

Letter of Acceptance

No: NHSRCL/BRC/MA/03/Signal & Telecom Utility Bridge/198/2 /OBRC 412

Date: 10.11.2020

To,
M/s Agrawal Engineers
103 Rajdhani Nikunj,
94 IP Extn Delhi-110092.

Subject . Open Tender no.: NHSRCL/BRC/2020/37
Signal and Telecommunication Utility Shifting Work from Vishwamitri
to Pandya Bridge in Connection with Construction of MAHSR.

Reference: 1. Your offer for the above mentioned subject
2. Technical bid of the subject work opened on 27.10.2020
3. Financial bid of the subject work opened on 31.10.2020.

Dear Sir,

Your financial offer opened on 31.10.2020 of the subject work is hereby accepted by the competent authority for the **total cost of Rs.9,05,62,897.20 (incl. GST)** as per the schedule below: -

S. No.	Description	Unit	Quantity	% Quoted	Amount Quoted
1	Signal and Telecommunication Utility Shifting Work from Vishwamitri to Pandya Bridge in Connection with Construction of MAHSR (BOQ as per Annexure-A)	LS	7,30,34,594.52	24.00%	9,05,62,897.20
Total of all schedules					9,05,62,897.20

1. NHSRCL will be the Employer and General Manager (S&T), National High Speed Rail Corporation Limited, Vadodara shall be Employer's nominated representative for this contract.

Signature

नेशनल हाई स्पीड रेल कॉर्पोरेशन लिमिटेड
(केन्द्र सरकार एवं भाग लेने वाली राज्य सरकारों की संयुक्त क्षेत्र कंपनी)

National High Speed Rail Corporation Limited
(A Joint sector company of Govt. of India and participating State Governments)

परियोजना कार्यालय : तृतीय तल, उत्पादकता हाउस, उत्पादकता रोड, अलकापुरी, वडोदरा - 390007
Project Office: 3rd Floor, Productivity House, Productivity Road, Alkapuri, Vadodara - 390007
Phone No (Office): 265-2600000, Email id: cpmbrcl@nhsrcl.in
पंजीकृत कार्यालय : एशिया भवन, द्वितीय तल, रोड नम्बर 205, सेक्टर 9, द्वारका, नई दिल्ली - 110077
Registered Office: Asia Bhavan, 2nd Floor, Road No. 205, Section 9, Dwarka, New Delhi - 110077
+91-11-28070001/02/03/04, +91-11-28070150, Email id: psmd@nhsrcl.in
CIN No. U60200DL2016GOI291002

2. Sr. DSTE/Co, Western Railway, Vadodara shall be Engineer-in-charge for this work. For execution of work, co-ordination with railways and to record measurements for payment, he shall be final authority. Sr. DSTE/Co, Western Railway, Vadodara may nominate an authorized representative for the above activities on his behalf through a separate written communication.
3. This Letter of Acceptance shall be treated as **"Notice of Commencement"** w.e.f. 16.11.2020.
4. The completion period of the work is 7 months (Seven months) from the date of commencement (i.e. up to 15.06.2021).
5. All released material shall be deposited to the authorized representative of Sr. DSTE/Co, Western Railway, Vadodara.
6. You are hereby requested to please contact **Chief Project Manager, National High-Speed Rail Corporation Limited, Vadodara** to make necessary arrangement to take the work in hand within 7 days on the receipt of this letter.
7. Contract agreement for the above work will be ready for your signature. Please attend this office along with performance security to sign the contract agreement. Please arrange to commence the work within 7 days from the date of receipt of this letter, failing which NHSRCL reserves the right to take action as per General Condition of the contract.
8. Unless and until formal agreement is made and got executed, this acceptance letter will constitute a legal binding contract between NHSRCL and contractor **M/s. Agrawal Engineers, 103 Rajdhani Nikunj, 94 IP Extn Delhi-110092.**
9. Within 30 days from date of issue of the Letter of Acceptance, the successful Tenderer shall furnish Performance Security, for an amount of ten percent (10%) of the Accepted Contract Amount (i.e. **Rs. 90,56,289.72**) in types and proportions of currencies in which the Contract Price is payable either in the form of a Bank Draft, FDR or in the form of a Bank Guarantee from a branch in India of a scheduled foreign bank or from a scheduled commercial bank in India (but excluding Cooperative Banks) acceptable to the Employer. The Extension of time for submission of Performance Security beyond 30 (Thirty) days up to 60 days from date of issue of LOA may be given by the Authority who is competent to sign the Contract Agreement. However, a Penal Interest of 15% per annum shall be charged for the entire period i.e. from the date of issue of LOA to the date of submission of Performance Security. In case the Contractor fails to submit the requisite Performance Security within 60 days

[Handwritten signature]

from the date of issue of LOA, the Contract shall be annulled duly forfeiting Tender Security and other dues, if any payable against the Contract. The failed Contractor shall be debarred not only from participating in re-tender for that work but also in any other tender of NHSRCL for a period of one year from date of issue of LOA.

Please acknowledge the receipt and convey your acceptance.

Thanking you,

Yours Faithfully,

[Signature]
10.11.2020

**General Manager (S&T),
National High-Speed Rail Corporation Limited,
Vadodara**

Encl: Bill of Quantities (8 pages)

Copy to:

- (1) Labour Enforcement Officer, (Central), Chandraprabha Flats No.2, Krishna Nagar Society, Opp. Moti Baug Palace, Vadodara. 390 001.
- (2) Regional Labour commissioner, (Central). Chandraprabha Flats No.2, Krishna Nagar Society, Opp. Moti Baug Palace, Vadodara. 390 001.
- (3) G.M Contract of New Delhi for information & Necessary Action Please.
- (4) DGM (Finance), New Delhi for information and action please.
- (5) DGM (Finance), Vadodara for information and action please.
- (6) Senior Divisional Signal & Telecommunications Engineer (Coordination), Vadodara, Western Railway – for information & necessary action.

(To be filled in the office of the Licensing Office)
Dated of receipt of the application with challan for fee/security deposit.

Signature of Licensing Officer

FORM V
(See Rule 21 (2))

Form of certificate by Principal Employer

Certified that I have engaged the applicant **M/s Agrawal Engineers, 103 Rajdhani Nikunj, 94 IP Extn Delhi-110092.** as contractor in my establishment. I undertake to be bound by all the provisions of the contract labour (Regulation & Abolition Act 1970 and the Contract Labour Regulation and Abolition Central Rules, 1971) in so far as the provisions are applicable to me in respect of the employment of Contract Labour by the applicant in my establishment.

Authority:

Date: 11.11.2020

Place: Vadodara

[Signature]
10.11.2020

**General Manager (S&T),
National High-Speed Rail Corporation Limited, Vadodara**

Section Rule 25(2) (VIII)
(Notice of Commencement/Completion of Contract Work)

I/ **M/s Agrawal Engineers, 103 Rajdhani Nikunj, 94 IP Extn Delhi-110092.** is hereby intimate that the contract work of: - **Signal and Telecommunication Utility Shifting Work from Vishwamitri to Pandya Bridge in Connection with Construction of MAHSR.** for which license No: _____ dated. _____ has been issued to me/us by the Licensing Officer Labour Enforcement Officer at Baroda has been commenced/completed with effect from: to/on

Signature of Contractor

To:
The Inspector

FORM VI-B (Rule No.81(3))
Notice of Commencement/completion of work

- 1.Name of Principal Employer and Address: **Chief Project Manager, National High-Speed Rail Corporation Limited, Vadodara 390 007.**
2. No. and date of Certificate of Registration: - Dated:
3. I/We hereby intimate that the contract work of: - **Signal and Telecommunication Utility Shifting Work from Vishwamitri to Pandya Bridge in Connection with Construction of MAHSR.** Given to / **M/s Agrawal Engineers, 103 Rajdhani Nikunj, 94 IP Extn Delhi-110092.** BRC/RLC/REG/46/(1)2018 dated 20.03.2018 has been commenced /completed with effect from 16.11.2020 to/on 15.06.2021.

[Signature]
10.11.2020

Signature of Principal Employer

BILL OF QUANTITIES

Detailed estimate for work "SIGNAL AND TELECOMMUNICATION UTILITY SHIFTING WORK FROM VISHWAMITRI TO PANDYA BRIDGE IN CONNECTION WITH CONSTRUCTION OF MAHSR"

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
SIGNALLING PART					
1	Cable Signalling Underground, Armoured, Unscreened, PVC Insulated, PVC Sheathed, Annealed Copper Conductor Size: 12 Core X 1.5 Sq.mm as per RDSO Specn. No. IRS:S:63/2014 Rev.4.0.	145	KM	184375.00	26734375.00
2	6 Quad 0.9mm Dia Jelly Filled Underground Cable As Per RDSO Specn.No.IRS:TC:30/2005(Ver-1) with Amndt.No.4	8	KM	244850.00	1958800.00
3	PVC Insulated, Unscreened Armoured, Underground Power Cable Size 2 Core X 25 Sq.mm Aluminium Conductor, RDSO Specn.No.IRS-S-63/2014 No.IS:1554 (PART I)	5.5	KM	87110.40	479107.20
4	ARA Terminal blocks with links made of PBT Spec No.IRS/75/2006(Rev - 2) with latest amendments and RDSO Drg.No.SA-23741A Alt.4.	150	No.	72.60	10890.00
5 i	Disconnect Terminal Block, Screw less type as per RDSO Spec. No. RDSO/SPN/189/2004. With latest amendments., 4-wire front entry (Two in-put & Two out-put) The colour will be decided by Engineer - in - Charge. (Preferably In Blue, Red & Grey Colors in the ratio of 1:2:3)	7500	No.	58.08	435600.00
ii	Supply of End plate for above item (i) 2.5mm/0.091 in thick as per site requirement.	1500	No.	10.89	16335
iii	Supply of End Stopper for above item (i) 10mm/0.0394 in width as per site requirement.	750	No.	10.89	8167.5
iv	Supply of Carrier Rails for above item 35mmx7.5mm, 1mm/0.039 in thickness un-slotted type as per site requirement	150	No.	113.74	17061
v	Markers strip for above item	7500	No.	16.94	127050
6	Fixing of ARA Terminals /Screw less connectors and fuse blocks on phenolic laminated sheets and fixing by stainless steel/brass nuts & bolts. This includes provision of two additional holes on the board on either side for cable conductor entry.	7650	No.	13.31	101821.5
7	Supply and installation of RCC cable route marker engraved and painted on both side along the route every 50M and route diversion as per Drg. No 4014/00/CC4 or latest/ Stone marker.	250	No	433.78	108445
8	Workstation with specification as "Intel Core i7 9700 16 GB/ 1000 GB HDD/ Windows 10 Professional. Make Hp/DELL or Similar,	2	No	80999.00	161998
9	Apparatus Case Single NE Rly Type as per Drg. No. W. Rly/SW/47/68 Alt-A, fitted with two nos of E Type lock (ward No will be specified by Engineer-in Charge) as per RDSO Drg. No. SA 3376/3473 and Key to Drg. No. 3377. Note: This item includes the supply & fixing of 2 Nos E Type Lock fitted on both doors, along with two Keys.	23	No	15889.72	365463.56
10	Apparatus Case half NE Rly Type as per Drg. No. W. Rly/SW/47/68 Alt-A fitted two nos E Type lock of (ward No will be specified by Engineer-in Charge) as per RDSO Drg. No. SA 3376/3473 and Key to Drg. No. 3377. Note: This item includes the supply & fixing of 2 Nos E Type Lock fitted on both doors, along with two Keys.	22	No	10035.74	220786.28
11	Maintenance Free Earth Electrode of length 3m, including supply of 3 bags of Earth enhancement material for earthing (20KGs /bag) for each electrode & other accessories as per Drg. No. SDO / RDSO/ E&B/001 and RDSO Spec No. RDSO / SPN/197/2008.	45	No.	9413.33	423599.85

Signature

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
12	Double Walled Corrugated (DWC) HDPE Pipe with associated collars etc. as per RDSO Specification No. RDSO/SPN/204/2011 or latest anti-rodent & anti-oxidant and non flame propagating type in 6 meters straight length and of size 120 mm outer dia. & 103.5 mm inner dia. (The manufacturers, suppliers must produce valid IS license and should be certified under ISO 9000 and shall submit copy of certificate). One of the following coupling arrangements should also be supplied with each pipe as per the site requirement. 1) Suitable snap fit coupler with rubber 'O-Ring 2) Spacers 3) Tees 4) Bend, 5) End-cap (The total quantity of above items is equal to no. of pipes supplied.) DWC pipe shall be marked at every 1 mtr length in such a way that manufacturer's name, vender name and year of manufacture can be easily identified.	80	No	1898.53	151882.4
13	Half Round RCC pipes & collars of 300 mm outer dia & 250 mm internal dia (2-meter-long) along with collars as per IS No. 458/2003 of NP type	1700	No	721.16	1225972
14	Phenolic laminated Sheet, grade P3 in standard size of 1220 X 1220 x 10 mm as per spec. No IS 2036 of 1995 or latest. Test report of manufacture to be supplied	45	No	4941.64	222373.8
15	Excavation of cable trench as per cable route plan, 1 Mtr. deep and of 0.3 Mtr. to 0.6 Mtrs wide advised by Engineer-in-charge alongside the track in normal (all type) soil/strata, conforming to distances as per cable route plan and refilling. This work includes clearing of route from bushes etc, covering of cable laid in trench by loose soil for a layer of 50mm thickness approximately before covering by bricks. The work shall be done as per the extant practice on Western Railway and instructions of Railway Engineer at site. In case 1m depth of trench is not achievable due to site conditions, specific approval of JA grade officer will be required for each site where trench depth of 1m is not possible. Without the approval of JA Grade officer, no payment for trenching will be made for trench depth less than 1m.	1500	Cu M	289.59	434385
16	Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. Note:- Contractor shall provide all material required for boring and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable.	500	Mtr.	1247.51	623755
17	Supply of HDPE pipe as per IS 484-1995 and size 315mm dia. Of make Jin/Equivalent make. It includes loading, unloading, transportation etc.	1950	RM	3638.75	7095562.5
18	Laying of 315mm Dia HDPE pipe underground at the depth of atleast 2.50 meter from ground (the top of the pipe should be at 2.05 meter from ground level) using HDD machine including all related works i.e drive pit for machine, receiving pit for the pipe, required excavation on both sides of road, back filling, levelling etc. as per direction and instruction of Railway Engineer. Laying of signal Cable inside 315mm dia HDPE pipe by properly taking out the cable from drum without damaging the cable in proper level and alignment. Supply of HDPE pipe is taken separately.	1950	RM	5791.25	11292937.5
19	Laying of signal cable inside 315mm dia HDPE pipe by peroperly taking out the cable from drum without damaging the cable in proper level and alignment (cable in drum will be provided by railway free of cost)	58500	RM	51.25	2998125
20	Multi Function Printer HP 34 inch T-830 Model or similar	1	No	179360.00	179360

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
21 i	Trunking and capping to Part 7 & 17 respectively to Drg.no. CSTE/6224A	200	No	428.34	85668
ii	Laying of capping on cable laid in trunking / directly of cables	200	RM	10.89	2178
22	Placing of DWC/RCC/GI pipes along with collars in trenches at places of track and road crossings, platform cuttings etc.	480	RM	31.24	14995.2
23	Laying of half round RCC pipe after laying the cables in the trenches. (Cable laying is covered separately)	3400	RM	22.83	77622
24	Laying of S&T Cables of various cores/ pairs/ quads in trenches/ GI pipes/ RCC pipes/ DWC pipes/ Trunking. This also includes laying of cables in track crossings & road crossings. Item includes provision of labels of coloured plastic adhesive tapes or any other identifiable material on each cable to give the cable number at each G.P.(Cables will be maggered before and after its laying by contractor under supervision of Railway Representative and he will submit the maggering report of each testing). Length of the cable laid includes the length of the cable coiled for termination purposes.	100000	RM	9.61	961000
25	Termination of cable cores on ARA terminal/fuse blocks, 8 way terminals block/ Screw less connectors in the apparatus Cases/ cable termination rack. This includes all associated works of pulling out the cable from underground. The work shall be done as per location plans and instructions of Railway Engineer at site. This item includes dressing of Cable, making wiring tree etc.	7650	Per Conductor	2.42	18513
26	Excavation and Casting of Apparatus Case foundation with contractor's own materials including cement and anchor bolts of standard size. The required scaffolding Ferma etc for Casting of foundation will have to be brought by the contractor at his own cost.				
i	Single Case as per Drg No SK 748 or CSTE/5074	23	No	7324.13	168454.99
ii	Half Case as per Drg No SK 747 or CSTE/5074 or SS Location	22	No	5591.41	123011.02
27	Installation of Apparatus Cases with miniature 'E' type lock on CC foundation. This includes filling of location foundations with river bed sand and plastering on top of the sand. 'E' Type lock will be provided by Railway.				
i	Single Case	23	No	1104.73	25408.79
ii	Half Case	22	No	672.76	14800.72
28	Fabrication and fixing of phenolic laminated sheet of size 10mm thick in location box by providing all fixtures as per Railway Drawing including fixing of PVC coated string rods at the back side for cable support with contractor's own materials. The work shall be done as per drg and arrangement similar to SK 783-1/2. with latest alterations & as per instructions of Rly engineer at site.				
i	Single Case	23	No	2492.6	57329.8
ii	Half Case	22	No	727.21	15998.62
29	Installation of Maintenance free Earth Electrode for Maintenance free earth spec of RDSO/SPN/197/2008	45	No.	1512.81	68076.45
30	Preparation of cable route plan, cable coreage plan, location particulars, Cable termination rack particulars, cable meggering report, earth resistance particulars, Traction bonding diagram, 1/2 wire count sheet and any other drawing in AutoCAD in A3/A4 size. The contractor shall initially supply 3 sets of circuits complete for approval of Railways. Railways will return one set to the contractor duly approved with alterations/corrections, if any. The contractor shall incorporate Railway's alterations/corrections in the tracings without any deviation and submit all tracings complete in all respects to the Railways along with CD & 4 sets of final approved drawings. This includes submission of final cable route plan as per laid cable duly measured at every 30m clearly indicating distance of laid cable from fixed point of reference & indicating all track crossings and tail cables. This also includes designing of cable coreage plan based upon I.P in consultation with engineer-in-charge. For small/medium yards	2	Lot	21329.88	42659.76
31	Tools as per Annexure	1	Set	38713.18	38713.18

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
32	Digital Multimeter of Fluke 287 Industrial, True RMS with temperature, Analog bar graph, Digital display, Backlight, 1000V AC/DC, measure up to 10A, 20A for up to 30 second or Superior make	1	No.	46828.21	46828.21
33	Cable Route Locator/Tracer set suitable for detecting under ground armoured optic fiber cable and signalling cable with LCD graphic display active/ passive modes and depth range 4M-10M. The set shall consist of the following : 1. Receiver seek Tech line locator/ cable avoidance tool-01 no 2. Transmitter/ signal generator complete with earth stake & connection leads- 01 no 3. Inductive signal clamp -01 no Model no 8100 PDLG of M/s Radio Detection (UK) or similar. Inspection by RDSO	1	No.	731600.00	731600
34	Cable termination racks as per Drg. no. CSTE 5004, 5005, 5006 complete along with fitting arrangements and also with arrangement for fixing four 8-way terminal strips/ Screw less terminals on each row having 16 such rows. Supply of 8-way terminal strips/ Screw less terminals not covered under this item. Cable termination rack shall be Powder Coated.	2	No.	24168.54	48337.08
35	Installation of Cable Termination Racks Assembly complete including wall supports, scaffolding, 8 way/ARA terminals /Screw less connectors, Tag blocks & other necessary accessories etc. The work shall be done as per approved plan, extant practice on WR & the instruction of Rly engineer at site.	2	No.	9235.93	18471.86
36	PVC insulated Railway Signaling Indoor Single core wire conforming to IRS 76/89 (Amd3) or latest. Note: - Wire Colours shall be decided by engineer - in - Charge.				
i	Single core multi-strand wire 0.5 sq.mm. (16 conductor each dia. 0.2mm), as per IRS 76/89 (Amd3).	2.25	KM	5581.73	12558.8925
37	Flexible cable (Power wire), multi-strand copper conductors cross section 1x6 Sq.mm. (85 conductor each diameter 0.30 +/- 0.01) as per IS 694/1990 with insulation thickness of 0.80 mm nominal conductor resistance 3.30 ohms/km and test parameters are as per IRS(S)76/89.	0.5	KM	41286.41	20643.205
38	Flexible cable (Power wire), multi-strand copper conductors cross section (1x16Sq.mm).101 Conductors each diameter 0.45 + 0.01 as per IS 694/2010 with insulation thickness of 1.2mm nominal conductor resistance 1.127 Ohms/Km and test parameters as per IRS(S) 76/89.	0.5	KM	132848.32	66424.16
39	Flexible cable (Power wire), multi-strand copper conductor's cross section 25 Sq. mm (0.4x196) as per specn. IS 694/2010 with latest amendment, and test parameters as per IRS(S) 76/89.	0.25	KM	151277.83	37819.4575
40	Program switches, snap action, base mounting type along with acrylic cover and mounting bracket, 25A, 6 pole, 3 position Siemens make or Similar.	9	No.	6602.97	59426.73
41	Termination of outdoor cables, main cables laid in location boxes, Cable termination rack etc at both ends on ARA terminal or on 8 way terminals or on screw less connectors. Both ends of a cable core terminated shall be counted as one terminal. This includes all associated works of pulling out the cable from underground, peeling off insulation, dressing of cable core supported on sting rod with contractor's own material. The work shall be done as per instructions of Rly engineer at site. This item includes dressing of Cable, making wiring tree etc.	1500	Per term.	2.42	3630
42	Fire Extinguisher CO2 type (capacity 5 kg.)	8	No.	7057.93	56463.44
43	Digital Current clamp meter to measure current leaks [parasitic draws down to 1mA and electric loads from 1 mA to 100 Amp AC/DC and voltages from 0 to 600 V AC/DC, small jaw size to measure current in signalling circuits, 4 digit display. Make- Fluke/GTC/KEW or superior with better specifications mentioned, with all accessories like test lead, batteries and carrying case, sample may be got approved from consignee before supply.	1	No.	14299.20	14299.2

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
44	Supply of Megger 100 Volts as per specification.	1	No.	1429.00	1429
45	Supply of Megger 500 Volts as per specification.	1	No.	1429.00	1429
46	Cement concrete work for miscellaneous items in the ratio 1 : 3 : 6 . Item includes excavation, ramming, curing and plastering with cement & sand mixture (aggregate not exceeding 3.8 cm.) (Aggregate cement & sand to be supplied by the contractor).	15	Cu M	3857.48	57862.2
47	Providing brick masonry in ratio 1:6 cement and mortar including plastering with 1:4 cement and sand mixture both sides, 20 mm thick each with contractor's owned class II bricks, including excavation, curing, grouting, bolting etc. wherever required. Bricks sand and cement to be supplied by the contractor.	30	Cu M	2116.29	63488.7
48	Lettering / Numbering Termination particulars, equipments names etc., legibly and neatly inside location boxes. This includes supply of paints of Asian Paints/ Nerolac / Dulux / Berger make.				
I	Full Case.	23	No	127.05	2922.15
II	Half Case	22	No	87.12	1916.64
49	Track relay QTA2, AC immunized, 9 Ohm, 2F.1B, along with plug board, retaining clip and connectors conforming to BRS:939A, BRS:966, IRS:S34 & IRS:S23.	20	No	5372.4	107448
50	Choke Coil for Single Rail Track Circuit on 25 KV 50 Hz AC Electrified Section as per Spec No IRS S 65/1983 with latest amendments.	20	No	1679.48	33589.6
51	Adjustable Track Feed Resistance disc type 30 ohms as per RDSO Drg. No. SA 20166/M (Adv) with latest amendments (with Phenolic moulded base).	20	No	878.46	17569.2
52	Track Lead Junction Boxes as per C.Rly Drg. No.RST 11509 made from fiber glass along with terminal blocks.	40	No	998.25	39930
53	Installation of DC track circuits covering points zones also. The item includes provision of continuity bonds of seven strand PVC jacketed wire/ GI wire 8 SWG on rail joints after drilling bond-hole of 7.0/7.1/7.2mm dia (double bond with sleeves and rail clips are to be provided at each rail joint), insertion of insulated block joint, fixing of Track lead Junction box on MS angle two numbers of size 40X40X5 mm 1200 mm length for track feed/ jumper / track relay ends of track CCTs (as per double TLJB arrangements) and also for fixing jumper cables as per insulation diagram WR Drg No. CSTE/6055 and standard practice, making rail connections through suitable insulated sleeves from Track lead Junction box at TF, jumper & TR end with seven strand PVC jacketed wire /GI wire 8 SWG , rail clips for fixing bond wire on the TLJB as per standard practice, termination of tail cables on bootleg terminals etc. TF/TR wiring shall be fixed on the suitable arrangement on PRC sleepers with the help of Hooks. Hooks shall be provided on PRC sleepers with the help of suitable steel bracket. This item also includes fixing & supply of channel pins etc. The item also includes supply of MS angles / trestles, GI wire 8 SWG / seven strand PVC jacketed wire, hooks, rail clips etc. (Supply of insulation material for block joint & Boot leg is covered in Schedule separately or will be supplied by Railways).	10	No	7373.74	73737.4
54	Low maintenance Lead acid secondary cell 2V/80 AH (Track feed Battery), shelf mounting type conforming to IRS:S-88/2004 or latest (uncharged)	50	No	2198.57	109928.5
55	Medium Class G.I. Pipes to IS : 1239 (Pt.I)-2004 or latest ; 100mm dia. (int. dia) 3.65 mm+/- 10% thick with coupling. G.I. pipes shall have ISI mark on it and contractor should submit manufacturer's test certificate of G.I. pipes.	500	RM	603.2	301600
56	Charging of Lead Acid Batteries with contractors own battery grade sulphuric acid and distilled water with minimum two charge - discharge cycles, installation of charged batteries in groups & their connection & wiring. The work shall be done as per extant practice of W.Rly & instruction of Engineer-in-	50	No	394.46	19723

58451m

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
	charge. Detailed measurements of initial charging shall be recorded jointly by contractor & Rly's site-in-charge. 2V 80AH				
57	Track feed battery chargers, 110V AC input, 2 to 6 V DC Output; as per Specn.No.IRS.S 89/ 2013 with latest amendments. Charger shall be suitable for charging 80 AH battery.	20	No	3277.89	65557.8
58	Digging of trench 1.2 M deep from rail flange/ road level and, 0.3 Mtrs to 0.6 Mtrs wide and back filling after placing of DWC/ RCC/GI pipe. (Placing of DWC/RCC/GI pipe covered separately). The ballast disturbed be screened and dressed as required by Engineer-in-charge or his representatives and road tarred immediately. For track crossing, Drg. No.CSTE/3644 Pg.7 of 11 and for Road Crossing, Drg. No. CSTE/3644 Pg. 5 of 11 are to be followed.	30	CuM	291.61	8748.3
59	Dismantling / Releasing of existing Signaling Gears. One Signalling gear will be all parts of one signal (consisting of CLS unit, Signal post along with base) or lever frame (5 levers set), or one point (consisting of all parts of a mechanical point, point machine, ground connections etc.) or one track circuits (consisting of battery box & other parts of DC Track circuit / AFTC /DAC) or one Apparatus case etc. This includes the cost of transportation of release materials to store depot or as decided by consignee in charge. This work to be done by contactors with his own vehicle and labour (Rate to be consider when total gear to be dismantled at a station is more than 10)	30	Per Gear	1027.29	30818.7
60	Provision for Hiring of Vehicle for 24hrs for a period of 12 months.	12	Month	45001.80	540021.6
61	Shifting of Axle counter				
I	Sk30h Double Rail Contact (Tx-Coil) With 8 Meter Integral Cable Eldyne or similar Make Multi Section Digital Axle Counter As Per Rdso Specn.Rdso/Spn/176/2013 Version 3	6	Nos.	72700.00	436200
ii	Sk30h Double Rail Contact (Rx-Coil) With 8 Meter Integral Cable Eldyne or similar Make Multi Section Digital Axle Counter As Per Rdso Specn.Rdso/Spn/176/2013 Version 3	6	Nos.	72700.00	436200
iii	SK 30H Double Rail contact with 5.5 mtr. Tx Coil (Tx1 & Tx2) for Axle counter Eldyne or similar Make	6	Nos.	67300.00	403800
iv	SK 30H Double Rail contact with 5.5 mtr. Rx coil(Rx1 & Rx2) for Axle counter Eldyne or similar Make	6	Nos.	67300.00	403800
V	Analog card (AzLS) for Axle counter Eldyne or similar Make	5	Nos.	75075.00	375375
Vi	Digital card (AzLS) for Axle counter Eldyne or similar Make	5	Nos.	145255.00	726275
Vii	Track side Electronics Unit (EAK-AzLM) for Axle Counter Eldyne or similar make	5	Nos.	289335.38	1446676.9
Viii	Parallel card for multi section digital axle counter (AzLM) Eldyne or similar make	5	Nos.	76551.36	382756.8
Ix	Serial card for multi section digital axle counter (AzLM) Eldyne or similar make	5	Nos.	76551.36	382756.8
X	CPU Card for MSDAC Eldyne or similar make	5	Nos.	395508	1977540
Xi	PDCU card for MSDAC Eldyne or similar make	5	Nos.	26439.68	132198.4
SUB TOTAL (SIGNALLING PART) Including taxes					66806083.5
TELECOM PART					
1	Supply of Underground Railway Jelly Filled Telecom Quad Cable for Railway Signalling and Telecom Installations as aer IRS T C:30/2005 Ver.1 with Amdt -05 Or Latest Size 6 Quad Cable 0.9mm Dia.	9.00	Km.	244850.00	2203650.00
2	Supply of Polythene insulated polythene sheathed jelly filled (PIJF) cable as per RDSO specification IRS:TC-41/97 AMD. 03 or latest 50 pair x 0.63 mm dia	5	Km. .	378780.00	1893900
3	Supply of Underground 20 Pair PIJF Cable 0.5 mm Dia as per Specification No.IRS:TC-41/97 With Amndt No - 03 Or Latest.	2	Kms.	141600.00	283200

6 38/5/13

SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
4	Supply of Heat Shrinkable jointing kit with 2T transformer suitable for 6 quad cable and PIJF cable as per IRS: TC 77/2012 (Rev.3.0) with Amdt.-1,2&3 latest	15.00	Nos	3757.08	56356.2
5	Thermo Shrink Jointing Kit For Jointing Underground PIJF Cable as per RDSO Specn RDSO/SPN/TC/57/2015 (Rev.1) Amdt-1 Or Latest (TSF-2)	4	Nos	1003.00	4012
6	Thermo Shrink Jointing Kit for Jointing Underground PIJF Cable As per RDSO Specn RDSO/SPN/TC/57/2015 (Rev.1) Amdt-1 or Latest (TSF-3)	10	Nos	1398.30	13983
7	Supply of 50 Pair Outdoor Cable Termination Box with Brass Washers having tight locking arrangement	4	Nos.	4867.50	19470
8	Supply of Maintenance Free Earth Electrode of length 3m, including supply of 3 bags of Earth enhancement material for earthing (20KGs /bag) for each electrode & other accessories as per Drg. No. SDO / RDSO/ E&B/001 and RDSO Spec No. RDSO / SPN/197/2008	2	Nos.	9413.33	18826.66
9	Supply of Half Round RCC pipes & collars of 150 mm internal dia (2 meter long) along with collars as per IS No. 458/2003 of NP type	2000	No.	352.07	704140
10	Supply of Double Wall Corrugated (DWC) pipe with associated collars etc. as per specification no. IS 14390 part I & II or latest anti- rodent & anti-oxidant & non-flame propagating type in 6 meters straight length and of size 120 mm outer dia. & 103.55 mm inner dia. (the manufacturer, suppliers must produce valid IS license and should be certified under ISO 9000 and shall submit copy of certificate). The required coupling arrangement should also be supplied as per RDSO/SPN/204/2011 Ver.1.1 or latest. 1) Suitable snapfit coupler with rubber O Ring 2) Spacers 3) Tees 4) Bend 5) End cap	30.00	Nos	1898.53	56955.9
11	Supply of Medium Class G.I. Pipes to IS : 1239 (Pt.I)-2004 or latest ; 100mm dia. (int. dia) 3.65 mm+/- 10% thick with coupling. G.I. pipes shall have ISI mark on it and contractor should submit manufacturer's test certificate of G.I. pipes.	90.00	RM	603.20	54288
12	Installation of Maintenance free Earth Electrode for Maintenance free earth spec of RDSO/SPN/197/2008	2	Nos.	1512.81	3025.62
13	Excavation of cable trench as per cable route plan, 1 Mtr. deep and of 0.3 Mtr. to 0.6 Mtrs wide advised by Engineer-in-charge alongside the track in normal (all type) soil/strata, conforming to distances as per cable route plan and refilling. This work includes clearing of route from bushes etc, covering of cable laid in trench by loose soil for a layer. The work shall be done as per the extant practice on Western Railway and instructions of Railway Engineer at site. In case 1m depth of trench is not achievable due to site conditions, specific approval of JA grade officer will be required for each site where trench depth of 1m is not possible. Without the approval of JA Grade officer, no payment for trenching will be made for trench depth less than 1m.	1500.00	Cum.	289.59	434385
14	Laying of S&T Cables of various cores/ pairs/ quads in trenches/ GI pipes/ RCC pipes/ DWC pipes/ Trunking. This also includes laying of cables in track crossings & road crossings. Item includes provision of labels of coloured plastic adhesive tapes or any other identifiable material on each cable to give the cable number at each G.P.(Cables will be maggered before and after its laying by contractor under supervision of Railway Representative and he will submit the maggering report of each testing). Length of the cable laid includes the length of the cable coiled for termination purposes.	16000.00	RM	9.61	153760
15	Fixing of GI pipes for crossing the culverts, bridges etc. and concreting of ends with brick masonry at both ends as per the instruction of Rly engineer at site.	90.00	RM	206.68	18601.2

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SN	Description of Work	Total Qty	Unit	Basic Rate	Total Amount
16	Jointing of 4 / 6 quad /Signaling cable with Heat Shrinkable straight through Jointing Kit. All the material required for the work are to be arrange by contractor himself at his own cost except Thermo shrinkable Joint Kit . After jointing the cable through test such as insulation test, continuity cable losses etc. to be carried out jointly with Railway Engineer. If any defect or any damage is observed during jointing, the contractor has to redo the joint free of cost.	25.00	Nos	1222.03	30550.75
17	Supply and installation of RCC cable route marker engraved and painted on both side along the route every 50m and route diversion as per Drg. No 4014/00/CC4 or latest/ Stone marker	90.00	Nos.	433.78	39040.2
18	Horizontal direction drilling/boring without damage of surface road using Auger Machine. The bore shall be 150 mm dia & shall be done at the depth of minimum 1200 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. The length of the bore shall be minimum 4 Mtrs long. this include insertion of different dia DWC pipe/ GI pipes coupling etc. as per direction of Engineer In charge.	100.00	Mtr	1247.51	124751.00
19	Laying of half round RCC pipe after laying the cables in the trenches. (Cable laying is covered separately)	4000	Mtrs.	22.83	91320
20	Placing of DWC/RCC/GI pipes along with collars in trenches at places of track and road crossings, platform cuttings etc.	180.00	RM	31.24	5623.2
21	Fixing of all types of Cable Termination box and termination of cable. This include armour earthing also.	4.00	Nos.	293.08	1172.32
22	Supply, Fabrication & Erection of Emergency post assembly complete with 6 Pin Socket Box and its wiring as directed by Engineer In charge. Complete work will be done by contractor with excavation, if required. Emergency plug & socket should be RDSO Spcn. No. IRS/TC/42/87 or latest & each socket should have inbuilt universal lock with key. this includes erection of whole assembly it's foundation by brick, masonry and painting of whole assembly including EC Socket box. Note:- One sample of fabricated post to be got approved from Railway Engineer in charge before bulk supply.	8.00	NO.	2187.49	17499.92
SUB TOTAL (TELECOM PART) Including taxes					62,28,510.97
GRAND TOTAL (SIGNALLING & TELECOM PART) Including taxes					7,30,34,594.5
Awarded Value			24%	Above	9,05,62,897.20

Signature

Signature Not Verified

Digitally signed by Abhinav Kumar

Date: 2020.11.10 20:11:12

GMT+05:30

Location: eProcurement System for Central PSUs