



CHABOT- LAS POSITAS COMMUNITY COLLEGE DISTRICT

Purchasing and Warehouse Services Department

October 1, 2007

Addendum No. 1 **INVITATION FOR BID No. 08-09** **Temporary Faculty Offices, Chabot College**

All Prospective Bidders:

This Addendum modifies the original Bid Documents for the above Bid. Acknowledge receipt of this addendum in the space provided on the **SIGNATURE FORM**. Failure to do so may subject Bidder to disqualification. The original Bid Documents are modified by the additional information as follows:

Item No.	Location in Contract Documents, Specifications and Drawings	Description
1	RFI # 1	Question: Break- Away Concrete Cutting “Do you have a list or website that will provide me with the names of the general contractors bidding on this project?” Answer: The general contractors list is located on the District web site.
2	RFI # 2	Question: Sasco “In the specifications it is calling out for Berk Tek, Commscope, Prestolite and Belden cable but in the drawings it is calling out for teledata equipment to be Systimax. Are we to bid this project with a “Complete” Systemax solution? Or go with the Specifications?” Answer: The correct teledata equipment is to be Systimax as detailed in the contract drawings.
3	A-2.3	Add a sign on the men’s and women’s restroom door that states “FACULTY ONLY”
4	Site Plans	Remove the handicapped parking stalls, signs and striping from the parking area west of Building “A” and relocate the stall, signage and striping to the parking area southwest of Building “D”. Provide new post to support van sign relocated.
5	Section 16741	Add to the contract the phone system and cabling as indicated in the attached specification section 16741.

All other terms and conditions of BID No. 08-09 to remain the same.

END OF ADDENDUM No. 1

Bid No. 08-09 – Addendum No. 1
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TELEPHONE SYSTEM CABLE PLANT

1.1 SUMMARY

- A. Section Includes: Horizontal Cabling (subsystem of Telecommunications Cabling Infrastructure).
- B. Related Sections
 - 1. Comply with the Related Sections paragraph of Section 16700.
- C. Products Furnished and Installed Under Another Section:
 - 1. Pathways distribution system (conduit, cable basket, hangers, etc.).
 - 2. Conduit stubs & device (back) boxes for wall mounted outlets.
 - 3. Sleeves.

1.2 REFERENCES

- A. Comply with the References requirements of Section 16700.

1.3 DEFINITIONS

- A. Refer to Section 16700 for Definitions.
- B. In addition, define the following list of terms as used in this specification as follows:
 - 1. "CMP": Communications Media Plenum, plenum rating; synonymous with "MPP"
 - 2. "CMR": Communications Media Riser, non-plenum riser rating; synonymous with "MPR"
 - 3. "UTP": Unshielded Twisted Pair
 - 4. "CAT3": Category 3 [UTP]
 - 5. "CAT5E": Category 5 Enhanced [UTP]
 - 6. "CAT6": Category 6 [UTP]
 - 7. "CAT6A": Category 6 Augmented [UTP]
 - 8. "MM": Multimode [fiber type]
 - 9. "SM": Singlemode [fiber type]
 - 10. "FEP": Fluorinated Ethylene Propylene
 - 11. "PVC": PolyVinyl Chloride
 - 12. "Permanent Link": Test configuration for a horizontal cabling link excluding test cords, connections at the ends of the test cords, patch cords, equipment cords, line cords; e.g., the 'permanent' portion of the horizontal cabling to each outlet consisting of cable, consolidation point (if used), termination/connecting apparatus in the IDF and the connector at the outlet.
 - 13. "Channel": End to end transmission path ; e.g., the entire portion of the horizontal cabling to each outlet consisting of the Permanent Link, line cord (at the workstation), patch cord, and, if a full crossconnection is implemented, the crossconnect termination/connecting apparatus and equipment cord.

1.4 SYSTEM DESCRIPTION

- A. Work Covered Under Other Sections
 - 1. Telecommunications Rooms (MDF/ IDFs): The buildout of the telecommunications rooms (rack bay, overhead cable support, exit sleeves/pathways, etc.) is covered under another section.
 - 2. Telecommunications Pathways:
 - a) The primary and secondary pathway system components (cable basket, cable hangers, etc.) throughout the ceiling space to the device location (e.g. from the cable basket exiting the MDF/IDFs to the conduit stub) is covered under another section.
 - b) The device pathways (conduit stub and device box) at the wall and in-floor outlets are covered under another section.
 - c) Refer to the Drawings for size (capacity) and route information for pathway system components.
- B. Base Bid Work
 - 1. Provide engineering, labor, materials, apparatus, tools, equipment, and transportation required to make a complete working communications Horizontal Cabling System installation described in these specifications. Consider horizontal cabling as shown on Drawings as base bid work, unless otherwise noted. This includes terminations at both ends.
 - 2. In general, the base bid work includes:
 - a) Submittals.
 - b) Horizontal cables, terminations, and outlets.
 - c) Cable management.
 - d) Patch cords and cross-connects.
 - e) Cable identification tags and system labeling.
 - f) Record Documents.
 - g) Warranty.

1.5 SUBMITTALS

- A. Comply with the Submittals article of Section 16700 for procedural, quantity, and format requirements.
- B. Submittal Requirements at Start Of Construction:
 - 1. Product Data Submittal, indicating conformance with NEC, UL, TIA/EIA listings, certifications and specifications.
- C. Submittal Requirements at Closeout:
 - 1. As-Built Drawings.
 - 2. Crossconnection records/cut sheets.
 - 3. O & M Manuals.

1.6 QUALITY ASSURANCE

- A. Comply with the Manufacturer Qualifications requirements of Section 16700.
- B. Comply with the Contractor Qualifications requirements of Section 16700.
- C. Contractor Qualifications
 - 1. A SYSTIMAX, Inc. certified installer and capable of providing an extended warranty. Provide satisfactory evidence of certification in the form of a current letter or certificate from the manufacturer as part of the bid submission

1.7 DELIVERY, STORAGE AND HANDLING

- A. Comply with the Delivery, Storage and Handling requirements of Section 16700.

1.8 WARRANTY

- A. The telecommunications cabling system, as specified in this section, shall carry a "SYSTIMAX Structured Connectivity Solutions Extended Product Warranty and Application Assurance Program" supporting applicable media systems – PowerSUM, GigaSPEED, OptiSPEED, or LazrSPEED.

2.1 MANUFACTURERS

- A. SYSTIMAX Inc. (no substitutions allowed)

2.2 SUBSTITUTIONS

- A. Comply with the Substitutions requirements of Section 16700.

2.3 HORIZONTAL CABLE – PLENUM RATED

- A. CAT6A UTP 4-Pair Cable
 - 1. Application: Suitable for indoor installation, within cable basket and above ceiling.
 - 2. Conductors:
 - a) Insulated Conductors: 23 AWG solid copper, fully insulated with a flame retardant thermoplastic material (material = PVC, or equivalent).
 - b) Twisted Pairs: Two insulated conductors "twisted" into a "pair" (twisted pair) with individually color coded twisted pairs to industry standards (ANSI/ICEA Publication S-80-576-1994, and EIA-230).
 - 3. Cable Sheath:
 - a) Provide unshielded cable with a seamless outer jacket (material = LS-PVC, or equivalent) applied to and completely cover the internal components (twisted pairs).
 - b) Flame Rating: NEC (Article 800) rated as CMP, and UL listed as such.
 - 4. Electrical Performance: Meet or exceed TIA/EIA-568-B.2-1 and ISO/IEC 11801 requirements for CAT6A UTP cabling.
 - 5. Electrical Performance: Meet or exceed TIA/EIA-568-B.2-AD10, ISO 11801 Class E Edition 2.1, and IEEE Std. 802.3an latest draft proposal channel requirements for supporting 10GBASE-T.
 - 6. Manufacturer: SYSTIMAX Inc.
 - a) 2091 004 ABL (760 024 190); CAT6A 4 pair UTP cable "X10D GigaSPEED", CMP – Blue

2.4 TERMINATION EQUIPMENT

- A. CAT6A Cabling Modular Patch Panel, MDF/IDF Room
 - 1. Data CAT6A modular patch panels shall be suitable for installation within a telecommunication facility for the termination of the Station CAT6A UTP cables.
 - 2. The patch panel shall have 110 connector terminations on rear of panel.
 - 3. Port density: 48-ports in a flat configuration.
 - 4. The patch panels shall be horizontally oriented for a rack-mounted configuration.
 - 5. The patch panels shall be capable of supporting, organizing, labeling and patching/ cross connecting between the horizontal termination field and the equipment termination field.
 - 6. Manufacturer: Systimax Inc.
 - a) #760 051 169, 48-port modular jack patch panel.

2.5 CONNECTORS

- A. Modular Connectors – CAT6A Cabling
 - 1. Modular connectors for CAT6A UTP 4-pair cables that are 8-position modular jacks, compliant to TIA/EIA-568-B.2 Addendum 10.
 - 2. Configure modular connectors with T-568B scheme.
 - 3. Jack colors:
 - a) Data cabling – blue
 - b) Voice cabling - white
 - 4. Manufacturer: SYSTIMAX Inc.
 - a) #MGS500-262 (760 023 614); CAT6A 8-position “GigaSpeed X10D” jack, white.
 - b) #MGS500-318 (760 023 648); CAT6A 8-position “GigaSpeed X10D” jack, blue.

2.6 WORKSTATION OUTLETS

- A. Faceplates for Standard Flush-Mount Outlets
 - 1. Faceplates for standard flush-mount outlet shall have 1 and 4 ports.
 - 2. Faceplates shall include required accessories, such as icons, blank inserts, labels and label windows.
 - 3. Color: White.
 - 4. Manufacturer: Systimax Inc. or equal
 - a) #M10LE-262 (108 333 014), “M Series” faceplate with labels, 1 port.
 - b) #M14LE-262 (108 333 162), “M Series” faceplate with labels, 4 ports.
- B. Faceplate for Wall Phone Outlets
 - 1. Faceplates for wall phone outlets shall have 1 modular jack and two mounting studs.
 - 2. Color: White.
 - 3. Manufacturer: Systimax Inc.
 - a) #M10LW-262 (108 258 468), wall phone faceplate.
- C. Surface-Mount Box for Wireless Access Points (Wireless Access Points)
 - 1. Modular surface-mount box shall have 2 ports.
 - 2. Color: White.
 - 3. Manufacturer: Systimax Inc.
 - a) #M102SMB-B-262, 2-port surface-mount box.

2.7 LABELS

- A. General:
 - 1. Provide labels that are machine printable with a laser printer, ink jet printer, thermal transfer printer, or hand-held printer.
- B. Labels for Horizontal Cables
 - 1. Adhesive backed labels and self-laminating feature.
 - 2. Fit the horizontal cables listed above (i.e., shall fully wrap around the cable’s jacket).
 - 3. A 2”x.05” printable area minimum, in size and white in color.
 - 4. Manufacturer: Panduit.
 - a) LJSL7-Y3-1; labels for cable diameters 0.16”-0.32”, white, desktop printer (laser or ink jet)
- C. Labels for Modular Patch Panels
 - 1. Adhesive backed labels.

2. Fit above the port without overlap to the next port or to the port itself.
 3. A 0.61" x 0.33" printable area minimum.
 4. Manufacturer: Systimax Inc.
- D. Labels for Faceplates
1. Labels compatible with the faceplates specified above.
 2. Color: White.
 3. Manufacturer: SYSTIMAX
 - a) #LE Labels (108 492 950); label sheets (10 sheets/300 labels), white, desktop printer (laser or ink jet)

2.8 MISCELLANEOUS COMPONENTS

- A. Velcro Cable Ties
1. Width: .75".
 2. Color: Velcro cable ties the same color as the cable to which it is being applied.
 3. Manufacturers: Panduit
 - a) #HLS-15R-0 Black, 15' roll, cut to length.

3.1 GENERAL

- A. Comply with the General Execution requirements of Section 16700.

3.2 INSTALLATION

- A. Horizontal Cable
1. General
 - a) Cable runs shall have continuous sheath continuity, homogenous in nature. Splices are not permitted anywhere.
 2. Installation
 - a) Maintain a minimum bend radius of 6 times the cable diameter during and after installation.
 - b) Maintain pulling tension within manufacturer's limits.
 - c) Protect cable during installation. Replace cable if damaged during installation.
 - d) Place cables with no kinks, twists, or impact damage to the sheath.
 - e) Place a pull string along with cables where run in conduit. Tie off end of pull string in ceiling spaces to prevent the string from falling into the conduit.
 3. Routing
 - a) Maintain maximum cable length of 90 meters from the termination in the IDF to the termination at the user's faceplate.
 - b) When routing horizontally within telecom rooms, utilize the overhead cable tray/runway. When routing vertically within telecom rooms, utilize the wall mounted vertical cable runway and support every 24 inches on center using cable ties.
 - c) Place and suspend cables in a manner to protect them from physical interference or damage.
 - d) Route cables a minimum of 6" away from power sources to reduce interference from EMI.
 - e) When routing cables in areas without cable tray/runway, support cables every 5 feet on center utilizing J-hangers.
 - f) Provide dedicated supports for J-hangers (e.g., do not clip J-hanger to existing ceiling support wire).

- g) Route station cable homeruns at 90-degree angles, allowing for bending radius, along corridors for ease of access. Do not route through an adjacent space if a corridor borders at least one wall of the room.
 - h) Provide a 10 feet (minimum) sheathed cable slack loop at each end of the run. In the Telecommunications Rooms, place the slack in the overhead cable tray/runway. At the workstation, place cable in ceiling space supported from a J-hanger.
 - i) Provide six inches (minimum) of sheathed cable slack behind each workstation outlet faceplate. Coil the slack cable inside the raceway, within the wall, or in the junction box (if used), per the cabling manufacturer's installation standards.
 - j) At the equipment bay in the Telecommunications Room, divide horizontal cables equally between both sides of an equipment rack such that a cable does not travel past the midpoint of the rack prior to termination.
4. Termination
- a) Properly strain relieve cables at termination points per manufacturer's instructions.
 - b) Terminate copper pairs at both ends on the specified connecting hardware.
 - c) Perform terminations in accordance with manufacturer's instructions and TIA/EIA-568-B standard installation practices.
 - d) Perform post-installation testing as described in the Telecommunication Testing specification.
- B. Outlet Faceplates
- 1. Mount faceplates plumb, square, and at the same level as adjacent device faceplates.
 - 2. Patch gaps around faceplates so that faceplate covers the entire opening.
- C. Outlet Modular Connectors
- 1. Terminate cable pairs onto the connector; terminations shall conform to manufacturer's latest installation requirements
 - 2. Replace terminations and connectors not passing the required media test (refer to Section 16719).
- D. Patch Panels and Horizontal Management Panels
- 1. Provide patch panels in a quantity to allow termination of data cables served from respective IDF. Install into rack bays as shown on Drawings.
 - 2. Install the patch panels as shown on the Drawings.
 - 3. Assemble and install patch panels and horizontal management panels according to the manufacturer's instructions.

3.3 LABELING

- A. General Requirements
- 1. Labeling, identifier assignment, and label colors shall conform to TIA/EIA-606-A Administration Standard and as approved by the Owner or Owner's Representative before installation.
 - 2. Permanent labels with machine-generated text (hand written labels will not be accepted).

- B. Label Formats
 - 1. Horizontal Cable Labels
 - a) Text Attributes: Black, 1/8" high, minimum, or #12 font size.
 - b) Install labels on both ends of cables no more than 4" from the edge of the cable jacket. Install labels such that they are visible by a technician from a normal stance.
 - 2. Patch Panel Labels
 - a) Use modular patch panel labels included in the product packaging. Request approval by the Engineer for other labels.
 - b) Use a label color for the respective field type, per TIA/EIA-606.
 - c) Text Attributes: Black, 3/32" high, minimum, or #10 font size.
 - 3. Outlet Labels
 - a) Use outlet labels included in the product packaging. Request approval by the Engineer for other labels.
 - b) Label Background: White.
 - c) Text Attributes: Black, 1/8" high, minimum, or #12 font size.
 - d) Install label in the top label window. Leave the bottom label window blank.
- C. Identifier Assignment
 - 1. General: Separate label fields of the identifier with a hyphen.
 - 2. Horizontal Cables
 - a) First field: the originating MDF/IDF room identity; for example: "2.1".
 - b) Second field: the destination room number; for example: "207".
 - c) Third field: the cable's intended service type followed by a unique sequential number; for example: "V1" (voice, cable #1) or "D2" (data, cable #2).
 - d) Fourth field: the cable type; for example: "CAT6A".
 - e) Example: "2.1-207-D2-CAT6A"
 - 3. Outlets
 - a) First field: the originating MDF/IDF room identity; for example: "2.1".
 - b) Second field: the destination room number; for example: "207".
 - c) Third field: a unique sequential number; for example: "01".
 - d) Example: "A2.1-207-01"
 - 4. Individual Ports at the Outlets
 - a) First field: the cable's intended service type followed by a unique sequential number; for example: "V1" (voice, cable #1) or "D2" (data, cable #2).
 - 5. Individual Ports at the Modular Patch Panels
 - a) First field: the End User Room Number; for example: "207".
 - b) Second field: the cable's intended service type – for example: "D" (data), and a unique sequential number – for example: "2".
 - c) Example: "207-D2"

3.4 FINAL INSPECTION

- A. Inspect installed products and work in conjunction with the Owner or Owner's Representative. Develop a punchlist for items needing correction.
- B. Issue punchlist to Engineer for review prior to performing punchlist with the Engineer.
- C. Repair defects prior to system acceptance.

- D. Inspect installed products and work in conjunction with the Engineer for sign off.

END OF SECTION