



PURCHASING DEPARTMENT
DIVISION OF BUDGET & FINANCE

PUR-1401
ADDENDUM NO. 3
INVITATION TO BID

WASHINGTON COUNTY PUBLIC SAFETY TRAINING CENTER

DATE: Friday, August 28, 2020

BIDS DUE: Wednesday, September 16, 2020
(Revised Date via Addendum No.2) **2:00 P.M., (EST/EDT)**

To Bidders:

This Addendum is hereby made a part of the Contract Documents on which all bids will be based and is issued to correct and clarify the original documents.

Please acknowledge receipt of this Addendum at the appropriate space on the Proposal Form. This Addendum consists of eleven (11) pages and one (1) attachment.

NOTE: Washington County government has limited access to the Washington County Administration Complex at 100 West Washington Street, Hagerstown, Maryland until further notice. All Bidders shall allow ample time for delivery of their bid packets. Delivery of bid packets via-courier service or United States Postal Service (USPS) will be accepted. For those bidders who wish to deliver their bid packet in person will need to call 240-313-2330 to schedule an appointment.

ITEM NO. 1: Inquiry: The specifications tell us to include fencing around the propane tank. Please provide a fencing specification.

Response: See attached specification section to be added to the construction documents, (Attachment A).

ITEM NO. 2: Inquiry: Please clarify the following: Who will be paying for the building permit the owner or contractor. Specifications are unclear regarding this.

Response: See ITEM NO. 12 in Addendum No. 2.

ITEM NO. 3: Inquiry: Division 8 states that the doors will be prepped for the hardware, Will the door contractor install the hardware, terminate the equipment and test for verification?

Response: The General Contractor (GC) is responsible to coordinate these responsibilities with the subcontractor.

ITEM NO. 4: Inquiry: Division 28 Section 2.1.A it discuss the camera licenses warranty, what is the warranty expectations for the camera hardware?

Response: The contract shall provide 1-year warranty on their work and hardware. The contractor provided licenses all shall co-term per Genetec with Washington County contract (this is controlled by Genetec). The contractor shall be a Genetec Certified partner and the Contractor shall be certified by Genetec.

ITEM NO. 5: Inquiry: Division 28 Section 2.1.B it discuss the Server requirements, are we to supply a minimum of 4 servers with 2 servers set up for redundant?

Response: The Contractor shall provide 2 Genetec Stream Vault servers (minimum) or more if required to provide the specified recording space to meet the required amount of recording, retention and failover required. The contractor shall calculate server size and quantity based upon what cameras are included in the contract documents. Size each server to serve 100% of all cameras (including cameras in alternate) recording continuously 24/7 with 30 days of storage plus 20% spare capacity for future cameras.

ITEM NO. 6: Inquiry: Division 1 O&M Requirements, What is the total of submittals we are to provide, hard copy / soft copy?

Response: The Contractor shall provide 3 hard copies and 1 electronic (soft) copy.

ITEM NO. 7: Inquiry: Please confirm if the following items should be included in the Electrical Contractor's scope or the Low Voltage contractors' scope:

- a. Plywood backboards in the Telecom Rooms:
- b. Telecom Grounding Busbars:
- c. Cables trays in the corridors:
- d. Wall penetrations / sleeves:

Response: The General Contractor (GC) is responsible to coordinate these responsibilities with the subcontractor.

ITEM NO. 8: Inquiry: Drawings T1.1 & T1.2 show 18" W Ladder Tray in the Telecom Rooms and Drawing T3.1 shows 12"W Ladder Tray. Please clarify which is to be installed.

Response: All tray references shall use BASKET TRAY 4" x 18" Basor P/N BF2R 18"X4".

ITEM NO. 9: Inquiry: Drawing T3.1 Equipment Rack Detail states "Provide UPS and Battery Cabinet Per Specifications." Are there UPS specifications available?

Response: The Contractor shall provide the following UPS units: 1. Provide one APC 3000VA with network card and an extra battery pack for the MDF (Main Distribution Frame) Room A115 main rack. Provide battery unit with 15-minute run time at full load. Provide APC SMT3000RM2UNC.
2. Provide one APC 1500VA for the MDF Room A115 security equipment rack. Provide Lithium -Ion battery unit with network card and 15-minute run time at full load. Provide APC SMTL1500RM2UNC.

(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)

3. Provide one APC 3000VA with an extra battery pack for the IDF (Intermediate Distribution Frame) Data Room A135 Network rack. Provide battery unit with network card and 15-minute run time at full load. Provide APC SMT3000RM2UNC.
4. Provide two (2) 3000VA APC UPS's specified for the central AV equipment rack, p/n SURTA3000RMXL Refer to Audio – Video Specifications 274100 for UPS units for AV equipment. Provide battery unit with network card and 15-minute run time at full load.
5. Under Alternate GC-1: Provide one APC 3000VA with an extra battery pack for the IDF Data Room B115 Network rack. Provide battery unit with network card and 15-minute run time at full load. Provide APC SMT3000RM2UNC.

ITEM NO. 10: Inquiry: Drawing T0.1 Technology Legend Basket Tray is 4" D x 12"W. Specification 275100-21 Cable Tray is 6"D x 20"W. Please clarify which is to be installed.

Response: All tray references will use BASKET TRAY 4" x 18" Basor P/N BF2R 18"X4".

ITEM NO. 11: Inquiry: Drawing T4.2 shows single gang Ortronics faceplates. Specification 275100-11 call for double gang stainless steel Leviton faceplates. Please confirm correct faceplates.

Response: Refer to the bid document, **CHANGE**, the Spec for 275100-2.8 Work Area Outlets to reflect as follows: "*Flush-Mounted QuickPort Standard Plastic Faceplates: Use 4-port flush QuickPort faceplates. Each faceplate shall contain four Category 6 jacks for data. There shall be four Category 6 cables terminated as noted in 3.1 above. Faceplates shall accommodate two labels and provide a clear polycarbonate cover for each. Faceplates shall be LEVITON part number 42080-4TP or an approved equivalent. The faceplates shall be mounted to in-wall single gang boxes. Provide Leviton P/N 42080-4TP*".

ITEM NO. 12: Inquiry: Drawing T4.2 shows Green Cat 6 for Wireless Access Points, Blue Cat 6 for Data, and White Cat 6 for Voice. Specification 275100-11 shows White for Wireless Access Points, Blue for Data, and Green for cameras. Please clarify correct cabling / jack colors.

Response: Change all references to cabling and jack color to match spec 275100-2.7 as follows:

*White colored cable for Wireless Access Points
Blue colored cable for Voice/Data
Green colored cable for Cameras
Black colored cable for TV*

ITEM NO. 13: Inquiry: Because of COVID-19 and short time frame to bid this project, we ask for the bid to be extended another 2 weeks. We need sufficient time to make contact with

MBE/WBE/MDOT small business companies in order to completely fill out Attachment A.

Response: The bid due date has been revised.

ITEM NO. 14: Inquiry: I have an inquiry about the Washington County Public Safety Building. Sec. 88000-6 2.1C has a windborne debris requirement, but the makeup of the window doesn't support this requirement. Please advise.

Response: Refer to the bid document, Page 088000-6, 2.1, C, Glass Products, General; **DELETE** this requirement only.

ITEM NO. 15: Inquiry: Can you confirm that commissioning is to be provided under the GC?

Response: System commissioning shall be provided per section C408 of the 2015 International Energy Conservation Code. Note that mechanical systems and service water heater systems shall not be exempted from commissioning requirements due to exception No. 1 under section C408.2. The General contractor shall employ a "Certified Commissioning Professional" to perform all system commissioning requirements. A Certified Commissioning Professional shall be either a Maryland licensed professional engineer, an ASHRAE Commissioning Process Management Professional or a Building Commissioning Certification Board (BCCB) Certified Commissioning Professional.

ITEM NO. 16: Inquiry: Submitted from an Aluminum Sub: Curtain Wall elevation A3 is drawn as a single span with anchorage only available at its perimeter. A horizontal beam or other type of steel structure will be required for anchorage for wind load and expansion. The support to be at the second floor level. Please clarify.

Response: See section 1/A3.4 for steel tube section providing the support you are questioning.

ITEM NO. 17: Inquiry: Specification 283111, 2.3, A lists acceptable manufactures. GE UTC and Edwards are the same and Honeywell and Notifier are the same. Will a third manufacturer be acceptable by Johnson Controls Fire Protection?

Response: A third acceptable manufacturer is Cooper Fire.

ITEM NO. 18: Inquiry: Is Belden an approved manufacturer for the copper, coax, and fiber cabling system?

Response: Washington County Maryland Government Cable Infrastructure Projects require a Berk-Tek Leviton Technologies Structured Cabling System. A Berk-Tek Leviton Technologies Limited Lifetime Product and Performance Warranty can only be provided and certified by an authorized Leviton Authorized Network Installation company, Leviton Premier Network Installation company, or Berk-Tek OASIS

Certified Contractor. The bidding contractor must provide proof they hold a current Leviton Authorized Network Installation certification, Leviton Premier Network Installation certification, or Berk-Tek OASIS Certified Contractor certification status prior to the contract being awarded.

ITEM NO. 19: Inquiry: Is CPI an approved manufacturer for metals and rack equipment.

Response: No. Cable Tray shall be BASOR, no equal. Racks shall be GREAT LAKES, no equal. Refer to previous addendum responses for specific information.

ITEM NO. 20: Inquiry: CONDUIT: Who is responsible for all conduit pathways within the building?

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 21: Inquiry: CONDUIT: Who is responsible for grounding the conduits entering the MDF and IDF's?

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 22: Inquiry: CONDUIT: Who is responsible for the exterior wall penetrations/sleeves for exterior cameras? Including the 2-gang Weatherproof J-box.

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 23: Inquiry: CONDUIT: Low Voltage Contractor (LVC) assumes no vertical floor penetrations are included in this Scope. Please confirm.

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 24: Inquiry: Main Backbone & Common Space Overhead Conveyance: Who is responsible for the main basket tray pathway throughout the space, including pathway sleeves where main cable tray penetrates walls?

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 25: Inquiry: Main Backbone & Common Space Overhead Conveyance: Is LVC responsible for Ladder rack in MDF/IDF?

Response: The responsible Contractor shall provide per the contract documents. The General Contractor to determine who is the responsible contractor for each item.

(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)

ITEM NO. 26: Inquiry: Main Backbone & Common Space Overhead Conveyance: We assume that LVC will extend cabling from main cable tray system to WAO using an independent J-Hook system. Please confirm.

Response: The responsible Contractor shall provide J-hooks per the contract documents above accessible ceilings wherever cable tray is not provided. The responsible Contractor shall provide conduits above non-accessible ceiling spaces and in areas with no ceilings. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 27: Inquiry: Main Backbone & Common Space Overhead Conveyance: We assume that LVC will install wall sleeves to accommodate cabling contained within J-Hook pathways.

Response: The responsible Contractor shall provide all sleeves and J-hooks per the contract documents above accessible ceilings; wherever, cable tray is not provided. The responsible Contractor shall provide conduits above non-accessible ceiling spaces and in areas with no ceilings. The General Contractor to determine who is the responsible contractor for each item.

ITEM NO. 28: Inquiry: MDF/IDF Overhead Conveyance: T1.2 calls out 18" ladder rack, and T3.1 calls out 12" ladder rack. Is 12" or 18" Ladder rack required in MDF/IDF?

Response: All tray references shall use BASKET TRAY 4" x 18" Basor P/N BF2R 18"X4".

ITEM NO. 29: Inquiry: MDF/IDF Overhead Conveyance: LVC assumes all Horizontal and Vertical ladder rack in MDF/IDF is included in this Scope. Please confirm.

Response: Contractor shall provide all horizontal and vertical cable tray, conveyances and pathways required for a complete system.

ITEM NO. 30: Inquiry: MDF/IDF Racks: Please provide MDF Rack specifications and locations required.

Response: Refer to part plans on sheet T1.1 for rack quantities and locations. See Audio Visual Drawings (TA1.0-1.4, TA2.1-2.3, TA5.1-5.8, TA6.1, TA7.1-7.13). for AV racks. Racks shall be by Great Lakes and models per spec 271500-2.17.

ITEM NO. 31: Inquiry: MDF/IDF Racks: No Specs on Security Cabinet on drawings or in Div27. Please confirm if this under division 27 scope.

Response: Security Rack shall be by Great Lakes and models per spec 271500-2.17.

ITEM NO. 32: Inquiry: MDF/IDF Racks: Who is responsible for Material and Labor for in rack UPS/Battery Cabinet? There are no specs in the division 27.

Response: The Contractor shall provide UPS/Battery units. See ITEM NO. 9, 33, and 55 in this Addendum.

ITEM NO. 33: Inquiry: MDF/IDF Racks: Who is responsible for Material and Labor for rack mountable 6 outlet Power Strip? Are these required on MDF Racks? No specs in division 27.

Response: The Contractor shall provide power strip (power distribution unit strip). Provide APC AP9562 or approved equal for each UPS.

ITEM NO. 34: Inquiry: MDF/IDF Racks: Who is responsible for installing Owner Furnished network gear? Routers, switches, modems, etc.

Response: Washington County IT will provide the Owner furnished (Meraki) network equipment. The Contractor shall coordinate with Washington County IT and provide information as required (space in racks, coordinate location of UPS and PDUs, etc)

ITEM NO. 35: Inquiry: Fiber / Copper Patch Cords: Are copper patch cords required at WAO locations? If required, what Length?

Response: Provide all fiber and copper patch cords per spec 271500-2.15. Provide Work Area Outlet (WAO) Cat6 patch cords for each jack. Provide Leviton 6AS10-10W (10 feet, White).

ITEM NO. 36: Inquiry: Fiber / Copper Patch Cords: Are copper patch cords/fiber jumpers required in MDF/IDF?

Response: Provide all fiber and copper patch cords per spec 271500-2.15.

ITEM NO. 37: Inquiry: Fiber / Copper Patch Cords: LVC assumes all final patching to Owner Furnished Owner Installed (OFOI) network gear, service provider gear, etc. will be installed by others. Please confirm

Response: Washington County will provide the services of a network contractor to install the Contractor provided patch cords to the Owner furnished (Meraki) network equipment.

ITEM NO. 38: Inquiry: CATV Cabling: Is CATV required to TV/Display locations?

Response: Yes, provide, under base bid, "F" connector and RG-6 coaxial cable to each video display listed in Allowance No. 2, including Offices A101, A104, A109, Learning Resource Commons A141, Conference Room A112, Weight Room A123 (2 displays), Corridor A119. Provide Taps and video amplifier in MDF room.

ITEM NO. 39: Inquiry: Audio Visual Network Cabling: Is Network CAT6 cabling to TV/Displays pricing required in this Scope?

(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)

Response: Yes, provide under base bid, two “RJ-45” CAT6 connector and two CAT6 cable to each video display listed in Allowance #2 , including Offices A101, A104, A109, Learning Resource Commons A141, Conference Room A112, Weight Room A123 (2 displays), Corridor A119. See Audio Visual Drawings (TA1.0-1.4, TA2.1-2.3, TA5.1-5.8, TA6.1, TA7.1-7.13). All AV cabling is intended to be provided and installed by the AV Contractor as part of a turnkey AV system. Refer to AV specification (274100) section 2.2.C “A separate physical AV network will be used for all control, Dante audio, and QLAN. The AV Contractor will follow Division 27 for all telecommunication standards, but will purchase, install, and configure the AV LAN for use with the Audiovisual System.”

ITEM NO. 40: Inquiry: Audio Visual Network Cabling: Are copper patch cords required at Display locations? If required, what Length?

Response: Yes, see Audio Visual Drawings (TA1.0-1.4, TA2.1-2.3, TA5.1-5.8, TA6.1, TA7.1-7.13). The AV System shall be turnkey, so provide patch cables as required. Refer to AV specification (274100) section 3.3.A “Provide a cable with factory molded connectors for each audio, video, and control interface location as specified. Cables shall be flexible, light weight, and of an appropriate length for the application.”

ITEM NO. 41: Inquiry: OSP Cabling: Is Copper / Fiber optic cabling required from Service Provider Pole to MDF?

Response: Incoming OSP copper and fiber cabling provided by Telecom Utilities / Service Provider and by Owner’s private fiber contractor (Skyline). The Contractor shall provide all pathways, conduits, pullboxes, etc. for a complete pathway.

ITEM NO. 42: Inquiry: OSP Cabling: Is Copper / Fiber optic cabling required from Site Sign to MDF?

Response: Yes, the contractor shall provide fiber optic cabling (4 strands single mode indoor/outdoor rated fiber) and all associated terminations from the MDF room to the site sign.

ITEM NO. 43: Inquiry: OSP Cabling: Are Fiber/Copper patch cords required to connect Service provider to Client Network?

Response: Washington County will provide the services of a network contractor to provide fiber and copper patch cords to the Owner furnished (Meraki) network equipment.

ITEM NO. 44: Inquiry: OSP Cabling: If cabling is required, confirm pathway is connected using Hand Holes only and accessible from ground surface.

Response: Provide OSP fiber optic cabling for site sign. Refer to Telecom Site Plan sheet T0.2.

(NOTE: The wording of all “Inquiries” submitted are displayed exactly as received.)

ITEM NO. 45: Inquiry: OSP Cabling: Please confirm no manholes or comms vaults that require confined space equipment or site preparations.

Response: Refer to Telecom Site Plan sheet T0.2 for handhole depths.

ITEM NO. 46: Inquiry: OSP Cabling: Confirm hand holes are owned by the client and no coordination with Service provider or County are required.

Response: Conduits and hand holes have been run from Sharpsburg Pike to within 5' of the building footprint as part of the separate site package.

ITEM NO. 47: Inquiry: Wireless Access Points: Are we WAPs Owner Furnished Contractor Installed(OFCI)?

Response: Washington County will provide the services of a network contractor to provide the WAP. The Contractor shall test, terminate and label WAP cabling and coordinate with Owner's contractor on locations.

ITEM NO. 48: Inquiry: Wireless Access Points: If WAPs are owner furnished, is LVC expected to install them?

Response: Washington County will provide the services of a network contractor to provide the WAP. The Contractor shall test, terminate and label WAP cabling and coordinate with Owner's contractor on locations.

ITEM NO. 49: Inquiry: Grounding System: Who is responsible for installing TMGB, TGB and TBB?

Response: The Contractor shall provide all bus boards included in contract documents.

ITEM NO. 50: Inquiry: Grounding System: LV Contractor responsible for grounding from TGB to racks and overhead conveyance within MDF/IDF. (Confirm)

Response: The Contractor shall provide all grounding and bonding per the contract documents.

ITEM NO. 51: Inquiry: ADD/ALT: Is Area B ALT pricing required in this Proposal?

Response: Yes, pricing is required but should be provided in a separate price to the General Contractor for them to include in their price for Alternate GC-1.

ITEM NO. 52: Inquiry: Security: What is the minimum camera resolutions required for this project?

Response: Provide Axis IP PoE Varifocus network cameras. Provide a minimum of 5.0 megapixels per camera (i.e. Axis P3227 series or as required to suit application). The security contractor shall determine the best MP from the 5 MP or up. Contractor

(NOTE: The wording of all "Inquiries" submitted are displayed exactly as received.)

shall select the specific Axis model security camera for each location for optimum video surveillance. Contractor shall be Genetec Certified Installer. Contractor shall provide complete and operational security camera system including all cameras and licenses per the contract documents.

ITEM NO. 53: *Inquiry:* Security: Is there any PTZ (Pan/Tilt/Zoom) cameras required for this project?

Response: Contractor shall select the specific Axis model and type (either fixed or PTZ) security camera for each location for optimum video surveillance. The security contractor shall determine the best MP from the 5 MP. Contractor shall be Genetec Certified Installer. Contractor shall provide complete and operational security camera system including all cameras and licenses per the contract documents.

ITEM NO. 54: *Inquiry:* Security: Who is responsible to provide the PoE Network Switch for PoE camera system?

Response: Washington County IT shall provide the PoE network as part of the Owner furnished (Meraki) network equipment.

ITEM NO. 55: *Inquiry:* Security: Who is responsible to provide the UPS equipment for Security Headend equipment?

Response: The Contractor shall provide the UPS. Also see ITEM NO. 9 and 33 in this Addendum.

ITEM NO. 56: *Inquiry:* Security: According to specification paragraph 2.1A "All cameras must be Axis IP PoE cameras. The successful contractor will determine which Axis cameras are to be installed." Do you want us to provide the cost of Axis IP PoE cameras include in our price proposal?

Response: Contractor shall provide complete and operational security camera system including all cameras and licenses per the contract documents. Provide Axis IP PoE Varifocus network cameras. Provide a minimum of 5.0 megapixels per camera (i.e. Axis P3227 series or as required to suit application). The security contractor shall determine the best MP from the 5 MP or up. Contractor shall select the specific Axis model security camera for each location for optimum video surveillance. Contractor shall be Genetec Certified Installer.

ITEM NO. 57: *Inquiry:* Concerning the bearing requirements under steel beams column line 4F thru 11F on S1.13. Detail 1/ S5.01 does not include any beam bearing details. 5/ S5.02 does not clarify the number of additional adjacent cells that are too be reinforced. S1.03 shows the footings are continuous with no increased width to support the masonry pier load. Please clarify.

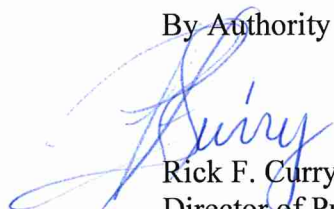
Response: See 4/S5.02 sim. for beam bearing details. At Grids 6-11 bearing plate to be 3/4" x 8" x 24" with 1/2" stiffeners each side of the beam from the bearing plate edge to the beam top flange, centered on the plate width. For the 16x16 grouted block shown below bearing, provide a bond beams 56" long min. at beam bearing. Deeper beams to have full bearing and shallower beams to connect to deeper beams via web shear plate connections. Where beams are of similar depths, provide full bearing for the heavier beam and utilize a shear plate connection for the lighter beam. Note W18x40 should read W18x50.

Only 1 adjacent cell is to be reinforced as shown.

Note that COUNT should read CONT. The beam reactions will distribute through the CMU wall to the footing. Localized spread footings as if a column is below the beam are not required.

ITEM NO. 58: A subsequent Addendum shall be issued with responses to questions and with additional information.

By Authority of:



Rick F. Curry, CPPO
Director of Purchasing

SECTION 323113 - CHAIN-LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes chain-link fences and swing gates.

1.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design chain-link fences and gates, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- B. Structural Performance: Chain-link fence and gate framework shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated according to ASCE.
 - 1. Minimum Post Size: Determine according to ASTM F 1043 for framework up to 12 feet) high, and post spacing not to exceed 10 feet.
 - 2. Minimum Post Size and Maximum Spacing: Determine according to CLFMI WLG 2445, based on mesh size and pattern specified and on the following:
 - a. Exposure Category: C.
 - b. Fence Height: 8 feet.
 - c. Material Group: IA, ASTM F 1043, Schedule 40 steel pipe

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated
- B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
- C. Samples: For each polymer-coated product and for each color and texture specified, in 6-inch lengths for components and on full-sized units for accessories.
- D. Delegated-Design Submittal: For chain-link fences and gate framework indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of chain-link fence and gate, from manufacturer.

- B. Product Test Reports: For framing strength according to ASTM F 1043.
- C. Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.6 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

- A. General: Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI Product Manual and with requirements indicated below:
 - 1. Fabric Height: As indicated on Drawings.
 - 2. Steel Wire Fabric: Wire with a diameter of 0.148 inch.
 - a. Mesh Size: 2 inches.
 - b. Aluminum-Coated Fabric: ASTM A 491, Type I, 0.35 oz./sq. ft.
 - c. Zinc-Coated Fabric: ASTM A 392, Type II, Class 1 with zinc coating applied after weaving.
 - d. Zn-5-Al-MM Aluminum-Mischmetal-Coated Fabric: ASTM F 1345, Type III, Class 1, 0.60 oz./sq. ft.
 - e. Polymer-Coated Fabric: ASTM F 668, Class 1 over aluminum-coated steel wire.
 - 1) Color: Black complying with ASTM F 934.
 - 3. Selvage: Knuckled at both selvages

2.2 FENCE FRAMING

- A. Posts and Rails: Comply with ASTM F 1043 for framing, including rails, braces, and line; terminal; and corner posts. Provide members with minimum dimensions and wall thickness according to ASTM F 1043 based on the following:
 - 1. Fence Height: As indicated on Drawings.
 - 2. Heavy Industrial Strength: Material Group IA, round steel pipe, Schedule 40
 - a. Line Post: 2.375 inches.
 - b. End, Corner and Pull Post: 2.375 inches.
 - 3. Horizontal Framework Members: top and bottom rails complying with ASTM F 1043.
 - 4. Brace Rails: Comply with ASTM F 1043.
 - 5. Polymer coating over metallic coating.
 - a. Color: Black, complying with ASTM F 934.

2.3 TENSION WIRE

- A. Polymer-Coated Steel Wire: 0.177-inch diameter, tension wire complying with ASTM F 1664, Class 1 over aluminum coated steel wire.
 - 1. Color: Black, complying with ASTM F 934.

2.4 SWING GATES

- A. General: Comply with ASTM F 900 for gate posts and single swing gate types.
 - 1. Gate Leaf Width: 36 inches.
 - 2. Gate Fabric Height: As indicated.
- B. Pipe and Tubing:
 - 1. Polymer-Coated Steel: Comply with ASTM F 1043 and ASTM F 1083; manufacturer's standard protective coating and finish.
 - 2. Gate Posts: Round tubular steel
 - 3. Gate Frames and Bracing: Round tubular steel.
- C. Frame Corner Construction: Welded or assembled with corner fittings.
- D. Hardware:
 - 1. Hinges: 180-degree outward swing.

2. Latches permitting operation from both sides of gate with provision for padlocking accessible from both sides of gate.
3. Lock: Manufacturer's standard internal device furnished in lieu of gate latch.
4. Closer: Manufacturer's standard.

2.5 FITTINGS

A. General: Comply with ASTM F 626.

B. Finish:

1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz. /sq. ft. zinc.
 - a. Polymer coating over metallic coating.

2.6 PRIVACY SLATS

A. Material: Polyethylene tubular slats, not less than 0.023 inch thick, manufactured for chain-link fences from virgin polyethylene containing UV inhibitor, sized to fit mesh specified for direction indicated; with vandal-resistant fasteners and lock strips.

B. Color: Black to match fence materials.

2.7 GROUT AND ANCHORING CEMENT

A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout, recommended in writing by manufacturer, for exterior applications.

B. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.

1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.
- D. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.
- E. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.
- F. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.
 1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
 2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.
 - a. Exposed Concrete: Extend 2 inches above grade; shape and smooth to shed water.
 - b. Concealed Concrete: Top 2 inches below grade as indicated on Drawings to allow covering with surface material.
 - c. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
 - d. Posts Set into Voids in Concrete: Form or core drill holes not less than 5 inches deep and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.
 3. Mechanically Driven Posts: Drive into soil to depth of 30 inches. Protect post top to prevent distortion.
- G. Terminal Posts: Locate terminal end, corner, and gate posts per ASTM F 567 and terminal pull posts at changes in horizontal or vertical alignment of 15 degrees or more.
- H. Line Posts: Space line posts uniformly at 96 inches o.c.
- I. Tension Wire: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Provide horizontal tension wire at the following locations:

1. Extended along top and bottom of fence fabric.
- J. Chain-Link Fabric: Apply fabric to inside of enclosing framework. Leave 1 inch between finish grade or surface and bottom selvage unless otherwise indicated.
- K. Privacy Slats: Install slats in direction indicated, securely locked in place.
1. Vertically for privacy factor of 70 to 75
- L. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach fabric as for fencing. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.
- M. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

END OF SECTION 323113