

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 Gotri Sub Division Under Vishwamitri West Division Baroda City and anywhere in vadodara district under MGVCCL 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	30000	851.7	25551000			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	0	2097	0			0
D	3.5 CX 300 mm2 Aluminium	Meter	2500	1886.85	4717125			0
E	3.5 CX 240 mm2 Aluminium	Meter	200317	1524.6	305403298.2			0
F	3.5 C X 185 mm2 Aluminium	Meter	2000	1206.45	2412900			0
G	3.5 C X 150 mm2 Aluminium	Meter	200939	978.6	196638905.4			0
H	3.5 C X 120 mm2 Aluminium	Meter	540	827.4	446796			0
I	3.5 C X 95 mm2 Aluminium	Meter	660	641.55	423423			0
J	3.5 C X 70 mm2 Aluminium	Meter	2190	478.8	1048572			0
K	3.5 C X 50 mm2 Aluminium	Meter	4680	367.5	1719900			0
L	4 C X 25 mm2 Aluminium	Meter	26520	228.9	6070428			0
M	4 C X 16 mm2 Aluminium	Meter	943740	161.7	152602758			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	LT Cable Termination: 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	3694	1245	4599030	3694	45	166230
B	1C X 300 Sqmm LT Cable (TC TO FSP)	Nos	320	1245	398400	320	45	14400
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	350	1245	435750	350	45	15750
E	3.5 CX 240 mm2 Aluminium (FSP TO MSP)	Nos	4100	1245	5104500	4100	45	184500
F	3.5 C X 185 mm2 Aluminium (FSP TO MSP)	Nos	200	940	188000	200	45	9000
G	3.5 C X 150 mm2 Aluminium	Nos	10918	940	10262920	10918	45	491310
H	3.5 C X 120 mm2 Aluminium	Nos	18	889	16002	18	45	810
I	3.5 C X 95 mm2 Aluminium	Nos	22	889	19558	22	45	990
J	3.5 C X 70 mm2 Aluminium	Nos	73	889	64897	73	45	3285
K	3.5 C X 50 mm2 Aluminium	Nos	159	889	141351	159	45	7155
L	4 C X 25 mm2 Aluminium	Nos	885	804	711540	885	45	39825
M	4 C X 16 mm2 Aluminium	Nos	31527	788	24843276	31527	25	788175
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	<u>FSP (FUSE SECTION PILLER): 4 Way</u> 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	34	76566	2603244	34	3233	109922
C	400 Amp	Nos	0	67213	0	0	3233	0
4	<u>FSP (FUSE SECTION PILLER): 6 Way</u> 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.	12	124269	1491228	12	3233	38796
B	630 Amp	Nos.	334	114850	38359900	334	3233	1079822
C	400 Amp	Nos.	20	100820	2016400	20	3233	64660
5	<u>MSP(Mini Section Piller) : 4 Way</u> 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.	1	28411	28411	1	3233	3233

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B	250 Amp	Nos.	0	13225	0	0	3233	0
C	125 Amp	Nos.	0	10925	0	0	3233	0
6	<u>MSP(Mini Section Pillar) : 6 Way</u> 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.	46	42616	1960336	46	3233	148718
B	250 Amp	Nos.	50	19838	991900	50	3233	161650
C	125 Amp	Nos	50	16388	819400	50	3233	161650
7	<u>MSP(Mini Section Pillar) : 8 Way</u> 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	994	18400	18289600	994	3233	3213602
B	250 Amp	Nos	0	14950	0	0	3233	0
C	125 Amp	Nos	0	12650	0	0	3233	0
8	SFU							
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	3389	20700	70152300	3389	1323	4483647
9	EARTHING							
A	EARTHING ELECTRODS: 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	800	6500	5200000	800	1000	800000
B	EARTHING ELECTRODS: 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	9860	5500	54230000	9860	1000	9860000
C	EARTHING STRIP: 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	106600	91	9700600	106600	52	5543200
10	PRE BONDING TAP: 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	692043	14	9688602	692043	7	4844301
11	CABLE TAG: 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	36887	20	737740	36887	7	258209
12	CABLE ROUTE MARKER: 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	2773	300	831900	2773	100	277300
13	CABLE TERMINAL FERRULS: 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	36887	24	885288	36887	8	295096

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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 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. (For LT XLPE Cable above 3.5C/4C* 185 SQMM)	Mtr	102408.5	361	36969468.5	102408.5	495	50692207.5
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 (3.5 Core 95 sq. mm to 3.5 core 150 Sq.mm) 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	101069.5	224	22639568	101069.5	495	50029402.5
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 (2C 45Qmm to and upto 3.5/4 core 70 Sq.mm) 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	488565	76	37130940	488565	495	241839675
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	692043	531.3	367682445.9
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	47600	118.64	5647457.627	47600	17.80	847118.6441
B	Hose Pipe of Size 77mm/63mm	Mtr	6800	364.41	2477966.102	6800	17.80	121016.9492
C	Hose Pipe of Size 90mm/75mm	Mtr	6800	406.78	2766101.695	6800	17.80	121016.9492
D	Green color Hose Pipe of Size 120mm/103.5 mm	Mtr	6800	805.08	5474576.271	6800	17.80	121016.9492

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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	142	1000	142000
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	79950	5.175	413741.25
18	DISMENTAL							
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 piese as per instruction of EIC	Per Cond/KM				307.44	715	219819.6
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				52.05	8089	421032.45
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	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							
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
	Amount in Rupees (without GST)		1081010657			773801980		

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	GST @ 18%		194581918			139284356			
	TOTAL Amount (WITH GST)		1275592575			913086336			
	GRAND TOTAL (WITH GST)						2188678911		
	TOTAL COST IN CR						218.87 Crore		