ADDENDUM NO. 02

November 2, 2026

Linton-Stockton Jr. Sr. High School Additions & Renovations
10 H Street NE
Linton, IN 47441

TO: ALL BIDDERS OF RECORD

This Addendum forms a part of and modifies the Bidding Requirements, Contract Forms, Contract Conditions, the Specifications and the Drawings dated September 25, 2026, by Wold/VPS Architecture. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 2-1 through ADD 2-3 and attached Wold/VPS Architecture Addendum No. 2, dated October 29, 2026, consisting of 4 pages, new Specification Section 06 16 43 Gypsum Sheathing, 11 reissued specification sections, and 30 revised drawings.

A. GENERAL INFORMATION

1. Please utilize the Microsoft Teams link below for the virtual bid opening:

Microsoft Teams meeting
Join: https://teams.microsoft.com/meet/220783108249342?p=icYVlsS5lhTrVNBphD
Meeting ID: 220 783 108 249 342
Passcode: 8yK2aG9S
Dial in by phone
+1 317-762-3960,,36762110# United States, Indianapolis
Find a local number
Phone conference ID: 367 621 10#

2. Pre-Award Conferences for the apparent low bidders will be conducted on the following dates and times. Meetings will be held via Microsoft Teams. A link will be provided to each apparent low bidder following the bid events.

Bid Category No. 1	November 6	8:00 AM
Bid Category No. 2	November 6	10:00 AM
Bid Category No. 3	November 6	1:00 PM
Bid Category No. 4	November 6	2:00 PM
Bid Category No. 5	November 6	3:00 PM
Bid Category No. 6	November 9	9:00 AM
Bid Category No. 7	November 9	10:00 AM
Bid Category No. 8	November 9	1:00 PM
Bid Category No. 9	November 9	2:00 PM

B. SPECIFICATION SECTION00 00 20 TABLE OF CONTENTS

1. **Delete the following specification section:**

Section	08 44 13	Glazed Aluminum Curtain Walls

2. **Add the following specification section:**

Section	06 16 43	Gypsum Sheathing

C. SPECIFICATION SECTION 00 82 00

1. Specification section reissued in its entirety.

D. SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY

3.03 BID CATEGORIES

A. BID CATEGORY NO. 1 – GENERAL TRADES

Delete the following Specification Section:

Section	08 44 13	Glazed Aluminum Curtain Walls

Add the following Specification Section:

Section	06 16 43	Gypsum Sheathing

Revise the following Clarification:

22. Contractor is responsible for gypsum sheathing. Reference specification section 06 16 43.

C. BID CATEGORY NO. 3 – MASONRY

Revise the following Clarification:

6. Contractor is responsible for 2" rigid wall insulation depicted in details F1 and F4 on A5.401.

H. BID CATEGORY NO. 8 – PLUMBING & HVAC

Add the following Specification Section:

Section 02 41 19 Selective Structure Demolition

Add the following Clarification:

12. Provide selective demolition for this category's scope of work. Include removal of demolished items from the jobsite.

I. BID CATEGORY NO. 9 – ELECTRICAL & TECHNOLOGY

Add the following Specification Section:

Section 02 41 19 Selective Structure Demolition

Add the following Clarification:

6. Provide selective demolition for this category's scope of work. Include removal of demolished items from the jobsite.

PRODUCER

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE
INSURER A

INSURED

INSURER B

INSURER C

INSURER D

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L NSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
	X	GENERAL LIABILITY				EACH OCCURRENCE	**$1,000,000**
		COMMERCIAL GENERAL LIABILITY				DAMAGE TO RENTED PREMISES (Ea. occurrence)	**$50,000**
		CLAIMS MADE x OCCUR				MED EXP (Any one person)	**$5,000**
						PERSONAL & ADV. INJURY	**$1,000,000**
		GEN'L AGGREGATE LIMIT APPLIES PER				GENERAL AGGREGATE	**$2,000,000**
		POLICY PROJECT LOC				PRODUCTS-COMP/OP AGG	**$2,000,000**
	X	AUTOMOBILE LIABILITY				COMBINED SINGLE LIMIT (Ea. accident)	**$1,000,000**
		x ANY AUTO				BODILY INJURY (Per person)	**$**
		ALL OWNED AUTOS				BODILY INJURY (Per accident)	**$**
		SCHEDULE AUTOS				PROPERTY DAMAGE (Per accident)	**$**
		HIRED AUTOS					
		NON-OWNED AUTOS					
		GARAGE LIABILITY				Auto only – ea. accident	**$**
		ANY AUTO				Other than auto only: EA ACC	**$**
						AGG	**$**
	X	EXCESS/UMBRELLA LIABILITY				EACH OCCURRENCE	**$10,000,000**
		OCCUR CLAIMS MADE				AGGREGATE	**$10,000,000**
							$
		DEDUCTIBLE					**$**
		RETENTION					**$**
		WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				WC STATUTORY LIMITS OTHER	**$**
		ANY PROPRIETORY/PARTNER/EXECUTIVE OFFICER MEMBER EXCLUDED?				E.L. EACH ACCIDENT	**$1,000,000**
		If yes, describe under SPECIAL PROVISIONS below				E.L. DISEASE – EA EMPLOYEE	**$1,000,000**
						E.L. DISEASE – POLICY LIMIT	**$1,000,000**
		OTHER				CYBER LIABILITY EMPLOYEE THEFT/CRIME COVERAGE POLLUTION LIABILITY	**$500,000** **$250,000** **$1,000,000**

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

Project: 224720 Linton-Stockton Jr. Sr. High School Additions & Renovations - The Skillman Corporation & all parties required by contract are added as additional insureds on GL including completed operations & additional insureds on Auto Liab but only w/respects to liability arising out of the work performed by/on behalf of named ins for above project with coverage being primary & noncontributory. Waiver of Subrogation is added to GL, Auto & WC in favor of additional insureds. Umbrella is follow form to additional insureds/primary & noncontributory on GL and Waiver of Subrogation on GL & WC. WC applies in Indiana.

CERTIFICATE HOLDER	**CANCELLATION**
The Skillman Corporation **3834 S Emerson Ave, Bldg A** **Indianapolis, IN 46203**	*SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATED THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.* AUTHORIZED REPRESENTATIVE (Signed or stamped signature)

To: Prospective Bidders

From: Wold VPS

Date: October 29, 2026

Comm. No: 260804037, 2024005

Subject: Addendum No. 2 for Bidding Documents for the
Linton-Stockton School Corporation
Linton-Stockton Jr. Senior High School Additions and Renovations
Linton, Indiana

BIDS DUE NOVEMBER 5, 2026 AT 2:00 P.M.

This addendum forms a part of the Contract Documents dated September 25, 2026. Acknowledge receipt of this Addendum on the space provided on the Bid Form. Failure to do so may result in disqualification of Bid.

This Addendum consists of attachments:
Specifications: 00 01 10, 04 20 00, 06 16 43, 07 21 00, 07 25 00, 08 41 13, 08 44 13, 08 71 00, 09 64 66, 09 65 66, 09 84 00, 10 28 00, 10 51 13, 11 66 23
Drawings: A2.01d, A2.01f, A2.02d, A2.095, A4.105, A4.301, A5.201, A5.202, A5.203, A5.204, A5.401, A5.501, A5.502, A5.601, A5.621, A5.801, A5.901, A5.902, A5.903, A6.001, S303, PF101, PP101, P-902, EP001, EP101, EP102, E-401, E-602, E-603

PROJECT MANUAL

1. **SPECIFICATION SECTION 00 01 10 TABLE OF CONTENTS**
   A. Reissued this addendum.
2. **SPECIFICATION SECTION 04 20 00 UNIT MASONRY**
   A. Reissued this addendum.
3. **SPECIFICATION SECTION 06 16 43 GYPSUM SHEATHING**
   A. Issued this addendum.
4. **SPECIFICATION SECTION 07 21 00 THERMAL INSULATION**
   A. Reissued this addendum.
5. **SPECIFICATION SECTION 07 25 00 WEATHER BARRIERS**
   A. Reissued this addendum.
6. **SPECIFICATION SECTION 08 41 13 STOREFRONTS**
   A. Reissued this addendum.

7. **SPECIFICATION SECTION 08 44 13 GLAZED ALUMINUM CURTAIN WALLS**
   A. Deleted in its entirety.
8. **SPECIFICATION SECTION 08 71 00 DOOR HARDWARE**
   A. Reissued this addendum.
9. **SPECIFICATION SECTION 09 64 66 WOOD FLOORING REFINISHING**
   A. Reissued this addendum.
10. **SPECIFICATION SECTION 09 65 66 RESILIENT ATHLETIC FLOORING**
    A. Reissued this addendum.
11. **SPECIFICATION SECTION 09 84 00 ACOUSTIC PANELS**
    A. Reissued this addendum.
12. **SPECIFICATION SECTION 10 28 00 TOILET AND BATH ACCESSORIES**
    A. Reissued this addendum.
13. **SPECIFICATION SECTION 10 51 13 METAL LOCKERS**
    A. Reissued this addendum.
14. **SPECIFICATION SECTION 11 66 23 GYMNASIUM EQUIPMENT**
    A. Reissued this addendum.

PRIOR APPROVALS

The following schedule amends designated specification sections to list additional acceptable manufacturers. Use of any product by any of these manufacturers will be permitted only if after review of shop drawings or detailed product data per Section 01 30 00, Architect determines that proposed materials or equipment are equivalent in performance, construction and appearance to product(s) specified.

Where anticipated product substitutions would alter the design or space requirements indicated on the Drawings, pay for cost of design and construction revisions including the cost of associated work by other contractors.

For complete requirements, see Specification Section 01 25 00 – Substitution Procedures.

Section No.	Item	Type	Acceptable Manufacturer
04 20 00	2.7	MVA	Trufast
07 42 13	2.1	Metal Wall Panels	MBCI
07 42 13	2.1	Metal Wall Panels	PAC-CLAD
07 54 23	2.1	60 Mil TPO	Duro-Tech
11 66 23	2.6	Scoreboards	Daktronics
11 66 23	2	Gym Equipment	Draper

Wold VPS

DRAWINGS

1. **DRAWING A2.01d - MAIN LEVEL FLOOR PLAN - AREA D**
   A. Reissued this addendum.
2. **DRAWING A2.01f - MAIN LEVEL FLOOR PLAN - AREA F**
   A. Reissued this addendum.
3. **DRAWING A2.02d - UPPER LEVEL FLOOR PLAN - AREA D**
   A. Reissued this addendum.
4. **DRAWING A2.095 - ROOF PLAN**
   A. Reissued this addendum.
5. **DRAWING A4.105 - ENLARGED PLANS - TOILETS & LOCKER ROOMS**
   A. Reissued this addendum.
6. **DRAWING A4.301 - GYM STRIPING PLANS – BASKETBALL**
   A. Reissued this addendum.
7. **DRAWING A5.201 - EXTERIOR WALL SECTIONS**
   A. Reissued this addendum.
8. **DRAWING A5.202 - EXTERIOR WALL SECTIONS**
   A. Reissued this addendum.
9. **DRAWING A5.203 - EXTERIOR WALL SECTIONS**
   A. Reissued this addendum.
10. **DRAWING A5.204 - EXTERIOR WALL SECTIONS**
    A. Reissued this addendum.
11. **DRAWING A5.401 - EXTERIOR ASSEMBLIES – WALLS**
    A. Reissued this addendum.
12. **DRAWING A5.501 - EXTERIOR DETAILS – WALL**
    A. Reissued this addendum.
13. **DRAWING A5.502 - EXTERIOR DETAILS – WALL**
    A. Reissued this addendum.
14. **DRAWING A5.601 - EXTERIOR DETAILS – OPENINGS**
    A. Reissued this addendum.
15. **DRAWING A5.621 - EXTERIOR DETAILS - OPENINGS (STOREFRONT)**
    A. Reissued this addendum.
16. **DRAWING A5.801 - EXTERIOR DETAILS – PARAPETS**
    A. Reissued this addendum.
17. **DRAWING A5.901 - EXTERIOR DETAILS – ROOF**
    A. Reissued this addendum.
18. **DRAWING A5.902 - EXTERIOR DETAILS – ROOF**
    A. Reissued this addendum.
19. **DRAWING A5.903 - EXTERIOR DETAILS – ROOF**
    A. Reissued this addendum.
20. **DRAWING A6.001 - SITE DETAILS**
    A. Reissued this addendum.

21. **DRAWING S201**
    A. Terminate new 8″ CMU bearing walls along Circ F101 at doors F101A & F101B.
22. **DRAWING S203**
    A. Delete overbuild note at existing Circ D202 roof.
23. **DRAWING S303**
    A. See attached revised section sketch ADD2-S1.
24. **DRAWING PF101 - PLUMBING FOUNDATION PLAN – AREA D**
    A. Reissued in its entirety.
25. **DRAWING PP101 - PLUMBING MAIN LEVEL FLOOR PLAN – AREA D**
    A. Reissued in its entirety.
26. **DRAWING P-902 - SANITARY WASTE AND VENT ISOMETRIC**
    A. Reissued in its entirety.
27. **DRAWING EP001 - ELECTRICAL POWER MAIN LEVEL FLOOR PLAN – OVERALL**
    A. Reissued in its entirety.
28. **DRAWING EP101 - ELECTRICAL POWER MAIN LEVEL FLOOR PLAN - AREA D**
    A. Reissued in its entirety.
29. **DRAWING EP102 - ELECTRICAL POWER UPPER LEVEL FLOOR PLAN - AREA D**
    A. Reissued in its entirety.
30. **DRAWING E-401 - ELECTRICAL ENLARGED PLANS**
    A. Reissued in its entirety.
31. **DRAWING E-602 - ELECTRICAL RISER DIAGRAM AND SCHEDULES**
    A. Reissued in its entirety.
32. **DRAWING E-603 - ELECTRICAL PANELBOARD SCHEDULES**
    A. Reissued in its entirety.

END OF ADDENDUM #2

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes unit masonry assemblies consisting of the following:

1. Flexible flashing.
2. Face brick.
3. Mortar and grout.
4. Reinforcing steel.
5. Masonry joint reinforcement.
6. Ties and anchors.
7. Embedded flashing.
8. Miscellaneous masonry accessories.
9. Cavity-wall insulation.
10. Stone trim.

B. Related Sections include the following:

1. Division 04 Section “Concrete Masonry Units”.
2. Division 07 Section "Joint Sealants" for sealing control and expansion joints in unit masonry.

C. Products furnished, but not installed, under this Section include the following:

1. Dovetail slots for masonry anchors, installed under Division 03 Section "Cast-in-Place Concrete."
2. Anchor sections of adjustable masonry anchors for connecting to structural frame, installed under Division 05 Section "Structural Steel Framing."

D. Products installed, but not furnished, under this Section include the following:

1. Steel lintels and shelf angles for unit masonry, furnished under Division 05 Section "Metal Fabrications."
2. Manufactured reglets in masonry joints for metal flashing, furnished under Division 07 Section "Sheet Metal Flashing and Trim."

1.3 DEFINITIONS

A. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.4 PERFORMANCE REQUIREMENTS

A. Provide unit masonry that develops indicated net-area compressive strengths (f'_m) at 28 days.

B. Determine net-area compressive strength (f'_m) of masonry from average net-area compressive strengths of masonry units and mortar types (unit-strength method) according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

1.5 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: For the following:

1. Masonry Units: Show sizes, profiles, coursing, and locations of special shapes.
2. Stone Trim Units: Show sizes, profiles, and locations of each stone trim unit required.
3. Reinforcing Steel: Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement." Show elevations of reinforced walls.
4. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.

C. Samples for Initial Selection: For the following:

1. Decorative concrete masonry units, in the form of small-scale units.
2. Face brick, in the form of straps of five or more bricks.
3. Weep holes/vents.

D. List of Materials Used in Constructing Mockups: List generic product names together with manufacturers, manufacturers' product names, model numbers, lot numbers, batch numbers, source of supply, and other information as required to identify materials used. Include mix proportions for mortar and grout and source of aggregates.

1. Submittal is for information only. Neither receipt of list nor approval of mockup constitutes approval of deviations from the Contract Documents unless such deviations are specifically brought to the attention of Architect and approved in writing.

E. Qualification Data: For testing agency.

F. Material Certificates: Include statements of material properties indicating compliance with requirements including compliance with standards and type designations within standards. Provide for each type and size of the following:

1. Masonry units.

a. Include material test reports substantiating compliance with requirements.
b. For bricks, include size-variation data verifying that actual range of sizes falls within specified tolerances.
c. For exposed brick, include material test report for efflorescence according to ASTM C 67.
d. For surface-coated brick, include material test report for durability of surface appearance after 50-cycles of freezing and thawing per ASTM C 67 or a list of addresses of buildings in

Project's area where proposed brick has been used successfully and with a history of durability.

e. For masonry units used in structural masonry, include data and calculations establishing average net-area compressive strength of units.

2. Cementitious materials. Include brand, type, and name of manufacturer.
3. Preblended, dry mortar mixes. Include description of type and proportions of ingredients.
4. Grout mixes. Include description of type and proportions of ingredients.
5. Reinforcing bars.
6. Joint reinforcement.
7. Anchors, ties, and metal accessories.

G. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports, per ASTM C 78 for mortar mixes required to comply with property specification.
2. Include test reports, per ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

H. Statement of Compressive Strength of Masonry: For each combination of masonry unit type and mortar type, provide statement of average net-area compressive strength of masonry units, mortar type, and resulting net-area compressive strength of masonry determined according to Tables 1 and 2 in ACI 530.1/ASCE 6/TMS 602.

I. Cold-Weather Procedures: Detailed description of methods, materials, and equipment to be used to comply with cold-weather requirements.

1.6 QUALITY ASSURANCE

A. ~~**Testing Agency Qualifications: The Contractor shall be responsible for all costs associated with mortar and grout testing and associated reporting. Contractor shall utilize Patriot Engineering of Evansville, Indiana for all testing. An independent agency qualified according to ASTM C 1093 for testing indicated, as documented according to ASTM E 548.**~~

A. Testing and Inspecting: Owner will engage special inspectors to perform test and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements is done at Contractor's expense.

B. Source Limitations for Masonry Units: Obtain exposed masonry units of a uniform texture and color, or a uniform blend within the ranges accepted for these characteristics, through one source from a single manufacturer for each product required.

C. Source Limitations for Mortar Materials: Obtain mortar ingredients of a uniform quality, including color for exposed masonry, from a single manufacturer for each cementitious component and from one source or producer for each aggregate.

D. Sample Panels: Build sample panels to verify selections made under sample submittals and to demonstrate aesthetic effects. Comply with requirements in Division 01 Section "Quality Requirements" for mockups.

1. Build sample panels for typical exterior and interior walls in sizes approximately 60 inches (1500 mm) long by 48 inches (1200 mm) high by full thickness.
2. Where masonry is to match existing, erect panels adjacent and parallel to existing surface.
3. Clean one-half of exposed faces of panels with masonry cleaner indicated.
4. Protect approved sample panels from the elements with weather-resistant membrane.
5. Approval of sample panels is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; aesthetic qualities of workmanship; and other material and construction qualities specifically approved by Architect in writing.

    a. Approval of sample panels does not constitute approval of deviations from the Contract Documents contained in sample panels unless such deviations are specifically approved by Architect in writing.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build mockup of typical wall area as shown on Drawings.
2. Build mockups for typical exterior and interior walls in sizes approximately 96 inches (2400 mm) long by 72 inches (1800 mm) high by full thickness, including face and backup wythes and accessories.

    a. Include a sealant-filled joint at least 16 inches (400 mm) long in each mockup.
    b. Include lower corner of window opening framed with stone trim at upper corner of exterior wall mockup. Make opening approximately 12 inches (300 mm) wide by 16 inches (400 mm) high.
    c. Include through-wall flashing installed for a 24-inch (600-mm) length in corner of exterior wall mockup approximately 16 inches (400 mm) down from top of mockup, with a 12-inch (300-mm) length of flashing left exposed to view (omit masonry above half of flashing).
    d. Include metal studs, sheathing, veneer anchors, flashing, and weep holes in exterior masonry-veneer wall mockup.
    e. Include pre-faced concrete masonry units on one face of interior unit masonry wall mockup.

3. Where masonry is to match existing, erect mockups adjacent and parallel to existing surface.
4. Clean one-half of exposed faces of mockups with masonry cleaner as indicated.
5. Protect accepted mockups from the elements with weather-resistant membrane.
6. Approval of mockups is for color, texture, and blending of masonry units; relationship of mortar and sealant colors to masonry unit colors; tooling of joints; and aesthetic qualities of workmanship.

    a. Approval of mockups is also for other material and construction qualities specifically approved by Architect in writing.
    b. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless such deviations are specifically approved by Architect in writing.

7. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01 Section "Project Management and Coordination."

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.

B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.8 PROJECT CONDITIONS

A. Protection of Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.

1. Extend cover a minimum of 24 inches (600 mm) down both sides and hold cover securely in place.
2. Where 1 wythe of multiwythe masonry walls is completed in advance of other wythes, secure cover a minimum of 24 inches (600 mm) down face next to unconstructed wythe and hold cover in place.

B. Do not apply uniform floor or roof loads for at least 12 hours and concentrated loads for at least 3 days after building masonry walls or columns.

C. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.

1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
2. Protect sills, ledges, and projections from mortar droppings.
3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.

D. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

E. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.
2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 MASONRY UNITS, GENERAL

A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to exceed tolerances and to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not uses units where such defects, including dimensions that vary from specified dimensions by more than stated tolerances, will be exposed in the completed Work or will impair the quality of completed masonry.

2.3 BRICK

A. General: Provide shapes indicated and as follows:

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
2. Provide special shapes for applications where stretcher units cannot accommodate special conditions, including those at corners, movement joints, bond beams, sashes, and lintels.
3. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
4. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Face Brick: ASTM C 216-07 Grade SW, Type FBX.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 4400 psi (30.3 MPa).
2. Initial Rate of Absorption: Less than 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67.

    a. MOD Indian Red CV **(BRICK A)**.
    b. MOD Pago Velour **(BRICK B)**.
    c. MOD 8632 Medium Dark Velour **(BRICK C)**.

3. Efflorescence: Provide brick that has been tested according to ASTM C 67 and is rated "not effloresced."
4. Surface Coating: Brick with colors or textures produced by application of coatings shall withstand 50 cycles of freezing and thawing per ASTM C 67 with no observable difference in the applied finish when viewed from 10 feet (3 m) or shall have a history of successful use in Project's area.
5. Application: Use where brick is exposed, unless otherwise indicated.
6. Henryville: Belden 503-505 Smooth; Borden: Belden Colony Red Range, provided by Killebrew Brick (1325 St. George Road, Evansville, IN 47711 (812) 425-3664).
7. **Size: 4" 4" x 12".**

~~**2.4 STONE TRIM**~~

~~**A. Indiana Limestone, smooth cut to profiles indicated.**~~

2.5 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C 207 Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.

D. Masonry Cement: ASTM C 91.

1. Available Products:

    a. Capital Materials Corporation; Flamingo Color Masonry Cement.
    b. Essroc, Italcementi Group; Brixment or Velvet.
    c. Holcim (US) Inc.; Mortamix Masonry Cement.
    d. Lafarge North America Inc.; Magnolia Masonry Cement.
    e. Lehigh Cement Company; Lehigh Masonry Cement.
    f. National Cement Company, Inc.; Coosa Masonry Cement.

E. Aggregate for Mortar: ASTM C 144.

1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.

2. For joints less than 1/4 inch (6.5 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.

F. Aggregate for Grout: ASTM C 404.

G. Epoxy Pointing Mortar: ASTM C 395, epoxy-resin-based material formulated for use as pointing mortar for structural-clay tile facing units (and approved for such use by manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.

H. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Available Products:

a. Addiment Incorporated; Mortar Kick.
b. Euclid Chemical Company (The); Accelguard 80.
c. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.
d. Sonneborn, Div. of ChemRex; Trimix-NCA.

I. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60 (Grade 420).

B. Masonry Joint Reinforcement, General: ASTM A 951.

1. Interior Walls: Mill galvanized, carbon steel.
2. Exterior Walls: Hot-dip galvanized, carbon steel.
3. Wire Size for Side Rods: ~~**W1.7 or 0.148-inch (3.8-mm)**~~ **W2.8 or 0.187 inch (4.75 mm)** diameter.
4. Wire Size for Cross Rods: ~~**W1.7 or 0.148-inch (3.8-mm)**~~ **W2.8 or 0.187 inch (4.75 mm)** diameter.
5. Wire Size for Veneer Ties: ~~**W1.7 or 0.148-inch (3.8-mm)**~~ **W2.8 or 0.187 inch (4.75 mm)** diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches (407 mm) o.c.
7. Provide in lengths of not less than 10 feet (3 m), with prefabricated corner and tee units.

C. Masonry Joint Reinforcement for Single-Wythe Masonry: Either ladder or truss type with single pair of side rods.

D. Masonry Joint Reinforcement for Multiwythe Masonry:

1. Ladder type with 1 side rod at each face shell of hollow masonry units more than 4 inches (100 mm) in width, plus 1 side rod at each wythe of masonry 4 inches (100 mm) or less in width.
2. Tab type, either ladder or truss design, with 1 side rod at each face shell of backing wythe and with rectangular tabs sized to extend at least halfway through facing wythe but with at least 5/8-inch (16-mm) cover on outside face.

3. Adjustable (two-piece) type, either ladder or truss design, with one side rod at each face shell of backing wythe and with separate ties that extend into facing wythe. Ties have two hooks that engage eyes or slots in reinforcement and resist movement perpendicular to wall. Ties extend at least halfway through facing wythe but with at least 5/8-inch (16-mm) cover on outside face. Ties have hooks or clips to engage a continuous horizontal wire in the facing wythe.

E. Masonry Joint Reinforcement for Veneers Anchored with Seismic Masonry-Veneer Anchors: Single 0.188-inch- (4.8-mm-) diameter, hot-dip galvanized, carbon-steel continuous wire.

2.7 TIES AND ANCHORS

A. Materials: Provide ties and anchors specified in subsequent paragraphs that are made from materials that comply with eight subparagraphs below, unless otherwise indicated.

1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 153/A 153M, Class B-2 coating.

B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch (16-mm) cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches (50 mm) parallel to face of veneer.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches (100 mm) wide.

1. Z-shaped ties with ends bent 90 degrees to provide hooks not less than 2 inches (50 mm) long may be used for masonry constructed from solid units or hollow units laid with cells horizontal.
2. Where wythes do not align are of different materials, use adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches (32 mm).
3. Wire: Fabricate from 3/16-inch- (4.8-mm-) diameter, hot-dip galvanized steel wire. Mill-galvanized wire ties may be used in interior walls, unless otherwise indicated.

D. Adjustable Anchors for Connecting to Structure: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall.

1. Anchor Section for Welding to Steel Frame: Crimped 1/4-inch- (6.4-mm-) diameter, hot-dip galvanized steel wire. Mill-galvanized wire may be used at interior walls, unless otherwise indicated.
2. Tie Section for Steel Frame: Triangular-shaped wire tie, sized to extend within 1 inch (25 mm) of masonry face, made from 0.188-inch- (4.8-mm-) diameter, hot-dip galvanized steel wire. Mill-galvanized wire may be used at interior walls, unless otherwise indicated.

E. Partition Top anchors: 0.097-inch- (2.5-mm-) thick metal plate with 3/8-inch- (10-mm-) diameter metal rod 6 inches (150 mm) long welded to plate and with closed-end plastic tube fitted over rod that allows rod to move in and out of tube. Fabricate from steel, hot-dip galvanized after fabrication.

F. Stone Anchors: Fabricate dowels, cramps, and other stone anchors from stainless steel.

G. Adjustable Masonry-Veneer Anchors

1. General: Provide anchors that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall, for attachment over sheathing to wood or metal studs, and as follows:

    a. Structural Performance Characteristics: Capable of withstanding a 100-lbf (445-N) load in both tension and compression without deforming or developing play in excess of 0.05 inch (1.3 mm).

2. Contractor's Option: Unless otherwise indicated, provide any of the following types of anchors:
3. Screw-Attached, Masonry-Veneer Anchors: Units consisting of a wire tie and a metal anchor section.

    a. Anchor Section: Sheet metal plate, 1-1/4 inches (32 mm) wide by 6 inches (150 mm) long, with screw holes top and bottom and with raised rib-stiffened strap, 5/8 inch (16 mm) wide by 3-5/8 inches (92 mm) long, stamped into center to provide a slot between strap and plate for inserting wire tie.
    b. Fabricate sheet metal anchor sections and other sheet metal parts from 0.097-inch- (2.5-mm-) thick, steel sheet, galvanized after fabrication.
    c. Wire Ties: Triangular-, rectangular-, or T-shaped wire ties fabricated from 0.188-inch- (4.8-mm-) diameter, hot-dip galvanized steel stainless-steel wire.
    d. Available Products:

        1) Dayton Superior Corporation, Dur-O-Wal Division; D/A 213 or D/A 210 with D/A 700-708.
        2) Heckmann Building Products Inc.; 315-D with 316 or Pos-I-Tie.
        3) Hohmann & Barnard, Inc.; DW-10 DW-10HS or DW-10-X.
        4) Wire-Bond; 1004, Type III or RJ-711.

4. Slip-in, Masonry-Veneer Anchors: Units consisting of a wire tie section and an anchor section designed to interlock with metal studs and be slipped into place as sheathing is installed.

    a. Wire-Type Anchor: Bent wire anchor section with an eye to receive the wire tie. Wire tie has a vertical leg that slips into the eye of anchor section and allows vertical adjustment. Both sections are made from 3/16-inch (4.8-mm), hot-dip galvanized wire.
    b. Strap-and-Wire Type Anchor: Flat metal strap with notch to interlock with flange of metal stud and two holes for inserting vertical legs of wire tie specially formed to fit anchor section. Strap is made from 0.067-inch- (1.7-mm-) thick, steel sheet, galvanized after fabrication; anchor wire tie is made from 3/16-inch (4.8-mm), hot-dip galvanized wire.
    c. Available Products:

        1) BLOK-LOK Limited; STUD-LOK.
        2) Hohmann & Barnard, Inc.; AA308.

5. Provide horizontal seismic reinforcing at 16” O.C. vertical in brick veneer. Utilize .188” dia. galvanized rod tied to veneer anchors.

    a. Equal to “wire bond” 700 series.

2.8 EMBEDDED FLASHING MATERIALS

A. Flexible Flashing: For flashing not exposed to the exterior, use one of the following, unless otherwise indicated:

1. Copper-Laminated Flashing: 7-oz./sq. ft. (2-kg/sq. m) copper sheet bonded with asphalt between 2 layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.

a. Available Products:

1) Advanced Building Products Inc.; Copper Fabric Flashing.
2) AFCO Products Inc.; Copper Fabric.
3) Hohmann & Barnard, Inc.; H & B C-Fab Flashing.
4) Phoenix Building Products; Type FCC-Fabric Covered Copper.
5) Polytite Manufacturing Corp.; Copper Fabric Flashing.
6) Sandell Manufacturing Co., Inc.; Copper Fabric Flashing.
7) York Manufacturing, Inc.; York Copper Fabric Flashing.

B. Single-Wythe CMU Flashing System: System of CMU cell flashing pans and interlocking CMU web covers made from high-density polyethylene incorporating chemical stabilizers that prevent UV degradation. Cell flashing pans have integral weep spouts that are designed to be built into mortar bed joints and weep collected moisture to the exterior of CMU walls and that extend into the cell to prevent clogging with mortar.

1. Product: Subject to compliance with requirements, provide "Blok-Flash" by Advanced Building Products Inc.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D 1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D 2000, Designation M2AA-805 or PVC, complying with ASTM D 2287, Type PVC-65406 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Weep/Vent Products: Use one of the following, unless otherwise indicated:

1. Round Plastic Weep/Vent Tubing: Medium-density polyethylene, 3/8-inch (9-mm) OD by 4 inches (100 mm) long.

2.10 CAVITY-WALL INSULATION

A. Extruded-Polystyrene Board Insulation: ASTM C 578, Type IV, closed-cell product extruded with an integral skin.

B. Adhesive: Type recommended by insulation board manufacturer for application indicated.

C. Drainage panel: “Thermocav” DP 25, 16” high, 2” thick, installed at bottom of all cavity walls.

2.11 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

1. Available Manufacturers:

   a. Diedrich Technologies, Inc.
   b. EaCo Chem, Inc.
   c. ProSoCo, Inc.

2.12 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Limit cementitious materials in mortar to portland cement and lime.
3. Limit cementitious materials in mortar for exterior and reinforced masonry to portland cement, mortar cement, and lime.
4. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C 270, Property Specification. Provide the following types of mortar for applications stated unless another type is indicated or needed to provide required compressive strength of masonry.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use Type S.
3. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; for interior load-bearing walls; for interior non-load-bearing partitions; and for other applications where another type is not indicated, use Type N.
4. For interior non-load-bearing partitions, Type O may be used instead of Type N.

D. Grout for Unit Masonry: Comply with ASTM C 476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with Table 1.15.1 in ACI 530.1/ASCE 6/TMS 602 for dimensions of grout spaces and pour height.
2. Provide grout with a slump of 8 to 11 inches (200 to 280 mm) as measured according to ASTM C 143/C 143M.

E. Epoxy Pointing Mortar: Mix epoxy pointing mortar to comply with mortar manufacturer's written instructions.

F. Admixture for exterior CMU units: Dry block as manufactured by W.R. Grace or equal.

G. Water repellent for exterior exposed CMU: Infiniseal DB as manufactured by W.R. Grace or equal.

H. Sand: Clean, well graded sand for infill in block cores where indicated.

2.16 ELASTOMERIC THERMOPLASTIC FLASHING

A. Elastomeric Thermoplastic Flashing: Composite flashing product consisting of a polyester-reinforced ethylene interpolymer alloy.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
   a. DuPont; Thru-Wall Flashing.
   b. Hohmann & Barnard, Inc.; Flex-Flash.
   c. Hyload, Inc.; Hyload Cloaked Flashing System.
   d. Mortar Net USA, Ltd.; Total Flash.

B. Monolithic Sheet: Elastomeric thermoplastic flashing, 0.040 inch (1.0 mm) thick.

C. Self-Adhesive Sheet: Elastomeric thermoplastic flashing, 0.025 inch (0.64 mm) thick, with a 0.015-inch-(0.38-mm-) thick coating of adhesive.

D. Self-Adhesive Sheet with Drip Edge: Elastomeric thermoplastic flashing, 0.025 inch (0.64 mm) thick, with a 0.015-inch- (0.38 mm-) thick coating of rubberized-asphalt adhesive. When flashing extends to face of masonry, rubberized-asphalt coating is held back approximately 1-1/2 inches (38 mm) from edge.

E. Accessories: Provide performed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of work.
2. Verify that foundations are within tolerances specified.
3. Verify that reinforcing dowels are properly placed.

B. Before installation, examine rough-in and built-in construction for piping systems to verify actual locations of piping connections.

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

3.2 INSTALLATION, GENERAL

A. Thickness: Build cavity and composite walls and other masonry construction to full thickness shown. Build single-wythe walls to actual widths of masonry units, using units of widths indicated.

B. Build chases and recesses to accommodate items specified in this and other Sections. All chases and components in chases shall be protected and kept clean during installation of CMU. After installation of CMU, all components in chases shall be cleaned and free of mortar, sand, debris, splatter to the acceptance of the Owner's Representative.

C. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening. Neatly cut CMU and smooth mortar around pipe penetrations.

D. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

E. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.

1. Mix units from several pallets or cubes as they are placed.

F. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

G. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested per ASTM C 67. Allow units to absorb water so they are damp but not wet at time of laying.

H. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:

1. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2 inch (12 mm) maximum.
2. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2 inch (12 mm) maximum.
3. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/8 inch in 20 feet (6 mm in 6 m), or 1/4 inch (12 mm) maximum.
4. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum minimum thickness limited to 1/2 inch (12 mm). Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
5. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm). Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch (3 mm).
6. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm) except due to warpage of masonry units within tolerances specified for warpage of units.

7. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch (1.5 mm) from one masonry unit to the next.

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 4-inches (100-mm). Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

D. Stopping and Resuming Work: Stop work by racking back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

E. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.

G. Fill cores in hollow concrete masonry units with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items, unless otherwise indicated.

H. Build non-load-bearing interior partitions full height of story to underside of solid floor or roof structure above, unless otherwise indicated.

1. Install compressible filler in joint between top of partition and underside of structure above.
2. Fasten partition top anchors to structure above and build into top of partition. Grout cells of CMUs solidly around plastic tubes of anchors and push tubes down into grout to provide 1/2-inch (13-mm) clearance between end of anchor rod and end of tube. Space anchors 48 inches (1200 mm) o.c., unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay hollow brick and concrete masonry units as follows:

1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.

B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.

C. Set stone trim units in full bed of mortar with full vertical joints. Fill dowel, anchor, and similar holes.

1. Clean soiled surfaces with fiber brush and soap powder and rinse thoroughly with clear water.
2. Allow cleaned surfaces to dry before setting.
3. Wet joint surfaces thoroughly before applying mortar.

D. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated. All head and bed joints shall be tooled to a uniform, smooth, neat appearance and brushed free of extrusions acceptable to Owner's Representative. All head and bed joints shall be free of all "eyelids", rough edges of CMU be neatly filled, holes and chips in CMU neatly filled, all to a neat uniform appearance."

1. For glazed masonry units, use a nonmetallic jointer 3/4 inch (19 mm) or more in width.

E. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint), unless otherwise indicated.

F. Testing of Mortar: Testing Agency shall take (10) ten samples of mortar while being installed onto CMU. Each sampling shall consist of three cylinders each, similar to cast-in-place concrete test. Samples shall be taken at locations and frequencies as determined by Owner's Representative. Testing Agency shall report compressive strengths in writing to Contractor and Owner's Representative.

3.5 CAVITY WALLS

A. Bond wythes of cavity walls together using one of the following methods:

1. Individual Metal Ties: Provide ties as shown installed in horizontal joints, but not less than one metal tie for 1.77 sq. ft. (0.16 sq. m) of wall area spaced not to exceed 16 inches (406 mm) o.c. horizontally and 16 inches (406 mm) o.c. vertically. Stagger ties in alternate courses. Provide additional ties within 12 inches (305 mm) of openings and space not more than 36 inches (915 mm) apart around perimeter of openings. At intersecting and abutting walls, provide ties at no more than 24 inches (610 mm) o.c. vertically.

a. Where bed joints of wythes do not align, use adjustable (two-piece) type ties.
b. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable (two-piece) type ties to allow for differential movement regardless of whether bed joints align.

2. Masonry Joint Reinforcement: Installed in horizontal mortar joints.

a. Where bed joints of both wythes align, use ladder-type reinforcement extending across both wythes.
b. Where bed joints of wythes do not align, use adjustable (two-piece) type reinforcement with continuous horizontal wire in facing wythe attached to ties.
c. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable (two-piece) type reinforcement with continuous horizontal wire in facing wythe attached to ties to allow for differential movement regardless of whether bed joints align.

3. Masonry Veneer Anchors: Comply with requirements for anchoring masonry veneers.

B. Bond wythes of cavity walls together using bonding system indicated on Drawings.

C. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

D. Parge cavity face of backup wythe in a single coat approximately 3/8 inch (10 mm) thick. Trowel face of parge coat smooth.

E. Installing Cavity-Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches (300 mm) o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

1. Fill cracks and open gaps in insulation with crack sealer compatible with insulation and masonry.

3.6 MASONRY-CELL INSULATION

A. Install molded-polystyrene insulation units into masonry unit cells before laying units.

3.7 MASONRY JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches (406 mm) o.c.
2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 12 inches (305 mm) beyond openings.

a. Reinforcement above is in addition to continuous reinforcement.

B. Interrupt joint reinforcement at control and expansion joints, unless otherwise indicated.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

E. Cut and bend reinforcing units as directed by manufacturer for continuity at corners, returns, offsets, column fireproofing, pipe enclosures, and other special conditions.

3.8 ANCHORING MASONRY TO STRUCTURAL MEMBERS

A. Anchor masonry to structural members where masonry abuts or faces structural members to comply with the following:

1. Provide an open space not less than 1 inch (25 mm) in width between masonry and structural member, unless otherwise indicated. Keep open space free of mortar and other rigid materials.
2. Anchor masonry to structural members with anchors embedded in masonry joints and attached to structure.
3. Space anchors as indicated, but not more than 24 inches (610 mm) o.c. vertically and 36 inches (915 mm) o.c. horizontally.

3.9 ANCHORING MASONRY VENEERS

A. Anchor masonry veneers to wall framing concrete and masonry backup with masonry-veneer anchors to comply with the following requirements:

1. Fasten screw-attached anchors through sheathing to wall framing and to concrete and masonry backup with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
2. Insert slip-in anchors in metal studs as sheathing is installed. Provide one anchor at each stud in each horizontal joint between sheathing boards.
3. Embed tie sections in masonry joints. Provide not less than 2 inches (50 mm) of air space between back of masonry veneer and face of sheathing.
4. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
5. Space anchors as indicated, but not more than 16 inches (406 mm) o.c. vertically and 24 inches (610 mm) o.c. horizontally with not less than 1 anchor for each 3.5 sq. ft. (0.33 sq. m) of wall area. Install additional anchors within 12 inches (305 mm) of openings and at intervals, not exceeding 36 inches (914 mm), around perimeter.

3.10 CONTROL AND EXPANSION JOINTS

A. General: Install control and expansion joint materials in unit masonry as masonry progresses. Do not allow materials to span control and expansion joints without provision to allow for in-plane wall or partition movement.

B. Form control joints in concrete masonry as follows:

1. Install temporary foam-plastic filler in head joints and remove filler when unit masonry is complete for application of sealant.

C. Form expansion joints in brick made from clay or shale as follows:

1. Form open joint full depth of brick wythe and of width indicated, but not less than 1/2 inch (13 mm) for installation of sealant and backer rod specified in Division 07 Section "Joint Sealants."

D. Provide horizontal, pressure-relieving joints by either leaving an air space or inserting a compressible filler of width required for installing sealant and backer rod specified in Division 07 Section "Joint Sealants," but not less than 3/8 inch (10 mm).

1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry.

3.11 LINTELS

A. Install steel lintels where indicated.

B. Provide minimum bearing of 8 inches (200 mm) at each jamb, unless otherwise indicated.

3.12 FLASHING, WEEP HOLES, CAVITY DRAINAGE, AND VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated. Install vents at shelf angles, ledges, and other obstructions to upward flow of air in cavities, and where indicated.

B. Install flashing as follows, unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches (200 mm), and 1-1/2 inches (38 mm) into the inner wythe.
3. At masonry-veneer walls, extend flashing through veneer, across air space behind veneer, and up face of sheathing at least 8 inches (200 mm); with upper edge tucked under building paper or building wrap, lapping at least 4 inches (100 mm).
4. At lintels and shelf angles, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.

C. Install single-wythe CMU flashing system in bed joints of CMU walls where indicated to comply with manufacturer's written instructions. Install CMU cell pans with upturned edges located below face shells and webs of CMUs above and with weep spouts aligned with face of wall. Install CMU web covers so that they cover upturned edges of CMU cell pans at CMU webs and extend from face shell to face shell.

D. Install weep holes in head joints in exterior wythes of first course of masonry immediately above embedded flashing and as follows:

1. Use specified weep/vent products to form weep holes.
2. Space weep holes formed from plastic tubing 16 inches (400 mm) o.c.

E. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in Part 2 "Miscellaneous Masonry Accessories" Article.

F. Upon installation of all embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, etc…and prior to installation of additional masonry units, Contractor shall schedule and notify Owner's Representative so Owner's Representative can observe installation.

3.13 REINFORCED UNIT MASONRY INSTALLATION

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and other temporary loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in ACI 530.1/ASCE 6/TMS 602.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in ACI 530.1/ASCE 6/TMS 602 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than 60 inches (1520 mm).

D. Testing of Grout: Testing Agency shall take (10) ten samples of grout while being installed into CMU. Each sampling shall consist of three cylinders each, similar to cast-in-place concrete test. Samples shall be taken at locations and frequencies as determined by Owner's Representative. Testing Agency shall report compressive strengths in writing to Contractor and Owner's Representative.

3.14 REPAIRING, POINTING, AND CLEANING

A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.

B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.

C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent or polyethylene film and waterproof masking tape.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
7. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.
8. Clean stone trim to comply with stone supplier's written instructions.
9. Clean limestone units to comply with recommendations in ILI's "Indiana Limestone Handbook."

3.15 MASONRY WASTE DISPOSAL

A. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above, and other masonry waste, and legally dispose of off Owner's property.

3.16 WATER REPELLENT APPLICATION FOR BRICK

A. Install water repellant as per manufacturer’s recommendations.

END OF SECTION 042000

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PART 1 - GENERAL

1.01 SUMMARY

A. Section includes the following:

1. Glass-mat faced gypsum sheathing as noted on exterior details.
2. Glass-mat faced gypsum sheathing with applied weather resistant barrier.

a. Sealants and transition membranes.

1.02 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1. Product Data: Manufacturer's specifications and installation instructions for each product specified.

1.03 QUALITY ASSURANCE

A. Referenced Specifications: Current Gypsum Association Publications (www.gypsum.org).

B. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

1.04 DELIVERY, STORAGE AND HANDLING

A. Delivery and Handling

1. Deliver materials to the project site with manufacturer's labels intact and legible.
2. Handle materials with care to prevent damage.
3. Deliver fire-rated materials bearing testing agency label and required fire classification numbers.

B. Storage

1. Store materials under cover, stack flat, and off ground.

PART 2 - PRODUCTS

6.01 GYPSUM SHEATHING

A. The following manufacturers/products are acceptable:

1. Georgia-Pacific Gypsum LLC; DensGlass Gold Exterior Sheathing: www.gpgypsum.com.
2. National Gypsum Company; Gold Bond Brande eXP Extended Exposure Gypsum Sheathing: www.nationalgypsum.com.
3. USG Corporation; Securock Glass Mat Gymsum Sheathing: www.usg.com.
4. Certain Teed Corporation; GlasRoc Sheathing: www.certainteed.com.

B. Panel Physical Characteristics

1. Core: Regular gypsum core (Type X gypsum core at fire rated conditions) with additives to enhance moisture and mold resistance.
2. Facing: Water-resistant glass mat on both face, back, and long edges.
3. Overall thickness: 5/8 inch (15.875 mm).
4. Panel complies with requirements of ASTM C 1177 (ASTM C1177, Type X at fire rated conditions).
5. Racking strength – Ultimate: 540 lbs/sq.ft. (25.85534 kPa) dry when tested in accordance with ASTM E72.
6. Flexible Strength – Parallel: 80 lbs (36.2874 mm), when tested in accordance with ASTM C473.
7. Humidified Deflection: Not more than ¼ inch when tested in accordance with ASTM C473.
8. Nail Pull Resistance: 80 lbs, when tested in accordance with ASTM C473.
9. Water Absorption: Less than 10% when tested in accordance with ASTM C473.
10. Surface Water Absorption: Less than 1% when tested in accordance with ASTM C473.
11. Permeance: Greater than 10 perms (6.590 metric perms), when tested in accordance with ASTM E96.
12. R-Value: 0.40 (2.5 K) when tested in accordance with ASTM C518.
13. Combustibility: Noncombustible when tested in accordance with ASTM E136.
14. Flame spreads/smoke developed: 5/0 when tested in accordance with ASTM E84.
15. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273.

6.02 GYPSUM SHEATHING WITH WEATHER RESISTANT BARRIER

A. Coated fiberglass mat gypsum sheathing with integral weather-resistant barrier.

1. The following manufacturers/products are acceptable:

a. Georgia-Pacific Gypsum LLC; DensElement Barrier Sheathing with Prosoco R-Guard Fast Flash liquid joint flashing: www.gpgypsum.com and www.prosoco.com.

b. USG Corporation; Securock ExoAir 430 Panel & Tremco Sealants and Membranes: www.usg.com.

B. Panel and Barrier Physical Characteristics

1. Core: Regular gypsum core (Type X gypsum core at fire rated conditions) with additives to enhance moisture and mold resistance.
2. Facing: Water-resistant glass mat on both face, back, and long edges.
3. Air Barrier:

   a. Air permeance of sheathing: Sheathing with an air permeability not greater than 0.001 cfm/ft2 (0.02L/s/m2) when tested in accordance with ASTM E2178.
   b. Air permeance of assembly: Assembly of sheathing and sealing components with an average air leakage not greater than 0.04 cfm/ft2 (0.2L/s/m2) when tested in accordance with ASTM E2357.
   c. Sealants and transition membranes: As recommended by manufacturer.

4. Overall thickness: 5/8 inch (15.875 mm).
5. Panel complies with requirements of ASTM C 1177 (ASTM C1177, Type X at fire rated conditions).
6. Racking strength – Ultimate: 540 lbs/sq.ft. (25.85534 kPa) dry when tested in accordance with ASTM E72.
7. Flexible Strength – Parallel: 80 lbs (36.2874 mm), when tested in accordance with ASTM C473.
8. Humidified Deflection: Not more than ¼ inch when tested in accordance with ASTM C473.
9. Nail Pull Resistance: 80 lbs, when tested in accordance with ASTM C473.
10. Water Absorption: Less than 10% when tested in accordance with ASTM C473.
11. Surface Water Absorption: Less than 1% when tested in accordance with ASTM C473.
12. Permeance: Greater than 10 perms (6.590 metric perms), when tested in accordance with ASTM E96.
13. R-Value: 0.40 (2.5 K) when tested in accordance with ASTM C518.
14. Combustibility: Noncombustible when tested in accordance with ASTM E136.
15. Flame spreads/smoke developed: 5/0 when tested in accordance with ASTM E84.
16. Mold/Mildew Resistance: 10 when tested in accordance with ASTM D 3273.

6.03 ACCESSORIES

A. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing board to be attached, with organic-polymer or other corrosion-protective coating have a salt-spray resistance of more than 800 hours according to ASTM B 117.

1. For steel framing less than 0.0329 inch (0.83566 mm) thick, attach sheathing to comply with ASTM C 1002.
2. For steel framing from 0.033 to 0.112 inch (0.8382 to 2.8448 mm) thick, attach sheathing to comply with ASTM C 954.

PART 3 - EXECUTION

9.01 EXAMINATION

A. Inspection: Verify that project conditions and substrates are acceptable, to the installer, to begin installation of work of this section.

9.02 GYPSUM SHEATHING INSTALLATION

A. Comply with GA-253 and with manufacturer's written instructions.

1. Fasten gypsum sheathing to cold-formed metal framing with screws.
2. Install boards with a 3/8 inch gap where non-load-bearing construction abuts structural elements.
3. Install boards with a ¼ inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

B. Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.

C. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over centers of studs, and stagger end joints of adjacent boards not less than one stud spacing. Attach board at perimeter and within field of board to each steel stud.

1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.

D. Vertical installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.

1. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.

E. Weather barrier sealants and transition membranes: Install as recommended by the manufacturer.

END OF SECTION 061643

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Perimeter insulation used primarily on vertical surfaces below grade at foundation walls.

B. Rigid wall insulation used as continuous insulation behind exterior sheathing in fiber cement and metal panel clad assemblies.

C. Rigid wall foil faced cavity insulation and foil faced sheathing tape used in brick on masonry assemblies.

D. Sound batt insulation used to control sound transfer in stud wall construction.

E. Expanding foam insulation as shown on drawings.

Masonry core insulation for sound insulating masonry walls.

F. Exterior batt insulation occurring in exterior envelope.

G. Acoustic spray system to seal stud and masonry walls to structural deck.

Nailable roof insulation for sloped roofs, installed with staggered seams over a 1 inch (25.4 mm) base layer of roof insulation to create a vapor barrier.

1.02 SUBMITTALS

A. Product Data: Provide data on product characteristics, performance criteria, and product limitations for all specified products.

1. For vapor barriers specifically provide:

a. Manufacturer's product samples and literature.
b. Manufacturer's installation instructions for placement, seaming and pipe boot installation.

2. For Acoustic Spray System specifically provide:

a. Installation data including application thickness of applied product.

1.03 FIELD CONDITIONS

A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

B. Deliver material to the site in unopened packages, with identification labels intact.

C. Store under water-resistant cover and protect from weather and direct sunlight.

D. Remove damaged materials from site.

PART 2 - PRODUCTS

2.01 FOAM BOARD INSULATION MATERIALS

A. Extruded Polystyrene (XPS) Board Insulation: Complies with ASTM C578 with either natural skin or cut cell surfaces.

1. Type and Compressive Resistance: for perimeter insulation: Type IV, 25 psi (173 kPa), minimum.

a. For perimeter insulation: Type IV, 25 psi (173 kPA), minimum.
b. For traffic deck insulation: Type IV, 60 psi (2 kPA), minimum.

1) Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
2) Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
3) Type and Thermal Resistance, R-value (RSI-value): Type IV, 5.0 (0.88), minimum, per 1 inch (25.4 mm) thickness at 75 degrees F (24 degrees C) mean temperature.

2. Products:

a. DuPont de Nemours, Inc; Styrofoam Brand Square Edge: building.dupont.com or equal.

B. Rigid Wall Insulation:

1. Hunter Panels: www.hunterpanels.com; Xci CG. Rigid closed cell polyisocyanurate foam core bonded on-line to premium performance coated glass facers with a light color on one side of the board and a dark color face on the other side. Manufactured with HCFC-free blowing agent and is formaldehyde free. Insulation to comply with ASTM C1289 Type 2 and ASTM E84 Class B and NFPA 285 wall assembly.

a. Thermal Resistance: Aged R-value per inch of 6.0.
b. Moisture Vapor Permeance: less than 1 perm per inch per ASTM E96.
c. Water Absorption: less than 0.1% by volume per ASTM C209.
d. Surface Burning Characteristics: ≤75 flame spread and ≤450 smoke developed per ASTM E84.
e. Compressive Strength: 20 psi min per ASTM D1621.
f. Size:48” X 8’-0”.

This project is designed around an engineering evaluation #10123, Current Revision performed by Priest & Associates Consulting, LLC based on NFPA 285 Wall Assembly tests

for Hunter Panels, provider of polyisocanurate continuous insulation as part of this assembly. Equivalent products by other manufacturers, must include and engineering evaluation and documentation that all other components of the evaluation match the specification (i.e. spray-foam, weather barrier, etc). Substitution requests without this information will not be reviewed. Refer to Section 01 25 00, Substitution and Product Options for substitution requirements.

C. Rigid Wall Cavity Insulation (foil-faced)

1. Manufacturers/Products:

   a. Atlas Roofing: EnergyShield Pro; www.atlasrwi.com.
   b. Carlise Coatings and Waterproofing: R2+ Sheathe; www.carlisleccw.com.
   c. Hunter Panels: Xci Foil (Class A); www.hunterpanels.com.

2. Rigid closed cell polyisocyanurate foam core bonded to foil facers on each side.Manufactured with HCFC-free blowing agent and is formaldehyde free. Insulation to comply with ASTM C 1289 Type I made with Class A Grade 2 foam and NFPA 285 wall assembly.

   a. Thermal Resistance: Aged R-value at 1.0 inches (25.4 mm) of 6.3.
   b. Moisture Vapor Permeance: <1 perm per inch per ASTM E96.
   c. Water Absorption: 0.1% by volume per ASTM C209.
   d. Surface Burning Characteristics: ≤25 flame spread and ≤450 smoke developed per ASTM E84.
   e. Compressive Strength: 20 psi per ASTM D1621.
   f. Dimensional stability: 2% linear change (7 days) per ASTM D 2126.
   g. Resistance to mold: Passed ASTM D 3273.
   h. Foil facer: Minimum 12 mil (0.305 mm) thickness.
   i. Size: 4’ x 8’.
   j. Through insulation fasteners with washers to back-up as recommended by manufacturer.
   k. Foil faced seam tape/flashing as recommended by manufacturer.

   This project is designed around the following technical evaluation reports:

   l. TER 1306-03, Current Revision performed by DrJ, 6300 Enterprise Lane, Madsion WI, based on NFPA 285 Wall Assembly tests for Atlas Roofing products, provider of polyisocanurate continuous insulation as part of this assembly.
   m. Engineering evaluation #10123, Current Revision performed by Priest & Associates Consulting, LLC based on NFPA 285 Wall Assembly tests for Carlisle Coatings and Waterproofing, provider of polyisocanurate continuous insulation as part of this assembly.
   n. Engineering evaluation #10123, Current Revision performed by Priest & Associates Consulting, LLC based on NFPA 285 Wall Assembly tests for Hunter Panels, provider of polyisocanurate continuous insulation as part of this assembly.

o. Equivalent products by other manufacturers, must include and engineering evaluation and documentation that all other components of the evaluation match the specification (i.e. spray-foam, weather barrier, etc). Substitution requests without this information will not be reviewed. Refer to Section 01 25 00, Substitution and Product Options for substitution requirements.

D. Nailable Roof Insulation: Composite Polyisocyanurate (ISO) Board Insulation Faced with Plywood: Rigid cellular foam, complying with ASTM C1289. Installed with staggered seams over a 1 inch (25.4 mm) base layer of roof insulation to create a vapor barrier.

1. Classifications:

a. Type V: Faced with oriented strand board (OSB) or plywood on one major surface of the core foam and faced on the other major surface with any facer described in this specification.

1) Compressive Strength: 20 psi, minimum.
2) Thermal Resistance, R-value (RSI-value): At 1-1/2 inch (38.1 mm) thick; 6.2 (1.09), minimum, at 75 degrees F (24 degrees C).

2. Flame Spread Index (FSI): Class A - 0 to 25, when tested in accordance with ASTM E84.
3. Smoke Developed Index (SDI): 450 or less, when tested in accordance with ASTM E84.
4. Board Size: 48 inch by 96 inch (1220 mm by 2440 mm).
5. Plywood Thickness: 5/8 inch (16 mm).
6. Board Edges: Square.

2.02 MINERAL FIBER BLANKET INSULATION MATERIALS

A. Exterior Envelope:

1. Unfaced lightweight, semi-rigid stone or mineral wool insulation produced by combining thermosetting resins with mineral fibers manufactured from glass, glas, wool or rock wool.
2. Density: 4.0 lbs/cubic ft (64 kg/cubic m).
3. Melting Point: Minimum temperature of 2000° F (1093° C)
4. Surface Burning Characteristics per ASTM E84:
   a. Flame spread 0 and Smoke Developed 0.
5. Moisture resistance: Absorbs less than 1% by volume per ASTM C1104.
6. Spray adhesive: Hardcast Travel-Tack or Carlise Cav-Grip.

B. Sound Batt Insulation: Mineral Fiber Batt Insulation, Flexible or semi-rigid preformed batt or blanket, complying with ASTM C665, type 1; friction fit; unfaced flame spread index of 0 (zero) when tested in accordance with ASTM E84. Fiberglass batts are not considered an equal.

1. Flame Spread Index: 25 or less, when tested in accordance with ASTM E84.
2. Thickness: 2" thick batts at stud cavities (unless noted different on drawings), 3" thick elsewhere.

2.03 ACOUSTIC SPRAY SYSTEM

A. Hilti CP 572 Smoke and Acoustic Spray or equal.

1. Chemical basis: Acrylic
2. Curving time: +/- 3 days
3. Skin-forming time: +/- 15 minutes
4. Application temperature range: 40°F to 104 °F
5. STC classification per ASTM E90: 56
6. Flame spread per ASTEM E84-08: Flame spread: 10 and smoke development: 5
7. Movement capability: Approximately 12.5%
8. Mold resistant
9. Backing material: Mineral wool.
10. Installation thickness: minimum 1/8" (wet).

2.04 EXPANDING FOAM INSULATION

A. DuPont Great Stuff Pro or equal one part polyurethane foam sealant. For conditions where foam will be exposed inside a building (not covered with gypsum board) use DuPont Great Stuff Fireblock or equal.

1. Conform to ASTM C557-93, D6464, CA25-4 and is UL Class 1 (Flame Spread of 15, Smoke of 20). ASTM E84, E815 and UL 1715 for Fireblock products.
2. Application temperature range of 25°F to 120°F.
3. Paintable, stainable and sandable.
4. Acoustical Rating: Sound transmission class rating of 69.
5. Minimum R.Value of 4 per inch.

2.05 MASONRY CORE INSULATION

B. Masonry Core Insulation: Core-Fill 500 as manufactured by Tailored Chemical Products (1-800-627-1687/www.core-fill500.com) or equal. Two component system containing a plastic resin and a catalyst foaming agent surfactant together with compressed air to produce a foam insulaton with the following minimum performance standards:

1. Shrinkage: 2% maximum.
2. Surface Burning Classification and Characteristics (ASTM E 84)

    a. Class A
    b. Maximum flame spread: 25
    c. Smoke developed: less than 450

3. Minimum Thermal Values: ASTM C-177

    a. "R" Value of 4.0/inch at 75 degrees F mean.
    b. "R" Value of 4.7/inch at 32 degrees F mean.

4. Sound Abatement

    a. Minimum Sound Transmission Class ("STC") rating of 50 for 8" masonry wall.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation/products.

B. Verify substrate surfaces are flat, free of honeycomb, fins, irregularities, or materials or substances that may impede adhesive bond.

3.02 INSTALLATION-GENERAL

A. Install in accordance with manufacturer's instructions.

B. Install without gaps or voids. Do not compress insulation.

C. Fit insulation tight to exterior side of mechanical and electrical services within plane of insulation.

D. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

E. Ensure overall installation presents flush, level surface.

3.03 BOARD INSTALLATION AT FOUNDATION PERIMETER

A. Refer to Concrete, Masonry or Waterproofing specification for installation.

B. Apply adhesive to back of boards:

    1. Three continuous beads per board length.

C. Install boards horizontally on foundation perimeter.

    1. Place boards to maximize adhesive contact.
    2. Install in running bond pattern.
    3. Butt edges and ends tightly to adjacent boards and to protrusions.

D. Extend boards over expansion joints, unbonded to foundation on one side of joint.

E. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.04 BOARD INSTALLATION AT CAVITY WALLS

A. Refer to Masonry or Concrete (depending on substrate) section for installation.

B. Install boards to fit snugly between wall ties.

C. Install boards horizontally on walls.

D. Cut and fit insulation tightly to protrusions or interruptions to the insulation plane.

3.05 BATT INSTALLATION

A. Refer to metal or wood stud specification for installation.

B. Install insulation and vapor barrier if spray foam insulation is not being used for vapor barrier in accordance with manufacturer's instructions.

C. Install in exterior cavity spaces without gaps or voids. Do not compress insulation.

D. Trim insulation neatly to fit spaces. Insulate miscellaneous gaps and voids.

E. Fit insulation tightly in cavities and tightly to exterior side of mechanical and electrical services within the plane of the insulation.

3.06 PROTECTION

A. Cover top and edges of unfinished wall panel work to protect it from weather and to prevent accumulation of water in cores of panels.

B. If panels become wet inadvertently, allow wet panels to completely dry prior to application of subsequent coverings.

C. Do not permit installed insulation to be damaged prior to its concealment.

END OF SECTION 072100

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. ~~**Building wrap**~~ **Self-adhered weather barriers (noted as vapor permeable and vapor impermeable weather barrier on drawings)**.
2. Flexible flashing.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For ~~**building wrap, include data on air and water-vapor permeance based on testing according to referenced standards**~~ **self-adhered weather barrier, include data indicating the perm rating and manufacturer's application thickness meets the specified membrane thickness of the weather barrier. Note: Applying multiple layers of a thinner product to meet the specified thickness is not acceptable**.

B. Shop Drawings: Show details of building wrap at terminations, openings, and penetrations. Show details of flexible flashing applications.

1.4 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For water-resistive barrier and flexible flashing, from ICC-ES.

B. **Product Certificates: Certifying compatibility of weather barrier and accessory materials with project materials that connect to or that come in contact with the barrier including through wall flashings, signed by the product manufacturer.**

C. **Qualification Data: For applicator from weather barrier manufacturer.**

D. **Provide compliance documentation that the product meets the specified NFPA 285 Wall Assembly.**

1.5 **QUALITY ASSURANCE**

A. **General: Weather barrier shall be capable of performing as a continuous vapor-impermeable weather barrier and as a water resistive drainage plane flashed to discharge to the exterior incidental condensation or water penetration. The vapor-impermeable weather barrier will also serve as a vapor barrier. The weather barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, and transitions at perimeter conditions without deterioration and air leakage meeting specified limits.**

B. **Installer Qualifications: Use accredited contractor, certified installers, evaluated materials, and third-party field quality control audit. Installer shall be approved in writing by the product manufacturer.**

C. **Manufacturer Qualification: Use evaluated materials from a single manufacturer regularly engaged in air barrier material manufacture, and use secondary materials approved in writing by primary material manufacturer.**

D. **Source Limitations: Obtain primary weather-barrier material and through wall flashing through one source from a single manufacturer or have approval from each product manufacturer to ensure compatibility to each other.**

E. **Pre-installation Conference: Shall be held prior to commencement of field operations to establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work. Conference shall include the Contractor, installer, Architect, Owner's Testing Agency, and system (including but not limited to installers of masonry, windows/curtainwalls/storefront, louvers, roofing, and exterior wall-cladding). Agenda for the meeting shall include but not limited to:**

1. **Review of submittals.**
2. **Review of surface preparation, minimum curing period, and installation procedures.**
3. **Review of special details and flashings being installed by all trades.**
4. **Sequence of construction, responsibilities, and schedule for subsequent operations.**
5. **Review of mock-up requirements.**
6. **Review of inspection, testing, protection, and repair procedures.**

1.6 **FIELD CONDITIONS**

A. **Maintain temperature and humidity recommended by materials manufacturers before, during, and after installation.**

PART 2 - PRODUCTS

~~2.1 WATER-RESISTIVE BARRIER~~

~~**A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.**~~

~~**B. Building Paper: Water-vapor-permeable, asphalt-saturated kraft building paper that complies with ICC-ES AC38, Grade D.**~~

~~**C. Building Wrap: ASTM E 1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.**~~

~~**1. Water-Vapor Permeance: Not less than 75 perms (4300 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Desiccant Method (Procedure A).**~~
~~**2. Air Permeance: Not more than 0.004 cfm/sq. ft. at 0.3 inch wg (0.02 L/s x sq. m at 75 Pa) when tested according to ASTM E 2178.**~~
~~**3. Allowable UV Exposure Time: Not less than three months.**~~
~~**4. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.**~~

~~**D. Building Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.**~~

2.1 **SELF-ADHERED WEATER BARRIERS**

A. **NFPA Compliance**

1. **This project is designed around a specific engineering evaluation to meet NFPA Wall Assembly tests. Refer to Section 072100 Insulation for the appropriate test under "Rigid Insulation" with which this specification must comply.**

B. **Vapor Impermeable: Self-adhered non-permeable sheet membrane: Resilient, UV-resistant coating and associated joint treatment with the following material requirements:**

1. **Membrane Thickness: 40 mils, 0.040 inch, minimum (no exceptions). Applying multiple layers of a thinner product is not acceptable.**
2. **Water Vapor Permeance: 1.0 perm (57 ng/(Pa s sq m)), maximum, when tested in accordance with ASTM E96/E96M.**
3. **Water Penetration Resistance Around Nails: Pass, when tested in accordance with ASTM D1970/D1970M.**
4. **Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less (Class A), when tested in accordance with ASTM E84.**
5. **Complies with NFPA 285 wall assembly requirements.**
6. **Manufacturers/Products:**

a. Henry Company; Metal Clad 705FR (formerly Carlisle Fire Resist 705 FR-A); www.henry.com.
b. GCP Applied Technologies; Per A Barrier Aluminum Wall Membrane (AWM); www.gcpat.com.
c. Polyguard; Airlok Sheet UV Ultra 400 NP; www.polyguard.com.
d. Approved equal products that meet the specified project requirements and NFPA 285 testing.

C. **Vapor Permeable: Self-adhered permeable sheet membrane: resilient, UV-resistant coating and associated joint treatment with the following material requirements:**

1. **Membrane Thickness: 25 mils, 0.025 inch, minimum (no exceptions). Applying multiple layers of a thinner product is not acceptable.**
2. **Water Vapor Permeance: 5 perms (287 ng/(Pa s sq m)), minimum, when tested in accordance with ASTM E96/E96M Procedure B (Water Method) at 73.4 degrees F (23 degrees C).**
3. **Air Permeance: 0.004 cfm/sq ft (0.02 L/(s sq m)), maximum when tested in accordance with ASTM E2178.**
4. **Ultraviolet (UV) and Weathering Resistance: Approved in writing by manufacturer for up to four months of weather exposure after application.**
5. **Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E84.**
6. **Complies with NFPA 285 wall assembly requirements.**
7. **Nail Sealability: Pass, when tested in accordance with ASTM D1970/S1970M.**
8. **Sealants, Tapes, and Accessories: As recommended by manufacturer.**
9. **Manufacturers/Products:**

a. Carlisle Coatings & Waterproofing; CCW-705 RS; www.carlisleccw.com.
b. WR Meadows; Air Shield SMP; www.wrmeadows.com.
c. GCP Applied Technologies; Perm-A-Barrier VPS 30; www.gcpat.com.
d. Vapro Shield; Wrapshield SA; www.vaprosheild.com.
e. Approved equal products that meet the specified project requirements and NFPA 285 testing.

2.2 FLEXIBLE FLASHING

A. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.030 inch (0.8 mm).

1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

B. Primer for Flexible Flashing: Product recommended in writing by flexible flashing manufacturer for substrate.

C. Nails and Staples: Product recommended in writing by flexible flashing manufacturer and complying with ASTM F 1667.

2.3 DRAINAGE MATERIAL

A. Drainage Material: Product shall maintain a continuous open space between water-resistive barrier and exterior cladding to create a drainage plane and shall be used under cementitious panels.

1. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

PART 3 - EXECUTION

~~3.1 WATER-RESISTIVE BARRIER INSTALLATION~~

~~**A. Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.**~~

~~**B. Cover sheathing with water-resistive barrier as follows:**~~

~~**1. Cut back barrier 1/2 inch (13 mm) on each side of the break in supporting members at expansion- or control-joint locations.**~~
~~**2. Apply barrier to cover vertical flashing with a minimum 4-inch (100-mm) overlap unless otherwise indicated.**~~

~~**C. Building Wrap: Comply with manufacturer's written instructions and warranty requirements.**~~

~~**1. Seal seams, edges, fasteners, and penetrations with tape.**~~
~~**2. Extend into jambs of openings and seal corners with tape.**~~

3.1 **WEATHER BARRIER INSTALLATION**

A. **Install materials in accordance with manufacturer’s installation instructions.**

B. **Weather Barriers: Install continuous barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.**

C. **Apply sealants and adhesives within recommended temperature range in accordance with manufacturer’s installation instructions.**

3.2 FLEXIBLE FLASHING INSTALLATION

A. Apply flexible flashing where indicated to comply with manufacturer's written instructions.

1. Prime substrates as recommended by flashing manufacturer.
2. Lap seams and junctures with other materials at least 4 inches (100 mm) except that at flashing flanges of other construction, laps need not exceed flange width.

3. Lap flashing over water-resistive barrier at bottom and sides of openings.
4. Lap water-resistive barrier over flashing at heads of openings.
5. After flashing has been applied, roll surfaces with a hard rubber or metal roller to ensure that flashing is completely adhered to substrates.

3.3 DRAINAGE MATERIAL INSTALLATION

A. Install drainage material over building wrap and flashing to comply with manufacturer's written instructions.

END OF SECTION 072500

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Exterior and interior manual-swing entrance doors and door-frame units.

B. Related Sections:

1. Division 08 Section "Glazed Aluminum Curtain Walls" for curtain-wall systems that mechanically retain glazing on four sides.
2. Division 8 Section “Door Hardware” for hardware not specified in this section.

1.3 DEFINITIONS

A. ADA/ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disability Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities."

1.4 PERFORMANCE REQUIREMENTS

A. General Performance: Aluminum-framed systems shall withstand the effects of the following performance requirements without exceeding performance criteria or failure due to defective manufacture, fabrication, installation, or other defects in construction:

1. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
2. Dimensional tolerances of building frame and other adjacent construction.
3. Failure includes the following:

a. Deflection exceeding specified limits.
b. Thermal stresses transferring to building structure.
c. Framing members transferring stresses, including those caused by thermal and structural movements to glazing.
d. Glazing-to-glazing contact.
e. Noise or vibration created by wind and by thermal and structural movements.

f. Loosening or weakening of fasteners, attachments, and other components.
g. Sealant failure.
h. Failure of operating units.

B. Structural Loads:

1. Wind Loads:

a. Basic Wind Speed: 90 mph (40 m/s).

C. Deflection of Framing Members:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane shall not exceed L/175 of the glass edge length for each individual glazing lite] [1/175 of clear span for spans up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 13 feet 6 inches (4.1 m) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components directly below them to less than 1/8 inch (3.2 mm) and clearance between members and operable units directly below them to less than 1/16 inch (1.5 mm).

D. Structural-Test Performance: Provide aluminum-framed systems tested according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not fewer than 10 seconds.

E. Windborne-Debris-Impact-Resistance Performance: Provide aluminum-framed systems that pass missile-impact and cyclic-pressure tests when tested according to ASTM E 1886 and testing information in ASTM E 1996 or AAMA 506.

1. Large-Missile Impact: For aluminum-framed systems located within 30 feet (9.1 m) of grade.
2. Small-Missile Impact: For aluminum-framed systems located more than 30 feet (9.1 m) above grade.

F. Air Infiltration: Provide aluminum-framed systems with maximum air leakage through fixed glazing and framing areas of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).

G. Water Penetration under Static Pressure: Provide aluminum-framed systems that do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

H. Water Penetration under Dynamic Pressure: Provide aluminum-framed systems that do not evidence water leakage through fixed glazing and framing areas when tested according to AAMA 501.1 under dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

1. Maximum Water Leakage: According to AAMA 501.1. Water leakage does not include water controlled by flashing and gutters that is drained to exterior and water that cannot damage adjacent materials or finishes.

I. Thermal Movements: Provide aluminum-framed systems that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
2. Test Performance: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested according to AAMA 501.5.

    a. High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of 180 deg F (82 deg C).
    b. Low Exterior Ambient-Air Temperature: 0 deg F (minus 18 deg C).

3. Interior Ambient-Air Temperature: 75 deg F (24 deg C).

J. Condensation Resistance: Provide aluminum-framed systems with fixed glazing and framing areas having condensation-resistance factor (CRF) of not less than 45 when tested according to AAMA 1503.

K. Thermal Conductance: Provide aluminum-framed systems with fixed glazing and framing areas having an average U-factor of not more than 0.69 Btu/sq. ft. x h x deg F (3.92 W/sq. m x K) when tested according to AAMA 1503.

L. Sound Transmission: Provide aluminum-framed systems with fixed glazing and framing areas having the following sound-transmission characteristics:

1. Sound Transmission Class (STC): Minimum 26 STC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 413.
2. Outdoor-Indoor Transmission Class (OITC): Minimum 26 OITC when tested for laboratory sound transmission loss according to ASTM E 90 and determined by ASTM E 1332.

M. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for aluminum-framed systems.

N. Shop Drawings: For aluminum-framed systems. Include plans, elevations, sections, details, and attachments to other work.

1. Include details of provisions for system expansion and contraction and for drainage of moisture in the system to the exterior.

2. For entrance doors, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

O. Samples for Initial Selection: For units with factory-applied color finishes.

P. Other Action Submittals:

1. Entrance Door Hardware Schedule: Prepared by or under the supervision of supplier, detailing fabrication and assembly of entrance door hardware, as well as procedures and diagrams. Coordinate final entrance door hardware schedule with doors, frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.

Q. Qualification Data: For qualified Installer and testing agency.

R. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for aluminum-framed systems, indicating compliance with performance requirements.

S. Source quality-control reports.

T. Quality-Control Program for Structural-Sealant-Glazed System: Include reports.

U. Field quality-control reports.

V. Maintenance Data: For aluminum-framed systems to include in maintenance manuals.

W. Warranties: Sample of special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Engineering Responsibility: Prepare data for aluminum-framed systems, including Shop Drawings, based on testing and engineering analysis of manufacturer's standard units in systems similar to those indicated for this Project.

C. Quality-Control Program for Structural-Sealant-Glazed System: Develop quality control program specifically for Project. Document quality-control procedures and verify results for aluminum-framed systems. Comply with ASTM C 1401 recommendations including, but not limited to, system material-qualification procedures, preconstruction sealant-testing program, procedures for system fabrication and installation, and intervals of reviews and checks.

D. Product Options: Information on Drawings and in Specifications establishes requirements for systems' aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including preconstruction testing, field testing, and in-service performance.

1. Do not revise intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If revisions are proposed, submit comprehensive explanatory data to Architect for review.
2.

E. Accessible Entrances: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

F. Source Limitations for Aluminum-Framed Systems: Obtain from single source from single manufacturer.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of structural supports for aluminum-framed systems by field measurements before fabrication and indicate measurements on Shop Drawings.

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration caused by thermal movements.
c. Deterioration of metals**,** metal finishes**,** and other materials beyond normal weathering.
d. Adhesive or cohesive sealant failures.
e. Water leakage through fixed glazing and framing areas.
f. Failure of operating components.

2. Warranty Period: ~~**10**~~ **5** years from date of Substantial Completion.

B. Special Finish Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components on which finishes do not comply with requirements or that fail in materials or workmanship within specified warranty period. Warranty does not include normal weathering.

1. Warranty Period: ~~**20**~~ **10** years from date of Substantial Completion.

1.8 MAINTENANCE SERVICE

A. Entrance Door Hardware:

1. Maintenance Tools and Instructions: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Subject to compliance with requirements, provide product by one of the following:

1. Arch Aluminum & Glass Co., Inc.
2. CMI Architectural
3. Commercial Architectural Products, Inc.
4. EFCO Corporation.
5. Kawneer North America; an Alcoa company.
6. Pittco Architectural Metals, Inc.
7. Tubelite.
8. United States Aluminum.
9. Vistawall Architectural Products; The Vistawall Group; a Bluescope Steel company.

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
3. Extruded Structural Pipe and Tubes: ASTM B 429.
4. Structural Profiles: ASTM B 308/B 308M.
5. Welding Rods and Bare Electrodes: AWS A5.10/A5.10M.

B. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer, complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM and prepare surfaces according to applicable SSPC standard.

1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Thermally broken.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Center.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.

1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
2. Reinforce members as required to receive fastener threads.
3. Use exposed fasteners with countersunk Phillips screw heads**,** finished to match framing system.

D. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts, complying with ASTM A 123/A 123M or ASTM A 153/A 153M.

E. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

F. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.

1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

G. Speakhole: Aluminum equal to Western Glass Supply ST-BRZ.

2.4 GLAZING SYSTEMS

A. Glazing: As specified in Division 08 Section "Glazing."

B. Glazing Gaskets: Manufacturer's standard compression types; replaceable, molded or extruded, of profile and hardness required to maintain watertight seal.

C. Spacers and Setting Blocks: Manufacturer's standard elastomeric type.

D. Bond-Breaker Tape: Manufacturer's standard TFE-fluorocarbon or polyethylene material to which sealants will not develop adhesion.

2.5 ENTRANCE DOOR SYSTEMS

A. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: ~~**1-3/4**~~ **2 1/4**-inch (~~**44.5-mm**~~ **57.15 mm**) overall thickness, with minimum 0.125-inch- (3.2-mm-) extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.

a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.

2. Door Design: Wide stile; 5-inch (127-mm) nominal width.

a. Accessible Doors: Smooth surfaced for width of door in area within 10 inches (255 mm) above floor or ground plane.

3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.

a. Provide nonremovable glazing stops on outside of door.

B. Entrance Door Hardware: As specified in Division 08 Section "Door Hardware."

2.6 ENTRANCE DOOR HARDWARE

A. General: Provide entrance door hardware and entrance door hardware sets indicated in door and frame schedule for each entrance door to comply with requirements in this Section.

1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products complying with BHMA standard referenced.
2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
3. Opening-Force Requirements:

a. Egress Doors: Not more than 15 lbf (67 N) to release the latch and not more than 30 lbf ((133 N))to set the door in motion and not more than 15 lbf (67 N) to open the door to its minimum required width.
b. Accessible Interior Doors: Not more than 5 lbf (22.2 N) to fully open door.

B. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products are identified by using entrance door hardware designations as follows:

1. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

C. Continuous-Gear Hinges: Manufacturer's standard with stainless-steel bearings between knuckles, fabricated to full height of door and frame.

D. Removable Mullions: BHMA A156.3, extruded aluminum.

1. When used with panic exit devices, provide removable mullions listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305. Use only mullions that have been tested with exit devices to be used.

E. Weather Stripping: Manufacturer's standard replaceable components.

1. Sliding Type: AAMA 701, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

F. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.

G. Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch (13 mm).

2.7 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 07 Section "Joint Sealants."

1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

B. Bituminous Paint: Cold-applied, asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos; formulated for 30-mil (0.762-mm) thickness per coat.

2.8 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Framing Members, General: Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
4. Physical and thermal isolation of glazing from framing members.
5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
6. Provisions for field replacement of glazing from exterior.
7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Storefront Framing: Fabricate components for assembly using screw-spline system.

E. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At exterior doors, provide compression weather stripping at fixed stops.
2. At interior doors, provide silencers at stops to prevent metal-to-metal contact. Install three silencers on strike jamb of single-door frames and two silencers on head of frames for pairs of doors.

F. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

G. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

H. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.9 ALUMINUM FINISHES

A. Clear Anodic Finish: AAMA 611, AA-M12C22A41, Class I, 0.018 mm or thicker.

2.10 SLIDING GLASS UNIT TRACKS – Window Frame Type W20

A. Epco Company No. 730-1 with ball bearing rollers. Fit flush in countertops.

B. Woodworkers Supply item 928-063 lock.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

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

3.2 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
6. Seal joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or applying sealant or tape, or by installing nonconductive spacers as recommended by manufacturer for this purpose.
2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Set continuous sill members and flashing in full sealant bed as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

E. Install components plumb and true in alignment with established lines and grades, and without warp or rack.

F. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

G. Install perimeter joint sealants as specified in Division 07 Section "Joint Sealants" to produce weathertight installation.

3.3 ERECTION TOLERANCES

A. Install aluminum-framed systems to comply with the following maximum erection tolerances:

1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
2. Alignment:

    a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.5 mm).
    b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).

B. Diagonal Measurements: Limit difference between diagonal measurements to 1/8 inch (3 mm).

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified independent testing and inspecting agency to perform field tests and inspections.

B. Testing Services: Testing and inspecting of representative areas to determine compliance of installed systems with specified requirements shall take place as follows and in successive phases as indicated on Drawings. Do not proceed with installation of the next area until test results for previously completed areas show compliance with requirements.

C. Repair or remove work if test results and inspections indicate that it does not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

E. Aluminum-framed assemblies will be considered defective if they do not pass tests and inspections.

F. Prepare test and inspection reports.

3.5 ADJUSTING

A. Adjust operating entrance door hardware to function smoothly as recommended by manufacturer.

1. For entrance doors accessible to people with disabilities, adjust closers to provide a 3-second closer sweep period for doors to move from a 70-degree open position to 3 inches (75 mm) from the latch, measured to the leading door edge.

END OF SECTION 084113

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes:

1. Mechanical and electrified door hardware
2. Electronic access control system components

B. Section excludes:

1. Windows
2. Cabinets (casework), including locks in cabinets
3. Signage
4. Toilet accessories
5. Overhead doors

C. Related Sections:

1. Division 01 "General Requirements" sections for Allowances, Alternates, Owner Furnished Contractor Installed, Project Management and Coordination.
2. Division 06 Section "Rough Carpentry"
3. Division 06 Section "Finish Carpentry"
4. Division 07 Section "Joint Sealants" for sealant requirements applicable to threshold installation specified in this section.
5. Division 08 Sections:
   a. "Metal Doors and Frames"
   b. "Flush Wood Doors"
   c. "Stile and Rail Wood Doors"
   d. "Interior Aluminum Doors and Frames"
   e. "Aluminum-Framed Entrances and Storefronts"
   f. "Stainless Steel Doors and Frames"
   g. "Special Function Doors"
   h. "Entrances"
6. Division 26 "Electrical" sections for connections to electrical power system and for low-voltage wiring.
7. Division 28 "Electronic Safety and Security" sections for coordination with other components of electronic access control system and fire alarm system.

1.02 REFERENCES

A. UL LLC

1. UL 10B - Fire Test of Door Assemblies
2. UL 10C - Positive Pressure Test of Fire Door Assemblies

3. UL 1784 - Air Leakage Tests of Door Assemblies
4. UL 305 - Panic Hardware

B. DHI - Door and Hardware Institute

1. Sequence and Format for the Hardware Schedule
2. Recommended Locations for Builders Hardware
3. Keying Systems and Nomenclature
4. Installation Guide for Doors and Hardware

C. NFPA – National Fire Protection Association

1. NFPA 70 – National Electric Code
2. NFPA 80 – Standard for Fire Doors and Other Opening Protectives
3. NFPA 101 – Life Safety Code
4. NFPA 105 – Smoke and Draft Control Door Assemblies
5. NFPA 252 – Fire Tests of Door Assemblies

D. ANSI - American National Standards Institute

1. ANSI A117.1 – 2017 Edition – Accessible and Usable Buildings and Facilities
2. ANSI/BHMA A156.1 - A156.29, and ANSI/BHMA A156.31 - Standards for Hardware and Specialties
3. ANSI/BHMA A156.28 - Recommended Practices for Keying Systems
4. ANSI/WDMA I.S. 1A - Interior Architectural Wood Flush Doors
5. ANSI/SDI A250.8 - Standard Steel Doors and Frames

1.03 SUBMITTALS

A. General:

1. Submit in accordance with Conditions of Contract and Division 01 Submittal Procedures.
2. Prior to forwarding submittal:
   a. Review drawings and Sections from related trades to verify compatibility with specified hardware.
   b. Highlight, encircle, or otherwise specifically identify on submittals: deviations from Contract Documents, issues of incompatibility or other issues which may detrimentally affect the Work.

B. Action Submittals:

1. Product Data: Submit technical product data for each item of door hardware, installation instructions, maintenance of operating parts and finish, and other information necessary to show compliance with requirements.
2. Riser and Wiring Diagrams: After final approval of hardware schedule, submit details of electrified door hardware, indicating:
   a. Wiring Diagrams: For power, signal, and control wiring and including:
      1) Details of interface of electrified door hardware and building safety and security systems.

2) Schematic diagram of systems that interface with electrified door hardware.
3) Point-to-point wiring.
4) Risers.

3. Samples for Verification: If requested by Architect, submit production sample of requested door hardware unit in finish indicated and tagged with full description for coordination with schedule.
   a. Samples will be returned to supplier. Units that are acceptable to Architect may, after final check of operations, be incorporated into Work, within limitations of key coordination requirements.

4. Door Hardware Schedule:
   a. Submit concurrent with submissions of Product Data, Samples, and Shop Drawings. Coordinate submission of door hardware schedule with scheduling requirements of other work to facilitate fabrication of other work critical in Project construction schedule.
   b. Submit under direct supervision of a Door Hardware Institute (DHI) certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) with hardware sets in vertical format as illustrated by Sequence of Format for the Hardware Schedule published by DHI.
   c. Indicate complete designations of each item required for each opening, include:
      1) Door Index: door number, heading number, and Architect's hardware set number.
      2) Quantity, type, style, function, size, and finish of each hardware item.
      3) Name and manufacturer of each item.
      4) Fastenings and other pertinent information.
      5) Location of each hardware set cross-referenced to indications on Drawings.
      6) Explanation of all abbreviations, symbols, and codes contained in schedule.
      7) Mounting locations for hardware.
      8) Door and frame sizes and materials.
      9) Degree of door swing and handing.
      10) Operational Description of openings with electrified hardware covering egress, ingress (access), and fire/smoke alarm connections.

5. Key Schedule:
   a. After Keying Conference, provide keying schedule that includes levels of keying, explanations of key system's function, key symbols used, and door numbers controlled.
   b. Use ANSI/BHMA A156.28 "Recommended Practices for Keying Systems" as guideline for nomenclature, definitions, and approach for selecting optimal keying system.
   c. Provide 3 copies of keying schedule for review prepared and detailed in accordance with referenced DHI publication. Include schematic keying diagram and index each key to unique door designations.
   d. Index keying schedule by door number, keyset, hardware heading number, cross keying instructions, and special key stamping instructions.
   e. Provide one complete bitting list of key cuts and one key system schematic illustrating system usage and expansion. Forward bitting list, key cuts and key system schematic directly to Owner, by means as directed by Owner.
   f. Prepare key schedule by or under supervision of supplier, detailing Owner's final keying instructions for locks.

C. Informational Submittals:

1. Provide Qualification Data for Supplier, Installer and Architectural Hardware Consultant.
2. Provide Product Data:
   a. Certify that door hardware approved for use on types and sizes of labeled fire-rated doors complies with listed fire-rated door assemblies.
   b. Include warranties for specified door hardware.

D. Closeout Submittals:

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

E. Inspection and Testing:

1. Submit written reports to the Owner and Authority Having Jurisdiction (AHJ) of the results of functional testing and inspection for:
   a. Fire door assemblies, in compliance with NFPA 80.
   b. Required egress door assemblies, in compliance with NFPA 101.

1.04 QUALITY ASSURANCE

A. Qualifications and Responsibilities:

1. Supplier: Recognized architectural hardware supplier with a minimum of 5 years documented experience supplying both mechanical and electromechanical door hardware similar in quantity, type, and quality to that indicated for this Project. Supplier to be recognized as a factory direct distributor by the manufacturer of the primary materials with a warehousing facility in the Project's vicinity. Supplier to have on staff, a certified Architectural Hardware Consultant (AHC) or Door Hardware Consultant (DHC) available to Owner, Architect, and Contractor, at reasonable times during the Work for consultation.
2. Installer: Qualified tradesperson skilled in the application of commercial grade hardware with experience installing door hardware similar in quantity, type, and quality as indicated for this Project.
3. Architectural Hardware Consultant: Person who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project and meets these requirements:
   a. For door hardware: DHI certified AHC or DHC.
   b. Can provide installation and technical data to Architect and other related subcontractors.
   c. Can inspect and verify components are in working order upon completion of installation.

d. Capable of producing wiring diagram and coordinating installation of electrified hardware with Architect and electrical engineers.

4. Single Source Responsibility: Obtain each type of door hardware from single manufacturer.

B. Certifications:

1. Fire-Rated Door Openings:
   a. Provide door hardware for fire-rated openings that complies with NFPA 80 and requirements of authorities having jurisdiction.
   b. Provide only items of door hardware that are listed products tested by UL LLC, Intertek Testing Services, or other testing and inspecting organizations acceptable to authorities having jurisdiction for use on types and sizes of doors indicated, based on testing at positive pressure and according to NFPA 252 or UL 10C and in compliance with requirements of fire-rated door and door frame labels.

2. Smoke and Draft Control Door Assemblies:
   a. Provide door hardware that meets requirements of assemblies tested according to UL 1784 and installed in compliance with NFPA 105
   b. Comply with the maximum air leakage of 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) at tested pressure differential of 0.3-inch wg (75 Pa) of water.

3. Electrified Door Hardware
   a. Listed and labeled as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction.

4. Accessibility Requirements:
   a. Comply with governing accessibility regulations cited in "REFERENCES" article 087100, 1.02.D3 herein for door hardware on doors in an accessible route. This project must comply with all Federal Americans with Disability Act regulations and all Local Accessibility Regulations.

C. Pre-Installation Meetings

1. Keying Conference
   a. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including:
      1) Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
      2) Preliminary key system schematic diagram.
      3) Requirements for key control system.
      4) Requirements for access control.
      5) Address for delivery of keys.

2. Pre-installation Conference
   a. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
   b. Inspect and discuss preparatory work performed by other trades.
   c. Inspect and discuss electrical roughing-in for electrified door hardware.

d. Review sequence of operation for each type of electrified door hardware.
e. Review required testing, inspecting, and certifying procedures.
f. Review questions or concerns related to proper installation and adjustment of door hardware.

3. Electrified Hardware Coordination Conference:
   a. Prior to ordering electrified hardware, schedule and hold meeting to coordinate door hardware with security, electrical, doors and frames, and other related suppliers.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for hardware delivered to Project site. Promptly replace products damaged during shipping

B. Tag each item or package separately with identification coordinated with final door hardware schedule, and include installation instructions, templates, and necessary fasteners with each item or package. Deliver each article of hardware in manufacturer's original packaging.

C. Maintain manufacturer-recommended environmental conditions throughout storage and installation periods.

D. Provide secure lock-up for door hardware delivered to Project. Control handling and installation of hardware items so that completion of Work will not be delayed by hardware losses both before and after installation.

E. Handle hardware in manner to avoid damage, marring, or scratching. Correct, replace or repair products damaged during Work. Protect products against malfunction due to paint, solvent, cleanser, or any chemical agent.

F. Deliver keys to manufacturer of key control system for subsequent delivery to Owner.

1.06 COORDINATION

A. Coordinate layout and installation of floor-recessed door hardware with floor construction. Cast anchoring inserts into concrete.

B. Installation Templates: Distribute for doors, frames, and other work specified to be factory or shop prepared. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

C. Security: Coordinate installation of door hardware, keying, and access control with Owner's security consultant.

D. Electrical System Roughing-In: Coordinate layout and installation of electrified door hardware with connections to power supplies and building safety and security systems.

1.07 WARRANTY

A. Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within published warranty period.

1. Warranty does not cover damage or faulty operation due to improper installation, improper use or abuse.
2. Warranty Period: Beginning from date of Substantial Completion, for durations indicated in manufacturer's published listings.
   a. Mechanical Warranty
      1) Locks
         a) Best: 10 years
      2) Exit Devices
         a) Von Duprin: 10 years
      3) Closers
         a) LCN 4000 Series: 30 years
      4) Automatic Operators
         a) LCN: 2 years

1.08 MAINTENANCE

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

B. Turn over unused materials to Owner for maintenance purposes.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. The Owner requires use of certain products for their unique characteristics and project suitability to ensure continuity of existing and future performance and maintenance standards. After investigating available product offerings, the Awarding Authority has elected to prepare proprietary specifications. These products are specified with the notation: "No Substitute."

1. Where "No Substitute" is noted, submittals and substitution requests for other products will not be considered.

B. Approval of alternate manufacturers and/or products other than those listed as "Scheduled Manufacturer" or "Acceptable Manufacturers" in the individual article for the product category are only to be considered by official substitution request in accordance with section 01 25 00.

C. Approval of products from manufacturers indicated in "Acceptable Manufacturers" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

D. Where specified hardware is not adaptable to finished shape or size of members requiring hardware, furnish suitable types having same operation and quality as type specified, subject to Architect's approval.

2.02 MATERIALS

A. Fabrication

1. Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. provide screws according to manufacturer’s recognized installation standards for application intended.
2. Finish exposed screws to match hardware finish, or, if exposed in surfaces of other work, to match finish of this other work including prepared for paint surfaces to receive painted finish.
3. Provide concealed fasteners wherever possible for hardware units exposed when door is closed. Coordinate with “Metal Doors and Frames”, “Flush Wood Doors”, “Stile and Rail Wood Doors” to ensure proper reinforcements. Advise the Architect where visible fasteners, such as thru bolts, are required.

B. Provide screws, bolts, expansion shields, drop plates and other devices necessary for hardware installation.

1. Where fasteners are exposed to view: Finish to match adjacent door hardware material.

C. Cable and Connectors:

1. Where scheduled in the hardware sets, provide each item of electrified hardware and wire harnesses with number and gage of wires enough to accommodate electric function of specified hardware.
2. Provide Molex connectors that plug directly into connectors from harnesses, electric locking and power transfer devices.
3. Provide through-door wire harness for each electrified locking device installed in a door and wire harness for each electrified hinge, electrified continuous hinge, electrified pivot, and electric power transfer for connection to power supplies.

2.03 HINGES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Ives 5BB series

2. Acceptable Manufacturers and Products:
   a. McKinney TB series
   b. Best FBB series

B. Requirements:

1. Provide hinges conforming to ANSI/BHMA A156.1.

2. Provide five knuckle, ball bearing hinges.
3. 1-3/4 inch (44 mm) thick doors, up to and including 36 inches (914 mm) wide:
   a. Exterior: Standard weight, bronze or stainless steel, 4-1/2 inches (114 mm) high
   b. Interior: Standard weight, steel, 4-1/2 inches (114 mm) high

4. 1-3/4 inch (44 mm) thick doors over 36 inches (914 mm) wide:
   a. Exterior: Heavy weight, bronze/stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

5. 2 inches or thicker doors:
   a. Exterior: Heavy weight, bronze or stainless steel, 5 inches (127 mm) high
   b. Interior: Heavy weight, steel, 5 inches (127 mm) high

6. Adjust hinge width for door, frame, and wall conditions to allow proper degree of opening.
7. Provide three hinges per door leaf for doors 90 inches (2286 mm) or less in height, and one additional hinge for each 30 inches (762 mm) of additional door height.
8. Hinge Pins: Except as otherwise indicated, provide hinge pins as follows:
   a. Steel Hinges: Steel pins
   b. Non-Ferrous Hinges: Stainless steel pins
   c. Out-Swinging Exterior Doors: Non-removable pins
   d. Out-Swinging Interior Lockable Doors: Non-removable pins
   e. Interior Non-lockable Doors: Non-rising pins

9. Provide hinges with electrified options as scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware. Locate electric hinge at second hinge from bottom or nearest to electrified locking component. Provide mortar guard for each electrified hinge specified.

2.04 CONTINUOUS HINGES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Select
   b. Best

B. Requirements:

1. Provide aluminum geared continuous hinges conforming to ANSI/BHMA A156.26, Grade 1.
2. Provide aluminum geared continuous hinges, where specified in the hardware sets, fabricated from 6063-T6 aluminum.
3. Provide split nylon bearings at each hinge knuckle for quiet, smooth, self-lubricating operation.
4. Provide hinges capable of supporting door weights up to 450 pounds, and successfully tested for 1,500,000 cycles.

5. On fire-rated doors, provide aluminum geared continuous hinges classified for use on rated doors by testing agency acceptable to authority having jurisdiction.
6. Provide aluminum geared continuous hinges with electrified option scheduled in the hardware sets. Provide with number and gage of wires enough to accommodate electric function of specified hardware.
7. Provide hinges 1 inch (25 mm) shorter in length than nominal height of door, unless otherwise noted or door details require shorter length and with symmetrical hole pattern.

2.05 FLUSH BOLTS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

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

2.06 COORDINATORS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Ives

2. Acceptable Manufacturers:
   a. Burns
   b. Trimco

B. Requirements:

1. Where pairs of doors are equipped with automatic flush bolts, an astragal, or other hardware that requires synchronized closing of the doors, provide bar-type coordinating device, surface applied to underside of stop at frame head.
2. Provide filler bar of correct length for unit to span entire width of opening, and appropriate brackets for parallel arm door closers, surface vertical rod exit device strikes, or other stop mounted hardware. Factory-prepared coordinators for vertical rod devices as specified.

2.07 DEADBOLTS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage B600/B700/B800 Series

2. Acceptable Manufacturers and Products:
   a. Best T Series

B. Requirements:

1. Provide grade 1 deadbolt series conforming to ANSI/BHMA A156.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide deadbolts with standard 2-3/4 inches (70 mm) backset. Provide 2-3/8 inches (60 mm) where noted or if door or frame detail requires. Provide deadbolt with full 1-inch (25 mm) throw, constructed of steel alloy.
4. Provide manufacturer's standard strike.
5. Lock Status Indicator Trim: Where specified, provide escutcheon with lock status indicator widow.
   a. Escutcheon height 4.125 inches, width 2.54 inches. Projection 1.32 inches on thumbturn side and 1.28 inches on cylinder side.
   b. Unlocked and Unoccupied message will display on white background, and Locked and Occupied message will display on red background.
   c. Provide snap-in serviceable window to prevent tampering. Lock must function if indicator is compromised.
   d. Indicator window to provide 180-degree visibility.

2.08 MORTISE LOCKS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Best 45H series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide mortise locks conforming to ANSI/BHMA A156.13 Series 1000, Grade 1, and UL Listed for 3-hour fire doors.
2. Indicators: Where specified, provide indicator window measuring a minimum 2-inch x 1/2 inch with 180-degree visibility. Provide messages color-coded with full text and/or symbols, as scheduled, for easy visibility.
3. Provide locks manufactured from heavy gauge steel, containing components of steel with a zinc dichromate plating for corrosion resistance.
4. Provide lock case that is multi-function and field reversible for handing without opening case. Cylinders: Refer to “KEYING” article, herein.

5. Provide locks with standard 2-3/4 inches (70 mm) backset with full 3/4 inch (19 mm) throw stainless steel mechanical anti-friction latchbolt. Provide deadbolt with full 1-inch (25 mm) throw, constructed of stainless steel.
6. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
7. Provide electrified options as scheduled in the hardware sets. Where scheduled, provide switches and sensors integrated into the locks and latches. Provide motor based electrified and motor based latch retraction locksets that comply with the following requirements:
   a. Universal input voltage – single chassis accepts 12 or 24VDC to allow for changes in the field without changing lock chassis.
   b. Fail Safe/Fail Secure – changing mode between electrically locked (fail safe) and electrically unlocked (fail secure) is field selectable without opening the lock case
   c. Low maximum current draw – maximum 0.4 amps (Lever control) and maximum 2.0 amps (Latch retraction) to allow for multiple locks on a single power supply.
   d. Low holding current (Lever control or latch retraction) – maximum 0.01 amps to produce minimal heat, eliminate “hot levers” in electrically locked applications and motorized latch retraction applications, and to provide reliable operation in wood doors that provide minimal ventilation and air flow.
   e. Connections – provide quick-connect Molex system standard.

8. Lever Trim: Solid brass, bronze, or stainless steel, cast or forged in design specified, with wrought roses and external lever spring cages. Provide thru-bolted levers with 2-piece spindles.
   a. Lever Design: 3J.

2.09 EXIT DEVICES – BAR TYPE

A. Manufacturer and Product:

1. Scheduled Manufacturer:
   a. Von Duprin 55/88 series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1 and UL listed for Panic Exit or Fire Exit Hardware.
2. Cylinders: Refer to "KEYING" article, herein.
3. Provide bar type exit devices, cast or forged of brass, bronze, or stainless steel, plated to standard architectural finishes to match balance of the door hardware.
4. Latch Bolt Throw: 3/4 inch (19 mm) for rim and mortise devices, 5/8 inch (16 mm) for surface and concealed vertical rod devices.
5. Mechanism Case: One piece without cover plate. Mount flush on face of doors or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
6. Provide UL labeled fire exit devices for fire rated openings.
7. Provide manufacturer's standard strikes.

8. Locate exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
9. Removable Mullions: 2 inches (51 mm) x 3 inches (76 mm) steel tube. Where scheduled as keyed removable mullion, provide type that can be removed by use of a keyed cylinder, which is self-locking when re-installed.
10. Provide electrified options as scheduled in the hardware sets.
11. Furnish all necessary wood door kits and cover plates, for proper installation of exit device.
12. Provide exit devices with optional trim designs to match other lever and pull designs used on the project.
13. Special Options:
    a. HH: Provide wind and impact rated hurricane exit devices and mullions certified to comply with Florida Building Code (FBC) TAS 201, 202, 203.
    b. HW: Provide wind rated hurricane exit devices and mullions certified to comply with ANSI-ASTM E330.

2.10 ELECTRIC STRIKES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Von Duprin 6000 Series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide electric strikes designed for use with type of locks shown at each opening.
2. Provide electric strikes UL Listed as burglary resistant that are tested to a minimum endurance test of 1,000,000 cycles.
3. Where required, provide electric strikes UL Listed for fire doors and frames.
4. Provide transformers and rectifiers for each strike as required. Verify voltage with electrical contractor.

2.11 POWER SUPPLIES

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. Schlage/Von Duprin PS900 Series

2. Acceptable Manufacturers and Products:
   a. Precision ELR series
   b. Sargent 3500 series

B. Requirements:

1. Provide power supplies approved by manufacturer of supplied electrified hardware.

2. Provide appropriate quantity of power supplies necessary for proper operation of electrified locking components as recommended by manufacturer of electrified locking components with consideration for each electrified component using power supply, location of power supply, and approved wiring diagrams. Locate power supplies as directed by Architect.
3. Provide regulated and filtered 24 VDC power supply, and UL class 2 listed.
4. Provide power supplies with the following features:
   a. 12/24 VDC Output, field selectable.
   b. Class 2 Rated power limited output.
   c. Universal 120-240 VAC input.
   d. Low voltage DC, regulated and filtered.
   e. Polarized connector for distribution boards.
   f. Fused primary input.
   g. AC input and DC output monitoring circuit w/LED indicators.
   h. Cover mounted AC Input indication.
   i. Tested and certified to meet UL294.
   j. NEMA 1 enclosure.
   k. Hinged cover w/lock down screws.
   l. High voltage protective cover.

2.12 CYLINDERS

A. Manufacturers:

1. Scheduled Manufacturer and Product:
   a. Best SFIC

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide cylinders/cores to match Owner’s existing key system, compliant with ANSI/BHMA A156.5; latest revision; cylinder face finished to match lockset, manufacturer’s series as indicated. Refer to “KEYING” article, herein.

2.13 KEYING

A. Scheduled System:

1. Existing factory registered system:
   a. Provide cylinders/cores keyed into Owner’s existing factory registered keying system. Comply with guidelines in ANSI/BHMA A156.28, incorporating decisions made at keying conference.

B. Requirements:

1. Construction Keying:

a. Replaceable Construction Cores.
   1) Provide temporary construction cores replaceable by permanent cores, furnished in accordance with the following requirements.
      a) 3 construction control keys
      b) 12 construction change (day) keys.
   2) Owner or Owner's Representative will replace temporary construction cores with permanent cores.

2. Permanent Keying:
   a. Provide permanent cylinders/cores keyed by the manufacturer according to the following key system.
      1) Master Keying system as directed by the Owner.
   b. Forward bitting list and keys separately from cylinders, by means as directed by Owner. Failure to comply with forwarding requirements will be cause for replacement of cylinders/cores involved at no additional cost to Owner.
   c. Provide keys with the following features:
      1) Material: Nickel silver; minimum thickness of .107-inch (2.3mm)
      2) Patent Protection: Keys and blanks protected by one or more utility patent(s).
      3) Geographically Exclusive: Where High Security or Security cylinders/cores are indicated, provide nationwide, geographically exclusive key system complying with the following restrictions.
   d. Identification:
      1) Mark permanent cylinders/cores and keys with applicable blind code for identification. Do not provide blind code marks with actual key cuts.
      2) Identification stamping provisions must be approved by the Architect and Owner.
      3) Stamp cylinders/cores and keys with Owner's unique key system facility code as established by the manufacturer; key symbol and embossed or stamped with "DO NOT DUPLICATE" along with the "PATENTED" or patent number to enforce the patent protection.
      4) Failure to comply with stamping requirements will be cause for replacement of keys involved at no additional cost to Owner.
      5) Forward permanent cylinders/cores to Owner, separately from keys, by means as directed by Owner.
   e. Quantity: Furnish in the following quantities.
      1) Permanent Control Keys: 3.
      2) Master Keys: 6.
      3) Change (Day) Keys: 3 per cylinder/core that is keyed differently
      4) Key Blanks: Quantity as determined in the keying meeting.

2.14 KEY CONTROL SYSTEM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Telkee

2. Acceptable Manufacturers:
   a. HPC
   b. Lund

B. Requirements:

1. Provide key control system, including envelopes, labels, tags with self-locking key clips, receipt forms, 3-way visible card index, temporary markers, permanent markers, and standard metal cabinet, all as recommended by system manufacturer, with capacity for 150% of number of locks required for Project.
   a. Provide complete cross index system set up by hardware supplier, and place keys on markers and hooks in cabinet as determined by final key schedule.
   b. Provide hinged-panel type cabinet for wall mounting.

2.15 DOOR CLOSERS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN 4040XP series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with high strength cast iron cylinder, and full complement bearings at shaft.
3. Cylinder Body: 1-1/2-inch (38 mm) diameter piston with 5/8-inch (16 mm) diameter double heat-treated pinion journal. QR code with a direct link to maintenance instructions.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards. Provide snap-on cover clip, with plastic covers, that secures cover to spring tube.
6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck. Provide graphically labelled instructions on the closer body adjacent to each adjustment valve. Provide positive stop on reg valve that prevents reg screw from being backed out.
7. Provide closers with solid forged steel main arms and factory assembled heavy-duty forged forearms for parallel arm closers.
8. Pressure Relief Valve (PRV) Technology: Not permitted.
9. Finish for Closer Cylinders, Arms, Adapter Plates, and Metal Covers: Powder coating finish which has been certified to exceed 100 hours salt spray testing as described in ANSI Standard A156.4 and ASTM B117, or has special rust inhibitor (SRI).
10. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
11. Closers shall be capable of being upgraded by adding modular mechanical or electronic components in the field.

2.16 ELECTROMECHANICAL AUTOMATIC OPERATORS

A. Manufacturers and Products:

1. Scheduled Manufacturer and Product:
   a. LCN Senior Swing 9500IQ Surface Mounted and 2800IQ Concealed Series

2. Acceptable Manufacturers and Products:
   a. No Substitute

B. Requirements:

1. Electro-mechanical, handed low energy automatic operator, as defined by ANSI/BHMA standard A156.19.
   a. Automatic operator shall be capable of operating and controlling up to a 600-pound (272.15 kg) door, 48 inches (1219 mm) in wi
   b. Operator shall be activated via push button, push plate, switch-activated, manual or field-programmable manual/electric power with power assist and push and go opening capabilities compliant with ANSI A156.19.
   c. Calibration cycle: Operator will automatically configure a default for the user-adjustable features by determining the physical aspects of the door and opening area.
   d. Operator shall include individual connections for both fire / breakaway and blow open / hold open functionality, in addition to a short-term battery backup for proper functionality during power loss.

2. Surface-applied mounting: On surface of door frame/wall, mounted above top of door.
   a. Provide base mounting plate and mounting brackets allowing for simplified hook-and-cleat type of installation.
   b. Provide drop plates, brackets, cast arms, and adapters for arms as required to suit details.
   c. Tamper-resistant “Off/Auto/Hold-Open” switch to be provided on the device.
   d. Provide motion sensors and/or actuator switches, and receivers for operation as specified.
   e. Provide weather-resistant actuators at exterior applications.
   f. Provide key switches recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
   g. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf.
   h. Actuators control both doors simultaneously [9550IQ] or independently [9560IQ] at pairs.
   i. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect.
   j. Locate actuators, key switches, and other controls as directed by Architect.

3. Overhead concealed mounting: Integrated into frame system, mounted 1/8” above top of door.
   a. Provide mounting header allowing for bottom loaded installation for easy access to controls.

b. Provide forged steel arm and slide track for top of door
c. Provide brackets and adapters for arms as required to suit details.
d. Provide motion sensors and/or actuator switches, and receivers for operation as specified.
e. Provide weather-resistant actuators at exterior applications.
f. Provide key switches recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
g. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf.
h. Actuators control both doors simultaneously [2850] or independently [2860] at pairs.
i. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect.
j. Locate actuators, key switches, and other controls as directed by Architect.
k. Where operating a center pivoted inswinging door serving as a means of egress, provide breakaway switch to allow door to swing outward and automatically reset when returned to the closed position.

4. Finish of exposed headers: Anodized aluminum, dark bronze anodized, or anodized black – as specified in hardware sets.

2.17 DOOR TRIM

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Trimco

2. Acceptable Manufacturers:
   a. Ives
   b. Burns

B. Requirements:

1. Provide push plates, push bars, pull plates, pulls, and hands-free reversible door pulls with diameter and length as scheduled.

2.18 PROTECTION PLATES

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Trimco

2. Acceptable Manufacturers:
   a. Ives
   b. Burns

B. Requirements:

1. Provide standard stainless steel, brass, bronze, or aluminum protection plates with beveled four edges and with thickness as scheduled. Furnish with sheet metal or wood screws, finished to match plates.
2. Sizes plates 2 inches (51 mm) less width of door on single doors, pairs of doors with a mullion, and doors with edge guards. Size plates 1 inch (25 mm) less width of door on pairs without a mullion or edge guards.
3. At fire rated doors, provide protection plates over 16 inches high with UL label.
4. At fire rated doors, provide protection plate with option for adhesive tape mounted protection plates over 16 inches high provide UL label stamp.

2.19 OVERHEAD STOPS AND OVERHEAD STOP/HOLDERS

A. Manufacturers:

1. Scheduled Manufacturers:
   a. Glynn-Johnson

2. Acceptable Manufacturers:
   a. Rixson
   b. Sargent

B. Requirements:

1. Provide overhead stop at any door where conditions do not allow for a wall stop or floor stop presents tripping hazard.

2.20 DOOR STOPS AND HOLDERS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. Trimco

2. Acceptable Manufacturers:
   a. Ives
   b. Burns

B. Provide door stops at each door leaf:

1. Provide wall stops wherever possible. Provide concave type where lockset has a push button of thumbturn.
2. Where a wall stop cannot be used, provide universal floor stops.
3. Where wall or floor stop cannot be used, provide overhead stop.
4. Provide roller bumper where doors open into each other and overhead stop cannot be used.

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

A. Scheduled Manufacturer:

1. Zero International

B. Acceptable Manufacturers:

1. National Guard
2. Reese

C. Seals and Gasketing: Provide continuous gasketing on exterior openings, to the head and jambs, forming a continuous seal between the door and the frame. Provide smoke, light, or sound gasketing on interior doors where indicated.

1. Provide self-tapping fasteners for aluminum extruded gasketing being applied to hollow metal frames.
   a. Provide non-corrosive fasteners for all exterior applications.
   b. Provide security fasteners where indicated.

2. Provide neoprene, EPDM, silicone, or nylon brush inserts as specified in hardware sets. Provide non brush inserts of solid or sponge cell, as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

D. Smoke Labeled Gasketing: At all smoke labeled openings, provide smoke listed perimeter gasketing assemblies complying with NFPA 105 listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction for smoke control ratings indicated based on testing according to UL 1784.

E. Fire Listed Gasketing: Assemblies complying with NFPA 80 that are listed by a testing and inspecting agency acceptable to authorities having jurisdiction for fire ratings indicated based on testing according to UL-10C.

1. Where frame-applied intumescent seals are required by the manufacturer, provide gaskets that comply with UL10C Standard for Positive Pressure Fire Tests of Door Assemblies and UBC 7-2, Fire Tests of Door Assemblies.

F. Sound-Rated Gasketing: Provide acoustic gasketing to meet Sound Transmission Class (STC) rating required.

G. Meeting-Stile Gasketing: Provide meeting-stile gasketing that fastens to the meeting stiles forming a continuous seal when doors are closed.

H. Door Sweeps or Shoes: Apply to the bottom of the door to close the gap between the door bottom and finished floor or saddle threshold.

1. Provide solid neoprene, EPDM, silicone, or nylon brush type of seal as specified in hardware sets. Vinyl inserts are not allowed except where specified in hardware sets.

I. Automatic Door Bottoms:

1. Provide closed cell sponge, bulb neoprene. or EPDM type of seal as specified in hardware sets.
2. Door bottom to be mortised, semi mortised, or surface mount as with a minimum thickness as specified in hardware sets.

J. Rain Drips:

1. Provide overhead rain drips for out-swinging hollow metal doors that are not covered against 45 degree blowing rain. Aluminum extrusion to be a minimum of .088 inches thick and extend 2.50 inches from the face of the frame, in anodized finish to match door.
2. Door sweeps or shoes with integral rain drip must meet ADA requirements

K. Thresholds: Provide threshold units not less than 4 inches wide, formed to accommodate change in floor elevation where indicated, and fabricated to accommodate door hardware and fit door frames.

1. Threshold extrusion to be a minimum thickness as specified in hardware sets.

2.22 MAGNETIC HOLD-OPENS

A. Manufacturers:

1. Scheduled Manufacturer:
   a. LCN SEM7800 Series

2. Acceptable Manufacturers:
   a. No Substitute

B. Requirements:

1. Provide wall or floor mounted electromagnetic door release as specified with minimum of 25 pounds of holding force. Coordinate projection of holder and armature with other hardware and wall conditions to ensure that door sits parallel to wall when fully open. Connect magnetic holders on fire-rated doors into the fire control panel for fail-safe operation

2.23 FINISHES

A. FINISH: BHMA 626/652 (US26D); EXCEPT:

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

10. Thresholds: Mill Finish Aluminum

PART 3 - EXECUTION

3.01 EXAMINATION

A. Prior to installation of hardware, examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire-rated door assembly construction, wall and floor construction, and other conditions affecting performance. Verify doors, frames, and walls have been properly reinforced for hardware installation.

B. Examine roughing-in for electrical power systems to verify actual locations of wiring connections before electrified door hardware installation.

C. Submit a list of deficiencies in writing and proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Mount door hardware units at heights to comply with the following, unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.
2. Custom Steel Doors and Frames: HMMA 831.
3. Interior Architectural Wood Flush Doors: ANSI/WDMA I.S. 1A
4. Installation Guide for Doors and Hardware: DHI TDH-007-20

B. Install door hardware in accordance with NFPA 80, NFPA 101 and provide post-install inspection, testing as specified in section 1.03.E unless otherwise required to comply with governing regulations.

C. Install each hardware item in compliance with manufacturer's instructions and recommendations, using only fasteners provided by manufacturer.

D. Do not install surface mounted items until finishes have been completed on substrate. Protect all installed hardware during painting.

E. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate as necessary for proper installation and operation.

F. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.

G. Install operating parts so they move freely and smoothly without binding, sticking, or excessive clearance.

H. Hinges: Install types and in quantities indicated in door hardware schedule but not fewer than quantity recommended by manufacturer for application indicated.

I. Lock Cylinders:

1. Install construction cores to secure building and areas during construction period.
2. Replace construction cores with permanent cores as indicated in keying section.
3. Furnish permanent cores to Owner for installation.

J. Wiring: Coordinate with Division 26, ELECTRICAL and Division 28 ELECTRONIC SAFETY AND SECURITY sections for:

1. Conduit, junction boxes and wire pulls.
2. Connections to and from power supplies to electrified hardware.
3. Connections to fire/smoke alarm system and smoke evacuation system.
4. Connection of wire to door position switches and wire runs to central room or area, as directed by Architect.
5. Connections to panel interface modules, controllers, and gateways.
6. Testing and labeling wires with Architect's opening number.

K. Key Control System: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

L. Continuous Hinges: Re-locate the door and frame fire rating labels where they will remain visible so that the hinge does not cover the label once installed.

M. Door Closers & Auto Operators: Mount closers/operators on room side of corridor doors, inside of exterior doors, and stair side of stairway doors from corridors. Mount closers/operators so they are not visible in corridors, lobbies and other public spaces unless approved by Architect.

N. Overhead Stops/Holders: Mount overhead stops/holders on room side of corridor doors, inside of exterior doors, and stair side of stairway doors.

O. Power Supplies: Locate power supplies as indicated or, if not indicated, above accessible ceilings or in equipment room, or alternate location as directed by Architect.

P. Thresholds:

1. Set thresholds in full bed of sealant complying with requirements specified in Division 07 Section "Joint Sealants."
2. Aluminum thresholds to be cut-in, and scribed around mullions, frame members, and stops. Do not butt to thresholds. Provide a continuous surface across full width of opening from jamb to jamb.
3. Where aluminum panic-type (rabbeted) thresholds with neoprene inserts are specified, undercut doors as required to properly mate with seal in threshold.

Q. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they may impede traffic or present tripping hazard.

R. Perimeter Gasketing:

1. Apply to head and jamb, forming seal between door and frame.
2. Install gasketing in a manner eliminating need to cut any seal to install surface mounted hardware. Install compatible mounting bracket for surface mounted hardware unless minimum 1/4 inch thick solid aluminum seals are provided for mounting of surface applied hardware.

S. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

T. Door Bottoms and Sweeps: Apply to bottom of door, forming seal with threshold when door is closed.

3.03 ADJUSTING

A. Initial Adjustment: Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

1. Spring Hinges: Adjust to achieve positive latching when door can close freely from an open position of 30 degrees.
2. Electric Strikes: Adjust horizontal and vertical alignment of keeper to properly engage lock bolt.
3. Door Closers: Adjust sweep period to comply with accessibility requirements and requirements of authorities having jurisdiction.

B. Occupancy Adjustment: Approximately three to six months after date of Substantial Completion, examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors and door hardware.

3.04 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation.

B. Clean operating items per manufacturer's instructions to restore proper function and finish.

C. Provide final protection and maintain conditions that ensure door hardware is without damage or deterioration at time of Substantial Completion.

3.05 DOOR HARDWARE SCHEDULE

A. The intent of the hardware specification is to specify the hardware for interior and exterior doors, and to establish a type, continuity, and standard of quality. However, it is the door hardware supplier's responsibility to thoroughly review existing conditions, schedules, specifications, drawings, and other Contract Documents to verify the suitability of the hardware specified.

B. Discrepancies, conflicting hardware, and missing items are to be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application.

C. Hardware items are referenced in the following hardware schedule. Refer to the above specifications for special features, options, cylinders/keying, and other requirements.

D. Hardware Sets:

159540 OPT0508723 Version 1

Hardware Group No. 001L

D115B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	MORTISE CYLINDER	1E74 CAM AS REQ (AS REQ)	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM) (AS REQ)	626	BES
		NOTE	BALANCE OF HARDWARE BY DOOR Mfr		

-COORDINATE HARDWARE REQUIREMENTS WITH DOOR MANUFACTURER PRIOR TO SUBMITTALS.
-REMOVE CYLINDER AND CORE IF NOT REQUIRED.

Hardware Group No. 101

D113

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE MORTISE LOCK	45H-7-A-3J	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 103

D104A D108 D203 D204

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE MORTISE LOCK	45H-7-A-3J	626	BES
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 103S

D110

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE MORTISE LOCK	45H-7-A-3J	626	BES
1	EA	OH STOP	100S	630	GLY
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 201

D104C D107

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM MORTISE LOCK	45H-7-D-3J	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 201C

D119 D210A

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM MORTISE LOCK	45H-7-D-3J	626	BES
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 202S

D103 D114 D115A

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	STOREROOM MORTISE LOCK	45H-7-D-3J	626	BES
2	EA	OH STOP	100S	630	GLY
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 301

D113A D120A D120B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY MORTISE LOCK	45H-0-L-3J	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 500H

D104 D109

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	AUTO FLUSH BOLT	FB31T/FB41T AS REQ	630	IVE
1	EA	CLASSROOM MORTISE LOCK	45H-7-R-3J	626	BES
1	EA	COORDINATOR	COR X FL X MB X HW PREPS	628	IVE
2	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	KICK PLATE	K0050 10" X 1" LDW-CSK-NO	630	TRM
2	EA	DOOR HOLDER X STRIKE	1254	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 501

D120 D206 D207 D208 D209 D210

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM MORTISE LOCK	45H-7-R-3J	626	BES
1	EA	SURFACE CLOSER	4040XP RW/PA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 503

D201 D205

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM MORTISE LOCK	45H-7-R-3J	626	BES
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 701

D121A

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	88-L-03	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 701C

D115C

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	88-L-03	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 701H

D115B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	88-L-03	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	DOOR HOLDER X STRIKE	1254	626	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 701R

D121B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	88-L-F-03	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	WALL BMPR CAST CONCAVE SC	1270-CV	626	TRM
1	EA	GASKETING	488S PSA H & J	BK	ZER

Hardware Group No. 708R

D101 D102C D116

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT HARDWARE	8847-L-F-03	626	VON
2	EA	RIM CYLINDER	1E72	626	BES
2	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
2	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	KICK PLATE	K0050 10" X 1" LDW-CSK-NO	630	TRM
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQ	689	LCN
1	EA	GASKETING	488S PSA H & J	BK	ZER
1	SET	MEETING STILE	8193AA (2 PCS - 1 SET)	AA	ZER
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

-PROVIDE 120VAC AND FIRE ALARM CONNECTIONS FOR WALL MAGNETIC HOLD OPENS.
-WIRE THE MAGNETIC HOLD OPENS TO THE FIRE ALARM SYSTEM.
-THE MAGNETIC HOLD OPENS ARE TO RELEASE UPON ACTIVATION OF THE FIRE ALARMS SYSTEM.
-COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL.
-OMIT WHERE PROVIDED BY SECURITY.

Hardware Group No. 711C

D104B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	PANIC HARDWARE	88-NL	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. 714AM

D100A F100B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB HEIGHT AS REQ	689	VON
1	EA	MORTISE CYLINDER	1E74 CAM AS REQ	626	BES
1	EA	PANIC HARDWARE	88-DT	626	VON
1	EA	PANIC HARDWARE	88-NL	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
2	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	65A	A	ZER

Hardware Group No. 724M

D102A D102B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
8	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	REMOVABLE MULLION	KR4954 STAB HEIGHT AS REQ	689	VON
1	EA	MORTISE CYLINDER	1E74 CAM AS REQ	626	BES
2	EA	PANIC HARDWARE	88-EO	626	VON
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	KICK PLATE	K0050 10" X 1" LDW-CSK-NO	630	TRM
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	SET	GASKETING	328AA H & J	AA	ZER
1	SET	MEETING STILE	8193AA (2 PCS - 1 SET)	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	65A	A	ZER

-EXIT ONLY. NO ENTRY.

Hardware Group No. 738R

D123A D202B D211 F101A F101B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
2	EA	FIRE EXIT HARDWARE	8847-L-BE-F-03	626	VON
2	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
2	EA	KICK PLATE	K0050 10" X 1" LDW-CSK-NO	630	TRM
2	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQ	689	LCN
1	EA	GASKETING	488S PSA H & J	BK	ZER
1	SET	MEETING STILE	8193AA (2 PCS - 1 SET)	AA	ZER
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

-PROVIDE 120VAC AND FIRE ALARM CONNECTIONS FOR WALL MAGNETIC HOLD OPENS.
-WIRE THE MAGNETIC HOLD OPENS TO THE FIRE ALARM SYSTEM.
-THE MAGNETIC HOLD OPENS ARE TO RELEASE UPON ACTIVATION OF THE FIRE ALARMS SYSTEM.
-COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL.
-OMIT WHERE PROVIDED BY SECURITY.

Hardware Group No. 739RW

D123B D202A

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 5 X 4.5	652	IVE
1	EA	FIRE EXIT HARDWARE	88-L-BE-F-03	626	VON
1	EA	SURFACE CLOSER	4040XP EDA X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	FIRE/LIFE WALL MAG	SEM7800 SERIES AS REQ	689	LCN
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER
1	EA	POWER SUPPLY	PS902 FA900 120/240 VAC	LGR	SCE

-PROVIDE 120VAC AND FIRE ALARM CONNECTIONS FOR WALL MAGNETIC HOLD OPEN.
-WIRE THE MAGNETIC HOLD OPEN TO THE FIRE ALARM SYSTEM.
-THE MAGNETIC HOLD OPEN IS TO RELEASE UPON ACTIVATION OF THE FIRE ALARM SYSTEM.
-COORDINATE POWER SUPPLIES WITH SECURITY PRIOR TO SUBMITTAL.
-OMIT WHERE PROVIDED BY SECURITY.

Hardware Group No. 800AV

D100C F100E

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
2	EA	PUSH/PULL SET	1737JGR-2-3300	630	TRM
2	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		

Hardware Group No. 801CL

D105 D111 D117 D118

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1HW 4.5 X 4.5	652	IVE
1	EA	CLASSROOM DEADBOLT W/ OUTSIDE INDICATOR	B663BDC 12-631 OS-LOC	626	SCH
1	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	HEAVY DUTY PUSH PLATE	1001-3	630	TRM
1	EA	PULL PLATE	1018	630	TRI
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	KICK PLATE	K0050 10" X 1 1/2" LDW-CSK-NO	630	TRM
1	EA	GASKETING	488S PSA H & J (USE SILENCERS @ NON-RATED DOORS)	BK	ZER

Hardware Group No. A800AV

F100F

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
2	EA	PUSH/PULL SET	1737JGR-2-3300	628	TRM
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	SURF. AUTO OPERATOR	9542IQ NO TRACK COV RSA	ANCLR	LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	ACTUATOR MOUNT BOX	8310-867F		LCN
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		

-INGRESS OR EGRESS BY THE ACTUATOR.
-INGRESS BY THE PULLS.
-FREE EGRESS BY THE PUSH PADS.

Hardware Group No. A801AV

D100D

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	628	IVE
1	EA	PUSH/PULL SET	1737JGR-2-3300	628	TRM
1	EA	SURF. AUTO OPERATOR	9542IQ NO TRACK COV RSA	ANCLR	LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	ACTUATOR MOUNT BOX	8310-867F		LCN
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		

-INGRESS OR EGRESS BY THE ACTUATOR.
-INGRESS BY THE PULLS.
-FREE EGRESS BY THE PUSH/PULL.

Hardware Group No. AC714AM

F100C

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	CONT. HINGE	112XY	628	IVE
1	EA	REMOVABLE MULLION	KR4854 HEIGHT AS REQ	689	VON
1	EA	MORTISE CYLINDER	1E74 CAM AS REQ	626	BES
1	EA	PANIC HARDWARE	88-DT	626	VON
1	EA	PANIC HARDWARE	88-NL	626	VON
1	EA	RIM CYLINDER	1E72	626	BES
2	EA	BEST SFIC	SFIC (MATCH EXISTING SYSTEM)	626	BES
1	EA	ELECTRIC STRIKE	6111 FSE (FAIL SECURE) CON VOLTAGE AS REQ	630	VON
1	EA	SURFACE CLOSER	4040XP SCUSH X MTG BRKT, SPCR & PLATE AS REQ	689	LCN
1	EA	SURF. AUTO OPERATOR	9542IQ NO TRACK COV RSA	ANCLR	LCN
1	EA	WEATHER RING	8310-801		LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	DUAL ACTUATOR, WALL MOUNT	8310-855		LCN
1	EA	BOLLARD PART	8310-866	689	LCN
2	EA	ACTUATOR MOUNT BOX	8310-867F		LCN
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	EA	MULLION SEAL	8780NBK PSA	BK	ZER
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		
1	SET	ASTRAGAL	MEETING STILE SEAL BY DOOR MFR		
2	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	65A	A	ZER
1	EA	WIRE HARNESS (TO POWER SUPPLY)	CON-6W - CONNECTION LEADS		SCH
1	EA	CREDENTIAL READER	AS SPECIFIED IN DIVISION 28		UNK
1	EA	POWER SUPPLY	PS902 900-4RL 900-BBK 120/240 VAC (OMIT 4RL BOARD WHERE NOT REQ)		VON

-INGRESS BY THE CREDENTIAL READER OR KEY OVERRIDE.
-FREE EGRESS BY THE ACTUATOR OR THE PUSH PAD.
-THE ELECTRIFIED STRIKE WILL BE SEQUENCED WITH THE AUTOMATIC OPENER AND UNLOCK PRIOR TO THE AUTOMATIC OPENER ACTIVATING.

-COORDINATE POWER SUPPLY WITH SECURITY CONTRACTOR PRIOR TO SUBMITTALS.
-OMIT POWER SUPPLY WHERE PROVIDED BY SECURITY.

Hardware Group No. ACE715A

D100B

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
1	EA	CONT. HINGE	112XY	628	IVE
1	EA	PANIC HARDWARE	88-DT	626	VON
1	EA	ELECTRIC STRIKE	6111 FSE (FAIL SECURE) CON VOLTAGE AS REQ	630	VON
1	EA	SURF. AUTO OPERATOR	9542IQ NO TRACK COV RSA	ANCLR	LCN
1	EA	WEATHER RING	8310-801		LCN
1	EA	ACTUATOR, TOUCH	8310-853T		LCN
1	EA	DUAL ACTUATOR, WALL MOUNT	8310-855		LCN
2	EA	ACTUATOR MOUNT BOX	8310-867F		LCN
1	EA	RAIN DRIP	142AA DW + 4" (OMIT @ COVERED OPENINGS)	AA	ZER
1	SET	SEAL	PERIMETER SEAL BY FRAME MFR		
1	EA	DOOR SWEEP	8198AA	AA	ZER
1	EA	THRESHOLD	65A	A	ZER
1	EA	WIRE HARNESS (TO POWER SUPPLY)	CON-6W - CONNECTION LEADS		SCH
1	EA	CREDENTIAL READER	AS SPECIFIED IN DIVISION 28		UNK
1	EA	POWER SUPPLY	PS902 900-4RL 900-BBK 120/240 VAC (OMIT 4RL BOARD WHERE NOT REQ)		VON

-INGRESS BY THE CREDENTIAL READER.
-FREE EGRESS BY THE ACTUATOR OR THE PUSH PAD.
-THE ELECTRIFIED STRIKE WILL BE SEQUENCED WITH THE AUTOMATIC OPENER AND UNLOCK PRIOR TO THE AUTOMATIC OPENER ACTIVATING.

-COORDINATE POWER SUPPLY WITH SECURITY CONTRACTOR PRIOR TO SUBMITTALS.
-OMIT POWER SUPPLY WHERE PROVIDED BY SECURITY.

END OF SECTION 087100

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes:

1. Wood flooring at Gymnasium ~~**and Stage Flooring**~~.
2. Refer to Alternates for Gymnasium Flooring.

1.3 SUBMITTALS

A. Product Data: Include, material descriptions, and finishes for wood sports-floor assemblies.

B. Shop Drawings: Show installation details including location and layout of each type of floor assembly and accessory. Include the following:

1. Layout, colors, widths, and dimensions of game lines and markers.
2. Locations of floor inserts for athletic equipment installed through flooring assembly.

C. Samples for Initial Selection: Manufacturer's color charts showing colors and glosses available for the following:

1. Floor finish.

D. Maintenance Data: For wood sports-floor assemblies and finish systems to include in maintenance manuals.

1.4 PROJECT CONDITIONS

A. Conditioning period begins not less than seven days before sports-floor assembly installation, is continuous through installation, and continues not less than seven days after sports-floor installation.

1. Environmental Conditioning: Maintain an ambient temperature between 65 and 75 deg F (18 and 24 deg C) and relative humidity planned for building occupants, but not less than 35 percent or more than 50 percent, in spaces to receive sports-floor assemblies during the conditioning period.

PART 2 - PRODUCTS

2.1 MATERIALS ~~**– Stage Flooring**~~

A. Fasteners

1. Floor fasteners shall be 1 ¾ (45 mm) barbed power cleats.

B. Wall Base shall be 3" x 4" (76mm x 102 mm) Vent Cove heavy duty molded, vented vinyl pre molded outside corners supplied by Horner Flooring Company. Color: Black.

C. Floor Sanding

1. Machine sand with coarse, medium and fine paper to a smooth, even and uniform surface
2. Remove sanding dust from entire surface by tack or vacuum.
3. Refer to MFMA sanding and finishing guide for procedures.

D. Finishing

1. Inspect entire area of floor to insure that surface is acceptable for finishing, completely free from sanding dust and perfectly clean.
2. Apply approved urethane seal and finish per manufacturer's instructions.
   a. Apply two (2) coats of seal and two (2) coats of finish.
3. Buff and clean floor between each coat.

2.2 ACCESSORIES

A. Floor-Finish System: System of compatible components recommended in writing by flooring manufacturer and MFMA approved.

1. Type: MFMA Group 5, Water Based Finishes.
2. Floor-Sealer Formulation: Pliable, penetrating type.
3. Finish-Coat Formulation: Formulated for gloss finish and multicoat application.
4. Game-Line and Marker Paint: Industrial enamel compatible with finish coats and recommended in writing by manufacturers of finish coats, and paint for this use.
5. VOC content: Provide products that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

   a. Floor Sealers and Finish Coats: VOC content of not more than 350 g/L.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with Installer present, for compliance with requirements for maximum moisture content, installation tolerances, and other conditions affecting performance of sports-floor assemblies.

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

3.2 SANDING AND FINISHING

A. Follow applicable recommendations in MFMA's "Industry Recommendations for Sanding, Sealing, Court Lining, Finishing, and Resurfacing of Maple Gym Floors."

B. Allow installed flooring to acclimate to ambient conditions for at least 10 days before sanding.

C. Machine sand with coarse, medium, and fine grades of sandpaper to achieve a level, smooth, uniform surface without ridges or cups. Remove sanding dust by tack or vacuum.

~~**D. At stage edge where indicated, route in slot for new stage edge lighting. Fixture shall fit tightly into routed slot.**~~

E. Finish: Apply seal and finish coats of finish system according to finish manufacturer's written instructions. Provide not less than four coats total and not less than two finish coats.

1. Water-Based Finishes: Use finishing methods recommended by finish manufacturer to reduce grain raise and sidebonding effect.
2. Game Lines and Markers: Apply game-line and marker paint between final seal coat and first finish coat according to paint manufacturer's written instructions.

a. Mask flooring at game lines and markers and apply paint to produce lines and markers with sharp edges.
b. Where game lines cross, break minor game line at intersection; do not overlap lines.
c. Apply game lines and markers in widths and colors according to requirements indicated on Drawings.
d. Apply finish coats after game-line and marker paint is fully cured.

3.3 PROTECTION

A. Protect sports floors during remainder of construction period to allow finish to cure and to ensure that flooring and finish are without damage or deterioration at time of Substantial Completion.

1. Do not cover sports floors after finishing until finish reaches full cure, and not before seven days after applying last finish coat.
2. Do not move heavy and sharp objects directly over sports floors. Protect fully cured floor finishes and surfaces with plywood or hardboard panels to prevent damage from storing or moving objects over sports floors.

END OF SECTION 096466

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Products Supplied

A. Resilient athletic flooring for weight lifting platforms (10mm).
B. Accessories required for installation, maintenance, and repair.
C. Custom school logo graphics, factory-produced and integral to flooring system, at 50 percent of the designated lifting platforms. Maximum two (2) colors. Logo size, colors, and artwork to be coordinated with Owner prior to fabrication and approved via mock-up.

1.1.2 Related Requirements

A. Section 033300 Cast-In-Place Concrete

a. Coordinate concrete thicknesses for smooth level transitions.

1.1.3 ASTM International (ASTM)

A. ASTM D412: Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension.
B. ASTM D2047: Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as measured by the James Machine.
C. ASTM D2240: Standard Test Method for Rubber Property (Durometer Hardness).
D. ASTM D3389: Standard Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform Abrader).
E. ASTM E648: Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source.
F. ASTM E662: Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials.
G. ASTM E1643: Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.
H. ASTM E1745: Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs.
I. ASTM F386: Standard Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces.
J. ASTM F710: Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.
K. ASTM F925: Standard Test Method for Resistance to Chemicals of Resilient Flooring.
L. ASTM F970: Standard Test Method for Static Load Limit.
M. ASTM F1514: Standard Test method for Measuring Heat Stability of Resilient Flooring by Color Change.
N. ASTM F1515: Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change.
O. ASTM F1869: Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.

P. ASTM F2170: Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.

1.1.4 State of California (CA)

A. CA Section 01350: Standard Method for the Testing and Evaluation of Volatile Organic Compound Emissions from Indoor Sources Using Environmental Chambers.

1.1.5 GREENGUARD Environmental Institute (GEI)

A. GREENGUARD Certification: Compliant with stringent emission levels for over 360 VOCs, plus a limit on the total of all chemical emissions combined (TVOC).
B. GREENGUARD Gold: Compliant with safety factors to account for sensitive individuals (such as children and the elderly) and ensures that a product is acceptable for use in environments such as schools and healthcare facilities.

1.1.6 International Organization for Standardization (ISO)

A. ISO 9001: Quality Management Systems - Requirements.

1.2 SUBMITTALS

1.2.1 Action Submittals

A. Provide current printed data sheets for all Products Supplied.
B. Provide samples, 6 inches x 6 inches, for verification of such characteristics as color and surface texture of each specified resilient athletic flooring product.
C. If line painting is specified, provide samples of available paint colors for selection and approval.
D. Provide shop drawings prepared for project illustrating layouts, details, dimensions and other data.

1.2.2 Informational Submittals

A. Provide Manufacturer’s current printed subfloor preparation guidelines.
B. Provide Manufacturer’s current printed installation guidelines for Products Supplied.

1.2.3 Closeout Submittals

A. Provide Manufacturer’s current printed maintenance guidelines for resilient athletic flooring.
B. Provide Manufacturer’s current printed standard warranty for resilient athletic flooring.

1.2.4 Maintenance Material Submittals

A. Provide extra stock materials from original dye lots, for use in facility operations and maintenance (approximately 2% of the total floor surface for each color, surface texture and format of Manufactured Product).

1.3 QUALITY ASSURANCE

A. Manufacturer must be certified ISO 9001.
B. Manufactured Product must have undergone a vulcanization process; factory lamination should not be accepted as equivalent.
C. In accordance with ASTM E648, the Manufactured Product must have a critical radiant flux ≥0.45W/cm^2 (Class 1).
D. In accordance with ASTM E662, the Manufactured Product must have an optical density of smoke <450.
E. Manufacturer must have a minimum of fifteen (15) years of experience in the manufacturing of prefabricated resilient athletic flooring.
F. Installer must have performed installations of the same scale in the last three (3) years.
G. Installer to be recognized and approved by the Manufacturer.
H. If line painting is specified, painting must be done by professionals with proper experience and qualifications to effectively perform the work.
I. Installation of mock-up is required for lifting platforms with school logo, and must be deemed acceptable by Owner and Architect. Mock-up is to be installed following the same procedures and utilizing the same specified materials that will be used for the actual project.
    a. Mock-up may be incorporated into final installation
    b. Mock-up size: Full size lifting platform.

1.4 DELIVERY, STORAGE AND HANDLING

A. Products Supplied must be delivered in Manufacturer's original, unopened and undamaged packaging with identification labels intact.
B. Products Supplied must be protected from exposure to harmful weather conditions and must be safely stored on a clean, dry, flat surface. Store rolls of resilient athletic flooring upright.
C. Climate controlled storage is recommended. Storage temperature must not be below 55^{o}F (13^{o}C) and must not exceed 100^{o}F (38^{o}C).
D. Avoid storing Manufactured Product for extended periods of time or additional material trimming may be required.
E. Products Supplied need not suffer damage during handling (i.e. dents/scratches, edge chipping, excessive warping, etc.).

1.5 SITE CONDITIONS

A. The General Contractor or Construction Manager shall be responsible for ensuring all site conditions meet the requirements of the Manufacturer, as referenced herein at sections 3.2 and 3.3.
B. Concrete subfloors, on or below grade, must be installed over a permanent effective vapor retarder, respecting current versions of standard practice ASTM E1643 and standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010in).
C. No concrete sealers or curing compounds are applied or mixed with the subfloors (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
D. Installation of the resilient athletic flooring to be carried out no sooner than the specified curing time of concrete subfloor (normal density concrete curing time is approximately 28 days for development of design strength). Refer to current version of ASTM F710.

E. The subfloor surface must be free of any paint, wax, oil, grease, sealer, curing compound, solvent or any other contaminants that may inhibit bond. All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
F. Concrete to have smooth, dense finish, and be highly compacted with a tolerance of 1/8'' in a 10ft radius (3.2mm in 3.05m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
G. Moisture and alkalinity tests must be performed on all concrete substrates, under in-service conditions. It is recommended to turn on the HVAC unit prior to performing moisture testing, in order to ensure stable testing conditions and accurate results. The concrete's surface pH should be between 7 and 10. Relative humidity of the concrete slab must not exceed 85%, in accordance with ASTM F2170 (in situ probes). Moisture vapor emissions from the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with ASTM F1869 (anhydrous calcium chloride).
H. If installing over wood subfloors, ensure exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: G2S A-A, A-B, B-B, or G1S A-C, B-C). There must be proper underfloor ventilation, plywood must be dry and should have a moisture content ranging between 6 and 12%, when measured with a quality wood moisture meter (electronic hygrometer).
I. Maintain a stable room and subfloor temperature within the recommended range of 65^{o}F to 86^{o}F (18^{o}C to 30^{o}C), 48 hours prior to installation, during the installation, and 48 hours after the installation. Recommended ambient humidity control level is between 35 to 55%.
J. Installation of resilient athletic flooring will not commence until the building is enclosed and all other trades have completed their work. It is the General Contractor or Construction Manager's responsibility to maintain a secure and clean working area before, during and after the installation of the resilient athletic flooring.

1.6 EXTENDED WARRANTY

A. The resilient athletic flooring is warranted to be free from manufacturing defects for a period of three (3) years from the date of shipment from the Manufacturer.
B. The resilient athletic flooring is warranted against excessive wear under normal usage for a period of ten (10) years from the date of shipment from the Manufacturer.

PART 2 – PRODUCTS

1.7 MANUFACTURED PRODUCT

1.7.1 Manufacturer

A. Basis of Design: Mondo.
B. Alternate manufacturers will be considered for approval provided proposed product is a rolled, multi-layer rubber sports flooring system with non-porous wear surface and integral shock absorption layer, meeting or exceeding specified performance criteria for durability, force reduction, and indentation resistance.

1.7.3 Resilient Athletic Flooring (Weight Room)

A. ~~**Sport Impact performance layer is 6 mm prefabricated resilient athletic flooring, calendered and vulcanized, with a base of natural and synthetic rubbers, stabilizing agents and pigmentation, as manufactured by Mondo Luxembourg S.A. or approved equal; Baselast EX resilient shock absorbing underlayment is 12 mm prefabricated synthetic rubber honeycomb (elongated hexagon- shaped) base, calendered and vulcanized, with special isoprenic rubbers, mineral fillers, stabilizing agents and pigmentation, designed and engineered for superior biomechanical properties and heavy impact resistance with its Air-Cell® technology, as manufactured by Mondo S.p.A. or approved equal. The resilient athletic flooring and resilient shock absorbing underlayment are combined on-site with a polyurethane adhesive.**~~

A. **Valor is prefabricated resilient rubber athletic flooring that has been calendared and vulcanized for durability and performance, consisting of high quality natural and synthetic rubbers, stabilizing agents, and pigments, as manufactured by Mondo.**
B. **Vulcanized, dual durometer construction. The shore hardness of the top layer (performance layer) will be greater than that of the bottom layer (shock absorption layer). Shore hardness of layers to be recommended by the Manufacturer and to respect limits specified.**
C. Basis of Design Product: Mondo Valor.
D. Thickness: 10 mm.
E. Color: As selected by Architect from manufacturer's full range.
F. Surface Texture: Sealskin.
G. Formats: Sheets in maximum sizes available.

1.7.4 Resilient Athletic Flooring (Gymnasium)

A. Prefabricated resilient rubber athletic flooring, calendered and vulcanized with a base of natural and synthetic rubbers, stabilizing agents and pigmentation.
B. Manufactured in two layers which are vulcanized together. The shore hardness of the top layer will be greater than that of the bottom layer; shore hardness of layers to be recommended by the Manufacturer and the limits specified.
C. Basis of Design Product: Mondo 3 Layer Advance Pro.
D. Thickness: 10 mm.
E. Color: As selected by Architect from manufacturer's full range.
F. Surface Texture: Sealskin.
G. Formats: Sheets in maximum sizes available.

1.7.5 Materials

A. Provide ~~**Advance Vulcanized**~~ resilient athletic flooring manufactured by Mondo Luxembourg S.A. or approved equal.
B. Provide resilient athletic flooring as specified in section 2.1.2 Description.

1.8 ACCESSORIES

A. Provide adhesive certified by Manufacturer: Mondo PU 105 (polyurethane). For suitability, recommendations and use please refer to Manufacturer's current printed adhesive guidelines. In some cases, Mondo EP 55 (epoxy) may be used in areas that have not been specified to receive Everlay, and that will not be subject to surface impacts (such as falling free weights) or heavier dynamic loads (such as bleachers).
B. Patching or leveling compound to be supplied or recommended/approved by Manufacturer.
C. If line painting is specified, all painting products are to be supplied or recommended/approved by Manufacturer.

PART 3 – EXECUTION

1.9 INSTALLERS

A. Refer to section 1.4 of this document for information on installers.

1.10 EXAMINATION

A. Ensure that concrete subfloors, on or below grade, are installed over a permanent effective vapor retarder, respecting current versions of the standard practice ASTM E1643 and standard specification ASTM E1745. The vapor retarder must be placed directly underneath the concrete slab, above the granular fill, as per Manufacturer's instructions. The vapor retarder must have a perm rating of 0.1 or less and must have a minimum thickness of 10 mil (0.010in).
B. Installation of the resilient athletic flooring to be carried out no sooner than the specified curing time of concrete subfloor (normal density concrete curing time is approximately 28 days for development of design strength). Refer to current version of ASTM F710.
C. Ensure that no concrete sealers or curing compounds have been applied to or mixed into the concrete (refer to Section 03 05 00 – Common Work Results for Concrete of Division 3).
D. Subfloor surface must be free of any paint, wax, oil, grease, sealer, curing compound, solvent or any other contaminants that may inhibit bond. All contaminants must be removed from the surface via mechanical abatement. Use of abatement chemicals is not recommended.
E. Confirm concrete has smooth, dense finish, and is highly compacted with a tolerance of 1/8'' in a 10ft radius (3.2mm in 3.05m radius). Floor Flatness (FF) and Floor Levelness (FL) numbers are not recognized.
F. Moisture and alkalinity tests must be performed on all concrete substrates, under in-service conditions. It is recommended to turn on the HVAC unit prior to performing moisture testing, in order to ensure stable testing conditions and accurate results. The concrete's surface pH should be between 7 and 10. Relative humidity of the concrete slab must not exceed 85%, in accordance with ASTM F2170 (in situ probes). Moisture vapor emissions from the concrete slab must not exceed the tolerance of the adhesive specified, in accordance with ASTM F1869 (anhydrous calcium chloride).
G. If installing over wood subfloors, ensure exterior grade plywood with at least one good side, such as: APA (Engineered Wood Association) Exterior grade plywood (A-A Exterior, A-B Exterior or A-C Exterior) and CANPLY (Canadian Plywood Association) Exterior certified plywood (Canada: Grade G2S A-A or G1S A-C. USA: G2S A-A, A-B, B-B, or G1S A-C, B-C). There must be proper

underfloor ventilation, plywood must be dry and should have a moisture content ranging between 6 and 12%, when measured with a quality wood moisture meter (electronic hygrometer).

H. Maintain a stable room and subfloor temperature within the recommended range of 65°F to 86°F (18°C to 30°C), 48 hours prior to installation, during the installation, and 48 hours after the installation. Recommended ambient humidity control level is between 35 to 55%.
I. Installation of resilient athletic flooring will not commence until the building is enclosed and all other trades have completed their work. Ensure a secure and clean working area before, during and after the installation of the resilient athletic flooring.

1.11 PREPARATION

A. Prepare subfloor in accordance with Manufacturer's current printed guidelines.

1.12 INSTALLATION

A. Install rolls of resilient athletic flooring following Manufacturer's current printed guidelines.
B. Install all accessories following Manufacturer's current printed guidelines.

1.13 REPAIR

A. Refer to section 1.3.4 for extra stock materials.
B. Repair material must come from the same original dye lot as the Manufactured Product initially installed.
C. Repairs are to be performed by qualified installers/technicians only.

1.14 CLEANING

A. Always wait at least a minimum of 72 hours after the resilient athletic flooring has been completely installed before performing initial maintenance.
B. For surfaces having received newly painted lines, wait a minimum of 30 days after the application of the paint before scrubbing the surface to ensure proper curing of the paint.
C. Always maintain the resilient athletic flooring following Manufacturer's current printed guidelines.

1.15 PROTECTION

A. As needed, protect resilient athletic flooring with 1/8" Masonite during and after the installation, prior to acceptance by the Owner.

END OF SECTION 096566

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PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Wall and ceiling mounted acoustical absorber and diffuser panels for engineered sound control system.

B. Located in Gymnasium.

1.2 RELATED SECTIONS

A. Division 09 Section "Acoustical Panel Ceilings" for general purpose acoustical ceiling panels and for grids serving as supports for ceiling mounted acoustical panels specified in this Section.

B. Section 012300 Alternates.

1.3 SYSTEM DESCRIPTION

A. Provide a system of sound absorbing and sound diffusing panels in a configuration designed to reduce excess sound energy levels and improve sound distribution throughout the space.

1.4 REFERENCES

A. American Society of Civil Engineers (ASCE):

1. ASCE 7 – Minimum Design Loads for Buildings and Other Structures.

B. ASTM International (ASTM):

1. ASTM C 423 – Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
2. ASTM C 612 – Specification for Mineral Fiber Block and Board Thermal Insulation.
3. ASTM E 84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASTM E 336 – Standard Test Method for Measurement of Airborne Sound Insulation in Buildings.
5. ASTM E 413 – Classification for Determination of Sound Transmission Class.
6. ASTM E 795 – Practices for Mounting Test Specimens during Sound Absorption Tests.

C. Underwriters Laboratories, Inc.:

1. UL 723 – Test For Surface Burning Characteristics of Building Materials.

1.5 PERFORMANCE REQUIREMENTS

A. Airborne Noise Reduction: Provide acoustical absorber and diffuser panels in layout designed by computer simulation based on Fitzroy formulas:

1. See the included noise reduction estimates.

B. Reverberation Time: Provide acoustical absorber and diffuser panels in layout designed by computer simulation based on Fitzroy formulas:

1. See the included reverberation estimates.

C. Seismic Performance: Comply with ASCE 7, "Minimum Design Loads for Buildings and Other Structures": Section 9, "Earthquake Loads" based upon seismic design criteria indicated.

1.6 SUBMITTALS

A. Product Data: Manufacturer's data sheets, installation instructions, and maintenance recommendations for each type of acoustical absorber and diffuser panel.

1. Include data indicating coefficients of absorption and Sabines per unit for each type of panel used in the analysis and proposed design layout.

B. Product Test Reports: Indicating compliance of products with requirements, from a qualified independent testing agency.

C. Shop Drawings: Prepared by manufacturer. Include elevations showing acoustic room components sizes, arrangements, and details of each condition of installation. Show fabrication and installation details.

1. Indicate variations from basis of design unit sizes and layout shown on drawings, based upon performance of proposed products.
2. Provide acoustic engineering calculation results and a graphic representation of each room's acoustical properties prior to and after installation of acoustical room components.

a. Base calculations on proposed supplier's specific products.
b. Indicate absorption and reverberation time properties complying with design requirements, utilizing octave band frequencies from 125 Hz to 4,000 Hz, based upon the Fitzroy formulas.
c. Show room response at 125 to 4000 Hz octave bands empty, untreated and occupied, and treated and occupied.
d. Calculations based upon NRC data alone do not meet the requirements of this specification.

D. Samples: For each color and finish for each exposed acoustic room component:

1. For fabric selection from manufacturer's full range of not less than 40 colors.

E. Maintenance Data: Include fabric manufacturer's cleaning and stain-removal instructions.

F. Warranty: Submit sample meeting warranty requirements of this Section.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum five (5) years experience in manufacture of acoustic room components.

1. Manufacturers seeking approval must submit the following:

a. Acoustical analysis and proposed layout for this project as described in Submittals Article above.
b. Samples of each component of product specified, when requested by Architect.
c. Project references: Minimum of 5 installations not less than five (5) years old, with owner contact information.
d. Sample warranty.

2. Submit substitution request not less than 15 days prior to bid date.
3. Approval will be indicated by issuance of written Addendum.
4. Approved manufacturers must meet separate requirements of Submittals Article.

B. Fire-Test-Response Characteristics per ASTM E 84 or UL Standard 723: Flame spread index: 25 or less; Smoke developed index: 450 or less.

C. Source Limitations: Obtain acoustic room components through one source from a single approved manufacturer.

D. Source Limitations: Obtain the following products through one source from a single approved manufacturer

1. Acoustical room components.

1.8 COORDINATION

A. Coordinate requirements for blocking required in frame construction to receive acoustical absorber and diffuser panels.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle acoustical absorber and diffuser panels in accordance with panel and fabric manufacturers' recommendations. Ship to jobsite only after roughing-in, painting work, and other related finish work has been completed and installation areas are ready to accept units and recommended temperature and humidity levels will be maintained during the remainder of construction.

1.10 WARRANTY

A. Special Warranty: Manufacturer's written warranty indicating manufacturer's intent to repair or replace acoustical absorber and diffuser panels that fail in materials or workmanship within **[5]** years from date of Substantial Completion. Failures are defined to include, but are not limited to, the following:

1. Fracturing or breaking of unit components which results from normal wear and tear and normal use other than vandalism.
2. Delimitation or other failures of glue bond of components.
3. Warping of components not resulting from leaks, flooding, or other uncontrolled moisture or humidity.
4. Failure of unit to perform acoustically in accordance with manufacturer's published data.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Acoustical absorber and diffuser panels design is based upon products of the manufacturer below. Provide basis of design product, or comparable products of a listed manufacturer approved by the Architect prior to bid which will provide identical room acoustic performance to that provided by the products and configuration indicated.

1. AVL Systems
2. MDC Zintra Panels
3. Decoustics Limited, Getzville, NY; Telephone: (800) 387-3809; Email: sales@decoustics.com; Website: www.decoustics.com.

4. Cornwed Designscape, Ladysmith, WI; Telephone: (800) 932-2383; Email: russell.leighton@owenscorning.com; Website: www.cornweddesignscape.com.
5. Armstrong, Lancaster, PA; Telephone: (877) 276-7876; Website: www.armstrong.com/commceilingsna.
6. Kinetics.
7. Golterman and Sabo.
8. Acoustical Resources, Inc.
9. Acoustical Resources.

2.2 MATERIALS

A. Glass Fiber Board: ASTM C 612, Type 1A, 6 lb/cu. ft. (96 kg/cu. m) density molded rigid board, flame spread index 25 maximum, and smoke-developed index 450 maximum.

~~**B. Thermoplastic Sheet: PVC acrylic plastic sheet, flame spread index 25 maximum, and smoke-developed index 450 maximum.**~~

B. Construction: 6-7 lb (2.7215-3.1754 kg) density, impact resistant glass fiber panels with a 1/8 inch (3.175 mm) high density glass fiber tackable outer panel, with resin hardened edges, fabric wrapped.

C. Fabric Facing Material: 100 percent woven plain weave polyester 2-ply, with the following characteristics:

1. Light Fastness: AATCC 16, Option 3: 40 hours.
2. Fastness to Crocking: AATCC 8: #4 Wet & Dry.
3. Flammability: ASTM E 84, Class A or 1.
4. Basis of design product: TBD from Manufacturer's full range of fabric selections.

D. 100% Polyester: Class A Fire Rating (ASTM E-84)

2.3 SOUND-ABSORBING WALL PANELS

A. General: Provide sound absorbing and sound-diffusing panels meeting requirements of Performance Requirements Article and requirements of this Article, as scheduled in the drawings:

B. Wall Absorber Panels: Manufacturer's standard panel, with fabric covering laminated to front face of rigid glass-fiber board, with chemically hardened edges, with the following characteristics:

1. Basis of Design Product: AVL Systems AcousTech Wall & Ceiling Panels
2. Absorber Panel Size: 2 inches thick, width and length indicated on drawings.
3. Fabric Covering: Manufacturer's standard, color and pattern as selected.
4. Wall Panel Mounting Method: Metal wall bracket with panel-mounted z-bracket.

2.4 SOUND-ABSORBING CEILING PANELS

A. General: Provide sound absorbing ceiling hung panels meeting requirements of Performance Requirements Article and requirements of this Article, as scheduled in the drawings:

B. Ceiling Absorber Panels: Manufacturer's standard 100% polyester panel in 1/2" thickness.
1. Basis of Design Product: Zintra Shapes
2. Absorber Panel Size: 1/2 inches thick, 47.2" diameter circle.
3. NRC Rating: 0.45 – 0.90

4. Color: Three (3) colors as selected by Architect from manufacturer's full Color range.
5. Ceiling Mounting Method: Metal cables hardware supplied by manufacturer. Extended lengths as show on drawings.

2.5 ACCESSORIES

A. Wall Brackets: Galvanized steel rail configured to accept grooved epoxy buttons or z-brackets attached to panel corners on concealed side.

B. Ceiling mounted cabling: Stainless steel cable with adjustable and barrel fixing attachments.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine acoustical absorber and diffuser panels installation substrates and surroundings for compliance with requirements for installation tolerances, including required overhead clearances, and other existing conditions affecting installation and performance of acoustical absorber and diffuser panels. Proceed with unit installation upon correction of unsatisfactory conditions.

3.2 ACOUSTICAL ABSORBER AND DIFFUSER PANELS INSTALLATION

A. Install units plumb, level, and true. Install in accordance with manufacturer's recommendations and approved submittals.

B. Install wall-mounted acoustical panels utilizing corner mounting z-brackets or grooved buttons and concealed wall brackets. Where indicated, secure units to wall with fasteners along top of unit.

C. Install ceiling-mounted acoustical panels utilizing integral corner mounting brackets and one or more of the following mounting methods as indicated:

1. Direct Mounted: Attach directly to substrate using backmounted clip and exposed fastener.
2. Suspended: Hang panels plumb and free from structural members. Use carrying channels where structural members cannot be used. Use post-installed anchors in concrete slabs.
3. Ceiling Grid Mounted: Mount and fasten panels to grid using grid clips.
4. Install seismic bracing and fastening in accordance with CISCA's "Ceiling Systems Handbook" and approved shop drawings.

D. Do not modify panels in the field.

3.3 FIELD QUALITY CONTROL

A. Should completed installation fail to meet requirements, Contractor shall make modifications necessary to correct performance and retest room as directed by Architect to indicate compliance, at Contractor's expense.

3.4 CLEANING

A. Repair or replace defective work as directed by Architect upon inspection.

B. Clean unit surfaces. Touch up, refinish, or replace damaged components in a manner acceptable to Architect.

END OF SECTION 098400

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following:

1. Toilet and bath accessories.
2. Warm-air dryers.

B. Related Sections include the following:

1. Division 10 Section "Toilet Compartments" for compartments and screens.

1.3 SUBMITTALS

A. Product Data: Include construction details, material descriptions and thicknesses, dimensions, profiles, fastening and mounting methods, specified options, and finishes for each type of accessory specified.

B. Setting Drawings: For cutouts required in other work; include templates, substrate preparation instructions, and directions for preparing cutouts and installing anchoring devices.

C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required. Use designations indicated in the Toilet and Bath Accessory Schedule and room designations indicated on Drawings in product schedule.

D. Maintenance Data: For accessories to include in maintenance manuals specified in Division 1. Provide lists of replacement parts and service recommendations.

1.4 QUALITY ASSURANCE

A. Source Limitations: Provide products of same manufacturer for each type of accessory unit and for units exposed to view in same areas, unless otherwise approved by Architect.

B. Product Options: Accessory requirements, including those for materials, finishes, dimensions, capacities, and performance, are established by specific products indicated in the Toilet and Bath Accessory Schedule.

1. Products of other manufacturers listed in Part 2 with equal characteristics, as judged solely by Architect, may be provided.

2. Other manufacturers' products with equal characteristics may be considered. See Division 1 Section "Substitutions."
3. Do not modify aesthetic effects, as judged solely by Architect, except with Architect's approval. Where modifications are proposed, submit comprehensive explanatory data to Architect for review.

1.5 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by disabled persons, proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.6 WARRANTY

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Manufacturer's Mirror Warranty: Written warranty, executed by mirror manufacturer agreeing to replace mirrors that develop visible silver spoilage defects within minimum warranty period indicated.

1. Minimum Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering accessories that may be incorporated into the Work include, but are not limited to, the following:

1. Toilet and Bath Accessories:

a. American Specialties, Inc.
b. Bobrick Washroom Equipment, Inc.
c. Bradley Corporation

2. Warm-Air Dryers:

a. American Specialties, Inc.
b. Bobrick Washroom Equipment, Inc.
c. World Dryer

B. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, those indicated in the Toilet and Bath Accessory Schedule at the end of Part 3.

2.2 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated.

B. Brass: ASTM B 19, leaded and unleaded flat products; ASTM B 16 (ASTM B 16M), rods, shapes, forgings, and flat products with finished edges; ASTM B 30, castings.

C. Sheet Steel: ASTM A 366/A 366M, cold rolled, commercial quality, 0.0359-inch (0.9-mm) minimum nominal thickness; surface preparation and metal pretreatment as required for applied finish.

D. Galvanized Steel Sheet: ASTM A 653/A 653M, G60 (Z180).

E. Chromium Plating: ASTM B 456, Service Condition Number SC 2 (moderate service), nickel plus chromium electrodeposited on base metal.

F. Baked-Enamel Finish: Factory-applied, gloss-white, baked-acrylic-enamel coating.

G. Mirror Glass: ASTM C 1036, Type I, Class 1, Quality q2, nominal 6.0 mm thick, with silvering, electroplated copper coating, and protective organic coating complying with FS DD-M-411.

H. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

I. Fasteners: Screws, bolts, and other devices of same material as accessory unit, tamper and theft resistant when exposed, and of galvanized steel when concealed.

2.3 FABRICATION

A. General: One, maximum 1-1/2-inch- (38-mm-) diameter, unobtrusive stamped manufacturer logo, as approved by Architect, is permitted on exposed face of accessories. On interior surface not exposed to view or back surface of each accessory, provide printed, waterproof label or stamped nameplate indicating manufacturer's name and product model number.

B. Surface-Mounted Toilet Accessories: Unless otherwise indicated, fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with continuous stainless-steel hinge. Provide concealed anchorage where possible.

C. Recessed Toilet Accessories: Unless otherwise indicated, fabricate units of all-welded construction, without mitered corners. Hang doors and access panels with full-length, stainless-steel hinge. Provide anchorage that is fully concealed when unit is closed.

D. Framed Glass-Mirror Units: Fabricate frames for glass-mirror units to accommodate glass edge protection material. Provide mirror backing and support system that permits rigid, tamper-resistant glass installation and prevents moisture accumulation.

1. Provide galvanized steel backing sheet, not less than 0.034 inch (0.85 mm) and full mirror size, with nonabsorptive filler material. Corrugated cardboard is not an acceptable filler material.

E. Mirror-Unit Hangers: Provide mirror-unit mounting system that permits rigid, tamper- and theft-resistant installation, as follows:

1. One-piece, galvanized steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.

F. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

G. Unframed Glass Mirror Units: Glass shall match framed units with finished edge. Mount units directly to wall with manufacturer approved adhesive.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Secure mirrors to walls in concealed, tamper-resistant manner with special hangers, toggle bolts, or screws. Set units level, plumb, and square at locations indicated, according to manufacturer's written instructions for substrate indicated.

C. Install grab bars to withstand a downward load of at least 250 lbf (1112 N), when tested according to method in ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

3.3 TOILET AND BATH ACCESSORY SCHEDULE

A. Model Numbers are based on Bobrick Washroom Equipment, Inc. unless noted otherwise. Coordinate quantities and locations with the drawings.

B. Toilet Accessory Schedule:

	Item	Model Number
1.	1-1/2” Diameter Grab Bars	B-6806.99 x length indicated.
2.	Mirror (16” x 20”)	B-1658
3.	Mirror (20” x 60”)	B-1658
4.	Sanitary Napkin Disposal	B-4354 (Partition mounted)
5.	Sanitary Napkin Disposal	B-4353 (Recessed)
6.	Soap Dish	B-973
7.	Shower Curtain Rod	B-6047 with 204-2 shower curtain and 201-1 curtain hooks.
8.	Not Used	
9.	Waste Receptacle	B-2250
10.	Electric Water Cooler (See Plumbing Drawings)	
11.	Hand/Hair Dryer	Xcelerator XL-W or approved equal, 120V
12.	Mop/Broom Holder	B-224
13.	Security Shelf	SA49 by Bradley Corp.
14.	Sanitary Napkin Dispenser equal to	4018-11-43 by Bradley Corp.
15.	Mirror (24” x 72”)	B-290 2472.MBLK
16.	**Foldable Shower Seat**	**B-5181**
17.	**Foldable Changing Room Seat**	**B-5193**

(Coordinate electrical requirements with Electrical Drawings and plumbing requirements with Plumbing Drawings)

END OF SECTION 102800

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Athletic metal lockers.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of metal locker and bench.

B. Shop Drawings: For metal lockers. Include plans, elevations, sections, details, and attachments to other work.

1. Show locker trim and accessories.
2. Include locker identification system and numbering sequence.

C. Samples for Initial Selection: For units with factory-applied color finishes.

D. Qualification Data: For qualified Installer.

E. Maintenance Data: For adjusting, repairing, and replacing locker doors and latching mechanisms to include in maintenance manuals.

F. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

B. Source Limitations: Obtain metal lockers, locker benches, and accessories from single source from single manufacturer.

C. Regulatory Requirements: Where metal lockers and benches are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's

"Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities."

1.5 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver metal lockers until spaces to receive them are clean, dry, and ready for their installation.

B. Deliver combination control charts to Owner by registered mail or overnight package service.

1.6 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of recessed openings by field measurements before fabrication.

1.7 COORDINATION

A. Coordinate sizes and locations of concrete and concrete masonry bases for metal lockers.

B. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of work specified in other Sections to ensure that metal lockers can be supported and installed as indicated.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal lockers that fail in materials or workmanship, excluding finish, within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures.
b. Faulty operation of latches and other door hardware.

2. Damage from deliberate destruction and vandalism is excluded.
3. Warranty Period for All-Welded Metal Lockers: Lifetime from date of Substantial Completion.

1.9 EXTRA MATERIALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Full-size units of the following metal locker hardware items equal to 25 percent of amount installed for each type and finish installed, but no fewer than five units:

a. Locks.

b. Identification plates.
c. Hooks.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B, suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with A60 (ZF180) zinc-iron, alloy (galvannealed) coating designation.

C. Expanded Metal: ASTM F 1267, Type II (flattened), Class I, 3/4-inch (19-mm) steel mesh, with at least 70 percent open area.

D. Extruded Aluminum: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and manufacturer for type of use and finish indicated.

E. Steel Tube: ASTM A 500, cold rolled.

F. Fasteners: Zinc- or nickel-plated steel, slotless-type, exposed bolt heads; with self-locking nuts or lock washers for nuts on moving parts.

G. Anchors: Material, type, and size required for secure anchorage to each substrate.

1. Provide nonferrous-metal or hot-dip galvanized anchors and inserts on inside face of exterior walls, and elsewhere as indicated, for corrosion resistance.
2. Provide toothed-steel or lead expansion sleeves for drilled-in-place anchors.

2.2 ATHLETIC METAL LOCKERS

A. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

1. All-Welded, Athletic Metal Lockers:

a. DeBourgh Mfg. Co.; Physical Education and Varsity Lockers.
b. Lyon Workspace Products, LLC; All-Welded Expanded Metal Lockers.
c. Penco Products, Inc.; All-Welded Lockers.
d. Lockers MFG.
e. See schedule at the end of this section.

B. Locker Arrangement: As indicated on Drawings.

C. Material: Cold-rolled steel sheet.

D. Body: Assembled by welding body components together. Fabricate from unperforated steel sheet with thicknesses as follows:

1. Tops and Bottoms: 0.060-inch (1.52-mm) nominal thickness, with single bend at edges.
2. Backs: 0.048-inch (1.21-mm) nominal thickness.
3. Shelves: 0.060-inch (1.52-mm) nominal thickness, with double bend at front and single bend at sides and back.

E. Expanded-Metal Sides: Fabricated from 0.090-inch (2.28-mm) nominal-thickness expanded metal; welded to 0.105-inch (2.66-mm) nominal-thickness steel angles or 0.060-inch (1.52-mm) nominal-thickness steel channel frames.

F. Frames: Channel formed; fabricated from 0.060-inch (1.52-mm) nominal-thickness steel sheet or 0.097-inch (2.45-mm) nominal-thickness steel angles; lapped and factory welded at corners; with top and bottom main frames factory welded into vertical main frames. Form continuous, integral door strike full height on vertical main frames.

1. Cross Frames for Double-Tier, Triple-Tier Lockers: Channel formed and fabricated from same material as main frames; welded to vertical main frames.

G. Reinforced Bottoms: Structural channels, formed from 0.075-inch (1.90-mm) nominal-thickness steel sheet; welded to front and rear of side-panel frames.

H. Expanded-Metal Doors: Fabricated from 0.090-inch (2.28-mm) nominal-thickness expanded metal; welded to 0.105-inch (2.66-mm) nominal-thickness steel angle frame; with 0.090-inch (2.28-mm) nominal-thickness, steel sheet lock panel backed by 0.060-inch (1.52-mm) nominal-thickness steel sheet retainer welded to door frame.

I. Hinges: Welded to door and attached to door frame with no fewer than two factory-installed rivets per hinge that are completely concealed and tamper resistant when door is closed; fabricated to swing 180 degrees; self-closing.

1. Continuous Hinges: Manufacturer's standard, steel; side or top mounted as required by locker configuration.

J. Recessed Door Handle and Latch: Stainless-steel cup with integral door pull, recessed so locking device does not protrude beyond face of door; pry and vandal resistant.

1. Multipoint Latching: Finger-lift latch control designed for use with built-in combination locks, built-in cylinder locks, or padlocks; positive automatic latching and prelocking.

a. Latch Hooks: Equip doors 48 inches (1219 mm) and higher with three latch hooks and doors less than 48 inches (1219 mm) high with two latch hooks; fabricated from 0.120-inch (3.04-mm) nominal-thickness steel sheet; welded to full-height door strikes; with resilient silencer on each latch hook.

K. Built-in Combination Locks: Key-controlled, three-number dialing combination locks; capable of at least five combination changes made automatically with a control key.

1. Bolt Operation: Manually locking deadbolt or automatically locking spring bolt.

L. Equipment: Equip each metal locker with identification plate and the following unless otherwise indicated:

1. Single-Tier Units: Shelf, one double-prong ceiling hook, and two single-prong wall hooks.
2. Double-Tier Units: One double-prong ceiling hook and two single-prong wall hooks.
3. Triple-Tier Units: One double-prong ceiling hook.
4. Coat Rods: As indicated on Drawings.

M. Accessories:

1. Legs: 6 inches (152 mm) high; formed by extending vertical frame members or fabricated from 0.075-inch (1.90-mm) nominal-thickness steel sheet; welded to bottom of locker.
2. Continuous Sloping Tops: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet, with a pitch of approximately 20 degrees.

   a. Closures: Vertical-end type.

3. Recess Trim: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet.
4. Filler Panels: Fabricated from 0.048-inch (1.21-mm) nominal-thickness steel sheet.
5. Boxed End Panels: Fabricated from 0.060-inch (1.52-mm) nominal-thickness steel sheet.

N. Finish: Baked enamel.

1. Color(s): As selected by Architect from manufacturer's full range.

2.3 LOCKER BENCHES

A. Provide bench units with overall assembly height of 17-1/2 inches (445 mm).

~~**B. Bench Tops: Manufacturer's standard one-piece units, with rounded corners and edges.**~~

~~**1. Size: Minimum 9-1/2 inches wide by 1-1/4 inches thick (241 mm wide by 32 mm thick) except provide minimum 20-inch- (508-mm-) wide tops where accessible benches are indicated.**~~

~~**2. Extruded aluminum with clear anodic finish.**~~

C. Fixed Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors, and as follows:

1. Tubular Steel: 1-1/2-inch- (38-mm-) diameter steel tubing threaded on both ends, with standard pipe flange at top and bell-shaped cast-iron base; with baked-enamel or powder-coat finish; anchored with exposed fasteners.

   a. Color: Match metal lockers.

2.4 FABRICATION

A. Fabricate metal lockers square, rigid, and without warp and with metal faces flat and free of dents or distortion. Make exposed metal edges safe to touch and free of sharp edges and burrs.

1. Form body panels, doors, shelves, and accessories from one-piece steel sheet unless otherwise indicated.
2. Provide fasteners, filler plates, supports, clips, and closures as required for complete installation.

B. Fabricate each metal locker with an individual door and frame; individual top, bottom, and back; and common intermediate uprights separating compartments. Factory weld frame members of each metal locker together to form a rigid, one-piece assembly.

C. All-Welded Construction: Factory preassemble metal lockers by welding all joints, seams, and connections; with no bolts, nuts, screws, or rivets used in assembly of main locker groups. Factory weld main locker groups into one-piece structures. Grind exposed welds flush.

D. Accessible Lockers: Fabricate as follows:

1. Locate bottom shelf no lower than 15 inches (381 mm) above the floor.
2. Where hooks, coat rods, or additional shelves are provided, locate no higher than 48 inches (1219 mm) above the floor.

E. Hooks: Manufacturer's standard ball-pointed type, aluminum or steel; zinc plated.

F. Coat Rods: Fabricated from 3/4-inch- (19-mm-) diameter steel, chrome finished.

G. Identification Plates: Manufacturer's standard, etched, embossed, or stamped aluminum plates, with numbers and letters at least 3/8 inch (9 mm) high.

H. Continuous Sloping Tops: Fabricated in lengths as long as practical, without visible fasteners at splice locations; finished to match lockers.

1. Sloping-top corner fillers, mitered.

I. Recess Trim: Fabricated with minimum 2-1/2-inch (64-mm) face width and in lengths as long as practical; finished to match lockers.

J. Filler Panels: Fabricated in an unequal leg angle shape; finished to match lockers. Provide slip-joint filler angle formed to receive filler panel.

K. Boxed End Panels: Fabricated with 1-inch- (25-mm-) wide edge dimension and designed for concealing fasteners and holes at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

L. Finished End Panels: Designed for concealing unused penetrations and fasteners, except for perimeter fasteners, at exposed ends of nonrecessed metal lockers; finished to match lockers.

1. Provide one-piece panels for double-row (back-to-back) locker ends.

M. Center Dividers: Full-depth, vertical partitions between bottom and shelf; finished to match lockers.

2.5 STEEL SHEET FINISHES

A. Factory finish steel surfaces and accessories except stainless-steel and chrome-plated surfaces.

B. Baked-Enamel Finish: Immediately after cleaning, pretreating, and phosphatizing, apply manufacturer's standard thermosetting baked-enamel finish. Comply with paint manufacturer's written instructions for application, baking, and minimum dry film thickness.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine walls, floors, and support bases, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.2 INSTALLATION

A. General: Install level, plumb, and true; shim as required, using concealed shims.

1. Anchor locker runs at ends and at intervals recommended by manufacturer, but not more than 36 inches (910 mm) o.c. Using concealed fasteners, install anchors through backup reinforcing plates, channels, or blocking as required to prevent metal distortion.
2. Anchor single rows of metal lockers to walls near top and bottom of lockers.
3. Anchor back-to-back metal lockers to floor.

B. All-Welded Metal Lockers: Connect groups together with standard fasteners, with no exposed fasteners on face frames.

C. Equipment and Accessories: Fit exposed connections of trim, fillers, and closures accurately together to form tight, hairline joints, with concealed fasteners and splice plates.

1. Attach hooks with at least two fasteners.
2. Attach door locks on doors using security-type fasteners.
3. Identification Plates: Identify metal lockers with identification indicated on Drawings.

    a. Attach plates to each locker door, near top, centered, with at least two aluminum rivets.

4. Attach recess trim to recessed metal lockers with concealed clips.
5. Attach filler panels with concealed fasteners. Locate filler panels where indicated on Drawings.
6. Attach sloping-top units to metal lockers, with closures at exposed ends.

7. Attach boxed end panels with concealed fasteners to conceal exposed ends of nonrecessed metal lockers.
8. Attach finished end panels with fasteners only at perimeter to conceal exposed ends of nonrecessed metal lockers.

D. Fixed Locker Benches: Provide no fewer than two pedestals for each bench, uniformly spaced not more than 72 inches (1830 mm) apart. Securely fasten tops of pedestals to undersides of bench tops, and anchor bases to floor.

3.3 ADJUSTING, CLEANING, AND PROTECTION

A. Clean, lubricate, and adjust hardware. Adjust doors and latches to operate easily without binding. Verify that integral locking devices operate properly.

B. Protect metal lockers from damage, abuse, dust, dirt, stain, or paint. Do not permit use during construction.

C. Touch up marred finishes or replace metal lockers that cannot be restored to factory-finished appearance. Use only materials and procedures recommended or furnished by locker manufacturer.

3.4 LOCKER SCHEDULE: BASIS OF DESIGN LYON LOCKERS

A. Athletic Locker

1. Type A.1: Sports Locker, double-tier, 12” W x 12” D x 72” H with ventilated door.
2. Type A.2: Sports Locker, six-tier, 12” W x 12” D x 72” H with ventilated door.
3. Type B: Sports Locker, double-tier, 18” W x 18” D x 72” H with ventilated door.

END OF SECTION 105113

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. This Section includes the following gymnasium equipment:

1. Basketball equipment
2. Volleyball equipment
3. ~~**Safety pads (see Gym and Wrestling Room for locations)**~~
4. Gym Controller
5. Scoreboard (2 required)
6. Basketball Nets
7. ~~**Retractable Batting Cages**~~

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for installation of floor insert sleeves oversized recessed voids to be cast in concrete slabs and footings. Install per detail.
2. Division 26 Sections for electrical service for motor operators, controls, and other powered devices for motorized gymnasium equipment.

1.3 DEFINITIONS

A. FIBA: International Basketball Federation (Federation Internationale de Basketball Amateur).

B. FIVB: International Volleyball Federation (Federation Internationale de Volleyball).

C. IBF: International Badminton Federation.

D. NAGWS: The National Association for Girls and Women in Sport.

E. NCAA: The National Collegiate Athletic Association.

F. NFHS: The National Federation of State High School Associations.

G. USAV: USA Volleyball.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

1. If applicable, include assembly, disassembly, and storage instructions for removable equipment.
2. Motors: Show nameplate data, ratings, characteristics, and mounting arrangements.

B. Shop Drawings: For gymnasium equipment. Include plans, elevations, sections, details, attachments to other work, and the following:

1. Method of field assembly for removable equipment, connections, installation details, mountings, floor inserts, attachments to other work, and operational clearances.
2. Transport and storage accessories for removable equipment.

C. Structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation including loads, point reactions, and locations for attachment of gymnasium equipment to structure.

D. Coordination Drawings: Court layout plans, drawn to scale, and coordinating floor inserts, game lines, and markers applied to finished flooring.

E. Samples for Initial Selection: For each type of gymnasium equipment indicated.

F. Product Certificates: For each type of gymnasium equipment, signed by product manufacturer.

G. Qualification Data: For Installer.

H. Operation and Maintenance Data: For gymnasium equipment to include in emergency, operation, and maintenance manuals.

I. Warranty: Special warranty specified in this Section.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Source Limitations: Obtain each type of gymnasium equipment through one source from a single manufacturer.

C. 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.

D. Composite Wood Products: Made without urea formaldehyde.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not install gymnasium equipment until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Field Measurements: Verify position and elevation of floor inserts and layout for gymnasium equipment.

1.7 COORDINATION

A. Coordinate installation of floor inserts with structural floors and finish flooring installation and with court layout and game lines and markers on finish flooring.

B. Coordinate layout and installation of overhead-supported gymnasium equipment and suspension system components with other construction including light fixtures, HVAC equipment, fire-suppression-system components, and partition assemblies.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of gymnasium equipment that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Basketball backboard failures including glass breakage.
b. Faulty operation of motors.

2. Warranty Period: Five (5) years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

1. Extruded Bars, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
2. Cast Aluminum: ASTM B 179.
3. Flat Sheet: ASTM B 209 (ASTM B 209M).

B. Steel: Comply with the following:

1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Steel Tubing: ASTM A 500 or ASTM A 513, cold formed.
3. Steel Sheet: ASTM A 1011/A 1011M.

C. Support Cable: Manufacturer's standard galvanized steel aircraft cable. Provide fittings complying with cable manufacturer's written instructions for size, number, and method of installation.

D. Support Chain and Fittings: Grade 80 hardened alloy steel chain rated for overhead lifting, ASTM A 391/A 391M, with commercial-quality, zinc-plated steel connectors and hangars.

E. Castings and Hangers: Malleable iron, ASTM A 47/A 47M, grade required for structural loading.

F. Anchors, Fasteners, Fittings and Hardware: Manufacturer's standard corrosion-resistant or noncorrodible units; concealed; tamperproof, vandal- and theft-resistant design.

G. Grout: Nonshrink, nonmetallic, premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107 with minimum strength recommended in writing by gymnasium equipment manufacturer.

2.2 BASKETBALL EQUIPMENT

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide product listed in the schedule at the end of this section or a comparable product by one of the following:

1. AALCO Manufacturing.
2. Jaypro Sports, LLC.
3. Performance Sports Systems. Basis-of-Design: Models ~~**3107 & 3103**~~ **3105 & 3109**.
4. Porter Athletic Equipment Company.

C. General: Provide equipment complying with requirements in NCAA's "NCAA Basketball Rule Book**."**

D. Protruding fasteners or exposed bolt heads on front face of backboards are not permitted.

E. Overhead-Supported Backboard:

1. Folding Type: Provide manufacturer's standard assembly for forward-folding, front-braced backstop and forward-folding, rear-braced, with hardware and fittings to permit folding.
2. Framing: Steel pipe, tubing, and shapes. Design framing to minimize vibration during play.

    a. Center-Mast Frame: Welded with side sway bracing.
    b. Finish: Manufacturer's standard powder-coat finish.

F. Backboard Safety Device: Basis-of-Design: PSS Model 1100. Designed to limit free fall if support cable, support chain, pulleys, fittings, winch, or related components fail; with mechanical automatic reset; 6000-lb (2722-kg) load capacity; one per folding backboard where indicated.

1. Retractor Device: Manufacturer's standard device designed to retract both support and safety cables, chains, and straps away from play of the basketball when backboard is in playing position; one per folding backboard.

G. Backboard Electric Operator: Basis-of-Design: PSS Model 1194. Provide operating machine of size and capacity recommended by manufacturer for equipment specified, with electric motor and factory-prewired motor controls, starter, gear-reduction unit, and remote controls. Coordinate wiring requirements and electrical characteristics with building electrical system.

1. Operator Type: Cable drum with grooved drum and cable tension device to automatically take up cable slack and retain cable in grooves.
2. Motor Characteristics: Sufficient to start, accelerate, reverse, and operate connected loads at designated speeds within installed environment and with indicated operating sequence, and without exceeding nameplate rating or considering service factor. Comply with NEMA MG 1, and the following:
3. Voltage: 120 V.
4. Horsepower: ½ or 3/4 hp.
5. Enclosure: Manufacturer's standard.
6. Duty: Continuous duty at ambient temperature of 105 deg F (40 deg C) and at altitude of 3300 feet (1005 m) above sea level.
7. Service Factor: 1.15 for open dripproof motors; 1.0 for totally enclosed motors.
8. Phase: One.

9. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop basketball equipment at fully retracted and fully lowered positions.

H. **Height Adjuster: Electric**

1. Manufacturers/Products:

a. Performance Sports Systems, 1171 Series, www.perfsports.com
b. Porter Athletic Equipment Company, 910506 Series, www.porterathletic.com

2. Height adjustment between 8 feet (2.4383 m) and 10 feet (3.048 m)
3. Gear motor/linear actuator

a. 115V, 1.4 amps

I. Basketball Backboard:

1. Shape and Size: Basis-of-Design: PSS Model AFRG42.

a. Rectangular, 72 by 42 inches (1800 by 1050 mm) width by height, with rounded corners.

2. Backboard Material: With predrilled holes or preset inserts for mounting goals, and as follows:
a. Glass: Not less than 1/2-inch- (13-mm-) thick, transparent tempered glass. Provide glass with impact-absorbing resilient rubber or PVC gasket around perimeter in a fully welded, brushed-natural-finish, extruded-aluminum frame, with steel subframe, reinforcement, and bracing, including center-strut frame reinforcement, and with mounting slots for mounting backboard frame to backboard support framing.
1) Direct Mount: Designed for mounting backboard frame to center mast of backboard framing to maximize relief of stresses on backboard frame and glass.

3. Target Area and Border Markings: Permanently etched in white color, marked in manufacturer's standard pattern and stripe width.
4. Finish: Manufacturer's standard factory-applied, white background.

J. Goal Mounting Assembly: Compatible with goal, backboard, and support framing; with hole pattern that is manufacturer's standard for goal attachment.
1. Direct Mount: Designed for mounting goal directly and independently to center mast of backboard support framing so no force, transmitted by ring, is directly applied to backboard and rigidity and stability of goal are maximized.

K. Goals: Basis-of-Design: PSS Model 2000+ Collegiate Break Away Goal.

L. Basketball Nets: 12-loop-mesh net, between 15 and 18 inches (400 to 450 mm) long, sized to fit rim diameter, and as follows:
1. Competition Cord: Antiwhip, made from white nylon cord not less than 120- or more than 144-gm thread.

M. Backboard Safety Pads: Basis-of-Design: PSS Model PMCE. Designed for backboard thickness indicated and extending continuously along bottom and up sides of backboard and over goal mounting and backboard supports as indicated.
1. Attachment: Bolt-on Manufacturer's standard.
2. Color: As selected by Architect from manufacturer's full range.

2.3 VOLLEYBALL EQUIPMENT

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

C. Basis-of-Design Product: Subject to compliance with requirements, provide items as indicated in the schedule at the end of this section or a comparable product by one of the following:

1. AALCO Manufacturing.
2. Jaypro Sports, LLC.
3. Performance Sports Systems. Basis-of-Design: PSS Model 6000.
4. Porter Athletic Equipment Company.

D. General: Provide equipment complying with requirements in USAV's "USA Volleyball Rule Book."

E. Floor Insert: Chrome-finished steel floor plate; and steel pipe sleeve, concealed by floor plate, with capped bottom end, sized with ID to fit post standards, not less than length required to securely anchor pipe sleeve in structural floor and below finished floor in concrete footing; with anchors designed for securing floor insert to floor substrate indicated; quantity as indicated.

1. Floor Plate: Manufacturer's standard hinged access cover, designed to be flush with adjacent flooring. Provide four (4) tool(s) for unlocking access covers.
2. Floor Plate: Lockable swivel access cover, designed for use with floating wood floors and to be flush with adjacent flooring. Provide four 4) Insert number tool(s) for unlocking access covers.

~~**2.4 SAFETY PADS**~~

~~**A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:**~~

~~**B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:**~~

~~**C. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated in the schedule at the end of the section or a comparable product by one of the following:**~~

~~**1. AALCO Manufacturing.**~~
~~**2. Jaypro Sports, LLC.**~~
~~**3. Performance Sports Systems. Basis-of-Design.**~~
~~**4. Porter Athletic Equipment Company.**~~

~~**D. Safety Pad Surface-Burning Characteristics: ASTM E 84 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction:**~~

~~**1. Flame-Spread Index: 25 or less.**~~
~~**2. Smoke-Developed Index: 450 or less.**~~

~~**E. Pad Coverings: Provide safety pad fabric covering fabricated from puncture- and tear-resistant, not less than 14-oz./sq. yd (475-g/sq. m) PVC-coated polyester or nylon-reinforced PVC fabric treated with fungicide for mildew resistance; with surface-burning characteristics indicated.**~~

~~**F. Wall Safety Pads: Padded wall wainscot panels designed to be attached in a continuous row; each panel section consisting of fill laminated to backer board with visible surfaces fully covered by seamless fabric covering, free of sag and wrinkles and firmly attached to back of backer board.**~~

~~**1. Backer Board: Not less than 3/8-inch- (9.5-mm-) thick plywood, mat formed, or composite panel.**~~
~~**2. Fill: Multiple-impact-resistant foam not less than 2-inch- (50-mm-) thick polyurethane, 3.5-lb/cu. ft. (56-kg/cu. m) density.**~~
~~**3. Size: Each panel section, 24 inches (600 mm) wide by not less than 72 inches (1800 mm) long.**~~
~~**4. Number of Panel Sections: As indicated modular panel sections.**~~
~~**5. Installation Method: Manufacturer's standard.**~~
~~**6. Fabric Covering Color(s): As selected by Architect from manufacturer's full range for two (2) color(s).**~~

2.5 GYM CONTROLLER

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

C. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated in the schedule at the end of the section or a comparable product by one of the following:

1. AALCO Manufacturing.
2. Jaypro Sports, LLC.
3. Performance Sports Systems. Basis-of-Design: PSS Model TSC1500 Key Control Panel.
4. Porter Athletic Equipment Company.

2.6 SCOREBOARD (2 Required)

A. Manufacturer: NEVCO or equal.

B. Model: 2772 with wireless controller.

~~**2.7 BATTING CAGES**~~

~~**A. Manufacturer: Victory Athletics or equal.**~~

~~**B. Motorized retractable netting system installed at bottom of structure.**~~

~~**C. Two (2) required.**~~

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for play court layout, alignment of mounting substrates, installation tolerances, operational clearances, accurate locations of connections to building electrical system, and other conditions affecting performance.

1. Verify critical dimensions.
2. Examine supporting structure and subgrades, subfloors and footings below finished floor.
3. Examine wall assemblies, where reinforced to receive anchors and fasteners, to verify that locations of concealed reinforcements have been clearly marked. Locate reinforcements and mark locations.
4. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

A. General: Comply with manufacturer's written installation instructions and competition rules indicated for each type of gymnasium equipment. Complete equipment field assembly, where required.

B. Unless otherwise indicated, install gymnasium equipment after other finishing operations, including painting, have been completed.

C. Permanently Placed Gymnasium Equipment and Components: Rigid, level, plumb, square, and true; anchored securely to supporting structure; positioned at locations and elevations indicated on Shop Drawings; in proper relation to adjacent construction; and aligned with court layout.

1. Floor Insert Location: Coordinate location with application of game lines and markers, and core drill floor for inserts after game lines have been applied.
2. Floor Insert Elevation: Coordinate installed heights of floor insert with installation and field finishing of finish flooring and type of floor plate.
3. Operating Gymnasium Equipment: Verify clearances for movable components of gymnasium equipment throughout entire range of operation and for access to operating components.

D. Floor Insert Setting: Position sleeve in oversized, recessed voids in concrete slabs. Clean voids of debris. Fill void around sleeves with grout, mixed and placed to comply with grout manufacturer's written instructions. Protect portion of sleeve above subfloor from splatter. Verify that sleeves are set plumb, aligned, and at correct height and spacing; hold in position during placement and finishing operations until grout is sufficiently cured. Set insert so top surface of completed unit is flush with finished flooring surface.

~~**E. Wall Safety Pads: Mount with bottom edge at 8 inches above finished floor.**~~

F. Anchoring to In-Place Construction: Use anchors and fasteners where necessary for securing built-in and permanently placed gymnasium equipment to structural support and for properly transferring load to in-place construction.

G. Connections: Connect automatic operators to building electrical system.

H. Removable Gymnasium Equipment and Components: Assemble in place to verify that equipment and components are complete and in proper working order. Instruct Owner's designated personnel in properly handling, assembling, adjusting, disassembling, transporting, storing, and maintaining units. Disassemble removable gymnasium equipment after assembled configuration has been approved by Architect, and store units in location indicated on Drawings.

3.3 ADJUSTING

A. Adjust movable components of gymnasium equipment to operate safely, smoothly, easily, and quietly, free from binding, warp, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Lubricate hardware and moving parts.

3.4 CLEANING

A. After completing gymnasium equipment installation, inspect components. Remove spots, dirt, and debris and touch up damaged shop-applied finishes according to manufacturer's written instructions.

B. Replace gymnasium equipment and finishes that cannot be cleaned and repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

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

3.6 ATHLETIC EQUIPMENT SCHEDULE – BASIS OF DESIGN

Piece of Equipment	Manufacturer/Model #	Quantity	Power
~~**Wall Pads**~~	~~**Performance Sports Systems / Model No. 4130**~~	~~**2'W x 6' H (see plans for location)**~~	~~**--**~~
Volleyball Standards	Gared Sports / Model No. 6000	~~**4**~~ **2** sets	--
Volleyball Nets	Gared Sports / Model No. 7602	~~**4**~~ **2** nets	--
Basketball Goals	Performance Sports Systems / Model No. ~~**3107**~~ **3105** on Mains, ~~**3103**~~ **3109** on Sides	As indicated on the drawings	¾ HP, 115V single phase
Basketball Backboards	Performance Sports Systems / Model No. AFRG42	As indicated on the drawings	--
~~**Basketball Goals**~~	~~**Performance Sports Systems / Model No. 2000+**~~	~~**As indicated on the drawings**~~	~~**½ HP, 115V single phase**~~
Scoreboard	Nevco Model ~~**2780**~~ **2772** with MPCW wireless controller	4	See Alternates.
~~**Baseball Nets**~~	~~**Victory Athletics Single Lane Hands Free 70 x 14 x 12**~~	~~**10 x 14 x 1255 2**~~	~~**115C single phase**~~

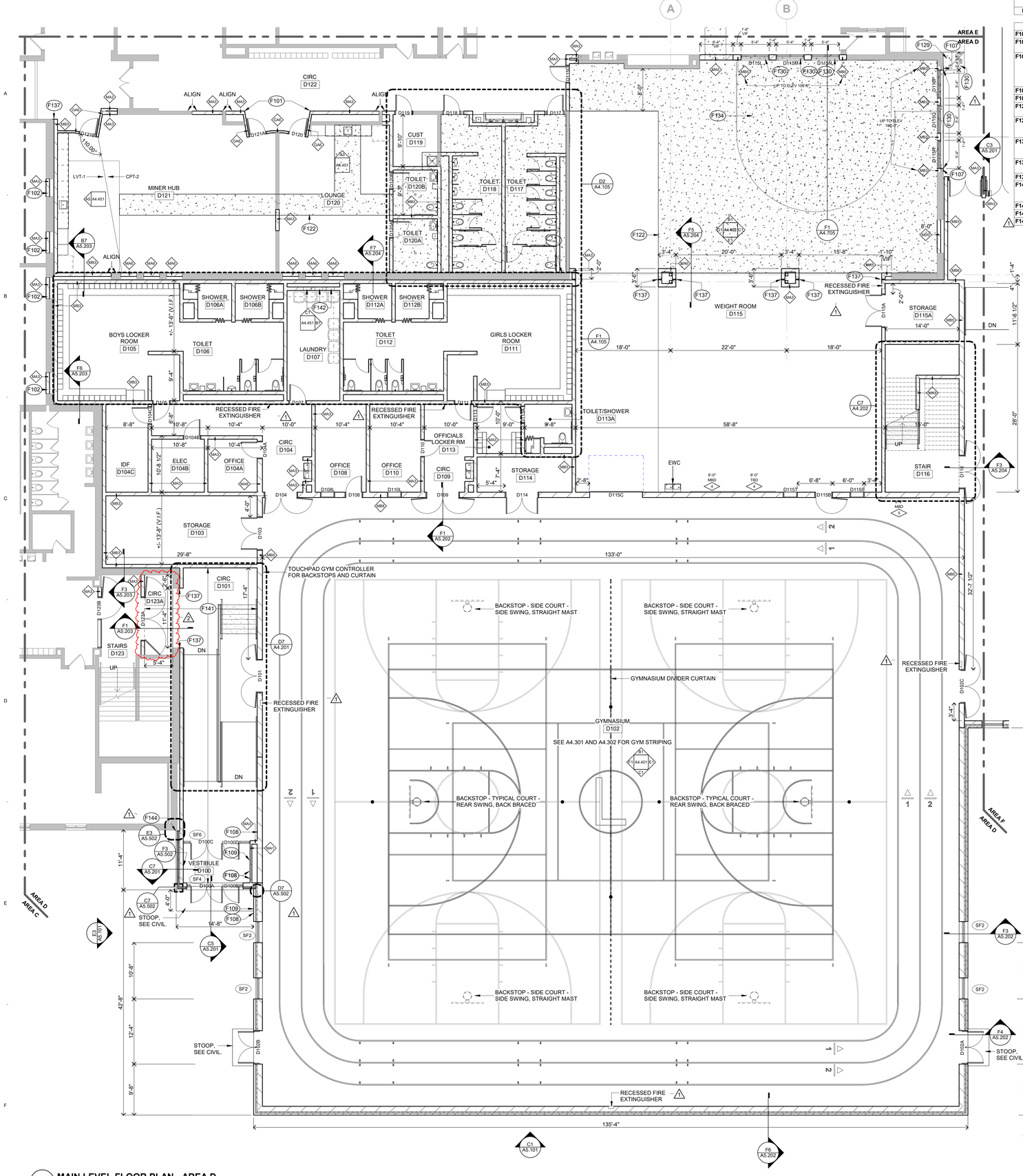
A. See drawings for locations of basketball goals and volleyball nets.

B. All basketball backboards to receive anti-whip basketball nets and safety padding equal to Performance Sports Systems Bolt-On Cushion Edge, Model No. PMCE.

C. All indoor equipment shall be controlled by keypad equipment equal to Performance Sports Systems TSC1500.

D. All basketball goals shall be adjustable from 8'-0" to 10'-0".

END OF SECTION 116623



F1 MAIN LEVEL FLOOR PLAN - AREA D
1/8" = 1'-0"

Keynote Legend

Key Value	Keynote Text
F101	PAINT WALL PT-6E CORNER TO CORNER.
F102	TOOTH-IN MASONRY AT REMOVED ITEM(S) PER THE DEMOLITION PLAN TO MATCH EXISTING COURSING.
F107	AT NEW HM JAMB, TOOTH-IN CONC BLOCK AND SALVAGED BRICK AS REQUIRED TO MATCH EXISTING NEW INTERIOR / PREVIOUS EXTERIOR WALL COURSING. MATCH ADJACENT WALL CONSTRUCTION AND RETURN BRICK TO CONC BLOCK AT JAMB OF FRAME. TOOTH-OUT ADJACENT EXISTING BRICK AND BLOCK AROUND OPENING AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION.
F108	DOOR ACTUATOR, SEE ALSO ELECTRICAL.
F109	CARD READER, SEE ALSO ELECTRICAL.
F122	CONC SLAB INFILL TO BE FLUSH WITH ADJACENT EXISTING CONC SLAB, SEE STRUCTURAL AND MECHANICAL FOR MORE INFORMATION.
F129	PATCH 4" CONCRETE FLOOR SLAB AS REQUIRED AT REMOVED WALLS. PROVIDE SELF LEVELING TOPPING FEATHERING FROM ADJACENT RAMP DOWN TO LEVEL OF FLOOR AT 1"/12" SLOPE. APPROXIMATE EXTENTS SHOWN, CONTRACTOR TO VERIFY IN FIELD.
F130	PATCH 4" CONCRETE FLOOR SLAB AS REQUIRED AT REMOVED WALLS. PROVIDE SELF LEVELING TOPPING WITHIN A 5 FOOT RADIUS OF PERIMETER IF FLOOR ELEVATION DIFFERS ON OPPOSING SIDES OF PATCHING.
F134	INFILL RECESSED SLAB WITH CLASS 5 AND PROVIDE SLAB TO MATCH ADJACENT EXISTING SLAB. FEATHER OUT 12" AS REQUIRED TO BE PREPPED FOR NEW FLOORING.
F137	INTERIOR EXPANSION JOINT WALL COVER.
F141	PROVIDE 1-HOUR SPRAY APPLIED FIREPROOFING TO UNDERSIDE OF FLOOR/ROOF DECK AS OCCURS WITHIN EXIT PASSAGEWAY, INCLUDING ALL SUPPORTING STRUCTURAL MEMBERS. SEE CODE PLAN FOR EXIT PASSAGEWAY EXTENTS.
F142	16"X16" ACCESS PANEL, COORDINATE LOCATIONS WITH DRYER VENTS.
F143	WALL MOUNTED UNIT HEATER, SEE MECHANICAL AND SEE DETAIL F4/A4.706.
F144	SURFACE MOUNTED LOW PROFILE EXPANSION JOINT COVER.

DOOR SCHEDULE GENERAL NOTES

1. ALL DOORS ARE 1 3/4" THICK UNLESS OTHERWISE NOTED.
2. FOR FRAME DEPTH, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   GYPSUM BOARD PARTITIONS: THROAT OF FRAME TO MATCH WALL THICKNESS.
   MASONRY PARTITIONS:
   4" WALL: 5 3/4" FRAME
   6" WALL: 5 3/4" FRAME
   8" AND GREATER WALL: 7 3/4" FRAME
   EXTERIOR MASONRY WALLS: 11 3/4" FRAME
   - FRAME DEPTHS ARE SCHEDULED IN NOMINAL DIMENSIONS. SEE FRAME / DOOR TYPES FOR CORRESPONDING ACTUAL DIMENSIONS.
3. FOR GLASS TYPES, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   INTERIOR NON RATED: CLEAR (SAFETY WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
   INTERIOR AND EXTERIOR RATED: FIRE RATED
   EXTERIOR NON-RATED: CLEAR INSULATED (SAFETY INSULATED WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
4. SEE DRAWING A2.901 FOR DOOR PANEL & HOLLOW METAL (HM) FRAME TYPES.
5. UNLESS OTHERWISE NOTED, FINISH PAINT NEW HOLLOW METAL (HM) FRAMES AS INDICATED PER THE MATERIAL FINISH SCHEDULE.
6. AT DOOR SCHEDULE, LABEL DESIGNATION "45/20" INDICATES:
   FOR ALL OPENINGS WITH SIDE LITES AND SCHEDULED TO BE RATED FOR 20 MINUTES, THE DOOR AND ANY GLASS WITHIN THE DOOR IS TO BE RATED FOR 20 MINUTES. THE FRAME AND ADJACENT SIDELITE(S) GLASS AND FRAME IS TO BE RATED FOR 45 MINUTES.*

FLOOR PLAN GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL TO FACE OF WALL. WALL THICKNESSES ARE SHOWN NOMINAL, SEE WALL TYPES FOR ACTUAL THICKNESS.
2. ALL GWB / METAL STUD WALLS ARE TO BE 5 INCHES THICK UNLESS OTHERWISE NOTED.
3. ALL CONCRETE BLOCK WALLS ARE TO BE 8 INCHES THICK UNLESS OTHERWISE NOTED.
4. COORDINATE SIZE AND LOCATION OF ALL DUCT AND SHAFT OPENINGS IN WALLS AND FLOORS W/ MECH. AND ELEC. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS. SEE LINTEL SCHEDULE.
5. FIELD VERIFY ALL MILLWORK OPENINGS.
6. SET FLOOR DRAINS 3/4" BELOW FINISHED CONCRETE FLOORS UNLESS OTHERWISE NOTED. PROVIDE CONSISTENT SLOPE FROM WALL TO DRAIN BY SLOPING CONCRETE, MIN. 1/4" PER FOOT.
7. VERIFY LOCATION, SIZE AND QUANTITY OF ALL EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL.
8. ALL DOOR / SIDELITE OPENINGS TO BEGIN 4" FROM ADJACENT WALL UNLESS OTHERWISE NOTED.
9. ALL GWB / METAL STUD WALLS ARE CENTERED ON GRID UNLESS OTHERWISE NOTED.
10. FIRE RATED WALLS ARE INDICATED ON CODE PLANS.

ROOM FINISH SCHEDULE GENERAL NOTES

1. IF ALL WALLS IN ROOM HAVE THE SAME FINISH, THE "N WALL-TYP" COLUMN WILL BE USED.
2. DISCREPANCIES BETWEEN THE ROOM FINISH SCHEDULE AND DRAWINGS SHALL BE REPORTED TO THE ARCHITECT FOR FINISH DETERMINATION.
3. ON WALLS WHICH ARE COVERED WITH MILLWORK, A FINISH SHALL NOT BE APPLIED TO THE WALL BEHIND. CONCRETE BLOCK BEHIND MILLWORK AND MARKERBOARDS TO BE TOOLED.
4. REFER TO INTERIOR MATERIAL FINISH / COLOR SCHEDULE FOR SPECIFIC FINISH TYPES AND COLORS.
5. ALL ELEVATOR FINISHES, OTHER THAN FLOOR MATERIAL, ARE SPECIFIED TO BE PROVIDED BY ELEVATOR MANUFACTURER.
6. ELEVATOR FLOOR FINISH TO BE _____.
7. PROVIDE VINYL BASE AT CASEWORK.

ROOM FINISH SCHEDULE REMARKS

1. WHERE GYPSUM WALL OCCUR, PROVIDE HIGH IMPACT GYPSUM BOARD UP TO 4'. PROVIDE NORMAL GYPSUM BOARD ABOVE THE HIGH IMPACT, TO TOP OF WALL EXTENTS.
2. PROVIDE TILE PATTERN FULL HEIGHT. SEE PATTERN F5/ A4.401.

DOOR SCHEDULE REMARKS

1. PROVIDE HM FRAME DEPTH AS SCHEDULED IS FOR BORDER MULLIONS. PROVIDE 5" DEPTH FOR ALL INTERIOR MULLIONS.
2. SEE FLOOR PLAN KEYNOTE F107 FOR JAMB AT NEW MASONRY WALL TOOTHED INTO EXISTING.

DOOR / OPENING SCHEDULE

DOOR NO	DOOR / OPENING TYPE	QTY	WIDTH	HEIGHT	MATL	LABEL/ RATING	OVERALL WIDTH	FRAME TYPE	DEPTH	MATL	GL	MOUNTING CONDITIONS HEAD	JAMB	SILL	HDW GRP	REMARKS
D100A	AL	2	3'-0"	7'-2"	AL	--	6'-0"	SF 4	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	714AM	
D100B	AL	2	3'-0"	7'-2"	AL	--	6'-0"	SF 4	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	ACE715A	
D100C	AL	2	3'-0"	7'-2"	AL	--	6'-0"	SF 6	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	B00AV	
D100D	AL	1	3'-0"	7'-2"	AL	--	3'-0"	SF 6	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	A801AV	
D101	N	2	3'-0"	6'-9 1/4"	HM	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	708R	
D102A	F	2	3'-0"	8'-0"	AL	--	6'-4"	FR 1A	12"	AL	--	B4/A5.601	D4/A5.601	A7/A5.601	724M	
D102B	F	2	3'-0"	8'-0"	AL	--	6'-4"	FR 1A	12"	AL	--	B4/A5.601	D4/A5.601	A7/A5.601	724M	
D102C	N	2	3'-0"	6'-9 1/4"	HM	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	708R	
D103	F	2	3'-0"	6'-9 1/4"	WD	--	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	202S	
D104	F	2	3'-0"	6'-9 1/4"	WD	--	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	500H	
D104A	N	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	103	
D104B	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	711C	
D104C	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	201	
D105	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	801CL	
D107	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	201	
D108	N	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	103	
D108L	--	--	2'-8"	3'-4"	--	--	2'-8"	FR 4A	--	HM	--	B5/A4.801	C5/A4.801	C5/A4.801		
D109	F	2	3'-0"	6'-9 1/4"	WD	--	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	500H	
D110	N	1	3'-0"	7'-0"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	103S	
D110L	--	--	2'-8"	3'-4"	--	--	2'-8"	FR 4A	--	HM	--	B5/A4.801	C5/A4.801	C5/A4.801		
D111	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	801CL	
D113	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	101	
D113A	F	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	301	
D114	F	2	3'-0"	6'-9 1/4"	WD	--	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	202S	
D115A	F	2	3'-0"	6'-9 1/4"	WD	--	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	202S	
D115B	N	1	3'-0"	6'-9 1/4"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	701H	
D115C	OH	1	10'-0"	6'-11 1/4"	ST	--	10'-0"	OH	--	ST	--	SEE ELEVATION	SEE ELEVATION	--	001L	
D115D	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	701C	
D115L	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	8"	HM	--	B5/A4.801	C5/A4.801	E3/A4.801	--	1
D115M	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	8"	HM	--	B5/A4.801	C5/A4.801	E3/A4.801	--	1
D115N	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	8"	HM	--	B5/A4.801	C5/A4.801	E3/A4.801	--	1
D115P	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	6"	HM	--	E1/A4.801	F1/A4.801 / F2/A4.802	E3/A4.801	--	1,2
D115Q	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	6"	HM	--	E1/A4.801	F2/A4.802	E3/A4.801	--	1,2
D115R	--	--	5'-4"	7'-4"	--	--	5'-4"	FR 4B	6"	HM	--	E1/A4.801	F1/A4.801 / F2/A4.802	E3/A4.801	--	1,2
D115S	--	--	2'-8"	3'-4"	--	--	2'-8"	FR 4A	--	HM	--	B5/A4.801	C5/A4.801	C5/A4.801	--	
D115T	--	--	2'-8"	3'-4"	--	--	2'-8"	FR 4A	--	HM	--	B5/A4.801	C5/A4.801	C5/A4.801	--	
D116	N	2	3'-0"	6'-9 1/4"	HM	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	708R	
D117	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	E5/A4.801	F5/A4.801	--	801CL	
D118	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	E5/A4.801	F5/A4.801	--	801CL	
D119	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	201C	
D120	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D120A	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	301	
D120B	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	301	
D121A	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	701	
D121B	N	1	3'-0"	7'-2"	WD	90 MIN	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	701R	
D123A	N	2	4'-0"	7'-2"	HM	60 MIN	8'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	738R	
D123B	N	1	4'-0"	7'-2"	HM	60 MIN	9'-8"	FR 3A	--	HM	--	B5/A4.801	C5/A4.801	E7/A4.801	739RW	

ROOM FINISH SCHEDULE - ML AREA D

ROOM NO	ROOM NAME	FLOOR	BASE	N WALL - TYP MATL	N WALL - TYP FIN	E WALL MATL	E WALL FIN	S WALL MATL	S WALL FIN	W WALL MATL	W WALL FIN	REMARKS
D100	VESTIBULE	CPT-1	VB-1	CMU	PT-6A							
D101	CIRC	LVT-1	VB-1	CMU	PT-6A							
D102	GYMNASIUM	RAF-4	VB-1	CMU	PT-6A/ PT-6C/ PT-6D/ ACP-1,2,3							
D103	STORAGE	CONC	VB-1	CMU	PT-6A							
D104	CIRC	LVT-1	VB-1	CMU	PT-6A							
D104A	OFFICE	CPT-2	VB-1	CMU	PT-6A							
D104B	ELEC	CONC	VB-1	CMU	PT-6A							
D104C	IDF	CONC	VB-1	CMU	PT-6A							
D105	BOYS LOCKER ROOM	RES-1	RESB-1	CMU	PT-6A							
D106	TOILET	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D106A	SHOWER	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D106B	SHOWER	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D107	LAUNDRY	CONC	VB-1	CMU	PT-6A							
D108	OFFICE	LVT-1	VB-1	CMU	PT-6A							
D109	CIRC	LVT-1	VB-1	CMU	PT-6A							
D110	OFFICE	LVT-1	VB-1	CMU	PT-6A							
D111	GIRLS LOCKER ROOM	RES-1	RESB-1	CMU	PT-6A							
D112	TOILET	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D112A	SHOWER	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D112B	SHOWER	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2							2
D113	OFFICIALS LOCKER RM	LVT-1	VB-1	CMU	PT-6A							
D113A	TOILET/SHOWER	P TILE-1	CT BASE TRIM	CMU	PT-6A							2
D114	STORAGE	CONC	VB-1	CMU	PT-6A							
D115	WEIGHT ROOM	RAF-1,2,3/ TURF-1	VB-1	EXIST/ CMU	ACP-1,2,3/ PT-6A	EXIST/ CMU	ACP-1,2,3/ PT-6A	EXIST/ CMU	ACP-1/ PT-6A	CMU	ACP-1,2,3/ PT-6A	
D115A	STORAGE	CONC	VB-1	CMU	PT-6A							
D116	STAIR	RBST-1	VB-1	CMU	PT-6A							
D117	TOILET	P TILE-1	CT BASE TRIM	CMU/ EXIST	C TILE-1,2	EXIST/ CMU	C TILE-1,2	EXIST	C TILE-1,2	CMU	C TILE-1,2	2
D118	TOILET	P TILE-1	CT BASE TRIM	CMU/ EXIST	C TILE-1,2	CMU	C TILE-1,2	EXIST	C TILE-1,2	EXIST/ CMU	C TILE-1,2	2
D119	CUST	CONC	VB-1	CMU	PT-6A	EXIST	FRP-1	CMU	FRP-1	CMU	PT-6A	
D120	LOUNGE	LVT-1	VB-1	CMU/ EXIST	PT-6A	CMU	PT-6A	EXIST/ CMU	PT-6A	EXIST/CMU	PT-6A	
D120A	TOILET	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2	CMU	C TILE-1,2	EXIST	C TILE-1,2	CMU	C TILE-1,2	2
D120B	TOILET	P TILE-1	CT BASE TRIM	CMU	C TILE-1,2	CMU	C TILE-1,2	CMU	C TILE-1,2	CMU	C TILE-1,2	2
D121	MINER HUB	CPT-2/ LVT-1	VB-1	CMU/ EXIST	PT-6A	EXIST/ CMU	PT-6A	EXIST/ CMU	PT-6A	CMU	PT-6A	
D122	CIRC	LVT-1	VB-1	EXIST	PT-6A	CMU	PT-6A	EXIST/ CMU/ GWB	PT-6A	EXIST	PT-6A	
D123	STAIRS	LVT-1	VB-1	EXIST	PT-6A	CMU	PT-6A	--	--	EXIST/ CMU	PT-6A	
D123A	CIRC	LVT-1	VB-1	EXIST	PT-6A	EXIST	PT-6A	EXIST	PT-6A	CMU	PT-6A	

Linton-Stockton Addition and Renovation

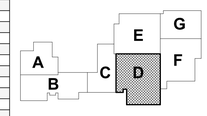
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Linton, IN 47441

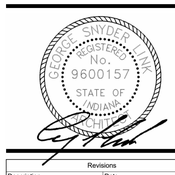
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Linton-Stockton Schools
10 H St NE, Linton, IN 47441

WOLD ARCHITECTS AND ENGINEERS
1060 N. Capitol Avenue, Suite 3-101
Indianapolis, IN 46204
woldae.com | 317 353 3281

KEY PLAN





Revisions		
Description	Date	Num
Addendum #01	10/22/2026	1
Addendum #02	10/29/2026	2

Comm: 260804037
Date: 09/25/2026
Drawn: MJS/MN/HV/CH
Check: DS/HV

North

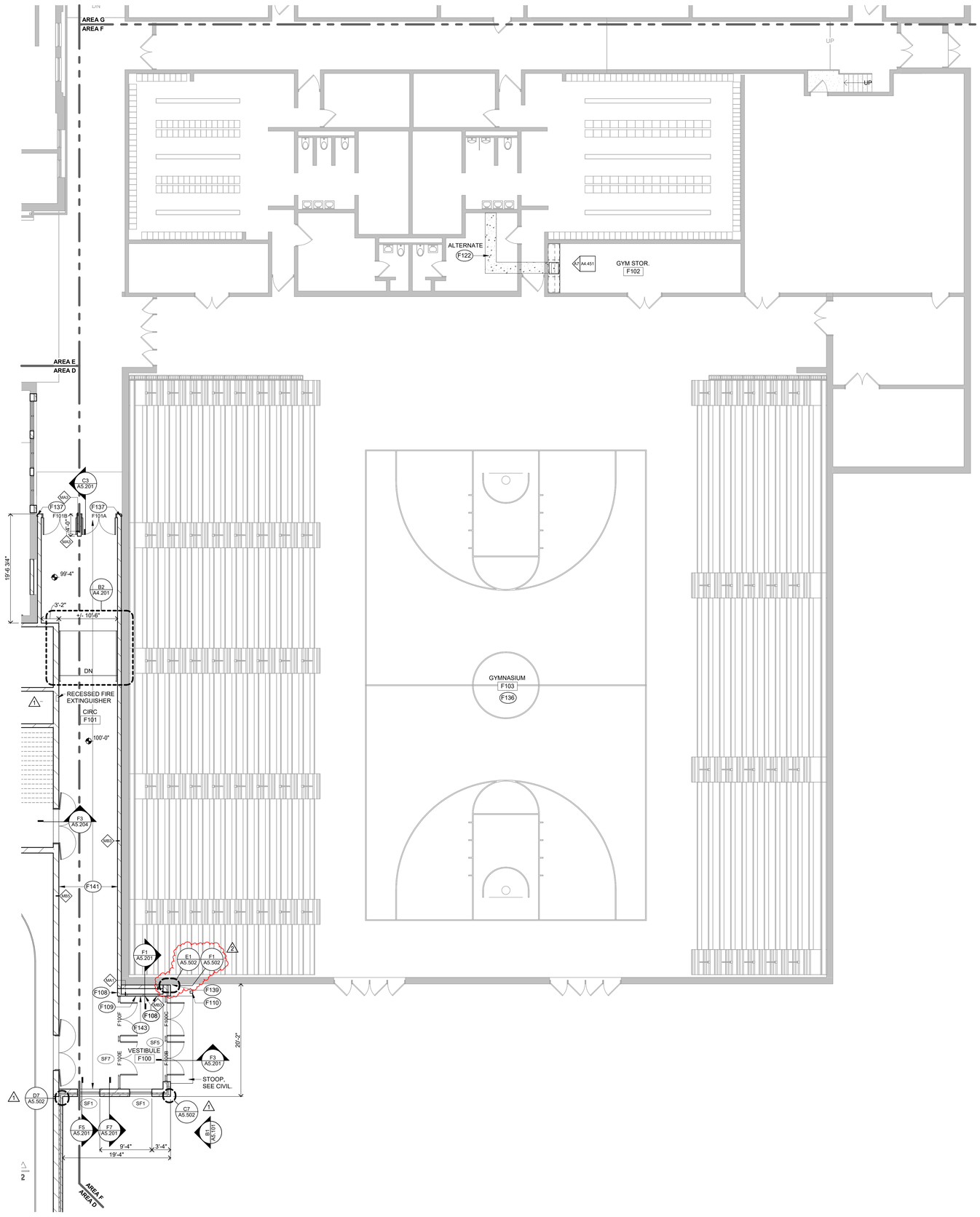
MAIN LEVEL FLOOR PLAN - AREA D

Scale: As Indicated

A2.01d

Submitted Drawing Electronically Wold Architects and Engineers 10/29/2026 1:29:05 PM

IN



F1 MAIN LEVEL FLOOR PLAN - AREA F
1/8" = 1'-0"
0

A

Author
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12/29/2025 12:04:6 PM

DOOR / OPENING SCHEDULE

DOOR NO	DOOR / OPENING TYPE	QTY	WIDTH	HEIGHT	MATL	LABEL/ RATING	OVER ALL WIDTH	FRAME TYPE	FRAME DEPTH	FRAME MATL	GL	MOUNTING CONDITIONS HEAD	JAMB	SILL	HDW GRP	REMARKS
F101A	N	2	3'-0"	6'-9 1/4"	HM	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	738R	
F101B	N	2	3'-0"	6'-9 1/4"	HM	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	738R	
F100B	AL	2	3'-0"	7'-0"	AL	--	6'-0"	SF 5	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	714AM	
F100C	AL	2	3'-0"	7'-0"	AL	--	6'-0"	SF 5	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	AC714AM	
F100E	AL	2	3'-0"	7'-0"	AL	--	6'-0"	SF 7	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	800AV	
F100F	AL	2	3'-0"	7'-0"	AL	--	6'-0"	SF 7	--	AL	--	SEE ELEVATION	SEE ELEVATION	SEE ELEVATION	A800AV	

ROOM FINISH SCHEDULE - ML AREA F

ROOM NO	ROOM NAME	FLOOR	BASE	N WALL - TYP MATL	N WALL - TYP FIN	E WALL MATL	E WALL FIN	S WALL MATL	S WALL FIN	W WALL MATL	W WALL FIN	REMARKS
F100	VESTIBULE	CPT-1	VB-1	CMU	PT-6A	--	--	CMU	PT-6A	--	--	
F101	CIRC	LVT-1	VB-1	--	--	CMU	PT-6A	CMU	PT-6A	CMU	PT-6A	
F102	GYM STOR.	EXIST	EXIST	EXIST	EXIST							
F103	GYMNASIUM	EXIST	EXIST	EXIST	PT-	EXIST	PT-	EXIST	PT-	EXIST	PT-	

Keynote Legend

Key Value	Keynote Text
F108	DOOR ACTUATOR, SEE ALSO ELECTRICAL.
F109	CARD READER, SEE ALSO ELECTRICAL.
F110	PEDESTAL MOUNTED DOOR ACTUATOR, CARD READER, AND VIDEO INTERCOM, SEE DETAILS C6/A6.001 AND D6/A6.001 AND SEE ALSO ELECTRICAL.
F122	CONC SLAB INFILL TO BE FLUSH WITH ADJACENT EXISTING CONC SLAB, SEE STRUCTURAL AND MECHANICAL FOR MORE INFORMATION.
F136	ALL WALLS TO BE PAINTED, SEE ROOM FINISH SCHEDULE. REMOVE AND REPLACE ALL WALL MOUNTED ACCESSORIES/EQUIPMENT AS REQUIRED. WORK TO BE PART OF GYM F103 ALTERNATE.
F137	INTERIOR EXPANSION JOINT WALL COVER.
F139	PRECOMPRESSED EXTERIOR EXPANSION JOINT WALL SEAL.
F141	PROVIDE 1-HOUR SPRAY APPLIED FIREPROOFING TO UNDERSIDE OF FLOOR/ROOF DECK AS OCCURS WITHIN EXIT PASSAGEWAY, INCLUDING ALL SUPPORTING STRUCTURAL MEMBERS. SEE CODE PLAN FOR EXIT PASSAGEWAY EXTENTS.
F143	WALL MOUNTED UNIT HEATER, SEE MECHANICAL AND SEE DETAIL F4/A4.706.

ROOM FINISH SCHEDULE REMARKS

1. WHERE GYPSUM WALL OCCUR, PROVIDE HIGH IMPACT GYPSUM BOARD UP TO 4'. PROVIDE NORMAL GYPSUM BOARD ABOVE THE HIGH IMPACT, TO TOP OF WALL EXTENTS.
2. PROVIDE TILE PATTERN FULL HEIGHT. SEE PATTERN F5/ A4.401.

⚠ DOOR SCHEDULE GENERAL NOTES

1. ALL DOORS ARE 1 3/4" THICK UNLESS OTHERWISE NOTED.
2. FOR FRAME DEPTH, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   GYPSUM BOARD PARTITIONS: THROAT OF FRAME TO MATCH WALL THICKNESS.
   MASONRY PARTITIONS:
   4" WALL: 3 3/4" FRAME
   6" WALL: 5 3/4" FRAME
   8" AND GREATER WALL: 7 3/4" FRAME
   EXTERIOR MASONRY WALLS: 11 3/4" FRAME
   - FRAME DEPTHS ARE SCHEDULED IN NOMINAL DIMENSIONS. SEE FRAME / DOOR TYPES FOR CORRESPONDING ACTUAL DIMENSIONS.
3. FOR GLASS TYPES, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   INTERIOR NON RATED: CLEAR (SAFETY WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
   INTERIOR AND EXTERIOR RATED: FIRE RATED
   EXTERIOR NON-RATED: CLEAR INSULATED (SAFETY INSULATED WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
4. SEE DRAWING A2.901 FOR DOOR PANEL & HOLLOW METAL (HM) FRAME TYPES.
5. UNLESS OTHERWISE NOTED, FINISH PAINT NEW HOLLOW METAL (HM) FRAMES AS INDICATED PER THE MATERIAL FINISH SCHEDULE.
6. AT DOOR SCHEDULE, LABEL DESIGNATION "45/20" INDICATES:
   FOR ALL OPENINGS WITH SIDE LITES AND SCHEDULED TO BE RATED FOR 20 MINUTES, THE DOOR AND ANY GLASS WITHIN THE DOOR IS TO BE RATED FOR 20 MINUTES. THE FRAME AND ADJACENT SIDELITE(S) GLASS AND FRAME IS TO BE RATED FOR 45 MINUTES."

FLOOR PLAN GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL TO FACE OF WALL. WALL THICKNESSES ARE SHOWN NOMINAL, SEE WALL TYPES FOR ACTUAL THICKNESS.
2. ALL GWB / METAL STUD WALLS ARE TO BE 5 INCHES THICK UNLESS OTHERWISE NOTED.
3. ALL CONCRETE BLOCK WALLS ARE TO BE 8 INCHES THICK UNLESS OTHERWISE NOTED.
4. COORDINATE SIZE AND LOCATION OF ALL DUCT AND SHAFT OPENINGS IN WALLS AND FLOORS W/ MECH. AND ELEC. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS. SEE LINTEL SCHEDULE.
5. FIELD VERIFY ALL MILLWORK OPENINGS.
6. SET FLOOR DRAINS 3/4" BELOW FINISHED CONCRETE FLOORS UNLESS OTHERWISE NOTED. PROVIDE CONSISTENT SLOPE FROM WALL TO DRAIN BY SLOPING CONCRETE, MIN. 1/4" PER FOOT.
7. VERIFY LOCATION, SIZE AND QUANTITY OF ALL EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL.
8. ALL DOOR / SIDELITE OPENINGS TO BEGIN 4" FROM ADJACENT WALL UNLESS OTHERWISE NOTED.
9. ALL GWB / METAL STUD WALLS ARE CENTERED ON GRID UNLESS OTHERWISE NOTED.
10. FIRE RATED WALLS ARE INDICATED ON CODE PLANS.

ROOM FINISH SCHEDULE GENERAL NOTES

1. IF ALL WALLS IN ROOM HAVE THE SAME FINISH, THE "N WALL-TYP" COLUMN WILL BE USED.
2. DISCREPANCIES BETWEEN THE ROOM FINISH SCHEDULE AND DRAWINGS SHALL BE REPORTED TO THE ARCHITECT FOR FINISH DETERMINATION.
3. ON WALLS WHICH ARE COVERED WITH MILLWORK, A FINISH SHALL NOT BE APPLIED TO THE WALL BEHIND. CONCRETE BLOCK BEHIND MILLWORK AND MARKERBOARDS TO BE TOOLED.
4. REFER TO INTERIOR MATERIAL FINISH / COLOR SCHEDULE FOR SPECIFIC FINISH TYPES AND COLORS.
5. ALL ELEVATOR FINISHES, OTHER THAN FLOOR MATERIAL, ARE SPECIFIED TO BE PROVIDED BY ELEVATOR MANUFACTURER.
6. ELEVATOR FLOOR FINISH TO BE _____.
7. PROVIDE VINYL BASE AT CASEWORK.

DOOR SCHEDULE REMARKS

1. PROVIDE HM FRAME DEPTH AS SCHEDULED IS FOR BORDER MULLIONS. PROVIDE 5" DEPTH FOR ALL INTERIOR MULLIONS.
2. SEE FLOOR PLAN KEYNOTE F107 FOR JAMB AT NEW MASONRY WALL TOOTHED INTO EXISTING.

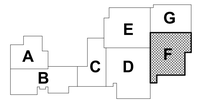
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10 H St NE, Linton, IN 47441

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Indianapolis, IN 46204
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KEY PLAN



Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

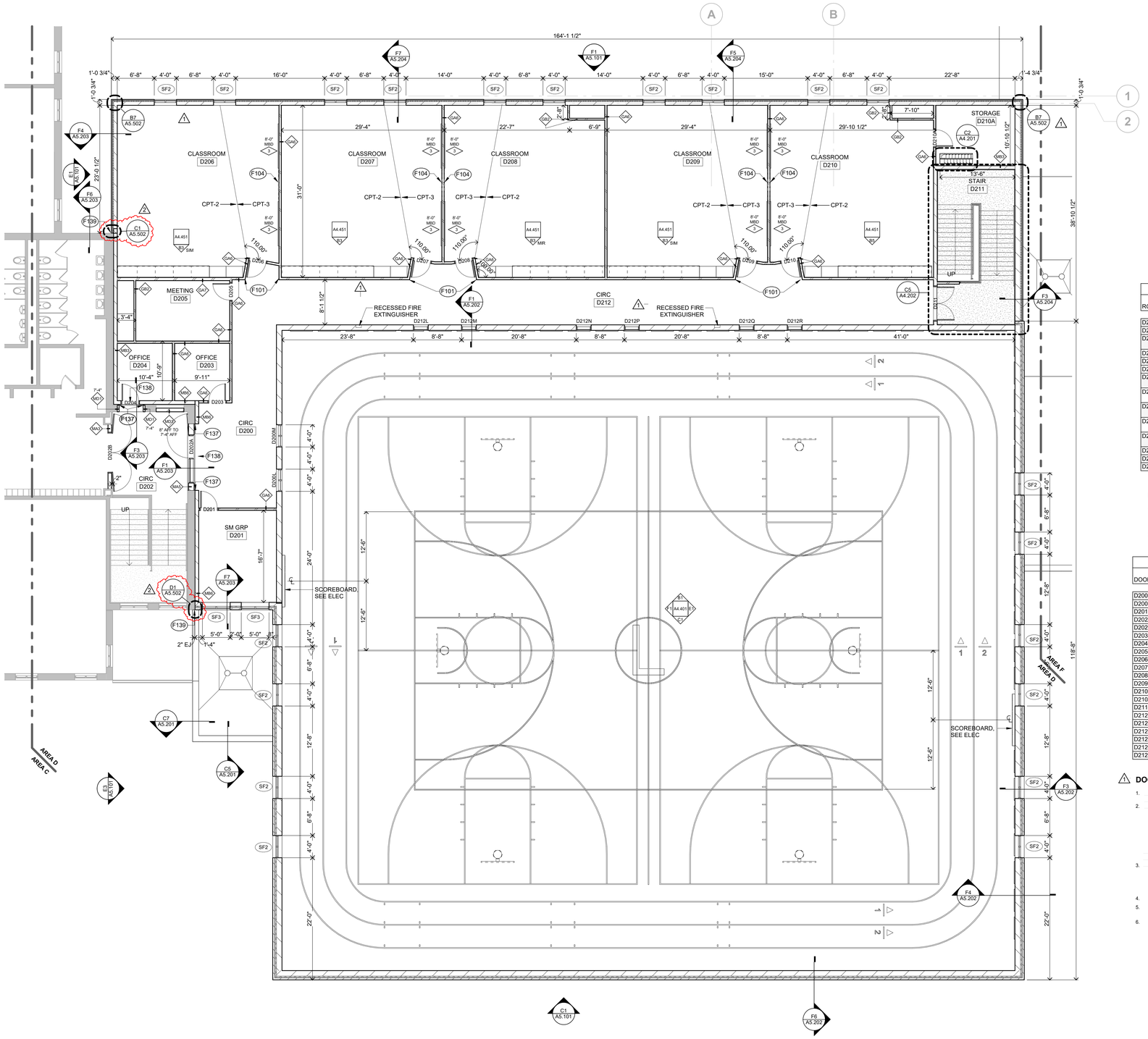
Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS/MN/HV/CH**
Check: **DS/HV**
North

Scale: **As indicated**

MAIN LEVEL FLOOR PLAN - AREA F

A2.01f

IN



FLOOR PLAN GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE NOMINAL TO FACE OF WALL. WALL THICKNESSES ARE SHOWN NOMINAL, SEE WALL TYPES FOR ACTUAL THICKNESS.
2. ALL GWB / METAL STUD WALLS ARE TO BE 5 INCHES THICK UNLESS OTHERWISE NOTED.
3. ALL CONCRETE BLOCK WALLS ARE TO BE 8 INCHES THICK UNLESS OTHERWISE NOTED.
4. COORDINATE SIZE AND LOCATION OF ALL DUCT AND SHAFT OPENINGS IN WALLS AND FLOORS W/ MECH. AND ELEC. PROVIDE ALL REQUIRED LINTELS FOR OPENINGS. SEE LINTEL SCHEDULE.
5. FIELD VERIFY ALL MILLWORK OPENINGS.
6. SET FLOOR DRAINS 3/4" BELOW FINISHED CONCRETE FLOORS UNLESS OTHERWISE NOTED. PROVIDE CONSISTENT SLOPE FROM WALL TO DRAIN BY SLOPING CONCRETE, MIN. 1/4" PER FOOT.
7. VERIFY LOCATION, SIZE AND QUANTITY OF ALL EQUIPMENT PADS WITH MECHANICAL AND ELECTRICAL.
8. ALL DOOR / SIDELITE OPENINGS TO BEGIN 4" FROM ADJACENT WALL UNLESS OTHERWISE NOTED.
9. ALL GWB / METAL STUD WALLS ARE CENTERED ON GRID UNLESS OTHERWISE NOTED.
10. FIRE RATED WALLS ARE INDICATED ON CODE PLANS.

Keynote Legend	
Key Value	**Keynote Text**
F101	**PAINT WALL PT-6E CORNER TO CORNER.**
F104	**PROVIDE 4'-0" × 8'-0" PLYWOOD BACKING AT MONITOR LOCATION. SEE DETAIL CS/A4.705**
F137	**INTERIOR EXPANSION JOINT WALL COVER.**
F138	**INTERIOR EXPANSION JOINT FLOOR COVER.**
F139	**PRECOMPRESSED EXTERIOR EXPANSION JOINT WALL SEAL.**

ROOM FINISH SCHEDULE - UL AREA D

ROOM NO	ROOM NAME	FLOOR	BASE	N WALL - TYP MATL	N WALL - TYP FIN	E WALL MATL	E WALL FIN	S WALL MATL	S WALL FIN	W WALL MATL	W WALL FIN	REMARKS
D200	CIRC	LVT-1	VB-1	GWB	PT-6A	CMU	PT-6A	GWB	PT-6A	CMU/ GWB	PT-6A	
D201	SM GRP	CPT-2	VB-1	GWB	PT-6A	CMU	PT-6A	CMU	PT-6A	CMU	PT-6A	
D202	CIRC	LVT-1	VB-1	EXIST/ CMU	PT-6A	EXIST/ CMU	PT-6A	EXIST	PT-6A	EXIST/ CMU	PT-6A	
D203	OFFICE	CPT-2	VB-1	GWB	PT-6A	GWB	PT-6A	CMU/ GWB	PT-6A	GWB	PT-6A	1
D204	OFFICE	CPT-2	VB-1	GWB	PT-6A	GWB	PT-6A	CMU	PT-6A	CMU	PT-6A	1
D205	MEETING	CPT-2	VB-1	GWB	PT-6A							1
D206	CLASSROOM	CPT-2/ CPT-3	VB-1	CMU	PT-6A	GWB	PT-6B	GWB	PT-6A	CMU	PT-6A	1
D207	CLASSROOM	CPT-2/ CPT-3	VB-1	CMU	PT-6A	GWB	PT-6B	GWB	PT-6A	GWB	PT-6A	1
D208	CLASSROOM	CPT-2/ CPT-3	VB-1	CMU	PT-6A	GWB	PT-6A	GWB	PT-6A	GWB	PT-6B	1
D209	CLASSROOM	CPT-2/ CPT-3	VB-1	CMU	PT-6A	GWB	PT-6B	GWB	PT-6A	GWB	PT-6A	1
D210	CLASSROOM	CPT-2/ CPT-3	VB-1	CMU	PT-6A	CMU/ GWB	PT-6A	GWB	PT-6A	GWB	PT-6B	1
D210A	STORAGE	CONC	VB-1	CMU	PT-6A	CMU	PT-6A	CMU	PT-6A	GWB	PT-6A	
D211	STAIR	RBST-1	VB-1	CMU	PT-6A							
D212	CIRC	LVT-1	VB-1	GWB	PT-6A	CMU	PT-6A	CMU	PT-6A	GWB	PT-6A	1

ROOM FINISH SCHEDULE REMARKS

1. WHERE GYPSUM WALL OCCUR, PROVIDE HIGH IMPACT GYPSUM BOARD UP TO 4'. PROVIDE NORMAL GYPSUM BOARD ABOVE THE HIGH IMPACT, TO TOP OF WALL EXTENTS.
2. PROVIDE TILE PATTERN FULL HEIGHT. SEE PATTERN F5/ A4.401.

DOOR / OPENING SCHEDULE

DOOR NO	DOOR / OPENING TYPE	QTY	WIDTH	HEIGHT	MATL	LABEL/ RATING	OVERALL WIDTH	FRAME TYPE	DEPTH	MATL	GL	MOUNTING CONDITIONS HEAD	JAMB	SILL	HDW GRP	REMARKS
D200L	--	--	4'-0"	5'-8"	--	--	4'-0"	FR 4D	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D200M	--	--	4'-0"	5'-8"	--	--	4'-0"	FR 4D	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D201	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	503	
D202A	N	1	4'-0"	7'-2"	WD	60 MIN	8'-8"	FR 3A	--	HM	--	B5/A4.801	C5/A4.801	--	738RW	
D202B	N	2	3'-6"	7'-2"	WD	60 MIN	7'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	738R	
D203	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	103	
D204	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	103	
D205	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	503	
D206	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D207	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D208	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D209	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D210	N	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	501	
D210A	F	1	3'-0"	7'-2"	WD	--	3'-4"	FR 1	--	HM	--	B7/A4.801	C7/A4.801	--	201C	
D211	N	2	3'-0"	7'-2"	WD	60 MIN	6'-4"	FR 1	--	HM	--	B5/A4.801	C5/A4.801	--	738R	
D212L	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D212M	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D212N	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D212P	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D212Q	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		
D212R	--	--	2'-8"	4'-8"	--	--	2'-8"	FR 4C	8"	HM	--	E4/A4.802	F4/A4.802 SIM	F4/A4.802		

DOOR SCHEDULE GENERAL NOTES

1. ALL DOORS ARE 1 3/4" THICK UNLESS OTHERWISE NOTED.
2. FOR FRAME DEPTH, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   GYPSUM BOARD PARTITIONS: THROAT OF FRAME TO MATCH WALL THICKNESS.
   MASONRY PARTITIONS:
   4" WALL: 3 3/4" FRAME
   6" WALL: 5 3/4" FRAME
   8" AND GREATER WALL: 7 3/4" FRAME
   EXTERIOR MASONRY WALLS: 11 3/4" FRAME
   - FRAME DEPTHS ARE SCHEDULED IN NOMINAL DIMENSIONS. SEE FRAME / DOOR TYPES FOR CORRESPONDING ACTUAL DIMENSIONS.
3. FOR GLASS TYPES, ONLY EXCEPTIONS TO THE FOLLOWING TABLE ARE SCHEDULED:
   INTERIOR NON RATED: CLEAR (SAFETY WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
   INTERIOR AND EXTERIOR RATED: FIRE RATED
   EXTERIOR NON-RATED: CLEAR INSULATED (SAFETY INSULATED WHEN REQUIRED BY TABLE IN GLAZING SPECIFICATION.)
4. SEE DRAWING A2.901 FOR DOOR PANEL & HOLLOW METAL (HM) FRAME TYPES.
5. UNLESS OTHERWISE NOTED, FINISH PAINT NEW HOLLOW METAL (HM) FRAMES AS INDICATED PER THE MATERIAL FINISH SCHEDULE.
6. AT DOOR SCHEDULE, LABEL DESIGNATION "45/20" INDICATES:
   FOR ALL OPENINGS WITH SIDE LITES AND SCHEDULED TO BE RATED FOR 20 MINUTES, THE DOOR AND ANY GLASS WITHIN THE DOOR IS TO BE RATED FOR 20 MINUTES. THE FRAME AND ADJACENT SIDELITE(S) GLASS AND FRAME IS TO BE RATED FOR 45 MINUTES."

DOOR SCHEDULE REMARKS

1. PROVIDE HM FRAME DEPTH AS SCHEDULED IS FOR BORDER MULLIONS. PROVIDE 5" DEPTH FOR ALL INTERIOR MULLIONS.
2. SEE FLOOR PLAN KEYNOTE F107 FOR JAMB AT NEW MASONRY WALL TOOTHED INTO EXISTING.

F1 UPPER LEVEL FLOOR PLAN - AREA D
1/8" = 1'-0"

Linton-Stockton Addition and Renovation

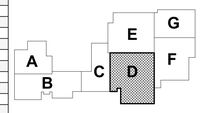
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Linton, IN 47441

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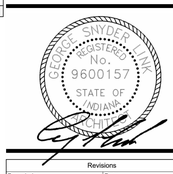
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KEY PLAN



Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS/MN/HV/CH**
Check: **DS/HV**
North

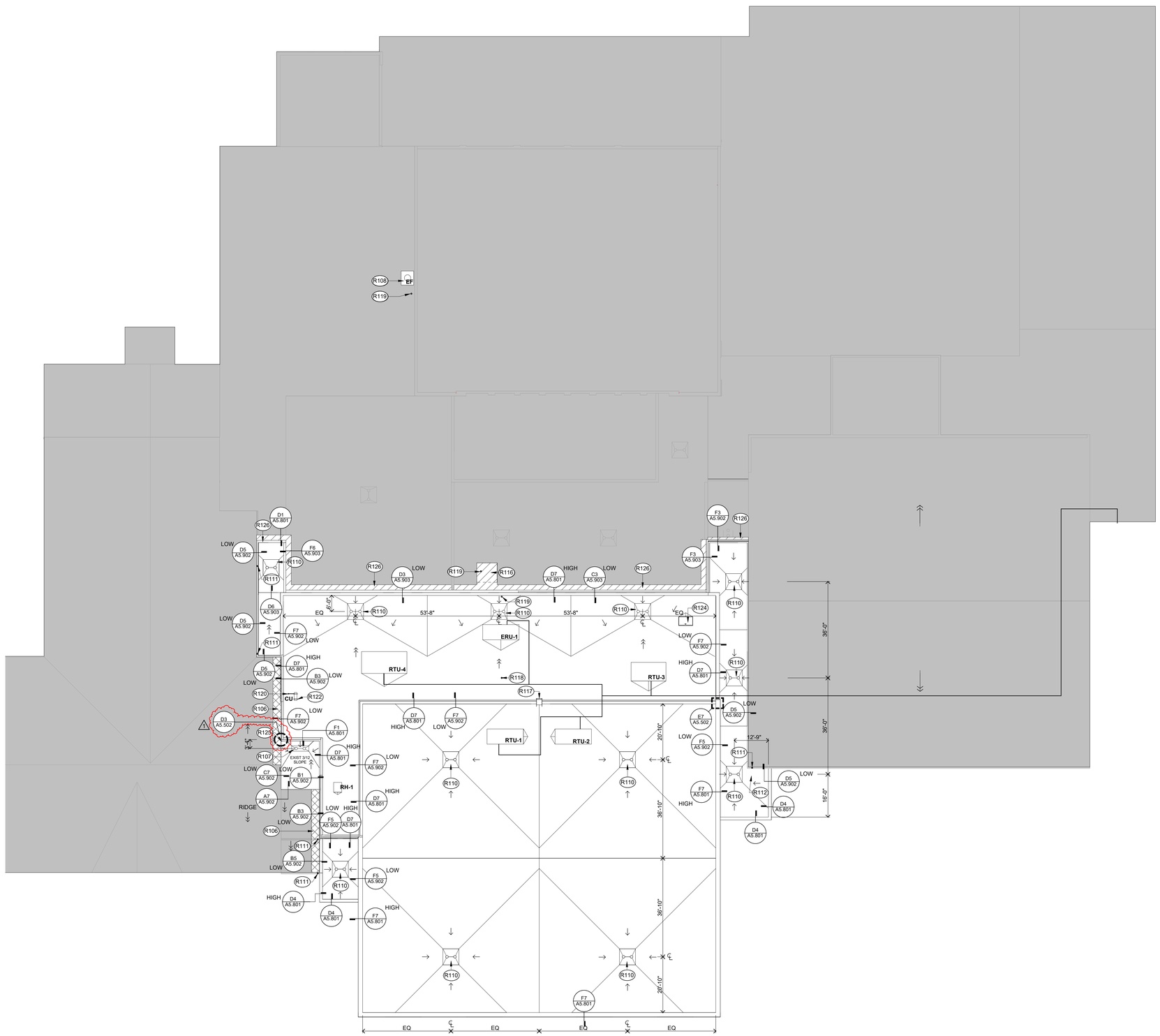
UPPER LEVEL FLOOR PLAN - AREA D

Scale: **As Indicated**

A2.02d

Architects Plus Linton-Stockton Middle School Addition and Renovation\Linton-Stockton Addition and Renovation.rvt
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IN



A

F1 **ROOF PLAN**
1/16" = 1'-0"
0 6' 12'

ROOF PLAN GENERAL NOTES

1. TAPERED ROOF INSULATION AND CRICKETS SHALL SLOPE AT 1/4" PER 1'-0". THE THICKNESS OF THE BASE INSULATION IS TO BE 5 1/2".
2. SHOP DRAWING DESIGN AND INSTALLATION OF TAPERED INSULATION MUST ACCOUNT FOR CAMBER IN STRUCTURE TO INSURE THAT THE ROOF DRAINS AS DESIGNED.
3. AT MECH. OPENINGS AND CURBS ON ROOF, PROVIDE CRICKETS AS REQUIRED FOR POSITIVE DRAINAGE OR CUT OPENINGS IN FREE-STANDING CURBS AS AN ALTERNATIVE.
4. MECHANICAL ITEM LOCATIONS ARE SHOWN FOR REFERENCE ONLY. REFER TO MECH. DRAWINGS FOR EXTENT OF MECH. EQUIP. AND SIZE AND LOCATION OF ALL ROOF PENETRATIONS.
5. ALL MECHANICAL AND ELECTRICAL ROOFTOP EQUIPMENT, PIPING, CONDUIT, ETC. TO BE PAINTED.
6. COORDINATE ROOF AND OVERFLOW DRAIN LOCATIONS WITH STRUCTURAL COMPONENTS TO AVOID LOCATING ROOF OR OVERFLOW DRAINS OVER TOP OF BEAMS OR JOISTS.
7. REFER TO EXTERIOR ELEVATIONS FOR LOCATION OF OVERFLOW SCUPPERS AND OUTFLOWS.
8. AT ALL LADDERS, TOP AND BOTTOM, PROVIDE AND INSTALL A 4'-0" X 4'-0" CONCRETE PAVER LANDING ON AN ADDITIONAL LAYER OF ROOFING MATERIAL.
9. ROOF LADDERS WITH NUMBER IN PARENTHESIS INDICATE RELATIVE ROOF DECK ELEVATION DIFFERENCES, NOT INCLUDING PARAPET, VERIFY EXACT LADDER HEIGHT REQUIREMENTS.

Keynote Legend	
Key Value	**Keynote Text**
R106	**PATCH EXISTING STEEL STANDING SEAM ROOFING SYSTEM, IN AREA SHOWN WITH DIAGONAL CROSSHATCH, FOR EXPANSION JOINT TIE-IN.**
R107	**NEW ROOF DRAIN, SEE MECHANICAL AND DETAILING IN WALL SECTION F2/A5.203 AT NEW OPENING.**
R108	**EXHAUST FAN (EF) AS OCCURS, UTILIZE EXISTING PENETRATION CURB; SEE MECHANICAL.**
R110	**NEW ROOF DRAIN, SEE MECHANICAL AND DETAIL A1/A5.901 FOR DETAILING AT NEW OPENING.**
R111	**MODIFY AND REINSTALL EXISTING DOWNSPOUT AS REQUIRED TO TERMINATE 8" ABOVE NEW ROOF INSULATION.**
R112	**PROVIDE SPLASH BLOCK AS SPECIFIED OVER AN ADDITIONAL LAYER OF EPDM ROOFING, ALSO SEE DETAIL B5/A5.901.**
R116	**PATCH ROOF DECK AND MEMBRANE ROOFING SYSTEM AS REQUIRED AT REMOVED PENETRATION CURB IN AREA AS INDICATED BY DIAGONAL HATCH; MAINTAIN ALL EXISTING WARRANTIES. REFERENCE DETAILS A7/A5.903 AND C7/A5.903 FOR DECKING INFILL METHODS.**
R117	**ROOF LADDER (3), SEE DETAIL F6/A4.203.**
R118	**ROOF HYDRANT, SEE SIMILAR DETAIL D1/A5.902 AND MECHANICAL.**
R119	**ROOF VENT, SEE DETAIL D1/A5.902 AND MECHANICAL.**
R120	**PIPING BOX, SEE DETAIL D3/A5.901.**
R122	**PROVIDE EQUIPMENT CURBS AT CONDENSING UNIT (CU), SEE DETAIL D3/A5.902; ALSO SEE MECHANICAL.**
R124	**ROOF HATCH, AS SPECIFIED; SEE DETAIL D1/A5.901.**
R125	**PRECOMPRESSED EXTERIOR EXPANSION JOINT WALL SEAL.**
R126	**IN AREAS OF DIAGONAL HATCH, PATCH EXISTING MEMBRANE ROOFING SYSTEM AND INSULATION AS REQUIRED FOR TIE-IN OF NEW ROOF CURBS OR EXPANSION JOINT SYSTEMS. MAINTAIN ALL EXISTING WARRANTIES.**

ROOF PLAN LEGEND

- ROOF DRAIN (R.D.)
- OVERFLOW DRAIN (O.R.D.)
- MECH HOOD
- EQUIPMENT CURB AT MECHANICAL EQUIPMENT
- ROOF EXHAUST
- EQUIPMENT CURB SUPPORTING PIPING OR CONDUIT. INSTALL MAXIMUM SPACING OF 6'-0" O.C.
- VENT STACK, PIPE OR CONDUIT
- COMBUSTION STACK
- SKYLIGHT
- CRICKET FOR POSITIVE DRAINAGE
- SLOPE OF TAPERED INSULATION
- DIAMOND CRICKET (SEE TYPICAL DETAIL)
- SLOPED STRUCTURE
- ROOF LADDER

Linton-Stockton Addition and Renovation

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Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

North

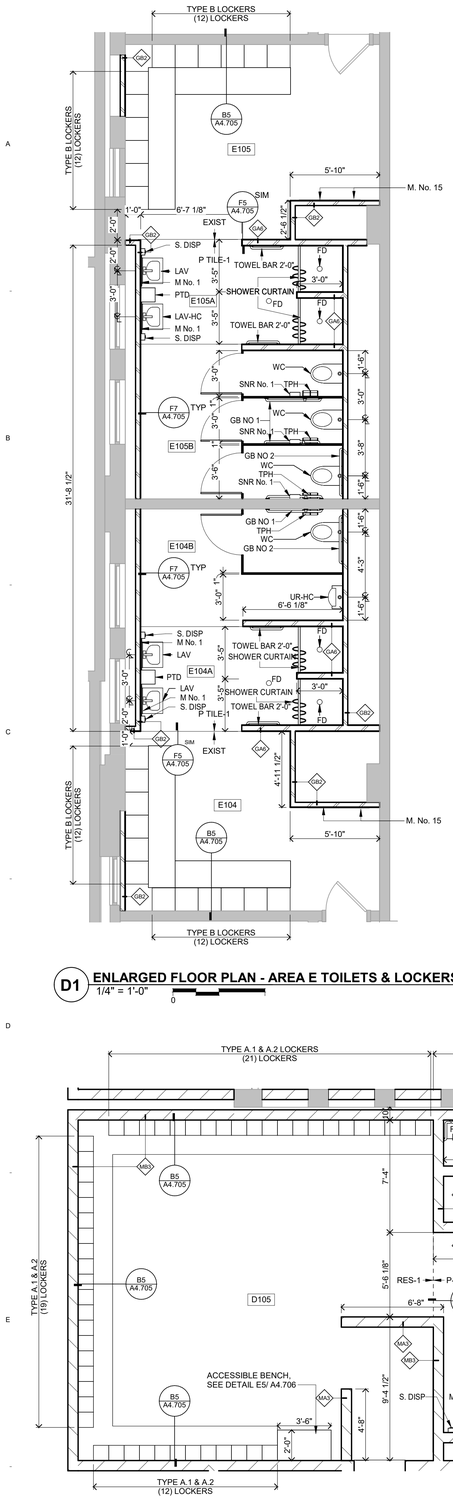
ROOF PLAN

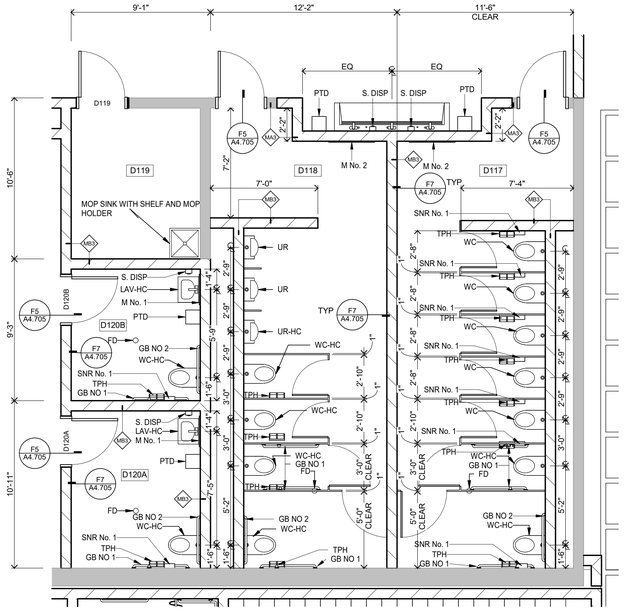
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Author:Dyer, Kevin Revision:Middle, Michael Addition and Renovation Linton Addition Addition and Renovation.rvt
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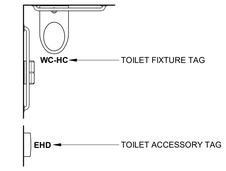
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ENLARGED TOILET ROOM PLAN LEGEND

TOILET ROOM FIXTURE & ACCESSORY TAGGING



TOILET ROOM FIXTURES & ACCESSORIES

LAV-HC	B5 A4.102	NOTES APPLY
WC	A1 A4.102	NOTES APPLY
WC-HC	B1 A4.102	NOTES APPLY
UR, UR-C, UR-PK	A5 A4.102	NOTES APPLY
UR-HC	A6 A4.102	NOTES APPLY
EHD	D1 A4.102	NOTES APPLY
PTD	E1 A4.102	NOTES APPLY
EWC	D2 A4.102	NOTES APPLY
ADA BENCH	C7 A4.102	NOTES APPLY
SHOWER	D7 A4.102	NOTES APPLY
TRANSFER SHOWER	C5 A4.102	NOTES APPLY

NOTE: TOILET ACCESSORIES SHOWN IN THE DETAILS ARE TO BE SUPPLIED AND INSTALLED COMPLETE, WHETHER SHOWN / TAGGED ON THE PLANS OR NOT

D1 ENLARGED FLOOR PLAN - AREA E TOILETS & LOCKERS

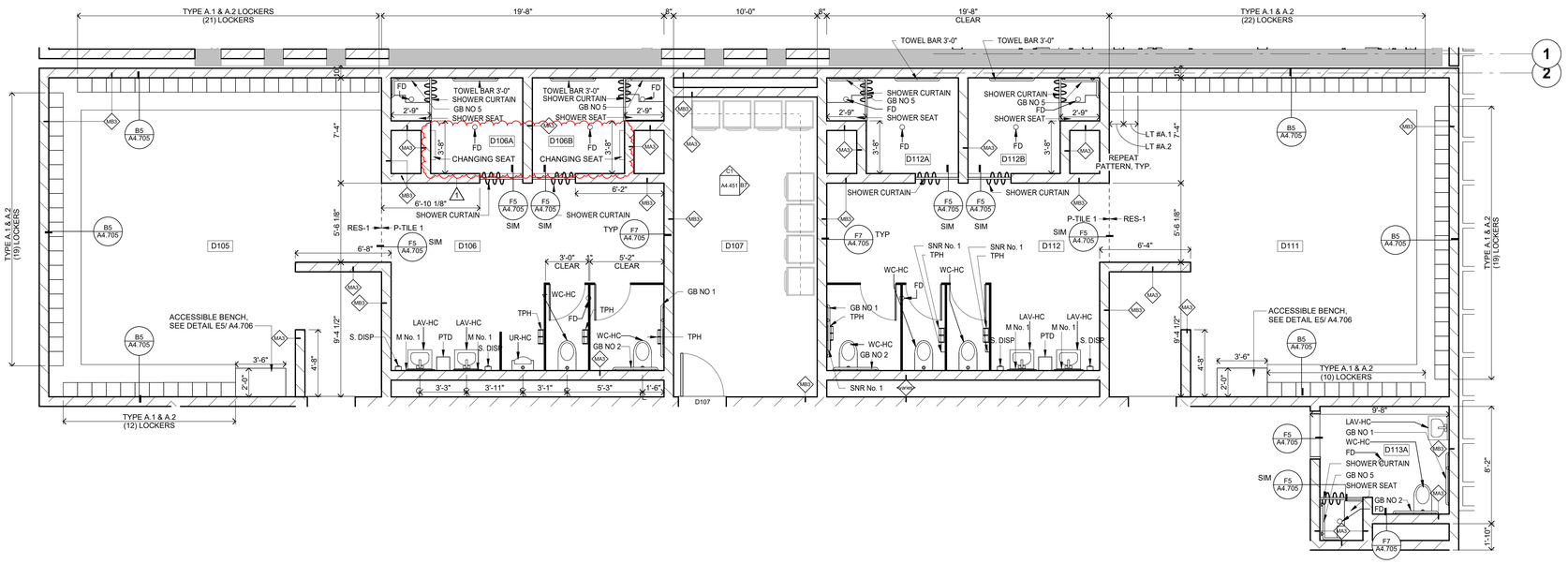
1/4" = 1'-0"

0

D2 ENLARGED FLOOR PLAN - AREA D TOILETS

1/4" = 1'-0"

0



F1 ENLARGED FLOOR PLAN - AREA D LOCKER ROOMS AND TOILETS

1/4" = 1'-0"

0

A

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

Linton-Stockton Schools
10 H St NE, Linton, IN 47441

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DOUGLAS SNYDER
REGISTERED ARCHITECT
No. 9600157
STATE OF INDIANA

Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **AK**
Check: **DS/HV**

North

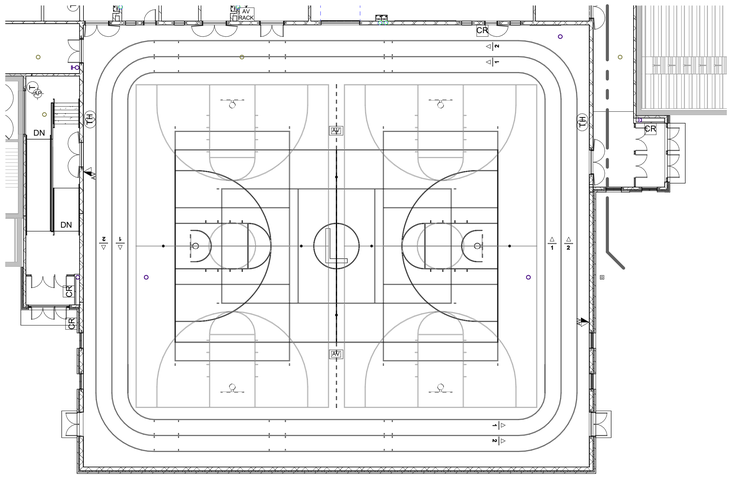
ENLARGED PLANS - TOILETS & LOCKER ROOMS

Scale: **As Indicated**

A4.105

Architect Doug Snyder Architect Middle School Addition and Renovation Linton Stockton Addition and Renovations.rvt
10/29/2026 12:29:06 PM

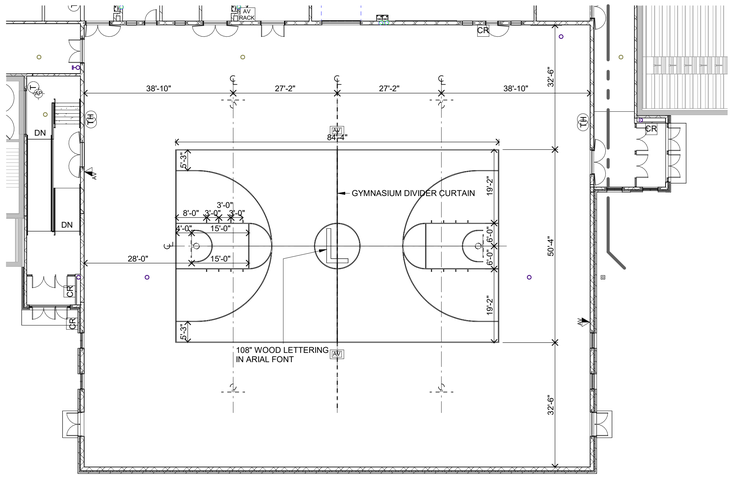
IN



STRIPING PLAN GENERAL NOTES:

1. ALL FINISH AND STRIPING INFORMATION INCLUDING FONTS AND LOGOS TO BE FINALIZED IN SHOP DRAWINGS.
2. ALL LINES TO CONFORM TO THE RULES OF THE GOVERNING BODY WHERE APPLICABLE. NOTIFY ARCHITECT OF ANY CONFLICTS.
3. VERIFY ALL STRIPING WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
4. ALL LINES, WHERE APPLICABLE, TO COMPLY WITH INDIANA HIGH SCHOOL ATHLETIC ASSOCIATION COURT LAYOUT REQUIREMENTS.
5. ALL PLAN DIMENSIONS ARE NOMINAL TO FACE OF WALL U.N.O.
6. COORDINATE STRIPING WITH FLOOR ANCHORS, GYMNASIUM EQUIPMENT, ETC.
7. VERIFY ALL STRIPING WITH INSTALLED BLEACHERS IN BOTH THEIR OPEN AND STACKED POSITIONS.
8. VERIFY ALL FONTS AND LOGOS WITH ARCHITECT AND OWNER PRIOR TO SUBMITTING SHOPS.

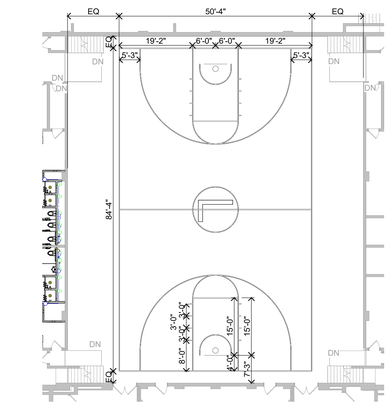
C1 GYM STRIPING - OVERALL
1/16" = 1'-0"



BASKETBALL STRIPING GENERAL NOTES

1. BASKETBALL COURT TO COMPLY WITH THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFHS) REGULATIONS. NOTIFY ARCHITECT IF CONFLICT OCCURS.
2. STRIPING TO BE 2" WIDE EXCEPT WHERE NOTED OTHERWISE.
3. COLOR:

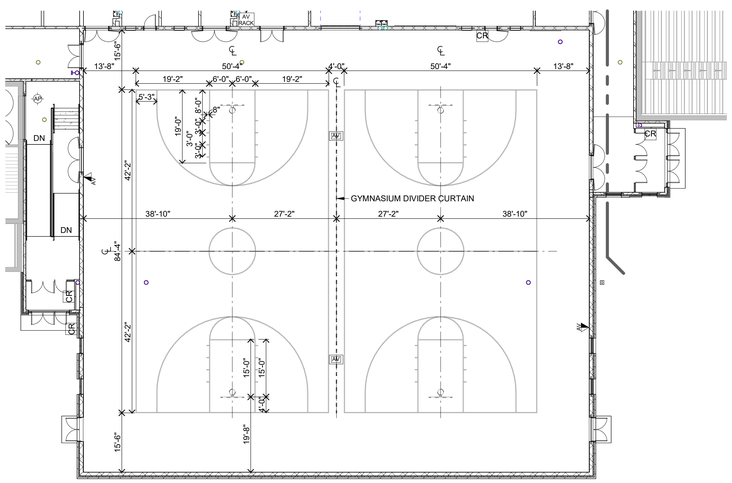
C3 GYM STRIPING - GAME COURT BASKETBALL
1/16" = 1'-0"



BASKETBALL STRIPING GENERAL NOTES

1. SAND GYM SURFACE, REFINISH, AND RESTRIPE.
2. BASKETBALL COURT TO COMPLY WITH THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFHS) REGULATIONS. NOTIFY ARCHITECT IF CONFLICT OCCURS.
3. STRIPING TO BE 2" WIDE EXCEPT WHERE NOTED OTHERWISE.
4. COLOR:
5. EXTENT OF REFINISH TO NOT INCLUDE STAIRS AND RAMPS AT CORNERS.

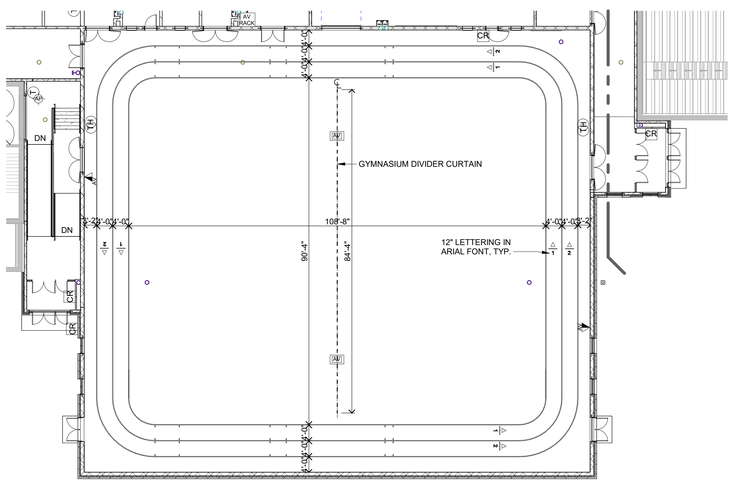
C7 GYM STRIPING PLAN - AREA E BASKETBALL COURT - ALTERNATE
1/16" = 1'-0"



BASKETBALL STRIPING GENERAL NOTES

1. BASKETBALL COURT TO COMPLY WITH THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFHS) REGULATIONS. NOTIFY ARCHITECT IF CONFLICT OCCURS.
2. STRIPING TO BE 2" WIDE EXCEPT WHERE NOTED OTHERWISE.
3. COLOR:

F1 GYM STRIPING - CROSS COURT BASKETBALL COURT
1/16" = 1'-0"



TRACK STRIPING NOTES AT GYM:

1. TRACK STRIPING TO BE INTEGRATED STRIPING TECHNOLOGY (CUT INTO FLOOR, NO PAINT)
2. TRACK STRIPING TO COMPLY WITH THE NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS (NFHS) REGULATION. NOTIFY ARCHITECT IF CONFLICT OCCURS.
3. STRIPING TO BE 2" WIDE EXCEPT WHERE NOTED OTHERWISE.
4. COLOR:

F3 GYM STRIPING - TRACK
1/16" = 1'-0"

A

Archive\Dwg\Linton-Stockton Middle School Addition and Renovation\Linton-Stockton Addition and Renovation.rvt
10/29/2026 12:29:58 PM

Linton-Stockton Addition and Renovation

10 H St NE
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GEORGE SNYDER JR. REGISTERED No. 9600157 STATE OF INDIANA

Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

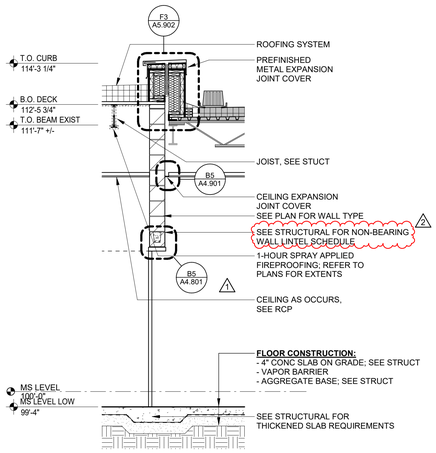
Comm: **260804037**
Date: **09/25/2026**
Drawn: **GO**
Check: **DS/HV**
North

GYM STRIPING PLANS - BASKETBALL

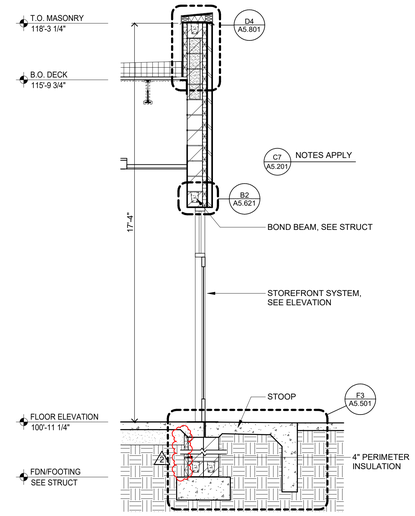
Scale: **1/16" = 1'-0"**

A4.301

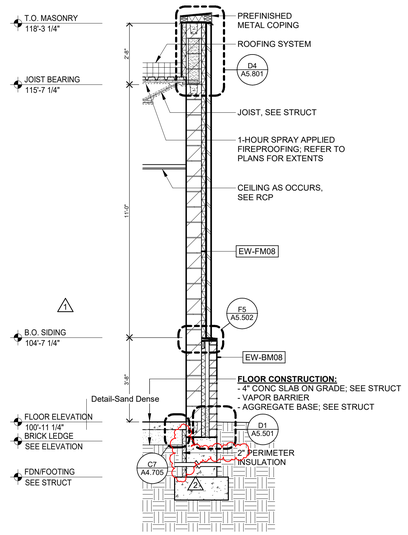
IN



C3 **SECTION AT EXIT PASSAGEWAY**
3/8" = 1'-0"

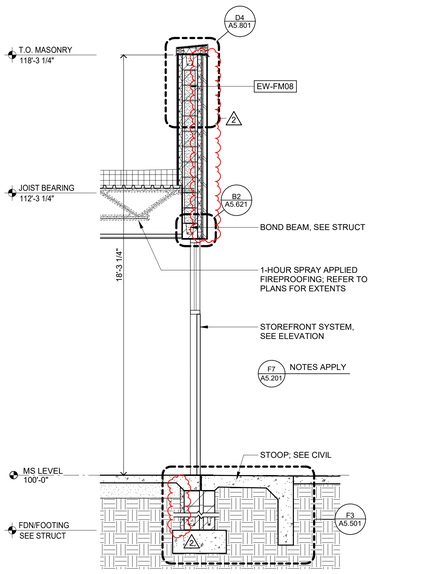


C5 **STOOP SECTION AT WEST VESTIBULE**
3/8" = 1'-0"

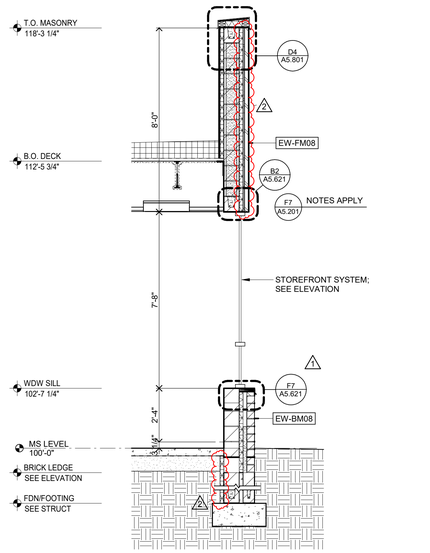


C7 **TYPICAL SECTION AT WEST VESTIBULE**
3/8" = 1'-0"

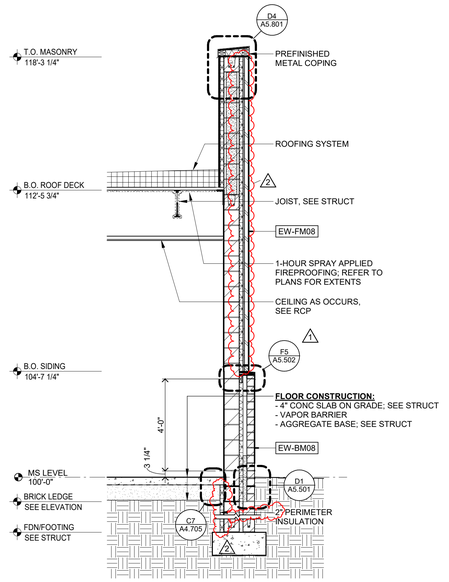
F1 **SECTION AT EAST VEST AND EXISTING 1978 GYM**
3/8" = 1'-0"



F3 **STOOP SECTION AT EAST VESTIBULE**
3/8" = 1'-0"



F5 **WINDOW SECTION AT EAST VESTIBULE**
3/8" = 1'-0"



F7 **TYPICAL SECTION AT EAST VESTIBULE**
3/8" = 1'-0"

A

Architect Docs: C:\Wold Projects\Active Work\Linton-Stockton Addition and Renovation\Linton-Stockton Addition and Renovation.rvt
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Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

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NOTE: SEE A5.400 SERIES DRAWINGS FOR EXTERIOR WALL ASSEMBLIES

DOUG SNYDER REGISTERED No. 9600157 STATE OF INDIANA ARCHITECT

Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

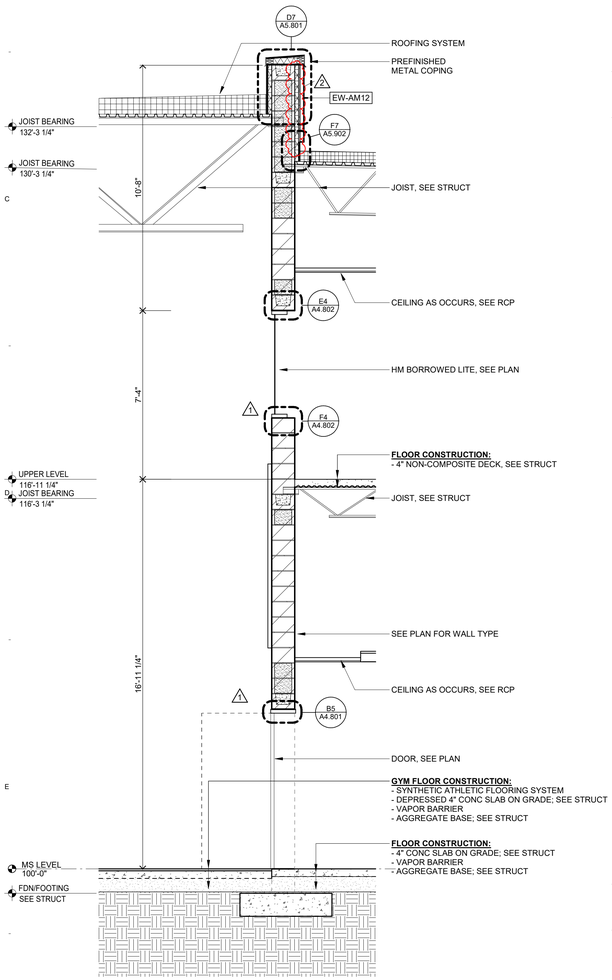
Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

EXTERIOR WALL SECTIONS

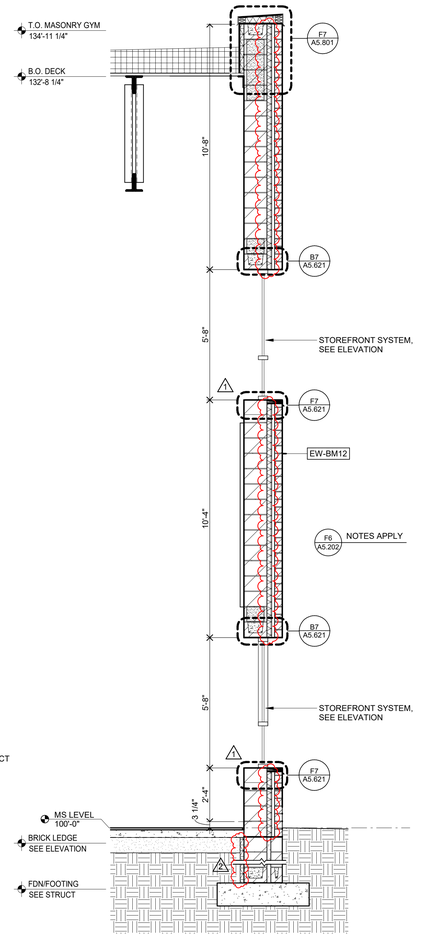
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A5.201

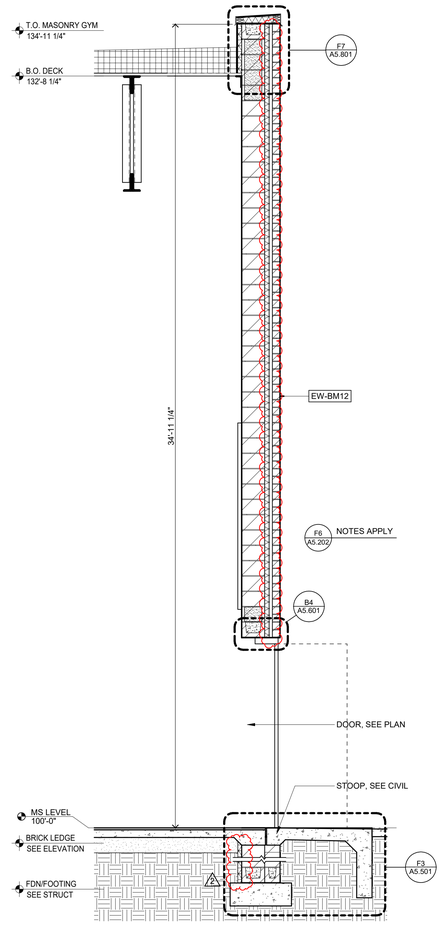
IN



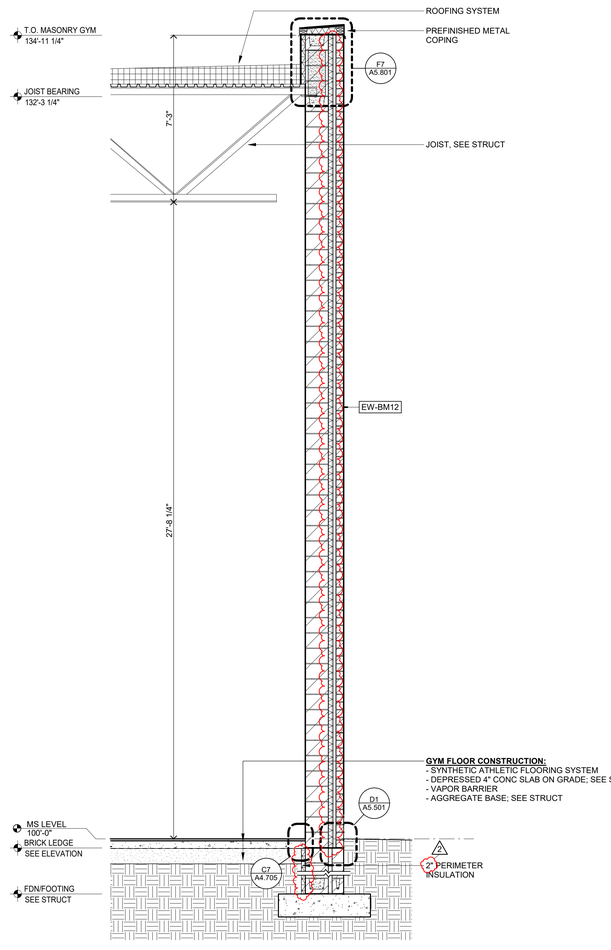
F1 SECTION AT GYM - NORTH
3/8" = 1'-0"



F3 WINDOW SECTION AT GYM
3/8" = 1'-0"



F4 STOOP SECTION AT GYM NEW
3/8" = 1'-0"



F6 TYPICAL SECTION AT GYM
3/8" = 1'-0"

A

Architect Drawings from Wold Architects Wold Architects and Engineers/Linton-Stockton Addition and Renovation/Linton-Stockton Addition and Renovation.rvt
10/29/2026 12:39:06 PM

Linton-Stockton Addition and Renovation

10 H St NE
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CHRISTOPHER L. SNYDER
REGISTERED
No.
9600157
STATE OF
INDIANA
ARCHITECT

Revisions		
Description	Date	Num
Addendum #01	10/22/2026	1
Addendum #02	10/29/2026	2

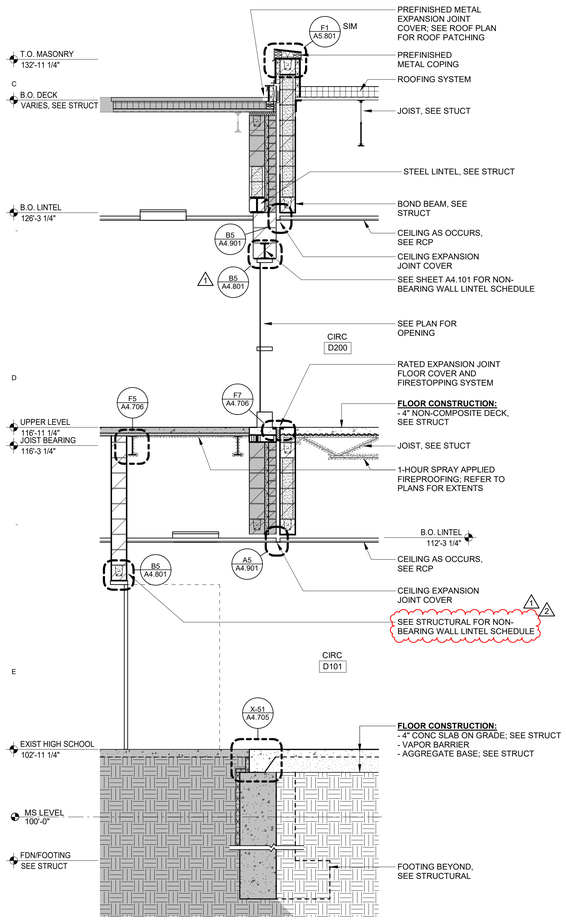
Comm: 260804037
Date: 09/25/2026
Drawn: MJS
Check: DS/HV

EXTERIOR WALL SECTIONS

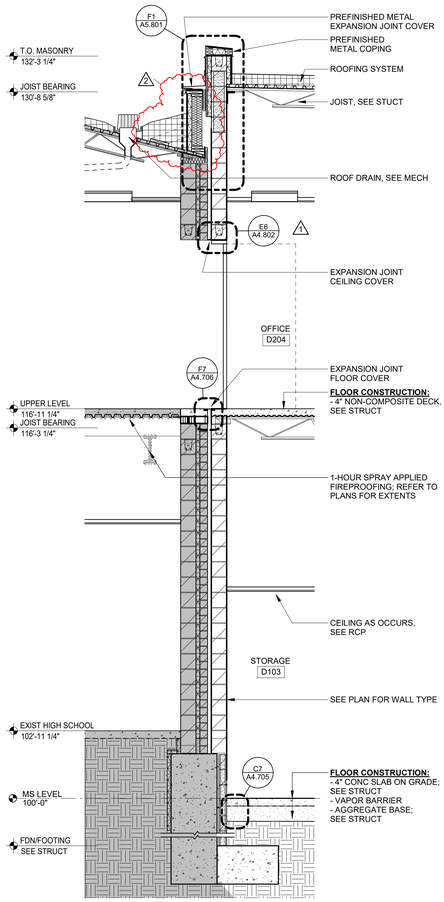
Scale: 3/8" = 1'-0"

A5.202

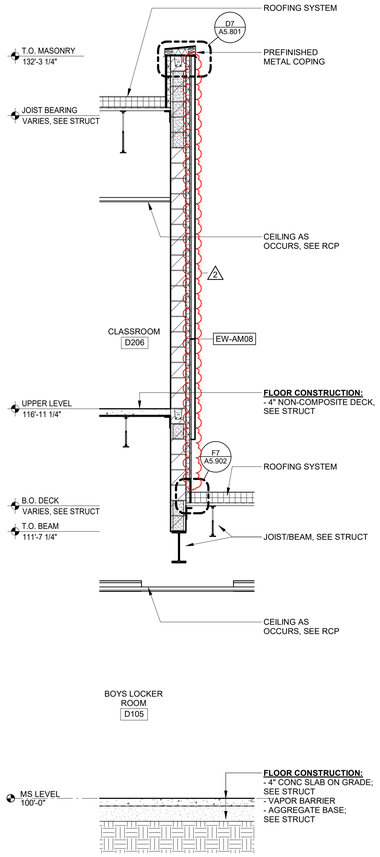
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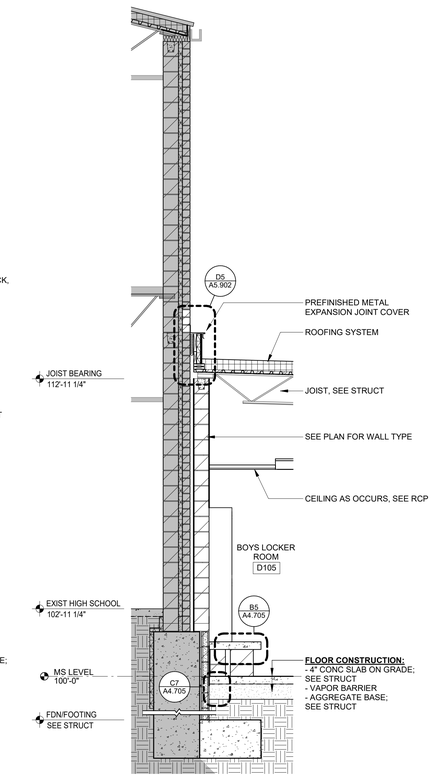
F1 CROSS SECTION AT CIRC D101 AND EXISTING GABLE ROOF
3/8" = 1'-0"



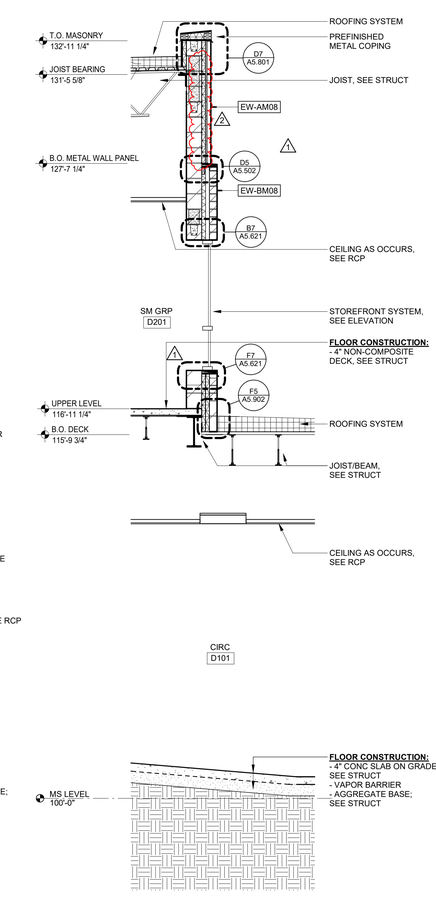
F3 SECTION AT OFFICE D204 AND EXISTING GABLE ROOF
3/8" = 1'-0"



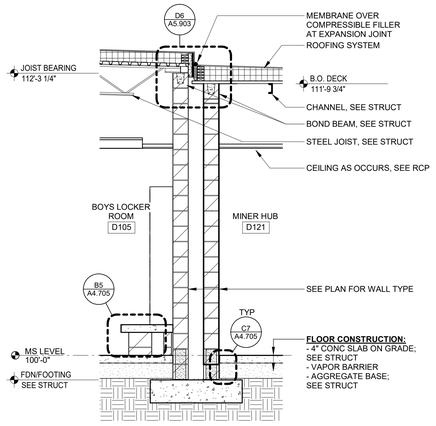
F4 WEST SECTION AT CLASSROOM D206
3/8" = 1'-0"



F6 SECTION AT WEST ROOF ALCOVE - HIGH BEARING
3/8" = 1'-0"



F7 WINDOW SECTION AT SM GRP 201
3/8" = 1'-0"



B7 SECTION AT WEST ROOF ALCOVE -LOW BEARING
3/8" = 1'-0"

A

Author: Zhou, Shuai Revit: Linton-Stockton Middle School Addition and Renovation Linton-Stockton Middle School Addition and Renovation.rvt
12/29/2025 12:29:15 PM

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

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GEORGE SNYDER HUNT REGISTERED No. 9600157 STATE OF INDIANA

Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

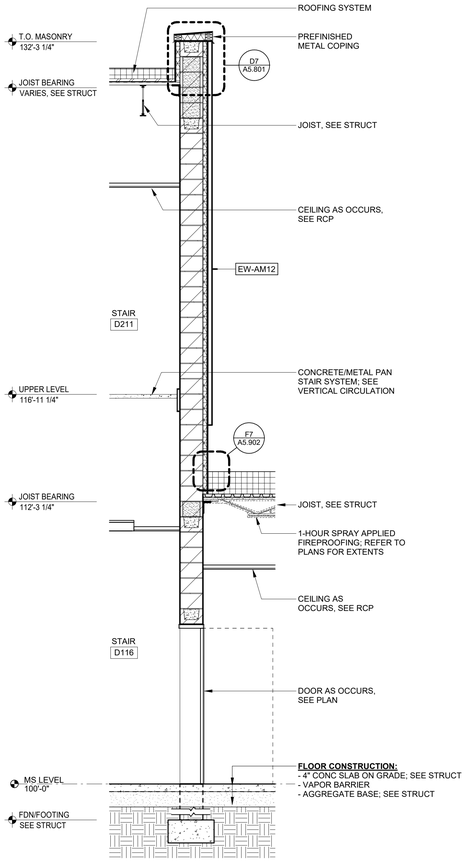
Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

EXTERIOR WALL SECTIONS

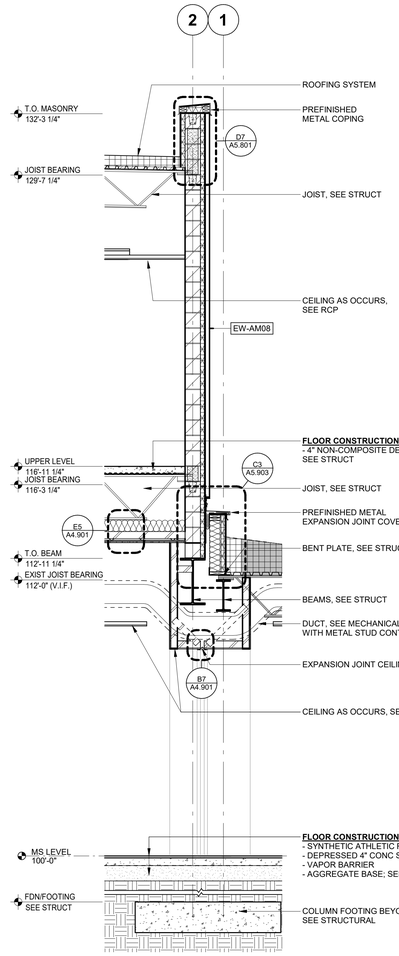
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A5.203

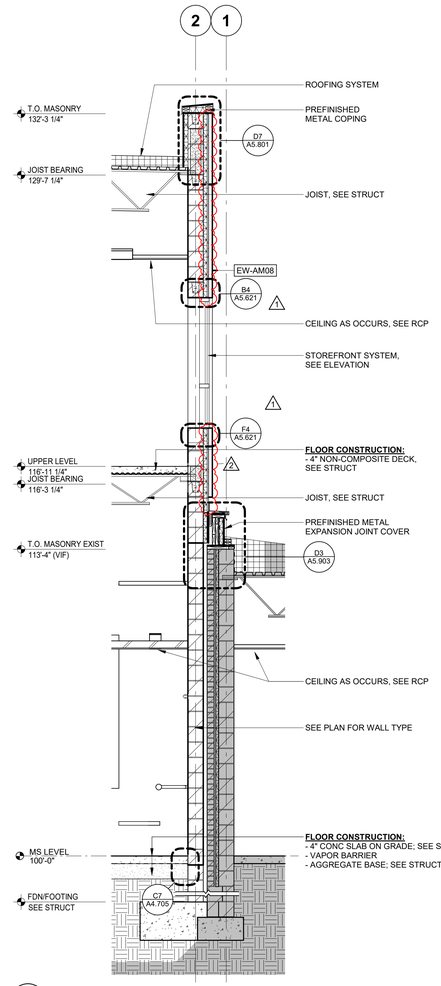
IN



F3 TYPICAL SECTION AT STAIR - EAST
3/8" = 1'-0"



F5 SECTION AT WEIGHT ROOM
3/8" = 1'-0"



F7 TYPICAL SECTION AT SECOND FLOOR CLASSROOMS
3/8" = 1'-0"

A

Author Date:2/26/2026 Wold Architects and Engineers
Z:\Wold Projects\260804037 Linton-Stockton Schools\Linton-Stockton Addition and Renovation\Linton-Stockton Addition and Renovation.rvt
12/29/2025 12:39:23 PM

Linton-Stockton Addition and Renovation

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FLOYD SNYDER PARK
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9600157
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ARCHITECT

Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

EXTERIOR WALL SECTIONS

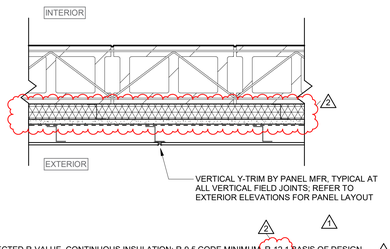
Scale: **3/8" = 1'-0"**

A5.204

IN

SECTION

PLAN



ENERGY CODE: EXPECTED R-VALUE, CONTINUOUS INSULATION: R-9.5 CODE MINIMUM, R-12.1 BASIS OF DESIGN
EXPECTED U-VALUE, ASSEMBLY: (VARIES WITH BACKUP DEPTH)

NFPA 285: THIS WALL ASSEMBLY IS DESIGNED AROUND AN ENGINEERING EVALUATION #10123 (CURRENT REVISION) PERFORMED BY PRIEST & ASSOCIATES CONSULTING, LLC BASED ON NFPA 285 TESTS FOR HUNTER PANELS, PROVIDER OF POLYISOCYANURATE CONTINUOUS INSULATION.

TYPE	BACKUP SIZE	NOTES
EW-FM08	8"	

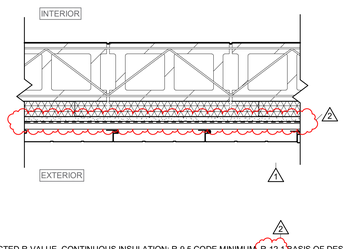
F1 ASSEMBLY EW-FMxx - FIBER CEMENT SIDING ON CMU BACK-UP

1 1/2" = 1'-0"

0 1/2' 1'

SECTION

PLAN



ENERGY CODE: EXPECTED R-VALUE, CONTINUOUS INSULATION: R-9.5 CODE MINIMUM, R-12.1 BASIS OF DESIGN
EXPECTED U-VALUE, ASSEMBLY: (VARIES WITH BACKUP DEPTH)

NFPA 285: THIS WALL ASSEMBLY IS DESIGNED AROUND AN ENGINEERING EVALUATION #10123 (CURRENT REVISION) PERFORMED BY PRIEST & ASSOCIATES CONSULTING, LLC BASED ON NFPA 285 TESTS FOR HUNTER PANELS, PROVIDER OF POLYISOCANURATE CONTINUOUS INSULATION.

TYPE	BACKUP SIZE	NOTES
EW-AM08	8"	
EW-AM12	12"	

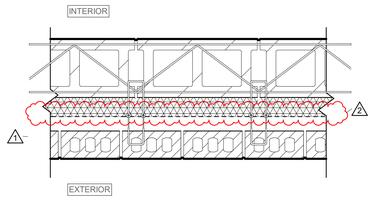
F4 ASSEMBLY EW-AMxx - METAL WALL PANEL ON CMU BACK-UP

1 1/2" = 1'-0"

0 1/2' 1'

SECTION

PLAN



ENERGY CODE: EXPECTED R-VALUE, CONTINUOUS INSULATION: R-9.5 CODE MINIMUM, R-15.3 BASIS OF DESIGN
EXPECTED U-VALUE, ASSEMBLY: (VARIES WITH BACKUP DEPTH)

NFPA 285: THIS WALL ASSEMBLY IS DESIGNED AROUND AN ENGINEERING EVALUATION #10123 (CURRENT REVISION) PERFORMED BY PRIEST & ASSOCIATES CONSULTING, LLC BASED ON NFPA 285 TESTS FOR HUNTER PANELS, PROVIDER OF POLYISOCANURATE CONTINUOUS INSULATION.

TYPE	BACKUP SIZE	NOTES
EW-BM08	8"	
EW-BM12	12"	

F6 ASSEMBLY EW-BMxx - BRICK VENEER ON CMU BACK-UP

1 1/2" = 1'-0"

0 1/2' 1'

Linton-Stockton Addition and Renovation

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GEORGE SNYDER JR. REGISTERED No. 9600157 STATE OF INDIANA

Revisions		
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Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

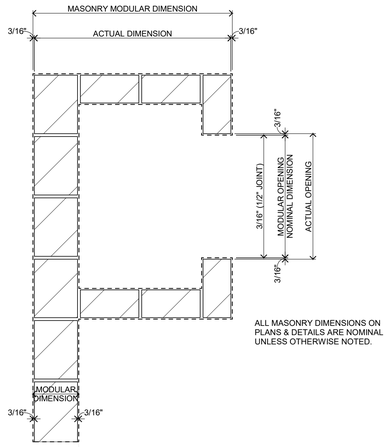
EXTERIOR ASSEMBLIES - WALLS

Scale: **1 1/2" = 1'-0"**

A5.401

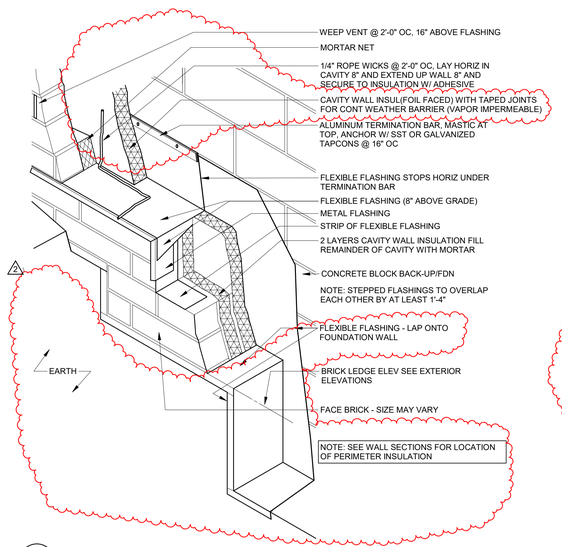
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IN



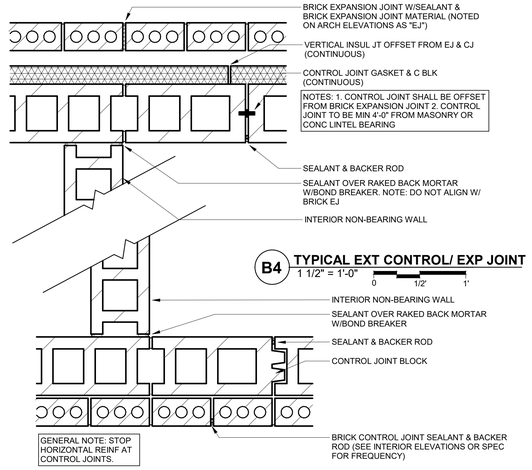
ALL MASONRY DIMENSIONS ON PLANS & DETAILS ARE NOMINAL UNLESS OTHERWISE NOTED.

B1 MASONRY DIMENSIONING
3/4" = 1'-0"



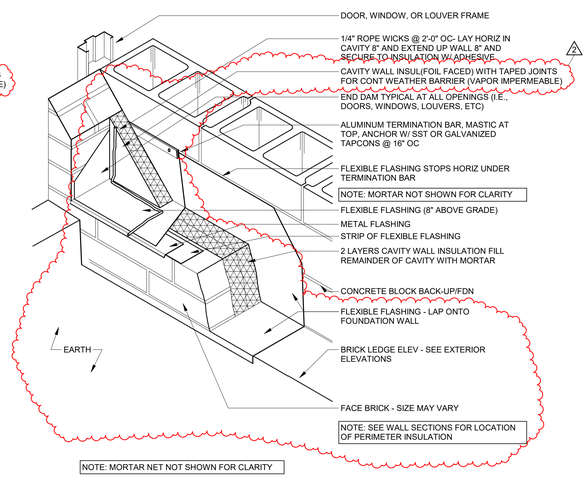
D1 FLASHING DETAIL
NOT TO SCALE

NOTE: SEE STRUCTURAL DRAWINGS FOR NOTES REGARDING BLOCK CONTROL JOINT LOCATIONS.

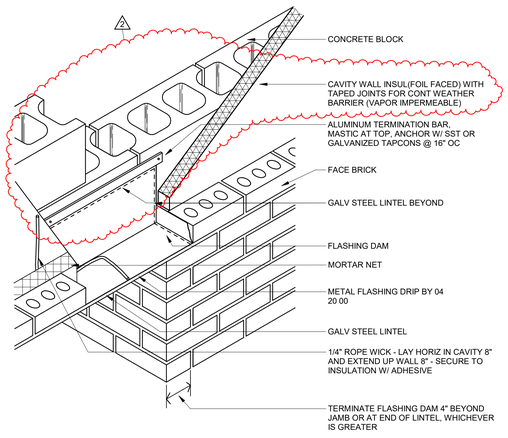


B4 TYPICAL EXT CONTROL/ EXP JOINT
1 1/2" = 1'-0"

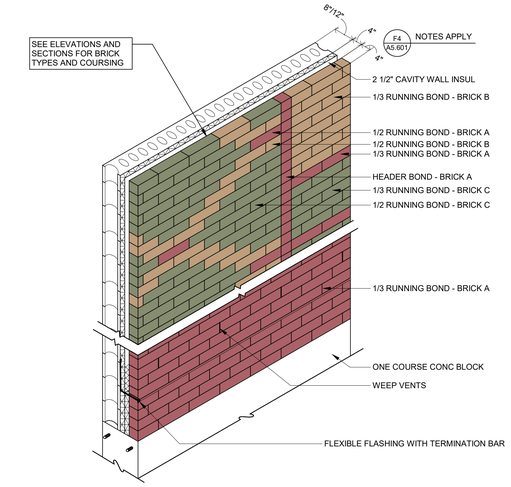
B3 TYPICAL INTERIOR CONTROL JOINT
1 1/2" = 1'-0"



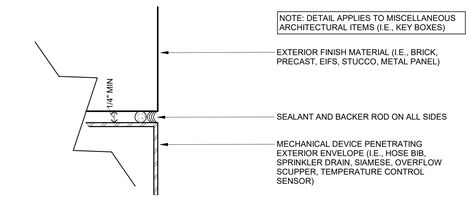
D3 FLASHING DETAIL
NOT TO SCALE



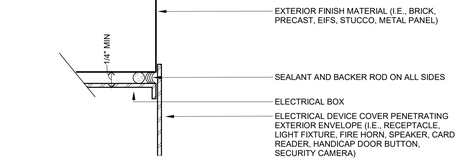
D5 TYPICAL FLASHING TERMINATION
NOT TO SCALE



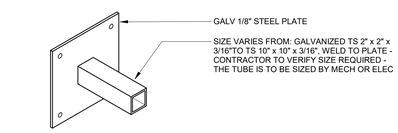
B7 MOCK-UP WALL PANEL
NOT TO SCALE



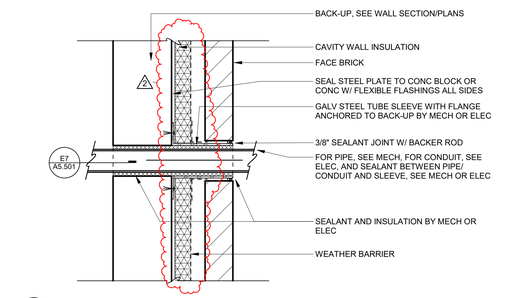
C7 SECTION AT TYP MECH DEVICE
6" = 1'-0"



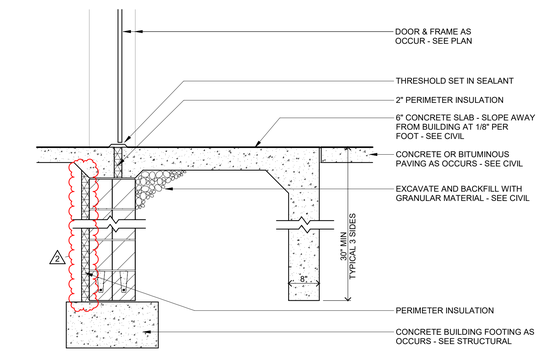
D7 SECTION AT TYP ELEC DEVICE
6" = 1'-0"



E7 SLEEVE DETAIL
1 1/2" = 1'-0"



F7 PIPE OR CONDUIT PENETRATION
1 1/2" = 1'-0"



F3 SECTION AT STOOP - TYPICAL
3/4" = 1'-0"

Linton-Stockton Addition and Renovation

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ARCHITECT

Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
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Comm: **260804037**
Date: **09/25/2026**
Drawn: **MN/MJS**
Check: **DS/HV**

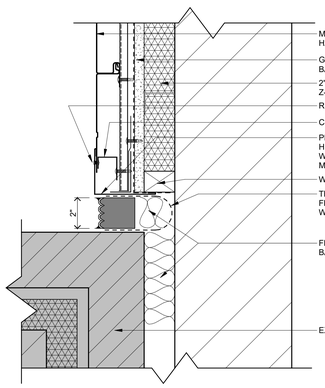
EXTERIOR DETAILS - WALL

Scale: **As indicated**

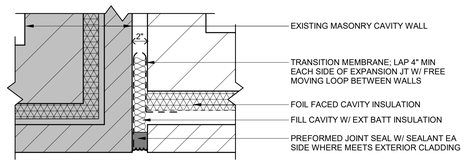
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Schools (Type) Linton-Stockton Middle School Addition and Renovation\Linton-Stockton Addition and Renovations.rvt
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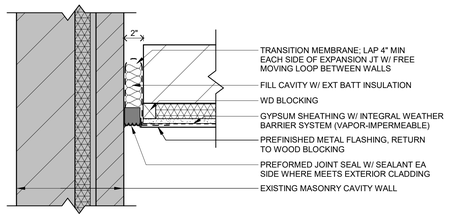
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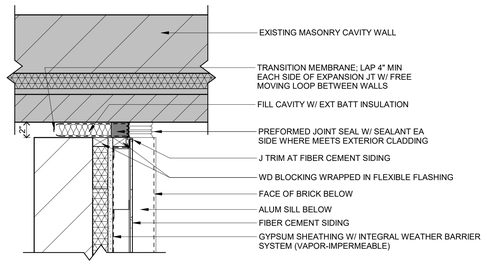
C1 PLAN DETAIL - EXPANSION JOINT AT METAL PANEL AND BRICK
3" = 1'-0"



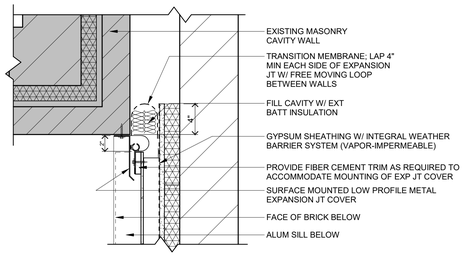
D1 PLAN DETAIL - EXPANSION JOINT NEAR ROOM D201
1 1/2" = 1'-0"



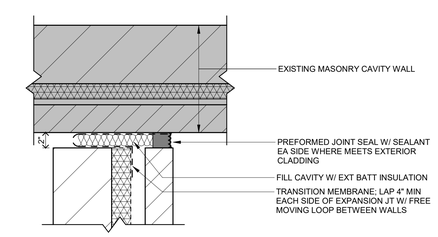
D3 PLAN DETAIL - EXPANSION JOINT AT HIGH ROOF
1 1/2" = 1'-0"



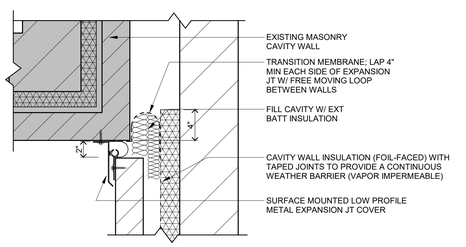
E1 PLAN DETAIL - EXPANSION JOINT AT FIBER CEMENT NEAR VEST F100
1 1/2" = 1'-0"



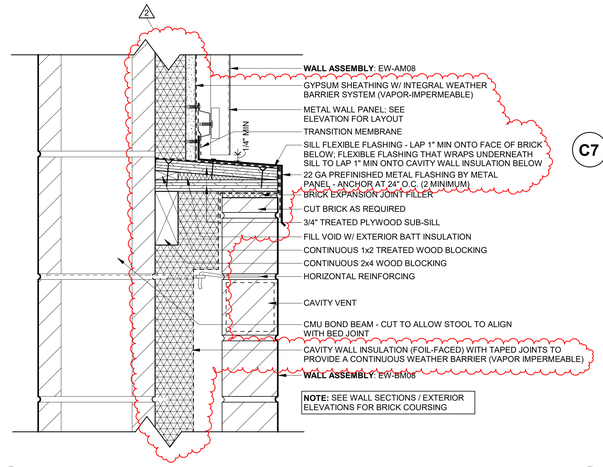
E3 PLAN DETAIL - EXPANSION JOINT AT FIBER CEMENT NEAR VEST D100
1 1/2" = 1'-0"



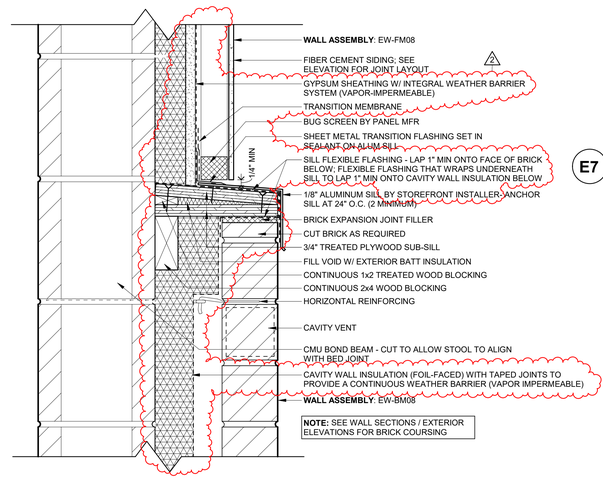
F1 PLAN DETAIL - EXPANSION JOINT AT BRICK NEAR VEST F100
1 1/2" = 1'-0"



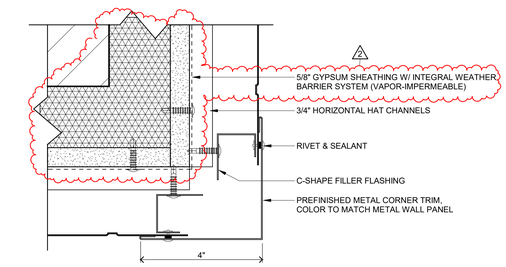
F3 PLAN DETAIL - EXPANSION JOINT AT BRICK NEAR VEST D100
1 1/2" = 1'-0"



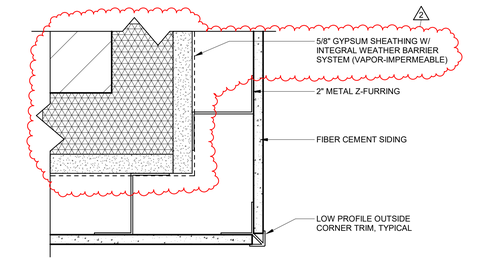
D5 SECTION DETAIL - SILL AT BRICK TO METAL WALL PANEL TRANSITION
3" = 1'-0"



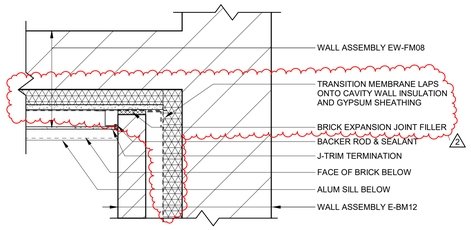
F5 SECTION DETAIL - SILL AT BRICK TO FIBER CEMENT TRANSITION
3" = 1'-0"



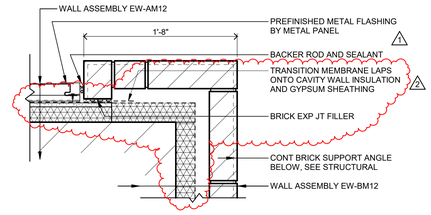
B7 DETAIL - OUTSIDE CORNER AT METAL WALL PANEL
6" = 1'-0"



C7 DETAIL - OUTSIDE CORNER AT FIBER CEMENT SIDING
6" = 1'-0"



D7 PLAN TRANSITION - FIBER CEMENT TO BRICK
1 1/2" = 1'-0"



E7 PLAN DETAIL - BRICK TRANSITION TO METAL WALL PANEL (HIGH)
1 1/2" = 1'-0"

F7 PLAN DETAIL - BRICK TRANSITION TO METAL WALL PANEL (LOW)
1 1/2" = 1'-0"

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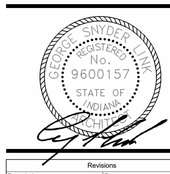
Linton-Stockton Addition and Renovation

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Linton, IN 47441

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Revisions		
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Addendum #01	**10/22/2026**	**1**
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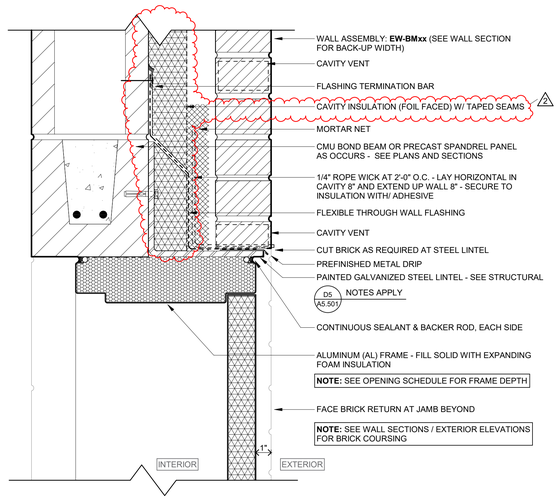
Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

EXTERIOR DETAILS - WALL

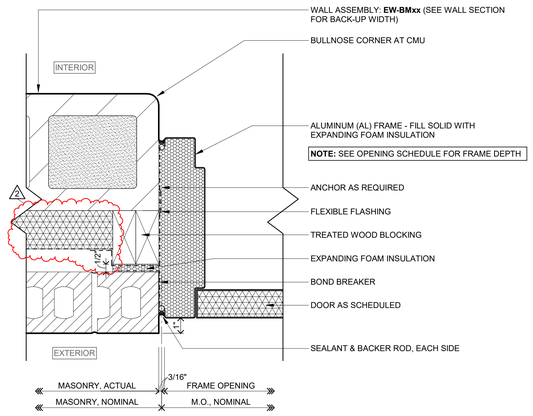
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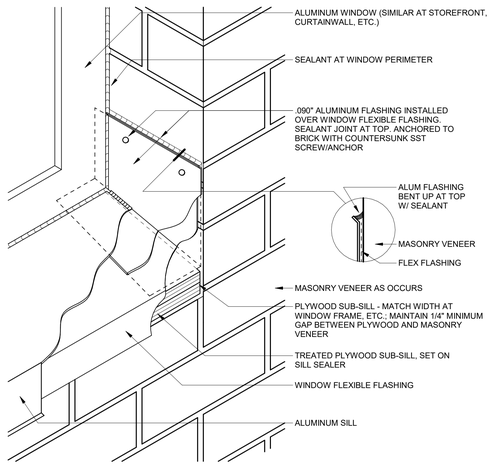
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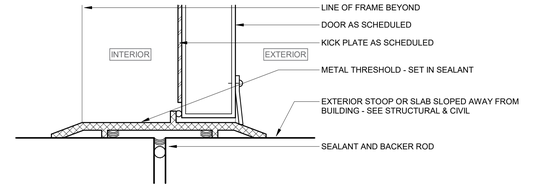
B4 HEAD DETAIL AT EXTERIOR AL FRAME - ASSEMBLY E-BMxx
3" = 1'-0"
0 3" 6"



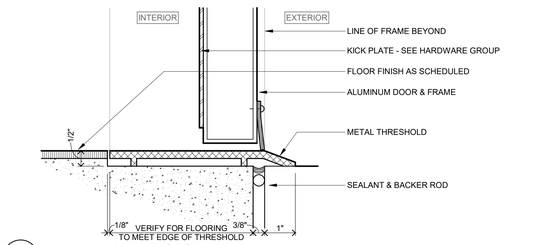
D4 JAMB DETAIL AT EXTERIOR AL FRAME - ASSEMBLY E-BMxx
3" = 1'-0"
0 3" 6"



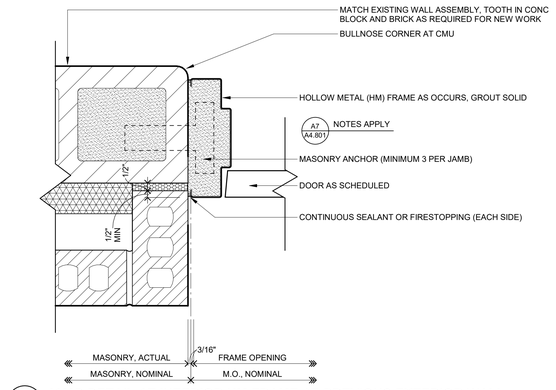
F4 SILL FLASHING DETAIL
3" = 1'-0"
0 3" 6"



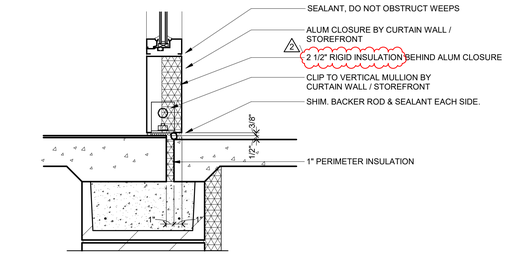
A7 SECONDARY ENTRY & EXIT DOOR THRESHOLD
6" = 1'-0"
0 1.5" 3"



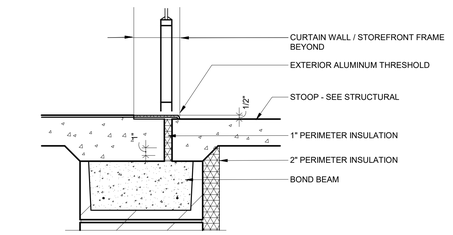
B7 MAIN ENTRY THRESHOLD
6" = 1'-0"
0 1.5" 3"



D7 JAMB DETAIL AT INTERIOR HM FRAME AT PREVIOUS EXTERIOR WALL
3" = 1'-0"
0 3" 6"



E7 SILL
1 1/2" = 1'-0"
0 1/2" 1"



F7 THRESHOLD AT ALUMINUM DOOR
1 1/2" = 1'-0"
0 1/2" 1"

Linton-Stockton Addition and Renovation

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Revisions		
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Addendum #01	**10/22/2026**	**1**
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Comm: **260804037**
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Drawn: **MJS/HV**
Check: **DS/HV**

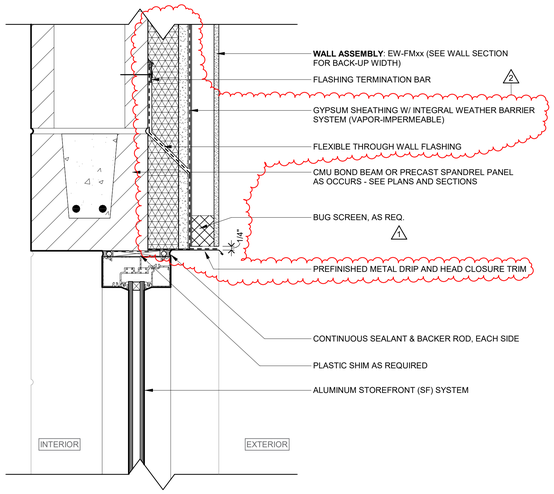
EXTERIOR DETAILS - OPENINGS

Scale: **As Indicated**

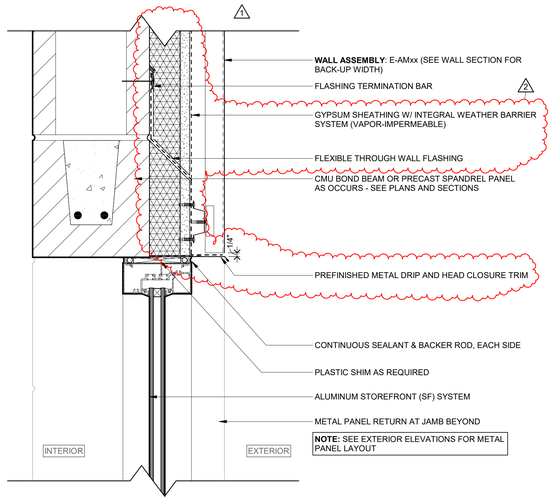
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Submitted Drawings Boston Mohawk Middle School Addition and Renovation\Linton-Stockton Addition and Renovation.rvt
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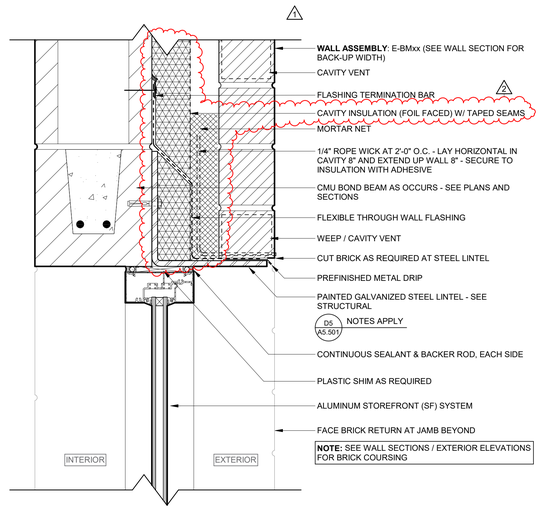
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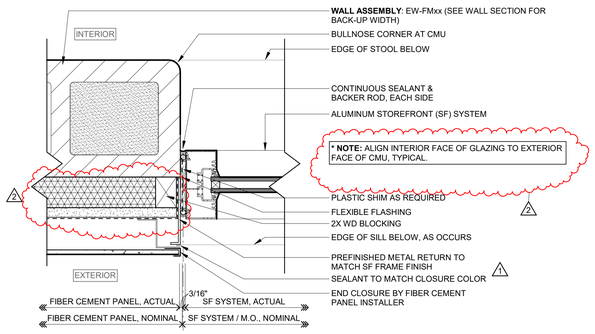
B2 HEAD DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY EW-FMxx
3" = 1'-0" 0 3" 6"



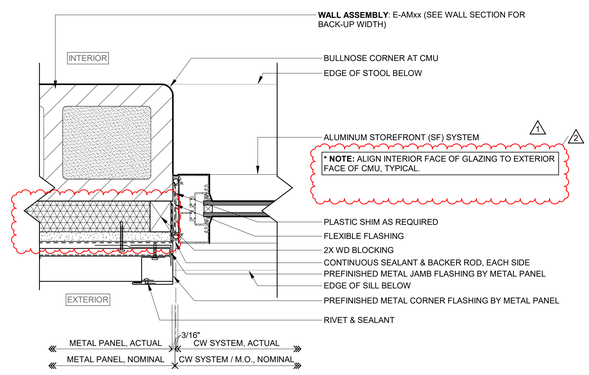
B4 HEAD DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY EW-AMxx
3" = 1'-0" 0 3" 6"



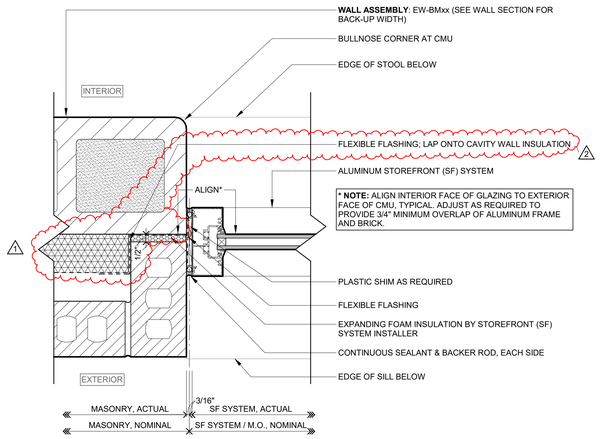
B7 HEAD DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY E-BMxx
3" = 1'-0" 0 3" 6"



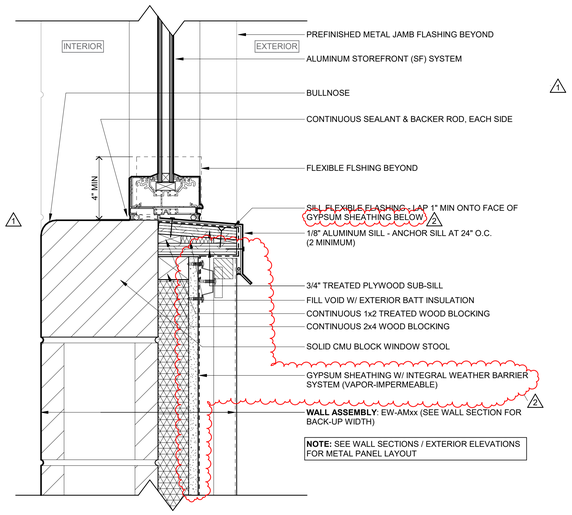
D2 JAMB DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY EW-FMxx
3" = 1'-0" 0 3" 6"



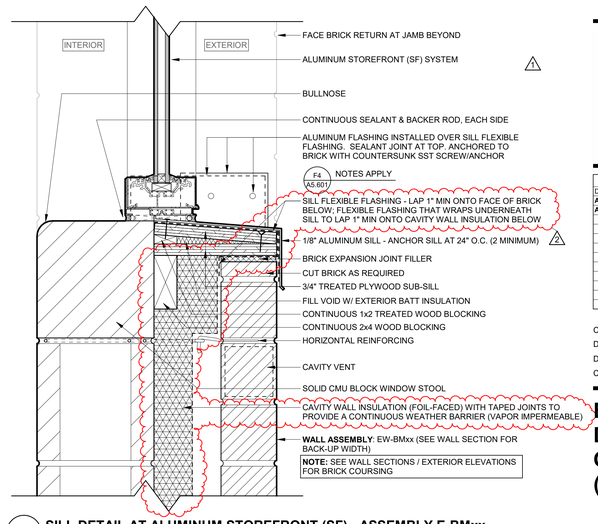
D4 JAMB DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY E-AMxx
3" = 1'-0" 0 3" 6"



D7 JAMB DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY E-BMxx
3" = 1'-0" 0 3" 6"



F4 SILL DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY E-AMxx
3" = 1'-0" 0 3" 6"



F7 SILL DETAIL AT ALUMINUM STOREFRONT (SF) - ASSEMBLY E-BMxx
3" = 1'-0" 0 3" 6"

WEATHER BARRIER - APPLY CONTINUOUS OVER BLOCKING AND UNDER WINDOW FLEXIBLE FLASHING

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NOTE: SEE A5.400 SERIES DRAWINGS FOR EXTERIOR WALL ASSEMBLIES

JORGE SNYDER LINK REGISTERED No. 9600157 STATE OF INDIANA ARCHITECT

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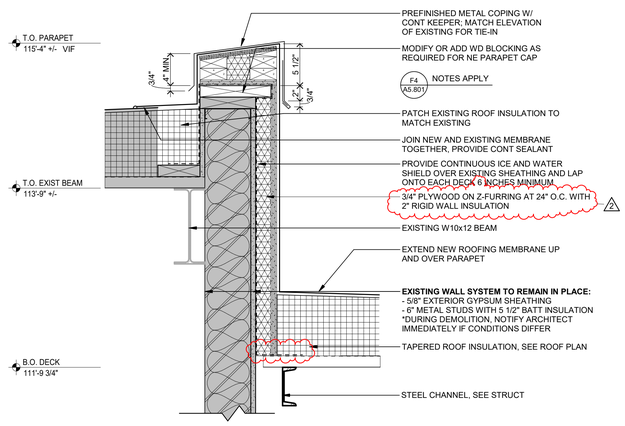
EXTERIOR DETAILS - OPENINGS (STOREFRONT)

Scale: **3" = 1'-0"**

A5.621

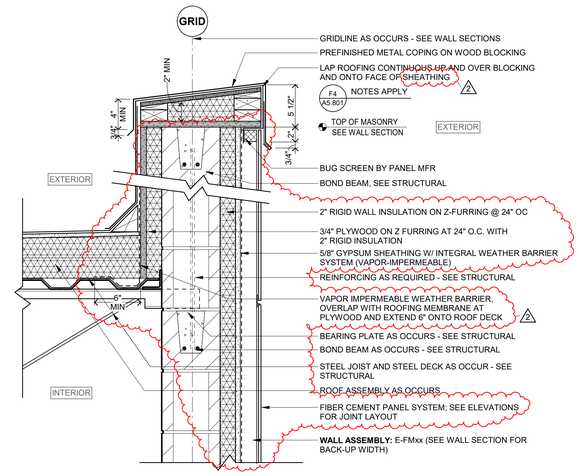
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10/29/2026 12:28:28 PM

IN



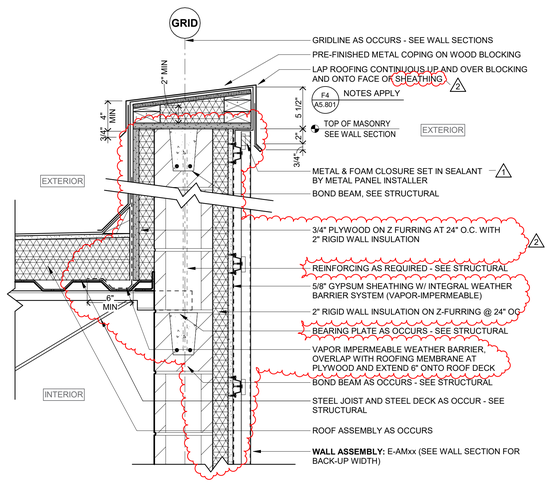
D1 EXISTING CANOPY PARAPET AT NEW ROOF

1 1/2" = 1'-0"



D4 SECTION AT PARAPET - ASSEMBLY E-FMxx AND STEEL DECK

1 1/2" = 1'-0"



D7 SECTION AT PARAPET - ASSEMBLY E-AMxx AND STEEL DECK

1 1/2" = 1'-0"

Linton-Stockton Addition and Renovation

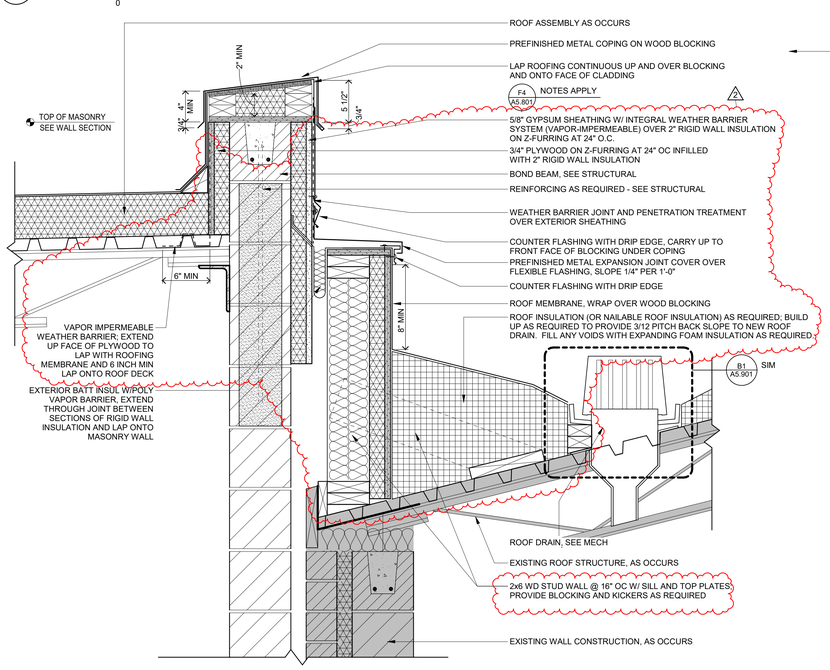
10 H St NE
Linton, IN 47441

260804037

Linton-Stockton Schools
10 H St NE, Linton, IN 47441

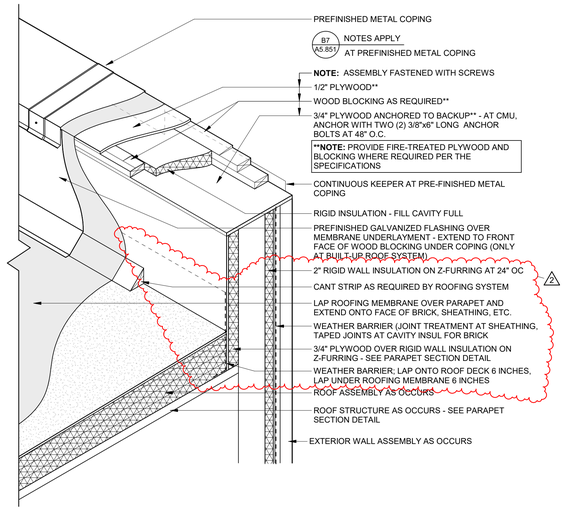
WOLD ARCHITECTS AND ENGINEERS
1060 N. Capitol Avenue, Suite 3-101
Indianapolis, IN 46204
woldae.com | 317 353 3281

NOTE: SEE A5.400 SERIES DRAWINGS FOR EXTERIOR WALL ASSEMBLIES



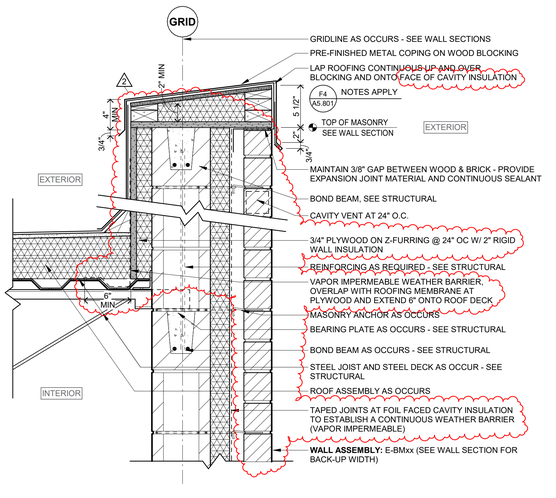
F1 SECTION AT PARAPET - NEW TO OVERBUILD ROOF AT EXISTING

1 1/2" = 1'-0"



F4 COPING DETAIL AT PARAPET

NOT TO SCALE



F7 SECTION AT PARAPET - ASSEMBLY E-BMxx AND STEEL DECK

1 1/2" = 1'-0"



Revisions		
Description	Date	Num
Addendum #01	10/22/2026	1
Addendum #02	10/29/2026	2

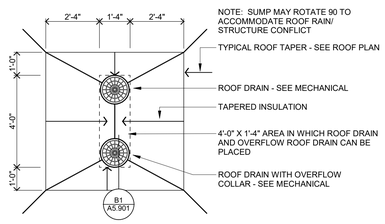
Comm: 260804037
Date: 09/25/2026
Drawn: MJS
Check: DS/HV

EXTERIOR DETAILS - PARAPETS

Scale: As Indicated

A5.801

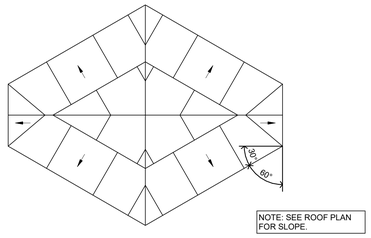
Architect Docs (Archive Attached) Linton-Stockton Addition and Renovation (Linton-Stockton Addition and Renovation).rvt
10/29/2026 12:30:01 PM



A1 ROOF DRAIN TYPICAL SUMP PLAN

3/8" = 1'-0"

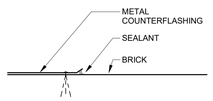
0 2' 4'



A3 ROOF CRICKET PLAN VIEW

1 1/2" = 1'-0"

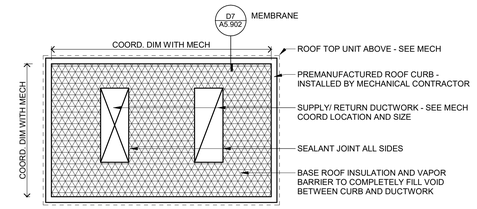
0 1/2' 1'



A5 COUNTERFLASHING EDGE

1 1/2" = 1'-0"

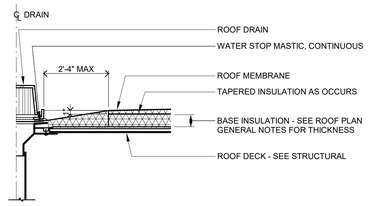
0 1/2' 1'



A7 PLAN DETAIL AT INSUL. UNDER RTU

1/2" = 1'-0"

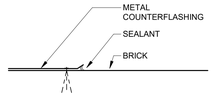
0 1'-6" 3'



B1 ROOF DRAIN SUMP SECTION

3/4" = 1'-0"

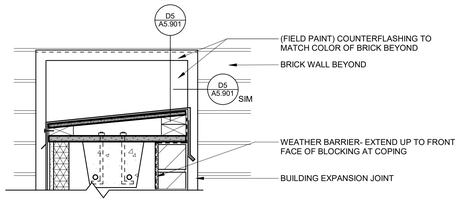
0 1' 2'



B7 COUNTERFLASHING EDGE

1 1/2" = 1'-0"

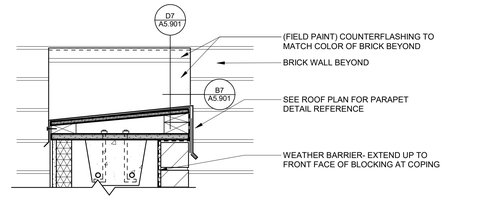
0 1/2' 1'



C5 COPING AT WALL ELEVATION AT EXPANSION JOINT

1 1/2" = 1'-0"

0 1/2' 1'



C7 COPING AT WALL ELEVATION

1 1/2" = 1'-0"

0 1/2' 1'

D1 ROOF HATCH

1" = 1'-0"

0 9" 1'-6"

D3 PIPING BOX

1 1/2" = 1'-0"

0 1/2' 1'

D5 COPING AT WALL SECTION AT EXPANSION JOINT

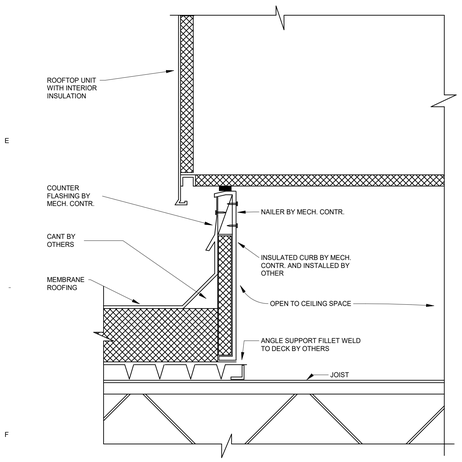
3" = 1'-0"

0 3" 6"

D7 COPING AT WALL SECTION

3" = 1'-0"

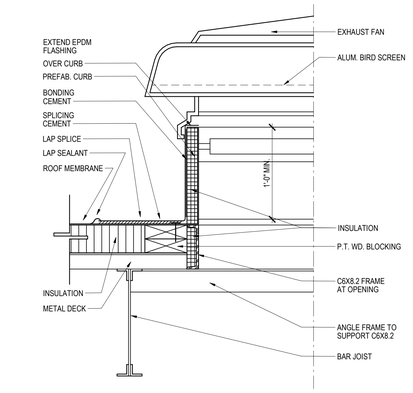
0 3" 6"



F1 ROOF TOP UNIT CURB

3/16" = 1'-0"

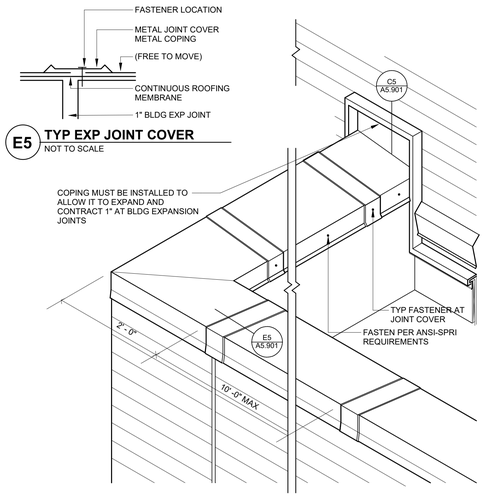
0



F3 EXHAUST FAN

1 1/2" = 1'-0"

0

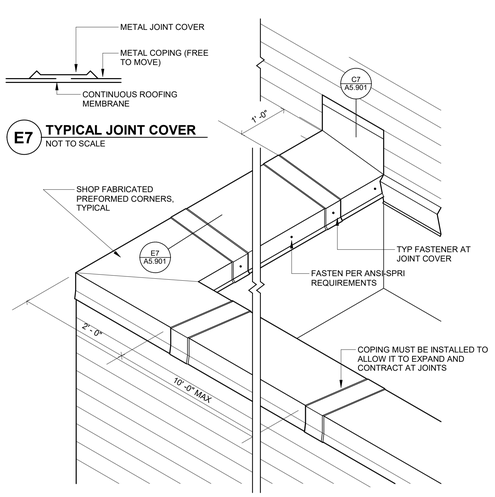


E5 TYP EXP JOINT COVER

NOT TO SCALE

F5 COPING DETAILS AT EXPANSION JOINT

NOT TO SCALE



E7 TYPICAL JOINT COVER

NOT TO SCALE

F7 COPING DETAILS

NOT TO SCALE

Linton-Stockton Addition and Renovation

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Linton, IN 47441

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Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

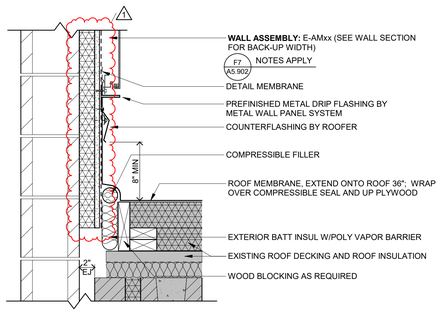
EXTERIOR DETAILS - ROOF

Scale: **As Indicated**

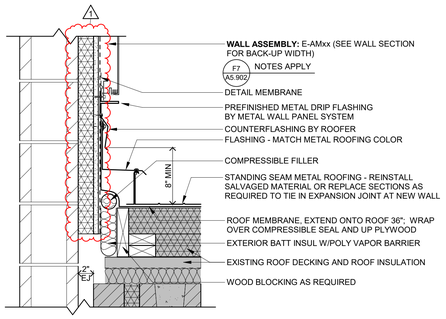
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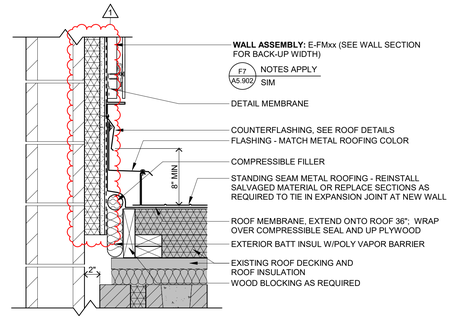
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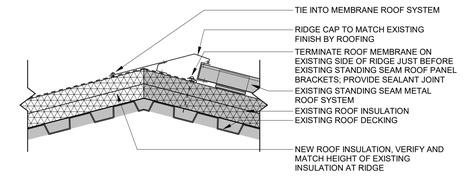
B1 BUILDING EXPANSION JOINT - METAL WALL PANEL AT MEMBRANE ROOF
1 1/2" = 1'-0"



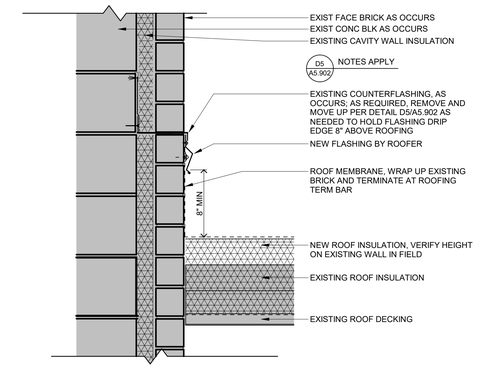
B3 BUILDING EXPANSION JOINT - METAL WALL PANEL AT SHEET METAL ROOF
1 1/2" = 1'-0"



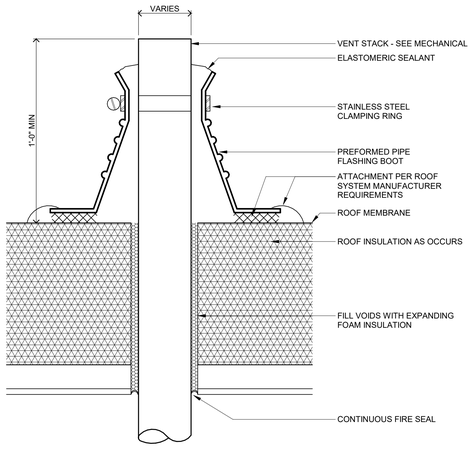
B5 BUILDING EXPANSION JOINT - FIBER CEMENT AT SHEET METAL ROOF
1 1/2" = 1'-0"



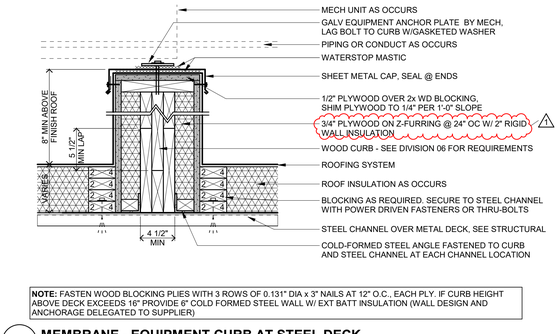
A7 NEW ROOFING TO EXISTING BUILDING
1 1/2" = 1'-0"



C7 NEW ROOFING TO EXISTING BUILDING
1 1/2" = 1'-0"

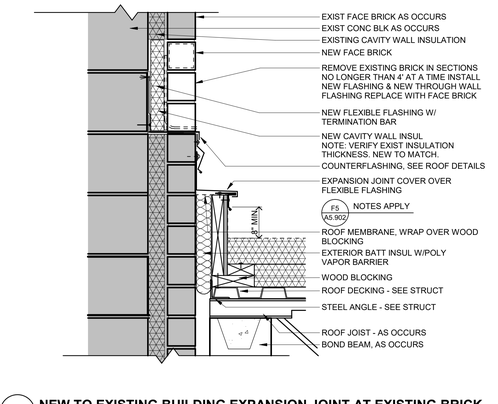


D1 MEMBRANE ROOF VENT
3" = 1'-0"



NOTE: FASTEN WOOD BLOCKING PLIES WITH 3 ROWS OF 0.131" DIA x 3" NAILS AT 12" O.C., EACH PLY. IF CURB HEIGHT ABOVE DECK EXCEEDS 16" PROVIDE 6" COLD FORMED STEEL WALL W/ EXT BATT INSULATION (WALL DESIGN AND ANCHORAGE DELEGATED TO SUPPLIER)

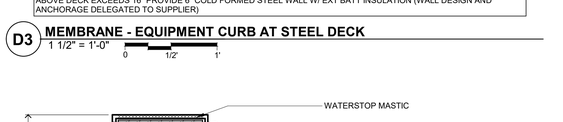
D3 MEMBRANE - EQUIPMENT CURB AT STEEL DECK
1 1/2" = 1'-0"



D5 NEW TO EXISTING BUILDING EXPANSION JOINT AT EXISTING BRICK
1 1/2" = 1'-0"

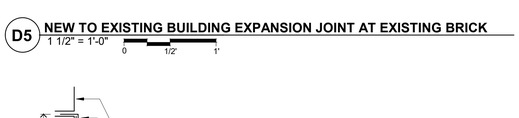
D7 MEMBRANE - PENETRATION CURB
1 1/2" = 1'-0"

F1 MEMBRANE ROOF COMBUSTION STACK
3" = 1'-0"

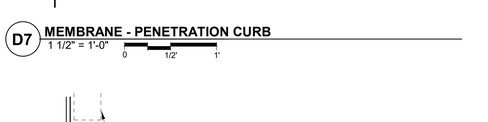


NOTE: FASTEN WOOD BLOCKING PLIES WITH 3 ROWS OF 0.131" DIA x 3" NAILS AT 12" O.C., EACH PLY. IF CURB HEIGHT ABOVE DECK EXCEEDS 16" PROVIDE 2x6 @ 16" OC WALL WITH SILL & TOP PLATES, AND EXT BATT INSULATION (2x6 COLD-FORMED STEEL WALL ALSO ACCEPTABLE)

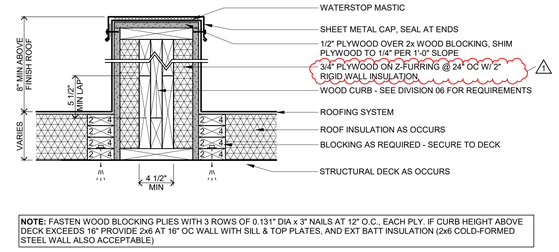
E3 MEMBRANE - ROOF CURB
1 1/2" = 1'-0"



E5 FLASHING DETAIL
3" = 1'-0"

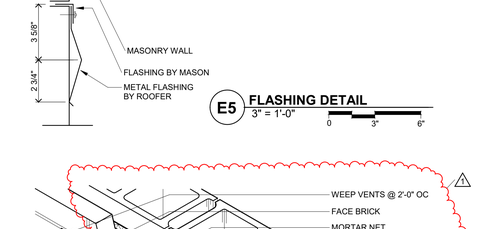


E7 FLASHING DETAIL
3" = 1'-0"

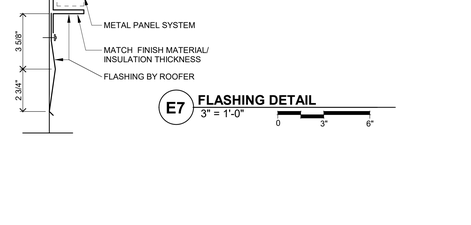


NOTE: FASTEN WD BLOCKING PLIES WITH 3 ROWS OF 0.131" DIA x 3" NAILS AT 12" OC, EACH PLY. IF CURB HEIGHT ABOVE DECK EXCEEDS 16" PROVIDE 2x6 @ 16" OC WALL WITH SILL & TOP PLATES, AND EXT BATT INSULATION (2x6 COLD-FORMED STEEL WALL ALSO ACCEPTABLE)

F3 MEMBRANE - BUILDING EXPANSION JOINT
1 1/2" = 1'-0"



F5 FLASHING DETAIL AT MASONRY
NOT TO SCALE



F7 FLASHING DETAIL AT METAL WALL PANEL SYSTEM
NOT TO SCALE

A

Architect/Engineer/Construction Manager Name and Address and Consultants
1/20/2026 12:28:39 PM

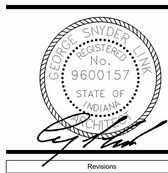
Linton-Stockton Addition and Renovation

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Linton, IN 47441

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Linton-Stockton Schools
10 H St NE, Linton, IN 47441

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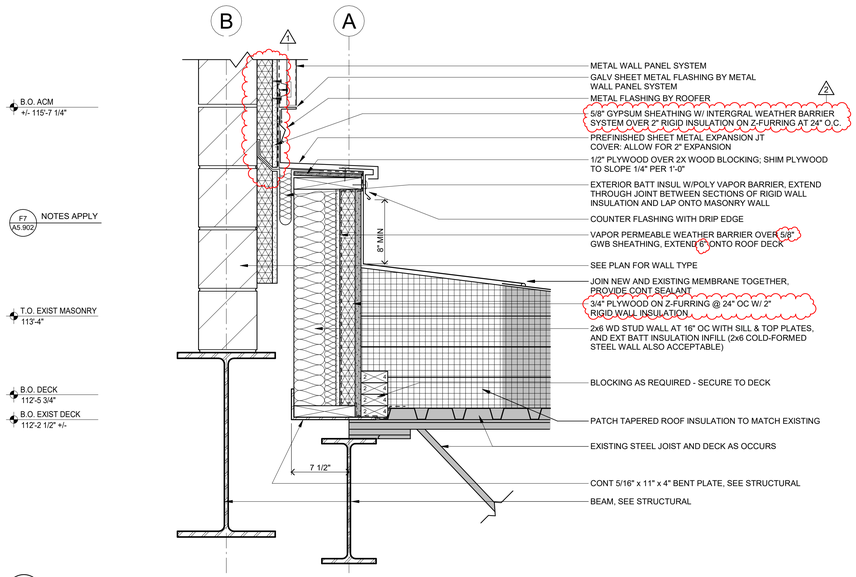
Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

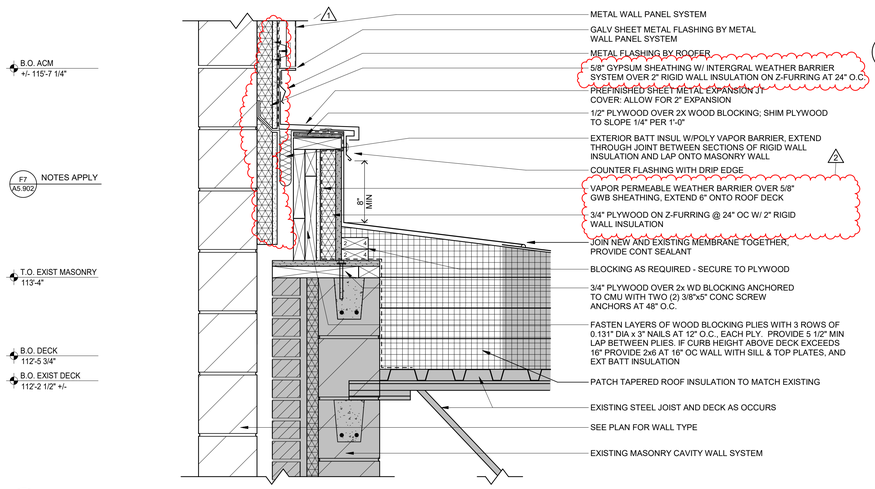
EXTERIOR DETAILS - ROOF

Scale: **As indicated**

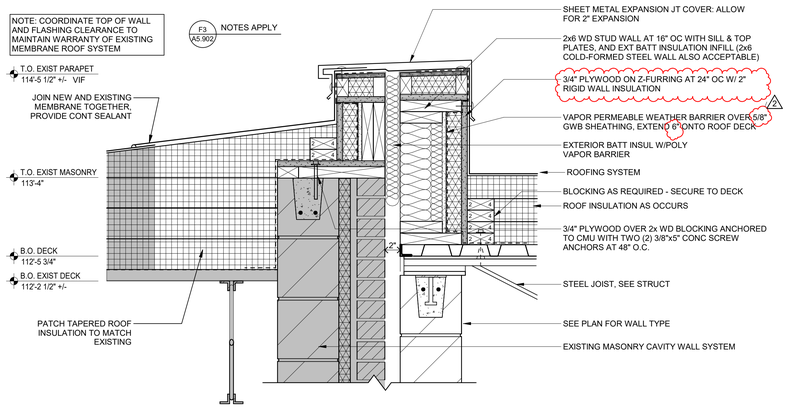
A5.902



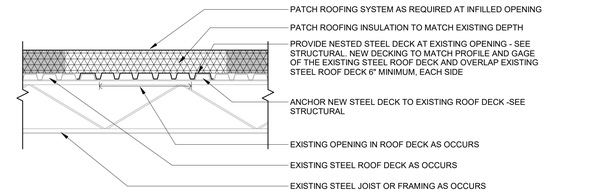
C3 MEMBRANE ROOF CURB AT HIGH-LOW ROOF (ABOVE WEIGHT RM)
1 1/2" = 1'-0"



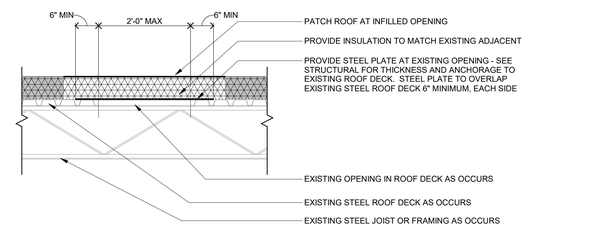
D3 MEMBRANE ROOF CURB AT HIGH-LOW ROOF (ABOVE LOCKER ROOMS)
1 1/2" = 1'-0"



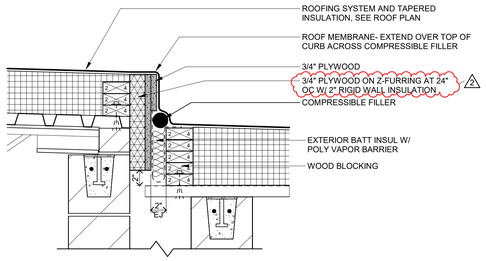
F3 MEMBRANE ROOF CURB AT EXISTING PARAPET
1 1/2" = 1'-0"



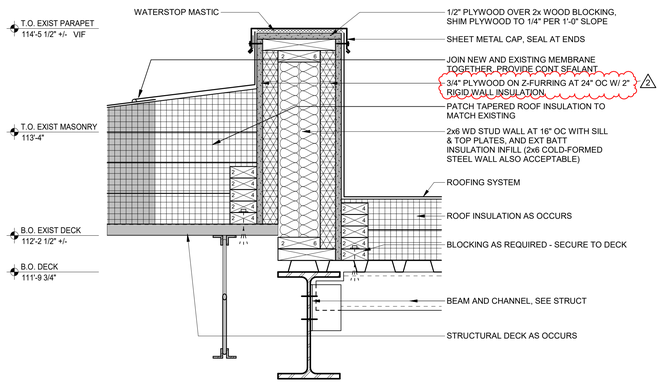
A6 STEEL DECK INFILL AT EXISTING OPENING IN STEEL ROOF DECK
3/4" = 1'-0"



C6 STEEL PLATE INFILL AT EXISTING OPENING IN STEEL ROOF DECK
3/4" = 1'-0"



D6 MEMBRANE WATERSHED AT EXPANSION JOINT
1 1/2" = 1'-0"



F6 MEMBRANE ROOF CURB AT HIGH-LOW DECK
1 1/2" = 1'-0"

Linton-Stockton Addition and Renovation

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Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

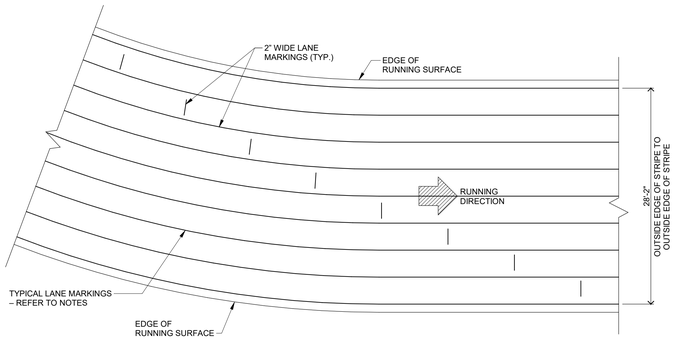
Comm: **260804037**
Date: **09/25/2026**
Drawn: **MJS**
Check: **DS/HV**

EXTERIOR DETAILS - ROOF

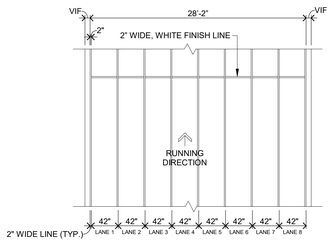
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A5.903

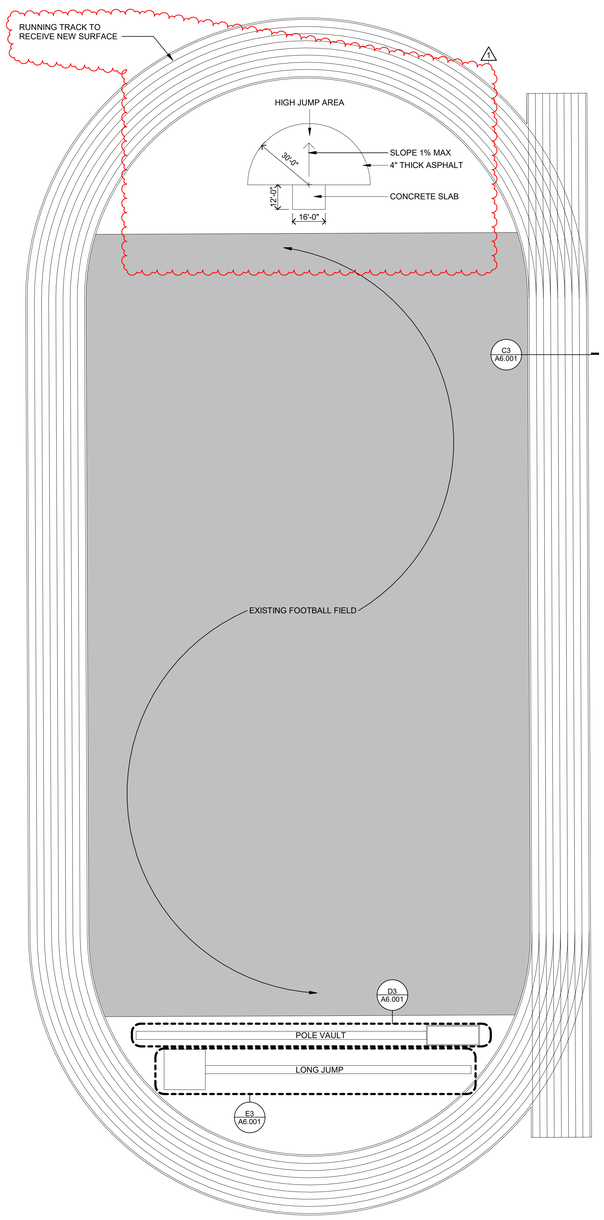
IN



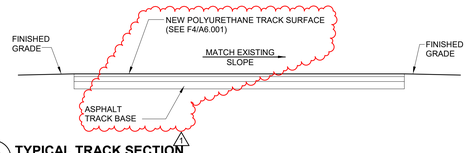
B1 TYPICAL TRACK PLAN
NOT TO SCALE



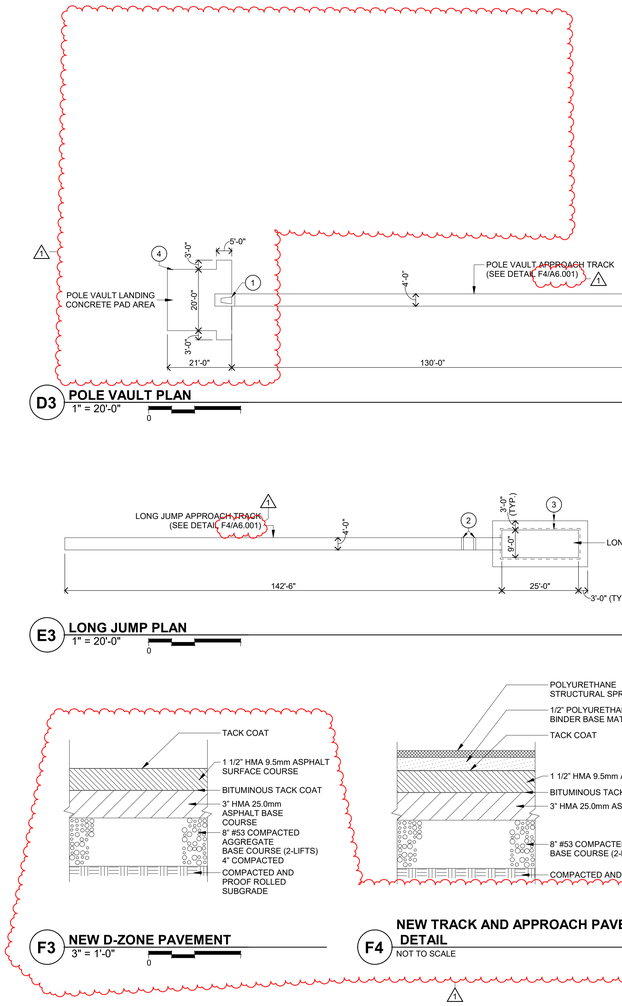
B3 TRACK LAYOUT AND STRIPING PLAN
NOT TO SCALE



F1 TRACK PLAN
1" = 30'-0"



C3 TYPICAL TRACK SECTION
NOT TO SCALE

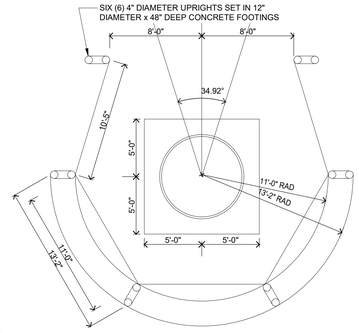


D3 POLE VAULT PLAN
1" = 20'-0"

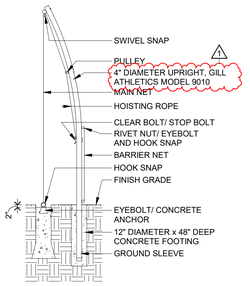
E3 LONG JUMP PLAN
1" = 20'-0"

F3 NEW D-ZONE PAVEMENT
3" = 1'-0"

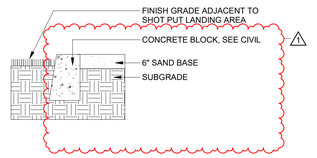
F4 NEW TRACK AND APPROACH PAVEMENT DETAIL
NOT TO SCALE



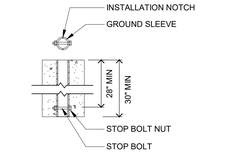
B6 DISCUS CAGE PLAN
3/16" = 1'-0"



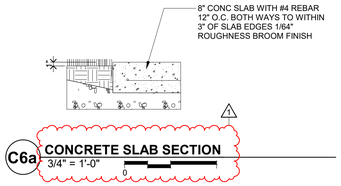
B7 DISCUS CAGE UPRIGHT DETAIL
1/4" = 1'-0"



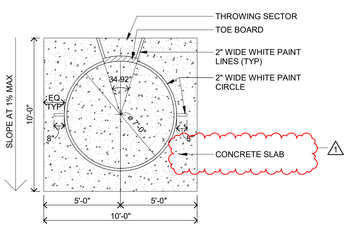
C6 SHOT PUT LANDING AREA
3/4" = 1'-0"



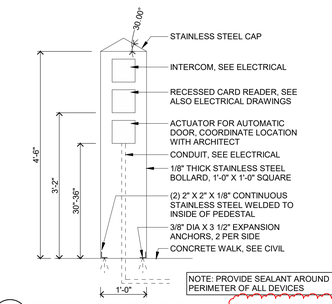
C7 GROUND SLEEVE DETAIL
1/2" = 1'-0"



C6a CONCRETE SLAB SECTION
3/4" = 1'-0"

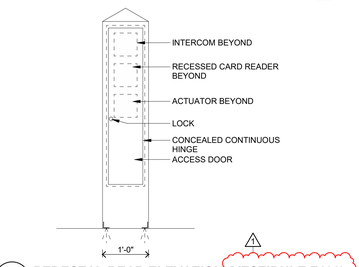


D7 SHOT PUT SLAB
1/4" = 1'-0"



E6 PEDESTAL FRONT ELEVATION (VESTIBULE F100)
3/4" = 1'-0"

E7 DISCUS SLAB
1/4" = 1'-0"



F6 PEDESTAL REAR ELEVATION (VESTIBULE F100)
3/4" = 1'-0"

SITE PLAN KEY NOTES:

1. POLE VAULT BOX, GILL ATHLETICS #502 w/ COVER. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
2. TAKE OFF BOARD, GILL ATHLETICS #441TS (INCLUDES SYNTHETIC BD.). INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. SAND PIT BORDER SHALL BE POURED CONCRETE, 6" WIDE x 18" DEEP. W/ 1-#5 CONT. @ TOP & BOTTOM. INTEGRAL W/ 3'-0" WIDE x 4" THK. CONC. SLAB (WITH FIBER MESH REINFORCING) ON 4" GRAVEL FILL AT PERIMETER. FILL PIT WITH FINE GRADE MASONRY SAND. ALSO PROVIDE BALLASTED VINYL COVER.
4. INDICATES POLE VAULT LANDING AREA SLAB. 4" CONCRETE SLAB (WITH FIBER MESH REINFORCING) ON 4" GRAVEL FILL.

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

Linton-Stockton Schools
10 H St NE, Linton, IN 47441

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Indianapolis, IN 46204
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TODD SNYDER PE
REGISTERED
No. 9600157
STATE OF INDIANA
10/29/2026

Revisions		
Description	Date	Num
Addendum #02	10/29/2026	1

Comm: 260804037
Date: 09/25/2026
Drawn: MG
Check: DS/HV

SITE DETAILS

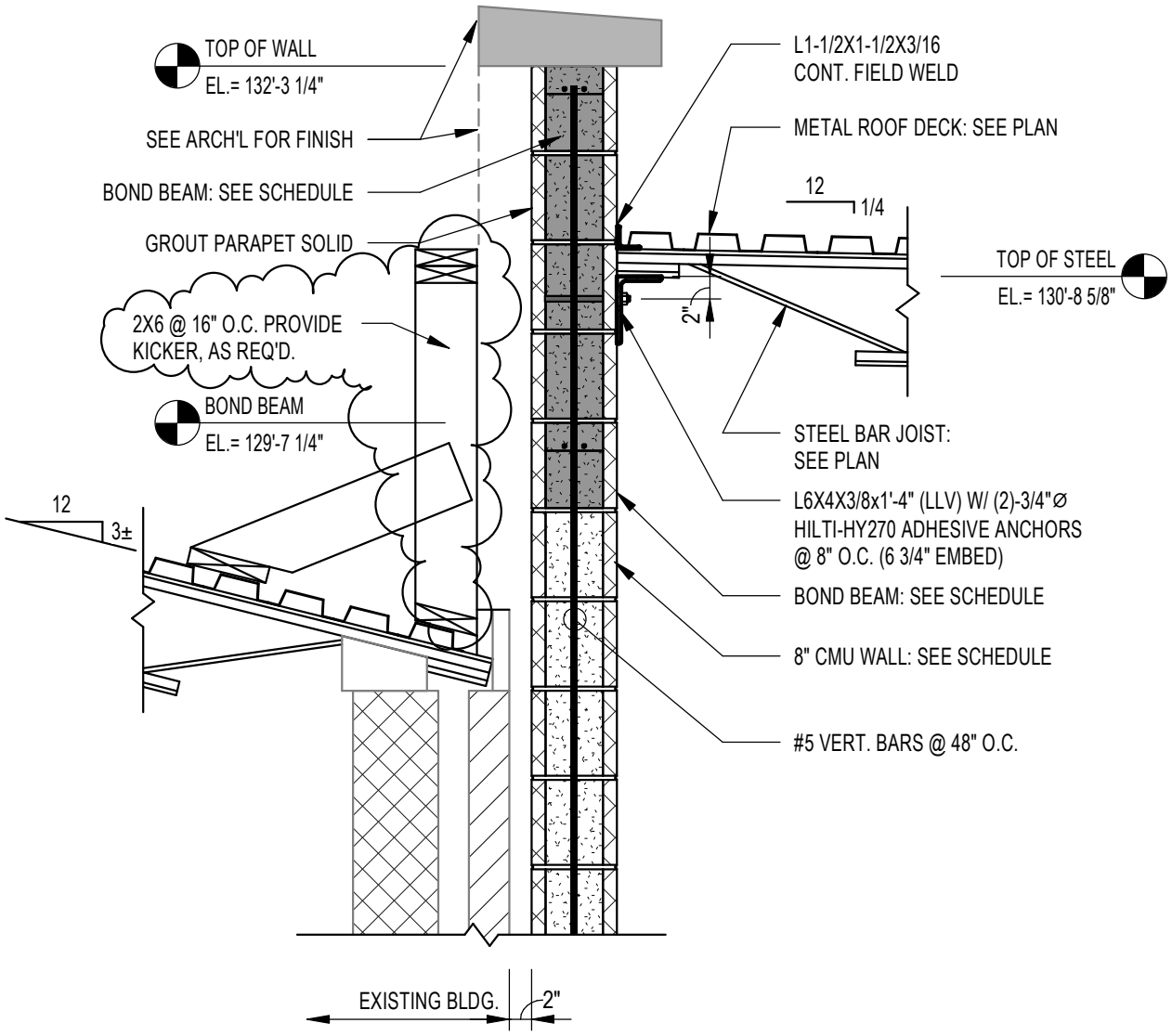
Scale: As Indicated

A6.001

A

Author: Dylan Schaffer Drawn: Brooke Wade Project Address: Linton-Stockton Addition and Renovation 10 H St NE Linton, IN 47441 Date: 10/29/2026 12:16:48 PM

Wold Architects and Engineers
528 Main Street, Suite #400
Evansville, IN 47708
woldae.com | 812 423 7729



12 FRAMING SECTION

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

RE: S303

PROJECT: **Linton-Stockton Addition and Renovation**

DATE: **09/25/2026**

COMMISSION NO:

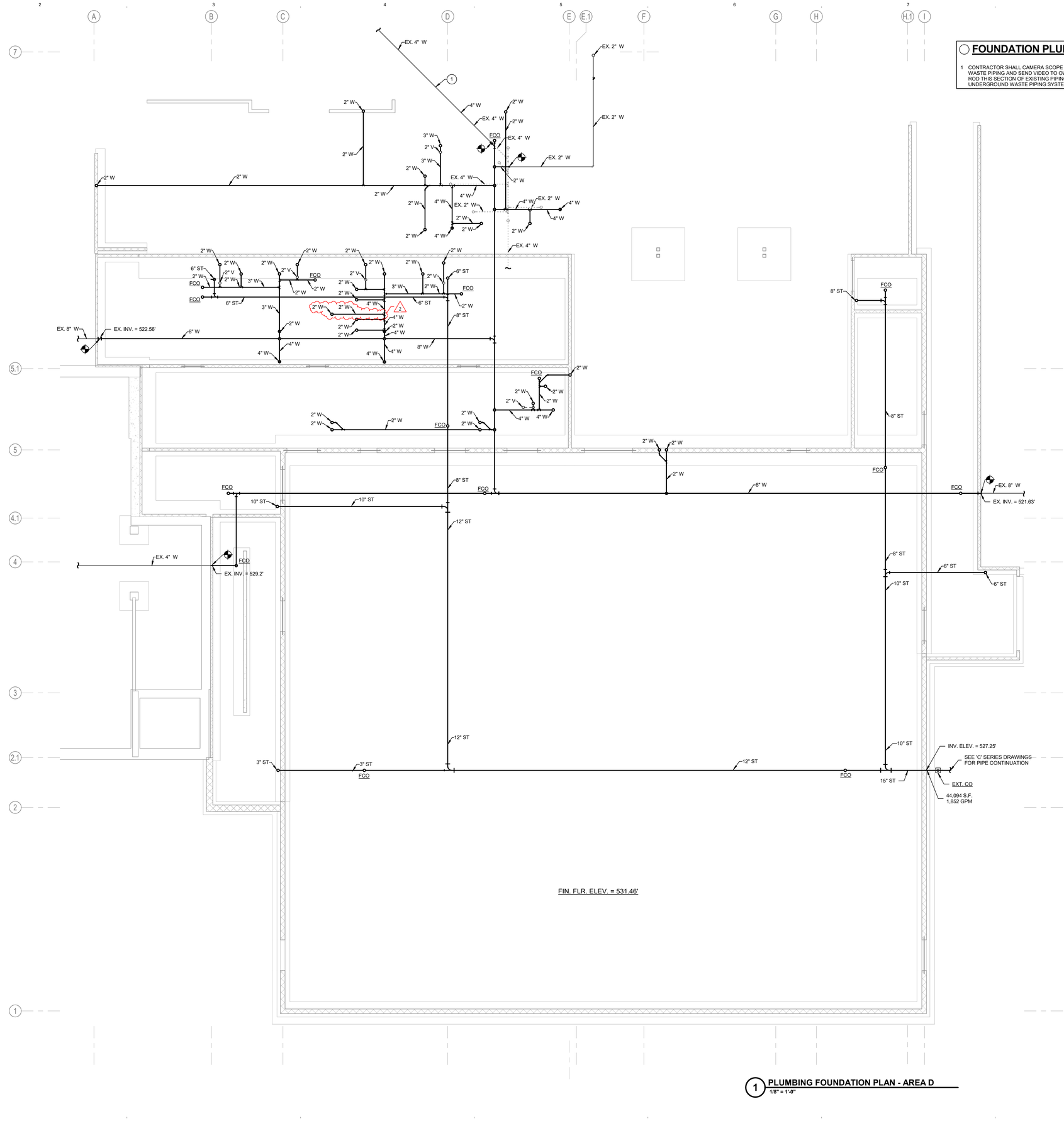
REVISIONS: 1 **Revision 1**

REV. DATE: **10/29/26**

ADD2-S1

FOUNDATION PLUMBING PLAN NOTES

1 CONTRACTOR SHALL CAMERA SCOPE THIS SECTION OF EXISTING UNDERGROUND WASTE PIPING AND SEND VIDEO TO OWNER AND ARCHITECT. WATER-JET AND OR ROD THIS SECTION OF EXISTING PIPING TO ENSURE PROPER FLOW INTO NEW UNDERGROUND WASTE PIPING SYSTEM



1 PLUMBING FOUNDATION PLAN - AREA D
1/8" = 1'-0"

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

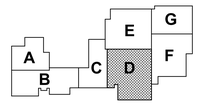
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KEY PLAN

GABRIEL S. CURDLEY REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **IOP**
Check: **LLP**

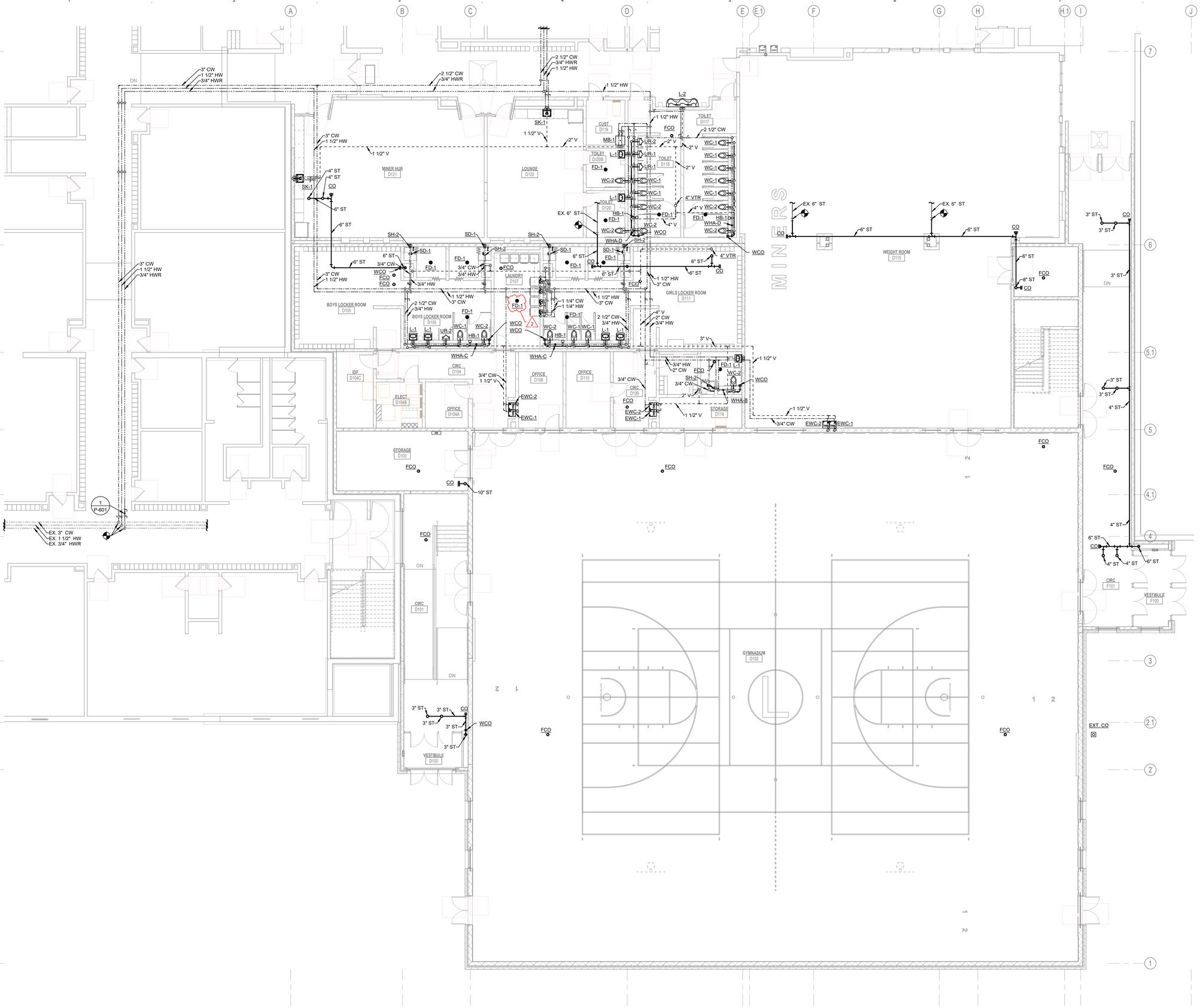
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PLUMBING FOUNDATION PLAN - AREA D

Scale: **1/8" = 1'-0"**

PF101

Autodesk Docs://Linton-Stockton Middle School Addition and Renovation/260251100_Stage2_P_2025_Central.rvt
10/27/2025 10:14:42 AM



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PLUMBING MAIN LEVEL FLOOR PLAN - AREA D

1 PLUMBING MAIN LEVEL FLOOR PLAN - AREA D
1/8" = 1'-0"

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

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Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

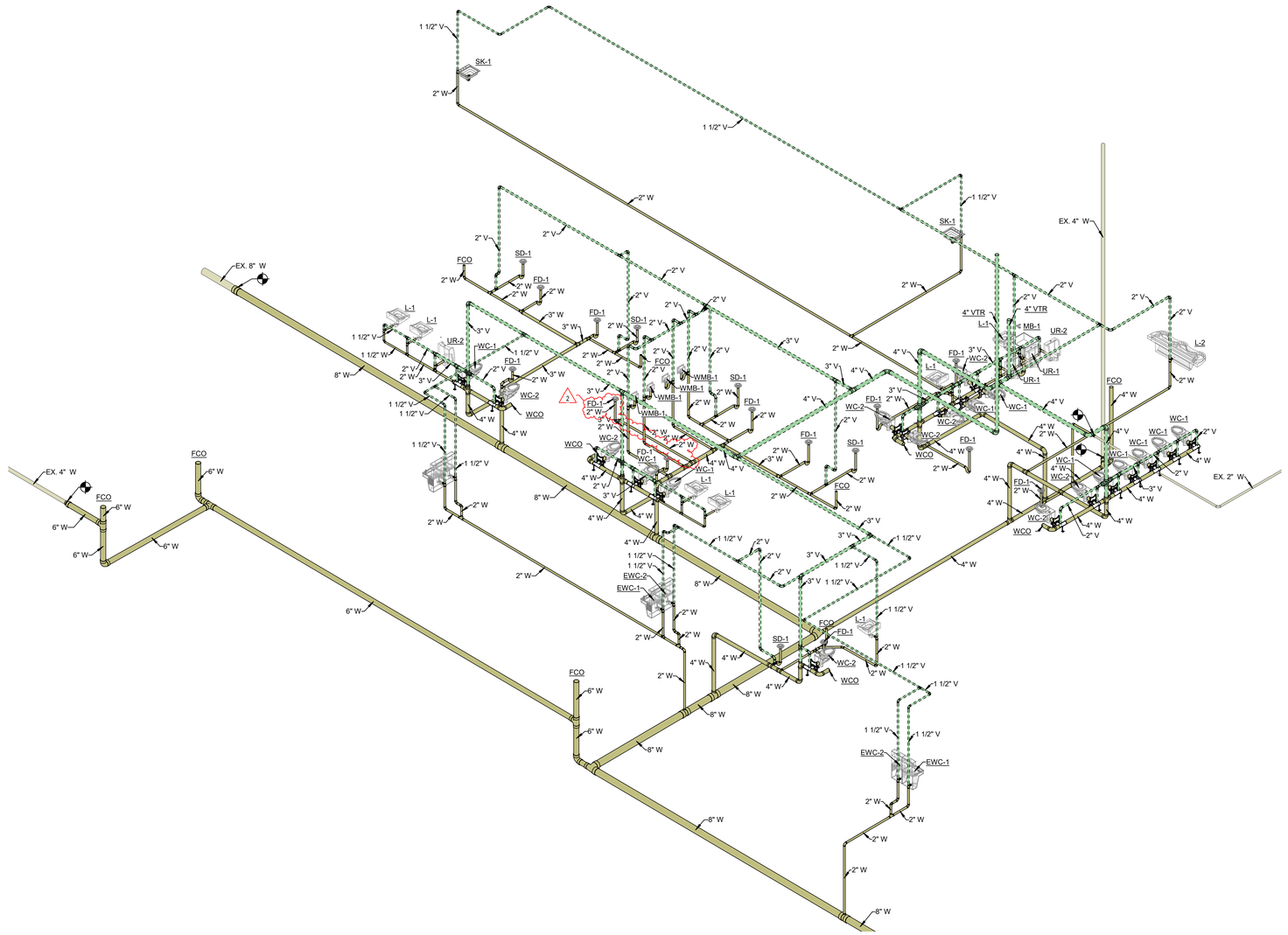
Comm: **260804037**
Date: **09/25/2026**
Drawn: **IOP**
Check: **LLP**

North

PLUMBING MAIN LEVEL FLOOR PLAN - AREA D

Scale: **1/8" = 1'-0"**

PP101



1 SANITARY WASTE AND VENT ISOMETRIC

Linton-Stockton Addition and Renovation

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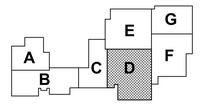
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PE10808972
STATE OF
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PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**1**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **IOP**
Check: **LLP**

North

SANITARY WASTE AND VENT ISOMETRIC

Scale:

P-902

Autodesk Docs://Linton-Stockton HS/Set Status Addition and Renovation 260804037_R25_Wold(IOP_P_902_Current.rvt
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M

POWER PLAN NOTES

21 PROVIDE POWER FOR TEMPERATURE CONTROL PANEL.
22 PROVIDE POWER FOR DOOR OPERATORS AND ACTUATORS.
23 PROVIDE RECEPTACLE(S) IN CEILING FOR GYM EQUIPMENT. COORDINATE LOCATION WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

◯ POWER PLAN NOTES

1 EXISTING FIRE ALARM CONTROL PANEL.
2 APPROXIMATE FEEDER ROUTING FOR DISTRIBUTION BOARD '1DPH1-D' AND DISCONNECT 'DS-D1'. COORDINATE WITH ALL TRADES. SEE RISER DIAGRAM ON DRAWING E-602 FOR ADDITIONAL DETAILS.
3 INSTALL DISCONNECT ABOVE CEILING. COORDINATE LOCATION IN FIELD.
4 NEW ELECTRICAL DEVICE(S). RECONNECT WIRING AND CONDUIT MAINTAINED DURING DEMOLITION. REWORK AND EXTEND WIRING AND CONDUIT AS REQUIRED.
5 PROVIDE RECEPTACLE(S) FOR TELECOM RACK. COORDINATE LOCATION WITH TELECOMMUNCATION DRAWINGS.
6 PROVIDE LEGRAND WIREMOLD 4000 SERIES OR EQUAL FOR ALL SURFACE MOUNTED ELECTRICAL DEVICES AND TELECOM DEVICES IN THIS AREA. COORDINATE WITH TELECOMMUNCATON DRAWINGS.
7 PROVIDE RECEPTACLE FOR TV/MONITOR. COORDINATE LOCATION AND MOUNTING HEIGHT WITH TELECOMMUNICATION DRAWINGS.
8 INSTALL RECEPTACLE IN MICROWAVE CABINET. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS.
9 PROVIDE NEMA 14-30R RECEPTACLES FOR DRYERS +48 INCHES AFF. PROVIDE F30 FEEDERS.
10 PROVIDE RECEPTACLES FOR WASHERS +48 INCHES AFF.
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12 PROVIDE HUBBELL SYSTEMONE (RECESSED) OR EQUAL 6-GANG FLOOR BOX FOR SCORER'S TABLE WITH TWO (2) DUPLEX RECEPTACLES ON DEDICATED CIRCUITS. COORDINATE REQUIRED TELECOM DEVICES WITH IT CONTRACTOR. EC TO PROVIDE ALL CONDUIT FOR TELECOM. COORDINATE WITH TELECOMMUNICATION DRAWINGS.
13 PROVIDE POWER FOR DOOR ACCESS CONTROL PANEL. COORDINATE WITH TELECOMMUNCATION DRAWINGS.
14 PROVIDE 24"x24"x7" LOCKABLE HINGED METAL ENCLOSURE TO INSTALL GYM EQUIPMENT CONTROLS.
15 PROVIDE POWER FOR MOTORIZED BASKETBALL BACKSTOP. CONTROLS FURNISHED BY OTHERS AND INSTALLED BY EC. EC TO PROVIDE ALL WIRING AND CONDUIT. INSTALL CONTROLS IN GYM CABINET IN STORAGE D114. CONFIRM ALL REQUIREMENTS WITH MANUFACTURER GUIDELINES.
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17 PROVIDE RECEPTACLE FOR TEACHER STATION. COORDINATE LOCATION WITH TELECOMMUNICATION DRAWINGS.
18 PROVIDE RECEPTACLE FOR SCOREBOARD. COORDINATE LOCATION IN FIELD AND INSTALL ACCORDING TO MANUFACTURER GUIDELINES.
19 COORDINATE POWER ROUTING FOR RECEPTACLE(S) WITH ANY UPPER CABINETS. COORDIANTE WITH ARCHITECTURAL DRAWINGS.
20 COORDINATE LOCATION OF ALL ELECTRICAL ITEMS IN THIS AREA WITH WALL PADDING. REFER TO ARCHITECTURAL DRAWINGS.

GENERAL POWER NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.
B PROVIDE A GEAR SUBMITTAL FOR GENERAL APPROVAL PRIOR TO CONDUCTING STUDIES. IMPLEMENT RECOMMENDATIONS TO ELECTRICAL GEAR FOR FINAL APPROVAL AFTER STUDIES ARE COMPLETED AND APPROVED.
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E PAINT ALL EXPOSED ELECTRICAL RACEWAYS AND BOXES IN FINISHED AREAS TO MATCH ADJACENT SURFACES. COORDINATE WITH DIVISION '09'.
F NOT ALL PLAN NOTES ARE USED ON THIS SHEET.



1 ELECTRICAL POWER MAIN LEVEL FLOOR PLAN - OVERALL
1" = 20'-0"

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

Linton-Stockton Schools
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KEY PLAN

DAVID L. JONES, III REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #02	10/29/2026	2

Comm: 260804037
Date: 09/25/2026
Drawn: GSR
Check: DLJ
North

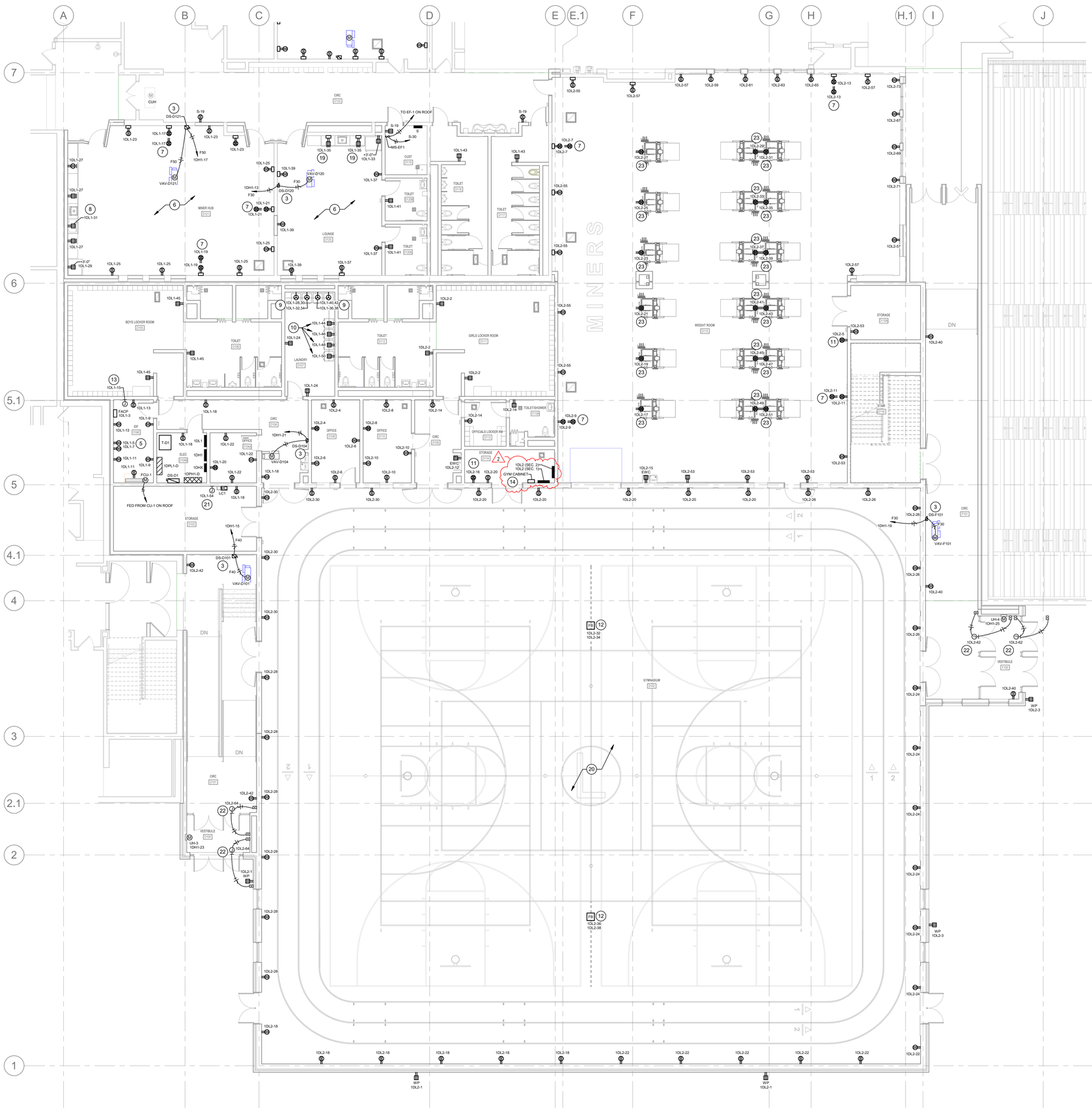
ELECTRICAL POWER MAIN LEVEL FLOOR PLAN - OVERALL

Scale: 1" = 20'-0"

EP001

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IN



GENERAL POWER NOTES

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1 ELECTRICAL POWER MAIN LEVEL FLOOR PLAN - AREA D
1/8" = 1'-0"

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

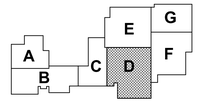
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KEY PLAN



DAVID L. JONES III
REGISTERED
NO.
PE12100175
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #01	10/22/2026	1
Addendum #02	10/29/2026	2

Comm: 260804037
Date: 09/25/2026
Drawn: GSR
Check: DLJ

North

ELECTRICAL POWER MAIN LEVEL FLOOR PLAN - AREA D

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

EP101

Autodesk Docs://Linton-Stockton Addition and Renovation/260804037-LSE_Wold_A_2026_Contractor.rvt
10/29/2026 10:11:01 AM

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1 **ELECTRICAL POWER UPPER LEVEL FLOOR PLAN - AREA D**
1/8" = 1'-0"

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POWER PLAN NOTES

1 EXISTING FIRE ALARM CONTROL PANEL.

2 APPROXIMATE FEEDER ROUTING FOR DISTRIBUTION BOARD '1DPH1-D' AND DISCONNECT 'DS-D1'. COORDINATE WITH ALL TRADES. SEE RISER DIAGRAM ON DRAWING E-602 FOR ADDITIONAL DETAILS.

3 INSTALL DISCONNECT ABOVE CEILING. COORDINATE LOCATION IN FIELD.

4 NEW ELECTRICAL DEVICE(S). RECONNECT WIRING AND CONDUIT MAINTAINED DURING DEMOLITION. REWORK AND EXTEND WIRING AND CONDUIT AS REQUIRED.

5 PROVIDE RECEPTACLE(S) FOR TELECOM RACK. COORDINATE LOCATION WITH TELECOMMUNCATION DRAWINGS.

6 PROVIDE LEGRAND WIREMOLD 4000 SERIES OR EQUAL FOR ALL SURFACE MOUNTED ELECTRICAL DEVICES AND TELECOM DEVICES IN THIS AREA. COORDINATE WITH TELECOMMUNCATON DRAWINGS.

7 PROVIDE RECEPTACLE FOR TV/MONITOR. COORDINATE LOCATION AND MOUNTING HEIGHT WITH TELECOMMUNICATION DRAWINGS.

8 INSTALL RECEPTACLE IN MICROWAVE CABINET. COORDINATE LOCATION WITH ARCHITECTURAL DRAWINGS.

9 PROVIDE NEMA 14-30R RECEPTACLES FOR DRYERS +48 INCHES AFF. PROVIDE F30 FEEDERS.

10 PROVIDE RECEPTACLES FOR WASHERS +48 INCHES AFF.

11 PROVIDE RECEPTACLE(S) FOR AV RACK. COORDINATE LOCATION WITH TELECOMMUNCATION DRAWINGS.

12 PROVIDE HUBBELL SYSTEMONE (RECESSED) OR EQUAL 6-GANG FLOOR BOX FOR SCORER'S TABLE WITH TWO (2) DUPLEX RECEPTACLES ON DEDICATED CIRCUITS. COORDINATE REQUIRED TELECOM DEVICES WITH IT CONTRACTOR. EC TO PROVIDE ALL CONDUIT FOR TELECOM. COORDINATE WITH TELECOMMUNICATION DRAWINGS.

13 PROVIDE POWER FOR DOOR ACCESS CONTROL PANEL. COORDINATE WITH TELECOMMUNCATION DRAWINGS.

14 PROVIDE 24"x24"x7" LOCKABLE HINGED METAL ENCLOSURE TO INSTALL GYM EQUIPMENT CONTROLS.

15 PROVIDE POWER FOR MOTORIZED BASKETBALL BACKSTOP. CONTROLS FURNISHED BY OTHERS AND INSTALLED BY EC. EC TO PROVIDE ALL WIRING AND CONDUIT. INSTALL CONTROLS IN GYM CABINET IN STORAGE D114. CONFIRM ALL REQUIREMENTS WITH MANUFACTURER GUIDELINES.

16 PROVIDE POWER FOR GYM DIVIDER CURTAIN. CONTROLS FURNISHED BY OTHERS AND INSTALLED BY EC. EC TO PROVIDE ALL WIRING AND CONDUIT. INSTALL CONTROLS IN GYM CABINET IN STORAGE D114. CONFIRM ALL REQUIREMENTS WITH MANUFACTURER GUIDELINES.

17 PROVIDE RECEPTACLE FOR TEACHER STATION. COORDINATE LOCATION WITH TELECOMMUNICATION DRAWINGS.

18 PROVIDE RECEPTACLE FOR SCOREBOARD. COORDINATE LOCATION IN FIELD AND INSTALL ACCORDING TO MANUFACTURER GUIDELINES.

19 COORDINATE POWER ROUTING FOR RECEPTACLE(S) WITH ANY UPPER CABINETS. COORDIANTE WITH ARCHITECTURAL DRAWINGS.

20 COORDINATE LOCATION OF ALL ELECTRICAL ITEMS IN THIS AREA WITH WALL PADDING. REFER TO ARCHITECTURAL DRAWINGS.

21 PROVIDE POWER FOR TEMPERATURE CONTROL PANEL.

22 PROVIDE POWER FOR DOOR OPERATORS AND ACTUATORS.

23 PROVIDE RECEPTACLE(S) IN CEILING FOR GYM EQUIPMENT. COORDINATE LOCATION WITH EQUIPMENT INSTALLER PRIOR TO ROUGH-IN.

24 PROVIDE POWER FOR ELECTRIC GOAL HEIGHT ADJUSTER. CONTROLS FURNISHED BY OTHERS AND INSTALLED BY EC. EC TO PROVIDE ALL WIRING AND CONDUIT. INSTALL CONTROLS IN GYM CABINET IN STORAGE D114. CONFIRM ALL REQUIREMENTS WITH MANUFACTURER GUIDELINES.

Linton-Stockton Addition and Renovation

10 H St NE
Linton, IN 47441

260804037

Linton-Stockton Schools
10 H St NE, Linton, IN 47441

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KEY PLAN

DAVID L. JONES III REGISTERED NO. PE12100175 STATE OF INDIANA PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #02	**10/29/2026**	**2**

Comm: 260804037
Date: 09/25/2026
Drawn: GSR
Check: DLJ

North

ELECTRICAL POWER UPPER LEVEL FLOOR PLAN - AREA D

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

EP102

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A

B

C

D

E

F

A

GENERAL ENLARGED POWER AND FIRE ALARM NOTES

A REFER TO EP100 SERIES DRAWINGS FOR GENERAL POWER NOTES.
B REFER TO EF100 SERIES DRAWINGS FOR GENERAL FIRE ALARM NOTES.

◯ ENLARGED POWER AND FIRE ALARM PLAN NOTES

1 INSTALL DISCONNECT ABOVE CEILING. COORDINATE LOCATION IN FIELD.
2 USE EXISTING BACK BOX TO INSTALL NEW ELECTRICAL DEVICE.
3 PROVIDE LEGRAND WIREMOLD 4000 SERIES OR EQUAL FOR ALL SURFACE MOUNTED ELECTRICAL DEVICES IN THIS AREA.
4 PROVIDE NEW FLOW AND TAMPER SWITCHES.

GENERAL ENLARGED LIGHTING NOTES

A REFER TO EL100 SERIES DRAWINGS FOR GENERAL LIGHTING NOTES.

◯ ENLARGED LIGHTING PLAN NOTES

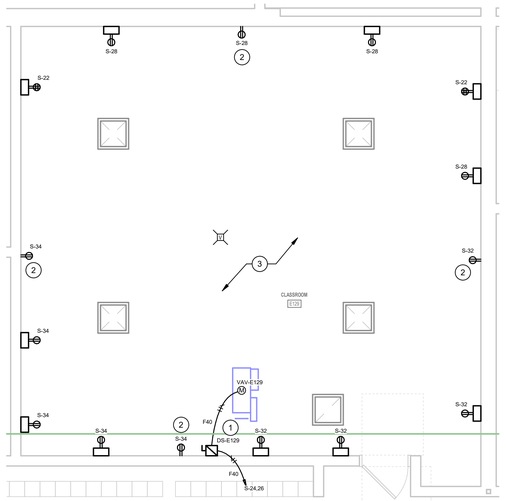
1 USE EXISTING BACK BOX TO INSTALL NEW LIGHT SWITCH(ES). PROVIDE NEW FACEPLATE.

GENERAL ENLARGED DEMOLITION NOTES

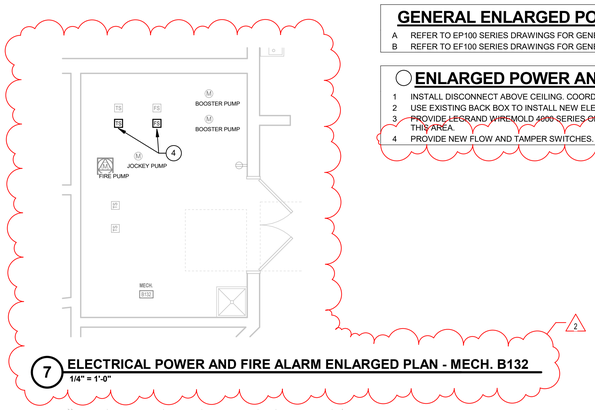
A REFER TO ED100 SERIES DRAWINGS FOR GENERAL DEMOLITION NOTES.

◇ ENLARGED DEMOLITION PLAN NOTES

1 REMOVE ALL LIGHTING, LIGHTING CONTROL DEVICES, ELECTRICAL DEVICES AND FIRE ALARM DEVICES IN THIS AREA. REMOVE ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE.
2 MECHANICAL EQUIPMENT TO BE REMOVED. REMOVE ASSOCIATED DISCONNECT, WIRING AND CONDUIT.
3 MAINTAIN RECESSED BACK BOX.

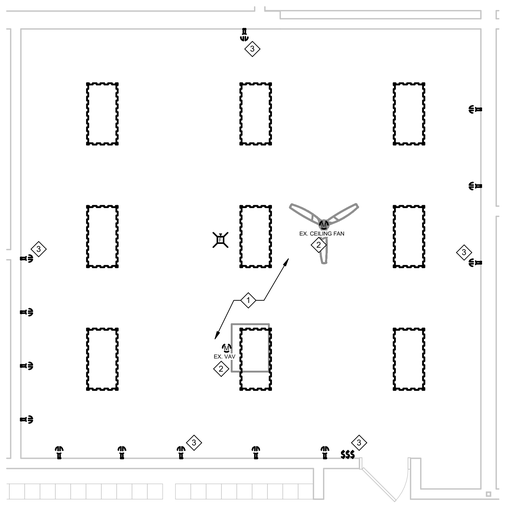


6 ELECTRICAL POWER AND FIRE ALARM ENLARGED PLAN - CLASSROOM E101
1/4" = 1'-0"



7 ELECTRICAL POWER AND FIRE ALARM ENLARGED PLAN - MECH. B132
1/4" = 1'-0"

5 ELECTRICAL LIGHTING ENLARGED PLAN - CLASSROOM E101
1/4" = 1'-0"



4 ELECTRICAL DEMOLITION ENLARGED PLAN - CLASSROOM E101
1/4" = 1'-0"

3 ELECTRICAL POWER AND FIRE ALARM ENLARGED PLAN - LOCKER ROOMS
1/4" = 1'-0"

2 ELECTRICAL LIGHTING ENLARGED PLAN - LOCKER ROOMS
1/4" = 1'-0"

1 ELECTRICAL DEMOLITION ENLARGED PLAN - LOCKER ROOMS
1/4" = 1'-0"

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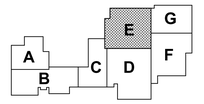
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KEY PLAN



DAVID L. JONES III
REGISTERED
NO.
PE12100175
STATE OF
INDIANA
PROFESSIONAL ENGINEER

Revisions		
Description	Date	Num
Addendum #02	10/29/2026	2

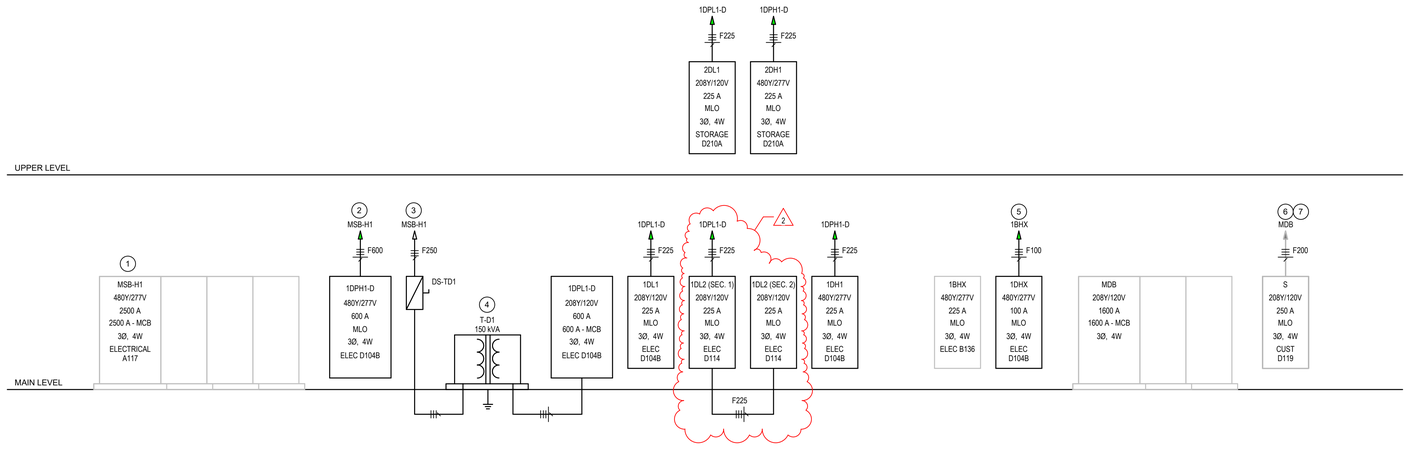
Comm: 260804037
Date: 09/25/2026
Drawn: GSR
Check: DLJ

North

ELECTRICAL ENLARGED PLANS

Scale: 1/4" = 1'-0"

E-401



1 ELECTRICAL RISER DIAGRAM
NOT TO SCALE

GENERAL RISER DIAGRAM NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B PROVIDE LABELS ON ALL EQUIPMENT MODIFIED BY THIS PROJECT. PROVIDE LABELS ON ALL JUNCTION BOXES AND CONDUITS MODIFIED OR PROVIDED BY THIS PROJECT. PROVIDE UPDATED PANELBOARD DIRECTORIES ON ALL PANELBOARDS MODIFIED BY THIS PROJECT

◯ RISER DIAGRAM NOTES

1 EXISTING SWITCHBOARD WITH FUSIBLE SWITCHES.

2 USE EXISTING FUSIBLE 600A SPARE SWITCH IN EXISTING SWITCHBOARD TO FEED NEW DISTRIBUTION BOARD. FUSE AT 600A.

3 USE EXISTING FUSIBLE 400A SPARE SWITCH IN EXISTING SWITCHBOARD TO FEED NEW DISTRIBUTION BOARD. FUSE AT 250A.

4 REFER TO LOW-VOLTAGE DISTRIBUTION TRANSFORMERS SCHEDULE FOR PRIMARY AND SECONDARY FEEDER SIZES AND ADDITIONAL DETAILS.

5 REMOVE EXISTING THREE (3) 20A SINGLE POLE SPARE BREAKERS IN EXISTING PANELBOARD "1BHX" AND PROVIDE ONE (1) NEW 60A THREE POLE BREAKER FOR NEW PANELBOARD "1DHX".

6 REWORK AND EXTEND EXISTING FEEDERS MAINTAINED DURING DEMOLITION TO NEW PANELBOARD LOCATION. VERIFY FEEDER SIZES IN FIELD.

7 REWORK AND EXTEND ALL EXISTING BRANCH/LOAD-SIDE CIRCUITS MAINTAINED DURING DEMOLITION TO NEW PANELBOARD LOCATION.

LOW-VOLTAGE DISTRIBUTION TRANSFORMERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS					VOLTAGE		CONNECTION		FEEDER SIZES		GROUNDING / BONDING		REMARKS
		KVA	PHASE	TYPE	MOUNT	NEMA ENCL	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY	GEC	SBJ / SSBJ	
T-D1	1DPL1-D	150	3	DRY	FLOOR	2	480 V	208Y/120	DELTA	WYE	F250	F600	1#2/0GND, 1"C	1#2/0GND, 1"C	

ENCLOSED SWITCHES & CIRCUIT BREAKERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS						ACCESSORIES		REMARKS
		VOLTAGE	POLES	AMPERAGE	FUSED	FUSE SIZE	NEMA ENCL	AUX. CONTACTS	SOLID NEUTRAL	
DS-CU1	CU-1/FCU-1	240 V	2	60 A	Yes	35A	3R	(1) N.O. / N.C.	No	
DS-D1	T-D1	600 V	3	400 A	Yes	250A	1	(1) N.O. / N.C.	No	
DS-D101	VAV-D101	600 V	2	60 A	Yes	35A	1	(1) N.O. / N.C.	No	
DS-D104	VAV-D104	600 V	2	30 A	Yes	20A	1	(1) N.O. / N.C.	No	
DS-D120	VAV-D120	600 V	2	30 A	Yes	25A	1	(1) N.O. / N.C.	No	
DS-D121	VAV-D121	600 V	2	60 A	Yes	45A	1	(1) N.O. / N.C.	No	
DS-D200	VAV-D200	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	
DS-D205	VAV-D205	600 V	2	30 A	Yes	15A	1	(1) N.O. / N.C.	No	
DS-D206	VAV-D206	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	
DS-D207	VAV-D207	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	
DS-D208	VAV-D208	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	
DS-D209	VAV-D209	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	
DS-D210	VAV-D210	600 V	2	60 A	Yes	35A	1	(1) N.O. / N.C.	No	
DS-E129	VAV-E129	240 V	2	60 A	Yes	40A	1	(1) N.O. / N.C.	No	
DS-F101	VAV-F101	600 V	2	30 A	Yes	30A	1	(1) N.O. / N.C.	No	

ENCLOSED & VARIABLE-FREQUENCY MOTOR CONTROLLERS SCHEDULE

LABEL	EQUIPMENT SERVED	EQUIPMENT RATINGS					STARTER		DISCONNECT SWITCH		REMOTE CAPACITOR	REMARKS
		VOLTAGE	PHASE	HP	FLA	NEMA ENCL	TYPE	NEMA SIZE	TYPE	FUSE SIZE		
MS-EF1	EF-1	120 V	1	0.17	2.8 A	-	-	-	-	-	-	HORSE POWER RATED TOGGLE SWITCH WITH MOTOR OVERLOADS.

PANELBOARD ABBREVIATIONS

FTL FEED THROUGH LUGS
MCB MAIN CIRCUIT BREAKER
MFS MAIN FUSED SWITCH
MLO MAIN LUGS ONLY
SFL SUB-FEED LUGS
SPD SURGE PROTECTION DEVICE

SWITCHBOARD/PANELBOARD NOTES

A REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.

B VERIFY PANEL / LUG SIZE REQUIRED FOR FEEDERS INDICATED ON ONE-LINE DIAGRAM. MODIFY AS REQUIRED FOR LARGER FEEDERS.

C VERIFY CONDUIT ENTRY LOCATION ON EACH PANEL.

D CONFIRM FINAL ROOM NAMES AND NUMBERS WITH OWNER PRIOR TO CREATING FINAL PANELBOARD DIRECTORIES.

E MODIFY AIC RATINGS INDICATED ON SCHEDULES, AS REQUIRED, PER SPECIFICATION SECTION 260574.99.

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 1DHX — **VOLTS:** 480Y/277 V — **MAINS RATING:** 100 A
LOCATION: ELECT D104B — **PHASES:** 3 — **MAINS TYPE:** MLO
MOUNTING: SURFACE — **WIRES:** 4
SUPPLY FROM: 1BHX — **AIC RATING:** 65,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	EM LIGHTING - EXTERIOR	20 A	1	0.11	0.29					1	20 A	EM LIGHTING - RM D201, D211, D212	2	
	3	EM LIGHTING RM D115	20 A	1			0.33	0.40			1	20 A	EM LIGHTING - RM D05 TO D210	4	
	5	EM LIGHTING - RM D103 TOT D114	20 A	1					0.73	0.99	1	20 A	EM LIGHTING - GYMNASIUM D102	6	
	7	EM LIGHTING - RM F100, F101, D116	20 A	1	0.23	0.99					1	20 A	EM LIGHTING - GYMNASIUM D102	8	
	9	EM LIGHTING - RM D117 TO D121	20 A	1			0.35	0.00			1	20 A	SPARE	10	--
	11	EM LIGHTING - CORRIDOR D101	20 A	1					0.14	0.00	1	20 A	SPARE	12	--
--	13	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	14	--
--	15	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	16	--
--	17	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	18	--
--	19	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	20	--
--	21	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	22	--
--	23	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	24	--
--	25	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	26	--
--	27	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	28	--
--	29	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	30	--
--	31	SPACE	--	1	--	--					1	--	SPACE	32	--
--	33	SPACE	--	1			--	--			1	--	SPACE	34	--
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
		TOTAL...			1.61 kVA		1.08 kVA		1.85 kVA						
		TOTAL...			6 A		4 A		7 A						
		TOTAL CONNECTED LOAD:	4539 VA								5.65 kVA	**TOTAL DEMAND LOAD:**			
		TOTAL CONNECTED AMPS:	5 A								7 A	**TOTAL DEMAND AMPS:**			

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Lighting - Interior	4434 VA	125.00%	5543 VA
C	CONTACTOR CONTROLLED	Lighting - Exterior	105 VA	100.00%	105 VA
G	GFCI PROTECTED				
P	HANDLE LOCKING DEVICE				
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 1DPL1-D — **VOLTS:** 208Y/120 V — **MAINS RATING:** 600 A
LOCATION: ELECT D104B — **PHASES:** 3 — **MAINS TYPE:** MCB
MOUNTING: SURFACE — **WIRES:** 4 — **MCB RATING:** 600 A
SUPPLY FROM: T-D1 — **AIC RATING:** 22,000 — **MCB OPTIONS:** X

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	PANEL 1DL1 ELEC D104B	225 A	3	13.61	12.59					3	225 A	PANEL 1DL2 STORAGE D114	2	
	3						14.79	12.09						4	
	5								13.68	11.73				6	
	7	PANEL 2DL1 STORAGE D210A	225 A	3	7.56	0.00					3	225 A	SPARE	8	
	9						7.02	0.00						10	--
	11								7.02	0.00				12	
--	13	SPACE	--	1	--	--					1	--	SPACE	14	--
--	15	SPACE	--	1			--	--			1	--	SPACE	16	--
--	17	SPACE	--	1					--	--	1	--	SPACE	18	--
--	19	SPACE	--	1	--	--					1	--	SPACE	20	--
--	21	SPACE	--	1			--	--			1	--	SPACE	22	--
--	23	SPACE	--	1					--	--	1	--	SPACE	24	--
--	25	SPACE	--	1	--	--					1	--	SPACE	26	--
--	27	SPACE	--	1			--	--			1	--	SPACE	28	--
--	29	SPACE	--	1					--	--	1	--	SPACE	30	--
--	31	SPACE	--	1	--	--					1	--	SPACE	32	--
--	33	SPACE	--	1			--	--			1	--	SPACE	34	--
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
		TOTAL LOAD:			33.76 kVA		33.90 kVA		32.43 kVA						
		TOTAL AMPS:			283 A		284 A		270 A						
		TOTAL CONNECTED LOAD:	59.73 kVA								59.73 kVA	**TOTAL DEMAND LOAD:**			
		TOTAL CONNECTED AMPS:	278 A								166 A	**TOTAL DEMAND AMPS:**			

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Mechanical - Motor	12973 VA	77.75%	10087 VA
C	CONTACTOR CONTROLLED	Power - Continuous	1980 VA	100.00%	1980 VA
G	GFCI PROTECTED	Other	0 VA	0.00%	0 VA
P	HANDLE LOCKING DEVICE	RECEPTACLE	84960 VA	55.89%	47480 VA
S	SHUNT TRIP	LE	180 VA	100.00%	180 VA
X	80% RATED CIRCUIT BREAKER WITH LSI				
Y	100% RATED CIRCUIT BREAKER WITH LSI				
Z	100% RATED CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

POWER DISTRIBUTION PANELBOARD SCHEDULE

DESIGNATION: 1DPH1-D — **VOLTS:** 480Y/277 V — **MAINS RATING:** 600 A
LOCATION: ELECT D104B — **PHASES:** 3 — **MAINS TYPE:** MLO
MOUNTING: SURFACE — **WIRES:** 4
SUPPLY FROM: MSB-H1 — **AIC RATING:** 65,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1				21.14	13.24								2	
	3	RTU-1 - ROOF	100 A	3			21.14	13.24			3	60 A	RTU-3 - ROOF	4	
	5								21.14	13.24				6	
	7				21.14	29.89								8	
	9	RTU-2 - ROOF	100 A	3			21.14	29.89			3	125 A	RTU-4 - ROOF	10	
	11								21.14	29.89				12	
	13				10.66	16.77								14	
	15	ERU-1 - ROOF	60 A	3			10.66	13.84			3	225 A	PANEL 2DH1 STORAGE D210A	16	
	17								10.66	14.04				18	
	19	PANEL 1DH1 ELEC D104B	225 A	3	18.18	0.00					3	225 A	SPARE	20	
	21						17.18	0.00						22	--
	23								16.22	0.00				24	
--	25	SPACE	--	1	--	--					1	--	SPACE	26	--
--	27	SPACE	--	1			--	--			1	--	SPACE	28	--
--	29	SPACE	--	1					--	--	1	--	SPACE	30	--
--	31	SPACE	--	1	--	--					1	--	SPACE	32	--
--	33	SPACE	--	1			--	--			1	--	SPACE	34	--
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
		TOTAL LOAD:			131.01 kVA		127.08 kVA		126.33 kVA						
		TOTAL AMPS:			473 A		459 A		456 A						
		TOTAL CONNECTED LOAD:	384 kVA								319.60 kVA	**TOTAL DEMAND LOAD:**			
		TOTAL CONNECTED AMPS:	462 A								384 A	**TOTAL DEMAND AMPS:**			

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Lighting - Interior	16470 VA	125.00%	20588 VA
C	CONTACTOR CONTROLLED	Lighting - Exterior	473 VA	100.00%	473 VA
G	GFCI PROTECTED	Mechanical - Motor	367474 VA	81.24%	298540 VA
P	HANDLE LOCKING DEVICE	Other	0 VA	0.00%	0 VA
S	SHUNT TRIP				
X	80% RATED CIRCUIT BREAKER WITH LSI				
Y	100% RATED CIRCUIT BREAKER WITH LSI				
Z	100% RATED CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

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Linton-Stockton Addition and Renovation

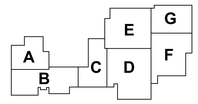
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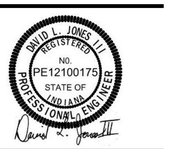
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KEY PLAN



Revisions		
Description	Date	Num
Addendum #01	**10/22/2026**	**1**
Addendum #02	**10/29/2026**	**2**

Comm: **260804037**
Date: **09/25/2026**
Drawn: **GSR**
Check: **DLJ**

North

ELECTRICAL RISER DIAGRAM AND SCHEDULES

Scale: **12" = 1'-0"**

E-602

IN

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 2DL1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: STORAGE D210A **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DPL1-D **AIC RATING:** 22,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	RECEPTACLE - CLASSROOM D210	20 A	1	0.72	0.72					1	20 A	RECEPTACLE - CLASSROOM D206	2	
	3	RECEPTACLE - CLASSROOM D210	20 A	1			0.72	0.72			1	20 A	RECEPTACLE - CLASSROOM D206	4	
	5	RECEPTACLE - CLASSROOM D210	20 A	1					0.90	0.72	1	20 A	RECEPTACLE - CLASSROOM D206	6	
	7	RECEPTACLE - CLASSROOM D210	20 A	1	0.72	0.90					1	20 A	RECEPTACLE - CLASSROOM D206	8	
	9	RECEPTACLE - CLASSROOM D209	20 A	1			0.72	0.72			1	20 A	RECEPTACLE - CIRC D212	10	
	11	RECEPTACLE - CLASSROOM D209	20 A	1					0.72	0.72	1	20 A	RECEPTACLE - MEETING D205	12	
	13	RECEPTACLE - CLASSROOM D209	20 A	1	0.72	0.54					1	20 A	RECEPTACLE - MEETING D205	14	
	15	RECEPTACLE - CLASSROOM D209	20 A	1			0.90	0.54			1	20 A	RECEPTACLE - MEETING D205	16	
	17	RECEPTACLE - CLASSROOM D208	20 A	1					0.72	0.36	1	20 A	RECEPTACLE - OFFICE D203	18	
	19	RECEPTACLE - CLASSROOM D208	20 A	1	0.72	0.54					1	20 A	RECEPTACLE - OFFICE D203	20	
	21	RECEPTACLE - CLASSROOM D208	20 A	1			0.90	0.36			1	20 A	RECEPTACLE - OFFICE D204	22	
	23	RECEPTACLE - CLASSROOM D208	20 A	1					0.72	0.54	1	20 A	RECEPTACLE - OFFICE D204	24	
	25	RECEPTACLE - CLASSROOM D207	20 A	1	0.72	0.36					1	20 A	RECEPTACLE - SM GRP D201	26	
	27	RECEPTACLE - CLASSROOM D207	20 A	1			0.72	0.72			1	20 A	RECEPTACLE - SM GRP D201	28	
	29	RECEPTACLE - CLASSROOM D207	20 A	1					0.90	0.72	1	20 A	RECEPTACLE - SM GRP D201	30	
	31	RECEPTACLE - CLASSROOM D207	20 A	1	0.72	0.18					1	20 A	TCP - STORAGE D210A	32	
--	33	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	34	--
--	35	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	36	--
--	37	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	38	--
--	39	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	40	--
--	41	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	42	--
--	43	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	44	--
--	45	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	46	--
--	47	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	48	--
--	49	SPACE	--	1	--	--					1	--	SPACE	50	--
--	51	SPACE	--	1			--	--			1	--	SPACE	52	--
--	53	SPACE	--	1					--	--	1	--	SPACE	54	--
--	55	SPACE	--	1	--	--					1	--	SPACE	56	--
--	57	SPACE	--	1			--	--			1	--	SPACE	58	--
--	59	SPACE	--	1					--	--	1	--	SPACE	60	--
			TOTAL LOAD:		7.56 kVA		7.02 kVA		7.02 kVA						
			TOTAL AMPS:		63 A		59 A		59 A						

TOTAL CONNECTED LOAD:	21.60 kVA	15.89 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	59.96 A	44 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Power - Continuous	180 VA	100.00%	180 VA
C	CONTACTOR CONTROLLED	RECEPTACLE	21420 VA	73.34%	15710 VA
G	GFCI PROTECTED				
P	HANDLE LOCKING DEVICE				
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 2DH1 **VOLTS:** 480Y/277 V **MAINS RATING:** 225 A
LOCATION: STORAGE D210A **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DPH1-D **AIC RATING:** 65,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	LIGHTING - RM D201, D211, D212	20 A	1	0.47	6.80					1	35 A	VAV-D210 - CLASSROOM D210	2	
	3	LIGHTING - RM D203 TO D207	20 A	1			1.24	6.30			1	30 A	VAV-D209 - CLASSROOM D209	4	
	5	LIGHTING - RM D208 TO D210	20 A	1					1.44	6.30	1	30 A	VAV-D208 - CLASSROOM D208	6	
--	7	SPARE	20 A	1	0.00	6.30					1	30 A	VAV-D207 - CLASSROOM D207	8	
--	9	SPARE	20 A	1			0.00	6.30			1	30 A	VAV-D206 - CLASSROOM D206	10	
--	11	SPARE	20 A	1					0.00	6.30	1	30 A	VAV-D200 - CIRC D200	12	
--	13	SPARE	20 A	1	0.00	3.20					1	15 A	VAV-D205 - MEETING D205	14	
--	15	SPARE	20 A	1			0.00	0.00			1	30 A	SPARE	16	--
--	17	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	18	--
--	19	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	20	--
--	21	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	22	--
--	23	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	24	--
--	25	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	26	--
--	27	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	28	--
--	29	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	30	--
--	31	SPACE	--	1	--	--					1	--	SPACE	32	--
--	33	SPACE	--	1			--	--			1	--	SPACE	34	--
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
			TOTAL...		16.77 kVA		13.84 kVA		14.04 kVA						
			TOTAL...		61 A		50 A		51 A						

TOTAL CONNECTED LOAD:	44650 VA	34.51 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	54 A	42 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Lighting - Interior	3150 VA	125.00%	3938 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	41500 VA	73.67%	30575 VA
G	GFCI PROTECTED	Other	0 VA	0.00%	0 VA
P	HANDLE LOCKING DEVICE				
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

EXISTING BRANCH PANELBOARD SCHEDULE

DESIGNATION: S **VOLTS:** 208Y/120 V **MAINS RATING:** 250 A
LOCATION: CUST D119 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: MDB **AIC RATING:**

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
--	1	EXISTING CIRCUIT	20 A	1	0.00	0.00					1	20 A	EXISTING CIRCUIT	2	--
--	3	EXISTING CIRCUIT	20 A	1			0.00	--			1	--	SPACE	4	--
--	5	EXISTING CIRCUIT	20 A	1					0.00	0.00	1	20 A	EXISTING CIRCUIT	6	--
--	7	EXISTING CIRCUIT	20 A	1	0.00	0.00					1	20 A	EXISTING CIRCUIT	8	--
--	9	EXISTING CIRCUIT	20 A	1			0.00	0.00			1	20 A	EXISTING CIRCUIT	10	--
--	11	EXISTING CIRCUIT	20 A	1					0.00	0.00	1	20 A	EXISTING CIRCUIT	12	--
--	13	CONCESSION STAND - NOTE 1	100 A	2	0.00	0.00					1	20 A	EXISTING CIRCUIT	14	--
	15						0.00	0.00			1	20 A	EXISTING CIRCUIT	16	--
	17	LIGHTING - RM D119, D122 (NOTE 2)	20 A	1					0.36	0.54	1	20 A	LIGHTING - CLASSROOM E129 (NOTE 2)	18	
	19	RECEPTACLE - RM D119, D122 (NOTE 2)	20 A	1	0.54	0.00					1	20 A	SPARE (NOTE 2)	20	--
	21	LIGHTING - LCKR RM E104, E105 (NOTE 2)	20 A	1			0.42	0.72			1	20 A	RECEPTACLE - CLASSROOM E129	22	
	23	RECEPTACLE - LCKR RM E104 (NOTE 2)	20 A	1					0.36	3.15	2	40 A	VAV-E129	24	
	25	RECEPTACLE - LCKR RM E105 (NOTE 2)	20 A	1	0.36	3.15							CLASSROOM E129 (NOTE 2)	26	
	27	UH-1	30 A	2			2.40	0.72			1	20 A	RECEPTACLE - CLASSROOM E129	28	
	29	LCKR E105 (NOTE 2)							2.40	0.36	1	15 A	EF-1 - ROOF (NOTE 2)	30	
	31	UH-2	30 A	2	2.40	0.72					1	20 A	RECEPTACLE - CLASSROOM E129	32	
	33	LCKR E104 (NOTE 2)					2.40	0.90			1	20 A	RECEPTACLE - CLASSROOM E129	34	
--	35	SPACE	--	1					--	--	1	--	SPACE	36	--
--	37	SPACE	--	1	--	--					1	--	SPACE	38	--
--	39	SPACE	--	1			--	--			1	--	SPACE	40	--
--	41	SPACE	--	1					--	--	1	--	SPACE	42	--
			TOTAL...		7.17 kVA		7.57 kVA		7.17 kVA						
			TOTAL...		60 A		63 A		60 A						

TOTAL CONNECTED LOAD:	21909 VA	22.43 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	61 A	62 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Lighting - Interior	1319 VA	125.00%	1649 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	16270 VA	101.19%	16463 VA
G	GFCI PROTECTED	RECEPTACLE	4320 VA	100.00%	4320 VA
P	HANDLE LOCKING DEVICE				
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:
1) F100 WIRING AND CONDUIT. TWO HOTS, ONE NEUTRAL, ONE GROUND. VERIFY IN FIELD.
2) PROVIDE NEW CIRCUIT BREAKER.

A

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2

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 1DL2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: STORAGE D114 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DL2 **AIC RATING:** 22,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	61	RECEPTACLE - WEIGHT RM D115	20 A	1	0.18	0.36					1	20 A	DOOR OPERATORS - CIRC F101	62	
	63	RECEPTACLE - WEIGHT RM D115	20 A	1			0.18	0.36			1	20 A	DOOR OPERATORS - CIRC D101	64	
	65	RECEPTACLE - WEIGHT RM D115	20 A	1					0.18	0.16	1	15 A	ADJUSTER #1 - GYMNASIUM 102	66	
	67	RECEPTACLE - WEIGHT RM D115	20 A	1	0.18	0.16					1	15 A	ADJUSTER #2 - GYMNASIUM 102	68	
	69	RECEPTACLE - WEIGHT RM D115	20 A	1			0.18	0.16			1	15 A	ADJUSTER #3 - GYMNASIUM 102	70	
	71	RECEPTACLE - WEIGHT RM D115	20 A	1					0.18	0.16	1	15 A	ADJUSTER #4 - GYMNASIUM 102	72	
	73	RECEPTACLE - WEIGHT RM D115	20 A	1	0.18	0.16					1	15 A	ADJUSTER #5 - GYMNASIUM 102	74	
--	75	SPARE	20 A	1			0.00	0.16			1	15 A	ADJUSTER #6 - GYMNASIUM 102	76	
--	77	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	78	--
--	79	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	80	--
--	81	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	82	--
--	83	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	84	--
--	85	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	86	--
--	87	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	88	--
--	89	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	90	--
--	91	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	92	--
--	93	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	94	--
--	95	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	96	--
--	97	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	98	--
--	99	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	100	--
--	101	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	102	--
--	103	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	104	--
--	105	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	106	--
--	107	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	108	--
--	109	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	110	--
--	111	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	112	--
--	113	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	114	--
--	115	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	116	--
--	117	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	118	--
--	119	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	120	--
			TOTAL LOAD:		1.21 kVA		1.03 kVA		0.67 kVA						
			TOTAL AMPS:		11 A		9 A		6 A						

TOTAL CONNECTED LOAD:	2.92 kVA	2.68 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	8.09 A	7 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Mechanical - Motor	936 VA	75.00%	702 VA
C	CONTACTOR CONTROLLED	Power - Continuous	720 VA	100.00%	720 VA
G	GFCI PROTECTED	Other	0 VA	0.00%	0 VA
P	HANDLE LOCKING DEVICE	RECEPTACLE	1260 VA	100.00%	1260 VA
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 1DL2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: STORAGE D114 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DPL1-D **AIC RATING:** 22,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	RECEPTACLE - EXTERIOR	20 A	1	0.54	0.54					1	20 A	RECEPTACLE - LCKR RM D111	2	
	3	RECEPTACLE - EXTERIOR	20 A	1			0.36	0.54			1	20 A	RECEPTACLE - OFFICE D108	4	
	5	AV RACK - WEIGHT RM D115	20 A	1					0.36	0.54	1	20 A	RECEPTACLE - OFFICE D108	6	
	7	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	0.54					1	20 A	RECEPTACLE - OFFICE D110	8	
	9	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	0.54			1	20 A	RECEPTACLE - OFFICE D110	10	
	11	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	0.50	1	20 A	EWC - CIRC D109	12	
	13	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	0.54					1	20 A	RECEPTACLE - RM D109, D113	14	
	15	RECEPTACLE - WEIGHT RM D115	20 A	1			0.50	0.36			1	20 A	RECEPTACLE - GYMNASIUM 102	16	
	17	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	1.08	1	20 A	RECEPTACLE - GYMNASIUM 102	18	
	19	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	1.08					1	20 A	RECEPTACLE - GYMNASIUM 102	20	
	21	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	1.08			1	20 A	RECEPTACLE - GYMNASIUM 102	22	
	23	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	1.08	1	20 A	RECEPTACLE - GYMNASIUM 102	24	
	25	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	0.90					1	20 A	RECEPTACLE - GYMNASIUM 102	26	
	27	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	1.08			1	20 A	RECEPTACLE - GYMNASIUM 102	28	
	29	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	0.90	1	20 A	RECEPTACLE - GYMNASIUM 102	30	
	31	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	0.18					1	20 A	FLOOR BOX - GYMNASIUM 102	32	
	33	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	0.18			1	20 A	FLOOR BOX - GYMNASIUM 102	34	
	35	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	0.18	1	20 A	FLOOR BOX - GYMNASIUM 102	36	
	37	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	0.18					1	20 A	FLOOR BOX - GYMNASIUM 102	38	
	39	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	0.54			1	20 A	RECEPTACLE - CIRC F101	40	
	41	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	0.36	1	20 A	RECEPTACLE - CIRC D101	42	
	43	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	1.14					1	20 A	BACKSTOP #1 - GYMNASIUM 102	44	
	45	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	1.14			1	20 A	BACKSTOP #2 - GYMNASIUM 102	46	
	47	RECEPTACLE - WEIGHT RM D115	20 A	1					0.36	1.14	1	20 A	BACKSTOP #3 - GYMNASIUM 102	48	
	49	RECEPTACLE - WEIGHT RM D115	20 A	1	0.36	1.14					1	20 A	BACKSTOP #4 - GYMNASIUM 102	50	
	51	RECEPTACLE - WEIGHT RM D115	20 A	1			0.36	1.14			1	20 A	BACKSTOP #5 - GYMNASIUM 102	52	
	53	RECEPTACLE - WEIGHT RM D115	20 A	1					0.90	1.14	1	20 A	BACKSTOP #6 - GYMNASIUM 102	54	
	55	RECEPTACLE - WEIGHT RM D115	20 A	1	0.90	0.82					1	15 A	DIVIDER CURTAIN - GYMNASIUM 102	56	
	57	RECEPTACLE - WEIGHT RM D115	20 A	1			0.90	0.18			1	20 A	SCOREBOARD - GYMNASIUM 102	58	
	59	RECEPTACLE - WEIGHT RM D115	20 A	1					0.18	0.18	1	20 A	SCOREBOARD - GYMNASIUM 102	60	
			TOTAL LOAD:		12.59 kVA		12.09 kVA		11.73 kVA						
			TOTAL AMPS:		105 A		101 A		98 A						

TOTAL CONNECTED LOAD:	36.41 kVA	25.28 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	101.07 A	70 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Mechanical - Motor	8592 VA	69.90%	6006 VA
C	CONTACTOR CONTROLLED	Power - Continuous	720 VA	100.00%	720 VA
G	GFCI PROTECTED	Other	0 VA	0.00%	0 VA
P	HANDLE LOCKING DEVICE	RECEPTACLE	27100 VA	68.45%	18550 VA
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES: FEED-THROUGH LUGS.

PANELBOARD ABBREVIATIONS

FTL	FEED THROUGH LUGS
MCB	MAIN CIRCUIT BREAKER
MFS	MAIN FUSED SWITCH
MLO	MAIN LUGS ONLY
SFL	SUB-FEED LUGS
SPD	SURGE PROTECTION DEVICE

SWITCHBOARD/PANELBOARD NOTES

A. REFER TO ELECTRICAL SYMBOLS AND ABBREVIATIONS SHEET E-001 FOR ADDITIONAL INFORMATION.
B. VERIFY PANEL / LUG SIZE REQUIRED FOR FEEDERS INDICATED ON ONE-LINE DIAGRAM. MODIFY AS REQUIRED FOR LARGER FEEDERS.
C. VERIFY CONDUIT ENTRY LOCATION ON EACH PANEL.
D. CONFIRM FINAL ROOM NAMES AND NUMBERS WITH OWNER PRIOR TO CREATING FINAL PANELBOARD DIRECTORIES.
E. MODIFY AIC RATINGS INDICATED ON SCHEDULES, AS REQUIRED, PER SPECIFICATION SECTION 260574.99.

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 1DL1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELECT D104B **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DPL1-D **AIC RATING:** 22,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	LIGHTING CONTACTOR LC1	20 A	1	0.18	2.01					2	35 A	FCU-1/CU-1	2	
	3	FACP - IDF D104C	20 A	1			0.36	2.01					ROOF	4	
	5	RECEPTACLE - IDF D104C	20 A	1					0.18	0.18	1	20 A	RECEPTACLE - ROOF	6	
	7	RECEPTACLE - IDF D104C	20 A	1	0.18	0.18					1	20 A	RECEPTACLE - ROOF	8	
	9	RECEPTACLE - IDF D104C	20 A	1			0.36	0.18			1	20 A	RECEPTACLE - ROOF	10	
	11	RECEPTACLE - IDF D104C	20 A	1					0.36	0.18	1	20 A	RECEPTACLE - ROOF	12	
	13	RECEPTACLE - IDF D104C	20 A	1	0.36	0.18					1	20 A	RECEPTACLE - ROOF	14	
	15	ACCESS CONTROL - IDF D104C	20 A	1			0.18	0.18			1	20 A	RECEPTACLE - ROOF	16	
	17	RECEPTACLE - MINER HUB D121	20 A	1					1.08	0.72	1	20 A	RECEPTACLE - CIRC 104, ELEC D104B	18	
	19	RECEPTACLE - MINER HUB D121	20 A	1	0.36	0.36					1	20 A	RECEPTACLE - OFFICE D104A	20	
	21	RECEPTACLE - MINER HUB D121	20 A	1			0.36	0.54			1	20 A	RECEPTACLE - OFFICE D104A	22	
	23	RECEPTACLE - MINER HUB D121	20 A	1					0.72	0.36	1	20 A	RECEPTACLE - LAUNDRY D107	24	
	25	RECEPTACLE - MINER HUB D121	20 A	1	0.90	0.00					1	20 A	SPARE	26	--
	27	RECEPTACLE - MINER HUB D121	20 A	1			0.54	2.50			2	30 A	DRYER - LAUNDRY D107	28	G
	29	REFRIGERATOR - MINER HUB D121	20 A	1					0.50	2.50				30	
	31	MICROWAVE - MINER HUB D121	20 A	1	1.00	2.50					2	30 A	DRYER - LAUNDRY D107	32	G
	33	REFRIGERATOR - LOUNGE D120	20 A	1			0.50	2.50						34	
	35	RECEPTACLE - LOUNGE D120	20 A	1					0.36	2.50	2	30 A	DRYER - LAUNDRY D107	36	G
	37	RECEPTACLE - LOUNGE D120	20 A	1	0.54	2.50								38	
	39	RECEPTACLE - LOUNGE D120	20 A	1			0.54	2.50			2	30 A	DRYER - LAUNDRY D107	40	G
	41	RECEPTACLE - TOILET D120A, D120B	20 A	1					0.36	2.50				42	
	43	RECEPTACLE - RR D117, D118	20 A	1	0.36	1.00					1	20 A	WASHER - LAUNDRY D107	44	
	45	RECEPTACLE - LCKR RM D105	20 A	1			0.54	1.00			1	20 A	WASHER - LAUNDRY D107	46	
--	47	SPARE	20 A	1					0.00	1.00	1	20 A	WASHER - LAUNDRY D107	48	
--	49	SPARE	20 A	1	0.00	1.00					1	20 A	WASHER - LAUNDRY D107	50	
--	51	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	52	--
--	53	SPARE	20 A	1					0.00	0.18	1	20 A	TCP - STORAGE D103	54	
--	55	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	56	--
--	57	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	58	--
--	59	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	60	--
			TOTAL LOAD:		13.61 kVA		14.79 kVA		13.68 kVA						
			TOTAL AMPS:		113 A		123 A		114 A						

TOTAL CONNECTED LOAD:	42.08 kVA	29.69 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	116.81 A	82 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Mechanical - Motor	4381 VA	118.84%	5206 VA
C	CONTACTOR CONTROLLED	Power - Continuous	1080 VA	100.00%	1080 VA
G	GFCI PROTECTED	RECEPTACLE	36440 VA	63.72%	23220 VA
P	HANDLE LOCKING DEVICE	LE	180 VA	100.00%	180 VA
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 1DH1 **VOLTS:** 480Y/277 V **MAINS RATING:** 225 A
LOCATION: ELECT D104B **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 1DPH1-D **AIC RATING:** 65,000

O	CKT NO.	DESCRIPTION	TRIP	P	A		B		C		P	TRIP	DESCRIPTION	CKT NO.	O
	1	LIGHTING - EXTERIOR	20 A	1	0.14	0.33					1	20 A	LIGHTING - EXTERIOR POLES	2	
	3	LIGHTING - WEIGHT RM D115	20 A	1			0.76	0.80			1	20 A	LIGHTING - WEIGHT RM D115	4	
	5	LIGHTING - RM D103 TO D108	20 A	1					0.75	0.48	1	20 A	LIGHTING - RM D109 TO D114	6	
	7	LIGHTING - RM F100, F101, D116	20 A	1	0.40	0.78					1	20 A	LIGHTING - GYMNASIUM D102	8	
	9	LIGHTING - RM D117 TO D121	20 A	1			1.00	1.17			1	20 A	LIGHTING - GYMNASIUM D102	10	
	11	LIGHTING - CORRIDOR D101	20 A	1					0.16	1.37	1	20 A	LIGHTING - GYMNASIUM D102	12	
	13	VAV-D120 - LOUNGE D120	25 A	1	4.70	1.17					1	20 A	LIGHTING - GYMNASIUM D102	14	
	15	VAV-D101 - CORRIDOR D101	35 A	1			7.00	1.17			1	20 A	LIGHTING - GYMNASIUM D102	16	
	17	VAV-D121 - CLASSROOM D121	45 A	1					9.50	0.98	1	20 A	LIGHTING - GYMNASIUM D102	18	
	19	VAV-F101 - CORRIDOR F101	30 A	1	6.30	1.37					1	20 A	LIGHTING - GYMNASIUM D102	20	
	21	VAV-D104 - CIRC D104	20 A	1			4.30	0.98			1	20 A	LIGHTING - GYMNASIUM D102	22	
	23	UH-3 - VESTIBULE D100	15 A	1					2.99	0.00	1	20 A	SPARE	24	--
	25	UH-4 - VESTIBULE F100	15 A	1	2.99	0.00					1	20 A	SPARE	26	--
--	27	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	28	--
--	29	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	30	--
--	31	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	32	--
--	33	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	34	--
--	35	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	36	--
--	37	SPARE	20 A	1	0.00	0.00					1	20 A	SPARE	38	--
--	39	SPARE	20 A	1			0.00	0.00			1	20 A	SPARE	40	--
--	41	SPARE	20 A	1					0.00	0.00	1	20 A	SPARE	42	--
--	43	SPACE	--	1	--	--					1	--	SPACE	44	--
--	45	SPACE	--	1			--	--			1	--	SPACE	46	--
--	47	SPACE	--	1					--	--	1	--	SPACE	48	--
--	49	SPACE	--	1	--	--					1	--	SPACE	50	--
--	51	SPACE	--	1			--	--			1	--	SPACE	52	--
--	53	SPACE	--	1					--	--	1	--	SPACE	54	--
--	55	SPACE	--	1	--	--					1	--	SPACE	56	--
--	57	SPACE	--	1			--	--			1	--	SPACE	58	--
--	59	SPACE	--	1					--	--	1	--	SPACE	60	--
			TOTAL...		18.18 kVA		17.18 kVA		16.22 kVA						
			TOTAL...		66 A		63 A		59 A						

TOTAL CONNECTED LOAD:	51576 VA	48.21 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	62 A	58 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Lighting - Interior	13320 VA	125.00%	16650 VA
C	CONTACTOR CONTROLLED	Lighting - Exterior	473 VA	100.00%	473 VA
G	GFCI PROTECTED	Mechanical - Motor	37783 VA	82.29%	31092 VA
P	HANDLE LOCKING DEVICE	Other	0 VA	0.00%	0 VA
S	SHUNT TRIP				
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI				
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI				
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG				
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

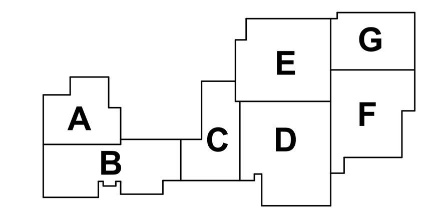
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Linton, IN 47441

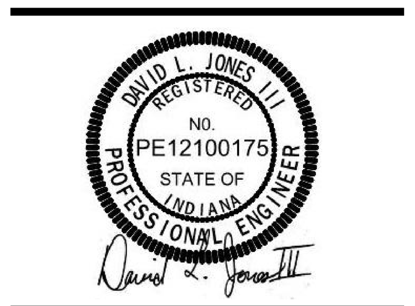
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KEY PLAN



Revisions		
Description	Date	Num
Addendum #01	10/22/2026	1
Addendum #02	10/29/2026	2

Comm: 260804037
Date: 09/25/2026
Drawn: GSR
Check: DLJ

North

ELECTRICAL PANELBOARD SCHEDULES

Scale:

E-603