Addendum

Project Number	Client / Project Title
LGA Project No. 21074	A New School Facility: Horace Maynard Middle Schoo
Addendum Number	Date
Addendum 003	Friday, June 14, 2024

Addendum Compiled By

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Overview

To prime contractors and all others to whom drawings have been issued. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification. This addendum forms a part of the Contract Documents dated 3/15/2024.

Prior Addenda

ADD 001 stamped 31May2024 (issued 03June2024) ADD 002 stamped 10June2024

This addendum supplements and modifies the Contract Documents as follows:

CLARIFICATIONS

- 1. There is no synthetic turf scheduled for this project.
- 2. An irrigation system is not required for this project.
- 3. The material and installation of natural grass sod for the baseball, softball, and football fields is by the G.C.
- 4. All (non-grass) landscaping will be furnished and installed by the Owner.
- 5. The new school shall be equipped with approved radio coverage for emergency responders in accordance with requirements set forth in IFC 510 as well as NFPA 1221. For the purposes of bidding, the electrical subcontractor shall include in the bid price an allowance of \$125,000 for a Distributed Antenna System (DAS). When building construction has progressed to the point where accurate testing of radio coverage can be accomplished, the electrical contractor shall arrange with the general contractor for a licensed DAS vendor to survey the site and finalize the specifics of the DAS installation, if it is determined during the survey that the DAS system is indeed required. An Allowance spec will be issued with ADD 004.

QUESTIONS

- 6. Q1: Do we need to include the pricing for the full Fire Alarm system install or just the conduit, boxes, and pull string? Drawing E6.13 indicates that we only provide that, while the specs indicate that we need to carry the whole system, which one is correct?
 - A1: A full fire alarm system is to be provided per contract electrical drawings and Division 28 specifications.
- 7. Q2:Do we need to provide conduit for the entire Fire Alarm system, or can we use plenum rated cabling above accessible ceilings?
 - A2: Refer to Note # 4 on all communications drawings which sets forth conduit and wiring requirements for all "low voltage" system wiring on the project, which includes fire alarm system wiring.
- 8. Q3: Do we need to provide any electrical connections to the Propane Pad shown on drawing C401?

 A3: We will review and issue any clarifications that are needed as part of forthcoming ADD 004.
- Q4: Panel LC4 is not shown on the Riser Diagram but it is shown on drawing E2.13 in Media Storage Room B21d, is it fed from panel LCDP? There is a panel schedule for it. Please clarify.
 A4: See revised drawing E6.13.
- 10. Q5: What size Hilti EZ Sleeves do we need to provide there is 2" and 4" shown on the detail on drawing E6.12, but there is no indication on the communication drawings on what size and where to install them? Please clarify.

A5: See revised drawings E6.11 and E6.12.

CHANGES TO THE PROJECT MANUAL

- 1. 07 42 13 -Metal Wall Panels
 - a. New spec section
- 1. 07 42 43 Composite Metal Panels
 - a. New spec section

6/14/2024

CHANGES TO THE DRAWINGS

- 1. COVER SHEET
 - a. Updated to indicate revised drawings
- AS1.21 SOUTH CANOPY PLANS & ELEVATIONS a. Drawings updated
- 3. AS1.22 SOUTH CANOPY DETAILS
 - a. Drawings updated
- 4. A2.11 BUILDING ELEVATIONS SOUTH
 - a. Updated to clarify materials
- 5. A2.12 BUILDING ELEVATIONS NORTH
 - a. Updated to clarify materials
- 6. A2.13 BUILDING ELEVATIONS EAST & WEST
 - a. Updated to clarify materials
- 7. A2.14 BUILDING ELEVATIONS HIDDE
 - a. Updated to clarify materials
- 8. A2.21 BUILDING ELEVATIONS ENLARGED
 - a. Updated to clarify materials
- 9. A4.12 WALL SECTIONS
 - a. Updated to clarify materials
- 10. A4.15 WALL SECTIONS ADMINISTRATION
 - a. Drawings updated
- 11. A4.16 WALL SECTIONS ADMINISTRATION
 - a. Drawings updated
- 12. A5.21 ROOF DETAILS
 - a. Detail updated
- 13. A8.21 HEAD, JAMB AND SILL DETAILS
 - a. Details updated
- 14. E1.12 FIRST FLOOR PLAN AREA 'B' LIGHTING
 - a. Ceiling updated
- 15. E1.14 SECOND FLOOR PLAN AREA 'D' LIGHTING a. Ceiling updated
- 16. E1.16 SECOND FLOOR PLAN AREA 'F' LIGHTING a. Ceiling updated
- 17. E6.11 LEGEND AND LIGHTING FIXTURE SCHEDULE
 - a. See question 5
- 18. E6.12 DETAILS
 - a. See question 5
- 19. E6.13 FEEDER DIAGRAM
 - a. See question 4

ATTACHMENTS

- (02) Specification Sections
- (19) Drawing Sheets

END OF ADDENDUM / ATTACHMENTS FOLLOW



LEWIS GROUP ARCHITECTS 2

SECTION 07 42 43 – COMPOSITE METAL PANELS

PART 1 - GENERAL

11 RELATED DOCUMENTS

Α. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- Α. This Section includes the following:
 - Aluminum-faced composite wall panels (ACM).
- B. Related Sections include the following:
 - Division 9 Section "Non-Structural Metal Framing" for secondary support framing supporting metal wall panels.
 - 2. Division 7 Section "Sheet Metal Flashing and Trim" for copings, flashings and other sheet metal work not part of metal wall panel assemblies.
 - Division 7 Section "Joint Sealants" for field-applied sealants not otherwise specified 3. in this Section.
 - Division 6 Section "Rough Carpentry" for wood framing and substrates. 4.

1.3 **DEFINITIONS**

- Metal Wall Panel Assembly: Metal wall panels, attachment system components, Α. miscellaneous metal framing, thermal insulation, and accessories necessary for a complete weathertight system.
- B. Aluminum Sheet Thickness: Minimum thickness of base metal without metallic coatings or painted finishes.
- C. DBVR: Drained and back-ventilated rainscreen system; rainscreen system designed to drain and dry cavity entering water through drainage channels, weeps, and air ventilation.
- ACM: ACM cladding material formed by joining two thin (aluminum) metal skins to D. polyethylene or fire-retardant core and bonded under precise temperature, pressure, and tension.

SUBMITTALS 1.4

Α. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal wall panel and accessory.

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS LGA# 21074

- B. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Distinguish between factoryand field-assembled work.
 - Accessories: Include details of the following items, at a scale of not less than 1-1/2"= 1' - 0".
 - a. Flashing and trim.
- C. Coordination Drawings: Exterior elevations drawn to scale and coordinating penetrations and wall-mounted items. Show the following:
 - 1. Wall panels and attachments.
 - 2. Girts, Stud framing.
 - 3. Wall-mounted items including doors, windows, louvers, and lighting fixtures.
- D. Samples for Initial Selection: For each type of metal wall panel indicated with factoryapplied color finishes.
 - Include similar Samples of trim and accessories involving color selection.
 - Include manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each sealant exposed to view.
- E. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 - Metal Wall Panels: two samples with formed edges, 12 inches long by 12 inches wide. Include fasteners, closures, and other metal wall panel accessories.
 - Include four-way joint for composite panels.
 - 2. Trim and Closures: 12 inches long. Include fasteners and other exposed accessories.
 - 3. Accessories: 12-inch long Samples for each type of accessory.
 - Exposed Gaskets: 12 inches long. 4.
 - Exposed Sealants: For each type and color of joint sealant required. Install joint sealants in 1/2-inch wide joints formed between two 12-inch long strips of material matching the appearance of metal wall panels adjacent to joint sealants.
- F. Warranties: Special warranties specified in this Section.

1.5 **QUALITY ASSURANCE**

- Installer Qualifications: An employer of workers trained and approved by manufacturer. Α.
- Installer Qualifications: Fabricator of aluminum-faced composite material wall panels. B.
 - Installer's responsibilities include fabricating and installing metal wall panel assemblies and providing professional engineering services needed to assume engineering responsibility.
 - Engineering Responsibility: Preparation of Shop Drawings and comprehensive 2. engineering analysis by a qualified professional engineer.
- C. Fabricator Qualifications: Certified by metal-faced composite wall panel manufacturer to fabricate and install manufacturer's wall panel system.

- D. Source Limitations: Obtain each type of metal wall panel through one source from a single manufacturer.
- E. Product Options: Drawings indicate size, profiles, and dimensional requirements of metal wall panels. Refer to Division 1 Section "Product Requirements."
 - Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.
- F. Mockups: Build mockups to verify selections made under sample Submittals and to demonstrate aesthetic effects and qualities of materials and execution.
 - Build mockup of typical wall panel, including soffit, as shown on Drawings; approximately 48 inches square by full thickness, including insulation, supports, attachments, and accessories.
 - Include four-way joint for metal-faced composite wall panels.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.
 - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- Preinstallation Conference: Conduct conference at Project site. Review methods and G. procedures related to metal wall panel assemblies including, but not limited to, the following:
 - Meet with Architect, panel Installer, metal wall panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal wall panels including installers of doors, windows, and louvers.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid
 - 3. Review methods and procedures related to metal wall panel installation, including manufacturer's written instructions.
 - Examine support conditions for compliance with requirements, including alignment 4. between and attachment to structural members.
 - Review flashings, special siding details, wall penetrations, openings, and condition 5. of other construction that will affect metal wall panels.
 - 6. Review temporary protection requirements for metal wall panel assembly during and after installation.
 - 7. Review wall panel observation and repair procedures after metal wall panel installation.
 - 8. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.6 DELIVERY, STORAGE, AND HANDLING

Deliver components, ACM panels, and other manufactured items so as not to be A. damaged or deformed. Package ACM panels for protection during transportation and handling.

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS LGA# 21074

В Unload, store, and erect ACM panels in a manner to prevent bending, warping, twisting, and surface damage.

- Stack ACM panels on platforms or pallets, covered with suitable weathertight and C. ventilated covering. Store ACM panels to ensure dryness, with positive slope for drainage of water. Do not store ACM panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on ACM panels during installation.

1.7 PROJECT CONDITIONS

- Α. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.
- Field Measurements: Verify locations of structural members and wall opening B. dimensions by field measurements before metal wall panel fabrication and indicate measurements on Shop Drawings.

1.8 COORDINATION

Coordinate metal wall panel assemblies with rain drainage work, flashing, trim, and Α. construction of wall framing including studs, other window wall, wall and soffit framing, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.9 WARRANTY

- Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair Α. or replace components of metal wall panel assemblies that fail in materials or workmanship within specified warranty period.
 - Failures include, but are not limited to, the following:
 - Structural failures, including rupturing, cracking, or puncturing.
 - Failure of attachment to underlying framing.
 - Deterioration of metals, metal finishes, and other materials beyond normal weathering.
 - Warranty Period: Ten years from date of Substantial Completion. 2.
- B. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal wall panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
 - Weathertight Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

Α. Aluminum Sheet: Coil-coated sheet, ASTM B 209, alloy as standard with manufacturer, with temper as required to suit forming operations and structural performance required.

2.2 **ALUMINUM FINISHES**

- A. **Exposed Panel Face Finish:**
 - General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
 - 2. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- B. Concealed Finish: Apply pretreatment and manufacturer's standard white or lightcolored acrylic or polyester backer finish, consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

2.3 **MANUFACTURERS**

- Approved composite metal panel Manufacturers or equal as approved by Architect: Α.
 - Alucobond
 - 2. Reynobond
 - 3. Centria
 - Other Manufacturers as approved by Architect
- B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by manufacturer for type of use and finish indicated.
- C. Panel Sealants:
 - Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - Joint Sealant: ASTM C 920; elastomeric polyurethane, polysulfide, or silicone 2. sealant; of type, grade, class, and use classifications required to seal joints in metal wall panels and remain weathertight; and as recommended in writing by metal wall panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.
 - All exposed sealant colors to be selected by Architect from manufacturer's full range of colors.

2.4 SUBSTRATE BOARDS

- Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M. A.
 - Type and Thickness: Regular or Type X, 5/8 inch thick. 1.
 - Product: Subject to compliance with requirements, provide "Dens-Glass Gold" by 2. Georgia-Pacific Corporation, or approved equal.
- B. Engineered wood substrate boards at canopy, refer to Section 06 10 00 "Rough Carpentry". Only fire-retardant wood is acceptable.

LEWIS GROUP ARCHITECTS LGA# 21074

C. Substrate-Board Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FMG 4470, designed for fastening substrate board to substrate.

2.5 **ACM WALL PANELS**

ACM Wall Panel Systems: Provide factory-formed and -assembled, ACM wall panels fabricated from two metal facings that are bonded to a solid, extruded thermoplastic core; formed into profile for installation method indicated. Include attachment assembly components, panel stiffeners, and accessories required.

Basis-of-Design Product: Subject to compliance with requirements, provide; 3A Composites USA Inc.; Alucobond Plus FaceFastened System.

- Aluminum-Faced Composite Wall Panels: Formed with 0.020-inch- (0.50-mm-) thick, B. coil-coated aluminum sheet facings.
 - Panel Thickness: 0.157 inch (4 mm). 1.
 - 2. Core: Fire retardant.
 - Exterior Finish: PVDF fluoropolymer. 3.

Colors: Listed below as indicated on drawings.

- 1) ACM 1: Alucobond Brilliant Silver Metallic (or equal).
- 2) ACM 2: Alucobond Greyhound (or equal).
- 4. Peel Strength: 22.5 in-lb/in. (100 N x mm/mm) when tested for bond integrity in accordance with ASTM D1781.
- Fire Performance: Flame spread less than 25 and smoke developed less than 450, 5. in accordance with ASTM E84.
- C. Attachment Assembly Components: Formed from 3A Composites NA Inc.
 - Alucobond FaceFastened Joint-Rail 1.
 - 2. Alucobond FaceFastened (Mid Start) Rail
 - Alucobond FaceFastened Screw 3.

2.6 MISCELLANEOUS MATERIALS

- Miscellaneous Metal Subframing and Furring: ASTM C645, cold-formed, metallic-coated Α. steel sheet ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) aluminum-zinc-alloy coating designation unless otherwise indicated. Provide Fabricator's standard sections as required for support and alignment of MCM panel system.
- Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of ACM panels unless otherwise indicated.

C. Flashing and Trim: Provide flashing and trim formed from same material as ACM panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent ACM panels.

- 1. Basis-of-Design Product: Subject to compliance with requirements, provide Alucobond 3A Composites USA Inc.; Alucobond Axcent[™] Trim or approved equal.
- 2. Color: Matching the adjacent panel color.
- D. Panel Fasteners: Utilize ALUCOBOND FaceFastened Screw supplied by 3A Composites NA Inc. Screws are painted to match panel color.
- E. Panel Sealants: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in ACM panels and remain weathertight; and as recommended in writing by ACM panel manufacturer.

2.7 **FABRICATION**

- Α. General: Fabricate and finish ACM panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. Panel Edge Treatment: Rout and fold the front edge of the panel over fire rated core per manufacturers recommendations.
- C. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations or recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form 2. seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. Seams for Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 4. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate sealant and to comply with SMACNA standards.
 - 5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" a. or metal wall panel manufacturer for application but not less than thickness of metal being secured.

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024

LEWIS GROUP ARCHITECTS LGA# 21074

28 **FINISHES**

- Α. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Aluminum Panels and Accessories:
 - PVDF Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

PART 3 - EXECUTION

3.1 **EXAMINATION**

- Examine substrates, areas, and conditions, with Installer present, for compliance with Α. requirements for installation tolerances, ACM panel supports, and other conditions affecting performance of the Work.
 - 1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by ACM wall panel manufacturer.
 - Examine wall sheathing to verify that sheathing joints are supported by framing or 2. blocking and that installation is within flatness tolerances required by ACM wall panel manufacturer.
 - Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- Examine roughing-in for components and assemblies penetrating ACM panels to verify B. actual locations of penetrations relative to seam locations of ACM panels before installation.
- Proceed with installation only after unsatisfactory conditions have been corrected. C.

3.2 **PREPARATION**

Miscellaneous Supports: Install sub-framing, furring, and other miscellaneous panel Α. support members and anchorages in accordance with ASTM C754 and ACM panel manufacturer's written recommendations.

A New Horace Maynard Middle School Issue Date: 3/15/2024 Addendum 3: 6/14/2024

3.3 ACM PANEL INSTALLATION

- A. General: Install ACM panels in accordance with Fabricator's written instructions in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to supports unless otherwise indicated. Anchor ACM panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Shim or otherwise plumb substrates receiving ACM panels.
 - 2. Flash ACM panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by ACM panels are installed.
 - 3. Install screw fasteners in predrilled holes.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Install flashing and trim as ACM panel work proceeds.
 - 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 - 7. Align bottoms of ACM panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 - 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by ACM panel manufacturer.
- C. Attachment Assembly, General: Install attachment assembly required to support ACM wall panels and to provide a complete wall system, including subgirts, perimeter extrusions, tracks, drainage channels, panel clips, and anchor channels.
 - 1. Include attachment to supports, panel-to-panel joinery, panel-to-dissimilar-material joinery, and panel-system joint seals.
- D. Panel Installation: Attach ACM wall panels to supports at locations, spacings, and with manufacturer's approve screws to achieve performance requirements specified.
 - 1. Face Fastened System:. Attach ACM wall panels by inserting horizontal support pins into notches in vertical channels and into flanges of panels. Leave horizontal and vertical joints with open reveal.
 - Space, locate, align, and fasten manufacturer's Joint-Rail and Mid/End Rail over gypsum sheathing after application of air barrier as specified by Section 07 27 26.
 - b. Install fasteners in lengths and locations required in order to penetrate hat channels and structural metal wall framing in accordance with fastener manufacturers' instructions.
 - c. Torque screws as necessary for a snug fit. Do not over-torque; prevent 'oil canning' of panels.
 - d. Install wall panels to allow individual panels expand and contract and be installed and removed without disturbing adjacent panels.

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS LGA# 21074

F Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

- Install components required for a complete ACM panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by ACM panel Fabricator; or, if not indicated, provide types recommended in writing by ACM system Fabricator.
- F. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, or SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that are permanently watertight.
 - Install exposed flashing and trim that is without buckling and tool marks and that 1. is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof performance.
 - 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (605 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.4 **ERECTION TOLERANCES**

- Site Verifications of Conditions: A.
 - Verify conditions of substrate previously installed under other Sections are acceptable for the ACM system installation. Provide documentation indicating detrimental conditions to the ACM system performance.
 - 2. Once conditions are verified, ACM system installation tolerances are as follows:
 - Shim and align MCM wall panel units within installed tolerance of 1/4 inch a. in 20 feet (6 mm in 6 m), non-accumulative, on level, plumb, and location lines as indicated, and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.5 FIELD QUALITY CONTROL

- A. Water-Spray Test: After installation, test area of assembly as directed by Architect for water penetration in accordance with AAMA 501.2.
- B. Fabricator's Field Service: Engage a factory-authorized service representative to test and inspect completed ACM wall panel installation, including accessories.
- C. ACM wall panels will be considered defective if they do not pass test and inspections.

A New Horace Maynard Middle School Issue Date: 3/15/2024

Addendum 3: 6/14/2024

D. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.

E. Prepare test and inspection reports.

3.6 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as ACM panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of ACM panel installation, clean finished surfaces as recommended by ACM panel manufacturer. Maintain a clean condition during construction.
- B. After ACM panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace ACM panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 43

SECTION 07 42 13 - METAL WALL PANELS

PART 1 - GENERAL

1.1 **RELATED DOCUMENTS**

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

1.2 **SUMMARY**

- Α. Section Includes:
 - 1. Concealed-fastener, lap-seam metal wall panels.
- Related Sections: B.
 - Division 05 Section "Cold-Formed Metal Framing" for support framing, including girts, studs, and bracing.
 - 2. Division 07 Section "Air Barriers" for continuous air barrier systems.
 - 3. Division 07 Section "Sheet Metal Flashing and Trim" for flashing and other sheet metal work that is not part of metal wall panel assemblies.

1.3 DEFINITION

Α. Metal Wall Panel Assembly: Metal wall panels, attachment system components, miscellaneous metal framing, thermal insulation, and accessories necessary for a complete weather-tight wall system.

1.4 PERFORMANCE REQUIREMENTS

- Α. General Performance: Metal wall panel assemblies shall comply with performance requirements without failure due to defective manufacture, fabrication, installation, or other defects in construction.
- B. Delegated Design: Design metal wall panel assembly, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
- C. Air Infiltration: Air leakage through assembly of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) of wall area when tested according to ASTM E 283 at the following testpressure difference:
 - 1. Test-Pressure Difference: 1.57 lbf/sq. ft. (75 Pa).
- Water Penetration under Static Pressure: No water penetration when tested according D. to ASTM E 331 at the following test-pressure difference:
 - Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

LEWIS GROUP ARCHITECTS
LGA# 21074

E. Structural Performance: Provide metal wall panel assemblies capable of withstanding the effects the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:

- 1. Wind Loads: Determine loads based on the following minimum design wind pressures:
 - a. Uniform pressure of 20 lbf/sq. ft. (957 Pa), acting inward or outward.
- 2. Deflection Limits: Metal wall panel assemblies shall withstand wind loads with horizontal deflections no greater than 1/180 of the span.
- F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of wall panel and accessory.
- B. Shop Drawings: Show fabrication and installation layouts of metal wall panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details. Distinguish between factory-, shop- and field-assembled work.
 - 1. Accessories: Include details of the following items, at a scale of not less than 1-1/2 inches = 1'-0":
 - a. Flashing and trim.
 - b. Anchorage systems.
- C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.
 - 1. Metal Wall Panels: 12 inches (305 mm) long by actual panel width. Include fasteners, closures, and other metal wall panel accessories.
 - 2. Trim and Closures: 12 inches (305 mm) long. Include fasteners and other exposed accessories.
 - 3. Accessories: 12-inch- (305-mm-) long Samples for each type of accessory.
- D. Qualification Data: For Installer, professional engineer and testing agency.
- E. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each product.
- F. Maintenance Data: For metal wall panels to include in maintenance manuals.
- G. Warranties: Sample of special warranties.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.
- B. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.
- C. Source Limitations: Obtain each type of metal wall panel from single source from single manufacturer.
- D. Fire-Resistance Ratings: Where indicated, provide metal wall panels identical to those of assemblies tested for fire resistance per ASTM E 119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.
- E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Construct a mock-up wall incorporating the information, materials, and extents identified by the Architect which shall include in addition to the items listed above typical brick conditions, metal wall paneling, storefront system, composite metal panels, glazing, and sills.
 - Location and Orientation: As directed by Architect not interfering with construction activity.
 - b. Wall size: 8'-0" tall x 8'-0" wide
 - c. Colors and Finishes: As specified or selected by Architect for this project.
 - 2. Build mockup of typical wall panel condition, including insulation, supports, attachments, and accessories.
 - 3. Conduct water spray test of mockup of metal wall panel assembly, testing for water penetration according to AAMA 501.2.
 - 4. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 5. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- F. Preinstallation Conference: Conduct conference at Project site.
 - Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, metal wall panel Installer, metal wall panel manufacturer's representative, structural-support Installer, and installers whose work interfaces with or affects metal wall panels, including installers of doors, windows, and louvers.
 - 2. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 3. Review methods and procedures related to metal wall panel installation, including manufacturer's written instructions.
 - 4. Examine support conditions for compliance with requirements, including alignment between and attachment to structural members.
 - 5. Review flashings, special siding details, wall penetrations, openings, and condition of other construction that will affect metal wall panels.

Issue Date: 3/15/2024 Addendum 3: 6/14/2024

LEWIS GROUP ARCHITECTS LGA# 21074

- 6. Review governing regulations and requirements for insurance, certificates, and tests and inspections if applicable.
- 7. Review temporary protection requirements for metal wall panel assembly during and after installation.
- 8. Review wall panel observation and repair procedures after metal wall panel installation.

1.7 DELIVERY, STORAGE, AND HANDLING

- Deliver components, sheets, metal wall panels, and other manufactured items so as not Α. to be damaged or deformed. Package metal wall panels for protection during transportation and handling.
- B. Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal wall panels horizontally on platforms or pallets, covered with suitable weather-tight and ventilated covering. Store metal wall panels to ensure dryness, with positive slope for drainage of water. Do not store metal wall panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal wall panel for period of metal wall panel installation.

1.8 PROJECT CONDITIONS

- Weather Limitations: Proceed with installation only when existing and forecasted Α. weather conditions permit assembly of metal wall panels to be performed according to manufacturers' written instructions and warranty requirements.
- B. Field Measurements: Verify locations of structural members and wall opening dimensions by field measurements before metal wall panel fabrication, and indicate measurements on Shop Drawings.

1.9 COORDINATION

Coordinate metal wall panel assemblies with rain drainage work, flashing, trim, and Α. construction of studs, soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.10 WARRANTY

- Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair Α. or replace components of metal wall panel assemblies that fail in materials or workmanship within specified warranty period.
 - Failures include, but are not limited to, the following:
 - Structural failures including rupturing, cracking, or puncturing.

- b. Deterioration of metals and other materials beyond normal weathering.
- 2. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal wall panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
 - b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

- A. Metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hotdip process and prepainted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; structural quality.
 - 2. Surface: Smooth, flat finish.
 - 3. Exposed Coil-Coated Finish:
 - a. Exterior finish: Kynar 500 or Hylar 5000 fluorocarbon coating with a top side film thickness of 0.70 to 0.90 mil over 0.25 to 0.31 mil prime coat to provide a total dry film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with a primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the finish supplier.
 - 4. Concealed Finish: Apply pretreatment and manufacturer's standard white or light-colored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil (0.013 mm).

2.2 FIELD-INSTALLED THERMAL INSULATION

A. Refer to Division 07 Section "Thermal Insulation."

2.3 MISCELLANEOUS MATERIALS

A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal wall panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.

2.4 METAL WALL PANELS

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS
LGA# 21074

- A. General: Provide factory-formed metal wall panels designed to be field assembled by lapping and interconnecting side edges of adjacent panels and mechanically attaching through panel to supports using concealed fasteners and factory-applied sealant in side laps. Include accessories required for weather-tight installation.
- B. Metal Wall Panel: Concealed-Fastener Metal Wall Panels, basis of design product is Petersen Aluminum Pac-Clad 16-inch "HWP Panel". Horizontal installation.
 - 1. Other Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Centria.
 - b. Morin, a Kingspan Group Company.
 - c. Berridge Manufacturing Company.
 - 2. Material: Aluminum-zinc alloy-coated steel sheet.
 - a. Exterior Finish: Manufacturer's standard Kynar 500 coating.
 - b. Color: Pac-Clad "Charcoal" (or selected manufacturer's equal).
 - c. Panel Coverage: 16 inches, nominal.
 - d. 24-gauge panel, smooth finish (no stiffener beads).
 - e. 7/8" panel depth.
 - 3. Refer to drawings for locations.

2.5 ACCESSORIES:

- A. Wall Panel Accessories: Provide components required for a complete metal wall panel assembly including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal wall panels, unless otherwise indicated.
 - 1. Closures: Provide closures at eaves and rakes, fabricated of same metal as metal wall panels.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefinfoam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal wall panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- B. Flashing and Trim: Formed from 0.018-inch (0.46-mm) minimum thickness, zinc-coated (galvanized) steel sheet or aluminum-zinc alloy-coated steel sheet prepainted with coil coating. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, bases, drips, sills, jambs, corners, endwalls, framed openings, rakes, fasciae, parapet caps, soffits, reveals, and fillers. Finish flashing and trim with same finish system as adjacent metal wall panels.

2.6 FABRICATION

A. General: Fabricate and finish metal wall panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes, as

necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

- B. Fabricate metal wall panels in a manner that eliminates condensation on interior side of panel and with joints between panels designed to form weathertight seals.
- C. Provide panel profile for full length of panel.
- D. Fabricate metal wall panel joints with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, and that will minimize noise from movements within panel assembly.
- E. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.
 - Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams for Metals Other Than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 3. Sealed Joints: Form nonexpansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.
 - 4. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of accessories exposed to view.
 - 5. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended by metal wall panel manufacturer.
 - a. Size: As recommended by SMACNA's "Architectural Sheet Metal Manual" or metal wall panel manufacturer for application but not less than thickness of metal being secured.

2.7 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS
LGA# 21074

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of work.
 - 1. Examine wall framing to verify that girts, angles, channels, studs, and other structural panel support members and anchorage have been installed within alignment tolerances required by metal wall panel manufacturer.
 - 2. Examine wall sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal wall panel manufacturer.
 - 3. Verify that weather-resistant sheathing paper has been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
 - 4. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
- B. Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before metal wall panel installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 METAL WALL PANEL INSTALLATION

- A. General: Install metal wall panels according to manufacturer's written instructions in orientation, sizes, and locations indicated on Drawings. Install panels perpendicular to girts and subgirts unless otherwise indicated. Anchor metal wall panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Commence metal wall panel installation and install minimum of 300 sq. ft. in presence of factory-authorized representative.
 - 2. Shim or otherwise plumb substrates receiving metal wall panels.
 - 3. Flash and seal metal wall panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until weather barrier and flashings that will be concealed by metal wall panels are installed.
 - 4. Install screw fasteners in predrilled holes.
 - 5. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 6. Install flashing and trim as metal wall panel work proceeds.
 - 7. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 - 8. Apply elastomeric sealant continuously between metal base channel (sill angle) and concrete and elsewhere as indicated or, if not indicated, as necessary for waterproofing.
 - 9. Align bottom of metal wall panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 - 10. Provide weathertight escutcheons for pipe and conduit penetrating exterior walls.
- B. Fasteners:

- 1. Steel Wall Panels: Use stainless-steel fasteners for surfaces exposed to the exterior; use galvanized steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action as recommended by metal wall panel manufacturer.
- D. Joint Sealers: Install gaskets, joint fillers, and sealants where indicated and where required for weathertight performance of metal wall panel assemblies. Provide types of gaskets, fillers, and sealants indicated or, if not indicated, types recommended by metal wall panel manufacturer.
 - 1. Seal metal wall panel end laps with double beads of tape or sealant, full width of panel. Seal side joints where recommended by metal wall panel manufacturer.
 - 2. Prepare joints and apply sealants to comply with requirements in Division 07 Section "Joint Sealants."
- E. Lap-Seam Metal Wall Panels: Fasten metal wall panels to supports with fasteners at each lapped joint at location and spacing recommended by manufacturer.
 - 1. Lap ribbed or fluted sheets one full rib corrugation. Apply panels and associated items for neat and weathertight enclosure. Avoid "panel creep" or application not true to line.
 - 2. Provide metal-backed washers under heads of exposed fasteners bearing on weather side of metal wall panels.
 - 3. Locate and space exposed fasteners in uniform vertical and horizontal alignment. Use proper tools to obtain controlled uniform compression for positive seal without rupture of washer.
 - 4. Install screw fasteners with power tools having controlled torque adjusted to compress washer tightly without damage to washer, screw threads, or panels. Install screws in predrilled holes.
 - 5. Provide sealant tape at lapped joints of metal wall panels and between panels and protruding equipment, vents, and accessories.
 - 6. Apply a continuous ribbon of sealant tape to weather-side surface of fastenings on end laps; on side laps of nesting-type panels; on side laps of corrugated nesting-type, ribbed, or fluted panels; and elsewhere as needed to make panels weathertight.
 - 7. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with butyl-rubber sealant and fastened together by interlocking clamping plates. Substrate boards in paragraph below are specified in Division 06 Section "Sheathing."

3.3 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal wall panel assembly including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.

A New Horace Maynard Middle School

Issue Date: 3/15/2024 Addendum 3: 6/14/2024 LEWIS GROUP ARCHITECTS
LGA# 21074

B. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

- 1. Install exposed flashing and trim that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance.
- 2. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 feet (3 m) with no joints allowed within 24 inches (605 mm) of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

3.4 FIELD QUALITY CONTROL

- A. Water Penetration: Test areas of installed system indicated on Drawings for compliance with system performance requirements according to ASTM E 1105 at minimum differential pressure of 20 percent of inward-acting, wind-load design pressure as defined by SEI/ASCE 7, but not less than 6.24 lbf/sq. ft. (300 Pa).
- B. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect and test completed metal wall panel installation, including accessories.
- C. Remove and replace metal wall panels where tests and inspections indicate that they do not comply with specified requirements.
- D. Additional tests and inspections, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal wall panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal wall panel installation, clean finished surfaces as recommended by metal wall panel manufacturer. Maintain in a clean condition during construction.
- B. After metal wall panel installation, clear weep holes and drainage channels of obstructions, dirt, and sealant.
- C. Replace metal wall panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 07 42 13

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Knoxville & Cleveland, Tennessee

A NEW FACILITY FOR:

UNION COUNTY PUBLIC SCHOOLS HORACE MAYNARD MIDDLE SCHOOL

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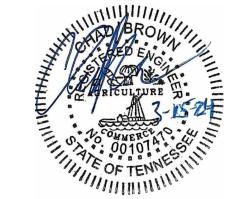
INDEX OF DRAWINGS

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revis Description
	COVER	03/15/2024	06/14/2024	ADD 003
31.11	GENERAL INFORMATION	03/15/2024	04/26/2024	R1-SFMO RD
91.21 91.22	FIRST FLOOR LIFE SAFETY PLAN AND NOTES SECOND FLOOR LIFE SAFETY PLAN AND NOTES	03/15/2024	04/26/2024	R1-SFMO RD
G1.22	UL DESIGN ASSEMBLIES	03/15/2024	04/26/2024	RT-SFMORD
£1.32	UL DESIGN ASSEMBLIES	03/15/2024		
001	SITE SURVEY	03/15/2024	04/26/2024	R1-SFMO RD
2101	SITE LAYOUT PLAN	03/15/2024	04/26/2024	R1-SFMO RD
2102 2103	SITE LAYOUT PLAN (ALTERNATES) ROAD IMPROVEMENTS LAYOUT PLAN	03/15/2024	04/26/2024	R1-SFMO RD
2104	STRIPING AND SIGNAGE PLAN	06/10/2024		
201	SITE GRADING PLAN (ALTERNATES)	03/15/2024	04/26/2024	R1-SFMO RD
202	SITE GRADING PLAN (ALTERNATES) ROAD IMPROVEMENT GRADING PLAN	03/15/2024 06/10/2024	04/26/2024	R1-SFMO RD
301	INITIAL EROSION CONTROL PLAN	03/15/2024	04/26/2024	R1-SFMO RD
302	INTERMEDIATE EROSION CONTROL PLAN FINAL EROSION CONTROL PLAN	03/15/2024	04/26/2024	R1-SFMO RD
304	SWPPP	03/15/2024	04/26/2024	R1-SFMO RD
305 306	EROSION CONTROL DETAILS EROSION CONTROL DETAILS	03/15/2024	04/26/2024	R1-SFMO RD
307	EROSION CONTROL DETAILS	03/15/2024	04/26/2024	R1-SFMO RD
2401	SITE UTILITY PLAN	03/15/2024	04/26/2024	R1-SFMO RD
501 502	SITE DETAILS SITE DETAILS	03/15/2024	04/26/2024	R1-SFMO RD
503	SITE DETAILS	03/15/2024	04/26/2024	R1-SFMO RD
9 .S1.11	OVERALL ARCHITECTURAL SITE PLAN	03/15/2024		
S1.11	ENLARGED CAFETERIA & COURTYARD PLANS & DETAILS	03/15/2024		
S1.13	ENLARGED SOUTH FIELD PLAN	03/15/2024		
S1.14 S1.15	ENLARGED NORTH FIELD PLANS ANCILLARY STRUCTURE AND ATHLETIC FIELD DETAILS	03/15/2024		
S1.21	SOUTH CANOPY PLANS & ELEVATIONS	03/15/2024	06/14/2024	-
S1.22	SOUTH CANOPY DETAILS	03/15/2024 03/15/2024	06/14/2024	ADD 003
S1.23 S1.24	NORTH CANOPY PLANS, ELEVATIONS, AND DETAILS LOADING PLAN & ELEVATIONS	03/15/2024		
S1.25	LOADING AREA DETAILS	03/15/2024		
0 1.11	FIRST FLOOR COMPOSITE PLAN	03/15/2024	04/26/2024	R1-SFMO RD
1.12	SECOND FLOOR COMPOSITE PLAN	03/15/2024	05/31/2024	ADD 001
1.21	FIRST FLOOR PLAN - AREA 'A'	03/15/2024	04/26/2024	R1-SFMO RD
1.22	FIRST FLOOR PLAN - AREA 'B' SECOND FLOOR PLAN - AREA 'C'	03/15/2024	04/26/2024 05/31/2024	R1-SFMO RD ADD 001
1.24	SECOND FLOOR PLAN - AREA 'D'	03/15/2024	04/26/2024	R1-SFMO RD
1.25	SECOND FLOOR PLAN - AREA 'E' SECOND FLOOR PLAN - AREA 'F'	03/15/2024	05/31/2024 04/26/2024	ADD 001 R1-SFMO RD
1.31	ENLARGED ROOM PLANS - AREAS 'A' & 'B'	03/15/2024	05/31/2024	ADD 001
1.32	ENLARGED ROOM PLANS - AREA 'E'	03/15/2024		
1.33	ENLARGED ROOM PLANS - AREA 'F' ENLARGED BLVD PLAN	03/15/2024		
1.41	PLAN DETAILS	03/15/2024	04/26/2024	R1-SFMO RD
1.51	STAIR PLANS AND DETAILS - STAIRS A & B STAIR PLANS AND DETAILS - STAIR C	03/15/2024	05/20/2024	R2 R2
1.53	STAIR PLANS AND DETAILS - STAIR D	03/15/2024	05/20/2024	ADD 001
1.54	STAIR AND ELEVATOR PLANS AND DETAILS	03/15/2024	05/31/2024	ADD 001
.1.61 .1.71	GYMNASIUM STRIPING PLAN INTERIOR PARTITION TYPES	03/15/2024	04/26/2024	R1-SFMO RD
2.11	BUILDING ELEVATIONS - SOUTH	03/15/2024	06/14/2024	4
2.12	BUILDING ELEVATIONS - NORTH BUILDING ELEVATIONS - EAST & WEST	03/15/2024	06/14/2024	-
2.13	BUILDING ELEVATIONS - EAST & WEST	03/15/2024	06/14/2024	-
2.21	BUILDING ELEVATIONS - ENLARGED	03/15/2024	06/14/2024	1 -4 -4 -4 -4
3.11 4.11	BUILDING SECTIONS WALL SECTIONS - CLASSROOM WINGS	03/15/2024	05/31/2024	ADD 001
4.12	WALL SECTIONS	03/15/2024	06/14/2024	ADD 003
4.13 4.14	WALL SECTIONS - MAIN ENTRIES WALL SECTIONS	03/15/2024		
4.15	WALL SECTIONS - ADMINISTRATION	03/15/2024	06/14/2024	ADD 003
4.16	WALL SECTIONS - ADMINISTRATION	03/15/2024	06/14/2024	ADD 003
4.17 4.18	WALL SECTIONS - CAFETERIA WALL SECTIONS - GYMNASIUM	03/15/2024		
4.19	WALL SECTIONS - RETAINING	03/15/2024		
5.11	ROOF PLAN AND NOTES	03/15/2024	06/14/2024	ADD 003
5.21 6.11	ROOF DETAILS FIRST FLOOR REFLECTED CEILING PLAN	03/15/2024 03/15/2024	06/14/2024 3	R2
6.12	SECOND FLOOR REFLECTED CEILING PLAN	03/15/2024	05/20/2024	R2
6.21 6.22	FIRST FLOOR REFLECTED CEILING PLAN - AREA 'A' FIRST FLOOR REFLECTED CEILING PLAN - AREA 'B'	03/15/2024	05/20/2024	R2 R2
6.23	SECOND FLOOR REFLECTED CEILING PLAN - AREA 'C'	03/15/2024	05/20/2024	R2
6.24 6.25	SECOND FLOOR REFLECTED CEILING PLAN - AREA 'D' SECOND FLOOR REFLECTED CEILING PLAN - AREA 'E'	03/15/2024	05/20/2024	R2 R2
6.25	SECOND FLOOR REFLECTED CEILING PLAN - AREA 'E' SECOND FLOOR REFLECTED CEILING PLAN - AREA 'F'	03/15/2024	05/20/2024	R2 R2
6.31	CEILING DETAILS	03/15/2024	05/31/2024	ADD 001
7.11 7.12	INTERIOR ELEVATIONS AND TYPICAL MOUNTING HEIGHTS INTERIOR ELEVATIONS	03/15/2024	04/26/2024	R1-SFMO RD
7.13	INTERIOR ELEVATIONS - AREA 'A'	03/15/2024		
7.14	INTERIOR ELEVATIONS	03/15/2024	05/20/2024	R2
7.15 7.16	INTERIOR ELEVATIONS INTERIOR ELEVATIONS	03/15/2024		
7.17	INTERIOR ELEVATIONS - GYM	03/15/2024	0=:=::	A== :-
7.18 7.19	INTERIOR ELEVATIONS - GYM INTERIOR ELEVATIONS - GYM	03/15/2024	05/31/2024	ADD 001
7.20	INTERIOR ELEVATIONS	03/15/2024		
7.21	INTERIOR ELEVATIONS - BAND	03/15/2024	05/24/0004	ADD 004
7.22 7.31	INTERIOR ELEVATIONS - BLVD MILLWORK DETAILS	03/15/2024 03/15/2024	05/31/2024	ADD 001
7.32	MILLWORK DETAILS	03/15/2024		
7.33 8.11	MILLWORK DETAILS DOOR TYPES AND SCHEDULE	03/15/2024	05/31/2024	ADD 001
8.12	GLAZING ELEVATIONS	03/15/2024	05/31/2024	ADD 001
8.13	GLAZING ELEVATIONS	03/15/2024	05/31/2024	ADD 001
8.21 8.22	HEAD, JAMB, AND SILL DETAILS HEAD, JAMB, AND SILL DETAILS	03/15/2024	06/14/2024	ADD 003
9.11	FINISH NOTES AND DETAILS	03/15/2024		
9.12 9.21	ROOM FINISH SCHEDULES FINISH FLOOR PLAN - AREA 'A'	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD
9.21 9.22	FINISH FLOOR PLAN - AREA 'A' FINISH FLOOR PLAN - AREA 'B'	03/15/2024	05/20/2024	R1-SFMO RD
	FINISH FLOOR PLAN - AREA 'C'	03/15/2024	04/26/2024	R1-SFMO RD
9.23	LINUCLEL COD DIAN ADEA 'D'	03/15/2024	05/20/2024	R2
9.23 9.24 9.25	FINISH FLOOR PLAN - AREA 'D' FINISH FLOOR PLAN - AREA 'E'	03/15/2024	00/20/2021	

Sheet Number	Sheet Name	Sheet Issue Date	Current Revision Date	Current Revision Description
10.11	EQUIPMENT PLAN	03/15/2024		
0.01	ABBREVIATIONS, SYMBOLS AND LEGENDS	03/15/2024		
0.02	STRUCTURAL GENERAL NOTES STRUCTURAL GENERAL NOTES	03/15/2024 03/15/2024		
0.04	SPECIAL INSPECTIONS TYPICAL CONCRETE DETAILS	03/15/2024		
0.06 0.07	TYPICAL MASONRY & STEEL DETAILS TYPICAL STEEL DETAILS	03/15/2024		
0.08	TYPICAL STEEL DETAILS TYPICAL LIGHT GAUGE DETAILS	03/15/2024		
0.11	TYPICAL STEEL JOIST LOADING DETAILS	05/31/2024		
1.01	OVERALL FOUNDATION PLAN OVERALL FLOOR FRAMING PLAN	03/15/2024 03/15/2024		
1.03 1.10	OVERALL ROOF FRAMING PLAN FOUNDATION PLAN - AREA 'A'	03/15/2024		
1.11	FOUNDATION PLAN - AREA 'C' ROOF FRAMING PLAN - AREA 'C'	03/15/2024 03/15/2024		
1.20	FOUNDATION PLAN - AREA 'B'	03/15/2024		
1.21	FLOOR FRAMING PLAN - AREA 'D' ROOF FRAMING PLAN - AREA 'D'	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
1.30	FLOOR FRAMING PLAN - AREA 'E' ROOF FRAMING PLAN - AREA 'E'	03/15/2024		
1.40	FOUNDATION PLAN - AREA 'F' ROOF FRAMING PLAN - AREA 'F'	03/15/2024	04/26/2024	R1-SFMO RD 1
1.51	ENLARGED NORTH CANOPY PLANS	03/15/2024	04/20/2024	IXI-OI WO IXD I
1.52 2.01	ENLARGED SOUTH ENTRANCE PLANS SECTIONS & DETAILS	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
2.02	SECTIONS & DETAILS SECTIONS & DETAILS	03/15/2024 03/15/2024		
2.11	SECTIONS & DETAILS	03/15/2024	04/26/2024	R1-SFMO RD 1
2.12 2.20	SECTIONS & DETAILS SECTIONS & DETAILS	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
2.21 2.22	SECTIONS & DETAILS SECTIONS & DETAILS	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
2.23	SECTIONS & DETAILS	03/15/2024	04/20/2024	TO MOTEST
2.24 2.25	SECTIONS & DETAILS SECTIONS & DETAILS	05/31/2024 03/15/2024		
6 0.21	FIRST FLOOR PLAN - AREA A - UNDERGROUND	03/15/2024		
0.22	FIRST FLOOR PLAN - AREA B - UNDERGROUND	03/15/2024		
1.21	FIRST FLOOR PLAN - AREA 'A' - WASTE AND VENT FIRST FLOOR PLAN - AREA 'B' - WASTE AND VENT	03/15/2024 03/15/2024		
1.23 1.24	SECOND FLOOR PLAN - AREA 'C' - WASTE AND VENT SECOND FLOOR PLAN - AREA 'D' - WASTE AND VENT	03/15/2024 03/15/2024		
1.25	SECOND FLOOR PLAN - AREA 'E' - WASTE AND VENT	03/15/2024		
1.26 2.21	SECOND FLOOR PLAN - AREA 'F' - WASTE AND VENT FIRST FLOOR PLAN - AREA 'A' - SERVICES	03/15/2024		
2.22 2.23	FIRST FLOOR PLAN - AREA 'B' - SERVICES SECOND FLOOR PLAN - AREA 'C' - SERVICES	03/15/2024 03/15/2024		
2.24	SECOND FLOOR PLAN - AREA 'D' - SERVICES	03/15/2024		
2.25 2.26	SECOND FLOOR PLAN - AREA 'E' - SERVICES SECOND FLOOR PLAN - AREA 'F' - SERVICES	03/15/2024		
2.27 3.01	OVERALL ROOF PLAN - SERVICES ENLARGED KITCHEN FLOOR PLAN - UNDERGROUND	03/15/2024		
3.02	ENLARGED KITCHEN FLOOR PLAN - WASTE AND VENT	03/15/2024		
3.03 4.01	PLUMBING FIXTURES	03/15/2024		
4.02 4.03	PLUMBING DETAILS PLUMBING RISER DIAGRAMS	03/15/2024		
1			04/26/2024	D1 CEMO DD 1
11.21 11.22	FIRST FLOOR PLAN - AREA 'A' - HVAC FIRST FLOOR PLAN - AREA 'B' - HVAC	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1 R1-SFMO RD 1
11.23 11.24	SECOND FLOOR PLAN - AREA 'C' - HVAC SECOND FLOOR PLAN - AREA 'D' - HVAC	03/15/2024	04/26/2024	R1-SFMO RD 1
11.25 11.26	SECOND FLOOR PLAN - AREA 'E' - HVAC SECOND FLOOR PLAN - AREA 'F' - HVAC	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
12.01	ROOF PLAN - HVAC	03/15/2024		
13.01 13.02	ENLARGED KITCHEN PLAN - HVAC KITCHEN SCHEDULES & DETAILS	03/15/2024	04/26/2024	R1-SFMO RD 1
14.01 14.02	SCHEDULES - HVAC DETAILS - HVAC	03/15/2024 03/15/2024		
1				
E1.10 E1.11	OVERALL SITE PLAN - ELECTRICAL PARTIAL SITE PLAN - ALT #1 - ELECTRICAL	05/31/2024 05/31/2024		
E1.12 E1.13	PARTIAL SITE PLAN - ALT #2 - ELECTRICAL PARTIAL PLAN - SOFTBALL FIELD - ALT #2 - ELECTRICAL	05/31/2024 05/31/2024		
			04/00/0004	D4 05M0 DD 4
1.11 1.12	FIRST FLOOR PLAN - AREA 'A' - LIGHTING FIRST FLOOR PLAN - AREA 'B' - LIGHTING	03/15/2024 03/15/2024	04/26/2024 04/26/2024	R1-SFMO RD 1 R1-SFMO RD 1
1.13 1.14	SECOND FLOOR PLAN - AREA 'C' - LIGHTING SECOND FLOOR PLAN - AREA 'D' - LIGHTING	03/15/2024	04/26/2024	R1-SFMO RD 1
1.15 1.16	SECOND FLOOR PLAN - AREA 'E' - LIGHTING	03/15/2024	04/26/2024	R1-SFMO RD 1
2.11	SECOND FLOOR PLAN - AREA 'F' - LIGHTING FIRST FLOOR PLAN - AREA 'A' - POWER	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1 R1-SFMO RD 1
2.12 2.13	FIRST FLOOR PLAN - AREA 'B' - POWER SECOND FLOOR PLAN - AREA 'C' - POWER	03/15/2024	04/26/2024	R1-SFMO RD 1
2.14	SECOND FLOOR PLAN - AREA 'D' - POWER	03/15/2024	04/26/2024	R1-SFMO RD 1
2.15	SECOND FLOOR PLAN - AREA 'E' - POWER SECOND FLOOR PLAN - AREA 'F' - POWER	03/15/2024	04/26/2024	R1-SFMO RD 1
3.11 3.12	FIRST FLOOR PLAN - AREA 'A' - COMMUNICATIONS FIRST FLOOR PLAN - AREA 'B' - COMMUNICATIONS	03/15/2024 03/15/2024		
3.13 3.14	SECOND FLOOR PLAN - AREA 'C' - COMMUNICATIONS SECOND FLOOR PLAN - AREA 'D' - COMMUNICATIONS	03/15/2024		
3.15	SECOND FLOOR PLAN - AREA 'E' - COMMUNICATIONS	03/15/2024		
3.16 4.11	SECOND FLOOR PLAN - AREA 'F' - COMMUNICATIONS FIRST FLOOR PLAN - AREA 'A' - FIRE ALARM AND HVAC	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
4.12	WIRING FIRST FLOOR PLAN - AREA 'B' - FIRE ALARM AND HVAC	03/15/2024	04/26/2024	R1-SFMO RD 1
4.13	WIRING SECOND FLOOR PLAN - AREA 'C' - FIRE ALARM AND HVAC	03/15/2024	04/26/2024	R1-SFMO RD 1
	WIRING			
4.14	SECOND FLOOR PLAN - AREA 'D' - FIRE ALARM AND HVAC WIRING	03/15/2024	04/26/2024	R1-SFMO RD 1
4.15	SECOND FLOOR PLAN - AREA 'E' - FIRE ALARM AND HVAC WIRING	03/15/2024	04/26/2024	R1-SFMO RD 1
4.16	SECOND FLOOR PLAN - AREA 'F' - FIRE ALARM AND HVAC WIRING	03/15/2024	04/26/2024	R1-SFMO RD 1
5.10 5.11	ENLARGED KITCHEN PLAN - ELECTRICAL ROOF PLAN - AREA 'A' - ELECTRICAL	03/15/2024 03/15/2024		
5.12	ROOF PLAN - AREA 'D' - ELECTRICAL	03/15/2024		
5.13 6.11	ROOF PLAN - AREA 'F' - ELECTRICAL LEGEND AND LIGHTING FIXTURE SCHEDULE	03/15/2024 03/15/2024		
6.12 6.13	DETAILS FEEDER DIAGRAM	03/15/2024		
6.14	PANELBOARDS	03/15/2024		
6.15 3	PANELBOARDS	03/15/2024		
P1.21 P1.22	FIRST FLOOR PLAN - AREA A - FIRE PROTECTION FIRST FLOOR PLAN - AREA B - FIRE PROTECTION	03/15/2024 03/15/2024	04/26/2024	R1-SFMO RD 1
P1.23	SECOND FLOOR PLAN - AREA C - FIRE PROTECTION	03/15/2024	3 112012024	OI WIO RD I
P1.24	SECOND FLOOR PLAN - AREA D - FIRE PROTECTION SECOND FLOOR PLAN - AREA E - FIRE PROTECTION	03/15/2024 03/15/2024		
	SECOND FLOOR PLAN - AREA F - FIRE PROTECTION	03/15/2024		R1-SFMO RD 1
P1.25 P1.26		03/15/2024	UV/38/3034	TIN I THE STREET A PARTY OF THE STREET
P1.25 P1.26 P3.01	FIRE PROTECTION DETAILS	03/15/2024	04/26/2024	2
P1.25		03/15/2024 03/15/2024 03/15/2024	04/26/2024	2

A EW CHIECHS

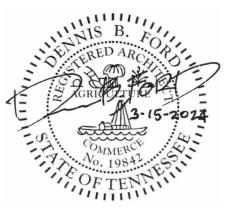








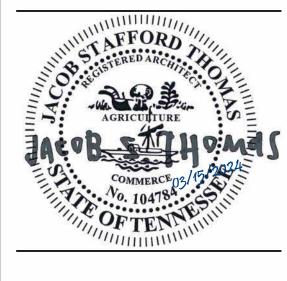




#	DATE	DESCRIPTION
1	04/26/2024	R1-SFMO RE
2	05/20/2024	R2
3	05/31/2024	ADD 001
4	06/10/2024	ADD 002
5	06/14/2024	ADD 003

PROJECT DATE 03/15/2024

PROJECT NO.



03/15/2024 21074

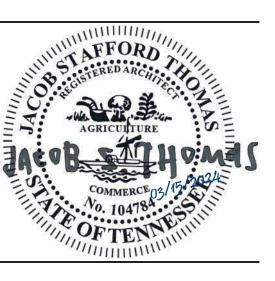
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5 06/14/2024 ADD 003

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SOUTH CANOPY PLANS &

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03/15/2024 21074 SBC NO:

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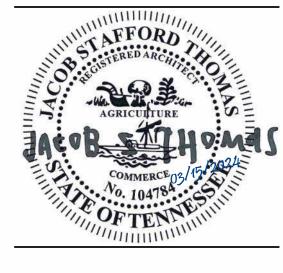
5 06/14/2024 ADD 003

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SOUTH CANOPY

DETAILS

LEWOXVILE, TN | 6512 DEANE HILL DR. 37919 - PH. 865.584.5000 | CLEVELAND, TN | 63 000EE ST. 37311 - PH. 423.476.0012





A NEW SCHOOL FACILITY:

HORACE MAYNARD MIDDLE

DATE: 03/15/2024
PROJECT NO: 21074
SBC NO:

PROJECT REVISIONS

DATE DESCRIPTION

E/20/2024 B2

DATE DESCRIPTION
2 05/20/2024 R2
3 05/31/2024 ADD 001
5 06/14/2024 ADD 003

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BUILDING ELEVATIONS -SOUTH

A2.11





03/15/2024 21074

PROJECT REVISIONS 3 05/31/2024 ADD 001

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BUILDING **ELEVATIONS** -NORTH



03/15/2024 PROJECT NO: 21074

PROJECT REVISIONS # DATE DESCRIPTION 3 05/31/2024 ADD 001

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BUILDING **ELEVATIONS -**



DATE: 03/15/2024
PROJECT NO: 21074
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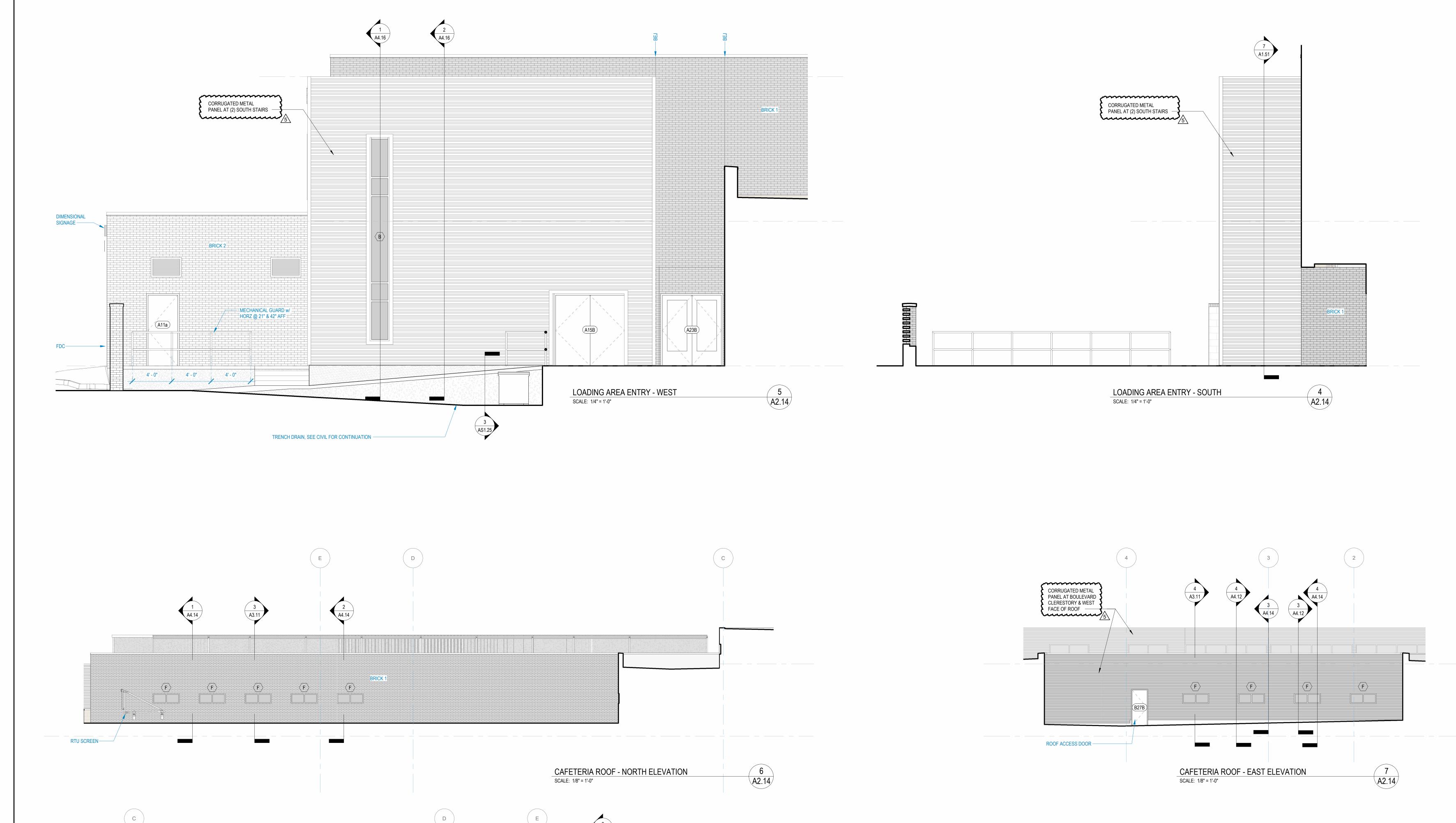
PROJECT REVISIONS

DATE DESCRIPTION
3 05/31/2024 ADD 001
5 06/14/2024 ADD 003

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BUILDING ELEVATIONS -HIDDEN

A2.14



GYM T.O.M. 46' - 0"

<u>GYM BRG</u> 39' - 4"

BRICK 1

LOADING AREA ENTRY - NORTH

SCALE: 1/8" = 1'-0"

BRICK 1
OUTSIDE FACE
OF RET WALL

Elevation 4 - d

SCALE: 1/8" = 1'-0"

BRICK 2 INSIDE

FACE OF RET WALL

1 A2.14

A4.18

BRICK 1

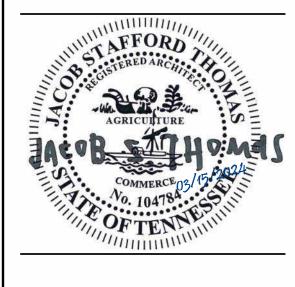
CAFETERIA ROOF - SOUTH ELEVATION

SCALE: 1/8" = 1'-0"

62' - 11 3/16"

GYM ROOF ACCESS HATCH BEYOND

LENOXVILE, TN 16512 DEANE HILL DR. 37919 - PH. 865.584.5000 | CLEVELAND, TN 163 0COE 57. 37311 - PH. 423.476.0012





DATE: 03/15/2024
PROJECT NO: 21074
SBC NO:

PROJECT REVISIONS

DATE DESCRIPTION
5/20/2024 R2

DATE DESCRIPTION
2 05/20/2024 R2
3 05/31/2024 ADD 001
5 06/14/2024 ADD 003

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ELEVATIONS -ENLARGED

A2.2



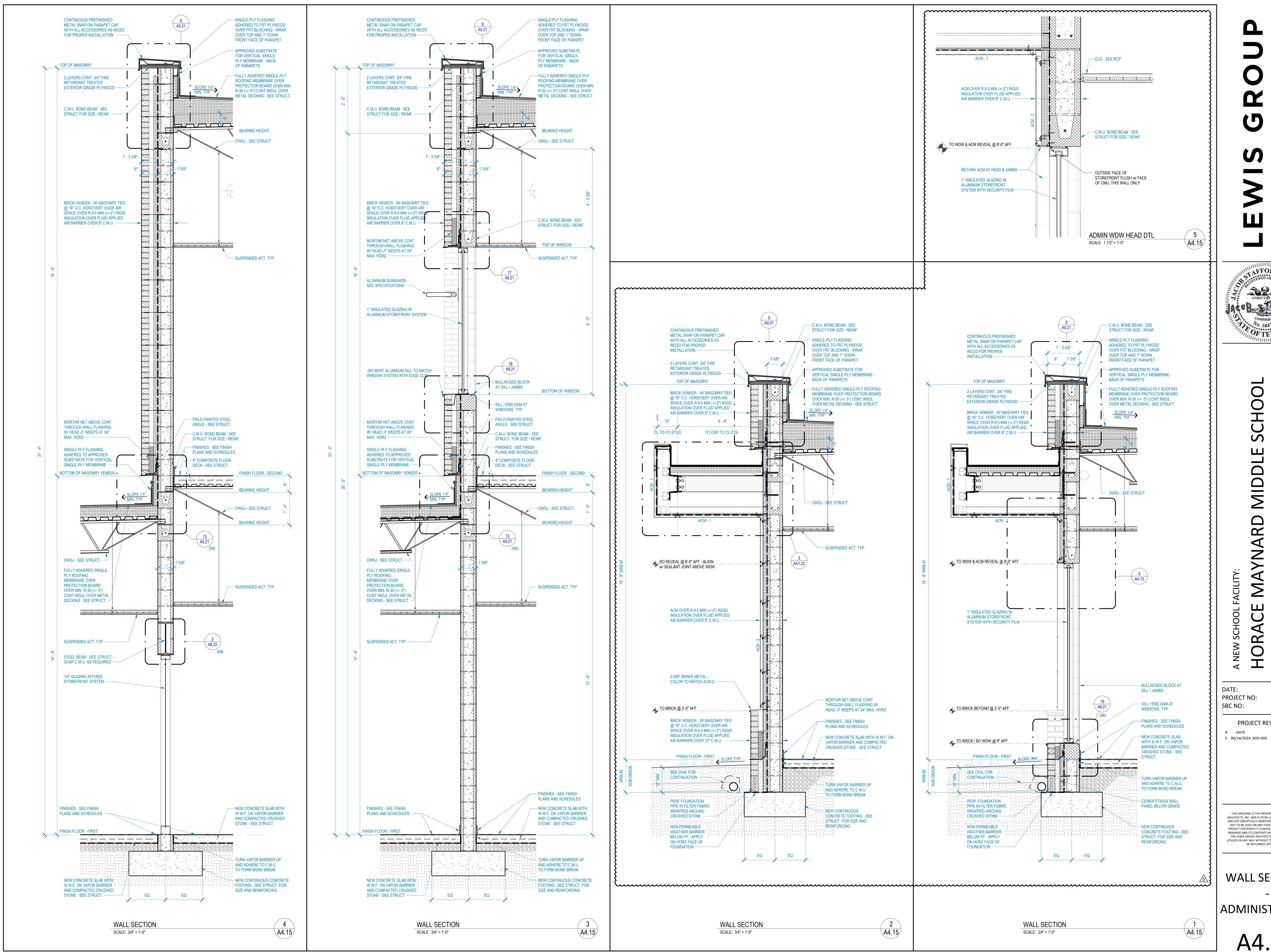
03/15/2024 PROJECT NO: 21074 SBC NO:

PROJECT REVISIONS # DATE

3 05/31/2024 ADD 001 5 06/14/2024 ADD 003

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WALL SECTIONS





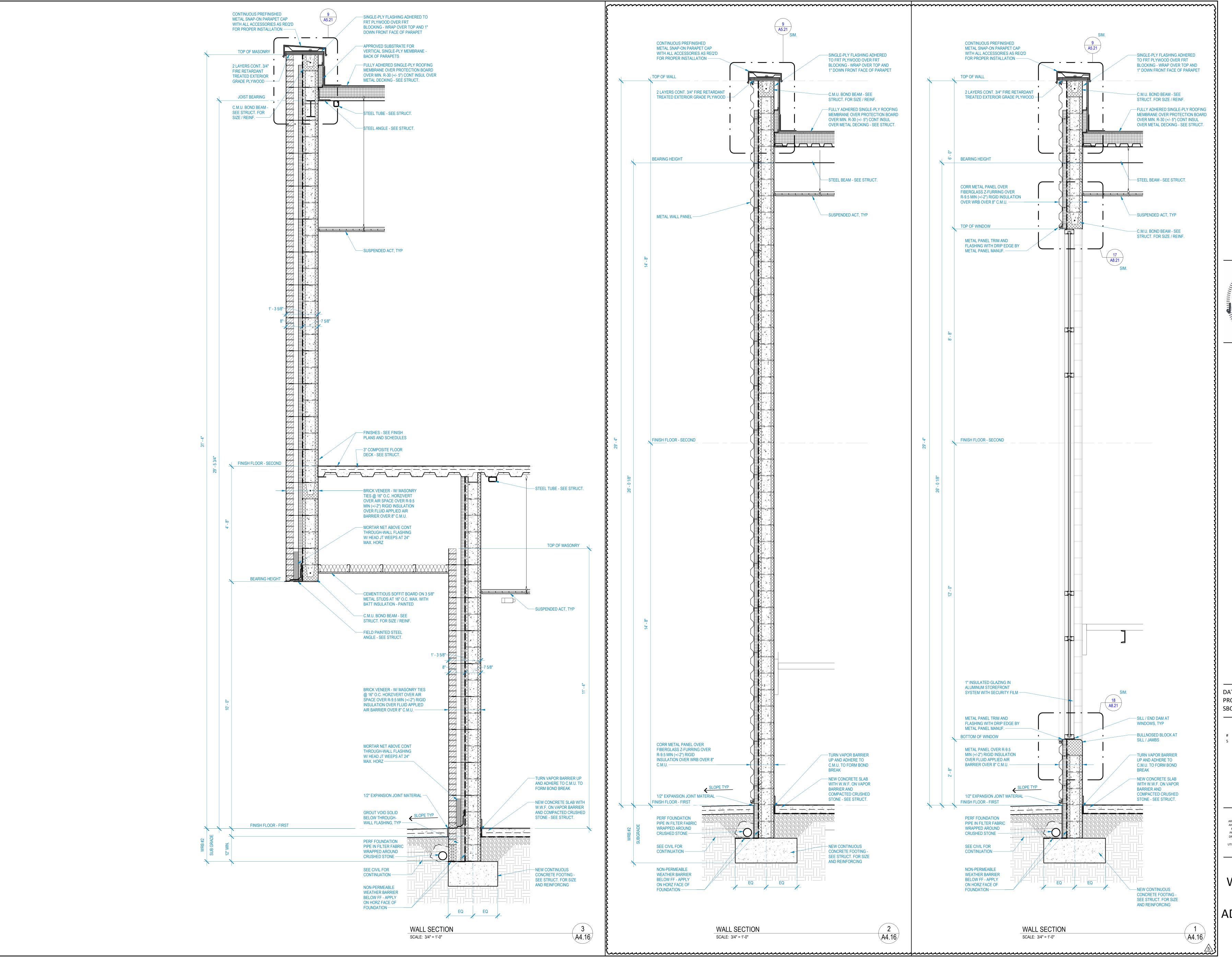


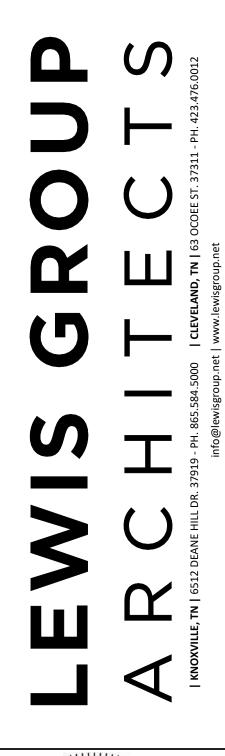
03/15/2024 PROJECT NO: 21074 PROJECT REVISIONS

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WALL SECTIONS

ADMINISTRATION







IORACE MAYNARD MIDDLE SCHONION COUNTY PUBLIC SCHOOLS

DATE: 03/15/2024
PROJECT NO: 21074
SBC NO:

PROJECT REVISIONS

PROJECT REVISIONS

DATE DESCRIPTION
5 06/14/2024 ADD 003

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WALL SECTIONS

ADMINISTRATION

A4.1

/ 11 `

TYPICAL ROOF ACCESS LADDER

SCALE: 3/4" = 1'-0"

A5.21

GUTTER DETAIL

\

SCALE: 1 1/2" = 1'-0"

TYPICAL PARAPET AT C.M.U. WALL

SCALE: 1 1/2" = 1'-0"

ROOF OVERFLOW DETAIL

SCALE: 1 1/2" = 1'-0"



03/15/2024

SBC NO: PROJECT REVISIONS # DATE

21074

5 06/14/2024 ADD 003

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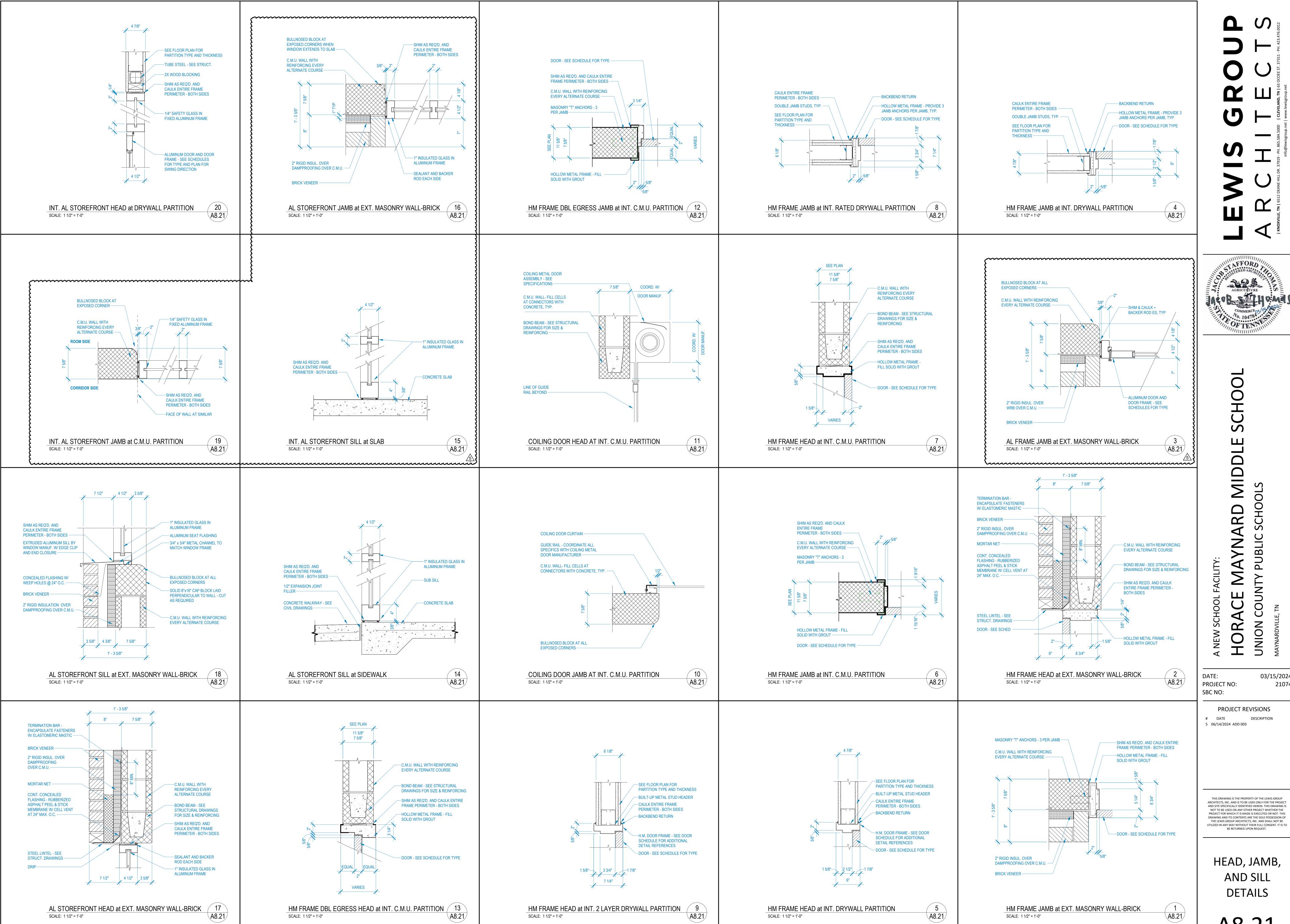
ROOF DETAILS

A5.21

PIPE FLASHING

SCALE: 1 1/2" = 1'-0"

A5.21/





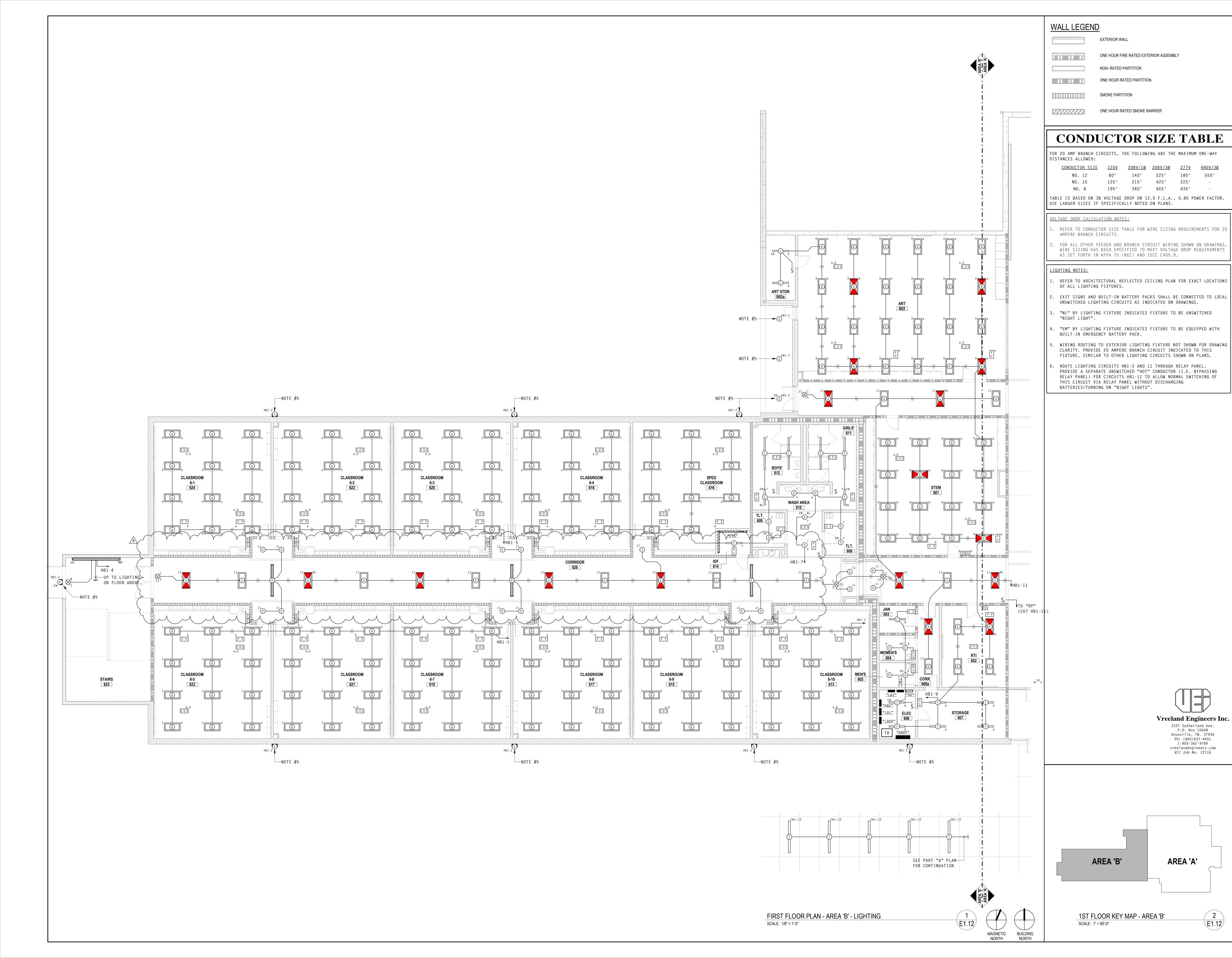
03/15/2024 PROJECT NO: 21074

PROJECT REVISIONS

5 06/14/2024 ADD 003

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HEAD, JAMB, AND SILL **DETAILS**



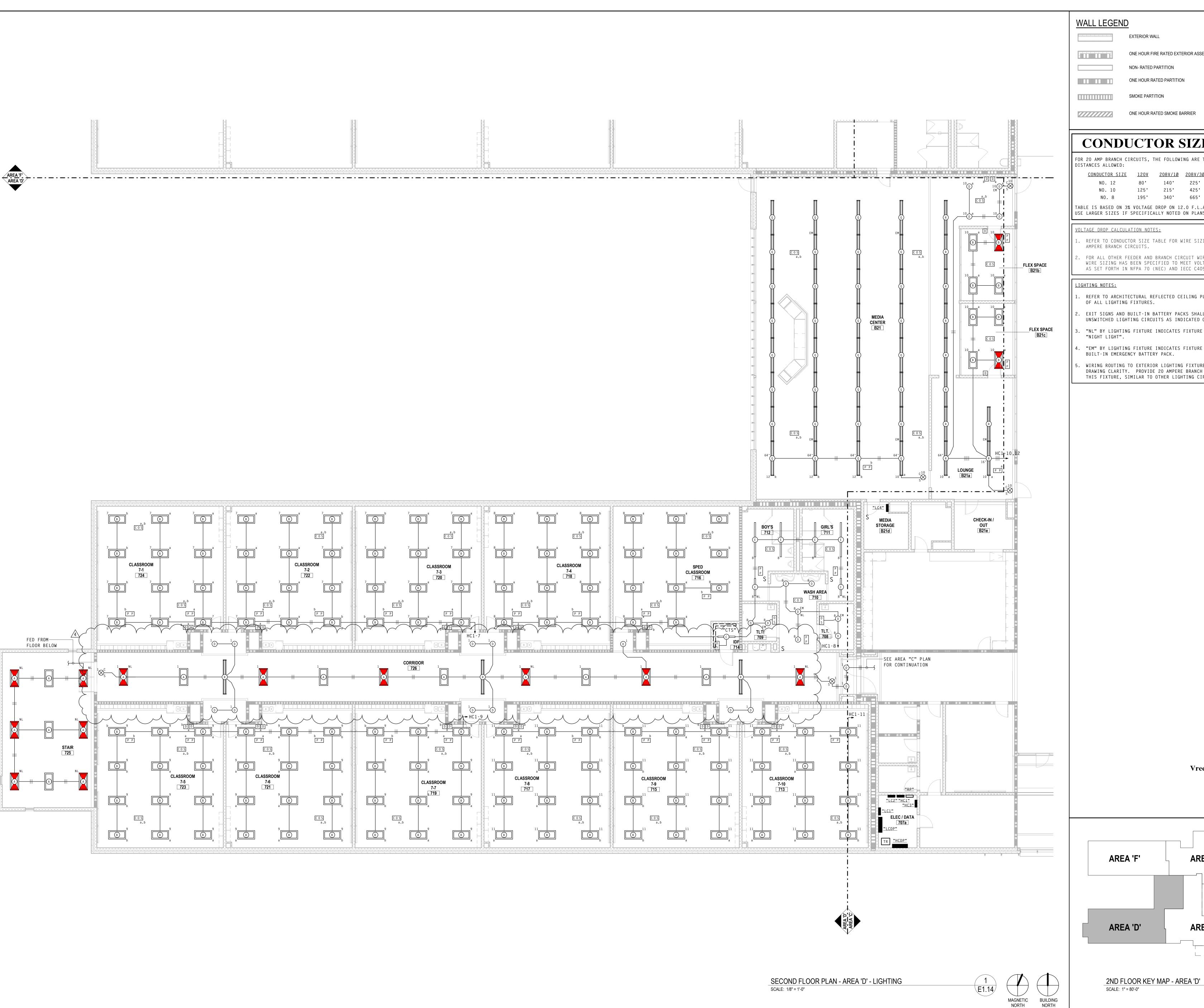
03/15/2024 21074 PROJECT NO: SBC NO: 540 / 001-05-2023 SP2

PROJECT REVISIONS

1 4-26-24 SFMO COMMENTS 4 6-14-24 ADD 003

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FIRST FLOOR PLAN - AREA 'B' - LIGHTING



WALL LEGEND EXTERIOR WALL ONE HOUR FIRE RATED EXTERIOR ASSEMBLY NON- RATED PARTITION ONE HOUR RATED PARTITION SMOKE PARTITION ONE HOUR RATED SMOKE BARRIER

CONDUCTOR SIZE TABLE

FOR 20 AMP BRANCH CIRCUITS, THE FOLLOWING ARE THE MAXIMUM ONE-WAY

<u>208V/10</u> <u>208V/30</u> <u>277V</u> <u>480V/30</u> 225' TABLE IS BASED ON 3% VOLTAGE DROP ON 12.0 F.L.A., 0.85 POWER FACTOR. USE LARGER SIZES IF SPECIFICALLY NOTED ON PLANS.

VOLTAGE DROP CALCULATION NOTES:

- . REFER TO CONDUCTOR SIZE TABLE FOR WIRE SIZING REQUIREMENTS FOR 20 AMPERE BRANCH CIRCUITS.
- FOR ALL OTHER FEEDER AND BRANCH CIRCUIT WIRING SHOWN ON DRAWINGS, WIRE SIZING HAS BEEN SPECIFIED TO MEET VOLTAGE DROP REQUIREMENTS AS SET FORTH IN NFPA 70 (NEC) AND IECC C405.9.
- . REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATIONS OF ALL LIGHTING FIXTURES.
- . EXIT SIGNS AND BUILT-IN BATTERY PACKS SHALL BE CONNECTED TO LOCAL UNSWITCHED LIGHTING CIRCUITS AS INDICATED ON DRAWINGS.
- "NL" BY LIGHTING FIXTURE INDICATES FIXTURE TO BE UNSWITCHED
- . "EM" BY LIGHTING FIXTURE INDICATES FIXTURE TO BE EQUIPPED WITH BUILT-IN EMERGENCY BATTERY PACK.
- . WIRING ROUTING TO EXTERIOR LIGHTING FIXTURES NOT SHOWN FOR DRAWING CLARITY. PROVIDE 20 AMPERE BRANCH CIRCUIT INDICATED TO THIS FIXTURE, SIMILAR TO OTHER LIGHTING CIRCUITS SHOW ON PLANS.



03/15/2024 DATE: PROJECT NO: SBC NO: 540 / 001-05-2023 SP2

PROJECT REVISIONS

1 4-26-24 SFMO COMMENTS 4 6-14-24 ADD 003

Vreeland Engineers Inc.

3107 Sutherland Ave. P.O. Box 10648

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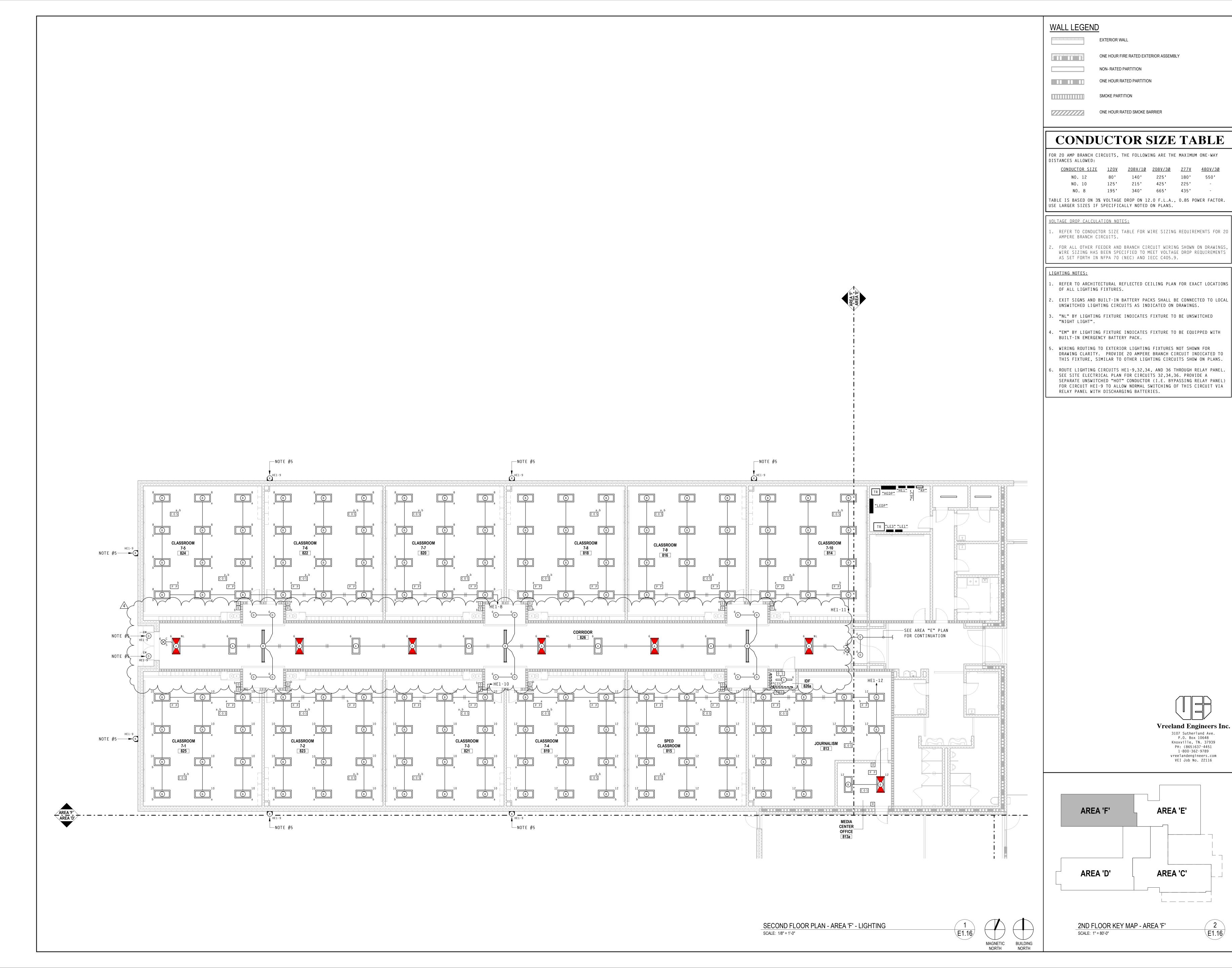
AREA 'E'

AREA 'C'

E1.14

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SECOND FLOOR PLAN - AREA 'D' - LIGHTING



180'



03/15/2024 DATE: PROJECT NO:

SBC NO: 540 / 001-05-2023 SP2 PROJECT REVISIONS

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AREA 'E'

2 E1.16

Knoxville, TN. 37939

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SECOND FLOOR PLAN - AREA 'F' - LIGHTING

₹ |4.4 / |423 / |4000 | 80

20 | 2000 | 4000 | 80

3.5 | 345 | 4000 | 80 |

CONCERNING EQUIVALENCY OF SUBSTITUTION.

INDICATED ON DRAWINGS

VISIBLE FLANGE, EXTRUDED

GLOSS WHITE FINISH

DIRECTED BY ARCHITECT,

STANDARD TRIM

ALUMINUM BODY, RUN LENGTHS

AS INDICATED ON DRAWINGS, LOW

EXTERIOR ROUND UNDERCANOPY

LIGHT, 12" DIAMETER, D.E. CAST

ALUMINUM HOUSING, FINISH AS

LINEAR UNDERCANOPY LIGHT,

AS DIRECTED BY ARCHITECT

RECESSED, 8'-0" LONG, FINISH

UNLESS NOTED, EQUAL PRODUCT TO THAT SPECIFIED WILL BE ACCEPTED. THE DESIGN PROFESSIONAL SHALL HAVE SOLE JUDGEMENT

RECESSED LINEAR, 2" WIDE WITH | FINELITE

2. DETAIL ABOVE DEPICTS "WIRELESS" ARRANGEMENT FOR SENSORS AND SWITCHES

SENSORS AND SWITCHES SHALL BE ACCEPTABLE FOR USE PROVIDED THAT

ALTERNATE SYSTEMS UTILIZING LOW VOLTAGE WIRING FROM POWER PACKS TO CEILING

FUNCTIONALITY OF SPACE MATCHES WORK INDICATED ON THIS DETAIL AND SHOWN ON

DIMMED ZONE

DRAWING SYMBOL: DMS

LUTRON MS-Z101-WH SINGLE CIRCUIT IN WALL -

120/277V. 0-10 VOLT

E6.11 J.E.D.

DIMMER WITH XCT, PIR

OCCUPANCY AND VACANCY

TYPICAL IN WALL SENSOR 0-10 VOLT

DIMMING LIGHTING CONTROL DETAIL

REFER TO LIGHTING

■ NORMAL INPUT POWER

— WIRED CONNECTION

● 0-10 VOLT SIGNAL O 2#12 AWG + GROUND

PLANS FOR QUANTITY

OF FIXTURES

SYMBOL	LEGEND DESCRIPTION
31WB0L	
DD	FIRE ALARM DUCT SMOKE DETECTOR, FURNISHED BY ELECTRICAL, INSTALLED DUCTWORK BY MECHANICAL, CONNECTED TO FIRE ALARM SYSTEM BY ELECTRICAL, CONNECT TO SHUT UNIT DOWN UPON ALARM. FURNISH AND INSTALL "LED" REMOTE STATUS INDICATOR, FIELD VERIFY LOCATION.
TS	SPRINKLER SYSTEM TAMPER SWITCH, CONNECT TO SEPARATE ZONE IN BUILDING FIRE ALARM SYSTEM.
FS	SPRINKLER SYSTEM FLOW SWITCH, CONNECT TO SEPARATE ZONE
_	IN BUILDING FIRE ALARM SYSTEM.
TV	WALL MOUNTED TELEVISION OUTLET, PROVIDE 4" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND APPROPRIATE COAXIAL TYPE COVER-PLATE, LOCATE ADJACENT TO 120V. OUTLET FOR TELEVISION. EXTEND 3/4" CONDUIT FROM BOX TO POINT ABOVE ACCESSIBLE CEILING AND TERMINATE WITH BUSHING.
	CABLE TRAY LOCATED ABOVE LAY—IN CEILING, SEE PROJECT MANUAL.
W S C P D	EXIT SIGN WITH BUILT-IN TWIN HEAD EMERGENCY LIGHT, "W" INDICATES WALL MOUNTING, "C" INDICATES CEILING MOUNTING, "S" INDICATES SINGLE FACE, "D" INDICATES DOUBLE FACE, "P" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROWS ON EXIT SIGNS AS INDICATED ON PLANS.
呂	WALL MOUNTED EXTERIOR LED EMERGENCY LIGHTING UNIT FULL CUTOFF "DARK SKY" COMPLIENT TYPE, WITH BUILT—IN NICKEL CADMIUM BATTERY FOR EMERGENCY OPERATION ONLY UPON LOSS OF NORMAL UTILITY POWER, WET LOCATION LISTED, WITH INTERNAL BATTERY HEATER. VERIFY FINISH AND EXACT MOUNTING HEIGHT WITH ARCHITECT. UNIT SHALL BE SIMILAR AND EQUAL TO MULE LIGHTING MERU—LED—EM—FIN—IH. UNIT SHALL HAVE TWO LED LAMPS FOR REDUNDANCY, TOTAL 11 WATTS.
TR	DRY-TYPE TRANSFORMER, SEE FEEDER DIAGRAM FOR ADDITIONAL INFORMATION.
⊕ c	DUPLEX PLUG RECEPTACLE; 120-VOLTS; 20-AMPERES; LOCATE AT CEILING LOCATION WHERE DIRECTED FOR OWNER FURNISHED AUDIO ENHANCEMENT SYSTEM AMPLIFIER,
A−1,3,5 -////// ►	CONDUIT AND CONDUCTORS EXTENDED TO PANELBOARD A, CIRCUITS 1, 3, AND 5. CROSS LINES INDICATE #12 AWG PHASE AND NEUTRAL CONDUCTORS WHERE MORE THAN TWO. SINGLE CIRCUIT BRANCH CIRCUIT WIRING RUNS SHOWN WITHOUT CROSS LINES SHALL BE PROVIDED WITH 2#12, 1#12G. EACH 20 AMPERE BRANCH CIRCUIT SHALL BE PROVIDED WITH SEPARATE NEUTRAL CONDUCTOR. SHARING OF NEUTRAL CONDUCTORS SHALL NOT BE PERMITTED. PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN EACH CONDUIT RUN.
c L	FIRE ALARM VISUAL STROBE UNIT, CANDELA RATING AS NOTED ON DRAWINGS, "C" INDICATES STROBE UNIT TO BE CEILING MOUNTED. "WG" BY DEVICE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.
c L √	FIRE ALARM COMBINATION SPEAKER/STROBE UNIT, CANDELA AND DBA RATING AS NOTED ON DRAWINGS, "C" INDICATES HORN/STROBE UNIT TO BE CEILING MOUNTED. "WG" BY DEVICE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.
OS	OCCUPANCY SENSORS FOR LIGHTING CONTROL, CEILING OR WALL MOUNTED AS INDICATED ON PLANS. MOUNT WALL-MOUNTED OCCUPANCY SENSOR AT SAME HEIGHT AS WALL SWITCH (+48" ABOVE FINISHED FLOOR). "D" BY SENSOR ON PLANS INDICATES DUAL RELAY TYPE SENSOR ALLOWING INDEPENDENT CONTROL OF TWO SEPARATE LIGHTING LOADS. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.
PP	POWER PACK ROOM CONTROLLER FOR CEILING MOUNTED OCCUPANCY SENSOR SYSTEM, SEE PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
AV	AUDIO VISUAL OUTLET BOX, FURNISH AND INSTALL. EACH AUDIO VISUAL OUTLET BOX SHALL CONTAIN TWO (2) HDMI PORTS, TWO (2) USB PORTS, ONE (1) VGA PORT, ONE (1) COAXIAL RG-6 PORT, AND ONE(1) 6MM AUDIO PORT. PROVIDE INTERCONNECTING CABLING BETWEEN AV BOXES WITHIN EACH RESPECTIVE ROOM IN ORDER TO HAVE AV BOX FULLY ACTIVATED FOR INPUT/OUTPUT WIRING CONNECTION FROM OWNER DEVICES. SEE DRAWINGS FOR ROUGH-IN LOCATIONS. PROVIDE SPECIAL PURPOSE MULTIPLE GANG OUTLET BOX, 4" DEEP, WITH COVERPLATE AS REQUIRED TO TERMINATE WIRING/JACKS NOTED. STUB OUT AN EMPTY 2" CONDUIT FROM EACH A/V BOX TO POINT ABOVE ACCESSIBLE CEILING AND TERMINATE WITH BUSHING.
•	WALL-MOUNTED INTERCOM LOUDSPEAKER, LOCATE 7'-6" AFF EXCEPT NOT LESS THAN 12" BELOW CEILING, "WG" INDICATES PROVIDE WIRE GUARD.
	WALL MOUNTED FIRE ALARM COMBINATION SPEAKER/STROBE UNIT, CANDELA AND DBA RATING AS NOTED ON DRAWINGS. PROVIDE BACKBOX SUCH THAT BOTTOM OF STROBE LENS IS 81" ABOVE FINISHED FLOOR, COORDINATE BACKBOX TYPE AND EXACT MOUNTING HEIGHT WITH FIRE ALARM EQUIPMENT SUPPLIER. "WG" BY HORN/STROBE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.
DH	FIRE ALARM MAGNETIC DOOR HOLD-OPEN DEVICE.
"FACII"	WALL MOUNTED FIRE ALARM REMOTE ANNUNCIATOR PANEL, TOP 54" AFF.
"FACU"	WALL MOUNTED FIRE ALARM CENTRAL CONTROL UNIT, TOP 6'-0" AFF.
⊕ 5 ⊲	CEILING RECESSED INTERCOM LOUDSPEAKER. WALL-RECESSED EXTERIOR INTERCOM LOUDSPEAKER, LOCATE 7'-6"
"WP"	ABOVE FINISHED GRADE.
(EZ) (J) SP	COMMUNICATIONS WIRING PASS—THRU, SEE DETAIL ON E6.12. LOCAL SOUND REINFORCEMENT SYSTEM SPEAKER, CONFIRM EXACT MOUNTING LOCATION. FOR MAIN GYMNASIUM, EACH SPEAKER WILL BE MOUNTED IN CEILING SPACE, SUPPORTED FROM OVERHEAD STRUCTURE. IN MULTI—PURPOSE ROOM
(J) ^{AMP}	AND CAFETERIA, EACH SPEAKER WILL BE WALL MOUNTED AT MAXIMUM HEIGHT. SOUND REINFORCEMENT AMPLIFIER.
ن ن ن	JUNCTION BOX FOR SCOREBOARD WIRING, PROVIDE SEPARATE BOXES FOR POWER AND COMMUNICATIONS WIRING AS INDICATED ON PLANS. CONFIRM ROUGH—IN AND CONNECTION REQUIREMENTS WITH G.C. AND SCOREBOARD INSTALLER.
$\bigcirc_{\mathbf{c}}$	MOTORIZED GOAL CONNECTION, 120/1. PROVIDE TOGGLE DISCONNECT SWITCH AND CONNECT. CONFIRM ROUGH-IN AND CONNECTION REQUIREMENTS WITH G.C. AND MOTORIZED GOAL INSTALLER.

INSTALLER.

MOTORIZED GOAL WALL MOUNTED CONTROL SWITCH, +48" AFF. CONFIRM

ROUGH-IN LOCATIONS AND REQUIREMENTS WITH G.C. AND MOTORIZED GOAL

SMOKE DAMPER OR COMBINATION FIRE/SMOKE DAMPER, PROVIDE DUCT SMOKE

DETECTOR AND CONNECT TO FIRE ALARM SYSTEM TO CLOSE DAMPER UPON ALARM

IN BUILDING. PROVIDE 120-VOLTS POWER SUPPLY WIRING AND "TOGGLE" TYPE

DISCONNECT SWITCH AT EACH DAMPER, COORDINATE WITH HVAC CONTRACTOR.

| PROVIDE INTEGRAL

| PROVIDE INTEGRAL

DRAWINGS

BATTERY PACK IN

FIXTURES NOTED ON

DRAWINGS

BATTERY PACK IN

FIXTURES NOTED ON

HP-2-R-D-**-

96LG-277-SC-

B-840-F-

FC-10%-VF-

BRD-30-20-

UNV-NA

RM4D0D-

1L40K-8-MB-

FINISH-L1-1-

 $\mathsf{FE}\mathsf{-}\mathsf{SW}$

PERFORMANCE

METALUMEN

| IN LIGHTING | FINISH-4K-

LEGEND

DESCRIPTION

SYMBOL

LED LIGHTING FIXTURE; "A" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE; "b" REFERS TO SWITCH CONTROL AND "3" REFERS TO CIRCUIT NUMBER. "EM" BY FIXTURE INDICATES FIXTURE TO BE EQUIPPED WITH BUILT-

LED LIGHTING FIXTURE; "B" REFERS TO DESIGNATION IN THE LIGHTING FIXTURE SCHEDULE; "a" REFERS TO SWITCH CONTROL; AND "2" REFERS TO CIRCUIT NUMBER.

LED LIGHTING FIXTURE WITH BUILT-IN EMERGENCY BATTERY PACK TO PROVIDE LIGHTING UPON LOSS OF NORMAL POWER. PROVIDE SEPARATE UNSWITCHED ENERGIZED CONDUCTOR TO BATTERY PACK IN ORDER TO ALLOW NORMAL SWITCHING OF LIGHTING FIXTURES WITHOUT DISCHARGING BATTERY

WALL-MOUNTED TWIN-HEAD EMERGENCY LIGHTING FIXTURE, CONNECT TO UNSWITCHED LIGHTING CIRCUIT. MOUNT 7'-6" AFF EXCEPT NOT LESS THAN

WALL SWITCH; SINGLE POLE UNLESS NOTED 3- OR 4-WAY; "P" INDICATES EQUIPPED WITH PILOT LIGHT TO INDICATE WHEN SWITCH IS ON: W.P. INDICATES WEATHERPROOF, "K" INDICATES KEY OPERATED SWITCH; +48"/- ABOVE FLOOR EXCEPT IN MASONRY WALLS WHERE HEIGHT SHALL BE ADJUSTED TO HAVE BOX EDGE OCCUR AT A MASONRY JOINT. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.

WALL MOUNTED DIMMER TO CONTROL LIGHTING FIXTURES INDICATED, SAME MOUNTING HEIGHT AS REGULAR WALL SWITCH. PROVIDE NEUTRAL CONDUCTOR IN ADDITION TO LINE AND SWITCHED CONDUCTORS.

EXIT SIGN, "W" INDICATES WALL MOUNTING, "C" INDICATES CEILING MOUNTING, "S" INDICATES SINGLE FACE, "D" INDICATES DOUBLE FACE, "P" INDICATES PENDANT MOUNTED. PROVIDE DIRECTIONAL ARROWS ON EXIT SIGNS AS INDICATED ON PLANS. "WG" BY DEVICE INDICATES WIRE

DUPLEX PLUG RECEPTACLE; 120-VOLTS; 20-AMPERES; MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS AND LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE. "SB" BY DEVICE INDICATES OUTLET TO SERVE INTERACTIVE SMART BOARD. CONFIRM EXACT LOCATION WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.

GUARD TO BE PROVIDED. UNIT EQUIPPED WITH BATTERY BACK-UP.

SPECIAL PURPOSE 208-VOLT, SINGLE-PHASE RECEPTACLE, MOUNT +18" AFF UNLESS NOTED OTHERWISE, SEE PLANS FOR ADDITIONAL INFORMATION.

QUADRAPLEX PLUG RECEPTACLE, 120-VOLTS, 20-AMPERES. MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS/LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. TAMPER RESISTANT, UNLESS NOT REQUIRED BY CODE.

DUPLEX PLUG RECEPTACLE, 120-VOLTS, 20-AMPERES, SHADED CENTER INDICATES EQUIPPED WITH BUILT-IN GROUND FAULT CIRCUIT INTERRUPTER, MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS/LAVATORIES AND +18" AFF ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT. PROVIDE WEATHERPROOF "WHILE IN USE" COVER WHERE LOCATED OUTDOORS.

DUPLEX PLUG RECEPTACLE, 120-VOLTS, 20-AMPERES, SHADED SIDES INDICATES OUTLET TO BE FOR WALL MOUNTED TELEVISION, VERIFY EXACT MOUNTING HEIGHT PRIOR TO ROUGH-IN, LOCATE ADJACENT TO TELEVISION OUTLET.

FLUSH FLOOR OUTLET, "E" INDICATES ELECTRICAL COMPARTMENT CONTAINING 120V. 20 AMPERE DUPLEX RECEPTACLE(S), "C" INDICATES DATA/VOICE "M" INDICATES MICROPHONE OUTLET, "S" INDICATES SCOREBOARD CONTROL. PANELBOARD, RECESSED OR SURFACE MOUNTED AS INDICATED ON DRAWINGS,

JOINT, SEE PANELBOARD SCHEDULE FOR EQUIPMENT CONTAINED. --- CONDUIT IN THE FLOOR CONSTRUCTION OR UNDERGROUND SHOWN TURNING UP. CONDUIT IN THE WALL OR CEILING CONSTRUCTION SHOWN TURNING DOWN. JUNCTION BOX, SIZE AND USE AS REQUIRED; COVERPLATE SHALL OVERLAP

TOP 6-FEET ABOVE FINISHED FLOOR ADJUSTED TO OCCUR AT A MASONRY

THE BOX EDGE BY 1/2" WHERE RECESSED IN WALL WITH CONCEALED WIRING.

ELECTRIC MOTOR REQUIRING CONNECTION, SIZE, USE, AND LOCATION AS INDICATED ON PLANS, VERIFY LOCATION AND CONNECTIONS REQUIRED WITH MECHANICAL TRADE PRIOR TO ROUGH-IN; USE FLEXIBLE CONDUIT WITHIN 18" OF EQUIPMENT.

MANUAL MOTOR STARTER TO CONTROL MOTOR INDICATED, SAME MOUNTING HEIGHT AS WALL SWITCH WHERE STARTER IS WALL MOUNTED. "2P" BY STARTER INDICATES TWO POLE STARTER TO BE PROVIDED FOR 208-VOLT, SINGLE-PHASE EQUIPMENT.

FUSED DISCONNECT SWITCH, HEAVY DUTY "HP" RATED, PROVIDE NEMA 3R ENCLOSURE OUTDOORS.

FIRE ALARM MANUAL PULL STATION, TOP OF BOX 48" AFF.

WALL MOUNTED FIRE ALARM VISUAL STROBE UNIT, CANDELA RATING AS NOTED ON DRAWINGS. PROVIDE BACKBOX FOR STROBE SUCH THAT BOTTOM OF STROBE LENS IS 81" ABOVE FINISHED FLOOR, COORDINATE BACKBOX TYPE AND EXACT MOUNTING HEIGHT WITH FIRE ALARM EQUIPMENT SUPPLIER. "WG" BY STROBE INDICATES CONTRACTOR TO PROVIDE WIRE GUARD.

CEILING MOUNTED FIRE ALARM AUTOMATIC SMOKE DETECTOR.

CEILING MOUNTED FIRE ALARM HEAT DETECTOR.

DATA/VOICE OUTLET, PROVIDE 4 11/16" SQUARE BOX WITH SINGLE-GANG DEVICE RING AND FACEPLATE/MODULAR JACKS AS SET FORTH IN SPECIFICATIONS. EXTEND 1" CONDUIT FROM OUTLET BOX TO POINT ABOVE ACCESSIBLE LAY-IN CEILING AND TERMINATE WITH BUSHING.

LOCATE OUTLET BOX 3" ABOVE BACKSPLASH AT WORK COUNTERS AND 18" ABOVE FINISHED FLOOR ELSEWHERE UNLESS NOTED TO A DIFFERENT HEIGHT ON DRAWINGS. NUMBER BY OUTLET INDICATES QUANTITY OF CAT 6 CABLE DROPS TO EACH OUTLET LOCATION SHOWN FROM NEAREST MDF/IDF ROOM. * BY OUTLET INDICATES CONDUIT/BOX ROUGH—IN ONLY.

COMMUNICATION TERMINAL SPACE, 3/4" PLYWOOD BOLTED TO WALL, TOP 6-FEET ABOVE FINISHED FLOOR.

CCTV SURVEILLANCE CAMERA, SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION. WP INDICATES WEATHERPROOF ENCLOSURE TO BE PROVIDED FOR CAMERA.

PASSIVE INFRARED MOTION DETECTOR, CONNECT TO BUILDING SECURITY SYSTEM, SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION.

DOOR CONTACT SWITCH CONNECTED TO BUILDING SECURITY SYSTEM, SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION.

WALL MOUNTED DOOR ACCESS CONTROL SYSTEM PROXIMITY CARD READER UNIT, +48" AFF, SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION. WALL MOUNTED EXTERIOR DOOR INTERCOM UNIT WITH BUILT-IN CAMERA, +48" AFF, AIPHONE NO. JK-DA SUBSTATION.

DESK MOUNTED DOOR INTERCOM MASTER UNIT WITH DOOR RELEASE PUSH BUTTONS, AIPHONE NO. JKS-IPED WITH SOFTWARE AND POWER SUPPLY WITH JK-1MD MASTER STATION. PROVIDE ALL NECESSARY WIRING, POWER SUPPLIES, ETC. FOR COMPLETE INSTALLATIONS.

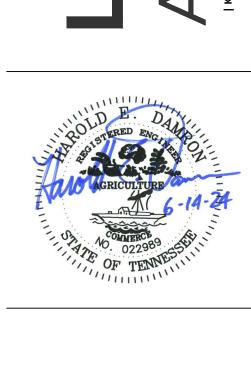
WALL MOUNTED SECURITY SYSTEM KEYPAD UNIT, +48" AFF.

DATA OUTLET AT CEILING TO SERVE WIRELESS ACCESS POINT, PROVIDE 1 CAT 6 DROP TO THIS LOCATION FROM NEAREST MDF/IDF CLOSET PATCH PANEL. CONFIRM EXACT LOCATION OF OUTLET IN CEILING WITH ARCHITECT/OWNER.

CEILING MOUNTED CARBON MONOXIDE DETECTOR, CONNECT TO FIRE ALARM

Vreeland Engineers Inc. 3107 Sutherland Ave. P.O. Box 10648 Knoxville, TN. 37939 PH: (865)637-4451 1-800-362-9789 vreelandengineers.com

VEI Job No. 22116



O Z 0

03/15/2024 PROJECT NO: SBC NO: 540 / 001-05-2023 SP2

DESCRIPTION

ADD 001

ADD 003

PROJECT REVISIONS

DATE:

5-31-24

4 6-14-24

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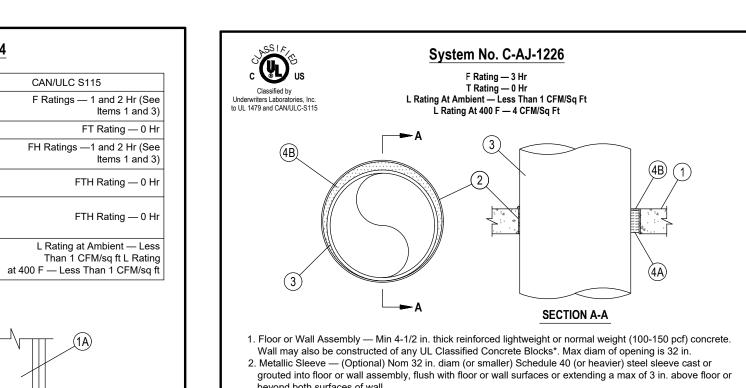
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LEGEND AND LIGHTING **FIXTURE SCHEDULE**

UTILIZED IN ANY WAY WITHOUT THEIR FULL CONSENT. IT IS TO

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DETAILS



SECTION A-A

System No. W-L-1054

CAN/ULC S115

ANSI/UL1479 (ASTM E814)

L Rating at 400 F — Less Than 1 CFM/sq

F Ratings —1 and 2 Hr (See

L Rating at Ambient — Less

Items 1 and 3)

Underwriters Laboratories, Inc. to UL 1479 and CAN/ULC-S115

T Rating — 0 Hr

Than 1 CFM/sq ft

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features: A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. wider and 4 to 6 in. higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. clearance is present between the penetrating item and the framing on all four sides. 3. Gypsum Board * — 5/8 in. thick, 4 ft wide with square or tapered edges. The gypsum board type, thickness

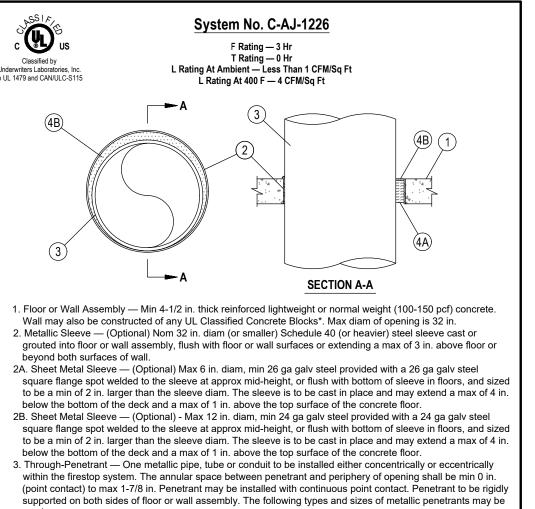
number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 32-1/4 in. for steel stud walls. Max diam of opening is 14-1/2 in. for wood stud walls. The F Rating of the firestop system is equal to the fire rating of the wall assembly. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. Pipe may be installed with continuous point contact. Pipe, conduit or tubing may be installed at an angle not greater than 45 degrees from

perpendicular. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used: A. Steel Pipe — Nom 30 in diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe. C. Conduit — Nom 4 in diam (or smaller) steel electrical metallic tubing or 6 in. diam steel conduit.

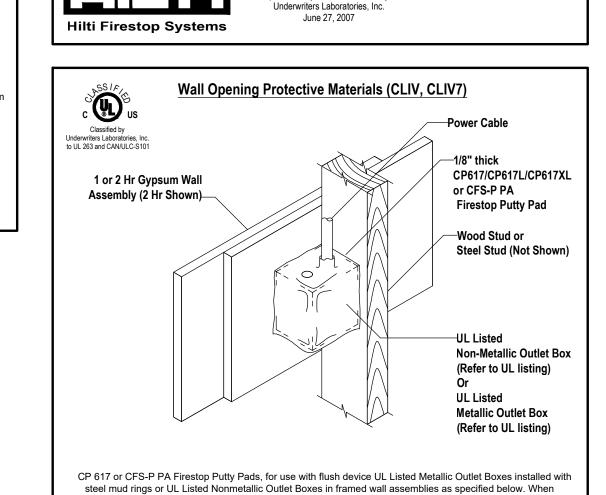
D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing. E. Copper Pipe — Nom 6 in. diam (or smaller) regular (or heavier) copper pipe. 3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall . HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant *Bearing the UL Classification Mark

Hilti Firestop Systems





A. Steel Pipe — Nom 30 in. diam (or smaller) Schedule 10 (or heavier) steel pipe. B. Iron Pipe — Nom 30 in. diam (or smaller) cast or ductile iron pipe. C. Copper Pipe — Nom 6 in. diam (or smaller) Regular (or heavier) copper pipe. D. Copper Tubing — Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing. E. Conduit — Nom 6 in. diam (or smaller) steel conduit. F. Conduit — Nom 4 in. diam (or smaller) steel electrical metallic tubing (EMT). Firestop System — The firestop system shall consist of the following: A. Packing Material — Min 4 in. thickness of min 4 pcf mineral wool batt insulation firmly packed into openir as a permanent form. Packing material to be recessed from top surface of floor or sleeve or from both surfaces of wall or sleeve as required to accommodate the required thickness of fill material. B. Fill. Void or Cavity Material* — Sealant — Min 1/4 in, thickness of fill material applied within the annulus. flush with top surface of floor or sleeve or with both surfaces of wall or sleeve. At the point or continuous contact locations between penetrant and concrete or sleeve, a min 1/4 in. diam bead of fill material shall be applied at the concrete or sleeve/ pipe penetrant interface on the top surface of floor and on both surfaces HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant Bearing the UL Classification Mark Reproduced by HILTI, Inc. Courtesy of



protective material is used on outlet boxes on both sides of the wall as directed, the horizontal separation

between outlet boxes on opposite sides of the wall may be less than 24 in. provided that the boxes are not

installed back-to-back (unless otherwise indicated). Installation shall comply with the National Electrical Code

(NFPA 70). Min 1/8 in. thick (CP 617) or min 0.2 in. (CFS-P PA) thick moldable putty pads are to be installed to

completely cover the exterior surfaces of the outlet box (except for the side of the outlet box against the stud)

and conduit fittings/connectors and to completely seal against the stud and gypsum board in the wall cavity

unless otherwise noted below. When CFS-P PA is used, the putty pads may be installed with the release liner

the bottom layer at the overlap location. The box composition, max device dimensions, hourly rating, type of

stud and type of faceplate are specified below.

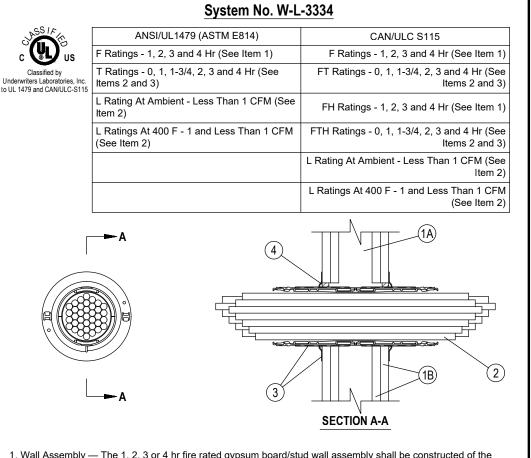
Hilti Firestop Systems

intact on the outside of the pad with the exception of any overlaps, in which case the liner is to be removed from

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October 29, 2013



. Wall Assembly — The 1, 2, 3 or 4 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described within the individual U300, U400, V400 or W400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall incorporate the following construction features: A. Studs — Wall framing shall consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced max 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC for 1 and 2 hr wall assemblies. Steel Studs to be 3-5/8 in. (92 mm) for 3 and 4 hr wall assemblies.

B. Gypsum Board* — Nom 5/8 in. (16 mm) thick gypsum board as specified in the individual Wall and Partition Design. Opening in gypsum board to be max 2-1/2 in. (64 mm) diam for 2" device and max 4-1/2 in. (114 The hourly F and FH Ratings of the firestop system are dependent upon the hourly rating of the wall in which . Cables — Within the loading area for each firestop device, the cables may represent a 0 to 100 percent visual

fill. Cables to be tightly bundled within the device and rigidly supported on both sides of wall assembly. Any combination of the following types of cables may be used: A. Max 100 pair No. 24 AWG (or smaller) copper conductor telecommunication cable with polyvinyl chloride (PVC) jacketing and insulation. B. Max 7/C No. 12 AWG copper conductor control cable with PVC or XLPE jacket and insulation. C. Max 4/0 AWG Type RHH ground cable. D. Max 4 pr No. 22 AWG Cat 5 or Cat 6 computer cables.

E. Max RG 6/U coaxial cable with fluorinated ethylene insulation and jacketing. F. Fiber optic cable with polyvinyl chloride (PVC) or polyethylene (PE) jacket and insulation having a max G. Max 20/C No. 22 AWG shielded printer cable with PVC jacket. H. Through-Penetrating Product* - Two copper conductors No. 18 AWG (or smaller) Power or Non Power Limited Fire Alarm Cable with or without a jacket under a metal armor. AFC CABLE SYSTEMS INC

l. Max. 1/4 in. (6 mm) diameter S-Video Cable consisting of 2 max 24 AWG 75 ohm coax or twisted pair cable with PE insulation and PVC jacket. K. Through Penetrating Product* — Any cables, Armored Cable+ or Metal Clad Cable+ currently Classified under the Through Penetrating Product category. See Through Penetrating Product (XHLY) category in the

Fire Resistance Directory for names of manufacturers. For opening with cables, when the hourly rating of the wall assembly is 1 hr, the T, FT and FTH Ratings are 0 hr. For opening with cables, when the hourly rating of the wall assembly is 2 hr, the T, FT and FTH Ratings are 1-3/4 hr except that, when Item 2C, 2G, 2I, 2J or 2K is used, the T, FT and FTH Ratings are 1 hr for 2C, 2 OR 2I and the T, FT and FTH Ratings are 1/2 hr for 2J or 2 K (see Item 3 also). When the hourly rating of the wall assembly is 3 or 4 hr, the T, FT and FTH Ratings are 2 hr. For wall assemblies with a 3 or 4 hr rating, Items 2G and 2I are

L Ratings apply only when device flanges and CP 606 or FS-One Sealant are used. See Table below for L

Max Cable Fill	Cable Type	L Rating, C	FM/Sq Ft	L Rating, CFM				
		Ambient	400°F	Ambient	400°F			
0%	-	Less Than 1	Less Than 1	Less Than 1	Less Than 1			
100%	Item 2D only	5	1	Less Than 1	Less Than 1			
100%	Any cables (Item 2) in any combination	9	10	Less Than 1	1			

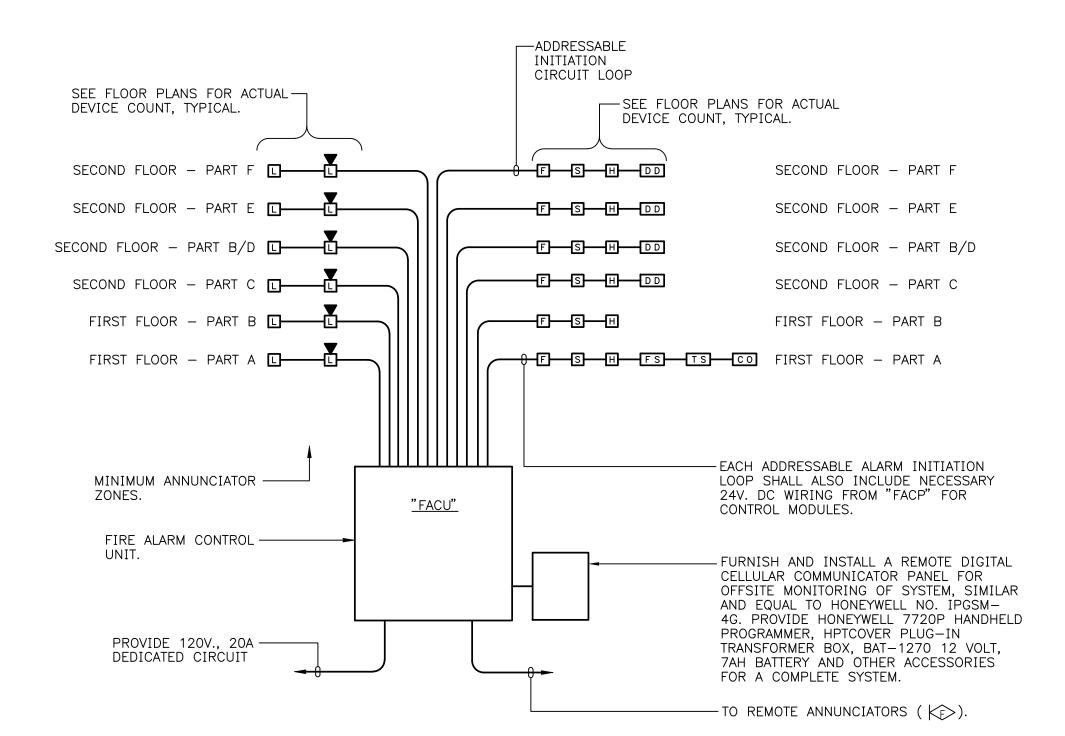
3. Firestop Device* — Firestop device consists of a corrugated steel tube with an inner plastic housing, intumescent material rings and twisted inner fabric smoke seal. Firestop device to be installed in accordance with the accompanying installation instructions. As an option, the inner fabric seal may remain open except that to attain the L Rating, the inner fabric seal shall be twisted to completely close off the opening within device. Device slid into wall such that ends project an equal distance from the approximate centerline of the wall assembly. The annular space between the device and the periphery of the opening shall be min 0 in. (point contact). Device provided with flanges that are spun clockwise onto device threads, butting tightly to both sides of wall. Device flanges are optional. When the device flanges are not used, the T, FT and FTH Ratings for the firestop system are 0 hr. For blank opening (no cables), the T, FT and FTH Ratings for the firestop system equal the F and FH Ratings only when the device flanges are used. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 653 2" Speed Sleeve and CP 653 4" Speed

4. Fill, Void or Cavity Material* - Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus between firestop device and wall, flush with both surfaces of wall, and an additional 1/4 in. (6 mm) bead applied around periphery of device. When device flanges are used, gypsum drywall compound may be used in place of the fill material HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE or CP 606 Sealant

*Bearing the UL Classification Mark Hilti Firestop Systems

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PROVIDE 4" SLEEVES AS INDICATED ABOVE WHERE "EZ" SYMBOLS ARE SHOWN AT DOUBLE EGRESS DOORS IN CORRIDORS AND AT MDF/IDF ROOM LOCATIONS. OTHERWISE, ALL "EZ" SYMBOLS SHOWN ON PLANS SHALL BE 2" SLEEVES AS INDICATED ABOVE. _____



FIRE ALARM RISER DIAGRAM

FIRE ALARM NOTES:

- THE FIRE ALARM CONTRACTOR MUST BE CERTIFIED IN ACCORDANCE WITH THE TENNESSEE ALARM CONTRACTORS LICENSING ACT OF 1991, TCA TITLE 62, CHAPTER 32. CALL 615-741-9771 FOR ADDITIONAL INFORMATION.
- CONTRACTOR SHALL SUBMIT BATTERY CALCULATIONS IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72. BATTERY CALCULATIONS SHALL BE INCLUDED AS AS PART OF SUBMITTALS FOR FIRE ALARM SYSTEM.
- ALL REQUIRED DOCUMENTATION REGARDING THE DESIGN OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS AND THE PROCEDURES FOR MAINTENANCE, INSPECTION, AND TESTING OF FIRE DETECTION, ALARM, AND COMMUNICATIONS SYSTEMS SHALL BE MAINTAINED AT AN APPROVED, SECURED LOCATION FOR THE LIFE OF THE SYSTEM. (IFC 901.6.2.1).
- TWO OR MORE VISIBLE NOTIFICATION APPLIANCES IN THE SAME ROOM OR ADJACENT SPACE WITHIN THE FIELD OF VIEW MUST FLASH IN SYNCHRONIZATION. (NFPA 72 7.5.4.1.1 AND 7.5.4.1.2(3))
- 5. FIRE ALARM CONTROL PANEL CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, SHALL BE ACCESSIBLE ONLY TO AUTHORIZED PERSONNEL, AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT". THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT. (2010 NFPA 72, 10.5.5.2.2)
- FIRE ALARM SYSTEM EXPANSION SHALL COMPLY WITH THE FOLLOWING CODES: NFPA 101 LIFE SAFETY CODE NFPA 70 NFPA 90A
- NFPA 92A NFPA 13 NFPA 13R NFPA 13D NFPA 14

ANNOUNCEMENTS.

- INTERNATIONAL BUILDING CODE INTERNATIONAL FIRE CODE INTERNATIONAL MECHANICAL CODE
- PROVIDE VOICE EVACUATION FIRE ALARM SYSTEM IN ACCORDANCE WITH PROJECT MANUAL REQUIREMENTS. VOICE EVACUATION SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF NFPA 72(3.3.208), NFPA 101(12.3.4, 9.6.2, 9.6.3.), AND IBC 907.5.2.2. VOICE ANNOUNCEMENTS SHALL BE PRE-RECORDED AND SHALL BE AUDIBLE ABOVE AMBIENT NOISE LEVEL IN ACCORDANCE WITH CODE REQUIREMENTS. STANDBY BATTERIES IN FACP SHALL BE SIZED TO SERVE REQUIRED VOICE

- 8. DIGITAL ALARM COMMUNICATION SYSTEMS (DACT & DACR) WHERE APPLICABLE SHALL BE INSTALLED AS PER THE FOLLOWING:
 - A. DIGITAL ALARM COMMUNICATOR TRANSMITTER (DACT) SHALL BE CONNECTED THE PUBLIC SWITCHED TELEPHONE NETWORK UPSTREAM OF ANY PRIVATE TELEPHONE SYSTEM AT THE PROTECTED PREMISES. (NFPA 72 8.5.3.2.1.3)

1. DACT SHALL BE CONFIGURED SO THAT IT SHALL SEIZE THE TELEPHONE

- LINE, DISCONNECT AN OUTGOING OR INCOMING TELEPHONE CALL, AND PREVENT USE OF THE TELEPHONE LINE FOR OTHER TELEPHONE CALLS UNTIL SIGNAL TRANSMISSION HAS BEEN COMPLETED. DACT SHALL HAVE THE MEANS TO SATISFACTORILY OBTAIN A DIAL TONE,
- DIAL THE NUMBER(S) OF THE DACR, OBTAIN VERIFICATION THAT THE DACR S ABLE TO RECEIVÉ SIGNALS. TRANSMIT THE SIGNAL. AND RECEIVE ACKNOWLEDGMENT THAT THE DACR HAS ACCEPTED THAT SIGNAL WITHIN 90 SECONDS PER ATTEMPT. 3. DACT SHALL HAVE MEANS TO RESET AND RETRY IF THE FIRST ATTEMPT TO
- COMPLETE A SIGNAL TRANSMISSION SEQUENCE IS UNSUCCESSFUL. A FAILURE TO COMPLETE CONNECTION SHALL NOT PREVENT SUBSEQUENT ATTEMPTS TO TRANSMIT AN ALARM WHERE SUCH ALARM IS GENERATED FROM ANY OTHER INITIATING DEVICE CIRCUIT OR SIGNALING LINE CIRCUIT, OR BOTH. ADDITIONAL ATTEMPTS SHALL BE MADE UNTIL THE SIGNAL TRANSMISSION SEQUENCE HAS BEEEN COMPLETED, UP TO A MINIMUM OF 5 AND A MAXIMUM OF 10 ATTEMPTS.
- 4. IF THE MAXIMUM NUMBER OF ATTEMPTS TO COMPLETE THE SEQUENCE IS REACHED, AN INDICATION OF THE FAILURE SHALL BE MADE AT THE PREMISES.
- 5. A SECOND MEANS OF SIGNAL TRANSMISSION SHALL BE PROVIDED.
- B. THE DIGITAL ALARM COMMUNICATOR RECEIVER (DACR) SHALL BE LOCATED AT THE SUPERVISING OR SUBSIDIARY STATION AND SHALL BE CONNECTED TO MINIMUM OF TWO SEPERATE INCOMING TELEPHONE LINES (NUMBERS). THE LINES (NUMBERS) SHALL HAVE THE FOLLOWING CHARACTERISTICS. (NFPA 72 8.5.3.2.2) 1. IF THE LINES ARE IN A SINGLE HUNT GROUP, THEY SHALL BE INDIVIDUALLY ACCESSIBLE; OTHERWISE, SEPERATE HUNT GROUPS SHALL BE REEQUIRED.
- (NFPA 72 8.5.3.2.2.2(1)) 2. THE LINES SHALL BE USED FOR NO OTHER PURPOSES THAN RECEIVING SIGNALS FROM A DACT.
- 3. THE LINES (NUMBERS) SHALL BE UNLISTED. C. THE FAILURE OF ANY TELEPHONE LINE CONNECTED TO A DACR DUE TO
- LINE OF LINE VOLTAGE SHALL BE ANNUNCIATED VISUALLY AND AUDIBLY IN THE SUPERVISING STATION. 9. FIRE ALARM WIRING INSTALLED ABOVE ACCESSIBLE LAY-IN ACOUSTICAL TILE CEILINGS SHALL BE PERMITTED TO BE RUN EXPOSED WITH APPROPRIATE CABLING SUPPORTS. DO NOT USE CABLE TRAY FOR FIRE ALARM WIRING. CABLING SUPPORTS FOR FIRE ALARM WIRING SHALL BE INDEPENDENT FROM OTHER LOW VOLTAGE WIRING CABLING

SUPPORTS. ALL OTHER FIRE ALARM WIRING ON THE PROJECT SHALL BE RUN IN CONDUIT. MINIMUM CONDUIT SIZE FOR FIRE ALARM WIRING SHALL BE 34" WITH

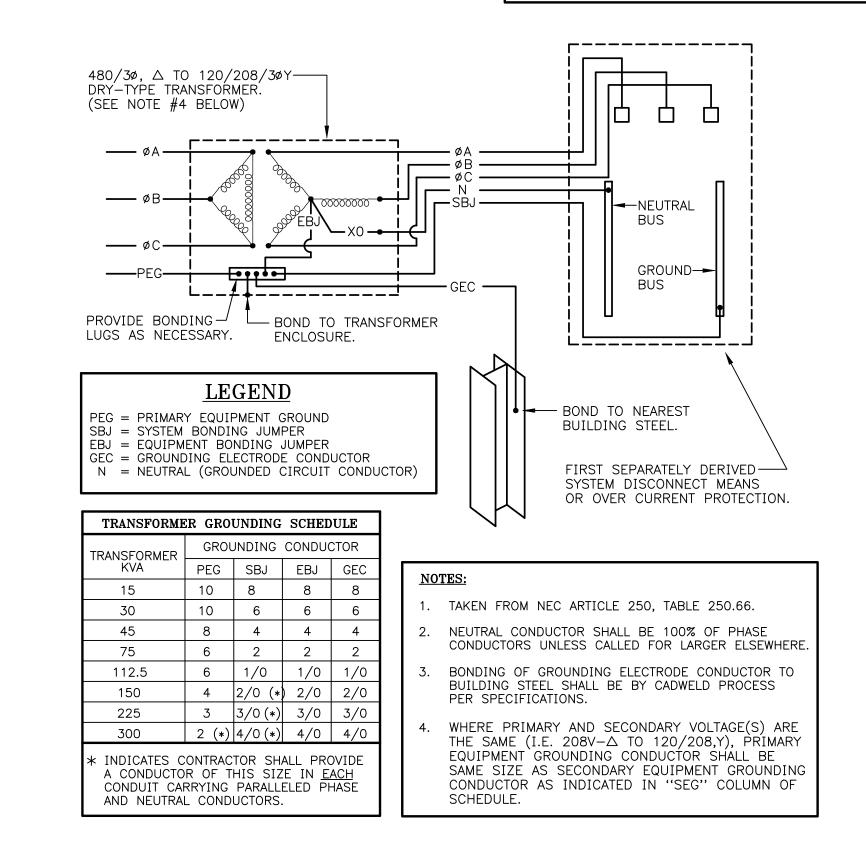
HD		TO FIRE ALARM CONTROL PANEL. HEAT DETECTOR, TY	PICAL; 190°F.
	SD HD	TO FIRE ALARM CONTROL PANEL.	
ELEVATOR SHAFT BOTTOM			
HD	ELEVATOR CONTROLLER	ELEVATOR RECALL LOCKOUT	POWER SHUNT
TO FIRE ALARM CONTROL PANEL. FIRE ALARM CONTROL PANEL TO— FIRE ALARM CONTROL PANEL TO—	PRIMARY		
ELEVATOR CONTROLLER TO FIRE ALA	ARM CONTROL PA	ANEL —	
FIRE ALARM CONTROL PANEL TO SH CONTROL ZAM SHALL OPERATE ELEV TRIP OPERATOR. PROGRAM FIRE ALA	ATOR 120 VOLT ARM CONTROL P	SHUNT ANEL TO	

ELEVATOR/FIRE ALARM DETAIL

(NON-SPRINKLERED)

ACTIVATE SHUNT TRIP UPON ALARM OF ANY HEAT DETECTOR

SERVING MACHINE ROOM, PIT, OR SHAFT.



FIRE ALARM SYSTEM OPERATION SCHEDULE												
	RM AT	SUPERVISORY ALARM AT PANEL	ACTIVATE EVACUATION SIGNAL	CALL FIRE DEPARTMENT	SHUT DOWN AHU	RELEASE SMOKE DOORS	NOTIFICATION ZONES					
	ALARM PANEL	SUP AT F	ACTI SIGN	CALI DEP,	SHU	RELE DOO	A	В	С	D	E	F
MANUAL STATIONS	•		•	•		•	•	•	•	•	•	•
SMOKE DETECTORS	•		•	•		•	•	•	•	•	•	•
HEAT DETECTOR	•		•	•		•	•	•	•	•	•	•
DUCT DETECTOR		•			•							
OPEN CIRCUIT		•										
GROUND FAULT		•										
NOTIFICATION APPLIANCE SHORT CIRCUIT		•										
FIRE ALARM LOW BATTERY		•										
FIRE ALARM AC POWER FAILURE		•										
SPRINKLER SYSTEM FLOW SWITCH			•	•		•	•	•	•	•	•	•
SPRINKLER SYSTEM SUPV. VALVE		•										

LARGER CONDUIT SIZES USED AS REQUIRED.

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UNION 03/15/2024 DATE: PROJECT NO: 21074 SBC NO: 540 / 001-05-2023 SP2

PROJECT REVISIONS DESCRIPTION 5-31-24 ADD 001 ADD 003 4 6-14-24

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FEEDER DIAGRAM

