors confirming to BRS - 930A & as per RDSO Spec No. IRS- S-34, IRS -S-23 or latest (Code:ABCDE) - (QN1 Contact configuration 8F/8B)	No.	4256.40	150	638460.00	RDSO
2	Supply of Relay AC immune plug type QNA1 8F/8B Metal to carbon with plug board, retaining clip and connectors confirming to BRS - 931A & as per RDSO Spec No. IRS- S-34, IRS -S-23, IRS-S-60/78	No.	4442.77	150	666416.00	RDSO
3	Supply of Relay Plu-in, Type -QL1, magenetically latched, neutral line, 24VDC, 11F/4B contact configuration, Metal to Carbon, with plug board, retaining clips and connectors, confirmaing to BRS-935A, IRS S-34, IRS S-23 as aplicable. The interlocking code for this unit shall be ABDEG	No.	5233.01	50	261651.00	RDSO
Schedule-N Total in Rupees					15,66,527.00	