

## SCHEDULE-B: CONVERSION OF OVERHEAD TO UNDERGROUND

**“Site survey including underground utility verification using (GPR & EPL), Engineering, Procurement, Supply, Loading, Transportation, Unloading, Insurance, Delivery at Site, Handling, Storage, Installation, Testing, Commissioning Including Documentation of All Items/Material required to complete works for Turnkey Based Contract For Conversion of Existing LT Line Network Including Consumer Service Lines Into Under Ground Cable Network using FSP/MSP & Ring Main System at Dakor Sub Division Under Nadiasd Rural Division Nadiad Circle under MGCVCL with GIS Mapping / Geo Urja Mapping (Developed by GUVNL) and Asset Tagging under Gujarat Wire Free City Mission ”.**

Sr No	Particulars of Item	Unit	SUPPLY PORTION			ERECTION PORTION		
			Quantity	Unit Rate in Rs	Total in Rs	Quantity	Unit Rate in Rs	Total in Rs
1	LT NETWORK(LT XLPE Cable Supply of XLPE (IS:7098) (I) -88 ISI marked Armoured cable multistrand aluminium conductor for 1.1 KV of following Size of Cable)							
A	1C X 400 Sqmm LT Cable (TC TO FSP)	Meter	0	851.7	0			0
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Meter	7135	670.95	4787228.25			0
C	3.5 CX 400 mm2 Aluminium	Meter	0	2097	0			0
D	3.5 CX 300 mm2 Aluminium	Meter	500	1886.85	943425			0
E	3.5 CX 240 mm2 Aluminium	Meter	46218	1524.6	70463962.8			0
F	3.5 C X 185 mm2 Aluminium	Meter	1405	1206.45	1695062.25			0
G	3.5 C X 150 mm2 Aluminium	Meter	19439	978.6	19023005.4			0
H	3.5 C X 120 mm2 Aluminium	Meter	5504	827.4	4554009.6			0
I	3.5 C X 95 mm2 Aluminium	Meter	2066	641.55	1325442.3			0
J	3.5 C X 70 mm2 Aluminium	Meter	570	478.8	272916			0
K	3.5 C X 50 mm2 Aluminium	Meter	750	367.5	275625			0
L	4 C X 25 mm2 Aluminium	Meter	3110	228.9	711879			0
M	4 C X 16 mm2 Aluminium	Meter	8015	161.7	1296025.5			0
N	4 C X 10 mm2 Aluminium	Meter	1185	124.95	148065.75			0
O	4 C X 6 mm2 Aluminium	Meter	251383	99.75	25075454.25			0
P	2 Core, 4 Sq.mm	Meter		69	0			0

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2	<b>LT Cable Termination:</b> Supply of Cable Termination on LT Pole, FSP, LT Distribution Trasformer Box of pole mounted trasformer of LT cable grade as pecified below. LT CABLE including cutting,stripping of cable,insulations,providing compression type terminals,suitable cable glands,crimping lugs with necessary connections.Work carried out up to consumer premises with meter shifting, and provide load side cable as per site conditions and as per EIC. All the accessories in the scope of biddier.							
A	1C X 400 Sqmm LT Cable (TC TO FSP)	Nos	0	1245	0	0	45	0
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Nos	680	1245	846600	680	45	30600
C	3.5 CX 400 mm2 Aluminium (FSP TO MSP)	Nos	0	1245	0	0	45	0
D	3.5 CX 300 mm2 Aluminium (FSP TO MSP)	Nos	40	1245	49800	40	45	1800
E	3.5 CX 240 mm2 Aluminium (FSP TO MSP)	Nos	1426	1245	1775370	1426	45	64170
F	3.5 C X 185 mm2 Aluminium (FSP TO MSP)	Nos	100	940	94000	100	45	4500
G	3.5 C X 150 mm2 Aluminium	Nos	1364	940	1282160	1364	45	61380
H	3.5 C X 120 mm2 Aluminium	Nos	400	889	355600	400	45	18000
I	3.5 C X 95 mm2 Aluminium	Nos	150	889	133350	150	45	6750
J	3.5 C X 70 mm2 Aluminium	Nos	60	889	53340	60	45	2700
K	3.5 C X 50 mm2 Aluminium	Nos	80	889	71120	80	45	3600
L	4 C X 25 mm2 Aluminium	Nos	290	804	233160	290	45	13050
M	4 C X 16 mm2 Aluminium	Nos	700	788	551600	700	25	17500
N	4 C X 10 mm2 Aluminium	Nos	150	788	118200	150	25	3750
O	4 C X 6 mm2 Aluminium	Nos	17206	679	11682874	17206	25	430150
P	2 Core, 4 Sq.mm	Nos	0	679	0	0	25	0

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3	<b><u>FSP (FUSE SECTION PILLER): 4 Way</u></b> Supplying and erecting 120x100x40 cms. Fuse section pillar fabricated from 4 mm Thermosetting Plastic ( moulded in a single piece ) i.e Glass Reinforced Polyester sheet Moulding Compound (SMC ) or metal body(As per Specification and drawings) with cable clamps to be burried in ground to have appropriate erection on look unifrom unit erected with cement concrete foundation and <u>45 cms high brick masonry internal supported</u> on both side with intrnal and outer side locking arrangement with lock and keys in duplicate .Incoming switchgear SFU of 800A TPN and outgoing HRC SMC fuse base and knife type links 32 Amp to 630 Amp capacity fuse base fitted on 630 Amp current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incomming up to 1 core 300/400 sq mm 4 nos and outgoing 3 nos. 31/2 core cables of suitable sizes. (As per Technical specification of FSP ) (Erection shall be carried out as per approved drawing and site condition)							
A	800 Amp	Nos	0	101860	0	0	3233	0
B	630 Amp	Nos	1	76566	76566	1	3233	3233
C	400 Amp	Nos	119	67213	7998347	119	3233	384727
4	<b><u>FSP (FUSE SECTION PILLER): 6 Way</u></b> Supplying and erecting 120x100x40 cms.Fuse section pillar fabricated from 4 mm Thermosetting Plastic ( moulded in a single piece ) i.e Glass Reinforced Polyester sheet Moulding Compound (SMC ) or metal body(As per Specification and drawings) with cable clamps to be burried in ground to have appropriate erection on look unifrom unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with intrnal and outer side locking arrangement with lock and keys in duplicate .Incoming switchgear SFU of Suitable TPN and outgoing HRC SMC fuse base and knife type links 32 Amp to 630 Amp capacity fuse base fitted on 630 Amp current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incomming 1 core 300/400 sq mm 4 nos and outgoing 5 nos. 31/2 core cables of suitable sizes. (As per Technical specification of FSP ) (Erection shall be carried out as per approved drawing and site condition)(SFU Amp Capcity is as under)							
A	800 Amp	Nos.	0	124269	0	0	3233	0
B	630 Amp	Nos.	16	114850	1837600	16	3233	51728
C	400 Amp	Nos.	16	100820	1613120	16	3233	51728
5	<b><u>MSP(Mini Section Piller) : 4 Way</u></b> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) or Metal Body Type Enclouser(As per Specification) with cable clamps to be burried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 3 nos. 3.5 core cables of suitable sizes.( As per Technical specification of MSP)							
A	400 Amp	Nos.	0	28411	0	0	3233	0

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B	250 Amp	Nos.	420	13225	5554500	420	3233	1357860
C	125 Amp	Nos.	0	10925	0	0	3233	0
6	<b><u>MSP(Mini Section Pillar) : 6 Way</u></b> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) or Metal Body Type Encloser(As per Specification) with cable clamps to be buried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 5 nos. 3.5 core cables of suitable sizes.( As per Technical specification of MSP)							
A	400 Amp	Nos.	0	42616	0	0	3233	0
B	250 Amp	Nos.	72	19838	1428336	72	3233	232776
C	125 Amp	Nos	0	16388	0	0	3233	0
7	<b><u>MSP(Mini Section Pillar) : 8 Way</u></b> Supplying and erecting 120x100x40 cms. Mini section pillar fabricated from 4 mm thick Thermosetting Plastic(moulded in a single piece) i.e. Glass Reinforced Polyester Sheet Moulding Compound (SMC) with cable clamps to be buried in ground to have appropriate erection on look uniform unit erected with cement concrete foundation and 45 cms high brick masonry internal supported on both side with internal and outer side locking arrangement with lock and keys in duplicate. Incoming HRC SMC fuse base and kinfe type links 32 Amp to 250 Amp. capacity, fuse base fitted on 250 Amp. current capacity copper Busbar with RYB colour coding and insulated strip with all internal connections and entry for incoming up to 3.5 Core 300 Sq.mm 1 Nos. and outgoing 7 nos. 3.5 core cables of suitable sizes.( As per Technical specification of MSP)							
A	400 Amp	Nos	0	18400	0	0	3233	0
B	250 Amp	Nos	174	14950	2601300	174	3233	562542
C	125 Amp	Nos	0	12650	0	0	3233	0
8	<b>SFU</b>							
A	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC Box and capacity of 125 A, Mostaly used in flat/Socity area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA- Minimum 16 Nos. of CKT	Nos	87	12087	1051569	87	1150	100050

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B	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC box and capacity of 200 A, Mostaly used in flat/Society area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA - Minimum 16 Nos. Of Circuit	Nos	719	18400	13229600	719	1150	826850
C	Supply, Instalation, Testing, Commissioning switch fuse unit made by SMC box and capacity of 400 A, Mostaly used in flat area. Installation worked caried out with instruction of EIC. And as per the drawing approved by CA- Minimum 16 Nos. Of Circuit	Nos	3	20700	62100	3	1323	3969
9	<b>EARTHING</b>							
A	<b>EARTHING ELECTRODS:</b> Supplying & erecting of maintained free earthing system comprising of Minimum 17 mm dia 3 mtr Long Earthing Electrode of low carbon steel electrode with 250 microns copper coating + carbon based conductive concrete back fill safe Compound(resistivity of less than 0.10 ohm mtr) & copper clamp. (FSP)	Nos	304	6500	1976000	304	1000	304000
B	<b>EARTHING ELECTRODS:</b> Supplying & erecting of maintained free earthing system comprising of Minimum 17 mm dia 2 mtr Long Earthing Electrode of low carbon steel electrode with 250 microns copper coating + carbon based conductive concrete back fill safe compound(resistivity of less than 0.10 ohm mtr) & copper clamp.(MSP+SFU)	Nos	2950	5500	16225000	2950	1000	2950000
C	<b>EARTHING STRIP:</b> Supply installation & commissioning of earthing conductor 25 x 3mm G.I. strip for pole mounted transformer and up to FSP,RMU as well as connection to be made to the earth pit. Rates inclusive of hot dipped hard wares.	Mtr	32540	91	2961140	32540	52	1692080
10	<b>PRE BONDING TAP:</b> For laying on trench after laying cable on trench to provide indication cable route below land surface in underground trench to protect cable for mechanical injuries.LDPE Material having 250 mm Width (Yellow Color is preferable)	Mtr	170073	14	2381022	170073	7	1190511
11	<b>CABLE TAG:</b> The PVC tag for identification of feeder/PSS/FSP/RMU name of HT/LT cables shall be provided at every 10 MTR LT Feeder : PSS/Transformer/FSP/MSP/SFU	Nos	6075	20	121500	6075	7	42525
12	<b>CABLE ROUTE MARKER:</b> Providing and erecting RCC cable route marker as per drawing duly marked with "DANGER" mark, "discom POWER CABLE" and arrow of route of cable.	Nos	679	300	203700	679	100	67900
13	<b>CABLE TERMINAL FERRULS:</b> The PVC Cable terminal ferruls for identification of phase sequence and feeder/PSS/FSP name of HT/LT cables shall be provided at every termination of all cables stating detail as under. HT Cable :Feeder name/Phase(R/Y/B) LT Cable : TC/FSP name/Phase(R/Y/B/N)	Nos	6075	24	145800	6075	8	48600

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14	LAYING WORK							
A	Supply of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 110/100mm or appropriate pipe size of cable and minimum thickness 5mm at a minimum depth 1200mm below the road surface by <b>PUSH through method</b> by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications. <b>(For LT XLPE Cable above 3.5C/4C* 185 SQMM )</b>	Mtr	24061.5	361	8686201.5	24061.5	495	11910442.5
B	Supply & Laying of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 90mm or appropriate pipe size of cable with laying of various size of LT XLPE <b>(3.5 Core 95 sq. mm to 3.5 core 150 Sq.mm)</b> PUSH through method by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications (Single/Double/Bunched)	Mtr	13504.5	224	3025008	13504.5	495	6684727.5
C	Supply & Laying of HDPE/DWC pipe confirming to IS 4984:1955 having diameter 50/63 mm with laying of various size of LT XLPE <b>(2C 45Qmm to and upto 3.5/4 core 70 Sq.mm)</b> PUSH through method by drilling the road with HDD machine/manually without breaking the road surface and with laying of any size of LT XLPE insulated aluminium armoured cable through the duct as per the instruction of EIC and specifications insulated Aluminium armoured Cable (Single/Double/Bunched)	Mtr	132506.5	76	10070494	132506.5	495	65590717.5
D	Laying (including installation, testing and commissioning) of various size of LT XLPE insulated Aluminium armoured Cable in ground 1200mm deep, 300mm wide trench, providing sand cushioning below (75mm thick layer of sand) and above (75mm thick layer of sand) of the cable and covering it with RCC half round hum pipe (150mm inner dia with thickness of 30mm, 1meter in legnth) before refilling pre warning tap/bonding tap should provide below 700mm from ground level and back filling the same to make the ground level as original. As per specification and drawing of MGVCL. (RCC half round hum pipe should be provided throughout on cable without gap).	Mtr	0	0	0	170072.5	531.3	90359519.25
15	Providing, supplying, laying, fixing and commissioning of Green color Hose Pipe for LT armored service cable protection/saddling work in consumer premises where digging is not possible up to energy meter location, including all accessories such as saddles, clamps, clips, bends, fastening materials etc. complete in all respect as per technical specification.(Saddling with wall and etc, for this work GI type saddle and nail shall be used)							
A	Hose Pipe of Size 40mm/32mm	Mtr	12460	118.64	1478305.085	12460	17.80	221745.7627
B	Hose Pipe of Size 77mm/63mm	Mtr	1780	364.41	648644.0678	1780	17.80	31677.9661
C	Hose Pipe of Size 90mm/75mm	Mtr	1780	406.78	724067.7966	1780	17.80	31677.9661
D	Green color Hose Pipe of Size 120mm/103.5 mm	Mtr	1780	805.08	1433050.847	1780	17.80	31677.9661

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16	DRAWING: Preparing complete drawing of entire network as well as individual feeder map showing joints also in AutoCad and providing the same to MGCVCL in AutoCad copy as ell as pdf copy and hard copy in six sets. The drawing should be geographical indicating all directions	Per KM			0	77	1000	77000
17	Paint Pointed Letter 2 inchsize (Markingon FSP,MSP,SFU Etc Inany palce). As per directive of Engineer Incharge) with supply of color	Ea			0	24405	5.175	126295.875
18	<b>DISMENTAL</b>							
A	Dismantalling PSC Pole 8 Mtr with cross arm,insulators,hardwares etc.and return it to MGCVCL store.While dismantalling utmost care shall be taken so that the material so that the same can be reused by MGCVCL.	Nos				2131	562	1197622
B	Dismantalling PSC 10 Mtr/Rail/RSJ pole with cross arm,insulators,hardwares etc.and return it to MGCVCL store.While dismantalling utmost care shall be taken so that the material so that the same can be reused by MGCVCL.	Nos				0	1131	0
C	Dismantalling of existing HT/LT line of 34SQMM to 55SQMM conductor and after making coil and stacking the same at MGCVCL store.Conductor has to dismantal from shackle to shackle pole with minimum nos of cut piese as per instruction of EIC	Per Cond/KM				50	715	35750
D	Dismant of of single phase AB Cable(3.5 core) including fittings of All Accessories and stacking the same at MGCVCL store.Cable has to dismantal from shackle to shackle pole with minimum nos of cut piese as per instruction of EIC	KM				26	8089	210314
E	Dismant of of single phase AB Cable(LT 1P2W) including fittings of All Accessories and stacking the same at MGCVCL store.Cable has to dismantal from shackle to shackle pole with minimum nos of cut piese as per instruction of EIC	KM				0	3235	0
19	<b>COMPREHENSIVE MAINTENANCE WORK FOR LT UNDERGROUND NETWORK AFTER SUCESSFUL COMPLETION OF PROJECT, For Five years after completion of project,For further detail bidder advice to Read the chapter in STANDARD BIDDING DOCUMENT</b>							
A	Locating Underground Cable Fault of Underground Cable including digging,pin pointing with cable route tracker by using cable fault location equipment like cable fault Van/Vehicle with supportive meters and accessories & doing high pressure testing of cable for checking healthiness of cable with suitable equipment after jointing of the faulty cable (excluding jointing kit) backfilling, and submission of fault location with report of showing distance from main source approx.. Including required manpower.	Per Job				2500	6780	16950000
B	Supply of unskilled/skilled man power to perform day to day activity of maintenance work of LT Under ground Network and all Associated activity etc.These man power deployment meant for activities other than above 19 (A)	MND				16425	650	10676250
	<b>Amount in Rupees (without GST)</b>		233352246			214664447		

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	GST @ 18%		42003404			38639601			
	TOTAL Amount (WITH GST)		275355651			253304048			
	GRAND TOTAL (WITH GST)						528659699		
	TOTAL COST IN CR						52.87 Crore		