"Unprice bid format" cum "Schedule of quantity and rate"

Name of the work: Signalling & Telecommunication (S&T) Modification Works in Section "Gr 239 Outdoor Works" FOR RAILWAY ELECTRIFICATION PROJECT IN BHANDAI-UDI, BIRLANAGAR-ETAWAH AND SHIKOHABAD-FARRUKHABAD INCLUDING MAINPURI-ETAWAH, SECTION OF AGRA, JHANSI AND ALLAHABAD DIVISIONS OF NORTH CENTRAL RAILWAY UNDER RE PROJECT LUCKNOW, TOTAL RKM 386/440TKM.

Tender ref no.T0AVX00071 dated: 07.12.2022

Item No.	Item Description	UOM	Quantity	Rate in Rs.	Amount in Rs.	Weightage %
1	Supply and installation of Thermo shrinkable jointing kits for Quad cables.	each	12.00			1.2982783%
2	Testing of OFC cable including supply of joint protection and splicing activity.	km	115.00			1.8066381%
3	Testing of Quad cable	km	23.00			0.3613276%
4	Excavation of trench 0.35m width 1.2m deep in all categories of soil such as black cotton / hard soil / murram / soft rock mixed with boulders etc., as per cable route plan. Filling the trench with earth to the level of surrounding ground after laying cables.	km	6.00			15.4547715%
5	Laying of Quad cables	km	0.50			0.0519811%
6	Track crossing by Horizontal boring method as advised by the engineer at site. Confirming to IS 139 heavy class in the Bore drilled with coupler between two pipes All the joints of casing pipes should be tightened leak proof.	metre	190.00			9.5516613%
7	Blowing of armored Optical Fiber Cable into duct by using blowing machine and associated works .Before blowing the duct integrity shall be tested If any defect found during duct integrity test , the entire length of HDPE duct is to be replaced by contractor at free of cost.	km	16.50			4.4987434%
8	Laying and fixing of RCC Pipes(full/split set).	km	0.60			0.4550108%
9	Supply of RCC Pipe [150MM OD] with collars (full/split set).	metre	600.00			4.7674080%
10	Laying and fixing of HDPE Pipes	km	11.60			2.9157686%
11	Fixing of GI Pipes& MS channel on girder bridge, RCC bridges, Drains, Culverts, Rocky places tunnels / deep cutting. (cost of GI pipes , MS channel not included in this item)	metre	24.00			0.0243042%

Item No.	Item Description	UOM	Quantity	Rate in Rs.	Amount in Rs.	Weightage %
12	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	cum	2			0.1695700%
13	Under Ground mouling / boring / drilling via horizontal direction for Trenchless cables laying through canals, rivers, culvers, bridges, RUB's, ROB's, road crossings, along the length of track at difficult locations (where normal trench is not possible) etc.	meter	2600			58.6445371%
	Total amount (Excluding GST)			No need to quote here		100.0000000%
	Bidder to confirm having quoted their price in BHEL NIC portal (https://eprocurebhel.co.in) in the manner described in Note: (a) below, by writing "QUOTED" here					
Note						
a	Bidders should quote only the total amount excluding GST in the specified place in BHEL NIC Portal . They should not fill/quote/write anything in col. of Rates and Amount. These rates & amount will be derived from the Total amount quoted and weightage factor assigned against respective items indicated in weightage . (Bidder to quote the total price in BHEL NIC portal https://eprocurebhel.co.in)					
b	The rate and amount are inclusive of all applicable taxes, except for the GST. For details of taxes, refer chapter-XIII of SCC.					
c	Evaluation Shall be based on total amount quoted by bidder.					

Explanatory Notes:: Gr.239 out door work		
Item No.	**Item Description**	**Explanatory Notes**
1	Supply and installation of Thermo shrinkable jointing kits for Quad cables.	Supply, installation of theromo shrinkable jointing kits including all accessories with contractor's tools and plants as per RDSO Spec. No. IRS. TC77-2012, Rev 3 /Amdt.1 to 3 (or latest RDSO specification) suitable for 6 quad cable. All variety of Quad cable joints like Derivative joints, thermo shrinkable joints, T-junction type thermo shrinkable joint, etc as per Indian Railways practice are part of this item along with the required materials with accessories. (6 quad cable is free supply by BHEL.)
2	Testing of OFC cable including supply of joint protection and splicing activity.	Testing OFC Cable : This work includes carrying out the jointing of the OFC Cable with suitable protection, joint test with railway engineer & BHEL representatives. The work includes submission of OTDR readings etc for OFC cable laid, supply of joint protection, splicing activity are part of contractor. For every 3 kms, "cable jointing chamber" will be installed by BHEL appointed agency.
3	Testing of Quad cable	Testing Quad cable : This work includes carrying out the joint test with railway engineer & BHEL representatives. The work includes submission of measurement of loop resistance, Insulation test, EMC test etc for Quad cable laid. The testing and communication shall be completed in all respect for the total length of the Quad cable including EC socket (Emergency communication), if any. (Thermoshrinkable joint kit, EC socket with post items are covered in a saperate line items)
4	Excavation of trench 0.35m width 1.2m deep in all categories of soil such as black cotton / hard soil / murram / soft rock mixed with boulders etc., as per cable route plan. Filling the trench with earth to the level of surrounding ground after laying cables.	Excavation trench 0.35 M wide 1.2 M deep in all categories of soils such as black cotton/ hard / murram / hardy soft rock. Back filling the trench with earth in layers and compaction as per the direction of Engineer-in-charge to the level of surrounding ground after laying cables. Contractor to coordinate with BHEL appointed agency who provides "cable jointing chamber" at every 3 km, for coiling and jointing purpose. Laying of cable covered in separte item
5	Laying of Quad cables	Laying of quad in the excavated trench/through pipes. This includes loading/unloading & transportation of cables to site from BHEL stores. Wherever several cables are to be laid, separation of cables should be done as advised by site engineer. This includes unwinding of cable drum using proper jigs without causing damage to cable. in case cables are to be laid through pipes, laying is covered in this item and supply of pipe shall be covered in separate item.
6	Track crossing by Horizontal boring method as advised by the engineer at site. Confirming to IS 139 heavy class in the Bore drilled with coupler between two pipes All the joints of casing pipes should be tightened leak proof.	Track crossing by Horizontal Directional Drilling (HDD) boring method and as advised by the engineer at site. This includes supply and insertion /pushing of suitable HDPE / GI pipe of suitable dia (of 100mm to 200mm) as per RDSO guidelines and Engineer-in-charge. confirming to relavent IS/RDSO standards heavy class in the Bore drilled with coupler between two pipes .All the joints of casing pipes should be tightened leak proof. (6 Quad cable, HDPE duct suitable for OFC Blowing are part of BHEL supply).
7	Blowing of armored Optical Fiber Cable into duct by using blowing machine and associated works .Before blowing the duct integrity shall be tested If any defect found during duct integrity test , the entire length of HDPE duct is to be replaced by contractor at free of cost.	Blowing of armoured Optical Fiber Cable into duct by using blowing machine and associated works. Before blowing the duct integrity shall be tested on liad HDPE Duct. If any defect shall be found during duct integrity test, the defective length of HDPE duct is to be replaced by Contractor at free of cost. This includes loading/unloading & transportation of cables to site from BHEL stores. (HDPE Duct with accessories are free issue by BHEL).
8	Laying and fixing of RCC Pipes(full/split set).	Laying and fixing/joining of RCC pipe of class NP2 (cross section may be either single circular section or set of two semi circular spllit setion as per the site requirement) in already made trench with all accessories at TSS/SP/SSP locations etc. (Cost of pipe, collar are covered in separate item).
9	Supply of RCC Pipe [150MM OD] with collars (full/split set).	Supply of RCC pipes 150mm dia of class NP2 (cross section may be either single circular section or set of two semi circular spllit setion as per the site requirement) as per Specn. No. IS/458/1971 or latest amendments if any along with required collars/joining accessories, T-joints etc. for use near OHE Substation etc for cable protection.
10	Laying and fixing of HDPE Pipes	Laying and fixing of HDPE pipe / duct with all accessories in already made trench as per the RDSO standards and direction of Engineer-in-charge. This includes loading/unloading & transportation of cables to site from BHEL stores. (HDPE Pipe/duct along with accessories shall be supplied by BHEL)
11	Fixing of GI Pipes& MS channel on girder bridge, RCC bridges, Drains, Culverts, Rocky places tunnels / deep cutting. (cost of GI pipes , MS channel not included in this item)	Fixing ofGI Sheet for cables on girder bridges, RCC bridges, drains, culverts, rocky places tunnels/deep cutting or at places as advised by the engineer in charge of the workas per drg RDSO/ TCDO/ COP-12, RDSO/ TCDO/ COP-13, RDSO/ TCDO/ COP-14. This include supply of MS clamp & hardware items The GI pipes are to be fixed on the bridges by suitable bridge fixtures or MS clamps as per approved drawing and directives of Railway Engineers. (cost of GI pipe/ GI Sheets and MS channel are covered in separate items.)
12	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	work shall be done as per DSR item 4.1.3

Item No.	Item Description	Explanatory Notes
13	Under Ground mouling / boring / drilling via horizontal direction for Trenchless cables laying through canals, rivers, culvers, bridges, RUB's, ROB's, road crossings, along the length of track at difficult locations (where normal trench is not possible) etc.	Explanatory Notes for item no. NSHD-1: Work Includes: a) Drilling of bore path at a depth of min. one mtr & max. three meters from the normal ground level / Rail flange / Road level / Bottom of water level in canals / rivers / etc., b) Contractor shall supply HDPE/DWC Pipe of size 120mmOD / 103 mm ID min. (or) Suitable size as per requirement, along with suitable couplers for jointing. Complete length from one end to other end between locations to form as a casing with tightened and leak proof. c) Following material will be free issued to Contractor by BHEL for laying the same through tightened and leak proof HDPE / DWC pipe: 1. Six Quad Cable, 2. HDPE Duct of size 40MM OD along with accessories, 3. 24 Fiber Optical Cable (Shall be blown through above sl no.(2) HDPE Duct.) d) Laying and jointing of the HDPE duct (40MM OD) through underground boring, make joints with accessories (couplers) and conduct DIT (Duct Integrity Test) from one end to other end. e) Laying of the six quad cable and joining with suitable thermo-shrinkable joint kits. f) Blowing of the OFC cable through HDPE (40MM duct) and joining and verification of signal strength through OTDR to match Railway specified limits. Contactor scope of supply item of HDPE/DWC Pipe of size 120mmOD / 103 mm ID min. (or) Suitable size shall be procured from the Indian Railway approved vendors and inspection shall be carried out from RDSO inspectors. The whole activity shall be required to order in a lump-sum with measuring units in Meters. The necessary manpower, machinery, tools and tackles etc., are part of contractor scope of execution