



**ROCKFORD BOARD OF EDUCATION
INVITATION FOR BID ON SUPPLIES, MATERIALS, EQUIPMENT OR SERVICES
FOR SCHOOL DISTRICT NO. 205
ROCKFORD, ILLINOIS**

RFQ No. **16-22 Riverdahl Elementary School Additions**

DATE: **Friday, January 15, 2016**

RE: **ADDENDUM NO. 2**

To All:

Attached are modifications, clarifications and/or corrections for the Project Manual and are hereby made a part of the contract documents. Please attach this addendum to the Project Manual(s) in your possession. Please note the receipt of this addendum on the bid form. Bidders shall review changes to all portions of this work as changes to one portion may affect the work of another.

If you plan to hand deliver your IFB submission on the due date, please note you must check in on the 3rd floor prior to coming to the 6th floor. Please allow time for this as late submission will not be accepted.

Refer all questions relative to the business aspect, Instructions to Bidders, Special Conditions, and questions concerning the technical aspect of the documents to the Purchasing Process Manager by email at tamara.pugh@rps205.com.

ROCKFORD BOARD OF EDUCATION

By: Tamara Pugh
Purchasing Process Manager

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Supplementary Instructions to Bidders
General Terms and Conditions
Supplementary Conditions
Prevailing Wages
AIA Document A201 – 2007 General Conditions of the Contract for Construction
Addendum Form
Change Order Procedures dated 04.03.13

REQUIRED FORMS

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Section 004100 – Bid Form
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Bid Rigging Certification
Minority and Women Owned Business Concern Representation
Certificate Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
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OFAC Compliance
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Certified Cleared Employee List
Asbestos Notification
Form W-9 Department of the Treasury Internal Revenue Service
Section 004115 – References
Section 006000 – Forms
Regional Office of Education – ROE Called Inspections Form
AIA Document A305 - 1986 Contractor's Qualification Statement
AIA Document A101 - 2007 Standard Form of Agreement between Owner and Contractor
Sample Certificate of Liability Insurance Form

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Date of Addendum: January 15, 2016

Original Date of Contract Documents: Issued for Bid: December 11, 2015

Attn:

Craig Elliott
Ragnar Benson Construction
1907 Kishwaukee Street
Rockford, Illinois 61104

Architects and Engineers

Cannon Design
225 N. Michigan Ave, Suite 1100
Chicago, Illinois 60601

This Addendum amends Drawings and/or Specifications and/or Addenda for the above titled project, as indicated below, and is hereby incorporated into the Contract Documents as part thereof.

Bidders are required to acknowledge receipt of this Addendum in the space provided on the Proposal/Bid Form.

Attachments:

Specifications: 000110, 233116, 235239, 235313

Drawings:

SPECIFICATIONS (PROJECT MANUAL)

1. 000100 – TABLE OF CONTENTS
 - A. Section 000100 has been revised and is being issued as an attachment to this Addendum.
2. 122413 – ROLLER WINDOW SHADES
 - A. Page 122413-3, Article 2.3, Paragraph B: Revise Subparagraphs 7 and 8 to read as follows:
 - “7. Openness Factor: 1 percent.
 8. Color: Color selection as indicated in the finish schedule in the drawings.”
3. 233116 – NONMETAL DUCTS
 - A. Section 233116 has been revised and is being issued as an attachment to this Addendum.
4. 235239 - FIRE TUBE BOILERS
 - A. Section 235239 has been revised and is being issued as an attachment to this

Addendum.

5. 235313 – BOILER FEEDWATER PUMPS

- A. Section 235313 has been revised and is being issued as an attachment to this Addendum.

DRAWINGS

1. D0201.C – LEVEL 01 ARCHITECTURAL DEMOLITION PLAN – AREA C

- A. Drawing D0201.C is being re-issued as an attachment to this Addendum.

2. D0201.E – LEVEL 01 ARCHITECTURAL DEMOLITION PLAN – AREA E

- A. Drawing D0201.E is being re-issued as an attachment to this Addendum.

3. S0001 – GENERAL NOTES AND ABBREVIATIONS

- A. Drawing S0001 is being re-issued as an attachment to this Addendum.

4. S0101 – LEVEL 01 FOUNDATION PLAN – AREA B

- A. Drawing S0101 is being re-issued as an attachment to this Addendum.

5. S0102 – LEVEL 02 FOUNDATION PLAN – AREA B

- A. Drawing S0102 is being re-issued as an attachment to this Addendum.

6. A0101.B – LEVEL 01 FLOOR PLAN – AREA B

- A. Drawing A0101.B is being re-issued as an attachment to this Addendum.

7. A0101.C – LEVEL 01 FLOOR PLAN – AREA C

- A. Drawing A0101.C is being re-issued as an attachment to this Addendum.

8. A0101.E – LEVEL 01 FLOOR PLAN – AREA E

- A. Drawing A0101.E is being re-issued as an attachment to this Addendum.

9. A0301 – BUILDING ELEVATIONS

- A. Drawing A0301 is being re-issued as an attachment to this Addendum.

10. A0302 – BUILDING ELEVATIONS

- A. Drawing A0302 is being re-issued as an attachment to this Addendum.

11. A0409 – ENLARGED WINDOW TYPES

- A. Drawing A0409 is being re-issued as an attachment to this Addendum.

12. A0410 – WINDOW REPLACEMENT DETAILS
 - A. Drawing A0410 is being re-issued as an attachment to this Addendum.
13. A0421 – PLAN DETAILS
 - A. Drawing A0421 is being re-issued as an attachment to this Addendum.
14. A0451 – EXTERIOR SECTION DETAILS
 - A. Drawing A0451 is being re-issued as an attachment to this Addendum.
15. A0452 – EXTERIOR SECTION DETAILS
 - A. Drawing A0452 is being re-issued as an attachment to this Addendum.
16. A0601 – INTERIOR ELEVATIONS
 - A. Drawing A0601 is being re-issued as an attachment to this Addendum.
17. A1003 – DOORS & BORROWED LIGHTS
 - A. Drawing A1003 is being re-issued as an attachment to this Addendum.
18. A1200 – FINISH LEGEND, NOTES AND DETAILS
 - A. Drawing A1200 is being re-issued as an attachment to this Addendum.
19. A1201.B – LEVEL 01 FLOOR FINISH PLAN – AREA B
 - A. Drawing A1201.B is being re-issued as an attachment to this Addendum.
20. A1201.C – LEVEL 01 FLOOR FINISH PLAN – AREA C
 - A. Drawing A1201.C is being re-issued as an attachment to this Addendum.
21. A1201.E – LEVEL 01 FLOOR FINISH PLAN – AREA E
 - A. Drawing A1201.E is being re-issued as an attachment to this Addendum.
22. M0100.E – LOWER LEVEL DUCTWORK PLAN
 - A. Drawing M0100.E is being issued as an attachment to this Addendum. This is a new sheet to show scope of work if Alternate 2B is taken.
23. E0101.B – LEVEL 01 LIGHTING PLAN – AREA B
 - A. Life safety branch circuit note updated.
24. E0101.C – LEVEL 01 LIGHTING PLAN – AREA C
 - A. Life safety branch circuit note updated.

- B. Keyed note 5 has been deleted.
- 25. E0101.E – LEVEL 01 LIGHTING PLAN – AREA E
 - A. Life safety branch circuit note updated.
- 26. E0200 – BASEMENT POWER AND SYSTEMS PLAN
 - A. Emergency generator tagged as existing.
 - B. Keyed note 6 has been corrected.
- 27. E0201.B – LEVEL 01 POWER AND SYSTEMS PLAN – AREA B
 - A. Duct detector connections updated.
 - B. Keyed note 15 has been updated.
- 28. E0201.C – LEVEL 01 POWER AND SYSTEMS PLAN – AREA C
 - A. Smoke detector added to STAFF TOILET 168.
- 29. E0201.E – LEVEL 01 POWER AND SYSTEMS PLAN – AREA E
 - A. Request to Exit devices added at doors to IT 173A, MAIN VESTIBULE 142, and MAIN OFFICE 174.
- 30. E0421 – ENLARGED PLANS
 - A. Keyed note 4 updated.
- 31. E0521 – POWER RISER DIAGRAMS
 - A. RTU-3 circuit breaker size changed to 40AT/100AF.

REQUESTS FOR INFORMATION (RFIs)

- 1. Please see Riverdahl-Bid RFI's Log included within Addendum 02

END OF ADDENDUM NO. 1

SECTION 233116 - NONMETAL DUCTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:

1. Fabric ducts

1.2 DEFINITIONS

- A. Thermal Conductivity and Apparent Thermal Conductivity (k-Value): As defined in ASTM C 168. In this Section, these values are the result of the formula $\text{Btu} \times \text{in.}/\text{h} \times \text{sq. ft.} \times \text{deg F (W/m} \times \text{K)}$ at temperature differences specified. Values are expressed as Btu (W).

1. Example: Apparent Thermal Conductivity (k-Value): 0.26 (0.037).

1.3 SYSTEM DESCRIPTION

- A. Duct system design, as indicated, has been used to select size and type of air-moving and -distribution equipment and other air system components. Changes to layout or configuration of duct system must be specifically approved in writing by Architect. Accompany requests for layout modifications with calculations showing that proposed layout will provide original design results without increasing system total pressure.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Division 23 Section "Basic Division 23 Requirements."

1.5 ACTION SUBMITTALS

- A. Product Data: For the following:

1. Fabric Ductwork materials
2. Ductwork suspension systems
3. Air distribution system layout

- B. Shop Drawings:

1. Layout Drawings: CAD-generated and drawn to 1/8 inch equals 1 foot (1:100) scale. Show fabrication and installation details for nonmetal ducts. Provide manufacturer-produced or approved layout drawings, with manufacturer-designed fittings and systems to support and meet design intention of duct layout as shown on drawings.

- a. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
 - b. Duct layout indicating sizes and pressure classes.
 - c. Elevations of top and bottom of ducts.
 - d. Dimensions of main duct runs from building grid lines.
 - e. Fittings.
 - f. Reinforcements and spacing.
 - g. Seam and joint construction.
 - h. Penetrations through fire-rated and other partitions.
 - i. Equipment installation based on equipment being used on Project.
 - j. Duct accessories, including access doors and panels.
 - k. Hangers and supports, including methods for duct and building attachment, vibration isolation, and seismic restraints.
- C. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:
 - 1. Ceiling suspension assembly members.
 - 2. Other systems installed in same space as ducts.
 - 3. Ceiling- and wall-mounting access doors and panels required to provide access to dampers and other operating devices.
 - 4. Ceiling-mounting items, including lighting fixtures, diffusers, grilles, speakers, sprinklers, access panels, and special moldings.

1.6 QUALITY ASSURANCE

- A. NFPA Compliance:
 - 1. NFPA 90A, "Installation of Air Conditioning and Ventilating Systems."
 - 2. NFPA 90B, "Installation of Warm Air Heating and Air Conditioning Systems."
- B. UL Compliance: UL listed and labeled as complying with UL 2518.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 FABRIC DUCTS

- A. Manufacturers:
 - 1. DuctSox. Sedona-Xm fabric line
 - 2. Fabricair, Combi-90 fabric line
 - 3. QSox, Polyester 600 fabric line
 - 4. Durkeesox
 - 5. KE Fibertec
- B. Materials:

- C. Tensioning frame.
 - 1. System shall cylindrically tension textile along the entire length of textile duct,
 - 2. Tensioning system shall include full 360 degree tensioning and intermediate rings with quick connection spacer tubes concealed inside the fabric system.
 - 3. Interior structure to include multiple mechanically adjustable tension devices. To provide proper textile tensioning, structural and textile system shall be configured in segments of no more than 45 feet.
 - 4. Textile components supported solely by metal cylindrical rings.
 - 5. Each cylindrical ring shall require vertical metal to metal vertical cable safety attachment.
 - 6. Available for diameters from 8" – 60".

- D. Textile Construction: Woven polyester with non-permeable coating, fire retardant in accordance with UL 2518.
 - 1. Weight: 8.2 oz./yd² per ASTM D3776
 - 2. Air Permeability: 0 CFM/ft² per ASTM D737, Frazier
 - 3. Warranty: 20 years with standard inlet velocity.
 - 4. Textile Color: Provide standard colors for selection by Architect.

- E. Fabrication
 - 1. Textile system to be constructed in modular lengths (zippered) with proper radial securing clips (inlets, endcaps, and mid-sections) and top access zippers for vertical cable safety attachment.
 - 2. Integrated air dispersion shall be specified and approved by manufacturer. (select only those that apply)
 - a. Linear Vents
 - 1) Air dispersion accomplished by linear vent. Linear vents must be sized in 1 CFM per linear foot increments (based on .5" SP), starting a 1 CFM through 90 CFM per linear foot. Linear vent is to consist of an array of open orifices rather than a mesh style vent to reduce maintenance requirements of mesh style vents. Linear vents should also be designed to minimize dusting on fabric surface.
 - 2) Size of vent openings and location of linear vents to be specified and approved by manufacturer.
 - b. Orifices
 - 1) Air dispersion and extended throws are accomplished by orifices. Dispersion orifice sizing, up to 5 inch diameter (design dependent).
 - 2) Diameter, quantity, and location of orifices to be specified and approved by manufacturer.
 - 3. Inlet connection to metal duct via fabric draw band with anchor patches as supplied by manufacturer. Anchor patches to be secured to metal duct via. zip screw fastener – supplied by contractor.
 - 4. Inlet connection includes zipper for easy removal / maintenance.
 - 5. Lengths to include required intermediate zippers as specified by manufacturer.
 - 6. System to include Adjustable Flow Devices to balance turbulence, airflow and distribution as needed. Flow restriction device shall include ability to adjust the airflow resistance from 0.06 – 0.60 in w.g. static pressure.
 - 7. End cap includes zipper for easy maintenance.

8. Each section of the textile shall include identification labels documenting order number, section diameter, section length, piece number, code certifications and other pertinent information.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install ducts with fewest possible joints.
- B. Install ducts, unless otherwise indicated, vertically and horizontally and parallel and perpendicular to building lines; avoid diagonal runs.
- C. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- D. Install ducts with a clearance of 1 inch (25 mm).
- E. Conceal ducts from view in finished spaces. Do not encase horizontal runs in solid partitions unless specifically indicated.
- F. Non-Fire-Rated Partition Penetrations: Where ducts pass through interior partitions and exterior walls and are exposed to view, conceal spaces between construction openings and ducts with sheet metal flanges of same metal thickness as ducts. Overlap opening on 4 sides by at least 1-1/2 inches (38 mm).
- G. Fire-Rated Partition Penetrations: Where ducts pass through interior partitions and exterior walls, install appropriately rated fire dampers, sleeves, and firestopping sealant. Fire and smoke dampers are specified in Division 23 Section "Air Duct Accessories." Firestopping materials and installation methods are specified in Division 07 Section "Penetration Firestopping."
- H. Comply with restraint requirements of Division 23 Section "Vibration, Seismic, and Wind Controls for HVAC" for vibration isolation and seismic and wind restraints.
- I. Install fabric ducts so that no metals penetrate duct system.
 1. Support vertical ducts at every floor and at roof. Support horizontal ducts according to SMACNA's "HVAC Duct Construction Standards--Metal and Flexible."
 2. Support exhaust fans, fume hoods, and heavy accessories independent of ducts.
 3. Install flexible connectors with enough slack to prevent vibration transmission when fan is in operation.
 4. Reinforce and support equipment and duct accessories for additional weight without damage to ducts.
 5. Install volume-control dampers and operators on same sleeves or mounting plates and allow full 90-degree quadrant movement.
 6. Connect ducts to equipment using sheet metal washers and screws or mechanical fasteners attached to flange extensions.

- J. Building Attachments: Install powder-actuated concrete fasteners after concrete is placed and completely cured.
- K. Duct Attachments: Support horizontal ducts with manufacturer-provided hangers.
- L. Hangers: Suspend duct attachments from building attachments with one of the following hanger types:
 - 1. Galvanized sheet metal strips, a minimum of 0.034 by 1 inch (0.85 by 25 mm) wide.
 - 2. Galvanized-steel rods, 1/4 inch (6 mm) in diameter, threaded along entire length.
 - 3. Galvanized-steel wire, 0.108 inch (2.8 mm) minimum.
- M. Attach hangers to joints and reinforcing channels that occur within required hanger spacing. Attach hangers to transmit load to sides and bottom channels and no more than 6 inches (150 mm) from sides of ducts.
- N. Support equipment and metal duct components and accessories independent of ducts.
- O. Support terminal components separately.
- P. Install sheet metal sleeves to support dampers. For motorized dampers, extend sleeves to support operators.

3.2 FIELD QUALITY CONTROL

- A. Inspect fibrous-glass duct systems according to "Inspection Checklist for Fibrous Glass Duct System Installation" in NAIMA AH116. Prepare a written report using the format of this checklist.

3.3 CLEANING

- A. Clean ducts according to NAIMA AH122.

END OF SECTION 233116

SECTION 235239 - FIRE-TUBE BOILERS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes packaged, factory-fabricated and -assembled boilers, trim, and accessories for generating steam with the following configurations and burners:
 - 1. Horizontal, fire-tube boiler.
 - 2. Gasburner.

1.2 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Withstand the effects of seismic forces determined by Division 23 Section "Vibration, Seismic, and Wind Controls for HVAC."

1.3 SUBMITTALS

- A. General: Submit the following in accordance with Division 23 Section "Basic Division 23 Requirements."

1.4 ACTION SUBMITTALS

- A. Product Data: Include performance data, operating characteristics, furnished specialties, and accessories.
- B. Shop Drawings: For boilers, boiler trim, and accessories.
 - 1. Layout Drawings: Include plans, elevations, sections, details, and attachments to other work.
 - 2. Wiring Diagrams: Power, signal, and control wiring.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data:
 - 1. Source Quality Control Test Reports.
 - 2. Special Warranty: Special warranty specified in this Section.
- B. Field Quality Control Test Reports.
- C. Other Informational Submittals:
 - 1. ASME Stamp Certification and Report: Submit "A," "S," or "PP" stamp certificate of authorization, as required by authorities having jurisdiction, and document hydrostatic testing of piping external to boiler.
 - 2. Startup service reports.

1.6 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For boilers, components, and accessories to include in emergency, operation, and maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- B. ASME Compliance: Fabricate and label boilers to comply with ASME Boiler and Pressure Vessel Code.
- C. ASHRAE/IESNA 90.1-2007 Compliance: Boilers shall have minimum efficiency according to "Gas and Oil Fired Boilers - Minimum Efficiency Requirements."
- D. UL Compliance: Test Boilers for compliance with UL 795, "Commercial-Industrial Gas Heating Equipment." Boilers shall be listed and labeled by a testing agency acceptable to authorities having jurisdiction.

1.8 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

1.9 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace front- and rear-door refractories and heat exchangers of boilers that fail in materials or workmanship within specified warranty period.
 - 1. Horizontal, Fire-Tube and Fire-Box Boilers: Refractory in front and rear doors, 15 years from date of startup by factory-authorized personnel.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Cleaver-Brooks; div. of Aqua-Chem, Inc.
 - 2. Hurst Boiler & Welding Company, Inc.
 - 3. Superior Boiler Works, Inc.
 - 4. Burnham Commercial Boilers

2.2 MANUFACTURED UNITS

- A. Description: Factory-fabricated, -assembled, and -tested, horizontal, fire-tube boilers with heat exchanger sealed pressure tight, built on a steel base; including insulated jacket, flue-gas vent, water supply and return connections, and controls. Unit to be of "narrow width" style to accommodate installation and service clearances. Unit to fit through a standard 32"x80" doorway with trim and controls removed.
- B. Pressure Vessel Design: Straight, steel tubes steel tubes rolled and flared into steel headers. Multiple passes with wet-back design. Minimum heat-exchanger surface of 5 sq. ft./bhp (2.1 sq. m/10 kW). Include the following accessories:
 - 1. Handholes for water-side inspections.
 - 2. Lifting lugs on top of boiler.
 - 3. Minimum NPS 1 (DN 25) hose-end drain valves at shell low point.
 - 4. Tappings or flanges for supply- and return-water piping.
 - 5. Built-in air separator.
 - 6. Accessible drain and blowdown tappings, both high and low, for surface and mud removal.
 - 7. Tappings for steam supply, makeup, level controls, and chemical treatment.
 - 8. Provide a baffle in the boiler shell below the main steam outlet flange to provide for dry steam with no water carry over. Provide a baffle at the feedwater inlet to temper the water.
- C. Front and Rear Doors:
 - 1. Bolted, sealed with heat-resistant gaskets and fastened with lugs and cap screws.
 - 2. Designed so tube sheets and flues are fully accessible for inspection or cleaning when doors are open.
 - 3. Include observation ports in doors at both ends of boiler for inspection of flame conditions.
 - 4. Door refractory insulation shall be accessible for inspection and maintenance.
- D. Casing:
 - 1. Insulation: Minimum 2-inch- (50-mm-) thick, mineral-fiber insulation surrounding the boiler shell.
 - 2. Flue Connection: Flange at top of boiler.
 - 3. Jacket: Galvanized sheet metal, with screw-fastened closures and powder-coated protective finish.
 - 4. Mounting base to secure boiler to concrete base.
 - 5. Control Compartment Enclosure: NEMA 250, Type 12.
- E. Barometric Damper: Galvanized-steel assembly with flue-gas thermometer having a minimum 3-1/2-inch- (89-mm-) diameter dial.

2.3 BURNER

- A. Burner: Welded construction with multivane, stainless-steel, flame-retention diffuser for natural gas. Mount burner on hinged access door to permit access to combustion chamber. Burner to be fully modulating with low-NOx control and shall exceed ASHRAE 90.1-2007 efficiency and class 1 and 2 en676 emissions and efficiency ratings.

- B. Blower: backward inclined centrifugal fan integral to burner, directly driven by motor with variable speed control; with adjustable, single- or dual-blade damper assembly and locking quadrant to set air-fuel ratio.
 - 1. Motors: Comply with requirements specified in Division 23 Section "Common Motor Requirements for HVAC Equipment."
 - a. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
 - b. Control: Provide variable frequency drive.
- C. Gas Train: Control devices and modulating control sequence shall comply with requirements in ASME CSD-1 and UL.
- D. Pilot: Intermittent-electric-spark pilot ignition with 100 percent main-valve and pilot-safety shutoff with electronic supervision of burner flame.
- E. Flue-Gas Recirculation: Burner connections shall be equipped for recirculating flue gas.
 - 1. Maximum Oxides of Nitrogen Emissions: 20 ppm.

2.4 TRIM

- A. Include devices sized to comply with ANSI B31.1, "Power Piping and ANSI B31.9, " Building Services Piping."
- B. Pressure Controllers:
 - 1. Operating to modulate burner firing rate to maintain system operating pressure,
 - 2. High limit.
 - 3. Low fire hold aquastat
- C. Low- and high-water level sensors and feed water pump control sensors
- D. Safety Relief Valve:
 - 1. Size and Capacity: As required for equipment according to ASME Boiler and Pressure Vessel Code.
 - 2. Description: Fully enclosed steel spring with adjustable pressure range and positive shutoff; factory set and sealed.
 - a. Drip-Pan Elbow: Cast iron and having threaded inlet and outlet with threads complying with ASME B1.20.1.
- E. Pressure Gage: Minimum 3-1/2-inch (89-mm) diameter. Gage shall have normal operating pressure about 50 percent of full range.
- F. Water Column: Minimum 12-inch (300-mm) glass gage with shutoff cocks.
- G. Drain Valves: Minimum NPS 3/4 (DN 20) or nozzle size with hose-end connection.
- H. Automatic surface blowdown system complete with integral perforated skimmer, metering valve and shut off valve.

- I. Blowdown Valves: Factory-installed bottom and surface, slow-acting blowdown valves same size as boiler nozzle. Blowdown valves shall be combination of slow and quick acting as required by ANSI B31.1.
- J. Stop Valves: Boiler inlets and outlets, except safety relief valves or preheater inlet and outlet, shall be equipped with stop valve in an accessible location as near as practical to boiler nozzle and same size or larger than nozzle. Valves larger than NPS 2 (DN 50) shall have rising stem.
- K. Stop-Check Valves: Factory-installed, stop-check valve and stop valve for field installation at boiler outlet with free-blow drain valve for field installation between the two valves and visible when operating stop-check valve.
- L. Tankless Heater: Carbon-steel header with copper-tube heat exchanger, mounted in a port of upper manifold and sealed with fiber gasket.
 - 1. Tappings NPS 2 (DN 50) and Smaller: Threaded ends according to ASME B1.20.1 for pipe threads.
 - 2. Tappings NPS 2-1/2 (DN 65) and Larger: Flanged ends according to ASME B16.5 for steel and stainless-steel flanges, and according to ASME B16.24 for copper and copper-alloy flanges.

2.5 CONTROLS

- A. Refer to Division 23 Section "Instrumentation and Control for HVAC."
- B. Boiler operating controls shall include the following devices and features:
 - 1. Control transformer.
 - 2. Set-Point Adjust: Set points shall be adjustable.
 - 3. Operating Pressure Control: Factory wired and mounted to cycle burner.
 - 4. Low-Water Cutoff and Pump Control: Cycle feedwater pump(s) for makeup water control.
 - 5. Sequence of Operation: Electric, factory-fabricated and field-installed panel to control burner firing rate to maintain a constant steam pressure. Maintain pressure set point plus or minus 10 percent.
 - a. Include automatic, alternating-firing sequence for multiple boilers to ensure maximum system efficiency throughout the load range and to provide equal runtime for boilers.
 - 6. No momentary power loss, voltage or frequency loss shall cause the burner management system (BMS) to shut down requiring manual reset.
 - 7. The BMS shall have the capability of receiving a 0 – 10 VDC, 4 – 20 mA signal directly from the boiler pressure controller without the use of an external signal converter for natural gas operation.
 - 8. When the load controller modulating parameter is satisfied, the burner shall shut off and return to the home position. The proportional servomotors provide an ignition positioning parameter to ensure a guaranteed low fire start.
 - 9.
- C. Burner Operating Controls: To maintain safe operating conditions, burner safety controls limit burner operation.
 - 1. High Cutoff: Automatic reset stops burner if operating conditions rise above maximum boiler design pressure.

2. Low-Water Cutoff Switch: Float and electronic probe shall prevent burner operation on low water. Cutoff switch shall be automatic-reset type.
 3. Audible Alarm: Factory mounted on control panel with silence switch; shall sound alarm for above conditions.
 4. Boiler manufacturer may provide self-contained "boiler plant management system" to control all boiler room equipment for optimum system efficiency.
 - a. System to come with a control panel mounted in boiler room for system review, in a NEMA enclosure suitable for the installation.
 - b. Provide terminal strip with connections and interface card for connection to and communication with Building Management System in BMS protocol language.
 - c. System shall monitor:
 - 1) Flue and supply gas temperatures,
 - 2) Flue gas oxygen content,
 - 3) Boiler set point,
 - 4) Boiler positive variable,
 - 5) Boiler firing rate,
 - 6) Burner fuel servomotor position,
 - 7) Burner air servomotor position,
 - 8) Burner blower motor variable frequency position and calculate boiler efficiency.
 - d. Boiler Wizard shall trend all values including alarm annunciation for the past 365 days. Boiler Wizard shall include either remote local intranet or Internet accessibility for monitoring of above functions.
 - e. Boiler Wizard system shall auto-rotate boilers and allow for lag boiler timed warm-up with night and weekend set-back functions.
- D. Building Management System Interface: Factory-install hardware and software to enable building management system to monitor, control, and display boiler status and alarms.
1. Hardwired Points to include but not be limited to:
 - a. Monitoring: On/off status, common trouble alarm, low water level alarm, system pressure.
 - b. Control: On/off operation, steam pressure adjustment.
 - c. See drawings for complete list of control and monitoring points.
 2. A communication interface with building management system shall enable building management system operator to remotely control and monitor the boiler from an operator workstation. Control features available, and monitoring points displayed, locally at boiler control panel shall be available through building management system.

2.6 ELECTRICAL POWER

- A. Controllers, Electrical Devices, and Wiring: Electrical devices and connections are specified in Division 26 Sections.
- B. Single-Point Field Power Connection: Factory-installed and -wired switches, motor controllers, transformers, and other electrical devices necessary shall provide a single-point field power connection to boiler.
 1. House in NEMA 250, Type 12 enclosure.

2. Wiring shall be numbered and color-coded to match wiring diagram.
3. Install wiring outside of an enclosure in a metal raceway.
4. Field power interface shall be to fused disconnect switch.
5. Provide branch power circuit to each motor and to controls with a disconnect switch or circuit breaker.
6. Provide each motor with overcurrent protection.

2.7 SOURCE QUALITY CONTROL

- A. Test and inspect factory-assembled boilers, before shipping, according to ASME Boiler and Pressure Vessel Code.
- B. Burner and Hydrostatic Test: Factory adjust burner to eliminate excess oxygen, carbon dioxide, oxides of nitrogen emissions, and carbon monoxide in flue gas and to achieve combustion efficiency; perform hydrostatic test.
- C. Allow Owner access to source quality-control testing of boilers. Notify Architect 14 days in advance of testing.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Before boiler installation, examine roughing-in for concrete equipment bases, anchor-bolt sizes and locations, and piping and electrical connections to verify actual locations, sizes, and other conditions affecting boiler performance, maintenance, and operations.
 1. Final boiler locations indicated on Drawings are approximate. Determine exact locations before roughing-in for piping and electrical connections.
- B. Examine mechanical spaces for suitable conditions where boilers will be installed.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 BOILER INSTALLATION

- A. Install boilers level on concrete base. Concrete base is specified in Division 23 Section "Common Work Results for HVAC," and concrete materials and installation requirements are specified in Division 03.
- B. Install gas-fired boilers according to NFPA 54.
- C. Assemble and install boiler trim.
- D. Install electrical devices furnished with boiler but not specified to be factory mounted.
- E. Install control wiring to field-mounted electrical devices.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to boiler to allow service and maintenance.
- C. Connect gas piping to boiler gas-train inlet with union. Piping shall be at least full size of gas train connection. Provide a reducer if required.
- D. Connect hot-water piping to supply- and return-boiler tapings with shutoff valve and union or flange at each connection.
- E. Connect steam and condensate piping to supply-, return-, and blowdown-boiler tapings with shutoff valve and union or flange at each connection.
- F. Install piping from safety relief valves to nearest floor drain.
- G. Install piping from safety valves to drip-pan elbow and to nearest floor drain.
- H. Install piping from equipment drain connection to nearest floor drain. Piping shall be at least full size of connection. Provide an isolation valve if required.
- I. Connect breeching full size to boiler outlet. Comply with requirements in Division 23 Section "Breechings, Chimneys, and Stacks" for venting materials.
- J. Install flue-gas recirculation duct from vent to burner. Comply with requirements in Division 23 Section "Breechings, Chimneys, and Stacks" for recirculation duct materials.
- K. Ground equipment according to Division 26 Section "Grounding and Bonding."
- L. Connect wiring according to Division 26 Section "Low-Voltage Electrical Power Conductors and Cables."

3.4 FIELD QUALITY CONTROL

- A. Perform tests and inspections and prepare test reports.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- B. Tests and Inspections:
 - 1. Perform installation and startup checks according to manufacturer's written instructions.
 - 2. Leak Test: Hydrostatic test. Repair leaks and retest until no leaks exist.
 - 3. Operational Test: Start units to confirm proper motor rotation and unit operation. Adjust air-fuel ratio and combustion.
 - 4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

- a. Burner Test: Adjust burner to eliminate excess oxygen, carbon dioxide, oxides of nitrogen emissions, and carbon monoxide in flue gas and to achieve combustion efficiency.
 - b. Check and adjust initial operating set points and high- and low-limit safety set points of fuel supply, water level, and steam pressure.
 - c. Set field-adjustable switches and circuit-breaker trip ranges as indicated.
- C. Remove and replace malfunctioning units and retest as specified above.
- D. Occupancy Adjustments: When requested within 12 months of date of Substantial Completion, provide on-site assistance in adjusting system to suit actual occupied conditions. Provide up to three visits to Project during other than normal occupancy hours for this purpose.
- E. Performance Tests:
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect component assemblies and equipment installations, including connections, and to conduct performance testing.
 2. Boilers shall comply with performance requirements indicated, as determined by field performance tests. Adjust, modify, or replace equipment in order to comply.
 3. Perform field performance tests to determine the capacity and efficiency of boilers.
 - a. For dual-fuel boilers, perform tests for each fuel.
 - b. Test for full capacity.
 - c. Test for boiler efficiency at low fire, 20, 40, 60, 80, 100, 80, 60, 40 and 20 percent of full capacity. Determine efficiency at each test point.
 4. Repeat tests until results comply with requirements indicated.
 5. Provide analysis equipment required to determine performance.
 6. Provide temporary equipment and system modifications necessary to dissipate the heat produced during tests if building systems are not adequate.
 7. Notify Architect in advance of test dates.
 8. Document test results in a report and submit to Architect.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain boilers. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 235239

SECTION 235313 - BOILER FEEDWATER PUMPS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Feedwater pumps and receivers.
 - 2. Vacuum condensate receivers with positive displacement pump(s).

1.2 DEFINITION

- A. NPSH: Net-positive suction head.

1.3 PERFORMANCE REQUIREMENTS

- A. Seismic Performance: Withstand the effects of seismic forces determined by Division 23 Section "Vibration, Seismic, and Wind Controls for HVAC."

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Division 23 Section "Basic Division 23 Requirements."

1.5 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacity, temperature and NPSH required, pump performance curves with selection points clearly indicated, and furnished specialties and accessories.
- B. Shop Drawings:
 - 1. Layout Drawings: Include plans, elevations, sections, details, dimensions, weights, loadings, required clearances, method of field assembly, and attachments to other work.
 - 2. Wiring Diagrams: Power, signal, and control wiring.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data:
 - 1. Field Quality Control Test Reports.

1.7 CLOSEOUT SUBMITTALS

- A. Operation and Maintenance Data: For feedwater equipment to include in emergency, operation, and maintenance manuals.

1.8 QUALITY ASSURANCE

- A. Regulatory Requirements: Fabricate and test unit according to ASME PTC 12.1, "Closed Feedwater Heaters."
- B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- C. ASME Compliance: ASME B31.9, "Building Services Piping," for systems equal to or less than 15 psig (104 kPa). Safety valves and pressure vessels shall bear the appropriate ASME label.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Preparation for Shipping: Clean flanges and exposed-metal surfaces and treat with anticorrosion compound after assembly and testing. Protect flanges, pipe openings, and nozzles with wooden flange covers or with screwed-in plugs.
- B. Store units in dry location.
- C. Retain protective flange covers and machined-surface protective coatings during storage.
- D. Protect bearings and couplings against damage from sand, grit, and other foreign matter.
- E. Comply with manufacturer's written rigging instructions.

1.10 COORDINATION

- A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 03.

PART 2 - PRODUCTS

2.1 FEEDWATER UNITS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Aurora Pump; Pentair Pump Group.
 - 2. Cleaver-Brooks; Div. of Aqua-Chem, Inc.
 - 3. Domestic Pump; a unit of ITT Fluid Technology.
 - 4. MEPCO (Marshall Engineered Products Co.). Shippensburg Pump Co., Inc.
 - 5. Skidmore.

- B. Description: Factory-assembled and -tested unit consisting of a receiver, tri-plex feedwater pumps, controls, and the following features and accessories:
1. Liquid-filled industrial thermometer graduated in both Fahrenheit and Celsius.
 2. Level gage glass, reflex flat type, with stops at top and bottom.
 3. Lifting eyes.
 4. Companion flanges.
 5. Pump, suction and discharge isolation valve, inlet strainer, discharge check valve, and liquid-filled pressure gage.
 6. Makeup Water Assembly: Float operated with integral valve; with inlet strainer and three-valve bypass.
 7. Feedwater Heater: Sparge tube, thermostat, and control valve.
 8. High Water Alarm: High water alarm float switch, equal to McDonnell Miller No. 69 high water alarm float switch.
 9. Low Water Alarm and Pump Shut-off: Low water float switch, equal to McDonnell Miller No. 69 low water alarm float switch.
 10. Each boiler feed pump discharge shall be supplied with a diaphragm valve for boiler feedwater control, equal to Keckley Figure 119R.
 11. Factory-Installed Pipe, NPS 2-1/2 (DN 65) and Smaller: ASTM A 53/A 53M, Type S (seamless), Grade B; or ASTM A 106, Type S, Grade B, Schedule 80; with threaded joints and fittings.
 - a. Cast-Iron Threaded Fittings: ASME B16.4; Class 125.
 - b. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150.
 - c. Forged-Steel Fittings: ASME B16.11, Class 3000.
 - d. Malleable-Iron Unions: ASME B16.39; Class 150.
 - e. Forged-Steel Unions: MSS SP-83, Class 3000.
 12. Factory-Installed Pipe, NPS 3 (DN 80) and Larger: ASTM A 53/A 53M, Type E (electric-resistance welded), Grade B; or ASTM A 106, Type S, Grade B, Schedule 80; with welded joints and carbon-steel fittings and flanges.
 - a. Wrought-Steel Fittings: ASME B16.9, wall thickness to match adjoining pipe.
 - b. Wrought Cast- and Forged-Steel Flanges and Flanged Fittings: ASME B16.5, Class 150, including bolts, nuts, and gaskets.
- C. Receiver:
1. Material: Welded carbon steel.
 2. Additional corrosion protection:
 - a. 0.25-inch (1/4") thickness allowance.
 - b. Electrolytic corrosion-inhibitor anode.
 3. Finish: Primer under enamel topcoat.
 4. Factory-Applied Insulation and Jacket: Minimum thickness of 2 inches (50 mm) for mineral-fiber pipe and tank insulation. Cover insulation with painted steel jacket.
 5. Mounting Arrangement: Floor mounted.
 6. Mounting Frame: Structural-steel stand to support receiver and pumps.
- D. Vertical Feedwater Pump: Flange-mounted, close-coupled, single-stage, radially split-case-design centrifugal pump; rated for 175-psig (1205-kPa) minimum working pressure and a continuous water temperature of at least ; with the following features:
1. Impeller: Bronze.

2. Seals: Mechanical.
 3. Motor: Totally enclosed enclosure. Comply with requirements in Division 23 Section "Common Motor Requirements for HVAC Equipment."
- E. Control panel shall be unit mounted and factory wired and include the following:
1. NEMA 250, Type 12 enclosure.
 2. Single-point field power interface to fused disconnect switch.
 - a. Branch power circuit to each motor and to controls with a disconnect switch or circuit breaker.
 3. NEMA-rated motor controller for each motor, and include a hand-off-auto switch and overcurrent protection.
 - a. Alternating controls for duplex units with intermittent operation as indicated by control sequence.
 4. Terminal blocks with numbered and color-coded wiring to match wiring diagram.
 5. Wiring outside of an enclosure in a metal raceway. Make connections to motor with liquid tight conduit.
 6. Removable control mounting plate.
 7. Visual indication of status and alarm with momentary test push button.
 8. Audible alarm and silence switch.
 9. Visual indication of elapsed run time, graduated in hours.
 10. Fused control-circuit transformer.
 11. Microprocessor-based controller.
- F. Feedwater Triplex-Pump Control Sequence:
1. Boiler water-level controller starts and stops lead pump to maintain boiler water-level set point.
 2. Lead and lag pumps alternate to equalize run time.
 3. Lead pump failure, lag pump automatically starts if lead pump cannot maintain set point.. If both pumps fail, third pump is to start.
 4. Visual indication of pump status.
 5. Visual indication of pump lead/lag status.
 6. Visual alarm indication of pump failure.
- G. Receiver Makeup Water Control Sequence:
1. Electric level controller operates electric control valve to maintain receiver water-level set point.
 2. Mechanical float operates integral valve to maintain water-level set point.
 3. Visual and audible alarm indication of low and high receiver-water level.
- H. Building Management System Interface: Factory install hardware to enable building management system to monitor and display points.
1. Hardwired Monitoring Points: On/off status for each pump, failure alarm for each pump, receiver low-water-level alarm, receiver high-water-level alarm, feedwater temperature..
- I. Capacities and Characteristics: Refer to Drawings.

2.2 VACUUM CONDENSATE RECEIVERS WITH POSITIVE DISPLACEMENT PUMPS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Domestic Pump; a unit of ITT Fluid Technology.
 2. Shippensburg Pump Co., Inc.
 3. Skidmore.
 4. MEPCO (Marshall Engineered Products Co.).
- B. Description: Receiver mounted, consisting of positive displacement vacuum air removal liquid ring pumps and motor assemblies mounted to cast iron separation chamber, centrifugal condensate pump and motor assemblies mounted to cast iron accumulator chamber, and automatic pressure and water temperature controls. Include the following accessories:
1. Liquid-filled industrial thermometer graduated in both Fahrenheit and Celsius.
 2. Vacuum Gage: Dial-type register in inches of mercury (kPa).
 3. Level Gage Glass: Stops top and bottom.
 4. Air-suction check valve.
 5. Lifting eyes.
 6. Companion flanges.
 7. Low-water cutoff switch.
 8. Cooling-Water Control: Aquastat, inlet strainer, and electric valve.
 9. Air vent.
 10. Overflow drain from vacuum-producer receiver.
 11. Discharge muffler silencers for each air removal pump.
 12. Vacuum control switches for each air removal pump.
 13. Inlet basket strainer.
 14. Discharge valves.
 15. Pump suction isolation valves.
 16. Vacuum and float controls.
 17. Vacuum breaker.
 18. Electric controls and accessories.
 19. Factory-Installed Pipe, NPS 2-1/2 (DN 65) and Smaller: ASTM A 53/A 53M, Type S (seamless), Grade B; or ASTM A 106, Type S, Grade B, Schedule 80; with threaded joints and fittings.
 - a. Cast-Iron Threaded Fittings: ASME B16.4; Class 125.
 - b. Malleable-Iron Threaded Fittings: ASME B16.3, Class 150.
 - c. Forged-Steel Fittings: ASME B16.11, Class 3000.
 - d. Malleable-Iron Unions: ASME B16.39; Class 150.
 - e. Forged-Steel Unions: MSS SP-83, Class 3000.
 20. Factory-Installed Pipe, NPS 3 (DN 80) and Larger: ASTM A 53/A 53M, Type E (electric-resistance welded), Grade B; or ASTM A 106, Type S, Grade B, Schedule 80; with welded joints and carbon-steel fittings and flanges.
 - a. Wrought-Steel Fittings: ASME B16.9, wall thickness to match adjoining pipe.
 - b. Wrought Cast- and Forged-Steel Flanges and Flanged Fittings: ASME B16.5, Class 150, including bolts, nuts, and gaskets.
- C. Vacuum-Producer Reservoir and Vacuum Receiver:
1. Material: Welded carbon steel.
 2. Additional corrosion protection:

- a. 0.50-inch (1/2") thickness allowance.
 - b. Electrolytic corrosion-inhibitor anode.
 3. Finish: Primer under enamel topcoat.
 4. Factory-Applied Insulation and Jacket: Minimum thickness of 2 inches (50 mm) for mineral-fiber pipe and tank insulation. Cover insulation with painted steel jacket.
 5. Mounting Arrangement: Floor mounted.
 6. Mounting Frame: Structural-steel stand to support receiver and pumps.
- D. Horizontal Positive-Displacement Vacuum-Producer Pump: Mounted with suction isolation valve, closed-coupled, positive displacement single-stage, liquid ring, water cooled pumps rated for 75-psig minimum working pressure and a continuous water temperature of 225 deg F; capable of removing the stated required cfm of air at a rating of 15" Hg. Vacuum, 5.5" Hg. Vacuum rating will not be acceptable, with the following features:
1. Impeller: Bronze.
 2. Shaft: Stainless steel.
 3. Seals: Mechanical.
 4. Motor: Totally enclosed enclosure. Comply with requirements in Division 23 Section "Common Motor Requirements for HVAC Equipment."
- E. Vertical Feedwater Pump: Flange-mounted, close-coupled, single-stage, radially split-case-design centrifugal pump; rated for 175-psig (1205-kPa) minimum working pressure and a continuous water temperature of at least 225 deg F (107 deg C); with the following features:
1. Impeller: Bronze.
 2. Seals: Mechanical.
 3. Motor: Totally enclosed] enclosure. Comply with requirements in Division 23 Section "Common Motor Requirements for HVAC Equipment."
- F. Control panel shall be unit mounted and factory wired and include the following:
1. Vacuum Switches for Duplex Vacuum-Producer Pumps: Include pressure adjustment, and test push button. Factory set so one pump operates for 3 to 5 inches of mercury (10.1 to 16.9 kPa) and both pumps operate for 4 to 6 inches of mercury (13.5 to 20.2 kPa).
 2. NEMA 250, Type 12 enclosure.
 3. Single-point field power interface to fused disconnect switch.
 - a. Branch power circuit to each motor and to controls with a disconnect switch or circuit breaker.
 4. NEMA-rated motor controller for each motor and include a hand-off-auto switch and overcurrent protection.
 - a. Alternating control for units with intermittent operation as indicated by control sequence.
 5. Terminal blocks with numbered and color-coded wiring to match wiring diagram.
 6. Wiring outside of an enclosure in a metal raceway. Make connections to motor with liquidtight conduit.
 7. Removable control mounting plate.
 8. Visual indication of status and alarm with momentary test push button.
 9. Audible alarm and silence switch.
 10. Visual indication of elapsed run time, graduated in hours.
 11. Fused control-circuit transformer.

12. Electric alternator for air removal duplex units.

2.3 SYSTEMS CONTROL SEQUENCES

A. Vacuum-Producer Control Sequence:

1. Cycle pumps to maintain vacuum-pressure set point.
2. Visual indication of pump on and off status.
3. Visual and audible alarm indication of pump failure.

B. Condensate Pump Control Sequence (into boiler feed unit):

1. Selector switch in automatic position (float), cycle lead condensate water removal pump such that an increase in the tank water level shall start the lead pump as determined by the mechanical alternator.
2. If the lead pump cannot handle the return condensate or the lead pump fails to function the lag pump shall start.

C. Feedwater Duplex-Pump Control Sequence (into boiler from boiler feed unit):

1. Boiler water-level controller starts and stops lead pump to maintain boiler water-level set point.
2. Lead and lag pumps alternate after each start.
3. Lead pump failure, lag pump automatically starts if lead pump cannot maintain set point.
4. Visual indication of pump on and off status.
5. Visual indication of pump lead/lag status.
6. Visual and audible alarm indication of pump failure.

D. Makeup Water Control Sequence:

1. Electric level controller operates electric control valve to maintain water temperature set point.
2. Visual and audible alarm indication of low and high water level.

E. Building Management System Interface: Factory install hardware to enable building management system to monitor and display points.

1. Hardwired Monitoring Points: On/off status for each pump, failure alarm for each pump, receiver low-water-level alarm, receiver high-water-level alarm, feedwater temperature.

F. Capacities and Characteristics: Refer to Drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Before feedwater unit installation, examine roughing-in for concrete equipment bases, anchor-bolt sizes and locations, and piping and electrical connections to verify actual locations, sizes, and other conditions affecting feedwater unit performance, maintenance, and operations.

1. Final feedwater unit locations indicated on Drawings are approximate. Determine exact locations before roughing-in for piping and electrical connections.

2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install feedwater unit level on concrete base. Concrete base is specified in Division 23 Section "Common Work Results for HVAC," and concrete materials and installation requirements are specified in Division 03.
- B. Vibration Isolation[and Seismic Restraint]: Vibration isolation[and restraint] devices and installation requirements are specified in Division 23 Section "Vibration, Seismic, and Wind Controls for HVAC."
- C. Install unit to permit access for maintenance.
- D. Support piping independent of pumps.
- E. Install base-mounted pumps on concrete bases with grouted base frames.
- F. Install parts and accessories shipped loose.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Install piping adjacent to machine to allow service and maintenance.
- C. Connect makeup water piping and cooling-water piping with reduced-pressure backflow preventers.
- D. Install overflow drain piping to nearest floor drain.
- E. Install vents and extend to outdoors; terminate with elbow turned down and an insect screen.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections. Report results in writing.
- B. Perform tests and inspections and prepare test reports.
 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
 1. Inspect field-assembled components, equipment installation, and piping and electrical connections for compliance with manufacturer's written instructions.

2. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
3. Check bearing lubrication.
4. Verify proper motor rotation.
5. Start up service.
6. Report results in writing.

D. Remove and replace malfunctioning units and retest as specified above.

3.5 ADJUSTING

- A. Adjust boiler water-level controls to properly stage unit.
- B. Set field-adjustable, makeup water and cooling-water controls.

3.6 CLEANING

- A. Clean equipment internally; remove coatings applied for protection during shipping and storage, foreign material, and oily residue according to manufacturer's written instructions.
- B. Clean strainers.

3.7 DEMONSTRATION

- A. Engage a factory-authorized service representative to train owner's maintenance personnel to adjust, operate, and maintain feedwater units. Refer to Division 01 Section "Demonstration and Training."

END OF SECTION 235313

GENERAL DEMOLITION NOTES

1. VERIFY EXISTING FIELD CONDITIONS BEFORE AND AFTER DEMOLITION. REPORT ANY DISCREPANCIES FROM THE DRAWINGS TO THE ARCHITECT.
2. ALL CONTRACTORS ARE RESPONSIBLE FOR REVIEWING ALL CONSTRUCTION DOCUMENTS FOR COORDINATION OF THE WORK AND DESIGN INTENT.
3. PRIOR TO COMMENCEMENT OF WORK, REFER TO THE STRUCTURAL, MEP & FP DRAWINGS FOR WORK TO REMAIN, OR TO BE SALVAGED WITHIN AREAS OF DEMOLITION.
4. CONSTRUCTION IS TO BE PHASED FOR UNINTERRUPTED USE OF THE EXISTING BUILDING. TEMPORARY BARRICADES TO BE ERECTED TO SEPARATE CONSTRUCTION AREAS FROM REMAINDER OF BUILDING. CORRIDOR ACCESS AND EXITS SHALL BE MAINTAINED AT ALL TIMES.
5. ALL EXISTING BUILDING SYSTEMS - HEATING, COOLING, FIRE ALARM, SECURITY, ETC. SHALL REMAIN IN OPERATION AT UNAFFECTED AREA AT ALL TIMES DURING DEMOLITION. COORDINATE ALL SHUT DOWNS WITH THE OWNERS BUILDING ENGINEER.
6. DEMOLITION WORK AS SHOWN ON THE DRAWINGS IS TO INDICATE. IN A GENERAL MANNER, THE REMOVAL OF EXISTING CONSTRUCTION AND IS NOT INTENDED TO BE EXCLUSIVE. PROVIDE ALL DEMOLITION REQUIRED TO ACCOMMODATE OR INSTALL ALL NEW WORK FOR ALL TRADES. VERIFY ALL CONDITIONS AT BUILDING SITE PRIOR TO COMMENCEMENT OF WORK.
7. ABATEMENT WORK IS UNDER SEPARATE CONTRACT. ALL ACM WILL BE REMOVED BY DISTRICT'S ABATEMENT CONTRACTOR. WORK NOTED IN THE DRAWINGS IS FOR CONTRACTORS REFERENCE, TO UNDERSTAND WORK REQUIRED TO PREPARE EXISTING SURFACES FOR NEW WORK. CONTRACTOR TO COORDINATE ACM REMOVAL REQUIREMENTS WITH RPS 205 ABATEMENT CONTRACTOR TO INCLUDE BUT NOT LIMITED TO: FLOORING, CEILING SYSTEMS, PIPE INSULATION, DUCT INSULATION, CAULK AND WINDOW GLAZING.
8. REFER TO THE STRUCTURAL, MEP & FP DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION.
9. REFER TO PROJECT MANUAL FOR ADDITIONAL REQUIREMENTS REGARDING DEMOLITION AND ALTERATION PROCEDURES.
10. WALLS & CEILINGS NOTED TO BE REMOVED IN THEIR ENTIRETY SHALL INCLUDE ALL ASSOCIATED HEATING, VENTILATION, ELECTRICAL, TECHNOLOGY, PLUMBING, FIRE PROTECTION, & ARCHITECTURAL ELEMENTS.
11. FLOOR FINISHES NOTED TO BE REMOVED IN THEIR ENTIRETY SHALL INCLUDE ALL FINISH FLOORING UNDERLAYMENT AND ASSOCIATED SUB-FLOORING, DOWN TO STRUCTURE.
12. CARE SHOULD BE TAKEN WHILE DEMOLISHING ITEMS ADJACENT TO WALLS TO REMAIN, FLOOR SLABS AND STRUCTURE. TO LOWER THE EXTENT OF REQUIRED PATCH WORK.
13. WHERE PIPES, CONDUITS, DUCTWORK, ETC. HAVE BEEN REMOVED FROM ANY WALL, FLOOR, CEILING OR ROOF SYSTEM THAT IS TO REMAIN, THE OPENING SHALL BE FILLED WITH MATERIALS THAT MATCH THE EXISTING ADJACENT CONSTRUCTION AND RESTORED TO MAINTAIN DESIGNATED FIRE OR SMOKE RATING. NEW PENETRATIONS THROUGH EXISTING WALLS, FLOORS OR ROOF SHALL BE FIRE STOPPED.
14. REFER TO UNDERGROUND PLUMBING AND ELECTRICAL DEMOLITION PLANS FOR DEMOLITION AND PATCHING OF CONCRETE FLOOR SLAB.
15. PATCH ALL EXISTING FLOOR AND WALL SURFACES TO REMAIN AS REQUIRED TO RECEIVE NEW FINISHES, AT AREAS OF WORK. CONTRACTOR IS TO COORDINATE FLOOR ELEVATIONS AND PROVIDE SMOOTH AND LEVEL SURFACES TO RECEIVE NEW FINISHES. FLOOR FILL TO BE LIGHTWEIGHT CONCRETE AND/OR FLOOR LEVELING COMPOUNDS APPROPRIATE TO THICKNESS OF INFILL REQUIRED TO LEVEL FLOOR AT REQUIRED FLOOR ELEVATION. TRANSITIONS TO ADJACENT FLOOR SURFACES NOT TO EXCEED A 1:20 SLOPE.
16. REMOVE CONCRETE HOUSEKEEPING PADS AND CURBS AT REMOVED EQUIPMENT. PATCH FLOOR TO MATCH EXISTING.
17. ALL EXISTING DEVICES (I.E. ELECTRICAL, DATA, TELEPHONE ETC.) THAT OCCUR IN WALLS TO BE DEMOLISHED ARE TO BE REMOVED AND TERMINATED ACCORDING TO MEP AND FP DRAWINGS.
18. THE CONTRACTOR SHALL REMOVE EXISTING MATERIALS WHERE INDICATED AND SHALL PREPARE SUBSURFACE FOR NEW FINISH.
19. COORDINATE ALL WORK WITH OWNER.
20. SAW CUT AND REMOVE EXISTING FLOOR SLABS, WALLS TO INSTALL NEW PLUMBING, ELECTRICAL AND MECHANICAL SYSTEMS AS INDICATED IN MEPPF DRAWINGS. PREPARE AREA OF REMOVAL FOR MEPPF INSTALLATIONS AND PATCH AFTER INSTALLATION.
21. ALL EXPOSED MASONRY PATCHES, ON WALLS TO REMAIN, TO BE TOOTHED INTO EXISTING WALLS UNLESS NOTED OTHERWISE.
22. CAREFULLY REMOVE ITEMS MARKED BY THE OWNER AS "OWNERS" AND RETURN TO OWNER.
23. CONTRACTOR TO VERIFY WITH RPS 205 FOR ANY DEMOLISHED MATERIAL AND EQUIPMENT TO BE SALVAGED.
24. CONTRACTOR TO REMOVE ALL SALVAGED MATERIALS OFF SITE DAILY. NO MATERIAL SHALL BE STORED OUTSIDE DURING NON-WORKING TIMES. ALL DUMPSTERS SHALL BE SECURED AT THE END OF EACH DAY TO PREVENT SCRAPPING. PROHIBITIVE SIGNAGE WILL BE PROVIDED TO CONTRACTOR BY RPS 205. DISTRICT HAS THE RIGHT TO SALVAGE MATERIALS.
25. CONTRACTOR TO COORDINATE CEILING REMOVAL AND INSTALLATION REQUIREMENTS WITH MEP TRADES.

DEMOLITION KEY NOTES

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- 2 REMOVE PORTION OF EXISTING PARTITION FOR NEW CONSTRUCTION INCL. WALL BASE AND ASSOCIATED ARCHITECTURAL / MEPPF ELEMENTS
- 3 REMOVE COMPLETELY ALL EXISTING FLOOR FINISHES AND ADHESIVE, INCLUDING UNDERLAYMENT, DOWN TO SLAB. REMOVE BASE AS REQUIRED.
- 4 EXISTING VAT FLOORING TO BE REMOVED BY OWNER'S ABATEMENT CONTRACTOR. CONTRACTOR TO COORDINATE REMOVAL WITH ABATEMENT CONTRACTOR.
- 5 REMOVE EXISTING CEILING IN ITS ENTIRETY, INCLUDING ACT AND GRID WHERE APPLICABLE, GYPSUM BOARD SOFFITS, MECHANICAL DIFFUSERS AND LIGHT FIXTURES, UNLESS OTHERWISE NOTED.
- 6 CAREFULLY CUT AND REMOVE EXISTING PLASTER CEILING STARTING FROM 6" AWAY FROM CURVED PLASTER SOFFIT AT WINDOW. CURVED PLASTER SOFFIT AT WINDOW TO REMAIN. DASHED LINE INDICATES EXTENT.
- 7 REMOVE EXISTING CEILING AS REQUIRED FOR NEW FIXTURE INSTALLATION AND MEP WORK, INCLUDING ACT AND GRID WHERE APPLICABLE, MECHANICAL DIFFUSERS AND LIGHT FIXTURES, UNLESS OTHERWISE NOTED.
- 7 REMOVE EXISTING DOOR, FRAME, SIDELIGHT (AS INDICATED) AND HARDWARE, INCL. THRESHOLDS.
- 8 SAWCUT EXISTING CONCRETE SLAB - REFER TO UNDERGROUND PLUMBING & ELECTRICAL PLANS FOR DEMOLITION & PATCHING OF EXISTING CONCRETE SLAB ON GRADE.
- 9 REMOVE EXISTING CASEWORK/MILLWORK IN ITS ENTIRETY (BASE CABINETS, COUNTERTOPS, UPPER CABINETS, SHELVES AND ISLANDS) AND ASSOCIATED PLUMBING/GAS/ELECTRICAL.
- 10 REMOVE EXISTING PLUMBING FIXTURES (I.E. WC, LAVATORY, DRINKING FOUNTAIN, EYEWASH, SHOWERS, FLOOR DRAINS ETC.)
- 11 REMOVE EXISTING TOILET ACCESSORIES (I.E. PAPER TOWEL DISPENSER, TOILET PAPER DISPENSER, SOAP DISPENSER, MIRROR, SANITARY DISPENSER, GARBAGE BINS ETC.). SALVAGE AND RETURN TO OWNER.
- 12 OWNER TO REMOVE EXISTING LOOSE EQUIPMENT/FURNITURE. GC TO COORDINATE WITH DISTRICT.
- 13 REMOVE EXISTING WINDOW COVERINGS
- 14 REMOVE EXISTING MARKER BOARD, CHALK BOARD, TACKBOARD AND RETURN TO OWNER
- 15 ALL EXISTING KITCHEN EQUIPMENT REMOVAL AND ASSOCIATED DEMOLITION WORK. SEE FOODSERVICE EQUIPMENT
- 16 REMOVE PORTION OF EXTERIOR MASONRY WALL
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- 19 EXISTING WINDOWS TO BE REMOVED BY OTHER FOR WINDOW REPLACEMENT (NOT IN CONTRACT). WINDOW INSTALLER IS RESPONSIBLE FOR REMOVING TEMPORARY ENCLOSURE AND RETURNING IT TO ABATEMENT CONTRACTOR.
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- 25 REMOVE EXISTING FLOORING AS REQUIRED FOR NEW CONSTRUCTION
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- 27 REMOVE ENTIRELY LOW HEIGHT GYP BOARD PARTITION
- 28 REMOVE PAINTED MTL FASCIA ABOVE WINDOWS (SEE 2 AND 3/D0202)
- 29 REMOVE PAINTED MTL BULKHEAD BELOW WINDOW (SEE 4/D0202)
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- 31 EXISTING WINDOW TO BE REMOVED BY OTHERS (NIC). CONTRACTOR INSTALLING THE MECHANICAL LOUVER FRAME AND BLANK-OFF PANEL IS RESPONSIBLE FOR REMOVING THE TEMPORARY ENCLOSURE AND RETURNING IT TO ABATEMENT CONTRACTOR
- 32 EXISTING GLASS BLOCK TO BE REMOVED BY OTHERS FOR WINDOW REPLACEMENT (N.I.C.). WINDOW INSTALLER IS RESPONSIBLE FOR REMOVING TEMPORARY ENCLOSURE AND RETURNING IT TO ABATEMENT CONTRACTOR.
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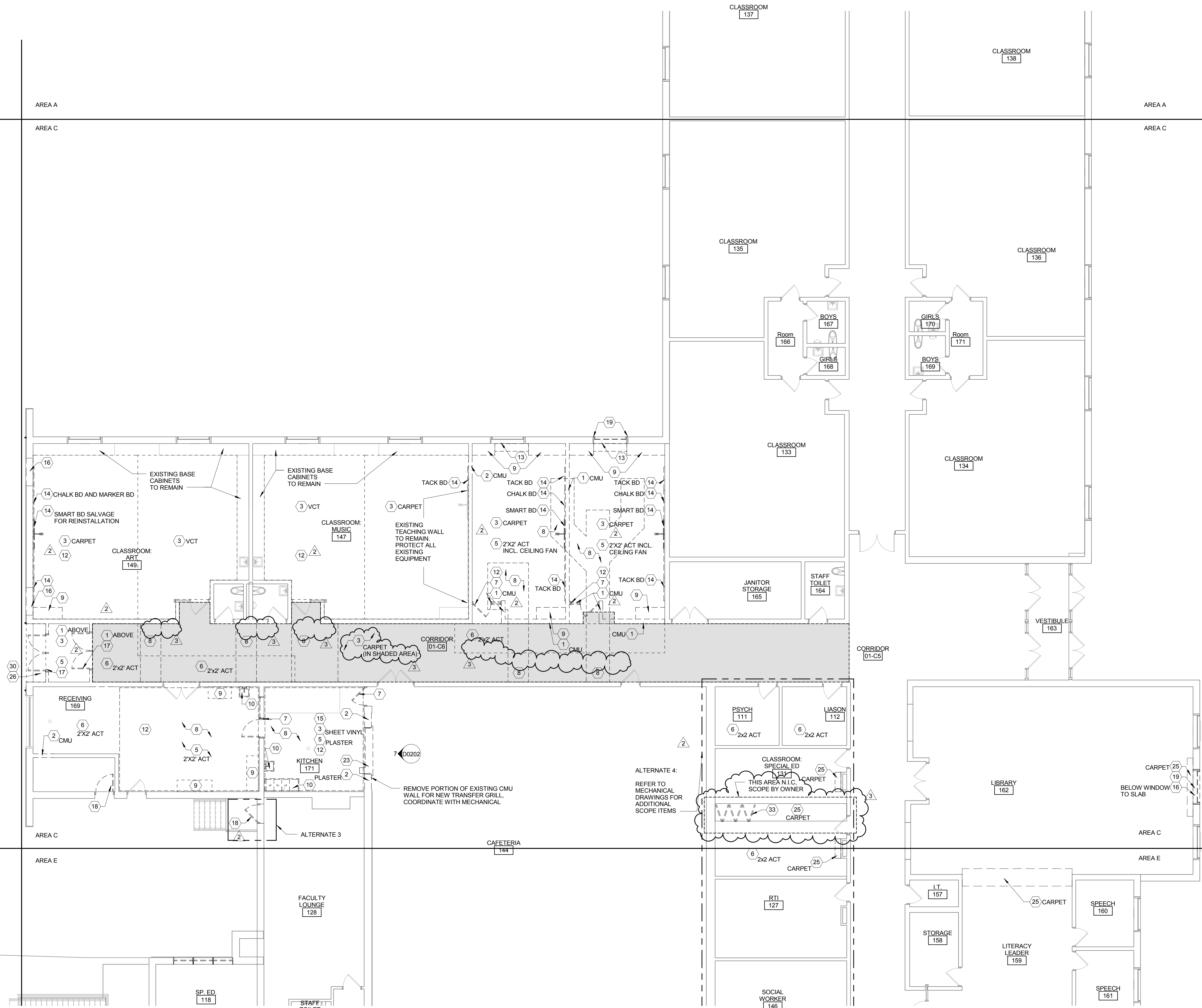
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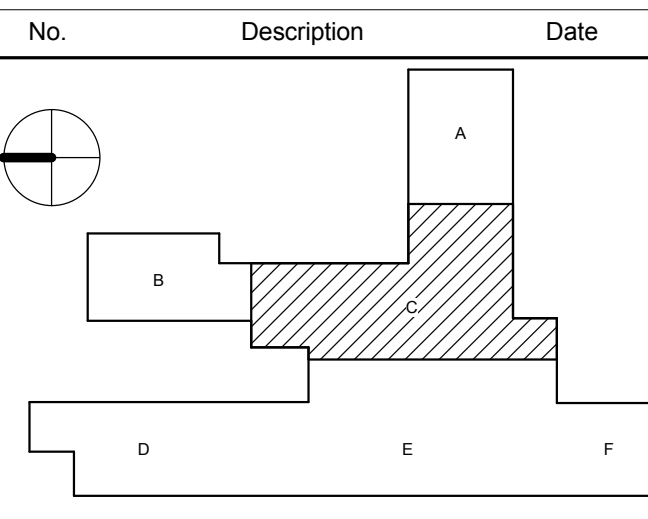
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1 LEVEL 01 ARCHITECTURAL DEMOLITION PLAN - AREA C
1/8" = 1'-0"

3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015

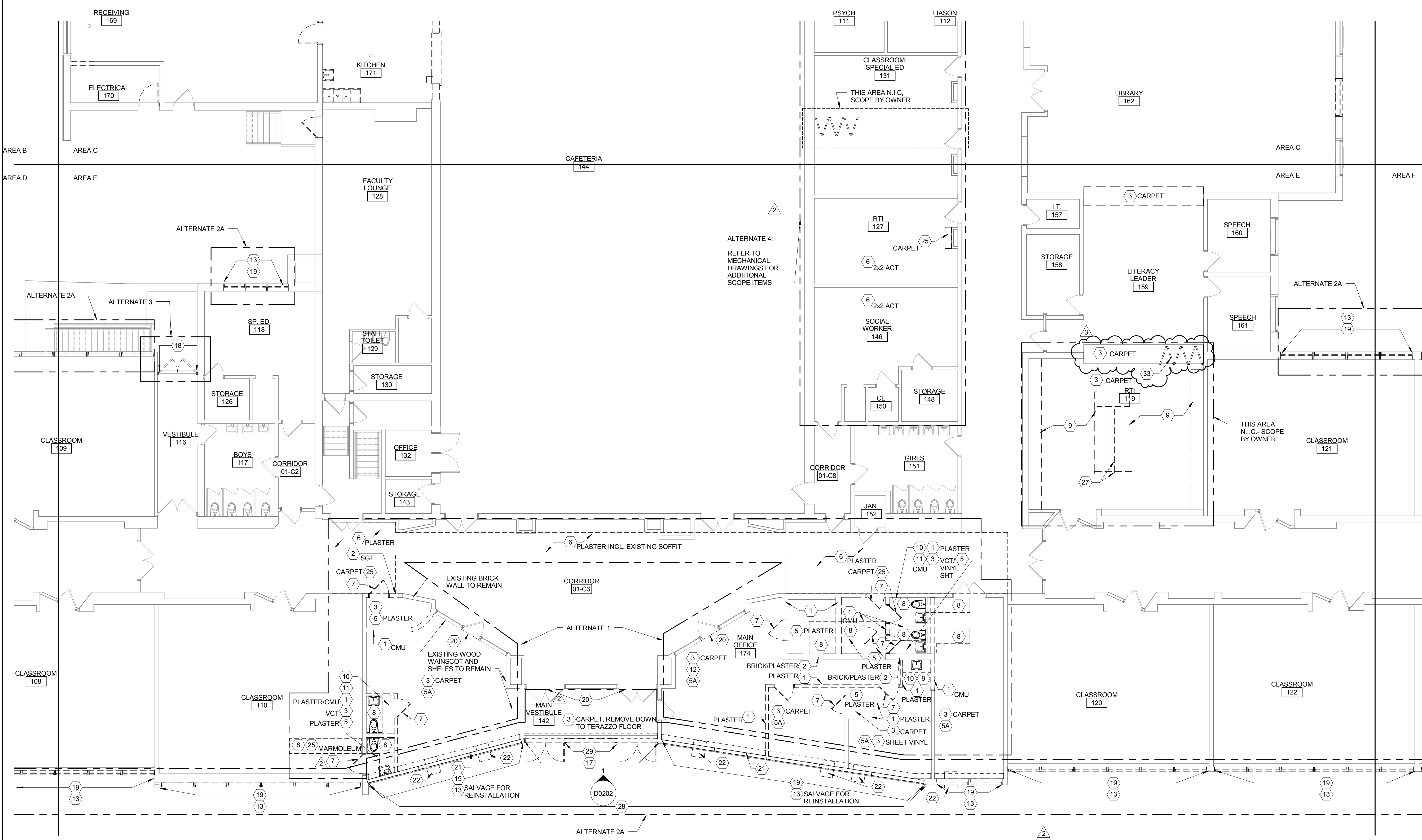


Drawing Title:

LEVEL 01
ARCHITECTURAL
DEMOLITION PLAN - AREA
C

Project No.: 004645.05 Checked by: Checker

D0201.C



1 LEVEL 01 FLOOR PLAN - AREA E
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- 5A CAREFULLY CUT AND REMOVE EXISTING PLASTER CEILING STARTING FROM 6" AWAY FROM CURVED PLASTER SOFFIT AT WINDOW. CURVED PLASTER SOFFIT AT WINDOW TO REMAIN. DASHED LINE INDICATES EXTENT.
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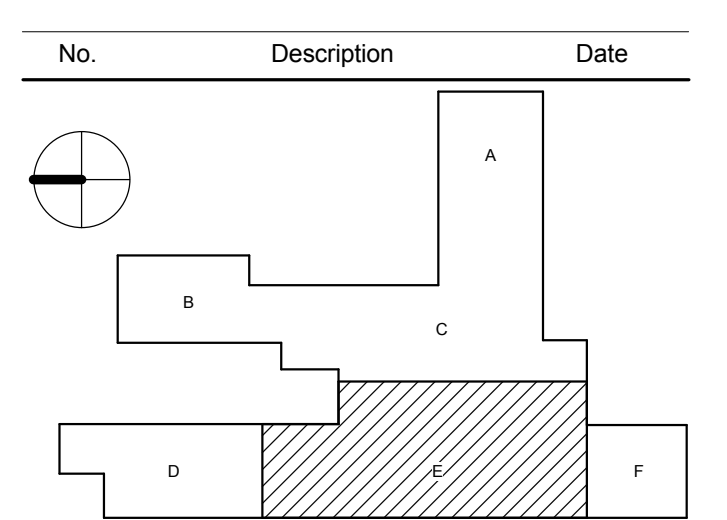
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3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:
**LEVEL 01
ARCHITECTURAL
DEMOLITION PLAN - AREA
E**
Project No.: 004645.05 Checked by: Checker

D0201.E

ABBREVIATIONS

ADOL	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
B PL	BASE PLATE
B/BF	BOTTOM OF
BULD	BLEND FIBER REINFORCING
BUILD	BUILDING
BK/G	BLOCK (ING)
BRG	BOTTOM
BSMT	BASEMENT
BETW	BETWEEN
CIP	CAST-IN-PLACE
CL	CENTRAL LINE
CLJ	CONTROL JOINT
CL	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECT (ION)
CONST JT	CONSTRUCTION JOINT
CONT	CONTINUOUS OR CONTINUE
CS	COLUMN STRIP
CU YD	CUBIC YARD
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DM	DIMENSION
DL	DEAD LOAD
DRAWING	DRAWING
DWG	EACH
EA	EACH END
E	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELCT	ELECTRICAL
ELEV	ELEVATOR
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EA	EACH END
EW	EACH WAY
EXIST	EXISTING
EXT	EXTENSION
EXTD	EXTENDED
FL	FLOOR DRAIN
FOUND	FOUNDATION
FLR	FLOOR
FS	FACE PENETRATION
FS	FAR SIDE
FT	FOOT/FEET
FTG	FOOTING
G	GAGE
GA	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
HORIZ	HORIZONTAL
H	HIGH POINT
HSS	HIGH STRENGTH
HT	HOLLOW STRUCTURAL SECTION
ID	INSIDE DIAMETER
IF	INSIDE
INFO	INFORMATION
INSUL	INSULATED (ION)
INV	INVERT
JT	JOINT
K	KIPS
L	ANGLE
LB	POUNDS
LLH	LONG LEG HORIZONTAL
LF	LONG LEG VERTICAL
LOW P	LOW POINT
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWT	LIGHT WEIGHT
LW	LONG WAY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MECH/E	MECHANICAL ELECTRICAL & PLUMBING
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MS	MIDDLE STRIP
NO	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
ON C	ON CENTER
OD	OUTSIDE DIAMETER
OPNG	OPENING
OF	OUTSIDE FACE
PC	PILE CAP
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PN	PENETRATION
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST TENSION
QTY	QUANTITY
R	RADIUS
ROOF DRAIN	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCE (D) (ING)
REQD	REQUIRED
REV	REVISION
ROUGH OPENING	ROUGH OPENING
SC	SUP CRITICAL SECTION
SECT	SECTION
SIM	SIMILAR
SJ	SEISMIC JOINT
SO	SLAB-ON-GRADE
SPEC	SPECIFICATIONS
SO	SQUARE
SST	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SW	SHORT WAY
SYMM	SYMMETRICAL
T/	TOP OF
T&B	TOP AND BOTTOM
THK	THICK (NESS)
TRANS	TRANSVERSE
TYP	TYPICAL
UNLESS NOTED OTHERWISE	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VERIF IN FIELD	VERIFY IN FIELD
W	WIDE FLANGE SECTION
W/	WITH
WO	WITHOUT
WD	WOOD
WP	WORK POINT
WT	TEE SECTION
WWF	WELDED WIRE FABRIC

FOUNDATION NOTES

F1 REFER TO DIVISION 31 SPECIFICATION SECTIONS FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

F2 NOTE REQUIREMENTS ON PLANS AND IN SPECIFICATIONS FOR UNDERPINNING AND PROTECTION OF EXISTING STRUCTURES, DEPENDENT ON UNDERPINNING METHOD.

F3 BEAR FOOTINGS ON UNDISTURBED SOILS OR ENGINEERED FILL HAVING A MINIMUM NET ALLOWABLE BEARING CAPACITY OF 2000 POUNDS PER SQUARE FOOT. EXTEND EXTERIOR CONSTRUCTION DOWN A MINIMUM OF 48" BELOW EXTERIOR GRADE. ELEVATIONS GIVEN ARE MINIMUM DEPTHS.

F4 THE FOUNDATIONS HAVE BEEN DESIGNED TO THE REQUIREMENTS SET FORTH IN THE GEOTECHNICAL REPORT PREPARED BY TSC DATED NOVEMBER 11, 2015 PROJECT NUMBER L-84.083.

F5 THE SUBSURFACE CONDITIONS DESCRIBED IN THE GEOTECHNICAL REPORT REPRESENT CONDITIONS ONLY AT THOSE SPECIFIC LOCATIONS AT THE PARTICULAR TIME THEY WERE MADE. SUBSURFACE CONDITIONS DESCRIBED ON THE DRAWINGS SHOULD BE CONSIDERED APPROXIMATE.

F6 REMOVE ORGANIC AND UNSUITABLE MATERIAL, AS DETERMINED BY THE OWNERS GEOTECHNICAL CONSULTANT, PRIOR TO PLACING FILL AND REPLACE W/ ENGINEERED FILL. PLACE FILL IN HORIZONTAL LAYERS WITHIN 1-2 PERCENT OF OPTIMUM MOISTURE CONTENT. USE FILL LAYER THICKNESS APPROPRIATE FOR THE DEGREE OF FILL COHESIVENESS AND COMPACTION ENERGY IMPARTED TO THE LIFT. COMPACT TO SPECIFIED DENSITY REQUIREMENTS. IF ACCEPTABLE TO THE OWNERS GEOTECHNICAL CONSULTANT, ON-SITE MATERIALS THAT MEET PROJECT SPECIFICATIONS MAY BE USED FOR ENGINEERED FILL IF MAINTAINED AT OPTIMUM MOISTURE CONTENT AND COMPACTED TO THE ABOVE CRITERIA. SELECT BORROW MATERIALS WILL BE REQUIRED WHEN ON-SITE MATERIALS ARE UNSUITABLE OR CANNOT BE COMPACTED TO THE CRITERIA STATED ABOVE.

F7 EXCAVATION TO SUITABLE BEARING SUBGRADES MAY PROCEED BY CONVENTIONAL METHODS TO WITHIN 2.5 FEET OF THE PROPOSED FINAL SUBGRADES. PERFORM EXCAVATION TO FINAL SUBGRADE USING A BACKHOE EQUIPPED WITH A 36"X20"X16" BLADE TO MINIMIZE DISTURBANCE OF THE BEARING SUBGRADE. FINISH FOOTING EXCAVATIONS BY HAND.

F8 DO NOT EXTEND THE GENERAL EXCAVATION ACROSS THE SITE DEEPER THAN 1'-0" BELOW THE SLAB-ON-GRADE SUBGRADE ELEVATION. PERFORM THE FILL CAPS, DRILLED PIER CAPS, GRADE BEAMS, SPREAD FOOTINGS, MATS, PITS, ETC ON AN INDIVIDUAL, LOCALIZED BASIS DOWN FROM THE SLAB-ON-GRADE SUBGRADE ELEVATION.

F9 PROVIDE POSITIVE PROTECTION FOR EXCAVATION SLOPES AGAINST INSTABILITY AND DETERIORATION DUE TO RAIN, WIND, SNOW OR ICE.

F10 RETAIN THE PERIMETER OF THE GENERAL EXCAVATION WITH A SOIL RETENTION SYSTEM AS NECESSARY. THE DESIGN, INSTALLATION, MAINTENANCE AND REMOVAL OF THE SYSTEM IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE APPROPRIATE MEASURES AND PRECAUTIONS NECESSARY TO MINIMIZE SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS. REPAIR DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE PROJECT LIMITS CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENTS OF THE SOIL RETENTION SYSTEM.

F11 THE EXPOSED SUBGRADE SOILS MAY BE SENSITIVE TO DISTURBANCE AND STRENGTH DEGRADATION WHEN HIGH MOISTURE CONTENTS ARE PRESENT. MINIMIZE CONSTRUCTION TRAFFIC OVER EXPOSED SUBGRADES. DO NOT POND WATER ON THE SUBGRADES. CONTROL SURFACE AND GROUND WATER BY PROPER SITE GRADING, PERMITTER CUTOFF TRENCHES, AND SUMP AND PUMP METHODS OF DETERAERING. CONSTRUCT CUTOFF TRENCHES AND SUMPS OUTSIDE THE INFLUENCE OF PROPOSED FOUNDATIONS.

F12 THE OWNERS GEOTECHNICAL CONSULTANT MUST REVIEW AND APPROVE FINISHED EXCAVATIONS AND BEARING SUBGRADES BEFORE PLACING CONCRETE. PROVIDE ADDITIONAL EXCAVATION AS NECESSARY TO ACHIEVE THE REQUIRED BEARING CAPACITY.

F13 USE SIDE FORMS FOR FOOTINGS AND GRADE BEAMS. CLEAN REINFORCEMENT IMMEDIATELY PRIOR TO PLACING CONCRETE.

F14 DO NOT PLACE CONCRETE IN AN EXCAVATION CONTAINING FREE WATER, FROST, ICE OR FROZEN GROUND. PROVIDE NECESSARY MEASURES TO PREVENT FROST OR ICE FROM PENETRATING FOOTING OR SLAB SUBGRADE, BOTH BEFORE AND AFTER CONCRETE PLACEMENT AND UNTIL SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.

F15 PLACE THE CONCRETE FOR EACH FOOTING IN ONE CONTINUOUS POUR. LIMIT BASEMENT WALL POUR LENGTHS TO 65 FEET.

F16 PLACE BACKFILL AGAINST FOUNDATION WALLS TO MAINTAIN A FILL LEVEL WITHIN 1'-0" OR LESS ON OPPOSITE SIDES OF THE WALL. BRACE FOUNDATION WALLS AND GRADE BEAMS DURING THE OPERATION OF BACKFILLING AND COMPACTION. LEAVE BRACING IN POSITION UNTIL PERMANENT RESTRAINTS BECOME EFFECTIVE.

F17 DO NOT BACKFILL AGAINST BASEMENT FOUNDATION WALLS UNTIL THE SLABS AT THE TOP AND BOTTOM OF THE WALL HAVE BEEN PLACED AND THE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH. FOR MULTI-LEVEL WALLS, DO NOT BACKFILL ABOVE THE HIGHEST FLOOR LEVEL TO HAVE ATTAINED DESIGN STRENGTH.

STRUCTURAL CONCRETE NOTES

C1 REFER TO DIVISION 03 SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

C2 A QUALITY CONTROL PROGRAM OF FIELD TESTING AND INSPECTION WILL BE PERFORMED ON STRUCTURAL CONCRETE WORK IN ACCORDANCE WITH THE SPECIFICATIONS. SCHEDULE WORK AND PROVIDE ACCESS TO ALLOW THE TESTING REQUIREMENTS TO BE COMPLETED. PROVIDE ADEQUATE NOTICE TO ALLOW THE OWNERS TESTING AGENCY TO REVIEW PLACEMENT OF REINFORCEMENT PRIOR TO PLACING CONCRETE.

C3 SUBMIT ENGINEERED CONCRETE MIX DESIGNS, INCLUDING REQUIRED BACKUP DATA, FOR EACH TYPE OF CONCRETE PROPOSED FOR USE TO THE ARCHITECT/ENGINEER FOR REVIEW. ALLOW ADEQUATE TIME FOR REVIEW PRIOR TO PERFORMING CONCRETE WORK.

C4 DETAIL, FABRICATE, LABEL, SUPPORT AND PLACE CONCRETE REINFORCEMENT IN ACCORDANCE WITH ACI 315 "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT" AND ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE", LATEST EDITIONS.

C5 SUBMIT DETAILED SHOP DRAWINGS INDICATING REINFORCEMENT SIZE, SPACING AND PLACEMENT TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION. INCLUDE DETAILS AND LOCATIONS OF CURBS, CONSTRUCTION JOINTS, SLAB DEPRESSIONS, SLEEVES, OPENINGS, ETC.

C6 SAWCUT SLABS ON GRADE IN THE PATTERN SHOWN ON PLAN. START SAWCUTTING AS SOON AS THE SAW WILL NOT RAVEL EDGES OR DISLODGE AGGREGATE, BUT IN NO CASE MORE THAN 12 HOURS AFTER THE SLAB IS PLACED.

C7 COORDINATE LOCATION OF CONSTRUCTION JOINTS WITH ENGINEER PRIOR TO COMMENCEMENT OF CONCRETE WORK.

C8 CLEAN AND MOISTEN CONSTRUCTION JOINTS IMMEDIATELY PRIOR TO PLACING FRESH CONCRETE.

C9 COORDINATE THE LOCATION OF INSERTS, EMBEDDED PLATES, ANCHORS, REGLETS AND SIMILAR ITEMS REQUIRED BY OTHER TRADES TO BE PLACED IN CONCRETE. MAINTAIN CORRECT LOCATION OF REINFORCING BARS WHEN PLACING THESE ITEMS.

C10 UNLESS NOTED OTHERWISE, PROVIDE DOWELS TO MATCH MAIN REINFORCEMENT SIZE AND SPACING. PROVIDE TENSION LAP SPLICE UNLESS NOTED OTHERWISE.

C11 DO NOT USE CALCIUM CHLORIDE IN CONCRETE.

C12 REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR CURBS, PADS, DEPRESSIONS, WALL/S LAB OPENINGS, SPECIAL FLOOR FINISHES, ETC.

C13 PROVIDE EPOXY COATED REINFORCING BARS IN THE TOP LAYER OF REINFORCING IN PARKING DECKS AND TRUCK DOCKS.

C14 PROVIDE AIR-ENTRAINING IN CONCRETE AS SET FORTH IN THE SPECIFICATIONS.

C15 PROVIDE ONLY THOSE OPENINGS INDICATED ON THE REVIEWED SHOP DRAWINGS.

C16 REFER TO ACI 318, CHAPTER 7.7 FOR MINIMUM CONCRETE COVER REQUIREMENTS, UNO.

C17 REFER TO ACI 305 FOR REQUIREMENTS FOR PLACING CONCRETE IN HOT WEATHER AND TO ACI 306 FOR REQUIREMENTS FOR PLACING CONCRETE IN COLD WEATHER.

C18 ON STEEL FRAMED FLOORS, PROVIDE ADDITIONAL CONCRETE AS NECESSARY TO FINISH THE FLOORS TO WITHIN SPECIFIED TOLERANCES WHILE ACCOUNTING FOR STEEL DECK AND STEEL BEAM DEFLECTIONS. ALLOW FOR AN AVERAGE OF AT LEAST 1/2 INCH OF ADDITIONAL CONCRETE FOR EACH FLOOR.

C19 WHERE FIBER REINFORCEMENT IS SPECIFIED, A REPRESENTATIVE FROM THE FIBER MANUFACTURER SHALL ADVISE ON SPECIAL PLACING AND FINISHING TECHNIQUES.

C20 PROVIDE ONLY CONCRETE AND REINFORCING MATERIALS OF THE TYPES AND GRADES LISTED IN THE TABLE BELOW, UNLESS NOTED OTHERWISE.

CONCRETE	FC (PSI)	UNIT WEIGHT (PCF)
FOOTINGS	3000	150
FOUNDATION WALLS	4000	150
SLABS-ON-GRADE	3000	150
ALL OTHER CONCRETE	4000	150
REINFORCING	GRADE	
TYPICAL BARS	ASTM A-615, GRADE 60	
WELDED BARS	ASTM A-706, GRADE 60	
WELDED WIRE FABRIC	ASTM A-185	
BLEND FIBER REINFORCEMENT	ASTM C-1116 TYPE I AND II FOR POLYPROPYLENE FIBERS ASTM A-620 TYPE I FOR STEEL FIBERS.	

STRUCTURAL MASONRY NOTES

CM1 REFER TO DIVISION 04 SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

CM2 COMPLY WITH THE REQUIREMENTS OF THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", (ACI 530) AND "SPECIFICATIONS FOR MASONRY STRUCTURES" (ACI 530.1), LATEST EDITIONS.

CM3 PROVIDE A CONCRETE MASONRY SYSTEM WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH (Fm) OF 1500 PSI AT 28 DAYS.

CM4 PROVIDE MASONRY MATERIALS OF THE TYPE AND STRENGTH SPECIFIED BELOW:

HOLLOW CONCRETE MASONRY UNITS: CONFORM TO ASTM C90, GRADE N TYPE 1. PROVIDE UNITS WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 1900 PSI.

SOLID BRICK MASONRY UNITS WITH MINIMUM NET AREA COMPRESSIVE STRENGTH OF 5500 PSI.

PROVIDE GROUT FOR REINFORCED MASONRY IN ACCORDANCE WITH ASTM C476 WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.

PROVIDE TYPE S MORTAR FOR REINFORCED MASONRY IN ACCORDANCE WITH ASTM C270.

CM5 PROVIDE REINFORCING BARS CONFORMING TO ASTM A615, GRADE 60. PROVIDE CONTINUOUS 9 GAUGE TRUSS TYPE HORIZONTAL JOINT REINFORCEMENT AT 16" VERTICAL SPACING TYPICALLY AND 8" VERTICAL SPACING IN PARAPETS.

CM6 USE PREFABRICATED "L" AND "T" HORIZONTAL JOINT REINFORCEMENT AT WALL INTERSECTIONS.

CM7 PROTECT CONCRETE MASONRY UNITS FROM ABSORBING MOISTURE AND WATER WHILE AT THE PLANT, DURING SHIPMENT, AND AT THE SITE DURING CONSTRUCTION.

CM8 LAY MASONRY UNITS WITH FULL MORTAR COVERAGE AT HEAD AND BED JOINTS OF FACE SURFACES ADJACENT TO CELLS FILLED WITH GROUT. IN THE STARTING COURSE ON FOOTINGS, SOLID FOUNDATION WALLS, AND PIERS, PLASTER AND COLUMNS.

CM9 ALIGN VERTICAL CELLS TO BE FILLED WITH GROUT TO PROVIDE A CONTINUOUS, UNOBSTRUCTED OPENING OF THE DIMENSIONS SHOWN ON THE DRAWINGS. PROVIDE A MINIMUM CLEAR OPENING AS SPECIFIED IN CELLS THAT CONTAIN REINFORCEMENT. USE CLEAN OUT HOLES WHERE NECESSARY TO OBTAIN UNOBSTRUCTED VERTICAL CELLS.

CM10 GROUT SOLID CELLS CONTAINING REINFORCING BARS, ANCHOR RODS OR HARDWARE. CONSOLIDATE GROUT IN PLACE BY VIBRATION TO INSURE COMPLETE FILLING OF THE CELLS. LIMIT HEIGHT OF GROUT PLACEMENTS TO FOUR (4) FOOT LIFTS UNLESS SPECIFIC HIGH LIFT GROUTING PROCEDURES ARE FOLLOWED.

CM11 PROVIDE ADEQUATE TEMPORARY BRACING DURING CONSTRUCTION TO WITHSTAND LATERAL LOADS AND THE PRESSURES OF THE FLUID GROUT.

CM12 TAKE NECESSARY PRECAUTIONS FOR MIXING AND PLACING MORTAR AND GROUT IN EITHER HOT OR COLD WEATHER, AS SET FORTH IN THE ACI "MASONRY STRUCTURE BUILDING CODE COMMENTARY".

CM13 PLACE POINTS OF BEARING ON TWO (2) COURSES OF HOLLOW MASONRY GROUTED SOLID OR TWO COURSES OF SOLID MASONRY.

CM14 SUPPORT SLABS AND PORTIONS OF WALLS REMAINING ABOVE NEW OPENINGS UNTIL PERMANENT SUPPORT SYSTEMS ARE INSTALLED AND HAVE BECOME EFFECTIVE.

CM15 USE MASONRY SAWS TO CUT AND FIT MASONRY, INCLUDING THAT PORTION REQUIRED TO ACCOMMODATE THE GROUT AND OTHER TRADES.

CM16 BUILD CHASES INTO WALL, DO NOT CUT IN PLUMB CHASES AND PROVIDE ONE (1) FULL MASONRY JOINT LENGTH FROM JAMES OF OPENINGS. DO NOT CONSTRUCT CHASES OTHER THAN THOSE SHOWN ON THE DRAWINGS WITHOUT THE WRITTEN APPROVAL OF THE ARCHITECT/ENGINEER.

CM17 TOOTH AND PATCH IN NEW MASONRY THAT INTERFACES WITH EXISTING MASONRY CONSTRUCTION. TOOTH EVERY OTHER COURSE AND PROVIDE A MINIMUM DEPTH OF THE TOOTH EQUAL TO 1/2 THE LENGTH OF THE NEW OR EXISTING MATERIAL, WHICHEVER IS LONGER.

CM18 INSTALL ANCHORS, WALL PLUGS, ACCESSORIES AND OTHER ITEMS THAT ARE REQUIRED TO BE BUILT INTO THE WORK AS THE MASONRY WORK PROGRESSES. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS.

CM19 PROVIDE A MINIMUM OF ONE #5 BAR AROUND OPENINGS IN MASONRY CONSTRUCTION. EXTEND HORIZONTAL BARS A MINIMUM OF 24 INCHES BEYOND THE CORNER OF THE OPENING. EXTEND VERTICAL BARS TO THE TOP AND BOTTOM OF THE WALL.

CM20 BRACE THE TOPS OF WALLS TO THE STRUCTURE FOR LATERAL STABILITY.

CM21 ALL NEW MASONRY OPENINGS REQUIRE A LINTEL. SEE LINTEL SCHEDULE FOR CRITERIA AND SIZING.

STEEL JOIST NOTES

SJ1 REFER TO DIVISION 05 SPECIFICATION SECTION - STEEL JOISTS - FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

SJ2 A QUALITY CONTROL PROGRAM OF FIELD TESTING AND INSPECTION WILL BE PERFORMED ON STEEL JOIST ERECTION AND CONNECTIONS IN ACCORDANCE WITH THE SPECIFICATIONS. SCHEDULE WORK AND PROVIDE ACCESS TO ALLOW TESTING REQUIREMENTS TO BE COMPLETED. DO NOT ERECT DAMAGED JOISTS.

SJ3 STEEL JOISTS INCLUDE PROPRIETARY JOISTS (K-SERIES, LH-SERIES AND DLH-SERIES) MANUFACTURED TO CONFORM TO CRITERIA OF THE STEEL JOIST INSTITUTE "STANDARD SPECIFICATIONS", LATEST EDITION. DESIGN STEEL JOISTS FOR THE REQUIRED DEPTHS, SPANS, AND LOADINGS INDICATED ON THE DRAWINGS. DESIGN EXTENDED ENDS FOR SAME UNIFORM LOAD CAPACITY AS THE MAIN SPAN, UNLESS NOTED. POINT LOADS ARE IN ADDITION TO UNIFORM LOAD CAPACITY REQUIRED BY JOIST DESIGNATION.

SJ4 DESIGN JOISTS AT ROOF LEVELS FOR AN EQUIVALENT NET UPLIFT FORCE EQUAL TO _ POUNDS PER SQUARE FOOT UNLESS NOTED OTHERWISE ON PLANS.

SJ5 SUBMIT DETAILED AND CHECKED SHOP DRAWINGS INDICATING INFORMATION NECESSARY FOR FABRICATION AND ERECTION OF JOISTS, ANCHORAGES, BRIDGING AND ACCESSORIES. SUBMIT ENGINEERING DESIGN CALCULATIONS FOR JOISTS DESIGNATED AS "SP" JOISTS.

SJ6 PROVIDE CONTINUOUS BRIDGING FASTENED DIRECTLY TO EACH JOIST (HORIZONTAL BRIDGING FOR K-SERIES JOISTS, DIAGONAL BRIDGING FOR LH-SERIES AND DLH-SERIES JOISTS) IN ACCORDANCE WITH STEEL JOIST INSTITUTE RECOMMENDATIONS.

SJ7 USE DOUBLE ANGLES FOR CHORD MEMBERS. ROUND BOTTOM CHORDS ARE NOT ACCEPTABLE.

SJ8 THE MINIMUM THICKNESS FOR CHORD MEMBERS, WEB MEMBERS AND BRIDGING IS 7/64 INCH. SPLICE INDIVIDUAL CHORD MEMBERS IN ALTERNATE PANELS. FIELD SPLICES ARE UNACCEPTABLE WITHOUT PRIOR REVIEW AND ACCEPTANCE BY THE ARCHITECT/ENGINEER.

SJ9 HANG LOADS FROM STEEL JOISTS ONLY AT INTERSECTING POINTS OF WEB AND CHORD MEMBERS. SUSPEND LOADS ONLY WITH ACCEPTABLE JOIST HANGER DEVICES. DO NOT HANG LOADS GREATER THAN THE LOADS NOTED ON THE DRAWINGS.

SJ10 COMPLY WITH OSHA STANDARD 29 CFR PART 1926 SUBPART R FOR ERECTION OF STEEL JOISTS.

STRUCTURAL STEEL NOTES

S1 REFER TO DIVISION 05 SPECIFICATION SECTION - STRUCTURAL STEEL - FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

S2 A QUALITY CONTROL PROGRAM OF SHOP AND FIELD TESTING AND INSPECTION WILL BE PERFORMED ON STRUCTURAL STEEL FABRICATION, ERECTION, AND CONNECTIONS IN ACCORDANCE WITH THE SPECIFICATIONS. SCHEDULE WORK AND PROVIDE ACCESS TO ALLOW THE TESTING REQUIREMENTS TO BE COMPLETED.

S3 DETAIL, FABRICATE AND ERECT STRUCTURAL STEEL IN CONFORMANCE WITH THE AISC SPECIFICATIONS AND CODES, LATEST EDITIONS.

S4 PERFORM WELDING USING CERTIFIED WELDERS AND IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE - STEEL", LATEST EDITION. COMPLY WITH AISC SPECIFICATION FOR MINIMUM FILLET WELD SIZES, BUT DO NOT USE LESS THAN A 3/16 INCH FILLET UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

S5 SUBMIT ENGINEERED AND CHECKED SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW. SHOW SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMS FOR STRUCTURAL STEEL. SCHEDULE SUBMISSIONS TO ALLOW ADEQUATE TIME FOR REVIEW PRIOR TO FABRICATION.

S6 CONNECTION DETAILS SHOWN ON THE DRAWINGS ARE CONCEPTUAL AND DO NOT INDICATE THE REQUIRED COMPONENT SIZES, WELD SIZES OR DIMENSIONS UNLESS SPECIFICALLY NOTED. FINAL DESIGN AND DETAILING IS THE RESPONSIBILITY OF THE FABRICATOR. PERFORM DESIGN USING INDUSTRY STANDARDS AND CRITERIA SET FORTH IN THE CONTRACT DOCUMENTS. SUBMIT DESIGN CALCULATIONS PREPARED AND STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF _____.

S7 DESIGN MOMENT CONNECTIONS TO DEVELOP THE FULL FACTORED ELASTIC MOMENT CAPACITY OF THE BEAM UNLESS OTHER CRITERIA ARE NOTED ON THE DRAWINGS.

S8 DESIGN SIMPLE SHEAR CONNECTIONS CAPABLE OF END ROTATION UTILIZING HIGH STRENGTH BOLTS IN BEARING.

S9 USE BOLTED JOINTS IN FIELD CONNECTIONS WHENEVER POSSIBLE, UNLESS WELDED JOINTS ARE DETAILED.

S10 BOLTS OF DIFFERING STEEL GRADES (A325, A490, ETC) MUST VARY IN BOLT DIAMETER BY AT LEAST 1/4 INCH.

S11 PROVIDE A MINIMUM OF TWO (2) BOLTS AT EACH FAYING SURFACE.

S12 DETAIL BEAMS FRAMING INTO CONCRETE WALLS, BEAMS OR COLUMNS TO ALLOW FOR HORIZONTAL FIELD TOLERANCES AND THERMAL MOVEMENT. PROVIDE CONNECTION DETAILS REQUIRED BY THE SPECIFIC CONSTRUCTION SEQUENCES.

S13 PROVIDE SUITABLE BEARING PLATES AND ANCHOR RODS FOR BEAMS, JOISTS, OR GIRDERS WHICH BEAR ON WALLS. LOCATE ITEMS USING TEMPLATES OR SIMILAR METHODS. SET PLATES IN FULL BEDS OF NON-SHRINK GROUT. COMPLETELY FILL BEAM AND COLUMN POCKETS WITH CONCRETE PRIOR TO CASTING CONCRETE ABOVE.

S14 FABRICATE BEAMS, TRUSSES AND OPEN WEB STEEL JOISTS WITH THE NATURAL CAMBER UP. PROVIDE ADDITIONAL CAMBER SHOWN ON THE DRAWINGS.

S15 THE USE OF BLEED THROUGH MARKERS IS PROHIBITED ON STEEL THAT WILL BE EXPOSED TO VIEW IN THE FINISHED WORK.

S16 AFTER FABRICATION, CLEAN STEEL OF RUST, LOOSE MILL SCALE, DIRT, OIL, GREASE OR OTHER FOREIGN MATERIALS.

S17 REFER TO THE ARCHITECTURAL DRAWINGS FOR THE REQUIRED FIRE RATINGS AND UL ASSEMBLY NUMBERS.

S18 DO NOT FIELD CUT STRUCTURAL STEEL UNLESS REVIEWED AND APPROVED BY THE ARCHITECT/ENGINEER IN WRITING. CLEARLY INDICATE STEEL MEMBER OPENINGS REQUIRED ON THE SHOP DRAWINGS. ALL COSTS FOR PROVIDING PENETRATIONS IN THE FIELD, INCLUDING MEMBER REINFORCING, IS THE RESPONSIBILITY OF THE CONTRACTOR.

S19 ERECTION PROCEDURES, SEQUENCES AND COORDINATION OF WORK WITH OTHER TRADES IS THE RESPONSIBILITY OF THE CONTRACTOR. PROVIDE ADDITIONAL STEEL REQUIRED FOR ERECTION PURPOSES AT NO COST TO THE OWNER. REMOVE THIS ADDITIONAL STEEL UNLESS DIRECTED OTHERWISE BY THE OWNER IN WRITING.

S20 PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED FOR THE SAFETY, STABILITY AND ALIGNMENT OF THE STRUCTURE. LEAVE TEMPORARY BRACING IN PLACE UNTIL THE PERMANENT STRUCTURAL LATERAL LOAD RESISTING SYSTEM IS COMPLETE, INCLUDING FLOOR AND ROOF DIAPHRAGMS. PERFORM FINAL BOLTING AND WELDING ONLY ON THOSE PORTIONS OF THE STRUCTURE THAT HAVE BEEN ALIGNED AND PLUMBED WITHIN THE SPECIFIED TOLERANCES.

S21 GROUT COLUMN BASE PLATES AFTER BUILDING FRAME HAS BEEN ALIGNED AND PLUMBED, AND PRIOR TO PLACEMENT OF CONCRETE FLOOR SYSTEMS (CIP CONCRETE SLABS, SLABS ON STEEL DECK, PRECAST, ETC). GROUT BEAM BEARING PLATES AFTER BEAM ALIGNMENT AND PRIOR TO PLACEMENT OF FLOOR SYSTEMS.

S22 EVENLY SPACE BEAMS IN BAY, UNO.

S23 PROVIDE NEW MATERIAL CONFORMING TO THE FOLLOWING REQUIREMENTS FOR STRUCTURAL STEEL.

MEMBER	GRADE
WIDE FLANGE SHAPES, WT SECTIONS	ASTM A992
CHANNELS AND ANGLES	ASTM A36
PIPE	ASTM A53 GRADE B
HOLLOW STRUCTURAL SECTIONS (RECTANGULAR AND ROUND)	ASTM A500 GRADE B
BASE PLATES	ASTM A36 UNO
ALL OTHER STEEL MEMBERS	ASTM A36 UNO
HIGH STRENGTH BOLTS, NUTS AND WASHERS	ASTM A-325 OR A-490 (MIN. 3/4" DIAMETER)
ANCHOR RODS	ASTM F1554 GRADE 55 UNO
STEEL SHAPE WELDING ELECTRODE	E70XX

STRUCTURAL STEEL DECK NOTES

SD1 REFER TO DIVISION 05 SPECIFICATION SECTION - STEEL DECKING - FOR REQUIREMENTS IN ADDITION TO THOSE LISTED BELOW.

SD2 FABRICATE STEEL DECKING FROM STEEL TYPE ASTM A563. STRUCTURAL QUALITY HAVING A MINIMUM YIELD STRENGTH OF 33,000 PSI. COMPLY WITH STEEL DECK INSTITUTE SPECIFICATIONS FOR DESIGN, DETAILING, FABRICATION AND ERECTION OF STEEL DECK. USE STRUCTURAL STEEL DECK WITH A MINIMUM THICKNESS OF AT LEAST 20 GAGE, UNLESS NOTED OTHERWISE.

SD3 SUBMIT ENGINEERED AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE AND SIZE OF EACH PIECE OF DECKING. CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING, SIDE LAP CONNECTION DETAILS, LOCATION OF SHORING AND SUPPLEMENTARY SUPPORT STEEL AS REQUIRED.

SD4 PROVIDE COMPOSITE STEEL DECK WITH WIDE RIBS SUITABLE FOR SHEAR STUD PLACEMENT.

SD5 SUBMIT SHOP DRAWINGS INDICATING EXACT LAYOUT OF STUDS FOR EACH BEAM SIZE, NUMBER OF STUDS, SPAN AND DECK LAYOUT.

SD6 WELD SHEAR STUDS THROUGH STEEL DECK



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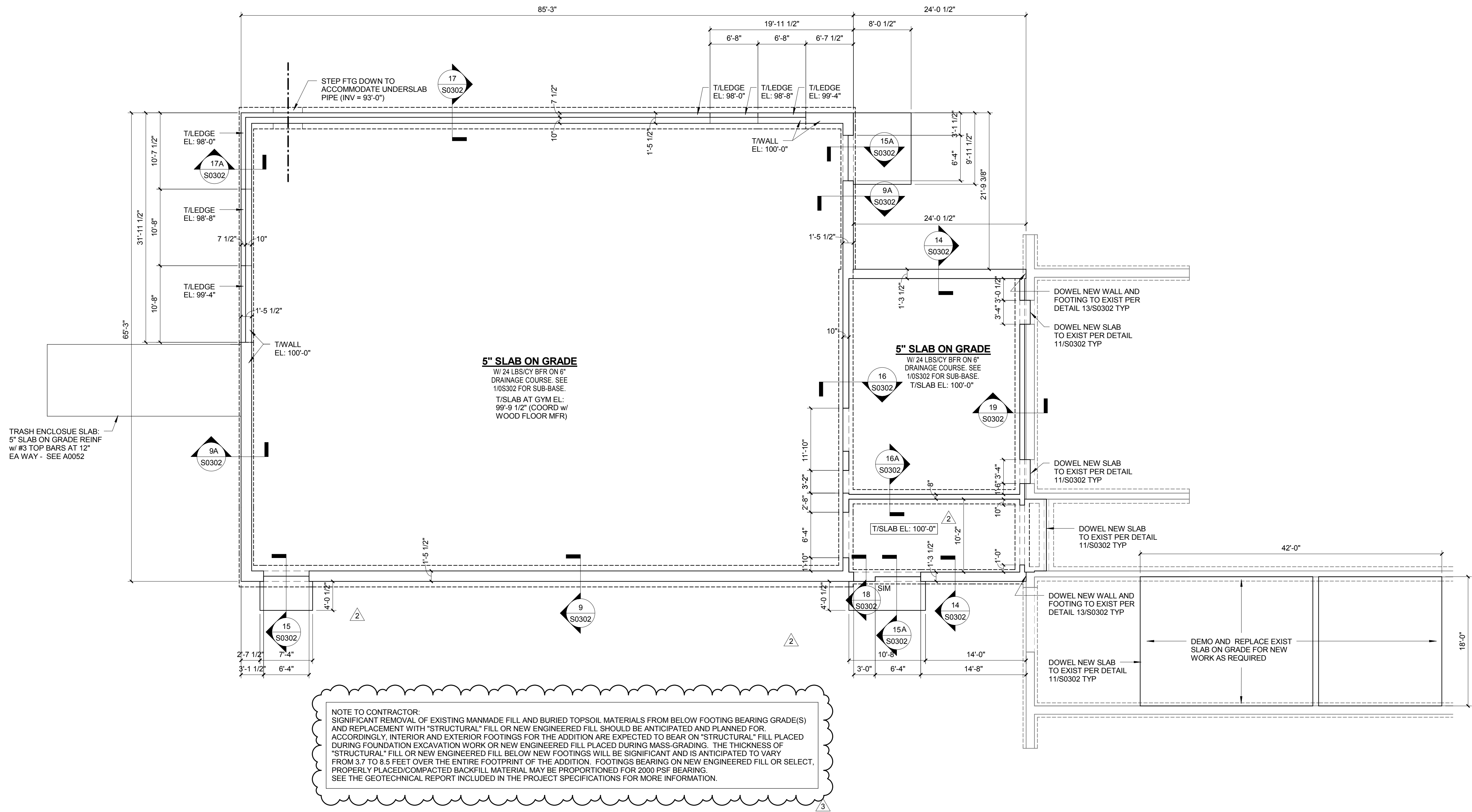
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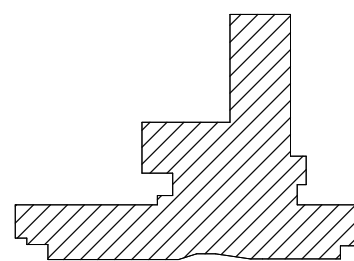
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1 FOUNDATION PLAN
1/8" = 1'-0"



KEY PLAN

LEVEL 01 FOUNDATION
PLAN - AREA B

Project No.: 004645.06

Checked by:

S0101



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ROCKFORD PUBLIC SCHOOLS
RIVERDAHL ELEMENTARY
SCHOOL - ADDITION &
RENOVATION

CANNONDESIGN

225 North Michigan Avenue, Suite 1100
Chicago, Illinois 60601
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F: 312.332.9601

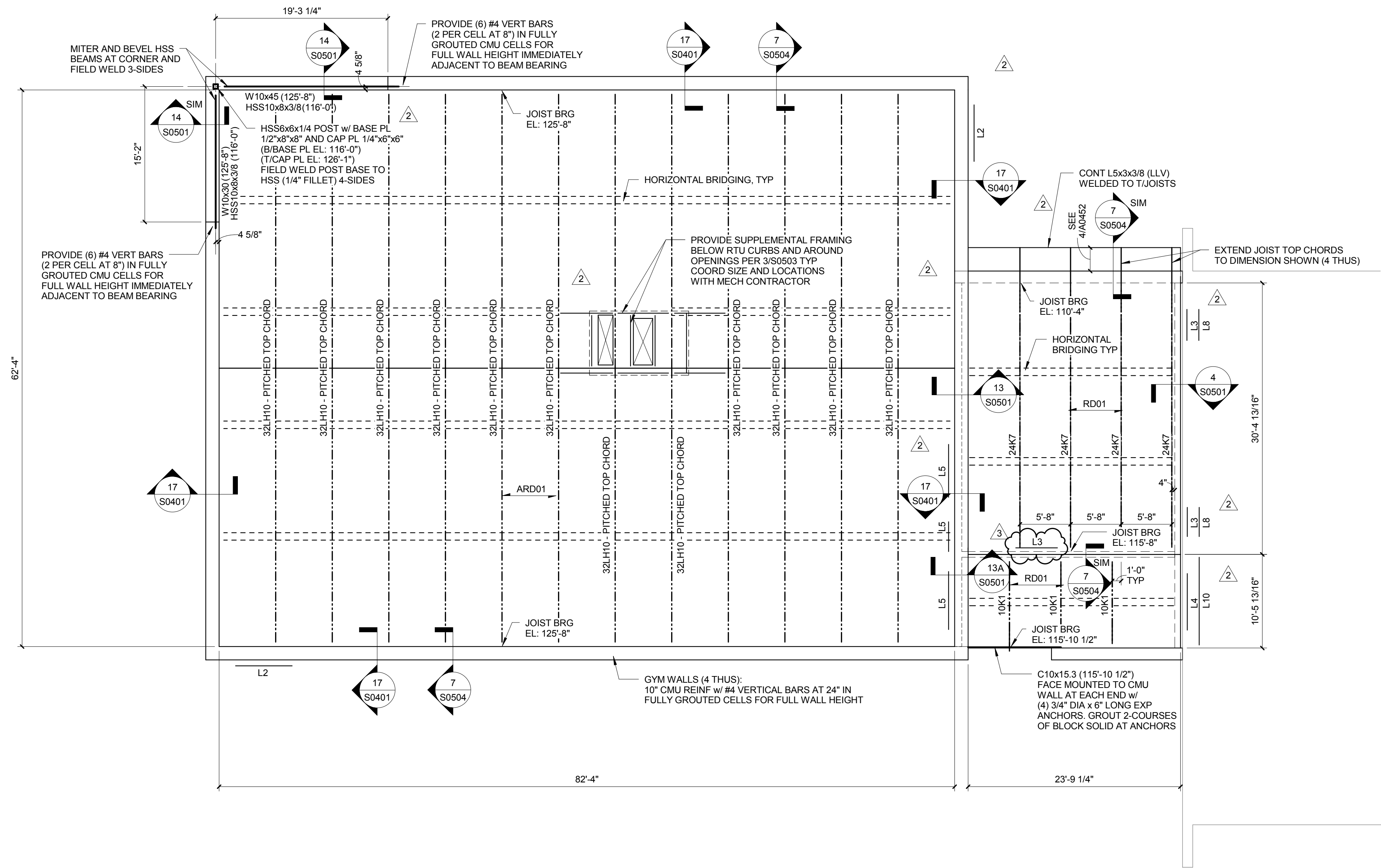
PROFESSIONAL DESIGN FIRM
LICENSE NUMBER: 184-005663

Eriksson Engineering Associates, LTD.

Civil Engineer
145 Commerce Drive, Suite A
Graylake, Illinois 60030
T: 847.223.4804

S20 Consultants

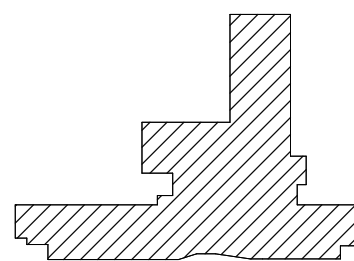
Kitchen Consultant
530 N. Wood St.
Chicago, Illinois 60622
T: 224.717.1999



1 ROOF FRAMING PLAN

1/8" = 1'-0"

- FOR GENERAL NOTES AND ABBREVIATIONS, SEE DRAWING S0001.
- RD01 INDICATES SPAN DIRECTION OF METAL ROOF DECK. SEE SCHEDULE ON S0503 FOR DECK REQUIREMENTS.
- ALL NEW ROOF OPENINGS 12'x12' AND LARGER REQUIRE SUPPLEMENTAL FRAMING PER 3/S0503, SET EDGE OF DECK AT 4" UNLESS NOTED OTHERWISE. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR LOCATIONS AND SIZES.
- INDICATES DIMENSIONS TO BE COORDINATED DURING CONSTRUCTION WITH APPROVED EQUIPMENT.
- LX INDICATES LINTEL AT MASONRY BEARING WALL. SEE S0401 FOR SCHEDULE.



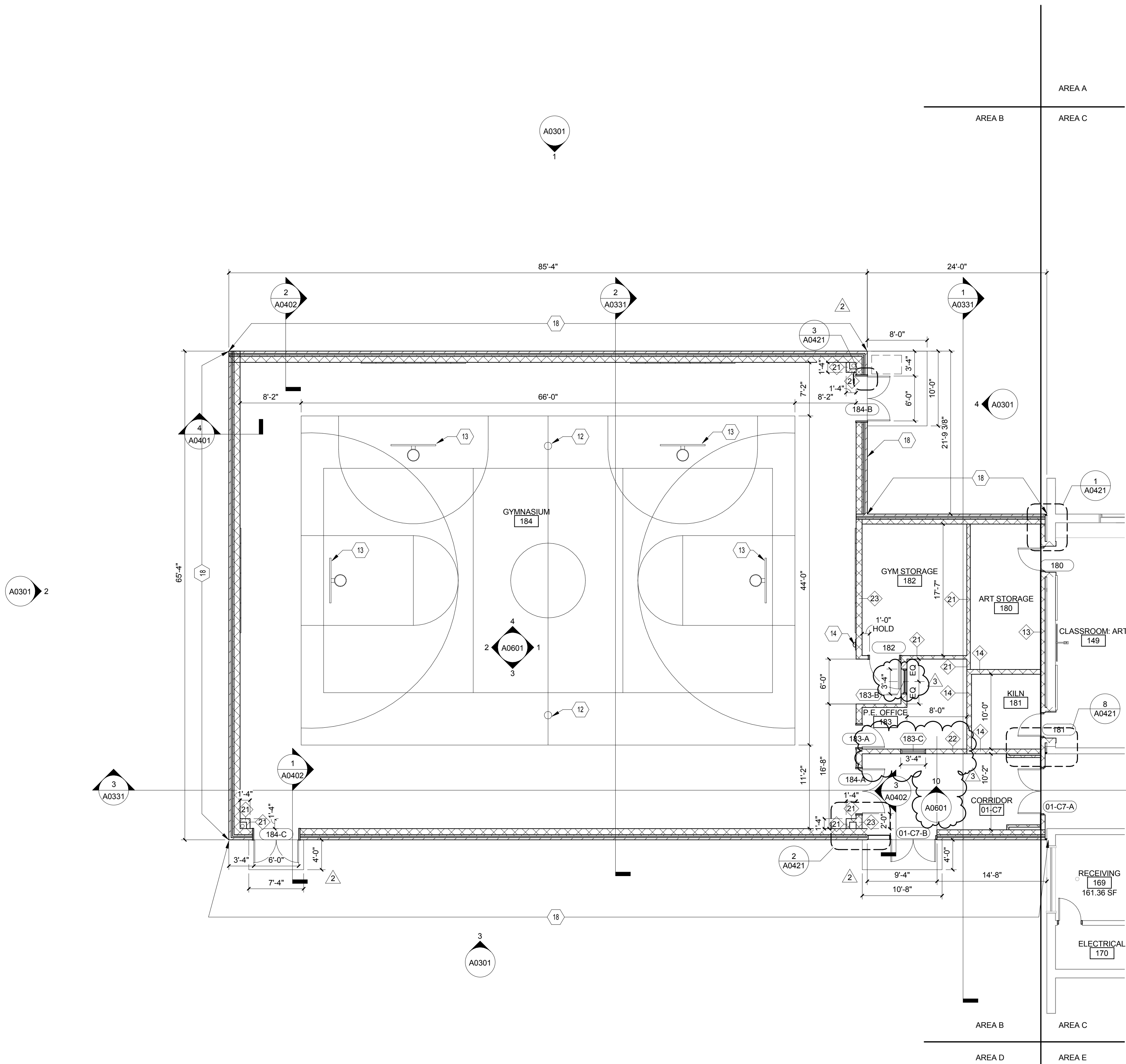
KEY PLAN

LEVEL 02 FRAMING PLAN
- AREA B

Project No.: 004645.06 Checked by:

S0102

1 LEVEL 01 FLOOR PLAN - AREA B
1/8" = 1'-0"



GENERAL FLOOR PLAN NOTES

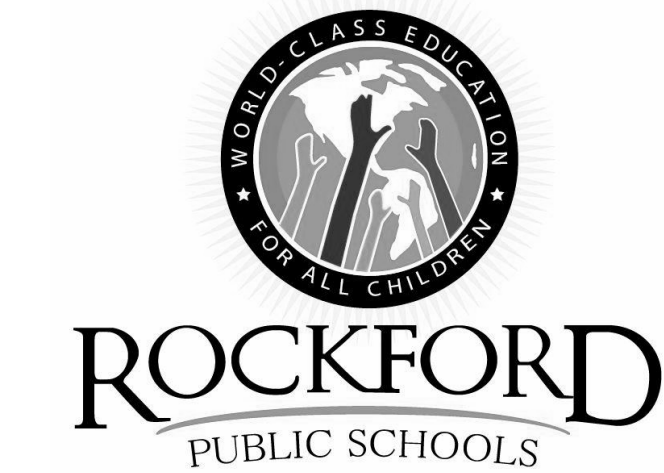
1. REFER TO SHEET A0001 FOR LIST OF TYPICAL ABBREVIATIONS AND TYPICAL ARCHITECTURAL GRAPHIC LEGENDS AND SYMBOLS.
2. REFER TO SHEET A0002 FOR TYPICAL MOUNTING HEIGHTS.
3. DIMENSIONS ARE FROM FACE OF WALL UNLESS NOTED OTHERWISE.
4. OPENING DIMENSIONS ARE FROM FACE OF WALL TO OUTSIDE OF FRAME.
5. PATCH TO MATCH EXISTING PER SPEC 01 3520 ALTERATION PROJECT PROCEDURES.
6. IF OPENING IS NOT DIMENSIONED, OUTSIDE FACE OF FRAME TO BE 4" FROM ADJACENT PARTITION.
7. PROVIDE BLOCKING AT WALL HUNG ACCESSORIES, EQUIPMENT AND CASEWORK.
8. PATCH EXISTING CEILING, FLOOR AND WALL SURFACES, TO REMAIN, AS REQUIRED - PROVIDE SMOOTH AND LEVEL SURFACES TO RECEIVE NEW FINISHES.
9. PREPARE SUBSURFACE AS REQUIRED FOR NEW FLOORING FINISH.
10. ALL NEW CMU PARTITIONS TO BE TOOTH-IN TO EXISTING

FLOOR PLAN NOTES

1. INFILL WALL TO MATCH ADJACENT WALL CONSTRUCTION (TOOTH-IN)
2. PATCH WALL TO MATCH ADJACENT WALL CONSTRUCTION WHERE WALL REMOVED (TOOTH-IN)
3. PATCH WALL TO MATCH ADJACENT WALL CONSTRUCTION WHERE DOOR / WINDOW REMOVED (TOOTH-IN)
4. SMARTBOARD, REINSTALL SALVAGED
5. BUILDING EXPANSION JOINT WITH CONTINUOUS EXPANSION JOINT COVER AT WALL/CEILING
6. ALUMINUM REPLACEMENT WINDOW - WINDOW INSTALLER RESPONSIBLE FOR REMOVING TEMPORARY ENCLOSURE AND RETURNING IT TO ABATEMENT CONTRACTOR.
- 6A. ALUMINUM CURTAIN WALL REPLACEMENT - WINDOW INSTALLER RESPONSIBLE FOR REMOVING TEMPORARY ENCLOSURE AND RETURNING IT TO ABATEMENT CONTRACTOR.
7. PATCH FLOOR FINISH TO MATCH EXISTING ADJACENT
8. PATCH AND PAINT WALL TO MATCH EXISTING ADJACENT AS REQUIRED
9. NEW ARCHITECTURAL LOUVER IN EXISTING OPENING WITH BLANK-OFF PANELS. COORDINATE WITH MECHANICAL.
10. NEW ALUMINUM STOREFRONT WITH ENTRY DOOR IN EXISTING OPENING
11. PATCH WALL TO MATCH ADJACENT WALL CONSTRUCTION WHERE BASE CABINETS WERE REMOVED
12. VOLLEYBALL INSERT (TYP. 2)
13. MOTORIZED, FORWARD FOLD, HEIGHT ADJUSTABLE BACKSTOP (TYP. 4)
14. FIRE EXTINGUISHER CABINET - RECESSED
15. FIRE EXTINGUISHER - TYPE K
16. PROVIDE NEW CONCRETE STOOP WITH ARA AT EXIT DOORS
17. WALL MOUNTED STEEL ROOF ACCESS LADDER - PAINTED
18. ALL NEW EXTERIOR FACE BRICK AT ADDITION TO RECEIVE ANTI-GRAFFITI COATING. FULL HEIGHT
19. KNOX BOX - RECESSED
20. REFER TO DEMOLITION SHEETS FOR DEMOLITION AND PATCHING ASSOCIATED WITH BOILER INSTALLATION - COORDINATE WITH MECHANICAL
21. PATCH WALL TO MATCH EXISTING ADJACENT AS REQUIRED WHERE HVAC EQUIPMENT DEMOLISHED - COORDINATE WITH MECHANICAL
22. PATCH WALL AFTER CASEWORK/COUNTER REMOVAL
23. SHADED REGION INDICATES AREA OF CONCRETE PATCH AFTER UNDERFLOOR PIPING INSTALLATION. COORDINATE WITH PLUMBING DRAWINGS
24. PATCH WOOD TRIM AS REQUIRED FOR NEW CONSTRUCTION, MATCH EXISTING ADJACENT.
25. PROVIDE NEW FLOORING IN SHADED AREA. SEE FINISH PLANS.

EQUIPMENT LEGEND

- | | |
|-------|--|
| 8" MB | CONTRACTOR SERIES MARKERBOARD 4'-0" HIGH |
| 8" TB | CONTRACTOR SERIES TACKBOARD 4'-0" HIGH |
| TS | TACK STRIP 1" HIGH, LENGTH PER ELEVATION |
| IWB | INTERACTIVE WHITE BOARD, OWNER PROVIDED AND CONTRACTOR INSTALLED. SEE TECHNOLOGY DRAWINGS. |



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13 Winding Branch Rd
Hawthorn Woods IL 60047
224-717-1999

ARC DESIGN RESOURCES INC.
Civil Consultants
5221 Zenith Parkway
Loves Park IL 61111
(815) 484-4300

3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015

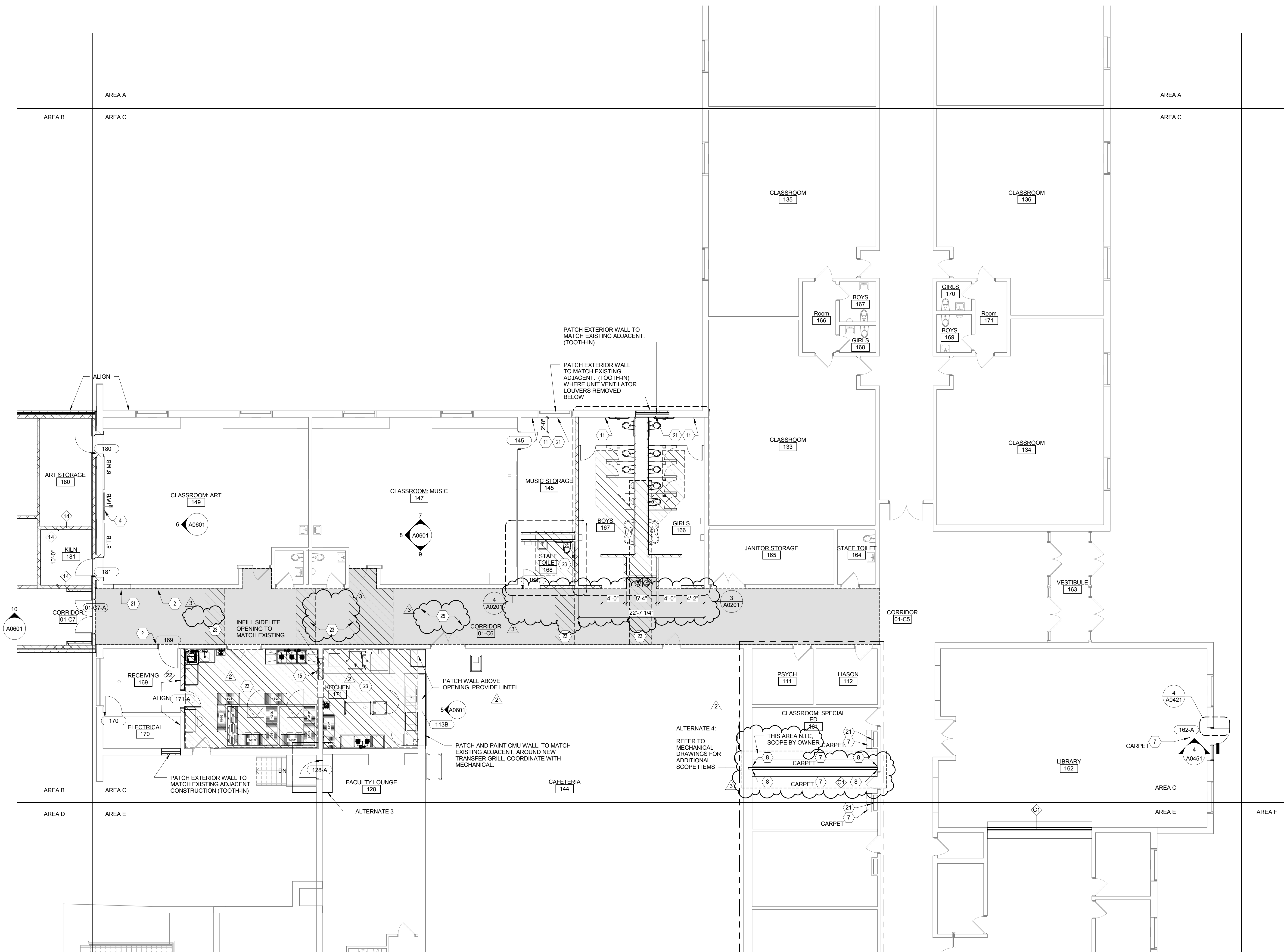
No.	Description	Date
1	ADDENDUM 01	01/07/2016
2	ADDENDUM 02	01/15/2016
3	ISSUED FOR BID	12/11/2015

Drawing Title:

LEVEL 01 FLOOR PLAN -
AREA B

Project No.: 004645.05 Checked by: Checker

A0101.B



1 LEVEL 01 FLOOR PLAN - AREA C
1/8" = 1'-0"

GENERAL FLOOR PLAN NOTES

1. REFER TO SHEET A0001 FOR LIST OF TYPICAL ABBREVIATIONS AND TYPICAL ARCHITECTURAL GRAPHIC LEGENDS AND SYMBOLS.
2. REFER TO SHEET A0002 FOR TYPICAL MOUNTING HEIGHTS.
3. DIMENSIONS ARE FROM FACE OF WALL UNLESS NOTED OTHERWISE.
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5. PATCH TO MATCH EXISTING PER SPEC 01 3520 ALTERATION PROJECT PROCEDURES.
6. IF OPENING IS NOT DIMENSIONED, OUTSIDE FACE OF FRAME TO BE 4" FROM ADJACENT PARTITION.
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10. ALL NEW CMU PARTITIONS TO BE TOOTH-IN TO EXISTING

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24. PATCH WOOD TRIM AS REQUIRED FOR NEW CONSTRUCTION, MATCH EXISTING ADJACENT
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EQUIPMENT LEGEND

- | | |
|-------|--|
| 6" MB | CONTRACTOR SERIES MARKERBOARD 4'-0" HIGH |
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| TS | TACK STRIP 1" HIGH, LENGTH PER ELEVATION |
| IWB | INTERACTIVE WHITE BOARD, OWNER PROVIDED AND CONTRACTOR INSTALLED. SEE TECHNOLOGY DRAWINGS. |



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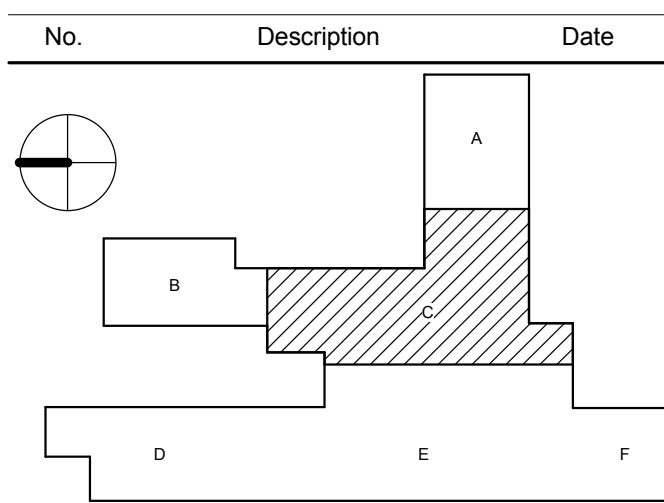
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PROFESSIONAL DESIGN FIRM
LICENSE NUMBER: 184-005683

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(815) 484-4300

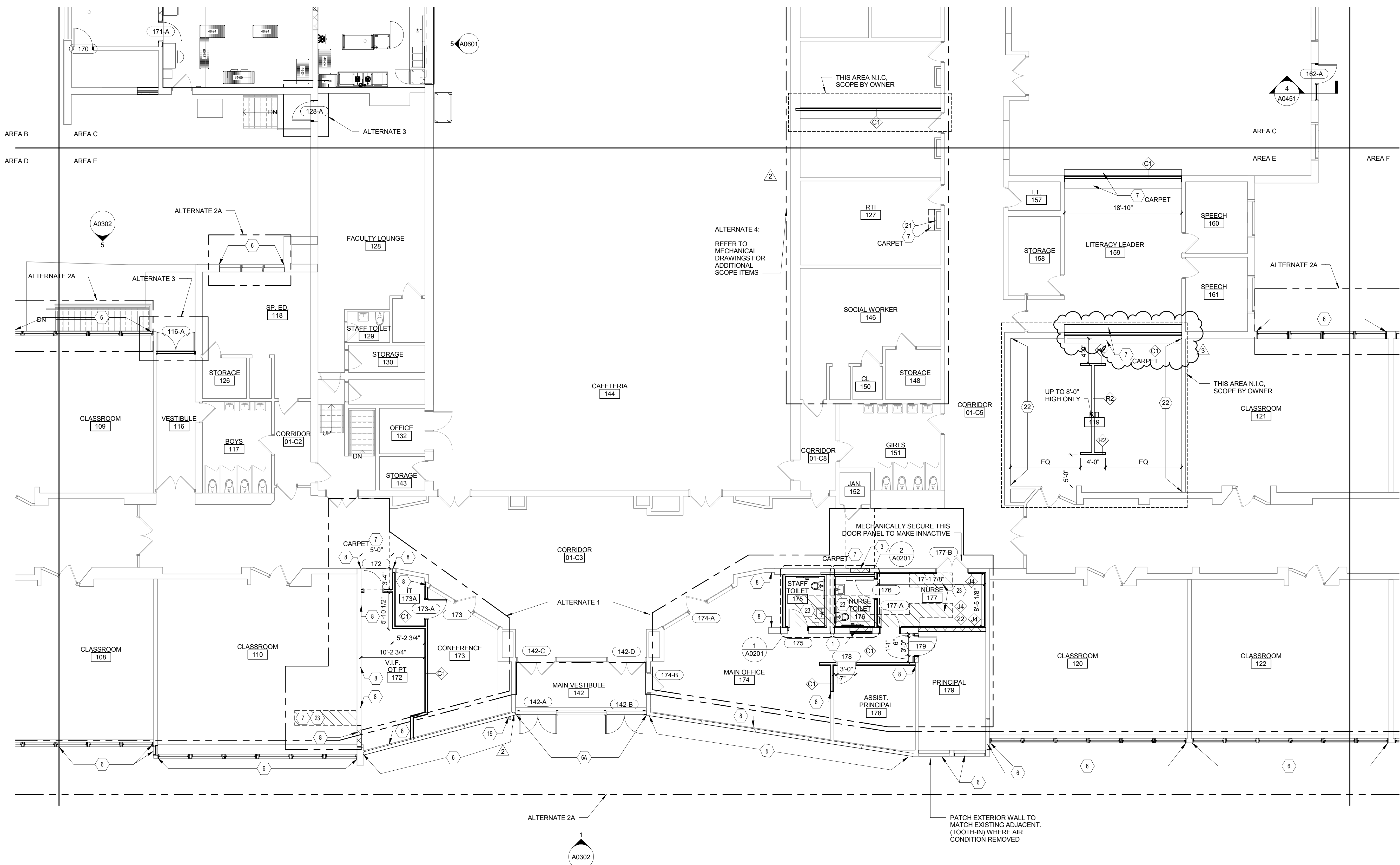
3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:
LEVEL 01 FLOOR PLAN -
AREA C

Project No.: 004645.05 Checked by: Checker

A0101.C



GENERAL FLOOR PLAN NOTES

1. REFER TO SHEET A0001 FOR LIST OF TYPICAL ABBREVIATIONS AND TYPICAL ARCHITECTURAL GRAPHIC LEGENDS AND SYMBOLS.
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- 20 REFER TO DEMOLITION SHEETS FOR DEMOLITION AND PATCHING ASSOCIATED WITH BOILER INSTALLATION - COORDINATE WITH MECHANICAL.
- 21 PATCH WALL TO MATCH EXISTING ADJACENT AS REQUIRED WHERE HVAC EQUIPMENT DEMOLISHED - COORDINATE WITH MECHANICAL.
- 22 PATCH WALL AFTER CASEWORK/COUNTER REMOVAL
- 23 SHADED REGION INDICATES AREA OF CONCRETE PATCH AFTER UNDERFLOOR PIPING INSTALLATION, COORDINATE WITH PLUMBING DRAWINGS
- 24 PATCH WOOD TRIM AS REQUIRED FOR NEW CONSTRUCTION, MATCH EXISTING ADJACENT.
- 25 PROVIDE NEW FLOORING IN SHADED AREA. SEE FINISH PLANS.

EQUIPMENT LEGEND

- | | |
|-------|--|
| 6" MB | CONTRACTOR SERIES MARKERBOARD 4'-0" HIGH |
| 8" TB | CONTRACTOR SERIES TACKBOARD 4'-0" HIGH |
| TS | TACK STRIP 1" HIGH, LENGTH PER ELEVATION |
| IWB | INTERACTIVE WHITE BOARD, OWNER PROVIDED AND CONTRACTOR INSTALLED. SEE TECHNOLOGY DRAWINGS. |

1 LEVEL 01 FLOOR PLAN - AREA E

1/8" = 1'-0"



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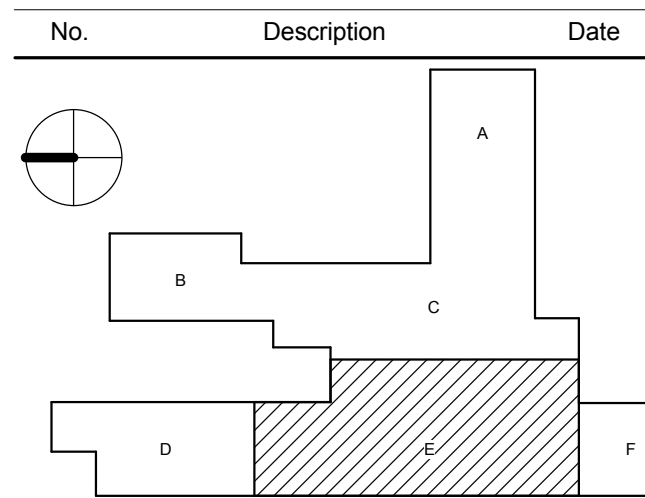
225 North Michigan Avenue, Suite 1100
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F: 312.332.9601

PROFESSIONAL DESIGN FIRM
LICENSE NUMBER 184.005663

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13 Winding Branch Rd
Hawthorn Woods IL 60047
224-717-1999

ARC DESIGN RESOURCES INC.
Civil Consultants
5291 Zenith Parkway
Loves Park IL 61111
(815) 484-4300

3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:

LEVEL 01 FLOOR PLAN -
AREA E

Project No.: 004645.05 Checked by: Checker

A0101.E



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RIVERDAHL ELEMENTARY
SCHOOL - ADDITION &
RENOVATION

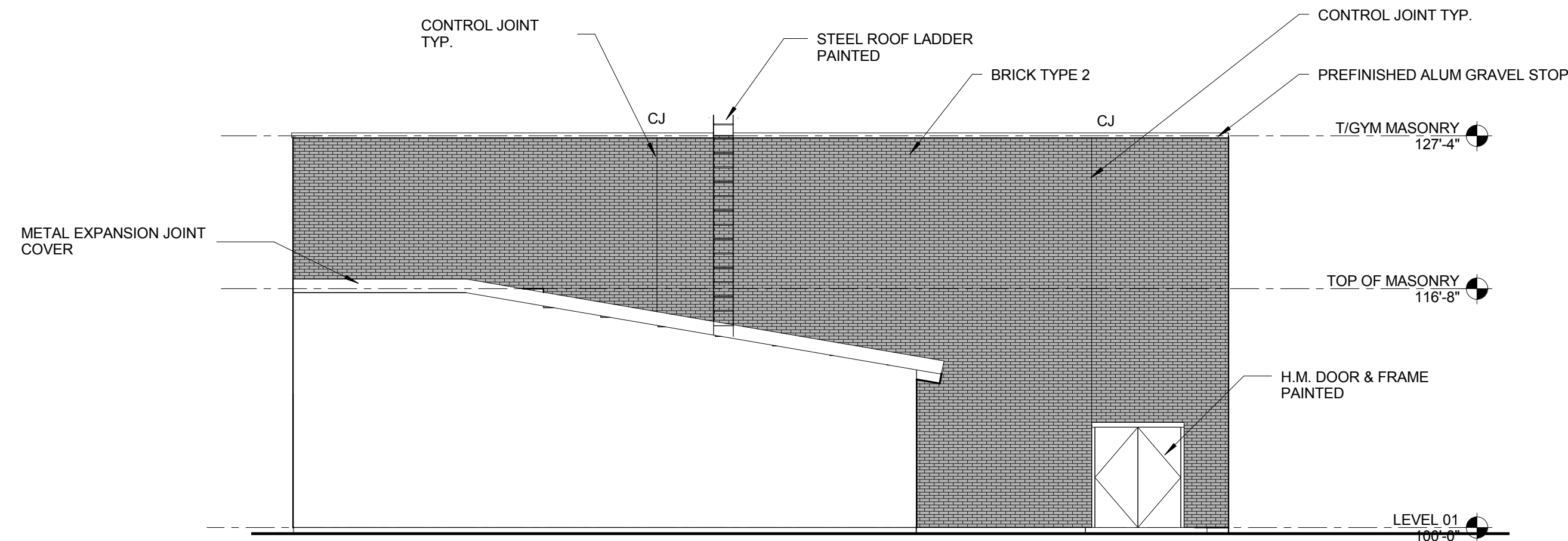
CANNONDESIGN

225 North Michigan Avenue, Suite 1100
Chicago, Illinois 60601
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PROFESSIONAL DESIGN FIRM
LICENSE NUMBER: 184-005663

S2O CONSULTANTS, INC.
Kitchen Consultants
13 Winding Branch Rd
Hawthorn Woods IL 60047
224-717-1999

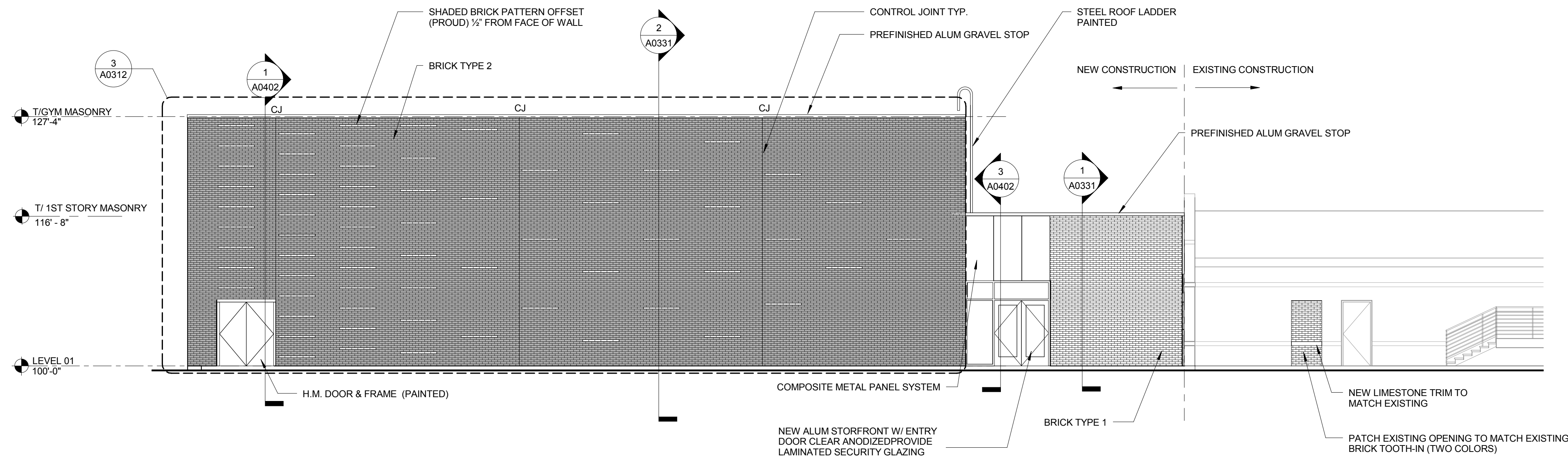
ARC DESIGN RESOURCES INC.
Civil Consultants
5221 Zenith Parkway
Loves Park IL 61111
(815) 484-4300



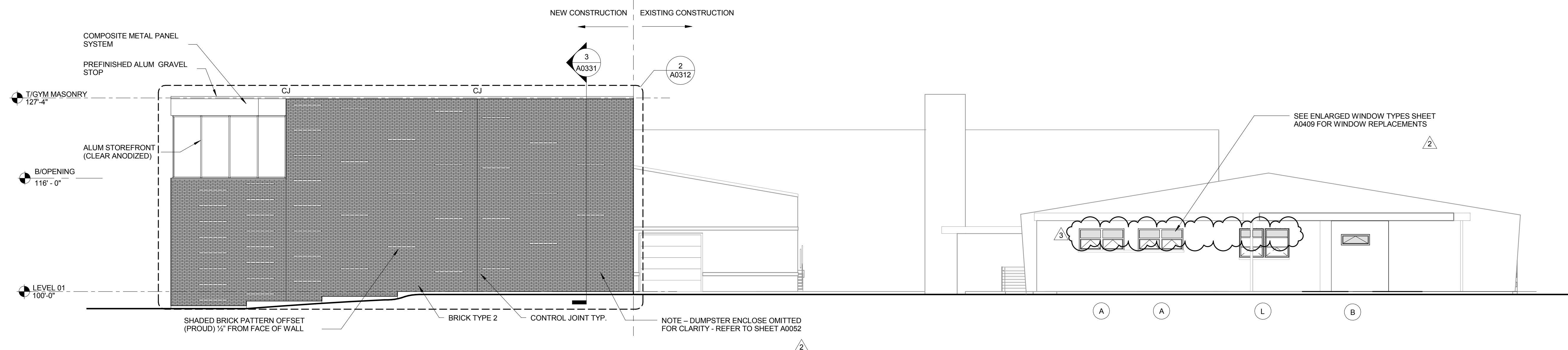
4 GYM SOUTH ELEVATION
1/8" = 1'-0"

GENERAL NOTES

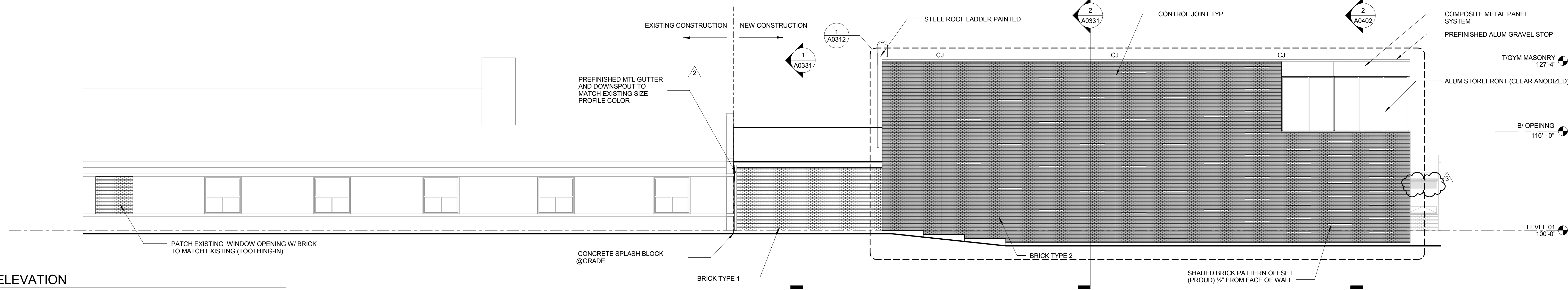
1. SEE A0312 FOR BRICK PATTERN DESIGN AND DIMENSIONS
2. ALL NEW BRICK TO RECEIVE ANTI GRAFFITI COATING
3. REFER TO SHEET A0409 FOR WINDOW REPLACEMENT SCHEDULE



3 WEST ELEVATION
1/8" = 1'-0"



2 NORTH ELEVATION
1/8" = 1'-0"



1 EAST ELEVATION
1/8" = 1'-0"

3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015

No.	Description	Date
1	ISSUED FOR BID	12/11/2015
2	ADDENDUM 01	01/07/2016
3	ADDENDUM 02	01/15/2016

Drawing Title:
BUILDING ELEVATIONS

Project No.: 004645.05 Checked by: Checker

A0301



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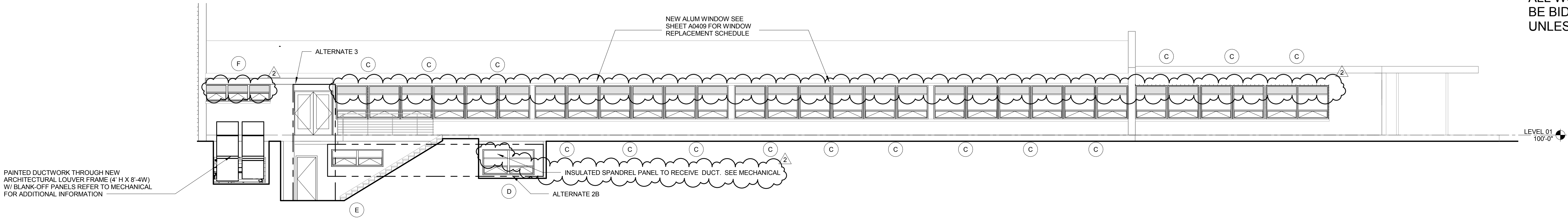
225 North Michigan Avenue, Suite 1100
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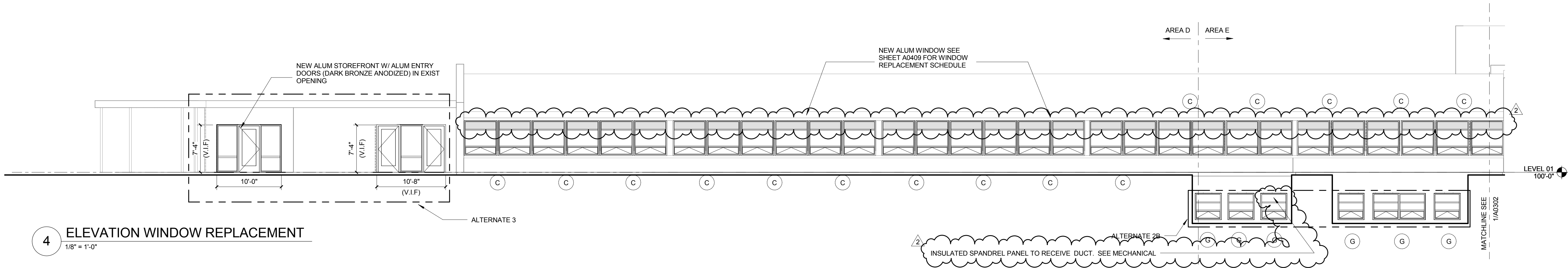
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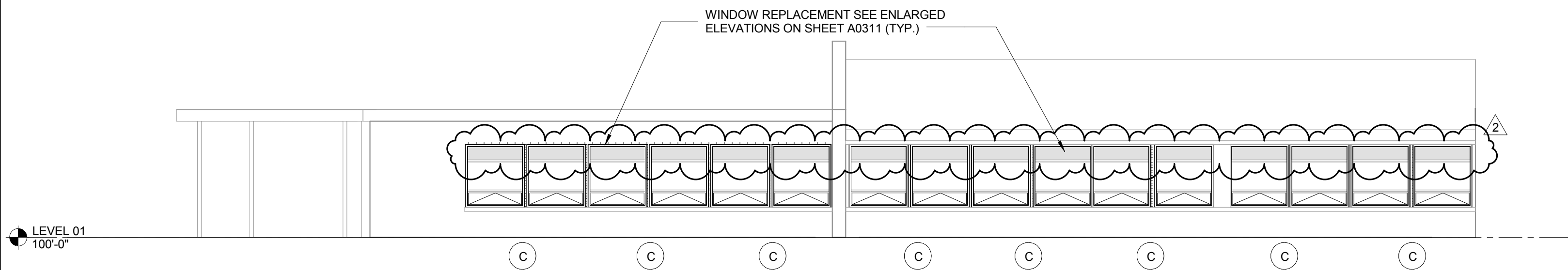
NOTE:
ALL WORK ON THIS SHEET TO
BE BID UNDER ALTERNATE 2A
UNLESS NOTED OTHERWISE



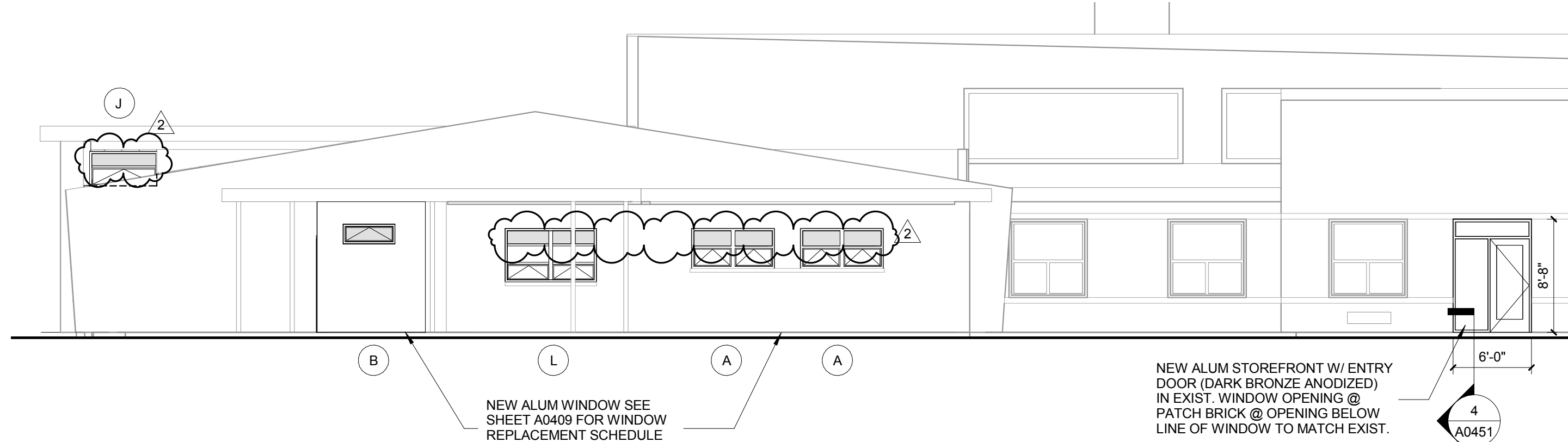
5 ELEVATION WINDOW REPLACEMENT
1/8" = 1'-0"



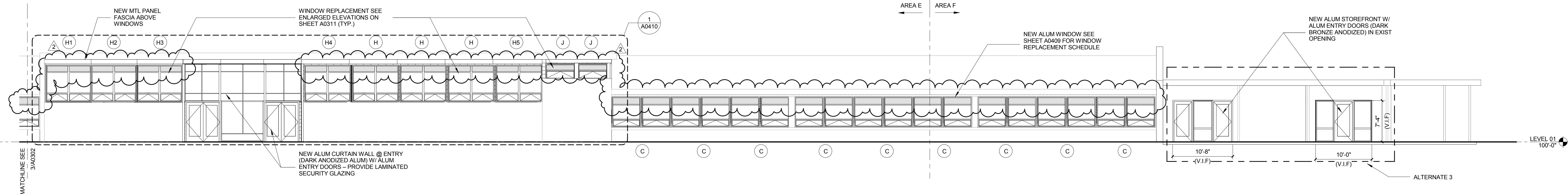
4 ELEVATION WINDOW REPLACEMENT
1/8" = 1'-0"



2 AREA F EAST ELEVATION
1/8" = 1'-0"



3 ELEVATION WINDOW REPLACEMENT
1/8" = 1'-0"

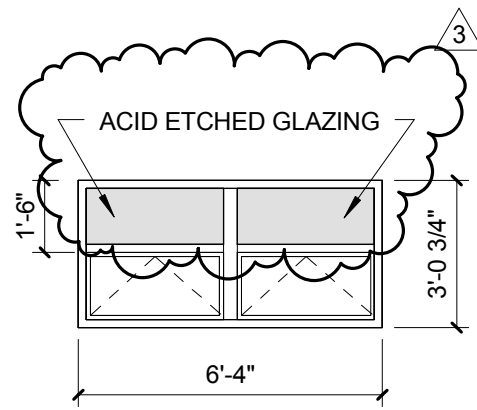


1 ELEVATION WINDOW REPLACEMENT
1/8" = 1'-0"

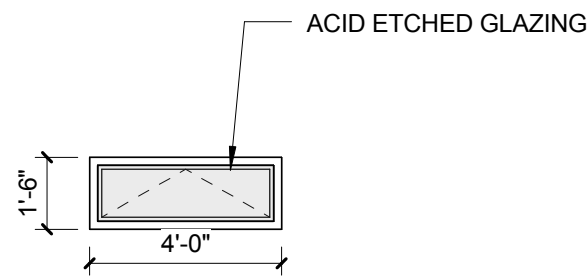
2 ADDENDUM 02 01/15/2016
1 ISSUED FOR BID 12/11/2015

No.	Description	Date
2	ADDENDUM 02	01/15/2016
1	ISSUED FOR BID	12/11/2015

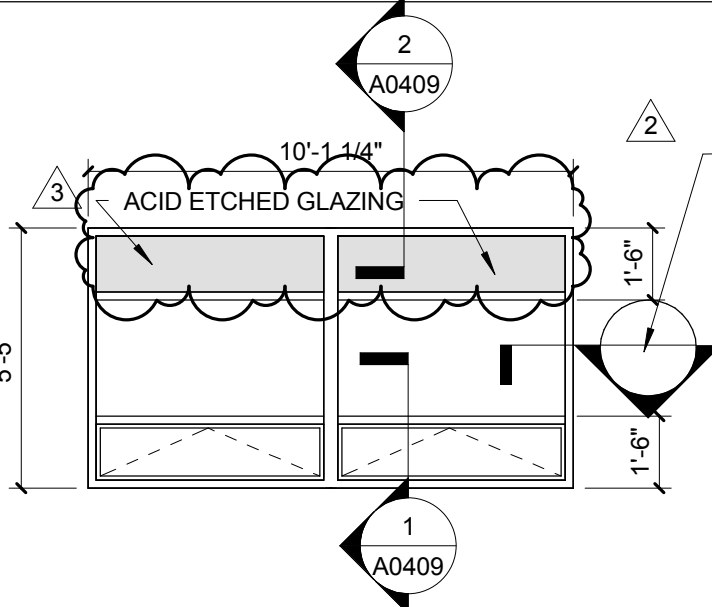
EXTERIOR REPLACEMENT WINDOW LEGEND (EFCO 510i 2-7/16" DEEP B.O.D)



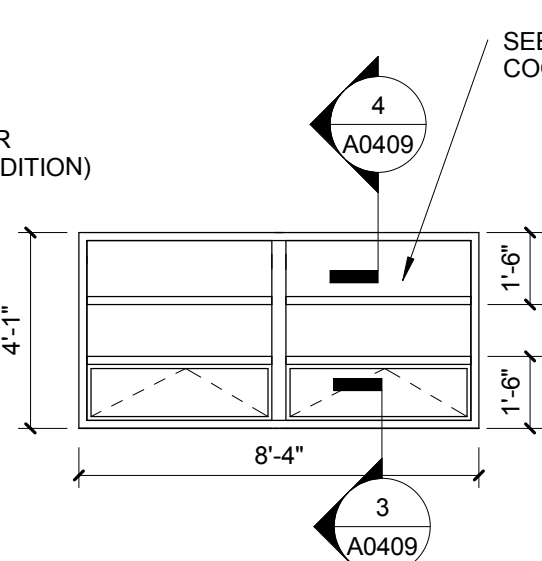
WINDOW REPLACEMENT TYPE A
ALTERNATE 2A



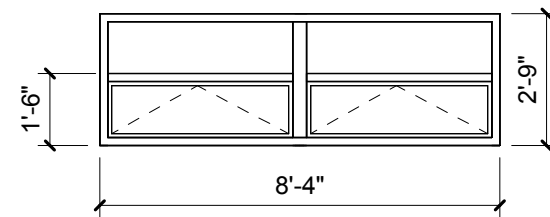
WINDOW REPLACEMENT TYPE B
ALTERNATE 2A



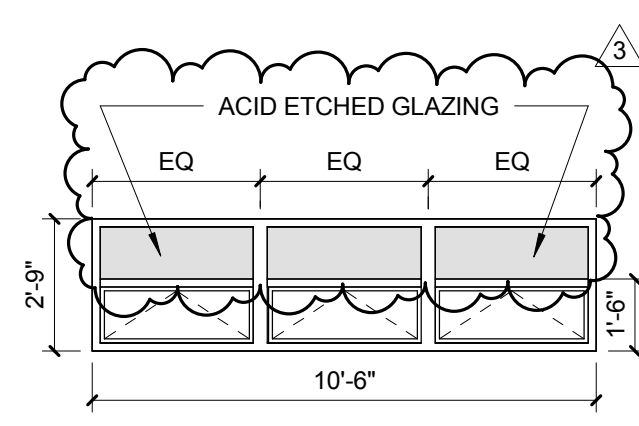
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ALTERNATE 2A



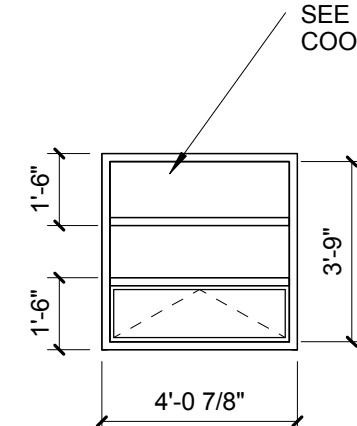
WINDOW REPLACEMENT TYPE D
ALTERNATE 2B



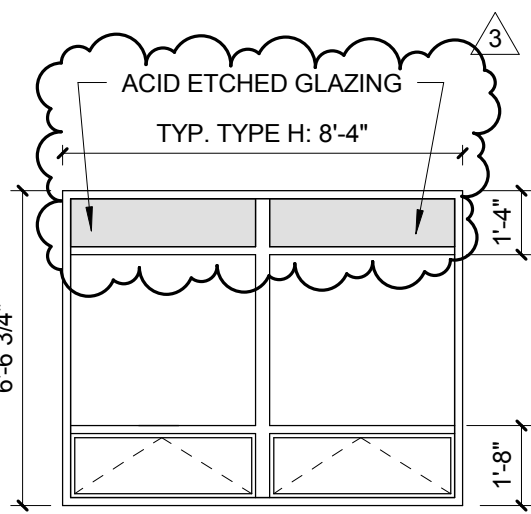
WINDOW REPLACEMENT TYPE E
ALTERNATE 2B



WINDOW REPLACEMENT TYPE F
ALTERNATE 2A



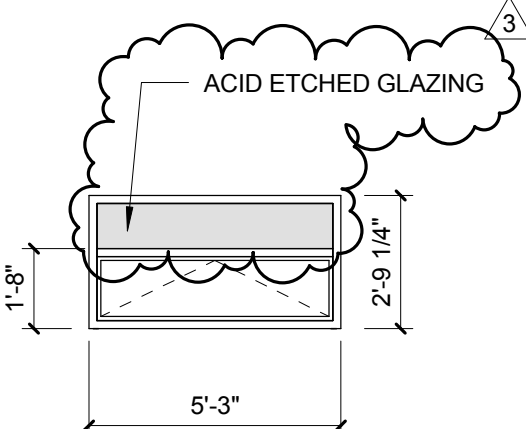
WINDOW REPLACEMENT TYPE G
ALTERNATE 2B



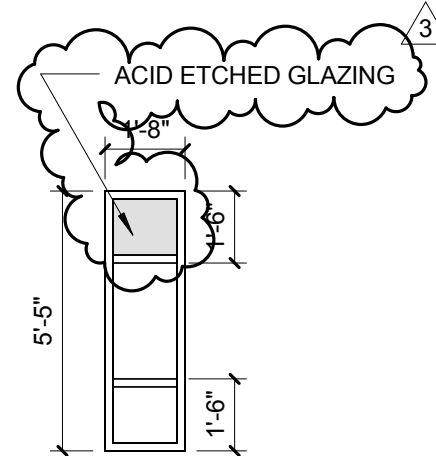
WINDOW REPLACEMENT TYPE H (FRONT ENTRY)
ALTERNATE 2A

NOTE:
ALL REPLACEMENT WINDOWS TO BE
DARK BRONZE ANODIZED

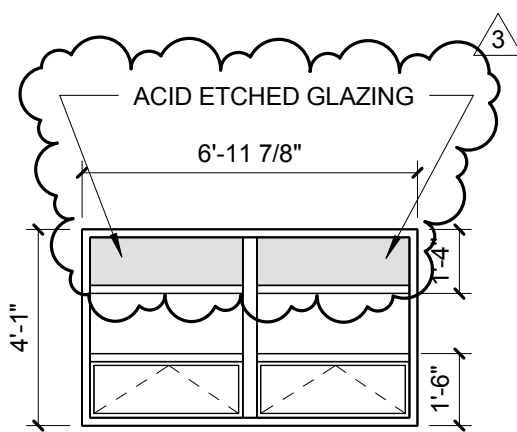
GLAZING WIDTH BY TYPE, V.I.F.:
H: 8'-4"
H1: 8'-1 1/2"
H2: 8'-3"
H3: 8'-5 1/2"
H4: 8'-5"
H5: 8'-0"



WINDOW REPLACEMENT TYPE J
ALTERNATE 2A



WINDOW REPLACEMENT TYPE K
ALTERNATE 2A



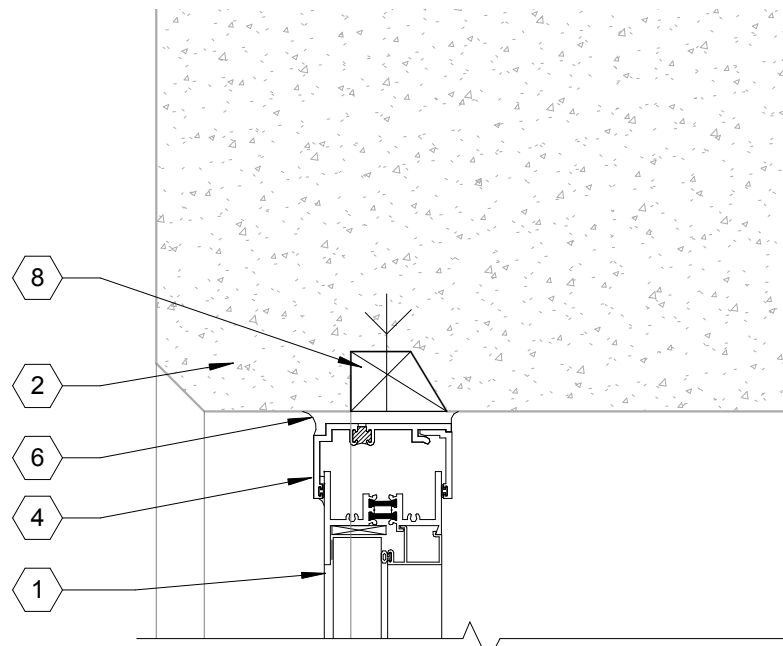
WINDOW REPLACEMENT TYPE L
ALTERNATE 2A

GENERAL WINDOW REPLACEMENT NOTES

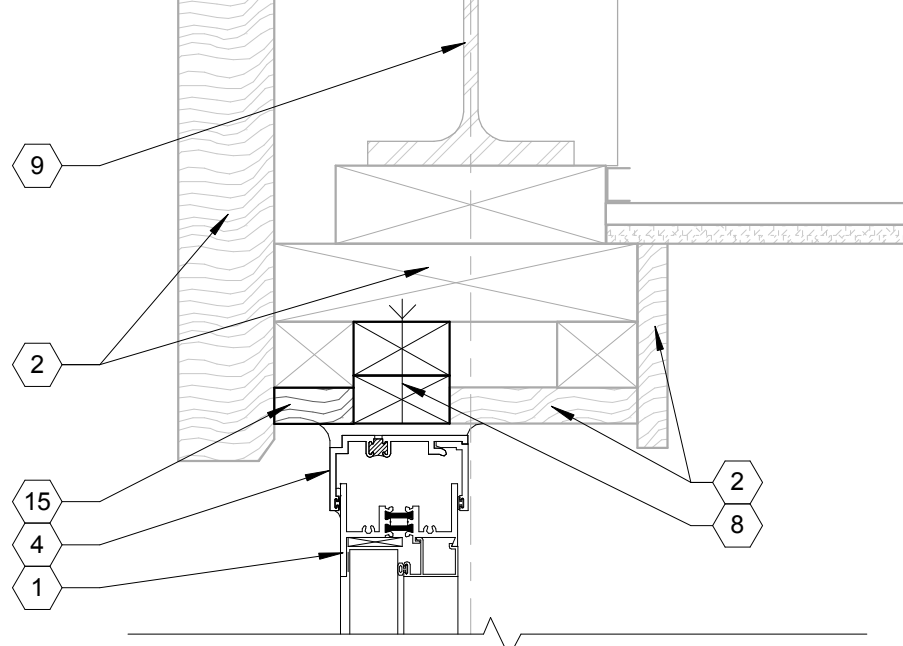
1. PROTECT EXISTING CONTRUCTION TO REMAIN
2. EXISTING WINDOW REMOVED BY OTHERS. CONTRACTOR TO REMOVE TEMPORARY PLYWOOD ENCLOSURE AND RETURN TO ABATEMENT CONTRACTOR.
3. PATCH/REPAIR EXISTING CONSTRUCTION DAMAGED BY WINDOW INSTALLATION TO MATCH EXISTING.
4. PROVIDE NEW EXTRUDED ALUMINUM TRIM PIECES BY WINDOW MANUFACTURER AS REQUIRED TO ENCLOSE & FINISH VOIDS BETWEEN NEW WINDOW & EXISTING WORK TO REMAIN.
5. WINDOW FRAMES, CURTAIN WALL, & TRIM TO HAVE DARK BRONZE ANODIZED FINISH.
6. GLAZING TO BE LOW-E, INSULATED UNITS (U.N.O.)
7. PROMPTLY REPORT ANY DAMAGED OR ROTTED EXISTING CONDITIONS PRIOR TO REMOVAL/REPAIR/REPLACEMENT.
8. SEE SHEET A0409 FOR ENLARGED WINDOW REPLACEMENT TYPES
9. FIELD VERIFY ALL DIMENSIONS PRIOR TO FABRICATION.
10. HORIZONTAL MULLIONS OF WINDOWS AND ADJACENT CURTAIN WALL TO ALIGN
11. ALL WORK ON THIS SHEET IS UNDER ALTERNATE BID. SEE PLANS FOR ALTERNATE NUMBERS.

WINDOW REPLACEMENT KEY NOTES

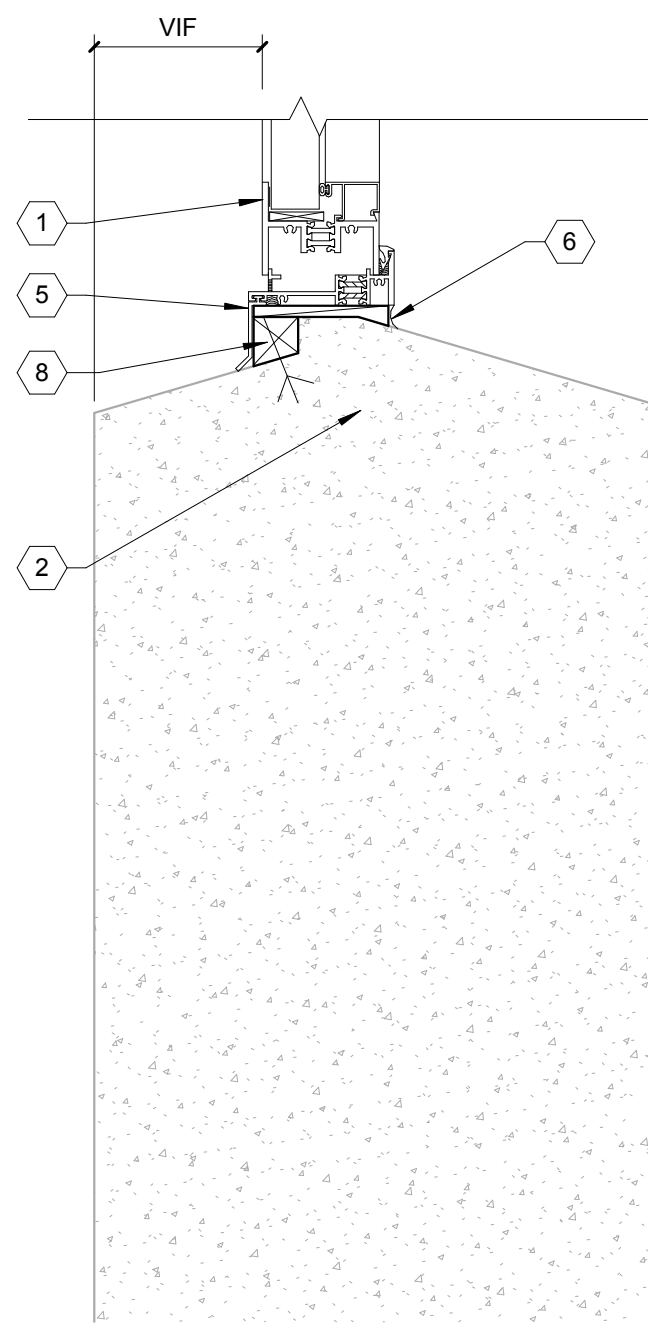
1. ALUMINUM WINDOW SYSTEM WITH 1" INSULATED LOW-E GLAZING. SEE ELEVATIONS FOR OPERABLE UNITS
2. EXISTING CONSTRUCTION TO REMAIN
3. ALUMINUM CURTAIN WALL WITH 1" INSULATED LOW-E GLAZING (2 1/2 X 7 1/2")
4. ALUMINUM SUBFRAME AT HEAD & JAMB SET IN BED OF SEALANT
5. ALUMINUM SUBSILL SET IN A BED OF SEALANT WITH SILL EXTENSION AS SHOWN
6. BACKER ROD AND SEALANT
7. ALUMINUM ENTRY DOOR (PROVIDE DOOR FRAME ADAPTOR AT CURTAIN WALL)
8. TREATED WOOD BLOCKING/SHIM AS REQUIRED
9. EXISTING STEEL STRUCTURE TO REMAIN
10. .125 ALUMINUM CLOSURE BY CURTAIN WALL MANUFACTURER
11. .063 ALUMINUM CLOSURE BY WINDOW MANUFACTURER
12. SPRAY FOAM INSULATION
13. PATCH EXISTING PLASTER CEILING / EXTERIOR SOFFIT TO MATCH EXISTING AFTER WINDOW / CURTAIN WALL INSTALLATION
14. PATCH EXISTING WOOD FILLER BOARD / SOFFIT TO MATCH EXISTING AFTER WINDOW INSTALLATION
15. TOUCH UP PAINT ON WOOD SOFFIT TRIM OR REPLACE AS REQUIRED AFTER INSTALLATION OF NEW BLOCKING FOR SUBFRAME ATTACHMENT
16. DEFLECTION CHANNEL AT HEAD - SET IN A BED OF SEALANT



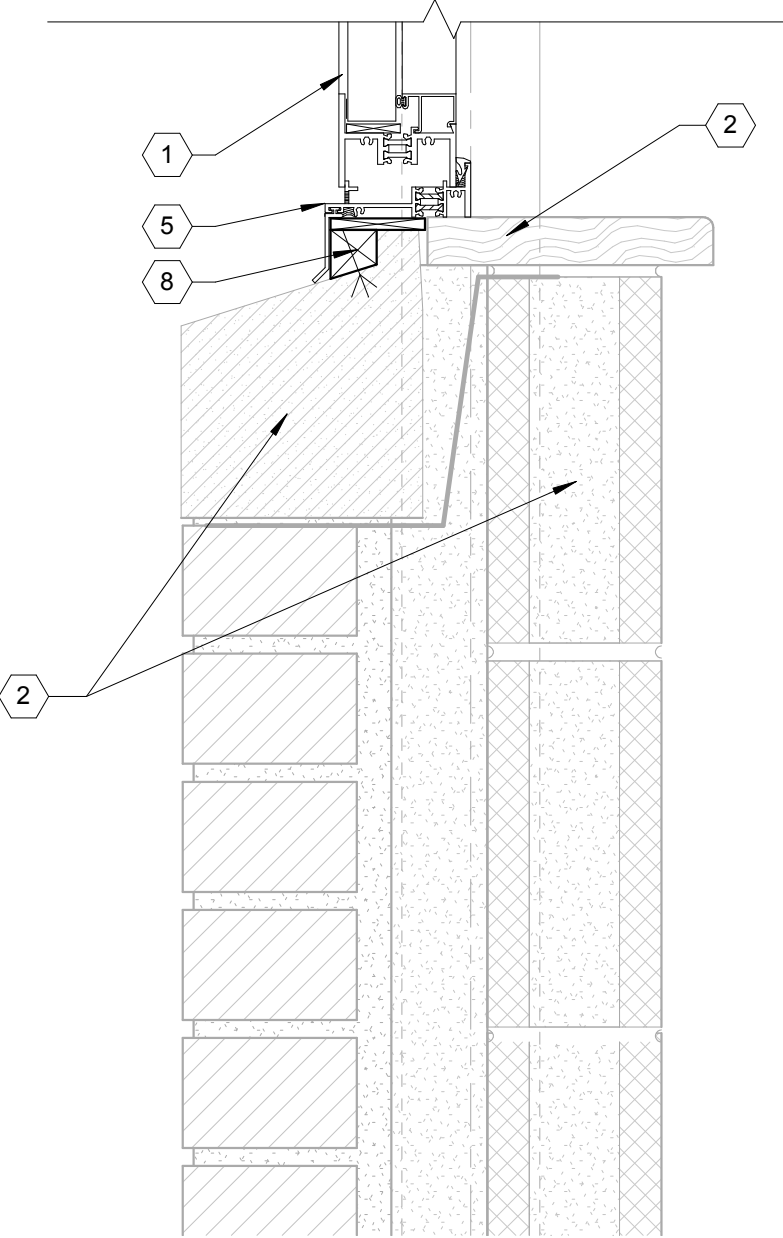
4 WINDOW REPLACEMENT BASEMENT_HEAD
3" = 1'-0"



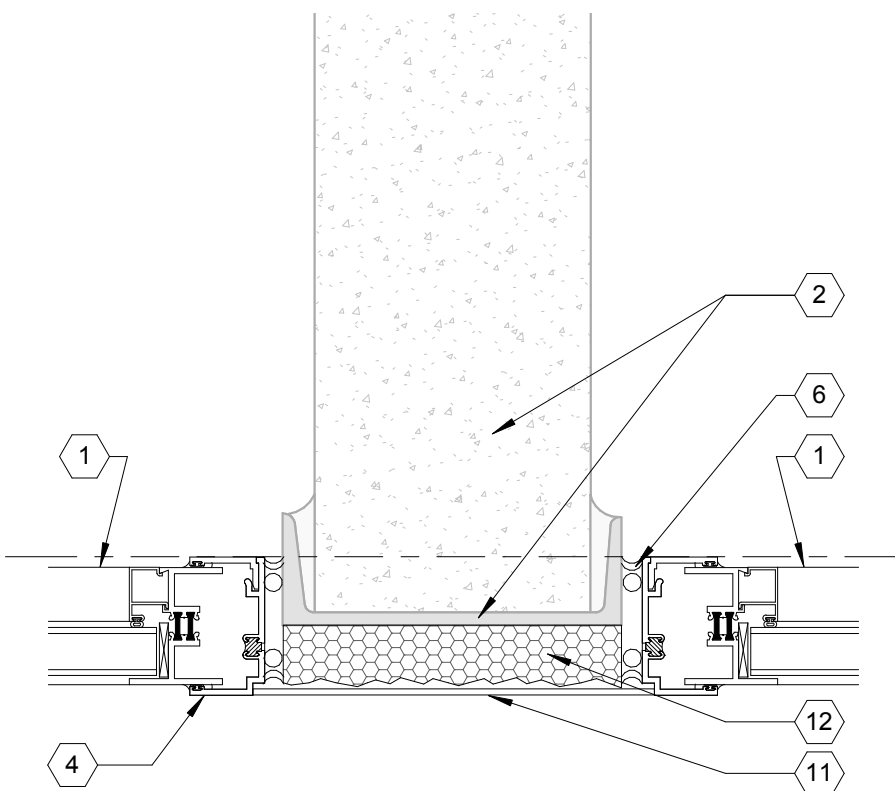
2 WINDOW REPLACEMENT TYPE C_HEAD
3" = 1'-0"



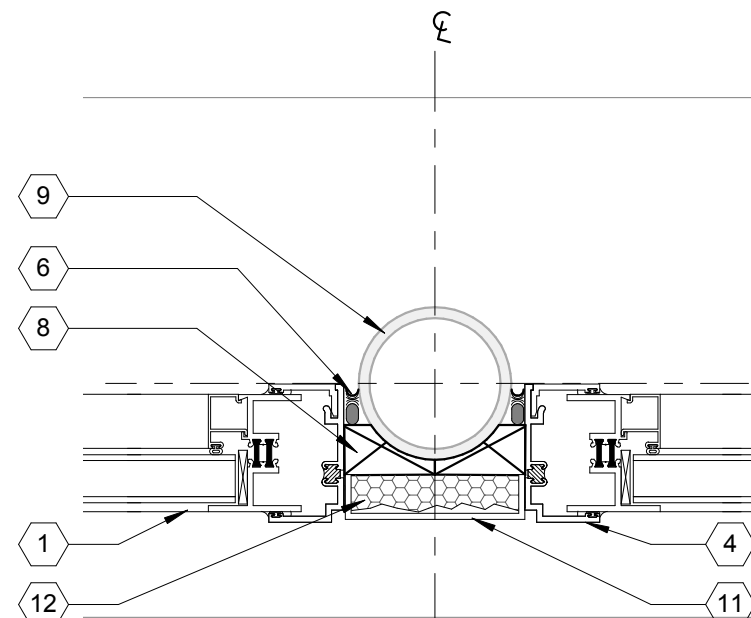
3 WINDOW REPLACEMENT BASEMENT_SILL
3" = 1'-0"



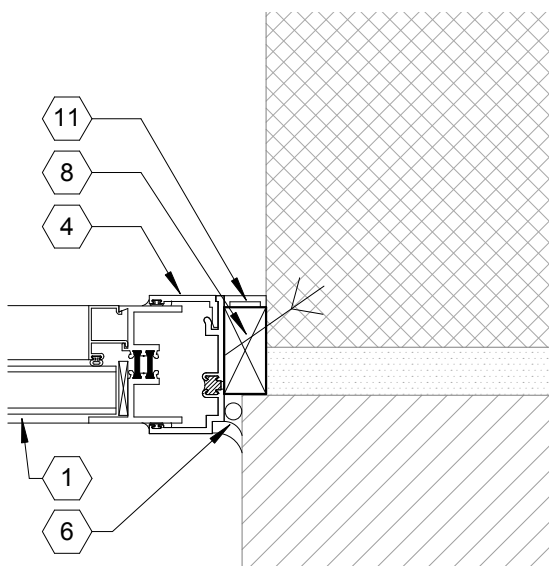
1 WINDOW REPLACEMENT TYPE C_SILL
3" = 1'-0"



7 PLAN DETAIL - PARTITION JAMB TYP.
3" = 1'-0"



6 PLAN DETAIL - COLUMN MULLION TYP.
3" = 1'-0"



5 PLAN DETAIL - MASONRY JAMB TYP.
3" = 1'-0"



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3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015

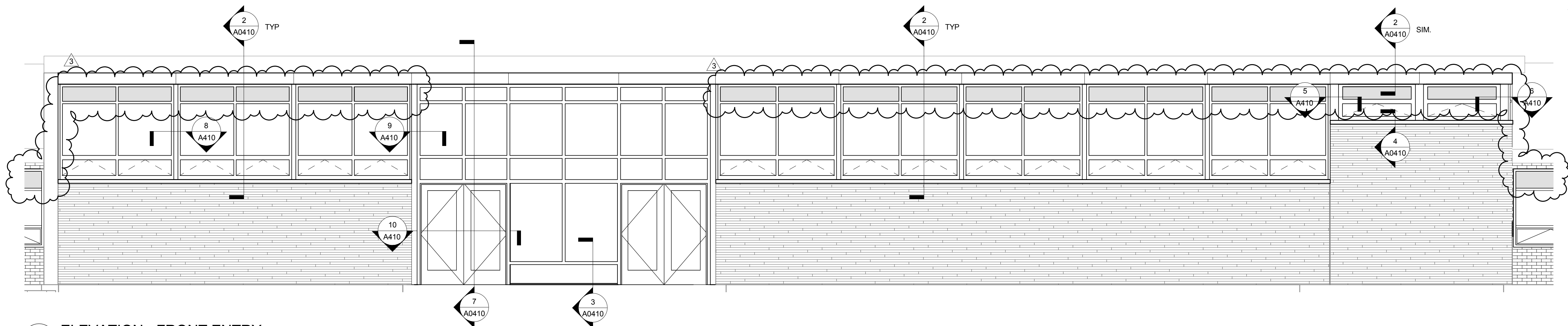
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11	K	
12	L	
13	M	
14	N	
15	O	
16	P	
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Drawing Title:

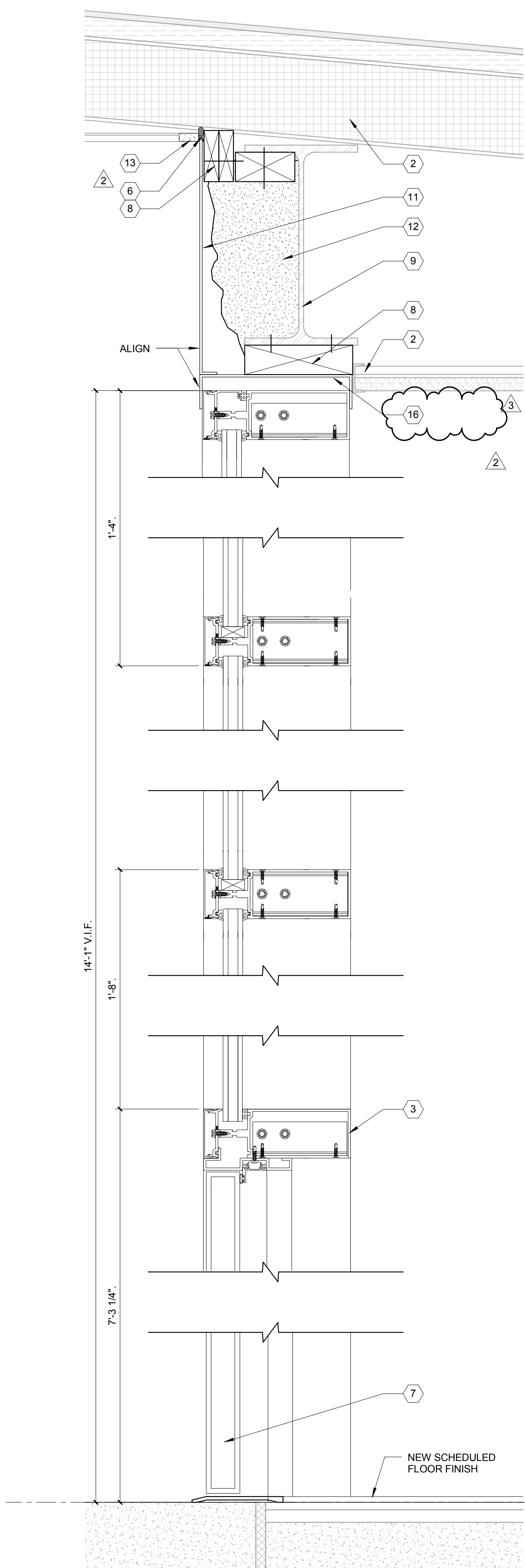
ENLARGED WINDOW
TYPES

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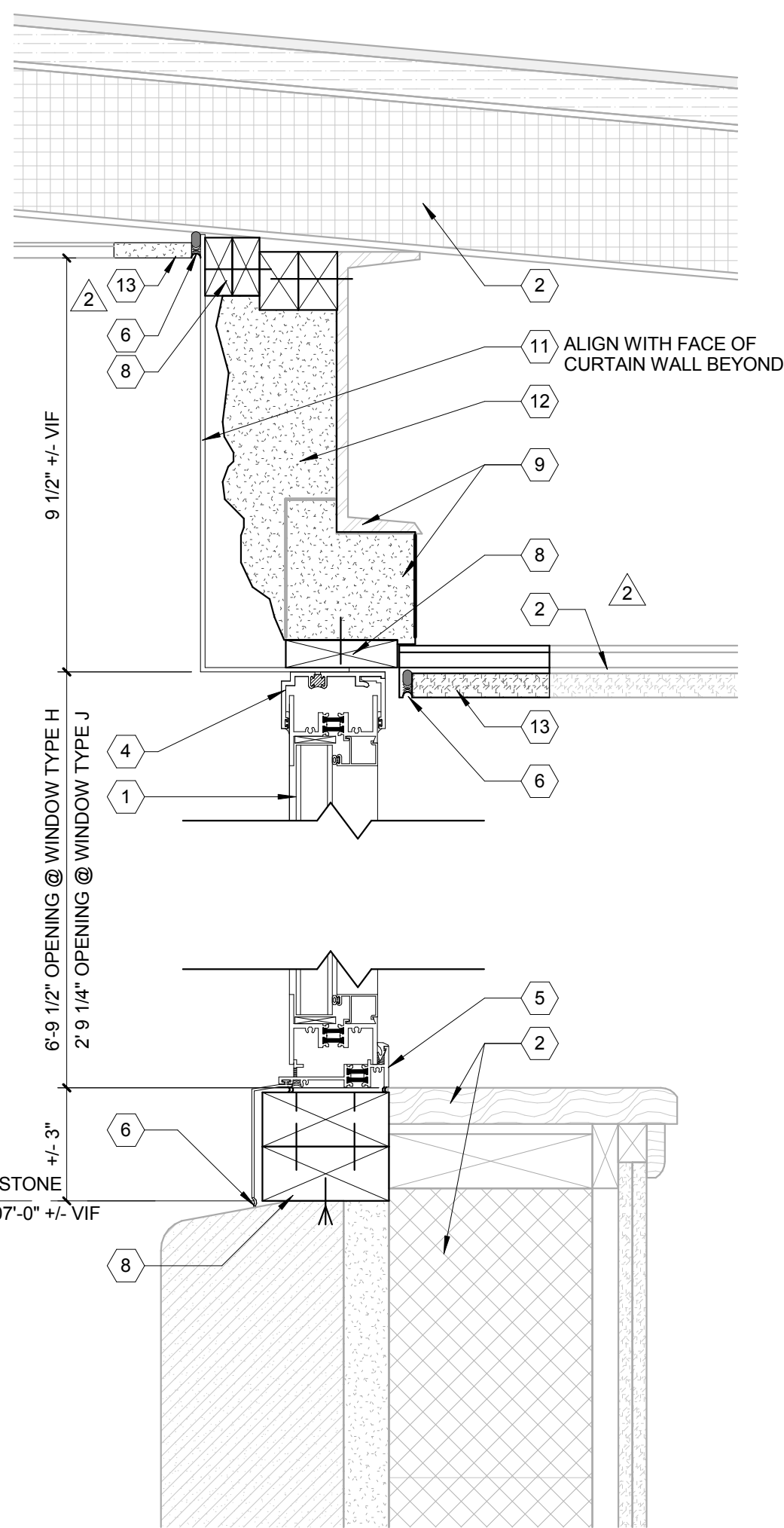
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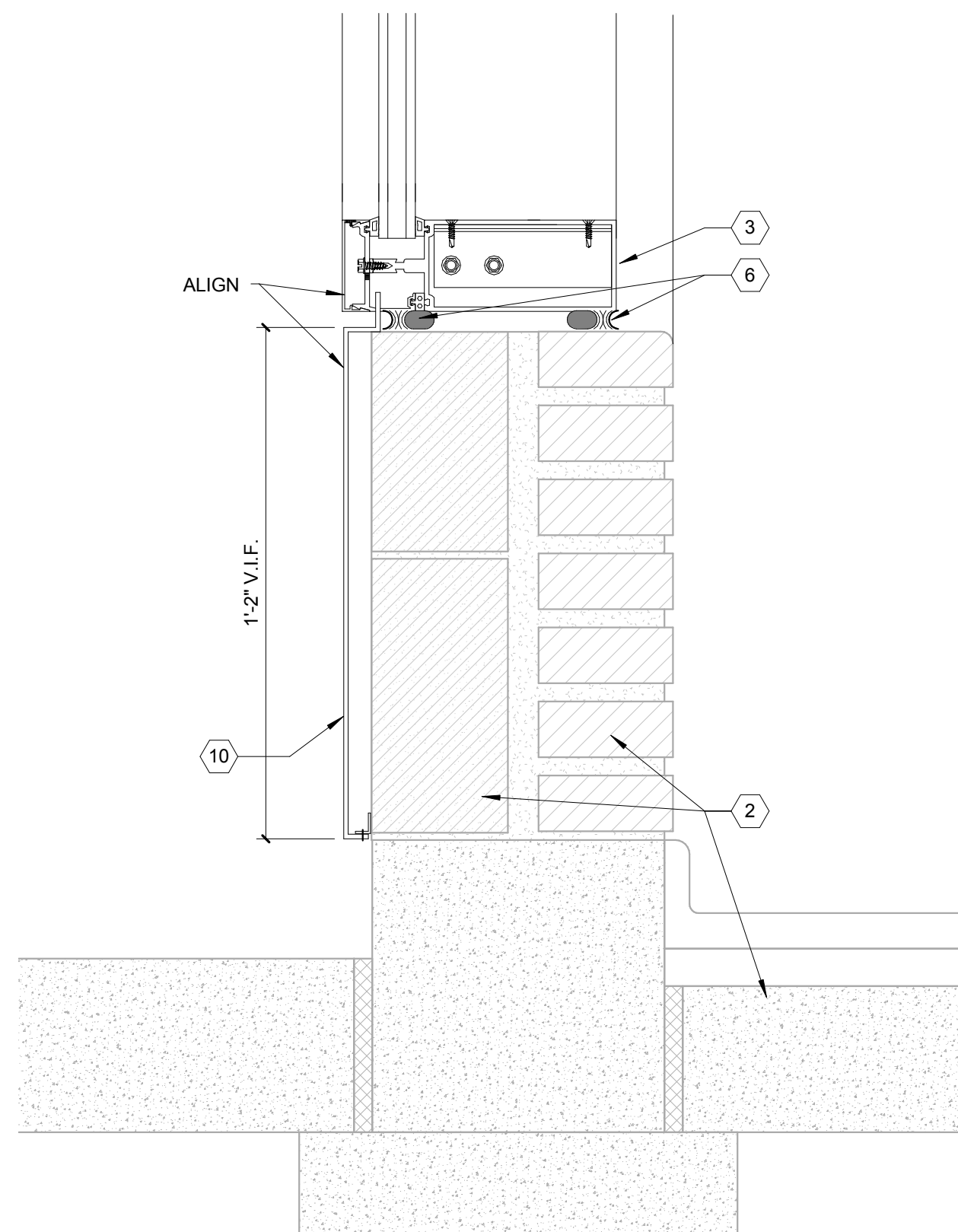
1 ELEVATION - FRONT ENTRY
1/4" = 1'-0"

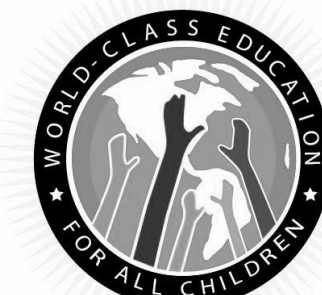


7 CURTAIN WALL REPLACEMENT DETAIL
3" = 1'-0"



2 WINDOW REPLACEMENT DETAIL
3" = 1'-0"





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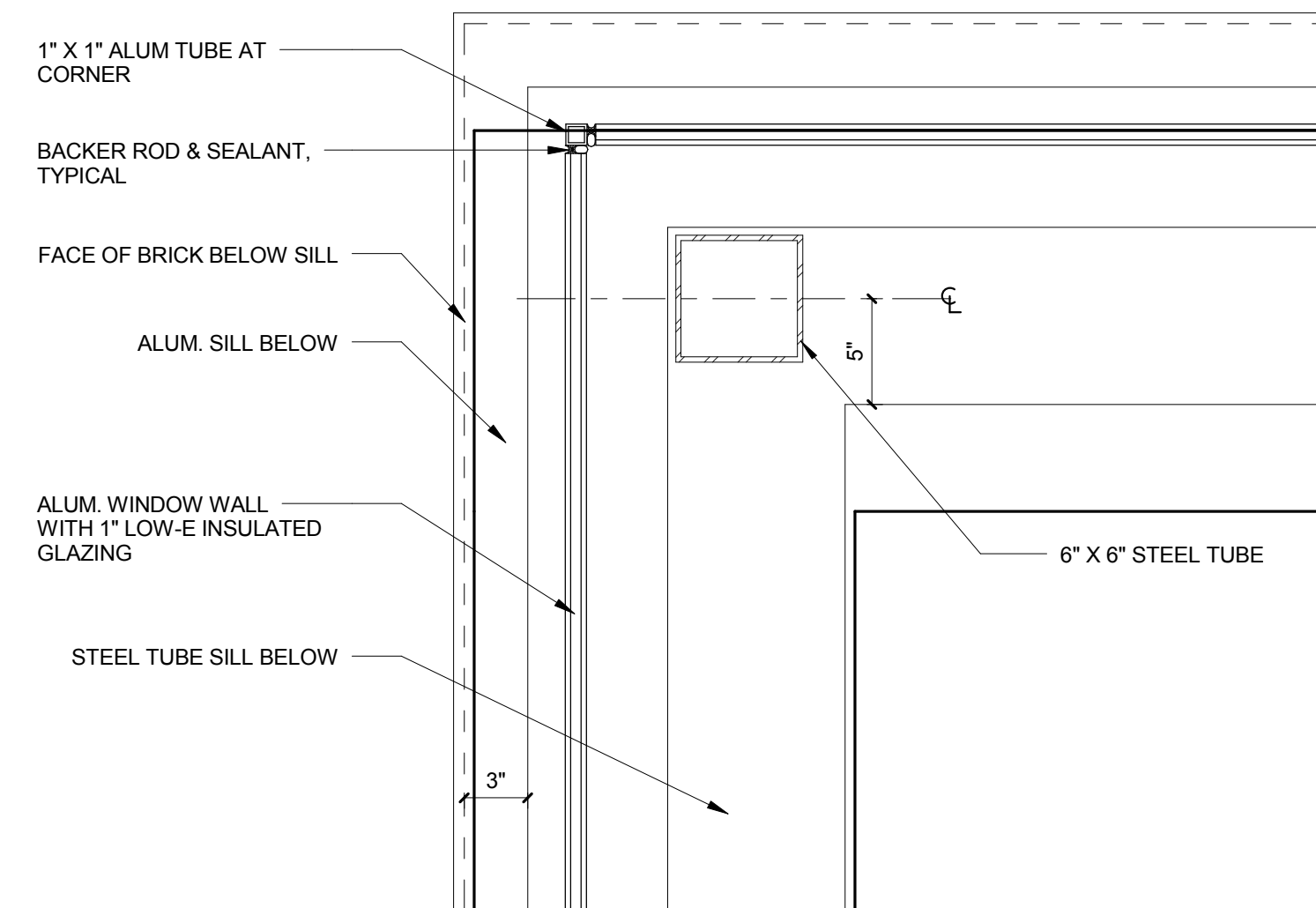
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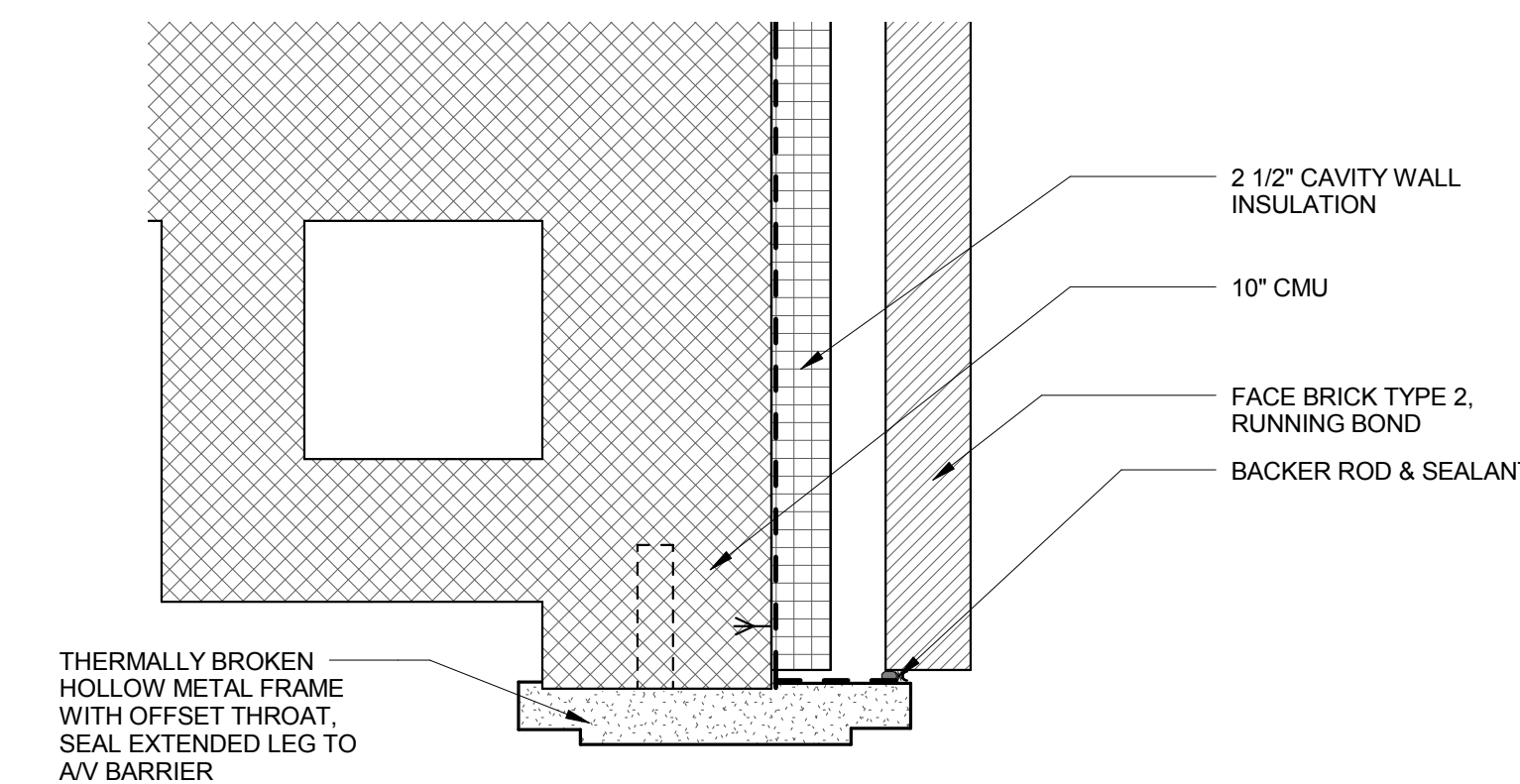
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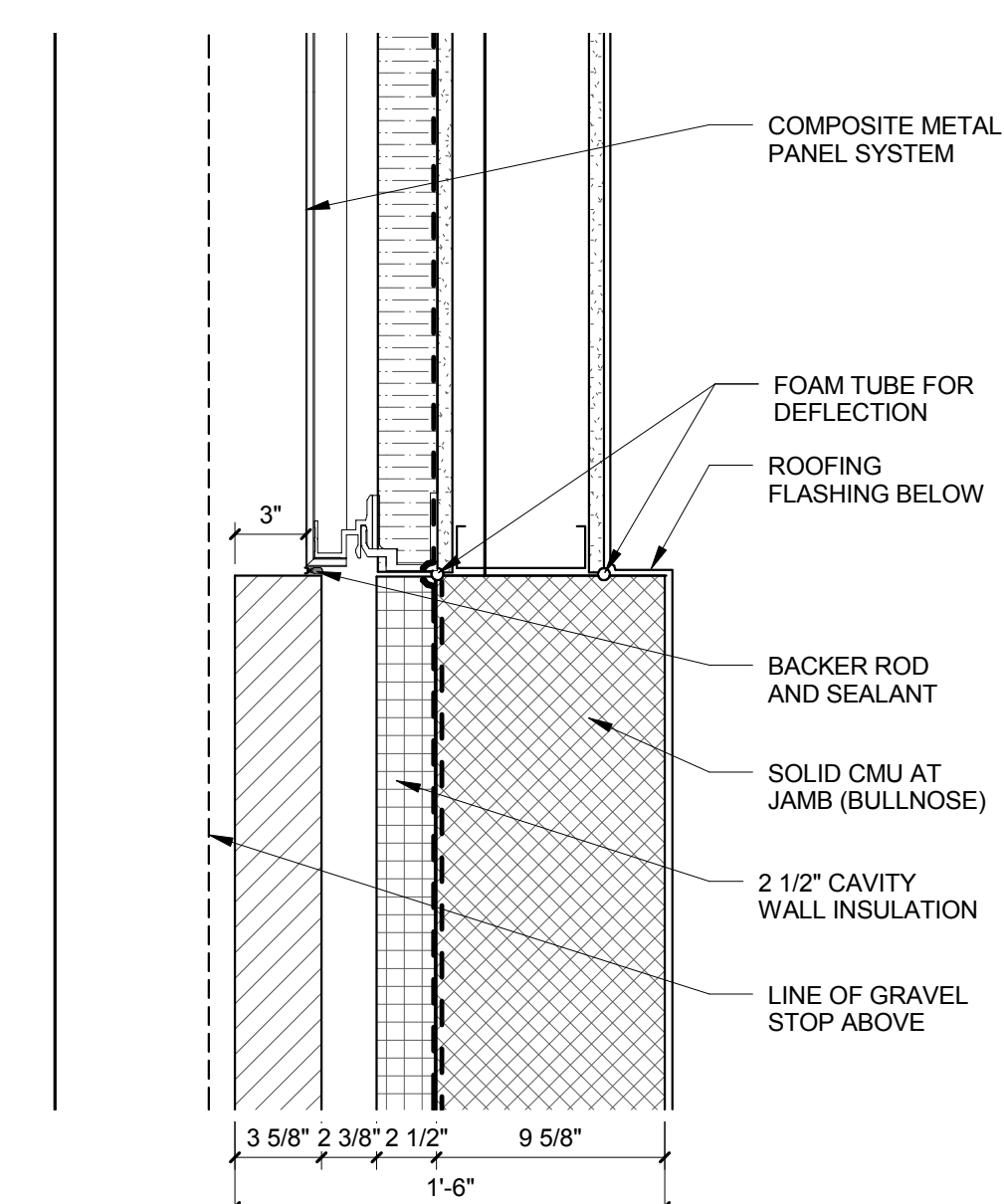
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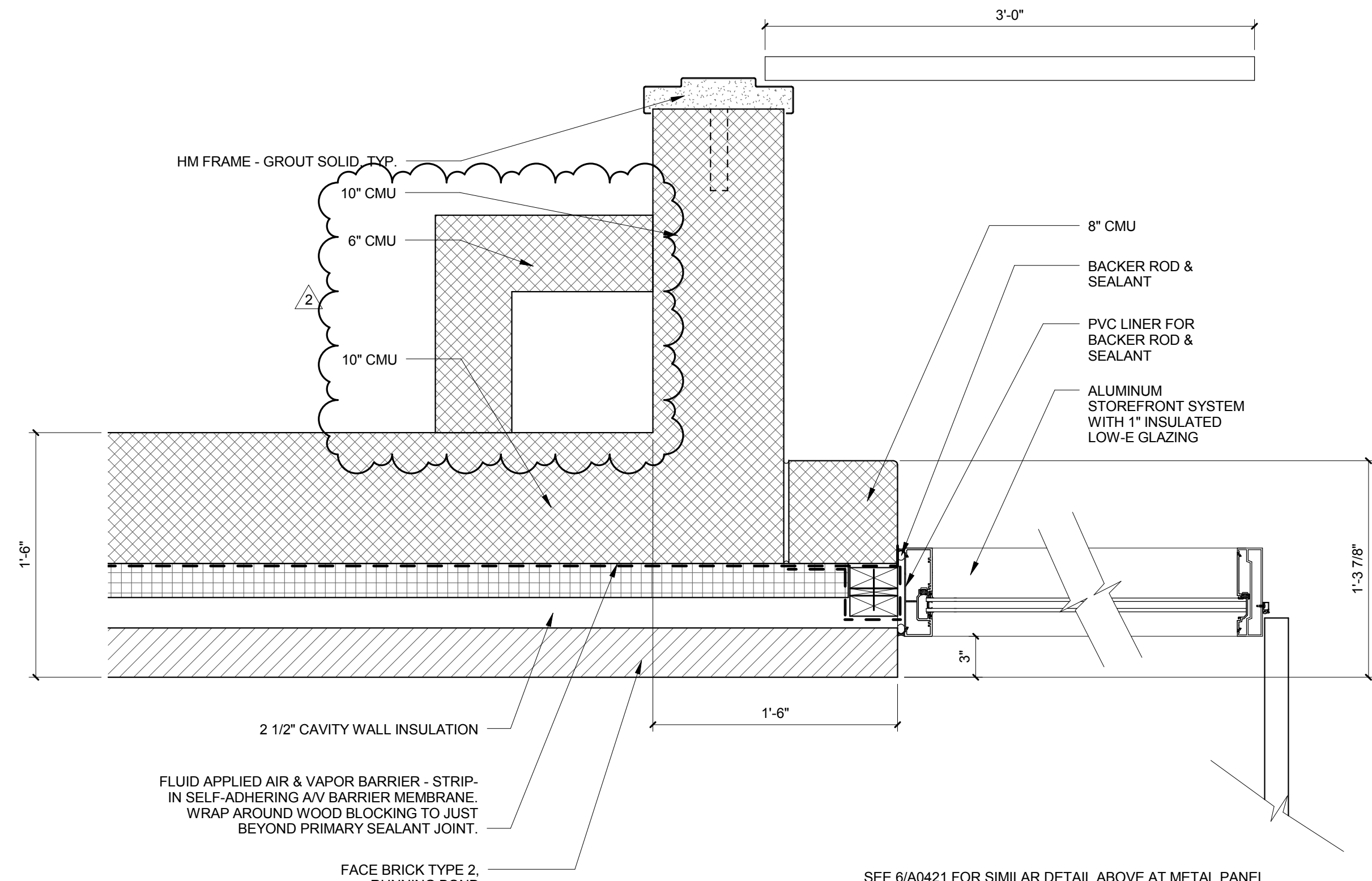
7 PLAN DETAIL - GYM NE CORNER
1 1/2" = 1'-0"



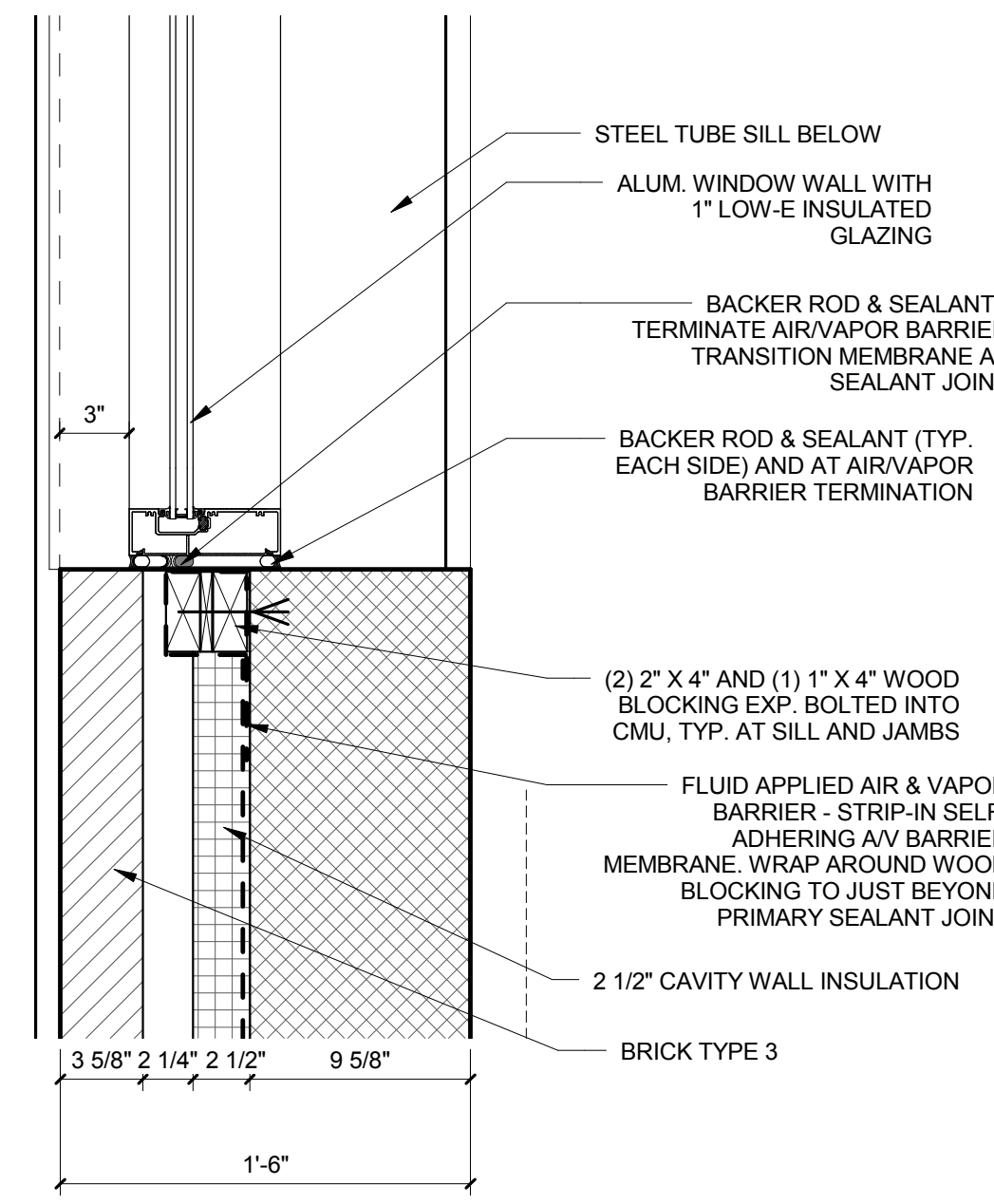
3 PLAN DETAIL - EXTERIOR DOOR AT GYMNASIUM
1 1/2" = 1'-0"



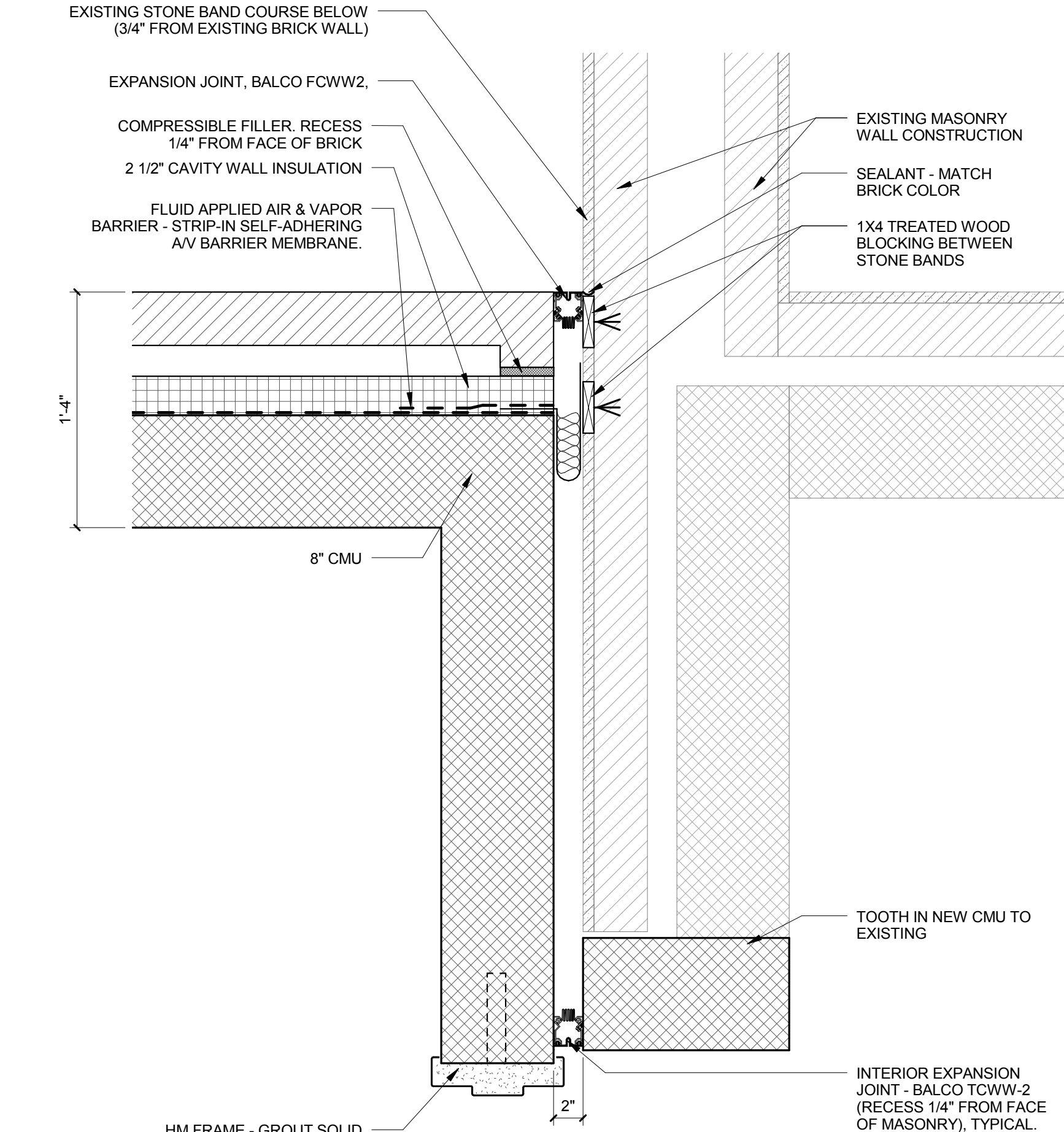
6 GYM NE CORNER WINDOW WALL ABOVE
1 1/2" = 1'-0"



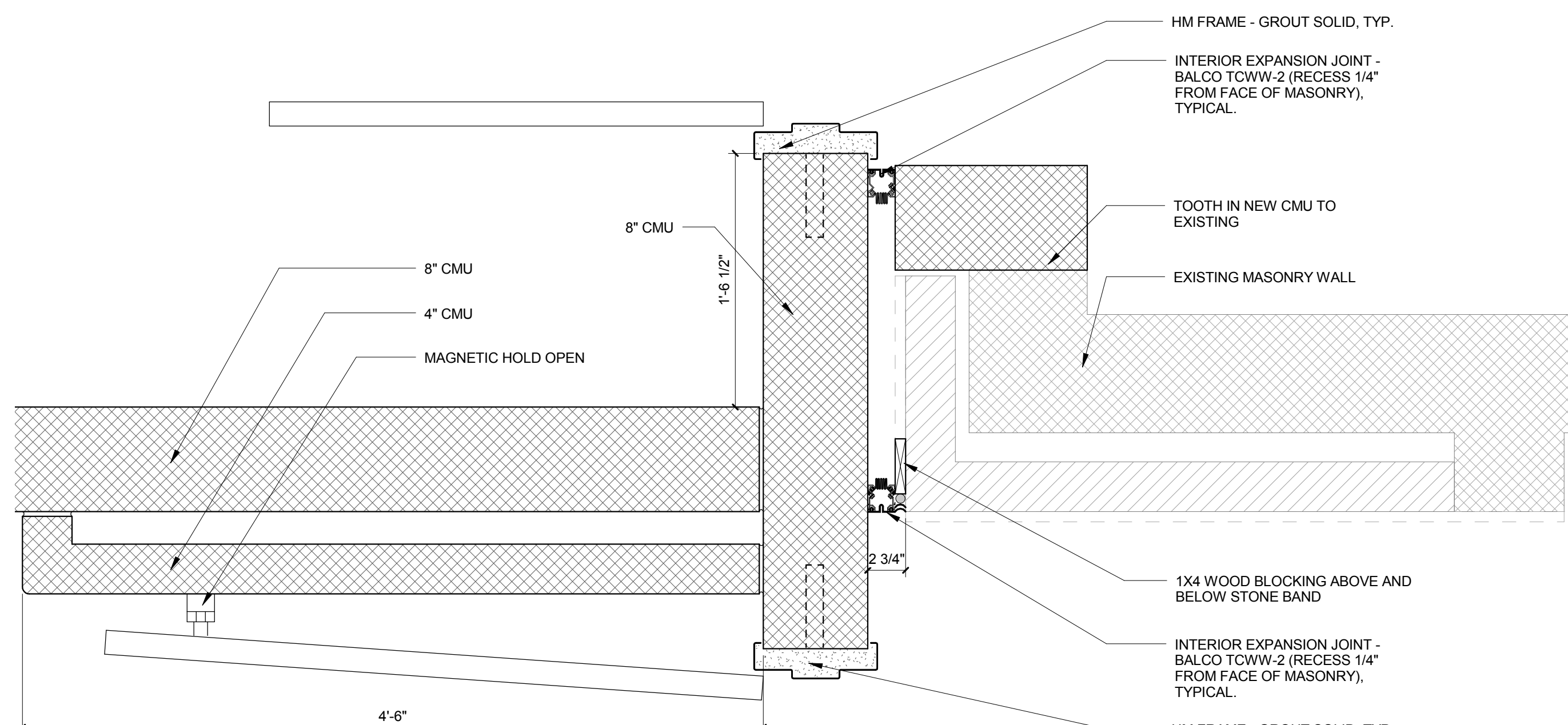
2 EXTERIOR PLAN DETAIL - CORRIDOR 01-C7
1 1/2" = 1'-0"



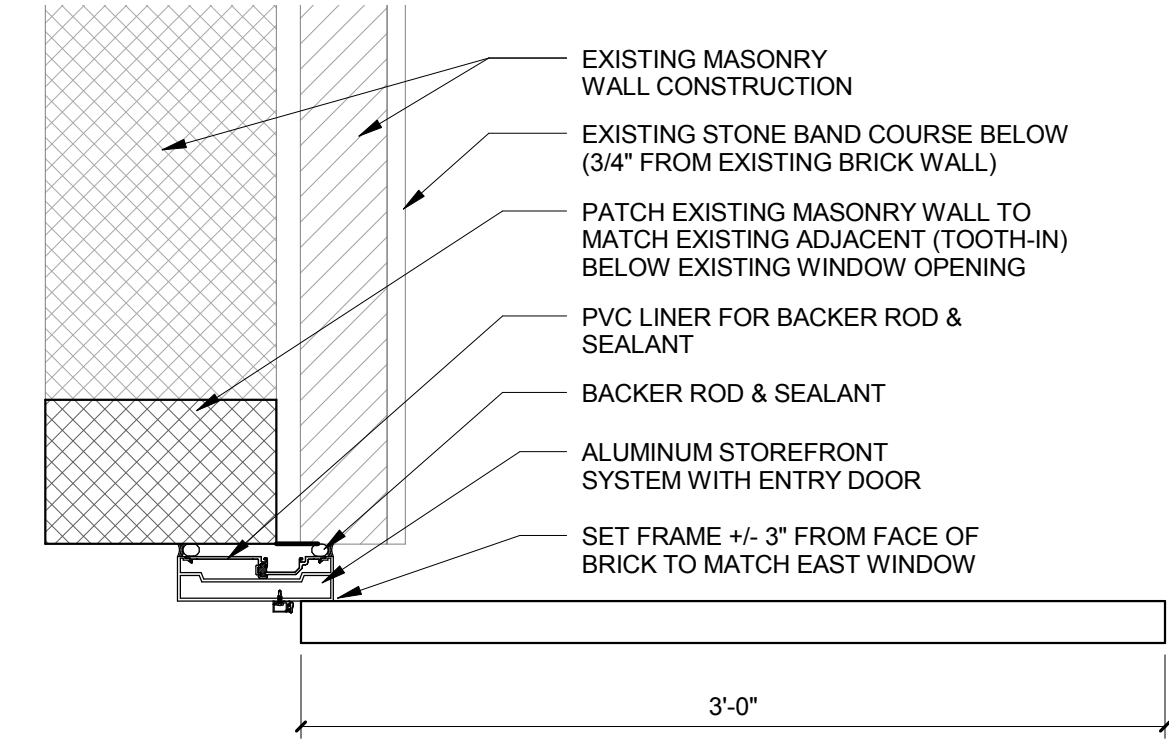
5 DETAIL - GYM NE CORNER WINDOW WALL BELOW
1 1/2" = 1'-0"



1 PLAN DETAIL - EXPANSION JOINT _ ART STORAGE 180
1 1/2" = 1'-0"



8 PLAN DETAIL - NORTH CONNECTING CORRIDOR
1 1/2" = 1'-0"



4 EXTERIOR PLAN DETAIL LIBRARY
1 1/2" = 1'-0"

2 ADDENDUM 02 01/15/2016
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PLAN DETAILS

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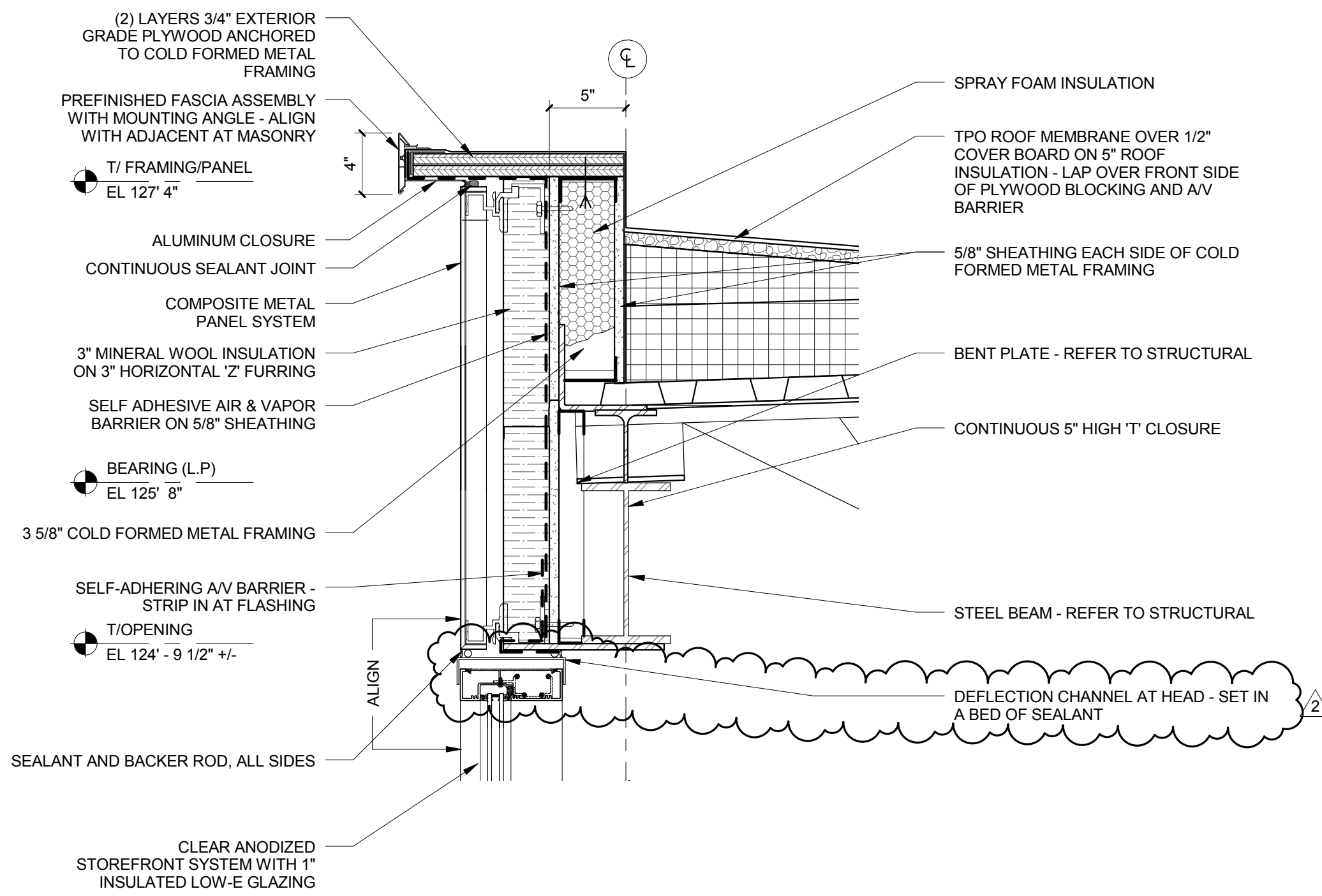
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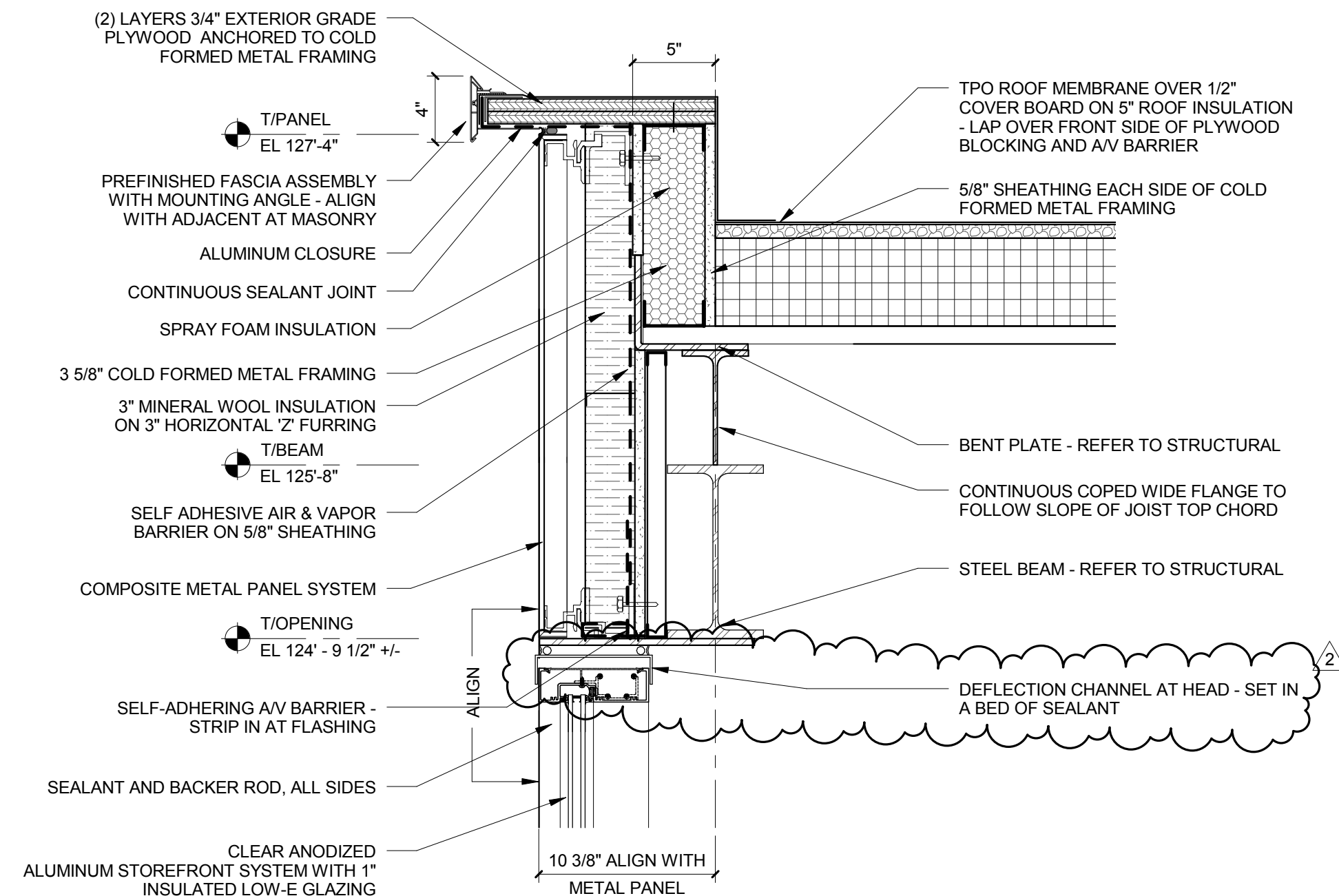
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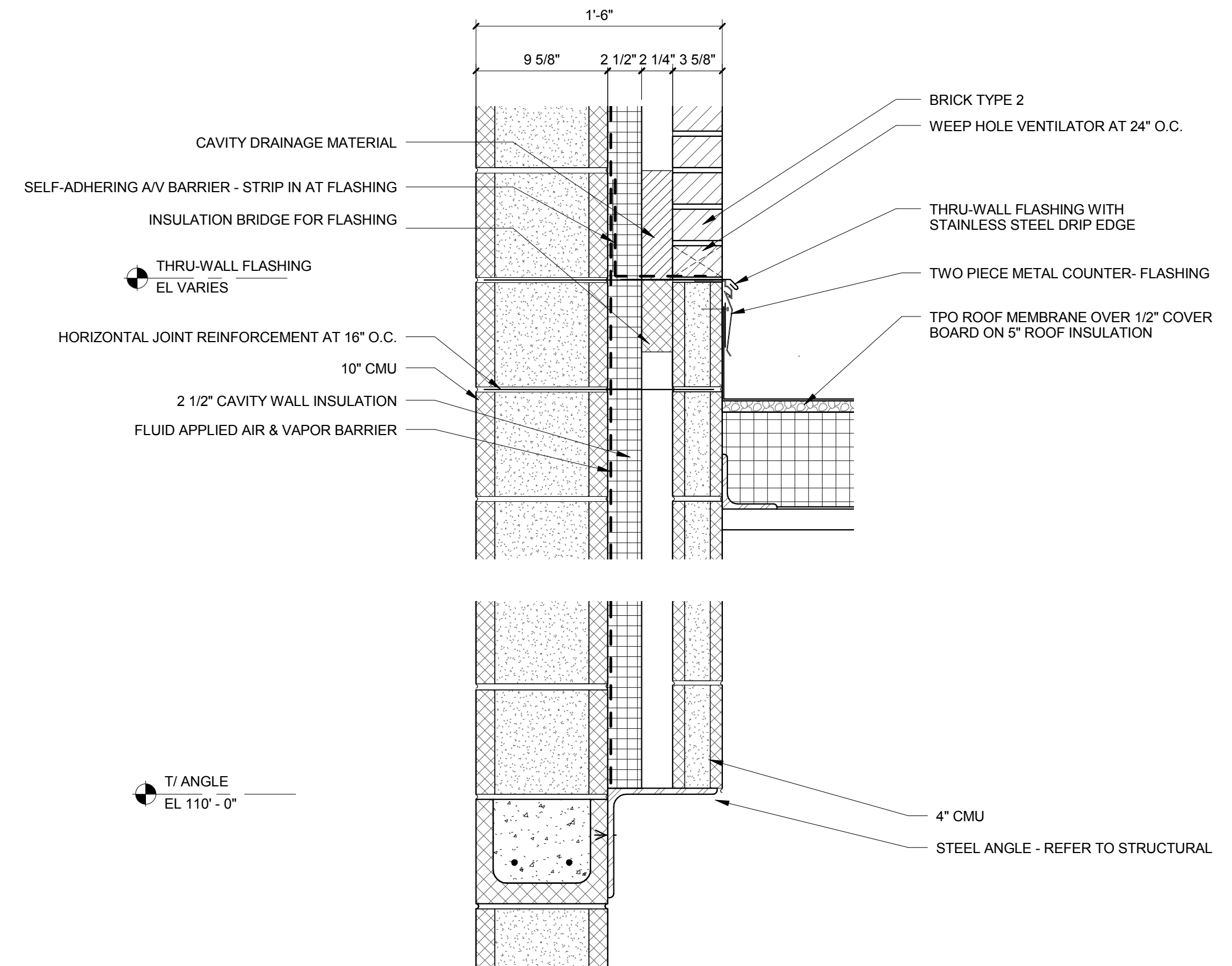
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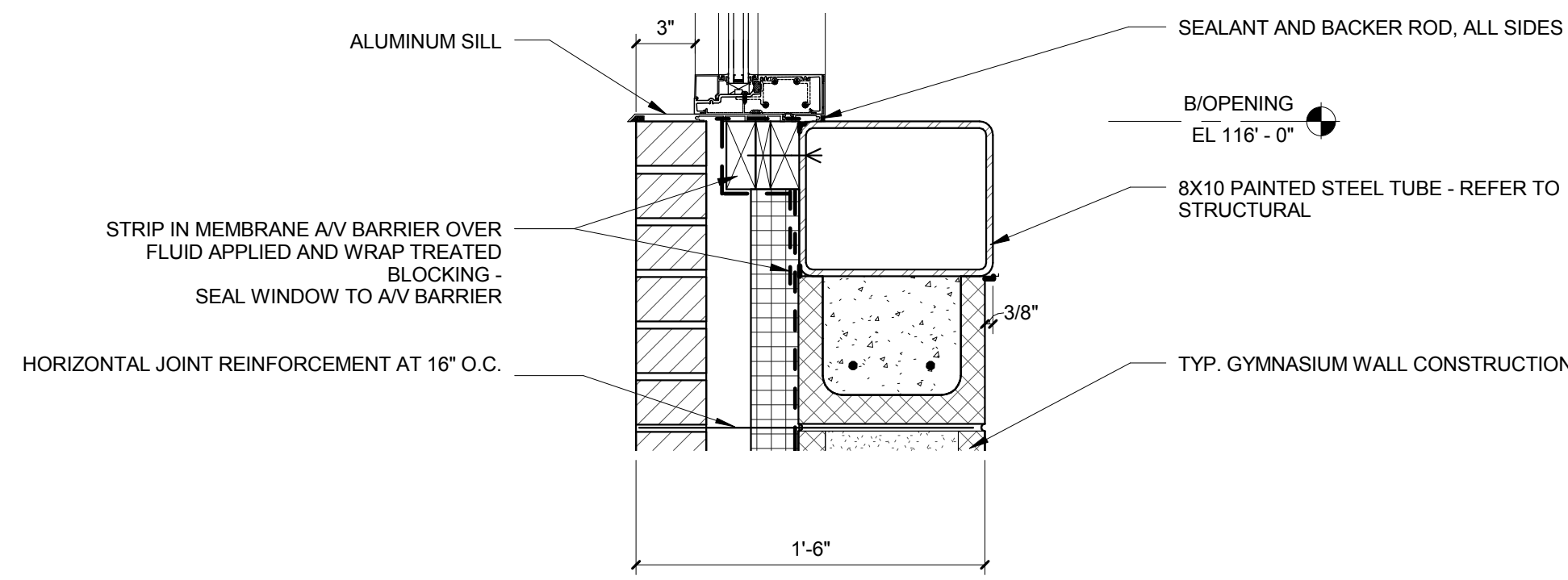
9 EXTERIOR SECTION DETAIL GYM WINDOW HEAD



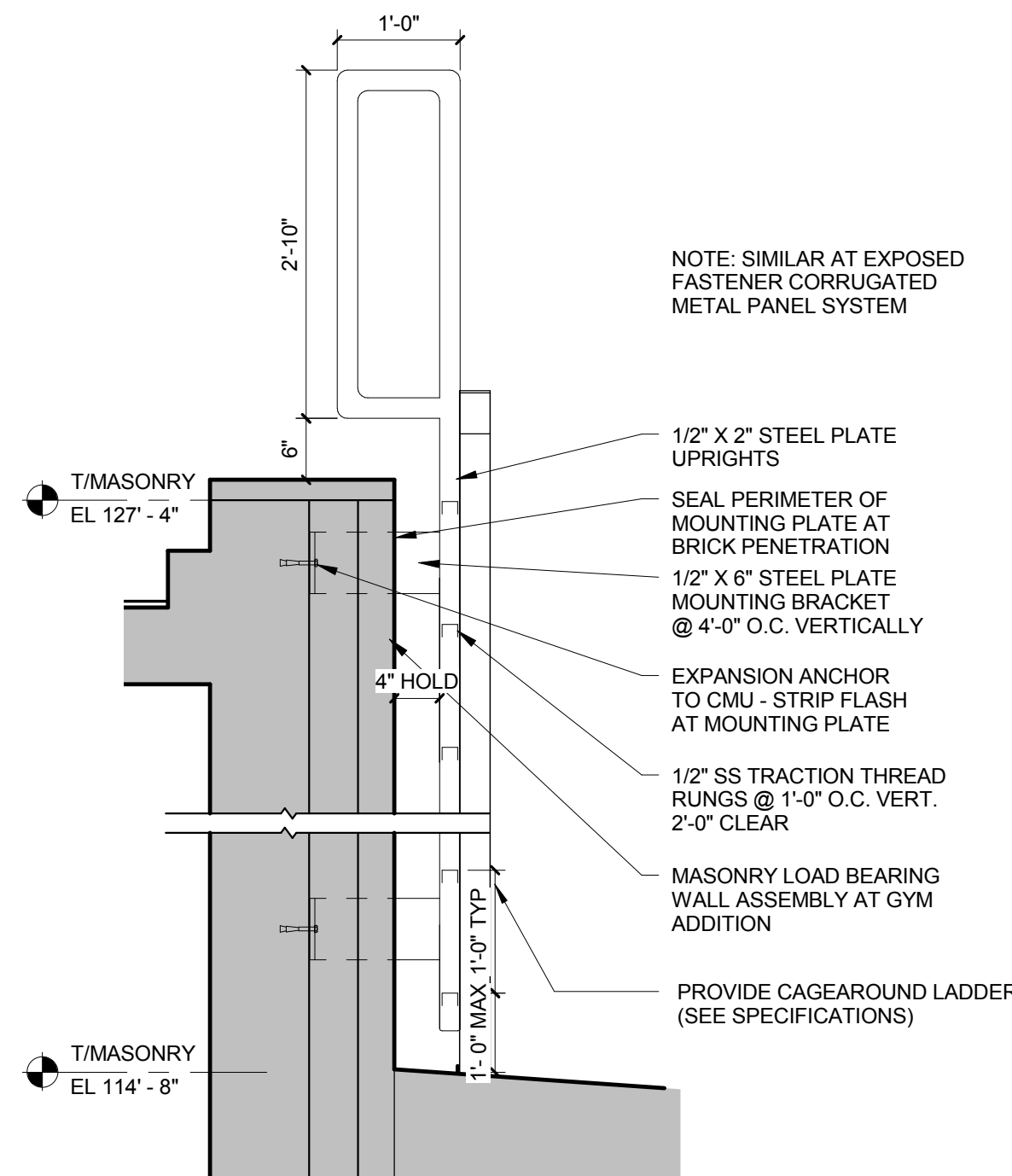
6 EXTERIOR SECTION DETAIL - GYM WINDOW HEAD



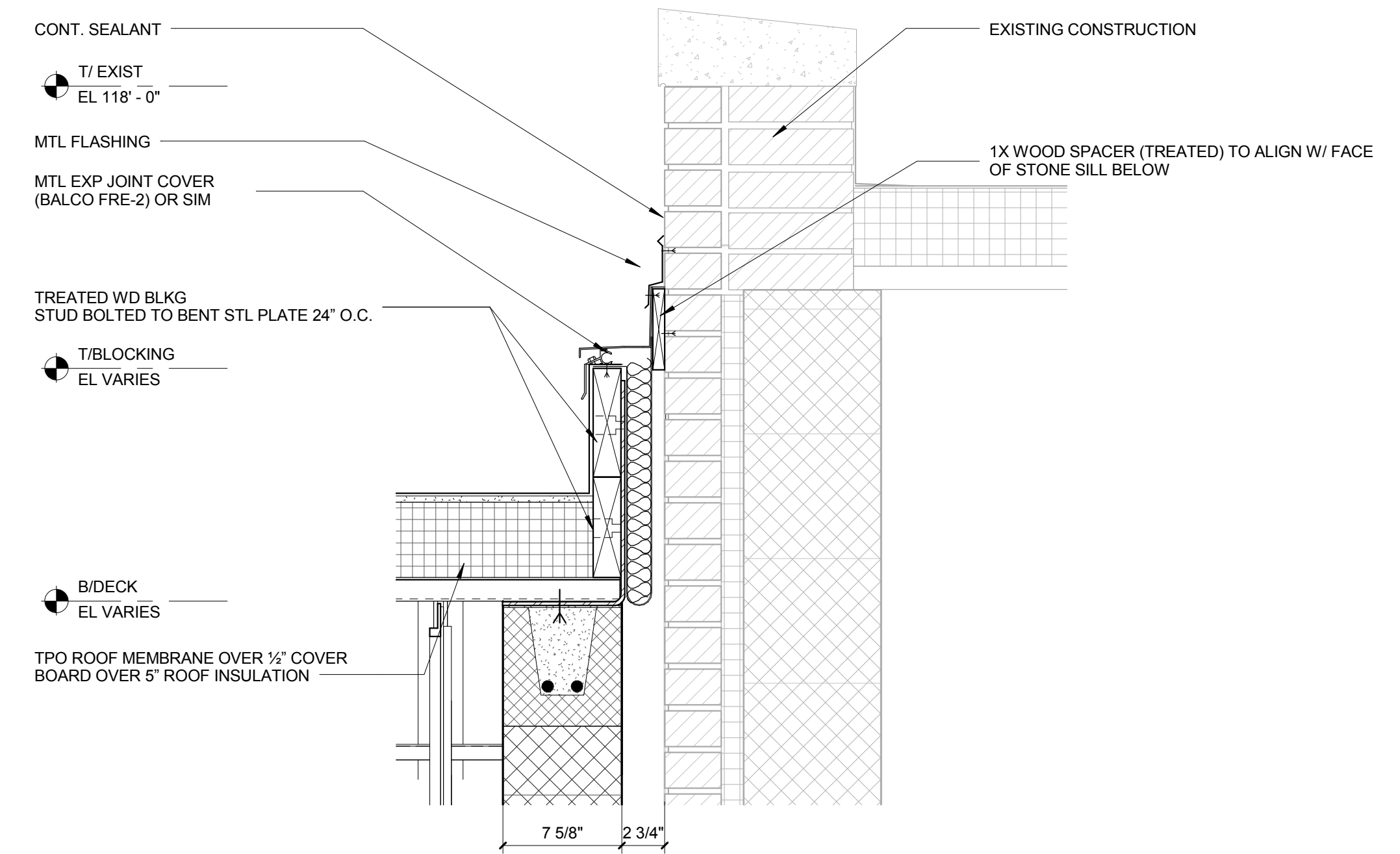
3 EXTERIOR SECTION DETAIL GYMNASIUM SOUTH WALL



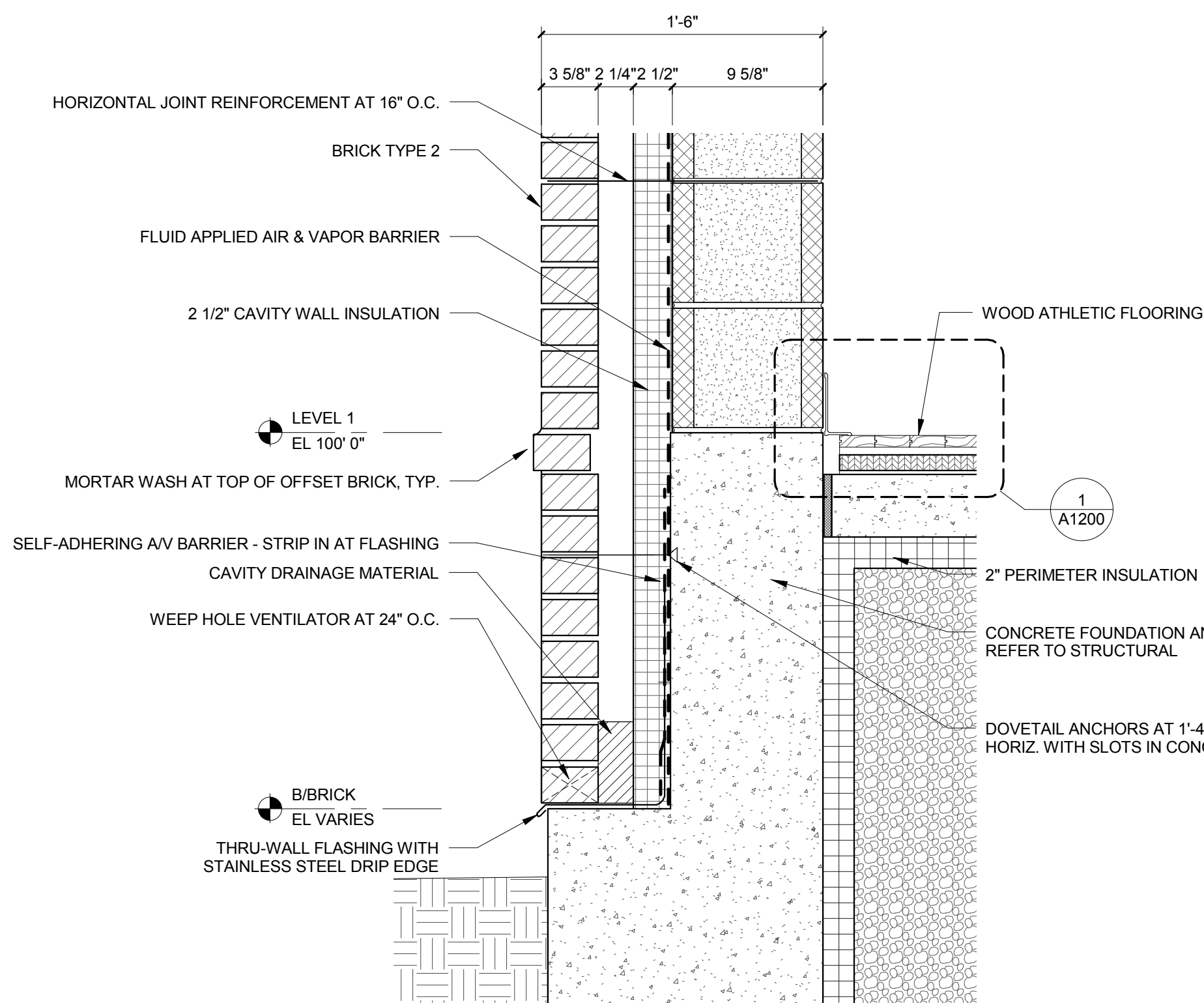
8 EXTERIOR SECTION DETAIL - GYM WINDOW SILL



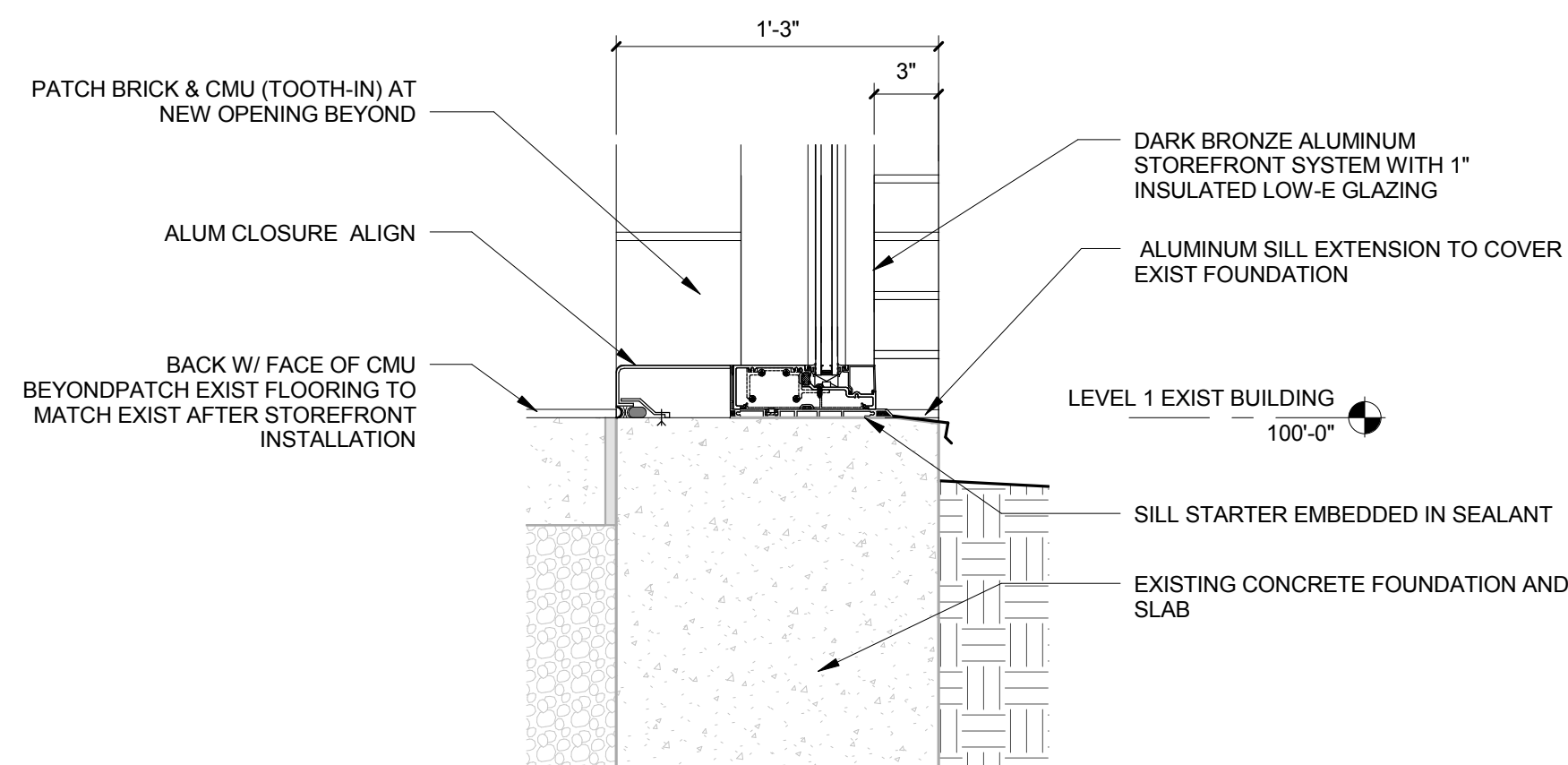
5 SECTION DETAIL - ROOF LADDER



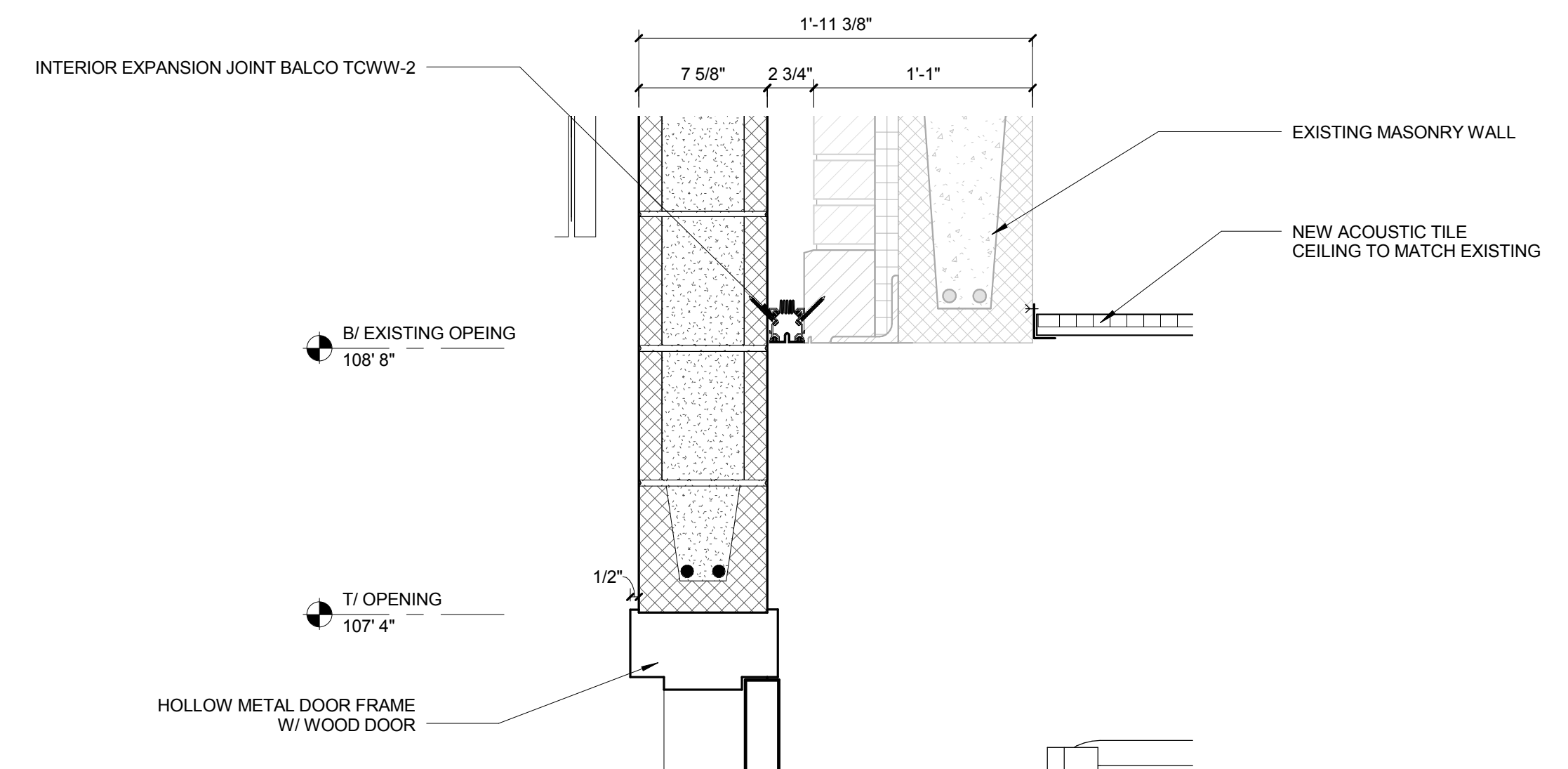
2 EXTERIOR SECTION DETAIL - ART STORAGE SOUTH



7 EXTERIOR SECTION DETAIL GYM BRICK LEDGE



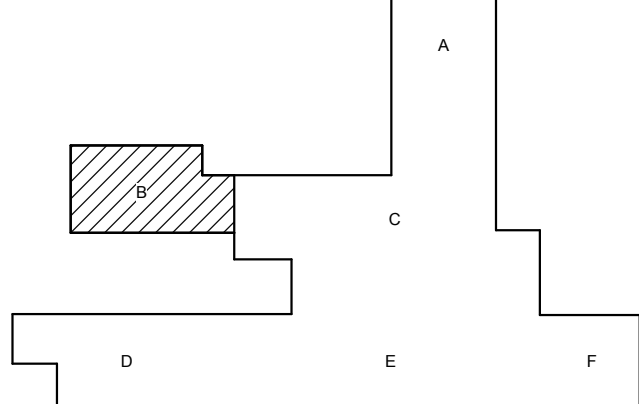
4 EXTERIOR SECTION DETAIL WINDOW DETAIL



1 SECTION DETAIL - LINK & EXIST

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1 ISSUED FOR BID 12/11/2015

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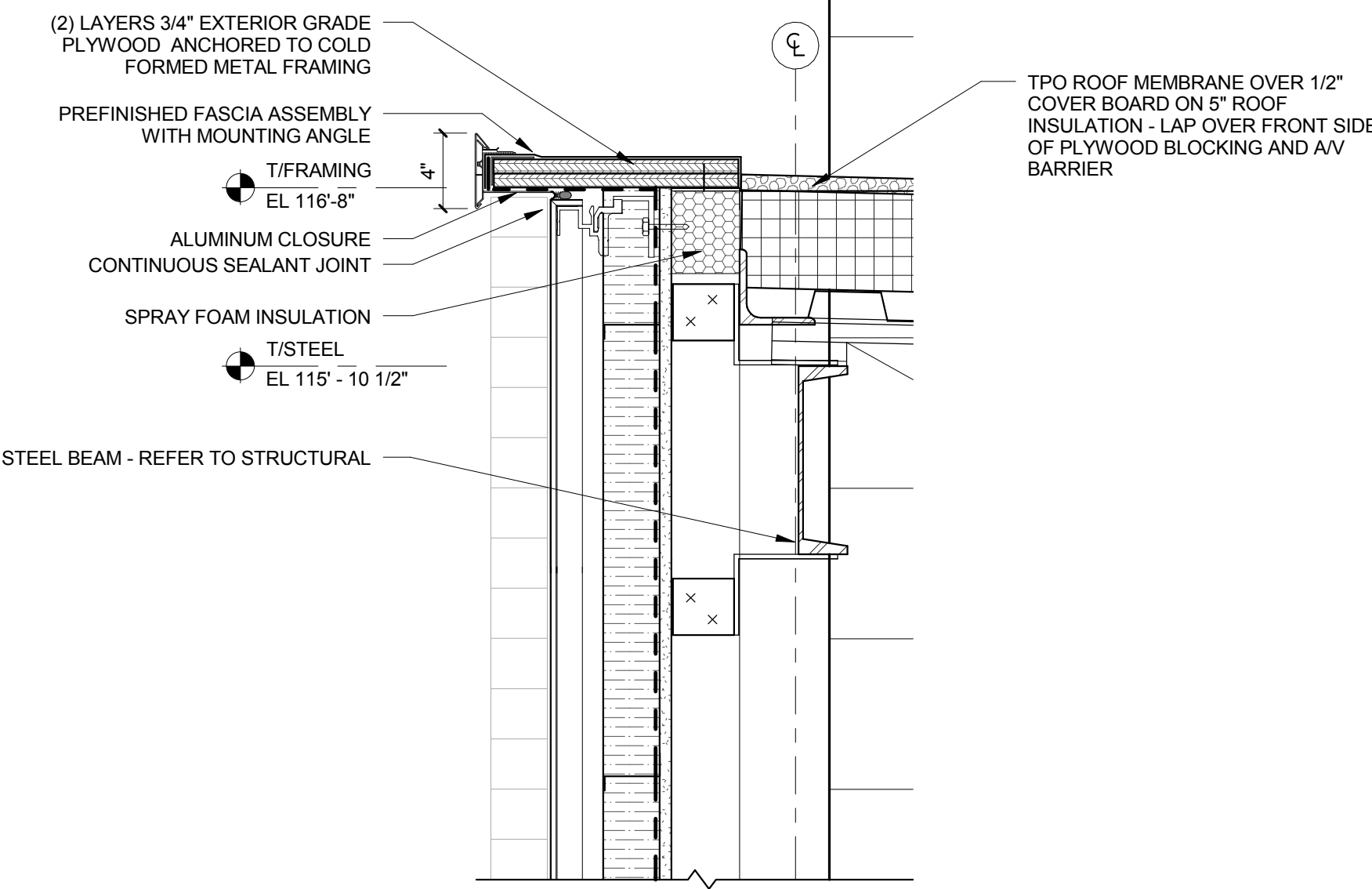
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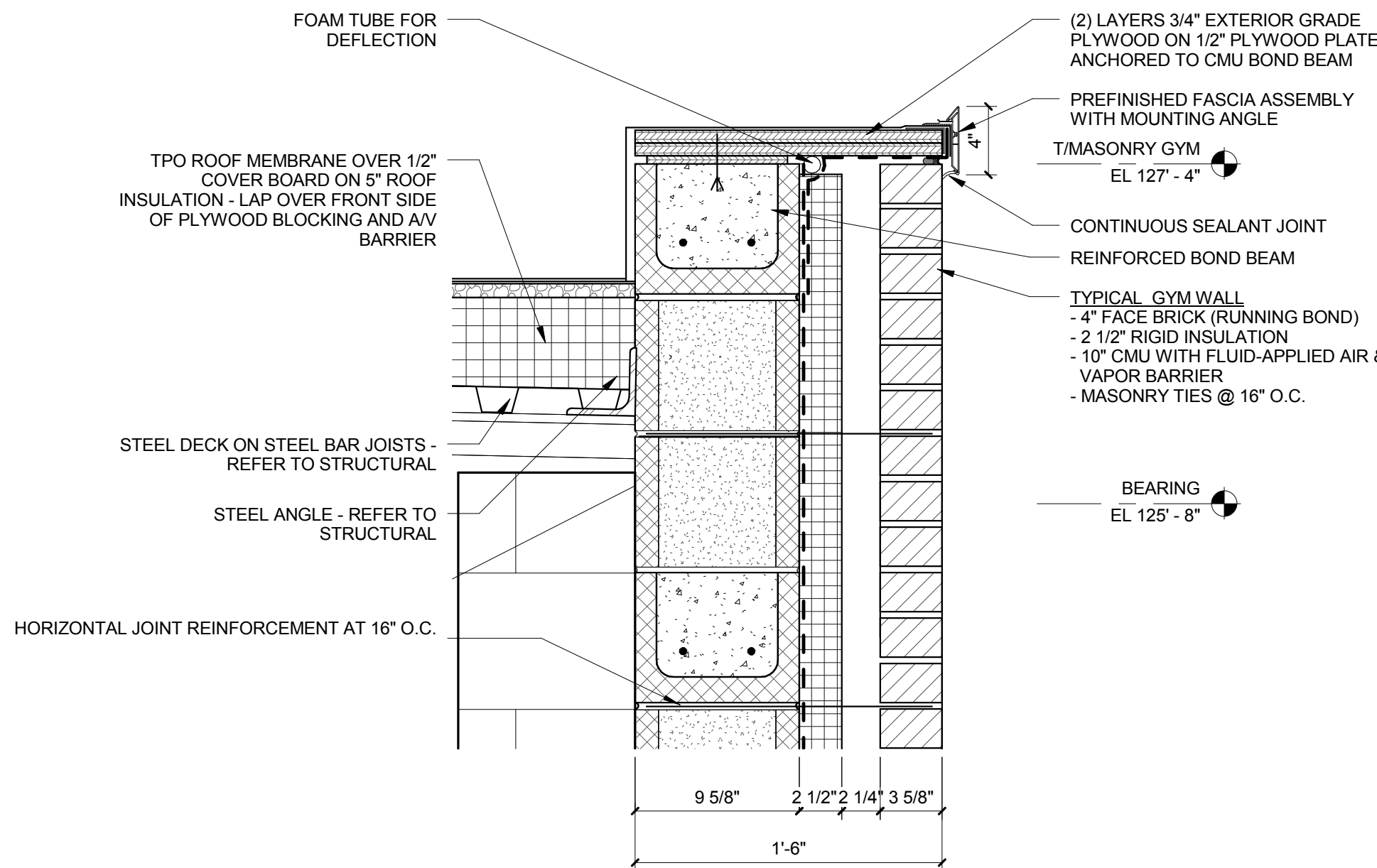
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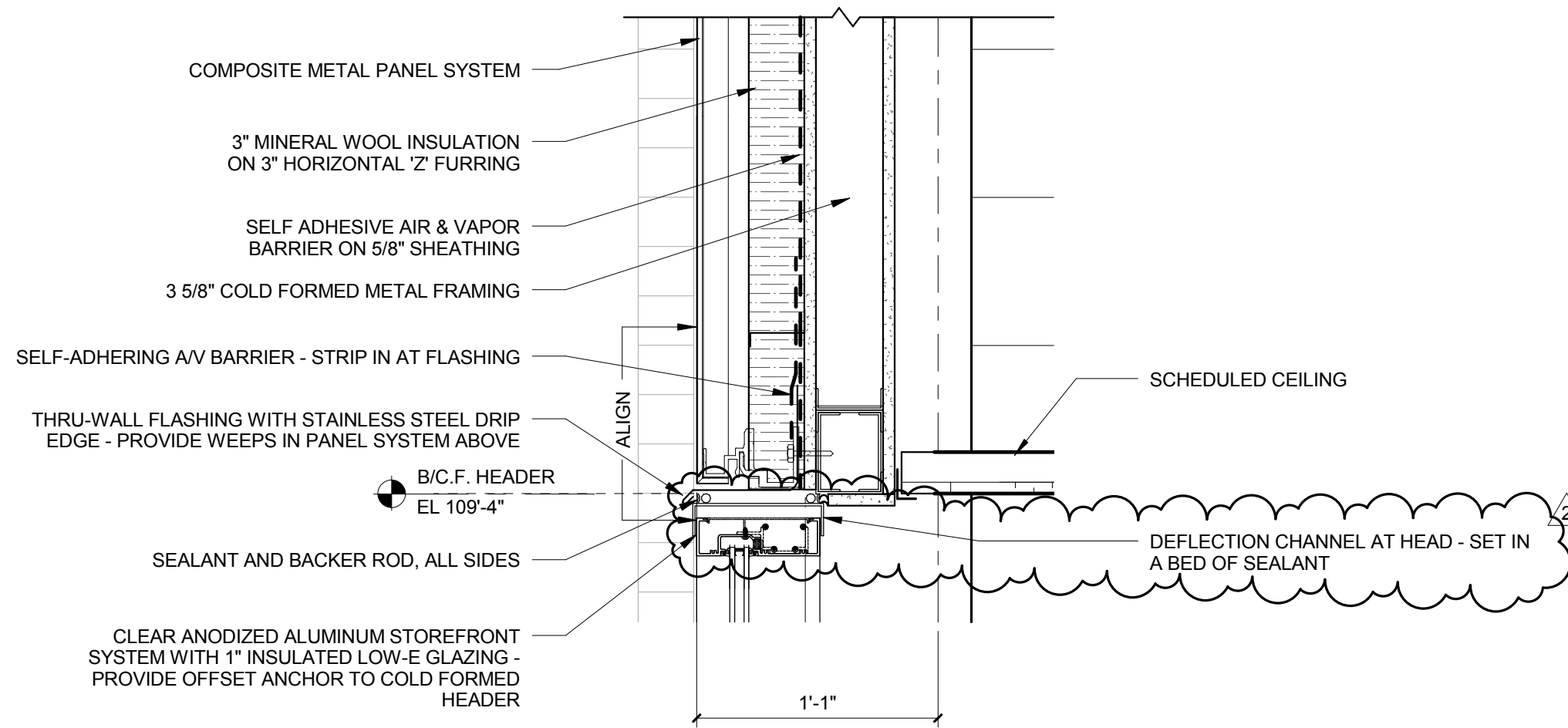
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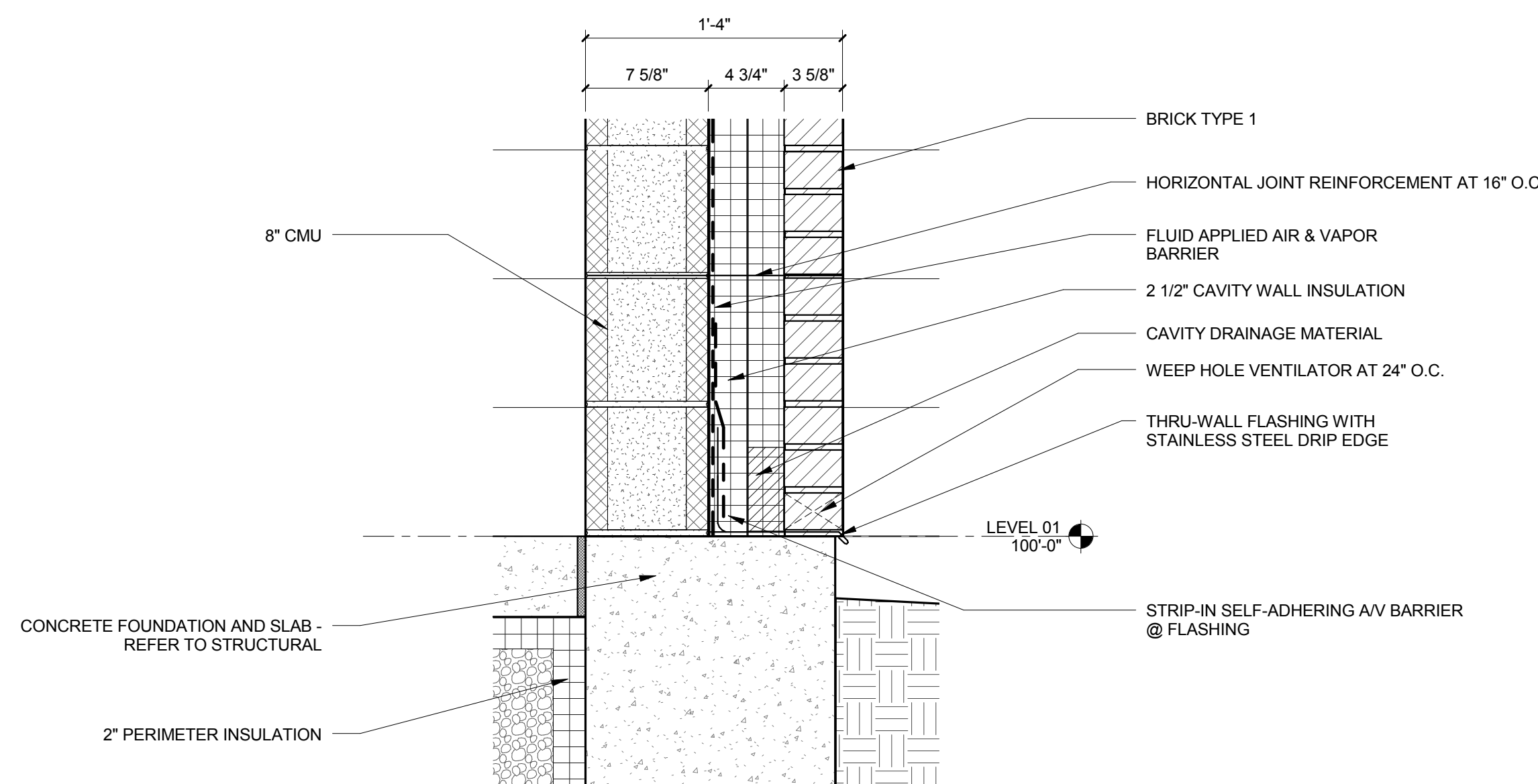
6 EXTERIOR SECTION DETAIL WEST GYM WALL
1 1/2" = 1'-0"



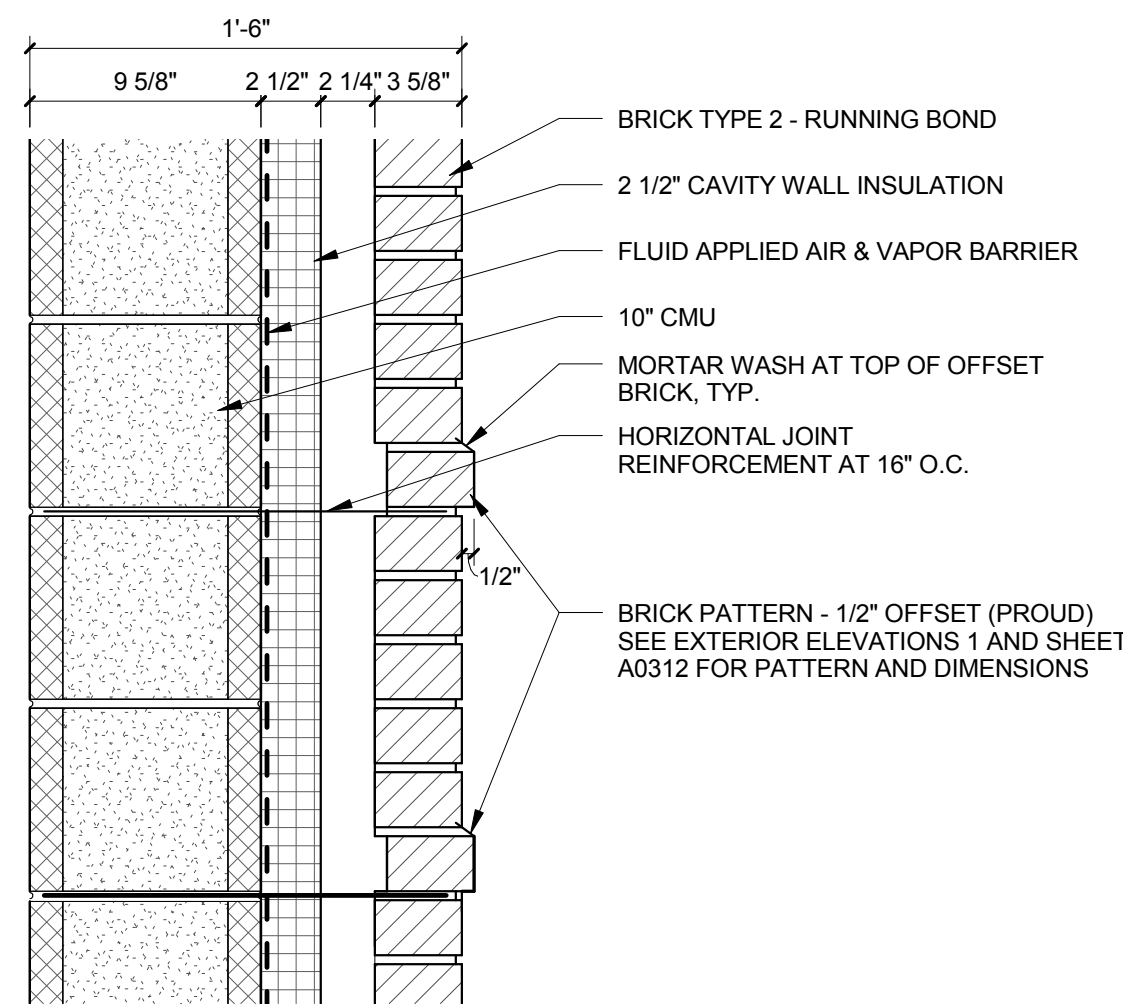
3 EXTERIOR SECTION DETAIL - GYMNASIUM PARAPET
1 1/2" = 1'-0"



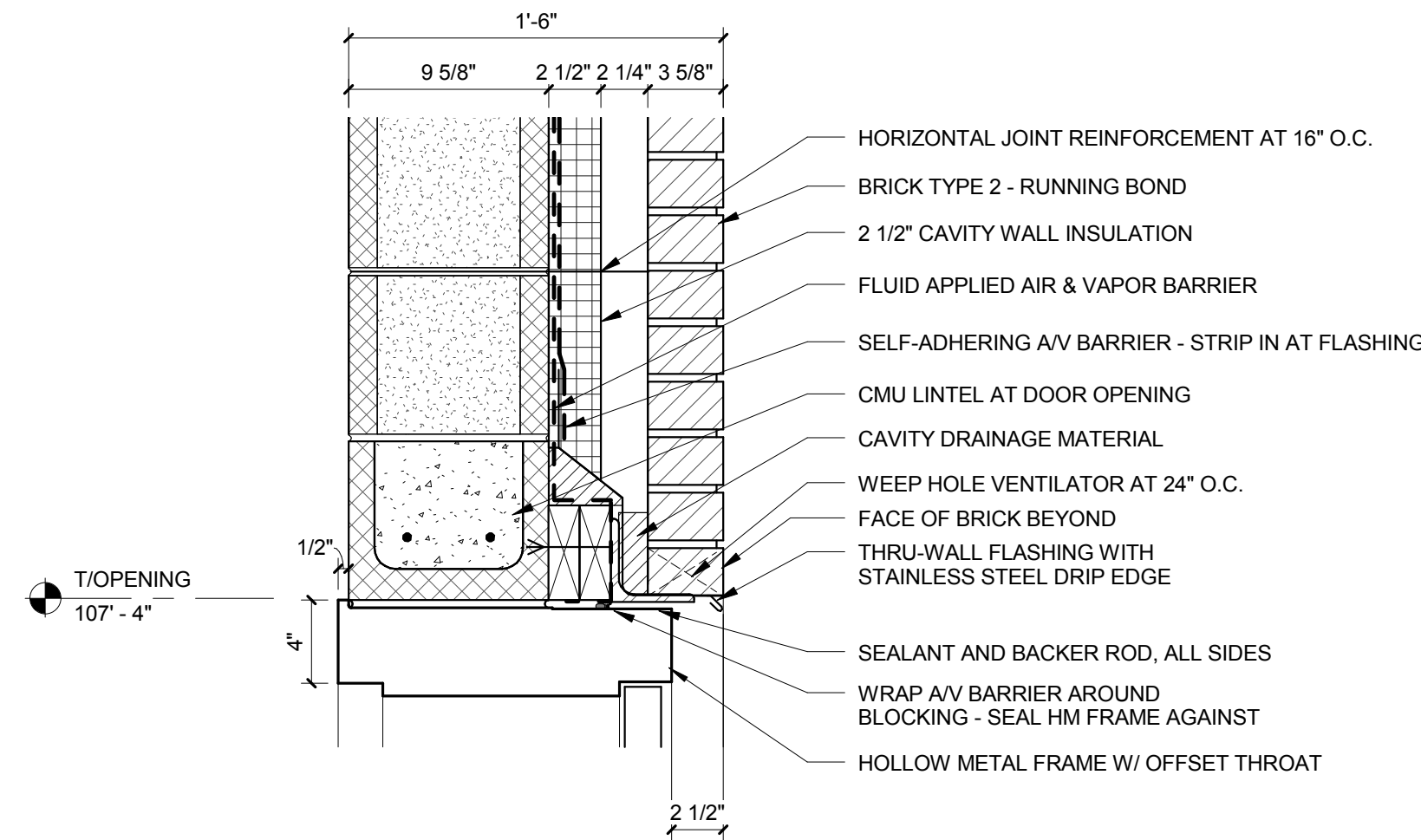
8 EXTERIOR SECTION DETAIL - LINK WEST WALL
1 1/2" = 1'-0"



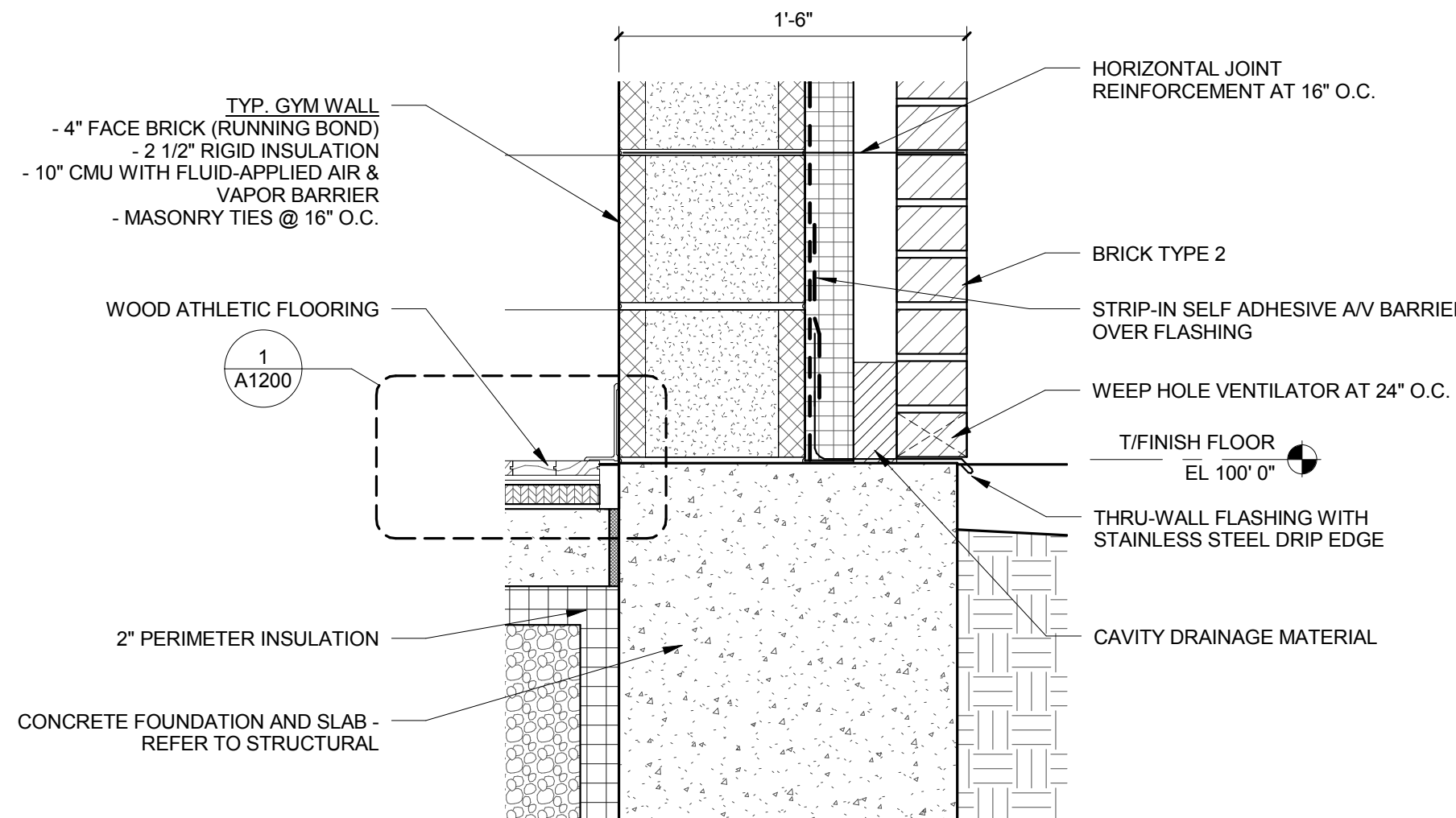
5 EXTERIOR SECTION DETAILS - CORRIDOR
1 1/2" = 1'-0"



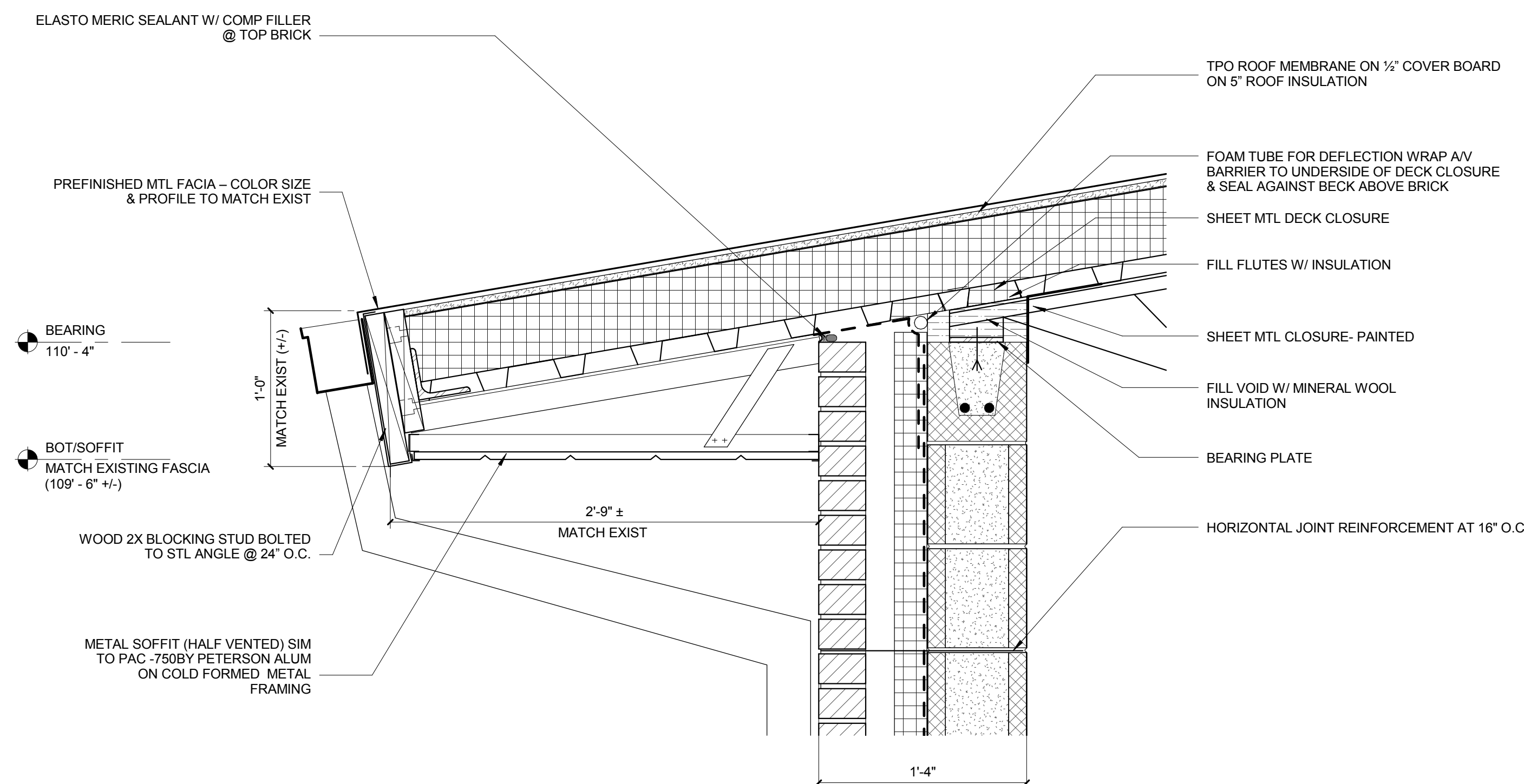
2 EXTERIOR SECTION DETAIL - GYMNASIUM
1 1/2" = 1'-0"



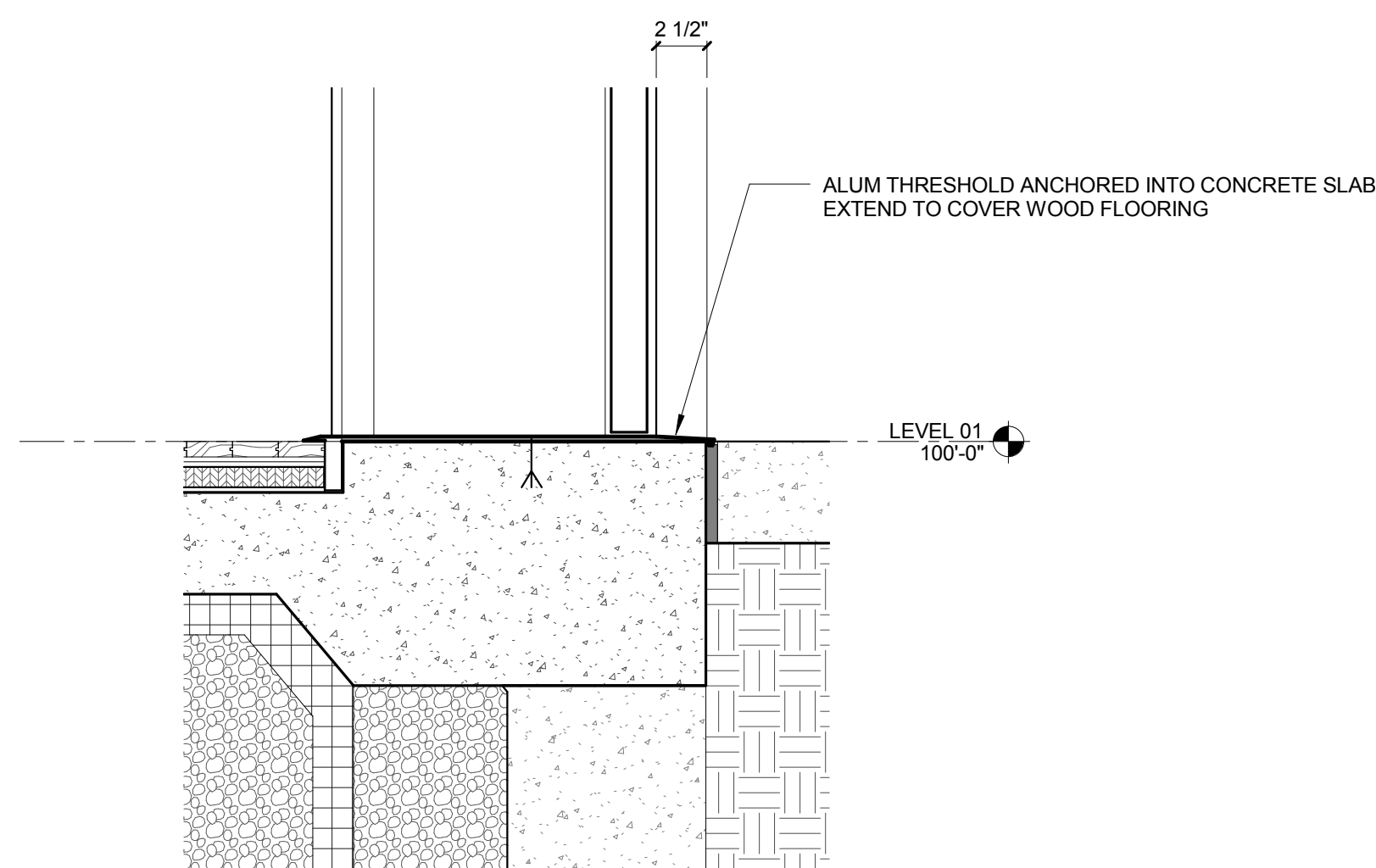
1A EXTERIOR SECTION DETAIL - GYMNASIUM DOOR
1 1/2" = 1'-0"



7 EXTERIOR SILL DETAIL @ HM DOOR
1 1/2" = 1'-0"



4 EXTERIOR SECTION DETAIL - ART STORAGE 180 EAST
1 1/2" = 1'-0"



1 EXTERIOR SECTION DETAIL - WEST WALL
1 1/2" = 1'-0"

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1	A	
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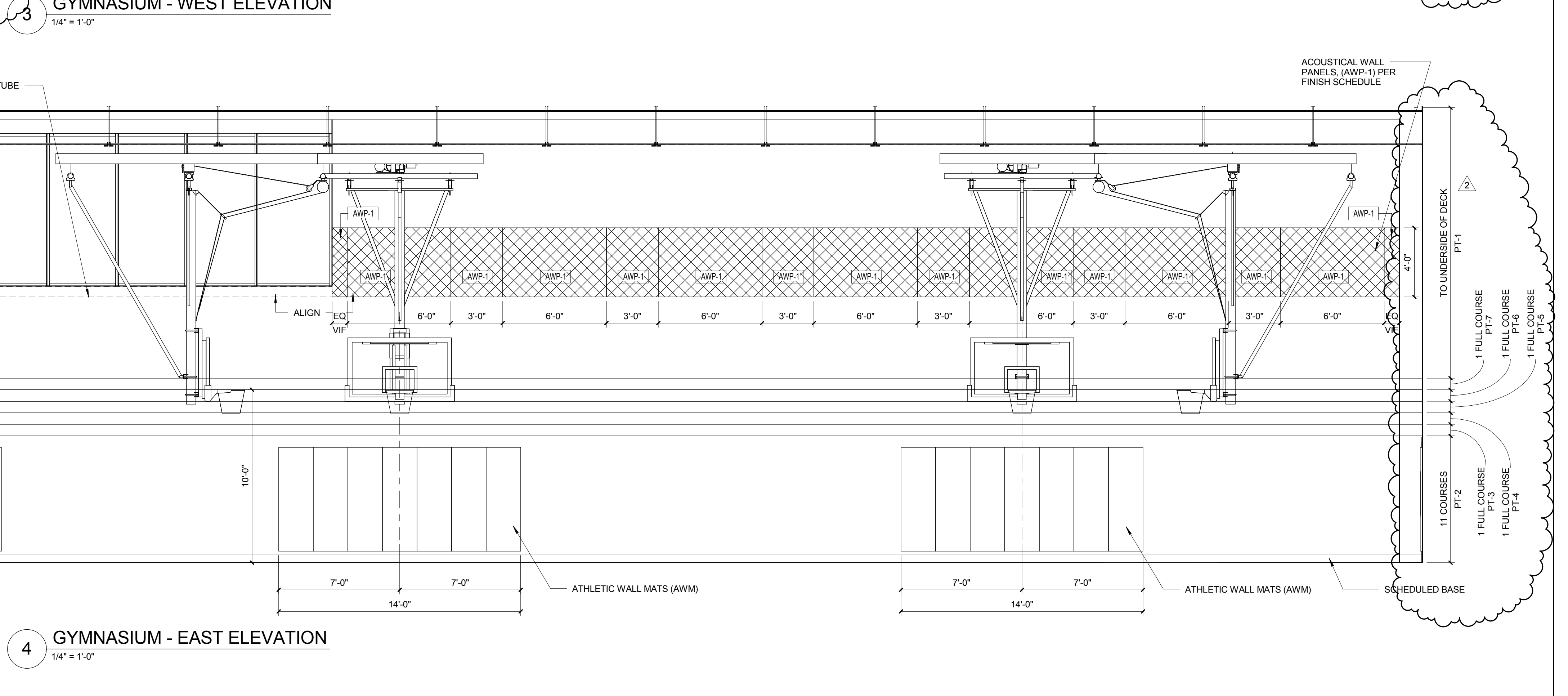
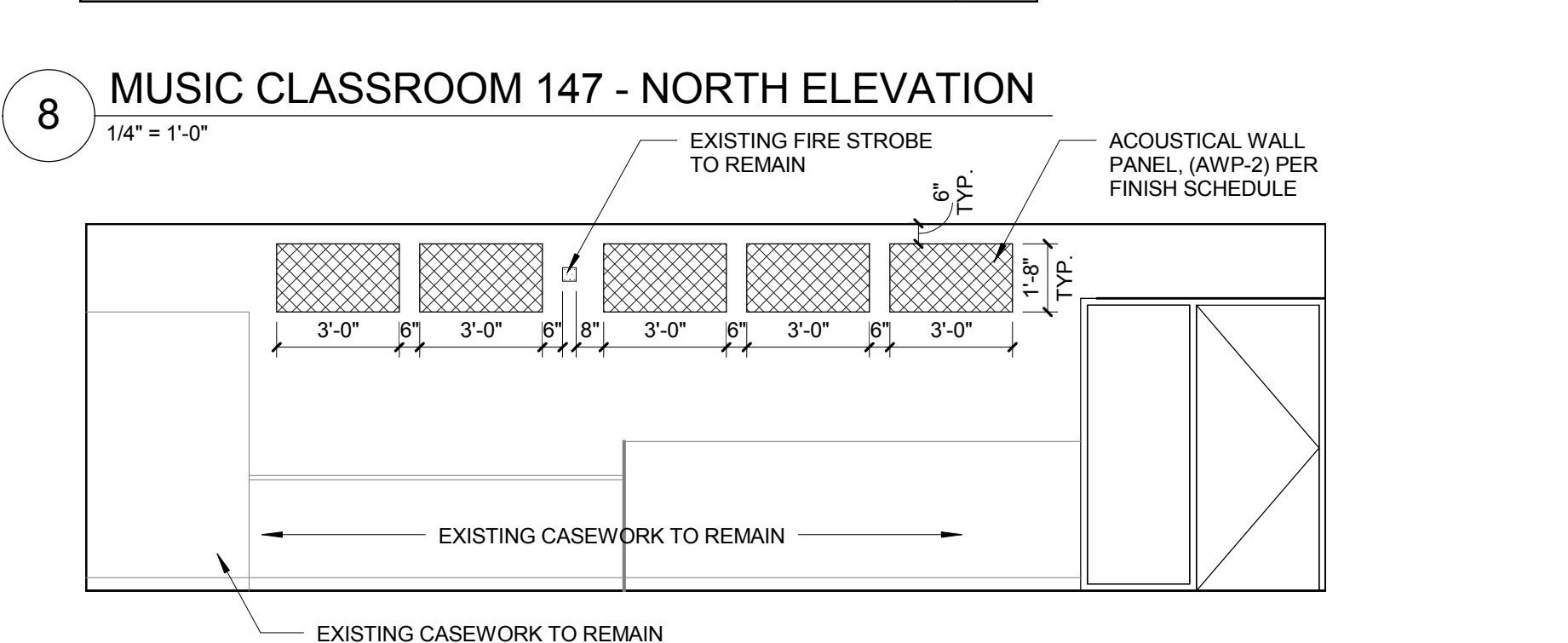
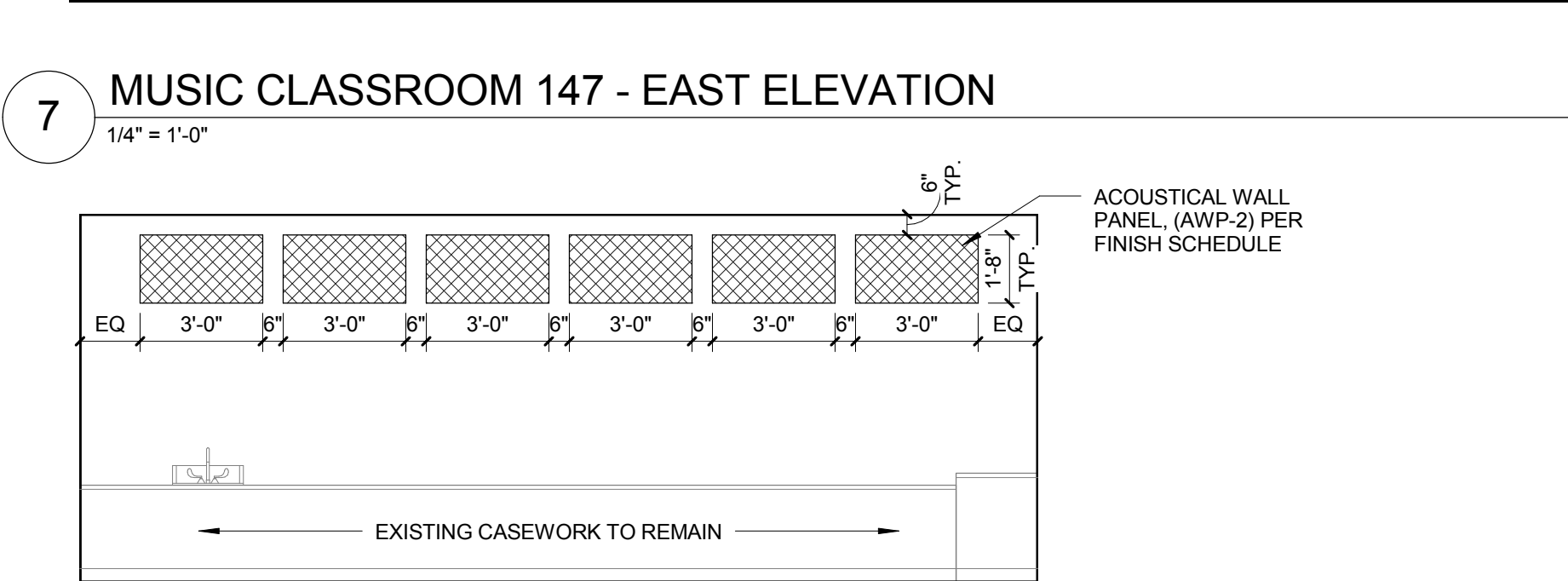
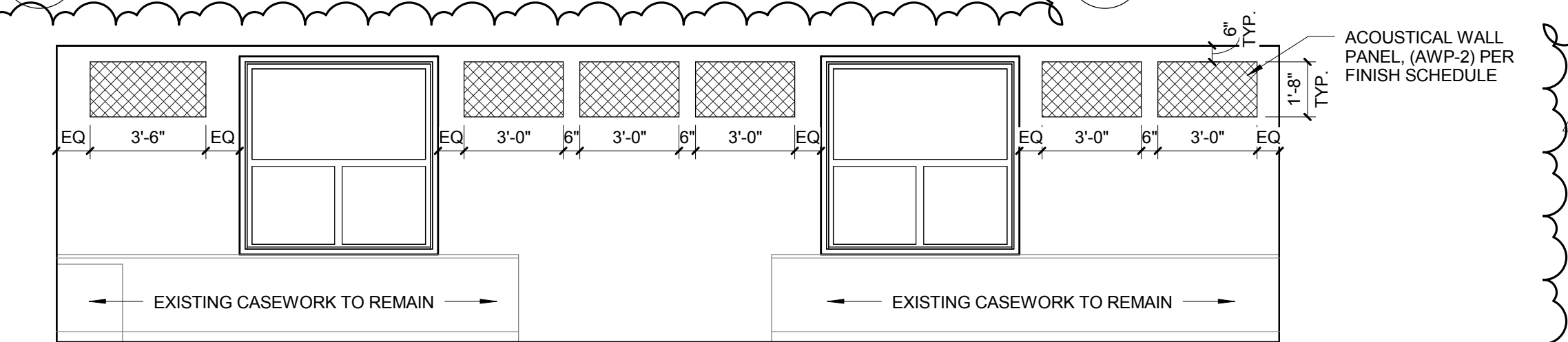
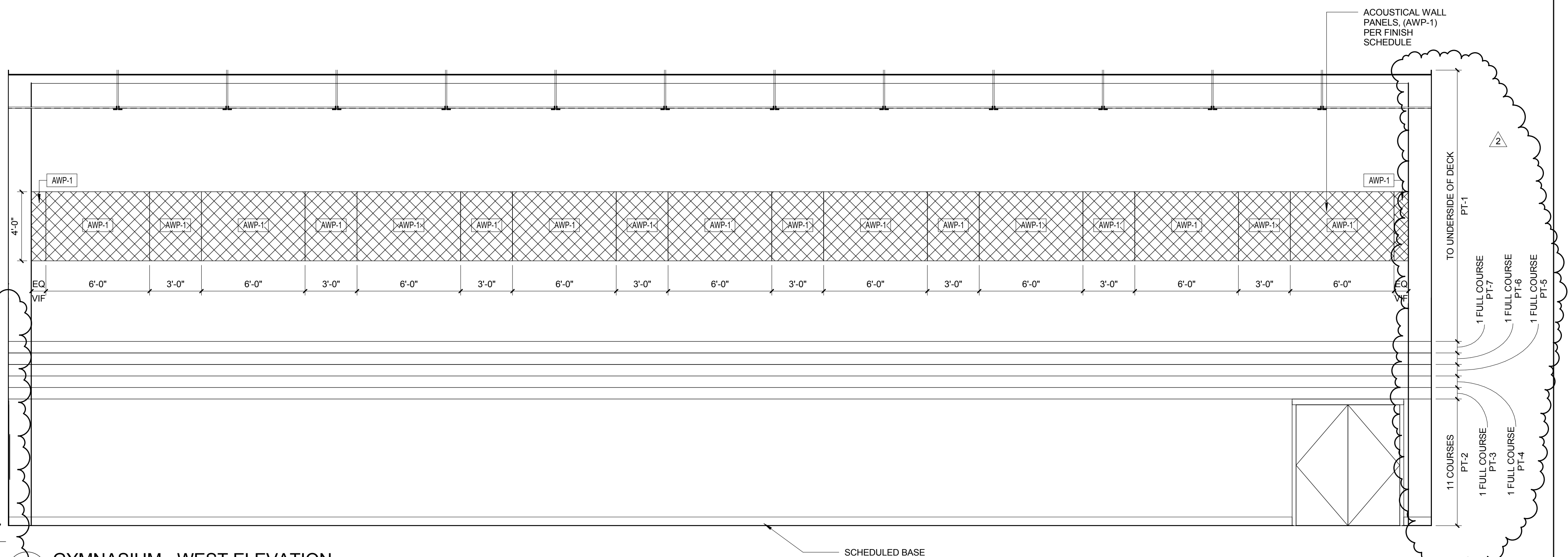
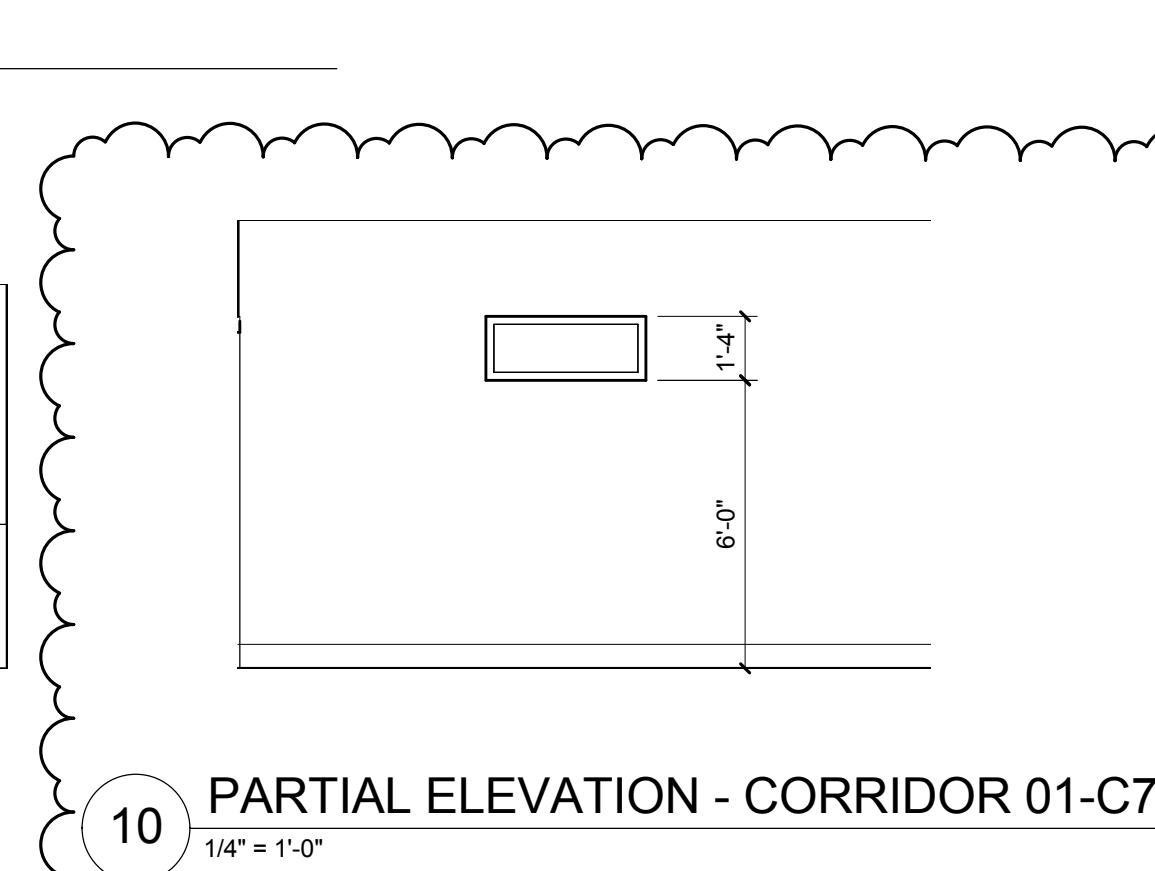
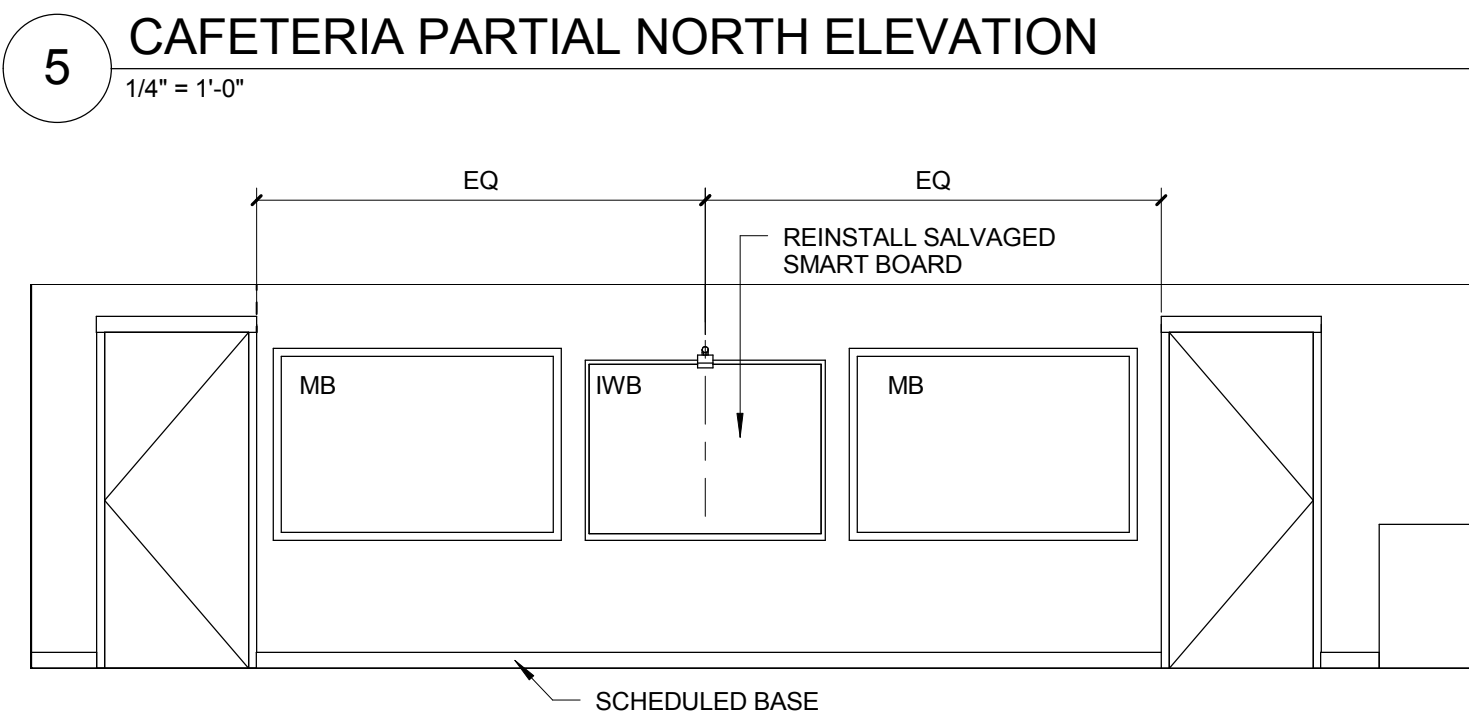
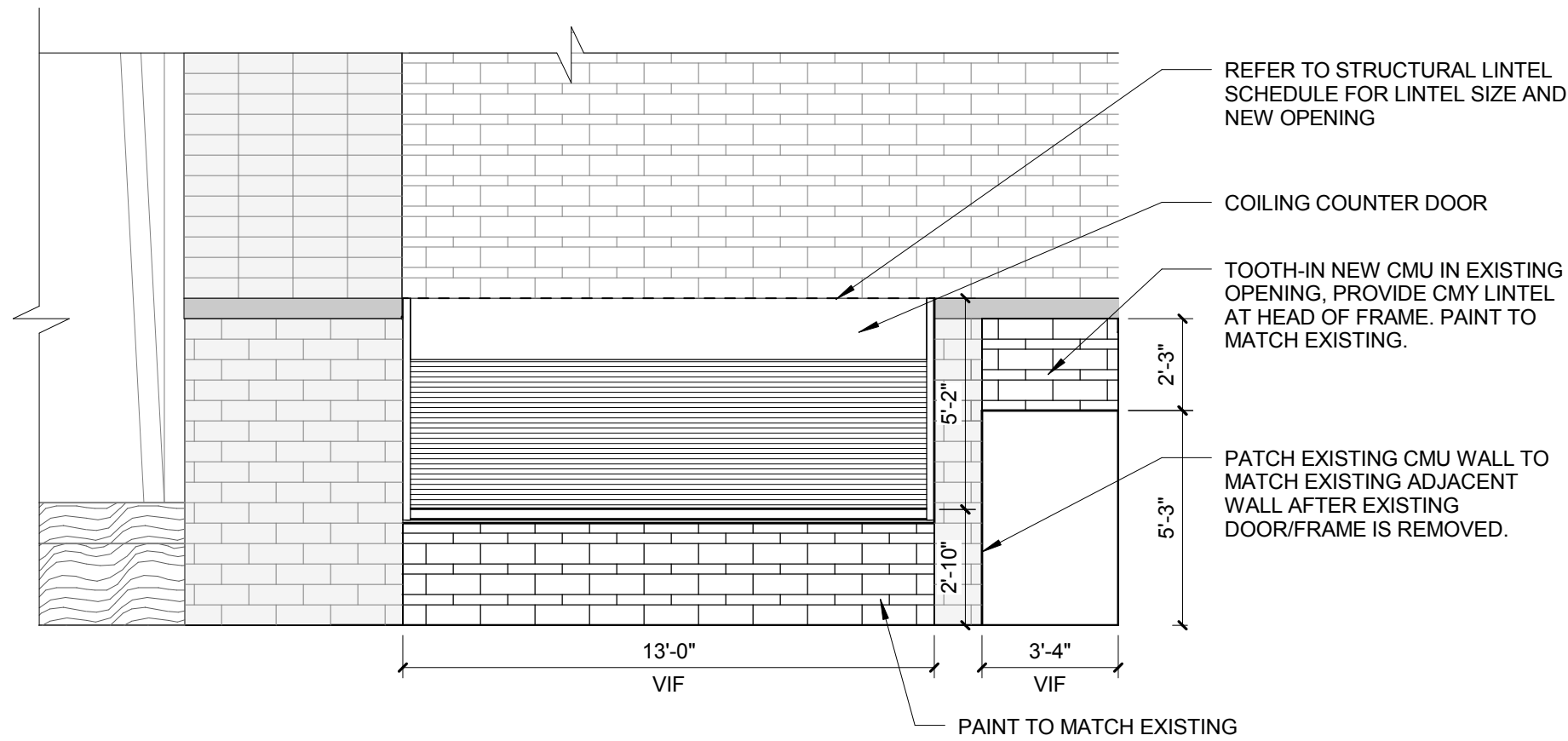
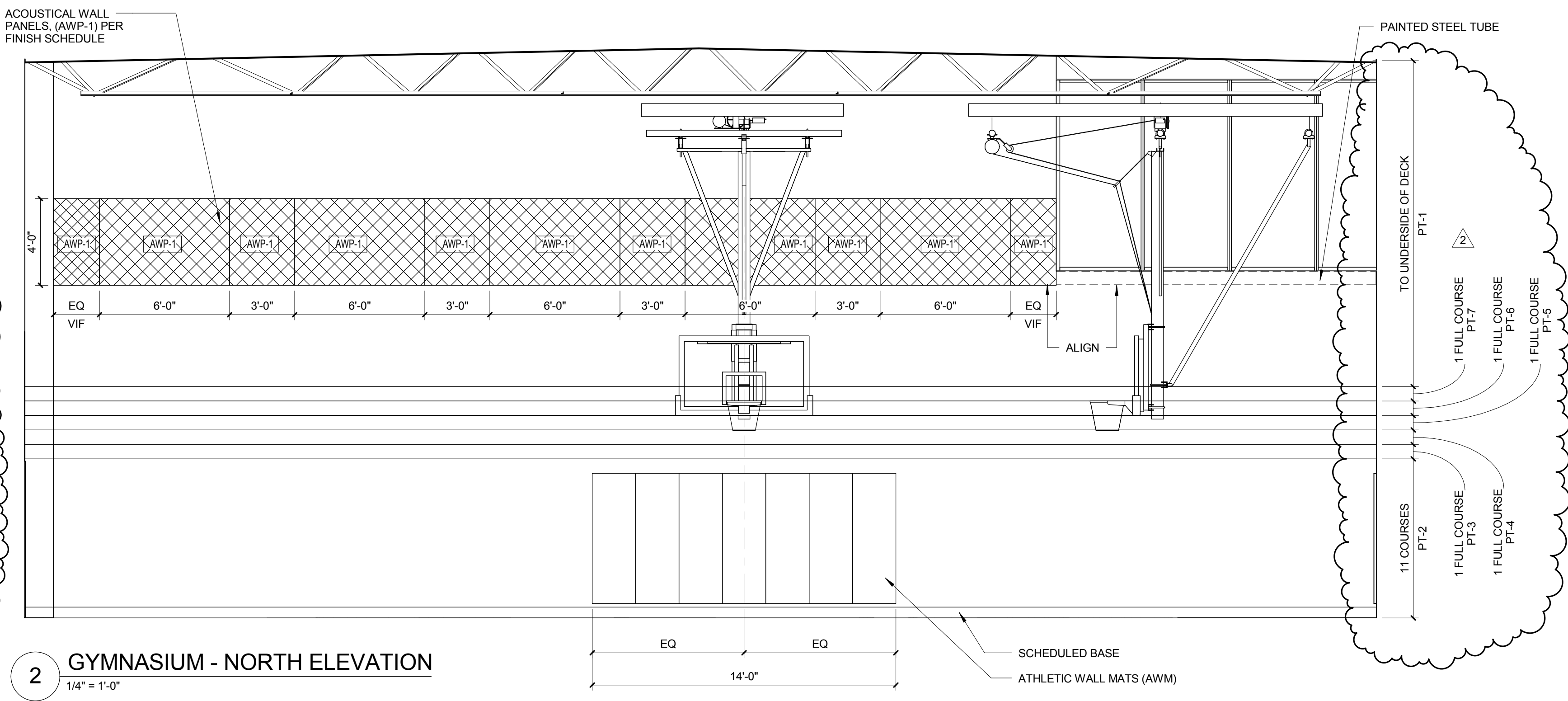
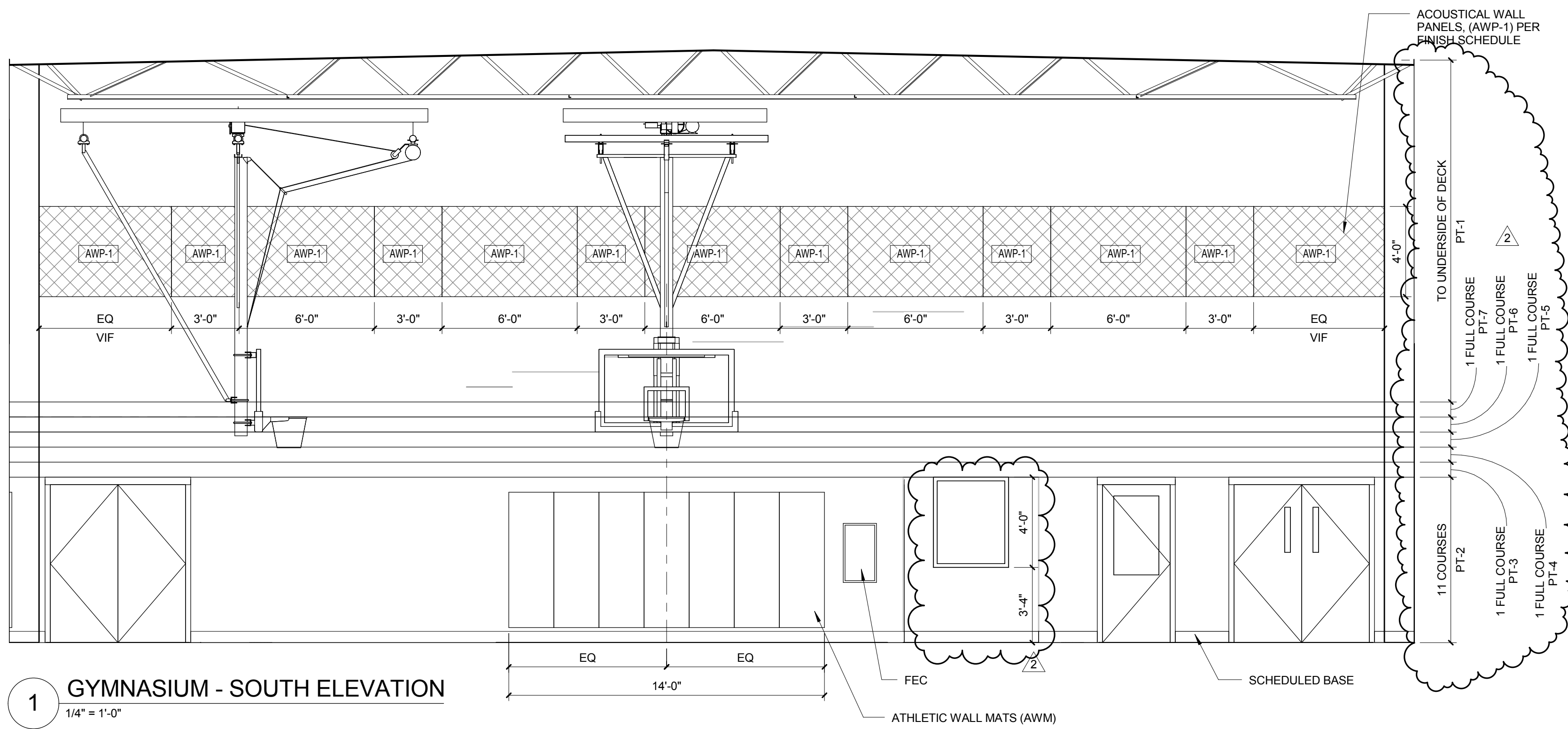
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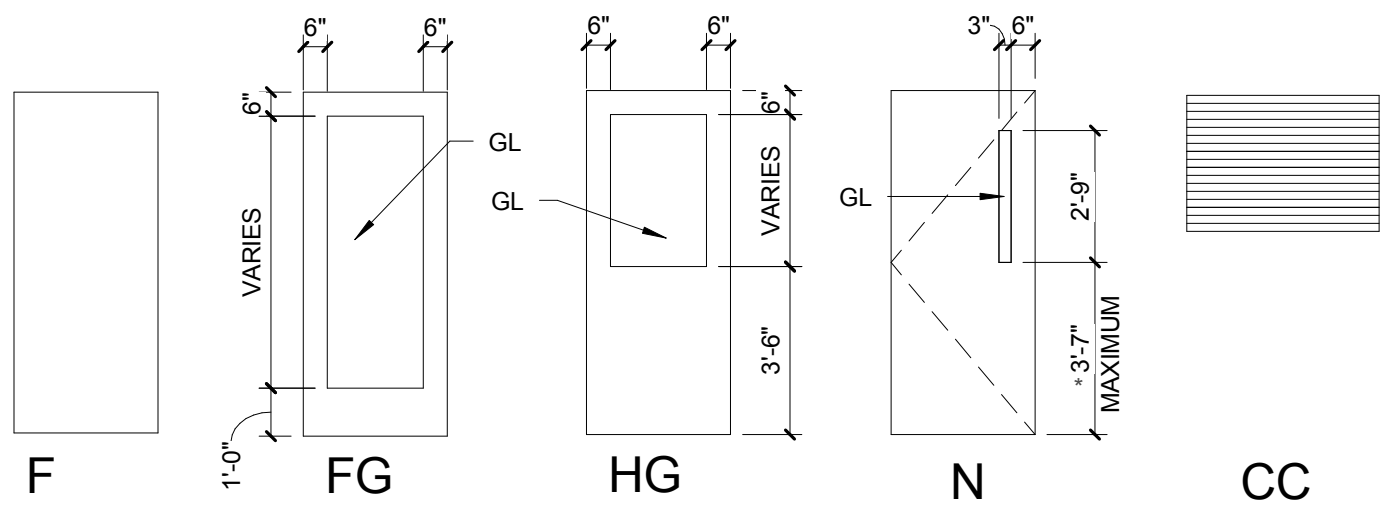
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Drawing Title:

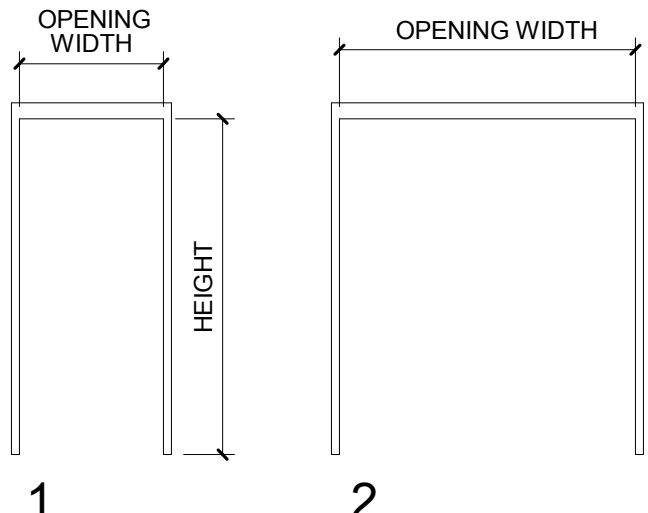
INTERIOR ELEVATIONS

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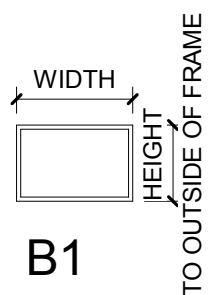
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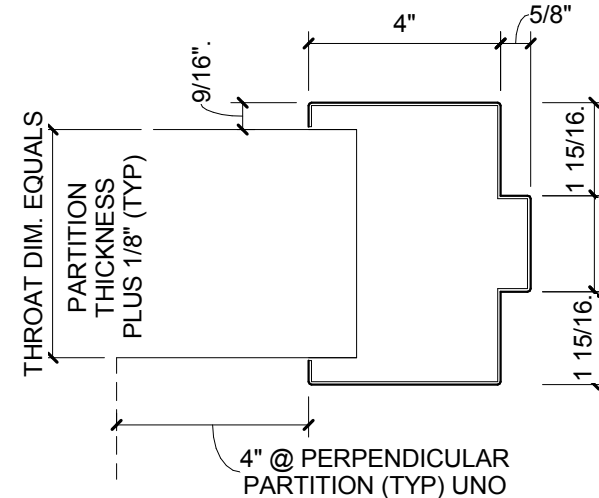
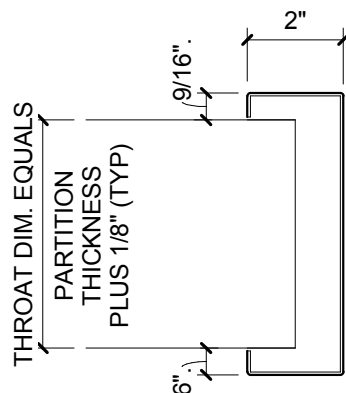
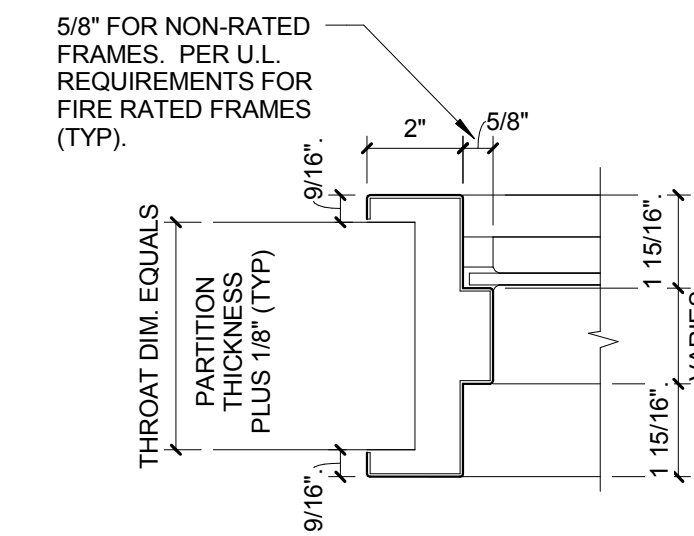
DOOR TYPES



FRAME TYPES

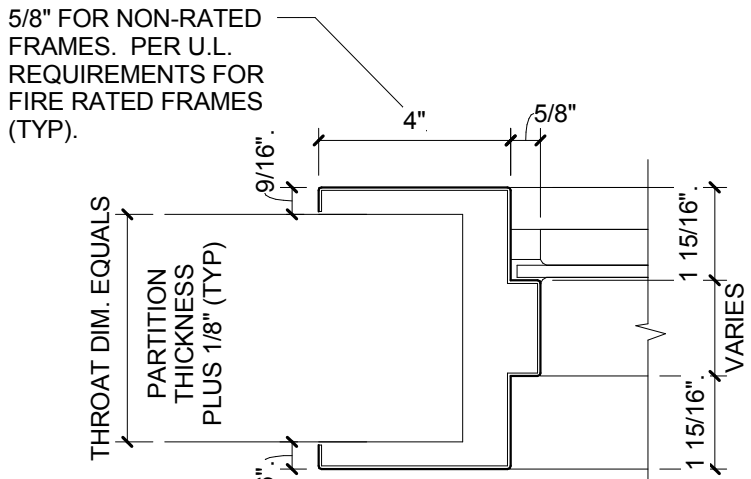


BORROWED LIGHT FRAME TYPES



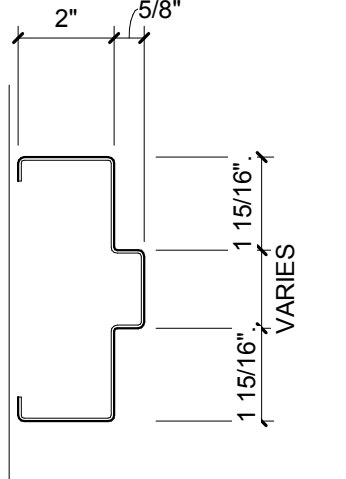
6 HM PROFILE

3" = 1'-0"



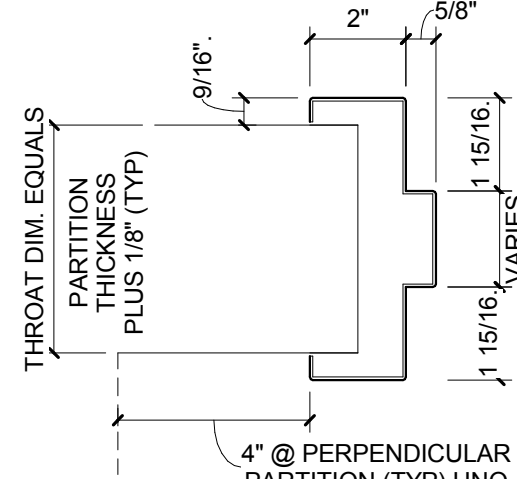
4 HM PROFILE

3" = 1'-0"



2 ALUM PROFILE

3" = 1'-0"



5 HM PROFILE

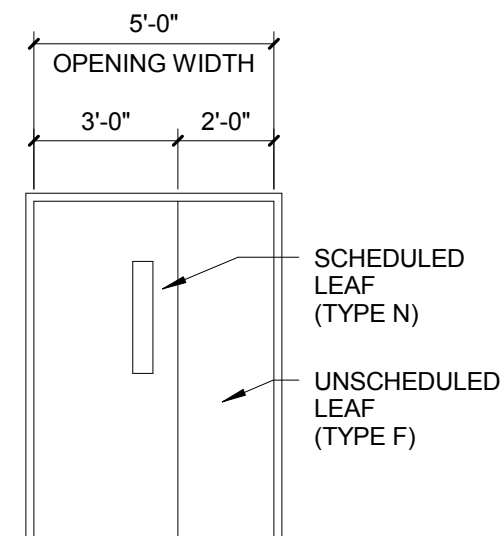
3" = 1'-0"

3 HM PROFILE

3" = 1'-0"

1 HM PROFILE

3" = 1'-0"



MULTIPLE LEAF KEY

DOOR SCHEDULE			
OPENING NUMBER	TYPE	DOOR SIZE	
		OPENING WIDTH	OPENING HEIGHT
XXX	N/F (UN)	5'-0"	7'-0"

MULTIPLE LEAF KEY

12" = 1'-0"

NOTE:
WHEN MULTIPLE LEAVES OCCUPY A SINGLE DOOR OPENING, EACH LEAF IS LISTED IN THE SCHEDULE UNDER THE HEADING 'DOOR TYPE'. EXAMPLE: N/F (UN). THE WIDTH OF THE FIRST LEAF IS SCHEDULED UNDER THE HEADING 'LEAF WIDTH'. THE WIDTH OF THE SECOND LEAF EQUALS THE DOOR OPENING WIDTH MINUS THE WIDTH OF THE SCHEDULED DOOR LEAF (AND CENTER MULLION IF APPLICABLE). FOR UNEQUAL PAIRS, THE SYMBOL (UN) APPEARS AFTER THE DOOR TYPE.

DOOR SCHEDULE																	
OPENING NUMBER	TYPE	DOOR				THK	MATL	GLASS	TYPE	MATL	FRAME				FIRE RATING (MIN.)	HOW SET	REMARKS
		SIZE			DETAILS												
		OPENING WIDTH	LEAF WIDTH	OPENING HEIGHT	HEAD						JAMB	SILL	GLASS				
01-C7-A	N (PR)	6'-0"	3'-0"	7'-0"	1 3/4"	WD	G2	1	HM	2/A1003	1/A0801	-	-	90	E1.0	14	
01-C7-B	FG.FG	6'-0"	3'-0"	7'-2"	1 3/4"	ALUM	G4	SEE ELEV	ALUM	8/A0452	2/A4210	-	G4	-	AC1.0	7, 13	
003-A	F	3'-0"		7'-0"	1 3/4"	HM	-	1	HM	3/A1003	3/A1003	-	-	-	AC2.0	7, 10	
004-A	F	3'-0"		7'-0"	1 3/4"	HM	-	1	HM	3/A1003	3/A1003	-	-	-	1.3	7	
101-A	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	1.5	7	
113B	CC	13'-0"		5'-5 1/8"	1 3/4"	ALUM	-	-	ST	-	-	-	-	-	8.1	11	
115-A	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	AC1.1	7, 13	
115-B	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	1.2	7	
116-A	FG	6'-0"	3'-0"	7'-0"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	AC1.0	7, 13	
128-A	F	3'-0"		7'-0"	1 3/4"	HM	-	1	HM	3/A1003	3/A1003	-	-	-	1.6	7	
142-A	FG.FG	6'-0"	3'-0"	7'-0"	1 3/4"	ALUM	G4	SEE ELEV	ALUM	7/A0410	10/A0410	-	G4	-	AC1.2	7, 8, 10, 12	
142-B	FG.FG	6'-0"	3'-0"	7'-0"	1 3/4"	ALUM	G4	SEE ELEV	ALUM	7/A0410	10/A0410	-	G4	-	1.0	7, 12	
142-C	FG.FG	6'-0"	3'-0"	6'-10"	1 3/4"	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	EXIST	E2.0	8	
142-D	FG.FG	6'-0"	3'-0"	6'-10"	1 3/4"	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	EXIST	9.0		
145	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	-	3.2		
155-A	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	1	ALUM	-	-	-	G3	-	1.5	7	
156-A	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	AC1.1	7, 13	
156-B	FG	3'-2"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	-	-	G3	-	1.2	7	
162-A	FG	3'-0"		7'-2"	1 3/4"	ALUM	G3	SEE ELEV	ALUM	-	4/A0421	4/A0451	G3	-	1.2	7	
168	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	20	5.0	15	
169	F	3'-6"		7'-0"	1 3/4"	HM	-	1	HM	2/A1003	1/A1003	-	-	20	AC2.1	13	
170	F	3'-0"		7'-0"	1 3/4"	HM	-	1	HM	2/A1003	1/A1003	-	-	-	AC2.1	10	
171-A	N	3'-0"		7'-0"	1 3/4"	WD	G2	1	HM	2/A1003	1/A1003	-	-	-	AC2.2	3, 13	
172	N	3'-0"		7'-0"	1 3/4"	WD	G1	1	HM	2/A1003	1/A1003	-	-	20	AC2.1		
173	F	3'-0"		7'-0"	1 3/4"	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	EXIST	AC2.3	13	
173-A	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	-	4.0	10	
174-A	F	3'-0"		7'-0"	1 3/4"	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	EXIST	AC2.3		
175	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	-	6.0		
176	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	-	6.0		
177-A	N	3'-0"		7'-0"	1 3/4"	WD	G1	1	HM	2/A1003	1/A1003	-	-	-	3.2		
177-B	F.F	5'-0"	2'-6"	7'-0"	1 3/4"	EXIST	EXIST	EXIST	EXIST	EXIST	EXIST	-	EXIST	EXIST	9.0	16	
178	N	3'-0"		7'-0"	1 3/4"	WD	G1	1	HM	2/A1003	1/A1003	-	-	-	5.1		
179	N	3'-0"		7'-0"	1 3/4"	WD	G1	1	HM	2/A1003	1/A1003	-	-	-	5.1		
180	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	90	3.1		
181	F	3'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	90	3.1		
182	F	4'-0"		7'-0"	1 3/4"	WD	-	1	HM	2/A1003	1/A1003	-	-	-	3.1		
183-A	HG	3'-0"		7'-0"	1 3/4"	WD	G1	3	HM	2/A1003	1/A1003	-	-	-	AC2.1	13	
184-A	N.N	6'-0"	3'-0"	7'-0"	1 3/4"	WD	G1	1	HM	2/A1003	1/A1003	-	-	20	AC3.0	13	
184-B	F.F	6'-0"	3'-0"	7'-0"	1 3/4"	HM	-	1	HM	1/A0452	3/A0421	1/A0452	-	-	1.7	7	
184-C	F.F	6'-0"	3'-0"	7'-0"	1 3/4"	HM	-	1	HM	1/A0452	3/A0421	1/A0452	-	-	1.7	7	
Grand total: 40																	

BORROWED LIGHT SCHEDULE												
BORROWED LIGHT								FRAME				
OPENING NUMBER	SIZE		MATL	GLASS	TYPE	MATL	HEAD	DETAILS			FIRE RATING (MIN.)	REMARKS
	OPENING WIDTH	OPENING HEIGHT						JAMB	SILL	GLASS		
185-B	3'-4"	4'-0"	HM	G1	B1	HM	6/A1003	6/A1003	6/A1003	G1	-	-
183-C	3'-4"	1'-4"	HM	G1	B1	HM	6/A1003	6/A1003	6/A1003	G2	-	20

GENERAL NOTES - OPENING

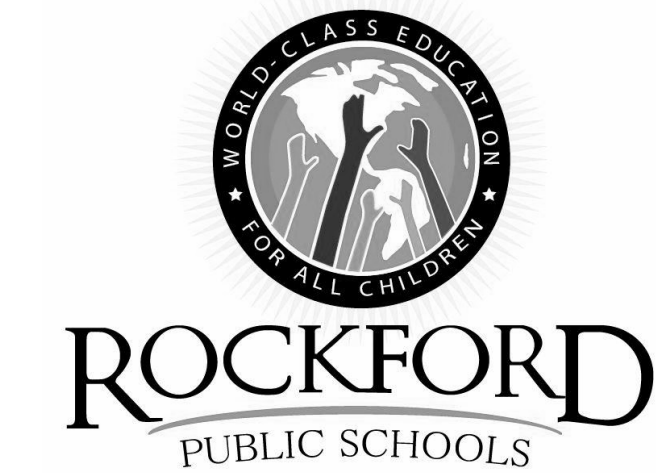
- SAFETY GLAZING MUST COMPLY WITH LABELING AS PER IBC 2003, 2406.2 (TYPICAL).
- SYLES & RAIL SIZES ON WOOD DOORS MIGHT VARY TO THE STANDARD OF EACH MANUFACTURER.
- FRAME EXTENSIONS ADJUSTING TO WALL DEPTH ARE TYPICAL - REFER TO DOOR DETAILS.
- FOR HARDWARE GROUP SPECIFICATIONS REFER TO THE PROJECT MANUAL UNDER DOOR HARDWARE SPECS.
- DIMENSION ARE NOMINAL - MANUFACTURER PROVING THE DOORS TO DETERMINE THE ROUGH OPENINGS EXCEPT THE OPENING IN CONCRETE WALLS THAT HAVE BEEN ALREADY SPECIFIED.
- THICKNESS OF GLAZING WITHIN DOORS BY DOOR MANUFACTURER STANDARDS.
- GLAZING AS NOTED ON DOOR ELEVATIONS.
- DOORS TO OPERATE AS SHOWN ON THE EXTERIOR BUILDING ELEVATIONS, ENLARGED UNIT PLANS & OVERALL PLANS.
- TEMPERED GLAZING WHERE REQUIRED BY CODE (TYPICAL).
- GENERAL CONTRACTOR TO COORDINATE ALL TRADES INVOLVED.
- ELECTRICAL DEVICES SUCH AS MAG LOCKS, CARD READERS, AND ALARM SYSTEMS BEING PART OF THE DOOR FUNCTION ARE INCLUDED AS PART OF THE ELECTRICAL PLANS AND THE HARDWARE GROUPS.

GLAZING

- 1/4" CLEAR TEMPERED GLASS (SAFETY RATED)
- FIRE RESISTIVE GLAZING (SAFETY RATED)
- 1" INSULATED GLASS UNIT (SAFETY RATED)
- 1" INSULATED LAMINATED GLASS UNIT (SECURITY GLAZING)

REMARKS

- NEW OPENING IN EXISTING MASONRY PARTITION
- NOT USED
- PROVIDE 4'-0" H STAINLESS STEEL KICKPLATE ON KITCHEN SIDE, PER SPEC
- DOOR AND FRAME TO BE PAINTED TO MATCH ADJACENT WALL - REFER TO FINISH PLANS
- NEW DOOR AND FRAME IN EXISTING MASONRY OPENING - VERIFY SIZE OF EXISTING OPENING
- ACOUSTICAL SOUND SEALS
- EXTERIOR DOOR
- ACCESSIBLE ENTRY WITH PUSH PLATE AND DOOR OPERATOR
- SECURITY ACCESS DOOR
- CARD READER - REFER TO DETAILS 1 & 2 ON E0741 FOR PROVISIONS
- COILING COUNTER SHUTTER
- SECURITY GLAZING
- DOOR AND FRAME TO BE PREPPED FOR FUTURE CARD READER LOCATED ON FRAME - REFER TO ELECTRICAL FOR PROVISIONS
- MAGNETIC HOLD OPENS
- PROVIDE 3/4" DOOR UNDERCUT
- MECHANICALLY SECURE DOOR PANE TO MAKE INNACTIVE. SEE SHEET A0101.E FOR LOCATION.



ROCKFORD PUBLIC SCHOOLS RIVERDAHL ELEMENTARY SCHOOL - ADDITION & RENOVATION

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3	ADDENDUM 02	01/15/2016
2	ADDENDUM 01	01/07/2016
1	ISSUED FOR BID	12/11/2015

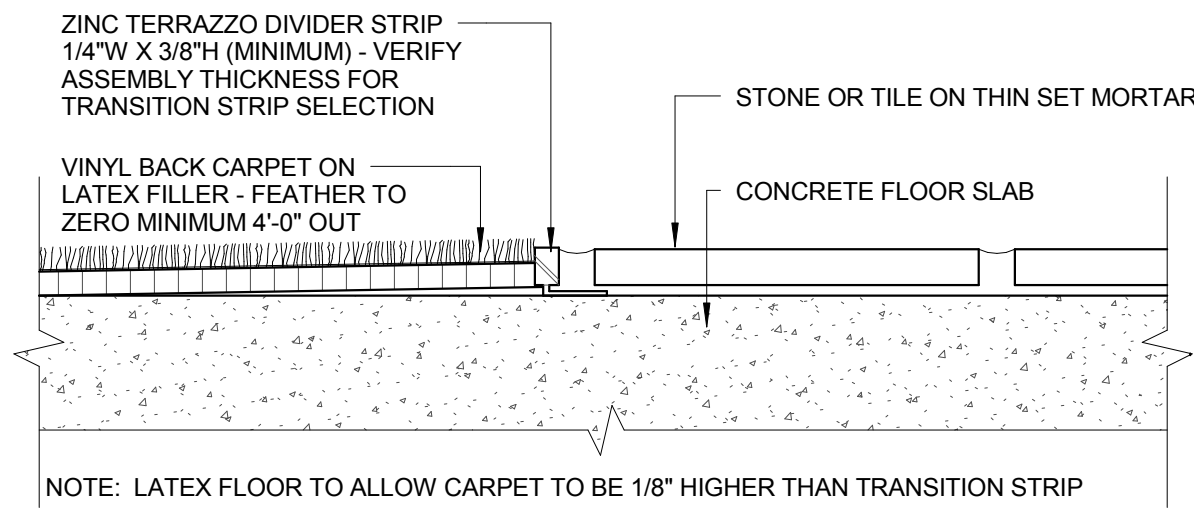
No.	Description	Date
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Drawing Title:

DOORS & BORROWED LIGHTS

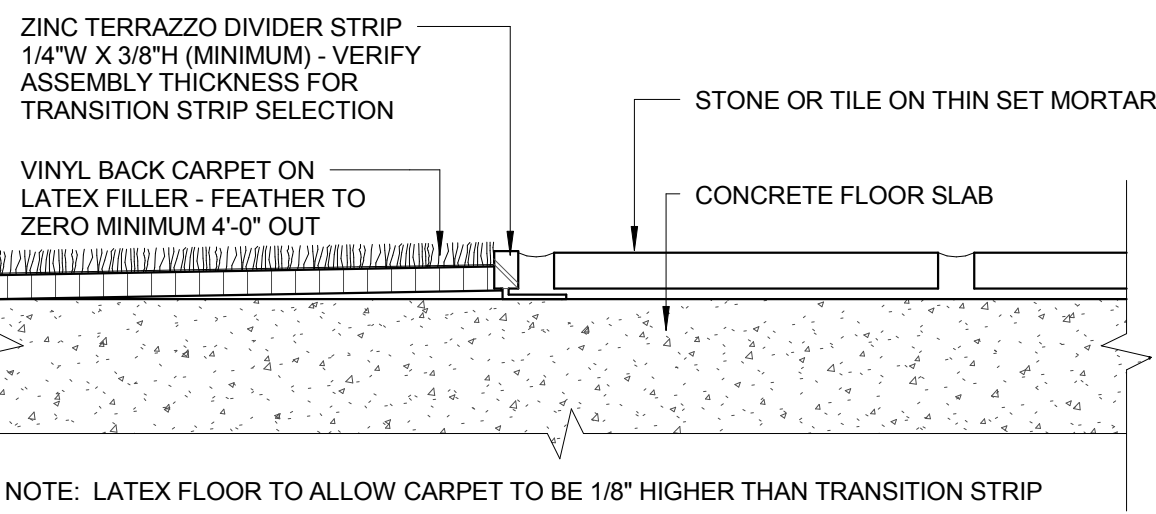
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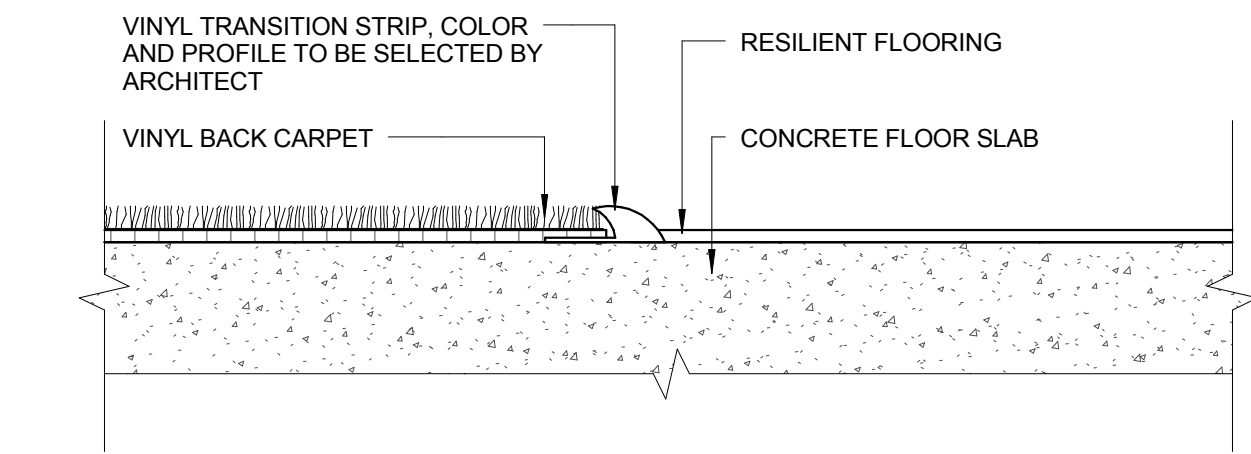
7 FLOOR TRANSITION - CARPET/TILE

6\"/>



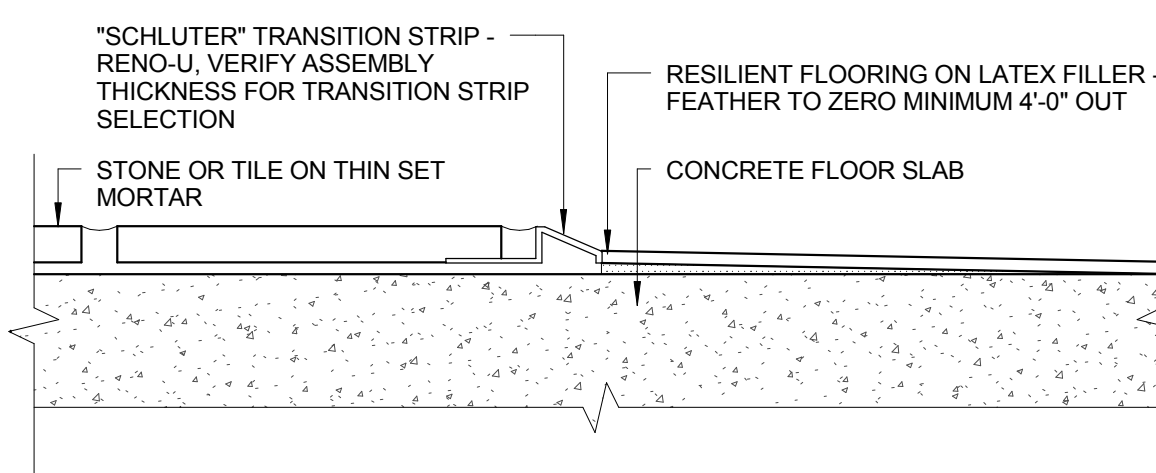
6 FLOOR TRANSITION - CARPET/CONCRETE

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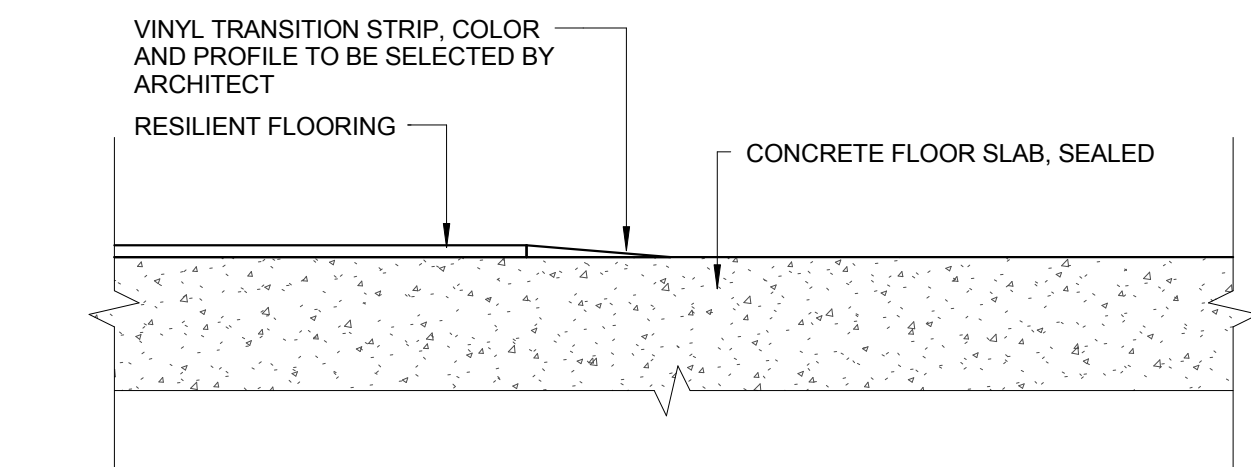
5 FLOOR TRANSITION - CARPET/RESILIENT

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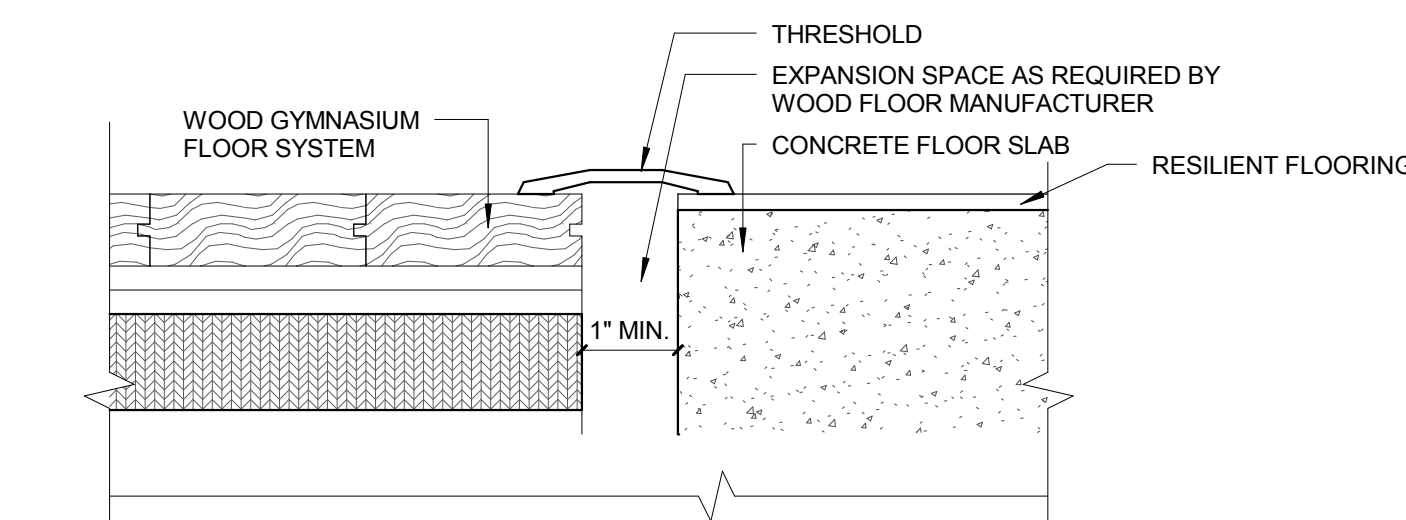
4 FLOOR TRANSITION - RESILIENT / TILE

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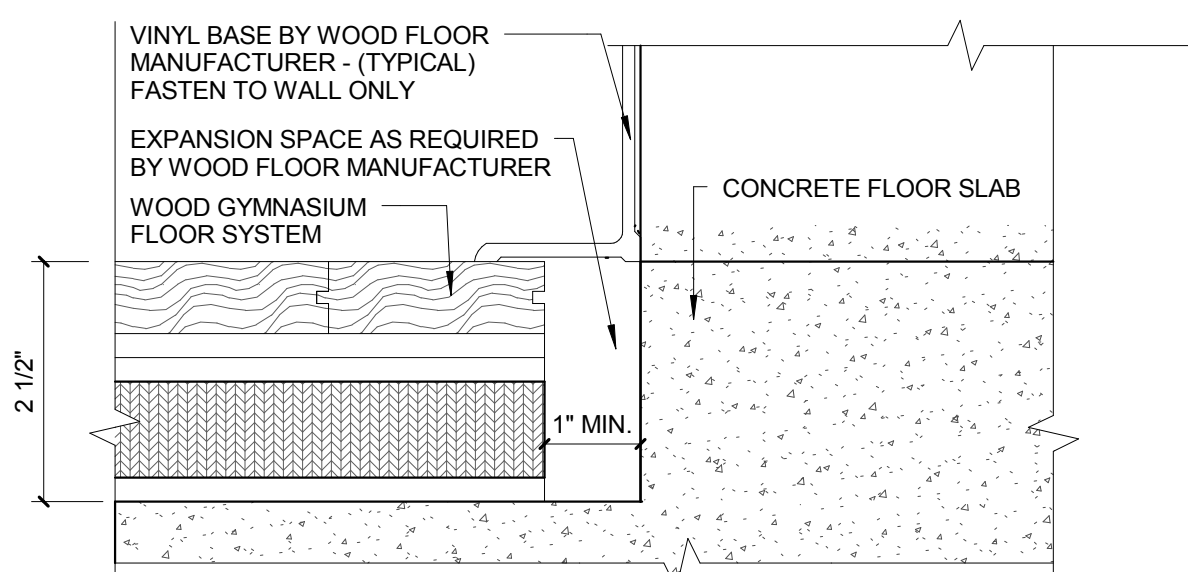
3 FLOOR TRANSITION - RESILIENT/CONCRETE

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2 FLOOR TRANSITION - WOOD GYM FLOOR

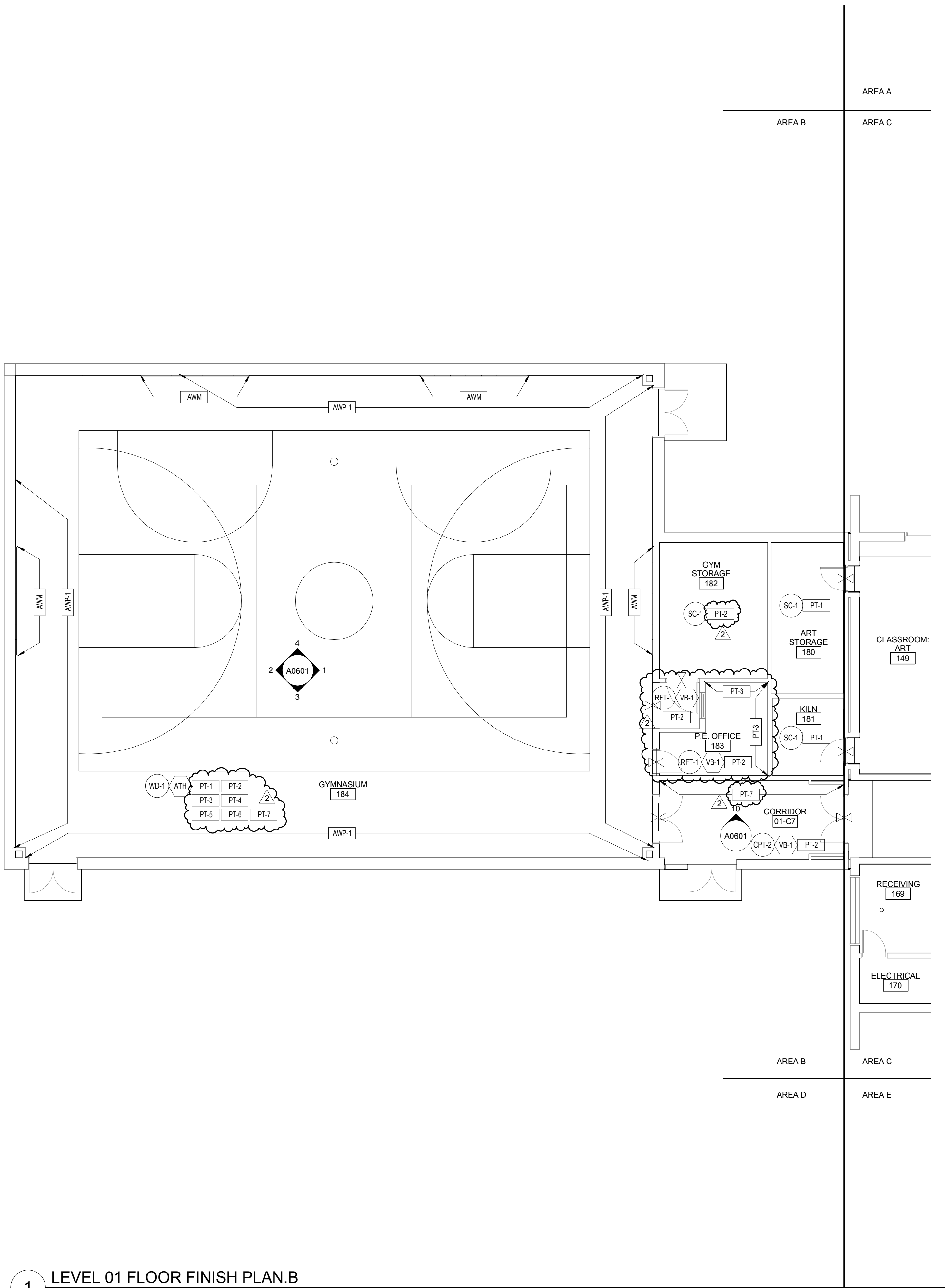
6\"/>



1 FLOOR TRANSITION - WOOD GYM FLOOR/WALL

6\"/>

FINISH SCHEDULE								
	FLOOR FINISH			FLOOR FINISH TRANSITION			CEILING FINISH	
	BASE FINISH			WALL FINISH			EXTENT OF WALL AND BASE FINISH	
							MATERIAL DIRECTION	
	TYPE	CODE	MATERIAL	MANUFACTURER	DESCRIPTION	COMMENTS / LOCATION		
	LAY IN CEILING SYSTEMS	ACT-1	ACOUSTIC CEILING TILE AND GRID	USG	TILE: RADAR CLIMA PLUS HIGH-CAC, HIGH-NRC SIZE: 2' x 2' EDGE: REGULAR FINISH: WHITE	PROD.#: 22823 GRID: DXL 15/16" EXPOSED TEE SYSTEM	GENERAL	
		ACT-2	ACOUSTIC CEILING TILE AND GRID	ARMSTRONG	TILE: HEALTH ZONE OPTIMA SIZE: 2' x 2' x 3/4" FINISH: WHITE EDGE: SQUARE CLASS: A, USDA APPROVED	PROD.#: NRC: .85 GRID: 15/16" MATERIAL: FIBERGLASS	KITCHEN / SERVING	
	PATCH	ETR	EXISTING TO REMAIN					
		P	PATCH RUBBER BASE		AS NEEDED TO MATCH EXISTING ADJACENT FINISH IN PROFILE, COLOR, SIZE AND HEIGHT. EXISTING CONDITION TO BE V.I.F.			
		CTB-1	CERAMIC MOSAIC TILE BASE	DALTILE	STYLE: TO MATCH CMT-1 COLOR: TO MATCH CMT-1 OVERALL: BASE CONSISTING OF: 2" x 1" x 1/4" COVE PROFILE WITH (1) 2" x 2" CERAMIC MOSAIC TILE STACKED ABOVE. TOP COURSE OF TILE TO BE SURFACE BULLNOSE PROFILE.		TOILET ROOMS	
		QT-1	QUARRY TILE BASE	DALTILE	STYLE: COVE BASE, ROUND TOP COLOR: T.B.D. SIZE: 6" x 6"		KITCHEN / SERVING	
		VB-1	VINYL COVE BASE	JOHNSONITE	COLOR: PEBBLE 32 SIZE: COVE, 6" HIGH			
	RESILIENT BASE	ATH	ATHLETIC VENTED BASE	PER SPEC	TYPE: BY ATHLETIC WOOD FLOORING MANUFACTURER COLOR: T.B.D. SIZE: PER SPEC		GYM	
	CARPET	CPT-1	CARPET TILE	BY OWNER	PATTERN: TO BE DETERMINED COLOR: TO BE DETERMINED SIZE: 24" x 24" INSTALL METHOD: TO BE DETERMINED		OWNER FURNISHED CONTRACTOR INSTALLED (INCLUDING ADHESIVE)	
		CPT-2	CARPET TILE - WALK OFF	BY OWNER	COLLECTION: TO BE DETERMINED PATTERN: TO BE DETERMINED COLOR: TO BE DETERMINED		VESTIBULE / CORRIDOR OWNER FURNISHED CONTRACTOR INSTALLED (INCLUDING ADHESIVE)	
	PATCH	ETR	EXISTING TO REMAIN					
		P	PATCH FLOOR FINISH	VARIES	AS NEEDED TO MATCH EXISTING ADJACENT FINISH IN PATTERN, COLOR, SIZE AND HEIGHT. EXISTING CONDITION TO BE V.I.F.			
	TILE	CMT-1	CERAMIC MOSAIC FLOOR TILE	DALTILE	STYLE: KEYSTONES COLOR: PRICE GROUP 2 - TO BE SELECTED BY ARCHITECT SIZE: 2" x 2"		TOILET ROOMS: FLOOR PATTERN PER FINISH PLANS	
		CMT-2	CERAMIC MOSAIC FLOOR TILE	DALTILE	STYLE: KEYSTONES MULTIPLE COLOR CONSISTING OF: 60% PRICE GROUP 2 - TO BE SELECTED BY ARCHITECT 40% PRICE GROUP 2 - TO BE SELECTED BY ARCHITECT SIZE: 2" x 2"		TOILET ROOMS: FLOOR PATTERN PER FINISH PLANS	
		QT-1	QUARRY FLOOR TILE	DALTILE	STYLE: QUARRY TILE COLOR: TO BE SELECTED BY ARCHITECT SIZE: 6" x 6"		KITCHEN / SERVING	
	RESILIENT TILE	RFT-1	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: 9301		REFER TO FINISH PLANS	
		RFT-2	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: 9301		REFER TO FINISH PLANS	
		RFT-3	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: 9329		REFER TO FINISH PLANS	
		RFT-4	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: TO BE SELECTED BY ARCHITECT		REFER TO FINISH PLANS	
		RFT-5	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: TO BE SELECTED BY ARCHITECT		REFER TO FINISH PLANS	
		RFT-6	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: TO BE SELECTED BY ARCHITECT		REFER TO FINISH PLANS	
		RFT-7	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: TO BE SELECTED BY ARCHITECT		REFER TO FINISH PLANS	
		RFT-8	RESILIENT FLOOR TILE	UPOFLOOR	PRODUCT: QUARTZ MOSAIC COLLECTION SIZE: 24" x 24" COLOR: TO BE SELECTED BY ARCHITECT		REFER TO FINISH PLANS	
SEALER	RB-1	RESILIENT FLOOR: RUBBER TREADS WITH INTEGRATED RISER	JOHNSONITE	PRODUCT: HAMMERED WITH VISUAL IMPAIRED INSERT (VHTR) COLOR: TBD		STAIR TREADS & RISERS & INTERMEDIATE LANDINGS		
WOOD	SC	SEALED CONCRETE	PER SPEC	COLOR: CLEAR NON-SLIP FINISH				
WOOD	WD-1	WOOD ATHLETIC FLOOR	AKACER FLOOR COMPANY	PRODUCT: SCISSOR-LOC II, WITH AIR FLOW SYSTEM SIZE: SEE SPEC COLOR: SEE SPEC BASE: VINYL VENTED BASE BY WOOD FLOOR MANUFACTURER		GYM		
	PATCH	ETR	EXISTING TO REMAIN					
		P	PATCH WALL FINISH		AS NEEDED TO MATCH EXISTING ADJACENT FINISH IN PATTERN, COLOR, SIZE AND HEIGHT. EXISTING CONDITION TO BE V.I.F.			
	PAINT	PT-1	PAIN	SHERWIN WILLIAMS	COLOR: NATURAL CHOICE NO: SW 7011		GENERAL	
		PT-2	PAIN	SHERWIN WILLIAMS	COLOR: REPOSE GRAY NO: SW7015		GENERAL	
		PT-3	PAIN	SHERWIN WILLIAMS	COLOR: CANDID BLUE NO: SW 6953		ACCENT	
		PT-4	PAIN	BENJAMIN MOORE	COLOR: DANUBE NO: SW 6803		ACCENT	
		PT-5	PAIN	SHERWIN WILLIAMS	COLOR: EROS PINK NO: SW 6860		ACCENT	
		PT-6	PAIN	SHERWIN WILLIAMS	COLOR: BLUE SKY NO: SW 0063		ACCENT	
		PT-7	PAIN	SHERWIN WILLIAMS	COLOR: SURFER NO: SW 6946		ACCENT	
		PT-8	PAIN	SHERWIN WILLIAMS	COLOR: DOVETAIL NO: SW 7018		HM DOORS / FRAMES	
PT-9	PAIN	SHERWIN WILLIAMS	COLOR: HIGH REFLECTIVE WHITE NO: SW 7707		CEILING			
PT-10	PAIN	SHERWIN WILLIAMS	COLOR: CLASSICAL YELLOW NO: SW 2865		ACCENT			
	WALL PANEL	AWP-1	ACOUSTICAL WALL PANEL	CONVED DESIGNSCAPE	DESCRIPTION: REBOUND, 2" THICKNESS SIZE AS INDICATED ON INTERIOR ELEVATIONS MINIMUM 1.15 NRC FABRIC WRAPPED ACOUSTICAL PANEL, CHEM RESIN HARDENED EDGES, DESIGNTX FABRIC, PATTERN: GAMUT, COLOR: T.B.D.	GYM		
		AWP-2	ACOUSTICAL WALL PANEL	CONVED DESIGNSCAPE	DESCRIPTION: REBOUND, 2" THICKNESS SIZE AS INDICATED ON INTERIOR ELEVATIONS MINIMUM 1.15 NRC FABRIC WRAPPED ACOUSTICAL PANEL, CHEM RESIN HARDENED EDGES, DESIGNTX FABRIC, PATTERN: GAMUT, COLOR: PEONY	MUSIC		
	PLAM	PL-1	PLASTIC LAMINATE	WILSONART	NOT USED			
		SSM	SOLID SURFACE MATERIAL	CORIAN	NOT USED			
	WINDOW COVERING	WC-1	SINGLE (NON-MOTORIZED) MANUAL WINDOW COVERING	DRAPER	DESCRIPTION: FLEXSHADE, E SCREEN WITH 1% OPENNESS COLOR: #3001 CHARCOAL GREY REFER TO FINISH PLANS FOR LOCATION & QUANTITIES. REFER TO EXTERIOR ELEVATIONS FOR SIZES.		ALTERNATE 2A	
		WC-2	SINGLE (NON-MOTORIZED) MANUAL WINDOW COVERING	DRAPER	DESCRIPTION: FLEXSHADE, E SCREEN WITH 1% OPENNESS COLOR: #3001 CHARCOAL GREY REFER TO FINISH PLANS FOR LOCATION & QUANTITIES. REFER TO EXTERIOR ELEVATIONS FOR SIZES.		ALTERNATE 2B: LEVEL 00	
	WALL MATS	AWM	ATHLETIC WALL MATS	PER SPEC	COLOR: TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL LINE SIZE: PER INTERIOR ELEVATIONS		GYM	



1 LEVEL 01 FLOOR FINISH PLAN.B
1/8" = 1'-0"

GENERAL FINISH NOTES

WALLS

1. ALL WALLS TO RECEIVE PAINT FINISH TO FINISHED CEILING UNLESS NOTED OTHERWISE.

2. PROVIDE BULLNOSE CERAMIC TILE TRIM AT CERAMIC TILE ADJACENT WALL TRANSITION AND OUTSIDE CORNERS.

3. WALL TILE TO CONTINUE BEHIND ACCESSORIES.

4. PROVIDE EPOXY PAINT FOR TOILET ROOMS WITH GYP. BD. WALLS. SEE SPECIFICATION.

5. CERAMIC WALL TILE AT TOILET ROOMS TO BE 48" HIGH. A.F.F.

FLOOR

1. FOR FLOOR TRANSITION DETAILS SEE SHEET A1200.

2. ALL FLOORING MATERIAL CHANGES TO OCCUR AT CENTER OF DOOR STOP SIDE. REFER TO SHEET A1200 FOR TYPICAL FLOOR TRANSITION LOCATION.

3. FLOORING TO CONTINUE UNDER CABINETRY.

4. FLOOR PATCHING: REFER TO SHEETS A0101.A, A0101.B, AND A0101.C, KEYNOTE #12, FOR ALL LOCATIONS. MATCHING EXISTING MATERIAL, FINISH, COLOR, AND PATTERN. U.N.O.

BASE

1. COVE PROFILE BASE TO BE USED AT CARPET FLOOR FINISH.

2. CERAMIC WALL TILE TO HAVE COVE CERAMIC BASE COURSE.

3. NO WALL BASE AT SEALED CONCRETE FLOORS, UNLESS NOTED OTHERWISE.

MISCELLANEOUS

1. INTERIOR HOLLOW METAL DOOR AND FRAME TO BE PT-8 UNLESS NOTED OTHERWISE.

2. GWB CEILINGS/SOFFITS PT-9 UNLESS NOTED OTHERWISE.

3. PROVIDE WINDOW COVERINGS AT ALL NEW EXTERIOR WINDOWS, INCLUDING REPLACEMENT WINDOWS. (WC-1) PER FINISH SCHEDULE. REFER TO SPECIFICATION.

FINISH SYMBOL KEY

● FLOOR

○ BASE

□ WALL

GENERAL ROOM FINISHES SHOWN IN SYMBOL. EXCEPTIONS AS NOTED.

SEE SHEET A1200 FOR FINISH LEGEND.

WITH NUMBER INDICATES KEY NOTE

1 REINSTALL EXISTING WINDOW COVERINGS AFTER CONSTRUCTION COMPLETION.



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1 ISSUED FOR BID 12/11/2015

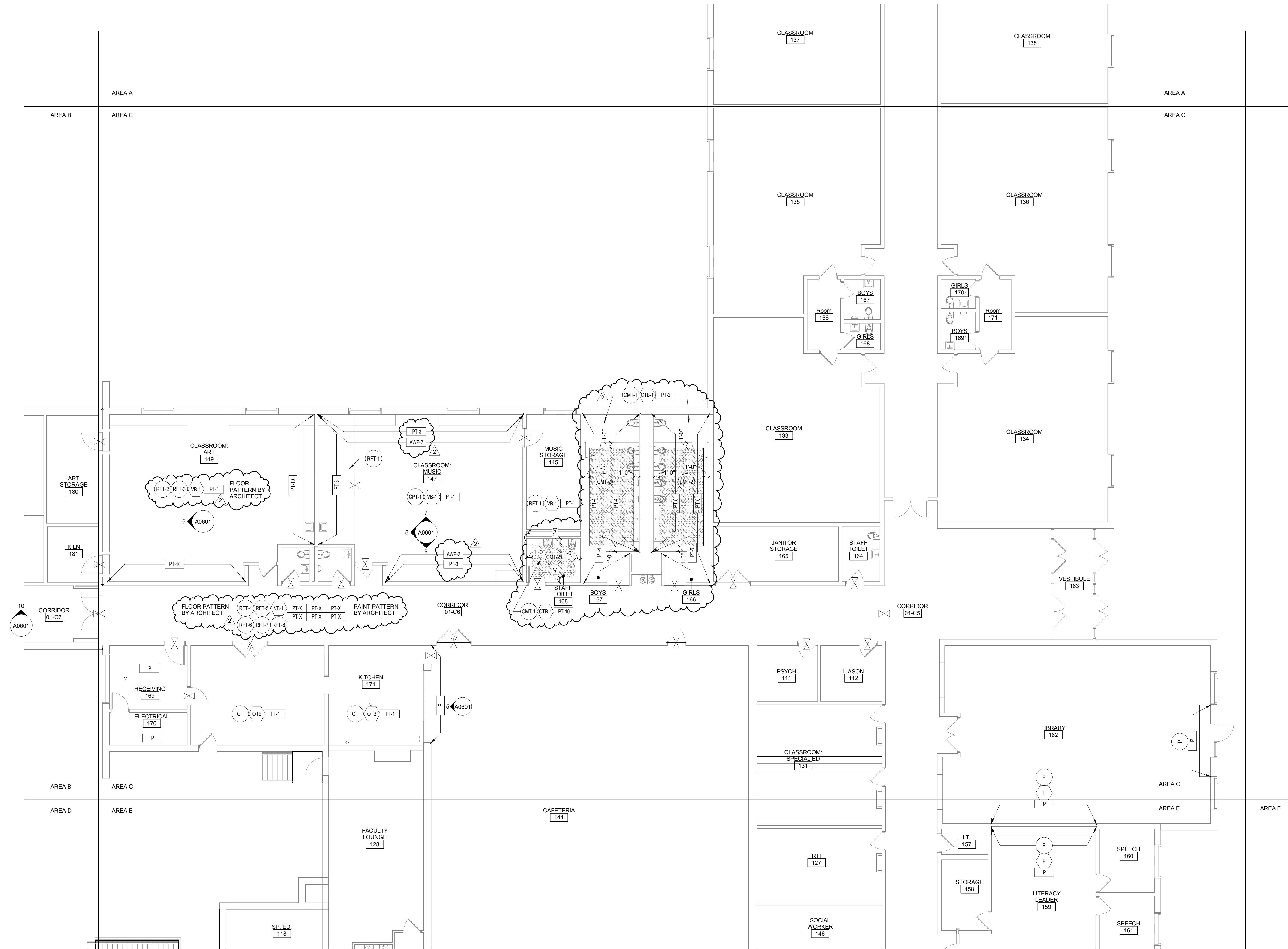
No.	Description	Date
1	LEVEL 01 FLOOR FINISH PLAN - AREA B	12/11/2015

Drawing Title:

LEVEL 01 FLOOR FINISH PLAN - AREA B

Project No.: 004645.05 Checked by: Checker

A1201.B



1 LEVEL 01 FLOOR FINISH PLAN.C
1/8" = 1'-0"

GENERAL FINISH NOTES

WALLS

1. ALL WALLS TO RECEIVE PAINT FINISH TO FINISHED CEILING UNLESS NOTED OTHERWISE.

2. PROVIDE BULLNOSE CERAMIC TILE TRIM AT CERAMIC TILE ADJACENT WALL TRANSITION AND OUTSIDE CORNERS.

3. WALL TILE TO CONTINUE BEHIND ACCESSORIES.

4. PROVIDE EPOXY PAINT FOR TOILET ROOMS WITH GYP. BD. WALLS. SEE SPECIFICATION.

5. CERAMIC WALL TILE AT TOILET ROOMS TO BE 48" HIGH. A.F.F.

FLOOR

1. FOR FLOOR TRANSITION DETAILS SEE SHEET A1200.

2. ALL FLOORING MATERIAL CHANGES TO OCCUR AT CENTER OF DOOR STOP SIDE. REFER TO SHEET A1200 FOR TYPICAL FLOOR TRANSITION LOCATION.

3. FLOORING TO CONTINUE UNDER CABINETRY.

4. FLOOR PATCHING- REFER TO SHEETS A0101.A, A0101.B, AND A0101.C. KEYNOTE #12, FOR ALL LOCATIONS. MATCHING EXISTING MATERIAL, FINISH, COLOR, AND PATTERN, U.N.O.

BASE

1. COVE PROFILE BASE TO BE USED AT CARPET FLOOR FINISH.

2. CERAMIC WALL TILE TO HAVE COVE CERAMIC BASE COURSE.

3. NO WALL BASE AT SEALED CONCRETE FLOORS, UNLESS NOTED OTHERWISE.

MISCELLANEOUS

1. INTERIOR HOLLOW METAL DOOR AND FRAME TO BE PT-8 UNLESS NOTED OTHERWISE.

2. GIBB CEILINGS/SOFFITS PT-9 UNLESS NOTED OTHERWISE.

3. PROVIDE WINDOW COVERINGS AT ALL NEW EXTERIOR WINDOWS, INCLUDING REPLACEMENT WINDOWS. (WC-1) PER FINISH SCHEDULE. REFER TO SPECIFICATION.

FINISH SYMBOL KEY

FLOOR

BASE

WALL

GENERAL ROOM FINISHES SHOWN IN SYMBOL. EXCEPTIONS AS NOTED.

SEE SHEET A1200 FOR FINISH LEGEND

WITH NUMBER INDICATES KEY NOTE

1 REINSTALL EXISTING WINDOW COVERINGS AFTER CONSTRUCTION COMPLETION.



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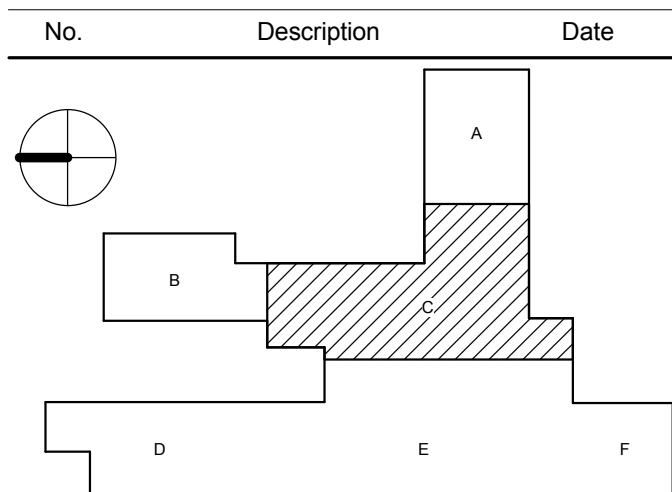
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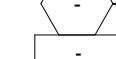
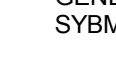


Drawing Title:
LEVEL 01 FLOOR FINISH
PLAN - AREA C

Project No.: 004645.05 Checked by: Checker

A1201.C

- GENERAL FINISH NOTES
- WALLS**
1. ALL WALLS TO RECEIVE PAINT FINISH TO FINISHED CEILING UNLESS NOTED OTHERWISE.
2. PROVIDE BULLNOSE CERAMIC TILE TRIM AT CERAMIC TILE ADJACENT WALL TRANSITION AND OUTSIDE CORNERS.
3. WALL TILE TO CONTINUE BEHIND ACCESSORIES.
4. PROVIDE EPOXY PAINT FOR TOILET ROOMS WITH GYP. BD. WALLS. SEE SPECIFICATION.
5. CERAMIC WALL TILE AT TOILET ROOMS TO BE 48" HIGH, A.F.F.
- FLOOR**
1. FOR FLOOR TRANSITION DETAILS SEE SHEET A1200.
2. ALL FLOORING MATERIAL CHANGES TO OCCUR AT CENTER OF DOOR STOP SIDE. REFER TO SHEET A1200 FOR TYPICAL FLOOR TRANSITION LOCATION.
3. FLOORING TO CONTINUE UNDER CABINETRY.
4. FLOOR PATCHING- REFER TO SHEETS A0101.A, A0101.B, AND A0101.C. KEYNOTE #12, FOR ALL LOCATIONS. MATCHING EXISTING MATERIAL, FINISH, COLOR, AND PATTERN, U.N.O.

- BASE**
1. COVE PROFILE BASE TO BE USED AT CARPET FLOOR FINISH.
2. CERAMIC WALL TILE TO HAVE COVE CERAMIC BASE COURSE.
3. NO WALL BASE AT SEALED CONCRETE FLOORS, UNLESS NOTED OTHERWISE.
- MISCELLANEOUS**
1. INTERIOR HOLLOW METAL DOOR AND FRAME TO BE PT-6 UNLESS NOTED OTHERWISE.
2. GYM CEILINGS/SOFFITS PT-9 UNLESS NOTED OTHERWISE.
3. PROVIDE WINDOW COVERINGS AT ALL NEW EXTERIOR WINDOWS, INCLUDING REPLACEMENT WINDOWS. (WC-1) PER FINISH SCHEDULE. REFER TO SPECIFICATION.

- FINISH SYMBOL KEY**
-  FLOOR
-  BASE
-  WALL
- GENERAL ROOM FINISHES SHOWN IN SYMBOL, EXCEPTIONS AS NOTED.
- SEE SHEET A1200 FOR FINISH LEGEND
-  WITH NUMBER INDICATES KEY NOTE
-  REINSTALL EXISTING WINDOW COVERINGS AFTER CONSTRUCTION COMPLETION.



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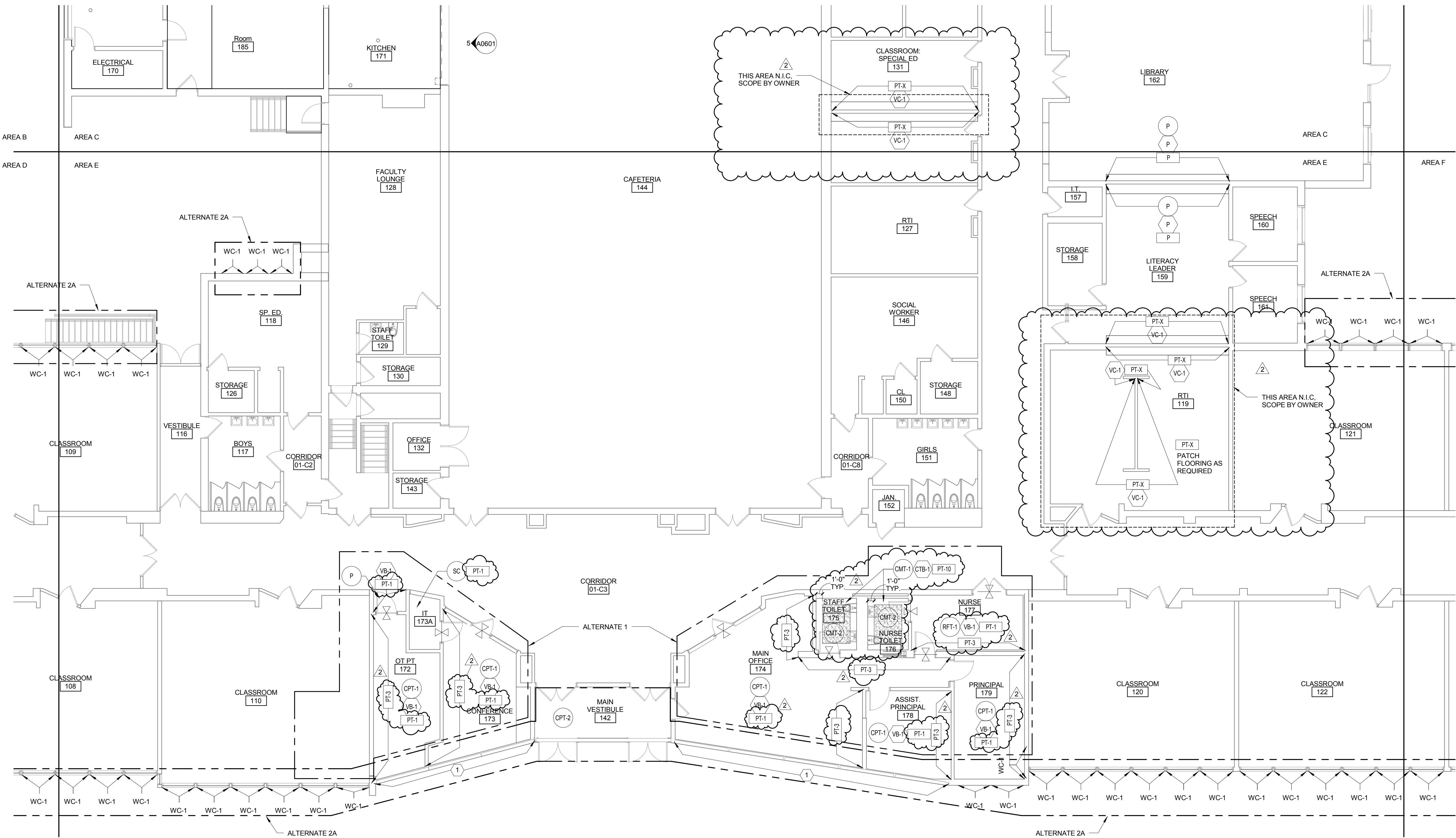
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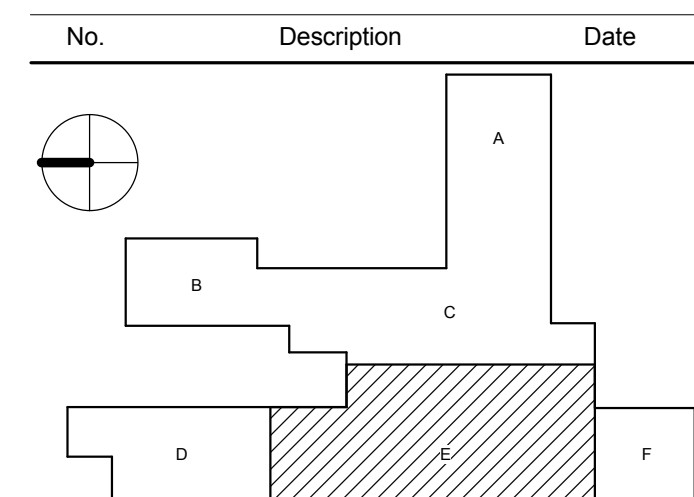
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1 LEVEL 01 FLOOR FINISH PLAN.E
1/8" = 1'-0"

2 ADDENDUM 02 01/15/2016
1 ISSUED FOR BID 12/11/2015



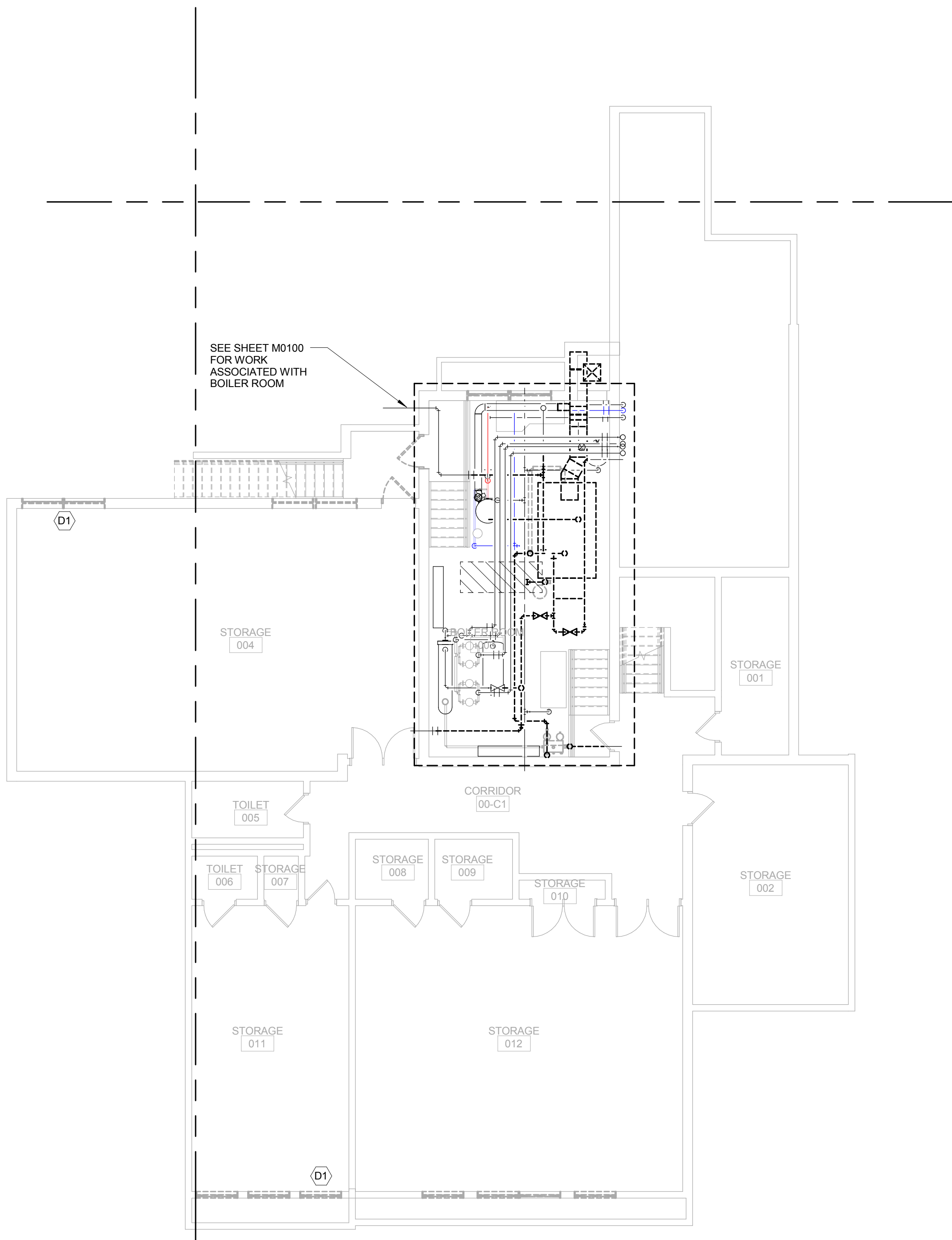
Drawing Title:
LEVEL 01 FLOOR FINISH
PLAN - AREA E

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A1201.E

KEYED DEMOLITION NOTES : (D#)

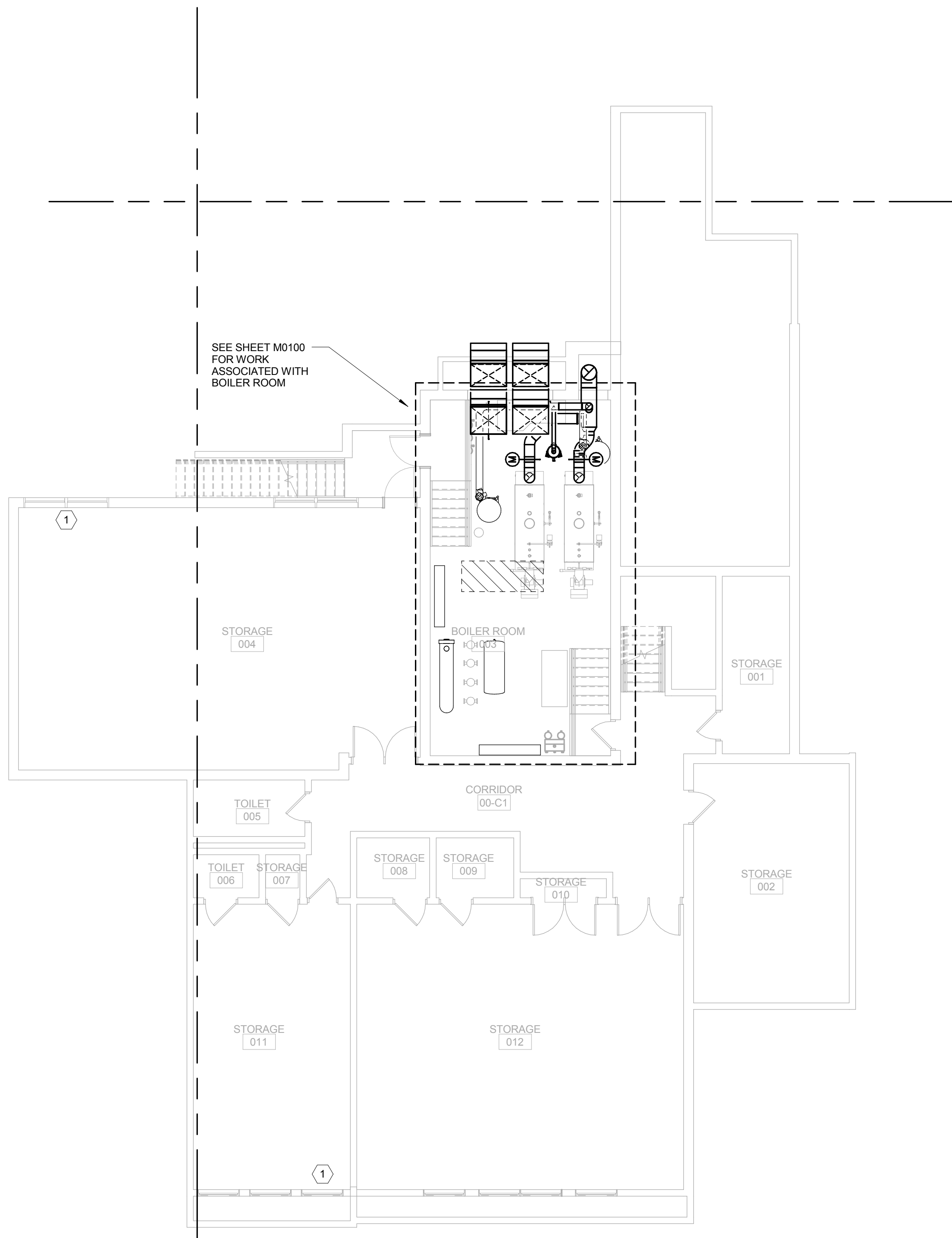
D1.
WORK TO BE COMPLETED AS PART OF ALTERNATE 2B, AND IS TO BE INCLUDED AND NOTED ON BID FORM AS SUCH. REMOVE DUCTWORK IN AREA WELL AND PASSING THROUGH WINDOW SERVING LOWER LEVEL UNIT VENTILATOR.



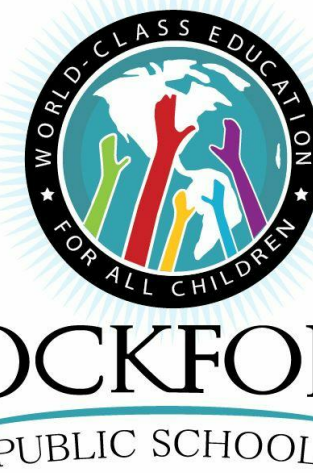
1 LOWER LEVEL DEMOLITION HVAC WORK - AREA E
1/8" = 1'-0"

KEYED NEW DUCTWORK NOTES # :

1.
WORK TO BE COMPLETED AS PART OF ALTERNATE 2B, AND IS TO BE INCLUDED AND NOTED ON BID FORM AS SUCH. EXTEND NEW DUCTWORK THROUGH METAL INSULATED PANEL IN NEW WINDOW. EXTEND DUCTWORK OUT THROUGH WINDOW AND TERMINATE IN LOUVER AT METAL PANEL. USING DUCTWORK AT SAME DIMENSIONS AS EXISTING, AND TRANSITIONED TO FIT THROUGH WINDOW FRAME. LOUVER TO BE SIZED FOR 50% FREE AREA, AND HAVE 90% WATER PENETRATION PREVENTION.



2 LOWER LEVEL NEW HVAC WORK - AREA E
1/8" = 1'-0"



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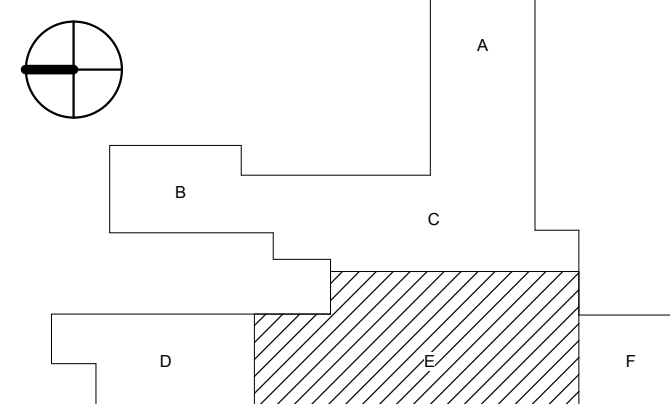
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3 ADDENDUM #2 01/14/2016

No.	Description	Date
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Drawing Title:

LOWER LEVEL
DUCTWORK PLAN

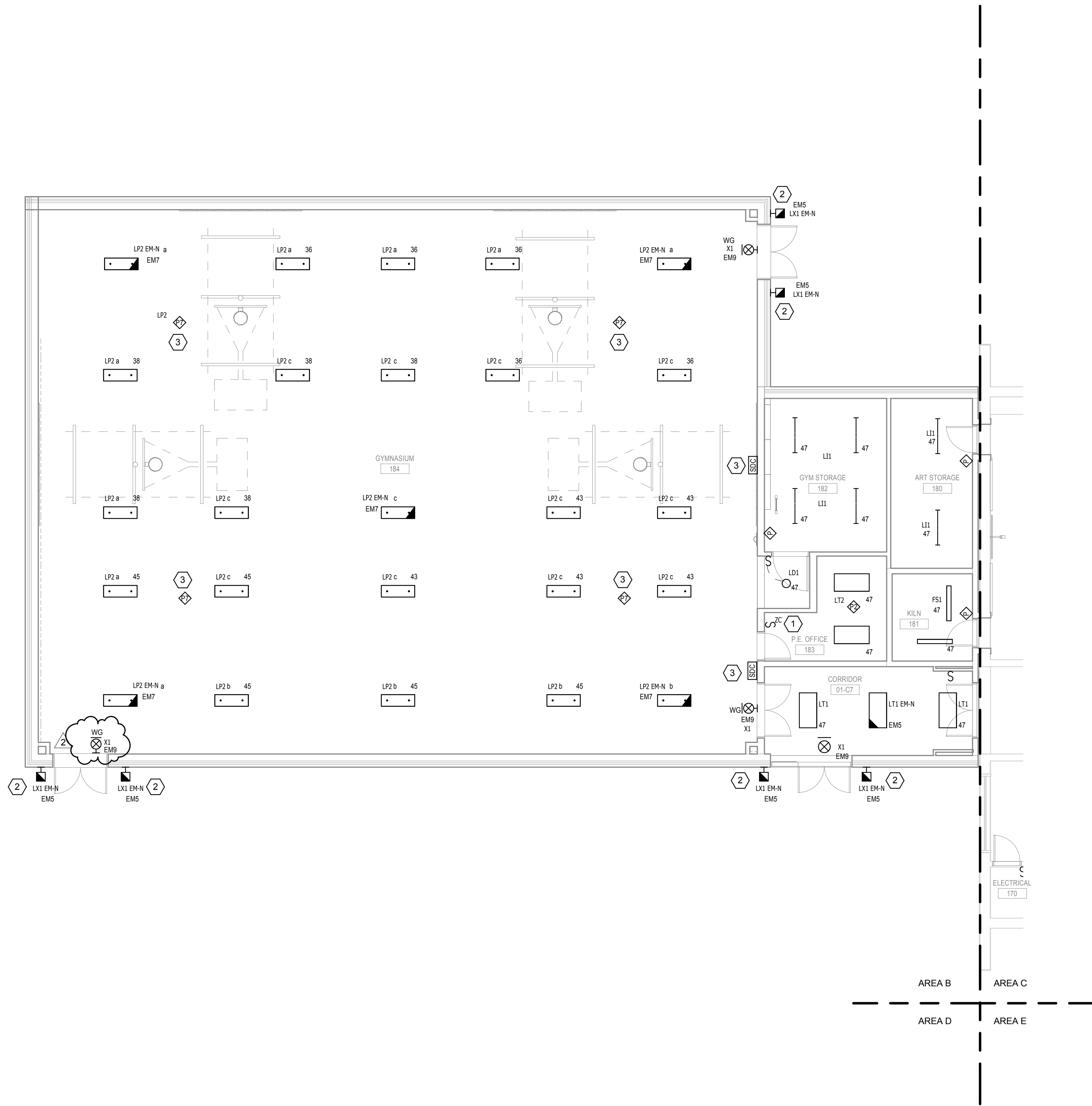
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M0100.E

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1 LEVEL 01 LIGHTING PLAN - AREA B

1/8" = 1'-0"



KEYED NOTES

1. PROVIDE LOW VOLTAGE LIGHT CONTROL SYSTEM BY nLIGHT LIGHTING CONTROLS. PROVIDE A PUSH BUTTON ON/OFF SWITCH WITH DIMMING, A CEILING OCCUPANCY SENSOR, AND A DIMMING POWER PACK LOCATED AT THE CEILING. ALL LIGHTING CONTROL DEVICES AND ALL LIGHT FIXTURES SHALL BE DAISY CHAINED WITH CAT6 CABLE THAT WILL TERMINATE AT A nBRIDGE DEVICE. SEE WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.
2. EXTERIOR PERIMETER LIGHT FIXTURES SHALL BE INTERFACED WITH nLIGHT RELAY PANEL. RC1 LOCATED AT ELECTRICAL ROOM. PROVIDE nLIGHT RELAY PANEL (nPANEL 4-1EBC) WITH EMERGENCY BARRIER. RELAY ABOVE BARRIER SHALL BE INTERFACED WITH EMERGENCY CIRCUIT EMG FOR PERIMETER WALL PACKS. RELAYS BELOW BARRIER SHALL BE INTERFACED WITH NORMAL CIRCUITS PERIMETER WALL PACKS.
3. PROVIDE LOW VOLTAGE LIGHTING CONTROL SYSTEM BY nLIGHT LIGHTING CONTROLS AT GYM. PROVIDE nLIGHT-ENABLED HIGH BAY OCCUPANCY SENSORS (CEILING MOUNT). 4-SCENE WALL CONTROLLERS, AND POWER PACKS. ALL LIGHTING CONTROL DEVICES AND LIGHT FIXTURES SHALL BE DAISY CHAINED WITH CAT6 CABLE THAT WILL TERMINATE AT A nBRIDGE DEVICE THAT WILL BE PROVIDED BY THE OWNER. PROVIDE 20-FEET OF COILED CAT6 CABLE IN THE CEILING CAVITY.

BRANCH CIRCUIT NOTES

1. EXTEND BRANCH CIRCUITS IN THIS AREA TO THE FOLLOWING BRANCH PANELBOARDS, UNLESS OTHERWISE NOTED:
120V / 208V PANELBOARDS
EM - NORMAL POWER (ELECTRICAL 170)
EM - LIFE SAFETY POWER. UTILIZE EXISTING SPACES/SPARE CIRCUITS.
PROVIDE NEW 20A-1P CIRCUIT BREAKERS AS REQUIRED.



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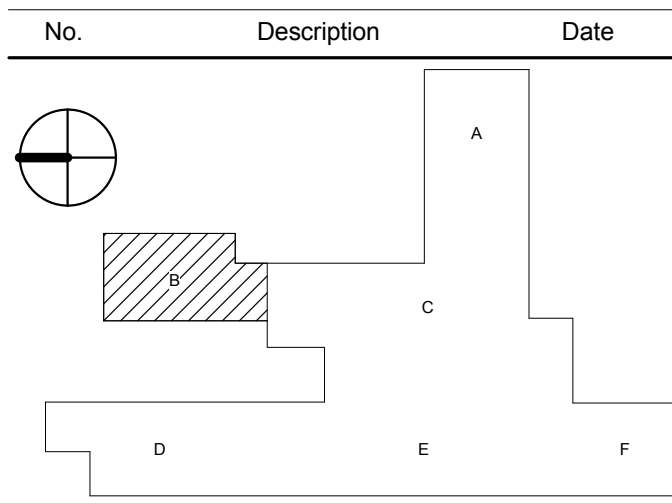
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2	ADDENDUM 02	1/15/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:
LEVEL 01 LIGHTING PLAN
- AREA B

Project No.: 004645.05 Checked by: JE

E0101.B



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E0101.C

KEYED NOTES

1. PROVIDE LOW VOLTAGE LIGHTING CONTROL SYSTEM BY HIGHT LIGHTING CONTROLS. PROVIDE A PUSH BUTTON ON/OFF SWITCH WITH DIMMING, A CEILING OCCUPANCY SENSOR, AND A DIMMING POWER PACK LOCATED AT THE CEILING. ALL LIGHTING CONTROL DEVICES AND ALL LIGHT FIXTURES SHALL BE DAISY CHAINED WITH CAT6 CABLE THAT WILL TERMINATE AT A BRIDGE DEVICE THAT WILL BE PROVIDED BY THE OWNER. PROVIDE 20-FEET OF COILED CAT6 CABLE IN THE CEILING CAVITY. SEE WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.
2. UTILIZE EXISTING CIRCUITS TO CONNECT NEW LIGHT FITURES. INTERFACE WITH NEW LIGHTING CONTROLS AS SHOWN.
3. CONNECT TO NEOAREST CORRIDOR LIGHTING CIRCUIT AND RESPECTIVE LIGHTING CONTROLS.

BRANCH CIRCUIT NOTES

1. EXTEND BRANCH CIRCUITS IN THIS AREA TO THE FOLLOWING BRANCH PANELBOARDS, UNLESS OTHERWISE NOTED:

120 / 208V PANELBOARDS
NORMAL - CONNECT TO EXISTING LIGHTING CIRCUITS MADE AVAILABLE DURING DEMOLITION. INTERFACE WITH NEW LIGHTING CONTROLS AS SHOWN. CIRCUIT NUMBERS ARE FOR REFERENCE ONLY.

2. EM - LIFE SAFETY POWER. UTILIZE EXISTING SPACES. PROVIDE NEW 20A-1P CIRCUIT BREAKERS.



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2 ADDENDUM 02 1/15/2016
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No.	Description	Date
1	LEVEL 01 LIGHTING PLAN - AREA E	12/11/2015

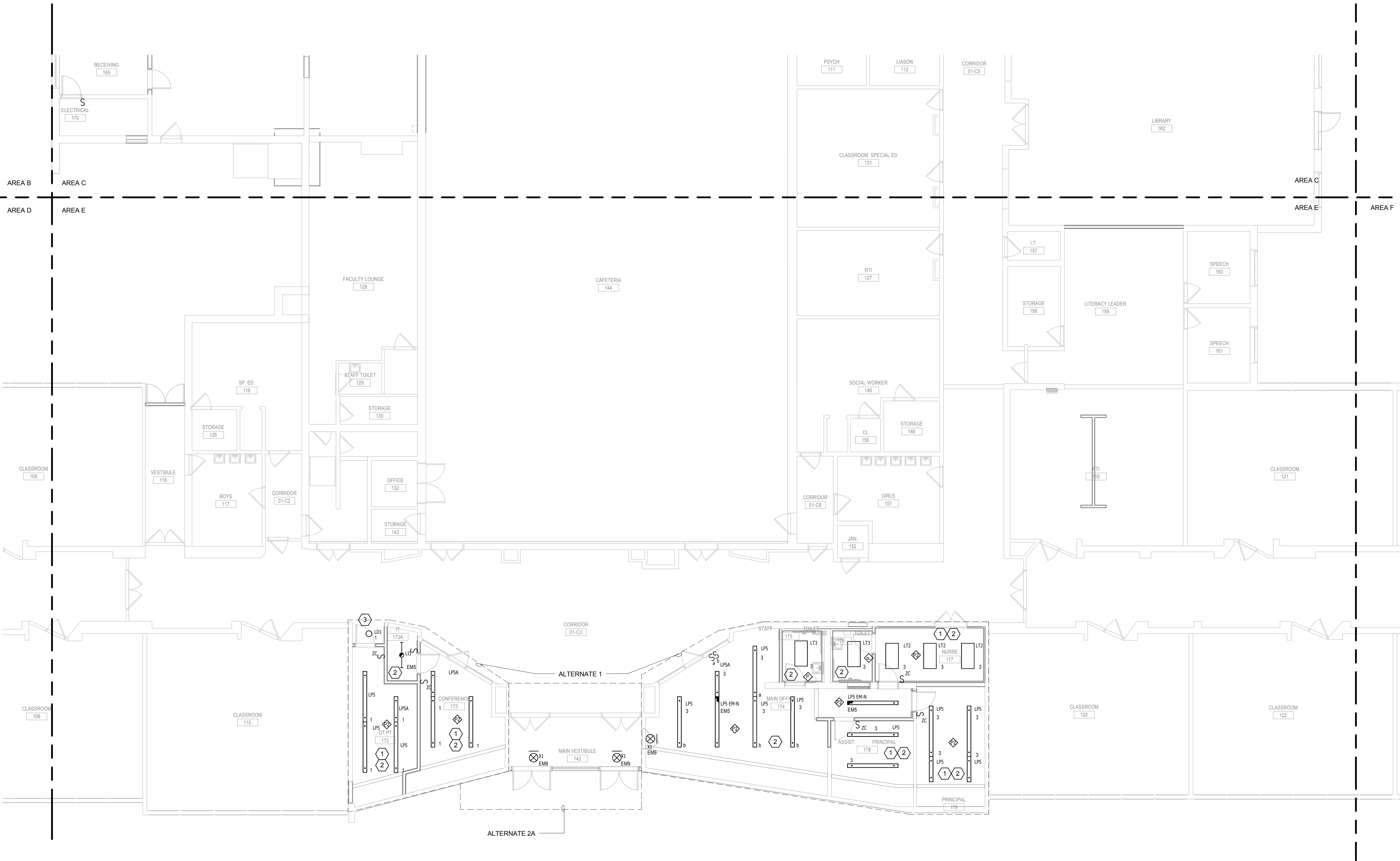
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LEVEL 01 LIGHTING PLAN
- AREA E

Project No.: 004645.05 Checked by: JE

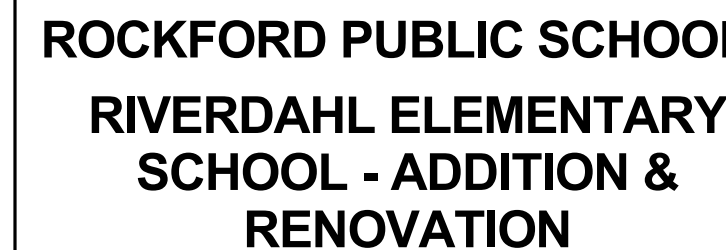
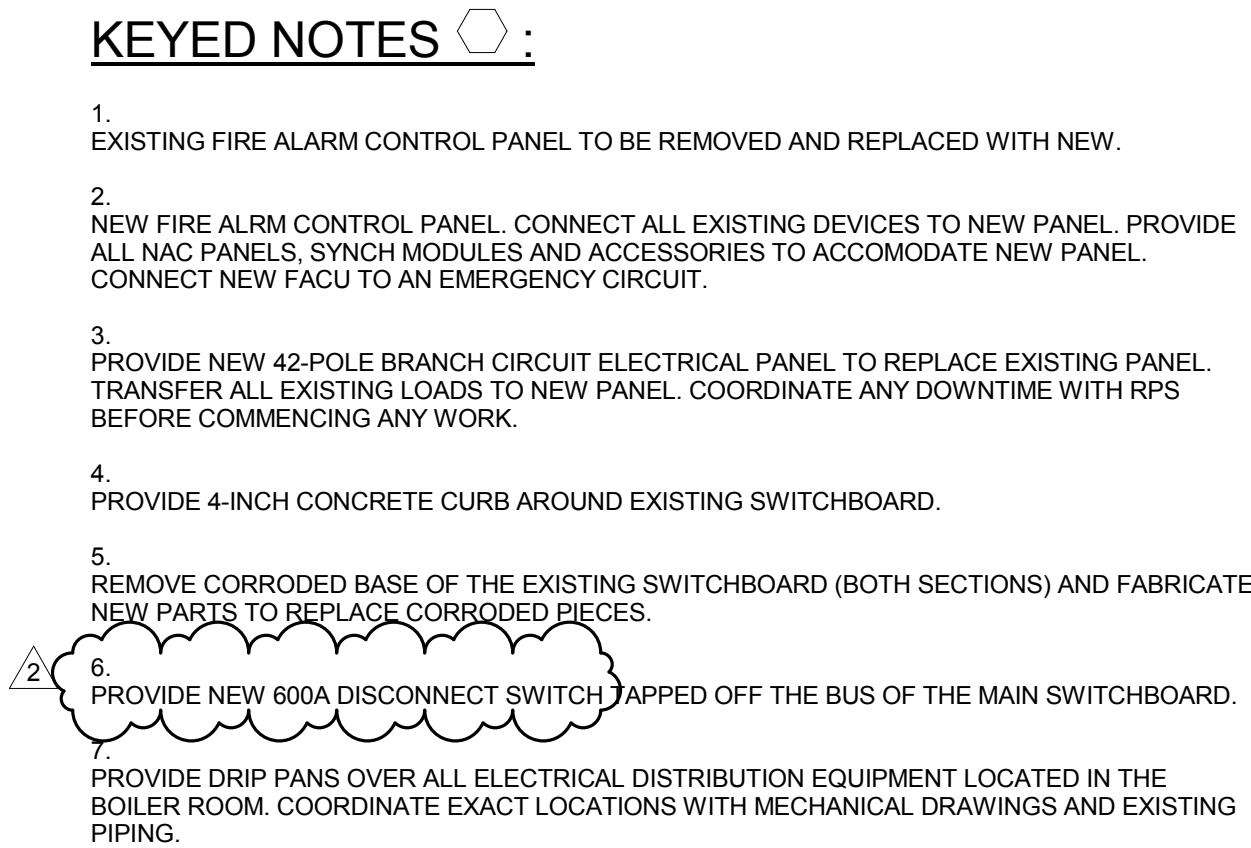
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1 LEVEL 01 LIGHTING PLAN - AREA E

1/8" = 1'-0"



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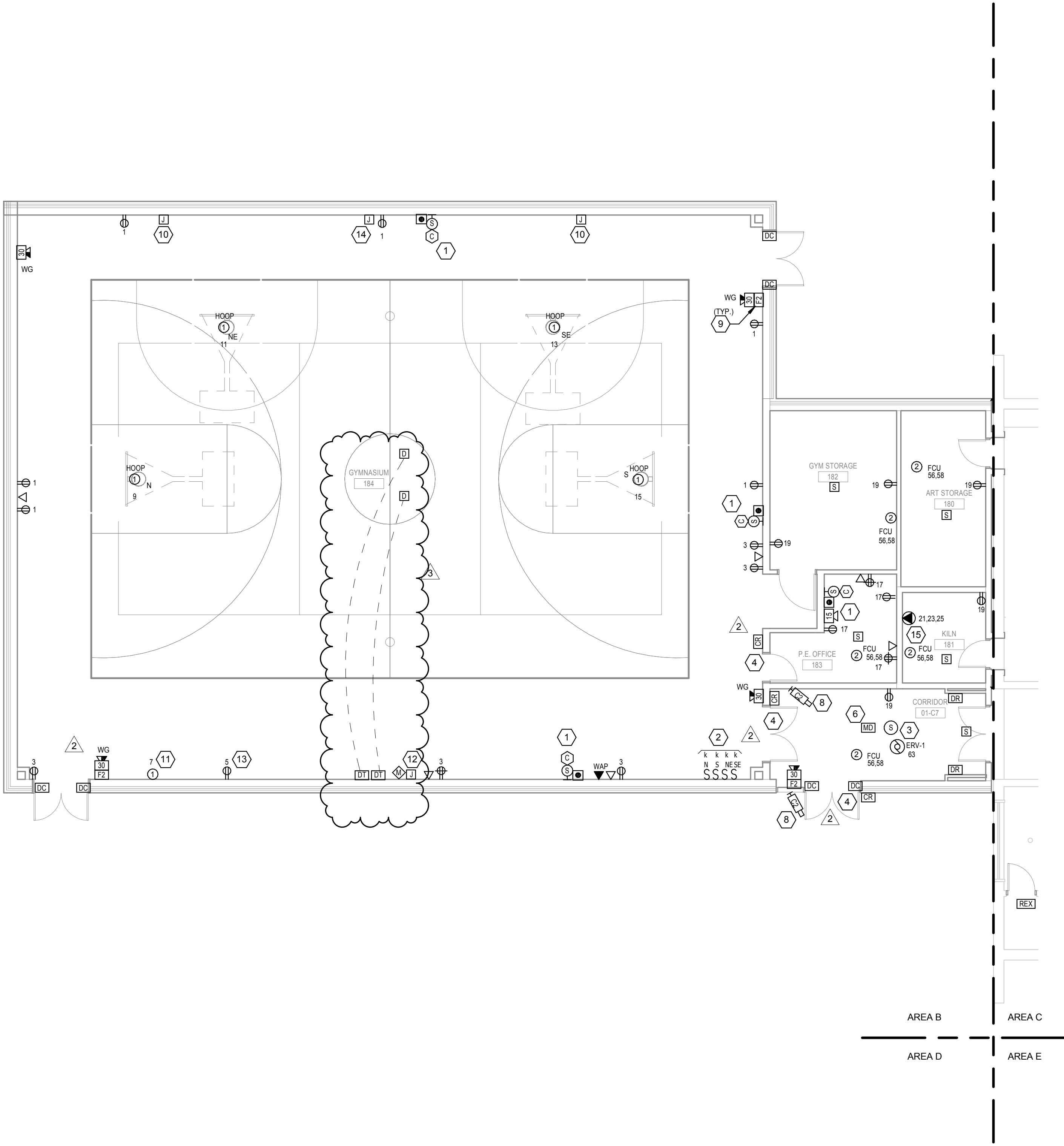
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1 LEVEL 01 POWER AND SYSTEMS PLAN - AREA B 1 2 2
1/8" = 1'-0"

KEYED NOTES

1. INTERCOM SPEAKER, CALL SWITCH, AND CLOCK SHALL BE PROVIDED BY RPS. PROVIDE CATEGORY 6 CABLE AND BACKBOXES AT ALL THREE LOCATIONS. CONTRACTOR SHALL TEST AND TERMINATE CABLE. EACH LOCATION SHALL BE A SEPARATE HOMERUN TO THE DESIGNATED IDF ROOM.
2. KEY OPERATED SWITCHES FOR MOTORIZED BACKSTOPS. ENGRAVE COVERPLATES WITH N, S, NE, AND SE BACKSTOP LETTERING. PROVIDE ALL CONTROL WIRING AND INTERFACE WITH BACKSTOP MOTORS AS REQUIRED.
3. FUTURE SPEAKER LOCATION. EACH SPEAKER LOCATION SHALL CONSIST OF 20'-0" CATEGORY 6 CABLE COIL. HOMERUN TO LAN ROOM. CONFIRM EXACT LOCATION WITH RPS PRIOR TO ROUGH-IN.
4. PROVIDE 1/2" CONDUIT STUBBED INTO DOOR FRAME FOR FUTURE CARD READER AND SECURITY WIRING. EXTEND CONDUIT TO ACCESSIBLE CEILING LOCATION THROUGH PARTITION TO ELECTRICAL LOCK LOCATION.
5. NOT USED.
6. PROVIDE 22/4 CABLE HOMERUN BACK TO MDF ROOM FOR MOTION DETECTOR. COIL 10'-0" OF CABLE AT THE FUTURE SECURITY PANEL LOCATION.
7. NOT USED.
8. PROVIDE BACKBOX AND CATEGORY 6 CABLE AT SECURITY CAMERA LOCATION. EQUIPMENT SHALL BE PROVIDED BY RPS.
9. ALL MANUAL PULL STATIONS SHALL BE PROVIDED WITH STOPPER II COVER WITH SOUNDER.
10. VERIFY LOCATIONS OF UNDERFLOOR FANS. PROVIDE 2#18 AWG AT EACH FAN FROM HUMIDISTAT CONTROL PANEL.
11. PROVIDE 120V CONNECTION TO DEHUMIDIFICATION UNDER FLOOR SYSTEM. CONTROL PANEL SHALL BE LOCATED RIGHT ABOVE THE FLOOR WITH METAL BLANK COVER. PROVIDE 2#18 AWG WIRE TO HUMIDISTAT BELOW FLOOR. PROVIDE 2#18 AWG WIRES TO THE TWO EXHAUST FANS. PROVIDE ALL WIRING AND TERMINATIONS PER MANUFACTURERS INSTRUCTIONS.
12. PROVIDE 1-INCH STUB-UP FOR SCOREBOARD CONTROL WIRING. CONFIRM EXACT LOCATIONS WITH RPS.
13. PROVIDE RECEPTACLE FOR SCOREBOARD. CONFIRM EXACT LOCATION WITH RPS.
14. SCOREBOARD LOCATION. PROVIDE 1" C TO DESIGNATED SCORERS TABLE LOCATION. VERIFY EXACT LOCATION AND MOUNTING HEIGHT OF WIRING DEVICES PRIOR TO ROUGH-IN.
15. PROVIDE NEMA 15-50 RECEPTACLE FOR KILN EQUIPMENT. PROVIDE 4#8, 1#10G IN 1-1/4" C. CONNECT TO PANEL 1LNLC1, 50A-3P CIRCUIT BREAKER.

BRANCH CIRCUIT NOTES

1. EXTEND BRANCH CIRCUITS IN THIS AREA TO THE FOLLOWING BRANCH PANELBOARDS, UNLESS OTHERWISE NOTED.
120/208V PANELBOARDS
1LNLC1 - NORMAL POWER (ELEC. 170)
EM - LIFE SAFETY POWER. UTILIZE EXISTING SPACES. PROVIDE NEW 20A-1P CIRCUIT BREAKERS AT PANEL.
2. ALL SECURITY LOCATIONS ARE SERVED FROM I.T. 157. REFER TO E0201.C FOR LOCATION.



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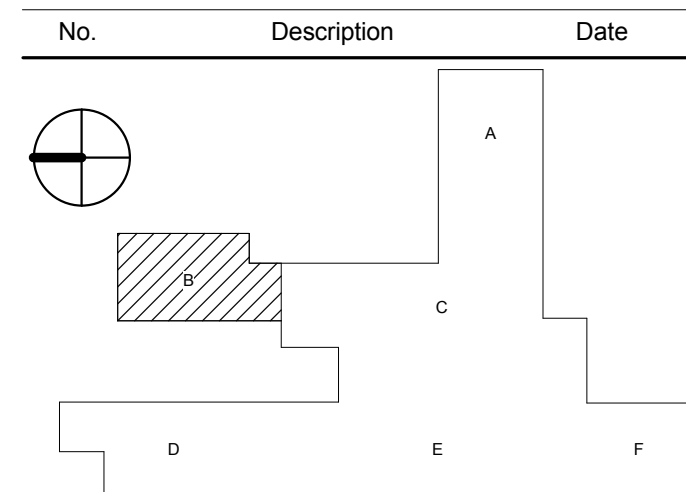
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3	ADDENDUM 02	1/15/2016
2	ADDENDUM 01	1/07/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:

LEVEL 01 POWER AND SYSTEMS PLAN - AREA B

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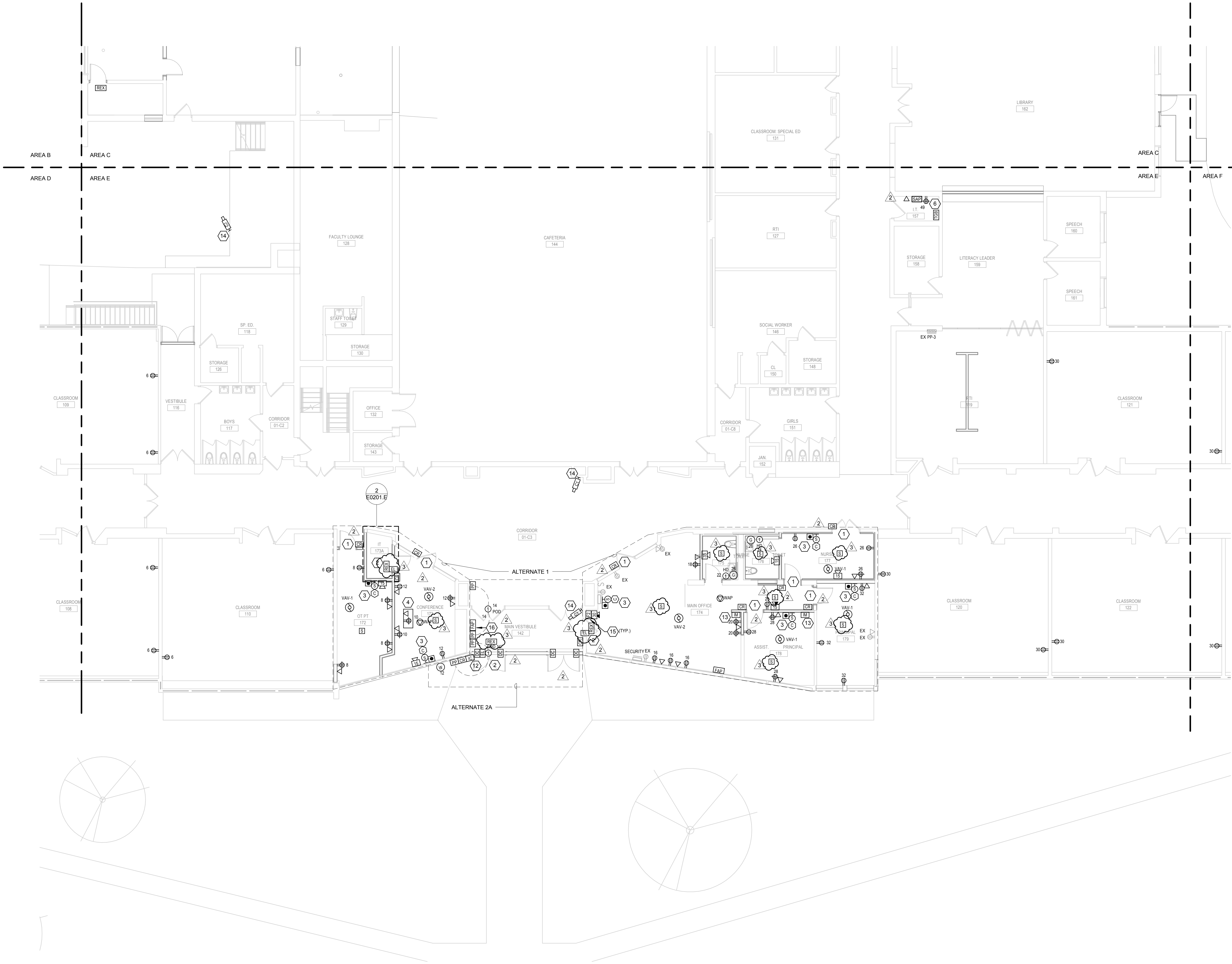
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2. ALL SECURITY LOCATIONS ARE SERVED FROM I.T. 157.



E0201.C

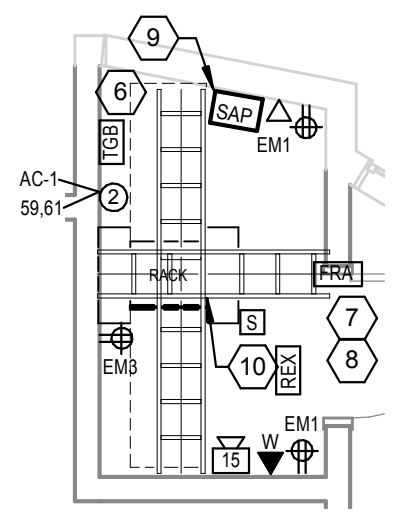


KEYED NOTES

1. PROVIDE 1/2" CONDUIT STUBBED INTO DOOR FRAME FOR FUTURE CARD READER AND SECURITY WIRING. EXTEND CONDUIT TO ACCESSIBLE CEILING LOCATION THROUGH PARTITION TO ELECTRICAL LOCK LOCATION.
2. PROVIDE 1/2" CONDUIT STUBBED INTO DOOR FRAME FOR OWNER PROVIDED SECURITY WIRING. EXTEND CONDUIT TO ACCESSIBLE CEILING LOCATION THROUGH PARTITION TO ELECTRIC LOCK LOCATION.
3. INTERCOM SPEAKER, CALL SWITCH, AND CLOCK SHALL BE PROVIDED BY RPS. PROVIDE CATEGORY 6 CABLE AND BACKBOXES AT ALL THREE LOCATIONS. CONTRACTOR SHALL TEST AND TERMINATE CABLE. EACH LOCATION SHALL BE A SEPERATE HOMERUN TO THE DESIGNATED IDF ROOM.
4. WIRING DEVICES FOR SMARTBOARD. CONFIRM EXACT LOCATION WITH RPS.
5. NOT USED.
6. NEW TGB. BOND TO MAIN GROUND BAR IN EXISTING MDF WITH 500KCMIL CONDUCTOR. PROVIDE CONDUIT AS REQUIRED.
7. TWO (2) 4" EZ PATH INTO TELECOM ROOM @ 9'-0" OR ABOVE DROP CEILING.
8. PROVIDE (1) 2" CONDUIT FROM EXISTING NETPOP IN THE EXISTING MDF FOR FIBER.
9. 3/4" FIRE RETARDANT PAINTED PLYWOOD, 4'X8' SHEETS OF PLYWOOD SHALL BE MOUNTED VERTICALLY WITH THE BOTTOM AT 6" A.F.F.
10. NEW 12"X12" LADDER TRAY MOUNTED ABOVE THE RACK.
11. NOT USED.
12. RELOCATE EXISTING AIPHONE CALL STATION BASED ON VESTIBULE WORK. PROVIDE ALL WIRING AND CONDUIT. FINAL TERMINATIONS BY RPS.
13. MASTER STATION FOR AIPHONE DOOR ENTRY SYSTEM. PROVIDE FEEDER AND CABLING AT ALL NEW LOCATIONS AS REQUIRED. INTERFACE WITH EXTERIOR DOOR ENTRY STATION AND DOOR RELEASE AT OFFICE SUITE DOOR. EQUIPMENT IS FURNISHED BY RPS. FINAL TERMINATIONS BY RPS. VERIFY LOCATIONS OF MASTER STATIONS WITH RPS.
14. PROVIDE BACKBOX AND CATEGORY 6 CABLE AT SECURITY CAMERA LOCATION. EQUIPMENT SHALL BE PROVIDED BY RPS.
15. ALL MANUAL PULL STATIONS SHALL BE PROVIDED WITH STOPPER II COVER WITH SOUNDER.
16. NEW FIRE ANNUNCIATOR PANEL TO BE INCLUDED IN BASE BID.

BRANCH CIRCUIT NOTES

1. EXTEND BRANCH CIRCUITS IN THIS AREA TO THE FOLLOWING BRANCH PANELBOARDS, UNLESS OTHERWISE NOTED:
120 / 208V PANELBOARDS
1L/N/C1 - NORMAL POWER (ELEC 170)
EM - LIFE SAFETY POWER. UTILIZE EXISTING SPACES. PROVIDE NEW 20A-1P CIRCUIT BREAKERS AT PANEL.
2. ALL SECURITY LOCATIONS ARE SERVED FROM I.T. 173A.



2 ENLARGED IDF ROOM 1
1/4" = 1'-0"

1 LEVEL 01 POWER AND SYSTEMS PLAN - AREA E 1 2
1/8" = 1'-0"

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ROCKFORD PUBLIC SCHOOLS
RIVERDAHL ELEMENTARY
SCHOOL - ADDITION & RENOVATION

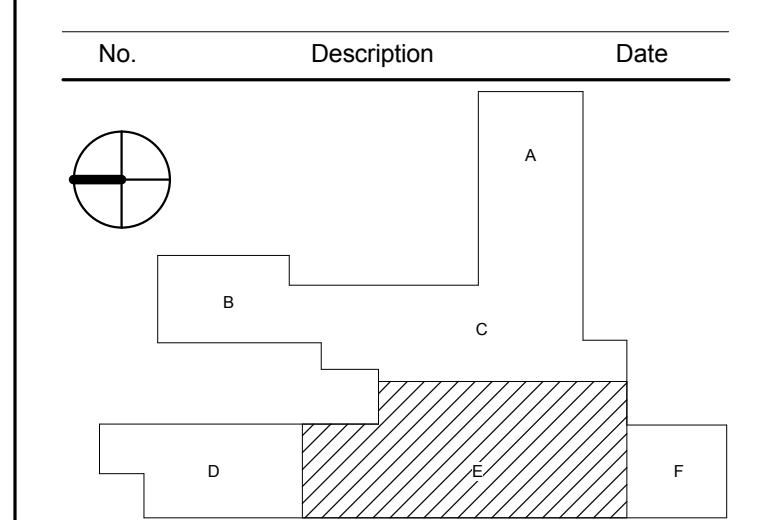
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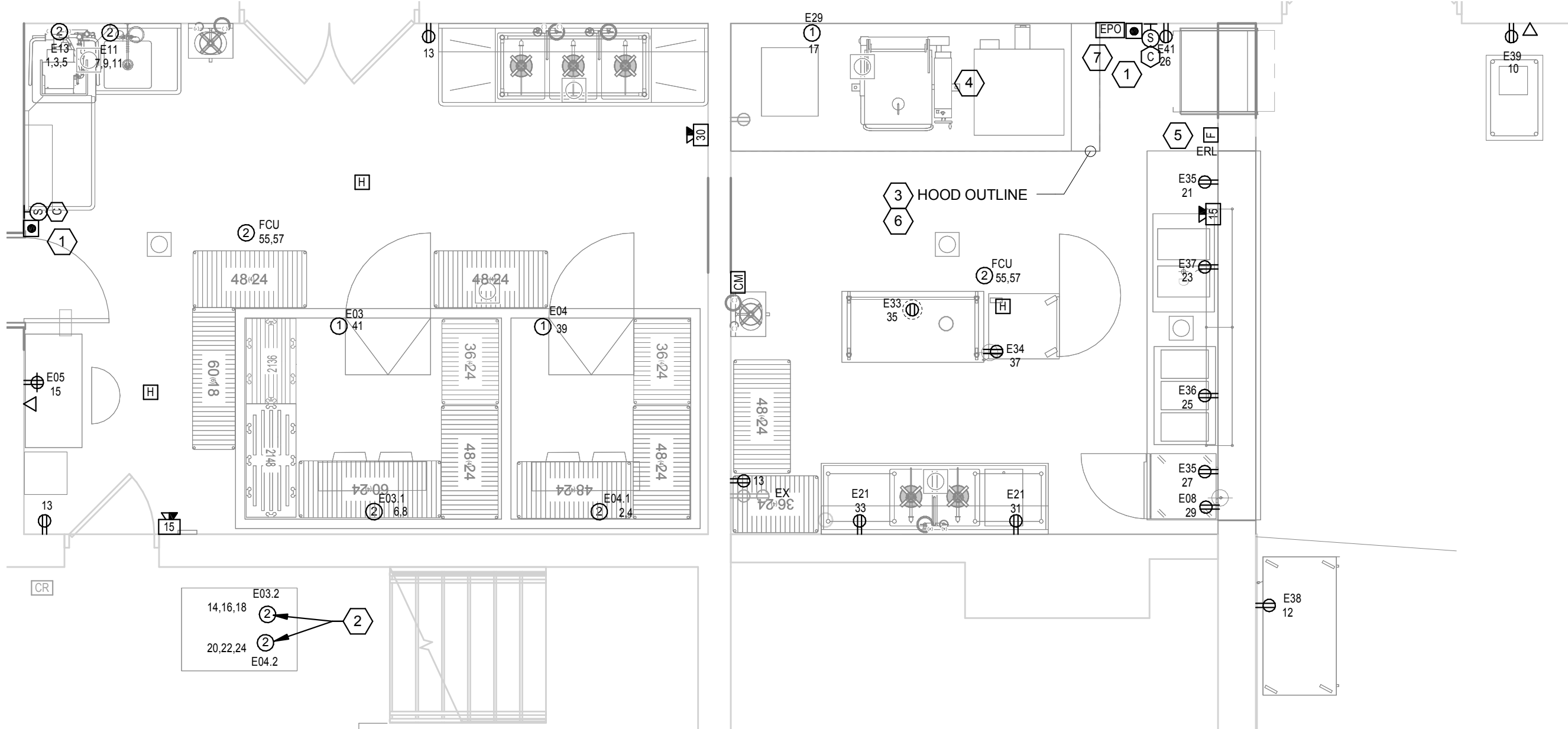
3	ADDENDUM 02	1/15/2016
2	ADDENDUM 01	1/07/2016
1	ISSUED FOR BID	12/11/2015



Drawing Title:
LEVEL 01 POWER AND SYSTEMS PLAN - AREA E

Project No.: 004645.05 Checked by: JE

E0201.E



1 ENLARGED KITCHEN PLAN 1
1/4" = 1'-0"

KITCHEN EQUIPMENT SCHEDULE																					
EQUIPMENT DESIGNATION	DESCRIPTION	VOLT	PHASE	FLA	KW	SOURCE PROTECTIVE DEVICE				WIRING				CONNECTION TYPE	MOUNTING HEIGHT	PROVIDE LOCAL DISCONNECT	REMARKS				
						HP	POLE AMPS	POLES	PANEL	CIRCUIT	PHASE		NEUTRAL					GROUND		CONDUIT	
											QUANTITY	SIZE	QUANTITY					SIZE	QUANTITY	SIZE	QUANTITY
E03	WALK-IN COOLER	120	1	16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DC	48		LIGHTS/ALARM
E03.1	EVAPORATOR COIL	208	1	16			20	2	KP1	2	#12	1	#12	1	#12	1	3/4"	DC	96		
E03.2	COMPRESSOR	208	3			2	20	3	KP1	3	#12	1	#12	1	#12	1	3/4"	DC	96	X	
E04	WALK-IN FREEZER	120	1	16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DC	48		LIGHTS/ALARM
E04.1	EVAPORATOR COIL - WALK-IN FREEZER	208	1	16			20	2	KP1	2	#12	1	#12	1	#12	1	3/4"	DC	96		
E04.2	COMPRESSOR - WALK-IN FREEZER	208	3			1.5	20	3	KP1	3	#12	1	#12	1	#12	1	3/4"	DC	96	X	
E05	DESK	120	1	16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	48		DATA REQ'D - NIKEC
E08	PREP REFRIGERATOR	120	1	6		2	20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	24		
E11	DISPOSER, GARBAGE	208	3	6		3	20	3	KP1	3	#12	1	#12	1	#12	1	3/4"	DC	18	X	
E13	WAREWASHER, DOOR TYPE, HIGH TEMP	208	3	24.9			45	3	KP1	3	#8			1	#10	1	3/4"	DC	18	X	
E21	TABLE, PREP W/ SINK	120	1	(2)16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	36		CONVENIENCE OUTLETS ON WALL
E29	OVEN/STEAMER, COMBINATION, BOILERLESS, GAS	120	1	6.8	8		20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DC	48		
E33	MOBILE WORKTABLE	120	1	16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR			PENDANT RECEPTACLE
E34	HOLDING CABINET, HUMIDIFIED HEATED	120	1	19.80			25	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	48		ON WALL BELOW COUNTER
E35	FRONT COUNTER	120	1	(2)16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	18		
E36	DROP-IN, HOT WELLS	120	1	15.6	1.9		20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	18		
E37	DROP-IN, HOT/COLD UNIT	120	1	11.2			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	18		
E38	MILK COOLER	120	1	6.8		.33	20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	18		
E39	POS	120	1	16			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	34		DATA REQ'D - NIKEC
E41	REFRIGERATED SELF SERVICE CASE	120	1	14			20	1	KP1	1	#12	1	#12	1	#12	1	3/4"	DR	18		

CONNECTION TYPE:		REMARKS:	
CP	CONTROL PANEL - MAKE DIRECT CONNECTION	1.	
DR	STANDARD NEMA 5-20R DUPLEX RECEPTACLE	2.	
JB	JUNCTION BOX	3.	
DC	DIRECT CONNECTION TO EQUIPMENT	4.	
RC	RECEPTACLE TO MATCH EQUIPMENT PLUGS		

KEYED NOTES :

- INTERCOM SPEAKER, CALL SWITCH AND CLOCK SHALL BE PROVIDED BY RPS. PROVIDE CATEGORY 6 CABLE AT THESE LOCATIONS. CONTRACTOR SHALL TEST AND TERMINATE.
- COMPRESSOR'S E3.2 AND E4.2 WILL BE MOUNTED ON ROOF IN THIS LOCATION.
- PROVIDE CONNECTIONS ABOVE THE CEILING FOR WALK-IN AND EXHAUST HOOD.
- ALL EXISTING RECEPTACLES AND CONNECTIONS TO EXISTING EQUIPMENT SHALL REMAIN AND SHALL BE CONNECTED TO NEW ELECTRICAL PANEL KP-1. MICRO FEEDERS AND PROVIDE NEW GFCI CIRCUIT BREAKERS AS REQUIRED. PROVIDE SHUNT TRIP BREAKERS FOR LOADS UNDER THE HOOD.
- RELOCATED PULL STATION FOR ANSUL FIRE SUPPRESSION SYSTEM. MODIFY CONNECTION AS REQUIRED.
- PROVIDE FIRE ALARM MONITORING FOR ANSUL FIRE SUPPRESSION SYSTEM. INTERFACE WITH NEW FIRE ALARM CONTROL PANEL AS REQUIRED.
- PROVIDE MANUAL STATION FOR FIRE SUPPRESSION SYSTEM, MOUNTED 48 INCHES AFT. SYSTEM TO BE INTERWIRRED WITH MECHANICAL GAS SHUT-OFF VALVE SERVING ITEMS OF COOKING EQUIPMENT BENEATH THE HOOD. TO PROVIDE POWER AND FUEL SHUT-OFF IN THE EVENT OF A SYSTEM ACTUATION. FIRE PULL SHALL BE LOCATED BETWEEN 16 AND 20 FEET FROM HOOD. INTERCONNECT MICRO SWITCH TO REMOTE NOTIFICATION LOCATION PER NFPA 86. INTERCONNECT SHUNT TRIP CONTROL AND MICRO SWITCH TO SHUT OFF POWER TO EQUIPMENT UNDER THE EXHAUST HOOD. ALL CIRCUIT BREAKERS AT PANEL KP-1 THAT CORRESPOND TO LOADS UNDER THE HOOD SHALL BE THE SHUNT TRIP TYPE. INTERFACE ANSUL FIRE SUPPRESSION WITH FIRE ALARM.

GENERAL NOTES :

- ALL CONNECTIONS SHOWN ARE THE APPROXIMATE CONNECTION LOCATIONS REQUIRED FOR THE FOOD SERVICE EQUIPMENT BEING FURNISHED BY THE KITCHEN CONTRACTOR AND ALLOWANCES MUST BE MADE TO EXTEND TO THE FINAL CONNECTION.
- ANY CHANGES TO THESE LOCATIONS SHOULD BE VERIFIED WITH THE ARCHITECT OR FOOD SERVICE CONTRACTOR.
- ALL DIMENSIONS SHOWN ARE FROM FINISHED WALLS, COLUMNS AND FLOORS. WHERE BASE SIZES ARE SHOWN, THEY SHALL INCLUDE FINISHED SURFACES.
- FOR ADDITIONAL INFORMATION REFER TO DETAIL DRAWINGS, MANUFACTURERS SHOP DRAWINGS, SPECIFICATIONS, BROCHURE BOOK, AND FS SERIES DRAWINGS.
- VARIOUS TRADES TO BE RESPONSIBLE FOR THE INTERCONNECTING ELECTRIC CONNECTIONS ON EQUIPMENT SHIPPED IN PIECES FOR THE ACCESSIBILITY INTO BUILDING. TRADES ARE TO MAKE THE FINAL CONNECTIONS FROM ELECTRICAL SERVICE LOCATIONS INDICATED TO EQUIPMENT PER LOCAL CODES.
- TRADES SHALL PROVIDE OUTLETS IN EQUIPMENT AS CALLED FOR IN THE FIELD AND DO ALL CONTROL WIRING.
- VARIOUS TRADES TO FURNISH ANY ADDITIONAL HARDWARE REQUIRED FOR THE PROPER OPERATION OF FOOD SERVICE EQUIPMENT SUCH ALL VALVES, STOPS, TRAPS, DISCONNECT SWITCHES AND WIRING TO CONTROL EQUIPMENT LINE SSOA AND REMOTE COMPRESSORS, FIRE SYSTEM AND DISPOSERS AS REQUIRED.
- TRADES SHALL FURNISH CONNECTIONS TO EQUIPMENT SETTING ON COUNTERS THAT DO NOT COME WITH CORD & PLUGS, FROM OUTLET BOX OR RECEPTACLE.
- TRADES TO COORDINATE WITH FIRE PROTECTION CONTRACTOR AND INSTALL SHUNT TRIPS IN ELECTRICAL PANELS TO SHUT OFF COOKING EQUIPMENT ITEMS IN CONJUNCTION WITH FIRE SYSTEMS AND RUN TO FIRE ALARM AND VALVES.
- TRADES TO COORDINATE WITH FIRE PROTECTION CONTRACTOR AND INSTALL AUTOMATIC FIRE GAS SHUT OFF VALVE IN LINE AND WIRE VALVE TO CONTROL PANEL AS REQUIRED. PROVIDE ALL REQUIRED CONNECTIONS AND INTERFACE WITH ANSUL SYSTEM GAS SHUTOFF AND EMERGENCY EPFO PULL STATION.
- TRADES TO PROVIDE OCTAGONAL 1/2 BOXES (154") WITH 3/4" CONDUIT TO ABOVE FINISHED CEILING FOR FIRE PROTECTION SYSTEM REMOTE PULLS. VERIFY LOCATIONS WITH PROPER AUTHORITY.
- ALL DIMENSIONS MUST BE VERIFIED AND AGREE WITH THE LATEST ARCHITECTURAL PLAN.
- TRADES TO VERIFY WITH OWNER/OPERATOR REQUIREMENTS FOR CASH SYSTEM AND TO SUPPLY ALL NECESSARY COMPONENTS FOR ITS PROPER OPERATION.
- ELECTRICAL OUTLETS ROUGHED IN UNDER ISLAND EQUIPMENT TO BE STUBBED UP A MAXIMUM OF 4" OR LESS SO AS NOT TO INTERFERE WITH INSTALLING THE EQUIPMENT. ALL FLOOR OPENINGS SHALL BE SEALED WATER TIGHT OR STUBBED UP A 1" MIN ABOVE VINYL FLOOR OR FLUSH WITH CURB.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY TRENCHING, FLOOR BOXES, CONDUIT AND ALL ACCESSORIES FOR A COMPLETE INSTALLATION. COORDINATE WORK WITH KITCHEN CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL PROVIDE ALL DISCONNECT MEANS FOR ALL KITCHEN EQUIPMENT AS REQUIRED BY NATIONAL ELECTRICAL CODE.
- PROVIDE LIGHTING REQUIREMENTS FOR FREEZER PER MANUFACTURER SPECIFICATIONS. LIGHTING AT FREEZER SHALL BE PROVIDED BY MANUFACTURER/FOOD SERVICE PROVIDER.
- SEAL ALL BOXES AND CONDUITS INSIDE FREEZER/COOLER TO PREVENT CONDENSATION.

BRANCH CIRCUIT NOTES :

- EXTEND BRANCH CIRCUITS IN THIS AREA TO THE FOLLOWING BRANCH PANELBOARDS, UNLESS OTHERWISE NOTED:
120 / 208V PANELBOARDS
KP-1 - NORMAL POWER (ELEC 170)



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2 ADDENDUM 02 1/15/2016
1 ISSUED FOR BID 12/11/2015

No.	Description	Date
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Drawing Title:

ENLARGED PLANS

Project No.: 004645.05 Checked by: JE

E0421

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POWER RISER DIAGRAM

KEYED NOTES

- 1
TAP BUS OF EXISTING SWITCHBOARD AND PROVIDE A NEW 600A DISCONNECT SWITCH
ADJACENT TO THE SWITCHBOARD.



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3	ADDENDUM 02	1/15/2016
2	ADDENDUM 01	1/07/2016
1	ISSUED FOR BID	12/11/2015

No.	Description	Date
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Drawing Title:

POWER RISER DIAGRAMS

Project No.: 004645.05 Checked by: JE

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RFI Report - All

PROJECT: Rockford Public School District 205
MANAGER: Jessica Figenholtz
PREPARED BY: Terry Domdey
DATE: 1/7/2016

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ID	Subject	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1109	Riverdahl-Convection Oven	Closed	Tamara Pugh	#####	1/6/2016	9	1/7/2016	Please review and respond. Refer to spec section 114000-20. Confirm the model number for item #31 convection oven, on the kitchen equipment list. The model listed is not accurate, SLGL/12SC. Mike Johnson Assistant Project Manager/Estimator LEED Green Associate Cord Construction Company 1322 East State Street Rockford, IL 61104 Phone 815-965-6630 x128	S2O reviewed the RFI see answer below: The model number should be SLGS/12SC in lieu of SLGL/12SC. GC to verify that is matches the existing unit and can be double stacked.

ID	Subject	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1110	Riverdahl-Miscellaneous	Closed	Tamara Pugh	##### ##	1/7/2016	8	1/7/2016	<p>I've reviewed the Riverdahl Elementary School drawings and have the following questions:</p> <p>What are the elevations for the HHS 6 x 6 x ¼ post on the NE corner of the gym?</p> <p>Can you provide the required base plate/anchor bolt detail for the post?</p> <p>Please provide thickness for HHS, angle, and tube at the trash enclosure. (Sheet A0052)</p> <p>Are bollards required in the trash enclosure? If so, please provide size required.</p> <p>Is there a lintel schedule?</p> <p>Spec section 055000 Metal Fabrications notes that the ladder and safety cage are to be galvanized. The architectural drawings note that the ladder is painted. Which is correct?</p> <p>Thank you,</p> <p>Charlotte Mohns Project Manager</p> <p>Custom Iron Works Inc. 540 Eastern Ave. South Beloit, IL 61080</p>	<p>See Answers Below:</p> <p>1. What are the elevations for the HHS 6 x 6 x ¼ post on the NE corner of the gym? See Addendum 01</p> <p>2. Can you provide the required base plate/anchor bolt detail for the post? See Addendum 01</p> <p>3. Please provide thickness for HHS, angle, and tube at the trash enclosure. (Sheet A0052) HSS = 1/4", angle = 1/4", 1 1/2" tubing = 3/16"</p> <p>4. Are bollards required in the trash enclosure? If so, please provide size required. Yes, bollards are required to protect the fencing from trash bins. Please see Addendum 01 sheet A0052 for bollard size.</p> <p>5. Is there a lintel schedule? Yes - 3/S0401</p> <p>6. Spec section 055000 Metal Fabrications notes that the ladder and safety cage are to be galvanized. The architectural drawings note that the ladder is painted. Which is correct? The galvanized ladder and safety cage are to be painted. See specifications Section 055000 - METAL FABRICATION in the IFB documents.</p>
1111	Riverdahl-Joist Bearing	Closed	Tamara Pugh	##### ##	1/7/2016	8	1/7/2016	<p>Could the architect please provide a joist bearing detail for elev. 115'-8" (Reference sheet S0102)</p> <p>Thank you,</p> <p>Charlotte Mohns Project Manager</p> <p>Custom Iron Works Inc. 540 Eastern Ave. South Beloit, IL 61080</p>	<p>See Detail 7/S0504 in IFB documents for Typical Joist Bearing on CMU wall</p>

ID	Subject	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1112	Riverdahl-Sub Req TK Air Max 2102	Closed	Stacie Scott	1/4/2016	1/11/2016	4	1/7/2016	<p>Good morning. The following pages is a submittal of TK-AirMax 2102 Non-Permeable fluid applied air/vapor barrier for the Riverdahl Elementary School.</p> <p>The AirMax product has been ABAA Evaluated and met or exceeded the critical ASTM tests.</p> <p>The AirMax 2102 NP is a solvent base formulation that can be applied to Zero degree F. This will allow the project to move ahead in cold weather without having to pay for tenting and propane costs. The AirMax 2102 has an industry leading 12 month U.V. resistance.</p> <p>TK Products has an ABAA Certified product specialist on staff for technical and training questions.</p> <p>Please contact Jim Libke @ 612-868-3277 or jlibke@tkproduct.com with any questions that you may have.</p> <p>Thanks,</p> <p>Lyn Heiland</p> <p>2970 Chaska Boulevard Chaska, MN 55318 P: (952) 233-2728 F; (952) 233-2712</p>	Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests.

ID	Subject	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1113	Riverdahl-TK Air Max 2103 NP	Closed	Stacie Scott	1/4/2016	1/11/2016	4	1/7/2016	<p>This is a second TK-AirMax non-perm substitution, but in a water base formulation.</p> <p>The following pages is a submittal of TK-AirMax 2103 Non-Permeable fluid applied air/vapor barrier for the Riverdahl Elementary School.</p> <p>The AirMax product has been ABAA Evaluated and met or exceeded the critical ASTM tests.</p> <p>The AirMax 2103 NP is a water base formulation. The AirMax 2103 has an industry leading 12 month U.V. resistance.</p> <p>TK Products has an ABAA Certified product specialist on staff for technical and training questions.</p> <p>Please contact Jim Libke @ 612-868-3277 or jlibke@tkproduct.com with any questions that you may have.</p> <p>Thanks,</p> <p>Lyn Heiland</p> <p>2970 Chaska Boulevard Chaska, MN 55318 P: (952) 233-2728 F: (952) 233-2727</p>	<p>Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests.</p>
1114	Riverdahl-Sub Req Scissor Loc Air Flow	Closed	Stacie Scott	1/5/2016	1/12/2016	3	1/7/2016	see attachment	See Addendum 01 for Specification

RFI Report - All

PROJECT: Rockford Public School District 205
MANAGER:
PREPARED Terry Domdey
DATE: 1/15/2016

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ID	Subject	Sender ID	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1109	Riverdahl-Convection Oven		Closed	Tamara Pugh	#### ####	1/6/2016	9	1/7/2016	Please review and respond. Refer to spec section 114000-20. Confirm the model number for item #31 convection oven, on the kitchen equipment list. The model listed is not accurate, SLGL/12SC. Mike Johnson Assistant Project Manager/Estimator LEED Green Associate Cord Construction Company 1322 East State Street Rockford, IL 61104 Phone 815-965-6630 x128	S2O reviewed the RFI see answer below: The model number should be SLGS/12SC in lieu of SLGL/12SC. GC to verify that is matches the existing unit and can be double stacked.

ID	Subject	Sender ID	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1110	Riverdahl-Miscellaneous		Closed	Tamara Pugh	#### ####	1/7/2016	8	1/7/2016	<p>I've reviewed the Riverdahl Elementary School drawings and have the following questions:</p> <p>What are the elevations for the HHS 6 x 6 x ¼ post on the NE corner of the gym?</p> <p>Can you provide the required base plate/anchor bolt detail for the post?</p> <p>Please provide thickness for HHS, angle, and tube at the trash enclosure. (Sheet A0052)</p> <p>Are bollards required in the trash enclosure? If so, please provide size required.</p> <p>Is there a lintel schedule?</p> <p>Spec section 055000 Metal Fabrications notes that the ladder and safety cage are to be galvanized. The architectural drawings note that the ladder is painted. Which is correct?</p> <p>Thank you,</p> <p>Charlotte Mohns Project Manager</p> <p>Custom Iron Works Inc. 540 Eastern Ave. South Beloit, IL 61080</p>	<p>See Answers Below:</p> <p>1. What are the elevations for the HHS 6 x 6 x ¼ post on the NE corner of the gym? See Addendum 01</p> <p>2. Can you provide the required base plate/anchor bolt detail for the post? See Addendum 01</p> <p>3. Please provide thickness for HHS, angle, and tube at the trash enclosure. (Sheet A0052) HSS = 1/4", angle = 1/4", 1 1/2" tubing = 3/16"</p> <p>4. Are bollards required in the trash enclosure? If so, please provide size required. Yes, bollards are required to protect the fencing from trash bins. Please see Addendum 01 sheet A0052 for bollard size.</p> <p>5. Is there a lintel schedule? Yes - 3/S0401</p> <p>6. Spec section 055000 Metal Fabrications notes that the ladder and safety cage are to be galvanized. The architectural drawings note that the ladder is painted. Which is correct? The galvanized ladder and safety cage are to be painted. See specifications Section 055000 - METAL FABRICATION in the IFB documents.</p>

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1111	Riverdahl-Joist Bearing		Closed	Tamara Pugh	#### ####	1/7/2016	8	1/7/2016	<p>Could the architect please provide a joist bearing detail for elev. 115'-8"?</p> <p>(Reference sheet S0102)</p> <p>Thank you,</p> <p>Charlotte Mohns Project Manager</p> <p>Custom Iron Works Inc. 540 Eastern Ave. South Beloit, IL 61080</p>	See Detail 7/S0504 in IFB documents for Typical Joist Bearing on CMU wall

ID	Subject	Sender ID	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1112	Riverdahl-Sub Req TK Air Max 2102		Closed	Stacie Scott	1/4/2016	1/11/2016	4	1/7/2016	<p>Good morning. The following pages is a submittal of TK-AirMax 2102 Non-Permeable fluid applied air/vapor barrier for the Riverdahl Elementary School.</p> <p>The AirMax product has been ABAA Evaluated and met or exceeded the critical ASTM tests.</p> <p>The AirMax 2102 NP is a solvent base formulation that can be applied to Zero degree F. This will allow the project to move ahead in cold weather without having to pay for tenting and propane costs. The AirMax 2102 has an industry leading 12 month U.V. resistance.</p> <p>TK Products has an ABAA Certified product specialist on staff for technical and training questions.</p> <p>Please contact Jim Libke @ 612-868-3277 or jlibke@tkproduct.com with any questions that you may have.</p> <p>Thanks,</p> <p>Lyn Heiland</p> <p>2970 Chaska Boulevard Chaska, MN 55318 P: (952) 233-2728 F; (952) 233-2712</p>	Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests.

ID	Subject	Sender ID	Status	From	Received	Due Date	Total Days	Closed Date	Question	Answer
1113	Riverdahl-TK Air Max 2103 NP		Closed	Stacie Scott	1/4/2016	1/11/2016	4	1/7/2016	<p>This is a second TK-AirMax non-perm substitution, but in a water base formulation.</p> <p>The following pages is a submittal of TK-AirMax 2103 Non-Permeable fluid applied air/vapor barrier for the Riverdahl Elementary School.</p> <p>The AirMax product has been ABAA Evaluated and met or exceeded the critical ASTM tests.</p> <p>The AirMax 2103 NP is a water base formulation. The AirMax 2103 has an industry leading 12 month U.V. resistance.</p> <p>TK Products has an ABAA Certified product specialist on staff for technical and training questions.</p> <p>Please contact Jim Libke @ 612-868-3277 or jlibke@tkproduct.com with any questions that you may have.</p> <p>Thanks,</p> <p>Lyn Heiland</p> <p>2970 Chaska Boulevard Chaska, MN 55318 ~ (763) 868-3277 see attachment</p>	Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests.
1114	Riverdahl-Sub Req Scissor Loc Air Flow		Closed	Stacie Scott	1/5/2016	1/12/2016	3	1/7/2016		See Addendum 01 for Specification

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1115	Riverdahl - Sub Req-Aluminum Windows		Closed	Tamara Pugh	1/7/2016	1/14/2016	9	1/15/2016	<p>Please see substitution request. Hello Ms. Keri Vansant,</p> <p>I am writing in regards to the Riverdahl Elementary School Additions project and am looking to do a substitution request for the "ALUMINUM WINDOWS," listed under section 085113 in the specification documents. Please see the attached substitution request form, and supporting documentation to the request. Also, if you need any additional AutoCAD details/drawings aside from what I have provided, please see the Litex website www.litex.com.</p> <p>If you have any additional questions, please contact myself or our sales rep, whose contact information is listed below.</p> <p>Roman Tylka Advanced Glazing Products, LLC 17 Cliffside Drive Willow Springs IL 60480</p>	<p>Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests. We have 5 manufacturers listed in spec currently. What value does this substitution provide to owner?</p>

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1116	Riverdahl-Sub Req-Composite Wall Panels		Closed	Tamara Pugh	1/7/2016	1/14/2016	9	1/15/2016	<p>Hello Ms. Carrie Vansant,</p> <p>I am writing in regards to the Riverdahl Elementary School Additions project, and am looking to do a substitution request for the metal composite material wall panels. The specification is located in section 074213.23 under "Composite Wall Panels." Please see the attached substitution request form and supporting documentation to the request.</p> <p>If you have any additional questions, please contact myself or our sales rep, who's contact information is listed below.</p> <p>Roman Tylka Advanced Glazing Products, LLC 17 Cliffside Drive Willow Springs IL 60480 312-805-2396 roman@advancedglazingproducts.com</p>	<p>Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests. We have 3 manufacturers listed in spec currently. What value does this substitution provide to owner?</p>

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1117	Riverdahl - Manko Windows 2650 - Substitution Request		Closed	Tamara Pugh	1/7/2016	1/14/2016	9	1/15/2016	<p>Please review the attached substitution request for the Riverdahl Elementary School project. If you have any questions please contact Gregg white at Gregg@aluspec.com or 608-825-4838.</p> <p>Thank you, Matt McCarthy</p> <p>Manko Window Systems 800 Hayes Drive Manhattan, KS 66502 Ph:785-776-9643 Fax:785-776-9644 mmccarthy@mankowindows.com</p>	<p>Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests. We have 5 manufacturers listed in spec currently. What value does this substitution provide to owner?</p>

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1118	Riverdahl - Burnham boilers		Closed	Tamara Pugh	1/11/2016	1/18/2016	2	1/12/2016	<p>This is Matt Austin the president and owner of Austin Mechanical Sales located in Loves Park. We are the LOCAL manufactures representative for Burnham Boilers. (Burnham is the oldest boiler maker in the country). We supplied Burnham boilers for the Auburn and Guildford High school boiler room retrofit project, along with Blume School project the latter part of last year. I'm asking you to please put and addendum out allowing Burnham to be an expectable manufacture for this project. I have attached some literature on the "C" series boiler line which was installed at Blume School last year. Please advise that you will do this.</p> <p>Thanks</p> <p>Matt Austin</p>	The manufacturer has been added to the specification and will be included as part of Addendum #2.

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1119	Riverdahl-Fill Site		Closed	Tamara Pugh	1/12/2016	1/19/2016	4	1/15/2016	Because this project is a "fill" site, the 200 CY undercut allowance would presumably take place prior to the imported fill operation. The geotechnical report under 5.0 – Analysis and Recommendations states that the existing manmade fills are not recommended for support of footing foundations. Please indicate how much topsoil and / or manmade fill material (if any) is to be excavated as part of the project before the undercut allowance (200 CY) will be used.	Please see Addendum 02
									Jim Frykman Project Manager/Estimator	

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1120	Riverdahl - AISC Plant Certification		Closed	Tamara Pugh	1/12/2016	1/19/2016	4	1/15/2016	Spec is calling out for AISC plant certification, please clarify if that is a requirement. Thanks, Chris Reyenga Director of Business Development 10540 N. Second St. Machesney Park, IL 61115 creyenga@rockfordstructures.com www.rockfordstructures.com T: 815-633-6161 F: 815-633-6179 C: 815-520-3386	AISC plant certification is NOT required for this project

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1121	Riverdahl - Certified Surveys/Curing/Sub-Grade		Closed	Tamara Pugh	1/12/2016	1/19/2016	4	1/15/2016	<p>A few questions for review.</p> <ol style="list-style-type: none"> 1. Spec section 017300 requires certified surveys and final property survey. Are these required of the school district or is this a boiler plate specification? 2. Spec section 033000 part 3.9.B calls for a 7-day wet cure. Are there other acceptable means of curing or is this the only approved method? 3. On drawing C06 a new grease trap and clean outs are shown. Why not have the new pavement extend all the way to the building line since the grade will have to be excavated to install the grease trap? Modify the removal area on drawing C04 and new pavement on C05 if necessary. 4. On the bid form, the list of Subcontractor/Values. Does this need to be filled in with the bid or within 24 hours after the bid is due? 5. Spec section 312010, subsection 3.3.A states "excavate to subgrade..."; however, the new building area is already below sub-grade. Would you like us to just remove the asphalt and the root zone in the green areas? Would this be considered the subgrade? <p>Mike Johnson Assistant Project Manager/Estimator LEED Green Associate Cord Construction Company 1322 East State Street Rockford, IL 61104 815.395.6633</p>	<p>1. No, this is not a requirement. RPS has not requested a certified survey in the past for Renovation/Addition.</p> <p>2. We understand that a 7-day wet cure in freezing temperatures is not practical. It is acceptable to forgo the wet-cure if freezing temperatures are expected. The concrete, however, must still be thermally protected per the specification.</p> <p>3. The contractor should be aware that the area in question is currently grass. The owner intends for it to remain grass to discourage people from parking in this area where there will be exposed mechanical equipment. A photo of the existing condition is attached.</p> <p>4. This information must be included with the bid.</p> <p>5. Excavate per the requirements of the geotechnical report and as stated on the foundation plan (see Addendum 02).</p>

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1122	Riverdahl - Sub Req - Demilec 2# closed close cell polyurethane spray foam insulation		Closed	Tamara Pugh	1/12/2016	1/19/2016	4	1/15/2016	<p>Good Morning Stacie,</p> <p>We provide and install Demilec 2# closed close cell polyurethane spray foam insulation. The specifications for foam product does not include this brand of insulation. What do I need to do to get it included in the specifications?</p> <p>We are a local applicator utilizing local labor.</p> <p>Sincerely, Alan Fagerstrom 815-985-6136</p>	<p>Please refer to Specification section 016000 - Product Requirements Comparison for procedure for product substitution requests. We have 4 manufacturers listed in spec currently. What value does this substitution provide to owner?</p>

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1123	Riverdahl - Ductwork and Carpeting		Closed	Tamara Pugh	1/13/2016	1/20/2016	3	1/15/2016	<p>I noticed the following during the site visit yesterday:</p> <p>1. Rooms 004 and 011 on drawing D0100.DE; there are two windows that have duct work exhausting out. Are we to include duct work removal/reinstallation with the alternate bid for the window replacement? Photos attached for reference.</p> <p>2. Corridor 01-C6 on drawings D0201.C and A0101.C indicate that the carpeting will be patched after the underground plumbing work is completed. It will be difficult to match the carpeting since it is heavily worn in the high traffic areas. There are also 5 different patch areas in this section of the school. Is it the intent of the school to have the patches in the corridor or should all the carpeting in the corridor be replaced?</p> <p>Mike Johnson Assistant Project Manager/Estimator LEED Green Associate Cord Construction Company 1322 East State Street Rockford, IL 61104 Phone 815-965-6630 x128 Fax 815-965-6641 Cell 815-262-1335 johnson@cordconstruction.com www.cordconstruction.com</p>	<p>1. Yes, and it is a part of Alternate 2B Scope. See Addendum 02.</p> <p>2. See addendum 02 for updated scope in Corridor 01-C6.</p>

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1124	Riverdahl-Grading Plan		Closed	Tamara Pugh	1/13/2016	1/20/2016	3	1/15/2016	Grading Plan shows areas of disturbance that need seeding and potentially erosion control blanket. Any additional informaton specifying seed type and blanket?	ARC Design: See Erosion Control and Restoration Notes on Sheet C02. Any area disturbed during construction or staging activities will be restored by the contractor per the referenced notes.
									Jim Frykman Project Manager/Estimator	
									Office: 815-398-2420 Cell: 815-509-5798 Fax: 815-398-0041	