Document A

RIVERSIDE COUNTY INFORMATION TECHNOLOGY
Detailed Scope of Work

Telecommunications Structured Cabling Project For
Sheriff – Palm Desert Expansion
73705 Gerald Ford Dr.
Palm Desert, CA

Document A

General Information: The general scope of this project includes the installation of telecommunications cabling infrastructure in a one-story building located at 73705 Gerald Ford Dr, Palm Desert, CA 92211. The project shall consist of the provision, installation, termination, testing and documentation of a completely fully functional Category 6 horizontal cabling system; It also includes provisions and installation of cabling for audio visual and wireless access points.

All work must adhere to all Riverside County Information Technology (RCIT) specifications and standards. It is the Contractor's responsibility to ensure all labor and materials needed to deliver a complete, fully functional system that complies with all applicable codes, industry standards and industry best practices are accounted for in the cost proposal.

Other trades will be working in the facility concurrently, and it is the Contractor's Superintendent/Foreman responsibility to coordinate work with other trades during the course of this project to prevent conflicts and to adhere to the construction schedule. All Contractor personnel performing work associated with this project shall wear shirts and/or badges clearly identifying their company.

The Contractor shall provide safety equipment to each employee to be used as appropriate or required for the work. (e.g., eye protection, sound suppressors, hard hats, gloves, respirators, etc., as required).

The project will in general include the following:

- Buildout of a Telecommunication Room to include but not limited to: The provision of 4-post racks; 2-post racks, horizontal cable termination equipment, ladder rack, and support structure above and below ceiling. Vertical and horizontal cable management to include grounding and bonding.
- Installation of (41) Standard Work Area Outlets, using 2 Category 6 cables at each location.
- Installation of (14) Call Center-1 Work Area Outlets, using 2 Category 6 cables at each location.
- Installation of (14) Call Center-2 Work Area Outlets, using 2 Category 6 cables at each location.
- Installation of (18) Audio Visual Work Area Outlets, using 2 Category 6 shielded cables at each location.
- Installation of (7) Wireless Work Area Outlets; using 1 Category 6A cable at each location.
- Provision & installation of (4) 48-port patch panels and (1) 48-port quick port patch panels.
- Installation of (2) 24-strand SM fiber cable.
- Installation of (1) 24-strand MM fiber cable.
- Installation of (1) 100-pair copper cable.
- Installation of (12) cat6 cables for special services.
- Provision of (194) white cat6 patch cords various lengths.
- Provision of (36) yellow cat6 shielded patch cords various lengths.
- Provision of (14) blue cat6a patch cords various Lenths.

Work Hours:

- This project will be after normal business hours.
- Work hours will be Monday – Friday, 6am – 4pm

Documents included in this RFB:

- Document A – Detailed Scope of Work
- Document B – Contractor Bid Spreadsheet
- Document C – General Terms Conditions and Contractor Qualification Requirements
- Document D – RCIT Cabling Infrastructure Supplemental Installation Instructions
- Document E – RCIT Cable Certification Testing Revised 10/2017
- Document F – Bid Set Drawings
- Document G – Material List

Scope of Work

1. Infrastructure Cabling:

1.1. Standard Work Area Outlets (WAO):

1.1.1. Provide and install (41) Standard WAO locations using two white Berk-Tek LANmark 1000 Category 6 cables at each location.

1.1.1.1. Standard WAO locations are identified on the drawings (sheet T1.3) with location numbers 1E-001 through 1E-041

1.1.1.2. Terminate the cables using Leviton eXtreme Category 6 inserts. The first data cable (data “A”) will terminate on an orange jack, and the second data cable (data “B”) will terminate on a green jack.

1.1.1.3. At the WAO, use white 2-port Leviton faceplates for hardwall, cubicle, or flush mounted ceiling locations, use 106 frames for floor mounted locations.

1.2. Standard WAO Patch Panels:

1.2.1. In the telecom room, all Standard WAO cables shall terminate on Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard.

1.2.1.1. Provide and install (2) Leviton 48-port Category 6 patch panels.

1.2.1.2. Coordinate exact location in racks with RCIT Infrastructure Engineer.

1.3. Standard WAO Patch Cords

1.3.1. Deliver the following quantities of patch cords to the site:

1.3.1.1. Provide (41) 5' white high flex category 6 patch cord.

1.3.1.2. Provide (41) 10' white slim line category 6 patch cord.

1.4. Call Center-1 Work Area Outlets (WAO):

1.4.1. Provide and install (14) Call Center-1 WAO locations using two white Berk-Tek LANmark 1000 Category 6 cables at each location.

1.4.1.1. Call Center-1 WAO locations are identified on the drawings (sheet T1.3) with location numbers CLCTR1-01 through CLCTR1-14.

1.4.1.2. Terminate the cables using Leviton eXtreme Category 6 inserts. Both Data cables will terminate on red jacks.

1.4.1.3. At the WAO, use white 4-port Leviton faceplates (see 1.7.1.3) with a white single-gang surface mount box.

1.5. Call Center-1 WAO Patch Panels:

1.5.1. In the telecom room, all Standard WAO cables shall terminate on Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard.

1.5.1.1. Provide and install (1) Leviton 48-port Category 6 patch panels.

1.5.1.2. Coordinate exact location in racks with RCIT Infrastructure Engineer.

1.6. Call Center-1 WAO Patch Cords

1.6.1. Deliver the following quantities of patch cords to the site:

1.6.1.1. Provide (28) 5' white high flex category 6 patch cord.

1.6.1.2. Provide (28) 10' white slim line category 6 patch cord.

1.7. Call Center-2 Work Area Outlets (WAO):

1.7.1. Provide and install (14) Call Center-1 WAO locations using two white Berk-Tek LANmark 1000 Category 6 cables at each location.

1.7.1.1. Call Center-2 WAO locations are identified on the drawings (sheet T1.3) with location numbers CLCTR2-01 through CLCTR2-14.

1.7.1.2. Terminate the cables using Leviton eXtreme Category 6 inserts. Both Data cables will terminate on blue jacks.
1.7.1.3. At the WAO, use white 4-port Leviton faceplates (see 1.4.1.3) with a white single-gang surface mount box.

1.8. Call Center-2 WAO Patch Panels:

1.8.1. In the telecom room, all Standard WAO cables shall terminate on Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard.
1.8.1.1. Provide and install (1) Leviton 48-port Category 6 patch panels.
1.8.1.2. Coordinate exact location in racks with RCIT Infrastructure Engineer.

1.9. Call Center-2 WAO Patch Cords

1.9.1. Deliver the following quantities of patch cords to the site:
1.9.1.1. Provide (28) 5' white high flex category 6 patch cord.
1.9.1.2. Provide (28) 10' white slim line category 6 patch cord.

1.10. Audio Visual Work Area Outlets:

1.10.1. Provide and install (18) Audio Visual WAO locations using two yellow Berk-Tek LANmark Category 6 shielded cables at each location.
1.10.1.1. Audio Visual WAO locations are identified on the drawings (sheet T1-3) with location numbers 1D-TV01 through 1D-TV18.
1.10.1.2. Terminate the cables using ivory Leviton Shielded Category 6 inserts.
1.10.1.3. At the WAO, use white 4-port Leviton faceplates.

1.11. Audio Visual WAO Patch Panel(s):

1.11.1. In the telecom room, all Audio Visual WAO cables shall terminate using Leviton Shielded Category 6 inserts, to be housed in a Leviton QuickPort patch panel.
1.11.1.1. Provide and install (1) Leviton 48-QuickPort patch panel kit.
1.11.1.2. Provide and install blank inserts to all unused ports of the QuickPort patch panel(s).
1.11.1.3. Coordinate location in Telecom Room Racks with RCIT Infrastructure Engineer.

1.12. Audio Visual WAO Patch Cord(s):

1.12.1. Deliver the following quantities of patch cords to the site:
1.12.1.1. Provide (18) 5' yellow shielded category 6 patch cord.
1.12.1.2. Provide (18) 7' yellow shielded category 6 patch cord.

1.13. Wireless Work Area Outlet:

1.13.1. Provide and install (7) Wireless WAO locations using one white Berk-Tek Category 6A cable at each location.
1.13.1.1. Wireless WAO are identified on the jack plan drawings (sheet T1-2) with location numbers 1A-701 – 1A-707.
1.13.1.2. Terminate the cable using blue Leviton eXtreme Cat 6A inserts.
1.13.1.3. At the WAO, use a white Leviton 2-port surface mount box with blank insert and a QuickPort in-ceiling bracket with clip placed above the ceiling.

1.14. Wireless WAO Patch Panel(s):

1.14.1. In the telecom room, all Wireless WAO cables shall terminate using blue Leviton eXtreme Cat 6A inserts, to be housed in a Leviton QuickPort patch panel. See 1.11.1.1

1.15. Wireless Access Points (WAP):

1.15.1. Install (7) customer (RCIT) provided Wireless Access Points.

1.15.1.1. Each Access Point shall be patched using (1) 3’ blue Category 6A patch cord at the WAP location.

1.16. Wireless WAO Patch Cords:

1.16.1. Deliver the following quantities of patch cords to the site:

1.16.1.1. Provide (7) Leviton 3' blue eXtreme Category 6A patch cords.

1.16.1.2. Provide (7) Leviton 7’ blue eXtreme Category 6A patch cords.

2. Telecommunications Room (TR1E):

2.1. Provide and install the following Rack and Ladder Equipment (sheet T1.2):

2.1.1.1. (4) CPI 4-post racks.

2.1.1.2. (6) CPI 2-post 19” standard racks.

2.1.1.2.1. Installation of (2) user provided 2-post racks.

2.1.1.3. (4) CPI Combination 6” Vertical Wire Manager.

2.1.1.4. (8) CPI 2RU Horizontal Wire Manager(s).

2.2. Provide and install the following Ladder Rack and Mounting equipment in TR1E, for a fully functional room but not limited to the following:

2.2.1.1. CPI 18” Alternate Spacing Cable Runway above racks, as required.

2.2.1.2. CPI 18” Universal Cable Runway, as required.

2.2.1.3. CPI 18” Mounting Plate, as required.

2.2.1.4. CPI Cable Runway Elevation Kit: Rack and Cabinet Kits, as required.

2.2.1.5. CPI 18” Radius drop, as required.

2.2.1.6. CPI 18” Wall Angle Support Kit, as required.

2.2.1.7. CPI 18” Triangular Support Brackets, as required.

2.2.1.8. CPI Junction Splice Kit, as required.

2.2.1.9. CPI Heavy Duty Butt-Splice Kit, as required.

2.2.1.10. CPI Vertical Wall Bracket, as required.

2.2.1.11. CPI Threaded Ceiling kit, as required

2.2.1.12. CPI End Caps.

2.3. *It is the Responsibility of the Cabling contractor to turn over a fully functional Telecom Room.

3. Telecom Room Grounding TR1E:

3.1. Bonding from the building ground to the busbars shall be performed by the electrical contractor working on this project.

3.2. Provide and install (1) Chatsworth 20” Telecommunication Main Ground Bus Bar (TMGB).

3.3. Provide (12) Chatsworth Horizontal Rack Ground Bar (RGB) one for each Rack/Cabinet.

3.4. Provide and install (1) Telecommunications Equipment Bounding Conductor (TEBC) from the TMGB down the length of each Row (1, 2 & 3) using a #2 AWG stranded copper ground cable. Secure the TEBC using CPI L-Bracket, as needed.

3.5. Provide and install (1) #6 AWG stranded copper ground cable from the RGB in each Rack/Cabinet to the #2 AWG bonding conductor.

3.6. Provide and install (1) #6 AWG stranded copper ground cable from the TMGB to the cable runway.

3.7. Provide and install #6 AWG ground straps at each cable runway junction.

3.8. The ground cable from each rack shall use a two-hole lug to terminate on the rack and at the TMGB.

4. Backbone Cabling:

4.1. Copper

4.1.1. From Existing TR1B (Rm 085) to New TR1E.

4.1.1.1. Provide and install (1) Essex 100-pair riser rated cable; approximate distance is 400 feet. Terminate each end on the designated area of the 110 termination blocks.

4.1.1.2. Provide and install (1) 300 pair 110 termination block assemblies in New TR1E.

4.1.1.3. Existing 110 termination block in TR1B.

4.1.2. From Existing Entrance Facility MPOE (Rm139) to New TR1E.

4.1.2.1. Provide and install (12) cat6 cables (Special Services).

4.1.2.2. Install Leviton eXtreme jacks (Yellow) on both ends.

4.1.2.3. Provide and install (1) 12-port VertiGo Zero-U patch panel in Entrance Facility.

4.1.2.4. Provide and install (1) 24-port QuickPort patch panel in Entrance Facility.

4.2. Fiber

4.2.1. From Existing Entrance Facility MPOE (Rm 139) to New TR1E.

4.2.1.1. Provide and install (1) 24-strand Singlemode fiber cable.

4.2.2. From Existing TR1B (Rm 085) to New TR1E.

4.2.2.1. Provide and install (1) 24-strand Singlemode fiber cable.

4.2.2.2. Provide and install (1) 12-strand Multimode (OM3) fiber cable.

4.2.3. Fiber Housings

4.2.3.1. In Entrance Facility (Rm 139) Provide and install (1) Leviton wall mounted fiber housing.

4.2.3.2. In TR1B (Rm 085) Provide and install (1) 2RU Leviton rack mounted fiber housing.

4.2.3.3. In New TR1E Provide and install (1) 2RU Leviton rack mounted fiber housing.

5. Miscellaneous:

5.1. Suspension Hardware

5.1.1. It is the responsibility of the awarded low-voltage cabling contractor to provide all the P-rod, stringers, J hooks and hardware necessary to properly support and route the communications cables in the ceiling and telecom room/spaces.

5.2. Firestopping

5.2.1. It is the responsibility of the awarded low-voltage cabling contractor to provide firestop to all penetrations on fire-rated walls and floors using a UL approved system.

5.2.2. Cable pathway while entering the Telecommunications Room/Spaces, provide and install EZ-Path 44 series pathway, as required.

5.3. Contingency:

5.3.1. Include a project contingency equivalent to 10% of your total estimated labor and material cost.

End of Scope of Work