12	Operating Temperature - *-5 to 40° C (23 to 104° F)*	
13	Operating Humidity - *5 to 95% Noncondensing*	
14	ESD/EMP Protection - *Air: ±24 kV, Contact: ±24 kV*	
15	Mounting - *Rackmount*	
16	Shocks and vibration - *Must conform with ETSI300-019-1.4 Standard*	
17	Certifications - *CE, FCC, IC*	
18	Software Management - *The switch must have a wireless network management software solution that allows to manage multiple wireless networks using a web browser.*	
19	Brand/Standard - *The technology or brand must either be American or European for a more Global Standard compliance.*	
20	Local Support - *The brand must have local 2nd level support via its distributor that is compliant with global standard like ISO or Duns and Bradstreet to maintain a quality-of-service (QOS) delivery.*	
	48-Port PoE Switch + 4 SFP Ports (1 Unit)	
1	Network Interface - *Proposed switch must have (48) 10/100/1000 Mbps RJ45 Ethernet Ports (2) 1/10 Gbps SFP+ Ethernet Ports (2) 1 Gbps SFP Ethernet Ports*	
2	Management Interface - *(1) RJ45 Serial Port Out-of-Band, Ethernet In-Band*	
3	Non-Blocking Throughput - *Must at least provide 70 Gbps*	
4	Switching Capacity - *Must at least provide 140 Gbps*	
5	Forwarding Rate - *Must at least provide 104.16 Mbps*	
6	Maximum Power Consumption - *The network switch must have a maximum power of 64W excluding PoE output; 500 W including PoE output*	
7	PoE Interfaces - *PoE+ IEEE 802.3af/at (Pins 1, 2+; 3, 6-), 24VDC Passive PoE (Pins 4, 5+; 7, 8-)*	
8	Max. PoE Wattage - *At least 34.2 W per port*	
9	Max. Passive PoE - *At least 17W per port*	
10	24V Passive PoE Voltage Range - *Must have at least 20-27V*	
11	Voltage Range 802.3at Mode - *Must have at least 50-57V*	
12	Power Supply - *AC/DC, Internal, 500W DC*	
13	Operating Temperature - *-5 to 40° C (23 to 104° F)*	
14	Operating Humidity - *5 to 95% Noncondensing*	
15	ESD/EMP Protection - *Air: ±24 kV, Contact: ±24 kV*	
16	Mounting - *Rackmount*	
17	Shocks and vibration - *Must conform with ETSI300-019-1.4 Standard*	

18	Certifications - *CE, FCC, IC*			
19	Brand/Standard - *The technology or brand must either be American or European for a more Global Standard compliance.*			
20	Local Support - *The brand must have local 2nd level support via its distributor that is compliant with global standard like ISO or Duns and Bradstreet to maintain a quality-of-service (QOS) delivery.*			
	SFP Transceiver (32 units)			
1	Supported Media - *Single-Mode Fiber*			
2	Connector Type - *(1) LC*			
3	TX Wavelength - *Blue: 1310nm; Yellow: 1550nm*			
4	RX Wavelength - *Blue: 1550nm; Yellow: 1310nm*			
5	Data Rate - *1.25 Gbps SFP*			
6	Max. Power Consumption - *0.66 W*			
7	Cable Distance - *3km*			
8	Operating Temperature - *0° to 70°C (32° to 158°F)*			
	Certification and Other Documents			
1	*Provide original letter from the cabling system manufacturer for the commitment support to its partner.*			
2	*Submit original letter from the cabling system manufacturer stating end-to-end manufacturing of structured cabling system – copper and fiber optic cables and their accessories one manufacturer only.*			
3	*Cabling system manufacturer plant shall be ISO 9001:2015.*			
4	*Provide original letter of warranty support from the cabling system manufacturer stating that the bidder is an authorized business partner and certified installer of that cabling system manufacturer. Submit copy of training certification of the bidder's engineers.*			
	Fiber Backbone Materials			

Item	UoM	Description	Qty
1	mtr	Fiber Optic Cable 12 Core Single Mode	3,000
2	set/s	Fiber Panel LC Loaded 12 port	16
3	set/s	Fiber Panel LC Loaded 24 port	1
4	set/s	Fiber Patch Cord 3m LC-LC Single Mode (pieces)	42
5	set/s	Fiber Optic Pigtail Single Mode (pieces)	216
6	set/s	Protection Sleeve	216
		CONCRETING	
7	lot	Cement	1
8	lot	Sand	1
9	lot	Gravel	1
10	pcs	PVC Pipe 2"	650
		MANHOLE	
11	lot	Cement	1
12	lot	Sand	1
13	lot	Gravel	1

		SERVICE ENTRANCE CONDUIT	
14	pcs	PVC Pipe 1 1/2"	130
15	pcs	PVC Elbow 1 1/2"	20
16	pcs	PVC Coupling 1 1/2"	30
17	pcs	PVC Connector w/Locknut 1 1/2"	50
18	pcs	Pull Box 12"x12"x4"	10
19	pcs	Plastic Junction Box 4"x4"	12
20	kgs	G. I. Wire #16	15
21	pcs	Metal Clamp 1 1/2" 2 hole	100
22	pcs	Tox & Screw #6	200
		GROUNDING SYSTEM	
23	pcs	Grounding Rod 5/8 x 5'	10
24	pcs	Grounding Clamp 5/8"	10
25	bxs	Grounding Wire 3.5mm2 (Green)	2
26	pcs	Terminal Lugs 3.5mm2	10

Building Materials

Item	UoM	Description	Qty
1	set/s	Amco Box	177
2	set/s	Data Cabinet 12RU	24
3	set/s	Data Cabinet 42RU	1
4	mtr	Electrical Flatcord #16	570
5	pcs	Electrical Tape	15.1
6	set/s	Expansion Bolt and shield	100
7	set/s	Face Plate Duplex	177
8	mtr	Fiber Optic Cable 8 Core Single Mode	900
9	set/s	Fiber Optic Pigtail Single Mode (pieces)	144
10	set/s	Fiber Panel SC Loaded 12 port (unit)	18
11	set/s	Fiber Patch Cord 3m SC-LC Single Mode (pieces)	36
12	kgs	G. I. Wire #16	36.6
13	set/s	Information Outlet CAT6	177
14	pc	Male Plug	19
15	pcs	Masking Tape	12.1
16	pcs	Metal Clamp 1 1/2" 2 hole	360
17	pcs	Metal Clamp 1/2" 2 hole	208
18	pcs	No Nail Adhesive	18.9
19	pcs	Plastic Junction Box 4"x4"	55
20	pcs	Plastic Moulding 1"	341
21	pck	Plastic Tie Wrap 10"	3.5
22	pcs	Pull Box 8"x8"x4"	24
23	pcs	PVC Connector w/Locknut 1/2"	144
24	pcs	PVC Connector w/Locknut 1 1/2"	114
25	pcs	PVC Coupling 1 1/2"	114
26	pcs	PVC Coupling 1/2"	150
27	pcs	PVC Elbow 1 1/2"	108
28	pcs	PVC Elbow 1/2"	150
29	pcs	PVC Pipe 1/2"	555
30	pcs	PVC Pipe 1 1/2"	335
31	can	PVC Sealant	6.6
32	pcs	RJ45 Connector	119
33	pcs	RJ45 Rubber Boot	119
34	pcs	Tox & Screw #6	658
35	rolls	UTP Cable CAT6	19.53