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## Addendum #5

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Attn: Estimator	Date: June 11, 2020
From: Lisa Donahue, Project Administrator	Pages: 12 (including cover page)
Re: Harrison Community Schools 2017 Bond Projects – Series 2	Project: Larson Elementary Addition and Renovations
CC:	Proj. #: A19912

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Revise Spec Section 281000	8 Page

**PLEASE NOTE THE ADDRESS FOR BID SUBMISSIONS BELOW IS CORRECT. THE ADDRESS IN THE INSTRUCTIONS TO BIDDERS AND THE PROPOSAL FORM IN THE SPECIFICATIONS IS INCORRECT.**

**Bid Date is still scheduled for:**

**June 16<sup>th</sup> at 2:00 pm**

Harrison Community Schools  
Administration Office  
Rick Foote, Superintendent  
**224 W. Main Street  
Harrison, MI 48625**

1021 West Baraga Avenue,  
Marquette, Michigan 49855  
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No:	5	Project Number:	15-555
Project:	Harrison Community Schools (2018 School Bond Projects – Series 2)	Date:	6/11/20

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The contractor shall acknowledge receipt of all addenda by listing the number where indicated on the bid form.

Drawings, specifications, and / or proposals are herein amended, expanded, and / or modified, and become a part of the Contract Documents with the same effect as if incorporated in the original documents. Any contrary provisions contained, or referred to, in Drawings and / or Specifications, shall remain applicable unless overridden by this Addendum. Revised provisions herein shall include all labor, materials, methods, modifications, etc. required for the completion of the Work.

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General:

1. Because the heating water system is being completely replaced, all differential pressure transmitters shall be replaced.
2. All RTU's shall be prepped with BACnet control boards.
3. Wall Insulation Clarification – 2" Rigid Insulation in all cavity wall construction and behind non-insulated metal panel/siding install. No spray foam at these locations.
4. Wall Type 1 Clarification – Clarification to Addendum #4 description of wall type #1, grout solid comment/description is intended for top of wall condition only (grouting solid from top of block to bottom of roof deck, and not intended to read the entire wall system to be grouted solid).
5. Structural Clarifications:
  - a. No vertical bar and grout required at interior CMU walls in Area A.
  - b. Bond beams required at top of interior CMU walls in Area A.
  - c. For the new Window A's in Area A, the existing brick/CMU jamb will need to be reworked (toothed).
  - d. No vertical bar required at interior CMU non-structural walls (walls on thickened slabs).

Specifications:

1. Add Section 281000 Access Control
2. Section 271513 Network and Communication Cabling
  - a. Part 2.4 - Provide blue color network jacks.
  - b. Part 2.5 - Provide Leviton #69586-U24 24 port Cat-6 patch panels and Leviton #69586-U48 48 port Cat-6 patch panels as required for termination in racks located in IDF and MDF in lieu of Leviton #6910G-U24 previously specified. USE no greater than a 48 port patch panels.
3. Section 275100 Integrated Electronic Communications and Clock Network
  - a. Paging system shall have talkback callability in all classrooms.
  - b. Classroom need to be on its own zone so that it can be paged individual from the phone system.

Drawings:

Sheet S2.0 (Framing Plan Area "A")

1. Correction/clarification to addendum 4 that the existing windows shown on S2.0 to receive new lintels is incorrect as there are existing lintels in place, re: 3/A9.1 as this detail is correct and shows the existing lintels that are in place currently.

Sheet M6.0 Mechanical Details:

1. Omit detail "AHU-1 & 2 Piping Detail". All AHUs shall have 2-way valve as shown on "AHU-3 Piping Detail".

Sheet ES1.0 Electrical Site Plan:

1. Provide 6" conduit for utility primary to location shown on drawing, conduit path noted by Keynote #11.

Attachments: Section 281000 Access Control

END OF ADDENDUM

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## Bid Division Clarifications

### **Clarification by Bid Division:**

1. 260000 –Electrical: Delete Project Inclusions note #14. Card readers will be furnished and installed by bid division 270000 Cabling.
2. 260000 –Electrical: Per Addendum #3 Architect's addendum information, Drawings, item 4. Sheet E3.0 Power & Communication Plan – Area A (New Work), item a. Provide two (2) 2x2 ceiling tile drop-in style 70 Volt mono speakers per classroom with a 70 Volt amplifier located at teacher center location. Provide speaker wiring as required between amplifier and each speaker location. This bid division is responsible to furnish and install this work for a fully operational system.
3. 270000 – Cabling: This bid division will be responsible to furnish and install the card readers for this project.

**SECTION 28 10 00  
ACCESS CONTROL**

**PART 1 GENERAL**

1.1 SECTION INCLUDES

- A. Web based access control system, existing at District. (NetAXS-123 Access System)
- B. Access control readers.
- C. Access control credentials.
- D. Access control cables.

1.2 RELATED SECTIONS

- A. Section 26 05 00 - Common Work Results for Electrical.

1.3 REFERENCES

- A. Electronic Industries Alliance (EIA):
  - 1. RS232C - Interface between Data Terminal Equipment and Data Communications Equipment Employing Serial Binary Data Interchange.
  - 2. RS485 - Electrical Characteristics of Generators and Receivers for use in Balanced Digital Multi-Point Systems.
- B. Federal Communications Commission (FCC):
  - 1. FCC Part 15 - Radio Frequency Device.
  - 2. FCC Part 68 - Connection of Terminal Equipment to the Telephone Network.
- C. Federal Information Processing Standards (FIPS):
  - 1. Advanced Encryption Standard (AES) (FIPS 197).
  - 2. FIPS 201: Personal Identity Verification (PIV) of Federal Employees and Contractors.
- D. National Fire Protection Association (NFPA):
  - 1. NFPA70 - National Electrical Code.
- E. Homeland Security Presidential Directive 12 (HSPD-12).
- F. Underwriters Laboratories (UL):
  - 1. UL294 - Access Control System Units.
  - 2. UL1076 - Proprietary Burglar Alarm Units and Systems.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation methods.

- C. **Manufacturer's Product Data:** Submit manufacturer's data sheets indicating systems and components proposed for use.
- D. **Shop Drawings:** Submit complete shop drawings indicating system components, wiring diagrams and load calculations.
- E. **Record Drawings:** During construction maintain record drawings indicating location of equipment and wiring. Submit an electronic version of record drawings for the Security Management System not later than Substantial Completion of the project.
- F. **Operation and Maintenance Data:** Submit manufacturer's operation and maintenance data, customized to the Security Management System installed. Include system and operator manuals.
- G. **Maintenance Service Agreement:** Submit a sample copy of the manufacturer's maintenance service agreement, including cost and services for a two year period for Owner's review.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's labeled packages. Store and handle in accordance with the manufacturer's requirements.

#### 1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

#### 1.7 WARRANTY

- A. **Manufacturer's Warranty:** Submit manufacturer's standard warranty for the security management system.

### **PART 2 PRODUCTS**

#### 2.1 MANUFACTURERS

- A. **Acceptable Manufacturer:** Honeywell Commercial Security, which is located at: 715 Peachtree St. N.E.; Atlanta, GA 30308; Toll Free Tel: 800-323-4576; Email: [hissales@honeywell.com](mailto:hissales@honeywell.com); Web: <http://www.security.honeywell.com>
- B. **Substitutions:** Not permitted.

#### 2.2 WEB BASED ACCESS CONTROL SYSTEM (EXISTING AT DISTRIC)

- A. **System:** NetAXS-123 Access System as manufactured by the Honeywell Commercial Security.
  1. NX1P: One-door compact (plastic) enclosure with tamper switch.
  2. NX1MPS: One-door standard (metal) enclosure with tamper switch, power supply, and battery.
  3. NXD1: One-door add-on board (to NX1P or NX1MPS) for two-door capacity.
  4. NXD2: Two-door add-on board (to NX1P or NX1MPS) for three-door capacity.
- B. The Access Control System shall function as a Web-based open-architecture facility management system that tracks individuals, defines and controls access levels, monitors alarms, and generates reports. The system shall include the capability to configure alarms and incorporate scheduled events that may be activated by either

time or a specific programmed event. Access shall be controlled through a password-protected user interface. Operators can communicate with the system either through a host software system or by connecting to the Web server through an Ethernet connection.

- C. The NetAXS-123 Door Access System shall include, as a minimum, the following performance:
1. The NetAXS-123 Door Access System shall be protected by the most extensive support services in the industry, including Customer Service, Pre-Sales Applications Assistance, After-Sales Technical Assistance, access to Technical Online Support, and Online Training using web conferencing.
  2. The NetAXS-123 Door Access System and its components shall be thoroughly tested before shipping from the manufacturer's facility.
  3. The door access system shall support easy remote management anywhere with an Internet connection.
  4. The door access system shall allow you to purchase the exact amount of access control doors immediately required, and to easily add more access controlled doors in the future.
  5. The door access system shall be capable of being web based and controlled using a web browser, and seamless integration with Honeywell's MAXPRO Cloud and/or WIN-PAK XE, WIN-PAK SE, Win-PAK PE, and WIN-PAK CS access control software.
  6. The door access system web user interface shall support Google Chrome™.
  7. The door access system shall support SSL and SHA-1 secure socket layer encryption.
  8. The door access system shall allow each TCP/IP network connected door controller to support connection of up to 31 downstream door controllers by way of a standard RS485 data bus, for control of up to 123 downstream doors in a single web interface.
  9. The door access system shall support up to 10,000 user cards and up to 128 unique card formats up to 75 bits, and eight site codes.
  10. The door access system shall support up to 127 time zones, 128 access levels, and 255 holidays.
  11. The door access system shall maintain up to 25,000 status event log.
  12. The door access system shall provide a number of door control modes including Card only, card and PIN, PIN only, lockdown, disabled, supervisor, escort, limited use card, expire on date, first card rule, snow day rule, time zone toggle, local and global anti-passback, duress and others.
  13. The door access system shall support interlocks for custom actions.
  14. The door access system shall include integrated basic reports, import/export of the card database, and Alarms and event exporting to offline storage in a CSV database.
  15. The door access system shall be designed to be user friendly and shall be easily to train the system user.
  16. The door access system shall feature dynamic screen updating over a web connection, continually collecting and displaying door and system status for immediate display.
  17. The door access system browser shall feature full control of the system to monitor and view live events and to manually control doors and readers.
  18. Door access system status shall include the door state, alarms, events, inputs, outputs, power and other operational status.
  19. The door access system shall feature a Supervisor First capability that allows a supervisor to present his ID card once to the reader and to give individual access. If a supervisor presents a card twice, this shall enable access for their team, allowing members of the team to gain access during a specified time zone.

20. The door access system shall feature an Escort mode for a Non-supervisor cardholder. The system allows the supervisor to first present his card, and then an escorted person to present his card to maintain accompanied access while in the escort mode.
  21. The door access system shall offer options to be powered by PoE (Power over Ethernet), or to be powered by way of an external power supply.
  22. The door access system enclosure shall offer connection to one, two or three doors by simply exchanging optional cards to accommodate the door control requirement.
  23. The door access system processors shall features a System MTBF (Mean Time between Failure) of 250,000 hours.
  24. The door access system shall provide a multi-lingual user interface, including English, Italian, French, Dutch, Spanish, German, Czech, Simplified Chinese and Arabic.
- D. The NX1P Door access Controller shall have the following mechanical specifications:
1. Unit Dimensions: 7.75 inches H x 7.75 inches W x 2.75 inches D (20 mm H x 20 mm W x 7 mm D).
  2. Ethernet Connector: RJ45.
  3. Enclosure Type: High Impact Plastic.
  4. Wiring Access Holes: 7.
- E. The NX1MPS Door Access Controller shall have the following mechanical specifications:
1. Unit Dimensions: 13.9 inches H x 11.9 inches W x 4.7 inches D (35 mm H x 31 mm W x 12 mm D).
  2. Enclosure Type: Metal.
  3. Wiring Access Holes: 19.
- F. The NX1P access door controller shall have the following electrical specifications:
1. Voltage: 450 mA at 12VDC.
  2. Power over Ethernet 802.3af.
  3. Power Consumption: <6 Watts.
- G. The NX1MPS access door controller shall have the following electrical specifications:
1. Voltage: 93VAC to 264 VAC, 50/60 Hz, 12VDC at 3.5A.
  2. Power Consumption: <45 Watts.
- H. The NetAXS-123 Door Access System shall be designed to meet the following environmental conditions:
1. Operating Temperature: 32 to 122 degrees F (0 degrees to 50 degrees C).
  2. Storage Temperature: -67 degrees to 185 degrees F (-55 degrees to 85 degrees C).
  3. Emissions: FCC: Part 15, Class B.
  4. CE: EN55013.

### 2.3 ACCESS CONTROL READERS (Data security with Omni Class cards.)

- A. Contactless Smart Card Readers:
1. Contactless Smart Card readers shall be "single-package" type, combining electronics and antenna in one package in the following configurations:
  2. Provide surface mounting style 13.56 MHz or 13.56 MHz and 125 kHz prox contactless smart card readers suitable for minimal space mounting configurations as shown on the project plans.
  3. Contactless smart card readers shall comply with ISO 15693, ISO 14443A



- (CSN), and ISO 14443B and shall read credentials that comply with these standards.
4. Contactless smart card readers shall output credential data in compliance with the SIA AC-01 Wiegand standard as follows:
    - a. Reads standard proximity format data from OmniClass cards and outputs data as encoded.
    - b. Reads card serial number (CSN) of a MIFARE or DESFIRE card with configurable outputs as 26-bit, 32-bit, 34-bit, 40-bit, or 56-bit.
  5. Data security with OmniClass cards shall use up to 128-bit authentication keys to reduce the risk of compromised data or duplicate cards. The contactless smart card reader and OmniClass cards shall require matching keys in order to function together. All RF data transmission between the card and the reader shall be encrypted, using a secure algorithm. Card readers shall be provided with keys that are compatible with the OmniClass cards.
  6. The reader shall be of potted, polycarbonate material, sealed to a NEMA rating of 4X (IP65).
  7. The contactless smart card reader shall provide the ability to change operational features in the field through the use of a factory-programmed command card. Additionally, firmware may be updated by flashing the reader. Command card operational programming options shall include:
    - a. Output configurations.
    - b. LED and Audio configurations.
    - c. Keypad configurations.
  8. Contactless smart card readers shall provide the following programmable audio/visual indication:
    - a. An audio transducer shall provide various tone sequences to signify: access granted, access denied, power up, and diagnostics.
    - b. A high-intensity light bar shall provide clear visual status (red/green/amber) that is visible even in bright sunlight.
  9. Contactless smart card readers shall meet the following certifications:
    - a. UL 294.
    - b. Canada/UL 294.
    - c. FCC Certification.
    - d. Canada Radio Certification.
    - e. EU and CB Scheme Electrical Safety.
    - f. EU - R and TTE Directive.
    - g. CE Mark (Europe).
    - h. IP55 Rated.
    - i. C-Tick (New Zealand/Australia/Taiwan).
  10. Contactless smart card readers shall meet the following environmental specifications:
    - a. Operating temperature: -30 to 150 degrees F (-35 to 65 degrees C).
    - b. Operating humidity: 5 to 95 percent relative humidity non-condensing.
    - c. Weatherized design suitable to withstand harsh environments.
  11. Contactless smart card reader cabling requirements shall be:
    - a. Manufacturer: Honeywell Cable
    - b. Cable distance: (Wiegand): 500 feet (150m).
    - c. Cable type: 6-conductor No. 22 AWG minimum with overall foil shield and drain wire
    - d. Standard reader termination: 18 inches (.5m) cable pigtail.
  12. Warranty of contactless smart card readers shall be lifetime against defects in materials and workmanship.
- B. Product: OM31 Mini-Mullion 13.56 MHz Contactless Smart and 125 kHz Prox Card Readers as manufactured by the Honeywell Commercial Security:
1. Typical contactless smart card read range shall be:

- a. 2 to 3 inches (5.0 to 7.6 cm) using OmniClass card.
  - b. 1 inches (2.5 cm) using OmniClass Key Fob.
  - c. 1 inches (2.5 cm) using OmniClass Sticker (Tag).
  - d. 1 to 1.5 inches (2.5 to 3.8 cm) using OmniClass + HID 125KHz Prox card.
  - e. 1 to 2 inches (2.5 to 5.0 cm) using MIFARE Card (card serial number only).
  - f. 1 to 3.5 inches (2.5 to 8.9 cm) using 125 kHz Prox Card
2. Contactless smart card readers shall meet the following electrical specifications:
    - a. Operating voltage: 5 to 16 VDC, reverse voltage protected. Linear power supply recommended.
    - b. Current requirements: (average/peak) 75/100 mA at 12 VDC.
  3. Contactless smart card readers shall meet the following physical specifications:
    - a. Dimensions: 1.90 inches x 4.04 inches x .80 inches (4.83cm x 10.26 cm x 2.03 cm).
    - b. Weight: 3.2.oz (90.7 g).
    - c. Material: UL94 Polycarbonate.
    - d. Two-part design with separate mounting plate and reader body.
    - e. Color: Black.

## 2.4 ACCESS CONTROL CABLES

- A. Access Control System components shall be connected using the following Honeywell Genesis Series Cables:
  1. Shielded 6-Conductor Reader Cables: foil shielded with drain wire, stranded copper conductors:
    - a. 22AWG:
      - 1) General Purpose Rated: CM, CL2, Sunlight Resistant Listed: Part Number: 1206.
      - 2) Riser Rated: CMR, CL2R, FT4, Sunlight Resistant Listed: Part Number: 2206.
      - 3) Plenum Rated: CMP, CL2P, FT6 Listed: Part Number: 3206.
    - b. 18AWG:
      - 1) General Purpose Rated: CM, CL2, Sunlight Resistant Listed: Part Number: 1216.
      - 2) Riser Rated: CMR, CL2R, FT4, Sunlight Resistant Listed: Part Number: 2216.
      - 3) Plenum Rated: CMP, CL2P, FT6 Listed: Part Number: 3216.
  2. Unshielded 18AWG 2-Conductor Power/Door Cables: Stranded copper conductors:
    - a. General Purpose Rated: CM, CL2, Sunlight Resistant Listed: Part Number: 1118.
      - 1) Riser Rated: CMR, CL2R, FT4, Sunlight Resistant Listed: Part Number: 2114.
      - 2) Plenum Rated: CMP, CL2P, FT6 Listed: Part Number: 3114.
  3. Shielded 22AWG 2-Conductor Alarm Cables: foil shielded with drain wire, stranded copper conductors:
    - a. General Purpose Rated: CM, CL2, Sunlight Resistant Listed: Part Number: 1202.
      - 1) Riser Rated: CMR, CL2R, FT4, Sunlight Resistant Listed: Part Number: 2202.
      - 2) Plenum Rated: CMP, CL2P, FT6 Listed: Part Number: 3202.
  4. Bundled Access Control Cables: 4 components, Profusion unjacketed bundle.
    - a. Part Number: 2195, Riser Rated, CMR, CL2R, FT4, Sunlight Resistant

- Listed.
  - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
  - 2) Component 2: 18 AWG, 4 stranded conductors.
  - 3) Component 3: 22 AWG, 2 stranded conductors.
  - 4) Component 4: 22 AWG, 4 stranded conductors.
- b. Part Number: 2295, Riser Rated, CMR, CL2R, FT4, Sunlight Resistant Listed.
  - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
  - 2) Component 2: 18 AWG, 4 stranded conductors, shielded.
  - 3) Component 3: 22 AWG, 2 stranded conductors, shielded.
  - 4) Component 4: 22 AWG, 4 stranded conductors, shielded.
- c. Part Number: 3195, Plenum Rated, CMP, CL2P, FT6 Listed.
  - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
  - 2) Component 2: 18 AWG, 4 stranded conductors.
  - 3) Component 3: 22 AWG, 2 stranded conductors.
  - 4) Component 4: 22 AWG, 4 stranded conductors.
- d. Part Number: 3295, Plenum Rated, CMP, CL2P, FT6 Listed.
  - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
  - 2) Component 2: 18 AWG, 4 stranded conductors, shielded.
  - 3) Component 3: 22 AWG, 2 stranded conductors, shielded.
  - 4) Component 4: 22 AWG, 4 stranded conductors, shielded.
- 5. Bundled Access Control Cables: 4 components, Overall jacketed bundle.
  - a. Part Number: 2196, Riser Rated, CMR, CL2R, FT4, Sunlight Resistant Listed.
    - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
    - 2) Component 2: 18 AWG, 4 stranded conductors.
    - 3) Component 3: 22 AWG, 2 stranded conductors.
    - 4) Component 4: 22 AWG, 4 stranded conductors.
  - b. Part Number: 2296, Riser Rated, CMR, CL2R, FT4, Sunlight Resistant Listed.
    - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
    - 2) Component 2: 18 AWG, 4 stranded conductors, shielded.
    - 3) Component 3: 22 AWG, 2 stranded conductors, shielded.
    - 4) Component 4: 22 AWG, 4 stranded conductors, shielded.
  - c. Part Number: 3196, Plenum Rated, CMP, CL2P, FT6 Listed.
    - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
    - 2) Component 2: 18 AWG, 4 stranded conductors.
    - 3) Component 3: 22 AWG, 2 stranded conductors.
    - 4) Component 4: 22 AWG, 4 stranded conductors.
  - d. Part Number: 3296, Plenum Rated, CMP, CL2P, FT6 Listed.
    - 1) Component 1: 22 AWG, 6 stranded conductors, shielded.
    - 2) Component 2: 18 AWG, 4 stranded conductors, shielded.
    - 3) Component 3: 22 AWG, 2 stranded conductors, shielded.
    - 4) Component 4: 22 AWG, 4 stranded conductors, shielded.

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Examine site conditions to determine site conditions are acceptable without qualifications. Notify Owner in writing if deficiencies are found. Starting work is evidence that site conditions are acceptable.

#### **3.2 PREPARATION**

- A. Clean surfaces thoroughly prior to installation.

- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. System, including but not limited to access control, alarm monitoring and reporting, time management, and user identification cards shall be installed in accordance with the manufacturer's installation instructions.
- B. Supervise installation to appraise ongoing progress of other trades and contracts, make allowances for all ongoing work, and coordinate the requirements of the installation of the System.

### 3.4 FIELD TESTING AND CERTIFICATION

- A. Testing: The control, alarm monitoring and reporting, time management, and user identification cards shall be tested in accordance with the following:
  1. Conduct a complete inspection and test of all installed access control and security monitoring equipment. This includes testing and verifying connection to equipment of other divisions such as life safety and elevators.
  2. Provide staff to test all devices and all operational features of the System for witness by the Owner's representative and authorities having jurisdiction as applicable.
  3. Correct deficiencies until satisfactory results are obtained.
  4. Submit written copies of test results.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION