

## 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 Sama Sub Division Under Vishwamitri West Division Baroda City under MGVL 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	32100	851.7	27339570			0
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Meter	0	670.95	0			0
C	3.5 CX 400 mm2 Aluminium	Meter	1500	2097	3145500			0
D	3.5 CX 300 mm2 Aluminium	Meter	2200	1886.85	4151070			0
E	3.5 CX 240 mm2 Aluminium	Meter	174396	1524.6	265884141.6			0
F	3.5 C X 185 mm2 Aluminium	Meter	3000	1206.45	3619350			0
G	3.5 C X 150 mm2 Aluminium	Meter	171498	978.6	167827942.8			0
H	3.5 C X 120 mm2 Aluminium	Meter	55	827.4	45507			0
I	3.5 C X 95 mm2 Aluminium	Meter	290	641.55	186049.5			0
J	3.5 C X 70 mm2 Aluminium	Meter	1020	478.8	488376			0
K	3.5 C X 50 mm2 Aluminium	Meter	1440	367.5	529200			0
L	4 C X 25 mm2 Aluminium	Meter	11700	228.9	2678130			0
M	4 C X 16 mm2 Aluminium	Meter	748865	161.7	121091470.5			0
N	4 C X 10 mm2 Aluminium	Meter	0	124.95	0			0
O	4 C X 6 mm2 Aluminium	Meter	0	99.75	0			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	3210	1245	3996450	3210	45	144450
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Nos	0	1245	0	0	45	0
C	3.5 CX 400 mm2 Aluminium (FSP TO MSP)	Nos	100	1245	124500	100	45	4500
D	3.5 CX 300 mm2 Aluminium (FSP TO MSP)	Nos	250	1245	311250	250	45	11250
E	3.5 CX 240 mm2 Aluminium (FSP TO MSP)	Nos	3761	1245	4682445	3761	45	169245
F	3.5 C X 185 mm2 Aluminium (FSP TO MSP)	Nos	350	940	329000	350	45	15750
G	3.5 C X 150 mm2 Aluminium	Nos	8896	940	8362240	8896	45	400320
H	3.5 C X 120 mm2 Aluminium	Nos	1	889	889	1	45	45
I	3.5 C X 95 mm2 Aluminium	Nos	5	889	4445	5	45	225
J	3.5 C X 70 mm2 Aluminium	Nos	35	889	31115	35	45	1575
K	3.5 C X 50 mm2 Aluminium	Nos	53	889	47117	53	45	2385
L	4 C X 25 mm2 Aluminium	Nos	452	804	363408	452	45	20340
M	4 C X 16 mm2 Aluminium	Nos	25973	788	20466724	25973	25	649325
N	4 C X 10 mm2 Aluminium	Nos	0	788	0	0	25	0
O	4 C X 6 mm2 Aluminium	Nos	0	679	0	0	25	0
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	27	76566	2067282	27	3233	87291
C	400 Amp	Nos	0	67213	0	0	3233	0
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.	8	124269	994152	8	3233	25864
B	630 Amp	Nos.	266	114850	30550100	266	3233	859978
C	400 Amp	Nos.	20	100820	2016400	20	3233	64660
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.	30	28411	852330	30	3233	96990

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B	250 Amp	Nos.	30	13225	396750	30	3233	96990
C	125 Amp	Nos.	30	10925	327750	30	3233	96990
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.	19	42616	809704	19	3233	61427
B	250 Amp	Nos.	20	19838	396760	20	3233	64660
C	125 Amp	Nos	20	16388	327760	20	3233	64660
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	776	18400	14278400	776	3233	2508808
B	250 Amp	Nos	0	14950	0	0	3233	0
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	200	12087	2417400	200	1150	230000

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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	200	18400	3680000	200	1150	230000
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	2676	20700	55393200	2676	1323	3540348
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	642	6500	4173000	642	1000	642000
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	8002	5500	44011000	8002	1000	8002000
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	86440	91	7866040	86440	52	4494880
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	557982	14	7811748	557982	7	3905874
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	22342	20	446840	22342	7	156394
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	2219	300	665700	2219	100	221900
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	22342	24	536208	22342	8	178736

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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	90548	361	32687828	90548	495	44821260
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	85921.5	224	19246416	85921.5	495	42531142.5
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	381512.5	76	28994950	381512.5	495	188848687.5
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 MGVCCL. (RCC half round hum pipe should be provided throughout on cable without gap).	Mtr	0	0	0	557982	531.3	296455836.6
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	37800	118.64	4484745.763	37800	17.80	672711.8644
B	Hose Pipe of Size 77mm/63mm	Mtr	5400	364.41	1967796.61	5400	17.80	96101.69492
C	Hose Pipe of Size 90mm/75mm	Mtr	5400	406.78	2196610.169	5400	17.80	96101.69492
D	Green color Hose Pipe of Size 120mm/103.5 mm	Mtr	5400	805.08	4347457.627	5400	17.80	96101.69492

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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 well as pdf copy and hard copy in six sets. The drawing should be geographical indicating all directions	Per KM			0	111	1000	111000
17	Paint Pointed Letter 2 inchsize (Marking on FSP,MSP,SFU Etc In any place). As per directive of Engineer Incharge) with supply of color	Ea			0	64830	5.175	335495.25
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				0	562	0
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 piece as per instruction of EIC	Per Cond/KM				410.356	715	293404.54
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 piece as per instruction of EIC	KM				8.14	8089	65844.46
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 piece as per instruction of EIC	KM				0	3235	0
19	<b>COMPREHENSIVE MAINTENANCE WORK FOR LT UNDERGROUND NETWORK AFTER SUCCESSFUL 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>		909650219			629099798		

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	GST @ 18%		163737039			113237964		
	TOTAL Amount (WITH GST)		1073387258			742337761		
	GRAND TOTAL (WITH GST)					1815725019		
	TOTAL COST IN CR					181.57 Crore		