

SOLICITATION, OFFER, AND AWARD		1. Caption MAN-Based Communication and Information Support			Page of Pages 1 136		
2. Contract Number		3. Solicitation Number RFQ775521		4. Type of Solicitation <input type="checkbox"/> Sealed Bid (IFB) <input checked="" type="checkbox"/> Sealed Proposals (RFP) <input type="checkbox"/> Sole Source <input type="checkbox"/> Emergency		5. Date Issued	
7. Issued By Office of Contracting and Procurement 441 - 4 th Street, N.W., Suite 700 South Washington, D.C. 20001		8. Address Offer to: Office of Contracting and Procurement 441 - 4 th Street, N.W., Suite 700 South Washington, D.C. 20001					
NOTE: In sealed bid solicitations "offer" or "offeror" means "bid or "bidder"							

SOLICITATION

9. Sealed offers in original and _____ copies for furnishing the supplies or services in the Schedule will via electronic format via the on-line solicitation software | _____ local time _____ (Hour) _____ (Date)

CAUTION: Late submission, Modifications and Withdrawals: See 27 DCMR chapters 15 & 16 as applicable. All offers are subject to all terms & conditions contained in solicitation.

10. For Information Contact	A. Name		B. Telephone		C. E-mail Address
	Stephanie Senior		(Area Code) 202	(Number) 724-4051	(Ext) stephanie.senior@dc.gov

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12. In conjunction with the above, the undersigned agrees, if this offer is accepted within 120 calendar days from the receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified herein.

13. Discount for Prompt Payment	10 Calendar days %	20 Calendar days %	30 Calendar days %	____ Calendar days %
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14. Acknowledgement of Amendments (The offeror acknowledges receipt of amendments to the SOLICITATION):	Amendment Number	Date	Amendment Number	Date

15A. Name and Address of Offeror			16. Name and Title of Person Authorized to Sign Offer/Contract		
15B. Telephone (Area Code) (Number) (Ext)			15 C. Check if remittance address is different from above – Refer to section G		18. Award Date
			17. Signature		

AWARD (TO BE COMPLETED BY GOVERNMENT)

19. Accepted as to Items Numbered	20. Amount	21. Accounting and Appropriation
2. Name of contracting Officer (Type or Print)	23. Signature of Contracting Officer (district of Columbia)	24. Award Date

SECTION B: CONTRACT TYPE, SUPPLIES OR SERVICES AND PRICE/COST

B.1 The District of Columbia Office of Contracting and Procurement, on behalf of the Office of the Chief Technology Officer (OCTO) (the “District”) is seeking a Contractor to ensure dramatic expansion of their telecommunications network deployment to District government offices and agencies, and to non-commercial entities operating within the District.

B.2 The District contemplates award of a contract with Time & Material, Firm Fixed Unit Price and Cost-Reimbursement components.

B.3 PRICE SCHEDULE

B.3.1 The annual budget ceiling for this Task Order contract is \$20,000,000.00.

B.3.2 Offerors are directed to Attachment A in RFQ775521 for explicit pricing details and pricing requirements. Offerors shall cross-reference all requirements in Section C to RFQ775521, Attachment A.

B.4 BASE YEAR

CLIN	SOW Section	Item Description	Amount
0001	C.4.1	General Equipment – Firm Fixed Unit Price	
0002	C.4.2	Horizontal and Vertical Cabling Infrastructure - Firm Fixed Unit Price	
0003	C.4.3	Fiber and Cable Installation Services - Firm Fixed Unit Price	
0004	C.4.4	Optical Fiber Cable Maintenance Services - Firm Fixed Unit Price	
0005	C.4.5	Heating, Ventilation and Air Conditioning Services - Firm Fixed Unit Price	
0006	C.4.6	Wireless Installs and Support Services – Time and Materials	
0007	C.4.7	Electrical Installs and Support Services - Time and Materials	
0008	C.4.8	Other Direct Costs – Cost-Reimbursable (TBD NTE Value)	
0009	C.4.9	Telecommunications Services - Time and Materials	
0010	C.4.10	Personnel Services and Job Descriptions – Time and Materials	
0011	C.4.11	TurnKey Solution Requirements - Time and Materials	

BASE YEAR TOTAL:

B.5 OPTION YEAR ONE

CLIN	SOW Section	Item Description	Amount
1001	C.4.1	General Equipment - Firm Fixed Unit Price	
1002	C.4.2	Horizontal and Vertical Cabling Infrastructure - Firm Fixed Unit Price	
1003	C.4.3	Fiber and Cable Installation Services - Firm Fixed Unit Price	
1004	C.4.4	Optical Fiber Cable Maintenance Services - Firm Fixed Unit Price	
1005	C.4.5	Heating, Ventilation and Air Conditioning Services - Firm Fixed Unit Price	
1006	C.4.6	Wireless Installs and Support Services – Time and Materials	
1007	C.4.7	Electrical Installs and Support Services - Time and Materials	
1008	C.4.8	Other Direct Costs – Cost-Reimbursable (TBD NTE Value)	
1009	C.4.9	Telecommunications Services - Time and Materials	
1010	C.4.10	Personnel Services and Job Descriptions – Time and Materials	
1011	C.4.11	TurnKey Solution Requirements - Time and Materials	

OPTION YEAR ONE TOTAL:

B.6 OPTION YEAR TWO

CLIN	SOW Section	Item Description	Amount
2001	C.4.1	General Equipment - Firm Fixed Unit Price	
2002	C.4.2	Horizontal and Vertical Cabling Infrastructure - Firm Fixed Unit Price	
2003	C.4.3	Fiber and Cable Installation Services - Firm Fixed Unit Price	
2004	C.4.4	Optical Fiber Cable Maintenance Services - Firm Fixed Unit Price	
2005	C.4.5	Heating, Ventilation and Air Conditioning Services - Firm Fixed Unit Price	
2006	C.4.6	Wireless Installs and Support Services – Time and Materials	
2007	C.4.7	Electrical Installs and Support Services - Time and Materials	
2008	C.4.8	Other Direct Costs – Cost-Reimbursable (TBD NTE Value)	
2009	C.4.9	Telecommunications Services - Time and Materials	
2010	C.4.10	Personnel Services and Job Descriptions – Time and Materials	
2011	C.4.11	TurnKey Solution Requirements - Time and Materials	

OPTION YEAR TWO TOTAL:

B.7 OPTION YEAR THREE

CLIN	SOW Section	Item Description	Amount
3001	C.4.1	General Equipment - Firm Fixed Unit Price	
3002	C.4.2	Horizontal and Vertical Cabling Infrastructure - Firm Fixed Unit Price	
3003	C.4.3	Fiber and Cable Installation Services - Firm Fixed Unit Price	
3004	C.4.4	Optical Fiber Cable Maintenance Services - Firm Fixed Unit Price	
3005	C.4.5	Heating, Ventilation and Air Conditioning Services - Firm Fixed Unit Price	
3006	C.4.6	Wireless Installs and Support Services – Time and Materials	
3007	C.4.7	Electrical Installs and Support Services - Time and Materials	
3008	C.4.8	Other Direct Costs – Cost-Reimbursable (TBD NTE Value)	
3009	C.4.9	Telecommunications Services - Time and Materials	
3010	C.4.10	Personnel Services and Job Descriptions – Time and Materials	
3011	C.4.11	TurnKey Solution Requirements - Time and Materials	

OPTION YEAR THREE TOTAL:

B.8 OPTION YEAR FOUR

CLIN	SOW Section	Item Description	Amount
4001	C.4.1	General Equipment - Firm Fixed Unit Price	
4002	C.4.2	Horizontal and Vertical Cabling Infrastructure - Firm Fixed Unit Price	
4003	C.4.3	Fiber and Cable Installation Services - Firm Fixed Unit Price	
4004	C.4.4	Optical Fiber Cable Maintenance Services - Firm Fixed Unit Price	
4005	C.4.5	Heating, Ventilation and Air Conditioning Services - Firm Fixed Unit Price	
4006	C.4.6	Wireless Installs and Support Services – Time and Materials	
4007	C.4.7	Electrical Installs and Support Services - Time and Materials	
4008	C.4.8	Other Direct Costs – Cost-Reimbursable (TBD NTE Value)	
4009	C.4.9	Telecommunications Services - Time and Materials	
4010	C.4.10	Personnel Services and Job Descriptions – Time and Materials	
4011	C.4.11	TurnKey Solution Requirements - Time and Materials	

OPTION YEAR FOUR TOTAL:

- B.9** This procurement is being funded by the District of Columbia with funds made available by the American Recovery and Reinvestment Act of 2009, P.L. 111-5 (Recovery Act).
- B.10** The Contractor shall provide support services and adhere to all terms and conditions in accordance with the requirements and specifications under Section C.4 of this solicitation. Specific work to be performed will be based on each individual Job Order.
- B.11** The Contractor shall comply with the Federal Information Security Management Act (FISMA) of 2002 per the related NIST Special Publication 800-53, Revision 3 Recommended Security Controls for Federal Information Systems, and ensure compliance with the Federal Information Security Management Act (FISMA) of 2002.
- B.12** The Contractor shall provide and maintain a Department of Defense (DoD) Facility Clearance at a minimum Secret level. Contractor shall submit a copy of their current DoD 441 – Titled “Department of Defense Security Agreement”, and shall keep it current for the term of the contract.

SECTION C: SPECIFICATIONS/WORK STATEMENT

C.1 SCOPE

This contract is for the use of the Office of the Chief Technology Officer (OCTO), an office within the Government of the District of Columbia (“the District”). OCTO is seeking a Contractor to ensure dramatic expansion of their telecommunications network deployment to District government offices and agencies, and to non-commercial entities operating within the District.

The technical scope has been divided into the following three categories:

1. **Equipment Procurement:** This category addresses the District’s need to acquire commercial off-the-shelf telecommunications equipment (Section C.4.1).
2. **Managed Services:** This category addresses the District’s need for support services (all CLINs with the exception of General Equipment are considered in this category).
3. **Turn Key Solutions:** This category addresses the District’s need to identify and present unique problems or challenges beyond the expertise and scope of internal resources (Section C.4.11).

Geographically, the District will continue to operate and grow within the physical boundaries of the District of Columbia at its three operating data center locations and District offices and sites, with expected physical extension limited to its planned operations hub in Reston, VA.

C.2 DEFINITIONS, STANDARDS, & ACHRONYMS

C.2.1 Definitions

- a) **Finished Space** - Space other than mechanical rooms, electrical rooms, furred spaces, pipe chases, and unheated spaces immediately below roof, space above ceilings, unexcavated spaces, crawl spaces, tunnels, and interstitial space.
- b) **Catastrophic Failure** – A catastrophic failure is a sudden, often unexpected breakdown in an electronic system or Network.
- c) **Conditioned** - Spaces directly provided with heating and cooling
- d) **Unconditioned** - Spaces without heating or cooling including ceiling plenums
- e) **Indoors** - Located inside the exterior walls and roof of the building
- f) **Outdoors** - Outside the exterior walls and roof of the building
- g) **Raceway** shall mean any enclosed channel for routing wire, cable or TBB(s).
- h) **Pullbox** shall mean a metallic box with a detachable cover, used to enable pulling cable through conduit runs longer than 100’ or where there are more than 180 degrees of bends.
- i) **Junction Box** shall mean a pullbox where a feeder conduit transitions to multiple distribution conduits.

C.2.2 Standards

- a) **TIA/EIA – 568:** Commercial Building Telecommunications Cabling Standard
- b) **TIA/EIA – 569:** Commercial Building Standard for Telecommunications Pathways

- c) **TIA/EIA – 606**: The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
- d) **TIA/EIA – 607**: Commercial Building Grounding and Bonding Requirements for Telecommunications
- e) **ISO/IEC IS 11801**: Generic Cabling for District Premises
- f) **BICSI TCIM**: BICSI Telecommunications Cabling Installation Manual
- g) **BICSI TDMM**: BICSI Telecommunications Distribution Methods Manual
- h) **BICSI CO-OSP**: BICSI District-Owned Outside Plant Design Manual
- i) **ANSI/TIA/EIA-526-7** -Measurement of Optical Power Loss of installed Single-mode Fiber Plant Cable.
- j) **ANSI/TIA/EIA-758** - District Owned Outside Plant Telecommunications Cabling Standard.
- k) **ANSI/TIA-942** – Telecommunications Infrastructure Standard for Data Centers.
- l) **ASTM A123** – Specification for Zinc (Hot Galvanized) Coatings on products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip.
- m) **ASTM A653** – Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot Dip Process, Structural (Physical) Quality.
- n) **ASTM A1011** – Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with improved Formability.
- o) **ASTM A1008** – Specification for Steel. Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy Formability.
- p) **ASTM B633** – Specification for Electrodeposited Coatings of Zinc on Iron and Steel.
- q) **NEMA VE 1** – Metallic Cable Tray Systems
- r) **NEMA VE 2** – Cable Tray Installation Guidelines

C.2.3 Acronyms

- 1) ACEG – Alternating Current Equipment Ground
- 2) ADA – Americans with Disabilities Act
- 3) ADAAG - ADA Accessibility Guidelines
- 4) AHJ - Authority Having Jurisdiction
- 5) ANSI - American National Standards Institute
- 6) APC - Angled Polished Connectors
- 7) ASTM - American Society for Testing Materials
- 8) ATM – Asynchronous Transfer Mode
- 9) ATR - Above using threaded rods
- 10) BCT – Bending Conductor for Telecommunications
- 11) BICSI - Building Industry Consulting Service International
- 12) CPVC - Chlorinated Polyvinyl Chloride
- 13) CSI - Construction Specifications Institute
- 14) DAS - Distributed Antenna System
- 15) EF – Entrance Facility
- 16) EIA - Electronic Industries Alliance
- 17) EMI - Electromagnetic Interference
- 18) EMT - Electrical Metallic Tubing
- 19) ER – Equipment Room
- 20) FDD – Fiber Distributed Data
- 21) FMC - Flexible Metal Conduit
- 22) GE – Ground Equalizer

- 23) GEC – Grounding Electrode Conductor
- 24) HVAC - Heating Ventilation and Air Conditioning
- 25) ID - Interior diameter
- 26) IDF - *Intermediate Distribution Frame*
- 27) IEEE - Institute of Electrical and Electronic Engineers
- 28) LAN – Local Area Network
- 29) LEA - Local Education Agency
- 30) MC - Main Cross-Connect
- 31) MDF - *Main Distribution Frame*
- 32) NEC - National Electrical Code
- 33) NEMA - National Electrical Manufacturers Association
- 34) NESC - National Electrical Safety Code
- 35) NEXT - Near-End Crosstalk
- 36) NVR - Network Video Recorder
- 37) O&M Manual - Operating and Maintenance Manual
- 38) OD - Outer diameter
- 39) OSHA - Occupational Safety and Health Act
- 40) OTDR - Optical Time Domain Reflectometry
- 41) PB – Polybutene
- 42) PVC – Polyvinyl Chloride
- 43) RCDD - Registered Communications Distribution Designer
- 44) RNC – Rigid Nonmetallic Conduit
- 45) SCS - Structured Cable Systems
- 46) TBB – Telecommunications Bonding Backbone
- 47) TC - Telecommunications Closet
- 48) TDMM - BISC Telecommunications Distribution Methods Manual
- 49) TEBC – Telecommunication Equipment Bonding Conductor
- 50) TGB - Telecommunications Grounding Busbar
- 51) TIA - Telecommunications Industry Association
- 52) TMGB - Telecommunications Main Grounding Busbar
- 53) TO - Telecommunication outlet
- 54) TR – Telecommunications Room
- 55) UCC – Unified Communication and Collaboration
- 56) UI - User-Interface
- 57) UPS – Uninterrupted Power Source
- 58) UTP - Unshielded Twisted Pair
- 59) WAN – Wide Area Network
- 60) TMGB - Telecommunications Main Grounding Busbar. There is typically one TMGB per building, located in the main telecommunications room. This busbar is directly bonded to the electrical service ground.
- 61) TGB - Telecommunications Grounding Busbar. There is typically one TGB per telecommunications room. The TGB is connected both to the TMGB and to the buildings structural steel or other permanent metallic systems.
- 62) TBB - Telecommunications Bonding Backbone. The TBB is a conductor used to connect TMGBs to TGBs
- 63) EMT - Electrical Metallic Tubing
- 64) RMC - Rigid Metal Conduit
- 65) SMR - Surface Metal Raceway

66) CA – Contract Administrator

C.3 BACKGROUND

DC-Net, a program managed by the OCTO, provides wired and wireless voice, data, and video services to all government entities utilizing a secure, redundant, high capacity fiber optic platform spanning over 350 miles of aerial and underground fiber infrastructure. This state-of-the-art telecom deployment lays the foundation for all next generation government, education, and public safety access to information and communications throughout the nation’s capital.

District has previously used a single managed services contract to provide network installation, operational support, trouble-shooting, and repair services. As the contract nears termination, OCTO’s District is seeking a vendor to support these operations for the next five years.

C.4 REQUIREMENTS

C.4.1 General Equipment

C.4.1.1 The Contractor shall provide the following equipment to support the District’s telecommunications infrastructure.

Item Number	Description	Part Number	Unit	Estimated Qty/Year
1	AFL Telecommunications Fiber Storage Unit 16" HORIZ (pairs) "Snow Shoes"	911109-00	EA	50
2	3M 33+ Electrical Tape Black	33+SUPER-34X66FT	EA	100
3	3M 35 Electrical Tape RED	35-RED-3/4	EA	20
4	3M 35 Electrical Tape WHITE	35-WHITE-3/4	EA	20
5	3M 35 Electrical Tape GREEN	35-GREEN-3/4	EA	30
6	3M Telephone Tape 1" wide	88T	EA	100
7	12-24 x 3/4" Phillips binder-head rack screws - bag of 50	97216873	50	20
8	Chatsworth combination rack screws 12-24x5/8 - 1000 piece pkg	40605-004	1000	2
9	Chatsworth flush-mounted wall bracket	11754-X19	EA	20
10	Chatsworth stand-off tie bracket (package of 50)	10559-X50	50	5
11	Cobra Wire #10 TC AWMTEW wire RED	A2010T01	FT	1000'
12	Cobra Wire #10 TC	A2010T07	FT	1000'

	AWMTEW wire BLACK			
13	Cobra Wire #4 X-Flex RED (420 x 30 stranding)	A2004B	FT	4000'
14	Cobra Wire #4 X-Flex BLACK (420 x 30 stranding)	A2004B	FT	4000'
15	Cobra Wire 4/0 X-Flex RED (2109 x 30 stranding)	A2140B	FT	1000'
16	Cobra Wire 4/0 X-Flex BLACK (2109 x 30 stranding)	A2140B	FT	
17	19" dual inverter mtg plate	020-00117-101	EA	20
18	23" dual inverter mtg pnl	020-00118-401	EA	20
19	19" single inverter mtg pnl	020-00132-400	EA	20
20	23" single inverter mgt pnl	020-00133-100	EA	20
21	1100W, 48Vdc input, 117Vac/60Hz output INVERTER	XPK-1-4-6-1	EA	40
22	CAT-6 non plenum UTP cable 1000' box-pack BLUE	6NP4P24-BL-P-GCCPV-CE	1000	75
23	CAT-6 non plenum UTP cable 1000' box-pack GRAY	6NP4P24-GY-P-GCCPV- CE	1000	30
24	CAT-6 non plenum UTP cable 1000' box-pack WHITE	6NP4P24-WH-P-GCCPV- CE	1000	75
25	Hubbell 50-amp 250-volt 2- pole 3-wire locking plug	CS8265C	EA	30
26	Hubbell L5-20P 20-amp 120-volt Twist Lock Plug	HBL2311	EA	10
27	Hubbell L6-20P 20-amp 240-volt Twist Lock Plug	HBL2321	EA	10
28	Hubbell L6-30P 30-amp 240-volt Twist-Lock Plug	HBL2621	EA	50
29	Hubbell 5-15P plug	HBL5266C	EA	20
30	Hubbell 5-15R cable connector	HBL5269C	EA	10
31	Hubbell 5-20P plug	HBL5366C	EA	20
32	Newton 7' 19" 2-post Welded Steel Equipment Rack EIA	2059530130	EA	40
33	Newton 7' 23" 2-post Welded Steel Equipment Rack EIA	0040110130	EA	15
34	Newton 19" Split Shelf	NDRS19112030	EA	15
35	Newton 23" Split Shelf	NDRS23112030	EA	5
36	Newton 6" vertical cable manager	NVCM08460030	EA	30

37	Newton 2' x 2" x 3/8" AUX BAR	0010210130	EA	100
38	Newton Instruments V-Bolts	0010360010	EA	50
39	Newton 6" 1-1/2" Solid Bar Ladder Rack (9' 8-1/2")	0020030230	EA	15
40	Newton 12" 1-1/2" Solid Bar Ladder Rack (9' 8-1/2")	0020030630	EA	40
41	Newton 1-1/2" ladder rack splices	0020120010	EA	50
42	Newton Cable Rack T-Junction	0020140010	EA	50
43	Newton J-Bolt for 2" Aux Bar	0020630010	EA	50
44	Newton ladder-rack wall angle 6"	0021210230	EA	20
45	Newton ladder-rack wall angle 12"	0021210630	EA	50
46	Newton Clip	0030310110	EA	50
47	Newton aux-bar clips	0030310210	EA	50
48	Newton 1-RU blank panel	0040270130	EA	20
49	Newton 2-RU blank panel	0040270230	EA	20
50	Newton 4-RU blank panel	0040270430	EA	20
51	Newton 5-RU blank panel	0040270530	EA	20
52	Newton 19" Equipment Shelf 19-1/2" deep	0040620430	EA	30
53	Newton 19" x 10" rack shelf	0040770130	EA	10
54	Newton 23" rack shelf	0045300230	EA	10
55	Newton Instruments 23" to 19" rack adapter brackets 3-RU	2125250330	EA	25
56	Newton Instruments 23" to 19" rack adapter brackets 4-RU	2125250430	EA	25
57	Newton Instruments 23" to 19" rack adapter brackets 5-RU	2125250530	EA	25
58	Newton Instruments 23" to 19" rack adapter brackets 6-RU	2125250630	EA	25
59	Newton Instruments 23" to 19" rack adapter brackets 7-RU	2125250730	EA	25
60	Newton Instruments 23" to 19" rack adapter brackets 8-RU	2125250830	EA	25
61	Panduit RJ-45 Modular Plug	MP588-C	EA	500

62	Panduit 2-jack surface mount box	NK2BXWH-A	EA	1000
63	Panduit NetKey 2-position Face Plate	NK2FWHY	EA	1000
64	Panduit Net-Key RJ-11 jack inserts	NK366MBLY	EA	250
65	Panduit NetKey face plate 3-JACK WHITE	NK3FNWH	EA	250
66	Panduit 4-jack surface mount box	NK4BXWH-A	EA	250
67	Panduit NetKey 4-position Face Plate	NK4FWHY	EA	250
68	Panduit CAT-6 Modular Jack - BLUE	NK688MBU	EA	1000
69	Panduit RJ45 CAT-6 Jack GRAY	NK688MGY	EA	1000
70	Panduit CAT-6 Modular Jack - ORANGE	NK688MOR	EA	250
71	Panduit CAT-6 Modular Jack - WHITE	NK688MWH	EA	100
72	Panduit NetKey CAT-6 RJ45 jack YELLOW	NK688MYL	EA	250
73	Panduit NetKey blank filler	NKBMWHX	EA	1000
74	12-volt 12-aH battery	UB12120	EA	100
75	Rittal M6x16 Posi-drive screws w/washers (pkg of 100)	2089.000	100	20
76	Rittal M6 EL captive nuts w/o contact (pkg of 50)	2092.200	50	20
77	Rittal cabinet hardware	7000.640	SET	10
78	Rittal cable guide rings (pkg of 10)	7111.900	10	20
79	Rittal TS Baying Connector	8800.490	SET	10
80	Rittal 80" x 40" side wall	9968.596	EA	5
81	Rittal server cabinet 84" high x 40" deep	9969.835	EA	20
82	Server Tech 110v 16-outlet 0-U 20-amp master PDU w/7' pwr cord	CW-16V1-C20MX	EA	5
83	Server Tech Switched CDU 18-C13/6 C19 208v 30a w/L6-30P and 10' cable - MASTER	CW-24V2C311A1	EA	15
84	Server Tech 110v 16-outlet 0-U 20-amp expansion PDU w/7' pwr cord	CX-16V1-C20MX	EA	5

85	Server Tech Switched CDU 18-C13/6 C19 208v 30a w/L6-30P and 10' cable - EXPANSION	CX-24V2C311A1	EA	15
86	IEC 60320/C19-L5-20P (20 amp twist lock) 10ft Power Cable	PTCORD-7	EA	10
87	Server Tech Switched Power Tower 16-NEMA 5-20R w/DUAL L5-30P input	PTXL-HD16-1-05	EA	
88	Siemon "110" block 100-pair - 25-pair punch-down	S110AA2-100FT	EA	100
89	Siemon "110" block 100-pair - 4-pair punch-down	S110AB2-100FT	EA	100
90	Siemon 89-mount 110-Type Connecting Block 50-pair	S110DA1-50FT-89	EA	50
91	Siemon 66-Type Connecting Block 50-pair	S66M1-50	EA	50
92	Siemon "66" block mounting bracket	S89B	EA	200
93	Siemon 2-pos Bridge Clip - bag of 100	SA1-100	100	10
94	T&B #6-awg 1-hole 3/8" comp-lug	54135	EA	100
95	T&B #6-awg 1-hole 3/8" comp-lug	54136	EA	100
96	T&B #4-awg 1-hole 5/16" comp-lug	54139	EA	250
97	T&B #4-awg 1-hole 3/8" comp-lug	54140	EA	250
98	T&B #10-12 1/4" Insulated Disconnect	10RC-2577	EA	250
99	T&B #16-14 1/4" Insulated Disconnect	14RB-2577	EA	100
100	T&B 2/0 2-hole comp term 1/4" x 5/8"	54814BE	EA	100
101	T&B 2/0 2-hole 90-degree comp term 1/4" x 5/8"	54814BEUB	EA	100
102	T&B 8-awg 2-hole comp-lug	54850BE	EA	100
103	T&B 6-awg 2-hole comp-lug	54852BE	EA	250
104	T&B 2-hole 1/4" x 5/8" #4 awg compression lug	54854BE	EA	1000
105	T&B 2-awg 2-hole comp-lug	54855BE	EA	200
106	T&B 1/0-awg 2-hole comp- lug	54859BE	EA	100
107	T&B 6-awg 1-hole comp-lug	54905BE	EA	200

108	T&B 1-hole 1/4" #4 awg compression lug	54906BE	EA	100
109	T&B 1/2" Spring Nut (per hundred)	A100 1/2	EA	100
110	T&B 1-1/2 x 1-1/2" Channel (Uni-Strut) Half-Slot 10' length	A1200HS 10	EA	20
111	T&B Steel Joiner Channel	B 941	EA	10
112	T&B 1/2" Clear Heat-Shrink Tubing #2-4 (50' roll)	CHS12	50'	50
113	T&B 3/4" Clear Heat Shrink Tubing (50' roll)	CHS34	50'	10
114	T&B 3/8" Clear Heat-Shrink Tubing (50' roll)	CHS38	50'	10
115	T&B 1" Clear Heat-Shrink Tubing (25' roll)	CHS100	25'	20
116	T&B 1-1/2" Clear Heat-Shrink Tubing (25' roll)	CHS112	25'	10
117	T&B #14-16 Insulated Ring #10 Bolt	RB14-10	100	250
118	T&B #14-16 Insulated Ring #6 Bolt	RB14-6	100	250
119	T&B #14-16 Insulated Ring #8 Bolt	RB14-8	100	250
120	T&B #10-12 Insulated Ring #10 Bolt	RC10-10	100	250
121	T&B 12-10awg 1/4" bolt insulated ring Crimp Terminals	RC10-14	100	250
122	T&B #10-12 Insulated Ring #6 Bolt	RC10-6	100	250
123	T&B 12-10awg #8 bolt insulated ring Crimp Terminals	RC10-8	100	250
124	T&B TC345X TY-RAP Blocks (1000 piece pkg)	TC345X	1000	2
125	T&B TC347X TY-RAP Blocks (1000 piece pkg)	TC347X	1000	2
126	T&B Nylon Cable Tie 3-1/2"	TY-23M	100	5
127	T&B Nylon Cable Tie 5"	TY-24M	100	10
128	T&B Nylon Cable Tie 7"	TY-25M	100	10
129	T&B Nylon Cable Tie 8" Black Weather-Proof	TY272MX	100	5
130	T&B Nylon Cable Tie 18"	TY-275M	100	20
131	T&B Nylon Cable Tie 18" Black Weather-Proof	TY-275MX	100	20

132	T&B Nylon Cable Tie 13"	TY-27M	100	50
133	Standard Fusion Splice Heat Shrink Sleeves 60mm	F1-1002	EA	5000
134	Tyco Splice Case FOSC400 A 4-cable entry	FOSC400-A4-NT-0-BGV	EA	10
135	Tyco/Raychem Splice Closure	FOSC-400-D5-NT-0-BGV	EA	10
136	Tyco Electronics (RAYCHEM) D6-450 splice closure	FOSC-450-D6-6-NT-0-T6G	EA	10
137	Tyco Electronics (RAYCHEM) A12 splice tray	FOSC-ACC-A-TRAY-12	EA	10
138	Tyco Cable Management Basket - Tall	FOSC-ACC-BASKET-TALL	EA	10
139	Tyco Splice Tray B 12-Fiber	FOSC-ACC-B-TRAY-12	EA	10
140	Tyco Electronics (RAYCHEM) 1-BT cable seal kit	FOSC-ACC-CABLE-SEAL-1-BT	EA	10
141	Tyco/RAYCHEM Splice Closure Seal Kits	FOSC-ACC-CABLE-SEAL-2-NT	EA	10
142	Tyco Large Slack Basket	FOSC-ACC-D-BASKET	EA	10
143	Tyco Electric D-series Basket 36-splice tray	FOSC-ACC-D-TRAY-36	EA	10
144	Tyco Electronics (RAYCHEM) wall/pole mount kit	FOSC-ACC-WALL/POLE-MOUNT	EA	10
145	Tyco FOSC Cable Seal Kit 1BT	FOSC-CABLE-SEAL-1BT	EA	10
146	FPS-6 Splice Sleeve Ribbon 40mm Single Strength Member (pkg of 25)	SPLICERBN25	PKG	500
147	Carol Cable 8-3 Power Cable SOOW-8-3-BLK	16063-BLK-CUT REEL	250'	4
148	General Cable 1-pr 24-awg cross-connect wire BL/W-W/BL	2113054	FT	20,000'
149	General Electric fluorescent lamp CFL low watt BIAx plug-in T4	F13BX/827/ECO	EA	30
150	General Electric fluorescent lamp CFL 18-watt DOUBLE BIAx plug-in T4	F18DBX/835/ECO4P	EA	30
151	General Electric fluorescent lamp	F25T8/SP30/ECO	EA	30
152	GE Fluorescent Lamp	F25T8/SPX30/ECO	EA	30

153	General Electric fluorescent lamp CFL 26-watt DOUBLE BIAX plug-in T4	F26DBX/835/ECO4P	EA	30
154	GE Fluorescent Lamp	F28T5 (3500K)	EA	30
155	General Electric fluorescent lamp 1-5/8" U	F31T8/SPX30/U	EA	15
156	GE Fluorescent Lamp	F32T8/SPX30/ECO	EA	15
157	1/2-13 x 1" HEX HEAD CAP SCREW	JBHC46	100	2
158	3/8" x 1 HEX HEAD LAG SCREW	JBLS45	100	3
159	1/2-13 Drop-In Anchor	JDIA12	100	3
160	1/2" Split Lock Washer	JSLW10	100	2
161	3/8" Flat Washers	JSW75	100	5
162	1/2" Flat Washers	JSW76	100	5
163	#8 x 1-1/4" Panhead Self-Tapping Screw	JTS22	100	10
164	10-3 SJO BLACK Power Cable	N/A	FT	1000
165	23" Compact Rectifier Shelf single/dual feed with LVD	CC9S-ANL-VC	EA	10
166	250-amp x 4 x 20 System [Q4825N-23DC01-C G1]	264829	EA	15
167	500-amp x 4 x 20 System [Q4850N-23SD01-C G1]	N/A	EA	5
168	500-amp x 4 x 44 System [Q4850N-23DD01-C01-C G1]	266960	EA	2
169	500-amp x 4 x 44 System [Q4850N-23SD01-C01-C G1]	266962	EA	2
170	System Controller with Ethernet	BC2000-A01-10VC	EA	75
171	FP2 system w/ controller 2B, 2L Breakers, 12 GMT fuses	261442	EA	20
172	FP2 2000W rectifier High Efficiency	241115.105	EA	100
173	50-amp 48-volt Rectifier Module	V2500A-VC	EA	175
174	20-amp 48-volt High Efficiency Rectifier Module	V1000A-HE	EA	20
175	Blank Rectifier Module	V-Blank-VC	EA	25
176	Cable pair #2 10-foot 2-hole 1/4 x 5/8 both ends	BP1001002DDVV	SET	100
177	Cable pair #2 10-foot 2-hole 1/4 x 5/8 and 1-hole 1/4	BP1001002DDV0	SET	100

178	25-amp mid-trip bullet circuit breaker	CBB-025M	EA	72
179	30-amp mid-trip bullet circuit breaker	CBB-030M	EA	72
180	40-amp mid-trip bullet circuit breaker	CBB-040M	EA	72
181	50-amp mid-trip bullet circuit breaker	CBB-050M	EA	72
182	60-amp mid-trip bullet circuit breaker	CBB-060M	EA	72
183	80-amp mid-trip bullet circuit breaker	CBB-080M	EA	72
184	100-amp mid-trip bullet circuit breaker	CBB-100M	EA	72
185	Plus SA000000802 Kit	CBB-150M	EA	30
186	Plus SA000000802 Kit	CBB-200M	EA	20
187	Plus SA000000802 Kit	CBB-250M	EA	20
188	GMT Fuse Module for Integrated Shelf (5-fuse/2-position)	GMT-5P	EA	25
189	Temperature Probe	TPR10	EA	10
190	155-aH 48-volt Battery String (12V155FS Enersys)	506574	SET	50
191	23" Battery Tray	504880	EA	50
192	125-aH 48-volt Battery String (12V125F Enersys)	502877	SET	50
193	19" Battery Tray	217035	EA	50
194	Load Center Frame 600A 10-pos A & B	600CB10	EA	15
195	Busbar adapter 1-pole 600CB1X	600CB1X-1PK	EA	300
196	Hi Power Fuse Panel GMT 10/10	20HPGMT05R	EA	5
197	Fiber Guide 4" Horizontal Straight Section 6'	FGS-MSHS-A	EA	20
198	Fiber Guide 4" Downspout	FGS-MDSP-A	EA	30
199	Fiber Guide 4" Horizontal T	FGS-MHRT-A	EA	10
200	Fiber Guide 4" 90-degree Horizontal Elbow	FGS-MH9E-A	EA	10
201	Fiber Guide Ladder Rack Bracket Kit	FGS-HDLB-4	EA	50
202	Fiber Guide 4" Snap-Fit Junction	FGS-MFAW-A	EA	50
203	Savi Office Wireless Headset	WO100	EA	100
204	EHS for Cisco VoIP Telephone Sets	APC40	EA	75

205	EHS for Avaya VoIP Telephone Sets	APV62	EA	75
206	X-Flex 4-0 awg BLACK cable (2109 x 30 stranding)	A2140B	FT	500
207	X-Flex 4-0 awg RED cable (2109 x 30 stranding)	A2140B	FT	500
208	SupraPlus HW251 monaural headset	64336-31	EA	75
209	HIS Avaya Adapter Cable	72442-41	EA	75
210	50um MM OM3 Ultrabend Duplex patch cord LC-LC 1M	797902TD120001M	EA	50
211	50um MM OM3 Ultrabend Duplex patch cord LC-LC 3M	797902TD120003M	EA	75
212	50um MM OM3 Ultrabend Duplex patch cord LC-LC 5M	797902TD120005M	EA	75
213	50um MM OM3 Ultrabend Duplex patch cord LC-LC 10M	797902TD120010M	EA	25
214	SM Bend-Insensitive Duplex patch cord LC-LC 1M	787802GD120001M	EA	20
215	SM Bend-Insensitive Duplex patch cord LC-LC 3M	787802GD120003M	EA	30
216	SM Bend-Insensitive Duplex patch cord LC-LC 5M	787802GD120005M	EA	30
217	SM Bend-Insensitive Duplex patch cord LC-LC 10M	787802GD120010M	EA	25
218	SM Bend-Insensitive Duplex patch cord LC-SC 1M	727802GD120001M	EA	20
219	SM Bend-Insensitive Duplex patch cord LC-SC 3M	727802GD120003M	EA	40
220	SM Bend-Insensitive Duplex patch cord LC-SC 5M	727802GD120005M	EA	50
221	SM Bend-Insensitive Duplex patch cord LC-SC 10M	727802GD120010M	EA	30
222	SM Bend-Insensitive Duplex patch cord SC-SC 1M	727202GD120001M	EA	15
223	SM Bend-Insensitive Duplex patch cord SC-SC 3M	727202GD120003M	EA	15
224	SM Bend-Insensitive Duplex patch cord SC-SC 5M	727202GD120005M	EA	15
225	SM Bend-Insensitive Duplex patch cord SC-SC 10M	727202GD120010M	EA	15
226	50um MM OM3 Ultrabend Duplex patch cord LC-SC	577902TD120003M	EA	30

	3M			
227	50um MM OM3 Ultrabend Duplex patch cord LC-SC 5M	577902TD120005M	EA	30
228	50um MM OM3 Ultrabend Duplex patch cord LC-SC 10M	577902TD120010M	EA	15
229	Hubbell RE-Box IDF42 Cabinet	IDF42	EA	10
230	Hubbell Patch Panel mounting bracket	REK19	EA	5
231	Hubbell Equipment mounting bracket	REKZ	EA	50

C.4.1.2 The Contractor shall provide materials on either a scheduled or emergent based interval. All materials must be delivered within 30 days from the date the order is placed. The Contractor shall provide only the most current models, components and accessories in new, fully operational, factory sealed condition, fully warranted by the manufacturer, with all applicable licenses. Any equipment lookalikes, resold items, or “gray market” classifications are unacceptable. The Contractor shall label and track specifically identified capital items carrying an associated amortization schedule.

C.4.2 Horizontal and Vertical Cabling Infrastructure

C.4.2.1 General Specifications

- a) The Contractor shall provide BICSI certified cabling infrastructure personnel to design, engineer and install a complete or augmented horizontal and vertical cabling deployment supporting converged voice, data, video, and wireless applications in accordance with current laws, industry standards, and documented electrical requirements. All structured cabling installed shall be eBerkTek/Ortronics, and shall be covered by a 25-year Net Clear Warranty. Units shall be based on BerkTek LAN Mark 1000 Cat6 UTP plenum cable, and Ortronics Cat6 termination hardware for both station and TR end. Units shall be based on 175ft average for copper infrastructure and 200ft average for fiber infrastructure.
- b) The Contractor shall provide Horizontal Cabling Systems which consist of a minimum of (2) 4-pair Category 6 Unshielded Twisted Pair (UTP) copper to each Work Area Outlet (WAO). This quantity is a standard unless otherwise noted in Construction Documents for specific locations. All Cables shall be installed from the designated WAO’s to the Telecommunications Room (TR) located on the same floor.
- c) The Fiber Optic Cabling System product specification and quantity shall be determined by the Construction Documents. Installation and testing requirements for Fiber Optic systems are detailed in this document.

- d) The Contractor shall provide a COAX distribution which consists of (RG-6) cable if less than 150ft in length, if the length is greater than 150' (RG-11) shall be used.
- e) The Contractor shall furnish, install, terminate, test and label and document all cable and related infrastructure, grounding, support systems, and termination hardware.
- f) The Contractor shall perform grounding and bonding work which complies with the Uniform Building Code, Uniform Fire Code, National Electrical Code, and UL 467, ANSI/TIA/EIA standards as well as local codes which may specify additional grounding and/or bonding requirements.

C.4.2.2 Horizontal Cabling

C.4.2.2.1 The Contractor shall perform Horizontal Cabling Installation, Labeling and Testing in accordance with the following requirements as described below.

C.4.2.2.1.1 Installation

- a) All cable shall be installed utilizing an independent cabling support system. Cables shall not be attached to ceiling grid supports and shall not be laid directly on the ceiling grid. Cables shall not be attached to conduits, pipes, or ducts.
- b) All cable runs between the termination hardware and the WAO shall be continuous without any splices.
- c) J-Hooks installation spacing shall meet or exceed the manufacturer or local code requirements. Standard J-hook spacing is not to exceed 5 feet on center. No more than 48 cables are permitted per J-hook unless cabling manufacturer installation requirements permit it. Cables installed in J-hooks shall be secured using approved cable ties.
- d) The minimum bend radius, under no-load conditions, for 4-pair UTP cables shall be one (1) inch or four times the diameter of the cable across its major axis, whichever is greater.
- e) All cable routes shall be submitted and approved by DC-Net prior to installation of any cabling. The length of each individual run of horizontal cable from the termination point in the TR on each floor to the telecommunications outlet shall not exceed 295 feet (90M).

C.4.2.2.1.2 Labeling

Labels: As recommended in ANSI/TIA/EIA 606. Permanent (i.e. not subject to fading or erasure), permanently affixed and created by hand carried label maker or a computer/software-based label making system. Handwritten labels will not be acceptable.

C.4.2.2.1.3 Testing

All cables and termination hardware shall be 100% tested and verified for system performance under installed conditions according to the requirements of ANSI/TIA/EIA-568-B, marginal passes (*PASS) are not acceptable.

C.4.2.3 Backbone Cabling

C.4.2.3.1 The Contractor shall perform Backbone Cabling Installation, Labeling and Testing in accordance with the following set of requirements as described below.

- a) The Contractor shall install all structural cabling elements in accordance with the most stringent requirements of the NEC, local building codes, ANSI/TIA/EIA commercial building wiring standards, ANSI/NECA/BICSI 568.2006 standard for installing telecommunications systems and all relevant BICSI manuals. Contractor must submit Drawings and receive approval from DC-Net's Project Manager for any deviations from standards or drawings due to field conditions.

C.4.2.3.2 Installation

- a) All armored and non-armored fiber optic cable shall be run in conduit/inner-duct. Multiple fiber cables may be run in a single conduit/inner-duct.
- b) Contractor shall adhere to TIA/EIA 568/569 specifications regarding bend radius, maximum tensile strength, and maximum vertical rise.
- c) All fiber optic cabling shall be terminated with either SC or LC connectors unless a vendor specific requirement requires a different type of connector for a specific and limited application.

C.4.2.3.3 Labeling

Labels: As recommended in ANSI/TIA/EIA 606. Permanent (i.e. not subject to fading or erasure), permanently affixed and created by hand carried label maker or a computer/software-based label making system. Handwritten labels will not be acceptable.

C.4.2.3.4 Testing

- a) Test equipment shall be specifically rated for the cabling being tested, properly configured, and calibrated per manufacturer's requirements.
- b) The Contractor shall submit calibration certificate(s) indicating that the test set(s) has been calibrated by the manufacturer. No test shall be performed with a test set that has not been calibrated within 6 months prior to testing.
- c) No handwritten test results will be accepted. Complete, end-to-end test results and loss budget calculations must be submitted to DC-Net in both electronic format (CD or DVD format) and hard copy. If special software or license is required to review test data electronically Contractor shall provide one copy of software and appropriate license with the test data.

C.4.2.4 Grounding and Bonding

C.4.2.4.1 The Contractor shall provide Grounding and Bonding Installation and Labeling in accordance with the following requirements as described below.

- a) The Contractor shall provide all materials and labor for installation of the grounding and bonding system for the Communications Infrastructure. This includes requirements for

providing a permanent grounding and bonding infrastructure for all communications circuits, raceways, ladder rack and cable tray.

C.4.2.4.2 Installation

- a) The grounding and bonding infrastructure system shall not utilize the building plumbing system, unless required to do so by the NEC.
- b) The Contractor shall coordinate the installation of the grounding and bonding system with the electrical power distributions grounding infrastructure.
- c) TMGB: Provide a minimum of one TMGB per Entrance Room for each building. Install TMGB(s) and directly bond TMGB(s) to electrical service ground and to related TBB(s).
- d) TGB: Provide a minimum of one TGB per Telecommunications Room (TR). Directly bond each TGB to its related TBB and to the nearest building structural steel or other permanent metallic system.

C.4.2.4.3 Labeling

- a) Label TMGB(s) with “TMGB”
- b) Label TGB(s) with “TGB”
- c) Label TBB(s) with “WARNING! TELECOMMUNICATIONS BONDING CONDUCTOR. DO NOT REMOVE OR DISCONNECT!”

C.4.2.5 Fire Stopping

C.4.2.5.1 The Contractor shall provide fire stopping installation in accordance with the requirements as described below.

- a) The Contractor shall maintain the fire rating of all penetrated fire barriers. The Contractor shall fire stop and seal all penetrations made during the SCS installation.

C.4.2.5.2 Installation

- a) Provide fire stopping material for through and membrane penetrations of fire-rated barriers.
- b) Install fire stops in strict accordance with manufacturers detailed installation procedure.
- c) Install fire stops in accordance with fire resistance requirements, manufacturer’s recommendations, local fire and building authorities. Apply sealing material in a manner acceptable to the local fire and building authorities.
- d) Fire stopping material that is used to seal open penetrations through which cable passes shall be re-usable/re-enterable.

C.4.2.6 BICSI Certification of Workers

C.4.2.1.6.1 The Contractor shall provide a minimum of one Registered Communications Distribution Designer (RCDD), certified and in good standing with BICSI. This RCDD must be a full-time employee of the Contractor and the Contractor shall employ a minimum of one RCDD throughout the duration of the project. One RCDD shall remain assigned to the project from start to finish and shall be available to provide guidance to the installation team. At least 30 percent of the copper installation and termination crew must be certified by BICSI with a Technician level of training or better.

C.4.3 Fiber and Cable Installation Services (Refer to Attachment A, Price Proposal Data & Response Sheet)

C.4.3.1 The District has approximately 500 Points of Presence (POPs) and more than 450 total miles of optical fiber cable, including the core rings and laterals to sites throughout the District. Fiber is a combination of dedicated District optical fiber (approximately 95%) and leased fiber. Fiber is both underground and aerial. Fiber cable is up to 432 strands, and less than 1% is armored. 85% of fiber is loose tube, and the rest is ribbon. The Contractor shall be capable of installing and extending District's optical fiber network, which includes the core fiber structure, node sites, and physical, transport, optical and switching layer devices. Contractor shall provide all staff and equipment (vehicles, tools, safety systems, test equipment, etc.) necessary to continue the installation of District's Fiber Optic Communications Network. All work shall be to BICSI standards. The Contractor shall be equipped with all necessary tools and devices to properly identify and remove both underground and aerial legacy lead and copper cabling and replace with protective inner duct and fiber cabling of various sizes and sheath counts. Installers will be fully versed in duct "washes", obstruction removals, any and all aspects of splicing technologies, and required testing to ensure connectivity is within loss tolerance performance levels.

C.4.3.2 The Contractor shall install and extend the District's optical fiber network, which includes the core fiber structure, node sites, and physical, transport, optical and switching layer devices. The Contractor shall provide all staff and equipment (vehicles, tools, safety systems, test equipment, etc.) necessary to continue installation of the District's Fiber Optic Communications Network. The Contractor shall perform all work in accordance with BICSI standards.

C.4.3.3 The Contractor shall utilize historical construction information, documented within the pricing table presented herein, as a benchmark for anticipated aerial and underground expansion/growth to the District's fiber construction program, a synchronous optical network based technology (SONET) connecting government and non-profit voice, data, video, and wireless end users.

C.4.3.4 Existing inventory already on-hand consists of the following:

- a) Sumitomo Pure band "0" water peak single mode fiber is used – Max Attenuation .35dB/km at 1310nm and .25dB/km at 1550nm
- b) Armored cable is less than 1% of the total fiber
- c) Predominantly all cables are dielectric
- d) Current fiber deployment by cable size (approximate):

- i. 288 – 5%
- ii. 144-10%
- iii. 96-30%
- iv. 48-45%
- v. 24-5%
- vi. 12-5%

- e) 85% loose tube/15% Ribbon
- f) DWDM is used on a portion of the system

- g) Approximately 40% is underground, and
- h) Approximately 60% is aerial fiber;
- i) Armored cable is less than 1% of the total fiber
- j) Predominantly all cables are dielectric

C.4.3.4 The Contractor shall perform the following associated functions and provide the following detailed items reference below:

- a) ISP
- b) Manhole Survey
- c) Aerial Placement
- d) New Conduit Installation
- e) New Underground Placement
- f) Obstruction Digs
- g) Manhole Duct Washes

C.4.3.5 Construction

C.4.3.5.1 The Contractor shall perform and provide documentation in accordance with the following Construction-related requirements.

- a) The District will authorize work by issuing a Job Order, which will describe work to be performed that will be in accordance with this Statement of Work. The Contractor shall not perform any work that is not authorized by the District.
- b) The Contractor shall notify CA or assigned Construction Manager immediately by phone or email upon determining any work performed that is different in scope or nature from that indicated in the approved Job Order. The Districts Construction Manager will routinely require an inspection of the “changed condition” being experienced by the Contractor prior to recommending approval of the change.
- c) The Contractor shall provide transportation of all required labor, vehicles, trailers, tools, transportation of job materials, set-up of traffic control plan, set-up of Work Area Protection (WAP), set-up of job site, maintenance of job site, placing of silt fencing or other retaining barriers, shoring, personnel protective equipment, manhole escape equipment, any required manhole pumping and disposal of pumped waste, manhole testing and ventilation, and site tear-down and clean-up.
- d) Construction Traffic Control includes the Contractor provisioning of signs, stands, cones, arrow boards, and VMS boards.
- e) All construction will conform to applicable federal and Washington D.C. specifications, including OSHA, National Electric Code, National Electric Safety Code, DDOT requirements, and any other applicable government requirements.
- f) Placement of conduit/inner duct shall include the proofing of the conduit/inner duct and placement of a pull line in each conduit/inner duct. All conduit/inner duct ends must be sealed with duct plugs or other approved sealing materials. The sealing of conduit or inner duct must also be done with the placement of fiber
- g) All fiber cable placements shall include temporarily storing cable in figure eights or other coils to facilitate the placement process. Footage of cable for payment purposes will be taken from the sheath markings on each end of the cable placed. The Contractor shall record the actual installed footage and its location on the red lined and as-built drawings.

- h) The Contractor shall create and submit accurate redline drawings at the time of construction with a separate as-built quantity list, for approval by the District.
- i) Daily reports will be scanned at no more than 200 DPI (unless there is a legibility issue) and sent daily to The District's Construction Manager. At the discretion of the PM or manager a hard copy is acceptable.

C.4.3.6 Unit Descriptions - OSP & ISP Engineering

Refer to Attachment A, Price Proposal Data, Special Terms, and Response Sheet, Section 3.

C.4.3.6.1 Aerial Design

- a) The District will provide all aerial engineering and design work.
- b) The Contractor shall install aerial work in accordance with designs provided by the District.

C.4.3.6.2 Underground Design

- a) The District will provide all underground plant engineering and design work.
- b) The Contractor shall install underground work in accordance with designs provided by District.

C.4.3.6.3 Inside Site Design

- a) The District shall provide all inside plant design work.
- b) Contractor shall install inside plant work in accordance with designs provided by District.

C.4.3.6.4 Inside Plant Construction: The Contractor shall provide the following support services. Specific work to be performed will be based on each individual Job Order. Typical Job Orders shall be organized in the following groups of related effort. These are typical, but are not limited on any individual Job Order.

- a) Standard Wall Penetration Hole 2½" w/ Fire Stop - Not a core drill
 - i. Installation of water sealant inside hole before placement of conduit or cable,
 - ii. Sealing between hole and conduit,
 - iii. Finishing of inside wall or floor to match surrounding area.
- b) Place Pull Box - All Sizes
 - i. Measurement, cutting, placing, connecting, and attaching of conduit.
- c) Place Inner Duct - All Sizes
 - i. Measurement, cutting, routing, placing, connecting, attaching of inner duct from end to end.

C.4.3.6.5 Conduit Construction: The Contractor shall provide the following support services. Specific work to be performed will be based on each individual Job Order. Typical Job Orders shall be organized in the following groups of related effort. These are typical, but are not limited on any individual Job Order.

1. Conduit placement excavation set-up - under 50'
 - i. Unit 5300 applies when conduit is being placed less than 50 feet in trench feet.
2. Saw cutting - asphalt and concrete
 - i. This applies to the saw cutting of either asphalt and/or concrete and is computed using the linear footage cut.
 - ii. EXAMPLES of methods of calculation:
 - a) If cutting a square for a manhole placement, the measurement is the perimeter measurement of the hole opening (4 sides) less the width of any trenches leaving the manhole excavation.
 - b) If cutting a trench, the measurement is the cumulative length of each side of the trench.
3. Asphalt and/or concrete removal
 - i. Removal of asphalt and/or concrete and is calculated by cubic feet. Removal, loading, and hauling of the removed material and debris from the construction site to a disposal site.
 - ii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
4. Dig/fill straight access pit - 4' x 4' x 4'
 - i. Removal of material other than asphalt and concrete.
 - ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
 - iii. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
 - iv. Soil must be compacted to meet City specifications as listed in the referenced specifications.
 - v. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
 - vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.

5. Excavation - 0' to 10' depth

- i. Removal of material other than asphalt and concrete and is calculated by cubic yards.
- ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
- iii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
- iv. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
- v. Backfill excavation.
- vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.

6. Hand trench and place conduit 36" deep

- i. Removal of material other than asphalt and concrete and is calculated by trench feet.
- ii. Removal, loading, and hauling, if necessary, of the removed material and debris from the construction site to a disposal site.
- iii. All equipment and labor required for the removal and transportation is included, e.g. operators, drivers, laborers, backhoes, loaders, trucks, dump trucks, etc.
- iv. The placing of necessary barricades, reflective tape, safety lights, and any shoring required to meet OSHA or other relevant government agency codes.
- v. Backfill excavation.
- vi. Soil must be compacted to meet City specifications as listed in the referenced specifications.

7. Rock removal

- i. When trencher or backhoe is significantly hindered by the presence of solid rock or large boulders
- ii. When agreed to and District provides written approval.
- iii. Contractor shall stringently adhere to safety codes, and obtain all necessary special permits.
 - a) UNIT 5317 IS NOT AN ADDER:
 - i. When authorized, this unit replaces the affected unit, e.g. excavation, trenching, hand digging, etc.
 - b) UNIT 5317 REPLACES:
 - i. The portion of the affected unit which cannot be performed.
 - ii. EXAMPLE: If trenching 100' at 36" depth and 18" wide, and 10 feet of trench cannot be dug due to rock, the invoice would include 90' of trench and 10' x 3' x 1.5' cubic feet of rock removal.

8. Concrete protective cover over conduit - 6" minimum
 - i. The placement of a minimum of 6" of concrete over a conduit runs to provide physical protection of the conduit and cables during future excavation work.
 - ii. Concrete shall also extend at least 6" on either side of the conduit also.

9. Core bore vault/manhole/handhole - up to 6" diameter core
 - i. The core drilling of a hole up to 6" in diameter,
 - ii. Installation of water sealant inside the core before placement of conduit,
 - iii. Sealing the opening between the concrete and the conduit,
 - iv. Restoration of finishing of inside wall or floor to match surrounding area, and
 - v. Clean up of area both inside and out.
 - vi. The excavation of a pit on the outside for access may be charged under another unit but may also be included in one of the excavation units.

10. Install 4' x 4' x 4' pre-cast manhole
 - i. Transportation of manhole and other materials to the job site,
 - i. Excavation,
 - ii. Placement of fill and leveling material,
 - iii. Placement of the manhole,
 - iv. Leveling, placement of collars and lid,
 - v. Back filling and compacting of soil to specification,
 - vi. Cleanup, and
 - vii. Restoration of site.

11. Install pre-cast handhole with pea rock - 24" x 36" x 36"
 - i. Transportation of handhole and other materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill and leveling material,
 - iv. Placement of the handhole,
 - v. Leveling,
 - vi. Placement of collars and lid,
 - vii. Back filling and compacting of soil to specification,
 - viii. Work Area Cleanup
 - ix. Restoration of site.

12. Install quartzite handhole with pea rock – 30"x48"x36" deep
 - i. Transportation of handhole and other materials to the job site,
 - ii. Excavation,
 - iii. Placement of fill and leveling material,
 - iv. Placement of the handhole,

- v. Leveling,
- vi. Placement of collars and lid,
- vii. Back filling and compacting of soil to specification,
- viii. Work Area Cleanup
- ix. Restoration of site.

13. Install quartzite handhole with pea rock – 36”x60”x36”deep

- i. Transportation of handhole and other materials to the job site,
- ii. Excavation,
- iii. Placement of fill and leveling material,
- iv. Placement of the handhole,
- v. Leveling,
- vi. Placement of collars and lid,
- vii. Back filling and compacting of soil to specification,
- viii. Work Area Cleanup
- ix. Restoration of site.

14. Install 1”- 4” PVC conduit

- i. Transportation of all associated materials to the job site,
- ii. Excavation,
- iii. Placement of fill,
- iv. Placement of the first conduit,
- v. Placement of spacers,
- vi. Connecting conduit,
- vii. Back filling and compacting of soil to specification,
- viii. Cleanup, and
- ix. Restoration of site
- x. Placement of duct plugs in all conduit openings
- xi. When connecting the conduit to a manhole, handhole, building, pedestal, or other housing:
 - a) The removal of knockouts,
 - b) Placement into manhole, handhole, building, pedestal, or other housing, and
 - c) Proper sealing of opening.
 - d) Placement of a pull line in the conduit and
 - e) Placement of duct plugs in all conduit openings
 - f) Concrete encasement.

15. Install inner duct in conduit

- i. Transportation of the inner duct to and from the job site,
- ii. Placement of pull line, if necessary, and
- iii. Placement of one inner duct into any size conduit.
- iv. Placement of a pull line in the inner duct and
- v. Placement of duct plugs in all openings.

16. Install multiple inner ducts in conduit

- i. Transportation of the inner duct to and from the job site,
- ii. Placement of pull line, if necessary, and
- iii. Placement of two or three inner ducts into any size conduit.
- iv. Placement of a pull line in each placed inner duct and
- v. Placement of duct plugs in all openings.

17. Install riser w/U-Guard

- i. Unit 5390 applies to the placement of a U-Guard on a building or other structure where a cable transitions from/to the underground. Construction manager notification required ANYTIME used with a footage estimate

18. Temporary cold patch

- i. Unit 5411 does not apply to areas where the Roadway Repair units apply.
- ii. Placement of a temporary cold patch will comply with City specifications. All material is included in the unit.

19. Temporary hot patch

- i. Unit 5412 does not apply to areas where the Roadway Repair units apply.
- ii. UNIT 5412 INCLUDES: Placement of a temporary hot patch and will comply with City specifications. All material is included in the unit.

20. Concrete placement

- i. Unit 5430 does not apply to areas where the Roadway Repair units apply.
 - i. Forming of site
 - ii. Provision of concrete, forms, and other materials,
 - iii. Pouring of concrete,
 - iv. Surface finishing as specified by District and to match surrounding areas, Removal of forms,
 - v. Removal and disposal of all waste material, and
 - vi. Area cleanup and restoration.

21. Restoration of Decorative Stone

- i. Transportation of materials
- ii. Spreading of the stone up to 6" in depth
- iii. Removal and disposal of all waste
- iv. The area to be covered should be only that which is necessary to restore the job site to its original status.

22. Place Fiber Cable or Conduit Or Building:

- i. Install Fiber Cable in Outside Conduit or Inner duct
 - a) Transportation of the cable to and from the job site,
 - b) All setup cost,
 - c) Blowing a pull line if necessary, and
 - d) Pulling of cable into any size conduit or inner duct as specified in construction documents.
 - e) Placing a Trace Wire with the cable in the same duct or inner duct and grounding the trace wire on each end including inside a building.
 - f) Placement of cable tags as specified by District.
 - g) Footage markers from the cable must be recorded on the redlined drawings.

23. Install Additional Fiber Optic Cable in Outside Conduit or Inner Duct

- i. Transportation of the cable to and from the job site,
- ii. All setup costs,
- iii. Blowing a pull line if necessary, and
- iv. Pulling of cable into any size conduit or inner duct as specified in construction documents.
- v. Placement of cable tags as specified by District.
- vi. Footage markers from the cable must be recorded on the redlined drawings.

24. Install Fiber Cable in Inside Conduit or Inner duct

- i. Transportation of the cable to and from the job site,
- ii. All setup costs,
- iii. Blowing a pull line if necessary, and
- iv. Pulling of cable into any size conduit or inner duct as specified in construction documents.
- v. Placement of cable tags as specified by District.
- vi. Footage markers from the cable must be recorded on the redlined drawings.

25. Place Slack Coil in Inside or Outside Environment

- i. Placement of a slack, maintenance, or splicing coil in a manhole, building, or other location specified by District other than on aerial strand.
- ii. Placement of cable tags as specified by District.
- iii. The unit of payment is per foot for the length of the cable that is being coiled.
- iv. Footage markers from the cable must be recorded on the redlined drawings.

26. Remove Underground Fiber Optic Cable or Inner Duct

- i. Removal of a cable of any size from existing conduit,
- ii. Chopping of the cable into transportable lengths or placing on a reel, and delivery to a disposal site.

27. Rodding Existing Conduit – 3/8” fiberglass rod - UOM –LF

- i. Hand/push rod an empty or partially full cell using a 3/8 “ fiberglass rod
- ii. Placement of mule tape
- iii. Do Not Stick Rod Without Prior Approval

28. Rodding Existing Conduit – 3/4” stick rod - UOM –LF

- i. Hand/push rod an empty or partially full cell using a 3/4 “ stick rod
- ii. Place mule tape in the cell
- iii. Hand/push rod an empty or partially full cell using a 3/4 “ stick rod
- iv. This unit requires District approval prior to starting work

29. Remove and dispose Lead Cable from underground conduit

- i. Unit 6400 covers removing and disposing of lead cable, has been tagged with a DC Govt. tag and has been cut and ready for removal.

30. Aerial Construction

a) Regular Tree Trimming

- i. The linear feet of the path that is trimmed.
- ii. This unit requires prior written direction from District.
- iii. This unit is not applicable to the incidental trimming of a few branches.

b) Install Vertical Ground with Rod

- i. Placement of a vertical ground and rod when placing strand, and necessary to comply with the National Electric Code.
- ii. All materials except those listed in the “Approved Material List.”

c) Reframe Pole

- i. Applies when it is necessary to “re-frame” a pull to facilitate the attachment of strand.
- ii. Applies to all materials except those listed in the “Approved Material List.”
- iii. Does not apply when framing a pole, associated with the unit below titled “Install Strand and Hardware”.

d) Install Strand and Hardware

- i. Placement of new strand and associated hardware necessary to frame the pole.
- ii. Splicing and bonding to existing strand and grounding system.
- iii. All materials except those listed in the “Approved Material List”

e) Install/Remove Dead-end

- i. Installation and/or removal of a dead-end strand or guy.
- ii. Splicing and bonding to existing strand and grounding system.
- iii. All materials except those listed in the “Approved Material List”

f) Re-Sag Strand

- i. Activities necessary to re-sag an existing strand.
- ii. Any incidental tree trimming.

g) Install Screw Anchor Normal Soil w/ Guy and Guard

- i. Installation of a screw type anchor, in normal soil, with a guy and guard. Backfilling of the hole,
- ii. Proper compaction, and
- iii. Cleanup of the work site.
- iv. All materials except those listed in the “Approved Material List.”

h) Install Anchor, Eye, and Rod Any Type except Screw

- i. Placing of an anchor including the excavation of the hole,
- ii. Installation of anchor including rod and eye,
- iii. Backfilling of the hole,
- iv. Proper compaction, and
- v. Cleanup of the work site.
- vi. All materials except those listed in the “Approved Material List.”

i) Remove Anchor w/Guy, Eye, and Rod - any type

1. Removal of an anchor, rod, and guy of any type.
2. Filling the hole with proper material,
3. Proper compaction, and
4. Site restoration.
5. The rod shall be cut off 18” below ground level.

j) Install/Remove Down Guy w/Guy Guard and/or Sidewalk Guy Arm

- i. Placement and/or removal of a guy, sidewalk guy, guard, or guy arm.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”

- iv. All sizes of strand/guys and includes the placement of tags.

k) Install/Remove Overhead Guy

- i. Placement and/or removal of an overhead guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of strand/guys and includes the placement of tags.

l) Install/Remove Pole-to-Pole Guy

- i. Placement and/or removal of a pole-to-pole guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of strand/guys and includes the placement of tags.

m) Install/Remove Cable Extension Arm

- i. Placement and/or removal of a cable extension arm.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List.”
- iv. All sizes of arms strand/guys and include the placement of tags.

n) Resag/Retention Down Guy

- i. Re-tensioning or re-sagging of a down guy.
- ii. Placing of bolts and brackets, tensioning, bonds and grounds.
- iii. All materials except those listed in the “Approved Material List”
- iv. All sizes of strand/guys and includes the placement of tags.

o) Aerial Cable Setup 500ft or Less

- i. Unless entire job order includes less than 500’ of cable or
- ii. Written permission is granted from District.
- iii. Its intent is to help offset the mobilization and setup cost of a small job.

p) Place aerial fiber optic cable with existing cable with single overlash

- i. All materials except those listed in the “Approve Material List”
- ii. Placing cable risers down poles
- iii. Riser footage in the aerial placing unit
- iv. Transportation of the cable to and from the job site
- v. Cable pull set up, placing of the cable, tensioning, and all other associated work
- vi. Placement of cable tags at all pole locations
- vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task

- q) Place aerial fiber optic cable with existing cable with dual overlap
- i. All materials except those listed in the “Approve Material List”
 - ii. Placing cable risers down poles
 - iii. Riser footage in the aerial placing unit
 - iv. Transportation of the cable to and from the job site
 - v. Cable pull set up, placing of the cable, tensioning, and all other associated work
 - vi. Placement of cable tags at all pole locations
 - vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task
- r) Place Aerial Fiber Optic Cable Including De-lashing and Dual Over-lashing.
- i. All materials except those listed in the “Approved Material List”
 - ii. Placing cable risers down poles.
 - iii. Riser footage in the aerial placing unit.
 - iv. Transportation of the cable to and from job site,
 - v. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - vi. Placement of cable tags at all pole locations.
 - vii. Provisioning of all tools, e.g. rollers and j-hooks, necessary to perform this task.
 - viii. The existing plant will be de-lashed and re-lashed with a dual lasher.
- s) Dual Lash Cable - First Cable
- i. This unit is used to lash one non self-supporting cable to a strand.
 - ii. Transportation of the cable to and from job site,
 - iii. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - iv. Placement of cable tags at all pole locations.
 - v. All materials except those listed in the “Approved Material List”
- t) Place Each Addition Cable
- i. Unit 7505 is used in conjunction with the unit titled “Dual Lash Cable - First Cable”.
 - ii. Transportation of the cable to and from job site,
 - iii. Cable pull setup, placing of cable, tensioning, and all other associated work.
 - iv. Placement of cable tags at all pole locations.
 - v. All materials except those listed in the “Approved Material List”

u) Cleat Cable to exterior of Building

- i. Unit 7510 covers attaching a cable, e.g. 48 fiber cables at 0.48” in diameter, to an exterior wall including the installation of all necessary support attachments.
- ii. All bends in the cable will be a minimum of 6” radius.
- iii. All materials except those listed in the “Approved Material List” are included in the unit.

v) Place Aerial Fiber Single Loop - for Storage or Slack

- i. The placing on strand of a single slack coil, storage loop, maintenance loop, or splicing loop.
- ii. It includes placing snowshoes and all lashing and zip tie activities.
- iii. All materials except those listed in the “Approved Material List”

w) Place Aerial Fiber Dual Loop - for storage or slack

- i. The placing on strand of a dual slack coil, storage loop, maintenance loop, or splicing loop.
- ii. Placing snowshoes and all lashing and zip tie activities.
- iii. All materials except those listed in the “Approved Material List”

x) U-Guard Installation or Removal - any type

- i. All materials except those listed in the “Approved Material List”

y) Install Tree Guard

- i. All materials except those listed in the “Approved Material List”

z) Building Attachment - includes hardware, as specified

- i. All materials except those listed in the “Approved Material List”

31. Trenching Construction:

a) Install hand trenched 1.25” innerduct – linear foot

- i. Trenching
- ii. Removal of any waste
- iii. Backfill
- iv. Placement of inner duct at 36” depth
- v. Placement of locate wire
- vi. Transportation of inner duct to and from job site
- vii. Inner duct set up placement
- viii. Any other actions necessary for inner duct placement

b) Install machine trenched 1.25” innerduct – linear foot

- i. Trenching
- ii. Removal of any waste
- iii. Backfill
- iv. Placement of inner duct at 36” depth
- v. Placement of locate wire
- vi. Transportation of inner duct to and from job site
- vii. Inner duct set up placement
- viii. Any other actions necessary for inner duct placement

c) Hand Trench/Place Cable 36” linear foot

- i. Hand trenching,
- ii. Removal of any waste material,
- iii. Backfill,
- iv. Placement of the cable,
- v. Placement of a specified locate wire,
- vi. Transportation of the cable to and from the job site,
- vii. Cable placement setup and any other actions necessary for cable placement.
- viii. All materials except those listed in the “Approved Material List”
- ix. All hand trenching must be approved in writing by District prior to the work being performed.

d) Trench one (1) 4” HDPE - using machinery

- i. The placement of one (1) 4” HDPE by trenching with machinery with a minimum cover of 36”.
- ii. Transportation of the conduit to and from the job site,
- iii. Placement setup,
- iv. Trenching,
- v. Removal of any waste material,
- vi. Placement of the conduit,
- vii. Backfill,
- viii. Proper compaction of the soil,
- ix. Proper surface restoration,
- x. Proofing of conduit,
- xi. Placing of pull line in conduit,
- xii. Placing duct plugs in all conduit ends, and any other actions necessary for conduit placement -
- xiii. All materials except those listed in the “Approved Material List”

- e) Hand trench/place one (1) - 4" HDPE /Trenching in excess of 36" depth using machinery - each 6" in excess
 - i. Unit 8310 is used when conduit placement is required in excess of 36" using machinery.
 - ii. To each 6" of depth.
 - iii. All materials except those listed in the "Approved Material List"

32. Personnel must be pre-authorized

- a) Manhole Survey (including Butterfly)
 - i. Two (2) technicians with truck, tools, WAP, and traffic control setup.
 - ii. Creating a butterfly diagram, which indicates all cables in the manhole and specifically the DC Cables?
 - iii. Includes identifying, tagging, and cutting the DC Cables in preparation for removal.
 - iv. Use of this item unit has a minimum of 4 hours when used.
- b) Manhole Survey Crew
 - i. One technician with truck, tools, WAP, and traffic control setups. Shift will begin at the first work site and end at the last work site. This crew will only escort a District representative who will perform and document the survey.
 - ii. The Contractor requires no CAD work.
 - iii. Use of this item unit has a minimum of 4 hours when used.
- c) Manhole Survey Crew
 - i. Two (2) technicians with truck, tools, WAP, and traffic control setup. Shift will begin at the first work site and end at the last work site. This crew will only escort a District representative who will perform and document the survey.
 - ii. The Contractor requires no butterfly or CAD work.
 - iii. Use of this item unit has a minimum of 4 hours when used.
- d) Man Line Crew
 - i. Use of this item unit has a minimum of 4 hours when used.

33. Miscellaneous:

- a) Laborer / Flagger
 - i. Use of this item unit has a minimum of 4 hours when used.
- b) Truck Driver
 - i. Use of this item unit has a minimum of 4 hours when used.

c) 2-Man Fully Equipped Splicing Crew

- i. Underground or aerial vehicle equipped with all work area protection
- ii. Required Equipment
 - 1. OTDR
 - 2. Fusion Splicer
 - 3. Power Meter Test Equipment
 - 4. Fiber Protection Sleeves.

d) Cable Locator with Truck, Tools, and Paint

e) Material Pick-Up - when required

- i. If Contractor is required to pick up material: This will be per mile from pick-up location to destination job site as measured by “Microsoft Streets and Trips 2001” or later version.
- ii. Prior approval of District is required.
- iii. The intent is unique events not “standard stocking”.

f) Obstruction Dig - Unit Rate: - hourly rate

- i. Providing all appropriate WAP and traffic control including arrow board.
- ii. This unit includes digging a pit 6’ x 4’ x 4’,
- iii. Exposing the existing duct bank,
- iv. Identifying and repairing the damaged conduit and
- v. Closing up the pit.
- vi. Removal of asphalt, concrete and dirt and
- vii. Placement of 6” dry mix around repaired conduit,
- viii. Back filling the hole and placing a hot patch on the street.
- ix. Placing a 1” rope or 1¼” inner duct in the repaired conduit.
- x. Use of this item unit has a minimum of 4 hours when used.

g) ISP Crew - Unit Rate: - hourly rate for fully equipped truck and two (2) technicians

- i. Contractor will provide all tools
- ii. District will provide all material
- iii. Placing, cuffing, bending metal conduit up to 2” in diameter
- iv. Placing pull boxes
- v. Placing inner duct
- vi. Placing and securing relay racks
- vii. Placing and securing ladder racks
- viii. Placing backboards
- ix. Installing ground wire
- x. Placing copper cable up to 100 pair
- xi. Placing fiber cable

- xii. Drilling holes in walls up to 2½”
- xiii. Place and secure cabinets Use of this item unit has a minimum of 4 hours when used.

h) Cable Removal Extension Hourly Crew - Rate:

- i. Extending a cable removal crew’s time on site in the event removal of a cable cannot be accomplished by the initial pulling effort, as certified by District Construction Manager, as described below.
- ii. This fixed rate will be applied within the regular 8 hour work day and is designed to reimburse additional Contractor effort for “stuck” cables that require effort beyond the initial pull to remove. District Construction Manager or properly delegated Inspector shall be required to authorize this exception, which, in the professional judgment of District, does NOT constitute an OBSTRUCTION, covered above, but where the cable can be cleared from the duct with additional effort.
- iii. The cable removal supervisor from the Contractor shall make the above recommendation to the District Construction Manager with sufficient notice that on-site inspection shall occur during the same daily set-up.

i) Conduit Wash

- i. Providing all appropriate WAP and traffic control including arrow board. Washing a conduit section between two (2) manholes or a manhole to a pole and pumping out the excess water into the closest storm drain.
- ii. Place mule tape or equivalent
- iii. Use of this item unit has a minimum of 4 hours when used.

C.4.4 Optical Fiber Cable Maintenance

C.4.4.1 The District seeks Contractor to maintain its optical fiber network. This network consists of node sites within the core structure; these nodes having various combinations of physical, transport and switching layer devices interconnected by optical fiber cable. The optical fiber cable is a combination of dedicated District optical fiber, leased fiber, and fiber provided by local cable and internet service providers under provisions of their District of Columbia franchise agreements. The Contractor is not obligated to enter non-District fiber splices. Information will be provided by The Contractor shall provide maintenance of the District’s optical fiber cable plant, which consists of the following (quantities below are estimated and subject to change):

- a) 500 sites have a point of presence (POP)
 - i. The network has sites added or removed during the course of time.
 - ii. DISTRICT presently serves more than 30,000 Districts with various combinations of voice, data and video.

- iii. POP sites with local service in buildings belonging to or affiliated with the DC Government clients; some are primary (have voice and/or data services for the building and surrounding facilities);
- iv. Pass through sites exist with fiber in the building with splice points (but no local service in the building);
- v. Approximately 250 designated splice points.

b) And 450 total miles of optical fiber cable, of which;

- i. Sumitomo Pureband “0” waterpeak single mode fiber is used – Max Attenuation .35db/km at 1310nm and .25db/km at 1550nm
- ii. Splices require a loss of .05db or less
- iii. Bidirectional testing is required at 1310nm & 1550nm
- iv. DWDM is used on a portion of the system
- v. Approximately 40% is underground, and
- vi. Approximately 60% is aerial fiber;
- vii. Armored cable is less than 1% of the total fiber
- viii. Predominantly all cables are dielectric
- ix. Current fiber deployment by cable size –approximate
 - 1. 288 – 15%
 - 2. 144-15%
 - 3. 96-30%
 - 4. 48-30%
 - 5. 24-5%
 - 6. 12-5%
- x. 70% loose tube/30% Ribbon
- xi. District owned Fiber 90% and 3rd party is 10%

C.4.4.2 The Contractor shall provide all staff and equipment (e.g. Vehicles, tools, safety systems, and test equipment) for this maintenance or new splicing effort. The Contractor shall provide all staff and equipment necessary to restore and correct District network service by repairing cable at splices for aerial, building and underground optical fiber and copper cables to affect restoration (repairs) and correction, Contractor shall be capable of replacing:

- a) Optical fiber cable by pulling in new underground, and lashing new aerial optical fiber cable on existing routes and alternate routes;
- b) Copper cable interconnecting District facilities by pulling in new underground, and installing new aerial copper cable on existing routes and alternate routes to BICSI standards.

C.4.4.3 **Categories of Maintenance:** There are two (2) categories of maintenance integral District maintenance operations.

C.4.4.3.1 **Planned Maintenance**

C.4.4.3.1.1 The Contractor shall provide dead work splicing in existing splice cases and new splice work during the 40 hour work week. This includes “Dead Work” splicing, interpreted as New Lateral prep & Cut-in at existing Splice Points, and redirecting of network fibers to

accommodate turn-up of new Demarks and new or existing backbone fiber splicing. This also includes “new work” splicing, interpreted as prep and splicing of existing un-prepped Buffer tubes at existing splice points, and the prep and splicing of newly constructed splice points.

C.4.4.3.1.2 The Contractor shall provide the following three types of Planned Maintenance.

- a) **Scheduled:** This type of maintenance shall be restoration or correction work where there has not been a service-affecting outage of either voice or data services.
 - i. NOTE: When this restoration or corrective work extends beyond the normal workday the Contractor shall obtain prior approval from District management (the intent shall be to maintain an average of 40 hours a week per by reducing hours worked on another day).
- b) **Preventive:** This type of maintenance shall be inspection and correction work to overcome optical fiber installation conditions that do not meet industry standards for installation, and that threaten to become service affecting outages
- c) **Planned Maintenance Response to Service Affecting Outages:** This type of maintenance response shall be to a service affecting outage that occurs during the planned maintenance period and requires other planned maintenance be set aside for outage restoration or corrective work. This is not covered under item below.
 - i. NOTE: When this restoration or corrective work extends beyond the normal workday the Contractor shall obtain prior approval from District management (the intent shall be to maintain an average of 40 hours a week per by reducing hours worked on another day).
 - ii. Planned maintenance shall be scheduled (based upon access to fiber splice locations and client needs) between the limits of 6AM Monday to 6PM Friday (excepting DC Government holidays), for a total Not-to-exceed 8 hours in a workday, and Not-to-exceed 40 hours in a calendar work week (without District management approval).

C.4.4.3.2 **Unplanned Maintenance:** This type of maintenance shall be response to an outside plant failure that causes a service-affecting outage that occurs outside the planned maintenance period.

C.4.4.3.2.1 The Contractor shall be on-call for emergency maintenance situations which may occur between the hours of 6pm to 6am nightly Monday through Thursday, from 6PM Friday to 6AM Monday (weekend), and 6AM to 6PM on DC Government holidays. s described earlier and in compliance with SLA 1 & 2. This work is part of the 40 hour work week. The average number of times per year for this (but not limited to) is 6. Emergency maintenance response shall be bound by District Fiber Optic Corrective Maintenance Service Level Agreement, otherwise entitled Service Level Agreement (SLA) #1 and SLA #2. The Contractor shall provide sufficient resources to restore both underground and aerial faults in the cable network; to include faults where simultaneous restoration work shall be accomplished at two ends of a span; of which shall be a combination of:

- i. Both underground; or
- ii. One aerial and the other underground; or
- iii. Both aerial; or
- iv. An ISP site and associated aerial or one underground splice locations

C.4.4.3.2 Catastrophic

The Contractor shall commit resources for multi-site and multi-loop ("catastrophic") failures in the event of severe weather, natural disaster, or human precipitated events. This SLA shall specify the additional teams/crews, vehicles, and other resources the Contractor will commit/prioritize to the District for continuous recovery and service restoration, above and beyond the service capabilities of the principal group of resources ("team") performing daily scheduled proactive and reactive maintenance assignments. The Contractor proposal shall state the terms upon which an authorized District manager may direct such response to be activated, and the associated costs for that additional SLA commitment. Failure to meet SLA response and restoration requirements shall result in monetary penalties as stated in subsequent sections of this document.

C.4.4.4 Response Period

- a) Maintenance services shall be furnished 24 hours per day, 7 days per week, for the period of performance of this task, including all weekends and holidays.
- b) Planned maintenance shall be scheduled. The District will provide notification for the need for such services by aural notification to the Contractor's point of contact in advance, followed up via a Maintenance Tracking Request transmitted by electronic media.
- c) Unplanned maintenance shall respond 24x7x365 to meet SLA requirements, as directed by authorized District maintenance operations staff.

C.4.4.5 Supporting Services

C.4.4.5.1 The Contractor shall provide the following support services.

- a) All staff and equipment necessary to perform scheduled and emergency assessment, fault locating, fiber splicing services, and all fiber testing required;
- b) All staff and equipment necessary to inspect outside plant cable routes on a preventive maintenance schedule directed by authorized District manager to identify environmental conditions detrimental operation of optical network transport; and
- c) Where required for restoration, additional services directly associated with optical fiber cable restoration shall be provided, to include:
 - i. Boring/pushing optical fiber right of way (e.g. Innerduct) for distances not greater than 300 feet,
 - ii. Hand digging,
 - iii. Manhole alteration and restoration,
 - iv. Aerial span replacement (including overlashing), and
 - v. All required splicing and test equipment, and consumables when placing cable into a building a plug or foam sealant will be used at the time of placement

C.4.4.6 Point of Presence (POP) Inspection and Clean-Up

The Contractor shall provide all staff and equipment necessary to enter and visually inspect as directed the POP sites to identify environmental conditions detrimental to operation of the POP optical fiber transport equipment. This inspection shall include correction (cleaning) of unsatisfactory equipment room. Cleaning shall not extend beyond four hours without specific approval of authorized District maintenance manager.

C.4.4.7 Special Equipment, Tools, and Techniques

C.4.4.7.1 The Contractor shall provide 2 trailers and a bucket truck dedicated to this District effort, available 24/7/365, with adequate environmental, electric, and work space.

- a) The trailers and bucket truck will be used by the Contractor when location and space allows.
- b) The District reserves the option to use the trailer and bucket truck as needed, which may require the Contractor to deliver, setup and provide protection, then return to pick-up the trailer.
- c) The Contractor may or may not be required to remain with the trailer (depending upon if insurance requirements require the Contractor employee to remain with the trailer) as directed by District during the 40 hour work week, day or night.

C.4.4.7.2 The Contractor shall be equipped with (but not limited to) the following equipment for access to confined space entry (manhole):

- a) Emergency extraction tripod
- b) Explosive gas detector/oxygen analyzer
- c) Submersible pump
- d) Blower and duct
- e) Approved guard railing

C.4.4.8 The Contractor shall conduct all required testing and certification required for access to enclosed spaces including pump out and ventilation. This equipment shall be in addition to aerial and underground splicing equipment, vehicles, and tools previously identified.

C.4.4.9 Materials

- a) Unless otherwise identified in a District Maintenance Tracking Request, no materials shall be furnished by Contractor under this contract except consumables (e.g. Cable ties, fuses, nuts, bolts, screws, etc.).
- b) The Contractor shall retain on-hand sufficient District approved materials to complete all maintenance requirements, and shall maintain accurate inventory of these materials.
- c) Upon removal of any stock item, the Contractor shall supply a list of materials used during maintenance and a request for replenishment of this stock with the completed Contractor portion of the Maintenance Tracking Request. The DISTRICT materials shall be unencumbered by any other service agreement, available for District at all times and neither committed nor made available to any other District.

C.4.4.11 Call-Out

The Contractor shall provide a local point-of-contact for first response notification of emergent call-out requirements. Failure to arrive within previously stipulated service level agreement timeframes and/or non-continuous productive work effort until full restoration or release by District OSP supervisor will result in monetary penalties equivalent to loss of DC-Net monthly recurring revenue. Overall duration of outage or impaired/limited network availability will be additional governing factors used to evaluate Contractor performance. It is strongly suggested that said Contractor possess insurance protection not to exceed \$2M per event.

C.4.4.12 Staffing

The Contractor shall provide staff that meets the Labor Qualification as required to ensure the staffing that shall be able to meet the District maintenance service requirements to provide the level of service described above. At a minimum one senior splicer and one non-senior splicer will be the team, working 40 hours per week, from 8:30am to 5:30pm, M-F.

C.4.4.13 Key Personnel

- a) The Contractor shall provide a Senior Splicer (Key Person) and a Non-Senior Splicer when responding to an SLA requirement. The Contractor may submit more than one Senior Splicer for instances when 24 x7 coverage is shared amongst their staff.
- b) The Contractor shall request approval with 2 weeks' notice to replace staff assigned to District maintenance services; which approval District will not unreasonably withhold, in the event a qualified replacement is offered. The District has the absolute right to reject a replacement based upon resume and interview.

C.4.4.14 Failure to Perform

Failure to perform satisfactorily for 10 consecutive working days is unacceptable and may be grounds for the Contractor to provide a replacement resource capable of meeting the standard. Should the Program require a replacement resource, the Contractor shall furnish a replacement within 5 business days from the date of notification.

C.4.4.15 ISP & OSP Specifications

The District reserves the right to change any of these standards during the course of the contract. The District reserves the right to exclude any of these specifications on a case by case basis. If an email is not provided by the District noting the exception, it is the responsibility of the Contractor to email a simple confirmation of the verbal direction to the District Network Implementation Manager, the District field supervisor, and the District Program Manager. The same policy applies to any verbal direction from the District that is in conflict with any other part of the contract agreement.

C.4.4.15.1 ISP Fiber Standards

C.4.4.15.1.1 The Contractor shall adhere to the following ISP Fiber Standards and shall perform as follows:

- a) Fiber distribution panels will be labeled, P-Touch ½ inch label, with loop identification, site number, panel number and destination information.
- b) All patch cords will be labeled with a circuit ID for example if a circuit originates at site 007 and the destination is site 493 than the circuit ID will be 007-493.
- c) All fiber identification cards that are supplied with each fiber distribution panel will be labeled with the circuit ID in the corresponding square.
- d) All fiber distribution panels will be secured properly inside relay racks, Hoffman boxes and cabinets with proper hardware conforming to standard EIA rack panel placing spacing.
- e) All cables will be attached to the strain relief bracket inside the fiber distribution panels.
- f) All ISP cables attached to fiber distribution panels will be tagged with loop, site number, destination, size and type of cable.
- g) All OSP cables will be tagged at the fiber distribution panel and point of entry with loop, site number, destination, size and type of cable.
- h) All cables and maintenance loops will be secured properly to wall, ladder rack, inside Hoffman box or cabinets.
- i) All maintenance loops will be tagged with a District warning tag.
- j) All splice trays with 250um fiber will have a minimum of 2 wraps not to exceed 3 wraps. Fiber shall be cleaned properly with D-Gel solvent and alcohol.
- k) All splice trays with 900um fiber will have a minimum of 1 wrap not to exceed 2 wraps.
- l) All splice trays will be numbered in numerical sequence and the lids taped when splicing is completed.
- m) All splice trays will be dressed neatly, labeled with correct sheath count and splicing information.
- n) Heat sleeves will be 60mm.
- o) Spiral wrap will be utilized when using SPS9 splicing shelf or any other splicing shelf.
- p) Sheath butts will be taped and spiral wrap will be utilized to transition from sheath butt into fiber distribution panel.
- q) Contractor/personnel shall make sure not to exceed the bend radius of OSP cables or cables with in fiber distribution panels and splice enclosures.
- r) Contractor shall provide DISTRICT with proper as built documentation to include the following; post test results bidirectional OTDR 1310nm/1550nm, bidirectional power meter 1310nm/1550 nm, pictures of installation/splicing work, footage markings at fiber distribution panels and splice enclosures. Please note Contractors work will not be accepted until as built documentation and inspections have been completed.

C.4.4.15.2 OSP Fiber Standards

C.4.4.15.2.1 The Contractor shall adhere to the following OSP Fiber Standards and shall perform as follows:

- a) All DISTRICT cables/inner duct in man holes, pull boxes, vaults or any other confined space shall be tagged at the point of entry and the point of exit.

- b) All conduits and inner ducts being utilized by DISTRICT shall be sealed with an appropriate sealing compound.
- c) Inner duct at the point of entry shall not protrude more than 4 inches unless, a job order requires inner duct to be placed to the termination point.
- d) All DISTRICT cables/inner duct, slack coils and splice enclosures in confined spaces shall be properly secured.
- e) Aerial slack coils shall be placed in snow shoes lashed or secured with Deltec buckle straps to strand. If lashed, lashing wire clamps will be utilized to secure lashing wire to strand.
- f) All splice enclosures and patch panels shall be installed and prepped in accordance with manufactures recommendations.
- g) All splice enclosures cables shall be tagged with loop, splice point ID, destination, size and type of cable.
- h) If armored cable is used, cables will be bonded inside splice enclosures and splice enclosures will be grounded in man hole or on strand.
- i) Aerial splices shall be secured to strand with appropriate lashing supports or brackets.
- j) OSP Contractor shall provide DISTRICT with as built documentation to include the following; man hole logs, red lines if route changes or if duct selection changes, pole ID and any other information deemed necessary by Barry Silverman.
- k) All standards are subject to change. Contractors will be advised if changes occur.

C.4.4.16 Service Level Agreement (SLA) # 1

C.4.4.16.1 The Contractor shall comply with the following SLA requirements.

C.4.4.16.2 District Functional Task: Fiber Optic Cable Corrective Maintenance

C.4.4.16.3 Performance Measure Description: Defines Service Levels for District fiber optic cable corrective maintenance in terms of guaranteed time-to-respond and recovery effort levels.

- a) Responsible for Measurement: District Management
- b) Frequency of Measurement: Upon fiber optic cable failure

C.4.4.16.4 How Measurement is Obtained

- a) Obtain time of fiber optic cable failure from network monitoring system.
- b) Obtain time Contractor's contact was called from incident management system.
- c) Verify arrival of qualified fiber optic cable maintenance personnel at site of cable failure through a telephone call to the Network Operations Center (NOC) and/or physical meeting with District management at the site.
- d) In cases where an entity other than the Contractor is responsible for restoration, verify continued presence of qualified fiber optic cable maintenance personnel at site of cable failure through hourly status updates via telephone calls to the NOC and/or hourly physical meetings with District management at the site.
- e) In cases where the Contractor is responsible for the restoration, obtain the time of fiber optic cable restoration from network monitoring system and calculate restoration time as the interval between the failure and restoration per the network monitoring system.

C.4.4.16.5 How Final Measurement is Computed

C.4.4.16.5.1 Response Time

- a) Identify time of failure from network monitoring system. Call Contractor contact and note time in incident management system.
- b) Contractor's qualified maintenance personnel calls the NOC to confirm when they arrive on-site.
- c) NOC logs arrival of maintenance personnel into incident management system.
- d) Calculate time to respond as interval between call to Contractor contact and arrival of maintenance personnel at the site of the fiber optic cable failure.
- e) In case of failure to meet this requirement, District's manager notes time of cable failure and arrival time for maintenance personnel in written correspondence sent to Contractor.
- f) Contractor has twenty-four (24) hours to dispute.
- g) Identify time of temporary or permanent service restoration from the network monitoring system.
- h) Determine if Contractor presence is verified during all hours between the arrival of maintenance personnel at the site of a fiber optic cable failure and the temporary or permanent restoration of service (unless this requirement is waived in writing by District management for the purpose of this incident).
- i) Failures are noted when the interval exceeds the two-hour service level or when the Contractor fails to verify continued presence at the site of the fiber optic cable failure.

C.4.4.16.5.2 Restoration Time

Use the interval in hours from call to Contractor contact to restoration as figures in the Response Time section above for each event over a calendar quarter. Divide the total hours by the number of events to obtain an average time to restore.

C.4.4.16.6 Proposed Service Levels and Corresponding Performance Standard

C.4.4.16.6.1 Response Time

- a) Qualified technicians will be at the site of a fiber optic cable failure within two (2) hours of notification of failure to the Contractor's contact.
- b) A qualified technician will remain continually at the site of a fiber optic cable failure until either (a) temporary or permanent restoration of service is completed and verified by the NOC, or (b) District management provides written notification instructing the Contractor to suspend the presence of its personnel at the location.

C.4.4.16.6.2 Restoration Time

In cases where the Contractor is responsible for the restoration, the requirement is to maintain a four-hour average time to restore service via a temporary or permanent repair. The average will be calculated over each calendar quarter of the contract and will be referred to as a measurement interval (MI).

C.4.4.16.7 Disincentive

C.4.4.16.7.1 At the occurrence of a cable failure where a Response Time SLA violation occurs:

1. If a violation occurred in either one of the previous two cable failures then a Corrective Action Plan (CAP) will be developed by the Contractor and approved by District within five (5) business days. District will always provide an approval decision within one (1) business day.
2. If the average of performance of the cable failure where the violation occurred and the preceding two cable failures is not within the SLA requirement, a Corrective Action Plan (CAP) will be developed by the Contractor and approved by District within five (5) business days. District will always provide an approval decision within one (1) business day.
3. Corrective Action Plan (CAP) in force – at the occurrence of the next cable failure:
 - i. If performance is within the SLA requirement and performance has been within the SLA requirement for three (3) consecutive cable failures, then the CAP is considered complete and no further action is required. Otherwise, the CAP will remain in force until three (3) consecutive cable failures have been resolved within the SLA requirement.
 - ii. From this point on a “SLA Disaster Recovery” is declared and corrective action must be defined on a case-by-case basis.

C.4.4.16.7.2 When a Restoration Time SLA violation occurs (i.e. – quarterly response time is greater than four (4) hours:

- a) Contactor will provide a report within five (5) business days detailing the contributing factors to the violation occurring. The report must include corrective actions taken for any factors under the control of the Contractor. District will provide an acceptance decision within one (1) business day.
- b) If two or more reports include contributing factors which are under the control of the Contractor, an automatic escalation is to occur to the next level of Contractor management above the Program Manager / Physical Transport Network Manager (PM+!) where revised corrective actions must be detailed in a report presented (i.e. – in a meeting which includes the higher level of Contractor management) to District within five (5) business days. District will provide an acceptance decision within one (1) business day. Monthly meetings will occur with this level of manager until performance is within the SLA requirement for two consecutive quarters.
- c) If two or more escalations occur to the manage above the Program Manager / Physical Transport Network Manager (PM+1) within six (6) quarters, an automatic escalation is to occur to the next level of Contractor management two levels above the Program Manager / Physical Transport Network Manager (PM+2) where revised corrective actions must be detailed in a report presented (i.e. – in a meeting which includes the higher level of Contractor management) to District within five (5) business days. District will provide acceptance decision within one (1) business day. Monthly meetings will occur with this level of manager until performance is within the SLA requirement for two (2) consecutive quarters.

C.4.4.17 Service Level Agreement (SLA) # 2

C.4.4.17.1 The Contractor shall comply with the following SLA requirements.

C.4.4.17.2 Catastrophic OSP Maintenance Response

The functional area of this task involves unplanned maintenance restoration of “catastrophic” failures of the District’s optical fiber plant.

C.4.4.17.3 Performance Measure Description

C.4.4.17.3.1 This Service Level Agreement (SLA) details the Contractor’s commitment of supplemental resources and crew capabilities; provides costs for this level of service; and prescribes the not-to-exceed guaranteed times of response for mobilization and response to trouble locations identified by District OSP Maintenance designated Point of Contact (POC). The measurement falls into two categories: no-notice notification, where an event has already occurred; and pre-notification, for an expected catastrophic event.

C.4.4.17.4 Responsible for Measurement: District Maintenance Operations Management

C.4.4.17.5 Frequency of Measurement: As required, per individual “catastrophic” OSP maintenance event.

C.4.4.17.6 How Measurement is Obtained

- a) Record time Contractor was notified by designated District OSP Maintenance POC
 - i. In the first case – following an unforeseen disaster with no prior warning; and
 - ii. In the second case – pre-notification forty-eight (48) hours in anticipation of a forecast event.
- b) Report time Contractor notified District Maintenance Operations POC with locations of Crew 2 and / or Crew 3 (one or two crews may be requested at discretion of District OSP Maintenance POC) within ten (10) miles of DC, staged and on “standby” status.
- c) Verify with District Maintenance Operations POC arrival times of Crew 2 (and Crew 3, as required) at sites of cable failure through physical meetings with District Maintenance Operations POC at the site(s).
- d) Maintain repair log of repair actions taken.
- e) Maintain hourly status of restoration progress via direct report of telephone calls to the District OSP Maintenance POC.

C.4.4.17.7 Specific Requirements

- a) Contract Maintenance Service for 365 x 24 dedicated unplanned OSP maintenance will be provided by Contractor crew identified as Crew 1.
- b) Supplemental Crews are comprised as follows:

- i. Each Supplemental Crew shall consist of one (1) qualified optical fiber splicing technician plus assistant / helper with aerial equipped, enclosed splicing vehicle; HDCM fusion splicer; OTDR; global positioning system (GPS); and all ancillary equipment to locate damage and repair fiber optic cable.
 - ii. The Contractor shall provide 2 Crews under this SLA: Crew 2 and Crew 3
 - iii. The Contractor shall make “best efforts” to field additional aerial equipped splicing crews in the event Crews 2 and 3 are insufficient for the magnitude of the particular task, as judged by the District OSP Maintenance POC; but for purposes of this SLA, the need for additional aerial equipped splicing crews beyond Crews 2 and 3 cannot be foreseen and/or guaranteed.
- c) Contractor standard operating procedures for crew operations are described.
 - d) Crew(s) shall mobilize and be in “standby” status at a location within ten (10) road miles of Washington, DC.
 - e) Upon notification of cable damage location(s) by the District OSP Maintenance POC, the assigned crew(s) shall meet District Maintenance Operations POC on-site within two (2) hours.
 - f) Crew(s) shall maintain a continued presence on-site until repairs are completed or DC-Net Maintenance Operations POC releases the crew(s), and provide hourly updates of the restoration progress.
 - g) Crew(s) shall immediately report completion of the assigned repair, and their availability for additional assignment to the District OSP Maintenance POC.
 - h) Response intervals identified hereafter shall be required regardless of the day of week, or holiday, that notification is provided by the District OSP Maintenance POC.

C.4.4.17.8 Response Time for Unforeseen Disaster with No Prior Notice

- a) Recognizing that this is the most severe case required expedited, emergency mobilization for response, Contractor response shall be measured against the following criteria.
- b) Within eight (8) hours of notification of required escalation, Contractor will notify District Maintenance Operations POC of the exact location where Supplementary Crew 2 (and Crew 3, as required) are staged and in “standby” status, awaiting direction to a cable damage location.

C.4.4.17.9 Response Time for Forecast (e.g. – adverse weather) condition with notice

- a) Recognizing that this case provides the ability to mobilize on a non-emergency basis, Contractor response shall be measured against the following criteria”
- b) District Maintenance Operations POC will provide as much notice as possible of a forecast (e.g. – severe weather) catastrophic event, with the goal being forty-eight (48) hours notice of the specific date and hour for Supplemental Crew(s) to report.
- c) Within (and not to exceed) twenty-four (24) hours of notification by District Maintenance Operations POC of required escalation, and the specific date and hour of the day for Supplemental Crew(s) to report, Contractor will notify District Maintenance Operations POC of the exact location and date and time where Supplementary Crew 2 (and Crew 3, as required) will be staged and in “standby” status, awaiting direction to a cable damage location.

C.4.4.17.10 How Measurement is Computed

- a) Response to the trouble location shall be calculated as the interval between the time Contractor was notified of cable damage location and arrival of the assigned crew to meet the District Maintenance Operations POC on site.
- b) Failures to meet this requirement shall be noted in the event this interval exceeds two (2) hours.

C.4.4.17.10.1 Response Time for Unforeseen Disaster with No Prior Notice

- a) Shall be calculated as the interval between the time Contractor was notified by District Maintenance Operations POC of required escalation and time Contractor reports exact location of Supplemental Crew(s) staging area to the District Maintenance Operations POC.
- b) Failures to meet this requirement shall be noted in the event this interval exceeds eight (8) hours.

C.4.4.17.10.2 Response Time for Adverse Weather Conditions with Notice

- a) Shall be calculated as the interval between the time Contractor was notified by District Maintenance Operations POC of required escalation, with required staging date and time, and the time that Contractor reports to the District Maintenance Operations POC the exact location, date and time that the Supplemental Crew(s) will be staged.
- b) Failures to meet this requirement shall be noted when this interval between notification and reply exceeds twenty-four (24) hours.
- c) Failures to meet this requirement shall be noted when the Supplemental Crew(s) fail to be staged at the designated location at the required date and time.

C.4.5 Heating, Ventilation and Air Conditioning (HVAC) Services

C.4.5.1 In connection with efforts to upgrade and enhance the overall communication capability of the network, the Contractor shall provide maintenance, repairs, emergency service and new installations of HVAC equipment. The HVAC units service the rooms containing the electronics for a fiber optic and copper IT network. The contract requires service to legacy equipment and new installations. The Contractor shall provide all labor and expertise required to provide ongoing preventive maintenance and repair service to each HVAC system in the network.

C.4.5.2 The Contractor shall provide a fully certified HVAC team to perform both preventive and corrective functions at pre-designated sites to ensure complete, continuous operability of all HVAC equipment. This team shall be available for normally scheduled system testing or emergent requirements.

C.4.5.3 Because this is a 24/7/365 operation, the work-load is constant, and the HVAC units are operating year-round, the units are of different longevity and reliability and will not have the

same lifespan. The Contractor shall make repairs in addition to the Preventive Maintenance Program.

C.4.5.4 The Contractor shall perform a Major Preventive Maintenance Service immediately upon award. The HVACs at Agency will require Regular Preventive Maintenance Visit immediately upon award. These installations are typical of the sites to be encountered during the duration of the maintenance contract.

C.4.5.5 The Contractor shall add approximately 9 HVAC units to the maintenance schedule.

C.4.5.6 Types of Nodes

C.4.5.6.1 Primary Nodes

C.4.5.6.1.1 Two sites (Site ID 001 and Site ID 003) - Preventive Maintenance (PM) Inspection requires 3 (three) visits in 6 months: 1 (one) major inspection and 2 (two) minor inspections, equally spaced.

Site #	Address	Occupants
3	2000 14th Street NW	DDOT, Dept. of Public Works, Reeves Center
1	441 4th Street NW	OCTO, One Judiciary Square (OJS)

C.4.5.6.2 Secondary Nodes

C.4.5.6.2.1 Seven sites (Site ID's - 8, 9, 30, 354, 370, 380, 406) – Quarterly PM Inspection: (1) major inspection and 1 (one) minor inspection, equally spaced.

Site #	Address	Occupants
406	655 15th Street NW	OCTO DC-Net HQ
8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials
9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health
30	810 1st Street NE	Financial Operations and Systems
370	51 North Street NE	Child and Family Services
354	609 H Street NE	Department of Employment Services
380	645 H Street NE	DHS, Government Social Services

C.4.5.7 Levels of Service

C.4.5.7.1 Major Preventive Maintenance (PM) HVAC Inspection

C.4.5.7.1.1 The Contractor shall perform the following duties and provide for the following requirements:

- a) Provide notification of a site visit 48 hours in advance to the District Representative. If the building representative requests advance notice do so as directed. If there are special access requirements through the client, confirm access is available before the visit.
- b) Visual inspection of the room noting anything obvious that District should be made aware of: e.g., water on floor, vandalism, hazards of any kind, doors open, odd odors, trash, etc.
- c) Note outdoor ambient temperature and room temperature.
- d) Perform a thorough and comprehensive inspection of the HVAC equipment and controls systems to include: Checking for proper voltage, proper amperage, refrigerant pressures, tighten all connections, all required lubrication as applicable, obtain delta across the evaporator coil, checking compressor and all components as applicable, check evaporator coil and condenser coils, check blower, check superheat, check contactors, check all controls, check and calibrate thermostat as needed, check and clear condensate pump / drain, secure all caps / covers / doors. Make all necessary adjustments to maintain equipment within operating specifications.
- e) Replace all filters. Replace belts if needed. Contractor supplied.
- f) Thoroughly clean the evaporator coil, evaporator coil drain pan, and the condenser coil. Contractor at his expense to supply whatever coil cleaners, hoses, water, as applicable. Complete and submit a written Preventive Maintenance Worksheet.
- g) Ensure that the unit functions properly, and is properly adjusted.
- h) Perform an Inspection of the HVAC unit and supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.
- i) Promptly report any emergency by phone to the District. If there is no response to the phone calls leave a voice message and follow-up immediately by a distribution email with any emergency maintenance issues found during the inspection.
- j) All parts to be equal or better than factory OEM parts.
- k) No additional repairs are to be done without prior authorization unless it is an emergency. A field contact from the District provides approvals.

- l) Please refer to Attachment B, Preventative Maintenance Worksheet, which shall be used to provide a schedule of maintenance performed and completed per site type.
- m) The Contractor shall provide a schedule for maintaining the existing sites with updates as new sites are brought on line. The Contractor shall provide the updated schedule in an excel spreadsheet upon completion of each maintenance to the District, indicating the sites covered and dates of the scheduled visits. The Contractor be given access and contact information for sites where maintenance will be performed.

C.4.5.7.2 Minor Preventive Maintenance (PM) HVAC Inspection

C.4.5.7.2 The Contractor shall provide the following:

- a) Visual inspection of the room noting anything obvious that District should be made aware of: e.g., water on floor, vandalism, hazards of any kind, doors open, odd odors, trash, etc.
- b) Note outdoor ambient temperature and room temperature – also note delta between evaporator air inlet and outlet.
- c) Replace all filters. Replace belts if needed. Vendor supplied.
- d) Ensure that the unit functions properly, and is properly adjusted.
- e) Promptly report any emergency by phone to the District. If there is no response to the phone calls leave a voice message and follow-up immediately by a distribution email with any emergency maintenance issues found during the inspection.
- f) All parts to be equal or better than factory OEM parts.
- g) Perform an Inspection of the HVAC unit and supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.
- h) Contractor must obtain advance authorization prior to making any repairs that are over and above the scheduled Preventive Maintenance Service, except as in the event of an emergency, where the Contractor can make an emergency repair, so long as the problem is reported and documented within 12 hours of the emergency occurrence.
- i) Documentation of each visit must be provided on the Preventive Maintenance Worksheet and Operating Report, as applicable, to ensure that the proper inspection was completed. Supply a written Preventive Maintenance Worksheet and Operating Report within three days of completion. Delivery is to be a scanned document by email. A fax or hard copy may be requested.
- j) All work must be guaranteed and performed in a satisfactory, timely, and workmanlike manner.

- k) The Contractor employee(s) shall possess a minimum 10 years of commercial experience in the Installation and Servicing of HVAC Equipment similar/equivalent to the equipment listed herein.
- l) The Contractor shall maintain full utilization of CFC certified in-house technicians with proof of said certification required on demand.
- m) The Contractor shall maintain an office footprint within 40 mile radius of Washington, DC.
- n) Maximum time frame for on-site availability following emergency call-out not to exceed 4 hours.
- o) Contractor shall provide 24/7/365 availability of “Live” answering service for emergent needs.
- p) Regular hours are 7:00 AM to 6:00 PM

C.4.5.8 Existing Site Listing

C.4.5.8.1 Primary Nodes

C.4.5.8.1.1 Two sites (Site ID 001 and Site ID 003) - Preventive Maintenance (PM) Inspection requires 3 (three) visits in 6 months: 1 (one) major inspection and 2 (two) minor inspections, equally spaced.

Site #	Address	Occupants
3	2000 14th Street NW	DDOT, Dept. of Public Works, Reeves Center
1	441 4th Street NW	OCTO, One Judiciary Square (OJS)

C.4.5.8.2 Secondary Nodes

C.4.5.8.2.1 Seven sites (Site ID’s - 8, 9, 30, 354, 370, 380, 406) – Quarterly PM Inspection: (1) major inspection and 1 (one) minor inspection, equally spaced.

Site #	Address	Occupants
406	655 15th Street NW	OCTO DC-Net HQ
8	717 14th Street NW	DHS, Inspector General, Contract Appeals Board, Office of Banking and Financials
9	899 N Capitol St NE	Dept. of Health, Office of Maternal and Child Health, Office of Emergency Health
30	810 1st Street NE	Financial Operations and Systems
370	51 North Street NE	Child and Family Services
354	609 H Street NE	Department of Employment Services
380	645 H Street NE	DHS, Government Social Services

C.4.6 Wireless Installs and Support Services

C.4.6.1 The Contractor shall provide fully certified electrical engineers/electricians capable of performing AC or DC related installation or corrective maintenance functions as identified by District. The Contractor shall provide fully certified wireless technicians to be available for dispatch for installation of both internal and external wireless access points and fully tested continuity and operability to the supporting POE switch device. The Contractor shall provide personnel available to install, test, and turn-up wireless connectivity between noncontiguous properties/locations as engineered and designed by District personnel. Performance criteria shall be determined by conformance to end users commitment date requirements and full operability of the wireless system.

C.4.6.2 The Contractor shall provide and install a complete electrical, wireless and/or network system, or only components requested, including, but not limited to: service, lighting, power, devices, panels, circuit breakers, conduit, outlets, equipment, antennae, connectors, attachments, and wiring, as needed.

C.4.6.3 Job orders issued will include specific information on:

- a) Equipment to be supported
- b) Sites to be worked
- c) Periods of performance
- d) Limits on expenditures, if any

C.4.6.4 Standards, Codes, Regulations and Permitting

C.4.6.4.1 The Contractor shall only provide systems, equipment, electrical, wireless and network installations which comply with applicable standards, requirements, statutes, laws, ordinances, regulations, of Local, County, and State codes, Health department, Owner's Insurance Company, Local Electric Utility, Labor Regulations, IEEE, ANSI, TIA, B.O.C.A., and OSHA.

C.4.6.4.2 When required, the Local Inspector and Architect shall approve work. If none is required, District will approve and accept the work.

C.4.6.4.3 When available, drawings and specifications constitute minimum acceptable requirements. The Contractor shall provide all installations with regard to dimensional requirements of stated standards, statutes, laws, ordinances, regulations, codes, etc., even if these dimensions are not on plans. The Contractor shall make corrections after installation to meet said requirements as directed. This includes fire stop and weather sealant as required. If a permit is required, the Contractor shall obtain the permit.

C.4.6.4.4 The Contractor shall comply with all equipment, hardware and component specifications and recommendations for any installation or attachment.

C.4.6.4.5 Additional requirements identified by building owners or management need approved by the District's field representative.

C.4.6.5 Engineering Drawings and Field Direction

C.4.6.5.1 Should work specified or shown on drawings (when available) or direction by District be contrary to said applicable requirements, laws, ordinances, statutes, or regulations, the Contractor shall provide work in accordance with said laws, ordinances, statutes, or regulations; but not until points in question have been referred to Owner's representative and/or Architect for approval. The Contractor shall conduct tests in accordance with the above laws, requirements, ordinances, statutes, regulations, or as directed by the Local Inspector. When a drawing is available, it is to get redline changes. The Contractor shall then send it directly to the District, mailed, or scanned/emailed.

C.4.6.6 Specifications

The Contractor shall provide installations which comply with manufacturer installation recommendations and applicable sections of all other specifications.

C.4.6.7 Reporting

C.4.6.7.1 The Contractor shall supply daily work reports to the District electronically via email or if requested by fax or hard copy.

C.4.6.7.2 The Contractor shall provide weekly status reports at the close of business (COB) each Thursday. The Contractor shall note what is complete and what is in progress (with a percentage complete); if no work was done send the report and note "No Change".

C.4.6.8 Equipment

C.4.6.8.1 District Provided Equipment

- a) Wireless radio/antenna link equipment(AU and SU)
- b) Non-penetrating pole mount
- c) Permanent arm mount
- d) Articulated mounting bracket
- e) Ethernet lightning surge arrestor
- f) Outdoor-rated Ethernet cable and connectors
- g) CAT5e or better drop wire – outdoor rated/shielded or plenum/shielded as required.
- h) Substitutions are at the discretion of the District.

C.4.6.8.2 The Contractor shall provide the following equipment:

- a) Bonding and grounding material
- b) Four foot ground rod
- c) AWG 6 THHN/THNU
- d) Miscellaneous attachments, brackets, bolts, screws etc.
- e) Conduit (if requested)
- f) Plywood 3/4" as needed
- g) Roof Penetration repair materials
- h) Weather seal for horizontal building penetration
- i) Fire stop as needed

C.4.6.9 Deployment Activities

C.4.6.9.1 The Contractor shall perform the following Deployment Activities (General):

- a) No new roof penetrations are to be done
- b) Network data circuit will be extended to the rooftop-level of the building and connected to equipment at both ends.
- c) Attach drops securely according to specification and District direction.
- d) Test and certify all drops – Provide results to District.
- e) Bond and ground to specification.
- f) Provide weather sealant and fire stop, as needed.
- g) Repair roof penetration.
- h) Wireless alignment will be by a District technician or a qualified designee of District.

C.4.6.9.2 The Contractor shall provide the following additional Deployment Activities at Access Units:

- a) Identify wireless radio/antenna unit's rooftop mounting location according to provided specifications.
- b) Place and ballast non-penetrating pole mount or attach permanent arm mount to specified rooftop location.
- c) Attach wireless radio/antenna unit to non-penetrating pole mount or permanent arm mount via provided articulated mounting brackets.
- d) Orient and set radio/antenna unit's tilt angle and azimuth according to provided specifications.
- e) Run outdoor-rated Cat-5e or better cabling from wireless radio/antenna mounting location to specified PoE and connect both ends.
- f) Ground wireless radio antenna unit, mount Ethernet cabling.
- g) Power up unit.

C.4.6.9.3 The Contractor shall provide the following additional Deployment Activities at Subscriber Units

- a) Identify wireless radio/antenna unit's rooftop mounting location according to provided specifications.
- b) Place and ballast non-penetrating pole mount or attach permanent arm mount to specified rooftop location.
- c) Attach wireless radio/antenna unit to non-penetrating pole mount or permanent arm mount via provided articulated mounting brackets.
- d) Orient and set radio/antenna unit's tilt angle and azimuth according to provided specifications.
- e) Run outdoor-rated Cat-5 or better cabling from wireless radio/antenna mounting location to specified PoE and connect both ends.
- f) Ground wireless radio antenna unit, mount and Ethernet cabling.
- g) Power up unit.

C.4.7 Electrical Installs and Support Services

C.4.7.1 The Contractor shall provide an electrical team for emergency response during “normal business hours”:
8:30 AM to 5:30 PM, with a one-hour lunch. The Contractor shall provide 8 hours of a team response outside normal business hours. Out-of-town travel will not be required. The Contractor shall follow all District/PMO standards. The Contractor shall provide timely, necessary information to allow the District to calculate “earned value”. Non-US holidays are not valid on timesheets. No paid holidays are included in this package.

C.4.7.2 The Contractor shall provide electrical services as needed for District equipment at multiple locations as needed. The Contractor shall provide and install a complete electrical system or only the required components including, but not limited to, service, lighting, power, devices, panels, circuit breakers conduit, outlets, equipment, and wiring as needed.

C.4.7.3 Standards, Codes, Regulations and Permitting

C.4.7.3.1 The Contractor shall provide systems, equipment, and electrical installations which comply with applicable standards, requirements, statutes, laws, ordinances, regulations, of Local, County, and State codes, Health department, Owner’s Insurance Company, Local Electric Utility, Labor Regulations, IEEE, ANSI, TIA, B.O.C.A., and OSHA. When required the Local Inspector and Architect shall approve work. If none is required, a Customer representative will approve and accept the work. When available the drawings and specifications constitute minimum acceptable requirements.

C.4.7.3.2 The Contractor shall conduct all installations with regard to dimensional requirements of stated standards, statutes, laws, ordinances, regulations, codes, etc., even if these dimensions are not on plans. The Contractor shall make corrections after installation to meet said requirements as directed.

C.4.7.3.3 The Contractor shall provide fire stop and weather sealant, as required.

C.4.7.3.4 If a permit is a requirement by Customer or the electrician, the Contractor shall obtain a permit.

C.4.7.3.5 The Contractor shall comply with all equipment, hardware and component specifications and recommendations for any installation or repair. Additional requirements identified by building owners or management must be approved by the Customer field representative before payment can be processed.

C.4.7.4 Engineering Drawings & Field direction by Customer Representative

Should work specified or shown on drawings (when available) or direction by a Customer Representative be contrary to said applicable requirements, laws, ordinances, statutes, or regulations, the Contractor shall perform accordance with said laws, ordinances, statutes, or regulations; but not until points in question have been referred to Owner’s representative and/or Architect for approval. The Contractor shall perform tests in accordance with the above laws, requirements, ordinances, statutes, regulations, or as directed by the Local

Inspector. When a drawing is available, it is to get redline changes. The Contractor shall then send it directly to the client, mailed, or scanned/emailed.

C.4.7.5 Specifications

The Contractor shall perform installations which comply with manufacturer installation recommendations and applicable sections of all other specifications.

C.4.7.6 Reporting

When work is in progress, the Contractor shall provide daily work reports to the Customer electronically via email or if requested by fax or hard copy. This report will note the requirement, the actions taken, and the anticipated completion date, as well as any unanticipated circumstances to be considered.

C.4.7.7 Electrical : This Section specifies the basic requirements for electrical installation

- a) Contractor Supplied Material - Provide products that are compatible within systems and other connected items.
- b) Site surveys will determine new or upgrade electrical requirement's
- c) Additional requirements in sections C.4.2.6 - 1 to 5 above

C.4.8 Other Direct Costs (ODC)

Other Direct Costs are costs not previously identified as direct material cost, direct labor cost, or indirect cost. ODCs are costs that can be identified specifically with a final cost objective that the Contractor shall not treat as a direct material cost or a direct labor cost. Additional solutions within the scope of the contract and not specified herein may be considered ODCs. The total value of ODCs will be a Not to Exceed value that will be determined at the time of award.

C.4.9 Telecommunications Services

C.4.9.1 The Contractor shall provide long-distance telecommunication services to extend connectivity from within the District to any other location within the Continental US from private telecommunications service providers. The Contractor shall provide these services to fulfill end-to-end connectivity needs for the District and federal government agencies. Such services include not but are not limited to the following:

- a) Dedicated Transmission Services
- b) IP VPN (Internet Protocol Virtual Private Network) services
- c) SIP (Session Initiation Protocol) services

C.4.10 Personnel Services and Job Descriptions

C.4.10.1 Services

C.4.10.1.1 The Contractor shall provide managed services and subject matter expert personnel.

C.4.10.1.2 Contractor shall provide management supervision for managed services personnel. The Contractor shall provide a project management presence at a location to be specified by District during the following core hours of operation and to extend through the lifetime of the managed services contract: 8:30 AM thru 5:30 PM, Monday thru Friday, excluding holidays.

C.4.10.1.3 The Contractor's Project Manager shall provide daily/weekly time sheet(s) to the CA by 3 PM Friday for each temporary support staff employed stating the total number of hours worked.

C.4.10.1.4 The CA shall assign work to the designated Project Manager for each assigned Aggregate Group.

C.4.10.1.5 The Contractor shall ensure that the managed services staff shall maintain professional attire for a business environment.

C.4.10.1.6 Upon request of the CA and as necessary, the Contractor shall submit resumes of qualified employees ("personnel"). Within five (5) days of the CA's request for resumes, the Contractor shall submit to the COTR the resumes of qualified employees. After receipt of resumes, the District may interview each candidate to verify if the candidate's qualified to successfully perform the SOW requirements. Within fifteen (15) working days after the District's acceptance of an employee, the Contractor shall make that individual available for work in keeping with District's schedule.

C.4.10.1.7 Managed services staff shall not supervise a District government employee. The District will not administratively supervise the managed services staff. In the event that the District is not satisfied with certain staff members, the Contractor, at the District's request, will immediately remove the individual and replace with a fully qualified candidate per the District's statement of work expectations.

C.4.10.2 Job Descriptions

C.4.10.2.1 The Contractor shall maintain the following qualifications, skillsets and abilities in order to successfully perform the SOW requirements.

C.4.10.2.2 Network Specialist (WAN Tier III Engineer) (Alliant ID 126G)

C.4.10.2.2.1 Overview

The Contractor shall be equipped to provide a staff of highly skilled and experienced WAN Engineers that are responsible for providing support during regular workdays, plus on an on-

call basis, 24 hours a day, 7 days a week. The team operates in a three-tier support structure reflected below:

- a) Tier 1 - Handles calls for network support escalated from the DC Network Operations Center (NOC).
- b) Tier 2 - Performs network maintenance tasks and provides second-level support for calls escalated from the NOC. Also responsible for performing on-site surveys, network assessments, and troubleshooting both technical and functional network related problems.
- c) Tier 3 - Focuses on capacity planning, security, network architecture and design, and other methods of WAN optimization and maintenance.

C.4.10.2.2.2 Required Description

- (i) First-level support begins when an end-user contacts the NOC with a network issue. If the NOC can't resolve the issue, the problem is escalated through Tier 1 and, as needed, Tier 2 engineers, for resolution. Tier 3 personnel work directly with Tier 2 to resolve issues and in some cases don't have direct contact with end-users. Tier 3 help is sought only after Tier 2 exhausts all its own resources, and the resolution developed by Tier 3 is implemented by Tier 2 to maintain institutional knowledge of the solution. Similar to the other tiers, Tier 3 monitors the Remedy Problem Management System (Remedy) to detect trends and fix them before they affect end-users or degrade performance. Tier 3 is responsible for:
 - a. Network analysis
 - b. Capacity planning
 - c. Network tuning and Performance optimization
 - d. WAN Expansion
 - e. Site Surveys
 - f. Site Assessments
 - g. Site Implementation
 - h. Network Design
 - i. Network Architecture Review
 - j. Network Architecture Design & Planning
 - k. Disaster Recovery
 - l. Pre and Post-production testing
- (ii) Tier 3 personnel also evaluate and test new tools and equipment that may simplify network management or improve overall network performance. Practically apply knowledge of Cisco Internetworking, WAN technologies, data communication protocols, and high enterprise network planning. Similar to Tier 2, Tier 3 is a 9-hour operation (M-F and minus 1 hour lunch) with off-hours covered by on-call team members. Unlike Tier 1 and Tier 2, some Tier 3 tasks fall into categories other than support, maintenance, and administration; those categories include system management, network infrastructure upgrades, and agency network architecture planning and implementation. Tier 3 personnel must also understand all aspects of internetworking with routers, switches, and hubs, telecommunication knowledge of high-speed data services such as Frame Relay, SMDS,

and SONET, and have a working knowledge of various Microsoft Windows operating systems and computer hardware.

.4.10.2.2.3 Responsibilities

- a) The Contractor shall be responsible for maintaining and supporting the overall operation of the network including hardware, software, and network maintenance, and service level agreement performance. Duties also include the collection of statistics to track impacts of changes/upgrades on system performance, provide escalations with internal issues to get problems resolved, maintain weekly backlog reports, identify trends and recurring problems/issues to the appropriate personnel, ensure that as service/system modifications are made that appropriate documentation is completed.
- b) Working as a member of the District of Columbia Wide Area Network Team with specific duties supporting Wide Area Network connectivity, provide technical support to Network/Security administrators during the identification and resolution of computer security incidents/events.
- c) Recognize network vulnerabilities and recommend safeguards and solutions for network defense; evaluate, recommend, and implement WAN policies and operational methods in support of DC Government activities.
- d) Determine if existing systems are performing adequately for specific customer applications, modifies and/or reconfigures the network to solve traffic problems if necessary. This shall include systems analysis and evaluates against desired standards for reliability and efficiency, review of procedures and recommendations for changes to optimize utilization of present equipment.
- e) Prepare detailed written reports with cost estimates and prepares presentations including recommended courses of action concerning the results of analysis of network performance which impact current and future required. This shall include evaluating state-of-the-art computer systems and evaluating technical vendor proposals and making recommendations to Supervisor, agency Information Technology staff, and managers.
- f) Research hardware and software programs for state-of-the-art technology; functions as an expert regarding network communications, development and WAN utilization.
- g) Conduct analysis of customer needs for additional network services, such as routers, switches, file servers, data communications lines, modems, etc.; to include developing detailed proposals, functional descriptions, and system specifications for network systems, and preparing detailed written reports with cost estimates and prepares presentations including recommended courses of action concerning the results of analysis of network performance which impact current and future Required.

C.4.10.2.2.4 General Duties and Tasks

C.4.10.2.2.4.1 The Contractor shall provide a Tier 3 WAN Engineer to:

- a) Not make any changes, modifications, alterations, or enhancements to OCTO's infrastructure, hardware, or software without detailed change records being approved by OCTO. In addition, the Tier 3 WAN Engineer shall abide by all Service Level Agreements (SLA) and Standard Operating Procedures (SOP) established by OCTO;

- b) Create a service required record in an OCTO provided maintenance tracking system for all calls received from customers or problems identified by the NOC. This tracking system shall serve as the central repository of information used by information systems personnel in resolving calls throughout the DC NET. The Tier 3 WAN Engineer shall assign the call, as appropriate, for resolution and/or action. The Tier 3 WAN Engineer shall inform the customer that the service required has been resolved. The Tier 3 WAN Engineer shall close out all calls in OCTO's tracking system upon problem resolution;
- c) Assure that all users are notified, as appropriate, of the release of system changes (e.g. software upgrades) at least five (5), and also one (1) business day, prior to installation, by, for example, send an e-mail message;
- d) Provide baseline configuration, documentation, deployment strategy, and training for all enhancements and changes.
- e) Develop, maintain, ensure the accuracy, centrally store and adhere to Technical Notes and Standard Operating Procedures (SOPs) that detail Network Operations;
- f) Participate in technical evaluations of proposed new hardware, software, and networking technologies at the NOC and within OCTO. The Tier 3 WAN Engineer shall work with the NOC to certify the serviceability and maintainability of network technologies introduced;
- g) Meet standards of customer satisfaction established by the NOC. Customer satisfaction measurements measure Tier 3 WAN Engineer staff attributes such as professionalism, courtesy, expertise, attitude, and helpfulness;
- h) Install and maintain communications hardware and software;
- i) Coordinate WAN work group meetings and work with the rest of the team to develop WAN staff training Required and recommendations for training, as well as assisting DC NET management in technical staff selection;
- j) Monitor WAN performance to ensure effective and reliable performance, and participate in the development of standards for use, control and maintenance of the WAN;
- k) Maintain currency on communications technology; research and evaluate emerging communications technologies and products for possible use by DC NET. The Tier 3 WAN Engineer also looks for ways to improve WAN performance and reliability and actively participates in WAN installation and maintenance.
- l) Participate in meetings with other groups to get feedback and plan for future required. The Tier 3 WAN Engineer shall also confer with the DC NET Manager to keep her informed on WAN performance and related issues;
- m) Maintain communication with outside vendors to keep current on products and to resolve problems. The Tier 3 WAN Engineer shall also act as an advisor to client server development teams on WAN issues related to deployment of any network based District wide application;
- n) Evaluate WAN security and firewalls, as appropriate, and performs related work as required.

C.4.10.2.2.5 Document Submissions

When documents are required from the Tier 3 WAN Engineer, the Contractor shall provide three (3) printed copies of written documents or other evidence of deliverables to OCTO using standard Microsoft Office Suite applications such as Microsoft Word, Excel, PowerPoint or Project. The deliverable should be also accompanied by an electronic copy on a CD or via e-mail when necessary. Copies of all documents shall be filed with the OCTO WAN Manager for incorporation into the overall program files for delivery verification.

C.4.10.2.2.6 Behavior Characteristics

The WAN Engineer Tier III must be able to thrive in a time-critical, results-oriented environment.

C.4.10.2.2.7 Required Skills

C.4.10.2.2.7.1 The Contractor shall provide Tier 3 WAN Engineer who possesses the following knowledge, skills and abilities.

- a) Experience working with network and networking protocols in a WAN environment.
- b) Hands on experience with design of WAN/LAN, installation and maintenance of router technology, Cisco IOS operating system, and frame relay networks.
- c) Experience with the design and implementation of firewalls, and network management packages.
- d) Familiarity with WAN security issues and implementation of various security measures. Internet experience desirable. Other combinations of applicable education, training and experience which provide the knowledge, abilities, and skills necessary to perform effectively in the position may be considered.
- e) Have a thorough knowledge and technical background in communications and routing technologies such as Metro Ethernet technologies (Layer II & III MPLS; VPLS), Frame Relay, DSL, and SMDS.
- f) Have extensive knowledge of WAN/LAN networking systems. Knowledge of local area network (LAN) and WAN protocols to include TCP/IP, Ethernet, SNMP, EIGRP, GRE, BGP, MPLS, Radius, TACACS, network management, and local and wide area load-balancing and networking redundancy, plus demonstrated ability to effectively use WAN/LAN performance tools such as protocol analyzers and related test equipment.
- g) Able to demonstrate proficiency and familiarity with PC's and/or Macintoshes; hardware, O/S and applications, including, but not limited to the following; Windows 2000/XP, and troubleshooting and administration of a Microsoft Windows 2000 domain architecture.
- h) Solid experience with DNS, DHCP, IP, WINS, AD replication, image creation and management, coupled with expert-level knowledge of Domain Name Services (DNS) in a large-scale enterprise environment; to include specific Unix-based DNS services and the relationship to WINS, DHCP, hosts files, load-balancing, and troubleshooting.
- i) Possess good oral and written communication skills, including documentation and correspondence.
- j) Possess resource management skills.
- k) Ability to manage problems from initial contact to closure

C.4.10.2.2.8 Certification and Screening Criteria

C.4.10.2.2.8.1 The Contractor shall possess the following degrees, certifications, and experience.

- a) Bachelor's degree from an accredited college or university, preferably in computer science or electrical engineering.
- b) CCIE - Cisco Certified Internetwork Expert
- c) CCVP - Cisco Certified Voice Professional
- d) CCNP - Cisco Certified Network Professional
- e) CCNA - Cisco Certified Network Associate
- f) A minimum of 5 years of information technology experience with substantial experience (7+ years) experience in wide area network design, implementation, and management in a large-scale enterprise environment; including specific experience in troubleshooting network connectivity problems, problem determination/tracing, and systems monitoring in a Cisco environment.
- g) A minimum of 5 years of experience in network implementation management and technical user support for enterprise LAN/WAN equipment including architecting, implementing and maintaining substantial networks; with particular emphasis upon experience with various Cisco products - specifically routers, hubs and switches; including, but not limited to, the following systems; Cisco 1800, 2600, 2800, 3600, 3800, 7200, and 7600 series routers; 2950, 3500, 3700, 4500, and 6500 series switches; and PIX firewalls.

C.4.10.2.3 Network Specialist (Master)

C.4.10.2.3.1 Description

C.4.10.2.3.1.1 The Contractor shall provide technical validation and interpretation of project and vendor data for engineering/business development analysis, engineering implementation and technical writing.

C.4.10.2.3.2 Long Description

The Technical Project Analyst position is a cross-functional skill set requiring knowledge of engineering and financial domains and the ability to transform the knowledge and interpretation into white papers, statements of work, marketing documents and requests for proposals. The individual needs to understand engineering architectures, perform Return on Investment (ROI) analysis, and evaluate viable business models for various product offerings on DC-Net. The Technical Project Analyst reports directly into the DC-NET Director and provides support for a wide range of technical and business development projects in addition to engineering the application and deployment of a project.

C.4.10.2.3.3 The Network Specialist shall:

- a. Work with the engineering team to design a network using technologies such as DWDM, SONET and MPLS to maximize bandwidth and network redundancy while minimizing the carbon footprint
- b. Create engineering diagrams and put together the parts list based on the design for procurement and implementation
- c. Perform Return-on-Investment (ROI) and cost savings analysis by creating product pricing strategies to sustain capital and operational expenses

- d. Work closely with vendors to understand and assess new technologies which can be introduced on the network to provide significant cost savings to the DC-Net program
- e. Interface with engineering, operations and finance units to create viable business models for new network products that can provide significant cost savings to the District agencies
- f. Design and implementation of fiber optic networks
- g. Develop business and strategic planning documents for government organizations
- h. Use technical writing to create Statements of Work, Request for Proposals, engineering design documentation, technical and business process documents
- i. Perform and analyze OTDR and OLTS fiber tests
- j. Create high capacity DWDM ring design between data centers
- k. Network installation and engineering
 - i. Switch installation
 - ii. Switch configuration
 - iii. Test links for variances
 - iv. Oversee installation of Cisco ONS 15454
 - v. Implementation Activation and testing of BLSR (bidirectional line switched ring) OC48 SONET ring
 - vi. Create documentation of physical plant, configurations and rack elevations
 - vii. Validate or identify variances in test data
- l. Performing wireless feasibility studies and oversee implementation and testing
- m. Create fiber feasibility studies
- n. Convert dark fiber to layer 3 interconnect rings
- o. Determine client cost saving for conversion to a DC-NET unified communication solution
- p. Provide data & business analysis using engineering tools and resources to develop cost of operations
- q. Develop TEAM presentations
- r. Gather supporting data as requested
- s. Create technical presentations for clients
- t. CISCO Digital Media System testing and evaluation
- u. Create presentations for engineering and financial concepts
- v. Analyze product for value added deployment

C.4.10.2.3.4 Required Skills and Experience

C.4.10.2.3.4.1 The Contractor shall produce the following forms of identification and shall possess the following knowledge, skills, abilities, and experience to perform the SOW requirements.

- a) Seven years of experience or a Master's degree in a related field
- b) Prefer Cisco certification(s)
- c) Valid Driver's license
- d) US citizen or valid Visa
- e) Experience working with Federal, State or local Municipalities
- f) OTDR and OLTS testing analysis for deficiencies
- g) Fiber feasibility studies
- h) Network Knowledge

- i. Wireless
- ii. DWDM
- iii. Routing and switching
- iv. MPLS VPN technology

- i) Wireless link analysis
- j) Fiber loss budgets
- k) Site surveys for equipment placement
- l) Cisco IOS commands, basic switch and router configurations
- m) Use of Microsoft Visio, Word, PowerPoint, Excel

C.4.10.2.4 Network Specialist-Master (Implementation Manager)

C.4.10.2.4.1 ESSENTIAL DUTIES AND RESPONSIBILITIES

C.4.10.2.4.1.1 The Network Specialist-Master shall perform in accordance with the following, and shall be equipped with the following required knowledge, skills, abilities and credentials to successfully deliver the SOW requirements.

- a) Accountable as lead technician in effort to ensure 100% uptime of all electrical and mechanical systems that support end user mission critical infrastructure.
- b) Possess complete working knowledge and impact of HVAC, UPS, PDU, and electrical switch gear in all typical telecom/data deployments; understand related criteria for assurance of service continuity.
- c) Possess complete engineering knowledge of LAN IP designs to include converged VoIP/data, wireless (indoor, outdoor, and as a site connectivity medium), and video applications.
- d) Serve as lead technician for the scheduling, installation, and quality control associated with all WAN/LAN voice, data, wirelesses, and video deployments.
- e) Possess complete know of cabling infrastructure to include fiber connectivity between sites as well as internal cabling requirements necessary for LAN operation.
- f) Possess vast experience in collocation and data center installation, maintenance, and ongoing operation.
- g) Remain industry current with respect to all key developments affecting information, data and network security.
- h) Provide written status reports to Director of Operations.
- i) Manage multiple incidents from customers and project teams for customer deployment and internal infrastructure support.
- j) Develop timely, innovative and cost-effective solutions to protect the mission critical infrastructure.
- k) Support design validation, testing, installation/setup procedure development, and integration/migration testing for unique solutions.
- l) Performing wireless feasibility studies and oversee implementation and testing
- m) Key competencies associated with productivity, budgeting, procurement, inventory control, and ultimate financial solvency impact
- n) Advanced verbal and written communication skill sets required for the

presentation, endorsement, and agency level understanding of evolving technological enhancements

C.4.10.2.4.2 Required Skills and Experience

C.4.10.2.4.2 The Contractor shall produce the following forms of identification and shall possess the following knowledge, skills, abilities, and experience to perform the SOW requirements.

- a) Fifteen years of experience
- b) Valid Driver's license
- c) US citizen
- d) Working knowledge of the following wireless technologies:
 - i. WLAN
 - ii. Fixed
 - iii. Microwave (licensed and unlicensed)
 - iv. Mobile
 - v. Mesh
- e) Working knowledge of the following wireless network designs and operations:
 - i. Wireless link analysis
 - ii. Site survey
 - iii. Design and implementation
- f) Working knowledge of OSP/ISP fiber
- g) Use of Microsoft Visio, Word, PowerPoint, Excel
- h) Working knowledge of federal and local laws, statutes, regulations, and standards relative to cabling, power, and telecommunications industry installation compliance.
- i) Knowledge of BICSI/Bell/Telcordia standards
- j) Working knowledge of data center operations.

C.4.10.2.5 Network Specialist (Senior)(Tier III Network Engineer)

C.4.10.2.5.1 Short Description

The Contractor shall provide a Tier III Network Engineer to work within the ITCC Network Engineering Services Group. This position requires a minimum of 8 years' experience working as a network engineer.

C.4.10.2.5.2 Complete Description

The Tier III Network Engineering position within the Office of the Chief Technology Officer, ITCC Network Engineering Services Group requires a candidate with a minimum of 8 years' experience working as a network engineer and designing IP Networks. The Tier III Network Engineer will report to the Director of Network Engineering Services Group for all

projects. During normal work schedule the Tier III Engineer will have an eight hour tour of duty within the following hours “7am – 7pm” Monday through Friday. The Contractor shall provide a Tier III Network Engineer to develop network architectural designs for the District Government Data Center Relocation Project, the deployment of the wireless enterprise network, and the enhancement of the DC Government Enterprise Network. As needed, under this position, the Contractor shall evaluate emerging technology for projects involving the enhancement of the DC Government Intranet, DC Government Internet access, and DC Government Extranet connectivity.

C.4.10.2.5.3 Required Skills and Experience

C.4.10.2.5.3.1 The Contractor shall produce the following credentials, and shall possess the following knowledge, skills, abilities, and experience to perform the SOW requirements.

- a) 8 years’ experience working as an IP Network Engineer
- b) Candidate must be a Cisco Certified Network Professional. A valid certification is also required
- c) Must have proficient experience with the following IP Network Routing Protocols: BGPv4; OSPF, EIGRP.
- d) Thorough knowledge and technical background in working with communications and routing technologies such as Metro Ethernet technologies (Layer II & III MPLS), Frame Relay, TLS, and 802.11a/b/g/n networks.
- e) Bachelor's degree from an accredited college or university preferred.
- f) HS Diploma required.
- g) Experience with the design and implementation of firewalls, and network management packages.
- h) Familiarity with WAN security issues and implementation of various security measures. Internet experience desirable. Other combinations of applicable education, training and experience which provide the knowledge, abilities, and skills necessary to perform effectively in the position may be considered.
- i) Ability to effectively use WAN/LAN performance tools such as protocol analyzers and related test equipment.
- j) 7 years of experience in network implementation management and technical user support for corporate LAN/WAN equipment including architecting, implementing and maintaining substantial networks.
- k) Knowledge of Cisco 1800, 2600, 2800, 3600, 3800, 7200, and 7600 series routers; 2950, 3500, 4500, and 6500 series switches; and PIX firewalls.
- l) Solid experience with DNS, DHCP, IP, WINS, AD replication, image creation and management.
- m) Expert-level knowledge of Domain Name Services (DNS) in a large-scale enterprise environment. Knowledge must be specific to Unix-based DNS services and the relationship to WINS, DHCP, hosts files, load-balancing, and troubleshooting.

C.4.10.2.5.4 Behavioral Characteristics

The District is interested in confident, energetic, diligent individuals who accept challenge, exhibit leadership ability, and can work mutually with other colleagues. The Contractor shall demonstrate good written communication skills, including documentation and correspondence.

C.4.10.2.6 Network Specialist (Senior) (Alliant ID 126G-3)

C.4.10.2.6.1 Overview

OCTO/DC-Net is a District of Columbia Government technology agency. DC-NET is the technology platform for developing and deploying state-of-the-art District-Wide Information Systems. DC-NET provides data, video, voice services and helpdesk along with Unified Communications to 350 city offices and schools, police and fire stations. DC-Net has been entirely self-sustaining since June 2007, financing all operational costs, including debt service, from service revenues. During this time, DCNET has also steadily expanded its customer base among District agencies and has maintained an efficient cost structure, high network reliability, and customer satisfaction. OCTO/DC-NET has 250 miles of fiber optic cable and associated building infrastructure. Plant includes aerial, underground, building infrastructure and wireless. The network utilizes SONET, MPLS & IPV6 with equipment from Cisco, Avaya and Juniper.

C.4.10.2.6.2 Requirement Description

C.4.10.2.6.2.1 *Short Description*

The Contractor shall update or create components for an Operation manual covering all phases of the DC-NET Operation and Deployment functions. The Manual will identify tasks, associated work, how the work will be completed, who should do it and associated handoffs. The Contractor shall create checklists, punch lists and handoffs with time estimates for tasks or groups of tasks. Identify time estimates for tasks or groups of tasks. All manufacturer specifications and Requirements will be inserted in the appropriate section or appendix.

C.4.10.2.6.2.2 *Complete Description*

- a) This position is located in the office of the Director of DC-NET. The TWE will report to the Director of DC-NET or his assigned. The initial work will be 40 hours of work per week at the client site Monday to Friday 8:30 to 5:30. Any variation from this Required approval from the director or his assigned. The actual workload will determine the hours worked in any given week. Working more than 40 hours a week Required pre-approval by the Director. The work will be directed by the Director or his assigned and may change in scope.
- b) The Contractor shall work directly with construction, installation, technical staff and managers to write and edit documentation, user manuals, training material, punch lists, check lists and procedures. The Contractor shall Conduct research by interviewing subject matter experts, reviewing existing documentation, and view work in the field as necessary. The TWE will author end-user documentation and edit documentation for accuracy. The writer must follow-through on documentation to completion with the Director sign-off and archive. This person will be working with the managers of each area of work to create procedural documentation based on the current deployment environment. Documentation is to be in a form that can be incorporated into training

C.4.10.2.6.3 The Contractor shall create an operation manual for structured plant to cover inside plant (ISP) and outside plant (OSP) for engineering, deployment, operation and maintenance, while:

- a) Assessing existing documentation and process;

- b) Revising and supplementing current DC-NET documentation to create a comprehensive manual;
- c) Ensuring understanding and usage of the completed processes and directives by DC staff and Contractors; and
- d) Ensure the manual is compliant to BICSI standards, along with all applicable codes, standards, regulations and laws.

C.4.10.2.6.4 Provide analysis and support for site specific deployment and implementation. This includes communicating needs, engineering, Requirements and cost benefits to DC staff and clients.

C.4.10.2.6.5 Behavior Characteristics

- a) The Contractor shall successfully thrive and adapt in a time-critical, results-oriented environment.
- b) The Contractor shall be self-motivated, possess excellent organizational skills, and be highly organized with the ability to prioritize and meet timelines.
- c) The Contractor shall successfully interact with DC-NET staff, Senior Management and clients verbally and in writing to gain consensus or to provide clarity.
- d) The Contractor must possess strong interpersonal skills and the ability to work within a matrix environment.

C.4.10.2.6.6 Required/Desired Skills

The Contractor shall possess and apply the following knowledge, skills, abilities, and experience to perform the SOW requirements.

- a) A detailed knowledge and hands-on experience for network deployment, which includes:
 - i. ISP
 - ii. OSP including conduit systems
 - iii. Building infrastructure
 - iv. Electronic installation
 - v. Fiber and copper splicing
- b) Ability to update current DC-NET current standards and procedures to assure conformance to RCDD Requirements, codes, standards, regulations and laws.
- c) Ability to translate time/motion studies into a replicable documented process
- d) Ability to trouble shoot process and problems then recommend effective solutions
- e) Team player who can excel in providing deliverables

C.4.10.2.6.7 Technical Writing

- a) Ability to incorporate existing documentation into documentation compliant with client Requirements.
- b) Process documentation
- c) Technical writing experience for multiple facets of communication technologies

- d) Ability to write in a fashion that communicates to entry level and senior management staff
- e) Ability to incorporate knowledge from the sections of this document entitled:
 - 1. General
 - 2. Knowledge Base
 - 3. Engineering and hands on installation in multiple environments
 - 4. Knowledge and deployment skills for multiple services

C.4.10.2.6.8 Knowledge Base

The TWE must be very knowledgeable and must prepare an operation manual to include, but is not limited to the following topics:

- a) Equipment documentation
- b) Engineering standard
- c) Equipment room design
- d) Installation processes
- e) Checklists as appropriate
- f) Maintenance process
- g) Test Requirements
- h) Reporting forms as appropriate
- i) Punch lists for task/project completion
- j) As built Requirement
- k) Labeling and record keeping
- l) Fire stop
- m) Modularized MS Project templates

C.4.10.2.6.8.1 The Contractor shall present documentation to field personnel to ensure proper and efficient use of the knowledge.

C.4.10.2.6.9 Engineering and hands-on installation may take place in multiple environments, including:

- a) Aerial
- b) Underground
- c) Horizontal and vertical building cable
- d) Building entry
- e) Exterior wall attachment
- f) MDF
- g) IDF
- h) Campus
- i) Equipment room
- j) Cubes, offices and public space
- k) Tunnel –preferred
- l) Bridge – preferred

C.4.10.2.6.9.1 Installation of components contained in the manual include place, splice, install, activate, and wreck out, but are not limited to:

- a) Fiber
- b) Backbone copper cable
- c) Coax
- d) Electronic equipment
- e) Rack/cabinet
- f) Manhole & hand hole
- g) Conduit, pull box, raceway and ladder rack
- h) Connectors, jacks, wall plates, network interface and phones
- i) Point to point wireless
- j) Wi-Fi
- k) Bonding, grounding and electrical protection
- l) Battery/UPS systems
- m) Video camera
- n) Environmental alarms

C.4.10.2.6.10 Knowledge and Deployment Skills for Multiple Services

The Contractor shall possess the following set of knowledge and deployment skills for multiple services:

- a) Voice
- b) Data
- c) Video
- d) Unified communication
- e) Audio/Video
- f) Teleconference
- g) Paging
- h) Surveillance
- i) Proficient computer skills -Microsoft Word, Excel, MS Project, SharePoint

C.4.10.2.6.11 Certification and Screening Criteria

The Contractor shall meet the following certification and screening criteria:

- a) BS/BA - Management, Science or Engineering preferred
- b) 7 years of related experience
- c) The TWE must be very knowledgeable in RCDD Requirements and implementation.
- d) BICSI certifications – RCDD is Required, two or more additional certifications preferred
 - i. RCDD - Registered Communications Distribution Designer
 - ii. ESS – Electronic Safety and Security Specialist
 - iii. NTS – Network Transport Specialist

- iv. OSP – Outside Plant Specialist
- v. Wireless Design Specialist
- vi. ITS installer (multiple options)

- e) Cisco or Avaya certifications a plus
- f) Use of Microsoft Office Suite products
- g) US citizen or valid Visa
- h) Demonstrate written and verbal communication skills

C.4.10.2.6 Application Systems Analyst (Avaya Software Associate) (138G-4)

C.4.10.2.6.1 Complete Description

C.4.10.2.6.1.1 The Contractor shall assume final accountability for all emergent voice, data, and video services terminating at the DC government office of unified communication, its backup site, and various locations throughout the city housing critical high volume call receipt platforms. The Contractor shall provide direct supervision of reporting and virtual team members and Contractors involved with the provisioning and maintenance of all associated services on a 24/7 basis. The Contractor shall serve as the initial point of contact for receipt of all issues and responsible party for final clearance/resolution. Tasks may require working either as part of a cross-functional team or individually. Use of industry standard software management tools and techniques is expected.

C.4.10.2.6.1.1 The Contractor shall provide for the development and implementation of a preventative and corrective maintenance plan for the Avaya PBX and voicemail switching platforms. This includes technical training of all reporting and virtual switch engineering team members, interaction/negotiation with vendors offering enhanced or new product options, and a documented disaster recovery plan for all aspects of the Avaya infrastructure.

C.4.10.2.6.2 Required Skills (Minimum 5 years)

C.4.10.2.6.2.1 The Contractor shall possess the following required skillsets to be qualified for this position:

- a) Ensure full availability and operability of all voice, data, and video equipment and applications utilized by assigned customer base in compliance with federal and local laws/mandates and industry and OSHA standards.
- b) Establish corrective and preventative work processes and data archiving interval documentation coordinating Required installation and maintenance activities associated with all critical DC governmental mass call center entities.
- c) Document and review all expectations/commitments of contracted and direct reporting team members
- d) Evaluate and implement call recording solutions in keeping with current federal and local legal Requirements.
- e) Assure appropriate response to all outages/issues within 2 hours of initial occurrence.
- f) Determine level of performance Required for each customer and institute individual team member measure of conformance to Requirement.

- g) Coordinate change control board process and identify impact of Required technology modifications/upgrades across all vendor equipment and associated interoperability.
- h) As highest ranking switch engineer, develop corrective, preventative, and disaster recovery maintenance plan for all aspects of Avaya switching platform and infrastructure.
- i) Evaluate all new switch related product offerings in terms of customer Requirement, cost, implementation strategy and deployment plan, and ongoing dedicated maintenance program.
- j) Assume role of training and documentation advocate/source for all Avaya hardware and software deployments within DC-Net infrastructure.
- k) Assure role of CMS administration and maintenance
- l) Experience in ACD, Automatic Attendants, IVR, Voicemails and VDN is must

C.4.10.2.6.3 Certification and Screening Criteria

The Contractor shall meet the following certification and screening criteria:

- a) CCNA
- b) Avaya Certified Specialist (IP Telephony)
- c) Bachelors in related field

C.4.10.2.7 Configuration Management Specialist (master (Senior Network Engineer))

C.4.10.2.7.1 Introduction

The position is located in the Office of the Chief Technology Officer (OCTO) DC Net division. The Contractor shall provide a variety of duties supporting Information and Communication Technology needs of assigned district government agencies. The Contractor shall perform complex assignments in the areas of design and planning, deployment, operations and technical support for communication systems that support data, voice, and video networks. The Contractor shall conduct thorough and detailed system studies of existing functions and methods of operations and develops IT communication systems to refine, elaborate upon, and obtain further benefit for IT support. From these studies, the incumbent analyzes systems and creates detailed technical documents to define logical, workable systems. From these analyses, detailed plans are developed to build, implement, and maintain IT telecommunications systems.

C.4.10.2.7.2 Duties and Responsibilities

The Contractor shall perform the following functions under this contract:

- a) Gathers information to collect technical required and documents the findings.
- b) Researches digital transmission hardware and software programs, analyzes all viable options, and makes technical recommendations. Coordinates and conducts meetings with vendors, in response to inquiries, evaluation, and testing of hardware and software products.
- c) Prepares detailed written reports with cost estimates and prepares presentations, including recommended courses of action concerning the results of network performance analysis which impact current and future required.

- d) Develops high-level and detailed technical documents (i.e. drawings and spreadsheets) and presentations for internal and external use. Analyzes present and projected communication traffic volumes, including system capacity, peak loads, and the overall effect of any traffic increase as a result of a planned or completed change in the network. Performs hardware and software testing in the lab environment and documents test results. Creates implementation and test plans for changes in production.
- e) Implements configuration changes in accordance with change management process and procedures. Submits change required to Change Committee Board (CCB) and attends meetings to defend the required in front of the advisory board. Effectively communicates and manages expectations of the affected customer during the planning and rollout of changes.
- f) Coordinates the installation of communication systems, devices, services and related software. Analyzes, tracks, and resolves problem trends. Provides guidance to others in the resolution of hardware, software and capacity issues.
- g) Takes the lead in developing, documenting and implementing policies and procedures related to network and communication standards. Communicates with vendors and Contractors to develop and monitor project milestones and to ensure standards compliance.
- h) Trains others in the use of services and equipment and assists in the development of training programs. Performs complex communication systems design.
- i) Serves as a project leader to oversee the completion of projects, including: preparing and monitoring the budget, establishing timelines, identifying priorities, and implementing security mechanisms.
- j) Develops milestones for assigned projects and communicates with immediate supervisor, project managers, and vendors.
- k) Performs administrative duties associated with the ongoing operation and support of communication systems such as billing, customer assistance, and inventory.
- l) Operates and maintains tools and equipment of the trade. Cleans work area upon completion of project.
- m) Performs other related duties assigned. Specific duties and responsibilities may vary based upon departmental needs.

C.4.10.2.7.3

Knowledge Required By the Position

The Contractor shall comply with the qualification as outlined below.

- a) Mastery of the principles, concepts, methods, and practices of network and communication systems and technology in order to plan, design, develop, and manage hardware and software that respond to District Government's Required in the areas of telecommunications and other peripheral equipment.
- b) Mastery of IT theories and practices sufficient to advise other IT experts throughout the government on a variety of situations and issues that involve applying or adapting new theories, methods, concepts, standards, and practices
- c) Knowledge of advanced administrative, financial, and managerial aspects, concepts, procedures, and processes.

- d) Knowledge of network transmission and communication architecture to develop, implement, and maintain highly efficient, reliable, and scalable telecommunication systems.
- e) Knowledge of vendor product and technology to design, deploy, and operate associated hardware and software. Knowledge of the capabilities and limitations of particular makes and models of equipment and software to evaluate the comparative cost effectiveness of existing hardware and software.
- f) Demonstrated ability to communicate effectively both orally and in writing to provide guidance and instruction to others.
- g) Work effectively with others, use hand tools and test equipment to wear and work in personal protective equipment.
- h) Thorough knowledge of a variety of telecommunication systems.
- i) Bachelor of Science degree in a computer related field or equivalent industry experience.
- j) Skill and ability to operate computers, communication systems equipment, and other mechanical lifting and moving equipment.
- k) Except for qualifications established by law, additional related experience and formal education in which one has gained the knowledge, skills, and abilities Required for full performance of the work of the job class may be substituted for the education or experience Required on a year-for-year basis with 30 college credits being equivalent to one year of experience.

C.4.10.2.7.4 Other Requirements

- a) The Contractor may be required to be on-call and carry a pager.
- b) Required to demonstrate the ability to distinguish colors and color combinations.
- c) The Contractor may be required receive training to work with asbestos.
- d) The Contractor shall produce a Valid Maryland, Virginia, or Washington DC non-commercial Class C or equivalent driver's license.

C.4.10.2.7.5 Supervisory Controls

The Contractor shall perform work under the supervision of the Director of Network Planning and Engineering. The supervisor provides administrative direction with assignment in terms of broadly defined missions or functions. The Contractor shall be responsible for independently planning, designing, and carrying out programs, projects, studies, and other assigned work. Results of the work are considered technically and financially authoritative and are normally accepted without significant change. If the work should be reviewed, the review concerns such matters as fulfillment of program and financial objectives, effect of advice and influence on the overall program, or the contribution to the advancement of telecommunications technology. Recommendations for new projects and alteration of objectives usually are evaluated for such considerations as availability of funds and other resources, broad program goals, or organizational priorities. The Director makes assignments by defining objectives, priorities and deadlines and assists the incumbent with new or unusual situations.

C.4.10.2.7.6 Guidelines

Guidelines include the project charter, District IT strategies and IT standards as defined by the Office of the Chief Technology Officer, District and Federal

government laws and regulations, and Office of the Chief Technology Officer policies and procedures. The Contractor shall use expert judgment in interpreting the intent of existing guidelines, identifying areas of interest that need further development or study, and in evaluating the significance and impact of new developments in the specialty area.

C.4.10.2.7.7 Complexity

The work includes a variety of duties involving different and unrelated processes and methods that are applied to a broad range of activities. Decisions regarding tasks involve major areas of uncertainty in approach, methodology, or interpretation that result from such elements as continuing changes in programs, new technological development, and conflicting Required. The Contractor shall provide new techniques, out of the box thinking, criteria establishment, and/or development new information.

C.4.10.2.7.8 Scope and Effect

The work involves isolating and defining unprecedented conditions, resolving critical problems, or testing and implementing new technologies. The work products affect the development of technology solutions to business problems that will align with the District's IT strategies and standards and improve performance.

C.4.10.2.7.10 Physical Demands

C.4.10.2.7.10.1 The work is sedentary in nature. However, the following demands may be Required from time to time.

- a) Ability to lift and transport telecommunications supplies and equipment of no more than 50 pounds;
- b) A clear and stable state of mind to analyze problems of a technical nature and to develop procedural steps in the solution of problems.
- c) Skill and ability to operate computers, communication systems equipment and other mechanical lifting and moving equipment/parts.

C.4.10.2.7.11 Work Environment

Some work is performed on, around, over, and under fixed equipment and machinery; as well work in confined spaces. Work is sometimes performed in an office setting.

C.4.10.2.8 Configuration Management Specialist (Master)(Unified Communication, Messaging and Virtualization Specialist) (Alliant ID 109G-3)

C.4.10.2.8.1 Requirement Description

C.4.10.2.8.1.1 Short Description

The Unified Communications, Messaging and Virtualization Specialist (UCMVS) is responsible for:

- a) The Contractor shall be responsible for planning, installing, configuring and support high-speed servers, appliances as well as SAN storage systems, and virtualization.
- b) The Contractor shall provide day-to-day onsite support for networked systems, hardware and the related infrastructure as well as maintaining network equipment and appliances, analyze problems, and monitor the environment to ensure its availability.
- c) The Contractor shall be available 24/7/365, for emergency coverage, as assigned
- d) The Contractor shall thrive in a time-critical results-oriented environment.

C.4.10.2.8.1.2

Complete Description

- a) The Contractor shall possess experience with multiple technologies such as networking, storage, and virtualization with a strong passion for technology and a desire to advance in virtualization and related technologies. The UCMVS will perform day-to-day operations that will include monitoring the performance of servers, appliances, and UC systems.
- b) The Contractor will work closely with other engineering team members on a wide array of project to include: data center relocation; Unified Messaging Migration; UC virtualization and clustering; Interactive Voice Response systems.
- c) The Contractor shall provide guidance and expertise related to system specifications, storage and virtualization and assist in determining future capacity needs. THE UCMVS will be called on to troubleshoot system problems reported by users and by automated monitoring systems and make recommendations for enhancements in the implementation of future initiatives.
- d) The Contractor shall perform under the Office of the Chief Technology Officer (OCTO) and report to the DC-NET management team.
- e) The Contractor shall demonstrate a comfort level and ability to adapt when dealing with varying audiences of reporting subordinates, OCTO staff members, vendors and Contractors, agency decision makers, or individual subscriber end users of service.
- f) The Contractor shall assist with hardware specifications and implementation of Unified Communications systems to include NICE Call Recording, Exchange 2007 Unified Messaging Servers, Contact Center solutions, Call-processors, analytics and reporting systems, automatic speech Recognition engines.
- g) The Contractor shall provide modifications and/or changes to new or existing programs, whether predicated on technical or financial implications, identify and mitigate potential problems or alter perceptions to produce win-win situations and relationships. The majority of these call center entities involve monitoring and operational oversight by both local and federal governmental organizations. The

position of primary accountability carries considerable legal ramifications in the event of an outage or impaired operability.

- h) The Contractor shall develop and implement a preventative and corrective maintenance plan for the Avaya PBX and voicemail switching platforms and infrastructure to include (but not limited to):
 - i. Technical training of all reporting and virtual switch engineering team members
 - ii. Documentation for a disaster/maintenance recovery plan with all aspects of the Avaya infrastructure.

C.4.10.2.8.2 MAJOR DUTIES

The Contractor shall perform in accordance with the following duty descriptions:

- a) Interact with vendors to evaluate enhanced or new product options.
- b) Assist in gathering, documenting, and analyzing system requirements
- c) Assist in the development of the overall technical solution
- d) Install, configure, troubleshoot, and/or support technical solutions as designed in a lab or production environment
- e) Document installation/configuration information
- f) Develop, document, and perform test cases and scenarios
- g) Provide escalation support to customers and other Contractors
- h) Serve as technical liaison to other Engineering departments for all virtualization initiatives
- i) Establish corrective and preventative work processes and data archive interval documentation
- j) Evaluate and implement call recording solutions in keeping with current federal and local legal requirements.
- k) Document the level of performance requirements for each customer and institute metrics of conformance to the requirement for individual solutions and equipment.
- l) Coordinate the change control board process
- m) Identify and provide recommendations on the impact of technology modifications/upgrades across all vendor equipment and interoperability of all systems.
- n) Evaluate all new Unified Communications related product offerings for customer requirement, cost, implementation strategy, deployment plan, and dedicated maintenance program.
- o) Provide training, documentation and knowledge management for all UC hardware, software and deployments within DC-Net infrastructure.
- p) UCMVS uses judgment, initiative, and resourcefulness in deviating from established methods in interpreting the intent of existing guidelines, identifying areas of interest that need further development or study, and in evaluating the significance and impact of new developments in the specialty area.
- q) Comply and enforce the guidelines of (but are not limited to) District IT strategies and IT Standards as defined by the Office of the Chief Technology Officer, District and Federal government laws and regulations, and Office of the Chief Technology Officer policies and procedures.

- r) Perform related duties as assigned.

C.4.10.2.8.3 REQUIRED/DESIRED SKILLS

The Contractor shall maintain the required/desired skillsets to successfully perform under this contract.

- a) The qualified candidate should have experience designing and implementing Exchange Unified Messaging in enterprise environments.
- b) The candidate will need to be able to implement Exchange UM with Dial Plans and Auto Attendants. Ability to handle Exchange 2007-2010 migrations is a plus.
- c) Experience with VoIP/telephony/voicemail system is beneficial, especially with Avaya, and Cisco.
- d) Virtualization Expertise: Minimum of 1 to 3 years of implementing and/or maintaining a VMware Infrastructure (3.x or vSphere 4)
- e) VMware Certified professional is a plus
- f) Storage Expertise: Minimum of 1 to 3 years of implementing and/or maintaining a storage infrastructure, (NAS, SAN, Fiber Channel, iSCSI)
- g) Storage experience/certification is a plus
- h) Networking Expertise: Good understanding of IP, VPNs, DHCP, DNS, SSL, PKI, network routing, firewalls, and switching
- i) Broad knowledge of enhanced telecom services and features ensuring state-of-the-art capabilities supporting public safety initiatives and mandates.
- j) Knowledge of federal and local laws, statutes, regulations, and standards relative to the telecommunications industry and critical call center compliance.
- k) Advanced verbal and written communication skill sets required for the presentation, endorsement, and agency level understanding of evolving technological enhancements.
- l) Demonstrate key competencies associated with budgeting, procurement, inventory control, and ultimate financial solvency impact.
- m) The UCMVS must demonstrate the ability to lead and coordinate a diverse group of subordinates, vendor, and Contractor skill sets with defined objectives, performance measurements, priorities, and commitment time tables.
- n) Versatility and knowledge in both the technical and financial arenas is essential to ensure careful balance between customer and shareowner requirements.
- o) The ability to understand and impact the engineering and design of complex transport and switching platforms while possessing communication skills that simplify presentation, comprehension, and ease of policy acceptance.
- p) The ability to coordinate and design consistent, uninterrupted informational flows and documentation across multi-vendor architectures involving these critical public health and safety call center environments

C.4.10.2.8.4 PHYSICAL DEMANDS and WORK ENVIRONMENT

- a) Although the majority of work is sedentary, there may be a need to lift 50 pounds or greater and site visits involve “uncontrolled field conditions”.

- b) Work venue varies from office setting to on-site involvement at nearly 100 service deployment sites. The physical demands described here are representative of what must be met by the person to successfully perform the functions of this job.
- c) Available to work after hours and/or on holidays & weekends

C.4.10.2.8.5 Certification and Screening Criteria

The Contractor shall possess the following degree(s), certifications, and/or accreditations:

- a) Bachelor's Degree or better in a related field or 10 years' experience
- b) Microsoft Certified Systems Engineer (MCSE)
- c) CompTIA and Network+
- d) Valid US driver's license

C.4.10.2.9 Configuration Management Specialist (Master) (Alliant ID 109G-3)

C.4.10.2.9.1 POSITION SUMMARY

The Program Director will provide Engineering and Management leadership for planning, design, and managing DCNET's network infrastructure. Responsibilities include but are not limited to; recommend, engineer, implement, and maintain network architectures (LAN/WAN/Security), manage multiple projects, vendors, subcontractors, and supervise 5 to 10 direct reports. The Director will have to carry out complex assignments requiring the development of new and/or improved techniques and procedures. This position requires a high-level of familiarity and experience with emerging technologies such as MPLS, VPLS, L2VPN, MPLS-TE, IP Telephone/VoIP, QoS, SSL VPN, Video Conferencing, IP Multicast, and IPv6.

C.4.10.2.9.2 ESSENTIAL DUTIES AND RESPONSIBILITIES

The Contractor shall perform the following functions, shall possess the following qualifications, skillsets and credentials, as described below.

- a) The Program Director manages weekly timesheets, weekly status report, project management, and project assignments.
- b) Responsible for overall IP network design and architecture.
- c) Responsible for SONET Architecture, RPR design, test and deployment.
- d) Responsible for IP/MPLS backbone engineering and provisioning.
- e) Responsible for tier-3 issues with Cisco Routers and Switches.
- f) Responsible for Voice and Data testing, turn up and cutover.
- g) Responsible for capacity planning, management and QOS deployment.
- h) Responsible for new product development, testing and deployment.
- i) Responsible for Tier-3 and day to day operational support.
- j) Responsible for providing support to customer support specialists with regards to company products and technology.

C.4.10.2.9.3 Supervisory Responsibilities

Provide management leadership and direction to Network managers, Senior Engineers, Voice Engineers, Field Network Engineers and Optical Engineers.

C.4.10.2.9.4 QUALIFICATIONS

To perform this job successfully, an individual must be able to perform each essential duty satisfactorily. The requirements listed below are representative of the knowledge, skill, and/or ability required. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

C.4.10.2.9.4.1 Education and/or Experience

The Contractor shall demonstrate experience using MS in Electrical Engineering, Computer Science related fields, or 10-15 years of equivalent related experience.

C.4.10.2.9.4.2 Required Skills

- a) Experience leading a team of engineers and technicians who have responsibility for configuring IP and SONET services in a service provider network.
- b) Experience developing department goals
- c) Experience managing department budget of \$1M+
- d) Experience designing service provider and enterprise networks with MPLS, BGP and OSPF.
- e) Using a SONET provisioning system such as Cisco's CTM or equivalent.
- f) Able to defining network operation processes and procedures.
- g) Proficiency with TCP/IP technologies such as DHCP, SNMP, TFTP, FTP, HTTP, SMTP POP3, IPSec etc.
- h) Knowledge of structured cable design, installation including UTP, Coax, Fiber, etc.
- i) Knowledge of Ethernet, 802.11x, etc.
- j) Knowledge of network diagnostic tools, cable and fiber infrastructure, routers, switches, firewalls, CMTS and security.
- k) Provide 3-tier technical support and carry out complex assignments.
- l) Proficiency with LAN/WAN and high level IP routing and firewall implementations.

C.4.10.2.9.4.3 Certification and/or Training – Preferred

- i. Project Management (ITIL, PMP Certification preferred)
- ii. Cisco Certified, CCNA, CCDA, CCNP, CCIE preferred.

C.4.10.2.9.5 Physical Demands/Working Conditions

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions. On-call, after-hours, and holiday work may be required.

C.4.10.2.9.6 SECURITY SENSITIVE: No.

C.4.10.2.10 Quality Assurance Specialist (Journeyman ISP Engineer)

C.4.10.2.10.1 Job Description

The Contractor shall support management of the implementation team and supervise all ISP equipment installs, preventative and corrective maintenance. The Contractor shall perform all aspects of copper and fiber splicing, testing, and fault locating in IP networks. The Contractor shall perform the following functions as part of their position:

- a) Designs and installs service entrances and riser cabling facilities
- b) Demonstrates ability to work off of ladders and carry up to 75 pounds
- c) Willing to work any tour of duty, overtime, nights, and weekends
- d) Able to fault locate and resolve cabling failures/impairments

C.4.10.2.11 Technical Editor (GIS Analyst)

C.4.10.2.11.1 Requirement Description

C.4.10.2.11.1.1 *Short Description*

The Contractor shall provide support for mapping systems; specifically:

- a) The GIS specialist will be responsible for custom development of Google Earth integration with existing billing and network management systems. This will require understanding of existing billing databases and network monitoring systems; develop requirements for integration with Google Earth and integrate the different systems.
- b) The GIS specialist will also be responsible for updating maps based on underground and aerial fiber routes and sites as they are cutover. He/She should be able to support requests to generate maps and sites as required for quotes and customer presentations.
- c) The GIS specialist should demonstrate knowledge of Google Earth integration with potential future web applications.

C.4.10.2.11.1.2 *Complete Description*

- a) DCNET is looking for an individual who has experience with mapping applications such as Google Earth and ArcGIS with a strong passion for technology. The Contractor shall work closely with the OSP team to perform day-to-day operations that will include updating maps based on aerial and underground fiber routes and sites as they are cutover.
- b) The Contractor shall work with the billing team to understand the billing system and its database structure and development requirements and steps to integrate it with Google Earth maps. The Contractor shall work closely with the engineering team to understand the network management system and its structure to integrate the system with Google Earth.

- c) The Contractor shall provide potential fiber routes to reach new sites and support requests to create maps as required for presentations.
- d) Organizationally, the GIS specialist falls under the Office of the Chief Technology Officer (OCTO), and shall report to the DC-NET management team.
- e) The Contractor shall demonstrate comfort level and ability to adapt when dealing with varying audiences of reporting subordinates, OCTO staff members, vendors and Contractors, agency decision makers, or individual subscriber end users of service.
- f) All work will be done on DC Premise unless directed by DC Management. 40 hours a week are the standard. Normal hours are 8am to 5pm.
- g) The primary candidate needs to be identified along with any alternates. A resume is required for all candidates.

C.4.10.2.11.2 MAJOR DUTIES

The Contractor shall perform the following functions as part of this position:

- a) Assist in gathering, documenting, and analyzing system requirements
- b) Assist in the development of the overall technical solution
- c) Install, configure, troubleshoot, and/or support integration solutions
- d) Document installation/configuration information
- e) Provide mapping support to customers and other Contractors
- f) Establish corrective and preventative work processes and data archive documentation
- g) Evaluate and implement solutions in keeping with current industry standard requirements.
- h) Identify and provide recommendations on the impact of technology modifications/upgrades across all vendor equipment and interoperability of all systems.
- i) Evaluate all new Unified Communications related product offerings for customer requirement, cost, implementation strategy, deployment plan, and dedicated maintenance program.
- j) Provide training, documentation and knowledge management for all mapping requirements within DC-Net infrastructure.
- k) GIS specialist uses judgment, initiative, and resourcefulness in deviating from established methods in interpreting the intent of existing guidelines, identifying areas of interest that need further development or study, and in evaluating the significance and impact of new developments in the GIS specialty area.
- l) Comply and enforce the guidelines of (but are not limited to) District IT strategies and IT Standards as defined by the Office of the Chief Technology Officer, District and Federal government laws and regulations, and Office of the Chief Technology Officer policies and procedures.
- m) Perform related duties as assigned.
- n) Provide updates and status reports when requested.
- o) Provide an orderly hand-over of work products and deliverables to the designated representative.

C.4.10.2.11.3 Qualifications

The Contractor shall possess the following knowledge base, experience and credentials to be qualified for this position.

- a) Master's Degree or 9 years of experience in mapping or geospatial databases
Proficient with ARC and/or Google mapping with related database software
- b) Certification in ARC or Oracle is a plus.
- c) A working understanding of network communications

**C.4..10.2.12 Administration/Clerical (Senior) (Voice Field Technician Level 2)
(Alliant ID 101G-3)**

C.4.10.2.12.1 Overview

C.4.10.2.12.1.1 This position is located in the office of the chief technology officer-DCNET. The DC NET is the technology platform for and deploying state-of-the-art District-Wide Information Systems. This technology infrastructure consists of over 600 sites. DC-NET builds and manages the DC government owned private, fiber-optic based network that shall provide data, video and voice services to city offices and schools, including police and fire stations.

C.4.10.2.12.1.2 The Office of the Chief Technology Officer (OCTO) has undertaken a project to improve the quality, responsiveness, and cost effectiveness of communications for the District of Columbia as part of the overall Information Technology Strategic Plan. Part of the plan is to implement a high capacity communication transport network using an optical fiber network using Synchronous Optical Network (SONET) interface standards. This network is generally referred to as the District Citywide Information Network – or DC-NET.

C.4.10.2.12.1.3 Network Services Voice Department provides support to all DC agencies for voice services. This covers all moves, adds, changes, and deletes (MACD). The department provides trouble handling and corrective maintenance for the customer. The Department analyzes and resolves voice service problems from the telephone exchange (Avaya PBX) to an agency's telephones (including cabling, wiring and equipment). In troubleshooting voice service problems, the Department provides the following functions: Test/analysis, dispatch, repair, and data recording.

C.4.10.2.12.2 Interaction

The Contractor shall provide a staff of skilled and experienced technicians that are responsible for providing support during regular workdays (40 hours M-F). The Technicians will communicate with supervisors and support staff that identifies assignments to the Tech and accepts reports from the Technician.

C.4.10.2.12.1.3 Behavior Characteristics

The Contractor shall thrive in a time-critical, results-oriented environment.

C.4.10.2.12.3 General

The Contractor shall perform work on District premises unless specifically authorized. (The “normal business hours” of OCTO are determined to be 8:30 AM to 5:30 PM with a one-hour lunch.) Working hours may vary at the District’s discretion. Out-of-town travel will not be required. The Contractor shall follow all District/PMO standards. The Contractor shall provide timely, necessary information to allow the District to calculate “earned value”.

C.4.10.2.12.4 Complete Description

The Voice Field Technician Level 2 is highly skilled and experienced in all phases of Telecommunications PBX, Central Office Systems, and Voice Field Services support (including the troubleshooting, repair, and installation of telephone systems and interior wiring). The Contractor shall be BICSI certified and have a solid understanding of and ability to adhere to major telecommunications standards, codes, and methodologies listed below. The Contractor shall work collaboratively in an integrated team under limited supervision to achieve the stated tasks and goals for the position. The Contractor shall come equipped with his or her own transportation (personal vehicle).

C.4.10.2.12.5 Behavior Characteristics

Performance is based upon quality of installation and troubleshooting as well as timeliness in project completion. The Contractor shall possess strong organizational skills and manage schedules well. As a visible representative of DC-NET to customers in the field, the Contractor shall demonstrate strong communication skills, excellent customer relation skills, and good judgment.

C.4.10.2.12.6 The table below describes required/desired skillsets the Contractor shall provide in order to be considered qualified for this position.

	Skill	Required/ Desired	Years of Experience	Expertise Rating
1	Can install, test phones, and troubleshoot cutover related outages.	Required	5	Expert
2	Solidly understands and adheres to ANSI/TIA/EIA 568-A, 569-A, 570-A, 606, 607.	Required	5	Expert
3	Solidly understands and adheres to ANSI/TIA 526.7 and 14A.	Required	5	Expert
4	Solidly understands and adheres to TIA/EIA TSB 67, 72, 75, 95.	Required	5	Expert

5	Solidly understands and adheres to National Electric Code and National Fire Protection Code.	Required	5	Expert
6	Solidly understands and adheres to BICSI TDMM, LAN, and Interworking Design Manual.	Required	5	Expert
7	Knows Ortronics, Panduit, Avaya, Amp, Caddy, Cisco, Erico, Hilti, Leviton comm. equipment vendors and products.	Desired	5	Familiar
8	Knows telecommunications infrastructure.	Required	5	Expert
9	Knows termination methods and tools needed to complete infrastructure installation.	Required	5	Expert
10	Understands and can apply twisted-pair (UTP, ScTP, STP-A) theories and facts.	Required	5	Expert
11	Understands transmission characteristics of AC/DC.	Required	5	Expert
12	Understands analog/digital signals, copper cable, optical fiber, cable bandwidth MHz vs. Mbps, digital signaling.	Required	5	Familiar
13	Understands the LAN infrastructure.	Required	5	Familiar
14	Knows firestopping and cable termination.	Required	5	Expert
15	Demonstrates knowledge of industry communication wire color codes.	Required	5	Expert
16	Can install structured premises cabling systems: entrance facilities, backbone, and horizontal distribution.	Required	5	Expert
17	Can install, test phones, and troubleshoot cutover related outages.	Required	5	Expert
18	Can troubleshoot all phone applications.	Required	5	Expert

19	Can test riser and tie cabling from entrance facility to IDF and from demarc (extended) to desktop.	Required	5	Expert
20	Can inventory ISDN phones, troubleshoot, and wire (analog, digital, and VoIP) for Avaya, Cisco, and Verizon infrastructures.	Required	5	Expert
21	Experienced in field dispatch and inventory.	Required	5	Expert
22	Experienced in ISDN-BRI.	Required	5	Expert
23	Can establish and maintain good customer relationships with senior customer management.	Required	5	Expert
24	Can promptly resolve customer Required and questions.	Required	5	Expert
25	Displays professionalism by maintaining customer relations, a professional appearance, and good communication skills.	Required	5	Expert
26	Maintains and completes paperwork for all assigned projects including documentation of test results and as-built documents.	Required	5	Expert
27	Can perform emergency repairs or tasks.	Required	5	Expert

C.4.10.2.12.7 Certification and Screening Criteria

The Contractor shall provide the following, and shall provide and maintain the following qualifications and certifications required to perform this position.

- a) Current BICSI Installer Level 1 Certification. Successful completion of BICSI’s Installer Level 2 training.
- b) Complies with OSHA common safety practices.
- c) Possesses own tools.
- d) Possesses vehicle that meets with District regulations to carry test equipment and
- e) Possesses proper motor vehicle license and training to safely operate vehicle to and from government sites.
- f) Must be able to work on and climb ladders, and carry 50 lbs.

C.4.10.2.13 Administration/Clerical (Senior) (Electrical Engineer) (Alliant ID 101G-3)

C.4.10.2.13 Job Description

The Contractor shall possess the following knowledge, abilities, and qualifications to successfully perform the SOW requirements.

- a) Design and implementation of electrical systems for network components.
- b) Engineering multiple AC/DC voltages, sources and conversions to equipment
Evaluation and selection of an electrical delivery system that uses solar radiation as a source of energy.
- c) Components analysis includes solar modules, batteries, charge/load controller and inverters.
- d) The result is to be energy that will supply AC (or DC) power to a DATA/TEL communication system or stored for later use. Additional work as directed.

C.4.10.2.14 Subject Matter Expert (Journeyman) (CAD Operator/Engineer for Communications Facilities) (Alliant ID 132G-1)

C.4.10.2.14.1 Requirement Description

C.4.10.2.14.1.1 *Short Description*

Using AutoCAD or Microstation, the Contractor shall create new or modify existing CAD drawings using engineering or as built information for Communications networks including IT infrastructure and fiber plant.

C.4.10.2.14.1.2 *Complete Description*

This position is located in the office of the chief technology officer-DCNET. The Contractor shall provide technical designations plat and equipment, IP assignments and civil orientations when provided for rack elevations, inside (ISP) and outside (OSP) plant. The Contractor shall archive documents in soft copy, and a hard copy will be created when directed. The Contractor shall provide template and block creations as needed for standardization. The Contractor shall maintain quality control on documents created. The Contractor shall apply equipment installation and structured cabling design procedures and practices by manufacturers.

C.4.10.2.14.2 Behavior Characteristics

The CAD Operator/Engineer for Communications Facilities must be able to thrive in a time-critical, results-oriented environment.

C.4.10.2.14.2 Required/Desired Skills

The Contractor shall possess the following experience, skillsets and qualities to successfully perform the duties required of this position.

- a) US Citizen
- b) 5+ years' experience:
- c) AutoCAD or Microstation experience
- d) CAD layouts of civil, communication, IT, OSP OR ISP infrastructure.

C.4.10.2.14.3 Certification and Screening Criteria

The Contractor shall maintain RCDD or vendor certification as an Engineering Technician or for Cabling System Requirements.

C.4.10.2.15 Subject Matter Expert (Journeyman) (ISP/OSP Engineer)

C.4.10.2.15.1 Short Description

The Contractor shall provide engineering for ISP and OSP fiber and network design, and shall monitor construction of network and fiber plant.

C.4.10.2.15.2 Complete Description

This position is located in the office of the chief technology officer-DCNET. The Contractor shall perform the following job functions:

- a) Plans the route, aerial and underground, to meet electronic requirements.
- b) Surveys work sites.
- c) Determines rack layout, electrical needs and electronic requirements.
- d) Design the ISP and OSP jobs.
- e) Reviews conduit drawings to determine exact route.
- f) Tracks the status of all designs.
- g) Be on call seven days a week during "off" hours to respond to outage. Supervise restoration of fiber or other plant
- h) Overtime is possible only with preapproval – otherwise regular work hours will be lower to maintain 40 hours a week when an on call emergency happens.

C.4.10.2.15.3 Behavior Characteristics

The Senior Avaya Engineer Administrator must be able to thrive in a time-critical, results-oriented environment.

C.4.10.2.15.4 Required/Desired Skills

The Contractor shall possess the following skills:

- a) Person must be highly motivated.
- b) Must be experienced in ISP and OSP network design and theory.
- c) Knowledge of existing cable routes is a plus.
- d) Must possess a cable splicing background.
- e) Must possess strong mechanical aptitude skills.

- f) Must possess extensive computer skills.
- g) Must have knowledge of Visio, StellarRad and Auto-CAD.

C.4.10.2.15.5 Physical Demands

The Contractor shall be required to meet the physical demands that are representative to perform the essential functions of this job. This position requires work in manholes and steam tunnels and exposure to dirt, fumes and excessive heat during fieldwork.

C.4.10.2.15.6 Certification and Screening Criteria

The Contractor shall meet the following experience and certification requirements:

- a) Ten years' experience
- b) High school diploma or an additional five years' experience
- c) BICSI certification preferred

C.4.10.2.16 Project Manager (Alliant ID 128G)

C.4.10.2.16.1 INTRODUCTION

This position is located in the Office of the Chief Technology Officer (OCTO), assigned within the DC-Net hierarchy. The Contractor shall interface directly to the DC-Net Director and assumes accountability for all customer interaction/negotiation and resulting program/project management involving new deployments in the wireless data and ancillary IP equipment arenas for federal and local government agencies and other non-profit entities within the purview of the current DC-Net franchise agreement. The Contractor shall provide complete cradle to grave project management of all initiatives and carry critical revenue generation goals and expense compliance requirements. Further, in depth wireless engineering acumen, either as an interconnection medium or a ubiquitous internet access vehicle, supported by extensive work experience is a prerequisite since the Contractor shall operate as a systems engineer, fully qualified to design, quote, and supervise complex deployments without the continual support of other subject matter expert personnel. The Contractor shall provide state of the art engineering & design documentation, composition of memorandum of understanding between affected parties, tracking of critical dates and all associated expenses, return on investment calculations, and final on time installation/deployment and end user training.

C.4.10.2.16.2 POSITION CONTROLS

Assignments are initiated through discussions, conferences, or other customer interactions and directives that broadly define missions and functions. The Contractor shall exercise independent responsibility in planning, designing, and executing programs, projects, studies and other work. Incumbent is regarded as technically proficient in all aspects of the wireless arena and, on that basis, makes engineering decisions that involve the authoritative interpretation of existing information technology policies and standards. The work is reviewed for accomplishment of goals within revenue generation, expense, and IT industry standard guidelines established by the business units and compliance with internal operating and administrative policies and procedures.

C.4.10.2.16.3 GUIDELINES

Guidelines include the project charter, District IT strategies and IT standards as defined by the Office of the Chief Technology Officer, District and federal laws, regulations, and agency policies and procedures. The Contractor shall use expert judgment in interpreting the intent of existing guidelines, identifying areas of opportunity that need further investigation or study, and in evaluating the significance and impact of new developments in the specialty area.

C.4.10.2.16.4 MAJOR DUTIES

The Contractor shall perform in accordance with the following description of position functionalities:

- a) Performs or directs project/systems engineering management of large technological wireless installation deployments including all customer interaction, identification and documentation of specific requirement, site survey, HVAC and AC upgrade requirements, cabling infrastructure modifications, engineering solution, Contractor selection, contract negotiation and preparation, performance oversight, and compliance monitoring of engineering, construction, installation, and end user training.
- b) Plans, supervises and evaluates the work of assigned staff and indirect reporting personnel to include: development, implementation and monitoring of work plans to achieve organization's mission, goals and performance measures.
- c) Serves as customer advocate/ombudsman from inception to completion of entire project implementation.
- d) Maintains engineering technical authorization for the design of current production work and product development activities specifically associated with new customer requirements or alternative initiatives.
- e) Participates in developing and monitoring performance/tracking of the engineering and wireless installation team resources against the approved project budget.
- f) Supervises, develops and implements plans, policies, systems and procedures applicable to unit / technical responsibilities.
- g) Establishes performance requirements and personal development targets; regularly monitors performance and provides coaching for performance improvement and development; recommends merit increases and other rewards to recognize performance; recommends disciplinary action, up to and including termination to address performance deficiencies in accordance with the human resources policies and labor contract provisions.
- h) Directs network and communication operations, engineering and installation resources, and assures compliance with current construction and operations performance standards and practices.
- i) Performs continual assessment of wireless infrastructure in accordance with new customer bandwidth and servicing requirements to assure capacity relative to due dated requirements.
- j) Assists in establishing organizational goals and objectives, and in preparing the organization budget, reviewing budgetary proposals to determine priorities and appropriateness of staffing levels and equipment requests in relation to organizational operational needs and fiscal requirements, specifically associated with individual

initiatives and their impact on ongoing revenue, expense, non-recurring investment, and resulting ROI.

- k) Performs other duties as assigned.

C.4.10.2.16.5 OTHER SIGNIFICANT FACTORS

The Contractor shall possess the following experience, knowledge, skills and abilities to successfully fulfill the SOW requirements.

- a) Strong experience with wireless systems, networks and technologies in a large scale enterprise environment.
 - i. Must possess complete understanding of IP-based wireless networks to include either vendor acumen certifications or extensive work experience.
 - ii. Experience working with network and networking protocols in a LAN/WAN environment.
 - iii. Hands on experience with project management design/implementation of wireless solutions as either transport mediums between sites or indoor/outdoor hotspot access vehicles
 - iv. Familiarity with WAN security issues and implementation of various security measures.
 - v. Internet experience desirable.
 - vi. Other combinations of applicable education, training and experience which provide the knowledge, abilities, and skills necessary to perform effectively in the position may be considered.
- b) Must have skill in communications network operations management, design and operational principles, practices, materials, costs, construction techniques, current trends, regulations, standards and equipment.
- c) Must have the ability to manage budgets, personnel, cost control and administrative practices and policies.
- d) Considerable experience /background in leadership roles involving IP and related telecom planning and solutions specifically focused on the higher education sector/arena.
- e) Must possess information technology and computer capabilities applicable to functional responsibilities.
- f) Must have the ability to manage, direct and control the activities of subordinate supervisors and staff efforts to plan, assign, and coordinate the work of field, professional and technical subordinates.
- g) Must possess the ability to direct the application of federal, state and city laws, codes, standards and specifications applicable to the area of specialization.
- h) Must possess the ability to direct and review the preparation and interpretation of communication engineering and system design plans and specifications, codes, regulations and complex technical documents.
- i) Must be able to communicate effectively orally and in writing, including scientific and technical matters to non-technical individuals.
- j) Must be able to interact effectively, engage in or direct problem-solving processes.
- k) Must have the ability to establish and maintain effective working relationships with a diverse workforce and community.

- l) Must demonstrate complete familiarity and expertise with entire Microsoft Office platform, Visio, Access, and wireless equipment vendor technologies.

C.4.10.2.17 Project Manager (IT Senior Project Management)

C.4.10.2.17.1 INTRODUCTION

The Office of the Chief Technology Office (OCTO) is currently in the process of relocating to 200 I Street S.W. and requires a design, development and implementation of a state-of-the-art 24x7 Network Operations Center, Security Operations Center and ITServUS Call Center of next generation technology that will enhance its business and services to employees and customers throughout the Metropolitan area. The OCTO requires upgrades and enhancements of the existing Network Operations Center located at the John Wilson Building. The OCTO is solely responsible for managing the many initiatives re-engineering various technology platforms to a stable and robust environment. The existing space occupied by the OCTO staff is currently limited in expanding services that are required in meeting the expectation of IT initiatives. OCTO will use this space in expanding services to local and federal government customers to accommodate the growth of potential clients and new hires.

C.4.10.2.17.2 REQUIREMENTS

To perform the job successfully, the Contractor shall possess and maintain the following knowledge, skills and abilities:

- a) Ability to solve practical problems and deal with a variety of concrete variables in situations where only limited standardization exists. Ability to interpret a variety of instructions furnished in written, oral, diagram, or schedule form.
- b) To perform this job successfully, an individual should have knowledge of Microsoft Office and other word processing software.
- c) The Contractor shall report to the Deputy Chief Technology Officer for assignment of projects and various tasks. The Contractor shall provide service from the hours of 8:30 am to 5:30 pm Monday through Friday.

C.4.10.2.17.3 EDUCATION

The Contractor shall meet the following educational and experience requirements to be qualified for this position:

- a) Minimum General Experience: 3--5 years Information Technology, Space Planning, and Project Management experience. Possess 3 years of experience in the Functional Area of the project, proficient oral and written communication skills, Microsoft Office software proficiency. Organizes, directs, and coordinates planning and execution of all program/technical support activities.
- b) Has demonstrated Information Technology expertise, customer service and communication skills to be able to interface with all levels of management.
- c) Bachelor's degree or equivalent experience.

C.4.10.2.17.4 The Contractor shall plan and execute the delivery of a space plan, audio/visual technology, space design and furnishing to accommodate all Information Technology

staffing existing and future growth. The Contractor shall prepare and maintain the project schedule. The Contractor shall prepare and deliver status reports to the customer.

C.4.10.2.17.5 GENERAL DUTIES AND TASKS

The Contractor shall perform the following functions as part of this position:

- a) Consults and reviews with management project proposals to determine time frame, funding limitations, procedures for accomplishing the project, staffing requirements, and allotment of available resources to various phases of the project.
- b) Develops project plans specifying goals, strategy, staffing, scheduling, and identification of risks, contingency plans and allotment of resources for each phase of the project, and arranges for recruitment or assignment of project personnel.
- c) Project Scope Management to ensure that the project includes all the work required and only the work required to complete the project successfully. Controlling what is or is not included in the project.
- d) Develop a scope statement forms the basis for an agreement between the project team and the project customer by identifying both the project objectives and the major project deliverables.
- e) Responsible for handling/overseeing more than one project at a time depending on scope of work of each project.
- f) Coordinates with Engineers and prepares scope of work (needs analysis) based on solution needed by customer.
- g) Formulates and defines technical scope and objectives of project for project personnel.
- h) Identifies and schedules project deliverables, milestones, and required tasks.
- i) Performance reporting includes collection and disseminating performance information. This includes status reporting progress measurement and forecasting
- j) Resource planning to determine what resources (people, equipment, materials) and what quantities of each should be used to perform project activities.
- k) Directs and coordinates activities of project personnel to ensure project progresses on schedule and within prescribed budget.
- l) Establishes standards and procedures for project reporting and documentation.
- m) Reviews status reports prepared by project personnel and modify schedules and plans as required. Prepares project status reports and keeps management, clients, and others informed of project status and related issues.
- n) Confers with customer to provide technical advice and resolve problems.
- o) Coordinates and respond to request for changes from original specifications.
- p) Schedule status review meetings to exchange information about the project.
- q) Monitors project results against technical specifications.
- r) Develops and maintains technical and project documentation.
- s) Develops application/solution test plans for the project.
- t) Obtain, through customer satisfaction and acceptance testing, project signoff.
- u) Communication planning to determine the information and communications needs of the stakeholders who need what information, when will they need it, and how will it be given to them. Make needed information available to project stakeholders in a timely manner

- v) Cost Estimating developing an approximation of the cost of the resource needed to complete project activities. Develop an assessment of the likely quantitative result, how much will it cost the performing organization to provide the product and service involved.
- w) Cost Control include monitoring cost performance to detect variances from plan and ensuring that all appropriate changes are recorded accurately in the cost baseline. Preventing incorrect, inappropriate, or unauthorized changes from being included in the cost baseline. Informing appropriate stakeholders of authorized changes.
- x) Cost Budgeting allocating the overall cost estimate to individual work items in order to establish a cost baseline for measuring project performance
- y) Quality assurance to evaluate overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards.
- z) Quality Control to monitor specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

C.4.10.2.18 Unified Communications Engineer

C.4.10.2.18.1 Overview

The Contractor shall provide evaluation, deployment strategy and implementation of new technologies, hardware and software in addition to the development and implementation of a preventative and corrective maintenance plan. Technology includes Cisco and Avaya switch platforms. The Contractor shall interact with vendors to evaluate enhanced or new product options. The Contractor shall create and document a recovery plan for all aspects of the Network infrastructure. The Contractor shall coach and mentor staff, and perform knowledge transfers.

C.4.10.2.18.2 Description

The Contractor shall manage the operational support, maintenance and delivery of data & voice services. The position assumes final accountability for all emergent voice, data and video services terminating at DC government locations and agencies, its backup site, and various locations throughout the city housing critical high volume call receipt platforms. The Contractor shall provide direct supervision of reporting & virtual team members and Contractors involved with the provisioning and maintenance of all associated services on a 24/7 basis. The Contractor shall be the initial point of contact for receipt of all NOC (network operation center) issues and be responsible for final clearance/resolution. Tasks may require working either as part of a cross-functional team or individually. The Contractor shall proficient in the use of industry standard software management tools and methods for testing and issue resolution. The Contractor shall manage, improve and document NOC processes and procedures pertaining to the delivery of reliable network services, superior customer service, field repair actions, preventative maintenance, trouble-ticket resolution and other operations and maintenance activities.

C.4.10.2.18.2.1 The Contractor shall provide oversight of risk assessment and strategic evaluations of technology options and addressing the impact of the given technology on operations

and maintenance activities and personnel. The Contractor shall train network engineers. The Contractor shall create quantitative status reports on the health and usage of the network as well as project initiatives.

C.4.10.2.18.2.2 The Contractor shall research, evaluate, select, plan, manage and deploy:

- a) High Availability Solutions
- b) Integrate Avaya and Cisco IP Telephony and conferencing
- c) Converged network infrastructure
- d) Enhanced voice network
- e) O&M improvements
- f) Patch and firmware enhancements
- g) Migrate BRI endpoints to VoIP endpoints (endpoint migration/digital migration)
- h) Network infrastructure disaster recovery plan
- i) Enterprise Wide ACME Session Border Controllers for ISDN to SIP conversion
- j) Alternative PSTN connections using SIP
- k) Enterprise voice mail system replacement to Avaya Modular Messaging
- l) Voice system document repository
- m) CMS enhancement solution with a High-Availability CMS platform
- n) Maintenance and operation of the Avaya S8700/S8710 and related systems including modular messaging (8720)
- o) Remedial and preventative maintenance tasks
- p) Technical support to clients, NOC and technicians in the repair, installation, configuration, testing and maintenance of all voice communications systems and subsystems.

C.4.10.2.18.3 **Additional Projects**

The Contractor shall perform the following additional duties as part of this position:

- a) Audit and Assess Voice Infrastructure and Operations
- b) Audit voice system security and provide toll-fraud analysis
- c) Voice security infrastructure support
- d) Document current topologies, device configurations, passwords, work-flow processes, hardware versions, firmware versions
- e) Develop strategy for network enhancements
- f) Plan and conduct lab testing. To include writing test plans/scripts, reviewing plans/scripts written by others and test execution
- g) Determine and document compatibility issues between existing and planned telecommunications equipment and IPT
- h) Development of new products and services, particularly in the areas of Voice-over-IP (VoIP), and unified messaging including Cisco VoIP
- i) Escalation support for the voice services staff responsible for operation and Maintenance

C.4.10.2.18.4 Behavior Characteristics

The Senior Unified Communication Engineer must be highly motivated to thrive in a time-critical, results-oriented environment. Willing to continue his or her expertise in IP and voice network and design theory.

C.4.10.2.18.5 Required Skills

The Contractor must possess and maintain the following skillsets:

- a) Hands on experience working with Avaya G3R/S8x00, G3SI/S8x00 and G3CSI/S8x00 conversions, installations and upgrades.
- b) Has expertise in deploying Avaya VoIP and IPT solutions
- c) Experience in integration of Avaya modular messaging via IP trunks, digital set emulation, and QSIG
- d) Has in depth knowledge in voice capacity planning, voice messaging and OS deployment
- e) Possess professional writing and technical diagramming skills.
- f) Can quickly solve extremely complex problems relating to voice connectivity and performance
- g) Has excellent oral and written communication skills
- h) Can present design ideas to various functional groups and to provide and receive constructive feedback
- i) Has outstanding interpersonal skills to enable effective participation in group interactions
- j) Familiarity of government agencies such as FEMA, Department of Homeland security, and DC Government agencies

C.4.10.2.18.6 Certification and Screening Criteria

The Contractor must possess the following experience, abilities, and credentials to be deemed qualified for this position:

- a) Bachelors Degree in related field
- b) 10 year's experience
- c) ACE – Avaya Certified Expert, Technical
- d) ACSI – Avaya Certified Specialist Implement – IP Telephony (Product Authorized until 11/1/09)
- e) ACSD – Avaya Certified Specialist Design – IP Telephony (Product Authorized until 11/1/09)
- f) ACSM – Avaya Certified Specialist Maintain – IP Telephony
- g) ACACN – Avaya Certified Associate in Communication Networking
- h) CTP – Convergence Technologies Professional
- i) CCNP – Cisco Certified Network Professional - BCMSN complete; other exams in progress.
- j) CCNA – Cisco Certified Network Associate
- k) CQS-CWLSS – Cisco Wireless LAN Support Specialist
- l) CCVP-Cisco Certified Voice Professional

- m) MCP-Microsoft Certified Professional
- n) ACS - Design: IP Telephony
- o) ACS - Implement: IP Telephony
- p) Must be able to lift 40 lbs. The physical demands described here are representative of what must be met by the person to successfully perform the functions of this job
- q) Available to work after hours and/or on holidays & weekends

C.4.10.2.19 Cloud Computing Technical Strategist

C.4.10.2.19.1 Overview

The DC-NET is the technology platform for developing and deploying state-of-the-art District-Wide Information Systems. DC-NET builds and manages the DC government, fiber-optic based network that provides data, video and voice services to city offices, schools, police and fire stations.

DC-NET provides support to DC agencies for Unified Communications voice services or independently supplied components. This covers all moves, adds, changes, and deletes (MACD). OCTO-DC-NET provides trouble call handling and corrective maintenance for the customer. OCTO-DC-NET analyzes and resolves voice service problems from the telephone exchange (Avaya or Cisco) to an agency's telephones or data equipment (including cabling, wiring and equipment).

C.4.10.2.19.2 For this DC-NET operation, the Contractor shall provide a staff of skilled and experienced workers to be responsible for providing support during regular workdays (40 hours M-F) and 24/7/365 emergency coverage.

C.4.10.2.20 Cloud Computing (CC) Technical/ Strategy Advisor

C.4.10.2.20.1 Requirement Description

The Contractor shall perform as a Technical/Strategic Advisor for development, evaluation, and operation of Cloud Computing (CC) at DC-NET. The Contractor shall be central to the advancement of DC-NET's mission, strategies, and policies. The Contractor shall coordinate across all of OCTO-DC-NET Engineering, Operations and Security teams to solve, assist in solving, or provide assessments for solving some of the most challenging and novel problems in CC as they relate to OCTO-DC-NET. Performance of these tasks will involve direct work with data center infrastructure, networking, shared services, facilities, DC-NET subject matter experts (SME's) and DC-NET senior executives to analyze business requirements and assist in further development of strategy, policy, plans and supporting tools. The Contractor shall focus on assisting or providing development and implementation of strategies and CC-specific security policies and procedures.

C.4.10.2.20.2 The Contractor shall perform the following functions as part of this position:

- a) Advise and coach DC-NET staff regarding CC strategies and lead CC activities, including requirements analysis and subsequent coordination, and implementation of CC-related initiatives.
- b) Play a key role in development and advancement of CC strategy, policy, plans and supporting tools for operations.
- c) Provide technical leadership and advice in CC architecture, design and implementation of CC concepts to address the most challenging technology needs.
- d) Assist in development of data center consolidation and CC plans for OCTO-DC-NET.
- e) Provide leadership in developing data center consolidation and disaster management strategy.
- f) Perform due-diligence reviews and recommendations on complex data center and CC plans.
- g) Support subsequent, related operations and analytic projects as related to billing, service fulfillment, internal chargeback and cost modeling, and capacity planning needs.

C.4.10.2.20.3 Minimum Qualifications

The Contractor shall possess and maintain the following experience and credentials to be deemed qualified for this position:

- a) Master's Degree in a technical discipline.
- b) Experience in managing highly-complex, technically-challenging projects, with solid program management and engineering skills.
- c) Experience with strategic planning, competitive intelligence.
- d) Minimum of ITIL v3 Foundations certificate. Provide such certification with the submitted resume.
- e) Experience acquiring, building and managing data centers.
- f) Experience with data center usage-based billing.
- g) Experience developing operational support systems (OSS).
- h) Experience developing technical professionals' training and development plans.
- i) Experience developing data center consolidation and CC business cases and plans.
- j) Experience with and a solid working knowledge of DC-NET data center infrastructure, networking and facilities.

C.4.10.2.20.4

The following are desired qualities the District would prefer of the Contractor employee, however these characteristics are not required to be considered qualified for this position:

- a) Excellent oral/written communication, interpersonal, and analytical skills.
- b) Outstanding organizational, prioritization, and multitasking skills.
- c) Exceptional skills influencing, teaming, and delivering solutions in a highly complex, always changing environment.
- d) Experience with Virtualization.
- e) Infrastructure experience with networking, data center and/or storage.
- f) Ability to effectively interact with team members and clients.
- g) Ability to manage large or multiple projects, handle multiple tasks simultaneously, and to switch between tasks quickly.

- h) Proven ability to effectively provide consulting services and thought leadership at senior and executive levels to introduce new technologies, processes, and business models.
- i) Experience in leveraging Service Oriented Architecture (SOA) and ITIL principles in design of data centers, disaster recovery models, and CC strategies.
- j) Experience maintaining detailed project logs, and presenting projects and reports to executive level representatives.

C.4.10.2.21 Entry Level Technician

C.4.10.2.21.1 DC NET OVERVIEW

The DC NET is the technology platform for developing and deploying state-of-the-art District-Wide Information Systems. This technology infrastructure consists of over 600 sites. DC NET is related directly to the DC-NET, the DC government owned private, fiber-optic based network that shall provide data, video and voice services to 350 city offices and schools, including police and fire stations.

C.4.10.2.21.2 DESCRIPTION

The contractor shall assist with inventory management and equipment distribution; proper determination of floor plan utilization for closet technology deployment; installation, maintenance, and patching of IP telephony/data devices and ladder/ relay racking, and a broad overview of telephony/data design utilizing a fiber based IP/MPLS infrastructure.

All work will be done on DC government premise unless directed by DC Management. This is initially a maximum of 25 hours a week. More than 25 hours must be approved by DC Management. Normal hours are between 8:30 am to 5:30 pm unless otherwise directed by DC Management.

C.4.10.2.21.3 MAJOR DUTIES

The Contractor shall perform the following functions as part of this position.

- a) Receipt, inventorying and warehousing of equipment
- b) Installation assistance related to placement of ladder racking, relay racks, and installation of data switch equipment
- c) Identification and placement of patch cords between wiring patch panel and data switch
- d) Project status tracking
- e) Other work as assigned

C.4.10.2.21.4 Requirements /Qualifications

The Contractor shall possess the following abilities, qualifications and credentials to be considered for this position:

- a) High School Diploma
- b) Able to lift 50 lbs
- c) US Citizen or have a valid visa
- d) Computer skills are a plus
- e) Forklift qualification a plus

C.4.10.2.22 Entry Level (Warehouseman)

C.4.10.2.22.1 DC NET OVERVIEW (Program)

The DC NET is the technology platform for developing and deploying state-of-the-art District-Wide Information Systems. This technology infrastructure consists of over 600 sites. DC NET is related directly to the DC-NET, the DC government owned private, fiber-optic based network that shall provide data, video and voice services to 350 city offices and schools, including police and fire stations.

C.4.10.2.22.2 Description

DC-NET is opening a new Warehouse and has a need for a general warehouseman. The Contractor shall provide warehouse setup, inventory management, receive inventory, stock shelves, organize/ track material and dispense material. All work will be done on DC government premise unless directed by DC Management. This is initially a maximum of 30 hours a week. More than 30 hours must be approved by DC Management. Normal hours are between 8:30 am to 5:30 pm unless otherwise directed by DC Management.

C.4.10.2.22.3 MAJOR DUTIES

Contractor shall perform the following duties as part of this position:

- a) Receipt, inventorying and warehousing of equipment
- b) Warehouse setup
- c) Receive Inventory
- d) Maintain inventory records
- e) Receive inventory
- f) Disperse inventory
- g) stock shelves
- h) organize/ track material
- i) Other work as assigned

C.4.10.2.22.4 Requirements/Qualifications

The Contractor shall possess the following abilities, skills and credentials to be considered for this position:

- a) High School Diploma
- b) Able to lift 50 lbs
- c) US Citizen or have a valid visa

- d) Computer skills are a plus
- e) Forklift qualification a plus

C.4.11 Turnkey Solution

C.4.11.1 OVERVIEW

A turnkey solution is defined as a requirement that is completely outside the realm of any work operation or initiative previously attempted by the Customer. This category addresses the District's need to identify and present unique problems or challenges beyond the expertise and scope of internal resources. On an as-needed basis, the Contractor shall provide a complete design, engineering, procurement, installation, and training effort by the Contractor to achieve the desired deliverable/result. The Contractor shall maintain key labor skill sets needed to understand and define requirements, assess alternatives, design/engineer solutions, and install, operate, upgrade, maintain, and disconnect equipment and services, as approved and directed by District. Certifications, i.e. Cisco CCIE, CCNA, etc. are examples of the intellectual depth anticipated. The Solution subcategories are comprised, but not limited to the following disciplines:

- a) Consulting
- b) Systems integration
- c) Installation and testing
- d) Operational support

C.4.11.2 The phases documented below are *examples* of the District's expectations related to a turnkey solution requirement. The example below describes Contractor's involvement in the performance of a turnkey solution for a Network Management platform along with the anticipated tasks and work operations.

C.4.11.2.1 Phase 1 – Planning and Design

C.4.11.2.1.1 The Contractor shall be required to perform these duties on an as-needed basis.

- a) Collect and document system/network design specific requirements.
- b) Conduct investigations and evaluations to determine products that will meet the defined requirements.
- c) Administer product evaluation and proof of concept by ways of deployment in a controlled environment either in a lab and/or a limited production pilot.
- d) Recommend final products for purchase and installation.
- e) Document selection process and criteria using Network Management Architecture outline.
- f) Develop and communicate deployment strategy plan with management. Work with District's internal engineering groups, as required.
- g) Final approved Network Management Architecture report will be provided to District, describing the network management architecture, including product selection.
- h) Produce bill of material and specification for a District procurement
- i) Track purchasing
- j) Act as point of contact for vendor coordination.

- k) Deliver monthly status reports, outlining progress, issues, etc.

C.4.11.2.2 Phase 2 – Engineering and Implementation

C.4.11.2.2.1 The Contractor shall be required to perform these duties on an as-needed basis.

- a) Determine operational components and tasks.
- b) Produce detail implementation plan
- c) Stage and prepare products for deployment
- d) Coordinate with District agencies and support teams for installation and turn up.
- e) Under the Change Management guidelines prepare for production turn over and system migration.
- f) Install and configure production components
- g) Develop test and fall back plans
- h) Migrate from legacy component to new solution
- i) Deliver monthly status reports, with progress, issues, etc.

C.4.11.2.3 Phase 3 – Post production support and Training

C.4.11.2.3.1 The Contractor shall be required to perform these duties on an as-needed basis.

- a) Develop scripts to customize the solution
- b) Develop customization and exception to meet regulatory and compliancy requirements
- c) Produce operational support and As-Is documents
- d) Produce reports to show progress on compliancy, exceptions, and outstanding tasks
- e) Determine and/or select training source for District staff
- f) Produce training content (final training material may be included)
- g) Create a checklist of items remaining before project close-out
- h) Final close-out report and the documentation from all phases of the project deliverables.

C.4.11.3 Network Operations Center Services

The Contractor shall provide Network Operations Center (NOC) services to support the creation of a secondary NOC located outside the District. The Contractor shall provide the following support services:

- a) Tier 1 Service Desk staffed in shift arrangement to cover 24 hours by 7 days over a 365 days window of annual support.
- b) All components necessary for supporting asset management, fault management, performance, capacity, network monitoring systems, trouble ticketing, SLA monitoring and report generation.

C.4.11.4 Voice Communications

The Contractor shall provide solutions that involve the installation, operation, and maintenance of PBXs, wireless PBXs, VoIP equipment or other voice over packet systems, microwave systems, or messaging systems. The Contractor shall provide requirement gathering, design, engineering, procurement, installation, configuration, integration, and

testing. The Contractor shall fully implement a deployment within a minimum 30 day interval from initial notification or by an alternative date requested by District.

C.4.11.5 Data Communications

The Contractor shall provide solutions that involve the installation, operation, and maintenance of Data centers, Service Provider and Enterprise networks, Wireless and Wired, Network Security equipment, or associated messaging and unified communication systems. The Contractor shall be capable of fully implementing the deployment within a minimum 30 day interval from initial notification or by an alternative date requested by District.

C.4.11.6 Video Conferencing and Content Distribution

The Contractor shall provide solutions that involve the installation, operation, and maintenance of video conferencing, video on-demand, content distribution, and IPTV systems that terminate at a digital display, desktop, digital set-top, conference room, or portable terminal that operate within a building or a campus environment. The Contractor shall be capable of fully implementing the deployment within a minimum 30 day interval from initial notification or by an alternative date requested by District.

C.4.11.7 Other Solutions

Additional solutions/subcategories within the scope of the contract and not specified herein may be the basis of subsequent competitive turnkey statement of work requirements.

SECTION D: PACKAGING AND MARKING

D.1 See Alliant GWAC, June 2011

SECTION E: INSPECTION AND ACCEPTANCE

E.1 See Alliant GWAC, June 2011

SECTION F: PERIOD OF PERFORMANCE AND DELIVERABLES

F.1 TERM OF TASK ORDER

The term of the Task Order shall be for a period of one year from date of award specified on the cover page of this Task Order.

F.2 OPTION TO EXTEND THE TERM OF THE TASK ORDER

F.2.1 The District may extend the term of this Task Order for a period of four (4) one-year option periods, or successive fractions thereof, by written notice to the Contractor before the expiration of the

contract; provided that the District will give the Contractor preliminary written notice of its intent to extend at least thirty (30) days before the contract expires. The preliminary notice does not commit the District to an extension. The exercise of this option is subject to the availability of funds at the time of the exercise of this option. The Contractor may waive the thirty (30) day preliminary notice requirement by providing a written waiver to the Contracting Officer prior to expiration of the contract.

F.2.2 If the District exercises this option, the extended contract shall be considered to include this option provision.

F.2.3 The total duration of this Task Order, including the exercise of any options under this clause, shall not exceed five (5) years.

F.3 DELIVERABLES

The Contractor shall provide all SOW supplies and services to successfully complete the District's requirements. Specific work to be performed will be based on each individual Job Order.

SECTION G: CONTRACT ADMINISTRATION

G.1 INVOICE PAYMENT

G.1.1 The District will make payments to the Contractor, upon the submission of proper invoices, at the prices stipulated in this contract, for supplies delivered and accepted or services performed and accepted, less any discounts, allowances or adjustments provided for in this contract.

G.1.2 The District will pay the Contractor on or before the 30th day after receiving a proper invoice from the Contractor.

G.2 INVOICE SUBMITTAL

G.2.1 The Contractor shall submit proper invoices on a monthly basis or as otherwise specified in Section G.4. Invoices shall be prepared in duplicate and submitted to the agency Chief Financial Officer with concurrent copies to the CA specified in Section G.9 below. The address of the CFO is:

DC Office of the Chief Technology Officer
Accounts Payable
441 4th Street, NW, Suite 960N
Washington, DC 20001
202-727-2277

G.2.2 To constitute a proper invoice, the Contractor shall submit the following information on the invoice:

G.2.2.1 Contractor's name, federal tax ID and invoice date (date invoices as of the date of mailing or transmittal);

G.2.2.2 Contract number and invoice number;

- G.2.2.3** Description, price, quantity and the date(s) that the supplies or services were delivered or performed;
- G.2.2.4** Other supporting documentation or information, as required by the Contracting Officer;
- G.2.2.5** Name, title, telephone number and complete mailing address of the responsible official to whom payment is to be sent;
- G.2.2.6** Name, title, phone number of person preparing the invoice;
- G.2.2.7** Name, title, phone number and mailing address of person (if different from the person identified in G.2.2.6 above) to be notified in the event of a defective invoice; and
- G.2.2.8** Authorized signature.

G.3 ORDERING CLAUSE

- G.3.1** Any supplies and services to be furnished under this Task Order contract must be ordered by issuance of individual Job Orders issued by the CO or CA.
- G.3.2** All Job Orders are subject to the terms and conditions of this Task Order. In the event of a conflict between a Job Order and this task order, the task order shall control.
- G.3.3** If mailed, a Job Order is considered "issued" when the District deposits the order in the mail. Orders may be issued by facsimile or by electronic commerce methods.
- G.3.4** The following persons are authorized agents under this Task Order and therefore authorized to issue Job Orders according to Section G.3.

Anil Sharma
Director of Operations
Office of the Chief Technology Officer/DC-NET
655 15th Street, NW, Suite 400
Washington, DC 20005
Phone: 202-715-3805
anil.sharma@dc.gov

Don Johnson
Director of DC-Net
Office of the Chief Technology Officer
655 15th Street, NW, Suite 400
Washington, DC 20005
Phone: 202-715-3751
don.johnson@dc.gov

G.4 TASK ORDER COST CEILING

- G.4.1** The cost ceiling for this Task Order is set forth in Section B.3.1.
- G.4.2** The costs for performing this Task Order shall not exceed the cost specified in Section B.3.1.
- G.4.3** The Contractor agrees to use its best efforts to perform the work specified in this Task Order and to meet all obligations under this Task Order within the cost reimbursement ceiling.

- G.4.4** The Contractor must notify the CO, in writing; whenever it has reason to believe that the total cost for the performance of this Task Order will be either greater or substantially less than the cost reimbursement ceiling.
- G.4.5** As part of the notification, the Contractor must provide the CO a revised estimate of the total cost of performing this Task Order.
- G.4.6** The District is not obligated to reimburse the Contractor for costs incurred in excess of the cost reimbursement ceiling specified in Section B.3.1, and the Contractor is not obligated to continue performance under this Task Order (including actions under the Termination clauses of this Task Order), or otherwise incur costs in excess of the cost reimbursement ceiling specified in Section B.3.1, until the CO notifies the Contractor, in writing, that the estimated cost has been increased and provides revised cost reimbursement ceiling for performing this Task Order.
- G.4.7** No notice, communication, or representation in any form from any person other than the CO shall change the cost reimbursement ceiling. In the absence of the specified notice, the District is not obligated to reimburse the Contractor for any costs in excess of the costs reimbursement ceiling, whether such costs were incurred during the course of Task Order performance or as a result of termination.
- G.4.8** If any cost reimbursement ceiling specified in Section B.3.1 is increased, any costs the Contractor incurs before the increase that are in excess of the previous cost reimbursement ceiling shall be allowable to the same extent as if incurred afterward, unless the CO issues a termination or other notice directing that the increase is solely to cover termination or other specified expenses.
- G.4.9** A change order shall not be considered an authorization to exceed the applicable cost reimbursement ceiling specified in Section B.3.1, unless the change order specifically increases the cost reimbursement ceiling.
- G.4.10** Only direct costs determined by the Contracting Officer in writing to be reimbursable in accordance with the cost principles set forth in rules issued pursuant to the Procurement Practices Reform Act of 2010, DC Official Code, Section 2-351.01. ET SEQ.

G.5 ASSIGNMENT OF CONTRACT PAYMENTS

- G.5.1** In accordance with 27 DCMR 3250, the Contractor may assign to a bank, trust company, or other financing institution funds due or to become due as a result of the performance of this Task Order.
- G.5.2** Any assignment shall cover all unpaid amounts payable under this Task Order, and shall not be made to more than one party.
- G.5.3** Notwithstanding an assignment of Task Order payments, the Contractor, not the assignee, is required to prepare invoices. Where such an assignment has been made, the original copy of the invoice must refer to the assignment and must show that payment of the invoice is to be made directly to the assignee as follows:

“Pursuant to the instrument of assignment dated _____, make payment of this invoice to (name and address of assignee).”

G.6 QUICK PAYMENT CLAUSE

G.6.1 Interest Penalties to Contractors

G.6.1.1 The District will pay interest penalties on amounts due to the Contractor under the Quick Payment Act, D.C. Official Code §2-221.01 et seq., for the period beginning on the day after the required payment date and ending on the date on which payment of the amount is made. Interest shall be calculated at the rate of 1% per month. No interest penalty shall be paid if payment for the completed delivery of the item of property or service is made on or before:

- a) the 3rd day after the required payment date for meat or a meat product;
- b) the 5th day after the required payment date for an agricultural commodity; or
- c) the 15th day after the required payment date for any other item.

G.6.1.2 Any amount of an interest penalty which remains unpaid at the end of any 30-day period shall be added to the principal amount of the debt and thereafter interest penalties shall accrue on the added amount.

G.6.2 Payments to SubContractors

G.6.2.1 The Contractor must take one of the following actions within seven (7) days of receipt of any amount paid to the Contractor by the District for work performed by any subcontractor under this Task Order:

- a) Pay the subContractor for the proportionate share of the total payment received from the District that is attributable to the subContractor for work performed under the Task Order; or
- b) Notify the District and the subContractor, in writing, of the Contractor’s intention to withhold all or part of the subContractor’s payment and state the reason for the nonpayment.

G.6.2.2 The Contractor must pay any subContractor or supplier interest penalties on amounts due to the subContractor or supplier beginning on the day after the payment is due and ending on the date on which the payment is made. Interest shall be calculated at the rate of 1% per month. No interest penalty shall be paid on the following if payment for the completed delivery of the item of property or service is made on or before:

- a) the 3rd day after the required payment date for meat or a meat product;
- b) the 5th day after the required payment date for an agricultural commodity; or
- c) the 15th day after the required payment date for any other item.

G.6.2.3 Any amount of an interest penalty which remains unpaid by the Contractor at the end of any 30-day period shall be added to the principal amount of the debt to the subContractor and thereafter interest penalties shall accrue on the added amount.

G.6.2.4 A dispute between the Contractor and subContractor relating to the amounts or entitlement of a subContractor to a payment or a late payment interest penalty under the Quick Payment Act does not constitute a dispute to which the District of Columbia is a party. The District of Columbia may not be interpleaded in any judicial or administrative proceeding involving such a dispute.

G.6.3 Subcontract Requirements

G.6.3.1 The Contractor shall include in each subcontract under this contract a provision requiring the subContractor to include in its Task Order with any lower-tier subContractor or supplier the payment and interest clauses required under paragraphs (1) and (2) of D.C. Official Code §2-221.02(d).

G.7 CONTRACTING OFFICER (CO)

Task Orders may be entered into and signed on behalf of the District only by Contracting Officers. The contact information for the Contracting Officer is:

Derrick D. White
Commodity Manager
IT Commodity Group
Office of Contracting and Procurement
441 4th Street, NW, Suite 700S
202-727-0252

G.8 AUTHORIZED CHANGES BY THE CONTRACTING OFFICER

G.8.1 The CO is the only person authorized to approve changes in any of the requirements of this Task Order.

G.8.2 The Contractor shall not comply with any order, directive or request that changes or modifies the requirements of this Task Order, unless issued in writing and signed by the CO.

G.8.3 In the event the Contractor effects any change at the instruction or request of any person other than the CO, the change will be considered to have been made without authority and no adjustment will be made in the Task Order price to cover any cost increase incurred as a result thereof.

G.9 CONTRACT ADMINSTRATOR (CA)

G.9.1 The CA is responsible for general administration of the Task Order and advising the CO as to the Contractor's compliance or noncompliance with the Task Order. The CA has the responsibility of ensuring the work conforms to the requirements of the Task Order and such other responsibilities and authorities as may be specified in the Task Order. These include:

G.9.1.1 Keeping the CO fully informed of any technical or contractual difficulties encountered during the performance period and advising the CO of any potential problem areas under the Task Order;

G.9.1.2 Coordinating site entry for Contractor personnel, if applicable;

G.9.1.3 Reviewing invoices for completed work and recommending approval by the CO if the Contractor's costs are consistent with the negotiated amounts and progress is satisfactory and commensurate with the rate of expenditure;

G.9.1.4 Reviewing and approving invoices for deliverables to ensure receipt of goods and services. This includes the timely processing of invoices and vouchers in accordance with the District's payment provisions; and

G.9.1.5 Maintaining a file that includes all Task Order correspondence, modifications, records of inspections (site, data, equipment) and invoice or vouchers.

G.9.2 The address and telephone number of the CA(s) are:

Tegene Baharu
Deputy Chief Technology Officer
Citywide Technology Infrastructure Services (CTIS)
200-I Street SE, Suite 5621
Washington, DC 20005
Phone: 202-727-7349
tegene.baharu@dc.gov

G.9.3 The CA shall NOT have the authority to:

1. Award, agree to, or sign any contract, delivery order or task order. Only the CO shall make contractual agreements, commitments or modifications;
2. Grant deviations from or waive any of the terms and conditions of the Task Order;
3. Increase the dollar limit of the Task Order or authorize work beyond the dollar limit of the Task Order,
4. Authorize the expenditure of funds by the Contractor;
5. Change the period of performance; or
6. Authorize the use of District property, except as specified under the Task Order.

G.9.4 The Contractor will be fully responsible for any changes not authorized in advance, in writing, by the CO; may be denied compensation or other relief for any additional work performed that is not so authorized; and may also be required, at no additional cost to the District, to take all corrective action necessitated by reason of the unauthorized changes.

SECTION H: SPECIAL CONTRACT REQUIREMENTS

H.1 See Alliant GWAC, June 2011

H.2 **DIVERSION, REASSIGNMENT AND REPLACEMENT OF KEY PERSONNEL**

The key personnel specified in the Task Order are considered to be essential to the work being performed hereunder. Prior to diverting any of the specified key personnel for any reason, the Contractor shall notify the CO at least thirty (30) calendar days in advance and shall submit justification, including proposed substitutions, in sufficient detail to permit evaluation of the impact upon the Task Order. The Contractor shall obtain written approval of the CO for any proposed substitution of key personnel.

H.3 PURCHASES OF IT HARDWARE AND EQUIPMENT

The Contractor shall provide only the most current models, components and accessories in new, fully operational, factory sealed condition, with all applicable licenses. The Contractor warrants and represents that the equipment is eligible for the manufacturer's normal and extended warranty and support within the United States to Authorized Users. Previously owned, damaged, refurbished, remanufactured, counterfeit, "gray market" or substitute third party items will not be accepted. The Offeror shall provide evidence of its authorized reseller agreement or certification with its proposal.

H.4 TECHNOLOGY UPGRADES/REFRESH

Due to the rapidly changing pace of technology in general, and information communications technology in particular, the parties will engage in an annual technology refresh and upgrade review on the anniversary date of each contract year. Additionally the parties may engage in quarterly technology refresh / review at either organizations request. Based on the refresh / review the parties may agree to incorporate new technologies that fall within the scope of this contract – on mutual and negotiated agreement. New technology must be approved by both the program, and by the Office of Contracts and Procurement, in addition to being in full compliance with applicable District of Columbia law and policies.

Upon upgrade/refresh review, should it be in the best interest to attain IT upgrades/refresh, the District will seek pricing for such upgrades at such time. The Contractor is strongly encouraged to offer the District fair and reasonable pricing at or below market price for each desired upgrade. In the event the District believes proposed pricing for upgrades are not fair and reasonable, the District reserves the right to seek alternative resources to fulfill those upgrade requirements at that time.

H.5 SUBCONTRACTING REQUIREMENTS

H.5.1 Mandatory Subcontracting Requirements

- H.5.1.1** For contracts in excess of \$250,000, at least 35% of the dollar volume shall be subcontracted to certified small business enterprises; provided, however, that the costs of materials, goods, and supplies shall not be counted towards the 35% subcontracting requirement unless such materials, goods and supplies are purchased from certified small business enterprises.
- H.5.1.2** If there are insufficient qualified small business enterprises to completely fulfill the requirement of paragraph H.5.1.1, then the subcontracting may be satisfied by subcontracting 35% of the dollar volume to any certified business enterprises; provided, however, that all reasonable efforts shall be made to ensure that qualified small business enterprises are significant participants in the overall subcontracting work.

H.5.1.3 A prime contractor which is certified as a small, local or disadvantaged business enterprise shall not be required to comply with the provisions of sections H.9.1.1 and H.9.1.2.

H.5.2 **Subcontracting Plan**

If the prime contractor is required by law to subcontract under this contract, it must subcontract at least 35% of the dollar volume of this contract in accordance with the provisions of section H.9.1. The prime contractor responding to this solicitation which is required to subcontract shall be required to submit with its proposal, a notarized statement detailing its subcontracting plan. Proposals responding to this RFP shall be deemed nonresponsive and shall be rejected if the offeror is required to subcontract, but fails to submit a subcontracting plan with its proposal. Once the plan is approved by the CO, changes to the plan will only occur with the prior written approval of the CO and the Director of DSLBD. Each subcontracting plan shall include the following:

H.5.2.1 A description of the goods and services to be provided by SBEs or, if insufficient qualified SBEs are available, by any certified business enterprises;

H.5.2.2 A statement of the dollar value of the bid that pertains to the subcontracts to be performed by the SBEs or, if insufficient qualified SBEs are available, by any certified business enterprises;

H.5.2.3 The names and addresses of all proposed subcontractors who are SBEs or, if insufficient SBEs are available, who are certified business enterprises;

H.5.2.4 The name of the individual employed by the prime contractor who will administer the subcontracting plan, and a description of the duties of the individual;

H.5.2.5 A description of the efforts the prime contractor will make to ensure that SBEs, or, if insufficient SBEs are available, that certified business enterprises will have an equitable opportunity to compete for subcontracts;

H.5.2.6 In all subcontracts that offer further subcontracting opportunities, assurances that the prime contractor will include a statement, approved by the contracting officer, that the subcontractor will adopt a subcontracting plan similar to the subcontracting plan required by the contract;

H.5.2.7 Assurances that the prime contractor will cooperate in any studies or surveys that may be required by the contracting officer, and submit periodic reports, as requested by the contracting officer, to allow the District to determine the extent of compliance by the prime contractor with the subcontracting plan;

H.5.2.8 A list of the type of records the prime contractor will maintain to demonstrate procedures adopted to comply with the requirements set forth in the subcontracting plan, and assurances that the prime contractor will make such records available for review upon the District's request; and

H.5.2.9 A description of the prime contractor's recent effort to locate SBEs or, if insufficient SBEs are available, certified business enterprises, and to award subcontracts to them.

H.5.3 Subcontracting Plan Compliance Reporting. If the Contractor has an approved subcontracting plan required by law under this contract, the Contractor shall submit to the CO and the Director of DSLBD, no later than the 21st of each month following execution of the contract, a Subcontracting Plan Compliance Report to verify its compliance with the subcontracting requirements for the preceding month. The monthly subcontracting plan compliance report shall include the following information:

H.5.3.1 The dollar amount of the contract or procurement;

H.5.3.2 A brief description of the goods procured or the services contracted for;

H.5.3.3 The name of the business enterprise from which the goods were procured or services contracted;

H.5.3.4 Whether the subcontractors to the contract are currently certified business enterprises;

H.5.3.5 The dollar percentage of the contract awarded to SBEs, or if insufficient SBEs, to other certified business enterprises;

H.5.3.6 A description of the activities the Contractor engaged in, in order to achieve the subcontracting requirements set forth in its plan; and

H.5.3.7 A description of any changes to the activities the Contractor intends to make by the next month to achieve the requirements set forth in its plan.

H.5.4 Enforcement and Penalties for Breach of Subcontracting Plan

H.5.4.1 If during the performance of this contract, the Contractor fails to comply with its approved subcontracting plan, and the CO determines the Contractor's failure to be a material breach of the contract, the CO shall have cause to terminate the contract under the default clause of the Standard Contract Provisions.

H.5.4.2 There shall be a rebuttable presumption that a contractor willfully breached its approved subcontracting plan if the contractor (i) fails to submit any required monitoring or compliance report; or (ii) submits a monitoring or compliance report with the intent to defraud.

H.5.4.3 A contractor that is found to have willfully breached its approved subcontracting plan for utilization of certified business enterprises in the performance of a contract shall be subject to the imposition of penalties, including monetary fines of \$15,000 or 5% of the total amount of the work that the contractor was to subcontract to certified business enterprises, whichever is greater, for each such breach.

SECTION I: CONTRACT CLAUSES

I.1 The Contractor shall comply with all clauses referenced in the Alliant GWAC, Section I, Contract Clauses, as these clauses flow down to the Task Order. Additional clauses may be included at the Job Order level.

I.2 CONTRACTS THAT CROSS FISCAL YEARS

Continuation of this Task Order beyond the current fiscal year is contingent upon future fiscal appropriations.

I.3 PRE-AWARD APPROVAL

I.3.1 The award and enforceability of this Task Order is contingent upon approval of the Council of the District of Columbia.

I.3.2 In accordance with D.C. Official Code §2-301.05a, the Mayor must submit to the Council for approval any contract action over one million dollars within a 12-month period.

I.4 ORDER OF PRECEDENCE

The Task Order awarded as a result of this RFTOP will contain the following clause:

ORDER OF PRECEDENCE

A conflict in language shall be resolved by giving precedence to the document in the highest order of priority that contains language addressing the issue in question. The following documents are incorporated into the Task Order by reference and made a part of the Task Order in the following order of precedence:

- (1) An applicable Court Order, if any
- (2) Task Order document
- (3) Alliant GWAC
- (4) RFTOP and its Attachments, as amended (in the order listed)
- (5) BAFOs (in order of most recent to earliest)
- (6) Proposal

I.5 CONTRACTS IN EXCESS OF ONE MILLION DOLLARS

Any contract in excess of \$1,000,000 shall not be binding or give rise to any claim or demand against the District until approved by the Council of the District of Columbia and signed by the CO.

SECTION J: ATTACHMENTS

The following list of attachments is incorporated into the solicitation by reference

Attachment Number	Document
J.1	U.S. Department of Labor Wage Determination No. 2005-2103 Revision 13, date 6/19/2012
J.2	Office of Local Business Development Equal Employment Opportunity Information Report and Mayor's Order 85-85 available at www.ocp.dc.gov click on "Solicitation Attachments"
J.3	Tax Certification Affidavit, W-9
J.4	Bidder/Offeree Certifications available at www.ocp.dc.gov click on "Solicitation Attachments"

SECTION K: REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS

Offerors shall attach to RFQ775521 their firm's Representations and Certifications.

SECTION L: INSTRUCTIONS, CONDITIONS AND NOTICES TO OFFERORS

L.1 CONTRACT AWARD

L.1.1 Most Advantageous to the District

The District intends to award a single Task Order resulting from this solicitation to the responsible Offeror whose offer conforming to the solicitation will be most advantageous to the District, cost or price, technical and other factors, specified elsewhere in this solicitation considered.

L.1.2 Initial Offers

The District may award a Task Order on the basis of initial offers received, without discussion. Therefore, each initial offer should contain the Offeror's best terms from a standpoint of cost or price, technical and other factors.

L.2 PROPOSAL ORGANIZATION AND CONTENT

L.2.1 This solicitation will be conducted electronically using GSA eBuy. To be considered, an Offerors must submit the required attachments via the GSA eBuy system before the closing date and time. Paper, telephonic, telegraphic, and facsimile proposals will not be accepted.

- L.2.2** All attachments shall be submitted as a .pdf file. The District will not be responsible for corruption of any file submitted. If the submitted file cannot be viewed and printed as submitted, it will not be considered.
- L.2.3** The Offeror shall submit two (2) proposals in its electronic submittal: (1) a Technical Proposal, and (2) a Price Proposal. The Offeror shall label each attachment, i.e., “Technical Proposal”, “Price Proposal.” Offerors shall attach other required compliance documents as instructed by this solicitation, RFQ775521.
- L.2.4** The submitted Price Proposal must contain Attachment A, Price Proposal Response Sheet, found in RFQ775521. In addition to the required submission of Attachment A, Offerors may provide additional data in its Price Proposal to supplement Attachment A in order to demonstrate other various elements of its pricing.
- L.2.5** The Offeror’s Technical Proposal submission (attachment) shall be printable on standard 8.5”x11” size paper and shall not exceed 120 pages in length, excluding any additional submissions required of this RFTOP. There is no maximum page count for the Price Proposal. The Price Proposal shall also be printable on 8.5”x11 size paper.
- L.2.6** Offerors are directed to the specific proposal evaluation criteria found in Section M of this solicitation, Evaluation Factors. The Offeror shall respond to each factor in a way that will allow the District to evaluate the Offeror’s response. The Offeror shall submit information in a clear, concise, factual and logical manner providing a comprehensive description of program supplies and services and delivery thereof. The information requested for the Technical Proposal shall facilitate evaluation for all proposals. The Technical Proposal must contain sufficient detail to provide a clear and concise response fully reflecting the manner in which the Offeror proposes to fully meet the requirements in Section C.

L.2.7 TECHNICAL PROPOSAL

L.2.7.1 TECHNICAL APPROACH

Offeror’s shall provide a detailed discussion of their comprehensive understanding of the technical requirements described in the SOW, specifically Section C.4. Offerors shall provide explanation of the proposed methodology or approach to be implemented, to include a detailed description on the work ethic to be utilized, information on internal and external skillset availability, directional flexibility, and adherence to critical due date commitments. The Offeror shall describe the source and quality of required SOW deliverables. The proposal shall demonstrate logical and feasible methods for completing individual tasks described in the SOW, and document realistic timeframes for performing tasks. Offerors shall describe a strategic plan to deliver the SOW requirements, which include, but are not limited to the following:

L.2.7.1.1 General Equipment

- L.2.7.1.1.1** Offerors shall demonstrate the ability to provide the required equipment to support the District’s telecommunications infrastructure (in accordance with C.4.1.).

- L.2.7.1.1.2** Offerors shall demonstrate the ability to provide the required materials on either a scheduled or emergent based interval (in accordance with C.4.1.2).
- L.2.7.1.1.3** Offerors shall identify the full equipment list offered (including vehicular items), and provide evidence of it ownership by the Offeror.
- L.2.7.1.2** **Horizontal and Vertical Cabling Infrastructure**
- L.2.7.1.2.1** Offerors shall demonstrate the ability to provide BICSI certified cabling infrastructure personnel to design, engineer and install a complete or augmented horizontal and vertical cabling deployment supporting converged voice, data, video, and wireless applications in accordance with current laws, industry standards, and documented electrical requirements (in accordance with C.4.2.1).
- L.2.7.1.2.2** Offerors shall demonstrate the ability to perform the following in accordance with C.4.2.1.2:
- 1) Horizontal Cabling as specified in C.4.2.2
 - 2) Backbone Cabling as specified in C.4.2.3
 - 3) Grounding and Bonding as specified in C.4.2.4
 - 4) Fire Stopping as specified in C.4.2.5
 - 5) BICSI Certification of Workers as specified in C.4.2.6
- L.2.7.1.3** **Fiber and Cable Installation Services**
- L.2.7.1.3.1** Offerors shall demonstrate the capability of installing and extending District's optical fiber network, which includes the core fiber structure, node sites, and physical, transport, optical and switching layer devices (in accordance with C.4.3.1).
- L.2.7.1.3.2** Offerors shall demonstrate the ability for providing all staff and equipment (vehicles, tools, safety systems, test equipment, etc) necessary to continue the installation of District's Fiber Optic Communications Network (in accordance with C.4.3.1).
- L.2.7.1.3.3** Offerors shall demonstrate the ability to remove both underground and aerial legacy lead and copper cabling to replace with protective inner duct and fiber cabling of various sizes and sheath counts (in accordance with C.4.3.1).
- L.2.7.1.3.4** Offerors shall demonstrate the ability to install the following type of fiber cable (in accordance with C.4.3.2).
- 1) Aerial Fiber Construction
 - 2) Underground Construction
 - 3) Inside Plant Construction
 - 4) Conduit Construction
- L.2.7.1.3.5** Offerors shall demonstrate the ability to identify complete process for outside and inside, aerial or underground, fiber and cable installation connectivity to include potential roadblocks encountered and corrective actions taken.

- L.2.7.1.3.6** Offerors shall demonstrate the ability to perform all work in accordance with BICSI standards (in accordance with C.4.3).
- L.2.7.1.4 Optical Fiber Cable Maintenance**
- L.2.7.1.4.1** Offerors shall demonstrate the capability to maintain outside plant fiber infrastructure, both underground and aerial (in accordance with in C.4.4.1).
- L.2.7.1.4.2** Offerors shall demonstrate the ability to provide all staff and equipment (e.g. Vehicles, tools, safety systems, and test equipment) for this maintenance or new splicing effort (in accordance with C.4.4.2).
- L.2.7.1.4.3** Offerors shall demonstrate the ability to provide all staff and equipment necessary to restore and correct District network service by repairing cable at splices for both aerial, building and underground optical fiber and copper cables to affect restoration (repairs) and correction (in accordance with C.4.4.2).
- L.2.7.1.4.4** Offerors shall demonstrate the ability to identify proactive and reactive fiber/cable maintenance plans to include both in-service and spare fiber infrastructure (in accordance with C.4.4.2).
- L.2.7.1.4.5** Offerors shall demonstrate the ability to identify, schedule, and perform required planned maintenance (in accordance with C.4.4.3.1.1).
- L.2.7.1.4.6** Offerors shall demonstrate the ability to perform unplanned maintenance (in accordance with C.4.4.3.2).
- L.2.7.1.4.7** Offerors shall demonstrate the ability to commit resources for multi-site and multi-loop, "catastrophic" failures in the event of severe weather, natural disaster, or human precipitated events (in accordance with C.4..4.3.2.2).
- L.2.7.1.4.8** Offerors shall demonstrate the ability to commit to critical response periods (in accordance with C.4.4.2).
- L.2.7.1.4.9** Offerors shall demonstrate the ability to provide support services (in accordance with C.4.4.3.1.1).
- L.2.7.1.4.10** Offerors shall demonstrate the ability to provide all staff and equipment necessary to enter and visually inspect as directed the POP (point of presence) sites to identify environmental conditions detrimental to operation of the POP optical fiber transport equipment (in accordance with C.4.4.3.2).
- L.2.7.1.4.11** Offerors shall demonstrate the ability to provide 2 trailers and a bucket truck dedicated to this District effort, available 24/7/365, with adequate environmental, electric, and work space (in accordance with C.4.4.4).
- L.2.7.1.4.12** Offerors shall demonstrate the ability to provide a local point-of-contact for first response notification of emergent call-out requirements (in accordance with C.4.4.5)

- L.2.7.1.4.13** Offerors shall demonstrate the ability to provide staff that meets the Labor Qualification required to ensure staffing capable of meeting the District maintenance service requirements (in accordance with C.4.4.12).
- L.2.7.1.4.14** Offerors shall demonstrate the ability to provide a Senior Splicer (Key Person) and a Non-Senior Splicer dedicated to this District effort, available 24/7/365. Minimum 7-years of experience required for Senior Splicer, and 3-years of experience for Junior Splicer. Offerors shall demonstrate the ability to perform required repairs, production splicing, and industry standard validation testing of underground, aerial, and intra-building fiber optic cabling up to and including 864 strand sheaths.
- L.2.7.1.4.15** Offerors shall demonstrate the ability to adhere to the ISP Fiber Standards and the ability to perform in accordance with C.4.4.15.1.1.
- L.2.7.1.4.16** Offerors shall demonstrate the ability to adhere to the OSP Fiber Standards the ability to perform as specified in section C.4.4.15.2.1).
- L.2.7.1.4.17** Offerors shall demonstrate the ability to adhere to Service Level Agreement (SLA) # 1 (in accordance with C.4.4.16).
- L.2.7.1.4.18** Offerors shall demonstrate the ability to adhere to Service Level Agreement (SLA) # 2 (in accordance with C.4.4.17).
- L.2.7.1.5 Heating, Ventilation and Air Conditioning Services**
- L.2.7.1.5.1** Offerors shall demonstrate the ability to provide maintenance, repairs, emergency service and new installations of HVAC equipment.
- L.2.7.1.5.2** Offerors shall demonstrate the ability to provide a fully certified HVAC team to perform both preventive and corrective functions at pre-designated sites to ensure complete, continuous operability of all HVAC equipment. This team shall be available for normally scheduled system testing or emergent requirements.
- L.2.7.1.5.3** Offerors shall demonstrate Minimum 10 years of commercial experience in the Installation and Servicing of HVAC Equipment similar/equivalent to the facilities (in accordance with C.4.5.7)
- L.2.7.1.5.4** Offerors shall demonstrate the ability to fully utilize CFC certified in-house technicians with proof of said certification.
- L.2.7.1.5.5** Offerors shall maintain a fully equipped and staffed local office within 40 mile radius of Washington, DC.
- L.2.7.1.5.6** Offerors shall demonstrate maximum timeframe for on-site availability following emergency call-out not-to-exceed 4 hours.

- L.2.7.1.5.7** Offerors shall demonstrate the ability to provide 24/7/365 availability of “Live” answering service for emergent needs.
- L.2.7.1.5.8** Offerors shall demonstrate the ability to adhere to Major Preventive Maintenance (PM) HVAC Inspection (in accordance with C.4.5.7.1)
- L.2.7.1.5.9** Offerors shall demonstrate the ability to adhere to Minor Preventive Maintenance (PM) HVAC Inspection (in accordance with C.4.5.7.2)
- L.2.7.1.6 Wireless Installs and Support Services**
- L.2.7.1.6.1** Offerors shall demonstrate the ability to provide fully certified wireless technicians to be available for dispatch for installation of both internal and external wireless access points and fully tested continuity and operability to the supporting POE switch device (in accordance with C.4.6).
- L.2.7.1.6.2** Offerors shall demonstrate the ability to provide personnel available to install, test, and turn-up wireless connectivity between noncontiguous properties/locations as engineered and designed by District personnel (in accordance with C.4.6).
- L.2.7.1.6.3** Offerors shall demonstrate the ability to adhere to Standards, Codes, Regulations and Permitting (in accordance with C.4.6)
- L.2.7.1.6.4** Offerors shall demonstrate the ability to comply with all requirements in accordance with C.4.6.
- L.2.7.1.7 Electrical Installs and Support Services**
- L.2.7.1.7.1** Offerors shall demonstrate the ability to provide an electrical team for emergency response during “normal business hours”: 8:30 AM to 5:30 PM, with a one-hour lunch.
- L.2.7.1.7.2** Offerors shall demonstrate the ability to provide fully certified electrical engineers/electricians capable of performing AC or DC related installation or corrective maintenance functions identified by District (as specified in Section C.4.6).
- L.2.7.1.7.3** Offerors shall demonstrate the ability to provide 8 hours of a team response outside normal business hours.
- L.2.7.1.7.4** Offerors shall demonstrate the ability to install a complete electrical network system, or only components requested, including, but not limited to: service, lighting, power, devices, panels, circuit breakers, conduit, outlets, equipment, antennae, connectors, attachments, and wiring, as needed.
- L.2.7.1.7.5** Offerors shall demonstrate the ability to comply with all requirements specified in section C.4.6.6.

L.2.7.1.8 Telecommunications Services

L.2.7.1.8.1 Offerors shall demonstrate the ability to comply with the following Telecommunications Services (in accordance with C.4.9).

- 1) Dedicated Transmission Services
- 2) IP VPN (Internet Protocol Virtual Private Network) services
- 3) SIP (Session Initiation Protocol) services

L.2.7.8.1.2 Offerors shall provide supporting documentation highlighting 5 9's network availability, design redundancy/diversity, proactive and reactive maintenance platform, and 24/7 response time and restoration process.

L.2.7.1.9 Personnel Services

L.2.7.1.9.1 Offerors shall demonstrate complete capabilities of all IT skillsets/resources to comply with the job descriptions in accordance with C.4.10. Offerors shall demonstrate the ability to maintain all skillsets and abilities in order to successfully perform the SOW requirements in accordance with C.4.10.

L.2.7.1.10 Turnkey Solution

L.2.7.1.10.1 Offerors shall provide examples of turnkey challenges undertaken and resulting complexity of IT solutions implemented with a focus on converged voice, data, wireless and video deployments. Highlight most critical areas and final design thought processes as specified in section C.4.11.2 through C.4.11.7.

L.2.7.1.10.2 Offerors shall identify the educational background, experience, skillsets, and certifications achieved relative to the engineering personnel proposed for assignment to the initiative for customer evaluation and approval. Clearly separate theoretical/architectural engineering requirements from installation, configuration, test, and turn-up functionality. Anticipate utilization/deployment of a solution compatible with either Juniper or Cisco IP platforms. Present detailed cost quotation highlighting engineering skill set utilization.

L.2.7.1.10.3 Offerors shall present all integral steps of typical switching/routing hardware/equipment associated with the turnkey solution and anticipated markup inherent with managed services contract coordination and include examples.

L.2.7.1.11 Network Operations Center Services

L.2.7.1.11.1 Offerors shall demonstrate the ability to support the following requirements (in accordance with C.4.11.2):

- i. Tier 1 Service Desk staffed 24/7
- ii. Software as a Service supporting asset management, fault management, network monitoring systems, trouble ticketing, SLA monitoring and report generation.

- iii. Document educational background, skillsets, certifications, experience level, and cost for all proposed labor elements supporting the proactive and reactive monitoring of the customer's Cisco and Ciena Layer 2 and Layer 3 network. This includes voice, data, video, and wireless technology as well as unique deployments not necessarily quantifiable within the categories referenced herein.

L.2.7.1.12 Voice Communications

Offerors shall demonstrate understanding of required voice platforms and provide qualifications, skillsets, and historic experiential examples within specific voice platform designations.

L.2.7.1.13 Data Communications

Offerors shall demonstrate understanding of required voice platforms and provide qualifications, skillsets, and historic experiential examples within specific voice platform designations.

L.2.7.1.14 Video Conferencing and Content Distribution

Offerors shall demonstrate understanding of required voice platforms and provide qualifications, skillsets, and historic experiential examples within specific voice platform designations.

L.2.7.2 MANAGEMENT APPROACH

L.2.7.2.1 Offerors shall describe their ability to provide staff and resources which possess the knowledge and expertise as described in the SOW. Proposal submissions shall include resumes of key personnel, internal and external, proposed to implement, manage and technically support this managed services task order.

L.2.7.2.2 Offeror's must provide a detailed organizational structure as well as the hierarchy for escalation of issues that arise under this Task Order. The Offeror's proposal shall describe its company's organizational structure, experience, responsiveness to emergent requirements and how its capabilities relate to accomplishing the requirements of the SOW.

L.2.7.1 PAST PERFORMANCE

L.2.9.1 Offerors shall provide a list of three (3) previous contracts for which the Offeror provided identical or similar work within the last five years. Include the Name of Company, Title and Description of the Project, Contract Number, Dollar Amount, and Period of Performance, Name of the Contact Person, and Title, and Telephone Number and email address.

L.3 REQUIREMENT FOR AN ELECTRONIC COPY OF PROPOSALS TO BE MADE AVAILABLE TO THE PUBLIC

In addition to the proposal submission requirements in Section L.2 above, the Offeror must submit an electronic copy of its proposal, redacted in accordance with any applicable exemptions from disclosure under D.C. Official Code §2-534. Redacted copies of the Offeror's proposal must be

submitted by e-mail attachment to the contact person designated in the solicitation. D.C. Official Code §2-536(b) requires the District to make available electronically copies of records that must be made public. The District's policy is to release documents relating to District proposals following award of the Task Order, subject to applicable FOIA exemption under §2-534(a)(1). Successful proposals will be published on the OCP Internet in accordance with D.C. Official Code §2-361.04, subject to applicable FOIA exemptions.

L.4 PROPOSAL SUBMISSION DATE AND TIME, AND LATE SUBMISSIONS, LATE MODIFICATIONS, WITHDRAWAL OR MODIFICATION OF PROPOSALS AND LATE PROPOSALS

L.4.1 Proposal Submission

L.4.1.1 Proposals must be fully uploaded into the GSA eBuy system no later than the closing date and time. Late submissions will not be accepted.

L.4.1.2 It is solely the Offeror's responsibility to ensure that it begins the upload process in sufficient time to get the attachment uploaded into GSA eBuy before the closing time.

L.5 PRE-PROPOSAL CONFERENCE

A non-mandatory pre-proposal conference will be held at 1 p.m. on Friday, August 9th, 2013, at 441 4th Street NW, Washington DC, 20001, 11th floor, Ste. 1107. Although not mandatory, it's strongly encouraged that interested Parties attend. Prospective Offerors will be given an opportunity to ask questions regarding this solicitation at the conference. The purpose of the conference is to provide a structured and formal opportunity for the District to accept questions from Offerors on the solicitation document as well as to clarify the contents of the solicitation. Attending Offerors must complete the pre-proposal conference Attendance Roster at the conference so that their attendance can be properly recorded.

Impromptu questions will be permitted and spontaneous answers will be provided at the District's discretion. Verbal answers given at the pre-proposal conference are only intended for general discussion and do not represent the District's final position. All oral questions must be submitted in writing following the close of the pre-proposal conference but no later than five working days after the pre-proposal conference in order to generate an official answer. Official answers will be provided in writing to all prospective Offerors who are listed on the official Offerors' list as having received a copy of the solicitation. Answers will be posted via attachment on GSA eBuy to this RFP.

L.6 EXPLANATION TO PROSPECTIVE OFFERORS

If a prospective Offeror has any questions relating to this solicitation, the prospective Offeror shall submit the question electronically via GSA eBuy. The prospective Offeror should submit questions no later than seven (7) days prior to the closing date and time indicated for this solicitation. The District may not consider any questions received less than seven (7) days before the date set for submission of proposals. The District will furnish responses via GSA eBuy. An amendment to the solicitation will be issued if the CO decides that information is necessary in submitting offers, or if the lack of it would be prejudicial to any prospective Offeror. Oral explanations or instructions given by District officials before the award of the Task Order will not be binding.

L.7 RESTRICTION ON DISCLOSURE AND USE OF DATA

L.7.1 Offerors who include in their proposal data that they do not want disclosed to the public or used by the District except for use in the procurement process shall mark the title page with the following legend:

"This proposal includes data that shall not be disclosed outside the District and shall not be duplicated, used or disclosed in whole or in part for any purpose except for use in the procurement process.

If, however, a Task Order is awarded to this Offeror as a result of or in connection with the submission of this data, the District will have the right to duplicate, use, or disclose the data to the extent consistent with the District's needs in the procurement process. This restriction does not limit the District's rights to use, without restriction, information contained in this proposal if it is obtained from another source. The data subject to this restriction are contained in sheets (insert page numbers or other identification of sheets)."

L.7.2 Mark each sheet of data it wishes to restrict with the following legend:

"Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal."

L.8 PROPOSALS WITH OPTION YEARS

The Offeror shall include option year prices in its price/cost proposal. An offer may be determined to be unacceptable if it fails to include pricing for the option year(s).

L.9 PROPOSAL PROTESTS

Any actual or prospective Offeror or Contractor who is aggrieved in connection with the solicitation or award of a Task Order, must file with the D.C. Contract Appeals Board (Board) a protest no later than ten (10) business days after the basis of protest is known or should have been known, whichever is earlier. A protest based on alleged improprieties in a solicitation which are apparent at the time set for receipt of initial proposals shall be filed with the Board prior to the time set for receipt of initial proposals. In procurements in which proposals are requested, alleged improprieties which do not exist in the initial solicitation, but which are subsequently incorporated into the solicitation, must be protested no later than the next closing time for receipt of proposals following the incorporation. The protest shall be filed in writing, with the Contract Appeals Board, 441 4th Street, N.W., Suite 350N, Washington, D.C. 20001. The aggrieved person shall also mail a copy of the protest to the CO for the solicitation.

L.10 UNNECESSARILY ELABORATE PROPOSALS

Unnecessarily elaborate brochures or other presentations beyond those sufficient to present a complete and effective response to this solicitation are not desired and may be construed as an indication of the Offeror's lack of cost consciousness. Elaborate artwork, expensive visual and other presentation aids are neither necessary nor desired.

L.11 RETENTION OF PROPOSALS

All proposal documents will be the property of the District and retained by the District, and therefore will not be returned to the Offerors.

L.12 PROPOSAL COSTS

The District is not liable for any costs incurred by the Offerors in submitting proposals in response to this solicitation.

L.13 ACKNOWLEDGMENT OF AMENDMENTS

The Offeror shall acknowledge receipt of any amendment to this solicitation by attaching signed and dated solicitation amendments with its proposal submission within GSA e-Buy. The District must receive any acknowledgment(s) by the date and time specified for receipt of proposals. An Offeror's failure to acknowledge an amendment may result in rejection of its offer.

L.14 BEST AND FINAL OFFERS

If, subsequent to receiving original proposals, negotiations are conducted, all Offerors within the competitive range will be so notified and will be provided an opportunity to submit written best and final offers at the designated date and time. Best and final offers will be subject to the Late Submissions, Late Modifications and Late Withdrawals of Proposals provisions of the solicitation. After receipt of best and final offers, no discussions will be reopened unless the CO determines that it is clearly in the District's best interest to do so, e.g., it is clear that information available at that time is inadequate to reasonably justify Contractor selection and award based on the best and final offers received. If discussions are reopened, the CO shall issue an additional request for best and final offers to all Offerors still within the competitive range.

L.15 LEGAL STATUS OF OFFEROR

Each proposal must provide the following information:

L.15.1 Name, address, telephone number and federal tax identification number of Offeror;

L.15.2 A copy of each District of Columbia license, registration or certification that the Offeror is required by law to obtain. This mandate also requires the Offeror to provide a copy of the executed "Clean Hands Certification" that is referenced in D.C. Official Code §47-2862, if the Offeror is required by law to make such certification. If the Offeror is a corporation or partnership and does not provide a copy of its license, registration or certification to transact business in the District of Columbia, the offer shall certify its intent to obtain the necessary license, registration or certification prior to Task Order award or its exemption from such requirements; and

L.15.3 If the Offeror is a partnership or joint venture, the names and addresses of the general partners or individual members of the joint venture, and copies of any joint venture or teaming agreements.

L.16 FAMILIARIZATION WITH CONDITIONS

Offerors shall thoroughly familiarize themselves with the terms and conditions of this solicitation, acquainting themselves with all available information regarding difficulties which may be encountered, and the conditions under which the work is to be accomplished. Contractors will not be relieved from assuming all responsibility for properly estimating the difficulties and the cost of performing the services required herein due to their failure to investigate the conditions or to become acquainted with all information, schedules and liability concerning the services to be performed.

L.17 GENERAL STANDARDS OF RESPONSIBILITY

L.17.1 The Offeror shall include in its proposal submittal, separately, responses to the following statements pertaining to the Contractor's history of responsibility, its history with the District, and history of compliance with other terms. The Offeror:

- (a) Has adequate financial resources, or the ability to obtain such resources, required to perform the Task Order;
- (b) Is able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing commercial and governmental business commitments;
- (c) Has a satisfactory performance record;
- (d) Has a satisfactory record of integrity and business ethics;
- (e) Has a satisfactory record of compliance with the applicable District licensing and tax laws and regulations;
- (f) Has a satisfactory record of compliance with labor and civil rights laws and rules, and the First Source Employment Agreement Act of 1984, as amended, D.C. Official Code §2-219.01 et seq.;
- (g) Has, or has the ability to obtain, the necessary organization, experience, accounting, and operational control, and technical skills;
- (h) Has, or has the ability to obtain, the necessary production, construction, technical equipment, and facilities;
- (i) Has not exhibited a pattern of overcharging the District;
- (j) Does not have an outstanding debt with the District or the federal government in a delinquent status; and
- (k) Is otherwise qualified and is eligible to receive an award under applicable laws and regulations.

SECTION M - EVALUATION FACTORS

M.1 EVALUATION FOR AWARD

The Task Order will be awarded to the responsible Offeror whose offer is most advantageous to the District, based upon the evaluation criteria specified below. Thus, while the points in the evaluation criteria indicate their relative importance, the total scores will not necessarily be determinative of the award. Rather, the total scores will guide the District in making an intelligent award decision based upon the evaluation criteria.

M.2 TECHNICAL RATING

M.2.1 The Technical Rating Scale is as follows:

<u>Numeric Rating</u>	<u>Adjective</u>	<u>Description</u>
0	Unacceptable	Fails to meet minimum requirements; e.g., no demonstrated capacity, major deficiencies which are not correctable; Offeror did not address the factor.
1	Poor	Marginally meets minimum requirements; major deficiencies which may be correctable.
2	Minimally Acceptable	Marginally meets minimum requirements; minor deficiencies which may be correctable.
3	Acceptable	Meets requirements; no deficiencies.
4	Good	Meets requirements and exceeds some requirements; no deficiencies.
5	Excellent	Exceeds most, if not all requirements; no deficiencies.

M.2.2 The technical rating is a weighting mechanism that will be applied to the point value for each evaluation factor to determine the Offeror’s score for each factor. The Offeror’s total technical score will be determined by adding the Offeror’s score in each evaluation factor. For example, if an evaluation factor has a point value range of zero (0) to forty (40) points, using the Technical Rating Scale above, if the District evaluates the Offeror’s response as “Good,” then the score for that evaluation factor is 4/5 of 40 or 32.

If sub-factors are applied, the Offeror’s total technical score will be determined by adding the Offeror’s score for each sub-factor. For example, if an evaluation factor has a point value range of zero (0) to forty (40) points, with two sub-factors of twenty (20) points each, using the Technical Rating Scale above, if the District evaluates the Offeror’s response as “Good” for the first sub-factor and “Poor” for the second sub-factor, then the total score for that evaluation factor is 4/5 of 20 or 16 for the first sub-factor plus 1/5 of 20 or 4 for the second sub-factor, for a total of 20 for the entire factor.

M.3 EVALUATION CRITERIA

Proposals will be evaluated based on the following evaluation factors in the manner described below:

M.3.1 Factor A – Technical Approach and Methodologies (50 Points)

This factor will be evaluated based on the rational and completeness of the proposed technical approach, and its match to the requirements in Section C.4.

M.3.2 Factor B – Management Approach (10 Points)

M.3.2.1 An Offeror’s proposed management approach shall clearly demonstrate a thorough understanding of the SOW requirements.

- A. The proposal shall reflect documented evidence of the Offeror’s ability to successfully manage all contract operations. – Refer to Section L.2.7.2 (5 Points)
- B. The Offeror shall demonstrate speed and integrity of decision-making, and demonstrate timely work flows inclusive of proposing quality control measures and metrics for success which describe the Offeror’s established procedures for effectively recognizing substandard performance, document corrective actions, and identify techniques for controlling prices and management of subcontracts - Refer to Section L.2.7.2 (5 Points)

M.3.2.2 Evaluation of resumes shall include evaluation of education and certifications, experience, knowledge, supervisory and technical background, and expertise.

M.3.3 Factor C – Past Performance (20 Points)

M.3.3.1 This factor considers the extent of the Offeror’s past performance within in achieving a high degree of customer satisfaction. Evaluation of this factor will be based on the following: quantity and quality of Offeror’s performance on projects of comparable size, technical nature, complexity, the currency and relevance of the information, source of information, context of the data, and general trends in Offeror’s performance shall be considered.

M.3.4 PRICE CRITERION (20 Points Maximum)

M.3.4.1 Price proposals will be rated, and will also be evaluated for completeness, reasonableness and realism.

M.3.4.1.1 Price Reasonableness: The evaluation may use any or all of several bases of comparison including a comparison of proposed prices received in response to the solicitation; use of parametric estimating methods/application of rough yardsticks to highlight significant inconsistencies that warrant additional pricing inquiry; comparison of previously proposed prices and previous Government and commercial contract prices with current proposed prices for like items; comparison with competitive published price lists, published market prices of commodities, similar indexes, and discount or rebate arrangements; comparison of proposed prices with independent Government cost estimates; and analysis of pricing information provided by the Offeror.

M.3.4.1.2 Completeness: The proposal will be evaluated for completeness based upon the traceability of the estimates used in the proposal to the performance of the requirements as addressed in the solicitation.

M.3.4.1.3 Realism: The proposal will be evaluated to determine if the estimated elements are realistic for the work to be performed, reflect a clear understanding of the SOW requirements and are consistent with the various elements of the Offeror’s Technical Proposal. Inconsistencies

could raise concerns regarding the Offeror's understanding of the requirements and its ability to perform the work for the proposed cost.

M.3.5 PRICE RATING FORMULA

The following formula will be used to determine each Offeror's evaluated price score:

$$\frac{\text{Lowest Price Proposal}}{\text{Price of Proposal Being Evaluated}} \times \text{Weight} = \text{Evaluated Price Score}$$

M.3.6 PREFERENCE POINTS AWARDED PURSUANT TO SECTION M.5.2 (12 Points Maximum)

M.3.7 TOTAL POINTS (112 Points Maximum)

Total points shall be the cumulative total of the Offeror's technical criteria points, price criterion points and preference points, if any.

M.3.7.1 The Offeror with the lowest price will receive the maximum price points. All other proposals will receive a proportionately lower total score. Total points shall be the cumulative total of the Offeror's technical criteria points and price criterion points combined.

M.4 EVALUATION OF OPTION YEARS

The District will evaluate offers for award purposes by evaluating the total price for all options as well as the base year. Evaluation of options shall not obligate the District to exercise them. The total District's requirements may change during the option years. Quantities to be awarded will be determined at the time each option is exercised.

M.5 PREFERENCES FOR CERTIFIED BUSINESS ENTERPRISES

Under the provisions of the "Small, Local, and Disadvantaged Business Enterprise Development and Assistance Act of 2005", as amended, D.C. Official Code § 2-218.01 et seq. (the Act), the District shall apply preferences in evaluating proposals from businesses that are small, local, disadvantaged, resident-owned, longtime resident, veteran-owned, local manufacturing, or local with a principal office located in an enterprise zone of the District of Columbia.

M.5.1 Application of Preferences

For evaluation purposes, the allowable preferences under the Act for this procurement shall be applicable to prime Contractors as follows:

M.5.1.1 Any prime Contractor that is a small business enterprise (SBE) certified by the Department of Small and Local Business Development (DSLBD) will receive the addition of three points on a 100-point scale added to the overall score for proposals submitted by the SBE in response to this Request for Proposals (RFP).

- M.5.1.2** Any prime Contractor that is a resident-owned business (ROB) certified by DSLBD will receive the addition of five points on a 100-point scale added to the overall score for proposals submitted by the ROB in response to this RFP.
- M.5.1.3** Any prime Contractor that is a longtime resident business (LRB) certified by DSLBD will receive the addition of five points on a 100-point scale added to the overall score for proposals submitted by the LRB in response to this RFP.
- M.5.1.4** Any prime Contractor that is a local business enterprise (LBE) certified by DSLBD will receive the addition of two points on a 100-point scale added to the overall score for proposals submitted by the LBE in response to this RFP.
- M.5.1.5** Any prime Contractor that is a local business enterprise with its principal offices located in an enterprise zone (DZE) certified by DSLBD will receive the addition of two points on a 100-point scale added to the overall score for proposals submitted by the DZE in response to this RFP.
- M.5.1.6** Any prime Contractor that is a disadvantaged business enterprise (DBE) certified by DSLBD will receive the addition of two points on a 100-point scale added to the overall score for proposals submitted by the DBE in response to this RFP.
- M.5.1.7** Any prime Contractor that is a veteran-owned business (VOB) certified by DSLBD will receive the addition of two points on a 100-point scale added to the overall score for proposals submitted by the VOB in response to this RFP.
- M.5.1.8** Any prime Contractor that is a local manufacturing business enterprise (LMBE) certified by DSLBD will receive the addition of two points on a 100-point scale added to the overall score for proposals submitted by the LMBE in response to this RFP.

M.5.2 Maximum Preference Awarded

Notwithstanding the availability of the preceding preferences, the maximum total preference to which a certified business enterprise is entitled under the Act is the equivalent of twelve (12) points on a 100-point scale for proposals submitted in response to this RFP. There will be no preference awarded for subcontracting by the prime Contractor with certified business enterprises.

M.5.3 Preferences for Certified Joint Ventures

When DSLBD certifies a joint venture, the certified joint venture will receive preferences as a prime Contractor for categories in which the joint venture and the certified joint venture partner are certified, subject to the maximum preference limitation set forth in the preceding paragraph.

M.5.4 Verification of Offeror's Certification as a Certified Business Enterprise

- M.5.4.1** Any vendor seeking to receive preferences on this solicitation must be certified at the time of submission of its proposal. The contracting officer will verify the Offeror's certification with DSLBD, and the Offeror should not submit with its proposal any documentation regarding its certification as a certified business enterprise.

M.5.4.2 Any vendor seeking certification or provisional certification in order to receive preferences under this solicitation should contact the:

Department of Small and Local Business Development
ATTN: CBE Certification Program
441 Fourth Street, NW, Suite 970N
Washington DC 20001

M.5.4.3 All vendors are encouraged to contact DSLBD at (202) 727-3900 if additional information is required on certification procedures and requirements.

M.6 EVALUATION OF PROMPT PAYMENT DISCOUNT

M.6.1 Prompt payment discounts shall not be considered in the evaluation of offers. However, any discount offered will form a part of the award and will be taken by the District if payment is made within the discount period specified by the Offeror.

M.6.2 In connection with any discount offered, time will be computed from the date of delivery of the supplies to carrier when delivery and acceptance are at point of origin, or from date of delivery at destination when delivery, installation and acceptance are at that, or from the date correct invoice or voucher is received in the office specified by the District, if the latter date is later than date of delivery. Payment is deemed to be made for the purpose of earning the discount on the date of mailing of the District check.