

**HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO
HARRISON HILLS CITY SCHOOL DISTRICT OUTDOOR CLASSROOM**

**ADDENDUM #2
November 16, 2022**

THRASHER PROJECT #030-10454

TO WHOM IT MAY CONCERN:

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents issued October 2022 and any subsequent addenda. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

A. GENERAL
N/A

B. SPECIFICATIONS

1. Index has been updated to include added Spec sections.
2. Bid Opening Requirements Checklist and Documents have been revised.
3. **REPLACE** Section 087100 Door Hardware with the revised specification as attached to this Addendum.
4. **ADD** Section 126313 Aluminum Bench Seating as attached to this Addendum.
5. **ADD** Section 012100 Allowance

C. DRAWINGS

Sheet E2.01, Plan Notes, **REVISE** Note D to read as follows;

1) 3" AND 1) 2" CONDUIT WITH PULL STRINGS TO TECHNOLOGY ROOM 1633.

Sheet E2.01, Plan Notes, **ADD** Note E to read as follows;

SEE OWNER PROVIDED AV DRAWINGS FOR ADDITIONAL REQUIREMENTS.
AT THE LOCATIONS INDICATED PROVIDE BOX, CONDUIT AND PULLWIRE.
(NOT IN CONTRACT: THE LINES FOR DATA / COMMUNICATION, AUDIO /
VISUAL SYSTEMS, SECURITY, ACCESS CONTROLS, AND FIBER OPTIC
CABLE FEED WILL BE PULLED BY OTHERS.)

D. QUESTIONS AND RESPONSES

1. QUESTION

The manufacturer specified on drawing A5.02 for the outdoor aluminum, plank seating and support system (Outdooraluminum.com) 800-225-4249, is not bidding. Do you have another recommendation? Please advise.

RESPONSE

Please see Specification attached to this Addendum.

2. QUESTION

The only drain in the storage room is the roof drain. Does the engineer want the condensate drain from the ductless split-system spilled into this drain or pumped outside?

RESPONSE

Pump $\frac{3}{4}$ " condensate drain line to discharge in grass area at rear of Storage Building.

3. QUESTION

Do you want a water hammer arrestor installed above the wall hydrant?

RESPONSE

Not required.

4. QUESTION

Are we to install a test tee with a threaded plug in the roof drain piping near the floor of the storage room?

RESPONSE

Yes. Refer to Note E on Sheet P0.00.

5. QUESTION

Are we to include the cost of the building permit in our bid and if so, did the county indicate a cost when plans were submitted?

RESPONSE

No. Thrasher is applying for and coordinating the issuance of the building permit, which will be done through the State. The contractor will be responsible for scheduling inspections, etc.

6. QUESTION

Regarding Addendum #1 - on page BOR - 1, it now states required forms including the "Certification Regarding Debarment, Suspension & Other Responsibility Matters (BOR-10)" and the "Certification of Nonsegregated Facilities (Over \$100,000) (BOR 11-13)." These forms are not included in the Spec Book or in Addendum #1. Can you provide these?

RESPONSE

See the revised Bid Opening Requirements document in this Addendum

7. QUESTION

Will you add an Allowance to the bid for tenting and heating during the winter months?

RESPONSE

No separate allowance will be provided for this. Per the 015000 Temporary Facilities and Controls spec this is the responsibility of the Contractor.

8. QUESTION

Are the storage building and outside canopy area sprinkled?

RESPONSE

No.

9. QUESTION

Is Southeast bidding directly to the school or will they be under the electrical contractor or the general contractor?

RESPONSE

Southeast Security will perform their work as a separate contract with the School District. Installation of the boxes, conduits and pullwires required for the installation of their equipment are part of this Contract. A representative from Southeast Security will attend the weekly construction coordination meetings during project construction.

10. QUESTION

Will the TV monitor be under the school or part of this work?

RESPONSE

The video display will be part of this Contract, but a specific system has not been determined. Thus, an Allowance spec has being added to this Addendum for the costs associated with this work.

E. CLARIFICATIONS

On behalf of the Owner, Southeast Security has prepared drawings for supplemental work they will perform under a separate contract. These drawings (AV-1 and AV-2) are attached to this Addendum.

Sheet MEP; Sprinkler and Fire Alarm Notes are not applicable to the Contract.

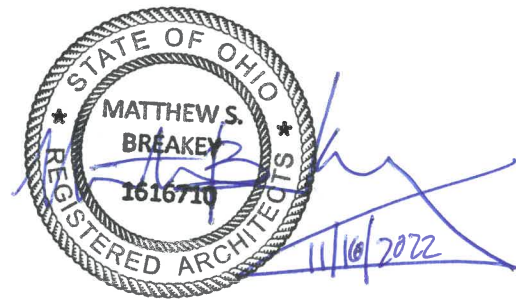
If you have any questions or comments, please feel free to contact me at your earliest convenience. As a reminder, bids will be received until 1:30 p.m. on Tuesday, November 22, 2022, at Harrison Hills City School District, 100 Huskies Way, Cadiz, OH. Good luck to everyone and thank you for your interest in the project.

Sincerely,

THE THRASHER GROUP, INC.



MARCUS CARNEGIE, PLA
Project Manager



**HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO
FOR THE
HARRISON HILLS CITY SCHOOL DISTRICT
– OUTDOOR CLASSROOM
THRASHER #030-10454**

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**HARRISON HILLS CITY SCHOOL DISTRICT OUTDOOR CLASSROOM
FOR THE
HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO**

THRASHER PROJECT # 030-10454

BID OPENING REQUIREMENTS CHECKLIST

A two-envelope system will be used. Envelope No. 1 will be opened first and the Bid Opening Requirement items checked for compliance, as outlined on this page. If such documents are found to be in order, sealed Envelope No. 2 “Bid Proposal”, which shall also be placed inside of Envelope #1, will then be opened and will be publicly read aloud. If the documents required to be contained in Envelope No. 1 are not in order, Envelope No. 2 “Bid Proposal” will not be opened and the Bid will be considered non-responsive and will be returned to the Bidder. At that time, the Owner will declare the Bidder non-responsive. The lowest responsive, responsible Bidder shall be the Bidder who has completed all of the requirements of the “Bid Opening Requirements” and has the lowest total bid.

Item	Completed Satisfactory (Check if completed)
1. Bid submitted on time.....	<input type="checkbox"/>
2. Bid Bond (BOR 2-3)	<input type="checkbox"/>
3. Certification of receipt of all addenda to Plans and Specifications. (BOR-4).....	<input type="checkbox"/>
5. Non-Collusion Affidavit (BOR-5).....	<input type="checkbox"/>
8. Proof of Drug-Free Workplace Program (BOR-6).....	<input type="checkbox"/>

HARRISON HILLS CITY SCHOOL DISTRICT OUTDOOR CLASSROOM

AFFIDAVIT OF NON-COLLUSION

THIS AFFIDAVIT IS TO BE FILLED OUT AND EXECUTED BY THE BIDDER:
IF THE BID IS MADE BY A CORPORATION, THEN BY ITS
PROPERLY AUTHORIZED AGENT

State of Ohio, County of _____:

(Name of Authorized Individual Making Bid)

residing at _____, being duly

sworn does depose and say that _____
(Give Name of Bidder or Bidders)

(Business Address)

_____, and,

(Give Names and Addresses of All Other Persons, Firms or Corporations Interested in the Bid.)

_____ is or are the only person or persons interested with sharing in the profits of the herein contained Bid; that the said Bid is made without any connection or interest in the profits thereof with any other persons making any bid or proposal for said work; that said bid is on our part, in all respects fair and without collusion or fraud; and also that no member of, head of any department or Bureau, or employee therein, or any Officer of Harrison Hills City School District is directly or indirectly interested therein.

(Signature of Authorized Individual Making Bid)

Subscribed and sworn to this _____ day of _____, 20____,

before _____
(Notary Public)

**PROPOSED
HARRISON HILLS CITY SCHOOL DISTRICT OUTDOOR CLASSROOM**

**FOR THE
HARRISON HILLS CITY SCHOOL DISTRICT
HARRISON COUNTY, OHIO**

NO STANDARD FORM INCLUDED

PLEASE PROVIDE YOUR PROOF OF DRUG-FREE WORKPLACE PROGRAM TO

FULFILL BOR-6 REQUIREMENT.

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Lump-sum allowances.

1.2 SELECTION AND PURCHASE

- A. Purchase products and systems selected by Architect from the designated supplier.

1.3 INFORMATIONAL SUBMITTALS

- A. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- B. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.4 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.5 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.

2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Include the sum of \$150,000.00 for digital video display system to be installed in the location shown on Drawings. The Owner and Architect will work with a video display company – to be determined – to select a system that best meets the facility needs and budget.
1. This allowance includes material cost, including receiving, handling, and installation and Contractor overhead and profit.

END OF SECTION 012100

SECTION 087100 – DOOR HARDWARE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes:
 - 1. Mechanical and electrified door hardware for:
 - a. Swinging doors.
 - 2. Field verification, preparation and modification of existing doors and frames to receive new door hardware.

1.3 REFERENCES

- A. UL - Underwriters Laboratories
 - 1. UL 10B - Fire Test of Door Assemblies
 - 2. UL 10C - Positive Pressure Test of Fire Door Assemblies
 - 3. UL 1784 - Air Leakage Tests of Door Assemblies
 - 4. UL 305 - Panic Hardware
- B. DHI - Door and Hardware Institute
 - 1. Sequence and Format for the Hardware Schedule
 - 2. Recommended Locations for Builders Hardware
 - 3. Key Systems and Nomenclature
- C. ANSI - American National Standards Institute
 - 1. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties

1.4 SUBMITTALS

- A. General:
 - 1. Submit in accordance with Conditions of Contract and Division 01 requirements.
 - 2. Highlight, encircle, or otherwise specifically identify on submittals deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

3. Prior to forwarding submittal, comply with procedures for verifying existing door and frame compatibility for new hardware, as specified in PART 3, "EXAMINATION" article, herein.

B. Action Submittals:

1. Product Data: Product data including manufacturers' technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
 - a. Wiring Diagrams: For power, signal, and control wiring and including:
 - 1) Details of interface of electrified door hardware and building safety and security systems.
 - 2) Schematic diagram of systems that interface with electrified door hardware.
 - 3) Point-to-point wiring.
 - 4) Risers.
3. Samples for Verification: If requested by Architect, submit production sample or sample installations of each type of exposed hardware unit in finish indicated, and tagged with full description for coordination with schedule.
 - a. Samples will be returned to supplier in like-new condition. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.
4. Door Hardware Schedule: Submit schedule with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule as published by the Door and Hardware Institute. Indicate complete designations of each item required for each door or opening, include:
 - a. Door Index; include door number, heading number, and Architects hardware set number.
 - b. Opening Lock Function Spreadsheet: List locking device and function for each opening.
 - c. Type, style, function, size, and finish of each hardware item.
 - d. Name and manufacturer of each item.
 - e. Fastenings and other pertinent information.
 - f. Location of each hardware set cross-referenced to indications on Drawings.
 - g. Explanation of all abbreviations, symbols, and codes contained in schedule.
 - h. Mounting locations for hardware.
 - i. Door and frame sizes and materials.
 - j. Name and phone number for local manufacturer's representative for each product.
 - k. Operational Description of openings with any electrified hardware (locks, exits, electromagnetic locks, electric strikes, automatic operators, door position switches, magnetic holders or closer/holder units, and access control components). Operational description should include how door will operate on egress, ingress, and fire and smoke alarm connection.
 - 1) Submittal Sequence: Submit door hardware schedule concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate

submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work that is critical in Project construction schedule.

5. Key Schedule:
 - a. After Keying Conference, provide keying schedule listing levels of keying as well as explanation of key system's function, key symbols used and door numbers controlled.
 - b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
 - c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
 - d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
 - e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion.
 - 1) Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
 - f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.
 6. Templates: After final approval of hardware schedule, provide templates for doors, frames and other work specified to be factory prepared for door hardware installation.
- C. Informational Submittals:
1. Qualification Data: For Supplier, Installer and Architectural Hardware Consultant.
 2. Product Certificates for electrified door hardware, signed by manufacturer:
 - a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
 3. Certificates of Compliance:
 - a. Certificates of compliance for fire-rated hardware and installation instructions if requested by Architect or Authority Having Jurisdiction.
 - b. Installer Training Meeting Certification: Letter of compliance, signed by Contractor, attesting to completion of installer training meeting specified in "QUALITY ASSURANCE" article, herein.
 - c. Electrified Hardware Coordination Conference Certification: Letter of compliance, signed by Contractor, attesting to completion of electrified hardware coordination conference, specified in "QUALITY ASSURANCE" article, herein.
 4. Product Test Reports: For compliance with accessibility requirements, based on evaluation of comprehensive tests performed by manufacturer and witnessed by qualified testing agency, for door hardware on doors located in accessible routes.
 5. Warranty: Special warranty specified in this Section.
- D. Closeout Submittals:

1. Operations and Maintenance Data: Provide in accordance with Division 01 and include:
 - a. Complete information on care, maintenance, and adjustment; data on repair and replacement parts, and information on preservation of finishes.
 - b. Catalog pages for each product.
 - c. Name, address, and phone number of local representative for each manufacturer.
 - d. Parts list for each product.
 - e. Final approved hardware schedule, edited to reflect conditions as-installed.
 - f. Final keying schedule
 - g. Copies of floor plans with keying nomenclature
 - h. As-installed wiring diagrams for each opening connected to power, both low voltage and 110 volts.
 - i. Copy of warranties including appropriate reference numbers for manufacturers to identify project.

1.5 QUALITY ASSURANCE

- A. Product Substitutions: Comply with product requirements stated in Division 01 and as specified herein.
 1. Where specific manufacturer's product is named and accompanied by "No Substitute," including make or model number or other designation, provide product specified. (Note: Certain products have been selected for their unique characteristics and particular project suitability.)
 - a. Where no additional products or manufacturers are listed in product category, requirements for "No Substitute" govern product selection.
 2. Where products indicate "acceptable manufacturers" or "acceptable manufacturers and products", provide product from specified manufacturers, subject to compliance with specified requirements and "Single Source Responsibility" requirements stated herein.
- B. Supplier Qualifications and Responsibilities: Recognized architectural hardware supplier with record of successful in-service performance for supplying door hardware similar in quantity, type, and quality to that indicated for this Project and that provides certified Architectural Hardware Consultant (AHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
 1. Warehousing Facilities: In Project's vicinity.
 2. Scheduling Responsibility: Preparation of door hardware and keying schedules.
 3. Engineering Responsibility: Preparation of data for electrified door hardware, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.
 4. Coordination Responsibility: Coordinate installation of electronic security hardware with Architect and electrical engineers and provide installation and technical data to Architect and other related subcontractors.
 - a. Upon completion of electronic security hardware installation, inspect and verify that all components are working properly.
- C. Installer Qualifications: Qualified tradesmen, skilled in application of commercial grade

- hardware with record of successful in-service performance for installing door hardware similar in quantity, type, and quality to that indicated for this Project.
- D. Architectural Hardware Consultant Qualifications: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
1. For door hardware, DHI-certified, Architectural Hardware Consultant (AHC).
 2. Can provide installation and technical data to Architect and other related subcontractors.
 3. Can inspect and verify components are in working order upon completion of installation.
 4. Capable of producing wiring diagrams.
 5. Capable of coordinating installation of electrified hardware with Architect and electrical engineers.
- E. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.
1. Provide electrified door hardware from same manufacturer as mechanical door hardware, unless otherwise indicated.
 2. Manufacturers that perform electrical modifications and that are listed by testing and inspecting agency acceptable to authorities having jurisdiction are acceptable.
- F. Electrified Door Hardware: Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.
- G. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release latch. Locks do not require use of key, tool, or special knowledge for operation.
- H. Accessibility Requirements: For door hardware on doors in an accessible route, comply with governing accessibility regulations cited in “REFERENCES” article, herein.
1. Provide operating devices that do not require tight grasping, pinching, or twisting of wrist and that operate with force of not more than 5 lbf (22.2 N).
 2. Maximum opening-force requirements:
 - a. Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.
 - b. Sliding or Folding Doors: 5 lbf (22.2 N) applied parallel to door at latch.
 - c. Fire Doors: Minimum opening force allowable by authorities having jurisdiction.
 3. Bevel raised thresholds with slope of not more than 1:2. Provide thresholds not more than 1/2 inch (13 mm) high.
 4. Adjust door closer sweep periods so that, from open position of 70 degrees, door will take at least 3 seconds to move to 3 inches (75 mm) from latch, measured to leading edge of door.
- I. Keying Conference: Conduct conference at Project site to comply with requirements in Division 01.
1. Attendees: Owner, Contractor, Architect, Installer and Supplier’s Architectural Hardware Consultant.
 2. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:

- a. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
- b. Preliminary key system schematic diagram.
- c. Requirements for key control system.
- d. Requirements for access control.
- e. Address for delivery of keys.

J. Coordination Conferences:

1. Installation Coordination Conference: Prior to hardware installation, schedule and hold meeting to review questions or concerns related to proper installation and adjustment of door hardware.
 - a. Attendees: Door hardware supplier, door hardware installer, Contractor.
 - b. After meeting, provide letter of compliance to Architect, indicating when meeting was held and who was in attendance.
2. Electrified Hardware Coordination Conference: Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.
 - a. Attendees: electrified door hardware supplier, doors and frames supplier, electrified door hardware installer, electrical subcontractor, Owner, Architect and Contractor.
 - b. After meeting, provide letter of compliance to Architect, indicating when coordination conference was held and who was in attendance.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site.
- B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package.
 1. Deliver each article of hardware in manufacturer's original packaging.
- C. Project Conditions:
 1. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.
 2. Provide secure lock-up for door hardware delivered to Project, but not yet installed. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.
- D. Protection and Damage:
 1. Promptly replace products damaged during shipping.
 2. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work.
 3. Protect products against malfunction due to paint, solvent, cleanser, or any chemical

agent.

- E. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.
- F. Deliver keys and permanent cores to Owner by registered mail or overnight package service.

1.7 COORDINATION

- A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete. Concrete, reinforcement, and formwork requirements are specified in Division 03.
- B. Installation Templates: Distribute for doors, frames, and other work specified to be factory prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.
- C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.
- D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.
- E. Existing Openings: Where hardware components are scheduled for application to existing construction or where modifications to existing door hardware are required, field verify existing conditions and coordinate installation of door hardware to suit opening conditions and to provide proper door operation.
- F. Direct shipments not permitted, unless approved by Contractor.

1.8 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Years from date of Substantial Completion, for durations indicated.
 - a. Closers:
 - 1) Mechanical: 10 years. Electrified: 2 years.
 - b. Automatic Operators: 1 year.
 - c. Exit Devices:
 - 1) Mechanical: 3 years.
 - 2) Electrified: 1 year.
 - d. Locksets:
 - 1) Mechanical: 3 years.
 - 2) Electrified: 1 year.
 - e. Continuous Hinges: Lifetime warranty

2. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.

1.9 MAINTENANCE

A. Maintenance Tools:

1. Furnish complete set of special tools required for maintenance and adjustment of hardware, including changing of cylinders.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. The Owner requires use of certain products for their unique characteristics and particular project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."
 1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.
- B. Approval of manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category shall be in accordance with QUALITY ASSURANCE article, herein.
- C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.
- D. Hand of Door: Drawings show direction of slide, swing, or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
- E. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.2 MATERIALS

A. Fasteners

1. Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation.
2. Furnish screws for installation with each hardware item. Finish exposed (exposed under any condition) screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.

3. Provide concealed fasteners for hardware units exposed when door is closed except when no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation where bolt head or nut on opposite face is exposed in other work unless thru-bolts are required to fasten hardware securely. Review door specification and advise Architect if thru-bolts are required.
 4. Install hardware with fasteners provided by hardware manufacturer.
- B. Modification and Preparation of Existing Doors: Where existing door hardware is indicated to be removed and reinstalled.
1. Provide necessary fillers, Dutchmen, reinforcements, and fasteners, compatible with existing materials, as required for mounting new opening hardware and to cover existing door and frame preparations.
 2. Use materials which match materials of adjacent modified areas.
 3. When modifying existing fire-rated openings, provide materials permitted by NFPA 80 as required to maintain fire-rating.
- C. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.
1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

2.3 HINGES

- A. Provide five-knuckle, ball bearing hinges.
1. Manufacturers and Products:
 - a. Scheduled Manufacturer and Product: Ives 5BB series
 - b. Acceptable Manufacturers and Products: Hager BB series, McKinney TA/T4A series, Stanley FBB Series
- B. Requirements:
1. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
 - a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
 - b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high
 2. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
 - a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
 3. 2 inches or thicker doors:
 - a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
 - b. Interior: Heavy weight, steel, 5 inches (127 mm) high
 4. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
 5. Where new hinges are specified for existing doors or existing frames, provide new hinges of identical size to hinge preparation present in existing door or existing frame.

6. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
 - a. Steel Hinges: Steel pins
 - b. Non-Ferrous Hinges: Stainless steel pins
 - c. Out-Swinging Exterior Doors: Non-removable pins
 - d. Out-Swinging Interior Lockable Doors: Non-removable pins
 - e. Interior Non-lockable Doors: Non-rising pins

7. Width of hinges: 4-1/2 inches (114 mm) at 1-3/4 inch (44 mm) thick doors, and 5 inches (127 mm) at 2 inches (51 mm) or thicker doors. Adjust hinge width as required for door, frame, and wall conditions to allow proper degree of opening.
8. Doors 36 inches (914 mm) wide or less furnish hinges 4-1/2 inches (114 mm) high; doors greater than 36 inches (914 mm) wide furnish hinges 5 inches (127 mm) high, heavy weight or standard weight as specified.
9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component.
10. Provide mortar guard for each electrified hinge specified, unless specified in hollow metal frame specification.
11. Provide spring hinges where specified. Provide two spring hinges and one bearing hinge per door leaf for doors 90 inches (2286 mm) or less in height. Provide one additional bearing hinge for each 30 inches (762 mm) of additional door height.

2.4 CONTINUOUS HINGES

A. Aluminum Geared

1. Manufacturers:
 - a. Scheduled Manufacturer: Ives.
 - b. Acceptable Manufacturers: Markar, Stanley.
2. Requirements:
 - a. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.25, Grade 2.
 - b. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum, with 0.25-inch (6 mm) diameter Teflon coated stainless steel hinge pin.
 - c. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
 - d. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.
 - e. On fire-rated doors, provide aluminum geared continuous hinges that are classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
 - f. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with sufficient number and wire gage to accommodate electric function of specified hardware.
 - g. Install hinges with fasteners supplied by manufacturer.
 - h. Provide hinges with symmetrical hole pattern.

2.5 ELECTRIC POWER TRANSFER

- ### A. Manufacturers:
- a. Scheduled Manufacturer: Von Duprin

- b. Acceptable Manufacturers: Falcon, ABH

- B. Provide power transfer with electrified options as scheduled in the hardware sets. Provide with number and gage of wires sufficient to accommodate electric function of specified hardware.
- C. Locate electric power transfer per manufacturer's template and UL requirements, unless interference with operation of door or other hardware items.

2.6 FLUSH BOLTS

- A. Manufacturers:
 - 1. Scheduled Manufacturer: Ives
 - 2. Acceptable Manufacturers: Burns, Rockwood
- B. Requirements:
 - 1. Provide automatic, constant latching, and manual flush bolts with forged bronze or stainless-steel face plates, extruded brass levers, and with wrought brass guides and strikes. Provide 12 inch (305 mm) steel or brass rods at doors up to 90 inches (2286 mm) in height. For doors over 90 inches (2286 mm) in height increase top rods by 6 inches (152 mm) for each additional 6 inches (152 mm) of door height. Provide dust-proof strikes at each bottom flush bolt.

2.7 CYLINDRICAL LOCKS – GRADE 1

- A. Manufacturers and Products:
 - 1. Scheduled Manufacturer and Product: Schlage ND Series
 - 2. Acceptable Manufacturers and Products: Sargent 11 Series, Corbin Russwin CL3100 Series.
- B. Requirements:
 - 1. Provide cylindrical locks conforming to ANSI/BHMA A156.2 Series 4000, Grade 1. Cylinders: Refer to "KEYING" article, herein.
 - 2. Provide cylindrical locks with classroom security function with an inside indicator that provides clear direction for users to safely and quickly secure the room.
 - 3. Provide locksets able to withstand 3100 inch pounds of torque applied to locked outside lever without gaining access per ANSI/BHMA A156.2 Abusive Locked Lever Torque Test and cycle tested to 3 million cycles per ANSI/BHMA A156.2 Cycle Test.
 - 4. Provide levers with vandal resistant technology for use at heavy traffic or abusive applications. Levers feature internal lock components that prevent damage caused by excessive force from persons kicking, hitting or standing on lever to gain access.
 - 5. Provide solid steel rotational stops to control excessive rotation of lever.
 - 6. Provide completely refunctionable lockset that allows lock function to be changed to over twenty other common functions by swapping easily accessible parts.
 - 7. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with 1/2 inch latch throw. Provide proper latch throw for UL listing at pairs.
 - 8. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.

9. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
10. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
11. Provide electrified options as scheduled in the hardware sets.
12. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
 - a. Lever Design: Schlage Sparta.
 - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

2.8 EXIT DEVICES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 99/33 series
2. Acceptable Manufacturers and Products: Precision Apex series

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware. Cylinders: Refer to “KEYING” article, herein.
2. Provide touchpad type exit devices, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
3. Touchpad: Extend minimum of one half of door width. Match exit device finish, stainless steel for US26, US26D, US28, US32, and US32D finishes; and for all other finishes, provide compatible finish to exit device. Provide compression springs in devices, latches, and outside trims or controls; tension springs also acceptable.
4. Provide exit devices with deadlatching feature for security and for future addition of alarm kits and/or other electrified requirements.
5. Provide exit devices with manufacturer’s approved strikes.
6. Provide exit devices cut to door width and height. Locate exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
7. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
8. Provide cylinder dogging at non-fire-rated exit devices, unless specified less dogging.
9. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion that is removed by use of a keyed cylinder, which is self-locking when re-installed.
10. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.
 - a. Lever Style: Match lever style of locksets.
 - b. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous.

11. Provide UL labeled fire exit hardware for fire rated openings.

12. Provide factory drilled weep holes for exit devices used in full exterior application, highly corrosive areas, and where noted in hardware sets.
13. Provide electrified options as scheduled.

2.9 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Von Duprin 6000 series
2. Acceptable Manufacturers and Products: Folger Adam 300 series, HES 1006 series

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary-resistant.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide fail-secure type electric strikes, unless specified otherwise.
5. Coordinate voltage and provide transformers and rectifiers for each strike as required.

2.10 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product: Schlage or Von Duprin PS900 series
2. Acceptable Manufacturers and Products: Precision ELR series, Sargent 3500 series, Dynalock 5000 series, Folger Adam FABPS series, Securitron BPS series, Security Door Controls 600 series

B. Requirements:

1. Provide power supplies, recommended and approved by manufacturer of electrified locking component, for operation of electrified locks, electrified exit devices, magnetic locks, electric strikes, and other components requiring power supply.
2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply , and UL class 2 listed.
4. Options:
 - a. Provide power supply, where specified, with internal capability of charging sealed backup batteries 24 VDC, in addition to operating DC load.
 - b. Provide sealed batteries for battery back-up at each power supply where specified.
 - c. Provide keyed power supply cabinet.
5. Provide power supply in an enclosure, complete, and requiring 120VAC to fused input.
6. Provide power supply with emergency release terminals, where specified, that allow release of all devices upon activation of fire alarm system complete with fire alarm input for initiating “no delay” exiting mode.

2.11 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer: Match Owners existing keyway and keying system

B. Requirements:

1. Provide cylinders/cores, from the same manufacturer of locksets, compliant with ANSI/BHMA A156.5; latest revision, Section 12, Grade 1; permanent cylinders; cylinder face finished to match lockset, manufacturer's series as indicated. Refer to "KEYING" article, herein.
2. Provide cylinders in the below-listed configuration(s), distributed throughout the Project as indicated.
 - a. Conventional cylinder with Small Format **interchangeable** core with open keyway.
OR with patented, restricted keyway.
3. Patent Protection: Cylinders/cores requiring use of restricted, patented keys, patent-protected.
4. Security Cylinders: Where indicated, provide cylinders/cores with "dual-locking mechanism" with interlocking finger pin(s) to check for patented features on keys.
5. Nickel silver bottom pins.
6. Temporary Construction Cylinder Keying.
 - a. Owner or Owner's Representative will void operation of temporary construction keys.
7. Replaceable Construction Cores..
 - a. Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
 - 1) 12 construction change (day) keys.
 - b. Owner or Owner's Representative will replace temporary construction cores with permanent cores.
- 8.

2.12 KEYING

- ### A. Provide a factory registered keying system, complying with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. All Locks to be keyed into the owner existing Master Key System as directed by the owner.
2. Provide keys with the following features.
 - a. Material: Solid nickel plated

3. Identification:
 - a. Mark permanent cylinders/cores and keys with applicable blind code per DHI publication "Keying Systems and Nomenclature" for identification. Blind code marks shall not include actual key cuts.
 - b. Identification stamping provisions must be approved by the Architect and Owner.
 - c. Failure to comply with stamping requirements shall be cause for replacement of keys involved at no additional cost to Owner.
 - d. Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.

4. Quantity: Furnish in the following quantities.
 - a. Change (Day) Keys: 3 per cylinder/core.
 - b. Permanent Control Keys: 3.
 - c. Master Keys: 6.
 - d. Unused balance of key blanks shall be furnished to Owner with the cut keys.
 - e. Extra Keys:
 - 1) 6 Construction Keys

2.13 KEY CONTROL SYSTEM

- A. Manufacturers:
 1. Scheduled Manufacturer: Telkee
 2. Acceptable Manufacturers: HPC, Lund

- B. Requirements:
 1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, and permanent markers as required for Project.

2.14 DOOR CLOSERS

- A. Manufacturers and Products:
 1. Scheduled Manufacturer and Product: LCN 4050 series
 2. Acceptable Manufacturers and Products: Norton 7500 series, Sargent 351 series.

- B. Requirements:
 1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.

2. Provide door closers with fully hydraulic, full rack and pinion action with cast aluminum cylinder.
3. Closer Body: 1-1/2 inch (38 mm) diameter with 11/16 inch (17 mm) diameter heat-treated pinion journal and full complement bearings.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and all weather requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and back check.
7. Pressure Relief Valve (PRV) Technology: Not permitted.
8. Provide stick on templates, special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.15 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Burns, Rockwood

B. Requirements:

1. Provide push plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick and beveled 4 edges. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
2. Provide push bars of solid bar stock, diameter and length as scheduled. Provide push bars of sufficient length to span from center to center of each stile. Where required, mount back to back with pull.
3. Provide offset pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
4. Provide flush pulls as scheduled. Where required, provide back-to-back mounted model.
5. Provide pulls of solid bar stock, diameter and length as scheduled. Where required, mount back to back with push bar.
6. Provide pull plates 4 inches (102 mm) wide by 16 inches (406 mm) high by 0.050 inch (1 mm) thick, beveled 4 edges, and prepped for pull. Where width of door stile prevents use of 4 inches (102 mm) wide plate, adjust width to fit.
7. Provide wire pulls of solid bar stock, diameter and length as scheduled.
8. Provide decorative pulls as scheduled. Where required, mount back to back with pull.

2.16 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Burns, Rockwood

B. Requirements:

1. Provide kick plates, mop plates, and armor plates minimum of 0.050 inch (1 mm) thick as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes of plates:
 - a. Kick Plates: 10 inches (254 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
 - b. Mop Plates: 4 inches (102 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs
 - c. Armor Plates: 36 inches (914 mm) high by 2 inches (51 mm) less width of door on single doors, 1 inch (25 mm) less width of door on pairs

2.17 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers: Glynn-Johnson
2. Acceptable Manufacturers: Rixson, Sargent

B. Requirements:

1. Provide heavy duty concealed mounted overhead stop or holder as specified for exterior and interior vestibule single acting doors.
2. Provide heavy duty concealed mounted overhead stop or holder as specified for double acting doors.
3. Provide heavy or medium duty and concealed or surface mounted overhead stop or holder for interior doors as specified. Provide medium duty surface mounted overhead stop for interior doors and at any door that swings more than 140 degrees before striking wall, open against equipment, casework, sidelights, and where conditions do not allow wall stop or floor stop presents tripping hazard.
4. Where overhead holders are specified provide friction type at doors without closer and positive type at doors with closer.

2.18 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Burns, Rockwood

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide convex type where mortise type locks are used and concave type where cylindrical type locks are used.
2. Where a wall stop cannot be used, provide universal floor stops for low or high rise options.
3. Where wall or floor stop cannot be used, provide medium duty surface mounted overhead stop.

2.19 THRESHOLDS, SEALS, DOOR SWEEPS, AUTOMATIC DOOR BOTTOMS, AND GASKETING

A. Manufacturers:

1. Scheduled Manufacturer: Zero International
2. Acceptable Manufacturers: Pemko, Reese

B. Requirements:

1. Provide thresholds, weatherstripping (including door sweeps, seals, astragals) and gasketing systems (including smoke, sound, and light) as specified and per architectural details. Match finish of other items.
2. Size of thresholds::
 - a. Saddle Thresholds: 1/2 inch (13 mm) high by jamb width by door width
 - b. Bumper Seal Thresholds: 1/2 inch (13 mm) high by 5 inches (127 mm) wide by door width
3. Provide door sweeps, seals, astragals, and auto door bottoms only of type where resilient or flexible seal strip is easily replaceable and readily available.

2.20 SILENCERS

A. Manufacturers:

1. Scheduled Manufacturer: Ives
2. Acceptable Manufacturers: Burns, Rockwood

B. Requirements:

1. Provide "push-in" type silencers for hollow metal or wood frames.
2. Provide one silencer per 30 inches (762 mm) of height on each single frame, and two for each pair frame.
3. Omit where gasketing is specified.

2.21 FINSHES

A. Finish: BHMA 626/652 (US26D); except:

1. Hinges at Exterior Doors: BHMA 630 (US32D)
2. Continuous Hinges: BHMA 628 (US28)
3. Push Plates, Pulls, and Push Bars: BHMA 630 (US32D)
4. Protection Plates: BHMA 630 (US32D)
5. Overhead Stops and Holders: BHMA 630 (US32D)
6. Door Closers: Powder Coat to Match
7. Wall Stops: BHMA 630 (US32D)
8. Latch Protectors: BHMA 630 (US32D)
9. Weatherstripping: Clear Anodized Aluminum
10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance.
- B. Existing Door and Frame Compatibility: Field verify existing doors and frames receiving new hardware and existing conditions receiving new openings. Verify that new hardware is compatible with existing door and frame preparation and existing conditions.
- C. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Where on-site modification of doors and frames is required:
 - 1. Carefully remove existing door hardware and components being reused. Clean, protect, tag, and store in accordance with storage and handling requirements specified herein.
 - 2. Field modify and prepare existing door and frame for new hardware being installed.
 - 3. When modifications are exposed to view, use concealed fasteners, when possible.
 - 4. Prepare hardware locations and reinstall in accordance with installation requirements for new door hardware and with:
 - a. Steel Doors and Frames: For surface applied door hardware, drill and tap doors and frames according to ANSI/SDI A250.6.
 - b. Wood Doors: DHI WDHS.5 "Recommended Hardware Reinforcement Locations for Mineral Core Wood Flush Doors."
 - c. Doors in rated assemblies: NFPA 80 for restrictions on on-site door hardware preparation.

3.3 INSTALLATION

- A. Mounting Heights: Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.
 - 1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
 - 2. Custom Steel Doors and Frames: HMMA 831.
 - 3. Wood Doors: DHI WDHS.3, "Recommended Locations for Architectural Hardware for Wood Flush Doors."
- B. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.
- C. Do not install surface mounted items until finishes have been completed on substrate. Protect

- all installed hardware during painting.
- D. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.
 - E. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
 - F. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.
 - G. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.
 - H. Intermediate Offset Pivots: Where offset pivots are indicated, provide intermediate offset pivots in quantities indicated in door hardware schedule but not fewer than one intermediate offset pivot per door and one additional intermediate offset pivot for every 30 inches (750 mm) of door height greater than 90 inches (2286 mm).
 - I. Lock Cylinders: Install construction cores to secure building and areas during construction period.
 - 1. Replace construction cores with permanent cores as indicated in keying section.
 - J. Wiring: Coordinate with Division 26, ELECTRICAL sections for:
 - 1. Conduit, junction boxes and wire pulls.
 - 2. Connections to and from power supplies to electrified hardware.
 - 3. Connections to fire/smoke alarm system and smoke evacuation system.
 - 4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
 - 5. Testing and labeling wires with Architect's opening number.
 - K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.
 - L. Door Closers: Mount closers on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Closers shall not be visible in corridors, lobbies and other public spaces unless approved by Architect.
 - M. Closer/holders: Mount closer/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.
 - N. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.
 - 1. Configuration: Provide least number of power supplies required to adequately serve doors with electrified door hardware.

- O. Thresholds: Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
- P. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.
- Q. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.
- R. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.
- S. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.4 FIELD QUALITY CONTROL

- A. Architectural Hardware Consultant: Engage qualified independent Architectural Hardware Consultant to perform inspections and to prepare inspection reports.
 - 1. Architectural Hardware Consultant will inspect door hardware and state in each report whether installed work complies with or deviates from requirements, including whether door hardware is properly installed and adjusted.

3.5 ADJUSTING

- A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.
 - 1. Spring Hinges: Adjust to achieve positive latching when door is allowed to close freely from an open position of 30 degrees.
 - 2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
 - 3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.
- B. Occupancy Adjustment: Approximately three months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.6 CLEANING AND PROTECTION

- A. Clean adjacent surfaces soiled by door hardware installation.
- B. Clean operating items as necessary to restore proper function and finish.
- C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.7 DEMONSTRATION

- A. Provide training for Owner's maintenance personnel to adjust, operate, and maintain door hardware and door hardware finishes. Refer to Division 01 Section "Demonstration and Training."

3.8 DOOR HARDWARE SCHEDULE

- A. Locksets, exit devices, and other hardware items are referenced in the following hardware sets for series, type and function. Refer to the above-specifications for special features, options, cylinders/keying, and other requirements.

- B. Hardware Sets:

Hardware Group No. 1

For use on mark/door #(s):

001 and 002

Each To Have:

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	112XY EPT	628	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	RX-QEL-99-NL-OP-110MD	626	VON
1	EA	SFIC CONST. CORE	80-035		SCH
1	EA	SFIC RIM CYLINDER	80-116	626	SCH
1	EA	SFIC CORE	SMALL FORMAT CORE KEYED INTO EXISTING SYSTEM	626	SCH
1	EA	90 DEG OFFSET PULL	8190HD 10" STD	630	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	SURFACE CLOSER	4050 EDA	689	LCN
1	EA	PROTECTION PLATE	8400 10" X 1 1/2" LDW B-CS	630	IVE
1	EA	PROTECTION PLATE	8400 4" X 1" LDW B-CS	630	IVE
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	328AA-S	AA	ZER
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	65A-223	A	ZER
1	EA	WIRE HARNESS	CON-26		SCH
1	EA	WIRE HARNESS	CON-6W		SCH
1	EA	MULTITECH READER	MT15 (BY ACCESS CONTROL PROVIDER)	BLK	SCE
1	EA	POWER SUPPLY	PS902 900-2RS	LGR	SCE

NOTE

DOOR POSITION SWITCH BY
ACCESS CONTROL PROVIDER

Operational Description

Geared Full Mortise Hinge, Electric Power Transfer
with Connector,

Free Egress at all times. Pressing Push Bar retracts latchbolts

90 Degree Offset Door Pull, 1" Round, 2 1/4" Clearance, 10 Mounting Type STD

Heavy Duty Concealed Overhead Door, , Stop

Surface Mount, Non Handed, Universal, Mechanical Closer

Multi-Technology Reader - Single Gang -Smart Card Technology (FIPS 201-1 Compliant)

Power Supply (2A @ 12/24 VDC-field selectable); Provided with Grey / Baked Enamel, High Voltage
Protective Cover / Enclosure

END OF SECTION

SECTION 12 63 13 - ALUMINUM BENCH SEATING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Aluminum bench seating.

1.2 REFERENCE STANDARDS

- A. AAMA 2603 – Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels.
- B. Aluminum Association (AA) Aluminum Design Manual.
- C. ASTM A 307 – Standard Specification for Carbon Steel Bolts, Studs, and Threaded Rod 60 000 PSI Tensile Strength.
- D. AWS D1.1 / D1.1M – Structural Welding Code – Steel.
- E. AWS D1.2 / D1.2M – Structural Welding Code – Aluminum.

1.3 SUBMITTALS

- A. Comply with Section 01 33 00 – Submittal Procedures.
- B. Shop Drawings: Submit manufacturer's shop drawings, including plans, elevations, sections, and details, indicating location, size, details, and quantity of components and accessories.
- C. Warranty Documentation: Submit manufacturer's standard warranty. (Provide with closeout documents at the end of the project)

1.4 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer regularly engaged, for past 10 years, in design and manufacture of aluminum stadium bench seating of similar type to that specified.
- B. Installer's Qualifications:
 - 1. Installer regularly engaged, for past 5 years, in installation of aluminum stadium bench seating of similar type to that specified.
 - 2. Employ persons trained and experienced for installation of aluminum stadium bench seating.
- C. Welder's Qualifications: AWS certified within past 12 months for each type of weld required.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery Requirements: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage and Handling Requirements:
 - 1. Store and handle materials in accordance with manufacturer's instructions.
 - 2. Keep materials in manufacturer's original, unopened containers and packaging until installation.
 - 3. Do not store materials directly on ground.
 - 4. Protect materials and finish during storage, handling, and installation to prevent damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Subject to compliance with the requirements the following manufacturers are acceptable:
- B. Sturdisteel, PO Box 2655, Waco, Texas 76702. Toll Free 800-433-3116. Phone 254-666-5155. Fax 254-666-4472. Website www.sturdisteel.com. E-mail info@sturdisteel.com.
- C. Outdoor Aluminum, (OUTDOORALUMINUM.COM) 800-225-4249.
- D. Architect approved equivalent.

2.2 DESIGN REQUIREMENTS

- A. Design: Conform to AA Aluminum Design Manual.
- B. Applicable Codes: Design and workmanship shall be in accordance with IBC 2012 and ICC 300 Bleachers, Folding and Telescopic Seating, and Grandstands, and the requirements of the State of Ohio.
- C. Design Loads:
 - 1. Live Loads:
 - a. Uniform Loading, Seat Boards: 120 plf.
 - b. Uniform Loading, Tread Boards: 120 plf.
- D. Shop Connections: Welded and capable of carrying stress put upon them.
- E. Welding: AWS D1.1 and AWS D1.2

2.3 ALUMINUM STADIUM BENCH SEATING

- A. Brackets: Galvanized steel or extruded (mill finish) aluminum alloy 6061-T6.
 - 1. Riser Mounted: L-brackets.
- B. Seat Boards: SIZE - (11 ½" x 1 ½")
 - 1. Extruded aluminum alloy 6063-T6.

2. Finish: Clear anodized 204R1, AA-M10C22A31, Class II

C. Accessories:

1. End Caps:
 - a. End of rows for flat seat and tread boards.
 - b. Attach with 3/16-inch pop or drive rivets.
 - c. Channel End Caps: Aluminum alloy 6063-T6; clear anodized 204R1, AA-M10C22A31, Class II.
 - d. Form-Fitted End Caps: Aluminum alloy 2024; clear anodized 204R1, AA-M10C22A32, Class II.
2. Hold-Down Clip Assembly:
 - a. Attach boards to brackets.
 - b. Aluminum alloy 6061-T6.
 - c. Hold-Down Clips: 4-way adjustable, 5/16-inch by 1-1/4-inch carriage bolt, 5/16-inch nut.

D. Hardware:

1. Steel Bolts and Nuts: ASTM A 307, galvanized steel.
2. Stainless Steel Wedge Anchor, Grade 304.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Examine areas and surfaces to receive aluminum bench seating.
- B. Notify Architect of conditions that would adversely affect installation or subsequent use.
- C. Do not begin installation until unacceptable conditions are corrected.

3.2 INSTALLATION

- A. Install aluminum bench seating in accordance with manufacturer's instructions at locations indicated on the Drawings.
- B. Install aluminum bench seating plumb, level, square, straight, and to proper elevation.
- C. Install aluminum bench seating secure to supports.
- D. Install in continuous lengths with manufacturer's standard seam sleeve inserts at joints and adjustable hold down clips.
- E. Miter planks at all angled corners and brace as required to maintain a flush seating surface without burs or sharp edges.
- F. Ease all edges.

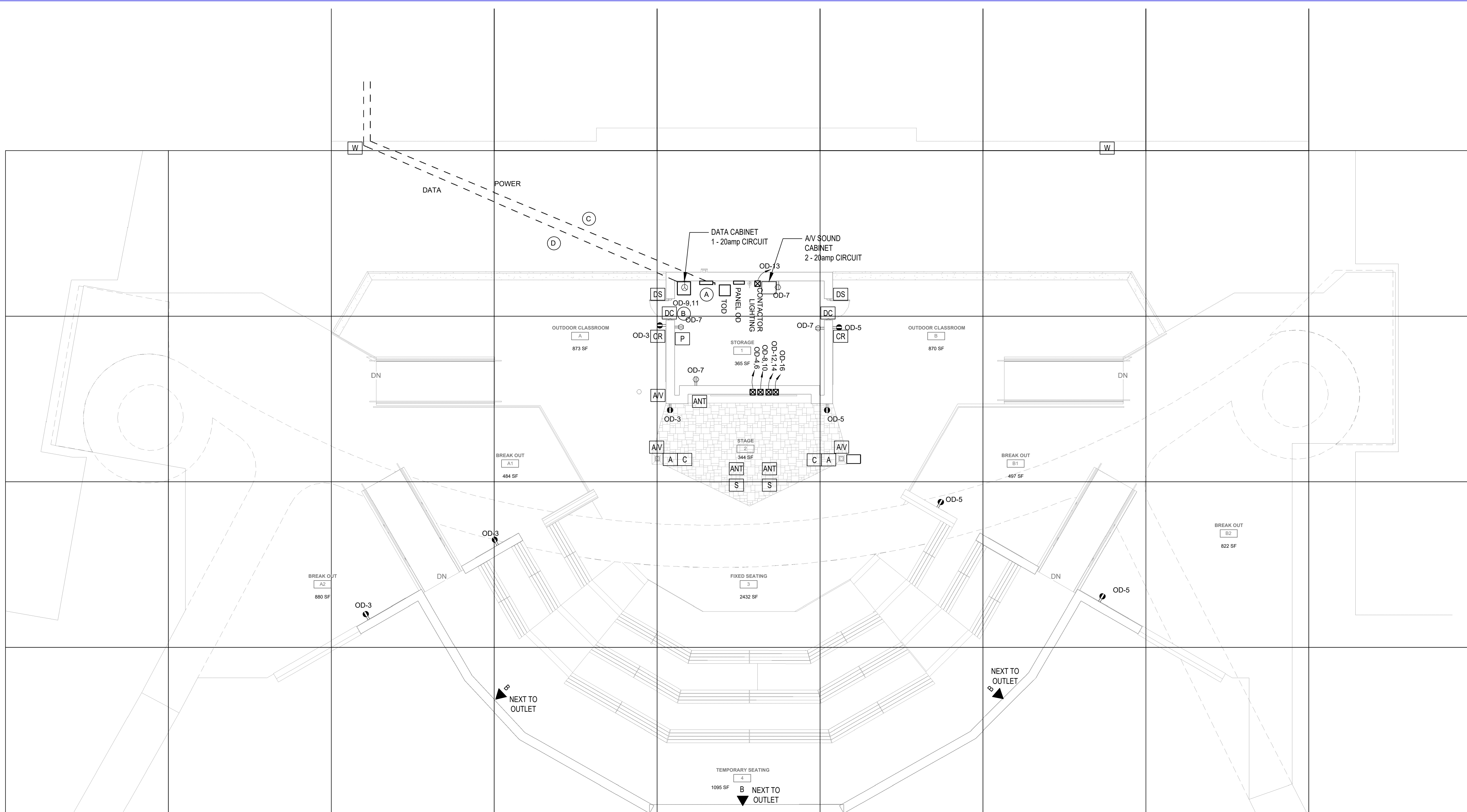
3.3 ADJUSTING

- A. Inspect completed aluminum bench seating and make necessary adjustments to ensure proper installation.
- B. Repair minor damages to finish in accordance with manufacturer's instructions and as approved by Architect.
- C. Remove and replace with new material, damaged components that cannot be successfully repaired, as determined by Architect.

3.4 PROTECTION

- A. Protect installed aluminum bench seating to ensure that, except for normal weathering, seating will be without damage or deterioration at time of Substantial Completion.

END OF SECTION



Power Plan
1/8" = 1'-0"

- PLAN NOTES:** (X)
- A. SEE ELECTRICAL RISER ON SHEET E2.02 FOR DETAILS.
 - B. PROVIDE WALL MOUNTED DATA RACK (15U MINIMUM).
 - C. CONDUIT TO ELECTRICAL RM 1651. SEE ELECTRICAL RISER FOR DETAILS.
 - D. 3" CONDUIT WITH PULL STRING TO TECHNOLOGY RM 1633.
- PLAN NOTES:**
- 1. USE LONG SWEEP 90°S FOR COMMUNICATION CONDUITS.
 - 2. PROVIDE WEATHER-RESISTANT OUTLETS FOR EXTERIOR OUTLETS.

SYMBOL LEGEND	
[AV]	AV INPUT PLATE - 2 GANG BOX w/STAINLESS STEEL PLATE, 18" A.F.F., 1 - HDMI FIBER, 2 - CAT 6, 2-20 GA 1 PAIR SHIELDED (1-XLRF, 1-XLRF), 2" CONDUIT TO AV CABINET IN STORAGE
[B]	DOUBLE DATA OUTLET - 2 GANG BOX w/STAINLESS STEEL PLATE, 18" A.F.F., 1-1/2" CONDUIT TO DATA CABINET, CAT 6A CABLE.
[C]	CAMERA OUTLET - SINGLE GANG BOX, 1" CONDUIT TO DATA CABINET, UNDER SIDE OF AWNING, CAT 6 CABLE.
[A]	AUDIO OUTLET - SINGLE GANG BOX w/STAINLESS STEEL, 18" A.F.F., 1" CONDUIT TO AV CABINET, 2-20 GA SHIELDED 2 CABLE (1-XLRM, 1-XLRF).
[P]	PHONE OUTLET - SINGLE GANG BOX, 48" A.F.F., STAINLESS STEEL PLATE, 1" CONDUIT TO DATA CABINET, CAT 6 CABLE.
[S]	SPEAKER OUTLET - DOUBLE GANG BOX 1-1/4" CONDUIT TO AV CABINET, UNDER SIDE OF AWNING, 12/2 CONDUCTOR.
[W]	WIRELESS ACCESS OUTLET - SINGLE GANG BOX 1-1/2" PENETRATION INTO BUILDING ABOVE DROP CEILING, CAT 6A CABLE.
[DC]	DOOR CONTACT - SINGLE GANG BOX IN HEADER 6" FROM OPENING SIDE OF DOOR, 3/4" CONDUIT STUB ABOVE ACCESSIBLE CEILING, 22/4 CONDUCTOR.
[DS]	DOOR STRIKE - POWER TRANSFER IN HINGE SIDE OF DOOR TO EXIT DEVICE, 1" CONDUIT FROM POWER TRANSFER TO ABOVE ACCESSIBLE CEILING, 18/2 CONDUCTOR.
[ANT]	ANTENNA OUTLET - SINGLE GANG BOX, 1" CONDUIT TO AV CABINET, CAT 6 CABLE.
[CR]	CARD READER - SINGLE GANG BOX, 1" CONDUIT STUB ABOVE ACCESSIBLE CEILING, 6 CONDUCTOR SHIELDED.

Equipment and Commissioning By:

Fire • Security • Access • CCTV • Technology

P.O. BOX 326, 1385 WOLF CREEK TRAIL
SHARON CENTER, OH 44274
330.239.4600 OFFICE 330.239.4660 FAX
OHIO LICENSE 5577.1120

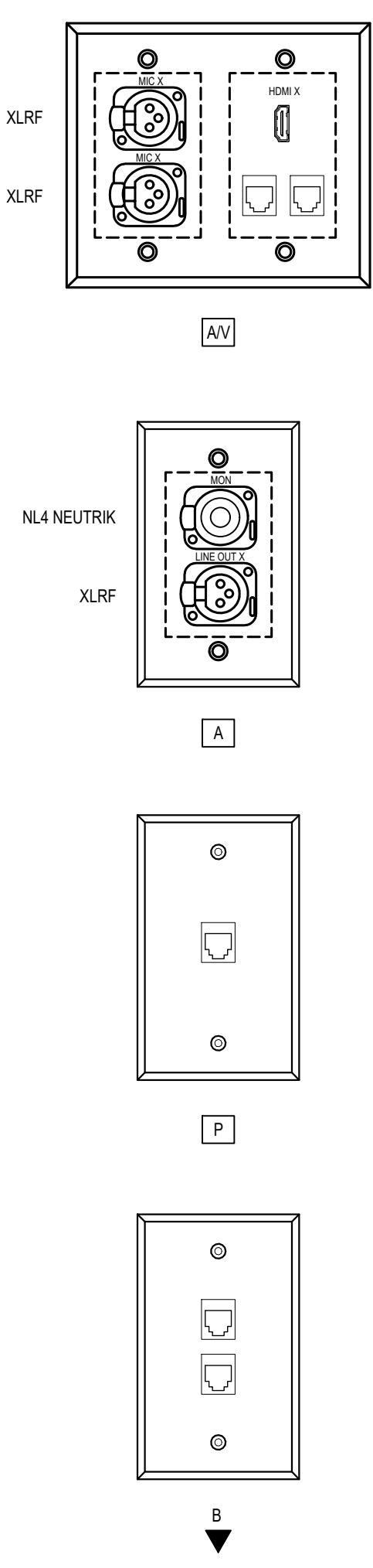
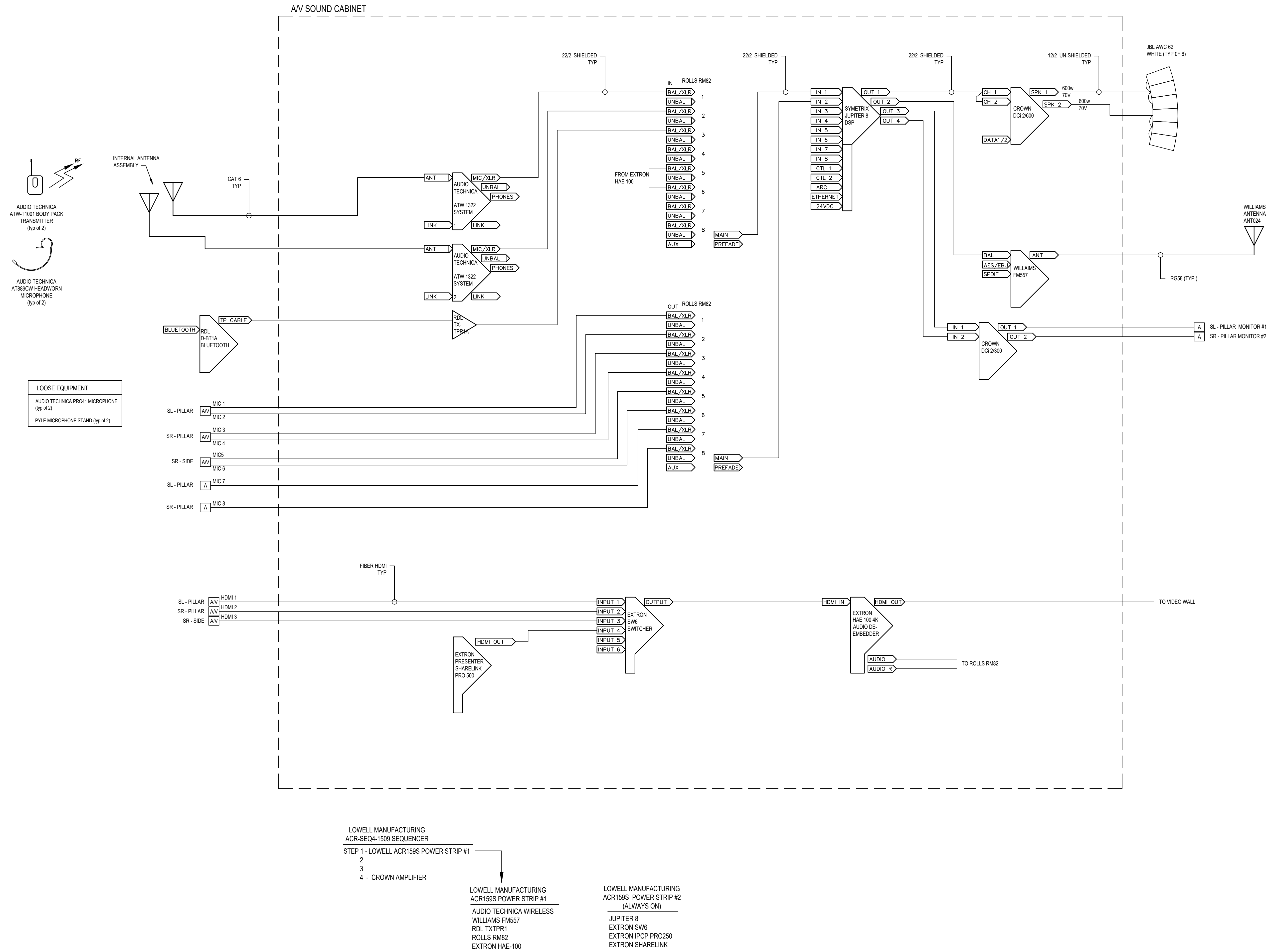
REV	DATE	DESCRIPTION

HARRISON CENTRAL OUTDOOR CLASSROOM

HARRISON HILLS CITY SCHOOL DISTRICT
CADIZ, OHIO

FLOOR PLAN
OUTDOOR CLASSROOM
AUDIO VISUAL SYSTEM

36"x24" FILE NAME: AV1_FLOOR PLAN HARRISON HILLS OUTDOOR CLASSROOM.DWG PLOT DATE: 11.11.2022



LOOSE EQUIPMENT

- AUDIO TECHNICA PRO41 MICROPHONE (typ of 2)
- PYLE MICROPHONE STAND (typ of 2)

Equipment and Commissioning By:

SOUTHEAST SECURITY
 Fire • Security • Access • CCTV • Technology

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REV	DATE	DESCRIPTION

HARRISON CENTRAL OUTDOOR CLASSROOM

HARRISON HILLS CITY SCHOOL DISTRICT
 CADIZ, OHIO

ONE LINE DIAGRAM
 OUTDOOR CLASSROOM
 AUDIO VISUAL SYSTEM