

DATE: January 10, 2022

HURST-ROSCHE, INC.  
1400 E. Tremont Street  
Hillsboro, Illinois 62049  
217-532-3959

TO: PROSPECTIVE BIDDERS

SUBJECT: ADDENDUM NO. 1 TO THE BIDDING DOCUMENTS FOR

**HVAC IMPROVEMENTS  
BROWNSTOWN HIGH SCHOOL  
BROWNSTOWN C.U.S.D. NO. 201  
BROWNSTOWN, FAYETTE COUNTY, ILLINOIS  
HR # 150-3321**

This addendum forms a part of the bidding and contract documents and modifies the original bidding documents dated December 20, 2021. Acknowledge receipt of this addendum in the space provided on the Bid Form. **FAILURE TO DO SO MAY SUBJECT BIDDER TO DISQUALIFICATION.**

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**Upon receipt of this addendum, please sign below and email to Hurst-Rosche, Inc. at [tdownen@hurst-rosche.com](mailto:tdownen@hurst-rosche.com) within 24 hours of receipt.**

<p><b>RECEIVED BY:</b> _____  <b>Company Name/Authorized Representative</b></p> <p><b>DATE:</b> _____</p>
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**SPECIFICATIONS**

- A. Section 00 11 16 Invitation to Bid
  - 1. **DELETE** “approximately June 1, 2022” from the explanation for the first day available for construction and **REPLACE** it with, “approximately March 1, 2022.” Work may commence immediately upon delivery of HVAC units.
  - 2. **DELETE** “July 29, 2022” as the substantial completion date and **REPLACE** it with, “June 10, 2022”.

This addendum consists of 3 pages and 2 attachments consisting of 11 additional pages.

- B. Section 00 21 14 Instructions to Bidders – AIA
  - 1. **DELETE** “approximately June 1, 2022” from Paragraph 1.4.CC and **REPLACE** it with, “approximately March 1, 2022.”
  - 2. **DELETE** “July 29, 2022” from Paragraph 1.4.DD and **REPLACE** it with, “June 10, 2022.”
  - 3. **ADD** the following to Paragraph 1.4.DD, “There is a 3 day period near the end of May when final exams take place. These dates will vary based on the amount of emergency days. No contractors will be allowed on site during this testing period.”
  
- C. Section 00 52 00 Agreement Form – AIA
  - 1. **DELETE** “July 29, 2022” from Paragraph 1.2.D and **REPLACE** it with, “June 10, 2022.”
  
- D. Section 01 10 00 Summary
  - 1. **DELETE** “approximately June 1, 2022” from Paragraph 1.2.B and **REPLACE** it with, “approximately March 1, 2022.”
  
- E. Section 26 05 19 Low-Voltage Electrical Power Conductors and Cables
  - 1. **DELETE** Paragraph 3.5 in its entirety.
  
- F. Section 26 27 26 Wiring Devices
  - 1. **ADD** Attachment #1 to the Project Manual.
  
- G. Section 26 28 16 Enclosed Switches and Circuit Breakers
  - 1. **ADD** Attachment #2 to the Project Manual.

## **DRAWINGS**

- A. M-101 MECHANICAL PLAN
  - 1. **ADD** the following as General Note #19, “OWNER WILL BE RESPONSIBLE FOR REMOVING ALL ITEMS FROM THE ROOMS BEFORE WORK COMMENCES.”
  - 2. **ADD** the following as General Note #20, “CONTRACTOR SHALL PROVIDE AND INSTALL THERMOSTAT IN WEIGHT ROOM 001 ON NORTH WALL NEAR RETURN DUCTWORK. CONTRACTOR SHALL PROVIDE AND INSTALL THERMOSTAT IN STORAGE 002 ON SOUTH WALL NEAR RETURN DUCTWORK. THERMOSTATS SHALL BE MOUNTED IN LOCKABLE CLEAR POLYCARBONATE VENTED ENCLOSURES. ALL WIRING SHALL BE IN SURFACE MOUNTED CONDUIT OR WIRE MOLD.”
  - 3. **ADD** the following as General Note #21, “CONTRACTOR SHALL PROVIDE AND INSTALL AUTOMATIC CONTROL DAMPERS FOR THE CONTROL OF OUTSIDE AIR.”
  - 4. **ADD** the following as General Note #22, “GAS LINE CONNECTION IS NOT REQUIRED. THESE UNITS ARE BEING USED AS AIR HANDLING UNITS ONLY, WITH THE POTENTIAL TO ADD GAS LINES AND BE USED AS FURNACES IN THE FUTURE.”
  - 5. **ADD** the following as General Note #23, “EACH SUPPLY DIFFUSER IS 330 CFM.”

This addendum consists of 3 pages and 2 attachments consisting of 11 additional pages.

B. E-101 ELECTRICAL PLAN

1. **DELETE** the Equipment Connection Schedule (ECS) row pertaining to F-1 and **REPLACE** it with the following:

<u>LABEL</u>	<u>DESCRIPTION</u>	<u>LOCATION</u>	<u>HP/KW</u>	<u>FLA</u>	<u>MCA</u>	<u>VOLT/PHASE</u>	<u>RATING</u>
F-1	GAS FURNACE #1	INTERIOR	.5 KW	3.3	4.2	120/1	20A/1P

<u>TYPE</u>	<u>NEMA ENCL.</u>	<u>CIRCUIT BREAKER</u>	<u>WIRING</u>
MOTOR RATED SWITCH	1	20A/1P	2#12, 1#12GND, 3/4" C

This addendum **DOES NOT** alter the previously published bid date of **Thursday, January 13, 2022, 2:00 PM**, prevailing time, at **Brownstown C.U.S.D. No. 201**.

Sincerely,

HURST-ROSCHE, INC.



Timothy L. Downen, AIA, LEED AP

cc: All plan holders

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## SECTION 26 27 26

### WIRING DEVICES

#### PART 1 - GENERAL

##### 1.1 SUMMARY

###### A. Section Includes:

1. General-use switches

##### 1.2 ACTION SUBMITTALS

###### A. Product Data:

1. Toggle switches.

##### 1.3 WARRANTY FOR DEVICES

###### A. Special Manufacturer Extended Warranty: Manufacturer warrants that devices perform in accordance with specified requirements and agrees to provide repair or replacement of devices that fail to perform as specified within extended warranty period.

1. Initial Extended Warranty Period: Five years from date of Substantial Completion; full coverage for labor, materials, and equipment.
2. Follow-On Extended Warranty Period: Eight years from date of Substantial Completion; full coverage for materials only, free on board origin, freight prepaid.

#### PART 2 - PRODUCTS

###### A. GENERAL-USE SWITCH TEST Toggle Switch:

###### 1. Manufacturers:

- a. Arrow Hart, Wiring Devices; Eaton; Electrical Section
- b. Hubbell Wiring Device-Kellems; brand of Hubbell Electrical Solutions; Hubbell Incorporated
- c. Leviton Manufacturing Co., Inc.
- d. Pass & Seymour; Legrand North America, LLC

###### 2. Regulatory Requirements:

- a. Listed and labeled in accordance with NFPA 70, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
- b. Motor rated.

3. General Characteristics:
  - a. Reference Standards: UL CCN WMUZ and UL 20.
4. Options:
  - a. Device Color: To match existing.
  - b. Configuration:
    - 1) General-duty, 120-277 V, 20 A, single pole.
5. Accessories:
  - a. Cover Plate: 0.060 inch thick, high-impact thermoplastic (nylon) with smooth finish and color matching wiring device; from same manufacturer as wiring device.
  - b. Securing Screws for Cover Plate: Metal with head color matching wallplate finish.

## PART 3 - EXECUTION

### 3.1 INSTALLATION OF SWITCHES

- A. Comply with manufacturer's instructions.
- B. Reference Standards:
  1. Unless more stringent requirements are specified in Contract Documents or manufacturers' instructions, comply with installation instructions in NECA NEIS 130.
  2. Mounting Heights: Unless otherwise indicated in Contract Documents, comply with mounting heights recommended in NECA NEIS 1.
  3. Consult Architect for resolution of conflicting requirements.
- C. Identification:
  1. Identify cover or cover plate for device with panelboard identification and circuit number in accordance with Section 26 05 53 "Identification for Electrical Systems."
- D. Interfaces with Other Work:
  1. Coordinate installation of new products for with existing conditions.

### 3.2 FIELD QUALITY CONTROL OF SWITCHES

- A. Tests and Inspections:
  1. Perform tests and inspections in accordance with manufacturers' instructions.
- B. Nonconforming Work:
  1. Unit will be considered defective if it does not pass tests and inspections.
  2. Remove and replace defective units and retest.

- C. Assemble and submit test and inspection reports.

### 3.3 SYSTEM STARTUP FOR SWITCHES

- A. Perform startup service.
  - 1. Complete installation and startup checks for momentary switches in accordance with manufacturer's instructions.

### 3.4 PROTECTION

- A. Devices:
  - 1. Schedule and sequence installation to minimize risk of contamination of wires and cables, devices, device boxes, outlet boxes, covers, and cover plates by plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other materials.
  - 2. After installation, protect wires and cables, devices, device boxes, outlet boxes, covers, and cover plates from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

END OF SECTION





## SECTION 262816

### ENCLOSED SWITCHES AND CIRCUIT BREAKERS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

##### 1.2 SUMMARY

- A. Section Includes:
  - 1. Nonfusible switches.
  - 2. Molded-case circuit breakers (MCCBs).
  - 3. Enclosures.

##### 1.3 DEFINITIONS

- A. NC: Normally closed.
- B. NO: Normally open.
- C. SPDT: Single pole, double throw.

##### 1.4 ACTION SUBMITTALS

- A. Product Data: For each type of enclosed switch, circuit breaker, accessory, and component indicated. Include nameplate ratings, dimensioned elevations, sections, weights, and manufacturers' technical data on features, performance, electrical characteristics, ratings, accessories, and finishes.
  - 1. Enclosure types and details for types other than NEMA 250, Type 1.
  - 2. Current and voltage ratings.
  - 3. Short-circuit current ratings (interrupting and withstand, as appropriate).
  - 4. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices, accessories, and auxiliary components.
- B. Shop Drawings: For enclosed switches and circuit breakers.
  - 1. Include plans, elevations, sections, details, and attachments to other work.
  - 2. Include wiring diagrams for power, signal, and control wiring.

## 1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Seismic Qualification Data: Certificates, for enclosed switches and circuit breakers, accessories, and components, from manufacturer.
  - 1. Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation.
  - 2. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions.
  - 3. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements.
- C. Field quality-control reports.

## 1.6 FIELD CONDITIONS

- A. Environmental Limitations: Rate equipment for continuous operation under the following conditions unless otherwise indicated:
  - 1. Ambient Temperature: Not less than minus 22 deg F and not exceeding 104 deg F.
  - 2. Altitude: Not exceeding 6600 feet.

## 1.7 WARRANTY

- A. Manufacturer's Warranty: Manufacturer and Installer agree to repair or replace components that fail in materials or workmanship within specified warranty period.
  - 1. Warranty Period: One year(s) from date of Substantial Completion.

## PART 2 - PRODUCTS

### 2.1 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.
  - 1. The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified and the unit will be fully operational after the seismic event."

### 2.2 GENERAL REQUIREMENTS

- A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.

- B. Product Selection for Restricted Space: Drawings indicate maximum dimensions for enclosed switches and circuit breakers, including clearances between enclosures, and adjacent surfaces and other items. Comply with indicated maximum dimensions.
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.
- D. Comply with NFPA 70.

### 2.3 NONFUSIBLE SWITCHES

- A. Acceptable Manufacturers:
  - 1. ABB Electrifications Business
  - 2. Eaton
  - 3. Siemens Industry, Inc., Energy Management Division
  - 4. Square D; Schneider Electric USA
- B. Type HD, Heavy Duty, Three Pole, Single Throw, 240-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.
- C. Accessories:
  - 1. Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors.
  - 2. Neutral Kit: Internally mounted; insulated, capable of being grounded and bonded; labeled for copper and aluminum neutral conductors.
  - 3. Lugs: Mechanical type, suitable for number, size, and conductor material.
  - 4. Service-Rated Switches: Labeled for use as service equipment.

### 2.4 MOLDED-CASE CIRCUIT BREAKERS

- A. Acceptable Manufacturers:
  - 1. ABB Electrifications Business
  - 2. Eaton
  - 3. Siemens Industry, Inc., Energy Management Division
  - 4. Square D; Schneider Electric USA
- B. Circuit breakers shall be constructed using glass-reinforced insulating material. Current carrying components shall be completely isolated from the handle and the accessory mounting area.
- C. Circuit breakers shall have a toggle operating mechanism with common tripping of all poles, which provides quick-make, quick-break contact action. The circuit-breaker handle shall be over center, be trip free, and reside in a tripped position between on and off to provide local trip indication. Circuit-breaker escutcheon shall be clearly marked on and off in addition to providing international I/O markings. Equip circuit breaker with a push-to-trip button, located on the face

of the circuit breaker to mechanically operate the circuit-breaker tripping mechanism for maintenance and testing purposes.

- D. The maximum ampere rating and UL, IEC, or other certification standards with applicable voltage systems and corresponding interrupting ratings shall be clearly marked on face of circuit breaker. Circuit breakers shall be 100 percent rated.
- E. MCCBs shall be equipped with a device for locking in the isolated position.
- F. Lugs shall be suitable for (75 deg C) rated wire.
- G. Standard: Comply with UL 489 with interrupting capacity to comply with available fault currents.
- H. Thermal-Magnetic Circuit Breakers: Inverse time-current thermal element for low-level overloads and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
- I. Current-Limiting Circuit Breakers: Frame sizes 400 A and smaller, and let-through ratings less than NEMA FU 1, RK-5.
- J. Features and Accessories:
  - 1. Standard frame sizes, trip ratings, and number of poles.
  - 2. Lugs: Mechanical type, suitable for number, size, trip ratings, and conductor material.

## 2.5 ENCLOSURES

- A. Enclosed Switches and Circuit Breakers: UL 489, NEMA KS 1, NEMA 250, and UL 50, to comply with environmental conditions at installed location.
- B. Enclosure Finish: The enclosure shall be gray baked enamel paint, electrodeposited on cleaned, phosphatized galvanized steel (NEMA 250 Types 3R).
- C. Operating Mechanism: The circuit-breaker operating handle shall be directly operable through the dead front trim of the enclosure (NEMA 250 Type 3R). The cover interlock mechanism shall have an externally operated override. The override shall not permanently disable the interlock mechanism, which shall return to the locked position once the override is released. The tool used to override the cover interlock mechanism shall not be required to enter the enclosure in order to override the interlock.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

1. Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory.

### 3.2 PREPARATION

- A. Interruption of Existing Electric Service: Do not interrupt electric service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary electric service according to requirements indicated:
  1. Notify Owner no fewer than seven days in advance of proposed interruption of electric service.
  2. Indicate method of providing temporary electric service.
  3. Do not proceed with interruption of electric service without Owner's written permission.
  4. Comply with NFPA 70E.

### 3.3 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS

- A. Enclosed Switches and Circuit Breakers: Provide enclosures at installed locations with the following environmental ratings.
  1. Outdoor Locations: NEMA 250, Type 3R.

### 3.4 INSTALLATION

- A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.
- B. Install individual wall-mounted switches and circuit breakers with tops at uniform height unless otherwise indicated.
- C. Temporary Lifting Provisions: Remove temporary lifting of eyes, channels, and brackets and temporary blocking of moving parts from enclosures and components.
- D. Comply with NFPA 70 and NECA 1.

### 3.5 IDENTIFICATION

- A. Comply with requirements in Section 26 05 53 "Identification for Electrical Systems."
  1. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs.
  2. Label each enclosure with engraved metal or laminated-plastic nameplate.

### 3.6 FIELD QUALITY CONTROL

- A. Perform tests and inspections.

B. Tests and Inspections for Switches:

1. Visual and Mechanical Inspection:

- a. Inspect physical and mechanical condition.
- b. Inspect anchorage, alignment, grounding, and clearances.
- c. Verify that the unit is clean.
- d. Verify blade alignment, blade penetration, travel stops, and mechanical operation.
- e. Verify that fuse sizes and types match the Specifications and Drawings.
- f. Verify that each fuse has adequate mechanical support and contact integrity.
- g. Inspect bolted electrical connections for high resistance using one of the two following methods:
  - 1) Use a low-resistance ohmmeter.
    - a) Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from those of similar bolted connections by more than 50 percent of the lowest value.
  - 2) Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data or NETA ATS Table 100.12.
    - a) Bolt-torque levels shall be in accordance with manufacturer's published data. In the absence of manufacturer's published data, use NETA ATS Table 100.12.
- h. Verify that operation and sequencing of interlocking systems is as described in the Specifications and shown on the Drawings.
- i. Verify correct phase barrier installation.
- j. Verify lubrication of moving current-carrying parts and moving and sliding surfaces.

2. Electrical Tests:

- a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
- b. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with switch closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
- c. Measure fuse resistance. Investigate fuse-resistance values that deviate from each other by more than 15 percent.
- d. Perform ground fault test according to NETA ATS 7.14 "Ground Fault Protection Systems, Low-Voltage."

3. Electrical Tests:

- a. Perform resistance measurements through bolted connections with a low-resistance ohmmeter. Compare bolted connection resistance values to values of similar connections. Investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
  - b. Perform insulation-resistance tests for one minute on each pole, phase-to-phase and phase-to-ground with circuit breaker closed, and across each open pole. Apply voltage in accordance with manufacturer's published data. In the absence of manufacturer's published data, use Table 100.1 from the NETA ATS. Investigate values of insulation resistance less than those published in Table 100.1 or as recommended in manufacturer's published data.
  - c. Perform a contact/pole resistance test. Drop values shall not exceed the high level of the manufacturer's published data. If manufacturer's published data are not available, investigate values that deviate from adjacent poles or similar switches by more than 50 percent of the lowest value.
  - d. Perform insulation resistance tests on all control wiring with respect to ground. Applied potential shall be 500-V dc for 300-V rated cable and 1000-V dc for 600-V rated cable. Test duration shall be one minute. For units with solid state components, follow manufacturer's recommendation. Insulation resistance values shall be no less than two megohms.
  - e. Determine the following by primary current injection:
    - 1) Long-time pickup and delay. Pickup values shall be as specified. Trip characteristics shall not exceed manufacturer's published time-current characteristic tolerance band, including adjustment factors.
    - 2) Short-time pickup and delay. Short-time pickup values shall be as specified.
    - 3) Instantaneous pickup. Instantaneous pickup values shall be as specified and within manufacturer's published tolerances.
  - f. Test functionality of the trip unit by means of primary current injection. Pickup values and trip characteristics shall be as specified and within manufacturer's published tolerances.
  - g. Perform minimum pickup voltage tests on shunt trip and close coils in accordance with manufacturer's published data. Minimum pickup voltage of the shunt trip and close coils shall be as indicated by manufacturer.
  - h. Verify correct operation of auxiliary features such as trip and pickup indicators; zone interlocking; electrical close and trip operation; trip-free, anti-pump function; and trip unit battery condition. Reset all trip logs and indicators. Investigate units that do not function as designed.
  - i. Verify operation of charging mechanism. Investigate units that do not function as designed.
4. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
  5. Perform the following infrared scan tests and inspections and prepare reports:
    - a. Initial Infrared Scanning: After Substantial Completion, but not more than 60 days after Final Acceptance, perform an infrared scan of each enclosed switch and circuit breaker. Remove front panels so joints and connections are accessible to portable scanner.
    - b. Follow-up Infrared Scanning: Perform an additional follow-up infrared scan of each enclosed switch and circuit breaker 11 months after date of Substantial Completion.

- c. Instruments and Equipment: Use an infrared scanning device designed to measure temperature or to detect significant deviations from normal values. Provide calibration record for device.
  - 6. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Enclosed switches and circuit breakers will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.
  - 1. Test procedures used.
  - 2. Include identification of each enclosed switch and circuit breaker tested and describe test results.
  - 3. List deficiencies detected, remedial action taken, and observations after remedial action.

### 3.7 ADJUSTING

- A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.

END OF SECTION