ADDENDUM NO. 02

June 10, 2022

Franklin Township – New Elementary
5120 Senour Rd.
Indianapolis, IN, 46239

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 May 11, 2022, by Schmidt Associates. 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 – 5, Specification Sections 00 43 50 – Sub and Products, and attached Schmidt Associates Addendum 2 dated June 9, 2022, consisting of 6 pages and Specification Sections 05 44 00 Cold-Formed Metal Trusses, 07 24 19 Water Drainage Exterior Insulation and Finish System, 07 27 13 Modified Bituminous Sheet Air Barriers, 10 14 26 Post and Panel Pylon Signage, 11 54 13 Kilns, 23 73 13 Modular Indoor Central – Station Air Handling Units, 23 74 16.13 Hydronic Rooftop Air-Conditioning Units, 32 93 00.99 Native Plantings, Updated Specification Sections 05 40 00 Cold-Formed Metal Framing, 07 54 23 Thermoplastic Polyolefin (TPO) Roofing, 07 72 53 Snow Guards, 08 11 13 Hollow Metal Doors And Frames, 08 41 26 All-Glass Entrances and Storefronts, 08 90 00 Louvers And Vents, 09 51 13 Acoustical Panel Ceilings, 11 66 23 Gymnasium Equipment, 11 68 00 Play Field Equipment and Structures, 12 66 00 Telescoping Stands, 12 93 00 Site Furnishings, 14 24 00 Hydraulic Elevators, 32 31 13 Chain Link Fences and Gates, 32 31 19 Decorative Metal Fence and Gates. Addendum Drawings CL101, CL102, CL501, CG101, CU101, CU102, S1AF, S1BF, S1CF, S1DF, S2AF, S2BF, S3AR, S3BR, S-401, S-402, S-501, S-700, IN1A1, IN1B, IN1A2, I-202, I-401, A-001, AF1A1, AF1B1, AF1A2, AF1B2, AC1A2, AC1B2, AC1C1, AC1C2, AC1D2, AR101, A-302, A-311, A-314, A-321, A-323, A-402, A-500, A-511, A-600, A-601, QK101, QK200, QK401, QK402, MH1B1, MP1A1, MP1A2, MP1B2, FP102, PF1B1, PP1A1, PP1B1, PP1A2, PP1B2, P-501, P-601, P-905, P-913, ES101, ES102, ES103, ES104, EL1A1, EP1A1, EP1A2, EP1B1, EP1B2, EP1C2, EP1D2, E-402, E-403, ER101, E-401, E-402, E-403, E-605, E-606, E-607, E-609, E-610, E-611, E-612, TF1A1, TF1A2, TF1C1, TF1C2, TF1D1, and TF1D2.

GENERAL NOTE

Below is the link for the Optional Virtual Bid Opening, which Bids are due June 16, at 2:00PM (local time)

Microsoft Teams meeting

Join on your computer or mobile app

Click here to join the meeting

Or call in (audio only)

+1 317-762-3960,,489806975# United States, Indianapolis

Phone Conference ID: 489 806 975#

A. **SPECIFICATION SECTION 00 43 50 SUBCONTRACTORS AND PRODUCTS LISTS**

1. Reissued Specification Section is attached herein.

B. **SPECIFICATION SECTION 01 12 00 MULTIPLE CONTRACT SUMMARY**

1. Paragraph 3.03 Bid Categories

A. BID CATEGORY NO. 01 – SITE DEMOLITION, EARTHWORK & SITE UTILITIES

Add the following specification section:
01 53 20 Tree and Plant Protection

Add the following clarifications:
8. Provide 1' wide concrete channels as referenced in site layout note 29 on sheet CL101.
9. Provide connection of playground underdrainage to storm structure.

B. BID CATEGORY NO. 02 GENERAL TRADES

Add the following specification section:
07 17 00 Bentonite Waterproofing
10 14 26 Post and Panel Pylon Signage
32 93 00.99 Native Plantings

Delete the following clarifications:
10. Delete clarification which states "Provide all foundation insulation." Foundation insulation will be provided by Bid Category No. 4.

Add the following clarifications:
15. Bid Category 1 to provide 1' wide concrete channels as referenced in site layout note 29 on sheet CL101.
16. Provide factory installed glazing in all doors indicated to be factory finished.

17. Provide playground underdrainage, geotextile fabric and aggregate subbase/stone drainage course. Bid Category 1 to provide playground underdrainage connection to storm structure.
18. Provide monument sign electronic message board as referenced in detail 5D/CL501.
19. Provide 3-inch depth river rock with aluminum edge and weed barrier per note 32 on Civil sheets CL101 and CL102.
20. Provide 3-inch depth, 1-foot wide dusty 12's stone strip with spade edge and weed barrier per note 34 on Civil sheets CL101 and CL102.
21. Specification Section 120050.99 Cafeteria Furniture & Equipment only includes mobile trash receptacles. Reference interior floor plan note #25 on sheet IN1B1 for product requirements.
22. Provide all wood panel sheathing at Head/Sill opening.

D. BID CATEGORY NO. 04 – MASONRY

Delete the following specification section:
07 17 00 Bentonite Waterproofing

Add the following specification section:
07 27 13 Modified Bituminous Sheet Air Barriers

Add the following clarifications:
3. Provide all foundation insulation.
4. Provide air barrier at all exterior walls.

F. BID CATEGORY NO. 06 – ALUMINUM ENTRANCES & STOREFRONT

Delete the following clarifications:
4. Bid Category 2 to provide factory installed glazing in all doors indicated to be factory finished.

G. BID CATEGORY NO. 07 – METAL FRAMING, DRYWALL & CEILINGS

Delete the following specification section:
07 84 13 Penetration Firestopping

Add the following specification section:
05 44 00 Cold-Formed Metal Trusses
07 24 19 Water Drainage Exterior Insulation and Finish System

Delete the following clarifications:
4. Delete clarification which states "Bid Category No. 10, 12, 13 and 14 to provide through-penetration firestopping for their own work."

Add the following clarifications:
4. Bid Category No. 4 to provide exterior cavity wall insulation.
5. Bid Category No. 5 to provide sheathing within roof system. (Including Insulated Parapet Sheathing)

K. BID CATEGORY NO. 11 – CASEWORK & MILLWORK

Add the following specification section:
11 51 23 Library Stack Systems

Add the following clarifications:
2. Include ¾" wood panel sheathing and tackable display board on back wall of display case. Reference detail 6D/A500.
3. Include ¾" wood panel sheathing beneath plastic laminate as referenced in detail 2A/A320, 4A/A320, and 6A/A320.

M. BID CATEGORY NO. 13 – PLUMBING & HVAC

Add the following specification section:
23 73 13 Modular Indoor Central – Station Air Handling Units
23 74 16.13 Hydronic Rooftop Air-Conditioning Units
11 54 13 Kilns

Add the following clarifications:
6. Provide Kiln and all related products included in specification section 11 54 13 Kilns. The Kiln will not be provided by owner.

N. BID CATEGORY NO. 14 – Electrical & Technology

Add the following specification section:
06 10 53 Miscellaneous Rough Carpentry

Add the following clarifications:
10. Bid Category 14 will support Owner efforts to receive a utility rebate for this project. This will include providing the required information in a timely basis. Information may include, but is not limited to, invoices or subcontractor invoices showing quantities and unit costs of equipment installed, as well as labor costs to install. An itemized invoice is preferred but other documentation will be considered by Owner if it is acceptable to the utility.
11. Provide plywood backing panels per Telecommunications plan note 15.

C. **SPECIFICATION SECTION 01 32 00 SCHEDULES AND REPORTS**

1. Project Guideline Schedule is attached herein.

ADDENDUM NO. 2
JUNE 09, 2022

PREPARED BY SCHMIDT ASSOCIATES FOR:
FRANKLIN TOWNSHIP NEW ELEMENTARY SCHOOL
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION

This Addendum consists of 6 Addendum pages and 266 attachment pages totaling 272 pages.

Acknowledge receipt of this Addendum by inserting its number on the Bid Form. Failure to do so may subject the Bid to disqualification. This Addendum is part of the Contract Documents.

Bidder is encouraged to verify with reprographer of record all Addenda issued (do not rely exclusively on third party plan room services).

PART 1 - CHANGES TO PRIOR ADDENDA (NOT APPLICABLE)

PART 2 - CHANGES TO THE PROJECT MANUAL

Modifications described herein shall be incorporated in the Project Manual. All other Work shall remain unchanged.

2.1 DIVISION 05 – METALS

A. **Section 054000 "COLD-FORMED METAL FRAMING"**

1. DELETE AND REPLACE Section 054000 per the attached.

B. **Section 054400 "COLD-FORMED METAL FRAMING"**

1. ADD Section 054400 per the attached.

2.2 DIVISION 06 – WOOD, PLASTICS, AND COMPOSITES

A. **Section 064023 "INTERIOR ARCHITECTURAL WOODWORK"**

1. ADD Subparagraph 1.2.A.7. as follows:

   "7. Custom Doors and Frames."

2. ADD Article 2.10 as follows:

   "2.10 CUSTOM DOORS AND FRAMES

   A. Provide custom doors and frames as indicated on Drawings. Provide accessories, finishing, and hardware as indicated on Drawings and specified in this Section and Section 123200.

1. Accessories and Hardware:
   a. Pre-plated continuous 19 guage steel hinge.
   b. Door stop with rubber bumper.
   c. Magnetic catch.
   d. Aluminum angle.
   e. Wire door pulls matching manufactured wood casework.
   f. Locks, keyed alike matching manufactured wood casework.
2. Plastic Laminate Pattern and Color:
   a. PL-2: Wilsonart, Pewter Mesh 4878-38."

2.3 DIVISION 07 – THERMAL AND MOISTURE PROTECTION

A. **Section 072419 "WATER DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM"**

1. ADD Section 072419 per the attached.

B. **Section 072713** "**MODIFIED BITUMINOUS SHEET AIR BARRIERS**"

1. ADD Section 072713 per the attached.

C. **Section 075423** "**THERMOPLASTIC POLYOLEFIN (TOP) ROOFING**"

1. DELETE AND REPLACE Section 075423 per the attached.

D. **Section 077253** "**SNOW GUARDS**"

1. DELETE AND REPLACE Section 077253 per the attached.

2.4 DIVISION 08 – OPENINGS

A. **Section 081113 "HOLLOW METAL DOORS AND FRAMES"**

1. DELETE AND REPLACE Section 081113 per the attached.

B. **Section 084126 "ALUMINUM FRAMED ENTRANCES AND STOREFRONTS"**

1. DELETE AND REPLACE Section 084126 per the attached.

C. **Section 089000 "LOUVERS AND VENTS"**

1. DELETE AND REPLACE Section 089000 per the attached.

2.5 DIVISION 09 – FINISHES

A. **Section 092216 "NON-STRUCTURAL METAL FRAMING"**

1. DELETE AND REPLACE Subparagraph 2.2.B.1.b. as follows:

"Minimum Base-Steel Thickness: 0.0329 inch."

2.6 DIVISION 10 – SPECIALTIES

A. **Section 101426 "POST AND PANEL PYLON SIGNAGE"**

1. ADD Section 101426 per the attached.

2.7 DIVISION 11 – EQUIPMENT

A. **Section 115413 "KILNS"**

1. ADD Section 115413 per the attached.

B. **Section 116623 "GYMNASIUM EQUIPMENT"**

1. DELETE AND REPLACE Section 116623 per the attached.

C. **Section 116800 "PLAY FIELD EQUIPMENT AND STRUCTURES"**

1. DELETE AND REPLACE Section 116800 per the attached.

2. ADD Playcraft Equipment drawings to Section 116800 per the attached.

2.8 DIVISION 12 – FURNISHINGS

A. **Section 123200 "MANUFACTURED WOOD CASEWORK"**

1. DELETE AND REPLACE Paragraph 2.6.B. as follows:

"Butt Hinges: Chrome-plated, semiconcealed, 5-knuckle hinges complying with BHMA A156.9, Grade 1, with antifriction bearings and rounded tips. Provide 2 hinges for doors less than 48 inches high and 3 hinges for doors more than 48 inches high."

A. **Section 126600 "TELESCOPING STANDS"**

1. DELETE AND REPLACE Section 126600 per the attached

B. **Section 129300 "SITE FURNISHINGS**"

1. DELETE AND REPLACE Section 129300 per the attached.

2.9 DIVISION 14 - CONVEYING EQUIPMENT

A. **Section 142400 "HYDRAULIC ELEEVATORS"**

1. DELETE AND REPLACE Section 142400 per the attached.

2.10 DIVISION 23 - HEATING, VENTILATING, AND AIR-CONDITIONING(HVAC)

A. **Section 236426.21 "AIR-COOLED, ROTARY-SCREW WATER CHILLERS"**

1. DELETE Subparagraph 2.2.A.4 in its entirety.

B. **Section 237313** "**MODULAR INDOOR CENTRAL – STATION AIR HANDLING UNITS**"

1. ADD Section 237313 per the attached.

C. **Section 237416.13 "HYDRONIC ROOFTOP AIR-CONDITIONING UNITS"**

1. ADD Section 237416.13 in its entirety.

D. **Section 238219 "FAN COIL UNITS"**

1. INSERT Paragraph 2.2.A.16 as follows.

   "16. Krueger"

2.11 DIVISION 32 - EXTERIOR IMPROVEMENTS

A. **Section 323113 "CHAINLINK FENCE AND GATES"**

1. DELETE AND REPLACE Section 323113 per the attached.

B. **Section 323119 "DECORATIVE METAL FENCE AND GATES**"

1. DELETE AND REPLACE Section 323119 per the attached.

C. **Section 329300.99 "NATIVE PLANTINGS"**

1. ADD section 329300.99 per the attached.

PART 3 - CHANGES TO THE DRAWINGS

Modifications described herein shall be incorporated in the Drawings. All other Work shall remain un-changed.

3.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS

DRAWING NO.	INDICATE ACTION: REPLACE (R), ADD (A), DELETE (D)
C-SERIES DRAWINGS	
CL101	DELETE AND REPLACE
CL102	DELETE AND REPLACE
CL501	DELETE AND REPLACE
CG101	DELETE AND REPLACE

CU101	DELETE AND REPLACE
CU102	DELETE AND REPLACE
S-SERIES DRAWINGS	
S1AF	DELETE AND REPLACE
S1BF	DELETE AND REPLACE
S1CF	DELETE AND REPLACE
S1DF	DELETE AND REPLACE
S2AF	DELETE AND REPLACE
S2BF	DELETE AND REPLACE
S3AR	DELETE AND REPLACE
S3BR	DELETE AND REPLACE
S-401	DELETE AND REPLACE
S-402	DELETE AND REPLACE
S-501	DELETE AND REPLACE
S-504	DELETE AND REPLACE
S-700	DELETE AND REPLACE
A-SERIES DRAWINGS	
A-001	DELETE AND REPLACE
AF1A1	DELETE AND REPLACE
AF1B1	DELETE AND REPLACE
AF1A2	DELETE AND REPLACE
AF1B2	DELETE AND REPLACE
AC1C1	DELETE AND REPLACE
AC1A2	DELETE AND REPLACE
AC1B2	DELETE AND REPLACE
AC1C2	DELETE AND REPLACE
AC1D2	DELETE AND REPLACE
AR101	DELETE AND REPLACE
A-302	DELETE AND REPLACE
A-311	DELETE AND REPLACE
A-314	DELETE AND REPLACE
A-321	DELETE AND REPLACE
A-323	DELETE AND REPLACE
A-402	DELETE AND REPLACE
A-500	DELETE AND REPLACE
A-511	DELETE AND REPLACE
A-600	DELETE AND REPLACE
A-601	DELETE AND REPLACE
I-SERIES DRAWINGS	
IN1A1	DELETE AND REPLACE
IN1B1	DELETE AND REPLACE
IN1A2	DELETE AND REPLACE
I-202	DELETE AND REPLACE
I-401	DELETE AND REPLACE
Q-SERIES DRAWINGS	
QK101	DELETE AND REPLACE
QK200	DELETE AND REPLACE
QK401	DELETE AND REPLACE

QK402	DELETE AND REPLACE
M-SERIES DRAWINGS	
MH1B1	DELETE AND REPLACE
MP1A1	DELETE AND REPLACE
MP1A2	DELETE AND REPLACE
MP1B2	DELETE AND REPLACE
P-SERIES DRAWINGS	
FP102	DELETE AND REPLACE
PF1B1	DELETE AND REPLACE
PP1A1	DELETE AND REPLACE
PP1B1	DELETE AND REPLACE
PP1A2	DELETE AND REPLACE
PP1B2	DELETE AND REPLACE
P-501	DELETE AND REPLACE
P-601	DELETE AND REPLACE
P-905	DELETE AND REPLACE
P-913	DELETE AND REPLACE
E-SERIES DRAWINGS	
ES101	DELETE AND REPLACE
ES102	DELETE AND REPLACE
ES103	DELETE AND REPLACE
ES104	DELETE AND REPLACE
EL1A1	DELETE AND REPLACE
EP1A1	DELETE AND REPLACE
EP1A2	DELETE AND REPLACE
EP1B1	DELETE AND REPLACE
EP1B2	DELETE AND REPLACE
EP1D2	DELETE AND REPLACE
ER101	DELETE AND REPLACE
E-401	DELETE AND REPLACE
E-402	DELETE AND REPLACE
E-403	DELETE AND REPLACE
E-605	DELETE AND REPLACE
E-606	DELETE AND REPLACE
E-607	DELETE AND REPLACE
E-609	DELETE AND REPLACE
E-610	DELETE AND REPLACE
E-611	DELETE AND REPLACE
E-612	DELETE AND REPLACE
T-SERIES DRAWINGS	
T**F1A1**	DELETE AND REPLACE
TF1A2	DELETE AND REPLACE
TF1C1	DELETE AND REPLACE
TF1C2	DELETE AND REPLACE
TF1D1	DELETE AND REPLACE
TF1D2	DELETE AND REPLACE

END OF ADDENDUM 2

SECTION 054000 - COLD-FORMED METAL FRAMING

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 non-load-bearing wall framing.
2. Interior non-load-bearing wall framing.
3. Soffit framing.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for miscellaneous steel shapes, masonry shelf angles, and connections used with cold-formed metal framing.
2. Section 092216 "Non-Structural Metal Framing" for standard, interior non-load-bearing, metal-stud framing, with height limitations and ceiling-suspension assemblies.

1.3 ACTION SUBMITTALS

A. Product Data, Shop Drawings, Delegated Design:

1. Product Data: For the following:

a. Cold-formed steel framing materials.
b. Exterior non-load-bearing wall framing.
c. Soffit framing.
d. Post-installed anchors.
e. Power-actuated anchors.
f. Sill sealer gasket.

2. Shop Drawings:

a. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
b. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

3. Delegated-Design Submittal: For cold-formed steel framing.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of code-compliance certification for studs and tracks.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

B. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.

C. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association the Steel Framing Industry Association or the Steel Stud Manufacturers Association.

D. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

E. Comply with AISI S230 "Standard for Cold-Formed Steel Framing - Prescriptive Method for One and Two Family Dwellings."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. ClarkDietrich.
2. MarinoWARE.
3. MBA Building Supplies.
4. Approved by Engineer<Insert manufacturer's name>.

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel framing.

B. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.

1. Design Loads: As indicated on Drawings.
2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:

    a. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/600 of the wall height.

3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.
4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:

    a. Upward and downward movement of 3/4 inch.

5. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.

C. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing shall comply with AISI S100, AISI S200, and the following:

1. Wall Studs: AISI S211.

D. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency acceptable to authorities having jurisdiction.

2.3 COLD-FORMED STEEL FRAMING MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:

1. Grade: As required by structural performance.
2. Coating: G90 or equivalent.

B. Steel Sheet for Vertical Deflection Clips: ASTM A653/A653M, structural steel, zinc coated, of grade and coating as follows:

1. Grade: As required by structural performance.
2. Coating: G90.

2.4 EXTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0538 inch.
2. Flange Width: 1-5/8 inches.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0538 inch.
2. Flange Width: 1-1/4 inches.

C. Vertical Deflection Clips: Manufacturer's standard [**head**] clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich.
b. MarinoWARE.
c. The Steel Network, Inc.
d. Approved by Engineer .

D. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure through positive mechanical attachment to stud web and structure.

2.5 INTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0538 inch.
2. Flange Width: 1-3/8 inches.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0538 inch.
2. Flange Width: 1-1/4 inches.

C. Vertical Deflection Clips: Manufacturer's standard [bypass] [head] clips, capable of accommodating upward and downward vertical displacement of primary structure through positive mechanical attachment to stud web.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. ClarkDietrich.
b. MarinoWARE.
c. The Steel Network, Inc.
d. Approved by Engineer

2.6 SOFFIT FRAMING

A. Exterior Soffit Frame: Manufacturer's standard C-shaped steel sections, of web depths indicated, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: 0.0538 inch.
2. Flange Width: 1-5/8 inches, minimum.

2.7 FRAMING ACCESSORIES

A. Fabricate steel-framing accessories from ASTM A1003/A1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.

B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:

1. Supplementary framing.
2. Bracing, bridging, and solid blocking.
3. Web stiffeners.
4. Anchor clips.
5. End clips.
6. Foundation clips.
7. Gusset plates.
8. Stud kickers and knee braces.
9. Hole-reinforcing plates.
10. Backer plates.

2.8 ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A36/A36M, zinc coated by hot-dip process according to ASTM A123/A123M.

B. Anchor Bolts: ASTM F1554, Grade 36, threaded carbon-steel hex-headed bolts, carbon-steel nuts, and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A153/A153M, Class C.

C. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on [**ICC-ES AC01**] [**ICC-ES AC193**] [**ICC-ES AC58**] [**or**] [**ICC-ES AC308**] as appropriate for the substrate.

1. Uses: Securing cold-formed steel framing to structure.
2. Type: [**Torque-controlled expansion anchor**] [**Torque-controlled adhesive anchor**] [**or**] [**adhesive anchor**].
3. Material for Interior Locations: Carbon-steel components zinc plated to comply with ASTM B633 or ASTM F1941, Class Fe/Zn 5, unless otherwise indicated.
4. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy Group 2 stainless-steel bolts, ASTM F593, and nuts, ASTM F594.

D. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

E. Mechanical Fasteners: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.

1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

2.9 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20.

B. Cement Grout: Portland cement, ASTM C150/C150M, Type I; and clean, natural sand, ASTM C404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

C. Nonmetallic, Nonshrink Grout: Factory-packaged, nonmetallic, noncorrosive, nonstaining grout, complying with ASTM C1107/C1107M, and with a fluid consistency and 30-minute working time.

D. Shims: Load-bearing, high-density, multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as framing members supported by shims.

E. Sill Sealer Gasket: Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to match width of bottom track or rim track members as required.

F. Sill Sealer Gasket: Minimum 68-mil nominal thickness, self-adhering sheet consisting of 64 mils of rubberized asphalt laminated on one side to a 4-mil- thick, polyethylene-film reinforcement, and with release liner on adhesive side[**; formulated for application with primer or surface conditioner that complies with VOC limits of authorities having jurisdiction**].

1. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:

a. Polyguard Products, Inc.

2. Physical Properties:

a. Peel Adhesion: 17.0 lb/in of width when tested in accordance with ASTM D412.
b. Low-Temperature Flexibility: Pass at minus 25 deg F when tested in accordance with)ASTM D146/D146M.
c. Water Vapor Permeance: 0.05 perm maximum when tested in accordance with ASTM E96/E96M, Method B.

2.10 FABRICATION

A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.

1. Fabricate framing assemblies using jigs or templates.
2. Cut framing members by sawing or shearing; do not torch cut.
3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.

    a. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.

4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion.

C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 feet and as follows:

1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, conditions, and abutting structural framing 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 PREPARATION

A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.

B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that required to obtain fire-resistance ratings indicated. Protect remaining fire-resistive materials from damage.

C. Install load-bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch to ensure a uniform bearing surface on supporting concrete or masonry construction.

D. Install sill sealer gasket at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

E. Install sill sealer gasket in accordance with manufacturer's written instructions at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.

B. Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.

C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.

1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch.

D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.

1. Cut framing members by sawing or shearing; do not torch cut.
2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.

    a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    b. Locate mechanical fasteners, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.

E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.

F. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.

G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.

H. Install insulation, specified in Section 072100 "Thermal Insulation," in framing-assembly members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.

I. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

3.4 INSTALLATION OF EXTERIOR NONLOADBEARING WALL FRAMING

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.

B. Fasten both flanges of studs to[**top and**] bottom track unless otherwise indicated. Space studs as follows:

1. Stud Spacing: As required by deflection limit analysis

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.

1. Connect vertical deflection clips to [**bypassing**] and [**infill**] studs and anchor to building structure.
2. Connect drift clips to cold-formed steel framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated[**on Shop Drawings**] but not more than 48 inches apart. Fasten at each stud intersection.

1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.

F. Top Bridging for Single Deflection Track: Install row of horizontal bridging within 12 inches of single deflection track. Install a combination of bridging and stud or stud-track solid blocking of width and thickness matching studs, secured to stud webs or flanges.

1. Install solid blocking at centers indicated on Shop Drawings.

G. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.5 INSTALLATION OF INTERIOR NONLOADBEARING WALL FRAMING

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.

B. Fasten both flanges of studs to[top and] bottom track unless otherwise indicated. Space studs as follows:

1. Stud Spacing: As indicated on Shop Drawings.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.

1. Connect vertical deflection clips to studs and anchor to building structure.
2. Connect drift clips to cold-formed steel metal framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced vertically in rows indicated[on Shop Drawings] but not more than 48 inches apart. Fasten at each stud intersection.

1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.

3.6 INSTALLATION TOLERANCES

A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:

1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.7 REPAIR

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A780/A780M and manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Field and shop welds will be subject to testing and inspecting.

C. Testing agency will report test results promptly and in writing to Contractor, Structural Engineer and Architect.

D. Cold-formed steel framing will be considered defective if it does not pass tests and inspections.

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

3.9 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 054400 - COLD-FORMED METAL TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof trusses.

B. Related Requirements:

1. Section 052100 "Steel Joist Framing" for trusslike, steel floor or roof joists and joist girders.
2. Section 054000 "Cold-Formed Metal Framing" for cold-formed steel studs, joists, and rafters.
3. .

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Cold-formed steel truss materials.
2. Power-actuated fasteners.

B. Shop Drawings:

1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel trusses; fabrication; and fastening and anchorage details, including mechanical fasteners.
2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.

C. Delegated Design Submittal: For cold-formed steel trusses.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each listed product, for tests performed by a qualified testing agency.

1. Steel sheet.
2. Miscellaneous structural clips and accessories.

B. Research Reports: For post-installed anchors power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

C. Field quality-control reports.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM E329 for testing indicated.

B. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.

C. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, [**provide products by the following**] [**provide products by one of the following**] [**available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following**]:

1. Aegis Metal Framing.
2. MarinoWARE.
3. TrusSteel; an ITW company.
4. USA Frametek.
5. WESTCO Steel Systems, Inc.
6. Engineer approved alternate .

2.2 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel trusses.

B. Structural Performance: Provide cold-formed steel trusses capable of withstanding design loads within limits and under conditions indicated.

1. Design Loads: As indicated on Drawings.
2. Deflection Limits: Design trusses to withstand design loads without deflections greater than the following:

a. Roof Trusses: Vertical deflection of 1/360 of the span.

3. Design trusses to provide for movement of truss members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.

C. Cold-Formed Steel Truss Standards: Unless more stringent requirements are indicated, trusses comply with the following:

1. Floor and Roof Systems: AISI S210.
2. Lateral Design: AISI S213.
3. Roof Trusses: AISI S214.

D. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL or from the listings of another qualified testing agency acceptable to authorities having jurisdiction.

2.3 COLD-FORMED STEEL TRUSS MATERIALS

A. Steel Sheet: ASTM A1003/A1003M, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:

1. Grade: As required by structural performance.
2. Coating: G90 or equivalent.

2.4 ROOF TRUSSES

A. Roof Truss Members: Manufacturer's standard [**C-shaped**]steel sections.

1. Connecting Flange Width: 1-5/8 inches, minimum at top and bottom chords connecting to sheathing or other directly fastened construction.

2.5 TRUSS ACCESSORIES

A. Fabricate steel-truss accessories from steel sheet, ASTM A1003/A1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for truss members.

B. Provide accessories of manufacturer's standard thickness and configuration unless otherwise indicated.

2.6 ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A36/A36M, zinc coated by hot-dip process according to ASTM A123/A123M.

B. Anchor Bolts: ASTM F1554, Grade 36 Grade 55, threaded carbon-steel hex-headed bolts, headless, hooked bolts, headless bolts, with encased end threaded, carbon-steel nuts, and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A153/A153M, Class C mechanical deposition according to ASTM B695, Class 50.

C. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 ICC-ES AC193 ICC-ES AC58 ICC-ES AC308 as appropriate for the substrate.

1. Uses: Securing cold-formed steel trusses to structure.
2. Type: Torque-controlled expansion anchor adhesive anchor.

D. Power-Actuated Fasteners: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

E. Mechanical Fasteners: ASTM C1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.

1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

F. Welding Electrodes: Comply with AWS standards.

2.7 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20.

B. Shims: Load-bearing, high-density multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as truss members supported by shims.

2.8 FABRICATION

A. Fabricate cold-formed steel trusses and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.

1. Fabricate trusses using jigs or templates.
2. Cut truss members by sawing or shearing; do not torch cut.
3. Fasten cold-formed steel truss members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator.

a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.

4. Fasten other materials to cold-formed steel trusses by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace trusses to withstand handling, delivery, and erection stresses. Lift fabricated trusses by means that prevent damage or permanent distortion.

C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1/8 inch in 10 feet and as follows:

1. Spacing: Space individual truss members no more than plus or minus 1/8 inch from plan location. Cumulative error are not to exceed minimum fastening requirements of sheathing or other finishing materials.
2. Squareness: Fabricate each cold-formed steel truss to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, conditions, and abutting trusses and framing 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 PREPARATION

A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.

B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed steel trusses without reducing thickness of fire-resistive materials below that required to obtain fire-resistance ratings indicated. Protect remaining fire-resistive materials from damage.

3.3 INSTALLATION

A. Install bridge, and brace cold-formed steel trusses according to AISI S200, AISI S202, AISI S214, and manufacturer's written instructions unless more stringent requirements are indicated.

1. Coordinate with wall framing to align webs of bottom chords and load-bearing studs or continuously reinforce track to transfer loads to structure.
2. Anchor trusses securely at all bearing points.
3. Install continuous bridging and permanently brace trusses as indicated on Shop Drawings and designed according to CFSEI's Technical Note 551e, "Design Guide: Permanent Bracing of Cold-Formed Steel Trusses."

B. Install cold-formed steel trusses and accessories true to line and location, and with connections securely fastened.

1. Erect trusses with plane of truss webs plumb and parallel to each other. Align and accurately position trusses at required spacings.
2. Erect trusses without damaging truss members or connections.
3. Fasten cold-formed steel trusses by welding or mechanical fasteners.

    a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.

b. Locate mechanical fasteners, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.

C. Install temporary bracing and supports to secure trusses and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to trusses are secured.

D. Truss Spacing: 24 inches.

E. Do not alter, cut, or remove truss members or connections of trusses.

3.4 ERECTION TOLERANCES

A. Install cold-formed steel trusses level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:

1. Space individual trusses no more than plus or minus 1/8 inch from plan location. Cumulative error are not to exceed minimum fastening requirements of sheathing or other finishing materials.

3.5 REPAIR

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel trusses with galvanized repair paint according to ASTM A780/A780M and manufacturer's written instructions.

3.6 FIELD QUALITY CONTROL

1. .

B. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

C. Cold-formed metal trusses will be considered defective if they do not pass tests and inspections.

D. Prepare test and inspection reports.

3.7 PROTECTION

A. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel trusses are without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 072419 - WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM (EIFS)

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. EIFS-clad drainage-wall assemblies that are field applied over substrate.
2. Water-resistive and air barrier coatings.

B. Related Requirements:

1. Section 072413.99 "Direct-Applied Exterior Finish System" for direct-applied finish to substrate indicated.
2. Section 079200 "Joint Sealants" for sealing joints in EIFS with elastomeric joint sealants and for perimeter joints between system and other materials.

1.3 DEFINITIONS

A. Definitions in ASTM E 2110 apply to Work of this Section.

B. EIFS: Exterior insulation and finish system(s).

C. IBC: International Building Code.

1.4 ACTION SUBMITTALS

A. Product Data: For each EIFS component, trim, and accessory, including water-resistive and air barrier coatings.

B. Samples: For each exposed product and for each color and texture specified, 8 inches square in size.

C. Samples for Verification: 24-inch- square panels for each type of finish-coat color and texture indicated, prepared using same tools and techniques intended for actual work including custom trim, each profile, and an aesthetic reveal.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Manufacturer Certificates: Signed by EIFS manufacturer certifying the following:

1. EIFS complies with requirements.
2. Substrates to which EIFS is indicated to be attached are acceptable to EIFS manufacturer.
3. Accessory products installed with EIFS, including flashing, water-resistive and air barrier coatings, trim, whether or not furnished by EIFS manufacturer and whether or not specified in this Section, are acceptable to EIFS manufacturer.

C. Product Certificates: For insulation and joint sealant, from manufacturer.

D. Product Test Reports: For each EIFS assembly and component, and for water-resistive and air barrier coatings, for tests performed by a qualified testing agency.

E. Field quality-control reports and special inspection reports.

F. Evaluation Reports: For EIFS, including insulation water-resistive and air barrier coatings, flexible membrane flashing, from ICC-ES.

1.6 CLOSEOUT SUBMITTALS

A. Copy of application field quality reports from manufacturer.

B. Maintenance Data: For EIFS to include in maintenance manuals.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: An installer who is certified in writing by EIFS manufacturer as qualified to install manufacturer's system using trained workers.

B. If DEFS is included in Project, both DEFS and EIFS shall be furnished and installed by same installer and both systems shall be by same manufacturer.

C. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, to set quality standards for materials and execution, and to set quality standards for fabrication and installation.

1. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original, unopened packages with manufacturers' labels intact and clearly identifying products.

B. Store materials inside and under cover; keep them dry and protected from weather, direct sunlight, surface contamination, aging, corrosion, damaging temperatures, construction traffic, and other causes.

1. Stack insulation board flat and off the ground.
2. Protect plastic insulation against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

1.9 FIELD CONDITIONS

A. Weather Limitations: Maintain ambient temperatures above 40 deg F for a minimum of 24 hours before, during, and after adhesives or coatings are applied. Do not apply EIFS adhesives or coatings during rainfall. Proceed with installation only when existing and forecasted weather conditions and ambient outdoor air, humidity, and substrate temperatures permit EIFS to be applied, dried, and cured according to manufacturers' written instructions and warranty requirements.

1.10 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of EIFS-clad drainage-wall assemblies that fail in materials or workmanship within specified warranty period.

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

a. Bond integrity and weathertightness.
b. Deterioration of EIFS finishes and other EIFS materials beyond normal weathering.

2. Warranty coverage includes the following components of EIFS-clad drainage-wall assemblies:

a. EIFS finish, including base coats, finish coats, and reinforcing mesh.
b. Insulation installed as part of EIFS including foam build-outs.
c. Insulation adhesive.
d. EIFS accessories, including trim components and flashing.
e. Water-resistive and air barrier coatings.
f. EIFS drainage components.

3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. BASF Wall Systems.
2. Dryvit Systems, Inc.
3. Sto Corp.

B. Source Limitations: Obtain EIFS from single source from single EIFS manufacturer and from sources approved by EIFS manufacturer as compatible with EIFS components.

2.2 PERFORMANCE REQUIREMENTS

A. EIFS Performance: Comply with ASTM E 2568 and ICC-ES AC219 and with the following:

1. Weathertightness: Resistant to uncontrolled water penetration from exterior, with a means to drain water entering EIFS to the exterior.
2. System Fire Performance: Full-scale multistory fire test.
3. Structural Performance: EIFS assembly and components shall comply with ICC-ES AC219 when tested according to ASTM E 2568.

    a. Wind Loads: Uniform pressure as indicated on Structural Drawings, acting inward or outward.

4. Impact Performance: ASTM E 2568, Standard impact resistance unless otherwise indicated.
5. Bond Integrity: Free from bond failure within EIFS components or between EIFS and substrates, resulting from exposure to fire, wind loads, weather, or other in-service conditions.
6. Abrasion Resistance of Finish Coat: Sample consisting of 1-inch- thick EIFS mounted on 1/2-inch- thick gypsum board; cured for a minimum of 28 days and shows no cracking, checking, or loss of film integrity after exposure to 528 quarts of sand when tested according to ASTM D 968, Method A.
7. Mildew Resistance of Finish Coat: Sample applied to 2-by-2-inch clean glass substrate; cured for 28 days and shows no growth when tested according to ASTM D 3273 and evaluated according to ASTM D 3274.

2.3 EIFS MATERIALS

A. Primer/Sealer: EIFS manufacturer's standard substrate conditioner designed to protect substrates from moisture penetration and to improve the bond between substrate and insulation adhesive

B. Water-Resistive and Air Barrier Coatings: EIFS manufacturer's standard formulation and accessories for use as water-resistive barriers; compatible with substrate and complying with physical and performance criteria of ASTM E 2570 and ASTM E 2357.

C. Flexible-Membrane Flashing: Cold-applied, self-adhering, self-healing, rubberized-asphalt and polyethylene-film composite sheet or tape and primer; EIFS manufacturer's standard or product recommended in writing by EIFS manufacturer.

D. Insulation Adhesive: EIFS manufacturer's standard formulation designed for indicated use; compatible with substrate; and complying with the following:

1. Factory-mixed noncementitious formulation designed for adhesive attachment of insulation to substrates of type indicated, as recommended by EIFS manufacturer.

E. Molded, Rigid Cellular Polystyrene Board Insulation: Comply with ASTM C 578, Type I; and EIFS manufacturer's requirements for most stringent requirements for material performance and qualities of insulation, including dimensions and permissible variations, and the following:

1. Aging: Before cutting and shipping, age insulation in block form by air drying for not less than six weeks.
2. Flame-Spread and Smoke-Developed Indexes: 25 and 450 or less, respectively, according to ASTM E 84.
3. Dimensions: Provide insulation boards of not more than 24 by 48 inches and in thickness indicated, but not more than 4 inches thick or less than the thickness allowed by ASTM C 1397.
4. Foam Build-Outs: Provide with profiles and dimensions indicated on Drawings.

F. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other EIFS materials, made from continuous multiend strands with retained mesh tensile strength of not less than 120 lbf/in. according to ASTM E 2098 and the following:

1. Reinforcing Mesh for EIFS, General: Not less than weight required to meet impact-performance level specified in "Performance Requirements" Article.
2. Strip Reinforcing Mesh: Not less than As recommended by EIFS manufacturer.
3. Detail Reinforcing Mesh: Not less than As recommended by EIFS manufacturer.
4. Corner Reinforcing Mesh: Not less than As recommended by EIFS manufacturer.

G. Base-Coat Materials: EIFS manufacturer's standard mixture complying with the following:

1. Factory-mixed noncementitious formulation of polymer-emulsion adhesive and inert fillers that is ready to use without adding other materials.

H. Waterproof Adhesive/Base-Coat Materials: EIFS manufacturer's standard waterproof formulation with VOC content of 50 g/L or less and complying with the following:

1. Job-combined formulation of manufacturer's standard polymer-emulsion adhesive and manufacturer's standard dry mix containing portland cement.

I. Primer: EIFS manufacturer's standard factory-mixed, elastomeric-polymer primer for preparing base-coat surface for application of finish coat.

J. Finish-Coat Materials: EIFS manufacturer's standard acrylic-based coating with enhanced mildew resistance complying with the following:

1. Factory-mixed formulation of polymer-emulsion binder, colorfast mineral pigments, sound stone particles, and fillers.

2. Colors: As selected by Architect from manufacturer's full range.
3. Textures: As selected by Architect from manufacturer's full range.

K. Sealer: Manufacturer's waterproof, clear acrylic-based sealer for protecting finish coat.

L. Water: Potable and containing no material deleterious to EIFS.

M. Trim Accessories: Type as designated or required to suit conditions indicated and to comply with EIFS manufacturer's written instructions; manufactured from UV-stabilized PVC; and complying with ASTM D 1784, manufacturer's standard cell class for use intended, and ASTM C 1063.

1. Casing Bead: Prefabricated, one-piece type for attachment behind insulation, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
2. Drip Screed/Track: Prefabricated, one-piece type for attachment behind insulation with face leg extended to form a drip, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg.
3. Weep Screed/Track: Prefabricated, one-piece type for attachment behind insulation with perforated face leg extended to form a drip and weep holes in track bottom, of depth required to suit thickness of coating and insulation, with face leg perforated for bonding to coating and back leg; designed to drain incidental moisture that gets into wall construction to the exterior at terminations of EIFS with drainage.
4. Expansion Joint: Prefabricated, one-piece V profile; designed to relieve stress of movement.
5. Windowsill Flashing: Prefabricated type for both flashing and sloping sill over framing beneath windows; with end and back dams; designed to direct water to exterior.
6. Parapet Cap Flashing: Type for both flashing and covering parapet top with design complying with ASTM C 1397.

2.4 MIXING

A. Comply with EIFS manufacturer's requirements for combining and mixing materials. Do not introduce admixtures, water, or other materials except as recommended by EIFS manufacturer. Mix materials in clean containers. Use materials within time period specified by EIFS manufacturer or discard.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Examine roof edges, wall framing, flashings, openings, substrates, and junctures at other construction for suitable conditions where EIFS will be installed.

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

1. Begin coating application only after surfaces are dry.
2. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Protect contiguous work from moisture deterioration and soiling caused by application of EIFS. Provide temporary covering and other protection needed to prevent spattering of exterior finish coats on other work.

B. Protect EIFS, substrates, and wall construction behind them from inclement weather during installation. Prevent penetration of moisture behind drainage plane of EIFS and deterioration of substrates.

C. Prepare and clean substrates to comply with EIFS manufacturer's written instructions to obtain optimum bond between substrate and adhesive for insulation.

1. Concrete Substrates: Provide clean, dry, neutral-pH substrate for insulation installation. Verify suitability of substrate by performing bond and moisture tests recommended by EIFS manufacturer.

3.3 EIFS INSTALLATION, GENERAL

A. Comply with ASTM C 1397, ASTM E 2511, and EIFS manufacturer's written instructions for installation of EIFS as applicable to each type of substrate indicated.

3.4 SUBSTRATE PROTECTION APPLICATION

A. Primer/Sealer: Apply over sheathing substrates and where required by EIFS manufacturer for improving adhesion of insulation to substrate.

B. Water-Resistive and Air Barrier Coating: Apply over sheathing to provide a water-resistive and air barrier.

1. Tape and seal joints, exposed edges, terminations, and inside and outside corners of sheathing unless otherwise indicated by EIFS manufacturer's written instructions.

C. Flexible-Membrane Flashing: Install over weather-resistive and air barrier, applied and lapped to shed water; seal at openings, penetrations, terminations, and where required by EIFS manufacturer. Prime substrates if required and install flashing to comply with EIFS manufacturer's written instructions and details.

D. Coordinate with Section 072713 "Modified Bituminous Sheet Air Barriers" for locations of those systems. Locations of systems requiring work of this Section shall not receive Work of that Section.

1. Sheet air barrier in locations of EIFS shall be removed as required by Architect as Work of this Section at no additional cost to Owner.

3.5 TRIM INSTALLATION

A. Trim: Apply trim accessories at perimeter of EIFS, at expansion joints, at windowsills, and elsewhere as indicated. Coordinate with installation of insulation.

1. Weep Screed/Track: Use at bottom termination edges, at window and door heads, and at floor line expansion joints of water-drainage EIFS unless otherwise indicated.
2. Windowsill Flashing: Use at windows unless otherwise indicated.
3. Expansion Joint: Use where indicated on Drawings.
4. Casing Bead: Use at other locations.
5. Parapet Cap Flashing: Use where indicated on Drawings.

3.6 INSULATION INSTALLATION

A. Board Insulation: Adhesively attach insulation to substrate in compliance with ASTM C 1397 and the following:

1. Apply adhesive to insulation by notched-trowel method, with notches oriented vertically to produce drainage channels that remain functional after the insulation is adhered to substrate.

2. Apply insulation over substrates in courses with long edges of boards oriented horizontally.
3. Begin first course of insulation from a level base line and work upward.
4. Begin first course of insulation from screed/track and work upward. Work from perimeter casing beads toward interior of panels if possible.
5. Stagger vertical joints of insulation boards in successive courses to produce running bond pattern. Locate joints so no piece of insulation is less than 12 inches wide or 6 inches high. Offset joints not less than 6 inches from corners of window and door openings and not less than 4 inches from aesthetic reveals.

a. Adhesive Attachment: Offset joints of insulation not less than 6 inches from horizontal and 4 inches from vertical joints in sheathing.

6. Interlock ends at internal and external corners.
7. Abut insulation tightly at joints within and between each course to produce flush, continuously even surfaces without gaps or raised edges between boards. If gaps greater than 1/16 inch occur, fill with insulation cut to fit gaps exactly; insert insulation without using adhesive or other material.
8. Cut insulation to fit openings, corners, and projections precisely and to produce edges and shapes complying with details indicated.
9. Rasp or sand flush entire surface of insulation to remove irregularities projecting more than [1/32 inch] [1/16 inch] from surface of insulation and to remove yellowed areas due to sun exposure; do not create depressions deeper than 1/16 inch . Prevent airborne dispersal and immediately collect insulation raspings or sandings.
10. Cut aesthetic reveals in outside face of insulation with high-speed router and bit configured to produce grooves, rabbets, and other features that comply with profiles and locations indicated. Do not reduce insulation thickness at aesthetic reveals to less than 3/4 inch .
11. Install foam build-outs and attach to [**sheathing**] [**structure**].
12. Interrupt insulation for expansion joints where indicated.
13. Form joints for sealant application by leaving gaps between adjoining insulation edges and between insulation edges and dissimilar adjoining surfaces. Make gaps wide enough to produce joint widths indicated after encapsulating joint substrates with base coat and reinforcing mesh.
14. Form joints for sealant application with back-to-back casing beads for joints within EIFS and with perimeter casing beads at dissimilar adjoining surfaces. Make gaps between casing beads and between perimeter casing beads and adjoining surfaces of width indicated.
15. After installing insulation and before applying field-applied reinforcing mesh, fully wrap board edges. Cover edges of board and extend encapsulating mesh not less than 2-1/2 inches over front and back face unless otherwise indicated on Drawings.
16. Treat exposed edges of insulation as follows:

    a. Except for edges forming substrates of sealant joints, encapsulate with base coat, reinforcing mesh, and finish coat.
    b. Encapsulate edges forming substrates of sealant joints within EIFS or between EIFS and other work with base coat and reinforcing mesh.
    c. At edges trimmed by accessories, extend base coat, reinforcing mesh, and finish coat over face leg of accessories.

17. Coordinate installation of flashing and insulation to produce wall assembly that does not allow water to penetrate behind flashing and water-resistive and air barrier.

B. Expansion Joints: Install at locations indicated, where required by EIFS manufacturer, and as follows:

1. At expansion joints in substrates behind EIFS.
2. Where EIFS adjoin dissimilar substrates, materials, and construction, including other EIFS.
3. At floor lines in multilevel wood-framed construction.

4. Where wall height or building shape changes.
5. Where EIFS manufacturer requires joints in long continuous elevations.

3.7 BASE-COAT INSTALLATION

A. Waterproof Adhesive/Base Coat: To exposed surfaces of insulation, apply in minimum thickness recommended in writing by EIFS manufacturer over sloped surfaces windowsills foam build-outs and where indicated on Drawings.

B. Base Coat: Apply to exposed surfaces of insulation and foam build-outs in minimum thickness recommended in writing by EIFS manufacturer, but not less than 1/16-inch dry-coat thickness.

C. Reinforcing Mesh: Embed reinforcing mesh in wet base coat to produce wrinkle-free installation with mesh continuous at corners, overlapped not less than 2-1/2 inches or otherwise treated at joints to comply with ASTM C 1397 and EIFS manufacturer's written instructions. Do not lap reinforcing mesh within 8 inches of corners. Completely embed mesh, applying additional base-coat material if necessary, so reinforcing-mesh color and pattern are invisible.

D. Additional Reinforcing Mesh: Apply strip reinforcing mesh around openings, extending 4 inches beyond perimeter. Apply additional 9-by-12-inch strip reinforcing mesh diagonally at corners of openings (re-entrant corners). Apply 8-inch- wide, strip reinforcing mesh at both inside and outside corners unless base layer of mesh is lapped not less than 4 inches on each side of corners.

1. At aesthetic reveals, apply strip reinforcing mesh not less than 8 inches wide.
2. Embed strip reinforcing mesh in base coat before applying first layer of reinforcing mesh.

E. Foam Build-Outs: Fully embed reinforcing mesh in base coat.

3.8 FINISH-COAT INSTALLATION

A. Primer: Apply over dry base coat according to EIFS manufacturer's written instructions.

B. Finish Coat: Apply over dry primed base coat, maintaining a wet edge at all times for uniform appearance, in thickness required by EIFS manufacturer to produce a uniform finish of color and texture matching approved sample and free of cold joints, shadow lines, and texture variations.

1. Embed aggregate in finish coat according to EIFS manufacturer's written instructions to produce a uniform applied-aggregate finish of color and texture matching approved sample.

C. Sealer Coat: Apply over dry finish coat, in number of coats and thickness required by EIFS manufacturer.

3.9 CLEANING AND PROTECTION

A. Remove temporary covering and protection of other work. Promptly remove coating materials from window and door frames and other surfaces outside areas indicated to receive EIFS coatings.

END OF SECTION

SECTION 072713 - MODIFIED BITUMINOUS SHEET AIR BARRIERS

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 self-adhering, vapor-retarding, modified bituminous sheet air barriers.

B. Related Sections include the following:

1. Division 04 Section "Unit Masonry" for embedded flashings.
2. Division 06 Section "Sheathing" for wall sheathings, wall sheathing joint-and-penetration treatments, and building wraps.
3. Division 07 Section "Water-drainage Exterior Insulation and Finish System (EIFS)" for air barrier coordination with and requirements for that work.
4. Division 07 Section "Thermal Insulation" for foam-plastic board insulation.
5. Division 07 Section "Joint Sealants" for joint-sealant materials and installation.

1.3 DEFINITIONS

A. ABAA: Air Barrier Association of America.

B. Air Barrier Assembly: The collection of air barrier materials and auxiliary materials applied to an opaque wall, including joints and junctions to abutting construction, to control air movement through the wall.

1.4 PERFORMANCE REQUIREMENTS

A. General: Air barrier shall be capable of performing as a continuous vapor-retarding air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

1.5 ACTION SUBMITTALS

A. Product Data, Shop Drawings:

1. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate; technical data; and tested physical and performance properties of air barrier.
2. Shop Drawings: Show locations and extent of air barrier. Include details for substrate joints and cracks, counterflashing strip, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.

    a. Include details of interfaces with other materials that form part of air barrier.
    b. Include details of mockups.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: A firm experienced in applying air barrier materials similar in material, design, and extent to those indicated for this Project, whose work has resulted in applications with a record of successful in-service performance and who is an ABAA-licensed contractor.

B. Mockups: Before beginning installation of air barrier, build mockups of exterior wall assembly shown on Drawings, incorporating backup wall construction, external cladding, window, door frame and sill, insulation, and flashing to demonstrate surface preparation, crack and joint treatment, and sealing of gaps, terminations, and penetrations of air barrier membrane.

1. Include junction with roofing membrane, building corner condition, and foundation wall intersection.
2. If Architect determines mockups do not comply with requirements, reconstruct mockups and apply air barrier until mockups are approved.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

C. Preinstallation Conference: Conduct conference at Project site.

1. Include installers of other construction connecting to air barrier, such as roofing, waterproofing, architectural precast concrete, masonry, joint sealants, windows, glazed curtain walls, and door frames.

    a. Coordinate with other air barrier systems indicated for Project prior to application of air barrier system.

2. Review air barrier requirements including surface preparation, substrate condition and pretreatment, minimum substrate curing period, forecasted weather conditions, special details and sheet flashings, mockups, installation procedures, sequence of installation, testing and inspecting procedures, and protection and repairs.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by air barrier manufacturer.

B. Remove and replace liquid materials that cannot be applied within their stated shelf life.

C. Store rolls according to manufacturer's written instructions.

D. Protect stored materials from direct sunlight.

1.8 PROJECT CONDITIONS

A. Environmental Limitations: Apply air barrier within the range of ambient and substrate temperatures recommended by air barrier manufacturer. Protect substrates from environmental conditions that affect performance of air barrier. Do not apply air barrier to a damp or wet substrate or during snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 SELF-ADHERING SHEET AIR BARRIER

A. Modified Bituminous Sheet: 40-mil- thick, self-adhering sheet consisting of 36 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side and formulated for application with primer that complies with VOC limits of authorities having jurisdiction.

1. Products: Subject to compliance with requirements, provide one of the following:

a. Carlisle Coatings & Waterproofing; CCW-705.
b. GCP Applied Technologies.
c. Henry Company; Blueskin SA.
d. Tremco, Incorporated; ExoAir 110

2. Physical and Performance Properties:

a. Membrane Air Permeance: Not to exceed 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. pressure difference; ASTM E 2178.
b. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified.
c. Ultimate Elongation: 200 percent minimum; ASTM D 412, Die C, modified.
d. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D 1970.
e. Crack Cycling: Unaffected after 100 cycles of 1/8-inch movement; ASTM C 836.
f. Puncture Resistance: 40 lbf minimum; ASTM E 154.
g. Water Absorption: 0.15 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D 570.
h. Vapor Permeance: 0.05 perms; ASTM E 96, Water Method.

2.2 AUXILIARY MATERIALS

A. General: Auxiliary materials recommended by air barrier manufacturer for intended use and compatible with air barrier. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

B. Primer: Liquid waterborne or solvent-borne primer recommended by manufacturer of air barrier material for substrate and ambient temperature during application.

C. Counterflashing Strip: Modified bituminous 40-mil- thick, self-adhering sheet consisting of 32 mils of rubberized asphalt laminated to an 8-mil- thick, crosslaminated polyethylene film with release liner backing.

D. Butyl Strip: Vapor-retarding, 30- to 40-mil- thick, self adhering; polyethylene-film-reinforced top surface laminated to layer of butyl adhesive, with release liner backing.

E. Modified Bituminous Strip: Vapor-retarding, 40-mil- thick, smooth-surfaced, self-adhering; consisting of 36 mils of rubberized asphalt laminated to a 4-mil- thick polyethylene film with release liner backing.

F. Termination Mastic: Cold fluid-applied elastomeric liquid; trowel grade.

G. Substrate Patching Membrane: Manufacturer's standard trowel-grade substrate filler.

H. Adhesive and Tape: Air barrier manufacturer's standard adhesive and pressure-sensitive adhesive tape.

I. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 304, 0.0250 inch thick, and Series 300 stainless-steel fasteners.

J. Sprayed Polyurethane Foam Sealant: 1- or 2-component, foamed-in-place, polyurethane foam sealant, 1.5 to 2.0 lb/cu. ft. density; flame spread index of 25 or less according to ASTM E 162; with primer and noncorrosive substrate cleaner recommended by foam sealant manufacturer.

K. Modified Bituminous Transition Strip: Vapor-retarding, 40-mil- thick, smooth-surfaced, self-adhering; consisting of 36 mils of rubberized asphalt laminated to a 4-mil- thick polyethylene film with release liner backing.

L. Elastomeric Flashing Sheet: ASTM D 2000, 2BC415 to 3BC620, minimum 50- to 65-mil-thick, cured sheet neoprene with manufacturer's recommended contact adhesives and lap sealant with stainless-steel termination bars and fasteners.

M. Preformed Silicone-Sealant Extrusion: Manufacturer's standard system consisting of cured low-modulus silicone extrusion, sized to fit opening widths, with a single-component, neutral-curing, Class 100/50 (low-modulus) silicone sealant for bonding extrusions to substrates.

N. Joint Sealant: ASTM C 920, single-component, neutral-curing silicone; Class 100/50 (low-modulus), Grade NS, Use NT related to exposure, and, as applicable to joint substrates indicated, Use O. Comply with Division 07 Section "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.

1. Verify that substrates are sound and free of oil, grease, dirt, excess mortar, or other contaminants.
2. Verify that concrete has cured and aged for minimum time period recommended by air barrier manufacturer.
3. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
4. Verify that masonry joints are flush and completely filled with mortar.
5. Verify that substrate does not require another air barrier system.
6. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Coordinate with Section 072419 "Water-drainage Exterior Insulation and Finish System (EIFS) for locations of those systems. Locations of EIFS system shall not receive Work of this Section.

1. Sheet air barrier in locations of EIFS shall be removed as required by Architect as Work of this Section at no additonal cost to Owner.

3.2 SURFACE PREPARATION

A. Clean, prepare, and treat substrate according to manufacturer's written instructions. Provide clean, dust-free, and dry substrate for air barrier application.

B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.

C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.

D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids in concrete with substrate-patching membrane.

E. Remove excess mortar from masonry ties, shelf angles, and other obstructions.

F. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.

1. Install modified bituminous strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.

G. Bridge and cover expansion joints and discontinuous deck-to-wall and deck-to-deck joints with overlapping modified bituminous strips.

H. At changes in substrate plane, apply sealant or termination mastic beads at sharp corners and edges to form a smooth transition from one plane to another.

I. Cover gaps in substrate plane and form a smooth transition from one substrate plane to another with stainless-steel sheet mechanically fastened to structural framing to provide continuous support for air barrier.

3.3 INSTALLATION

A. Install modified bituminous sheets according to air barrier manufacturer's written instructions and according to recommendations in ASTM D 6135.

1. When ambient and substrate temperatures range between 25 and 40 deg F, install self-adhering, modified bituminous air barrier sheets produced for low-temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 deg F.

B. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.

1. Install modified bituminous strips centered over vertical inside corners. Install 3/4-inch fillets of termination mastic on horizontal inside corners.

C. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations with termination mastic and according to ASTM D 6135.

D. Apply primer to substrates at required rate and allow to dry. Limit priming to areas that will be covered by air barrier sheet in same day. Reprime areas exposed for more than 24 hours.

1. Prime glass-fiber-surfaced gypsum sheathing with number of prime coats needed to achieve required bond, with adequate drying time between coats.

E. Apply and firmly adhere modified bituminous sheets horizontally over area to receive air barrier sheets. Accurately align sheets and maintain a uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure airtight installation.

1. Apply sheets in a shingled manner to shed water without interception by any exposed sheet edges.
2. Roll sheets firmly to enhance adhesion to substrate.

F. Apply continuous modified bituminous sheets over modified bituminous strips bridging substrate cracks, construction, and contraction joints.

G. CMU: Install air barrier sheet horizontally against the CMU beginning at base of wall. Align top edge of air barrier sheet immediately below protruding masonry ties or joint reinforcement or ties and firmly adhere in place.

1. Overlap horizontally adjacent sheets a minimum of 2 inches and roll seams.
2. Apply overlapping sheets with bottom edge slit to fit around masonry reinforcing or ties. Roll firmly into place.
3. Seal around masonry reinforcing or ties and penetrations with termination mastic.
4. Continue the membrane into all openings in the wall, such as doors, windows, and terminate at points to maintain an airtight barrier that will not be visible from interior.

H. Seal top of through-wall flashings to air barrier sheet with an additional 6-inch- wide, modified bituminous strip.

I. Seal exposed edges of sheets at seams, cuts, penetrations, and terminations not concealed by metal counterflashings or ending in reglets with termination mastic.

J. Install air barrier sheets and auxiliary materials to form a seal with adjacent construction and to maintain a continuous air barrier.

1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
2. Install manufacturer's recommended strip on roofing membrane or base flashing so that a minimum of 3 inches of coverage is achieved over both substrates.

K. Connect and seal exterior wall air barrier membrane continuously to roofing membrane air barrier, concrete below-grade structures, floor-to floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings using accessory materials as indicated and according to manufacturer's tested assembly.

L. Wall Openings: Prime concealed perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply manufacturer's recommended transition strip so that a minimum of 3 inches of coverage is achieved over both substrates. Maintain 3 inches of full contact over firm bearing to perimeter frames with not less than 1 inch of full contact.

1. Modified Bituminous Transition Strip: Roll firmly to enhance adhesion.
2. Elastomeric Flashing Sheet: Apply adhesive to wall, frame, and flashing sheet. Install flashing sheet and termination bars, fastened at 6 inches o.c. Apply lap sealant over exposed edges and on cavity side of flashing sheet.
3. Preformed Silicone-Sealant Extrusion: Set in full bed of silicone sealant applied to walls, frame, and membrane.

M. Fill gaps in perimeter frame surfaces of windows, curtain walls, storefronts, doors, and miscellaneous penetrations of air barrier membrane with foam sealant.

N. At end or each working day, seal top edge of membrane to substrate with termination mastic.

O. Apply joint sealants forming part of air barrier assembly within manufacturer's recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.

P. Repair punctures, voids, and deficient lapped seams in air barrier. Slit and flatten fishmouths and blisters. Patch with air barrier sheet extending 6 inches beyond repaired areas in all directions.

Q. Do not cover air barrier until it has been tested and inspected by Owner's testing agency.

R. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air barrier components.

3.4 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections and prepare test reports.

B. Inspections: Air barrier materials and installation are subject to inspection for compliance with requirements. Inspections may include the following:

1. Continuity of air barrier system has been achieved throughout the building envelope with no gaps or holes.
2. Continuous structural support of air barrier system has been provided.
3. Masonry and concrete surfaces are smooth, clean and free of cavities, protrusions, and mortar droppings.
4. Site conditions for application temperature and dryness of substrates have been maintained.
5. Maximum exposure time of materials to UV deterioration has not been exceeded.
6. Surfaces have been primed.
7. Laps in sheet materials have complied with the minimum requirements and have been shingled in the correct direction (or mastic applied on exposed edges), with no fishmouths.
8. Termination mastic has been applied on cut edges.
9. Air barrier has been firmly adhered to substrate.
10. Compatible materials have been used.
11. Transitions at changes in direction and structural support at gaps have been provided.
12. Connections between assemblies (membrane and sealants) have complied with requirements for cleanliness, preparation and priming of surfaces, structural support, integrity, and continuity of seal.
13. All penetrations have been sealed.

C. Tests: Testing to be performed will be determined by Owner's testing agency from among the following tests:

1. Qualitative Testing: Air barrier assemblies will be tested for evidence of air leakage according to ASTM E 1186, smoke pencil with pressurization or depressurization .

D. Remove and replace deficient air barrier components and retest as specified above.

3.5 CLEANING AND PROTECTION

A. Protect air barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.

1. Protect air barrier from exposure to UV light and harmful weather exposure as required by manufacturer. Remove and replace air barrier exposed to these conditions for more than 30 days.
2. Protect air barrier from contact with creosote, uncured coal-tar products, TPO, EPDM, flexible PVC membranes, and sealants not approved by air barrier manufacturer.

B. Clean spills, stains, and soiling from adjacent construction that would be exposed in the completed work using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

SECTION 075423 - THERMOPLASTIC POLYOLEFIN (TPO) ROOFING

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. Adhered thermoplastic polyolefin (TPO) roofing system.
2. Roof insulation.

B. Related Requirements:

1. Section 04200 "Unit Masonry" for installation of reglets.
2. Section 061053 "Miscellaneous Rough Carpentry" for wood nailers, curbs, and blocking; and for wood-based, structural-use roof deck panels.
3. Section 061600 "Sheathing" for wood-based, inside parapet wall surface.
4. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
5. Section 077100 "Roof Specialties" for coping, fascia, and roof edging.
6. Section 221423 "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

A. Roofing Terminology: Definitions in ASTM D 1079 and glossary in NRCA's "The NRCA Roofing and Waterproofing Manual" apply to work of this Section.

1.4 ACTION SUBMITTALS

A. Product Data, Shop Drawings:

1. Product Data: For each type of product.
2. Shop Drawings: For roofing system. Include plans, elevations, sections, details, and attachments to other work, including:

a. Base flashings and membrane terminations.
b. Tapered insulation, including slopes.
c. Roof plan showing orientation of steel roof deck and orientation of roofing, fastening spacings, and patterns for mechanically fastened roofing.
d. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

B. Samples for Verification: For the following products:

1. Sheet roofing, of color required.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing system to include in maintenance manuals.

B. Warranty: For roofing system warranty.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is UL listed for roofing system identical to that used for this Project.

1. Manufacturer whose membrane is private-labeled is not acceptable.

B. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product, that is eligible to receive manufacturer's special warranty, and is listed below:

1. AAA Roofing.
2. B & L Roofing.
3. Blackmore and Buckner.
4. C. E. Reeve.
5. C. L. Schust.
6. Danco Roofing
7. Dudeck Roofing.
8. E. C. Babilla
9. Fredricks, Inc.
10. Hinshaw Roofing.
11. HRC Roofing.
12. Indianapolis Roofing and Sheet Metal.
13. Korellis Roofing Co.
14. Lehman Roofing.
15. McGuff Roofing, Inc.
16. Midland Engineering.
17. Midwest Roofing and Sheet Metal.
18. Nu-Tec Roofing
19. R. Adams
20. Royalty Roofing
21. Sentry Roofing Inc.
22. Slaytile Roofing
23. Smither Roofing Co.
24. South Central Roofing, Inc.
25. Steve's Roofing.

C. Installer Prequalification Requirements: Following information shall be provided to Architect for Architect's review for prequalification. Architect's review for prequalification cannot be assured to be completed within time for bidding for this Project.

1. History and information about company, including following:

a. Projects completed in previous 5 years that were 100,000 square feet or more.
b. Evidence that company is licensed to work in Indiana.
c. Evidence of Registered Retail Merchant Certificate.
d. Certificate of Qualification to Provide Construction Services for Public Work Projects for the State of Indiana (Public Works Division of Indiana).
e. Summary of work-related injuries and illnesses (OSHA Form 300A).
f. Provide completed ACORD 25 form of current insurance coverages.
g. Provide current audited financial statement for most recently completed fiscal year.

2. Roofing Manufacturer's Qualification of Roofing Installer: List roofing manufacturer system(s) company is qualified or certified by roofing manufacturer to install. List roofing type, manufacturer, and status (qualified or certified tier identification) with manufacturer.

a. Provide roofing company's certification letter.
b. List name(s) of personnel (minimum superintendent) that have been trained by roofing manufacturer that will be assigned to Project and their current status with roofing manufacturer's training.
c. Customer References: Provide contact name and telephone number for 3 previous projects completed. One of 3 required shall be project of minimum size required above.

3. Affiliations: List current affiliations with work-related organizations such as National Roofing Contractors Association.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product's brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.

1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.

C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.

D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.8 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.9 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.

1. Special warranty includes roofing, base flashings, roof insulation, fasteners, cover boards, roofing accessories, and other components of roofing system.
2. Warranty Period: 20 years from date of Substantial Completion.
3. Coverage for Wind Speeds up to including 72 mph.
4. Coverage for Hail up to including 2" in diameter.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Carlisle SynTec Incorporated; Sure-Weld.
2. Firestone Building Products; Ultra-Ply.
3. GAF Materials Corporation; Everguard.
4. Johns Manville.
5. Versico Incorporated; Versa-Weld.

B. Source Limitations: Obtain components including roof insulation fasteners for roofing system from same manufacturer as membrane roofing or manufacturer approved and warranted by membrane roofing manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. General Performance: Installed roofing and base flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roofing and base flashings shall remain watertight.

1. Accelerated Weathering: Roofing system shall withstand 2000 hours of exposure when tested according to ASTM G 152, ASTM G 154, or ASTM G 155.
2. Impact Resistance: Roofing system shall resist impact damage when tested according to ASTM D 3746 or ASTM D 4272.

B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. Roofing System Design: Tested by a qualified testing agency to resist the following uplift pressures:

1. Corner Uplift Pressure: As indicated on Structural Drawings.
2. Perimeter Uplift Pressure: As indicated on Structural Drawings.
3. Field-of-Roof Uplift Pressure: As indicated on Structural Drawings.

D. Exterior Fire-Test Exposure: ASTM E 108 or UL 790, Class B; for application and roof slopes indicated; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

E. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated. Identify products with appropriate markings of applicable testing agency.

2.3 TPO ROOFING

A. Fabric-Reinforced TPO Sheet: ASTM D 6878, internally fabric- or scrim-reinforced, uniform, flexible TPO sheet.

1. Thickness: 60 mils, nominal.
2. Exposed Face Color: White.

2.4 AUXILIARY ROOFING MATERIALS

A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with roofing.

1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, minimum 55 mils thick, minimum, of same color as TPO sheet.

C. Bonding Adhesive: Manufacturer's standard, water based.

D. Slip Sheet: Manufacturer's standard, of thickness required for application.

E. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 1 by 1/8 inch thick; with anchors.

F. Fasteners: Factory-coated steel fasteners and corrosion-resistant metal plates, designed for fastening roofing to substrate, acceptable to and warranted by roofing system manufacturer.

G. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

H. Reglets: Units of type, material, and profile required, formed to provide secure interlocking of separate reglet and counterflashing pieces, and compatible with flashing indicated with factory-mitered and -welded corners and junctions and with interlocking counterflashing on exterior face, of same metal as reglet.

1. Basis of Design Manufacturer: Subject to compliance with requirements, provide "In Wall/Drive Lock" as manufactured by W. P. Hickman Co. or comparable product by one of the following:

    a. Cheney Flashing Company
    b. Fry Reglet Corporation
    c. Heckmann Building Products, Inc
    d. Hohmann & Barnard, Inc
    e. Keystone Flashing Company, Inc

2. Material: Stainless steel, 0.019 inch thick thick.
3. Surface-Mounted Type: Provide with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
4. Concrete Type: Provide temporary closure tape to keep reglet free of concrete materials, special fasteners for attaching reglet to concrete forms, and guides to ensure alignment of reglet section ends.
5. Masonry Type: Provide with offset top flange for embedment in masonry mortar joint
6. Accessories:

    a. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where Drawings show reglet without metal counterflashing.
    b. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing's lower edge.

7. Finish: Mill.

2.5 ROOF INSULATION

A. General: Preformed roof insulation boards manufactured or approved by TPO roofing manufacturer, selected from manufacturer's standard sizes suitable for application, of thicknesses indicated.

B. Contractor's Option

1. Polyisocyanurate Board Insulation: ASTM C 1289, Type II, Class 1, Grade 3, felt or glass-fiber mat facer on both major surfaces.

    a. Calculations for total R-value requirements of this insulation shall be determined based on aged R-value of 5.7 per inch thickness.

C. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches unless otherwise indicated.

D. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.

2.6 INSULATION ACCESSORIES

A. General: Roof insulation accessories recommended by insulation manufacturer for intended use and compatibility with roofing.

B. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Global 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.

C. Insulation Adhesive: Insulation manufacturer's recommended adhesive formulated to attach roof insulation to substrate or to another insulation layer as follows:

1. Bead-applied, low-rise, one-component or multicomponent urethane adhesive.

D. Cover Board: Roofing membrane manufacturer's approved and warranted high density cover board containing no wood or wood fiber.

2.7 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch thick and acceptable to roofing system manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
2. Verify that wood blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.

3. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

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

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions. Remove sharp projections.

B. Prevent materials from entering and clogging roof drains and conductors and from spilling or migrating onto surfaces of other construction. Remove roof-drain plugs when no work is taking place or when rain is forecast.

3.3 ROOFING INSTALLATION, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast. Remove and discard temporary seals before beginning work on adjoining roofing.

3.4 INSULATION INSTALLATION

A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at the end of the workday.

B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.

C. Install tapered insulation under area of roofing to conform to slopes indicated.

D. Install insulation under area of roofing to achieve required total thickness. Install two or more layers with joints of each succeeding layer staggered from joints of previous layer a minimum of 6 inches in each direction.

1. Provide insulation total thickness as indicated on Drawings for total minimum R-value of 20.

E. Trim surface of insulation where necessary at roof drains so completed surface is flush and does not restrict flow of water.

F. Install insulation with long joints of insulation in a continuous straight line with end joints staggered between rows, abutting edges and ends between boards. Fill gaps exceeding 1/4 inch with insulation.

1. Second layer of insulation shall be installed in compliance with above, but shall be shifted such that long joints and end joints of second layer shall not align with same joints in first layer in order to prevent thermal shorts.
2. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.

G. Mechanically Fastened and Adhered Insulation: Install each layer of insulation to deck using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation to deck type.

1. Mechanically fasten first layer of insulation to resist uplift pressure at corners, perimeter, and field of roof.
2. Set each subsequent layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

H. Install cover boards over insulation with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches in each direction. Loosely butt cover boards together and fasten to roof deck.

1. Adhere cover boards to resist uplift pressure at corners, perimeter, and field of roof as required by roofing membrane manufacturer to comply with warranty requirements.

I. If required by membrane manufacturer, install slip sheet over cover board and immediately beneath roofing.

3.5 ADHERED ROOFING INSTALLATION

A. Adhere roofing over area to receive roofing according to roofing system manufacturer's written instructions. Unroll roofing and allow to relax before retaining.

B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.

C. Accurately align roofing, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.

D. Bonding Adhesive: Apply to substrate (cover boards) and underside of roofing at rate required by manufacturer, and allow to partially dry before installing roofing. Do not apply to splice area of roofing.

E. In addition to adhering, mechanically fasten roofing securely at terminations, penetrations, and perimeter of roofing.

F. Apply roofing with side laps shingled with slope of roof deck where possible.

G. Seams: Clean seam areas, overlap roofing, and hot-air weld side and end laps of roofing and sheet flashings according to manufacturer's written instructions, to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of sheet.

2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
3. Repair tears, voids, and lapped seams in roofing that do not comply with requirements.

H. Spread sealant bed over deck-drain flange at roof drains, and securely seal roofing in place with clamping ring.

3.6 BASE FLASHING INSTALLATION

A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.

B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.

C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.

D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.

E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.7 WALKWAY INSTALLATION

A. Flexible Walkways: Install walkway products in locations indicated. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.8 FIELD QUALITY CONTROL

A. Testing Agency: Owner may engage a qualified testing agency to inspect substrate conditions, surface preparation, membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.

B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.

C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.

D. Additional testing and inspecting, at Contractor's expense, may be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing, inspect roofing for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.

B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

SECTION 077253 - SNOW GUARDS

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. Pad-type, seam-mounted snow guards.

1.3 ACTION SUBMITTALS

A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for snow guards.

B. Shop Drawings: Include roof plans showing layouts and attachment details of snow guards.

1. Include calculation of number and location of snow guards based on snow load, roof slope, roof type, components, spacings, and finish.

C. Samples: Full-size unit.

1.4 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each type of snow guard, for tests performed by manufacturer and witnessed by a qualified testing agency.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Performance Requirements: Provide snow guards that withstand exposure to weather and resist thermally induced movement without failure, rattling, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.

1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

B. Structural Performance:

1. Snow Loads: As indicated on Drawings.

2.2 PAD-TYPE SNOW GUARDS

A. Seam-Mounted Plastic Snow Guard Pads:

1. Basis-of-Design Product: Subject to compliance with requirements, provide Polar Blox or comparable product by one of the following:

a. Snow Gen, iClad-S.
b. Approved Equal during Bidding.

2. Material, one of the following:

a. Clear UV-stabilized polycarbonate.
b. Aluminum
c. Stainless Steel

PART 3 - EXECUTION

3.1 EXAMINATION

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

1. Verify compatibility with and suitability of substrates including compatibility with existing finishes or primers.

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

3.2 PREPARATION

A. Clean and prepare substrates for bonding snow guards.

B. Prime substrates according to snow guard manufacturer's written instructions.

3.3 INSTALLATION

A. Install snow guards according to manufacturer's written instructions. Space rows as recommended by manufacturer.

B. Attachment for Standing-Seam Metal Roofing:

1. Do not use fasteners that will penetrate metal roofing, or fastening methods that void metal roofing finish warranty.
2. Seam-Mounted Snow Guard Pads: Metal clamps attached to vertical ribs of standing-seam metal roof panels.

END OF SECTION

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

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 hollow-metal work.

B. Related Requirements:

1. Section 087100 "Door Hardware" for door hardware for hollow-metal doors.
2. Section 099600.99 "High-performance Coatings" for preparation and priming of exterior doors and interior doors indicated to be high-performance coated.

1.3 DEFINITIONS

A. Minimum Thickness: Minimum thickness of base metal without coatings according to NAAMM-HMMA 803 or SDI A250.8.

1.4 COORDINATION

A. Coordinate anchorage installation for hollow-metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

1.5 ACTION SUBMITTALS

A. Product Data, Shop Drawings, Schedule:

1. Product Data: For each type of product.

    a. Include construction details, material descriptions, core descriptions, fire-resistance ratings, and finishes.

2. Shop Drawings: Include the following:

    a. Elevations of each door type.
    b. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.

c. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
d. Locations of reinforcement and preparations for hardware.
e. Details of each different wall opening condition.
f. Details of anchorages, joints, field splices, and connections.
g. Details of accessories.
h. Details of moldings, removable stops, and glazing.
i. Details of conduit and preparations for power, signal, and control systems.

3. Schedule: Provide a schedule of hollow-metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final Door Hardware Schedule.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow-metal work palletized, packaged, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.

1. Provide additional protection to prevent damage to factory-finished units.

B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

C. Store hollow-metal work vertically under cover at Project site with head up. Place on minimum 4-inch- high wood blocking. Provide minimum 1/4-inch space between each stacked door to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Ceco Door; ASSA ABLOY.
2. Curries Company; ASSA ABLOY.
3. MPI Group, LLC (The).
4. Steelcraft; an Allegion Company.
5. De La Fontaine.

B. Source Limitations: If hollow-metal frames are required separately from hollow-metal doors (i.e., wood doors), obtain hollow-metal frames from same single source and same single manufacturer as specified in this Section.

2.2 INTERIOR DOORS AND FRAMES

A. Construct interior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: SDI A250.8, Level 3. .

1. Physical Performance: Level A according to SDI A250.4.
2. Doors:

    a. Type: As indicated in the Door and Frame Schedule.
    b. Thickness: 1-3/4 inches.
    c. Face: Uncoated, cold-rolled steel sheet, minimum thickness of 0.053 inch.
    d. Edge Construction: Model 1, Full Flush.
    e. Core: Manufacturer's standard polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core at manufacturer's discretion.

3. Frames:

    a. Materials: Uncoated, steel sheet, minimum thickness of 0.053 inch.
    b. Sidelite and Transom Frames: Fabricated from same thickness material as adjacent door frame.
    c. Construction: Full profile welded.

4. Exposed Finish: Prime.

2.3 EXTERIOR HOLLOW-METAL DOORS AND FRAMES

A. Construct exterior doors and frames to comply with the standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Maximum-Duty Doors and Frames: SDI A250.8, Level 4. .

1. Physical Performance: Level A according to SDI A250.4.
2. Doors:

    a. Type: As indicated in the Door and Frame Schedule.
    b. Thickness: 1-3/4 inches
    c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A40 coating.
    d. Edge Construction: Model 1, Full Flush.
    e. Core: Manufacturer's standard polystyrene, polyurethane, or polyisocyanurate core at manufacturer's discretion.

3. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch, with minimum A40 coating.
b. Construction: Full profile welded.

4. Exposed Finish: Prime.

2.4 BORROWED LITES

A. Hollow-metal frames of uncoated steel sheet, minimum thickness of 0.053 inch.

B. Construction: Full profile welded.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch thick.
3. Compression Type for Drywall Slip-on Frames: Adjustable compression anchors.
4. Postinstalled Expansion Type for In-Place Concrete or Masonry: Minimum 3/8-inch-diameter bolts with expansion shields or inserts. Provide pipe spacer from frame to wall, with throat reinforcement plate, welded to frame at each anchor location.

B. Floor Anchors: Formed from same material as frames, minimum thickness of 0.042 inch, and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, Commercial Steel (CS), Type B; free of scale, pitting, or surface defects; pickled and oiled.

C. Frame Anchors: ASTM A 879/A 879M, Commercial Steel (CS), 04Z coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

E. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

F. Grout: ASTM C 476, except with a maximum slump of 4 inches, as measured according to ASTM C 143/C 143M.

G. Mineral-Fiber Insulation: ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from slag or rock wool; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively; passing ASTM E 136 for combustion characteristics.

H. Glazing: Comply with requirements in Section 088000 "Glazing."

I. Bituminous Coating: Cold-applied asphalt mastic, compounded for 15-mil dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.7 FABRICATION

A. Fabricate hollow-metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for metal thickness. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.

B. Hollow-Metal Doors:

1. Steel-Stiffened Door Cores: Provide minimum thickness 0.026 inch, steel vertical stiffeners of same material as face sheets extending full-door height, with vertical webs spaced not more than 6 inches apart. Spot weld to face sheets no more than 5 inches o.c. Fill spaces between stiffeners with glass- or mineral-fiber insulation.
2. Vertical Edges for Single-Acting Doors: Provide beveled or square edges at manufacturer's discretion.
3. Top Edge Closures: Close top edges of doors with inverted closures of same material as face sheets.
4. Bottom Edge Closures: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets.
5. Exterior Doors: Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape. Seal joints in top edges of doors against water penetration.
6. Astragals: Provide overlapping astragal on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch beyond edge of door on which astragal is mounted or as required to comply with published listing of qualified testing agency.

C. Hollow-Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.

1. Sidelite and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
2. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
3. Grout Guards: Weld guards to frame at back of hardware mortises in frames to be grouted.
4. Floor Anchors: Weld anchors to bottoms of jambs with at least four spot welds per anchor; however, for slip-on drywall frames, provide anchor clips or countersunk holes at bottoms of jambs.
5. Jamb Anchors: Provide number and spacing of anchors as follows:

    a. Masonry Type: Locate anchors not more than 16 inches from top and bottom of frame. Space anchors not more than 32 inches o.c., to match coursing, and as follows:

        1) Two anchors per jamb up to 60 inches high.
        2) Three anchors per jamb from 60 to 90 inches high.
        3) Four anchors per jamb from 90 to 120 inches high.
        4) Four anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 120 inches high.

    b. Stud-Wall Type: Locate anchors not more than 18 inches from top and bottom of frame. Space anchors not more than 32 inches o.c. and as follows:

        1) Three anchors per jamb up to 60 inches high.
        2) Four anchors per jamb from 60 to 90 inches high.
        3) Five anchors per jamb from 90 to 96 inches high.
        4) Five anchors per jamb plus one additional anchor per jamb for each 24 inches or fraction thereof above 96 inches high.

    c. Compression Type: Not less than two anchors in each frame.
    d. Postinstalled Expansion Type: Locate anchors not more than 6 inches from top and bottom of frame. Space anchors not more than 26 inches o.c.

6. Head Anchors: Two anchors per head for frames more than 42 inches wide and mounted in metal-stud partitions.
7. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

D. Fabricate concealed stiffeners and edge channels from either cold- or hot-rolled steel sheet.

E. Hardware Preparation: Factory prepare hollow-metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with applicable requirements in SDI A250.6 and BHMA A156.115 for preparation of hollow-metal work for hardware.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer, except exterior doors and interior doors indicted to be high-performance coated.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.
2. Exterior doors and frames and interior doors and frames indicated to be high-performance coated shall be prepared and primed as specified in Section 099600.99 "High-performance Coatings".

2.9 ACCESSORIES

A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.

B. Grout Guards: Formed from same material as frames, not less than 0.016 inch thick.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.

C. Prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.

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

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install hollow-metal work plumb, rigid, properly aligned, and securely fastened in place. Comply with Drawings and manufacturer's written instructions.

B. Hollow-Metal Frames: Install hollow-metal frames for doors, transoms, sidelites, borrowed lites, and other openings, of size and profile indicated. Comply with SDI A250.11 or NAAMM-HMMA 840 as required by standards specified.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.

    a. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
    b. Install frames with removable stops located on secure side of opening.
    c. Install door silencers in frames before grouting.
    d. Remove temporary braces necessary for installation only after frames have been properly set and secured.
    e. Check plumb, square, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
    f. Field apply bituminous coating to backs of frames that will be filled with grout containing antifreezing agents.

2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with postinstalled expansion anchors.

    a. Floor anchors may be set with power-actuated fasteners instead of postinstalled expansion anchors if so indicated and approved on Shop Drawings.

3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation inside frames.
4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.
5. Concrete Walls: Solidly fill space between frames and concrete with mineral-fiber insulation.
6. In-Place Concrete or Masonry Construction: Secure frames in place with postinstalled expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
7. In-Place Metal or Wood-Stud Partitions: Secure slip-on drywall frames in place according to manufacturer's written instructions.
8. Installation Tolerances: Adjust hollow-metal door frames for squareness, alignment, twist, and plumb to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch, measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.

b. Alignment: Plus or minus 1/16 inch, measured at jambs on a horizontal line parallel to plane of wall.
c. Twist: Plus or minus 1/16 inch, measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
d. Plumbness: Plus or minus 1/16 inch, measured at jambs at floor.

C. Hollow-Metal Doors: Fit hollow-metal doors accurately in frames, within clearances specified below. Shim as necessary.

1. Non-Fire-Rated Steel Doors:

a. Between Door and Frame Jambs and Head: 1/8 inch plus or minus 1/32 inch.
b. Between Edges of Pairs of Doors: 1/8 inch to 1/4 inch plus or minus 1/32 inch.
c. At Bottom of Door: [3/4 inch] [5/8 inch] plus or minus 1/32 inch.
d. Between Door Face and Stop: 1/16 inch to 1/8 inch plus or minus 1/32 inch.

D. Glazing: Comply with installation requirements in Section 088000 "Glazing" and with hollow-metal manufacturer's written instructions.

1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches o.c. and not more than 2 inches o.c. from each corner.
2. On interior hollow metal doors and borrowed lites, provide secure stop on exterior side of frame.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow-metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow-metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer, except exterior doors and frames and interior doors and frames indicated to be high-performance coated shall be prepared and primer touched up as specified in Section 0990600.99 "High-performance Coatings".

D. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

E. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections, except exterior doors and frames and interior doors and frames indicated to have high-performance coatings shall be cleaned and touchup coated as specified in Section 0990600.99 "High-performance Coatings".

END OF SECTION

SECTION 084126 - ALL-GLASS ENTRANCES AND STOREFRONTS

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. Interior swinging all-glass entrance doors for display cases.

B. Related Requirements:

1. Section 064023 "Interior Architectural Woodwork" for display cases that include work of this Section.

1.3 ACTION SUBMITTALS

A. Product Data, Shop Drawings, Entrance Door Hardware Schedule, Delegated-Design Submittal:

1. Product Data: For each type of product.

a. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for all-glass system.

2. Shop Drawings: For all-glass entrances.

a. Include plans, elevations, and sections.
b. Include details of fittings and glazing, including isometric drawings of rail fittings.
c. Door hardware locations, mounting heights, and installation requirements.

3. Entrance Door Hardware Schedule: Prepared by or under 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 and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.
4. Delegated-Design Submittal: Indicate that specified thickness for display case doors is acceptable to manufacturer or additional thickness required to accommodate opening size.

B. Fabrication Sample: Continuous rail fitting at top and bottom, made from 12-inch lengths of full-size components and showing details of the following:

1. Joinery.

2. Anchorage.
3. Glazing.

C. Samples for Verification: For each type of exposed finish indicated, prepared on Samples of size indicated below.

1. Metal Finishes: 6-inch- long sections of rail fittings, accessory fittings, and other items.
2. Glass: 6 inches square, showing exposed-edge finish.
3. Door Hardware: For exposed door hardware of each type, in specified finish, full size.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For all-glass systems to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. 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.

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

1.7 WARRANTY

A. Special Warranty: Installer agrees to repair or replace components of all-glass 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 excessive deflection.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
c. Failure of operating components.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. General Performance: Comply with performance requirements specified, as determined by testing of all-glass entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

B. Structural Loads:

1. Deflection Limits: Deflection normal to glazing plane is limited to 1/175 of clear span.

2.2 MANUFACTURERS

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

1. Arch Aluminum & Glass Co., Inc.
2. Blumcraft of Pittsburgh; C.R. Laurence Co, Inc.
3. Oldcastle BuildingEnvelope.
4. Virginia Glass Products Corporation.
5. Vitro America.

2.3 METAL COMPONENTS

A. Fitting Configuration:

1. Manual-Swinging, All-Glass Entrance Doors : Continuous rail fitting at top and bottom.

B. Rail Fittings:

1. Material: Aluminum.
2. Height:

a. Top Rail: 3-1/2 inches.
b. Bottom Rail: 3-1/2 inches.

3. Profile: Tapered flat.
4. End Caps: Manufacturer's standard precision-fit end caps for rail fittings.

C. Accessory Fittings: Match rail-fitting metal and finish.

D. Anchors and Fastenings: Concealed.

E. Materials:

1. Aluminum: ASTM B 221, with strength and durability characteristics of not less than Alloy 6063-T5.

    a. Color: As selected by Architect from full range of industry colors and color densities.

2.4 GLASS

A. Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated surfaces), Type I (transparent), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.

1. Class 1: Clear monolithic.

    a. Thickness: 3/8 inchunless manufacturer requires thicker for opening size.

2. Exposed Edges: Machine ground and flat polished.
3. Corner Edges: Lap-joint corners with exposed edges polished.

2.5 ENTRANCE DOOR HARDWARE

A. General: Heavy-duty entrance door hardware units in sizes, quantities, and types recommended by manufacturer for all-glass entrance systems indicated. For exposed parts, match metal and finish of rail fittings.

B. Top and Bottom Pivots: Center hung; BHMA A156.4, Grade 1; including cases, bottom arms, top walking beam pivots, plates, and accessories required for complete installation.

1. Swing: Single acting.
2. Opening-Force Requirements:

    a. Interior Swinging Doors: Not more than 5 lbf to fully open door.

C. Push-Pull Set: Tubular As selected from manufacturer's full range.

D. Single-Door and Active-Leaf Locksets: Bottom-fitting or bottom-rail deadbolt.

1. Deadbolt operated by key outside.

2.6 FABRICATION

A. Provide holes and cutouts in glass to receive hardware, fittings, and accessory fittings before tempering glass. Do not cut, drill, or make other alterations to glass after tempering.

1. Fully temper glass using horizontal (roller-hearth) process, and fabricate so that when glass is installed, roll-wave distortion is parallel with bottom edge of door or lite.

B. Factory assemble components and factory install hardware and fittings to greatest extent possible.

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. Install all-glass systems and associated components according to manufacturer's written instructions.

B. Set units level, plumb, and true to line, with uniform joints.

C. Maintain uniform clearances between adjacent components.

D. Lubricate hardware and other moving parts according to manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

A. Adjust all-glass entrance doors and hardware to produce smooth operation and tight fit at contact points and weather stripping.

END OF SECTION

SECTION 089000 - LOUVERS AND VENTS

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. Fixed, extruded-aluminum louvers.

B. Related Sections:

1. Section 099113 "Exterior Painting" for field painting louvers.
2. Section 084113 "Aluminum-Framed Entrances and Storefronts" for aluminum frames storefronts in which some louvers will be installed.

1.3 DEFINITIONS

A. Louver Terminology: Definitions of terms for metal louvers contained in AMCA 501 apply to this Section unless otherwise defined in this Section or in referenced standards.

B. Horizontal Louver: Louver with horizontal blades; i.e., the axes of the blades are horizontal.

C. Drainable-Blade Louver: Louver with blades having gutters that collect water and drain it to channels in jambs and mullions, which carry it to bottom of unit and away from opening.

1.4 PERFORMANCE REQUIREMENTS

A. Structural Performance: Louvers shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated without permanent deformation of louver components, noise or metal fatigue caused by louver blade rattle or flutter, or permanent damage to fasteners and anchors. Wind pressures shall be considered to act normal to the face of the building.

1. Wind Loads: Determine loads based on pressures as indicated on Drawings.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes, without buckling, opening of joints, overstressing of components, failure of connections, or other detrimental effects.

1. Temperature Change (Range): 120 deg F, ambient; 180 deg F, material surfaces.

C. Louver Performance Ratings: Provide louvers complying with requirements specified, as demonstrated by testing manufacturer's stock units identical to those provided, except for length and width according to AMCA 500-L.

1.5 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

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

a. For louvers specified to bear AMCA seal, include printed catalog pages showing specified models with appropriate AMCA Certified Ratings Seals.

2. Shop Drawings: For louvers and accessories. Include plans, elevations, sections, details, and attachments to other work. Show frame profiles and blade profiles, angles, and spacing.

a. Show weep paths, gaskets, flashing, sealant, and other means of preventing water intrusion.
b. Show mullion profiles and locations.

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

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain louvers and vents from single source from a single manufacturer where indicated to be of same type, design, or factory-applied color finish.

B. Welding: Qualify procedures and personnel according to the following:

1. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
2. AWS D1.3, "Structural Welding Code - Sheet Steel."
3. AWS D1.6, "Structural Welding Code - Stainless Steel."

C. SMACNA Standard: Comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Extrusions: ASTM B 221, Alloy 6063-T5, T-52, or T6.

B. Fasteners: Use types and sizes to suit unit installation conditions.

1. Use tamper-resistant screws for exposed fasteners unless otherwise indicated.
2. For fastening aluminum, use aluminum or 300 series stainless-steel fasteners.
3. For fastening galvanized steel, use hot-dip-galvanized steel or 300 series stainless-steel fasteners.
4. For fastening stainless steel, use 300 series stainless-steel fasteners.
5. For color-finished louvers, use fasteners with heads that match color of louvers.

C. Postinstalled Fasteners for Concrete and Masonry: Torque-controlled expansion anchors, made from stainless-steel components, with capability to sustain, without failure, a load equal to 4 times the loads imposed, for concrete, or 6 times the load imposed, for masonry, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

D. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.2 FABRICATION, GENERAL

A. Assemble louvers in factory to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.

B. Maintain equal louver blade spacing, including separation between blades and frames at head and sill, to produce uniform appearance.

C. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances, adjoining material tolerances, and perimeter sealant joints.

1. Frame Type: Channel unless otherwise indicated.
2. Sills shall slope away from opening to drain water and not allow water to accumulate.

D. Include supports, anchorages, and accessories required for complete assembly.

E. Provide vertical mullions of type and at spacings indicated, but not more than recommended by manufacturer, or 72 inches o.c., whichever is less.

1. Exposed Mullions: Where indicated, provide units with exposed mullions of same width and depth as louver frame. Where length of louver exceeds fabrication and handling limitations, provide interlocking split mullions designed to permit expansion and contraction.

2. Exterior Corners: Prefabricated corner units with mitered and welded bladesand with semirecessed mullions at corners.

F. Provide subsills made of same material as louvers or extended sills for recessed louvers.

G. Provide Glazing Frame where required to fit within Aluminum Storefront systems.

H. Join frame members to each other and to fixed louver blades with fillet welds concealed from view unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary.

2.3 FIXED, EXTRUDED-ALUMINUM LOUVERS

A. Horizontal, Drainable-Blade Louver :

1. Basis-of-Design Product: Subject to compliance with requirements, provide ESD-435 as manufactured by Greenheck Fan Corporations or comparable product by one of the following:

   a. Airolite Company, LLC (The)).
   b. American Warming and Ventilating, Inc.; a Mestek company.
   c. Construction Specialties, Inc.
   d. Industrial Louvers, Inc.
   e. Louvers & Dampers, Inc.; a division of Mestek, Inc.
   f. Reliable Products, Inc.
   g. Ruskin Company; Tomkins PLC.
   h. Pottorff

2. Louver Depth: 4 inches.
3. Frame and Blade Nominal Thickness: Not less than 0.080 inch.
4. Mullion Type: Exposed.
5. Louver Performance Ratings:

   a. Free Area: Not less than 7.5 sq. ft. for 48-inch- wide by 48-inch- high louver.
   b. Point of Beginning Water Penetration: Not less than 1050 fpm.
   c. Air Performance: Not more than 0.15-inch wg static pressure drop at 1000-fpm free-area intake velocity.

6. AMCA Seal: Mark units with AMCA Certified Ratings Seal.

2.4 LOUVER SCREENS

A. General: Provide screen at each exterior louver.

1. Screen Location for Fixed Louvers: Interior face.
2. Screening Type: Bird screening.

B. Secure screen frames to louver frames with stainless-steel machine screws, spaced a maximum of 6 inches from each corner and at 12 inches o.c.

C. Louver Screen Frames: Fabricate with mitered corners to louver sizes indicated.

1. Metal: Same kind and form of metal as indicated for louver to which screens are attached. Reinforce extruded-aluminum screen frames at corners with clips.
2. Finish: Same finish as louver frames to which louver screens are attached.
3. Type: Non-rewirable, U-shaped frames.

D. Louver Screening for Aluminum Louvers:

1. Bird Screening: Aluminum, 1/2-inch- square mesh, 0.063-inch wire.

2.5 BLANK-OFF PANELS

A. Insulated, Blank-Off Panels: Laminated panels consisting of insulating core surfaced on back and front with metal sheets and attached to back of louver.

1. Thickness: 3 inches.
2. Metal Facing Sheets: Aluminum sheet, not less than 0.032-inch nominal thickness.
3. Insulating Core: Rigid, glass-fiber-board insulation or extruded-polystyrene foam.
4. Edge Treatment: Trim perimeter edges of blank-off panels with louver manufacturer's standard channel frames, with corners mitered and with same finish as panels.
5. Seal perimeter joints between panel faces and louver frames with gaskets or sealant.
6. Panel Finish: Same type of finish applied to louvers, but black color.
7. Attach blank-off panels with sheet metal screws.

2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.7 ALUMINUM FINISHES

A. Finish louvers after assembly.

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

1. Use this finish for louvers set within aluminum storefront or glazed aluminum curtain wall systems.

C. High-Performance Organic Finish: 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: Custom to match Architect's sample.

PART 3 - EXECUTION

3.1 EXAMINATION

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

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

3.2 PREPARATION

A. Coordinate setting drawings, diagrams, templates, instructions, and directions for installation of anchorages that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

3.3 INSTALLATION

A. Locate and place louvers and vents level, plumb, and at indicated alignment with adjacent work.

B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.

C. Form closely fitted joints with exposed connections accurately located and secured.

D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.

E. Repair finishes damaged by cutting, welding, soldering, and grinding. Restore finishes so no evidence remains of corrective work. Return items that cannot be refinished in the field to the factory, make required alterations, and refinish entire unit or provide new units.

F. Protect unpainted galvanized and nonferrous-metal surfaces that will be in contact with concrete, masonry, or dissimilar metals from corrosion and galvanic action by applying a heavy coating of bituminous paint or by separating surfaces with waterproof gaskets or nonmetallic flashing.

G. Install concealed gaskets, flashings, joint fillers, and insulation as louver installation progresses, where weathertight louver joints are required. Comply with Section 079200 "Joint Sealants" for sealants applied during louver installation.

3.4 ADJUSTING AND CLEANING

A. Clean exposed surfaces of louvers and vents that are not protected by temporary covering, to remove fingerprints and soil during construction period. Do not let soil accumulate during construction period.

B. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Thoroughly rinse surfaces and dry.

C. Restore louvers and vents damaged during installation and construction so no evidence remains of corrective work. If results of restoration are unsuccessful, as determined by Architect, remove damaged units and replace with new units.

1. Touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.

END OF SECTION

SECTION 095113 - ACOUSTICAL PANEL CEILINGS

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 acoustical panels and exposed suspension systems for interior ceilings.

B. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

1.3 ACTION SUBMITTALS

A. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:

1. Acoustical Panels: Set of 6-inch- square Samples of each type, color, pattern, and texture.
2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch- long Samples of each type, finish, and color.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.5 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials[**, from the same product run,**] that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Acoustical Ceiling Units: Full-size panels equal to 2 percent of quantity installed.
2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.
3. Hold-Down Clips: Equal to 2 percent of quantity installed.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Firm with not less than three years of successful experience in installation of acoustical ceilings similar to requirements for this Project and which is acceptable to manufacturer of acoustical units, as indicated by current written statement from manufacturer.

B. Coordination of Work: Coordinate layout and installation of acoustical ceiling units and suspension system components with other Work suspended in the ceiling plane, or penetrating through ceilings, including light fixtures, HVAC equipment, fire-suppression system components, and partition system.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical panels, suspension-system components, and accessories to Project site and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of acoustical ceiling panel and its supporting suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Class A according to ASTM E 1264.
2. Smoke-Developed Index: 50 or less.

B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL or from the listings of another qualified testing agency.

2.3 ACOUSTICAL PANELS, GENERAL

A. Source Limitations:

1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
2. Suspension System: Obtain each type from single source from single manufacturer.

B. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.

C. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.

1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches away from test surface according to ASTM E 795.

D. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.

1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.4 NON-DIRECTIONAL FISSURED PANEL FOR ACOUSTICAL PANEL CEILING APC-1

A. Products:

1. Fine Fissured, Armstrong World Industries, Inc.
2. Fine Fissured; HHF-157, CertainTeed Corp. (The).
3. Radar Climaplus, USG Interiors, Inc.

B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:

1. Type and Form: Type III, mineral base with painted finish; Form 2.
2. Pattern: As indicated by manufacturer's designation.

C. Color: White.

D. LR: Not less than 0.80.

E. NRC: Not less than 0.50.

F. CAC: Not less than 33.

G. Edge Detail: Square.

H. Size: As indicated on Drawings.

I. Suspension System: Provide suspension system that complies with requirements in Part 2 "Non-Fire-Resistance-Rated, Direct-Hung Suspension Systems", Article for wide-face, capped, double-web, steel suspension system.

2.5 WASHABLE ACOUSTICAL PANEL CEILING APC-2

A. Products:

1. Clean Room VL (unperforated), Armstrong World Industries, Inc.
2. Vinyl Shield A (unperforated), CertainTeed Corp. (The).
3. Clean Room Clima Plus (unperforated), USG Interiors, Inc.

B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:

1. Type and Form: Type IV, mineral base with membrane-faced overlay; Form 2, water felted.
2. Pattern: As indicated by manufacturer's designation.

C. Color: White.

D. LR: Not less than 0.79.

E. NRC: Not less than 0.55.

F. CAC: Not less than 35.

G. Edge Detail: Square.

H. Thickness: 5/8 inch.

I. Size: As indicated on Drawings.

J. Suspension System: Provide suspension system that complies with requirements in Part 2 "Non-Fire-Resistance-Rated, Direct-Hung Suspension Systems", Article for wide-face, capped, double-web, steel suspension system.

2.6 HIGH-HUMIDITY ACOUSTICAL PANEL CEILING APC-3

A. Products:

1. Fine Fissured-Ceramaguard, Armstrong World Industries, Inc.
2. Ceramic Radar, USG Interiors, Inc.

B. Classification: Provide panels complying with ASTM E 1264 for type, form, and pattern as follows:

1. Type and Form: Type IV, mineral base with membrane-faced overlay; Form 2, water felted.
2. Pattern: As indicated by manufacturer's designation.

C. Color: White.

D. LR: Not less than 0.82.

E. NRC: Not less than 0.50.

F. CAC: Not less than 40.

G. Edge Detail: Square.

H. Thickness: 5/8 inch.

I. Size: As indicated on Drawings.

J. Suspension System: Provide suspension system that complies with requirements in Part 2 "Non-Fire-Resistance-Rated, Direct-Hung Suspension Systems", Article for wide-face, capped, double-web, steel suspension system.

2.7 METAL SUSPENSION SYSTEM

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

1. Armstrong World Industries, Inc.
2. CertainTeed Corporation.
3. Rockfon
4. United States Gypsum Company.

B. Metal Suspension-System Standard: Provide manufacturer's standard, direct-hung, metal suspension system and accessories according to ASTM C 635/C 635M and designated by type, structural classification, and finish indicated.

1. High-Humidity Finish: Where indicated, provide coating tested and classified for "severe environment performance" according to ASTM C 635/C 635M.

C. Wide-Face, Capped, Double-Web, Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet; prepainted, electrolytically zinc coated, or hot-dip galvanized, G30 coating designation; with prefinished 15/16-inch- wide metal caps on flanges.

1. Structural Classification: Intermediate-duty system.
2. End Condition of Cross Runners: Override (stepped) or butt-edge type.
3. Face Design: Flat, flush.
4. Cap Material: Cold-rolled steel.
5. Cap Finish: Painted white.

2.8 ACCESSORIES

A. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488/E 488M or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.

a. Type: Postinstalled expansion or Postinstalled bonded anchors.
b. Corrosion Protection: Carbon-steel components zinc plated according to ASTM B 633, Class SC 1 (mild) service condition.

B. Wire Hangers, Braces, and Ties: Provide wires as follows:

1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
2. Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.135-inch- diameter wire.

C. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.

D. Hold-Down Clips: Manufacturer's standard hold-down.

2.9 METAL EDGE MOLDINGS AND TRIM

A. Basis-of-Design Product: Subject to compliance with requirements, provide Axiom Classic Trim, 4 inches; Armstrong World Industries, Inc. or comparable product by one of the following:

1. Armstrong World Industries, Inc.
2. CertainTeed Corporation.
3. Fry Reglet Corporation.
4. Gordon, Inc.
5. Rockfon.

6. United States Gypsum Company.

B. Extruded-Aluminum Edge Moldings and Trim: Where indicated, provide manufacturer's extruded-aluminum edge moldings and trim of profile indicated or referenced by manufacturer's designations, including splice plates, corner pieces, and attachment and other clips, complying with seismic design requirements.

1. Clear Anodic Finish: AAMA 611, AA-M12C22A31, Class II, 0.010 mm or thicker.
2. Baked-Enamel or Powder-Coat Finish: Minimum dry film thickness of 1.5 mils . Comply with ASTM C 635/C 635M and coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

2.10 ACOUSTICAL SEALANT

A. Acoustical Sealant: As specified in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.

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

3.2 PREPARATION

A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.

B. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION

A. Install acoustical panel ceilings according to ASTM C 636/C 636M and manufacturer's written instructions.

B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
8. Do not attach hangers to steel deck tabs.
9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
10. Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.

C. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

D. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide precise fit.

1. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension-system runners and moldings.
2. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.
3. Install hold-down clips in areas indicated; space according to panel manufacturer's written instructions unless otherwise indicated.

    a. Hold-Down Clips: Space 24 inches o.c. on all cross runners.
4. Protect lighting fixtures and air ducts according to requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet, non-cumulative.

B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet, non-cumulative.

3.5 CLEANING

A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.

B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 101426 - POST AND PANEL/PYLON SIGNAGE

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:

1. Nonilluminated Internally illuminated post and panel signs.

B. Related Sections include the following:

1. Division 01 Section "Temporary Facilities and Controls" for temporary Project identification signs and for temporary informational and directional signs.
2. Division 03 Section "Cast-in-Place Concrete" for concrete foundations and concrete fill.
3. Division 10 Section "Signage" for wall-mounted signs and dimensional characters.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide post and panel signs capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Wind Loads: Determine loads based on the following minimum design wind pressures:

a. Uniform pressure of <Insert number> lbf/sq. ft., acting in any direction.

B. Thermal Movements: Provide post and panel signs that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. 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, ambient; 180 deg F, material surfaces.

1.4 DEFINITIONS

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

1.5 SUBMITTALS

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

B. Shop Drawings: Show fabrication and installation details for post and panel/pylon signage.

1. Include plans, elevations, sections, details, and attachments to other work.
2. Provide message list, typestyles, graphic elements, and layout for each sign at least half size and full-size details of graphics.

a. Include full-size templates for cutout characters and graphic symbols.

3. Show locations of electrical service connections.
4. For installed products indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

C. Sign Schedule: Use same designations indicated on Drawings.

D. Qualification Data: For Installer and fabricator.

E. Maintenance Data: For signs to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1. Installer shall be capable of providing replacement message bars within 10 working days of receipt of order.

B. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

C. Source Limitations for Signs: Obtain each sign type indicated from one source from a single manufacturer.

1.7 PROJECT CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of signs to be performed according to manufacturers' written instructions and warranty requirements.

B. Field Measurements: Indicate measurements on Shop Drawings.

1.8 COORDINATION

A. Coordinate installation of anchorages for post and panel/pylon signage. Furnish setting drawings, templates, and directions for installing anchorages and other items that are to be embedded in concrete.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of post and panel signs that fail in materials or workmanship within specified warranty period.

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

a. Deterioration of metal and polymer finishes beyond normal weathering.
b. Deterioration of embedded graphic image colors and sign lamination.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Aluminum Sheet and Plate: ASTM B 209, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 5005-H32.

B. Aluminum Extrusions: ASTM B 221, alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with at least the strength and durability properties of Alloy 6063-T5.

C. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils with pressure-sensitive adhesive backing, suitable for exterior applications.

D. Color: As selected by Architect from manufacturer's full range.

2.2 POST AND PANEL SIGNS

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:

1. Allen Industries Architectural Signage.
2. APCO Graphics, Inc.
3. ASI-Modulex, Inc.
4. Best Sign Systems Inc.
5. Bunting Graphics, Inc.
6. Charleston Industries, Inc.

7. essential architectural signs
8. Nelson-Harkins Industries.
9. Signature Signs, Incorporated.
10. Supersine Company (The).
11. Vomar Products, Inc.
12. ISF signs.
13. Approved equal

2.3 PANEL SIGNS

A. Sign Message Panels: Provide smooth sign panel surfaces constructed to remain flat under installed conditions within a tolerance of plus or minus 1/16 inch measured diagonally from corner to corner.

1. Coordinate dimensions and attachment methods to produce message panels with closely fitting joints. Align edges and surfaces with one another in the relationship indicated.
2. Increase metal thickness or reinforce with concealed stiffeners or backing materials as needed to produce surfaces without distortion, buckles, warp, or other surface deformations.
3. Continuously weld joints and seams unless other methods are indicated; grind, fill, and dress welds to produce smooth, flush, exposed surfaces with welds invisible after final finishing.

B. Message Panel Materials:

1. Aluminum Sheet: 0.125 inch thick.

a. Panel Finish: Baked enamel.

2. Custom Paint Colors: Match Pantone color matching system.

C. Panel Sign Frames:

1. Extruded-Aluminum Frames: Mitered with concealed anchors.

2.4 POSTS

A. General: Fabricate posts to lengths required for mounting method indicated.

1. Direct-Burial Method: Provide posts 36 inches longer than height of sign to permit direct embedment in concrete foundations.

B. Aluminum Posts: Manufacturer's standard 0.125-inch- thick, extruded-aluminum tubing, with vertical slots to engage sign panels. Provide stop blocks in slots to hold panels in position. Include post caps, fillers, spacers, junction boxes, access panels, and related accessories required for complete installation.

1. Square Posts: 3 inches square.
2. Post Finish: Baked enamel Match sign panel face.

3. Color: Custom color as provided by Architect/engineer.

2.5 ACCESSORIES

A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.6 FABRICATION

A. General: Provide manufacturer's standard post and panel signs of configurations indicated.

1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
3. Preassemble signs in the shop to greatest extent possible. Disassemble signs only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation, in location not exposed to view after final assembly.
4. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.
5. Provide inconspicuous draw holes and weeps to eliminate collection of water in and on signs.

2.7 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

2.8 ALUMINUM FINISHES

A. Baked-Enamel Finish: AA-C12C42R1x (Chemical Finish: cleaned with inhibited chemicals; Chemical Finish: acid-chromate-fluoride-phosphate conversion coating; Organic Coating: as specified below). Apply baked enamel complying with paint manufacturer's written instructions for cleaning, conversion coating, and painting.

PART 3 - EXECUTION

3.1 EXAMINATION

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

B. Verify that items and electrical power are sized and located to accommodate signs.

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

3.2 INSTALLATION

A. Excavation: Excavate for sign foundation to elevations and dimensions indicated. Reconstruct subgrade that is not firm, undisturbed, or compacted soil, or that is damaged by freezing temperatures, frost, rain, accumulated water, or construction activities by excavating a further 12 inches , backfilling with satisfactory soil, and compacting to original subgrade elevation.

1. Excavate hole depths approximately 39 inches below finished grade.

B. Set anchor bolts and other embedded items required for installation of signs. Use templates furnished by suppliers of items to be attached.

1. Protect portion of posts above ground from concrete splatter.

C. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Mechanical Fasteners: Use nonremovable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.

3.3 CLEANING AND PROTECTION

A. After installation, clean soiled sign surfaces according to manufacturer's written instructions. Protect signs from damage until acceptance by Owner.

END OF SECTION

SECTION 115413 – KILNS

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. Electric kilns.
2. Downdraft ventilation system.
3. Accessories.

B. Section 260519 - Low-Voltage Electrical Power Conductors and Cables: Services and connections to kilns and ventilation systems.

1.3 DESIGN REQUIREMENTS

A. Install kiln in well-ventilated, sheltered area. Do not permit room/area temperature to exceed 100 degrees F while kiln is in use.

B. Provide a minimum of 18 inches between kiln and adjacent walls, other kilns, shelving, and other obstructions. When installing multiple kilns in the same room, ensure that the control boxes on the kilns are not facing adjacent kilns.

C. Locate kiln in a room or space with a bare concrete floor. If a bare concrete floor is not available provide a non-combustible substrate and two (2) inches of solid masonry below the kiln extending a minimum of 12 inches beyond the outside dimensions of the kiln.

D. If installing kilns in a room or space with a fire suppression system, do not place kilns in such a manner so as to cause sprinkler heads or heat sensors to activate.

E. Locate the kilns indoors and protect from exposure to damp air to avoid corrosion.

1.4 ACTION SUBMITTALS

A. Product Data & Shop Drawings:

1. Product Data: Submit for kilns, ventilation systems, and accessories. Include product data, installation instructions, and manufacturer’s recommendations.

2. Shop Drawings: Submit for kilns. Include plans indicating space required and relationship to work of other sections.

1.5 CLOSEOUT SUBMITTALS

A. Operating and Maintenance Data: For kilns and ventilation systems to include in maintenance manuals.

B. Warranties: Special warranties specified in this section.

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain kilns, ventilation systems, and accessories through one (1) source from a single manufacturer.

1. Kiln and ventilation system to be UL listed as a system.

B. Regulatory Requirements: Comply with provisions of the following product certifications:

1. NFPA: Provide kilns and ventilation systems listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
2. UL and NEMA: Provide electrical components required as part of kilns and ventilation systems that are listed and labeled by UL and that comply with applicable NEMA standards.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver kilns, ventilation systems, and accessories in manufacturer’s original packaging with protective covering intact.

B. Do not stack other items on top of packaged kilns during transportation and storage. Store kilns with top end up.

C. Utilize equipment capable of moving the kiln and packaging without damage and install kilns into location.

D. Protect from damage due to weather, excessive temperature, and construction operations.

1.8 WARRANTY

A. Special Warranties: Manufacturer’s standard form in which manufacturer of each kiln specified agrees to repair or replace kilns that fail in materials or workmanship within specified warranty period. Warranty includes labor for repair or replacement.

1. Kiln: Two-year limited warranty.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: The design for kilns, ventilation systems, and accessories is Skutt Kilns, 6441 SE Johnson Creek Blvd, Portland, OR 97206-9552, Telephone: 503-774-6000, Fax: 503-774-7833, Web Site: www.skutt.com.

2.2 ELECTRIC KILNS

A. Electric Kilns: Manufacturer's 10-sided electric kilns with components, options, and accessories needed to comply with requirements and provide complete functional kilns including the following components.

1. Kiln stand.
2. Kiln floor or slab.
3. Fire brick.
4. Kiln elements.
5. Section latch.
6. Section handle.
7. Lid with lifter and latch.
8. Control box.
9. Thermocouple.
10. Touchscreen Controller or Touchpad Controller. Must include diagnostic Current Sensor.
11. Peep plugs.
12. Factory pre-wire kilns for electrical switching devices. Factory predrill holes in the kiln lid and floor for the downdraft ventilation system.

2.3 DOWNDRAFT VENTILATION SYSTEM

A. Downdraft Ventilation System: Basis-of-Design: Skutt "EnviroVent 2" negative pressure downdraft ventilation system; capable of removing hazardous fumes only, not heat. System to consist of the following components:

1. Blower motor with eight (8) ft. power cord and in-line switch.
2. 8 x 12 inch mounting plate.
3. Eight (8) ft. x three (3) inch flexible aluminum duct.
4. Spring-loaded plenum cup assembly.
5. Blower inlet tube.
6. Blower discharge tube.
7. Plenum spring.
8. Three (3) to four (4) inch connector.
9. Floor mounting plate.
10. Mounting hardware.

B. System fits a single top-loading, multi-sided, electric kiln with a chamber size less than 12 cu. ft. Provide a dual exhaust kit to vent a single kiln over 12 cu. ft. or two (2) kilns with chamber volumes each under 12 cu. ft. Maximum chamber volume that can be vented with one (1) motor is 24 cu. ft.

C. Electrical Switching Device: Basis-of-Design: Skutt “EnviroLink” electrical switching device utilizing a programmable power output in the kiln controller to turn the downdraft ventilation system on and off with the kilns controller.

2.4 ACCESSORIES

A. Basis-of-Design: EasyView angled touchpad mount. (KM model kilns only. KMT models have built in adjustable angle controller)

B. Basis-of-Design: KilnLink: Web interface system. Requires a 1 or 5 year data plan with KMT and KM Kilns. KM models will also require additional hardware to connect to the internet. Additional hardware not required on KMT models with built in WiFi.

C. Basis-of-Design: Furniture Kits: Kit includes shelves and one (1) post assortment. Kits are designed to fire to Cone 10 temperatures.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where kilns, ventilation systems, and accessories will be used, for compliance with requirements that affect installation and installation tolerances. Notify the Architect in writing of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Downdraft Ventilation System:

1. Ensure that kiln stand is a minimum of eight (8) inches high. If stand is lower than eight (8) inches high, either shim legs to increase distance from floor to eight (8) inches or replace stand with one (1) that is eight (8) inches high.
2. If kiln does not have factory drilled holes, provide number and size of holes as recommended by the manufacturer for the specific kiln model. Locate holes in accordance with manufacturer’s recommendations.

3.3 INSTALLATION

A. Install in strict accordance with manufacturer’s written installation instructions and recommendations. Coordinate installation with adjacent work to ensure proper clearances.

B. Install units in final locations after finishes have been completed in each area. Verify that clearances are adequate to properly operate equipment.

C. Set units level, plumb, properly aligned, and securely in place.

D. See Division 26 sections for electrical requirements.

E. Downdraft Ventilation System:

1. Assemble and install system components on kiln in accordance with manufacturer's written instructions.
2. Install the blower and motor assembly on the wall in a location that is close enough for the flexible aluminum duct to reach the kiln without overstretching the duct. Where wall-mounting is not possible, mount the vent motor on the floor or to the ceiling.

3.4 CLEANING AND PROTECTION

A. Test kilns, ventilation systems, and accessories to verify proper operation. Make necessary adjustments.

B. Verify that accessories required have been furnished and installed.

C. Remove packing material and leave kilns in clean condition, ready for operation.

END OF SECTION

SECTION 116623 - GYMNASIUM EQUIPMENT

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.
4. Gymnasium divider curtain.
5. Gymnasium Control Center.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for installation of floor insert sleeves to be cast in concrete slabs and footings.
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. NAGWS: The National Association for Girls and Women in Sport.

D. NCAA: The National Collegiate Athletic Association.

E. NFHS: The National Federation of State High School Associations.

F. USAV: USA Volleyball.

1.4 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

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

a. If applicable, include assembly, disassembly, and storage instructions for removable equipment.

2. Shop Drawings: For gymnasium equipment. Include plans, elevations, sections, details, attachments to other work, and the following:

a. Method of field assembly for removable equipment, connections, installation details, mountings, floor inserts, attachments to other work, and operational clearances.
b. Transport and storage accessories for removable equipment.

1.5 INFORMATIONAL SUBMITTALS

A. 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.

1.6 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of gymnasium equipment through one source from a single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Structural and electrical characteristics of Project are based on "Basis of Design" manufacturer's equipment requirements. Contractor utilizing one of other listed approved manufacturers shall coordinate all changes required by use of that equipment on this Project. All coordination with and changes to Contract Documents required by use of this equipment, including but not limited to, Structural and Electrical systems, shall be included in Base Bid. All costs shall be borne by this Contractor. No additional costs to Owner or other contractors will be accepted.

1. If other than "Basis of Design" manufacturer's equipment is utilized, provide complete wiring schematic for coordination of this equipment with building electrical system, equipment connections, and coordination of operation of this equipment. Additional installation costs shall be included in Base Bid of Contractor for this Section.

1.7 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.

1.8 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.

1.9 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 oveable equipment.

2. Warranty Periods shall be as follows:

a. Lifetime warranty on glass backboards.
b. Volleyball equipment; one (1) year from date of Substantial Completion.
c. Safety pads; two (2) years from date of Substantial Completion.
d. Hoist system for wrestling mat storage; five (5) years from date of Substantial Completion.
e. Divider curtain; two (2) years from date of Substantial Completion.
f. Batting cages; two (2) years from date of Substantial Completion.
g. Control center; 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.
2. Cast Aluminum: ASTM B 179.
3. Flat Sheet: ASTM B 209.

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 with a breaking strength of 7000 lb. Provide fittings complying with cable manufacturer's written instructions for size, number, and method of installation.

D. Castings and Hangers: Malleable iron, ASTM A 47/A 47M, grade required for structural loading.

E. Composite Wood Products: Products shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

F. Particleboard: ANSI A208.1.

G. Anchors, Fasteners, Fittings and Hardware: Manufacturer's standard corrosion-resistant or noncorrodible units; concealed; tamperproof, vandal- and theft-resistant design.

H. 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. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Draper Inc.
2. Performance Sports Systems.
3. Porter Athletic Equipment Company.

B. General: Provide equipment complying with requirements in NFHS's "NFHS Basketball Rule Book**.**"

C. Protruding fasteners or exposed bolt heads on front face of backboards are not permitted.

D. Overhead-Supported Backboard:

1. Folding Type: Provide manufacturer's standard assembly for forward-folding, front-braced backboard, 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.

E. Backboard Safety Device: Designed to limit free fall if support cable, support chain, pulleys, fittings, winch, or related components fail; with mechanical automatic reset; 6000-lb load capacity; one per folding backboard.

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.

F. Backboard Electric Operator: 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. Operator Mounting: Wall-mounting board.
3. 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:
4. Voltage: 120 V.
5. Horsepower: 1/2 hp.
6. Enclosure: Totally enclosed.
7. Duty: Continuous duty at ambient temperature of 105 deg F and at altitude of 3300 feet above sea level.
8. Service Factor: 1.15 for open dripproof motors; 1.0 for totally enclosed motors.
9. Phase: One.
10. Remote-Control Station(s): NEMA ICS 6, Type 1 enclosure for recessed or flush mounting, momentary-contact, three-position switch-operated control with up, down, and off functions.

    a. Group Key Switch Control Stations: One switch per two backboards.
    b. Keys: Provide two keys per station.
    c. Switches, Ganged: Single faceplate with multiple switch cut-outs for three switches operating six backboards.
    d. Radio Controls: Digital system consisting of code-compatible universal coaxial receiver, one per backboard winch, and two portable multiple-channel transmitters for operating up to nine backboards individually with up and down functions.

11. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop basketball equipment at fully retracted and fully lowered positions.

G. Basketball Backboard:

1. Backboard Material: With predrilled holes or preset inserts for mounting goals, and as follows:

    a. Glass: Not less than 1/2-inch- 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 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.
2) Rim-Restraining Device: Complying with NCAA and NFHS rules and designed to ensure that basket remains attached if glass backboard breaks.

2. Target Area and Border Markings: Permanently etched in white color, marked in pattern and stripe width according to referenced rules.

H. Goal Mounting Assembly: Compatible with goal, backboard, and support framing; with hole pattern that is manufacturer's standard for goal attachment.

1. Glass Backboard Goal Mounting Assembly: Goal support framing and reinforcement designed to transmit load from goal to backboard frame and to minimize stresses on glass backboard.
2. 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.

I. Basketball Goals: Complete with flanges, braces, attachment plate, and evenly spaced loops welded around underside of ring.

1. Single-Rim Basket Ring Competition Goal: Materials, dimensions, and fabrication complying with referenced rules.
2. Type: Movable, breakaway design with manufacturer's standard breakaway mechanism including positive-lock, preset pressure release, set to release at 230-lb load, and automatic reset. Provide movable ring with rebound characteristics identical to those of fixed, nonmovable ring.
3. Mount: Front.
4. Net Attachment: No-tie loops for attaching net to rim without tying.
5. Finish: Powder-coat finish.

J. Basketball Nets: 12-loop-mesh net, between 15 and 18 inches 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.

K. Backboard Safety Pads: Designed for backboard thickness indicated and extending continuously along bottom and up sides of backboard and over goal mounting and backboard supports as required by referenced rules.

1. Attachment: Bolt-on.
2. Color: Manufacturer's standard color.

2.3 VOLLEYBALL EQUIPMENT

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

1. Draper Inc.
2. Performance Sports Systems.
3. Porter Athletic Equipment Company.

B. General: Provide equipment complying with requirements in NFHS's "NFHS Volleyball Rule Book."

C. Floor Insert: Solid-brass 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 as indicated; with anchors designed for securing floor insert to floor substrate indicated; quantity as indicated.

1. Floor Plate: Lockable swivel access cover, designed for use with floating wood floors and to be flush with adjacent flooring. Provide two tool(s) for unlocking access covers.

D. Post Standards: Removable, paired volleyball post standards and center post standard for multicourt play as indicated. Fixed height. Designed for easy removal from permanently placed floor insert supports. Fabricated from combined steel and extruded-aluminum pipe or tubing, with nonmarking plastic or rubber end cap or floor bumper to protect permanent flooring. Finished with manufacturer's standard factory-applied, baked powder-coating finish complying with finish manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness or plated metal finish.

1. Nominal Pipe or Tubing Diameter: 3-inch OD at base.
2. Net Height Adjuster: Manufacturer's standard mechanism for height adjustment, complete with fittings; designed for positioning net at heights indicated.

a. Net Heights: Between sitting volleyball net height and boys'/men's volleyball net height, 36 and 95-5/8 inches or more.

3. Height Markers: Clearly marked at regulation play heights for girls/women.

E. Net: 32 feet long and as follows; 1 per pair of paired post standards:

1. Width and Mesh: Competition volleyball net, 39 inches with 4-inch- square knotless mesh made of black nylon string.

a. Hem Band Edges: White, not less than 2-inch- wide top, bottom, and side bindings; tie offs at top, bottom and midpoint of each side end of net; end sleeves for dowels; and lines with linkage fittings threaded through top and bottom hems of binding. Provide lengths of lines and linkage fittings as required to properly connect to and set up net for post standard spacing indicated on Drawings.

1) Top Line: Not less than 1/8-inch- diameter, galvanized or coated steel cable.
2) Bottom Line: Not less than 1/8-inch- diameter, galvanized or coated steel cable.

2. Dowels: Not less than 1/2-inch- diameter fiberglass or 1-inch- diameter wood. Provide two dowels per net threaded through each side hem sleeve for straightening net side edges.
3. Net Antennas: 3/8-inch- diameter, high-tensile-strength, extruded fiberglass or plastic rods, 72 inches long, extending above top hem band of net, with alternating white and red bands according to competition rules. Provide two antennas per net.

    a. Clamps: Designed to secure antenna to top and bottom of net.

4. Boundary Tape Markers: 2-inch- wide white strip, secured to net top and bottom with hook-and-loop attachment. Provide two tape markers per net for marking court boundaries.

F. Net Tensioning System: Designed to adjust and hold tension of net. Fully enclosed, nonslip manufacturer's standard-type winch with cable length and fittings for connecting to net lines, positive-release mechanism, and manufacturer's standard handle. Mount net tensioner on post standard at side away from court. Provide end post with post top pulley. Provide opposing post with welded steel loops, hooks, pins, or other devices for net attachment and post top grooved line guide.

G. Bottom Net Lock Tightener: Provide manufacturer's standard quick-release-type tension strap, spring-loaded self-locking tensioner, turnbuckle, pulley, or other device and linkage fittings designed to quickly and easily tighten bottom line or net.

H. Judges' Stands: Provide manufacturer's standard adjustable-height units designed to be freestanding, folding for storage. Fabricate units of welded steel tubing with finish and color to match post standards.

I. Safety Pads: Comply with NCAA and NFHS requirements. **Provide pads consisting of not less than** 1-1/4-inch- thick, multiple-impact-resistant manufacturer's standard foam filler covered by puncture- and tear-resistant, not less than 14-oz./sq. yd. PVC-coated polyester, treated with fungicide for mildew resistance, fabric cover; with fire-test-response characteristics indicated, and lined with fire-retardant liner. Provide pads with hook-and-loop closure or attachments for the following components:

1. Post Standards: Wraparound style, designed to totally enclose each standard to a height of not less than [66 inches] [72 inches]; 1 per post.
2. Net Lines: Four per net.
3. Judges' Stands: Designed to totally enclose each unit.
4. Fabric Cover Flame-Resistance Ratings: Passes NFPA 701.
5. Fabric Color: As selected by Architect from manufacturer's full range.
6. Graphics: Custom graphics as indicated.

J. Post Standard Transporter: Manufacturer's standard wheeled unit designed for transporting a single post.

K. Wall Storage Rack: Manufacturer's standard unit designed for mounting on walls and for storing post standards in vertical position with retaining arms, fittings for padlock, and mounting hardware; number of units as required to provide storage for specified equipment.

L. Storage Cart: Manufacturer's standard wheeled unit designed for transporting and storing volleyball equipment and passing through 36-inch- wide or wider door openings. Fabricate units of welded steel tubing with heavy-duty casters, including not less than two swivel casters. Fabricate wheels from materials that will not damage or mark floors; number of units as required to provide transport and storage for specified equipment.

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:

1. Draper Inc.
2. Institutional Products Inc.
3. Performance Sports Systems.
4. Porter Athletic Equipment Company.

C. 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.

D. Pad Coverings: Provide safety pad fabric covering fabricated from puncture- and tear-resistant, not less than 14-oz./sq. yd PVC-coated polyester or nylon-reinforced PVC fabric treated with fungicide for mildew resistance; with surface-burning characteristics indicated.

E. 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- thick plywood, mat formed, or composite panel.
2. Fire-Resistive Fill: Multiple-impact-resistant foam not less than 2-inch- thick fire-resistive neoprene, 6.0-lb/cu. ft. density.
3. Size: Each panel section, 24 inches wide by not less than 60 inches long.
4. Installation Method: Manufacturer's standard.
5. Fabric Covering Color(s): As selected by Architect from manufacturer's full range for one color(s).
6. Graphics: Custom graphics as indicated.

2.5 GYMNASIUM DIVIDER CURTAIN

A. Basis-of-Design: Subject to compliance with requirements, provide Performance Sports Systems Model 4040, Top Roll Curtain.

B. Overhead Structure:

1. Divider curtain shall be supported from roof structure by directly attaching to underneath side of roof truss or by attaching to 3-1/2" O.D. horizontal and 2-3/8" O.D. vertical structural tubing supplied by curtain manufacturer. Maximum attachment height shall not exceed 30'. Bridge pipe will be required when truss spans exceed 14'. Super structure shall be furnished with standard black finish.
2. Material:

a. Lower 8'-0" shall be solid 18 oz. polyester reinforced, fire-retardant and mildew-resistant vinyl fabric. Seams shall be electronically welded with full contact weld. A padded pocket shall be formed in bottom edge of curtain to accommodate a 1.9" O.D. bottom batten.
b. Upper portion of curtain shall be 9 oz. vinyl coated polyester mesh. A pocket of vinyl shall be formed in top edge of curtain to accommodate 1/4" galvanized aircraft cable for attachment to 3-1/8" O.D. extruded aluminum drive pipe.
c. Curtain shall stop 2" above finished floor.

C. Drive Structure:

1. Curtain shall be operated by two synchronized internal tubular motors (120 volt, 60 hertz, single phase). Each motor shall have a maximum torque of 352 inch pounds with a speed of 14 rpm. Each motor shall be equipped with integral up-and-down limit switches with locking push buttons.
2. Each asynchronous motor is maintenance free, permanently lubricated, features overheating protection and has sturdy electrical and mechanical design for long life. Motors shall feature electromagnetic disc brake for smooth and accurate stop without slippage. Motors shall feature three-stage planetary gear mechanism for quiet and reliable operation.
3. Curtains requiring cables, belts, or straps for operation shall not be considered acceptable.

2.6 GYMNASIUM CONTROL CENTER

A. Basis-of-Design: Subject to compliance with requirements, provide Performance Sports Systems Model TSC1500XL Total System Control Keypad.

B. Gymnasium Control Center: Operates gymnasium equipment individually, in pairs and in up to 6 groupings with single button control, without requiring additional control wiring. Each relay set can be programmed to accept four memory address assignments for up to four different operation combinations for each piece of equipment (operate to 6 units individually or simultaneously). Each desired operation mode shall be selected at keypad by entering assigned equipment's number. Final assignment of equipment operation codes shall be reviewed with Owner.

1. Equipment to be operated by control center:

a. Basketball Backboards
b. Gymnasium Divider Curtain

C. Keypad and relay box shall operate 10 motorized systems and six additional 15-amp auxiliary operations (lighting, scoreboards, etc.). System shall use 20 multi-function keys with illuminated 4-line, 20 character LCD display for easy readout. Operates on 110 volts with keypad communications at 24 volts. Mount in standard 12" by 12" by 6" metal box. Relay panel (24" by 24" by 6") can be mounted in any remote location.

D. Safety Features shall include password control to prevent unauthorized use. "Press and Hold" button feature prevents authorized operator from walking away while equipment is in motion. Auto shut-off after thirty seconds of non-use. Unit shall be self-diagnostic with voltage-sensing shutdown feature in case of overload and will recommend electrical maintenance, if needed.

E. Wiring of all electrical components shall be in accordance with local area codes and in accordance with manufacturer's instructions. This is responsibility of Division 26 Electrical contractor.

F. Legend: A wall-mounted legend shall allow user to identify each piece of equipment and its corresponding number on control system. Equipment legend shall consist of a piece of cardstock, 11 inches x 17 inches in size, preprinted with an accurate floor plan and equipment layout of facility. A legend on floor plan shall identify each piece of equipment by number. Printed cardstock shall be secured to wall behind a piece of ¼" thick clear acrylic sheet, 11 inches x 18 inches in size. Mounting hardware shall be provided.

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 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[**and footing**] 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 4 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. 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.

END OF SECTION

SECTION 116800 - PLAY FIELD EQUIPMENT AND STRUCTURES

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:

1. Freestanding playground equipment and structures.
2. Composite playground equipment and structures.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for concrete footings.
2. Division 32 Section "Playground Protective Surfacing" for protective surfacing under and around playground equipment.

1.3 DEFINITIONS

A. Fall Height: According to ASTM F 1487, "the vertical distance between a designated play surface and the protective surfacing beneath it."

B. HDPE: High-density polyethylene.

C. IPEMA: International Play Equipment Manufacturers Association.

D. LLDPE: Linear low-density polyethylene.

E. MDPE: Medium-density polyethylene.

F. Use Zone: According to ASTM F 1487, "the area beneath and immediately adjacent to a play structure that is designated for unrestricted circulation around the equipment and on whose surface it is predicted that a user would land when falling from or exiting the equipment."

1.4 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

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

2. Shop Drawings: Show fabrication and installation details for playground equipment and structures.

B. Coordination Drawings: Plans, drawn to scale, on which the following items are shown and coordinated with each other, based on input from installers of the items involved:

1. Extent of surface systems and use zones for equipment.
2. Critical heights for playground surface, or fall heights for equipment.

C. Samples for Initial Selection: For each type of playground equipment and structure indicated.

1. Manufacturer's color charts.

1.5 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of playground equipment, signed by product manufacturer..

B. Installer Certificates: Signed by manufacturers certifying that installers comply with requirements.

C. Maintenance Data: For playground equipment and finishes to include in maintenance manuals.

D. Warranty: Special warranty specified in this Section.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

B. Manufacturer Qualifications: A firm whose playground equipment components have been certified by IPEMA's third-party product certification service.

C. Safety Standards: Provide playground equipment complying with or exceeding requirements in the following:

1. ASTM F 1487.
2. CPSC No. 325.

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

1.7 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of playground equipment that fail in materials or workmanship within specified warranty period.

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

a. Structural failures including corrosion, natural deterioration, and manufacturing defects.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

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. Basis-of-Design Product: The design for each piece of playground equipment is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.

2.2 PLAYGROUND EQUIPMENT FABRICATION

A. Assemble items in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

B. Provide necessary rebates, lugs, and brackets to assemble units and to attach to other work. Cut, reinforce, drill, and tap to receive finish hardware, screws, and similar items, unless otherwise indicated.

C. Provide castings that are sound and free of warp, cracks, blowholes, or other defects that impair strength or appearance. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks.

D. Signs: Manufacturer's standard sign panels, fabricated from opaque plastic with graphics molded in, attached to upright support posts.

2.3 FREESTANDING PLAYGROUND EQUIPMENT AND STRUCTURES

A. Swings, Single Axis (plan notes 37, 46):

1. Basis-of-Design Product: Playcraft; 3449-323 or a comparable product by one of the following:

a. Landscape Structures
b. Playworld
c. Miracle Playground Equipment
d. Gametime

e. Approved equal.

B. Merry-Go-Rounds: Rotating platform around a vertical axis (plan note 40, play equipment "A").

1. Basis-of-Design Product: Playcraft; Friendship spinner or a comparable product by one of the following:

a. Landscape structures
b. Playworld
c. Miracle Playground Equipment
d. Gametime
e. Approved equal.

2.4 COMPOSITE PLAYGROUND EQUIPMENT AND STRUCTURES

A. Composite Structure: Fabricated from steel opaque plastic (plan note 39 - play equipment "C", plan note 41 - play equipment "B", plan note 43 - play equipment "E", plan note 42 - play equipment "D").

1. Basis-of-Design Product: Playcraft; see attachments B, C, D, E for layouts or a comparable product by one of the following:

a. Landscape Structures
b. Playworld
c. Miracle Playground Equipment
d. Gametime
e. Approved equal

2.5 CAST-IN-PLACE CONCRETE

A. Concrete Materials and Properties: Comply with requirements in Division 03 Section "Cast-in-Place Concrete" to produce normal-weight, air-entrained concrete with a minimum 28-day compressive strength of 3000 psi, 3-inch slump, and 1-inch- maximum-size aggregate.

2.6 FINISHES, GENERAL

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, site surface and subgrade drainage, and other conditions affecting performance.

1. Do not begin installation before final grading required for placing protective surfacing is completed, unless otherwise permitted by Architect.
2. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Verify locations of playground perimeter and pathways. Verify that playground layout and equipment locations comply with requirements for each type and component of equipment.

3.3 INSTALLATION, GENERAL

A. General: Comply with manufacturer's written installation instructions, unless more stringent requirements are indicated. Anchor playground equipment securely, positioned at locations and elevations indicated.

1. Maximum Equipment Height: Coordinate installed heights of equipment and components with finished elevations of protective surfacing. Set equipment so fall heights and elevation requirements for age group use and accessibility are within required limits. Verify that playground equipment elevations comply with requirements for each type and component of equipment.

B. Post and Footing Excavation: Excavate holes for posts and footings as indicated in firm, undisturbed or compacted subgrade soil.

C. Post Set with Concrete Footing: Comply with ACI 301 for measuring, batching, mixing, transporting, forming, and placing concrete.

1. Set equipment posts in concrete footing. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at the correct angle, alignment, height, and spacing.

a. Place concrete around posts and vibrate or tamp for consolidation. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

2. Embedded Items: Use setting drawings and manufacturer's written instructions to ensure correct installation of anchorages for equipment.
3. Concrete Footings: Smooth top, and shape to shed water.

3.4 FIELD QUALITY CONTROL

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

B. Arrange for playground equipment manufacturer's technical personnel to inspect playground and playground equipment and components during installation and at final completion and to certify compliance with the following:

1. ASTM F 1487.
2. CPSC No. 325

C. Notify Architect 48 hours in advance of date and time of final inspection.

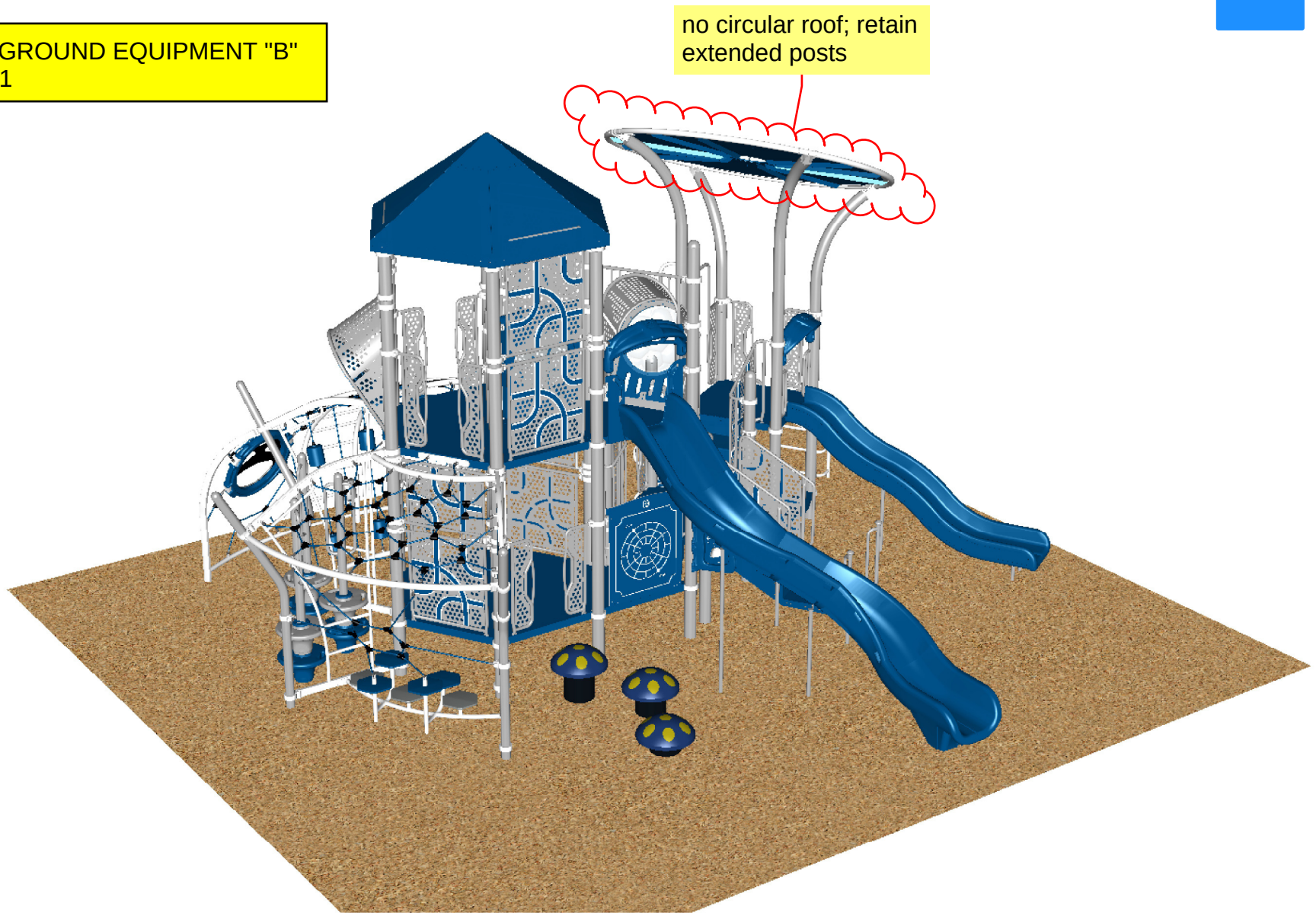
END OF SECTION

NF54AE5FA
SW VIEW

R5

FOR KIDS
AGES
5-12

PLAYGROUND EQUIPMENT "B"
QTY: 1



STRUCTURE#: NF522AD0A
PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

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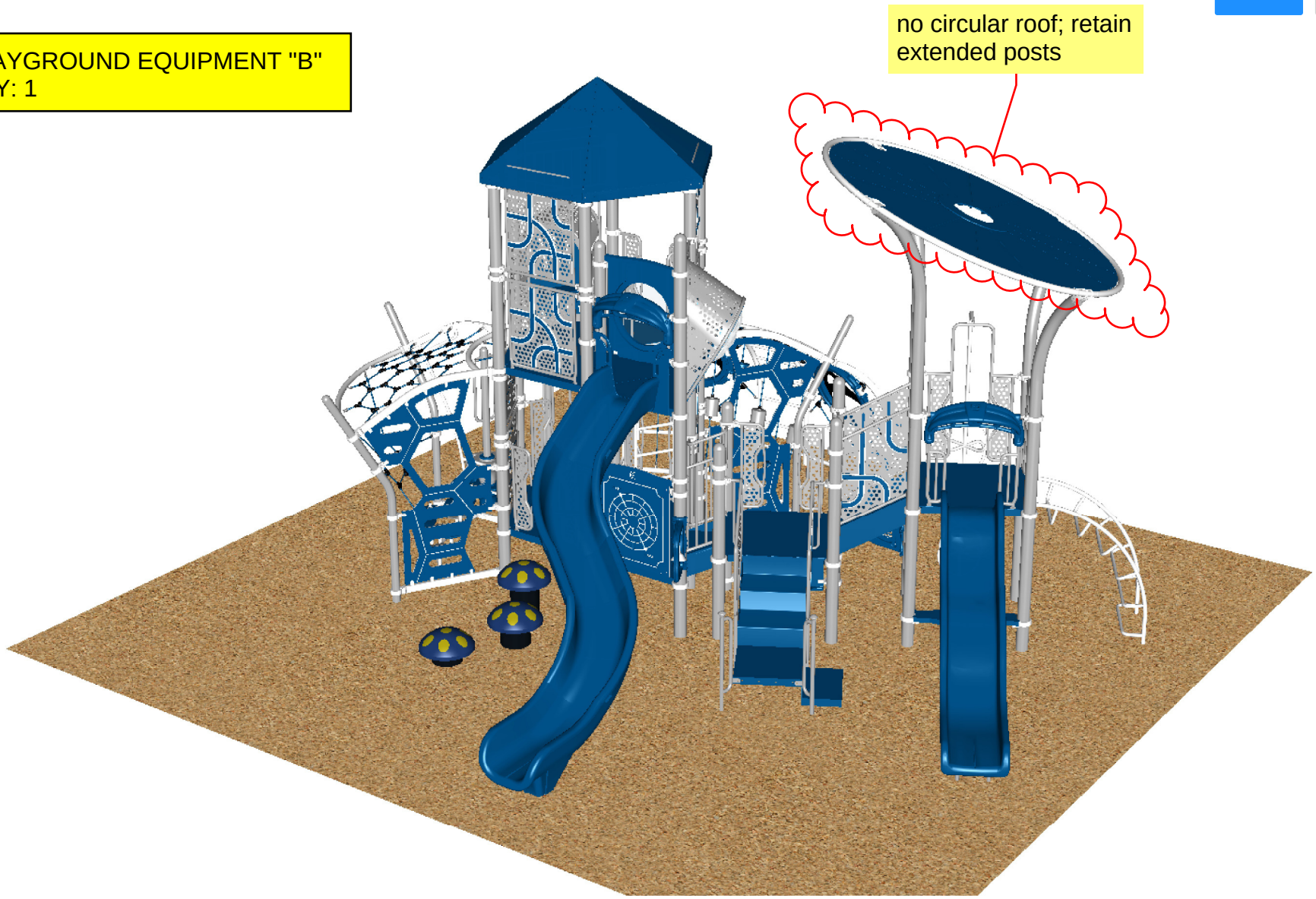
PLAYGROUND EQUIPMENT "B"
QTY: 1



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PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

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PLAYGROUND EQUIPMENT "B"
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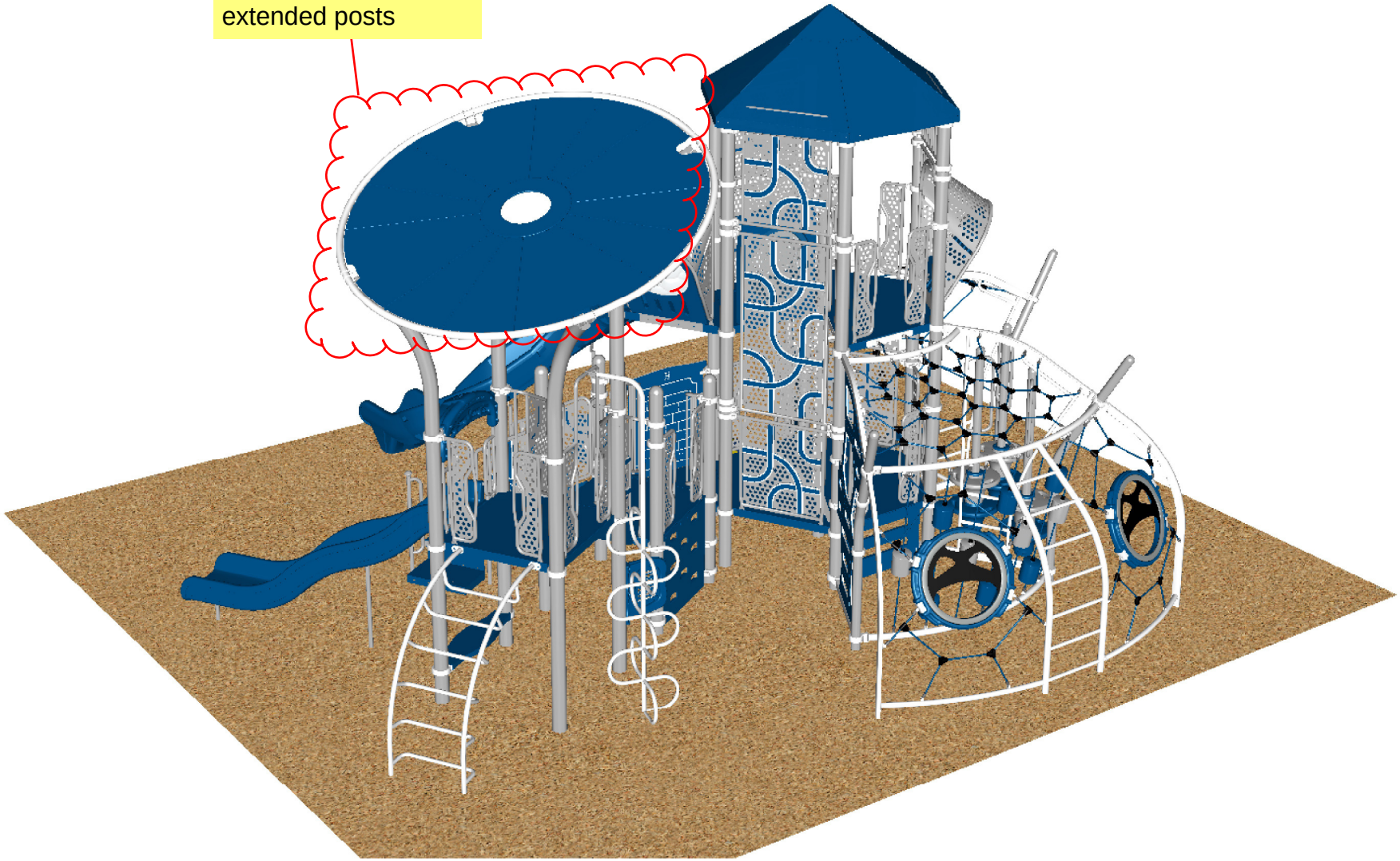

STRUCTURE#: NF522AD0A
PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

NF54AE5FA
NW VIEW

no circular roof; retain extended posts

PLAYGROUND EQUIPMENT "B"
QTY: 1

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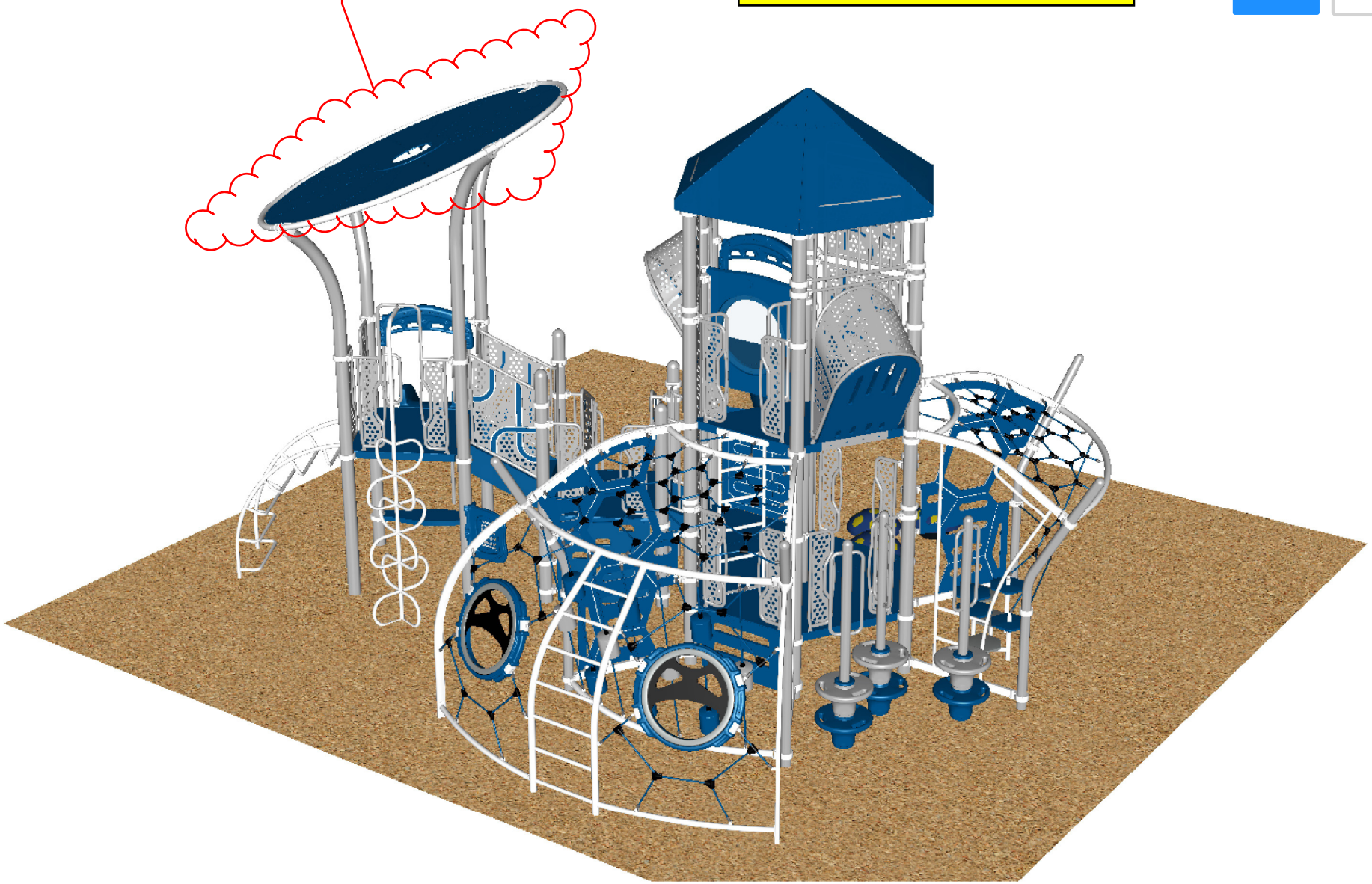
FOR KIDS
AGES
5-12

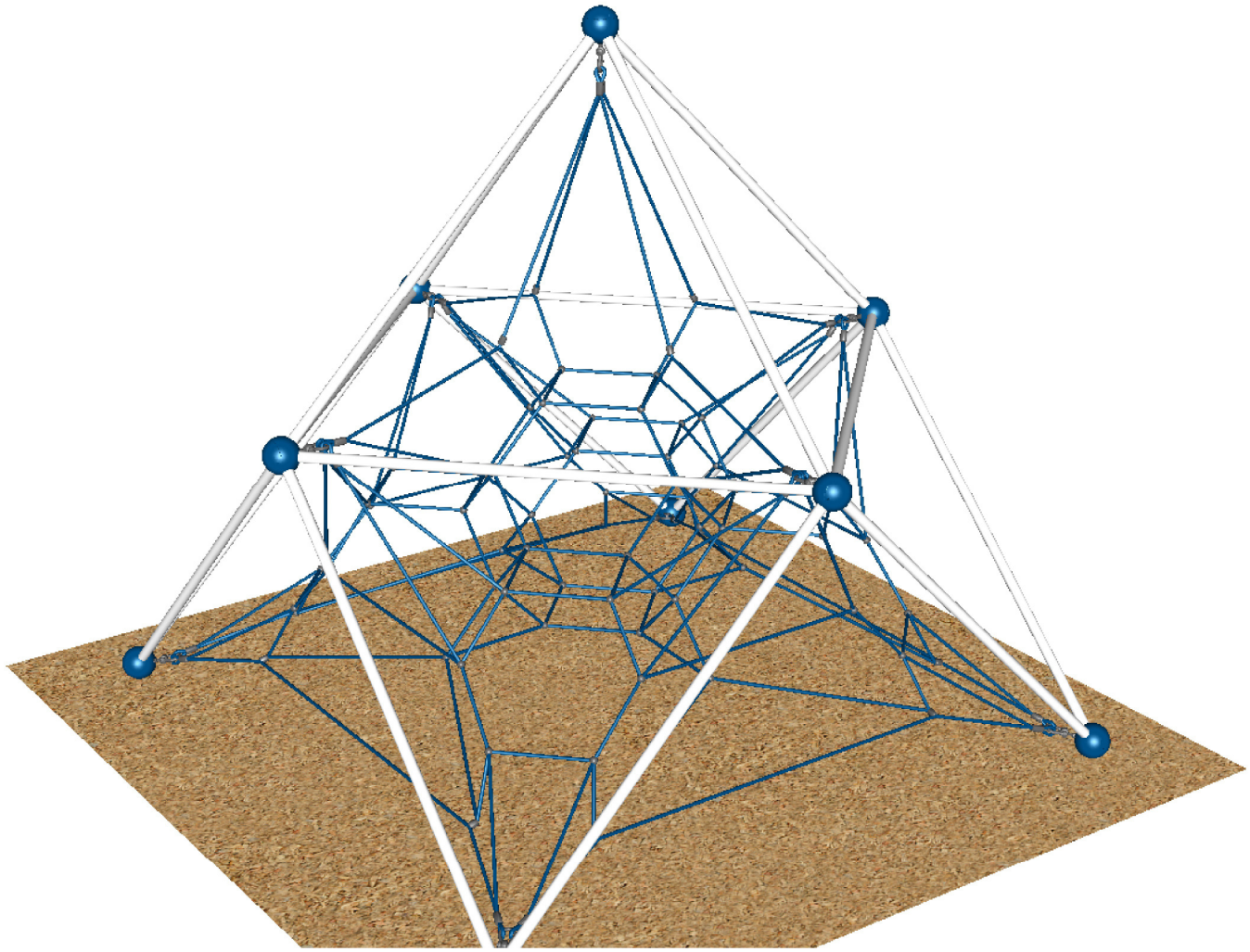


STRUCTURE#: NF522AD0A
PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

NF54AE5FA
SW VIEW

FOR KIDS
AGES
5-12

PLAYGROUND EQUIPMENT "D"
QTY: 1



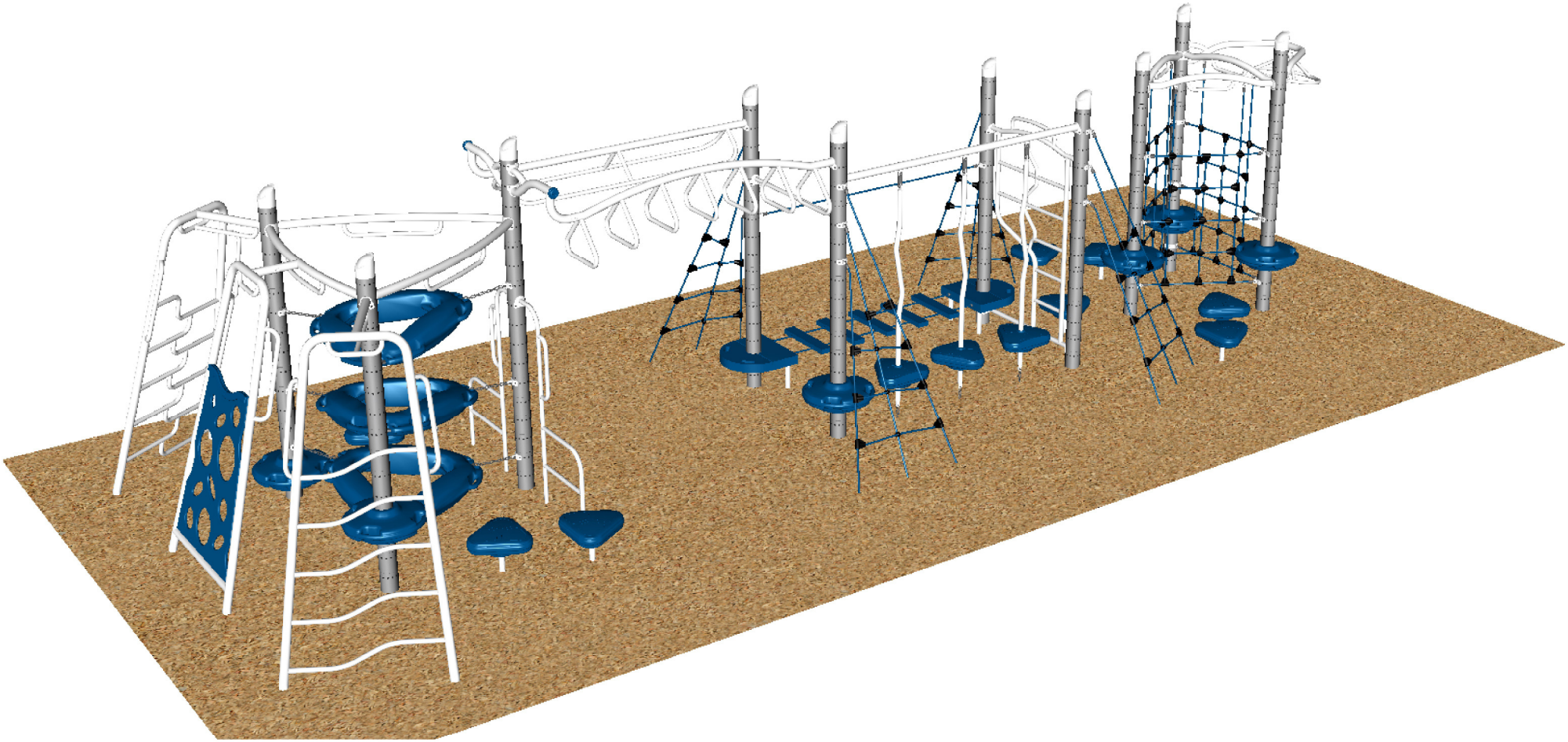
STRUCTURE#: 1
PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

NF54AE5FA
SW VIEW

RV5

FOR KIDS
AGES
5-12

PLAYGROUND EQUIPMENT "C"
QTY: 1



STRUCTURE#: REV3118DB
PROJECT#: NF54AE5FA
DATE: 10/16/2020 | DRAWN BY: Alyssa

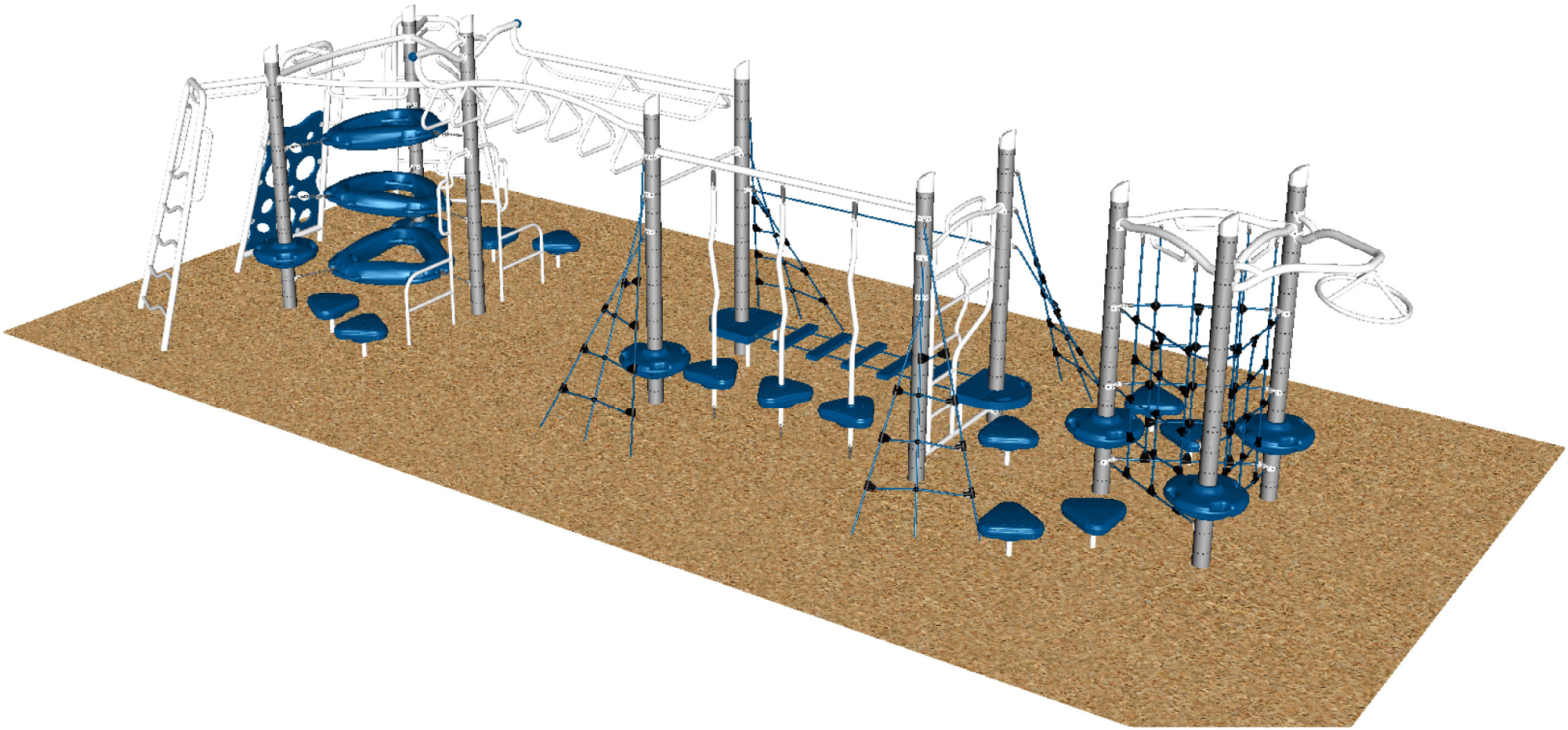
NF54AE5FA

SE VIEW

PLAYGROUND EQUIPMENT "C"
QTY: 1

RV5

FOR KIDS
AGES
5-12



STRUCTURE#: REV3118DB

PROJECT#: NF54AE5FA

DATE: 10/16/2020 | DRAWN BY: Alyssa

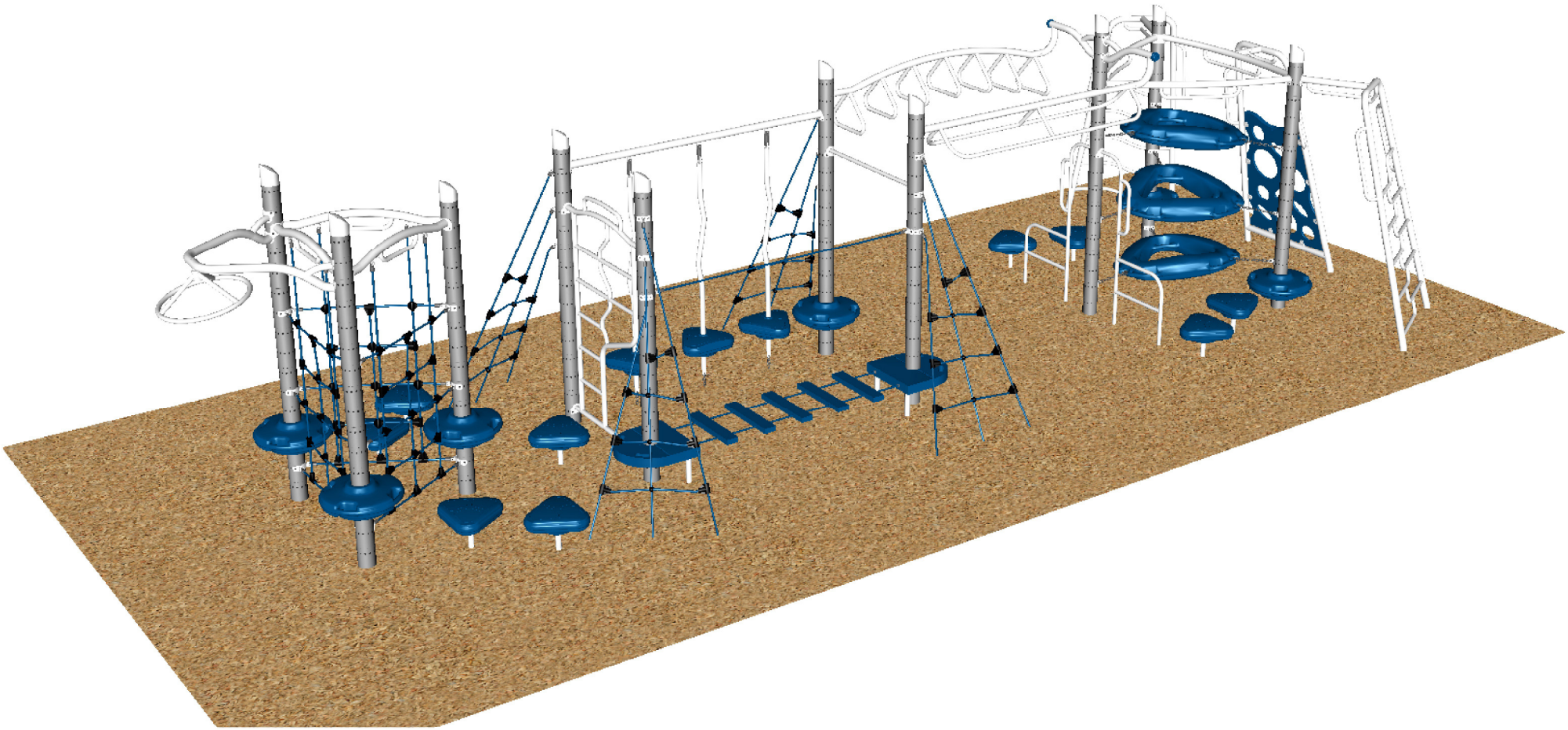
NF54AE5FA

NE VIEW

PLAYGROUND EQUIPMENT "C"
QTY: 1

RV5

FOR KIDS
AGES
5-12



STRUCTURE#: REV3118DB

PROJECT#: NF54AE5FA

DATE: 10/16/2020 | DRAWN BY: Alyssa

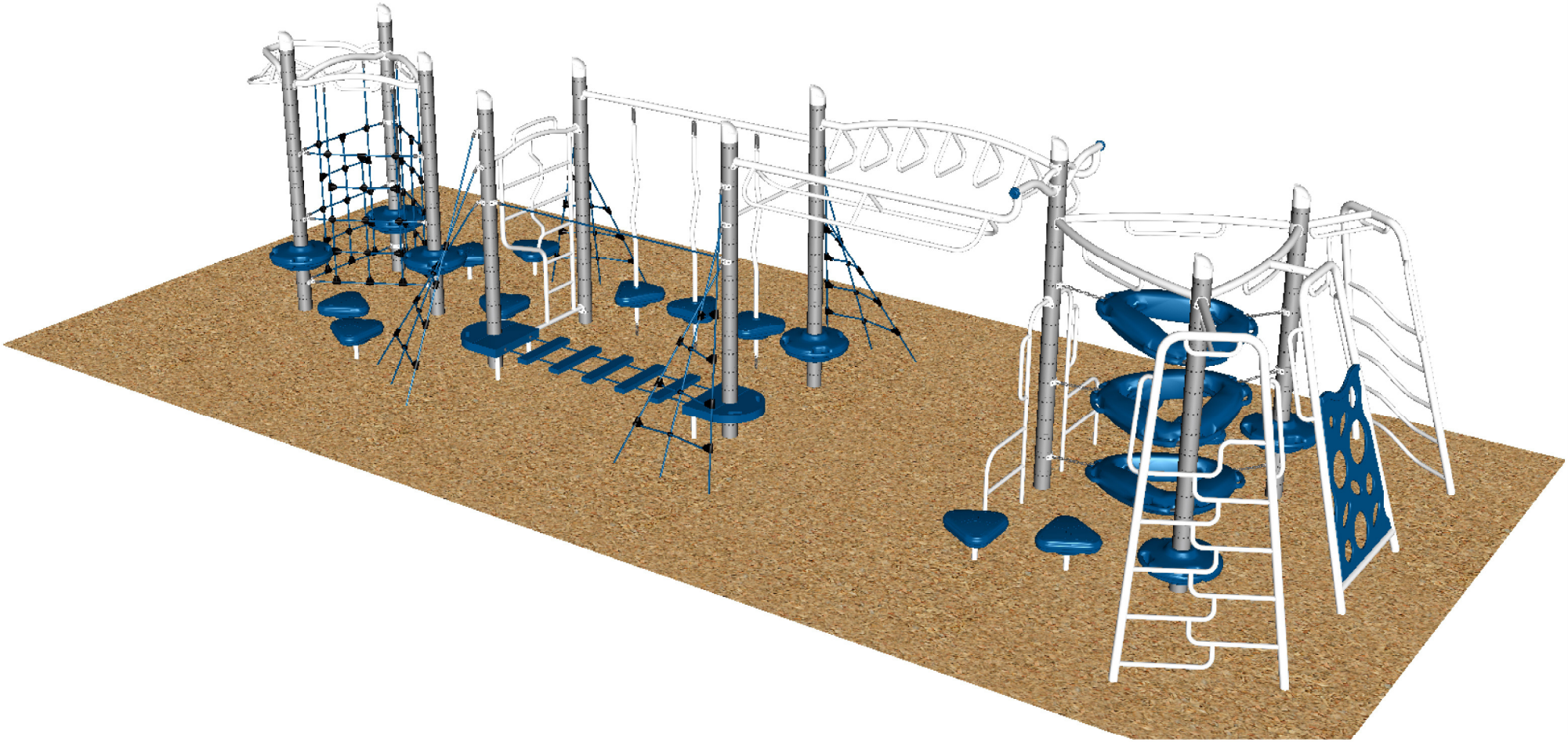
NF54AE5FA

NW VIEW

PLAYGROUND EQUIPMENT "C"
QTY: 1

RV5

FOR KIDS
AGES
5-12



STRUCTURE#: REV3118DB

PROJECT#: NF54AE5FA

DATE: 10/16/2020 | DRAWN BY: Alyssa

R3532624A
TOP VIEW

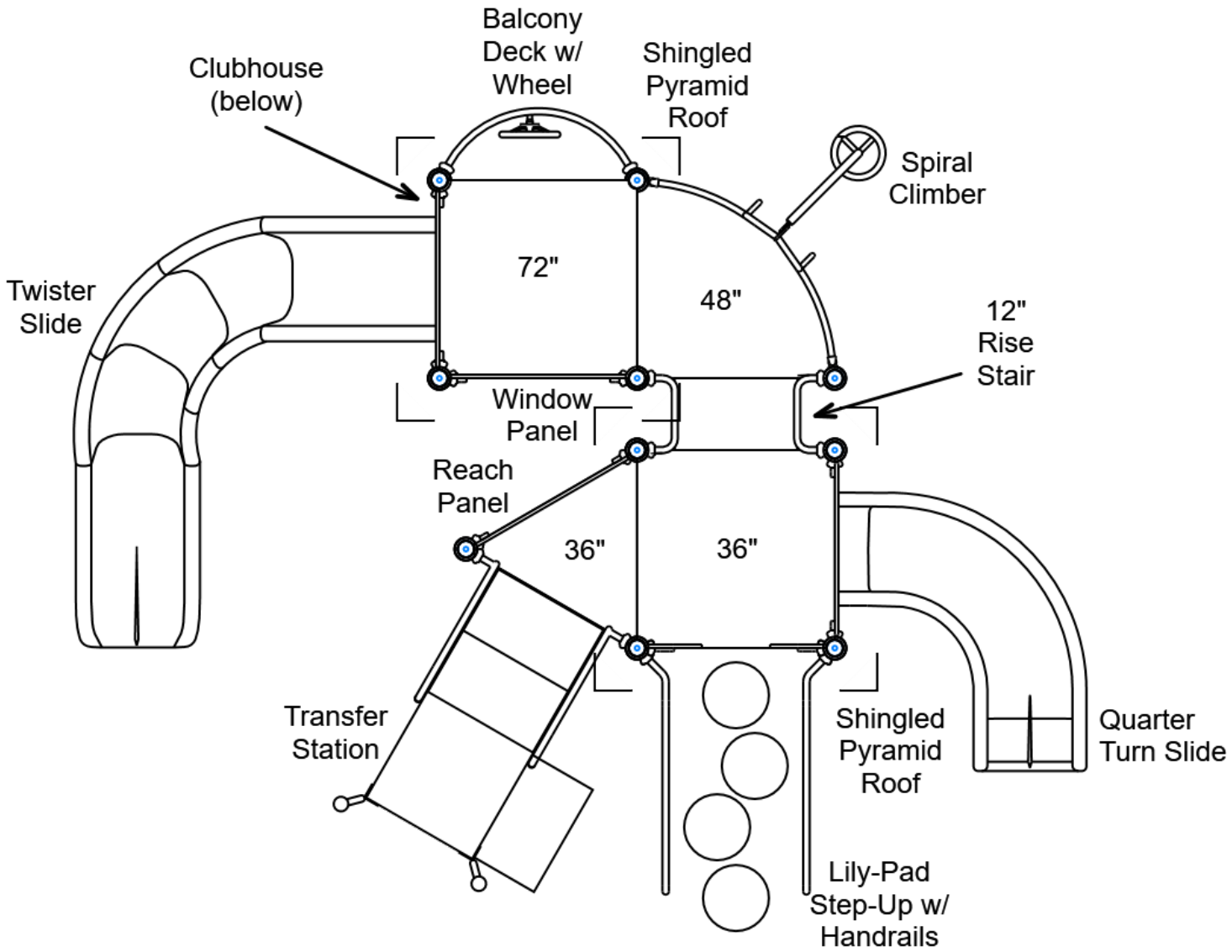
PLAYGROUND EQUIPMENT "E"
QTY: 1

ADA ACCESSIBILITY GUIDELINE - ADAAG CONFORMANCE

ELEVATED	ACCESSIBLE	RAMP ACCESSIBLE	GROUND	TYPES
5	3/3	0	2/2	2/2

R35

FOR KIDS AGES 2-5



GENERAL NOTES:

This conceptual plan is based on information provided prior to construction. Detailed site information, including the following, should be obtained, evaluated, and utilized in the final project design. Exact site dimensions, topography, existing utilities, soil conditions and drainage solutions.

WARNING: Accessible safety surfacing material is required beneath and around this equipment that has a critical height value (Fall Height) appropriate for the highest accessible part of this equipment. Refer to the CPSC'S Handbook For Public Playground Safety, Section 4: Surfacing.

STRUCTURE#: R3532624A
PROJECT#: R3532624A
DATE: 9/23/2020 | DRAWN BY:

MIN. USE ZONE: 30' x 27'

PLAYCRAFT REP:
Playcraft Direct, Inc.

PLAYCRAFT SYSTEMS

R3532624A
SITE PLAN

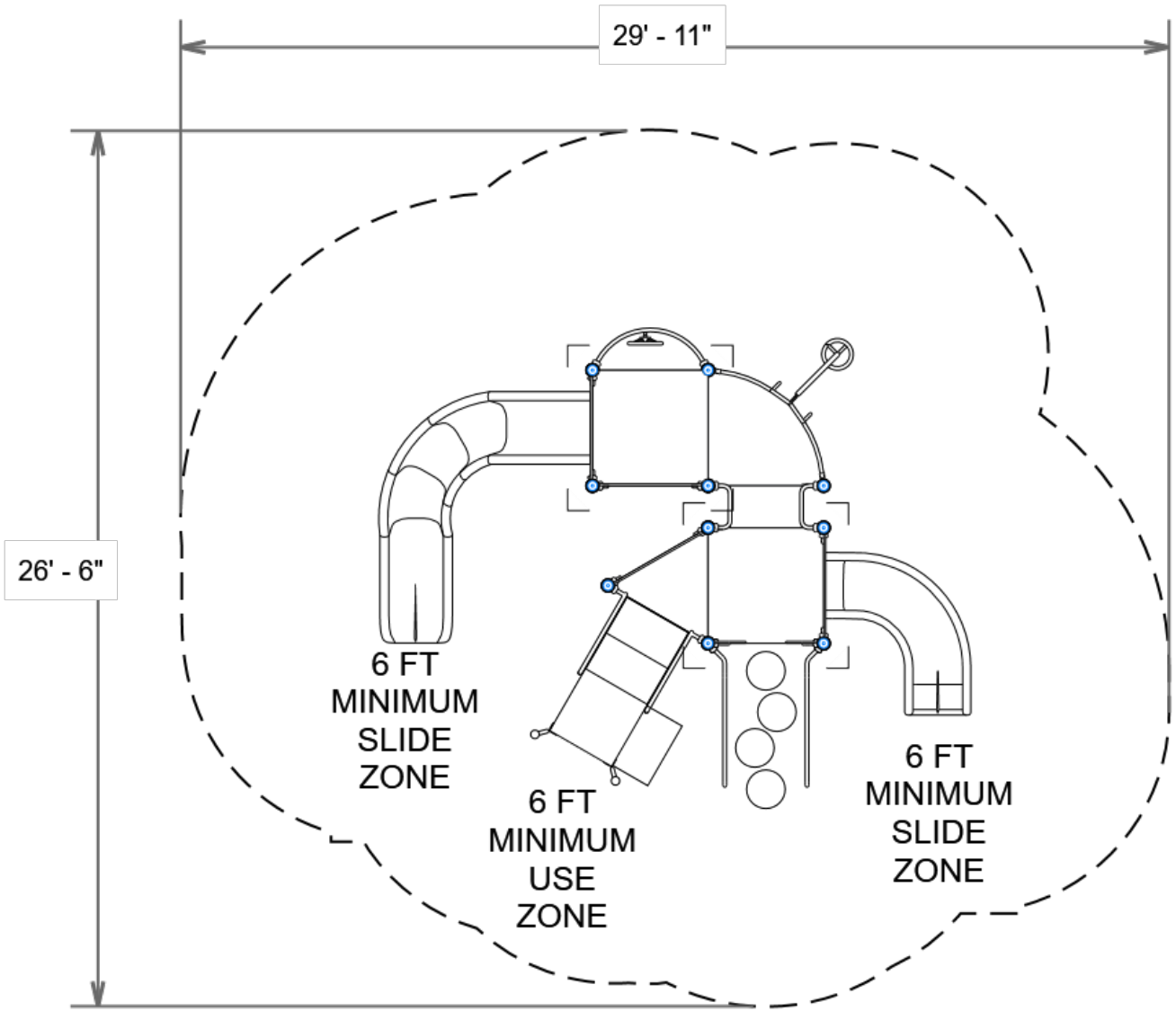
PLAYGROUND EQUIPMENT "E"
QTY: 1

ADA ACCESSIBILITY GUIDELINE - ADAAG CONFORMANCE

ELEVATED	ACCESSIBLE	RAMP ACCESSIBLE	GROUND	TYPES
5	3/3	0	2/2	2/2

R35

FOR KIDS
AGES
2-5



GENERAL NOTES:

This Preliminary Site Plan is based on measurements that were provided in the initial planning phase. All dimensions must be verified prior to the submission of a purchase order. Playcraft Systems will not be held responsible for any discrepancies between actual dimensions and dimensions submitted in the planning phase.

The Minimum Use Zone for a play structure is based on the product design at the time of proposal. Components and structure designs may be subject to change which may affect dimensions. Therefore, before preparing the site, we strongly recommend obtaining final drawings from the factory (available after the order is placed and included in the Assembly Manual).

WARNING: Accessible safety surfacing material is required beneath and around this equipment that has a critical height value (Fall Height) appropriate for the highest accessible part of this equipment. Refer to the CPSC'S Handbook For Public Playground Safety, Section 4: Surfacing.

PROJECT#: R3532624A
DATE: 9/23/2020 | DRAWN BY:

MIN. USE ZONE: 30' x 27'

PLAYCRAFT REP:
Playcraft Direct, Inc.

PLAYCRAFT SYSTEMS

R3532624A
SW VIEW

PLAYGROUND EQUIPMENT "E"
QTY: 1

R35

FOR KIDS
AGES
2-5

STRUCTURE#: R3532624A
PROJECT#: R3532624A
DATE: 9/23/2020 | DRAWN BY:

PLAYCRAFT SYSTEMS

R3532624A
NE VIEW

PLAYGROUND EQUIPMENT "E"
QTY: 1

R35

FOR KIDS
AGES
2-5

STRUCTURE#: R3532624A
PROJECT#: R3532624A
DATE: 9/23/2020 | DRAWN BY:

PLAYCRAFT SYSTEMS

Bill of Materials

R3532624A

PLAYGROUND EQUIPMENT "E"
QTY: 1

Project# R3532624A
9/23/2020

Item	Description	Quantity
R3532624A		
HS-1004-R35	Collars	40
GG-8135	Dome Cap, R3.5	2
S-1010-R35-10ft	Post, 10ft R3.5	1
S-1011-R35-11ft	Post, 11ft R3.5	1
S-1014-R35-14ft	Post, 14ft R3.5	4
S-1016-R35-16ft	Post, 16ft R3.5	4
S-1101-R35	Square Deck	2
S-1102-R35	Tri-Deck	1
S-1107-R35	Curved Deck	1
S-1109-R35-MT	Balcony Deck w/ Wheel	1
S-1206-12R35	ADA Stairs, 12in Rise w/ Walls	1
S-1209-24-R35	Transfer Station, 36in-R	1
S-1211-R35	Filler, Step - 24in, R3.5	1
S-1223-4CR35	Climber, Spiral 42-48in	1
S-1304-R35	Single Slide SitDown Wall	1
S-1316-R35	Twister Entry Panel	1
S-1414-3HHR35	Climber, Step-Up 36in (Lily-Pad, Hand Rails)	1
S-1617-R35	Window Panel	1
S-1639-R35	Clubhouse (Left)	1
S-1655-3R35	Reach Panel, 36in	1
S-1705-3	Slide, Quarter Turn 36in	1
S-1710-6-LLL	Slide, Twister 72in (L3)	1
S-1807-R35	Roof, Square Pyramid (Shingled)	2
HS-1100-2	Deck to Deck Hardware	2

PLAYGROUND EQUIPMENT "A"
QTY: 2

Friendship Spinner

PRODUCT NUMBER: A2-6262

AGE RANGE:

2 - 5 Years

5 - 12 Years

USE ZONE: 19 ft' x 19 ft'

ACCOMMODATES 6 CHILDREN

Find A Consultant >

Other Downloads:

- 2D CAD File >
- Elevation View >

This inclusive piece of equipment is an excellent way to get children to socialize. Children sit on the bench in the middle of this piece and their friends on the outside spin them around!

SECTION 126600 - TELESCOPING STANDS

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:

1. Wall-attached telescoping stands.

1.3 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

1. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for telescoping stands.
2. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

    a. Include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
    b. Include wiring diagrams for electrically operated units.

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. Manufacturer's Engineering Responsibility: Preparation of data for telescoping stands, including Shop Drawings, and comprehensive engineering analysis by a qualified professional engineer.

C. Safety Standard: Provide telescoping stands that comply with requirements in ICC 300.

D. Welding: Qualify procedures and personnel according to AWS D1.1 "Structural Welding Code - Steel" and AWS D1.3 "Structural Welding Code - Sheet Steel."

E. 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.

F. Electrical characteristics of Project are based on "Basis of Design" manufacturer's equipment requirements as indicated on Drawings. Contractor utilizing one of other listed approved manufacturers shall coordinate all changes required by use of that equipment on this Project. All coordination with and changes to electrical system shall be included in Base Bid. All costs shall be borne by this Contractor. No additional costs to Owner or other contractors will be accepted.

1. If other than "Basis of Design" manufacturer's equipment is utilized, provide complete wiring schematic for coordination of this equipment with building electrical system, equipment connections, and coordination of operation of this equipment. Additional installation costs shall be included in Base Bid of Contractor for this Section.

G. Accessibility Requirements: Provide telescoping stands that comply with requirements in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)".

1.5 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls, columns, and other construction that will interface with telescoping stands by field measurements before fabrication and indicate measurements on Shop Drawings.

1.6 WARRANTY

A. Manufacturer's Product Warranty: Submit manufacturer's standard warranty form for telescoping bleachers. This warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

1. Warranty Period: Five years from date of acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

B. Basis-of-Design Product: The design for telescoping stands is based on products of MAXAM26 Series Telescopic Gym Seats, by Hussey Seating Company. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:

1. Hussey Seating Company.
2. Interkal LLC.
3. Irwin Seating Company.

2.2 MATERIALS

A. Wood:

1. Plywood: APA grade trademarked, DOC PS 1.

B. Steel:

1. Structural Steel Shapes, Plates, and Bars: ASTM A 36/A 36M.
2. Galvanized Steel Sheet: ASTM A 653/A 653M, G90 coating designation.
3. Uncoated Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold-rolled commercial steel), or ASTM A 1011/A 1011M, Designation CS (hot-rolled commercial steel).
4. Tubing: ASTM A 500, cold formed; ASTM A 501, hot formed; or ASTM A 513, mechanical.

C. Extruded Aluminum: ASTM B 221, alloy as standard for manufacturer.

D. Polyethylene Plastic: High-density polyethylene; molded, color-pigmented, textured, impact-resistant, structural formulation.

2.3 TELESCOPING STANDS

A. Description: Operable systems of multiple-tiered seating on interconnected folding platforms that close, without being dismantled, into a nested stack for storing or moving. Stand units permit opening and closing of adjacent rows, allow individual and collective rows to be locked open for use, and close with vertical faces of upper skirts on the same vertical plane.

1. Wall-Attached Telescoping Stands: Rear of understructure permanently attaches to wall constructionBasis-of-Design Product: MAXAM26 Series Telescopic Gym Seats, by Hussey Seating Company.
2. For automatic operation, coordinate power requirements with Division 26 Sections.
3. Operation: Automatic, friction-type integral power unit Automatic, nonfriction-type integral power unit Automatic, power assisted by portable, manually guided, electrically powered unit.

a. Limit Switches: Automatically stop integral power system when telescoping stands reach fully opened or closed positions.
b. Motion Monitor: Flashing light with self-contained warning horn, rated at 85 decibels (dB) at 10 feet, mounted under telescoping seating for audio and visual warning during integral power operation.
c. Transformer: As required to coordinate current characteristics of motor and control station with building electrical system.

4. Product Description/Criteria

a. Bank ES-A (Gym, A113, East Wall)

1) Bank Length: 74'-0" (VIF)
2) Aisle Widths: 3 @ 4'-6"
3) Number of Tiers: 12
4) Row Spacing(s): 24"
5) Row Rise: 9 5/8"
6) Open Dimension: 24'-2 5/16"
7) Closed Dimension: 3'-8"
8) Overall Unit Ht.: 10'-3"
9) Net Capacity: 477 (18" per seat for MAXAM)
10) Operation: Electric Power

b. Bank ES-B (Gym, A113, West Wall)

1) Bank Length: 74'-0" (VIF)
2) Aisle Widths: 2 @ 4'-6", 2 @ 3'-0"
3) Number of Tiers: 7
4) Row Spacing(s): 24"
5) Row Rise: 9 5/8"
6) Open Dimension: 14'-2 5/16"
7) Closed Dimension: 3'-8"
8) Overall Unit Ht.: 6'-2 7/8"
9) Net Capacity: (18" per seat for MAXAM)
10) Operation: Electric Power

B. Bench Seats and Skirts:
1. Material: Molded polyethylene plastic with contour seat surface.

a. Colors: As selected by Architect from manufacturer's standard.

2. Bench Height: Not less than 16 inches or more than 18 inches.
3. Bench Depth: 10 inches.

C. Wheelchair-Accessible Seating: Locate retractable truncated benches to provide wheelchair-accessible seating at locations indicated on Drawings.

1. Equip tiers adjacent to wheelchair-accessible seating with front rails as required by referenced safety standard.
2. Equip cutouts with full-width front closure panels that match decking construction and finish and that extend from underside of tiers adjacent to cutouts to 1-1/2 inches from finished floor.

D. Deck: Plywood.

1. Finish: Manufacturer's standard finish.

E. Risers: Steel sheet with manufacturer's standard rust-inhibiting coating or hot-dip galvanized finish.

F. Rails: Structural steel, finished with manufacturer's standard powder coat system.

1. Color: Black.

G. Understructure: Structural steel.

1. Finish: Manufacturer's standard rust-inhibiting finish.
2. Color: Manufacturer's standard.

H. Support Column Wheels: Nonmarring, soft, rubber-face wheel assembly under each support column.

1. Include wheels of size, number, and design required to support stands and operate smoothly without damaging the flooring surface, but not less than four per column or less than 3-1/2 inches in diameter and 1 inch wide.

I. Aisle Closures: Manufacturer's standard that produce flush vertical face at aisles when system is stored.

J. Fasteners: Vibration proof, in manufacturer's standard size and material.

K. Accessories:

1. Slip-resistant, abrasive tread surfaces at vertical aisles.
2. Aisleway flooring: manufacturer's standard plywood flooring. Plastic plywood covering is not acceptable.
3. Intermediate aisle steps, fully enclosed, at each vertical aisle.
4. Hinged front step, fully enclosed, at each vertical aisle, that engage with front row to prevent accidental separation or movement and are equipped with skid-resistant wheels.
5. Auto rotating, nonremovable mid-aisle handrails located at centerline of each vertical aisle with seating on both sides.
6. End rails (guards) that are telescoping and self-storing.
7. Front rails (guards) along front of units where required by referenced safety standard.
8. Rear fillers including supports for closing openings between top row and rear wall of adjoining construction.
9. End panels covering exposed ends of stands in stored position.

2.4 FABRICATION

A. Fabricate understructure from structural steel members in size, spacing, and form required to support design loads specified in referenced safety standard.

B. Weld understructure to comply with applicable AWS standards.

C. Round corners and edges of components and exposed fasteners to reduce snagging and pinching hazards.

D. Form exposed sheet metal with flat, flush surfaces, level and true in line, and without cracking and grain separation.

E. Seating Supports: Fabricate supports to withstand, without damage to components, the forces imposed by use of stands without failure or other conditions that might impair the usefulness of seating units.

1. Cantilever bench seat supports to produce toe space uninterrupted by vertical bracing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas where telescoping stands are to be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.

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

3.2 INSTALLATION

A. Install telescoping stands to comply with referenced safety standard and manufacturer's written instructions.

3.3 ADJUSTING AND CLEANING

A. On completion of installation, lubricate, test, and adjust each telescoping stand unit so that it operates according to manufacturer's written operating instructions.

B. Clean installed telescoping stands on exposed and semiexposed surfaces. Touch up shop-applied finishes or replace components as required to restore damaged or soiled areas.

3.4 DEMONSTRATION

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

END OF SECTION

SECTION 129300 - SITE FURNISHINGS

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:

1. Bicycle racks.
2. Bollards.

B. Related Sections include the following:

1. Division 03 Section "Cast-in-Place Concrete" for installation of pipe sleeves cast in concrete footings.
2. Division 31 Section "Earth Moving" for excavation for installation of concrete footings.

C. Products furnished, but not installed under this Section, include pipe sleeves to be cast in concrete footings.

1.3 ACTION SUBMITTALS

A. Product Data, Product Schedule:

1. Product Data: For each type of product indicated.
2. Product Schedule: For site furnishings. Use same designations indicated on Drawings.

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

C. Samples for Verification: For each type of exposed finish required, prepared on Samples of size indicated below.

1. Samples for Verification:

a. Size: Not less than 6-inch- long linear components and 4-inch- square sheet components.
b. Full Size: Bicycle rack .

D.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For site furnishings, signed by manufacturers.

1. Wood Preservative Treatment: Include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.

1.5 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of site furnishing(s) through one source from a single manufacturer.

1.6 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

PART 2 - PRODUCTS

2.1 BOLLARDS

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:

2.2 BASKETBALL GOALS

A. Outdoor basketball backstops, posts, goals and netting:

1. Fan-shaped backboards:

a. Backboard shall be of cast aluminum; bank shall be cast in a permanent mold process from high tensile #319 aluminum. Provide unit with manufacturer’s standard, cast structural reinforcing ribs on the backside.
b. Upright support post shall be fabricated of 3-1/2 inch (8.9 cm) outside diameter, heavy duty, galvanized steel pipe, shop-formed to approximately 18-inch (45.7 cm) radius.
c. Vertical post section shall extend not less than 3'-0" (91.4 cm) into concrete footing and shall be secured by anchor lugs.
d. Horizontal post section shall be fabricated with a special, slotted mounting plate to level backboard and goal.

e. Face of backboard shall be 4'-0" (1.22 m) extended from the center line of the upright support. Bolts from the front-mounted goal shall mount directly through the backboard and into manufacturer's standard mounting plate designed to eliminate strain on the unit caused by players hanging on the goal.

f. Finish: Backboard shall have manufacturer's standard, factory-applied, white powder-coated finish with orange markings.

g. Product: Subject to compliance with requirements, provide outdoor backstop, goal and net by the following manufacturer:

1) Model No. 00234-300, Porter Athletic Equip. Co.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance.

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

3.2 INSTALLATION, GENERAL

A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.

B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.

C. Install site furnishings level, plumb, true, and securely anchored at locations indicated on Drawings.

D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.

E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with anchoring cement, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

3.3 CLEANING

A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION

SECTION 142400 - HYDRAULIC ELEVATORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hydraulic passenger elevators.

B. Related Requirements:

1. Section 011000 "Summary" for purchase contract for elevators negotiated by Owner and assigned to Contractor.
2. Section 015000 "Temporary Facilities and Controls" for temporary use of elevators for construction purposes.
3. Section 033000 "Cast-in-Place Concrete" for setting sleeves, inserts, and anchoring devices in concrete.
4. Section 042000 "Unit Masonry" for setting sleeves, inserts, and anchoring devices in masonry and for grouting elevator entrance frames installed in masonry walls.
5. Section 051200 "Structural Steel Framing" for the following:

    a. Attachment plates, angle brackets, and other structural-steel preparations for fastening guide-rail brackets.
    b. Hoist beams.

6. Section 055000 "Metal Fabrications" for the following:

    a. Attachment plates and angle brackets for supporting guide-rail brackets.
    b. Structural-steel shapes for subsills.
    c. Pit ladders.

7. Section 096813 "Tile Carpeting" for finish flooring in elevator cars.
8. Section 284621.11 "Addressable Fire-Alarm Systems" for smoke detectors in elevator lobbies to initiate emergency recall operation and heat detectors in shafts and machine rooms to disconnect power from elevator equipment before sprinkler activation and for connection to elevator controllers.

1.2 DEFINITIONS

A. Definitions in ASME A17.1/CSA B44 apply to work of this Section.

1.3 ACTION SUBMITTALS

A. Product Data, Shop Drawings:

1. Product Data: Include capacities, sizes, performances, operations, safety features, finishes, and similar information. Include product data for car enclosures; hoistway entrances; and operation, control, and signal systems.
2. Shop Drawings:

    a. Include plans, elevations, sections, and large-scale details indicating service at each landing; machine room layout; coordination with building structure; relationships with other construction; and locations of equipment.
    b. Include large-scale layout of car-control station.
    c. Indicate maximum dynamic and static loads imposed on building structure at points of support as well as maximum and average power demands.

B. Samples for Verification: For exposed car, hoistway door and frame, and signal equipment finishes, 3-inch- square Samples of sheet materials and 4-inch lengths of running trim members.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Manufacturer Certificates: Signed by elevator manufacturer, certifying that hoistway, pit, and machine room layout and dimensions, as shown on Drawings, and electrical service, as shown and specified, are adequate for elevator system being provided.

1.5 CLOSEOUT SUBMITTALS

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

1. Submit manufacturer's/installer's standard operation and maintenance manual, in accordance with ASME A17.1/CSA B44 including diagnostic and repair information available to manufacturer's and Installer's maintenance personnel.

B. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

C. Continuing Maintenance Proposal: Submit a continuing maintenance proposal from Installer to Owner, in the form of a standard one-year maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: Elevator manufacturer or an authorized representative who is trained and approved by manufacturer.

B. Electrical characteristics of Project are as indicated in Electrical Documents. Contractor utilizing manufacturer's equipment whose requirements differ from those indicated shall coordinate all changes required by use of that equipment on this Project. All coordination with and changes to electrical system shall be included in Base Bid. All costs shall be borne by this Contractor. No additional costs to Owner or other contractors will be accepted.

1. If requirements other than those indicated in Contract Documents are utilized, provide complete wiring schematic for coordination of this equipment with building electrical system, equipment connections, and coordination of operation of this equipment. Additional installation costs shall be included in Base Bid of Contractor for this Section.

C. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of elevator(s). Aesthetic effects are indicated by dimensions and arrangements as they relate to pit, hoistway and machine room requirements and to adjoining construction.

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. Physical, electrical and mechanical characteristics of elevator specified for this Project are based on "Basis of Design" manufacturer's and product's requirements as indicated in Contract Documents. Contractor utilizing one of the other listed, acceptable manufacturers shall coordinate all changes to the Project required by use of that equipment on this Project. All coordination with and changes to Contract Documents, including but not limited to hoistway, pit, machine room, building electrical system and building mechanical system shall be included in Contractor's bid. All costs shall be borne by Contractor responsible for this Section. No additional costs to Owner or other contractors will be accepted.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle materials, components and equipment in manufacturer's protective packaging. Store materials, components, and equipment off of ground, under cover, and in a dry location.

1.8 COORDINATION

A. Coordinate installation of sleeves, block outs, elevator equipment with integral anchors, and other items that are embedded in concrete or masonry for elevator equipment. Furnish templates, sleeves, elevator equipment with integral anchors, and installation instructions and deliver to Project site in time for installation.

B. Furnish well casing and coordinate delivery with related excavation work.

C. Coordinate locations and dimensions of other work that relates to hydraulic elevators, including pit ladders; sumps and floor drains in pits; entrance subsills; electrical service; and electrical outlets, lights, and switches in hoistways, pits, and machine rooms.

1. Include all components to install a functionally working, complete elevator in the pit, hoistway and machine room indicated in Drawings. Costs resulting from pit, hoistway or machine room dimensional changes to accomodate elevator manufacturer's equipment shall be borne by the Contractor responsible for this Section.

1.9 WARRANTY

A. Manufacturer's Special Warranty: Manufacturer agrees to repair, restore, or replace elevator work that fails in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
2. Warranty Period: one yearfrom date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design Product: Subject to compliance with requirements, provide Endura MRL by ThyssenKrupp Elevator, or comparable product by one of the following:

1. KONE Inc.
2. Otis Elevator Co.
3. Schindler Elevator Corp.

2.2 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with ASME A17.1/CSA B44.

B. Accessibility Standard: Comply with applicable provisions in the United States Access Board's ADA-ABA Accessibility GuidelinesandICC A117.1.

2.3 ELEVATORS

A. Elevator System, General: Manufacturer's standard elevator systems. Unless otherwise indicated, manufacturers' standard components are used, as included in standard elevator systems and as required for complete system.

B. Elevator Description:

1. Type:

a. Holeless, beside-the-car, telescoping, dual cylinder.

2. Rated Load: 3500 lb.
3. Rated Speed: 125 fpm.
4. Operation System: Single automatic operation.
5. Auxiliary Operations:

    a. Battery-powered lowering.
    b. Automatic dispatching of loaded car.
    c. Nuisance call cancel.
    d. Loaded-car bypass.

6. Security Features: Card-reader operationCar-to-lobby feature.
7. Car Enclosures:

    a. Inside Width: 80 inchesfrom side wall to side wall.
    b. Inside Depth: 64-1/2 inchesfrom back wall to front wall (return panels).
    c. Inside Height: Not less than 93 inches to underside of ceiling.
    d. Front Walls (Return Panels): Satin stainless steel, ASTM A480/A480M, No. 4 finishwith integral car door frames.
    e. Car Fixtures: Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    f. Side and Rear Wall Panels: Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    g. Reveals: Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    h. Door Faces (Interior): Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    i. Door Sills: Aluminum.
    j. Ceiling: Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    k. Handrails: 1-1/2 inches roundsatin stainless steel, at sidesandrear of car.
    l. Floor prepared to receive carpet (specified in Section 096813 "Tile Carpeting").

8. Hoistway Entrances:

    a. Width: 42 inches.
    b. Height: 84 inches.
    c. Type: Single-speed side sliding.
    d. Frames : Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    e. Doors: Satin stainless steel, ASTM A480/A480M, No. 4 finish.
    f. Sills : Aluminum.

9. Hall Fixtures : Satin stainless steel, ASTM A480/A480M, No. 4 finish.
10. Additional Requirements:

    a. Provide inspection certificate in each car, mounted under acrylic cover with frame made from.
    b. Provide hooks for protective pads in all cars and one complete set(s) of full-height protective pads.

2.4 SYSTEMS AND COMPONENTS

A. Pump Units: Positive-displacement type with a maximum of 10 percent variation between no load and full load and with minimum pulsations.

1. Pump is submersible type with submersible squirrel-cage induction motor, and shall be suspended inside oil tank from vibration isolation mounts or is tank-top-mounted type with fan-cooled, squirrel-cage induction motor, and is mounted on oil tank with vibration isolation mounts and enclosed in prime-painted steel enclosure lined with 1-inch- thick, glass-fiber insulation board.
2. Motor has solid-state starting.

B. Hydraulic Silencers: System has hydraulic silencer containing pulsation-absorbing material in blowout-proof housing at pump unit.

C. Piping: Size, type, and weight of piping as recommended by elevator manufacturer, with flexible connectors to minimize sound and vibration transmissions from power unit.

D. Hydraulic Fluid: Nontoxic, biodegradable fluid, made from vegetable oil with antioxidant, anticorrosive, antifoaming, and metal-passivating additives, that is approved by elevator manufacturer for use with elevator equipment.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Hydro Safe Oil Division, Inc.

E. Inserts: Furnish required concrete and masonry inserts and similar anchorage devices for installing guide rails, machinery, and other components of elevator work. Device installation is specified in another Section.

F. Car Frame and Platform: Welded steel units.

G. Guides: Roller guides. Provide guides at top and bottom of car frame.

2.5 OPERATION SYSTEMS

A. Provide manufacturer's standard microprocessor operation system as required to provide type of operation indicated.

B. Auxiliary Operations:

1. Single-Car Battery-Powered Lowering:

a. If power fails and car is at a floor, it remains at that floor, opens its doors, and shuts down. If car is between floors, it is lowered to a preselected floor, opens its doors, and shuts down. If car is below the preselected floor, it is lowered to the next lower floor, opens its doors, and shuts down. System includes rechargeable battery and automatic recharging system.
b. When power fails, car is lowered to the lowest floor, opens its doors, and shuts down. System includes rechargeable battery and automatic recharging system.

2. Automatic Dispatching of Loaded Car: When car load exceeds 80 percent of rated capacity, doors start closing.
3. Nuisance Call Cancel: When car calls exceed a preset number while car load is less than a predetermined weight, all car calls are canceled. Preset number of calls and predetermined weight can be adjusted.

C. Security Features: Security features do not affect emergency firefighters' service.

1. Card-Reader Operation: System uses card readers at hall push-button stations to authorize calls. Security system determines which landings and at what times calls require authorization by card reader. Provide required conductors in traveling cable and panel in machine room for interconnecting card readers, other security access system equipment, and elevator controllers. Allow space for card reader in car.

a. Security access system equipment is specified in Section 281500 "Access Control Hardware Devices.".

2.6 DOOR-REOPENING DEVICES

A. Infrared Array: Provide door-reopening device with uniform array of 36 or more microprocessor-controlled, infrared light beams projecting across car entrance. Interruption of one or more light beams causes doors to stop and reopen.

2.7 CAR ENCLOSURES

A. Provide steel-framed car enclosures with nonremovable wall panels, with removable car roof, access doors, power door operators, and ventilation.

1. Provide standard railings complying with ASME A17.1/CSA B44 on car tops where required by ASME A17.1/CSA B44.

B. Materials and Finishes: Manufacturer's standards, but not less than the following:

1. Subfloor:

a. Exterior, underlayment-grade plywood, not less than 5/8-inch nominal thickness.
2. Stainless Steel Wall Panels: Flush, formed-metal construction; fabricated from stainless steel sheet.
3. Fabricate car with recesses and cutouts for signal equipment.
4. Fabricate car door frame integrally with front wall of car.

5. Stainless Steel Doors: Flush, hollow-metal construction; fabricated from stainless steel sheet.
6. Sight Guards: Provide sight guards on car doors.
7. Sills: Extruded or machined metal, with grooved surface, 1/4 inch thick.
8. Metal Ceiling: Flush panels, with four low-voltage downlights in each panel. Align ceiling panel joints with joints between wall panels.
9. Light Fixture Efficiency: Not less than 35 lumens/W.
10. Ventilation Fan Efficiency: Not less than 3.0 cfm/W.

2.8 HOISTWAY ENTRANCES

A. Hoistway Entrance Assemblies: Manufacturer's standard horizontal-sliding, door-and-frame hoistway entrances complete with track systems, hardware, sills, and accessories. Frame size and profile accommodate hoistway wall construction.

B. Fire-Rated Hoistway Entrance Assemblies: Door-and-frame assemblies comply with NFPA 80 and be listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction based on testing at as close-to-neutral pressure as possible according to NFPA 252orUL 10B.

1. Fire-Protection Rating: 1-1/2 hours with 30-minute temperature rise of 450 deg F.

C. Materials and Fabrication: Manufacturer's standards, but not less than the following:

1. Stainless Steel Frames: Formed from stainless steel sheet.
2. Stainless Steel Doors: Flush, hollow-metal construction; fabricated from stainless steel sheet.
3. Sight Guards: Provide sight guards on doors matching door edges.
4. Sills: Extruded or machined metal, with grooved surface, 1/4 inch thick.
5. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C1107/C1107M.

2.9 SIGNAL EQUIPMENT

A. Provide hall-call and car-call buttons that light when activated and remain lit until call has been fulfilled. Provide vandal-resistant buttons and lighted elements illuminated with LEDs.

B. Car-Control Stations: Provide manufacturer's standard recessedorsemirecessed car-control stations. Mount in return panel adjacent to car door unless otherwise indicated.

1. Mark buttons and switches for required use or function. Use both tactile symbols and Braille.
2. Provide "No Smoking" sign matching car-control station, either integral with car-control station or mounted adjacent to it, with text and graphics as required by authorities having jurisdiction.

C. Emergency Communication System: Two-way voice communication system, with visible signal, which dials preprogrammed number of monitoring station and does not require handset use. System is contained in flush-mounted cabinet, with identification, instructions for use, and battery backup power supply.

D. Car Position Indicator: Provide illuminated, digital-type car position indicator, located above car door or above car-control station. Also, provide audible signal to indicate to passengers that car is either stopping at or passing each of the floors served. Include travel direction arrows if not provided in car-control station.

E. Hall Push-Button Stations: Provide one hall push-button station at each landing.

1. Provide manufacturer's standard wall-mounted units.
2. Equip units with buttons for calling elevator and for indicating applicable direction of travel.
3. Provide telephone jack in each unit for firefighters' two-way telephone communication service specified in Section 284621.11 "Addressable Fire-Alarm Systems."

F. Hall Lanterns: Units with illuminated arrows; however, provide single arrow at terminal landings. Provide one of the following:

1. Manufacturer's standard wall-mounted units, for mounting above entrance frames.
2. Units with flat faceplate for mounting with body of unit recessed in wall and with illuminated elements projecting from faceplate for ease of angular viewing.
3. Units mounted in both jambs of entrance frame.
4. Units mounted in both car door jambs.

G. Car Riding Annunciator: With each hall lantern, provide audible signals indicating car arrival and direction of travel. Signals sound once for up and twice for down.

1. At manufacturer's option, audible signals may be placed on cars.

H. Hall Position Indicators: Provide illuminated, digital-display-type position indicators, located above hoistway entrance at ground floor.

1. Provide units integral with entrance head jamb.
2. Integrate ground-floor hall lanterns with hall position indicators.

I. Fire-Command-Center Annunciator Panel: Provide panel containing illuminated position indicators for each elevator, clearly labeled with elevator designation; include illuminated signal that indicates when elevator is operational and when it is at the designated emergency return level with doors open. Provide standby-power elevator selector switch(es), as required by ASME A17.1/CSA B44, adjacent to position indicators. Provide illuminated signal that indicates when normal power supply has failed.

2.10 FINISH MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A1008/A1008M, commercial steel, Type B, exposed, matte finish.

B. Hot-Rolled Steel Sheet: ASTM A1011/A1011M, commercial steel, Type B, pickled.

C. Stainless Steel Sheet: ASTM A240/A240M, Type 441.

D. Stainless Steel Bars: ASTM A276, Type 304.

E. Stainless Steel Tubing: ASTM A554, Grade MT 304.

F. Aluminum Extrusions: ASTM B221, Alloy 6063.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine elevator areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work. Verify critical dimensions and examine supporting structure and other conditions under which elevator work is to be installed.

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. Install cylinder plumb and accurately centered for elevator car position and travel. Anchor securely in place, supported at pit floor and braced at intervals as needed to maintain alignment. Anchor cylinder guides at spacing needed to maintain alignment and avoid overstressing guides.

B. Welded Construction: Provide welded connections for installing elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn parts. Comply with AWS workmanship and welding operator qualification standards.

C. Sound Isolation: Mount rotating and vibrating equipment on vibration-isolating mounts to minimize vibration transmission to structure and structure-borne noise due to elevator system.

D. Install piping above the floor, where possible. Install underground piping in casing.

E. Lubricate operating parts of systems as recommended by manufacturers.

F. Alignment: Coordinate installation of hoistway entrances with installation of elevator guide rails for accurate alignment of entrances with car. Where possible, delay installation of sills and frames until car is operable in shaft. Reduce clearances to minimum, safe, workable dimension at each landing.

G. Leveling Tolerance: 1/4 inch, up or down, regardless of load and travel direction.

H. Set sills flush with finished floor surface at landing. Fill space under sill solidly with nonshrink, nonmetallic grout.

I. Locate hall signal equipment for elevators as follows unless otherwise indicated:

1. Mount hall lanterns at a minimum of 72 inches above finished floor.

3.3 FIELD QUALITY CONTROL

A. Acceptance Testing: On completion of elevator installation and before permitting elevator use (either temporary or permanent), perform acceptance tests as required and recommended by ASME A17.1/CSA B44 and by governing regulations and agencies.

B. Advise Owner, Architect, and authorities having jurisdiction in advance of dates and times that tests are to be performed on elevators.

3.4 PROTECTION

A. Temporary Use: Not allowed.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to operate.

B. Check operation of elevator with Owner's personnel present before date of Substantial Completion and again not more than one month before end of warranty period. Determine that operation systems and devices are functioning properly.

3.6 MAINTENANCE

A. Initial Maintenance Service: Beginning at Substantial Completion, maintenance service includes 12 months' full maintenance by skilled employees of elevator Installer. Include monthly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation. Parts and supplies are manufacturer's authorized replacement parts and supplies.

1. Perform maintenance during normal working hours.
2. Perform emergency callback service during normal working hours with response time of two hours or less.
3. Include 24-hour-per-day, 7-day-per-week emergency callback service with response time of two hours or less.

END OF SECTION

SECTION 237313 - MODULAR INDOOR CENTRAL-STATION AIR-HANDLING UNITS

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. Constant-air-volume, single-zone air-handling units.
2. Variable-air-volume, single-zone air-handling units.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Casing panels shall be self-supporting and capable of withstanding 133 percent of internal static pressures indicated, without panel joints exceeding a deflection of L/200 where "L" is the unsupported span length within completed casings.

1.4 ACTION SUBMITTALS

A. Product Data: For each air-handling unit indicated.

1. Unit dimensions and weight.
2. Cabinet material, metal thickness, finishes, insulation, and accessories.
3. Fans:

    a. Certified fan-performance curves with system operating conditions indicated.
    b. Certified fan-sound power ratings.
    c. Fan construction and accessories.
    d. Motor ratings, electrical characteristics, and motor accessories.

4. Certified coil-performance ratings with system operating conditions indicated.
5. Dampers, including housings, linkages, and operators.
6. Filters with performance characteristics.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For air-handling units to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Filters: One set(s) for each air-handling unit.
2. Gaskets: One set(s) for each access door.
3. Fan Belts: One set(s) for each air-handling unit fan.

1.7 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. NFPA Compliance: Comply with NFPA 90A for design, fabrication, and installation of air-handling units and components.

C. ARI Certification: Air-handling units and their components shall be factory tested according to ARI 430, "Central-Station Air-Handling Units," and shall be listed and labeled by ARI.

D. ASHRAE/IESNA 90.1-2004 Compliance: Applicable requirements in ASHRAE/IESNA 90.1-2004, Section 6 - "Heating, Ventilating, and Air-Conditioning."

E. Comply with NFPA 70.

1.8 COORDINATION

A. Coordinate sizes and locations of concrete bases with actual equipment provided.

B. Coordinate sizes and locations of structural-steel support members, if any, with actual equipment provided.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Trane; American Standard Inc.
2. <DAIKIN>.

2.2 UNIT CASINGS

A. General Fabrication Requirements for Casings:

1. Forming: Form walls, roofs, and floors with at least two breaks at each joint.
2. Casing Joints: Sheet metal screws or pop rivets.
3. Sealing: Seal all joints with water-resistant sealant.
4. Factory Finish for Galvanized-Steel Casings: Immediately after cleaning and pretreating, apply manufacturer's standard two-coat, baked-on enamel finish, consisting of prime coat and thermosetting topcoat.
5. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1-2004.

B. Casing Insulation and Adhesive:

1. Materials: ASTM C 1071, Type I.

2. Location and Application: Encased between outside and inside casing.

C. Inspection and Access Panels and Access Doors:

1. Panel and Door Fabrication: Formed and reinforced, double- wall and insulated panels of same materials and thicknesses as casing.

2. Access Doors:

a. Hinges: A minimum of two ball-bearing hinges or stainless-steel piano hinge and two wedge-lever-type latches, operable from inside and outside. Arrange doors to be opened against air-pressure differential.
b. Gasket: Neoprene, applied around entire perimeters of panel frames.
c. Fabricate windows in fan section doors of double-glazed, wire-reinforced safety glass with an air space between panes and sealed with interior and exterior rubber seals.
d. Size: At least 24 inches wide by full height of unit casing up to a maximum height of 60 inches.

3. Locations and Applications:

a. Fan Section: Doors.
b. Access Section: Doors.
c. Coil Section: Inspection and access panel.
d. Damper Section: Doors.
e. Filter Section: Doors large enough to allow periodic removal and installation of filters.
f. Mixing Section: Doors.
g. Humidifier Section: Doors.

4. Service Light: 100-W vaporproof fixture with switched junction box located outside adjacent to door. Provide junction boxes and wiring whips at each shipping split.

    a. Locations: Fan section.

D. Condensate Drain Pans:

1. Fabricated with two percent slope in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and from humidifiers and to direct water toward drain connection.

    a. Length: Extend drain pan downstream from leaving face to comply with ASHRAE 62.1-2004.
    b. Depth: A minimum of 2 inches deep.
2. Double-wall, stainless-steel sheet with space between walls filled with foam insulation and moisture-tight seal.
3. Drain Connection: Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.

    a. Minimum Connection Size: NPS 2.
4. Units with stacked coils shall have an intermediate drain pan to collect condensate from top coil.

E. Air-Handling-Unit Mounting Frame: Formed galvanized-steel channel or structural channel supports, designed for low deflection, welded with integral lifting lugs.

2.3 FAN, DRIVE, AND MOTOR SECTION

A. Fan and Drive Assemblies: Statically and dynamically balanced and designed for continuous operation at maximum-rated fan speed and motor horsepower.

1. Shafts: Designed for continuous operation at maximum-rated fan speed and motor horsepower, and with field-adjustable alignment.

    a. Turned, ground, and polished hot-rolled steel with keyway. Ship with a protective coating of lubricating oil.
    b. Designed to operate at no more than 70 percent of first critical speed at top of fan's speed range.

B. Plenum Fan Housings: Steel frame and panel; fabricated without fan scroll and volute housing.

C. Backward-Inclined, Centrifugal Fan Wheels: Single-width-single-inlet and double-width-double-inlet construction with curved inlet flange, backplate, backward-inclined blades welded or riveted to flange and backplate; cast-iron or cast-steel hub riveted to backplate and fastened to shaft with set screws.

D. Airfoil, Centrifugal Fan Wheels: Smooth-curved inlet flange, backplate, and hollow die-formed airfoil-shaped blades continuously welded at tip flange and backplate; cast-iron or cast-steel hub riveted to backplate and fastened to shaft with set screws.

E. Fan Shaft Bearings:

1. Grease-Lubricated, Tapered-Roller Bearings: Self-aligning, pillow-block type with double-locking collars and 2-piece, cast-iron housing with grease lines extended to outside unit and a rated life of 120,000 hours according to ABMA 11.

F. Belt Drives: Factory mounted, with adjustable alignment and belt tensioning, and with 1.5 service factor based on fan motor.

1. Pulleys: Cast iron or cast steel with split, tapered bushing; dynamically balanced at factory.
2. Motor Pulleys: Adjustable pitch for use with 5-hp motors and smaller; fixed pitch for use with motors larger than 5 hp. Select pulley size so pitch adjustment is at the middle of adjustment range at fan design conditions.
3. Belts: Oil resistant, nonsparking, and nonstatic; in matched sets for multiple-belt drives.
4. Belt Guards: Comply with requirements specified by OSHA and fabricate according to SMACNA's "HVAC Duct Construction Standards"; 0.1046-inch- thick, 3/4-inch diamond-mesh wire screen, welded to steel angle frame; prime coated.

G. Internal Vibration Isolation: Fans shall be factory mounted with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 2 inches.

H. Motor: Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Division 23 Section "Common Motor Requirements for HVAC Equipment."

1. Enclosure Type: Totally enclosed, fan cooled.
2. NEMA Premium (TM) efficient motors as defined in NEMA MG 1.
3. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
4. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in Division 26 Sections.
5. Mount unit-mounted disconnect switches on exterior of unit.

2.4 COIL SECTION

A. General Requirements for Coil Section:

1. Comply with ARI 410.
2. Fabricate coil section to allow removal and replacement of coil for maintenance and to allow in-place access for service and maintenance of coil(s).
3. Coils shall not act as structural component of unit.

2.5 AIR FILTRATION SECTION

A. General Requirements for Air Filtration Section:

1. Comply with NFPA 90A.

2. Provide minimum arrestance according to ASHRAE 52.1, and a minimum efficiency reporting value (MERV) according to ASHRAE 52.2.
3. Provide filter holding frames arranged for flat or angular orientation, with access doors on both sides of unit. Filters shall be removable from one side or lifted out from access plenum.

B. Extended-Surface, Disposable Panel Filters:

1. Factory-fabricated, dry, extended-surface type.
2. Thickness: 2 inches.
3. Merv (ASHRAE 52.2): 11.
4. Media: Fibrous material formed into deep-V-shaped pleats with antimicrobial agent and held by self-supporting wire grid.
5. Media-Grid Frame: Nonflammable cardboard.
6. Mounting Frames: Welded, galvanized steel, with gaskets and fasteners, suitable for bolting together into built-up filter banks.

C. Filter Gage:

1. 3-1/2-inch- diameter, diaphragm-actuated dial in metal case.
2. Vent valves.
3. Black figures on white background.
4. Front recalibration adjustment.
5. 2 percent of full-scale accuracy.
6. Accessories: Static-pressure tips with integral compression fittings, 1/4-inch aluminum tubing, and 2- or 3-way vent valves.

2.6 DAMPERS

A. General Requirements for Dampers: Leakage rate, according to AMCA 500, "Laboratory Methods for Testing Dampers for Rating," shall not exceed 2 percent of air quantity at 2000-fpm face velocity through damper and 4-inch wg pressure differential.

B. Electronic Damper Operators:

1. Direct-coupled type designed for minimum 60,000 full-stroke cycles at rated torque.
2. Electronic damper position indicator shall have visual scale indicating percent of travel and 2- to 10-V dc, feedback signal.
3. Operator Motors:

    a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Division 23 Section "Common Motor Requirements for HVAC."
    b. Size to operate with sufficient reserve power to provide smooth modulating action or two-position action.
    c. Permanent Split-Capacitor or Shaded-Pole Type: Gear trains completely oil immersed and sealed. Equip spring-return motors with integral spiral-spring mechanism in housings designed for easy removal for service or adjustment of limit switches, auxiliary switches, or feedback potentiometer.

4. Nonspring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running torque of 150 in. x lbf and breakaway torque of 300 in. x lbf.
5. Spring-Return Motors for Dampers Larger Than 25 Sq. Ft.: Size for running and breakaway torque of 150 in. x lbf.
6. Size dampers for running torque calculated as follows:

    a. Parallel-Blade Damper with Edge Seals: 7 inch-lb/sq. ft. of damper.
    b. Dampers with 2- to 3-Inch wg of Pressure Drop or Face Velocities of 1000 to 2500 fpm: Increase running torque by 1.5.

7. Coupling: V-bolt and V-shaped, toothed cradle.
8. Overload Protection: Electronic overload or digital rotation-sensing circuitry.
9. Fail-Safe Operation: Mechanical, spring-return mechanism with external, manual gear release on nonspring-return actuators.
10. Power Requirements (Modulating): Maximum 10 VA at 24-V ac or 8 W at 24-V dc.
11. Proportional Signal: 2- to 10-V dc or 4 to 20 mA, and 2- to 10-V dc position feedback signal.
12. Temperature Rating: Minus 22 to plus 122 deg F.

C. Outdoor- and Return-Air Dampers: Low-leakage, double-skin, airfoil-blade, galvanized-steel dampers with compressible jamb seals and extruded-vinyl blade edge seals in opposed -blade arrangement with cadmium-plated steel operating rods rotating in stainless-steel sleeve bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 5 cfm/sq. ft. at 1-inch wg and 9 cfm/sq. ft. at 4-inch wg.

D. Mixing Section: Multiple-blade, air-mixer assembly located immediately downstream of mixing section.

E. Combination Filter and Mixing Section:

1. Cabinet support members shall hold 2-inch- thick, pleated, flat, permanent or throwaway filters.
2. Multiple-blade, air-mixer assembly shall mix air to prevent stratification, located immediately downstream of mixing box.

2.7 SOURCE QUALITY CONTROL

A. Fan Performance Rating: Factory test fan performance for airflow, pressure, power, air density, rotation speed, and efficiency. Rate performance according to AMCA 210, "Laboratory Methods of Testing Fans for Aerodynamic Performance Rating."

B. Water Coils: Factory tested to 300 psig according to ARI 410 and ASHRAE 33.

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. Examine casing insulation materials and filter media before air-handling unit installation. Reject insulation materials and filter media that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for steam, hydronic, and condensate drainage piping systems and electrical services to verify actual locations of connections before installation.

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

3.2 INSTALLATION

A. Equipment Mounting: Install air-handling units on concrete bases without vibration isolation devices. Secure units to anchor bolts installed in concrete bases. Comply with requirements for concrete bases specified in Division 03 Section "Cast-in-Place Concrete." Comply with requirements for vibration isolation devices specified in Division 23 Section "Vibration and Seismic Controls for HVAC Piping and Equipment."

1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
2. Install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
4. Install anchor bolts to elevations required for proper attachment to supported equipment.

B. Arrange installation of units to provide access space around air-handling units for service and maintenance.

C. Do not operate fan system until filters (temporary or permanent) are in place. Replace temporary filters used during construction and testing, with new, clean filters.

D. Install filter-gage, static-pressure taps upstream and downstream of filters. Mount filter gages on outside of filter housing or filter plenum in accessible position. Provide filter gages on filter banks, installed with separate static-pressure taps upstream and downstream of filters.

3.3 CONNECTIONS

A. Comply with requirements for piping specified in other Division 23 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping adjacent to air-handling unit to allow service and maintenance.

C. Connect condensate drain pans using 2-inch, ASTM B 88, Type M copper tubing. Extend to nearest equipment or floor drain. Construct deep trap at connection to drain pan and install cleanouts at changes in direction.

D. Hot- and Chilled-Water Piping: Comply with applicable requirements in Division 23 Section "Hydronic Piping." Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.

E. Connect duct to air-handling units with flexible connections. Comply with requirements in Division 23 Section "Air Duct Accessories."

F. Electrical Connections: Coordinate and install interconnection of wiring across shipping splits. Comply with applicable requirements in Division 26 Sections.

1. Install electrical devices furnished with units but not factory mounted.

3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Tests and Inspections:

1. Leak Test: After installation, fill water and steam coils with water, and test coils and connections for leaks.
2. Charge refrigerant coils with refrigerant and test for leaks.
3. Fan Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
4. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Air-handling unit or components will be considered defective if unit or components do not pass tests and inspections.

D. Prepare test and inspection reports.

3.5 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.
2. Verify that shipping, blocking, and bracing are removed.
3. Verify that unit is secure on mountings and supporting devices and that connections to piping, ducts, and electrical systems are complete. Verify that proper thermal-overload protection is installed in motors, controllers, and switches.

4. Verify proper motor rotation direction, free fan wheel rotation, and smooth bearing operations. Reconnect fan drive system, align belts, and install belt guards.
5. Verify that bearings, pulleys, belts, and other moving parts are lubricated with factory-recommended lubricants.
6. Verify that outdoor- and return-air mixing dampers open and close, and maintain minimum outdoor-air setting.
7. Comb coil fins for parallel orientation.
8. Install new, clean filters.
9. Verify that manual and automatic volume control and fire and smoke dampers in connected duct systems are in fully open position.

B. Starting procedures for air-handling units include the following:

1. Energize motor; verify proper operation of motor, drive system, and fan wheel. Adjust fan to indicated rpm.Replace fan and motor pulleys as required to achieve design conditions.
2. Measure and record motor electrical values for voltage and amperage.
3. Manually operate dampers from fully closed to fully open position and record fan performance.

3.6 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Division 23 Section "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

3.7 CLEANING

A. After completing system installation and testing, adjusting, and balancing air-handling unit and air-distribution systems and after completing startup service, clean air-handling units internally to remove foreign material and construction dirt and dust. Clean fan wheels, cabinets, dampers, coils, and filter housings, and install new, clean filters.

3.8 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

END OF SECTION

SECTION 237416.13 HYDRONIC ROOFTOP AIR-CONDITIONING UNITS

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 modular air handling units with hydronic coils and fans for outdoor installations.

1.3 SUBMITTALS

A. Product Data: For each type of air handling units indicated. Include the following:

1. Certified fan-performance curves with system operating conditions indicated.
2. Certified fan-sound power ratings.
3. Certified coil-performance ratings with system operating conditions indicated.
4. Motor ratings, electrical characteristics, and motor and fan accessories.
5. Material gages and finishes.
6. Filters with performance characteristics.
7. Dampers, including housings, linkages.
8. Wiring Diagrams: Power, signal, and control wiring.

B. Operation and Maintenance Data: For air handling unit equipment to include in maintenance manuals.

1.4 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

B. ARI Certification: Custom air-handling units and their components shall be factory tested according to ARI 430, ÓCentral-Station Air-Handling Units,• and shall be listed and labeled by ARI.

C. Comply with NFPA 70.

1.5 COORDINATION

A. Coordinate size and location of concrete bases. Cast anchor-bolt inserts into bases. Concrete, reinforcement, and formwork requirements are specified in Division 3.

B. Coordinate size and location of structural-steel support members.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to replace components of the air-handling units that fail in materials or workmanship within specified warranty period.

1. Warranty Period for air handling units: one year from substantial completion. (Parts Only Warranty)

1.7 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. Filters: 2 total set(s) of each type of filter specified.
2. Fan Belts: One set(s) of belts for each belt-driven fan.
3. Obtain receipt from Owner that above items have been received.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

1. Trane (Basis)
2. Daikin

2.2 MANUFACTURED UNITS

A. Air handling units shall be factory assembled and consist of fans, motor and drive assembly, coils, damper, plenums, filters, condensate pans, mixing dampers, damper actuators, control devices, empty control cabinet and dedicated space for field installed VFDs.

2.3 Cabinet

A. Materials: Formed and reinforced double-wall insulated panels, fabricated to allow removal for access to internal parts and components, with joints between sections sealed. Panels shall be designed for outdoor installation. Roof shall be sloped.

1. Outside Casing: Galvanized steel, 18 gage.
2. Under scheduled supply air temperature and design conditions on the exterior of the unit, condensation shall not form on the casing exterior.
3. All permanently joined flanged panel surfaces shall be sealed with an individual strip of 1/8• x 3/8• tape sealer. Wall and roof seams shall be turned inward to provide a clean flush exterior finish. All panel seams shall be sealed during assembly to produce an airtight unit.
4. The internal liner in the coil sections shall be suitable for washing with a pressure washer or steam cleaner without risk of wetting the insulation.
5. The casing shall be constructed such that structural frames are free standing and double wall panels are non-load bearing.
6. All exposed welds shall be cleaned, coated with rust inhibitor primer, and finished with rust inhibiting enamel.

B. Cabinet Insulation: Comply with NFPA 90A or NFPA 90B.

1. Thickness: 2 inches.

C. Access Panels and Doors: Same materials and finishes as cabinet, complete with hinges, latches, handles, and gaskets. Inspection and access panels and doors shall be sized and located to allow periodic maintenance and inspections.

1. Door handles shall be Ventlok model #310 high pressure latches operable from either side of the door. The door opening shall be fully gasketed with continuous ½•closed cell hollow round black gasketing and a metal encapsulated reinforcing backing that mechanically fastens to the door frame. The outside of the door shall be flush with the unit. The minimum door opening size shall be 18• x 70• (where unit height permits). Fan compartments must have a door of minimum width to remove the motor.
2. All access doors must swing against the air pressure. (i.e. positive pressure plenum doors must swing in.)
3. Provide access doors in the following locations and where shown on drawings:

    a. Fan Section
    b. Access Section
    c. Coil Section
    d. Damper Section
    e. Filter Section: Doors to allow periodic removal and installation of filters.
    f. Piping vestibules

D. Condensate Drain Pans: Formed sections of stainless-steel sheet complying with requirements in ASHRAE 62. Fabricate pans with slopes in two planes to collect condensate from cooling coils (including coil piping connections and return bends) when units are operating at maximum catalogued face velocity across cooling coil.

1. Double-Wall Construction: Fill space between walls with foam insulation and seal moisture tight.
2. Units with stacked coils shall have an intermediate drain pan or drain trough to collect condensate from top coil and drop tube to guide condensate to the bottom drain pan.
3. Ensure unit installed height above floor allows enough space for condensate trap piping above the mechanical room floor.

E. Piping vestibules: Same materials and finishes as cabinet, complete with access doors. Vestibules shall be large enough to house supply and return piping with fittings and shutoff valves. Curb shall be built to support the vestibules and to allow routing of piping into the vestibules from below through the curb space.

F. Intake and relief hoods: Same materials and finish as cabinet. Sized for the design air flows to minimize moisture admittance to the unit interior air path.

G. Control cabinet: Weatherproof vented enclosure factory mounted to the exterior of the unit, with pathways for wring routed into the unit inner casing.

H. VFD space: Weatherproof enclosure or dedicated space in the fan sections, with proximity to the fan motors, for field installation of TCC provided VFDs.

2.4 FAN SECTION

A. Fan bearings shall be heavy duty, grease lubricated, self-aligning, antifriction pillow block type. Fan bearings shall be rated for a minimum average life (L-50) per ANSI/ABMA of 400,000 hours at design operating conditions. For easy accessibility, lubrication lines for fan bearings shall extend to the drive side of the fan, on the unit interior.

B. Centrifugal Fan Housings: Formed- and reinforced-steel panels to make curved scroll housings with shaped cutoff, spun-metal inlet bell, and access doors or panels to allow entry to internal parts and components.

1. Plug Fans: With steel cabinet. Fabricate without fan scroll and volute housing.

C. Fan Assemblies: Statically and dynamically balanced for inverter duty operation over the entire range of fan operation (30% to 100% RPM).

D. Shafts: Statically and dynamically balanced and designed for continuous operation at maximum rated fan speed and motor horsepower, with final alignment and belt adjustment made after installation.

1. Turned, ground, and polished hot-rolled steel with keyway. Ship with a protective coating of lubricating oil.

2. Designed to operate at no more than 70 percent of first critical speed at top of fan's speed range.
3. Key fan wheels to shaft.

E. Vibration Control: Install fans on open-spring vibration isolators having a minimum of 2-inch static deflection and side snubbers.

1. Connect fan to unit housing with flexible bulkhead canvas connection.

2.5 MOTORS

A. Fan motors shall be mounted and isolated on the same integral base as the fan.

B. Fan motors shall be heavy duty, TEFC, premium efficiency, operable at 208 volts, 60 Hz, 3-phase, 1800 rpm. Motors shall meet USA epact of 1992.

C. Shaft grounding kits shall be provided and installed.

D. Approved manufacturers: Baldor

2.6 COILS

A. Fins shall have collars drawn, belled and firmly bonded to the tubes by means of mechanical expansion of the tubes. No soldering or tinning shall be used in the bonding process. Coils shall be mounted in the unit casing to be accessible for service. Capacities, pressure drops and selection procedure shall be certified in accordance with ARI Standard 410.

B. Coils shall be fully enclosed within the casing and cooling coils shall be on mounted 304 stainless steel angle racks manufactured by allow coils to slide out individually. Heating coils shall be mounted on galvanized angle racks manufactured to allow coils to slide out individually.

C. Removable coil access panels shall be provided for removal of coils through the casing wall. Coils shall be individually removable away from the access side. Coils must be individually racked, removable through the side access panels.

D. The manufacturer shall provide stainless steel drain pans for all cooling coils. Drain pans shall be continuously welded. The coil section must have intermediate drain pans and shall be interconnected with 1 inch stainless steel drain lines. Drain pans shall be IAQ sloped and fully drainable.

E. Coils shall be designed for chilled water or hot water service.

F. All pipe connections shall be on the same unit end, extended through the casing 4• for ease of connection.

G. Water coils handling recently mixed air, or direct outside air, shall be fully drainable by removing a single threaded plug for each coil row.

H. The primary surface shall be round seamless 0.62 in .035 O.D. copper tube on 1 inch centers, staggered in the direction of airflow. All joints shall be brazed.

I. The secondary surface shall consist of rippled aluminum plate fins for higher capacity and structural strength. Fins shall have full drawn collars to provide a continuous surface cover over the entire tube for maximum heat transfer. Bare copper tube shall not be visible between fins and the fins shall have no openings or holes which might accumulate lint and dirt. Tubes shall be mechanically expanded into the fins to provide a continuous primary to secondary compression bond over the entire finned length for maximum heat transfer rates.

J. The coil connection locations shall permit universal mounting of the coil for right or left hand airflow and have equal pressure drop through all circuits. Coils shall be circuited for counterflow heat transfer to provide the maximum mean effective temperature difference for maximum heat transfer rates.

K. Headers on water coils shall be seamless copper tubing. The headers shall have intruded tube holes to provide a large brazing surface for maximum strength and inherent flexibility.

L. The complete 5 coil core shall be tested with 315 lbs air pressure under warm water and be suitable for operation at 250 psi working pressures. Individual tube and core tests before installation of headers are not considered satisfactory. Hydrostatic tests alone will not be acceptable. Water cooling coils shall be circuited for drain ability.

2.7 DAMPERS (EXHAUST, OUTSIDE, AND RETURN)

A. All outside, return, and exhaust dampers shall be modulating style.

B. Aluminum airfoil frames and blades shall be a minimum of 12 gauge extruded aluminum. Blades shall be of a single unit airfoil design 6 inches wide.

C. Frames shall be extruded aluminum channel with grooved inserts for vinyl seals. Standard frames shall be 2 in. X 4 in. X 0.62 in. on the linkage side, 1 in. X 4 in. X 1 in. on the other 3 sides.

D. Pivot rods shall be 0.88 in hexagon extruded aluminum interlocking into the blade section. Bearings shall be of a double sealed type with a Celcon inner bearing on a rod within a Polycarbonate outer bearing inserted into the frame to prevent the outer bearing from rotating.

E. The bearing shall be designed so there are no metal-to-metal or metal-to bearing riding surfaces. The interconnecting linkage shall have a separate Celcon bearing to eliminate friction inside the linkage.

F. Blade linkage hardware shall be installed in a frame outside the airstream. All hardware shall be on non-corrosive, reinforced cadmium plated steel.

G. Damper seals shall be designed for minimum air leakage by means of overlapping seals.

H. Jack shaft assemblies shall be provided for multiple damper installations.

I. All dampers shall be linked from the factory.Acceptable dampers are TAMCO 1000

2.8 FILTER SECTION

A. Provide filter racks for 2 inch (Merv 11) filters .

B. The holding frames shall be formed with continuous recess for retention of filter frames with caulking compound applied between the frames before riveting them into assembled banks.

C. Pre-filters are to be mounted on the entering air face of the filter bank.

D. Filters shall incorporate a "pleat" type design which creates a wide space between adjacent pleats on the air-leaving side.

E. A magnehelic, differential pressure gauge shall be factory installed and flush mounted to measure the pressure drop across each filter bank.

2.9 CURB

A. Manufacturer shall provide a 24" minimum curb to match mutli-directional roof slope.

2.10 ELECTRICAL

A. All wiring shall be installed in EMT conduit with standard fittings.

B. Each supply fan and exhaust fan motor shall be wired to an external junction box. Each fan motor shall have its own electrical connection.

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. Examine casing insulation materials and filter media before air-to-air energy recovery equipment installation. Reject insulation materials and filter media that are wet, moisture damaged, or mold damaged.

C. Examine roughing-in for electrical services to verify actual locations of connections before installation.

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

3.2 INSTALLATION

A. Equipment Mounting: Install roof mounted air-handling unit equipment on 24" roof curb.

B. Install units with clearances for service and maintenance.

C. Install new filters at completion of equipment installation and before testing, adjusting, and balancing.

D. Pipe drains from units and drain pans to nearest floor drain; use ASTM B 88, Type L, drawn-temper copper water tubing with soldered joints, same size as condensate drain connection.

3.3 CONNECTIONS

A. Comply with requirements for piping specified in Division 23 Section "Hydronic Piping." Drawings indicate general arrangement of piping, fittings, and specialties.

B. Install piping in vestibules to allow service and maintenance.

C. Connect cooling condensate drain pans with air seal trap at connection to drain pan and install cleanouts at changes in pipe direction.

D. Water Piping: Comply with applicable requirements in Division 23 Section "Hydronic Piping." Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.

E. Comply with requirements for ductwork specified in Division 23 Section "Metal Ducts."

F. Electrical Connections: Coordinate and install interconnection of wiring across shipping splits. Comply with applicable requirements in Division 26 Sections.

1. Install electrical devices furnished with units but not factory mounted.

3.4 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Tests and Inspections:

1. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
2. Adjust seals and purge.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
4. Set initial temperature and humidity set points.

5. Set field-adjustable switches and circuit-breaker trip ranges as indicated.

C. Prepare test and inspection reports.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-to-air energy recovery units.

END OF SECTION

SECTION 323113 - CHAIN LINK FENCES AND GATES

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. Chain-link fences.
2. Gates: swing.

B. Related Sections:

1. Division 03 Section "Cast-in-Place Concrete " for cast-in-place concrete post footings.

1.3 PERFORMANCE REQUIREMENTS

A. Lightning Protection System: Maximum grounding-resistance value of 25 ohms under normal dry conditions.

1.4 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

1. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chain-link fences and gates.

    a. Fence and gate posts, rails, and fittings.
    b. Chain-link fabric, reinforcements, and attachments.
    c. Gates and hardware.

2. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Show accessories, hardware, gate operation, and operational clearances.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified professional engineer.

B. Product Certificates: For each type of chain-link fence, and gate, from manufacturer.

C. Product Test Reports: For framing strength according to ASTM F 1043.

1.6 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing fence grounding. Member company of NETA or an NRTL.

1. Testing Agency's Field Supervisor: Currently certified by NETA to supervise on-site testing.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify layout information for chain-link fences and gates shown on Drawings in relation to property survey and existing structures. Verify dimensions by field measurements.

1.8 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of chain-link fences and gates that fail in materials or workmanship within specified warranty period.

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

a. Faulty operation of gate operators and controls.
b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CHAIN-LINK FENCE FABRIC

A. General: Height indicated on the Drawings. Provide fabric in one-piece heights measured between top and bottom of outer edge of selvage knuckle or twist. Comply with CLFMI 2445 and with requirements indicated below:
1. Steel Wire Fabric:

a. Location: As Indicated
b. Polymer-coated wire with a diameter of 0.120 inch.
c. Mesh Size: 2 inches.

d. Weight of Aluminum Coating: ASTM A 491, Type I, 0.4 oz./sq. ft. for 6 and 9 guage fabric.
e. Polymer-Coating: ASTM F 668, Class 2b over metallic-coated steel wire.

1) Color: Black, complying with ASTM F 934.

2. Selvage: Knuckled at both selvages.

a. Coat selvage ends of fabric that is metallic coated before the weaving process with manufacturer's standard clear protective coating.

2.2 FENCE FRAMING

A. Posts and Rails: Comply with ASTM F 1043 for framing, ASTM F 1083 for Group IC round pipe, and the following:

1. Schedule: Round steel post size and rail for normal industrial applications.
2. Group: IA, round steel pipe, Schedule 40.
3. Fence Height: as indicated on drawings.
4. Strength Requirement: Heavy industrial according to ASTM F 1043.
5. Line Post Diameter: 2.375inch
6. Terminal Post: 2.875 Inch
7. Bottom, Intermediate and Top Rails: 1.667inch(top and bottom required, Intermediate required for 6' or taller)
8. Gate Posts: 4.00inches
9. Coating for Steel Framing:

a. Metallic Coating:

1) Type A, consisting of not less than minimum 2.0-oz./sq. ft. average zinc coating per ASTM A 123/A 123M or 4.0-oz./sq. ft. zinc coating per ASTM A 653/A 653M.

b. Polymer coating over metallic coating.

1) Color: Black, complying with ASTM F 934.

2.3 SWING GATES

A. General: Comply with ASTM F 900 for gate posts as Indicated swing gate types.

1. Gate Fabric Height: As indicated.

B. Pipe and Tubing:

1. Zinc-Coated Steel: Comply with ASTM F 1043 and ASTM F 1083; protective coating and finish to match fence framing .

2. Aluminum: Comply with ASTM B 429/B 429M; manufacturer's standard finish.
3. Gate Posts: Round tubular steel .
4. Gate Frames and Bracing: Round tubular steel.

C. Frame Corner Construction: assembled with corner fittings.

D. Hardware:

1. Hinges: 360-degree inward and outward swing.
2. Padlock and Chain: Manufacturer standard.
3. Lock: Manufacturer's standard internal device.
4. Closer: Manufacturer's standard.

2.4 FITTINGS

A. General: Comply with ASTM F 626.

B. Rail and Brace Ends: For each gate, corner, pull, and end post.

C. Rail Fittings: Provide the following:

1. Top Rail Sleeves: Pressed-steel or round-steel tubing not less than 6 inches long.
2. Rail Clamps: Line and corner boulevard clamps for connecting intermediate rails in the fence line-to-line posts.

D. Tension and Brace Bands: Pressed steel.

E. Truss Rod Assemblies: [Steel, hot-dip galvanized after threading] [Mill-finished aluminum] rod and turnbuckle or other means of adjustment.

F. Finish:

1. Metallic Coating for Pressed Steel or Cast Iron: Not less than 1.2 oz. /sq. ft. zinc.

a. Polymer coating over metallic coating.

2. Aluminum: Mill finish.

2.5 GROUT AND ANCHORING CEMENT

A. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with potable water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended in writing by manufacturer, for exterior applications.

2.6 FENCE GROUNDING

A. Conductors: Bare, solid wire for No. 6 AWG and smaller; stranded wire for No. 4 AWG and larger.

1. Material above Finished Grade: [Copper] [Aluminum].
2. Material on or below Finished Grade: Copper.
3. Bonding Jumpers: Braided copper tape, 1 inch wide, woven of No. 30 AWG bare copper wire, terminated with copper ferrules.

B. Connectors and Grounding Rods: Comply with UL 467.

1. Connectors for Below-Grade Use: Exothermic welded type.
2. Grounding Rods: Copper-clad steel, 5/8 by 96 inches.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for a verified survey of property lines and legal boundaries, site clearing, earthwork, pavement work, and other conditions affecting performance of the Work.

1. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

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

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

3.3 INSTALLATION, GENERAL

A. Install chain-link fencing to comply with ASTM F 567 and more stringent requirements indicated.

1. Install fencing on established boundary lines inside property line.

3.4 CHAIN-LINK FENCE INSTALLATION

A. Post Excavation: Drill or hand-excavate holes for posts to diameters and spacings indicated, in firm, undisturbed soil.

B. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts to dimensions indicated and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

    a. Concealed Concrete: Top 2 inches below grade [as indicated on Drawings]to allow covering with surface material.
    b. Posts Set into Concrete in Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with nonshrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, and finished sloped to drain water away from post.

C. Post Bracing and Intermediate Rails: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Diagonally brace terminal posts to adjacent line posts with truss rods and turnbuckles. Install braces at end and gate posts and at both sides of corner and pull posts.

1. Locate horizontal braces at midheight of fabric 72 inches or higher, on fences with top rail and at two-third fabric height on fences without top rail. Install so posts are plumb when diagonal rod is under proper tension.

D. Bottom, Intermediate/ Top Rail: Install according to ASTM F 567, maintaining plumb position and alignment of fencing. Run rail continuously through line post caps, bending to radius for curved runs and terminating into rail end attached to posts or post caps fabricated to receive rail at terminal posts. Provide expansion couplings as recommended in writing by fencing manufacturer.

E. Chain-Link Fabric: Apply fabric to [outside] [inside] of enclosing framework. Leave [1 inch] [2 inches] between finish grade or surface and bottom selvage unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Anchor to framework so fabric remains under tension after pulling force is released.

F. Tension or Stretcher Bars: Thread through fabric and secure to end, corner, pull, and gate posts with tension bands spaced not more than 15 inches o.c.

G. Tie Wires: Use wire of proper length to firmly secure fabric to line posts and rails. Attach wire at one end to chain-link fabric, wrap wire around post a minimum of 180 degrees, and attach other end to chain-link fabric per ASTM F 626. Bend ends of wire to minimize hazard to individuals and clothing.

1. Maximum Spacing: Tie fabric to line posts at 12 inches o.c. and to braces at 24 inches o.c.

H. Fasteners: Install nuts for tension bands and carriage bolts on the side of the fence opposite the fabric side. Peen ends of bolts or score threads to prevent removal of nuts.

I. Privacy Slats: Install slats in direction indicated, securely locked in place.

1. Vertically, for privacy factor of 70 to 75.

3.5 GROUNDING AND BONDING

A. Fence Grounding: Install at maximum intervals of 1500 feet except as follows:

1. Fences within 100 Feet of Buildings, Structures, Walkways, and Roadways: Ground at maximum intervals of 750 feet.

a. Gates and Other Fence Openings: Ground fence on each side of opening.

1) Bond metal gates to gate posts.
2) Bond across openings, with and without gates, except openings indicated as intentional fence discontinuities. Use No. 2 AWG wire and bury it at least 18 inches below finished grade.

B. Protection at Crossings of Overhead Electrical Power Lines: Ground fence at location of crossing and at a maximum distance of 150 feet on each side of crossing.

C. Fences Enclosing Electrical Power Distribution Equipment: Ground as required by IEEE C2 unless otherwise indicated.

D. Grounding Method: At each grounding location, drive a grounding rod vertically until the top is 6 inches below finished grade. Connect rod to fence with No. 6 AWG conductor. Connect conductor to each fence component at the grounding location, including the following:

1. Make grounding connections to each barbed wire strand with wire-to-wire connectors designed for this purpose.
2. Make grounding connections to each barbed tape coil with connectors designed for this purpose.

E. Bonding Method for Gates: Connect bonding jumper between gate post and gate frame.

F. Connections: Make connections to minimize possibility of galvanic action or electrolysis. Select connectors, connection hardware, conductors, and connection methods so metals in direct contact will be galvanically compatible.

1. Use electroplated or hot-tin-coated materials to ensure high conductivity and to make contact points closer in order of galvanic series.
2. Make connections with clean, bare metal at points of contact.
3. Make aluminum-to-steel connections with stainless-steel separators and mechanical clamps.
4. Make aluminum-to-galvanized-steel connections with tin-plated copper jumpers and mechanical clamps.
5. Coat and seal connections having dissimilar metals with inert material to prevent future penetration of moisture to contact surfaces.

G. Bonding to Lightning Protection System: If fence terminates at lightning-protected building or structure, ground the fence and bond the fence grounding conductor to lightning protection down conductor or lightning protection grounding conductor complying with NFPA 780.

3.6 FIELD QUALITY CONTROL

A. Grounding-Resistance Testing: Engage a qualified testing agency to perform tests and inspections.

1. Grounding-Resistance Tests: Subject completed grounding system to a megger test at each grounding location. Measure grounding resistance no fewer than two full days after last trace of precipitation, without soil having been moistened by any means other than natural drainage or seepage and without chemical treatment or other artificial means of reducing natural grounding resistance. Perform tests by two-point method according to IEEE 81.
2. Excessive Grounding Resistance: If resistance to grounding exceeds specified value, notify Architect promptly. Include recommendations for reducing grounding resistance and a proposal to accomplish recommended work.
3. Report: Prepare test reports certified by a testing agency of grounding resistance at each test location. Include observations of weather and other phenomena that may affect test results.

3.7 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

END OF SECTION

SECTION 323119 - DECORATIVE METAL FENCES AND GATES

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. Decorative metallic-coated steel tubular picket fences.
2. Swing gates.
3. full elevations of metal panel fence

B. Related Sections:

1. Division 03 Section "Cast-in-Place Concrete" for concrete .
2. Division 26 Sections for electrical service and connections for motor operators, controls, limit and disconnect switches, and safety features and for system disconnect switches.
3. Division 31 Section "Earth Moving" for site excavation, fill, and backfill where decorative metal fences and gates are located.

1.3 ACTION SUBMITTALS

A. Product Data with Shop Drawings:

1. Product Data: For each type of product indicated.
2. Shop Drawings: For gates. Include plans, elevations, sections, details, and attachments to other work.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form in which the manufacturer agrees to repair or replace components or ornamental metal fences and gates that fail in materials or workmanship within specified warranty period.

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

a. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

2. Warranty Period: Twenty (20) years from date of substantial completion.

PART 2 - PRODUCTS

2.1 DECORATIVE TUBULAR PICKET FENCES

A. Decorative Metallic-Coated Steel Tubular Picket Fences: Comply with ASTM F 2408, for light industrial (commercial) application (class) unless otherwise indicated.

1. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:

a. Ameristar Fence Products. Montage II - Majestic style
b. Approved equal.

B. Posts:

1. End and Corner Posts: Square tubes , size and weight per manufacturer's minimum sizing chart.
2. Swing Gate Posts: Square tubes, size and weight per manufacturer's minimum sizing chart.
3. Horizontal-slide gate post, openings wider than 12 feet, size and weight of members per manufacturer's minimum sizing chart.

C. Post Caps: Aluminum castings.

D. Rails: Square tubes.

E. Pickets: Square tubes.

1. Terminate tops of pickets at top rail for flush top appearance.
2. Picket Spacing: 4 inches clear, maximum.

F. Fasteners: Manufacturer's standard concealed fastening system.

G. Galvanizing: For components indicated to be galvanized and for which galvanized coating is not specified in ASTM F 2408, hot-dip galvanize to comply with ASTM A 123/A 123M. For hardware items, hot-dip galvanize to comply with ASTM A 153/A 153M.

H. Finish: Manufacturer's system to comply with warranty period

2.2 SWING GATES

A. Gate Configuration: As indicated.

B. Gate Frame Height: As indicated.

C. Gate Opening Width: As indicated.

D. Steel Frames and Bracing: Fabricate members from square steel tubing , size per manufacturer's minimum sizing chart.

E. Aluminum Frames and Bracing: Fabricate members from square extruded-aluminum tubes, size per manufacturer's minimum sizing chart.

F. Frame Corner Construction: Welded.

G. Additional Rails: Provide as indicated, complying with requirements for fence rails.

H. Infill: Comply with requirements for adjacent fence.

I. Picket Size, Configuration, and Spacing: Comply with requirements for adjacent fence.

J. Hardware: Latches permitting operation from both sides of gate, hinges, and keepers for each gate leaf more than 5 feet wide. Provide center gate stops and cane bolts for pairs of gates.

K. Finish exposed welds to comply with NOMMA Guideline 1, Finish #2 - completely sanded joint, some undercutting and pinholes okay.

L. Galvanizing: For items other than hardware that are indicated to be galvanized, hot-dip galvanize to comply with ASTM A 123/A 123M unless otherwise indicated. For hardware items, hot-dip galvanize to comply with ASTM A 153/A 153M.

M. Steel Finish: Manufacturer's coating system to comply with warranty period.

N. Aluminum Finish: Manufacturer's coating system to comply wiht warranty period.

2.3 METAL PANEL FENCES AND GATES

A. Metal panels fencing and gates shall be the following:

1. Basteel perimeter system: Bennigton
2. Approved equal:

B. Metal panel color/style shall be selected during submittal process from full range of standard colors and style.

C. Fence posts size, and footer shall be per manufacturer recommendation. m

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for site clearing, earthwork, pavement work, construction layout, and other conditions affecting performance of the Work.

B. Do not begin installation before final grading is completed unless otherwise permitted by Architect.

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

3.2 PREPARATION

A. Stake locations of fence lines, gates, and terminal posts. Do not exceed intervals of 500 feet or line of sight between stakes. Indicate locations of utilities, lawn sprinkler system, underground structures, benchmarks, and property monuments.

1. Construction layout and field engineering are specified in Division 01 Section "Execution"

3.3 DECORATIVE FENCE INSTALLATION

A. Install fences according to manufacturer's written instructions.

B. Where fence is indicated along top of retaining wall, coordinate with wall contractor to insure sleeves are installed at the correct intervals.

C. Post Excavation: Drill or hand-excavate holes for posts in firm, undisturbed soil. Excavate holes to a diameter of not less than 4 times post size and a depth of not less than 24 inches plus 3 inches for each foot or fraction of a foot that fence height exceeds 4 feet.

D. Post Setting: Set posts in concrete at indicated spacing into firm, undisturbed soil.

1. Verify that posts are set plumb, aligned, and at correct height and spacing, and hold in position during setting with concrete or mechanical devices.
2. Concrete Fill: Place concrete around posts and vibrate or tamp for consolidation. Protect aboveground portion of posts from concrete splatter.

    a. Exposed Concrete: Extend 2 inches above grade. Finish and slope top surface to drain water away from post.

3. Posts Set in Concrete: Extend post to within 6 inches of specified excavation depth, but not closer than 3 inches to bottom of concrete.

3.4 GATE INSTALLATION

A. Install gates according to manufacturer's written instructions, level, plumb, and secure for full opening without interference. Attach hardware using tamper-resistant or concealed means. Install ground-set items in concrete for anchorage. Adjust hardware for smooth operation and lubricate where necessary.

3.5 ADJUSTING

A. Gates: Adjust gates to operate smoothly, easily, and quietly, free of binding, warp, excessive deflection, distortion, nonalignment, misplacement, disruption, or malfunction, throughout entire operational range. Confirm that latches and locks engage accurately and securely without forcing or binding.

B. Lubricate hardware and other moving parts.

END OF SECTION

SECTION 329300.99 - NATIVE PLANTINGS - WETLANDS AND PRAIRIES

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:

1. Preparation, seeding and maintenance for installation of prairie seed.

B. Environmental Requirements: Installation shall be performed during the following time of the year:

1. Prairie Seed: Between April 20 and July 20.

a. If site is prepared for prairie seed installation at any other time of the year, stabilize the soil with the following seed mixture per acre:

1) 64 lbs seed oats (Avena sativa).
2) 25 lbs annual ryegrass (Lolium multiflorum).

a) Under no circumstances shall the site be stabilized with winter rye, grain rye or winter wheat.

C. Related Sections include the following:

1. Division 31 Section 311000 “Site Clearing” for site stripping, grubbing, removing of topsoil, and for protection of existing trees to remain.
2. Division 31 Section 312000 “Earth Moving” for soil materials, excavating, backfilling, and site grading.
3. Division 32 Section 329300 “Plants” for trees, shrubs, ground cover and plant requirements, and for topsoil and soil amendments.
4. Division 32 Section 329200 “Turf and Grasses” for planting materials including topsoil, soil amendments, and fertilizers for new seeded, sodded, sprigged and plugged lawn and grass areas.

1.3 INFORMATIONAL SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 01 Specification Sections.

B. Certification of Seeds: Seed vendor shall certify each seed mixture by botanical and common names, and percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

C. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of Architects/Engineers and Owners, and other information as specified.

D. Planting Schedule: Provide planting schedule indicating anticipated dates and locations for each type of planting.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Instructions: Provide instructions for recommended procedures to be established by the Owner for maintenance of native plantings during an entire year. Submit before expiration of required maintenance periods.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Engage an Installer who has completed not less than three native planting installations within the past five years, similar in material, design, and extent to that indicated for this Project and with a record of successful work.

B. Preinstallation Conference: Conduct conference at Project site to comply with requirements of Division 01 Section "Project Meetings."

1.6 COORDINATION AND SCHEDULING

A. Planting Season: Sow seeds and install planting materials during the normal planting seasons for each plant as indicated. Correlate planting with specified maintenance periods to provide required maintenance from date of Substantial Completion.

B. Weather Limitations: Proceed with planting only when existing and forecast weather conditions are suitable for Work.

1.7 MAINTENANCE

A. Mowing: When oats set seed heads, mow prairie seed grass to a height of 4-6 inches (101.6- 152.4 mm).

1. Mow once a month to a height of 4-6 inches (101.6- 152.4 mm) or whenever weed growth is 10 inches (254 mm) throughout the first season after planting.
2. Mow once in late May if cool season weed growth is heavy during the spring of the second season after planting.
3. Collect and dispose of clippings during first mowing season.

B. Weeds: Contractor shall pull the following weeds which are detrimental to prairie plantings:

1. Canada Thistle (Cirsium arvense).
2. Queen Ann's Lace (Daucus carota).
3. Sweet Clover (Melilotus spp).
4. Cattails (Typhus sp.)

C. Watering: After date of Substantial Completion and throughout the maintenance period, watering shall be as recommended by native planting provider.

PART 2 - PRODUCTS

2.1 SEED MIXTURE

A. Low stature wet tolerant seed mix

GRASSES

PLS oz/acre	
2	Carex annectans var xanthocarpa (Yellow Fox Sedge)
2	Carex frankii (Frank's Sedge)
2	Carex scoparia (Lance Fruited Oval Sedge)
16	Elymus canadensis (Canada Wild Rye)
32	Elymus virginicus (Virginia Wild Rye)
48	Schizachyrium scoparium (Little Bluestem)
10	Sporobolus heterolepis (Prairie Dropseed)
112	**TOTAL PLS OZ/ACRE - grasses**

FORBS

PLS oz/acre	
2	Allium cernuum (Nodding Wild Onion)
0.5	Asclepias incarnata (Marsh Milkweed)
0.5	Asclepias syriaca (Common Milkweed)
1	Baptisia alba (White False Indigo)
2	Coreopsis palmata (Plains Coreopsis)
4	Echinacea purpurea (Purple Coneflower)
2	Eryngium yuccifolium (Rattlesnake Master)
1	Euthamia graminifolia (Grass-leaved Goldenrod)
3	Liatris spicata (Dense Blazing Star)
0.5	Monarda fistulosa (Bergamot)
3	Filipendula rubra (Queen of the Prairie)
2	Oligoneuron riddellii (Riddell's Goldenrod)
3	Parthenium integrifolium (Wild Quinine)

1	Penstemon calycosus (Smooth Beardtongue)
1	Penstemon digitalis (Foxglove Beardtongue)
2	Physostegia virginiana (Obedient Plant)
0.5	Pycnanthemum tenuifolium (Narrowleaf Mountain Mint)
1	Pycnanthemum virginianum (Mountain Mint)
2	Ratibida pinnata (Yellow Coneflower)
4	Rudbeckia fulgida speciosa (Showy Black-Eyed Susan)
2	Rudbeckia hirta (Black-Eyed Susan)
0.5	Symphyotrichum ericoides (Heath Aster)
2	Symphyotrichum firmum (Shining Aster)
2	Symphyotrichum novae-angliae (New England Aster)
2	Tradescantia ohiensis (Ohio Spiderwort)
0.5	Veronicastrum virginicum (Culver's Root)
3	Zizia aurea (Golden Alexander's)
48	**TOTAL PLS OZ/ACRE - forbs**

2.2 MULCH

A. General: Mulch shall be clean, black leaf compost.

2.3 ACCESSORIES

A. Sand: Dry, coarse sand free from chemical contamination.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas to receive native plantings for compliance with requirements and for conditions affecting performance of Work of this Section.

1. Verify that site is within 4 inches (101.6 mm) of specified grade, and that seed bed is sufficiently firm.
2. Verify that site is clean and free of debris.
3. Verify that surrounding uplands have been stabilized with the specified grass seed mixture.

3.2 PREPARATION

A. For prairie seed Work, Contractor shall provide the following preparation:

1. Vegetation Removal: If vegetation exists on site, apply glyphosate herbicide on all actively-growing vegetation not less than two weeks before start of installation Work.

a. Fertilizer shall not be applied to the site.
b. Contractor shall verify that herbicide application results in good kill prior to seeding.

2. Soil condition: Seeds shall be installed when soil is sufficiently dry so that it will not stick to the packer wheels on the drill.
3. Drill Calibration/Sowing Rate: Drill shall be properly calibrated to sow the specified amount of seed over the specified area. Contractor shall ensure that the area receives complete coverage.

3.3 PROTECTION

A. Erect barricades, tape around periphery of area or install other means of protection, as required, to ensure that newly seeded areas will not be damaged from traffic.

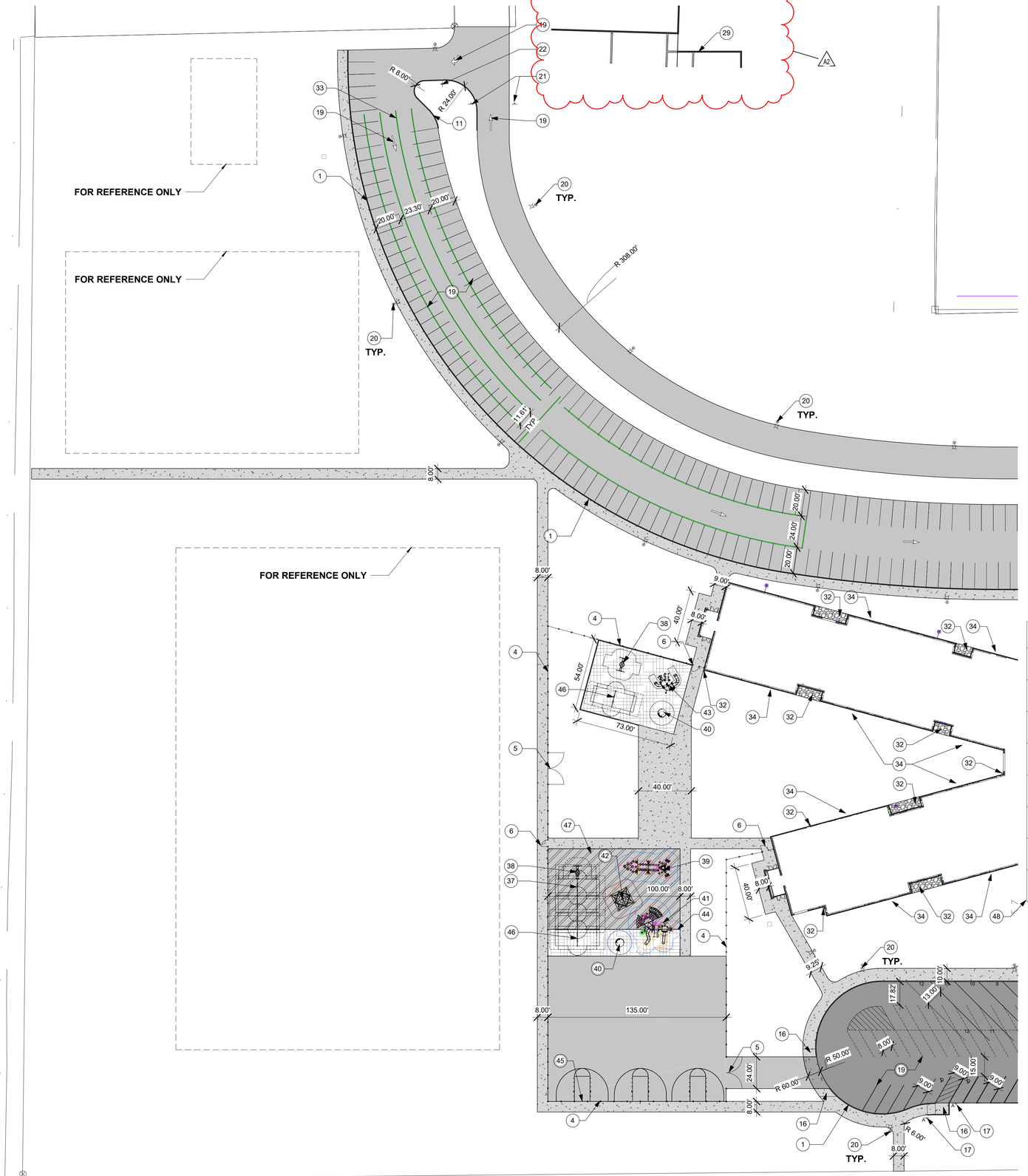
1. Unless otherwise indicated, protection shall be maintained throughout the maintenance period until the new grass is established.

3.4 ACCEPTANCE

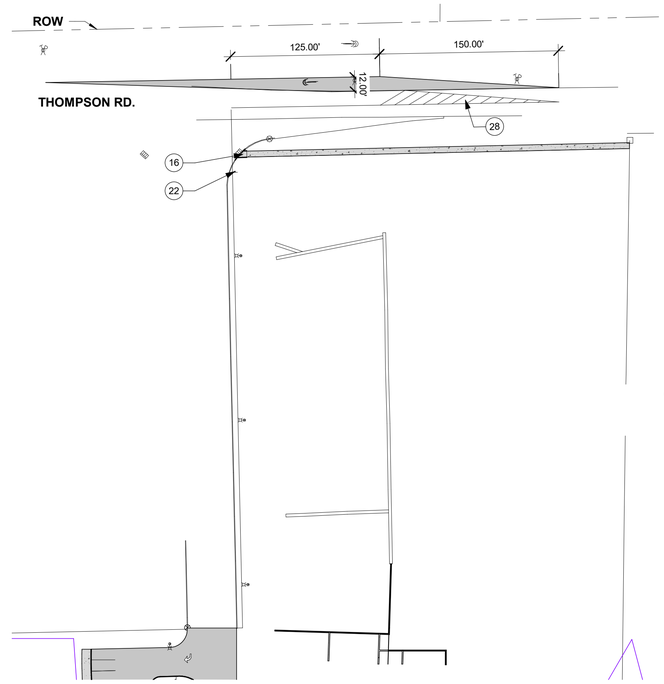
A. Acceptance of prairie Seed Work: Work shall comply with the following conditions for acceptance at the beginning of the second growing season:

1. Coverage: Not less than 75% of each plant community shall be covered with vegetation.
2. Presence: Not less than 50% of the species planted shall be alive and viable.
3. Abundance: 25% of the vegetation shall be native species of the permanent matrix.

END OF SECTION



1 **SITE PLAN - West**
1" = 40'-0"



2 **SITE PLAN - Enlargement**
1" = 60'-0"

GENERAL LAYOUT NOTES

1. REFERENCE C-001 FOR GENERAL LAYOUT PLAN NOTES.
2. NORTHING AND EASTING COORDINATES ARE STATE PLANE COORDINATES BASED ON A TOPOGRAPHIC SURVEY. REFER TO SURVEY DRAWINGS FOR HORIZONTAL CONTROL POINT DATA.
3. ALL EXISTING PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO MATCH EXISTING CONDITIONS.

SITE LAYOUT LEGEND

	STANDARD ASPHALT PAVING, SEE DETAIL SHEET
	HEAVY DUTY ASPHALT PAVING, SEE DETAIL SHEET
	ROW ASPAHLT PAVING SEE DETAIL SHEET
	STANDARD CONCRETE PAVING, SEE DETAIL SHEET
	HEAVY DUTY CONCRETE PAVING, SEE DETAIL SHEET
	PLAYGROUND FALL ATTENUATING SURFACE, SEE SPECS AND DETAIL SHEETS.
	ENGINEERED WOOD FIBER, SEE SPECS AND DETAIL SHEETS.
	RIVER ROCK WITH ALUMINUM EDGE. SEE SPECS AND DETAIL SHEETS.

SITE LAYOUT NOTES

Key	Note
1	INTEGRAL CONCRETE CURB SEE DETAIL SHEET.
2	ALTERNATE DRIVE.
3	35' FLAG POLE. SEE SPECS.
4	6' HIGH BLACK VINYL CHAINLINK FENCE. SEE SPECS
5	6' HIGH, 24' WIDE BLACK VINYL CHAINLINK DOUBLE SWING GATE. SEE SPECS
6	6' HIGH 5' WIDE BLACK VINYL CHAINLINK SINGLE SWING GATE. SEE SPECS
7	6' HIGH 10' WIDE ORNAMENTAL DOUBLE SWING GATE. SEE SPECS
8	6' HIGH ORNAMENTAL FENCE. SEE SPECS
9	6' HIGH 5' WIDE ORNAMENTAL SINGLE SWING GATE. SEE SPECS
10	8' HIGH METAL PANEL FENCE. SEE SPECS
11	ROLLED CONCRETE CURB. SEE DETAIL SHEET.
12	(2) 8' x 8' DUMPSTERS. PROVIDED BY OWNER.
13	6 - PIPE BOLLARDS. SEE DETAIL SHEET.
14	8' HIGH, 12' WIDE METAL PANEL DOUBLE SWING GATE. SEE SPECS
15	8' HIGH, 24' WIDE METAL PANEL DOUBLE SWING GATE. SEE SPECS
16	ADA RAMP WITH NO DETECTABLE WARNING PLATE. SEE DETAIL SHEET.
17	ACCESSIBLE PARKING SPOT INCLUDING SIGN. SEE DETAIL SHEET.
18	VAN ACCESSIBLE PARKING SPOT INCLUDING SIGN. SEE DETAIL SHEET.
19	WHITE EPOXY PAVEMENT MARKING
20	SEE E-SERIES DRAWINGS
21	STOP SIGN. SEE SPECS.
22	SIGN B. SEE SIGN SCHEDULE ON DETAIL SHEET.
23	SIGN D. SEE SIGN SCHEDULE ON DETAIL SHEET.
24	SIGN E. SEE SIGN SCHEDULE ON DETAIL SHEET.
26	MONUMENT SIGN. SEE DETAIL SHEET.
27	SIGN A. SEE SIGN SCHEDULE ON DETAIL SHEET.
28	YELLOW EPOXY PAVEMENT MARKING.
29	1' WIDE CONCRETE CHANNELS. CHANNEL TO LINE UP WITH ENDSECTIONS. SEE SHEETS CU101 AND CU102 FOR REFERENCES
30	SEE M-SERIES DRAWINGS
31	SEE P-SERIES DRAWINGS
32	RIVER ROCK. SEE DETAIL SHEET.
33	GREEN EPOXY PAVEMENT MARKING
34	DUSTY 12's, 1' WIDE STRIP ACROSS FACE OF BUILDING UNLESS NOTED OTHERWISE. SEE DETAIL SHEET.
35	ACCESS GATE
36	PARKING BUMPERS
37	(6) BELT SWINGS. SEE SPECS
38	(1) BASKET SWING. SEE SPECS
39	PLAYGROUND EQUIPMENT C. SEE SPECS
40	PLAYGROUND EQUIPMENT A. SEE SPECS
41	PLAYGROUND EQUIPMENT B. SEE SPECS
42	PLAYGROUND EQUIPMENT D. SEE SPECS
43	PLAYGROUND EQUIPMENT E SEE SPECS
44	TRANSITION BETWEEN SURFACES WITH SLOPED POURED-IN-PLACE EDGE.
45	BASKETBALL GOAL. SEE SPEC. TYP. FOR 3
46	(2) ADA SWINGS. SEE SPECS
47	ALTERNATE: PLAYGROUND FALL ATTENUATING SURFACE: POURED IN PLACE.
48	OVERHEAD CANOPY. SEE A-SERIES.
49	8' HIGH, 5' WIDE METAL PANEL SINGLE SWING GATE. SEE SPECS

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Project No. 2021-141.NES
Project Date 05.11.2022
Produced KL

KLEE E. MILLER REGISTERED NO. 19900465 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM #2	06.09.22

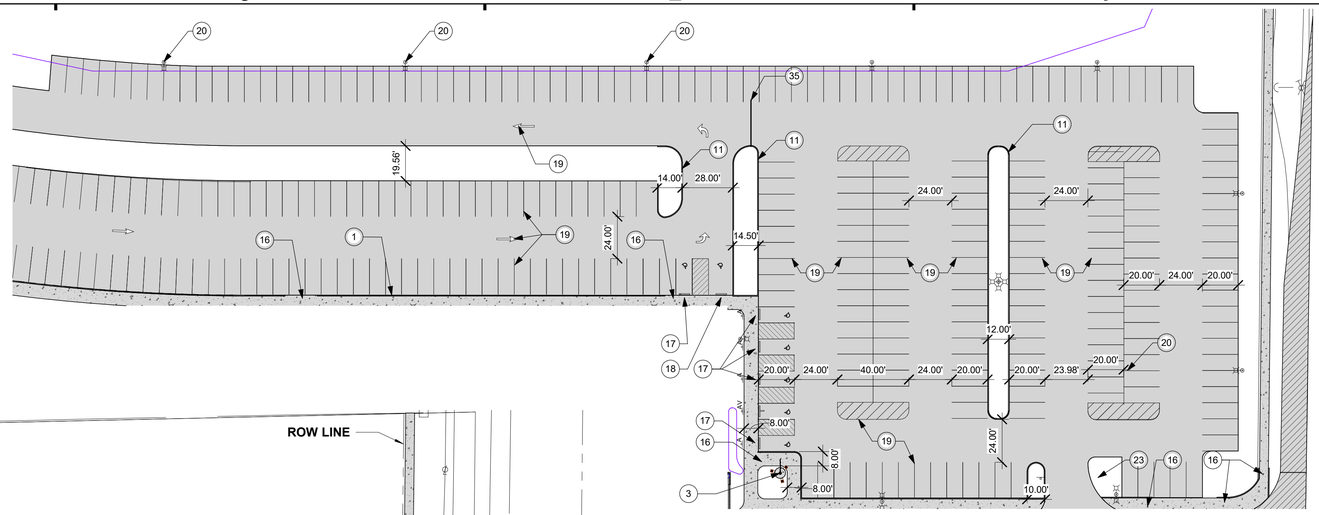
5120 Senour Rd.
Indianapolis, IN 46239

N

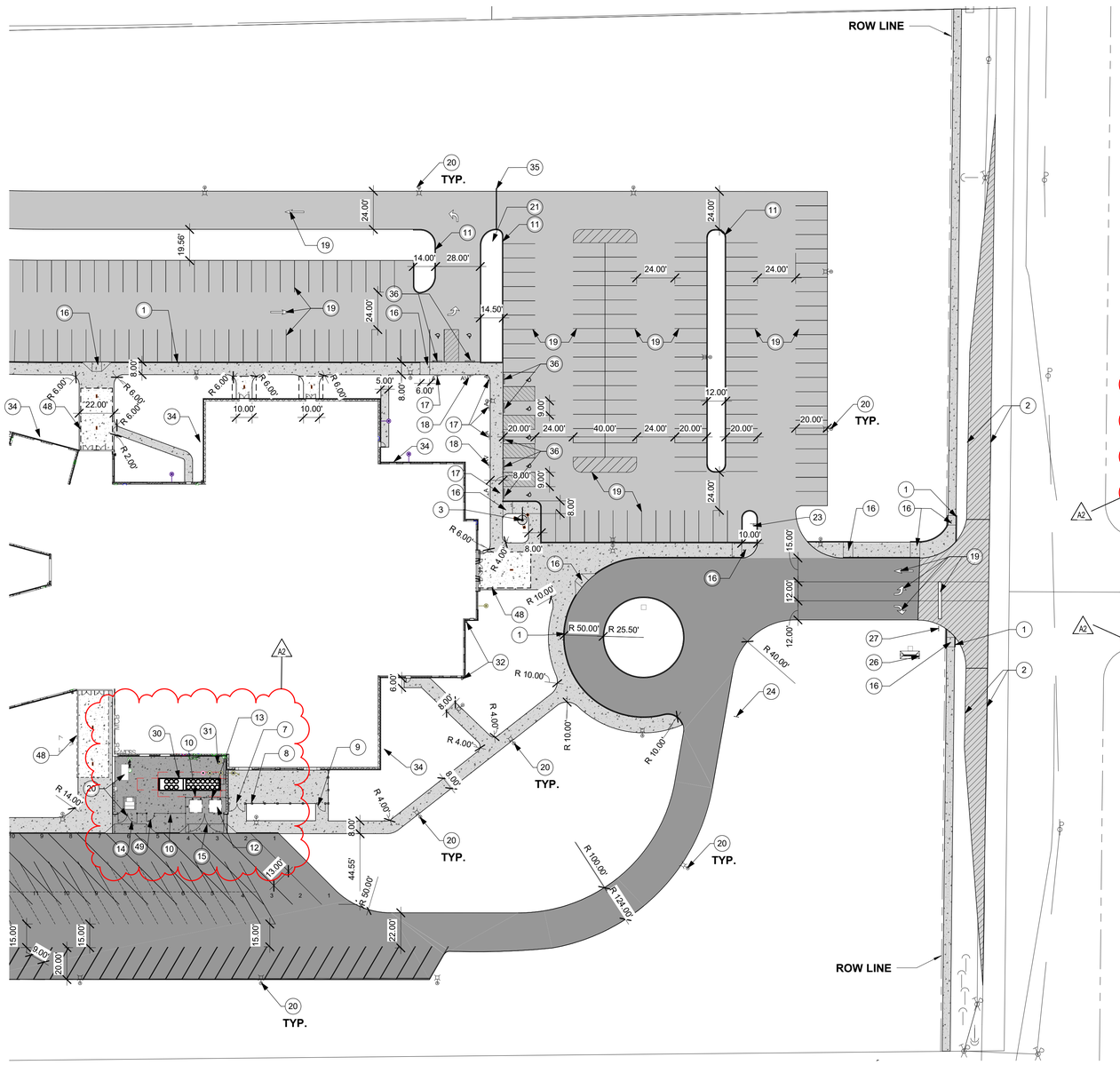
FRANKLIN TOWNSHIP CSC
NEW ELEMENTARY SCHOOL

SITE LAYOUT PLAN

CL101



2 **SITE PLAN - Parking Lot Alternate**
1" = 40'-0"



1 **SITE PLAN - East**
1" = 40'-0"

GENERAL LAYOUT NOTES

1. REFERENCE C-001 FOR GENERAL LAYOUT PLAN NOTES.
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	HEAVY DUTY ASPHALT PAVING, SEE DETAIL SHEET
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Project No.	2021-141.NES
Project Date	05.11.2022
Produced	KL

KYLE E. MILLER REGISTERED NO. 19900465 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM #2	06.09.22

5120 Senour Rd.
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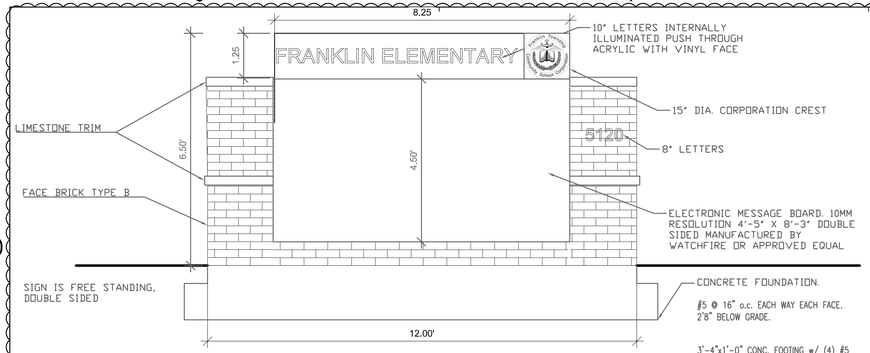
N

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

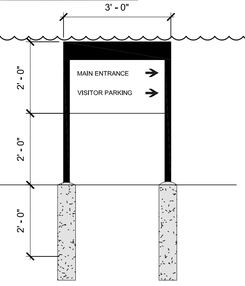
SITE LAYOUT PLAN

CL102

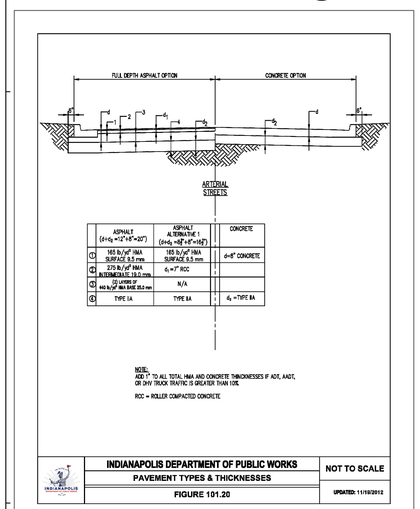


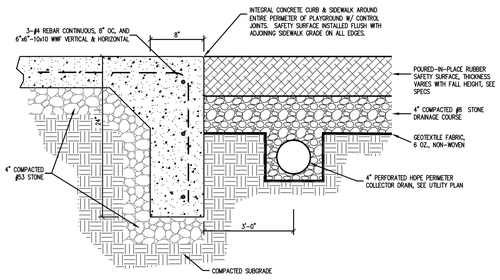
5D MONUMENT SIGN
NTS

SIGNAGE SCHEDULE	
SIGN A	MAIN ENTRANCE, BUS DROP OFF, VISITOR AND STAFF PARKING
SIGN B	PARENT PICK UP/ DROP OFF
SIGN D	FACULTY AND STAFF PARKING, VISITOR PARKING
SIGN E	BUS ONLY M-F, BUS DROPOFF, FACULTY AND STAFF PARKING ONLY

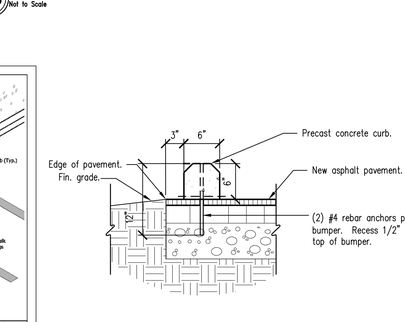


5C PANEL SIGN
NTS

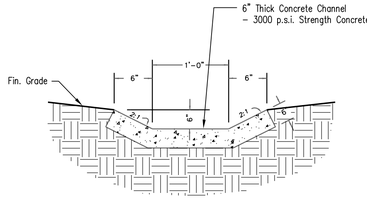




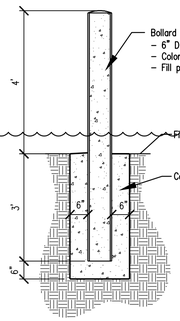
4B PIP RUBBER SURFACING WITH CONCRETE CURB DETAIL
Not to Scale



4C Engineered Wood Mulch Playground Surfacing Detail
Scale: 1" = 1'-0"



Concrete Channel Detail
Scale 1" = 1'-0"

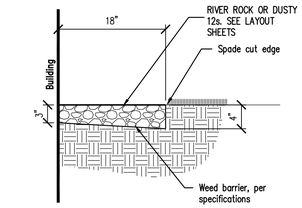


3D Bollard Detail
Scale: NTS

3B Fence Post Footing Detail
Scale: 1" = 1'-0"

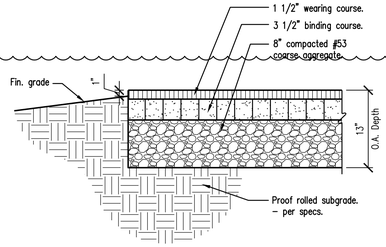
4A Glue-down Curb Detail
Scale: 1" =1'-0"

3A Accessible Parking Sign Detail
Scale:1"=1'-0"



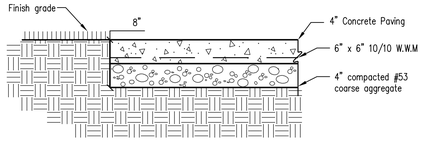
Note:
Gravel mow strip is not required where planting beds or concrete flatwork is directly adjacent to building.

Gravel Mowing Strip
Scale 1"=1'-0"

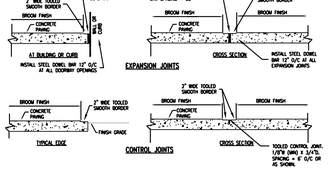


2D Heavy Duty Asphalt Detail
Scale: 1" = 1'-0"

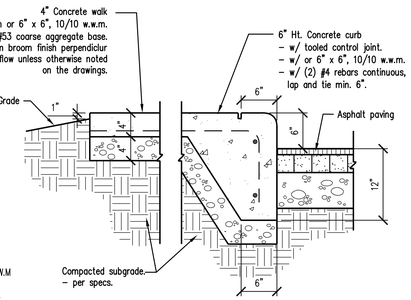
2C Standard Asphalt Paving Detail
Scale: 1" = 1'-0"



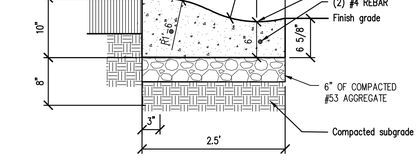
2B Standard Concrete Paving
Scale 1"=1'-0"



2A Concrete Finishing Detail
Scale: 1" = 1'-0"

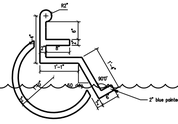


1B Integral Curb & Sidewalk
Scale: 1" = 1'-0"

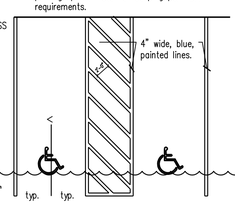


1A Rolled Curb Section
Scale 1"=1'-0"

MAX 2% SLOPE IN ANY DIRECTION ACROSS ADA SPACE



See plan for location & type of accessible parking space. Install all striping per ADA requirements.



1D ADA Pavement Markings
Scale: NTS

1C Heavy Duty Concrete Paving Detail
Scale: 1" = 1'-0"

SCHMIDT
ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced RR

KYLE E. MILLER REGISTERED NO. 19900465 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM #2	06.09.22

5120 Senour Rd.
Indianapolis, IN 46239

KEY PLAN

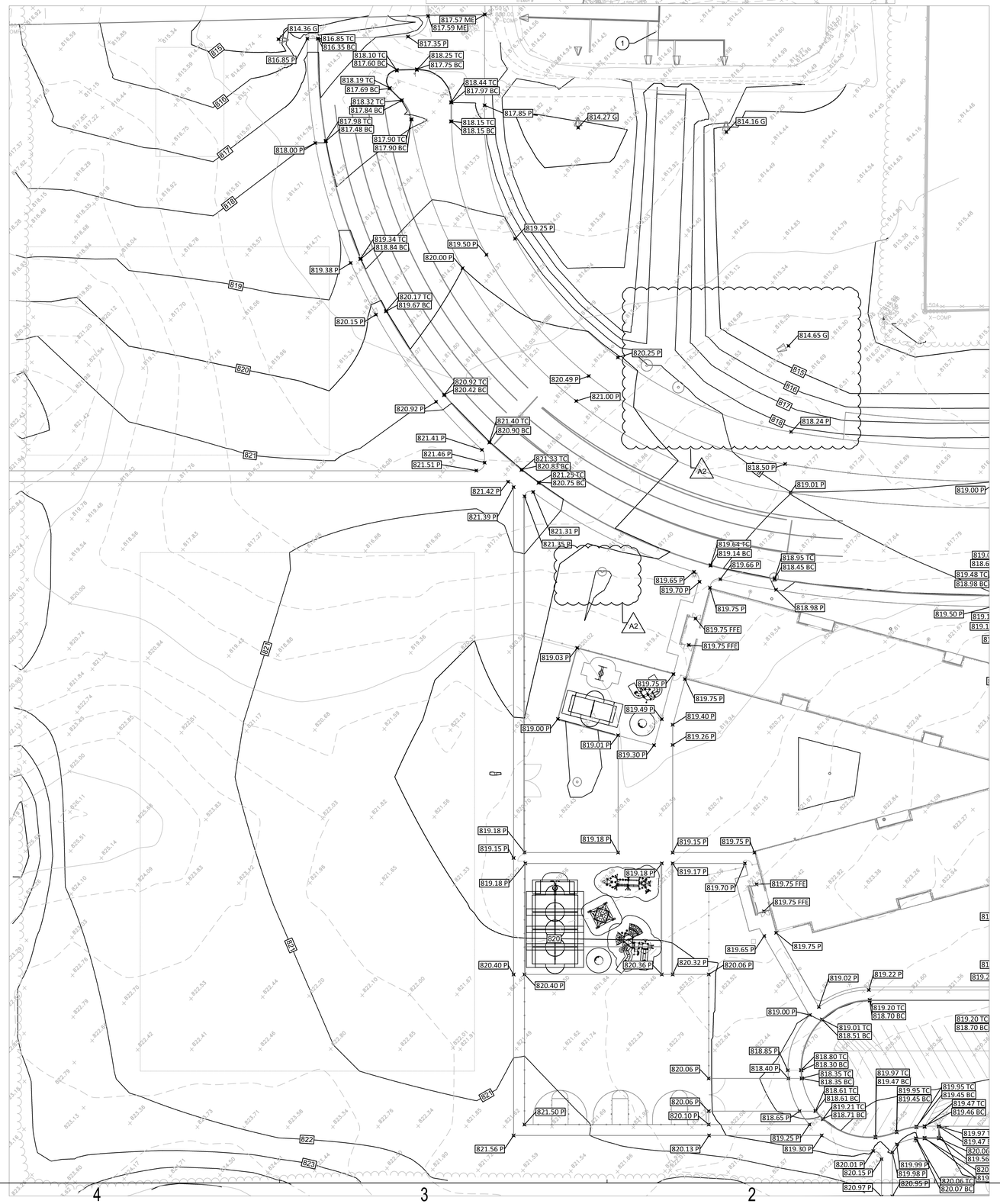
FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SITE LAYOUT DETAILS

CL501

1A GRADING
1" = 60'



GENERAL GRADING NOTES

1. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
2. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE ACCURACY OF SITE CONDITIONS AT THE TIME THIS PROJECT IS BID.
3. ALL TRANSITIONS IN CURB HEIGHTS SHALL BE SMOOTH WITH A CONSISTENT SLOPE.

GRADING LEGEND

828	EXISTING CONTOUR LINE
828	PROPOSED CONTOUR LINE
1000.00	PROPOSED ELEVATION
1000.00 EX	EXISTING ELEVATION
1000.00 ME / ME	MATCH EXISTING ELEVATION
1000.00 TC	TOP OF CURB ELEVATION
1000.00 TW	TOP OF WALL ELEVATION
1000.00 TR	TOP OF RIM ELEVATION
1000.00 P	PAVEMENT ELEVATION
1000.00 GU	GUTTER ELEVATION
1000.00 G	GROUND ELEVATION
1000.00 FL	FLOWLINE ELEVATION
1000.00 BC	BOTTOM OF CURB ELEVATION
1000.00 BW	BOTTOM OF WALL ELEVATION
1004.50 FFE	FINISH FLOOR ELEVATION

GRADING KEY NOTES

1. CONCRETE CHANNEL SHALL MATCH EXISTING GRADES AND MATCH NEW END SECTIONS. REGRADE BASIN AS REQUIRED FOR NEW CHANNEL
2. NEW SIDEWALK SHALL HAVE CURB RAMP TO MEET EXISTING GRADES. SIDEWALK SHALL BE SLOPED TOWARDS ROAD SIDE DITCH AND MATCH EXISTING GRADES
3. NEW ASPHALT TURN LANE SHALL MEET EXISTING GRADES AND SLOPE TOWARDS THE DITCH.

1A GRADING
1" = 40'

SCHMIDT
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#	Revision	Date
A2	ADDENDUM #2	06.09.22

5120 Senour Rd.
Indianapolis, IN 46239

KEY PLAN

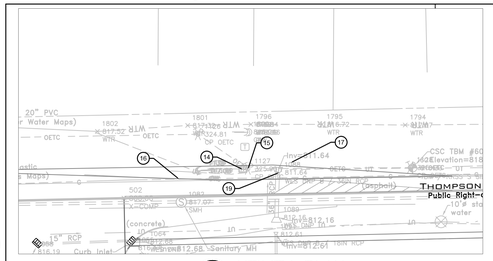
N

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

GRADING PLAN

CG101



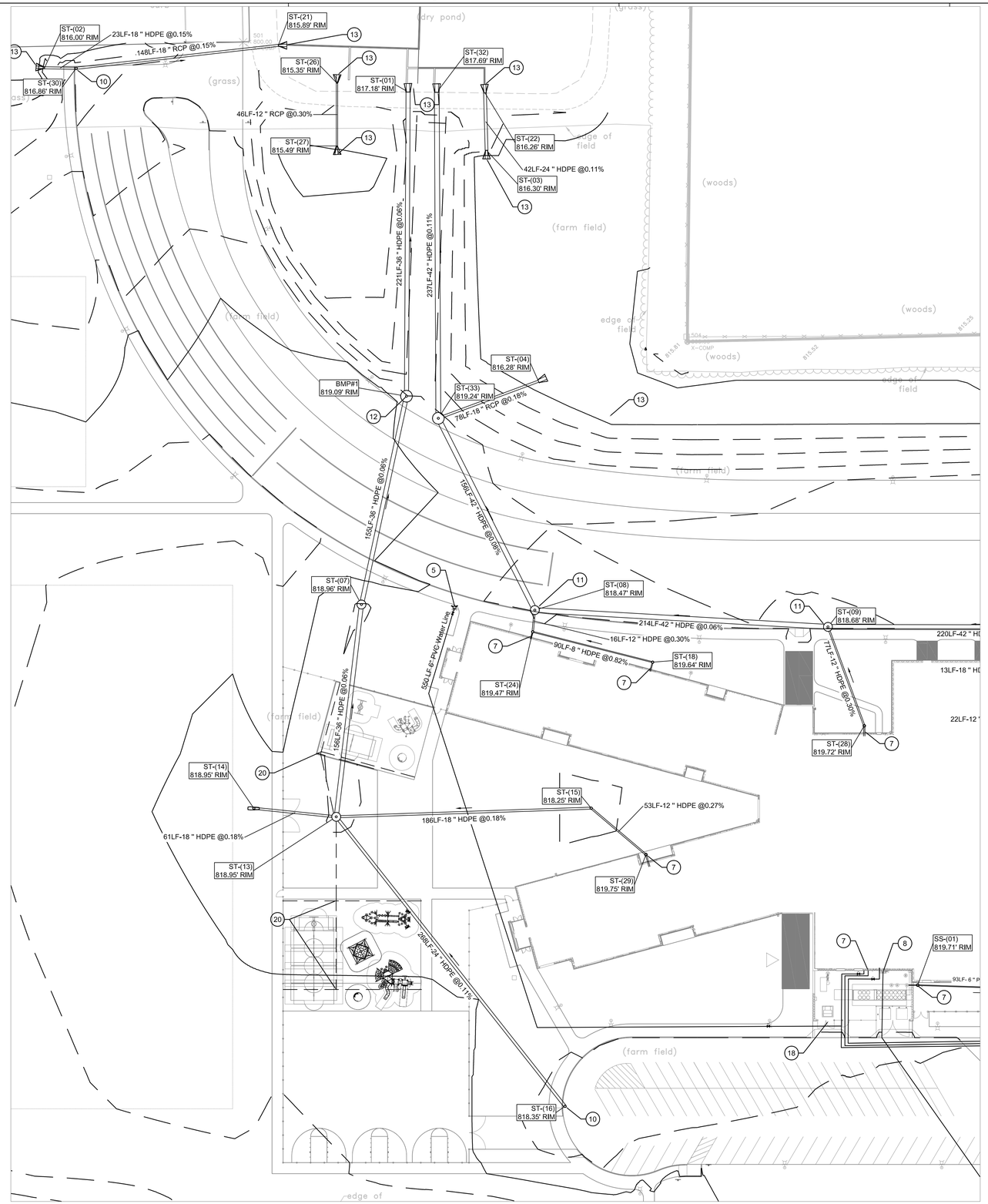
1A UTILITY PLAN
1" = 60'

SS STRUCTURE DATA TABLE

NUMBER	TYPE	CASTING	RIM ELEVATIONS	INVERTS
SS-(01)	"Clean out"	R-1976	819.71' RIM	6" INV. E 815.65' 4" INV. W 815.75'
SS-(02)	"Clean out"	R-1976	819.71' RIM	6" INV. W 814.26' 6" INV. NE 814.16'
SS-(03)	"Clean out"	R-1976	819.71' RIM	6" INV. SW 812.85' 6" INV. N 812.75'
SS-(04)	"Clean out"	R-1976	819.72' RIM	6" INV. S 812.01' 6" INV. E 811.86' 4" INV. W 811.89'
SS-(05)	"Clean out"	R-1976	819.23' RIM	6" INV. W 810.40' 6" INV. E 810.40'
SS-(06)	"Clean out"	R-1976	818.42' RIM	6" INV. W 808.92' 6" INV. E 808.92'
SS-(07)	"Clean out"	R-1976	819.33' RIM	6" INV. W 807.57' 6" INV. E 807.57'

ST STRUCTURE DATA TABLE

NUMBER	TYPE	CASTING	RIM ELEVATIONS	INVERTS
BMP#1	8.00 ' Manhole	CS-12	819.09' RIM	36" INV. S 814.23' 36" INV. N 814.13'
ST-(01)	42 Inch Flared End Section 67 x 74	???	817.18' RIM	36" INV. S 814.00'
ST-(02)	18 Inch Flared End Section 67 x 74	???	816.00' RIM	18" INV. E 814.36'
ST-(03)	24 inch Flared End Section 67 x 74	???	816.30' RIM	24" INV. N 814.15'
ST-(04)	36 inch Flared End Section 67 x 74	???	816.28' RIM	18" INV. W 814.49'
ST-(05)	36 inch Flared End Section 67 x 74	???	818.55' RIM	30" INV. S 815.13'
ST-(07)	6.00 ' Manhole	R-2560-G	818.96' RIM	36" INV. S 814.43' 36" INV. N 814.33'
ST-(08)	6.00 ' Manhole	R-3246-AL	818.47' RIM	42" INV. E 814.58' 42" INV. NW 814.48' 12" INV. S 815.20'
ST-(09)	6.00 ' Manhole	R-3246-AL	818.68' RIM	42" INV. E 814.81' 42" INV. W 814.71' 12" INV. S 815.48'
ST-(10)	54 "x 54 " Box	Standard	818.81' RIM	24" INV. E 815.02' 42" INV. W 814.92' 30" INV. N 815.02' 18" INV. SW 815.41'
ST-(11)	"Nyloplast"	R-3246-AL	817.61' RIM	18" INV. SE 815.54' 24" INV. W 815.44'
ST-(12)	36 "x 36 " Box	R-3246-AL	817.67' RIM	24" INV. E 815.42' 24" INV. W 815.32'
ST-(13)	6.00 ' Manhole	R-2560-G	818.95' RIM	24" INV. SE 814.62' 36" INV. N 814.52' 18" INV. W 814.62' 18" INV. E 814.62'
ST-(14)	"Nyloplast"	R-2560-G	818.95' RIM	18" INV. E 814.73'
ST-(15)	"Nyloplast"	R-2560-G	818.25' RIM	18" INV. W 814.95' 12" INV. SE 815.05'
ST-(16)	"Nyloplast"	R-3246-AL	818.35' RIM	24" INV. NW 814.91'
ST-(17)	"Nyloplast"	R-3246-AL	818.16' RIM	18" INV. NW 815.76'
ST-(18)	"Clean out"	R-1976	819.64' RIM	8" INV. W 816.08' 8" INV. S 816.08'
ST-(19)	"Clean out"	R-1976	819.73' RIM	8" INV. S 815.75' 12" INV. N 815.75'
ST-(20)	"Clean out"	R-1976	819.70' RIM	18" INV. E 815.72' 12" INV. W 815.72'
ST-(21)	18 inch Flared End Section 67 x 74	???	815.89' RIM	18" INV. W 814.10'
ST-(22)	24 inch Flared End Section 67 x 74	???	816.26' RIM	24" INV. S 814.10'
ST-(23)	"Nyloplast"	R-2560-G	819.56' RIM	12" INV. S 815.68' 18" INV. W 815.68' 18" INV. NE 815.58'
ST-(24)	"Nyloplast"	R-1976	819.47' RIM	8" INV. E 815.35' 12" INV. N 815.25' 8" INV. S 816.08'
ST-(26)	12 inch Flared End Section 67 x 74	???	815.35' RIM	12" INV. S 814.10'
ST-(27)	12 inch Flared End Section 67 x 74	???	815.49' RIM	12" INV. N 814.24'
ST-(28)	"Clean out"	R-1976	819.72' RIM	12" INV. S 815.71' 12" INV. N 815.71'
ST-(29)	"Clean out"	R-1976	819.75' RIM	10" INV. S 815.21' 12" INV. NW 815.19'
ST-(30)	"Nyloplast"	R-3246-AL	816.86' RIM	18" INV. E 814.32' 18" INV. W 814.32'
ST-(32)	42 inch Flared End Section 67 x 74	???	817.69' RIM	42" INV. S 814.00'
ST-(33)	8.00 ' Manhole	R-2560-G	819.24' RIM	42" INV. SE 814.35' 42" INV. N 814.25' 18" INV. E 814.35'



GENERAL UTILITIES NOTES

1. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
2. ALL LIDS, CASTINGS, GRATES, BOXES, AND HATCHES ASSOCIATED WITH EXISTING UTILITY STRUCTURES THAT ARE NOT INDICATED FOR MODIFICATION SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION.
3. COMPACTED GRANULAR BACKFILL IS REQUIRED FOR ALL UTILITY TRENCHES LOCATED UNDER PAVED AREAS. SEE SPECIFICATIONS.
4. PIPE LENGTHS INDICATED ON THE DRAWINGS ARE FOR HYDRAULIC CALCULATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING THE AMOUNT OF PIPE MATERIALS NECESSARY FOR A COMPLETE INSTALLATION.
5. ALL EXISTING PIPES INVERTS ARE APPROXIMATE. VERIFY ALL INVERTS IN FIELD. IF INVERTS DO NOT MATCH THE PLAN,. CONTACT THE ARCHITECT.
6. WHERE CONNECTIONS ARE MADE TO EXISTING MANHOLES OR INLET STRUCTURE, THOSE STRUCTURE SHALL BE REHABILITATED OR REPLACED TO THOSE MINIMUM STANDARDS OUTLINED IN CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATION MANUAL, LATEST EDITION. THE REHABILITATION SHALL INCLUDE THE INSTALLATION OF BENCH WALLS, AS WELL AS PRESCRIBED MEASURES TO ELIMINATE THE POTENTIAL FOR MIGRATION OF BACKFILL MATERIAL INTO THE STORMWATER SYSTEM
7. ALL PROPOSED STORM SEWER DRAINAGE APPURTENANCES SHALL BE IN CONFORMANCE WITH CHAPTER 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. DISCREPANCIES BETWEEN THE PLANS AND THE MANUAL SHALL NOT ALLEVIATE THE CONTRACTOR FROM ADHERING TO THE REQUIREMENTS AS SET FORTH IN THE MANUAL
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE INSPECTOR
9. ALL INLET CASTINGS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM 1" IN HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS
10. TRACER WIRE IS REQUIRED ON TOP OF SANITARY LATERAL FROM BUILDING TO DOWNSTREAM CONNECTION POINT. MINIMUM 10' HORIZONTAL AND 18" VERTICAL OF SEPARATION BETWEEN SANITARY AND WATER LINES REQUIRED.
11. NYLOPLAST BASINS TO BE SIZED PER MANUFACTURER RECOMMENDATIONS

UTILITY LEGEND

- 54LF-6 " HDPE @0.50% — PIPE
- WV — WATER VALVE
- FIRE HYDRANT
- MANHOLE
- END SECTION
- BOX STRUCTURE
- DOWNSPOUT BOOT
- CLEAN OUT
- ST-XXX XXX.XX' RIM / INV. N XXX.XX' — STORM NETWORK
- SS-XXX XXX.XX' RIM / INV. N XXX.XX' — SANITARY NETWORK

UTILITIES KEY NOTES

1. TAP AND CONNECT TO EXISTING 16" WATER MAIN. WATER MAIN WILL BE INSTALLED AS PART OF ANOTHER PROJECT. COORDINATE CONNECTION LOCATION WITH OTHER PROJECT.
2. NEW FIRE LINE METER VAULT. SEE DETAIL SHEET.
3. NEW DOMESTIC METER VAULT. SEE DETAIL SHEET.
4. NEW FDC. SEE DETAIL SHEET.
5. NEW FIRE HYDRANT AND WATER VALVE
6. NEW POST INDICATOR VALVE. SEE SPECS.
7. COORDINATE CONNECTION WITH P-SERIES DRAWINGS.
8. NEW GAS LINE. COORDINATE CONNECTION AND LOCATION WITH CITIZENS.
9. CONNECT NEW SANITARY LINE WITH EXISTING SANITARY WITH WYE CONNECT. SEE DETAIL SHEET.
10. INSTALL CONCRETE COLLAR AROUND NYLOPLAST STRUCTURE TO CREATE H-20 LOADING PER MANUFACTURER REQUIREMENTS.
11. INSTALL CONCRETE COLLAR. SEE DETAIL SHEET.
12. NEW INLINE BMP. DESIGN FLOW: 10.74 CFS DESIGN TREATMENT FLOW:13.82 CFS
13. INSTALL 10CY OF RIP RAP AROUND ENDSECTION INTO SLOPE. RIP RAP TO HAVE FABRIC UNDER RIP RAP.
14. COORDINATE PED STAND RELOCATION WITH UTILITY COMPANY. COST TO BE APART OF UTILITY ALLOWANCE
15. COORDINATE UTILITY POLE RELOCATION WITH UTILITY COMPANY. COST TO BE APART OF UTILITY ALLOWANCE
16. PROTECT GAS LINE
17. RECREATE DITCH AT THE END OF END SECTION TO MATCH EXISTING DITCH AND CERATE POSITIVE DRAINAGE TO THE EAST
18. NEW TRANSFORMER. SEE E-SERIES DRAWINGS. COORDINATE NEW PRIMARY WITH E-SERIES DRAWINGS AND UTILITY COMPANY.
19. EXTEND EXISTING 36INCH RCP CULVERT PASSED NEW TURN LANE. INSTALL WITH NEW ENDSECTION AND CREATE POSITIVE DRAINAGE TO REWORKED SWALE
20. NEW 6INCH PERF HDPE UNDERDRAIN UNDER NEW PLAYGROUNDS. CONNECT UNDERDRAINS TO NEW STORM STRUCTUR. PIPE PASSED T CONNECTIONS SHALL NOT BE PERFORATED.

1A UTILITY PLAN
1" = 40'

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
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Project No. 2021-141.NES
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KYLE E. MILLER REGISTERED NO. 19900465 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM #2	06.09.22

5120 Senour Rd.
Indianapolis, IN 46239

KEY PLAN

N

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

A2

UTILITY PLAN

CU101

SS STRUCTURE DATA TABLE

NUMBER	TYPE	CASTING	RIM ELEVATIONS	INVERTS
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SS-(04)	"Clean out"	R-1976	819.72' RIM	6" INV. S 812.01' 6" INV. E 811.86' 4" INV. W 811.89'
SS-(05)	"Clean out"	R-1976	819.23' RIM	6" INV. W 810.40' 6" INV. E 810.40'
SS-(06)	"Clean out"	R-1976	818.42' RIM	6" INV. W 808.92' 6" INV. E 808.92'
SS-(07)	"Clean out"	R-1976	819.33' RIM	6" INV. W 807.57' 6" INV. E 807.57'

ST STRUCTURE DATA TABLE

NUMBER	TYPE	CASTING	RIM ELEVATIONS	INVERTS
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ST-(02)	18 inch Flared End Section 67 x 74	???	816.00' RIM	18" INV. E 814.36'
ST-(03)	24 inch Flared End Section 67 x 74	???	816.30' RIM	24" INV. N 814.15'
ST-(04)	36 Inch Flared End Section 67 x 74	???	816.28' RIM	18" INV. W 814.49'
ST-(05)	36 inch Flared End Section 67 x 74	???	818.55' RIM	30" INV. S 815.13'
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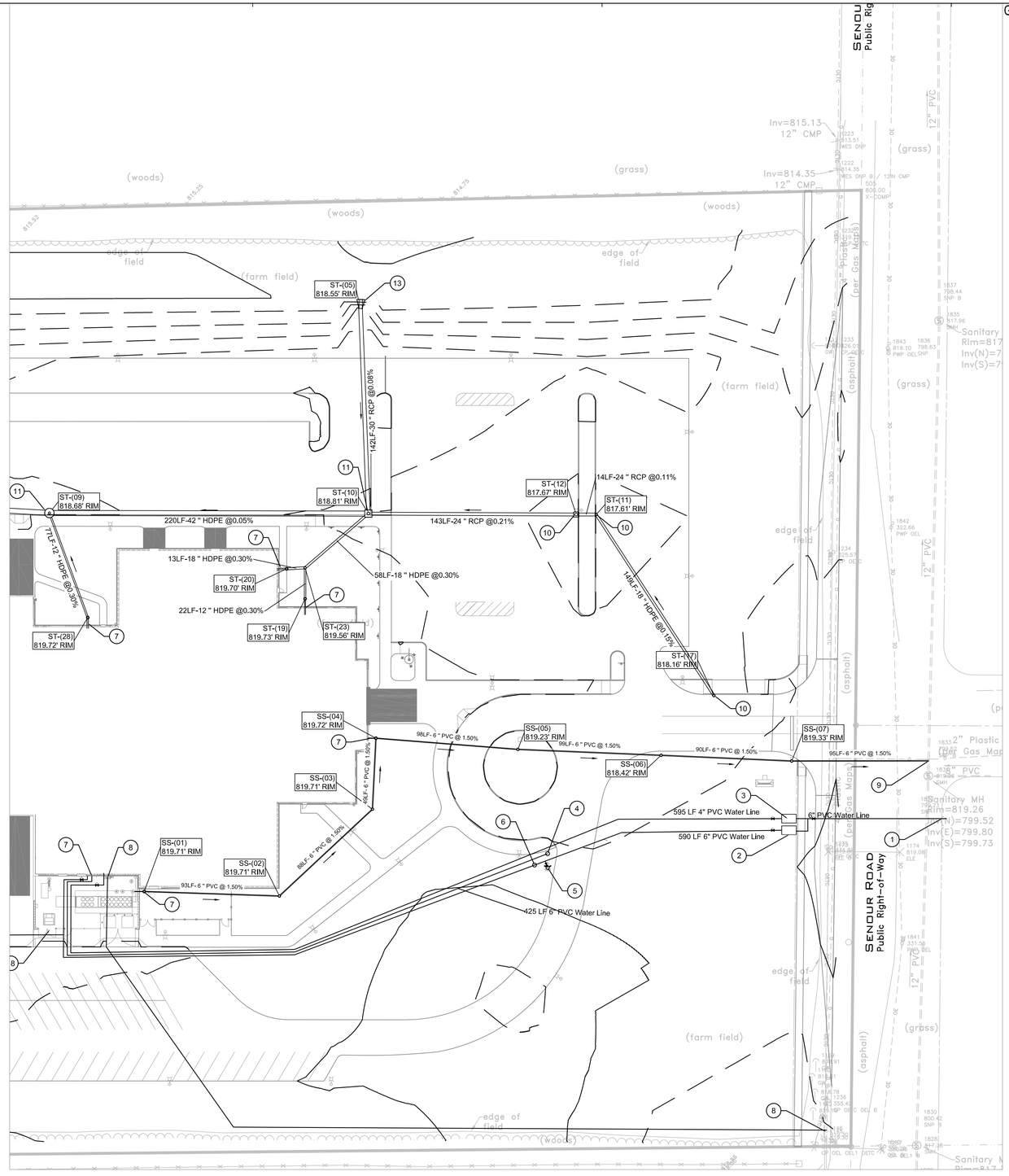
ST-(10)	54 "x 54 " Box	Standard	818.81' RIM	24" INV. E 815.02' 42" INV. W 814.92' 30" INV. N 815.02' 18" INV. SW 815.41'
ST-(11)	"Nyloplast"	R-3246-AL	817.61' RIM	18" INV. SE 815.54' 24" INV. W 815.44'
ST-(12)	36 "x 36 " Box	R-3246-AL	817.67' RIM	24" INV. E 815.42' 24" INV. W 815.32'
ST-(13)	6.00 ' Manhole	R-2560-G	818.95' RIM	24" INV. SE 814.62' 36" INV. N 814.52' 18" INV. W 814.62' 18" INV. E 814.62'
ST-(14)	"Nyloplast"	R-2560-G	818.95' RIM	18" INV. E 814.73'
ST-(15)	"Nyloplast"	R-2560-G	818.25' RIM	18" INV. W 814.95' 12" INV. SE 815.05'
ST-(16)	"Nyloplast"	R-3246-AL	818.35' RIM	24" INV. NW 814.91'
ST-(17)	"Nyloplast"	R-3246-AL	818.16' RIM	18" INV. NW 815.76'
ST-(18)	"Clean out"	R-1976	819.64' RIM	8" INV. W 816.08' 8" INV. S 816.08'
ST-(19)	"Clean out"	R-1976	819.73' RIM	8" INV. S 815.75' 12" INV. N 815.75'
ST-(20)	"Clean out"	R-1976	819.70' RIM	18" INV. E 815.72' 12" INV. W 815.72'
ST-(21)	18 inch Flared End Section 67 x 74	???	815.89' RIM	18" INV. W 814.10'
ST-(22)	24 inch Flared End Section 67 x 74	???	816.26' RIM	24" INV. S 814.10'
ST-(23)	"Nyloplast"	R-2560-G	819.56' RIM	12" INV. S 815.68' 18" INV. W 815.68' 18" INV. NE 815.58'
ST-(24)	"Nyloplast"	R-1976	819.47' RIM	8" INV. E 815.35' 12" INV. N 815.25' 8" INV. S 816.08'
ST-(26)	12 inch Flared End Section 67 x 74	???	815.35' RIM	12" INV. S 814.10'
ST-(27)	12 inch Flared End Section 67 x 74	???	815.49' RIM	12" INV. N 814.24'
ST-(28)	"Clean out"	R-1976	819.72' RIM	12" INV. S 815.71' 12" INV. N 815.71'
ST-(29)	"Clean out"	R-1976	819.75' RIM	10" INV. S 815.21' 12" INV. NW 815.19'
ST-(30)	"Nyloplast"	R-3246-AL	816.86' RIM	18" INV. E 814.32' 18" INV. W 814.32'
ST-(32)	42 inch Flared End Section 67 x 74	???	817.69' RIM	42" INV. S 814.00'
ST-(33)	8.00 ' Manhole	R-2560-G	819.24' RIM	42" INV. SE 814.35' 42" INV. N 814.25' 18" INV. E 814.35'



GENERAL UTILITIES NOTES

1. IF THE LOCAL BENCHMARK(S) WILL BE DISTURBED DURING CONSTRUCTION, IT THE CONTRACTOR'S RESPONSIBILITY TO ESTABLISH ADDITIONAL BENCHMARKS AS NEEDED.
2. ALL LIDS, CASTINGS, GRATES, BOXES, AND HATCHES ASSOCIATED WITH EXISTING UTILITY STRUCTURES THAT ARE NOT INDICATED FOR MODIFICATION SHALL BE MAINTAINED AND PROTECTED DURING CONSTRUCTION.
3. COMPACTED GRANULAR BACKFILL IS REQUIRED FOR ALL UTILITY TRENCHES LOCATED UNDER PAVED AREAS. SEE SPECIFICATIONS.
4. PIPE LENGTHS INDICATED ON THE DRAWINGS ARE FOR HYDRAULIC CALCULATION PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR FURNISHING THE AMOUNT OF PIPE MATERIALS NECESSARY FOR A COMPLETE INSTALLATION.
5. ALL EXISTING PIPES INVERTS ARE APPROXIMATE. VERIFY ALL INVERTS IN FIELD. IF INVERTS DO NOT MATCH THE PLAN,. CONTACT THE ARCHITECT.
6. WHERE CONNECTIONS ARE MADE TO EXISTING MANHOLES OR INLET STRUCTURE, THOSE STRUCTURE SHALL BE REHABILITATED OR REPLACED TO THOSE MINIMUM STANDARDS OUTLINED IN CHAPTERS 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATION MANUAL, LATEST EDITION. THE REHABILITATION SHALL INCLUDE THE INSTALLATION OF BENCH WALLS, AS WELL AS PRESCRIBED MEASURES TO ELIMINATE THE POTENTIAL FOR MIGRATION OF BACKFILL MATERIAL INTO THE STORMWATER SYSTEM
7. ALL PROPOSED STORM SEWER DRAINAGE APPURTENANCES SHALL BE IN CONFORMANCE WITH CHAPTER 400 AND 500 OF THE CITY OF INDIANAPOLIS STORMWATER SPECIFICATIONS MANUAL, LATEST EDITION. DISCREPANCIES BETWEEN THE PLANS AND THE MANUAL SHALL NOT ALLEVIATE THE CONTRACTOR FROM ADHERING TO THE REQUIREMENTS AS SET FORTH IN THE MANUAL
8. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE INSPECTOR
9. ALL INLET CASTINGS SHALL HAVE THE WORDS "NO DUMPING, DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM 1" IN HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS
10. TRACER WIRE IS REQUIRED ON TOP OF SANITARY LATERAL FROM BUILDING TO DOWNSTREAM CONNECTION POINT. MINIMUM 10' HORIZONTAL AND 18" VERTICAL OF SEPARATION BETWEEN SANITARY AND WATER LINES REQUIRED.
11. NYLOPLAST BASINS TO BE SIZED PER MANUFACTURER RECOMMENDATIONS

UTILITY LEGEND

- 54LF-6 " HDPE @0.50% — PIPE
- WV — WATER VALVE
- FIRE HYDRANT
- MANHOLE
- END SECTION
- BOX STRUCTURE
- DOWNSPOUT BOOT
- CLEAN OUT
- ST-(XX) XXX.XX' RIM / INV. N XXX.XX' — STORM NETWORK
- SS-(XX) XXX.XX' RIM / INV. N XXX.XX' — SANITARY NETWORK

UTILITIES KEY NOTES

1. TAP AND CONNECT TO EXISTING 16" WATER MAIN. WATER MAIN WILL BE INSTALLED AS PART OF ANOTHER PROJECT. COORDINATE CONNECTION LOCATION WITH OTHER PROJECT.
2. NEW FIRE LINE METER VAULT. SEE DETAIL SHEET.
3. NEW DOMESTIC METER VAULT. SEE DETAIL SHEET.
4. NEW FDC. SEE DETAIL SHEET.
5. NEW FIRE HYDRANT AND WATER VALVE
6. NEW POST INDICATOR VALVE. SEE SPECS.
7. COORDINATE CONNECTION WITH P-SERIES DRAWINGS.
8. NEW GAS LINE. COORDINATE CONNECTION AND LOCATION WITH CITIZENS.
9. CONNECT NEW SANITARY LINE WITH EXISTING SANITARY WITH WYE CONNECT. SEE DETAIL SHEET.
10. INSTALL CONCRETE COLLAR AROUND NYLOPLAST STRUCTURE TO CREATE H-20 LOADING PER MANUFACTURER REQUIREMENTS.
11. INSTALL CONCRETE COLLAR. SEE DETAIL SHEET.
12. NEW INLINE BMP. DESIGN FLOW: 10.74 CFS DESIGN TREATMENT FLOW:13.82 CFS
13. INSTALL 10CY OF RIP RAP AROUND ENDSECTION INTO SLOPE. RIP RAP TO HAVE FABRIC UNDER RIP RAP.
14. COORDINATE PED STAND RELOCATION WITH UTILITY COMPANY. COST TO BE APART OF UTILITY ALLOWANCE
15. COORDINATE UTILITY POLE RELOCATION WITH UTILITY COMPANY. COST TO BE APART OF UTILITY ALLOWANCE
16. PROTECT GAS LINE
17. RECREATE DITCH AT THE END OF END SECTION TO MATCH EXISTING DITCH AND CERATE POSITIVE DRAINAGE TO THE EAST
18. NEW TRANSFORMER. SEE E-SERIES DRAWINGS. COORDINATE NEW PRIMARY WITH E-SERIES DRAWINGS AND UTILITY COMPANY.
19. EXTEND EXISTING 36INCH RCP CULVERT PASSED NEW TURN LANE. INSTALL WITH NEW ENDSECTION AND CREATE POSITIVE DRAINAGE TO REWORKED SWALE
20. NEW 6INCH PERF HDPE UNDERDRAIN UNDER NEW PLAYGROUNDS. CONNECT UNDERDRAINS TO NEW STORM STRUCTUR. PIPE PASSED T CONNECTIONS SHALL NOT BE PERFORATED.

1A UTILITY PLAN
1" = 40'

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
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www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced RR

KYLE E. MILLER REGISTERED NO. 19900465 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
A2	ADDENDUM #2	06.09.22

5120 Senour Rd.
Indianapolis, IN 46239

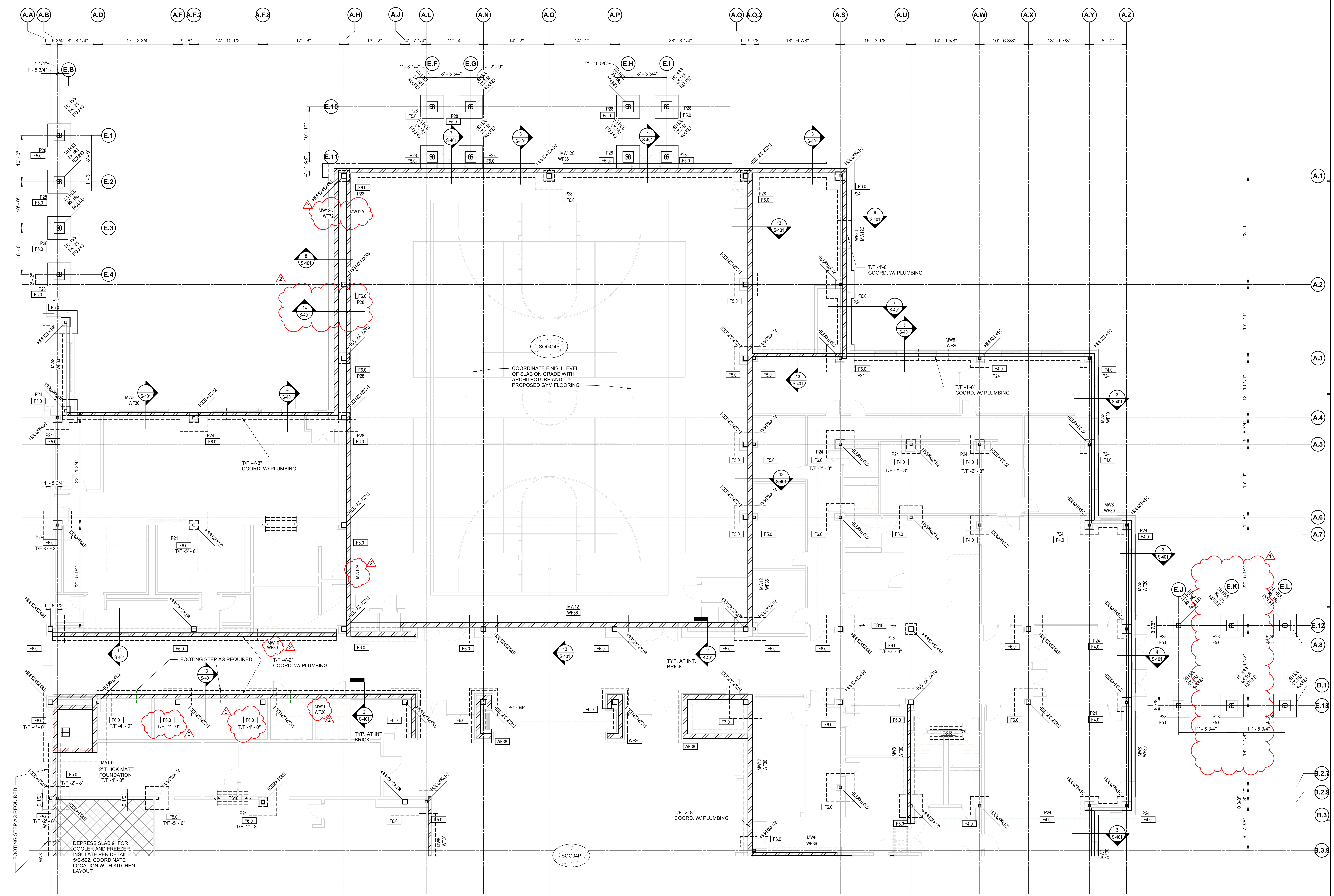
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

UTILITY PLAN

CU102



FOUNDATION PLAN - UNIT A

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

FOUNDATION PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR ALL DIMENSIONS NOT SHOWN. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.
3. TOP OF PERIMETER FOOTING (T/F) -2'-0", UNO.
4. TOP OF INTERIOR FOOTING (T/F) -1'-0", UNO.
5. TOP OF PIER (T/P) -0'-8", UNO.
6. TOP OF ALL EXTERIOR CANOPY PIERS (T/P) -1'-4" AND TOP OF ALL EXTERIOR CANOPY FOUNDATIONS (T/F) -2'-8".

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Project Date 05.11.2022
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JUSTIN L LEIBERING REGISTERED No. 11500368 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
001	Addendum 1	05.26.2022
002	Addendum 2	06.06.2022

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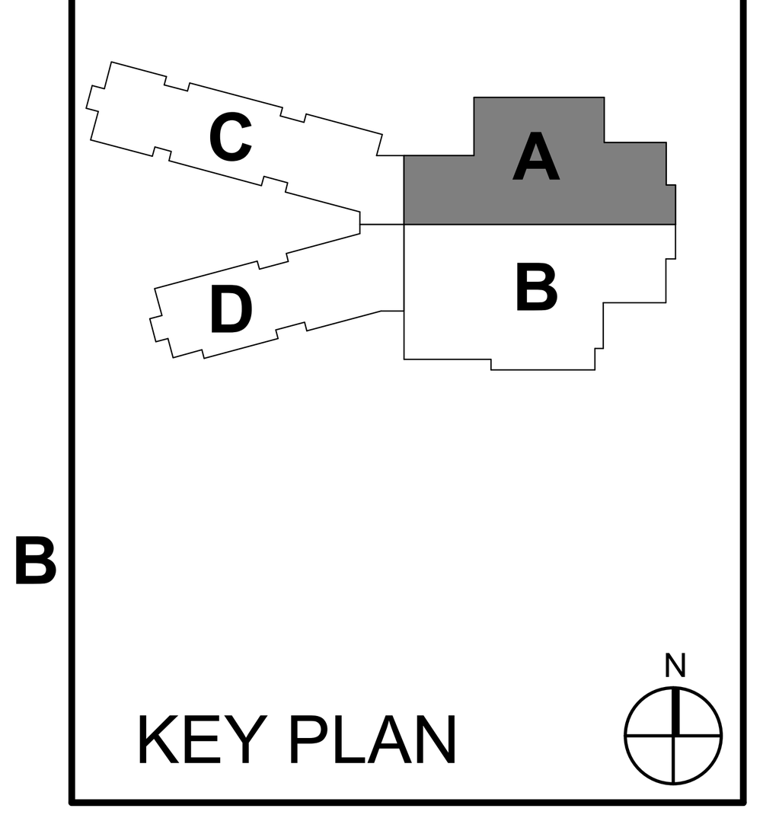

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FOUNDATION PLAN - UNIT A

S1AF

FOUNDATION PLAN - UNIT B

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

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5. TOP OF PIER (T/P) -0'-8", UNO.
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PROFESSIONAL ENGINEER

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002	Addendum 2	06.06.2022

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KEY PLAN

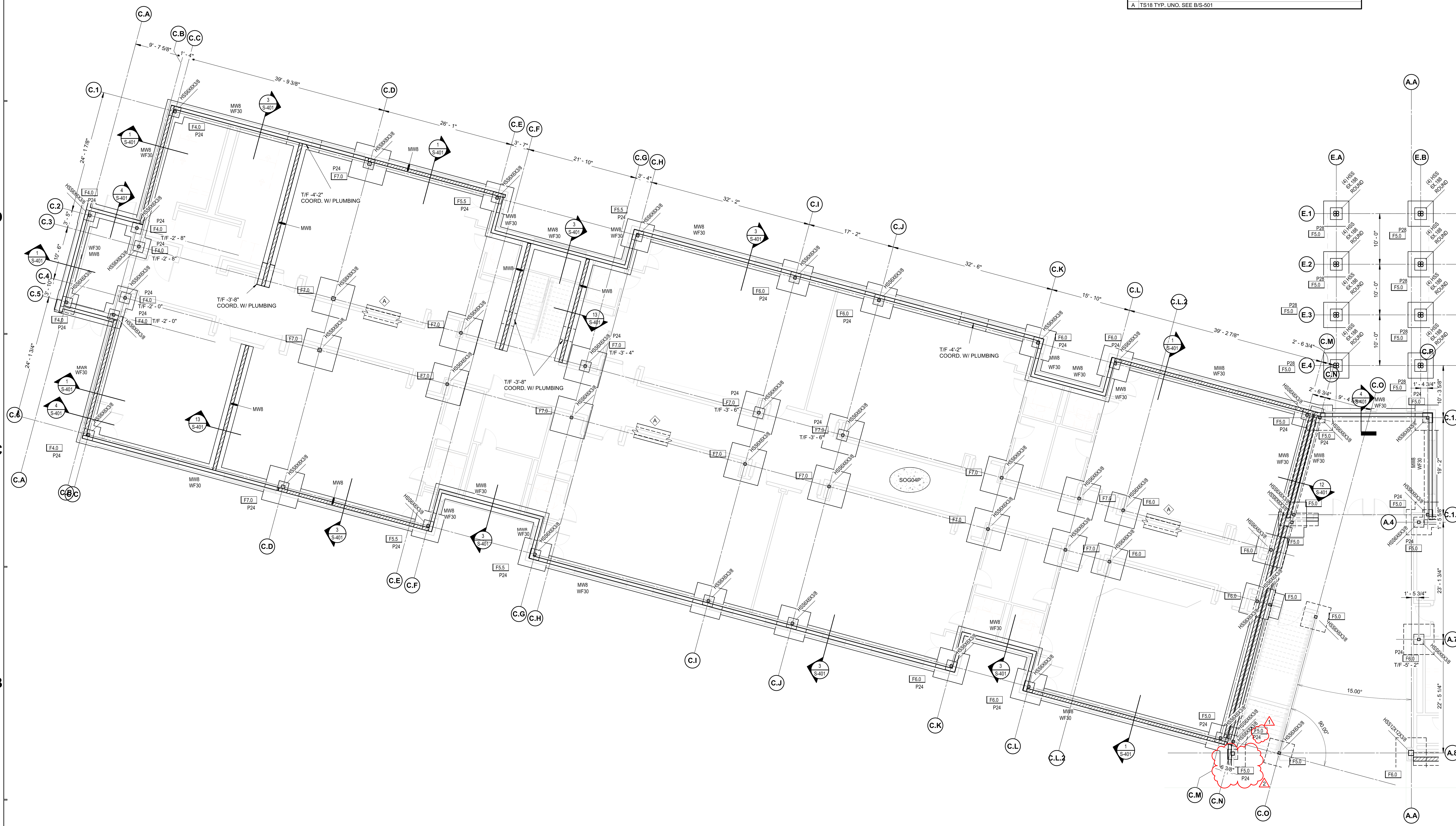
FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FOUNDATION PLAN - UNIT B

S1BF

#	NOTE
	FOUNDATION FLOOR PLAN NOTES - Unit C
A	TS18 TYP. UNO. SEE B/S-501



FOUNDATION PLAN - UNIT C

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

FOUNDATION PLAN NOTES:

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3. TOP OF PERIMETER FOOTING (T/F) -2'-0", UNO.
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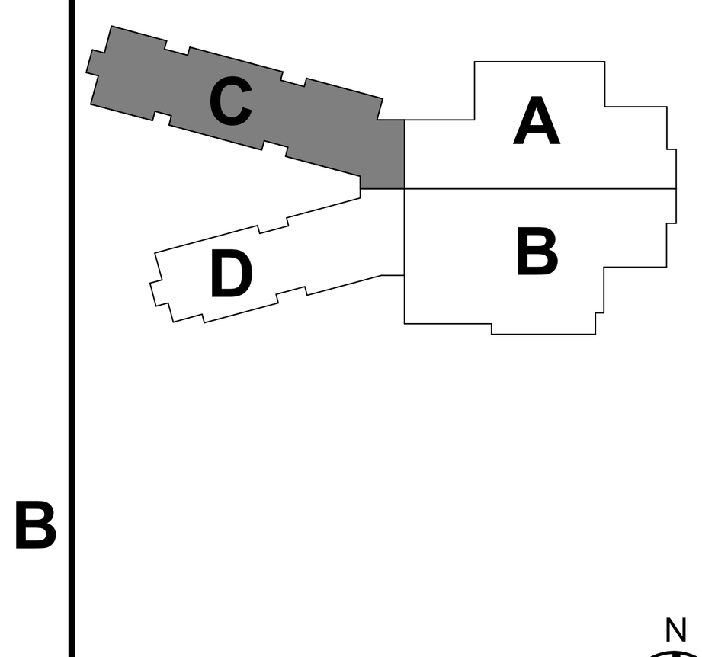


KEY PLAN

FRANKLIN TOWNSHIP CSC

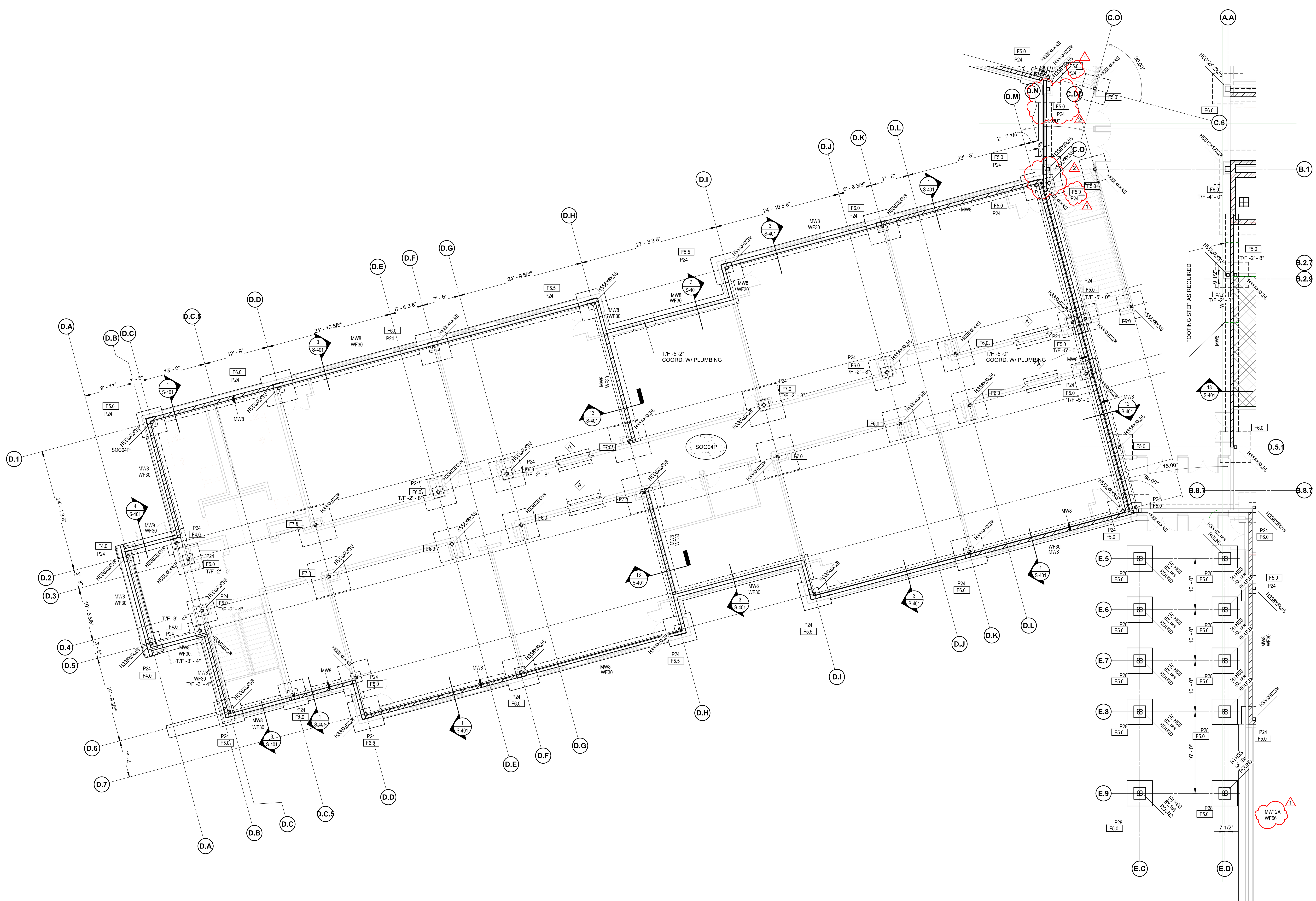
Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FOUNDATION PLAN - UNIT C

S1CF

FOUNDATION FLOOR PLAN NOTES - Unit D	
#	NOTE
A	TS18 TYP. UNO. SEE B/S-501



FOUNDATION PLAN - UNIT D

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

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3. TOP OF PERIMETER FOOTING (T/F) -2'-0", UNO.
4. TOP OF INTERIOR FOOTING (T/F) -1'-0", UNO.
5. TOP OF PIER (T/P) -0'-8", UNO.
6. TOP OF ALL EXTERIOR CANOPY PIERS (T/P) -1'-4" AND TOP OF ALL EXTERIOR CANOPY FOUNDATIONS (T/F) -2'-8".

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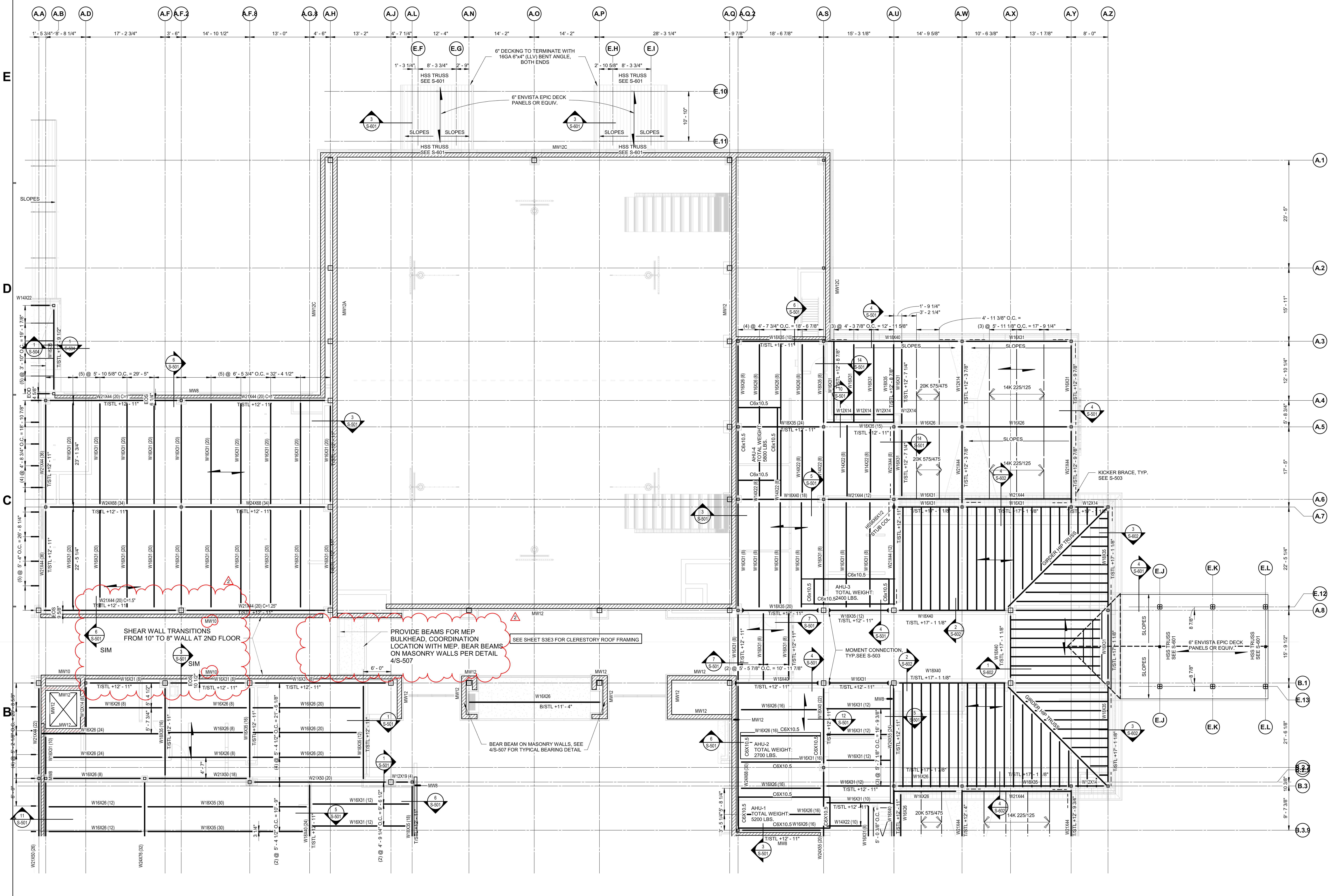
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FOUNDATION PLAN - UNIT D

S1DF



SECOND FLOOR/LOW ROOF FRAMING PLAN - UNIT A

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

FRAMING PLAN NOTES:

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3. COORDINATE DECK AND SLAB OPENINGS - EXACT SIZE AND LOCATION, WITH MECHANICAL AND PLUMBING CONTRACTOR DRAWINGS AND EQUIPMENT SUPPLIER.
4. VERIFY EQUIPMENT SIZE, WEIGHT, AND LOCATION WITH MECHANICAL CONTRACTOR.
5. UNO, ASSUME EQUAL PURLIN SPACING BETWEEN GRID LINES.

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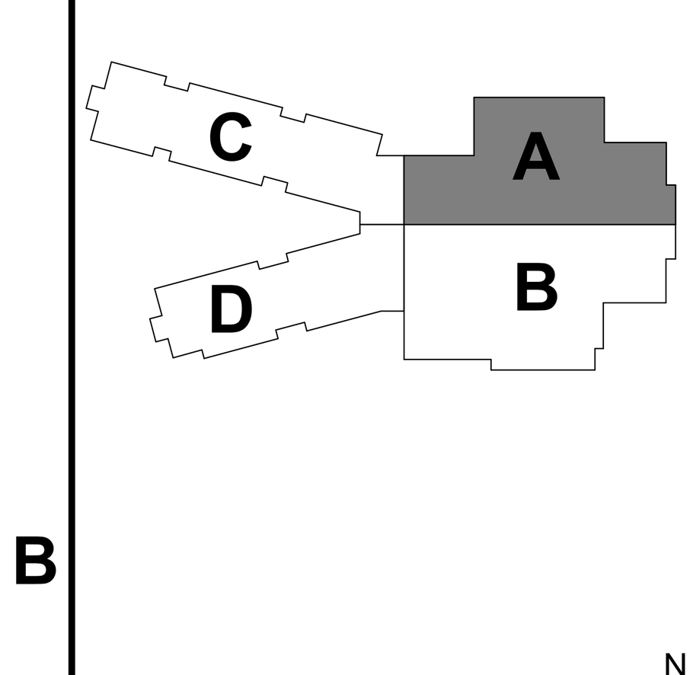


KEY PLAN

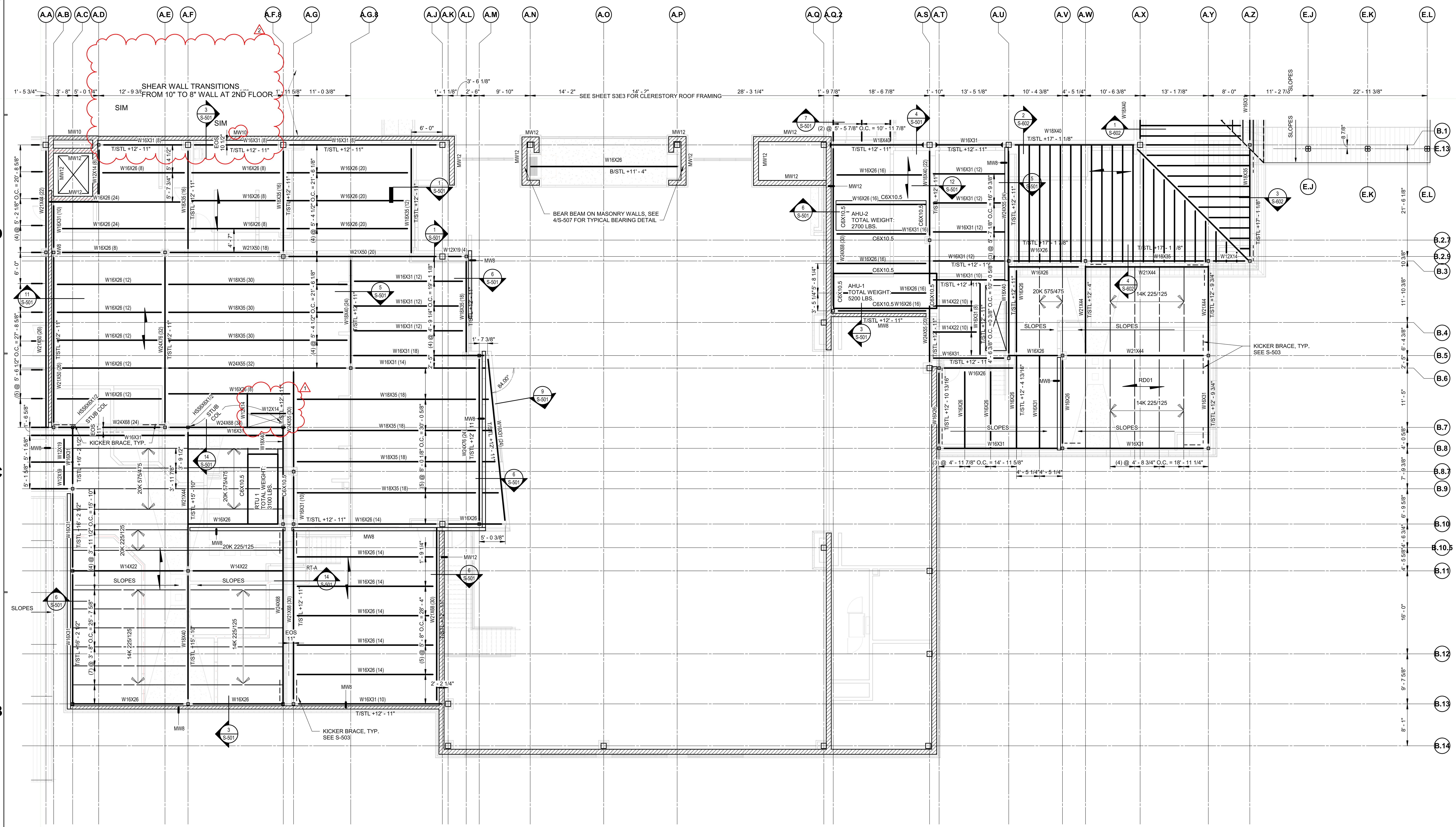
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR/LOW ROOF FRAMING PLAN - UNIT A

S2AF



SECOND FLOOR/LOW ROOF FRAMING PLAN - UNIT B

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

FRAMING PLAN NOTES:

1. ELEVATIONS ±, ARE FROM NOMINAL FIRST FLOOR ELEV +0'-0", SEE CIVIL DRAWINGS.
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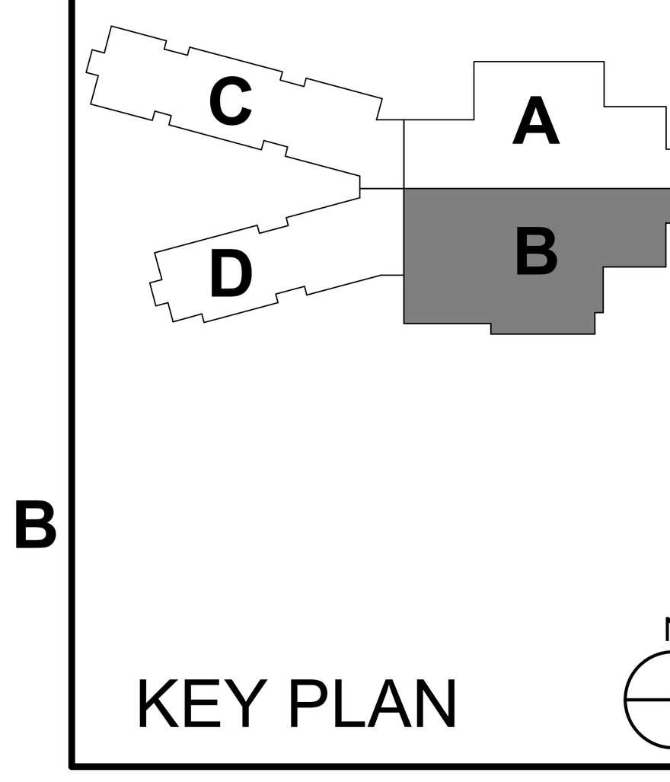


KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

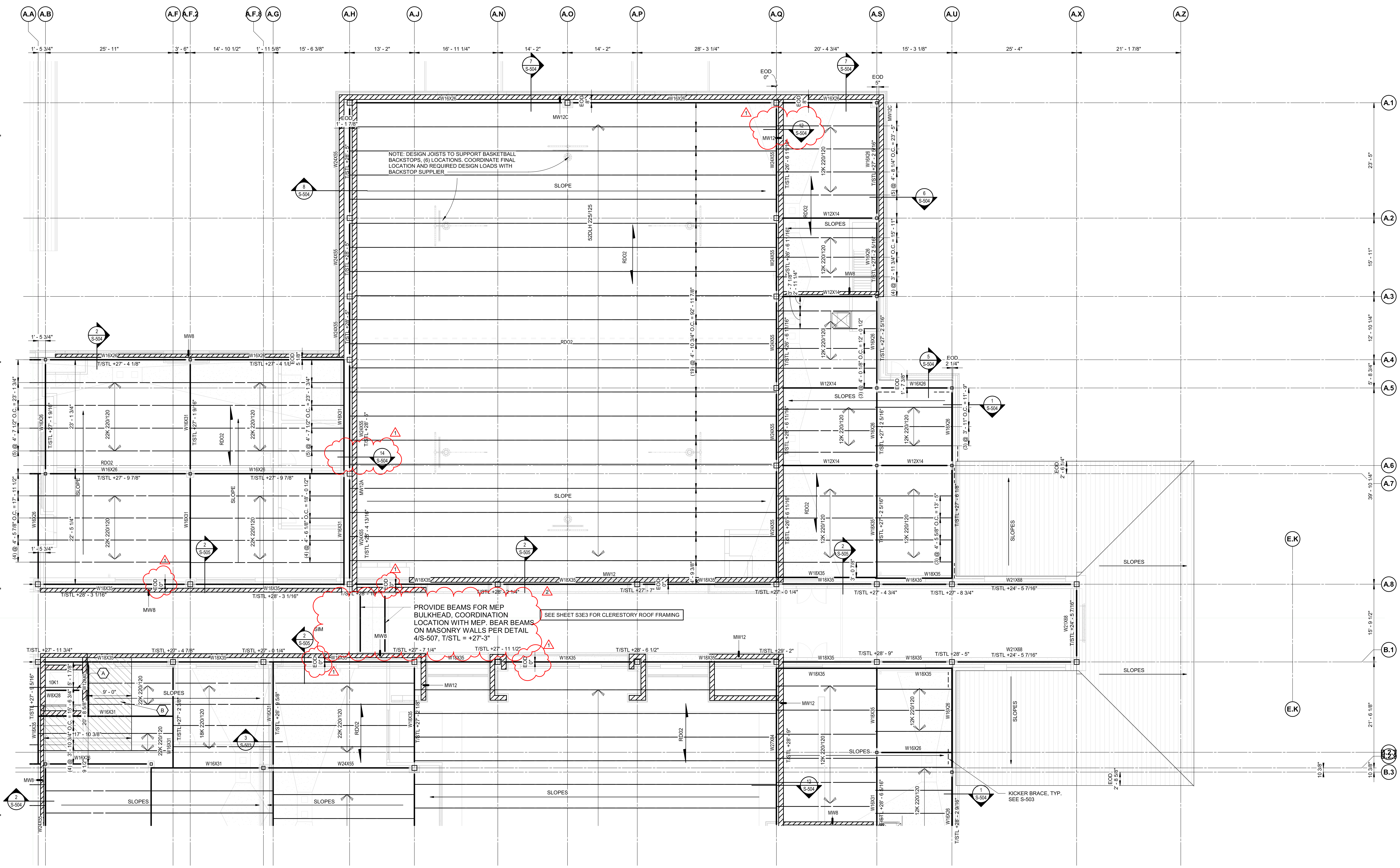
NEW ELEMENTARY SCHOOL

SECOND FLOOR/LOW ROOF FRAMING PLAN - UNIT B

S2BF

KEY PLAN NOTES

- (A) W8x28 ELEVATOR HOIST BEAM. T/STL = *TBD*. COORDINATE FINAL ELEVATION AND LOCATION WITH ELEVATOR SUPPLIER.
- (B) IN INDICATED AREA SURROUNDING THE SHAFT, WELD ROOF DECK TO SUPPORTS WITH 36/7 WELD PATTERN, UNO.
- (C) SUPPORT SHALLOWER/LIGHTER MEMBER WITH SHEAR CONNECTION TO DEEPER/HEAVIER MEMBER. SHEAR CONNECTION TO BE DESIGNED BY CONNECTION ENGINEER.



HIGH ROOF FRAMING PLAN - UNIT A

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

FRAMING PLAN NOTES:

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5. UNO, ASSUME EQUAL PURLIN SPACING BETWEEN GRID LINES.

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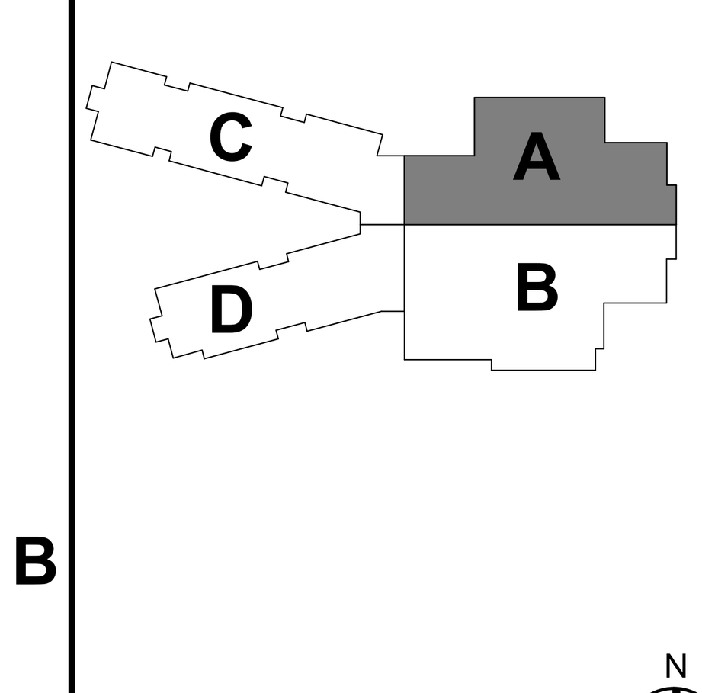

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

HIGH ROOF FRAMING PLAN - UNIT A

S3AR

KEY PLAN NOTES

- (A) W8x28 ELEVATOR HOIST BEAM. T/STL = *TBD*. COORDINATE FINAL ELEVATION AND LOCATION WITH ELEVATOR SUPPLIER.
- (B) IN INDICATED AREA SURROUNDING THE SHAFT, WELD ROOF DECK TO SUPPORTS WITH 36/7 WELD PATTERN, UNO.
- (C) SUPPORT SHALLOWER/LIGHTER MEMBER WITH SHEAR CONNECTION TO DEEPER/HEAVIER MEMBER. SHEAR CONNECTION TO BE DESIGNED BY CONNECTION ENGINEER.

HIGH ROOF FRAMING PLAN - UNIT B

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

N

FRAMING PLAN NOTES:

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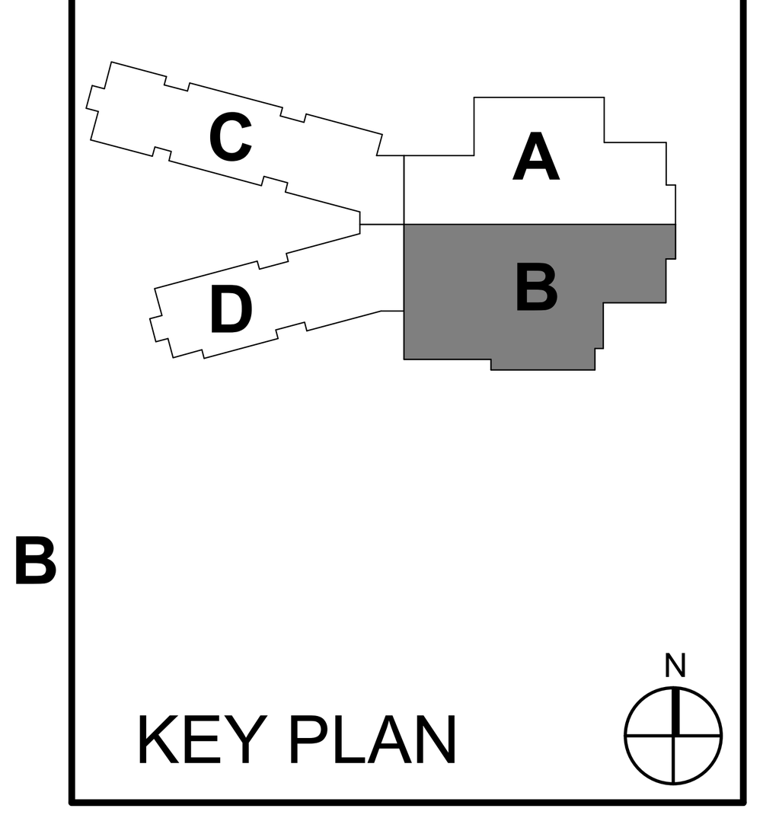

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

HIGH ROOF FRAMING PLAN - UNIT B

S3BR

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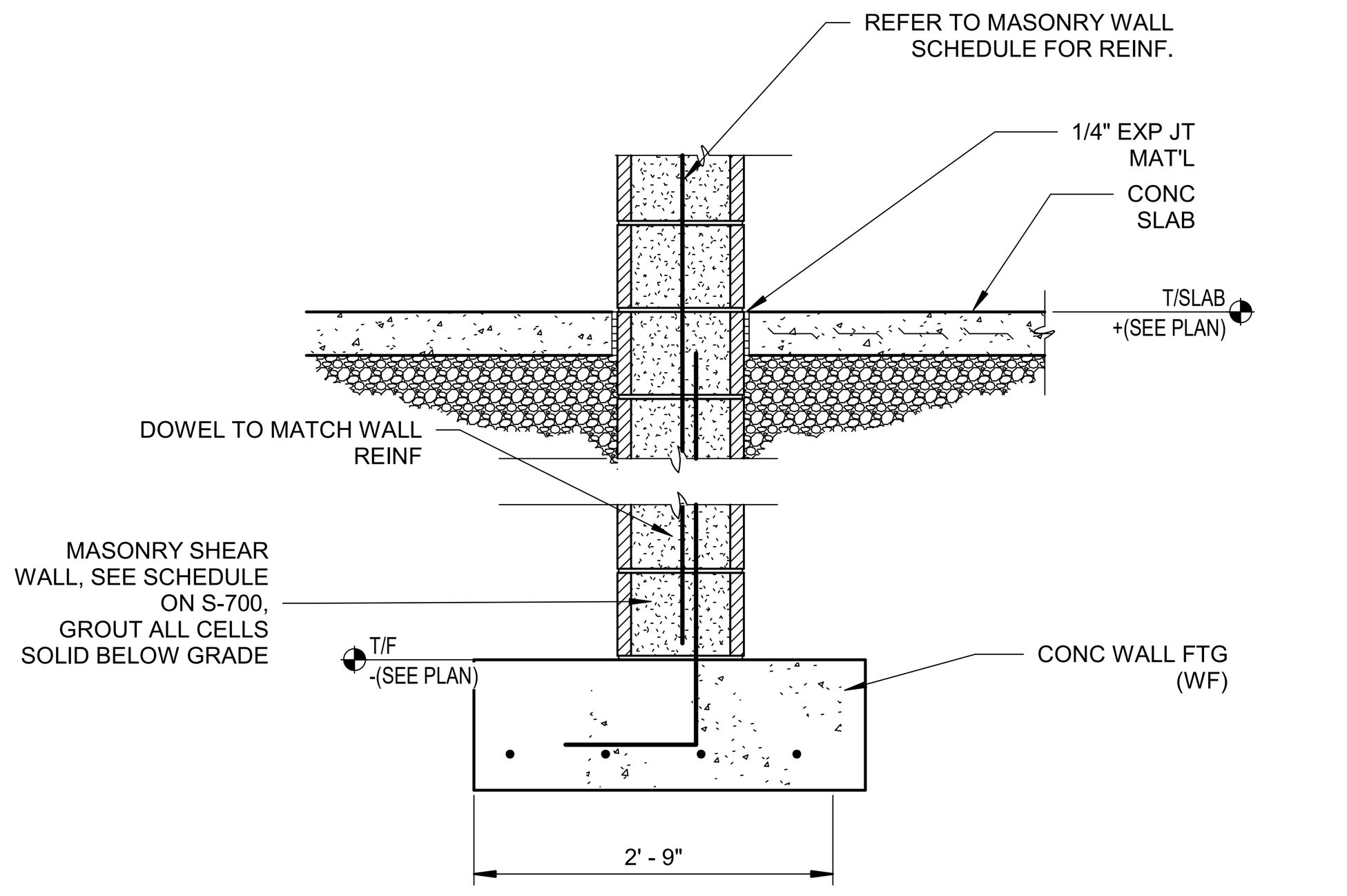
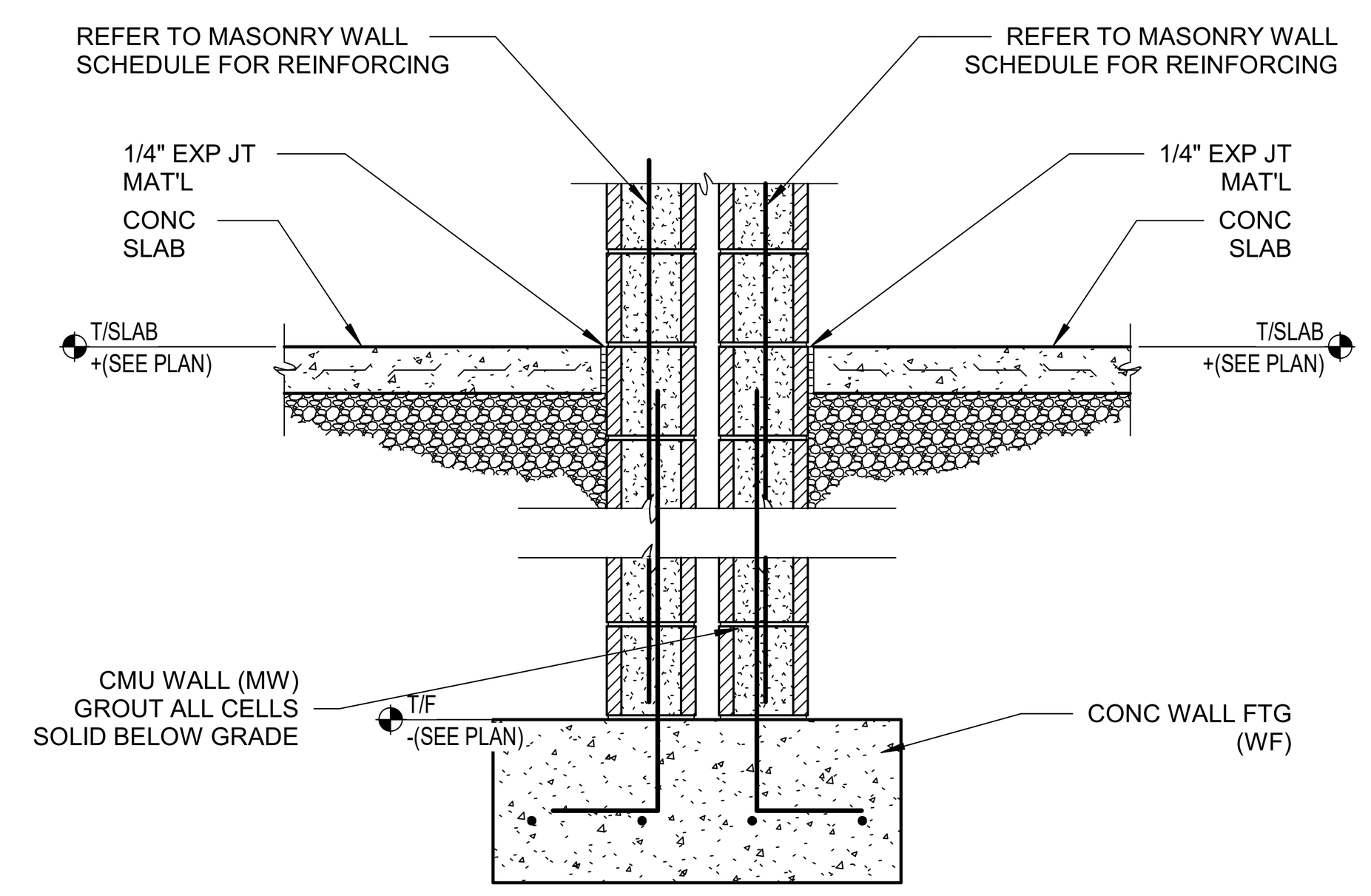


SECTION @ INTERIOR FOUNDATION MASONRY WALL

13 / S-401

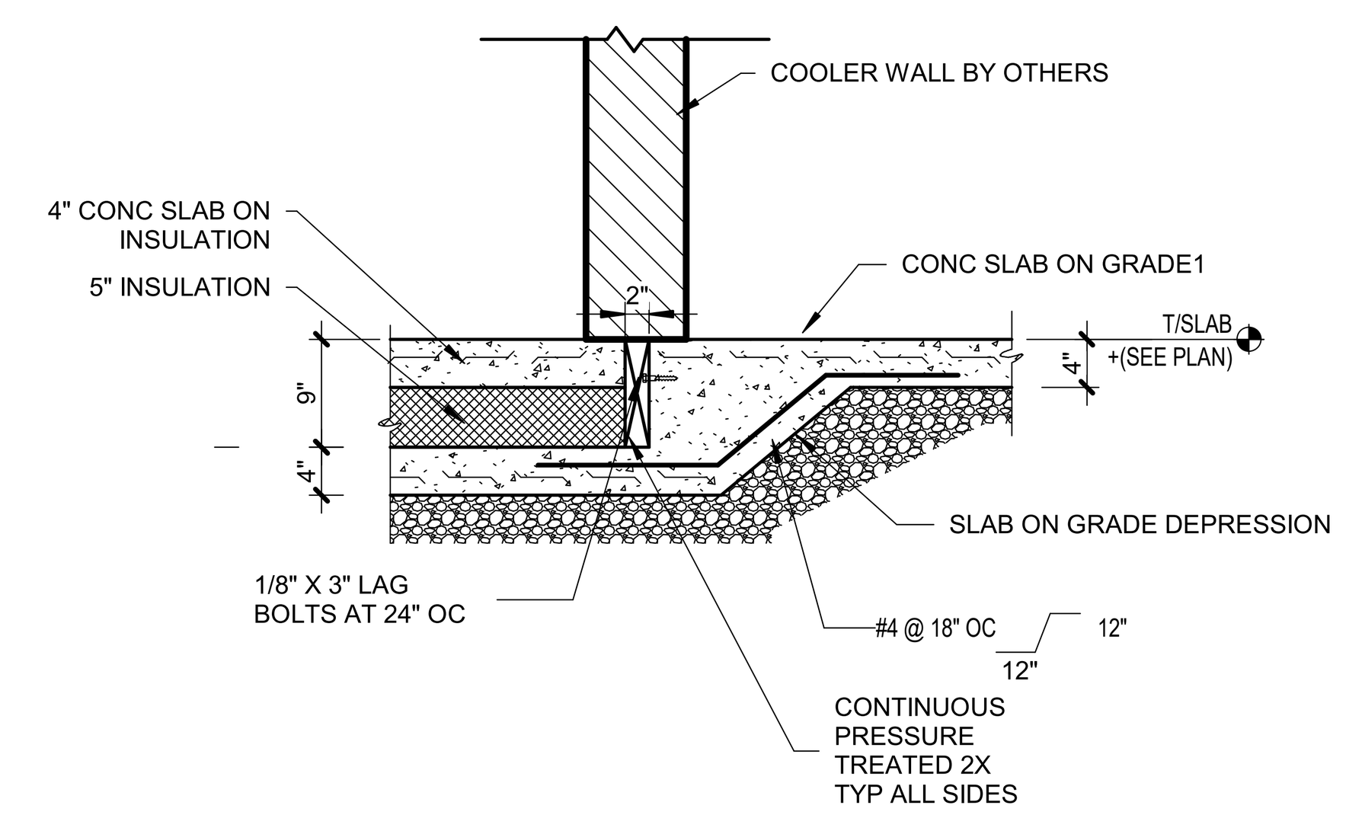
SCALE: 3/4" = 1'-0"



SECTION @ FOUNDATION MASONRY WALL

12 / S-401

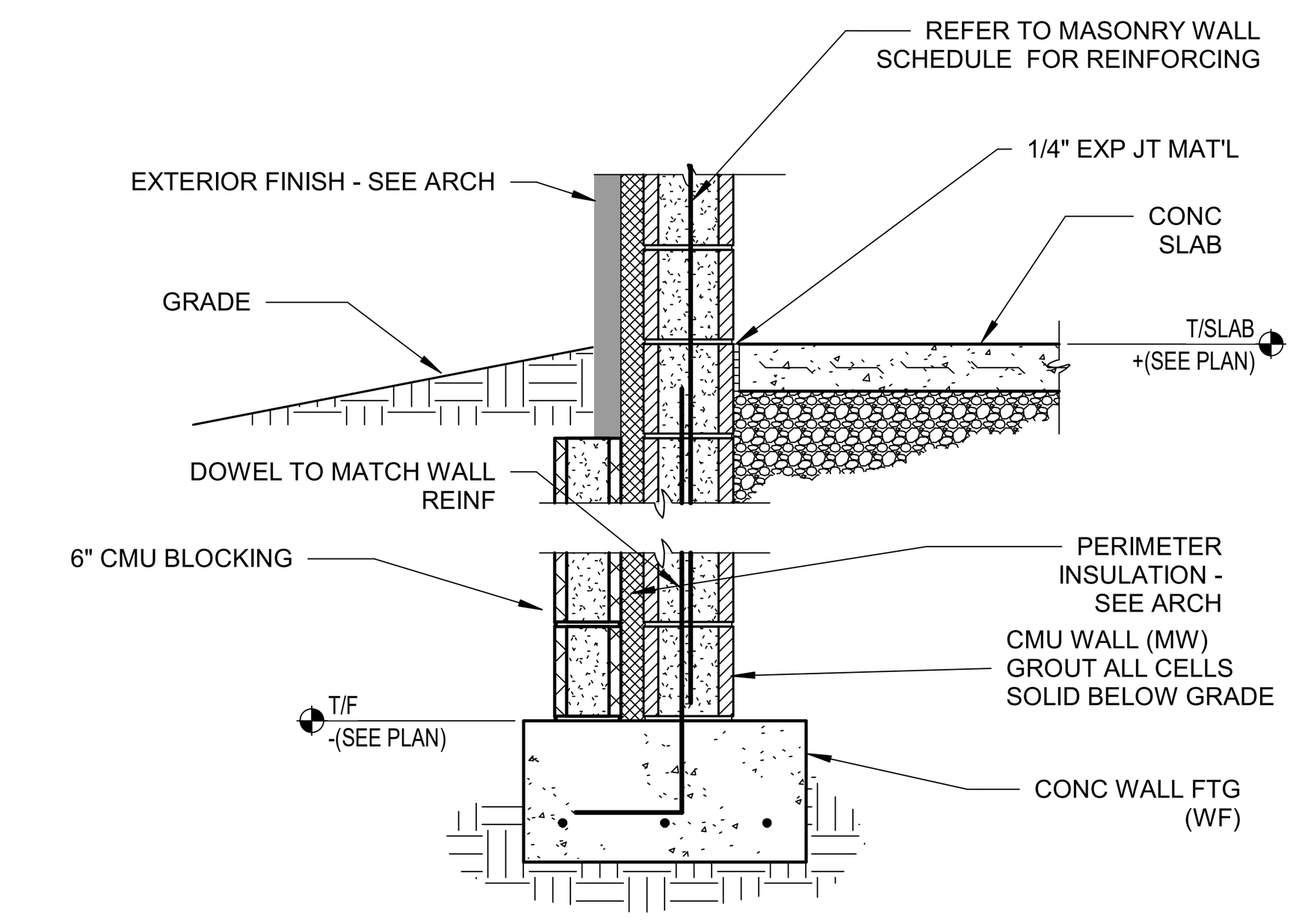
SCALE: 3/4" = 1'-0"



TYPICAL SLAB UNDER COOLER

5 / S-401

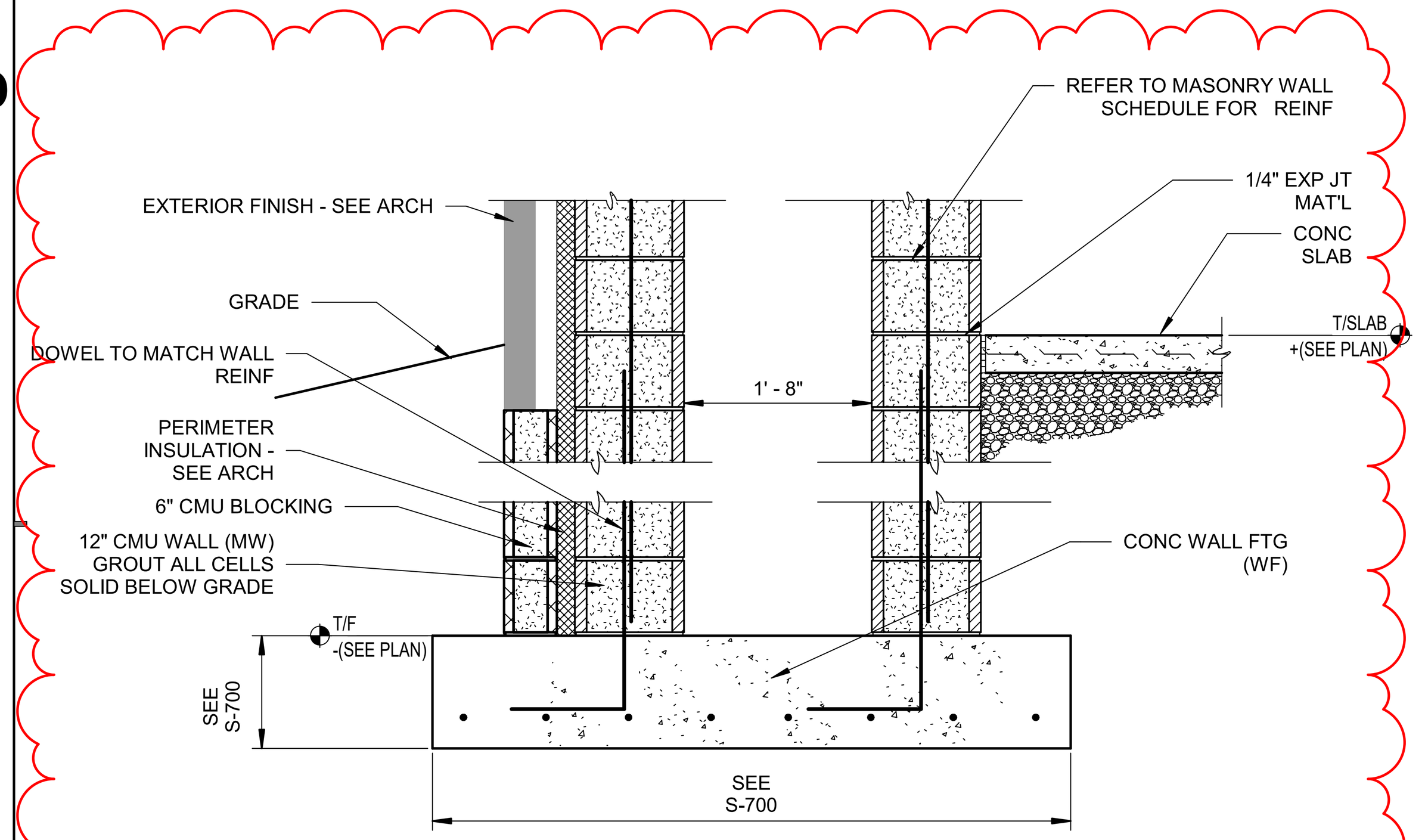
SCALE: 3/4" = 1'-0"



SECTION @ FOUNDATION MASONRY WALL

1 / S-401

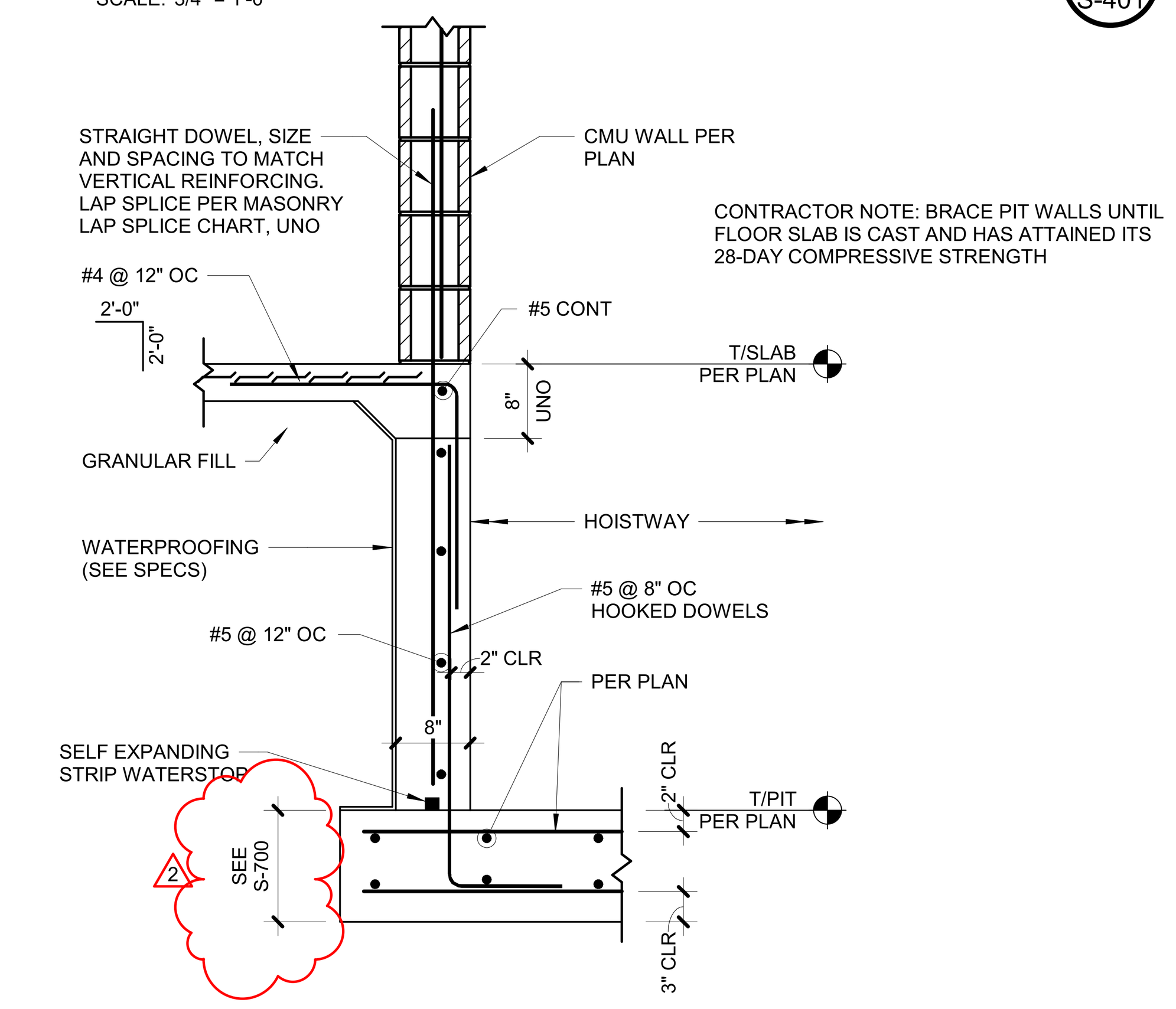
SCALE: 3/4" = 1'-0"



DOUBLE MASONRY WALL FOUNDATION

14 / S-401

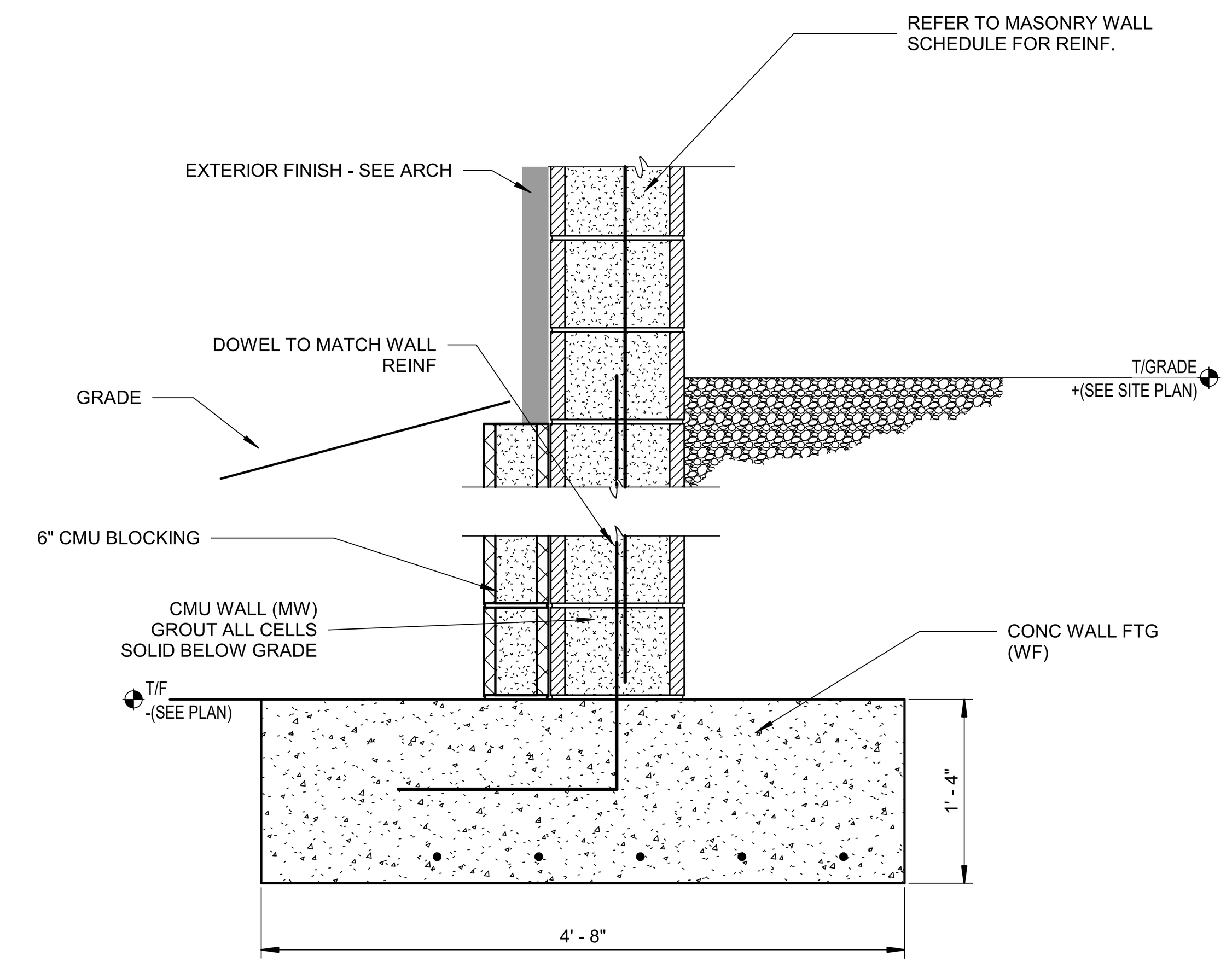
SCALE: 3/4" = 1'-0"



TYPICAL CMU WALL AT ELEVATOR PIT

11 / S-401

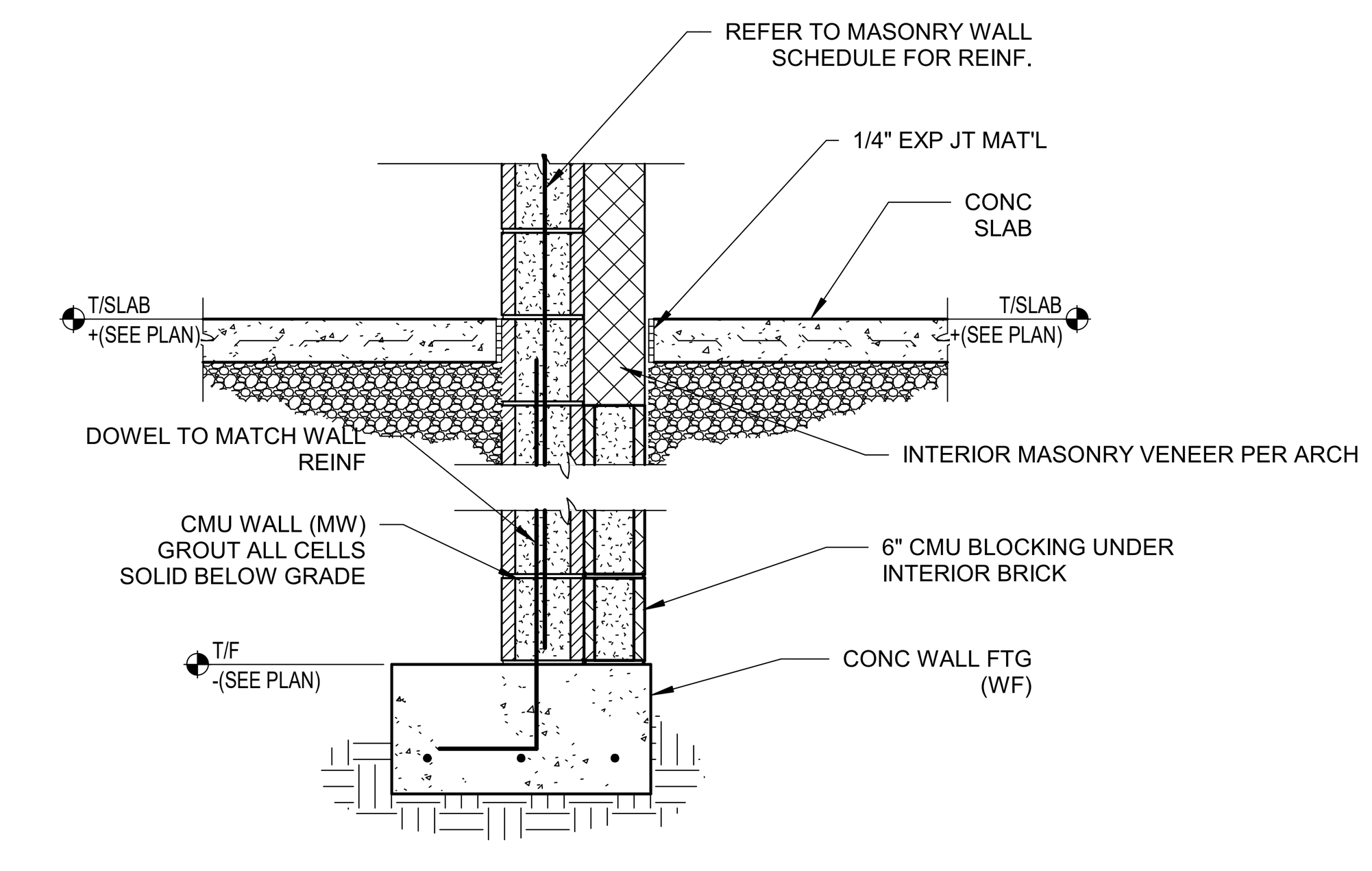
SCALE: 3/4" = 1'-0"



SECTION @ EXT GYM WALL

6 / S-401

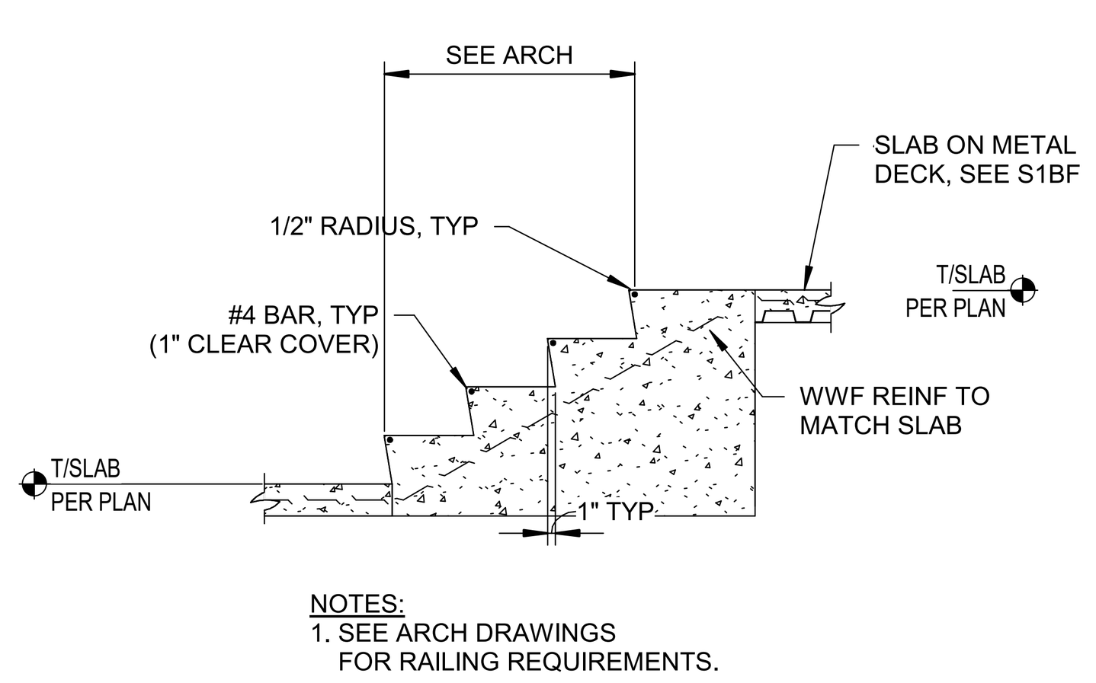
SCALE: 1" = 1'-0"



TYPICAL WALL SECTION MASONRY VENEER

2 / S-401

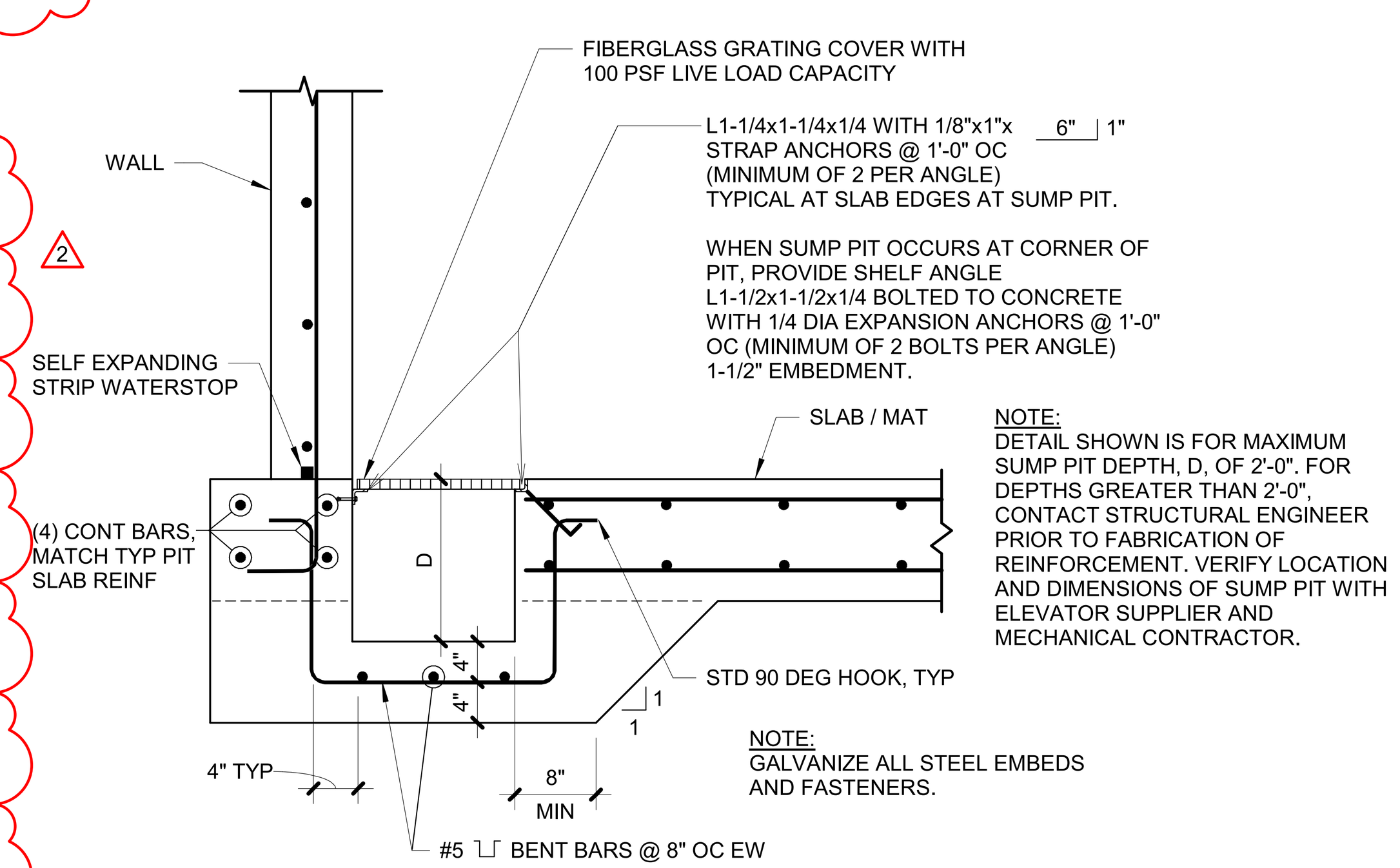
SCALE: 3/4" = 1'-0"



TYPICAL INTERIOR CONCRETE STAIR

15 / S-401

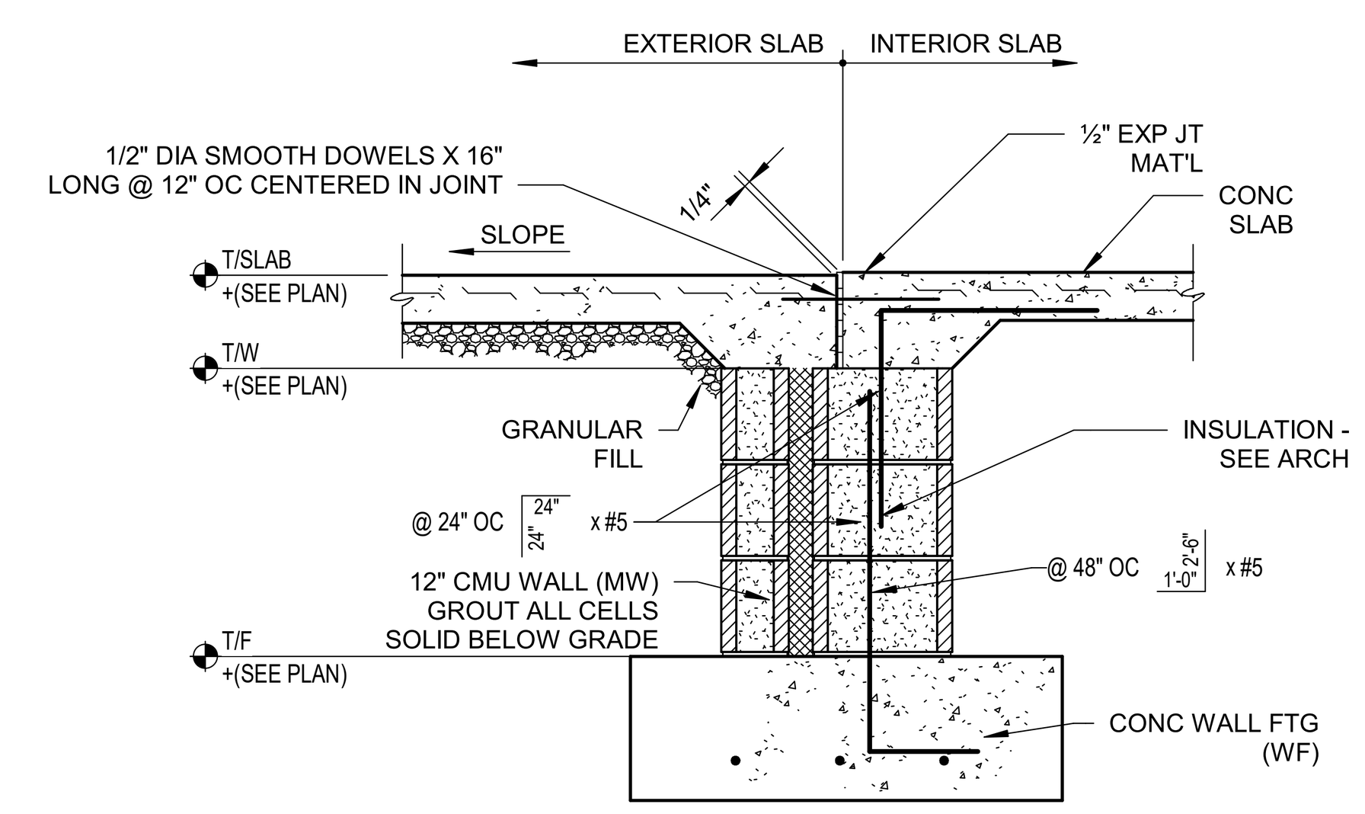
SCALE: 1/2" = 1'-0"



TYPICAL SUMP AT ELEVATOR PIT

10 / S-401

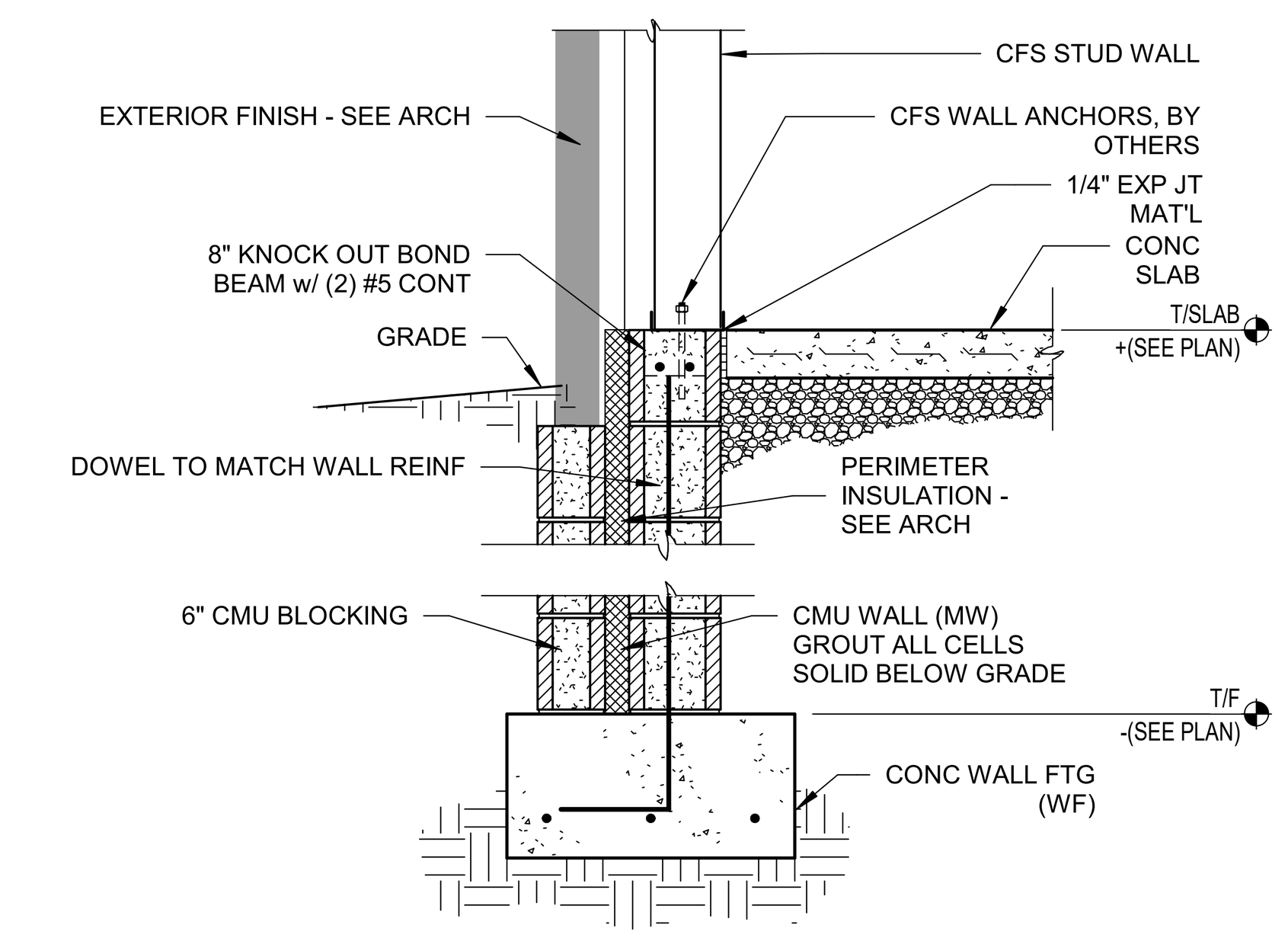
SCALE: 3/4" = 1'-0"



TYPICAL SECTION @ ENTRY W/ 12" MASONRY STEM WALL

7 / S-401

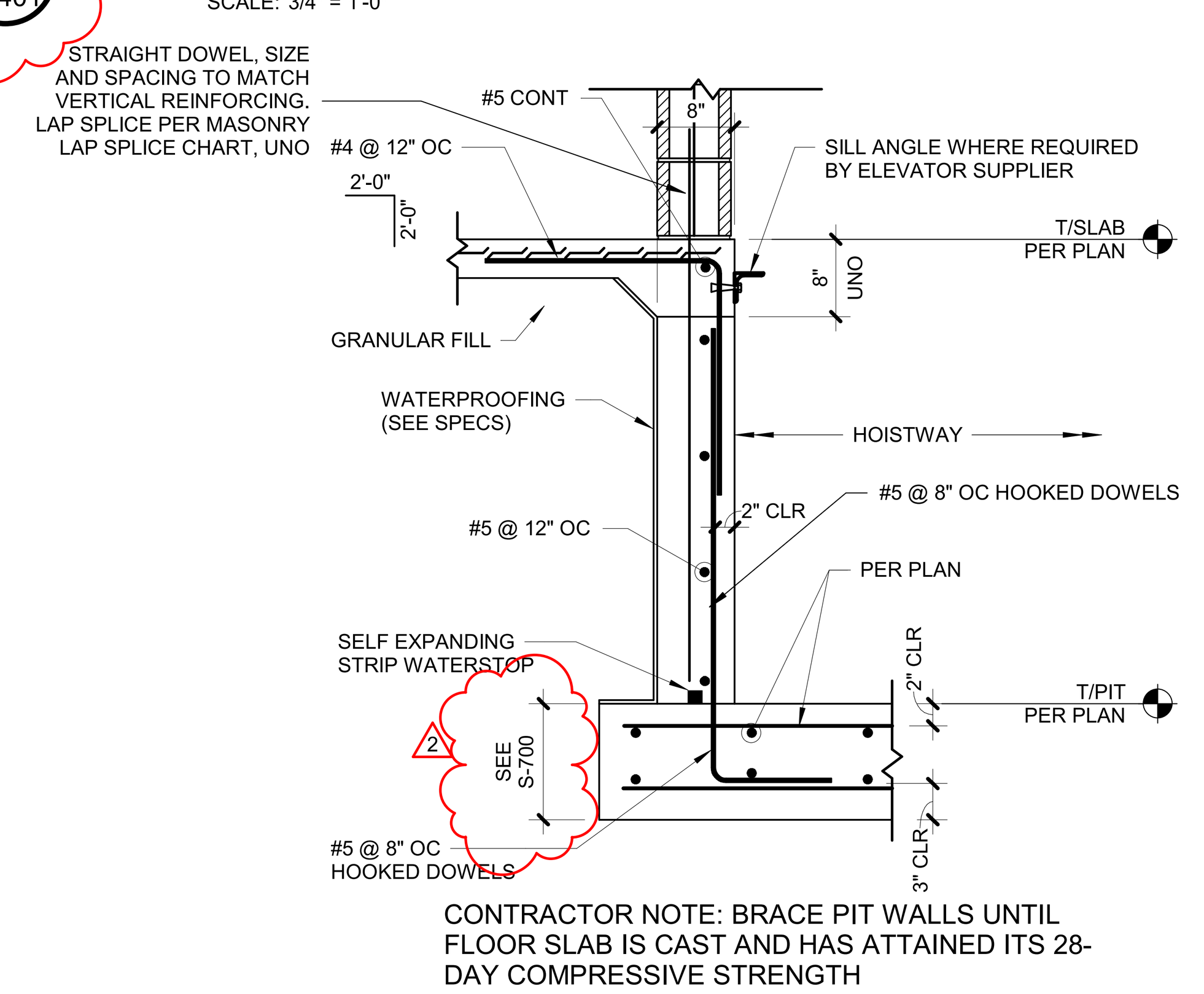
SCALE: 3/4" = 1'-0"



SECTION @ FOUNDATION STUD WALL

3 / S-401

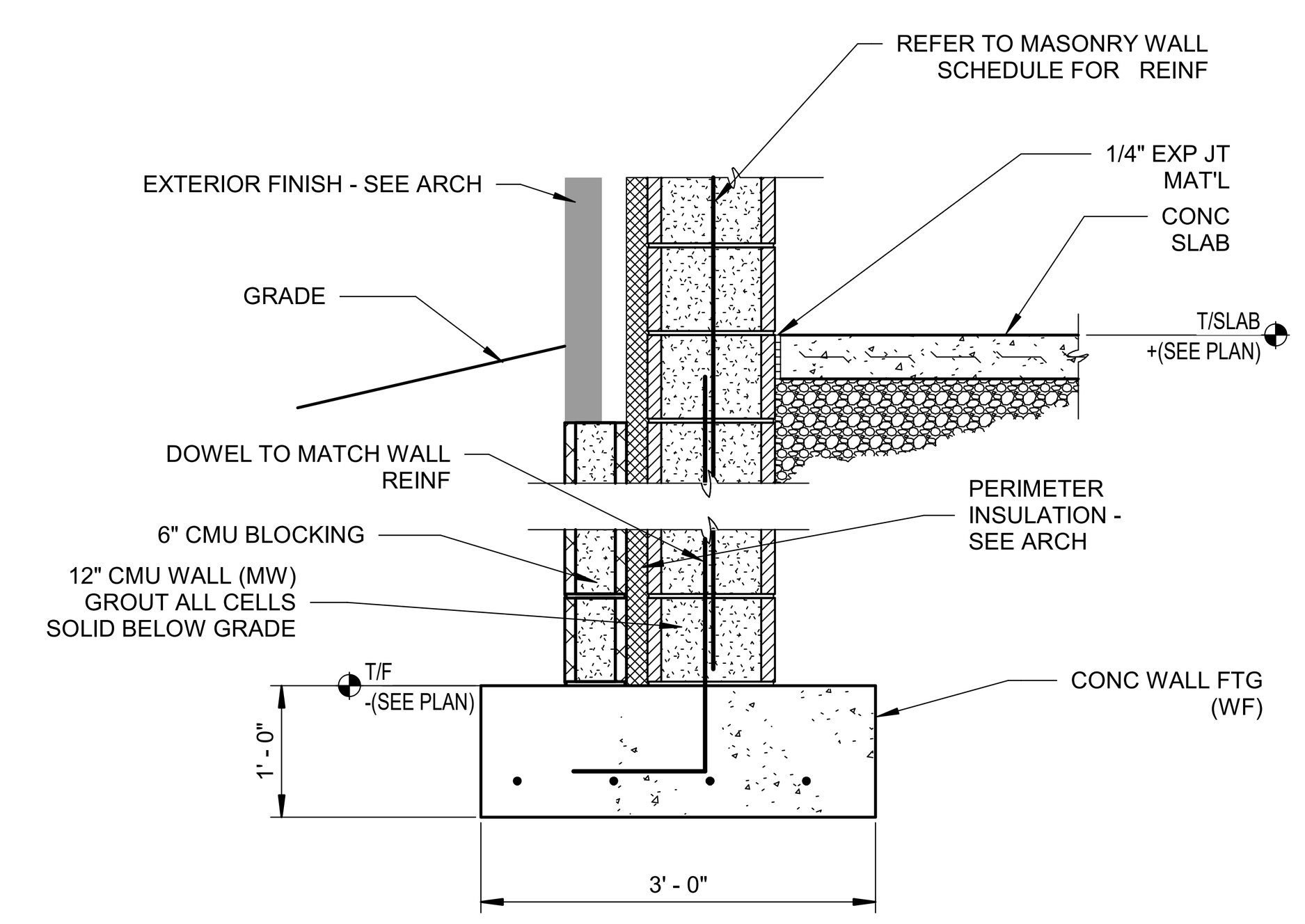
SCALE: 3/4" = 1'-0"



TYPICAL ELEVATOR PIT

9 / S-401

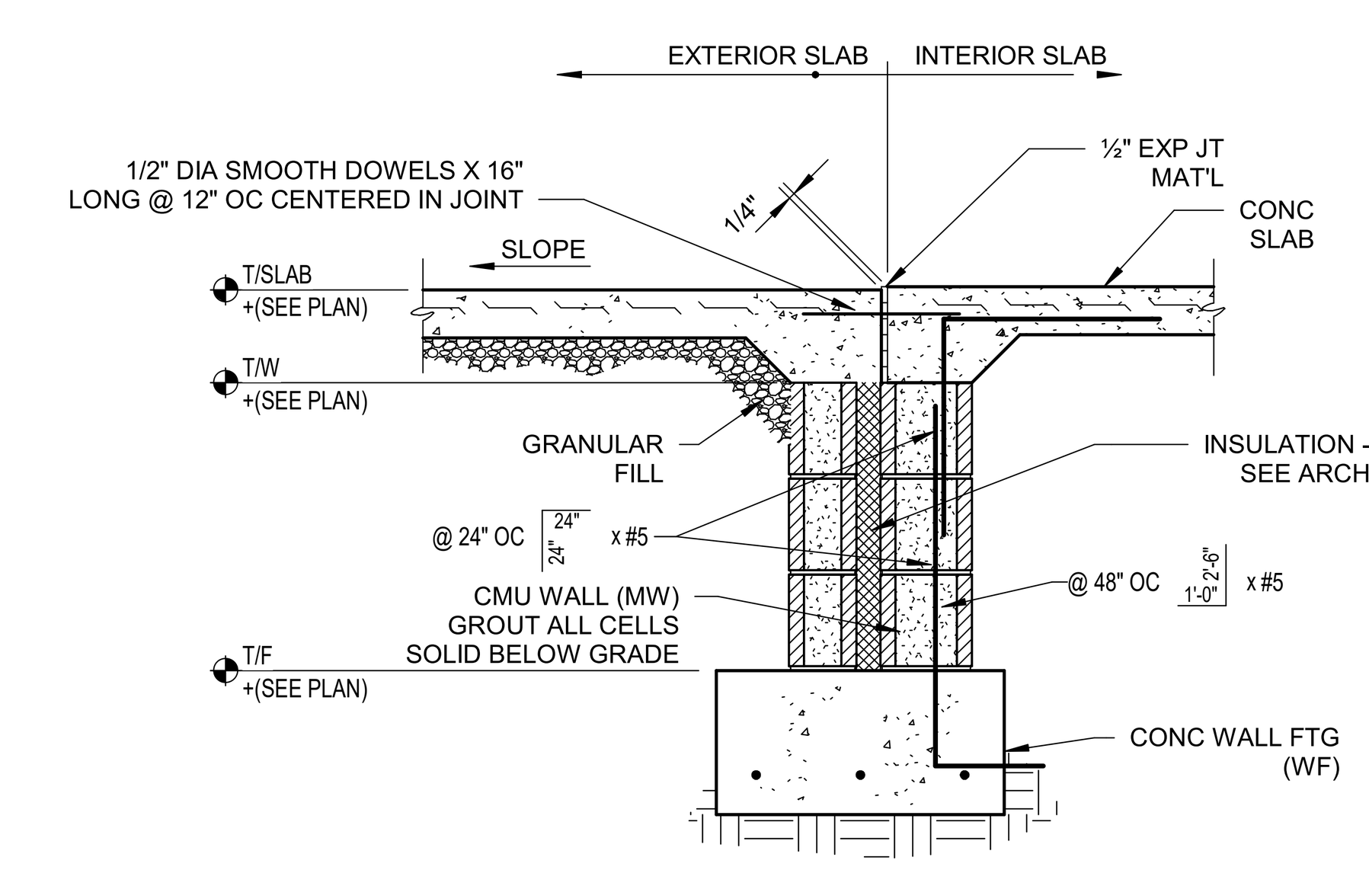
SCALE: 3/4" = 1'-0"



SECTION @ FOUNDATION 12" MASONRY WALL

8 / S-401

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



TYPICAL SECTION @ ENTRY

4 / S-401

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

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Indianapolis, IN 46204
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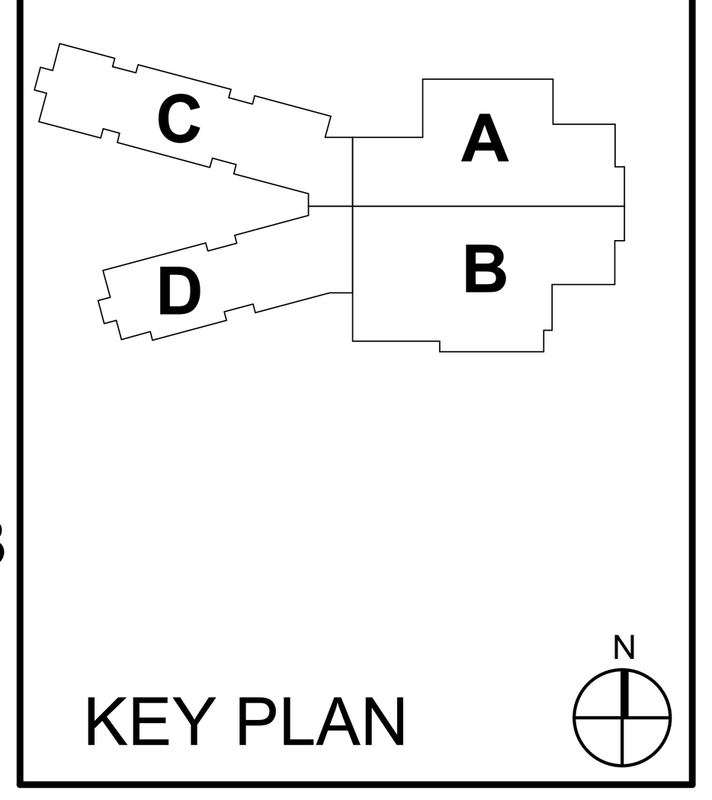
Project No. 2021-141.NES
Project Date 05.11.2022
Produced JLL NRT

JUSTIN L. LEIBERING REGISTERED No. 11500368 STATE OF INDIANA PROFESSIONAL ENGINEER

#	Revision	Date
002	Addendum 2	06.06.2022

10559 E. THOMPSON RD



KEY PLAN

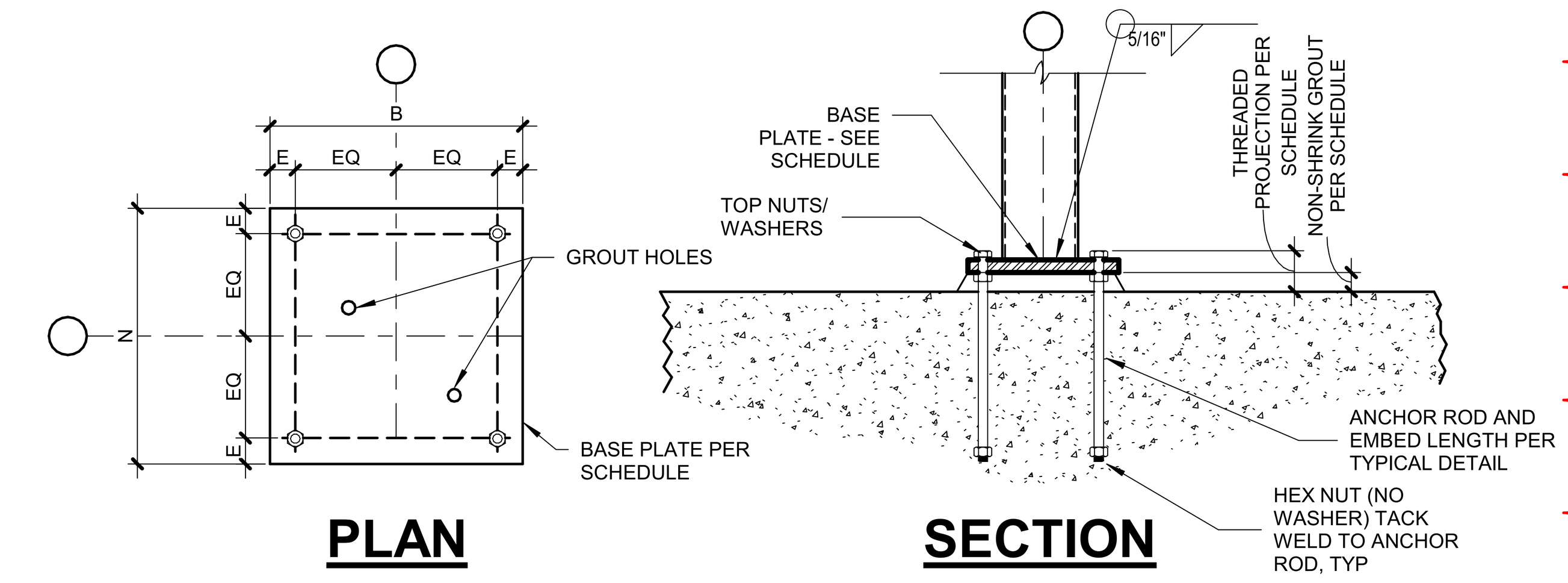
FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FOUNDATION SECTIONS

S-401

6 5 4 3 2 1



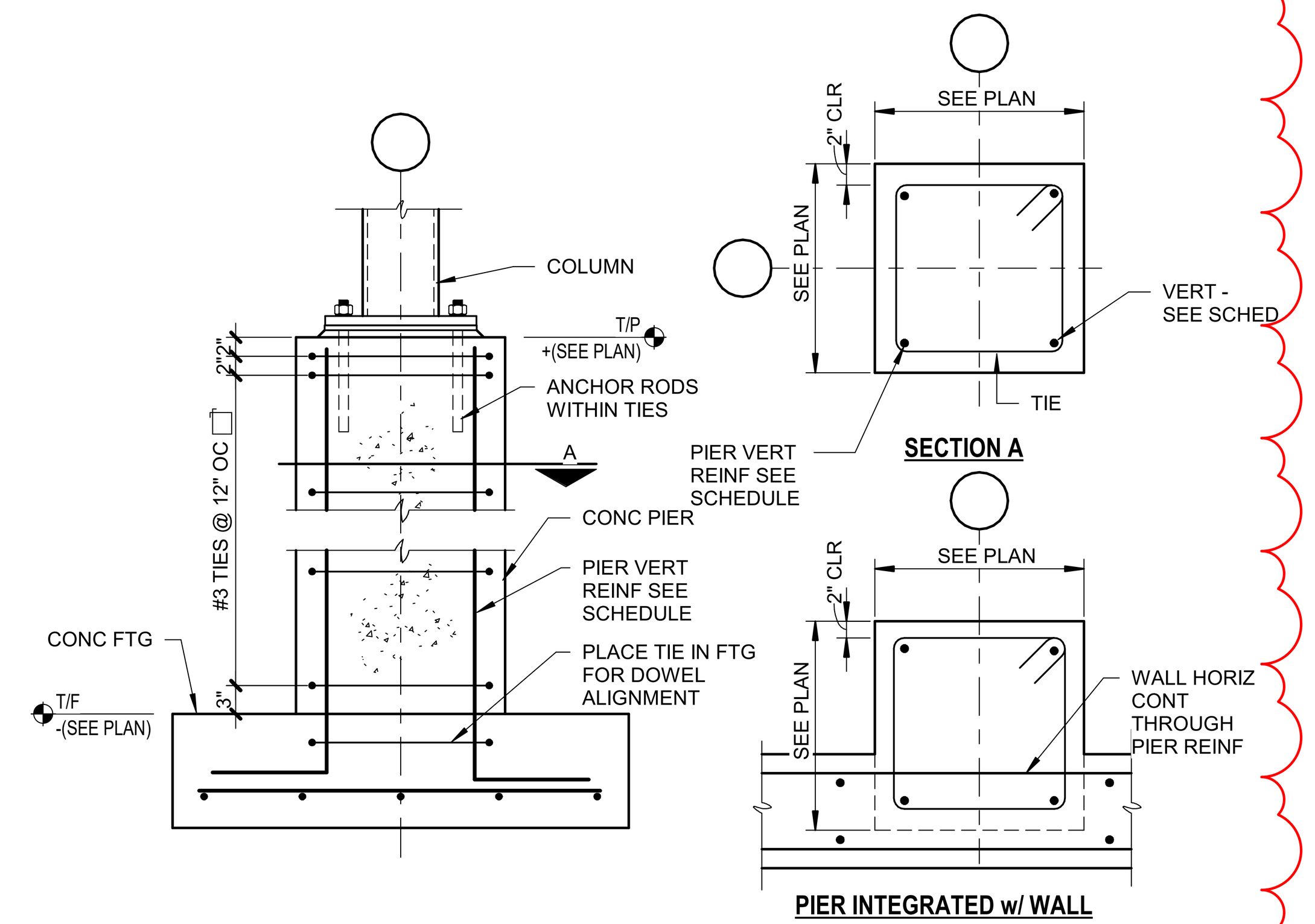
NOTES:

1. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE SUFFICIENT TEMPORARY SUPPORT OF COLUMN BASE PLATES USING LEVELING PLATES, LEVELING NUTS/WASHERS OR STEEL SHIMS (OR COMBINATION THEREOF PRIOR TO PLACEMENT AND CURING ON NON-SHRINK GROUT.

COLUMN BASE DETAIL TYP CASE 1

1 / S-402

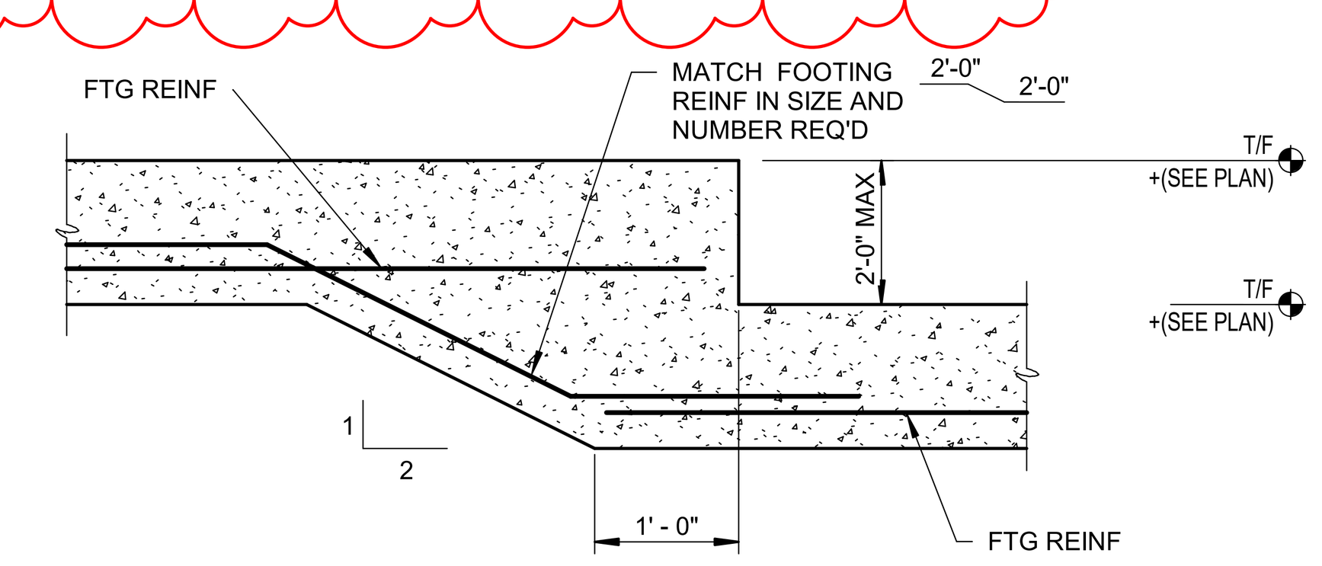
SCALE: 1" = 1'-0"



TYPICAL PIER ELEVATION

2 / S-402

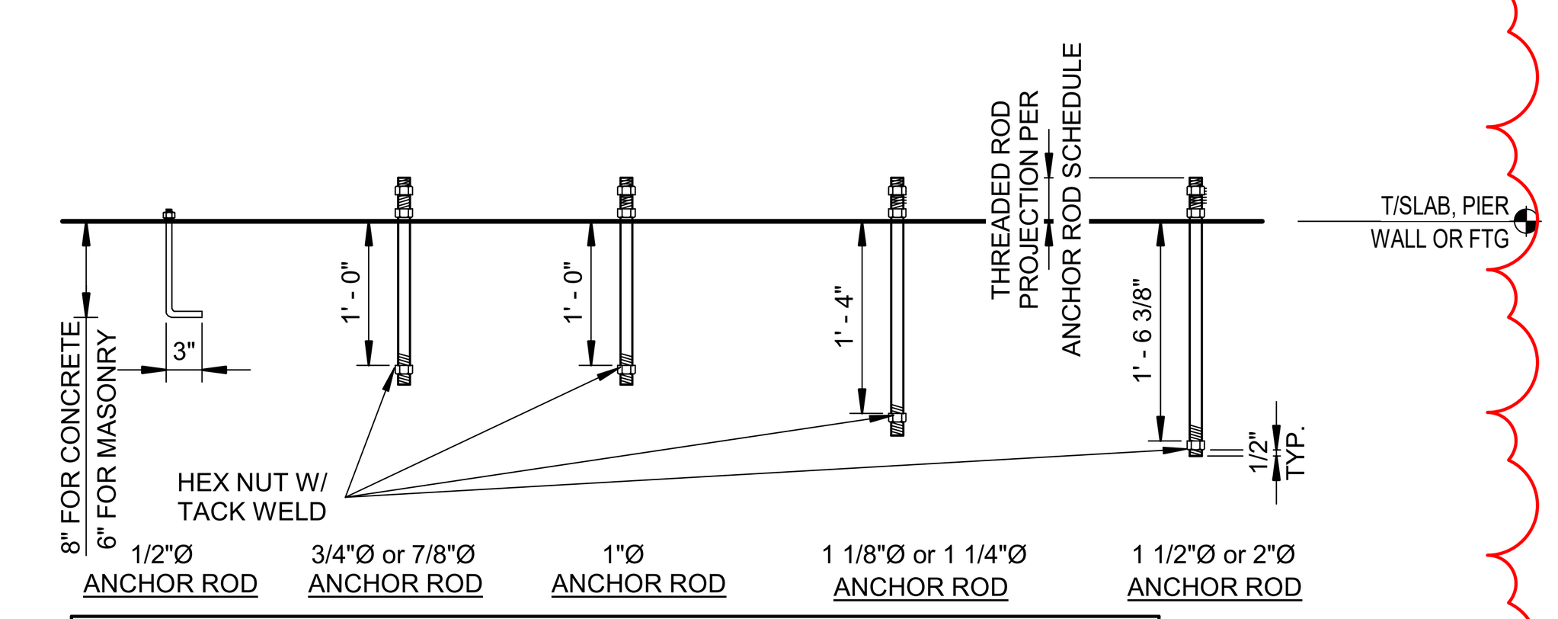
SCALE: 3/4" = 1'-0"



TYP TOP OF FOOTING STEP

5 / S-402

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

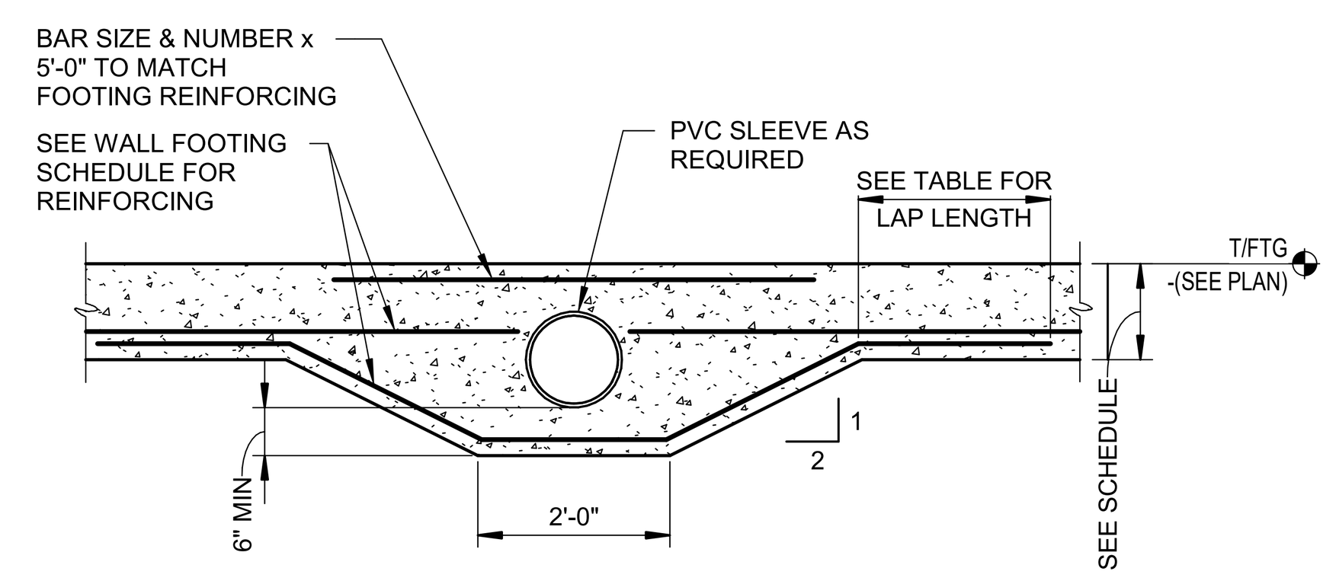


NOTES:
1. SEE SCHEDULE OR SECTIONS FOR REQUIRED ANCHOR ROD SIZE AND SPACING.
2. PROVIDE NUTS AND WASHERS FOR ALL ANCHOR RODS
3. FOR COLUMNS TO HAVE NON-SHRINK GROUT BASE, PROVIDE LEVELING NUTS, WASHERS AND SHIMS AS REQ'D TO SAFELY PLUMB AND SUPPORT THE COLUMN UNTIL GROUT HAS ATTAINED 28-DAY COMPRESSIVE STRENGTH

TYPICAL ANCHOR ROD DETAILS

3 / S-402

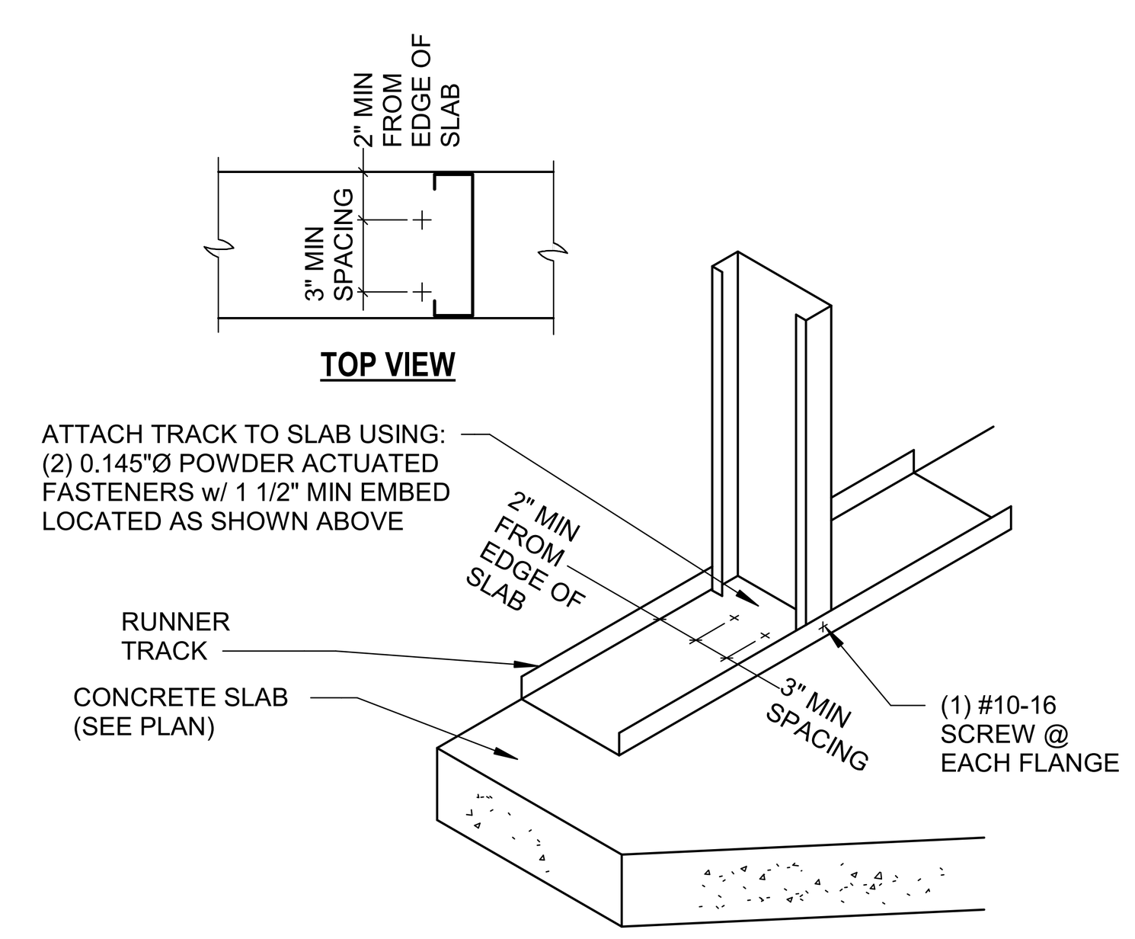
SCALE: 3/4" = 1'-0"



TYP SLEEVE DETAIL AT WALL FOOTING

6 / S-402

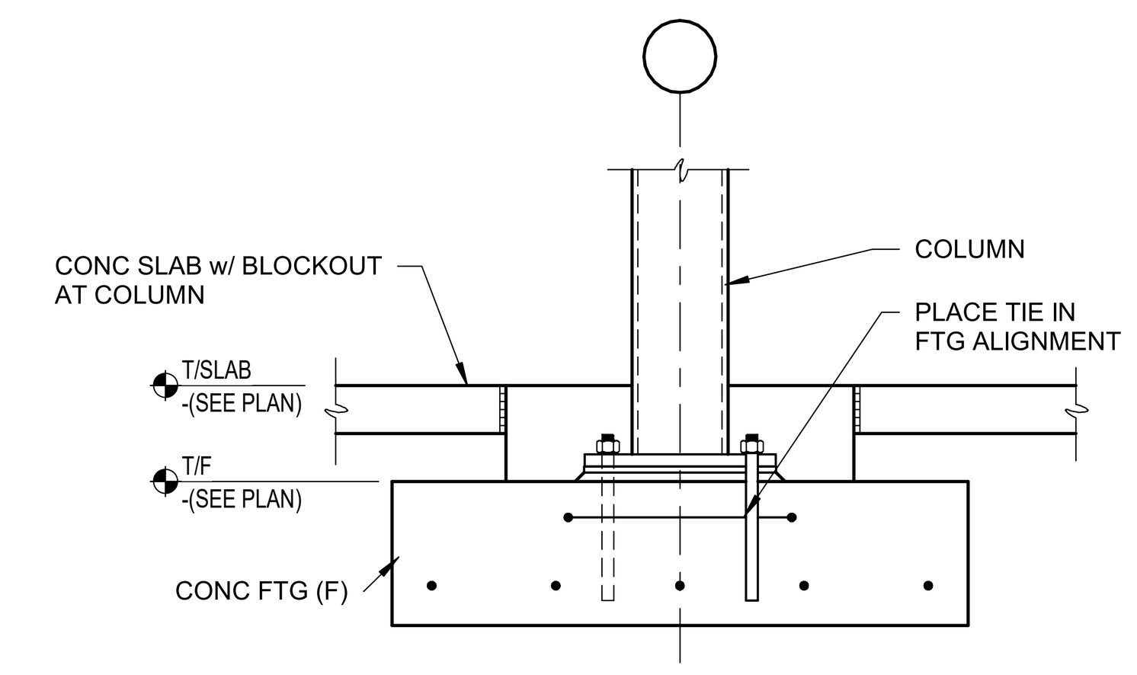
SCALE: 3/4" = 1'-0"



BASE OF WALL AT SLAB (INT WALL)

7 / S-402

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



TYPICAL COLUMN BASE SECTION

4 / S-402

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

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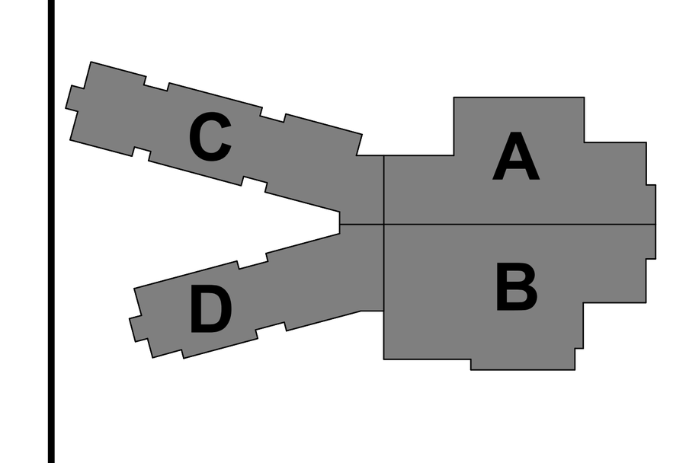


KEY PLAN

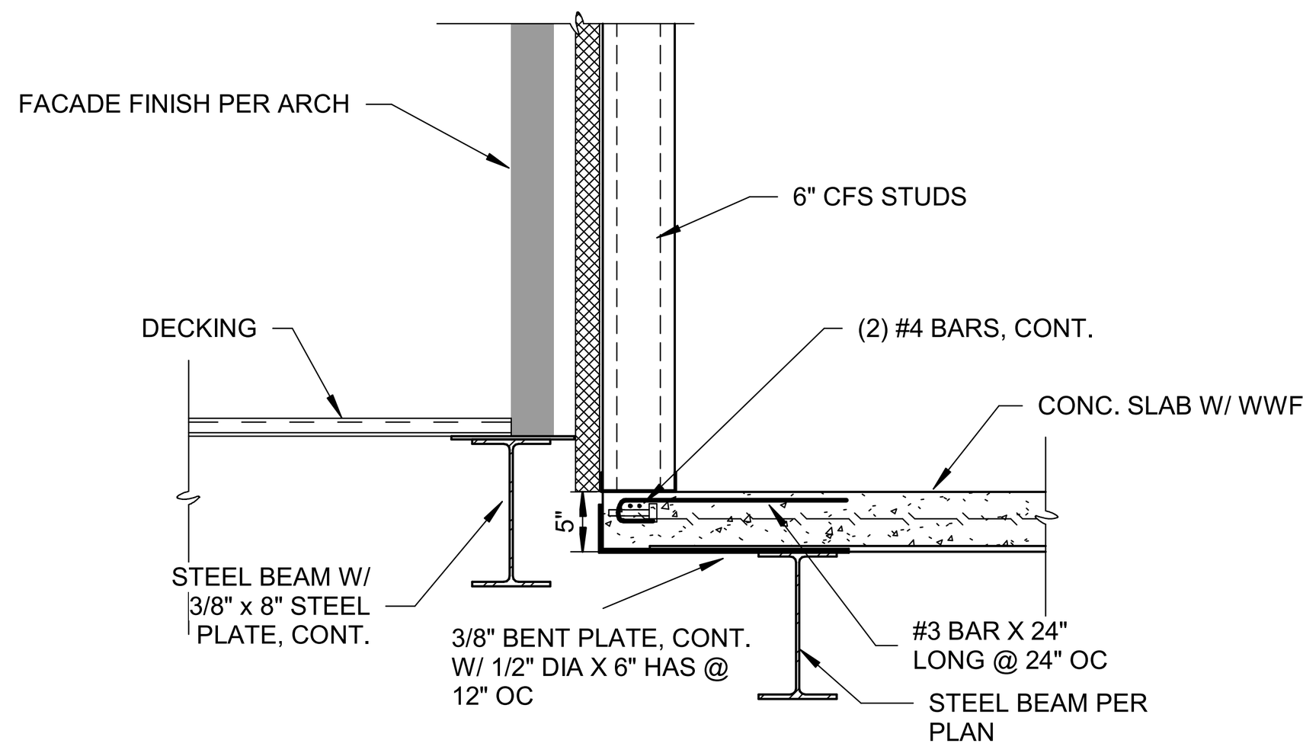
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

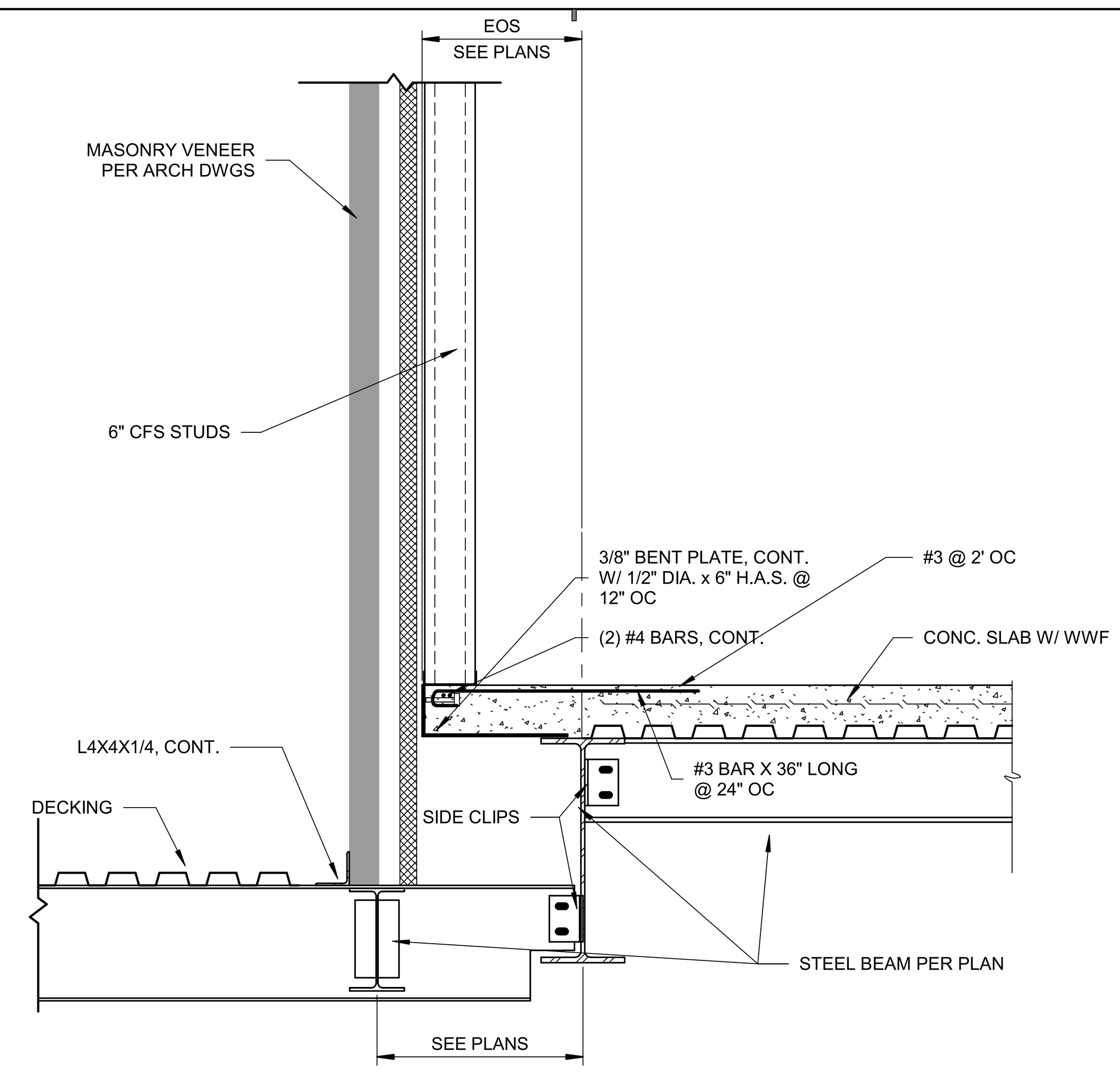
TYPICAL FOUNDATION DETAILS

S-402



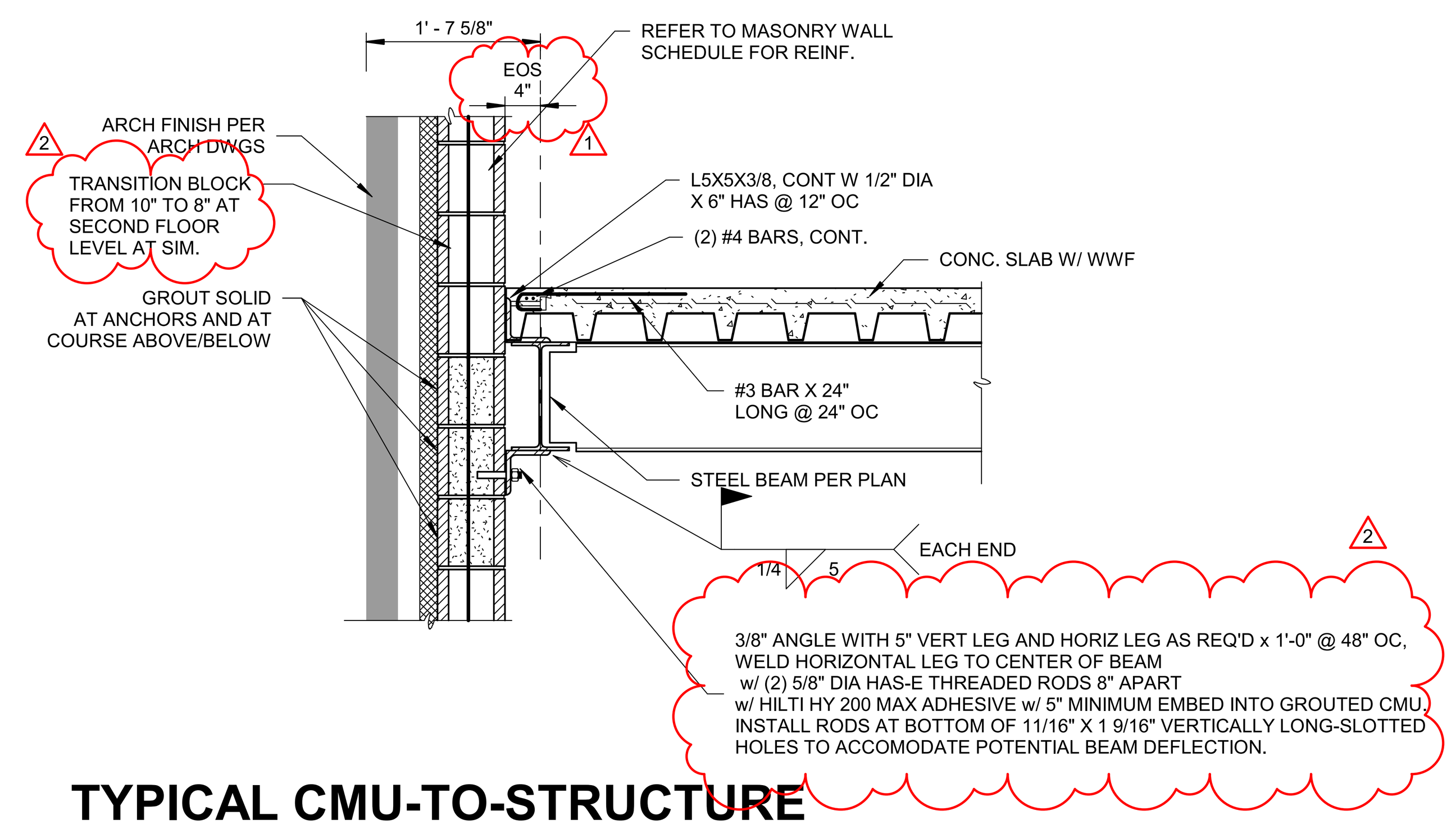
EOS & EOD W/ CFS WALL

SCALE: 3/4" = 1'-0" — 14 / S-501



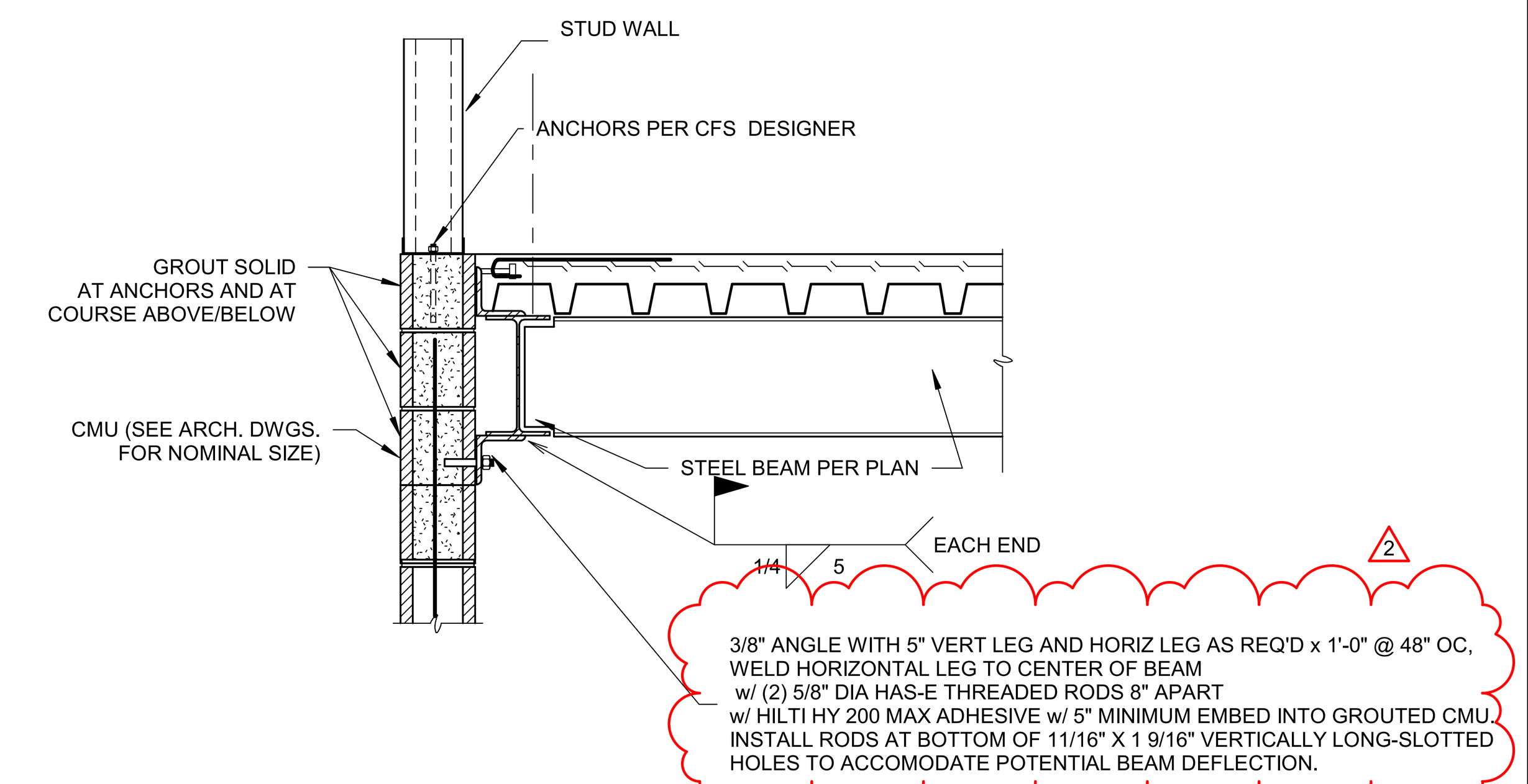
TYPICAL SLAB OVERHANG

SCALE: 3/4" = 1'-0" — 10 / S-501



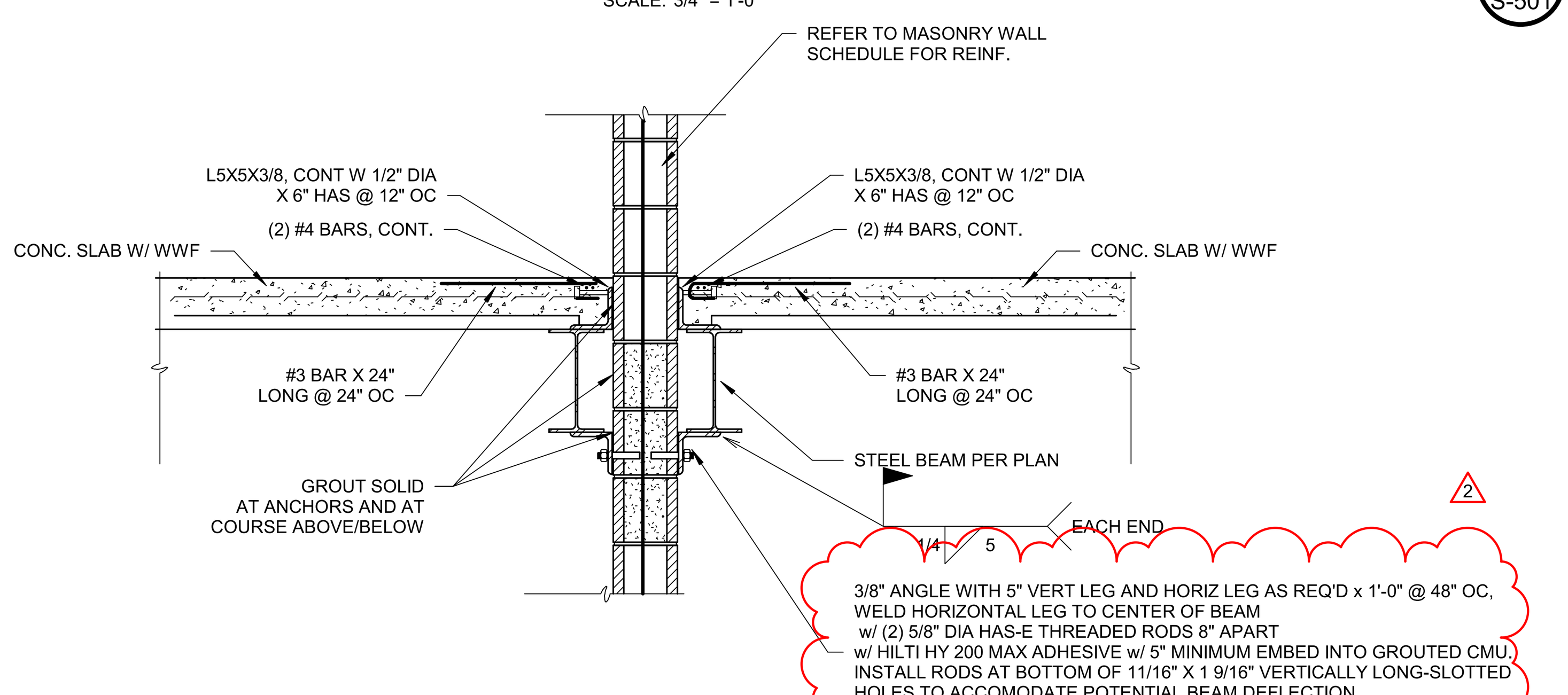
TYPICAL CMU-TO-STRUCTURE CONNECTION W/COPING

SCALE: 3/4" = 1'-0" — 6 / S-501



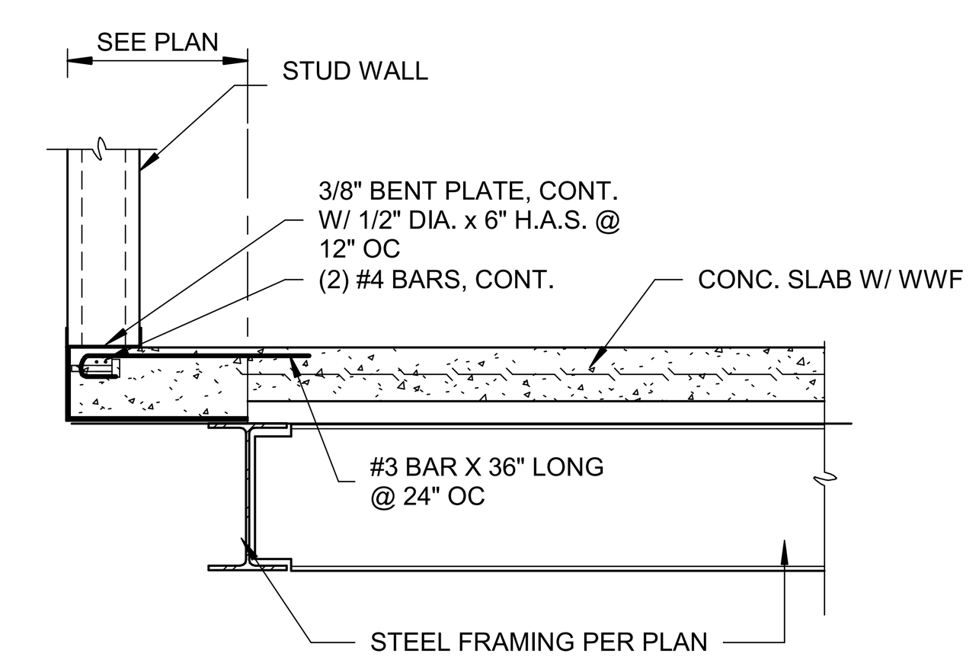
TYPICAL CMU-TO-STRUCTURE CONNECTION W/STUD WALL

SCALE: 3/4" = 1'-0" — 1 / S-501



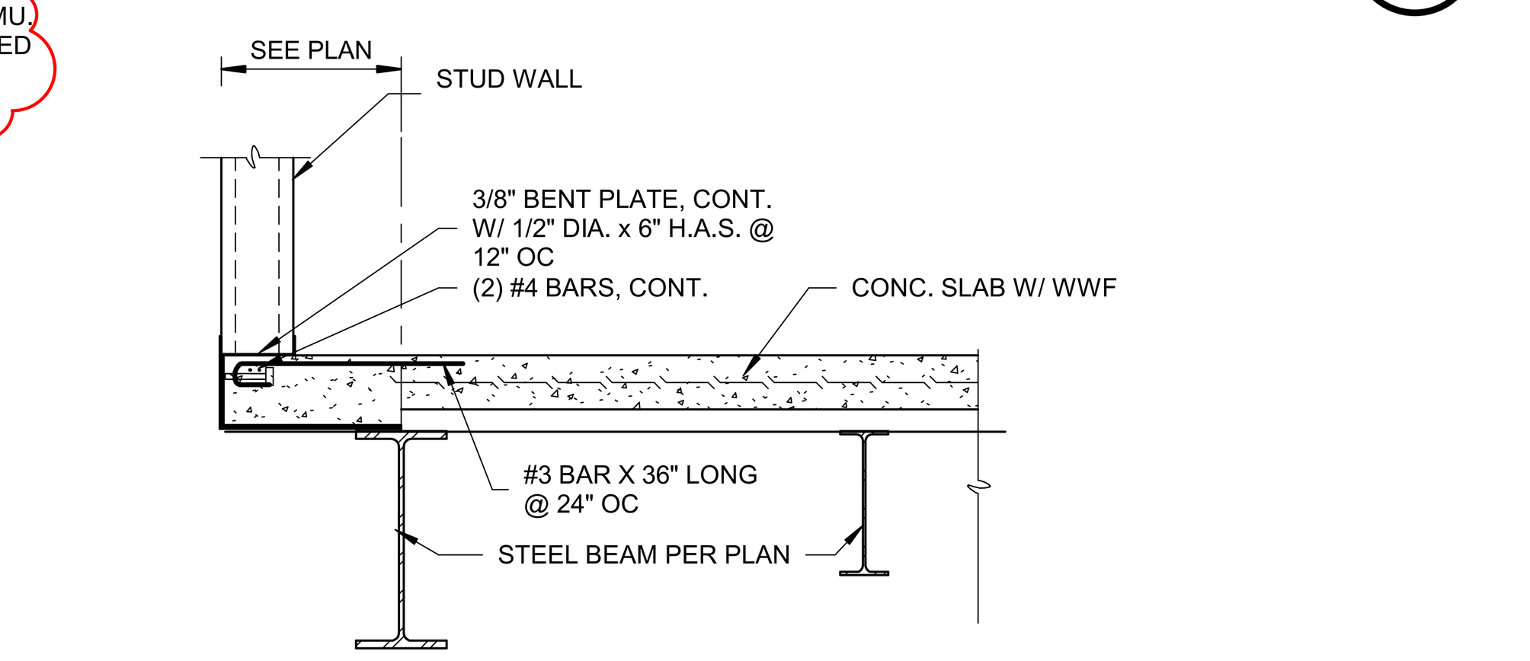
TYPICAL EOD CONNECTION W/ CMU

SCALE: 3/4" = 1'-0" — 11 / S-501



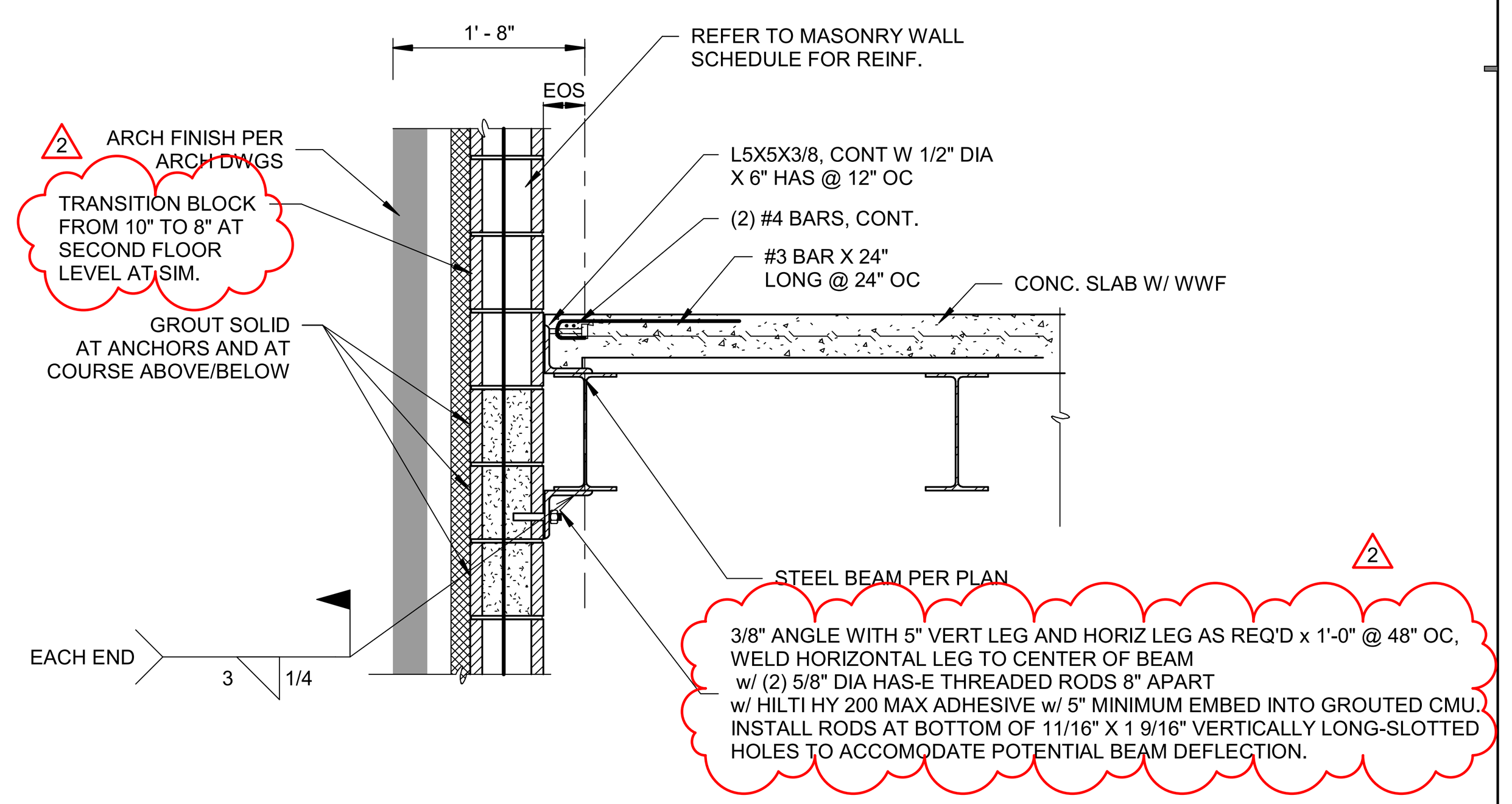
TYPICAL SLAB OVERHANG

SCALE: 3/4" = 1'-0" — 7 / S-501



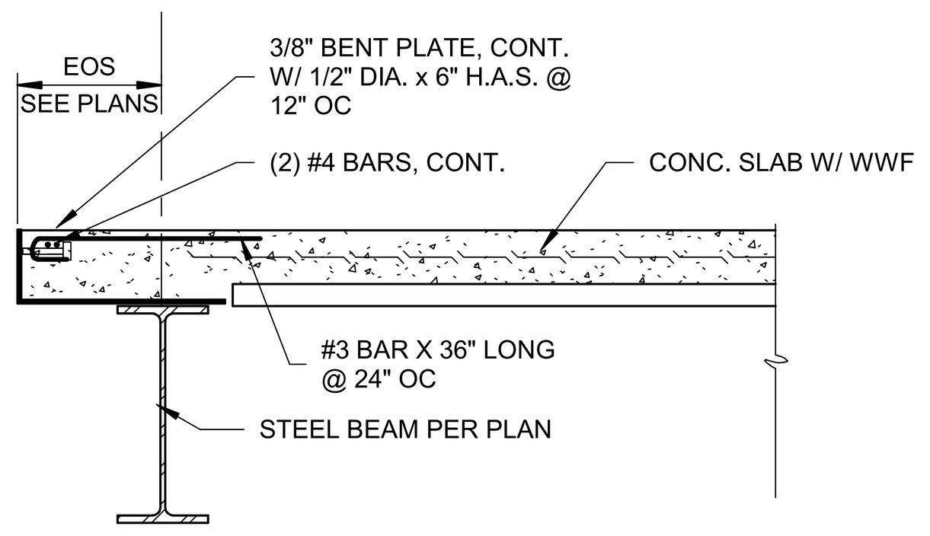
TYPICAL SLAB CONNECTION W/STUD WALL & OVERHANG

SCALE: 3/4" = 1'-0" — 2 / S-501



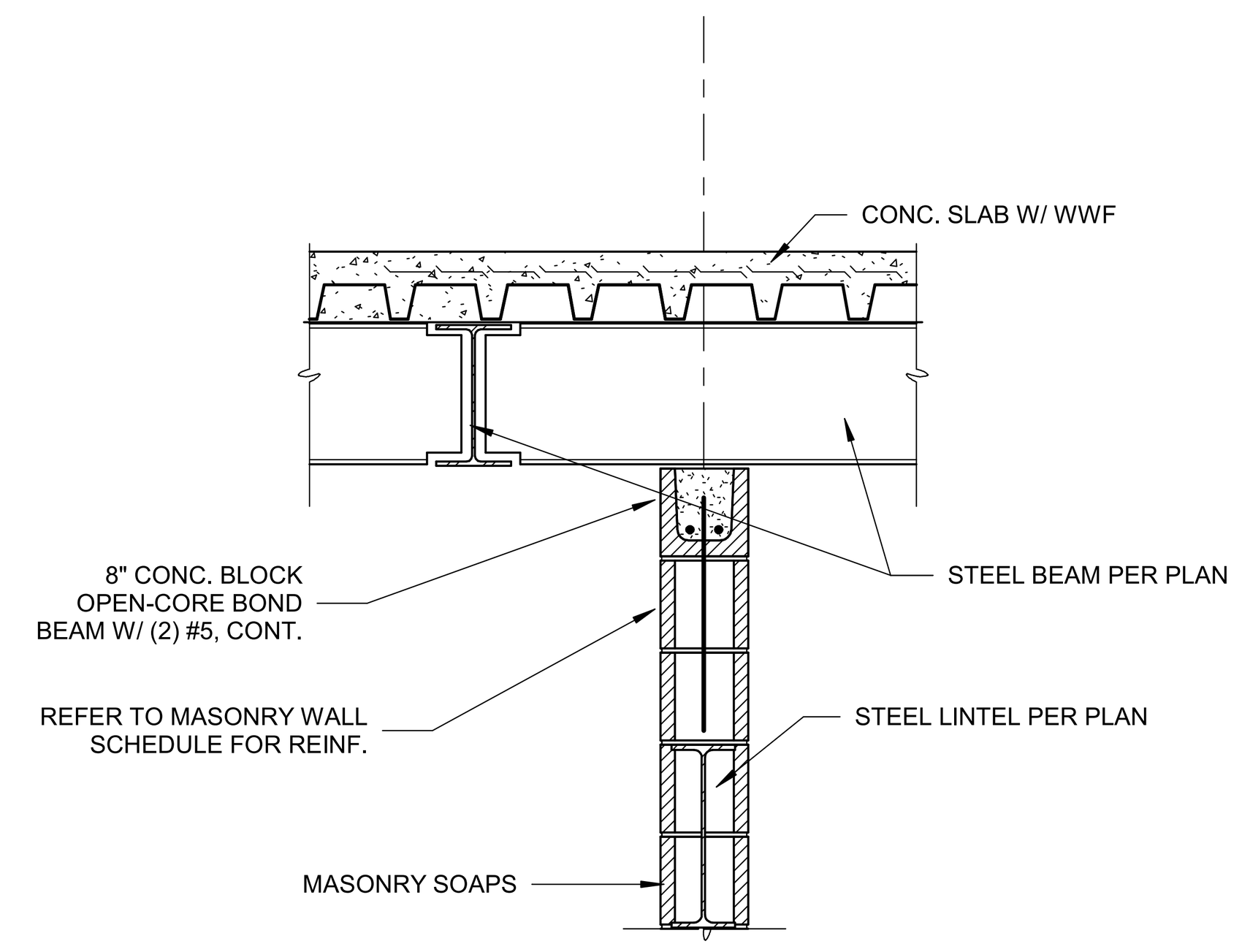
TYPICAL CMU-TO-STRUCTURE CONNECTION

SCALE: 3/4" = 1'-0" — 3 / S-501



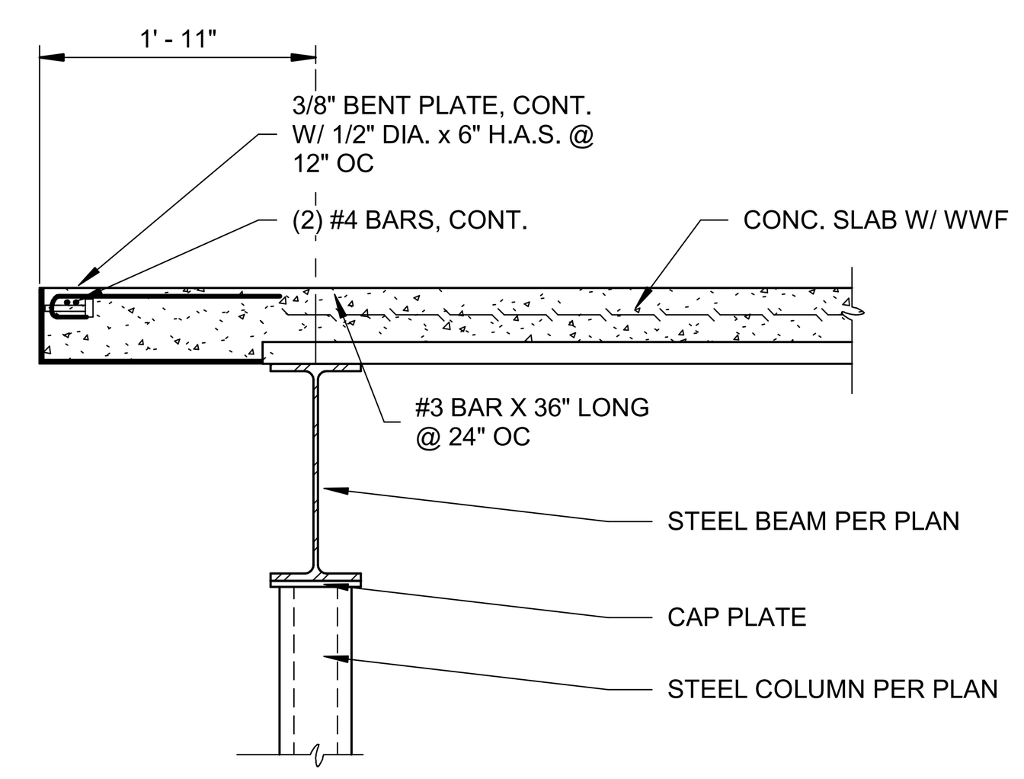
TYPICAL CMU-TO-STRUCTURE CONNECTION AT ROOF W/ BEAM INTO WALL

SCALE: 3/4" = 1'-0" — 13 / S-501



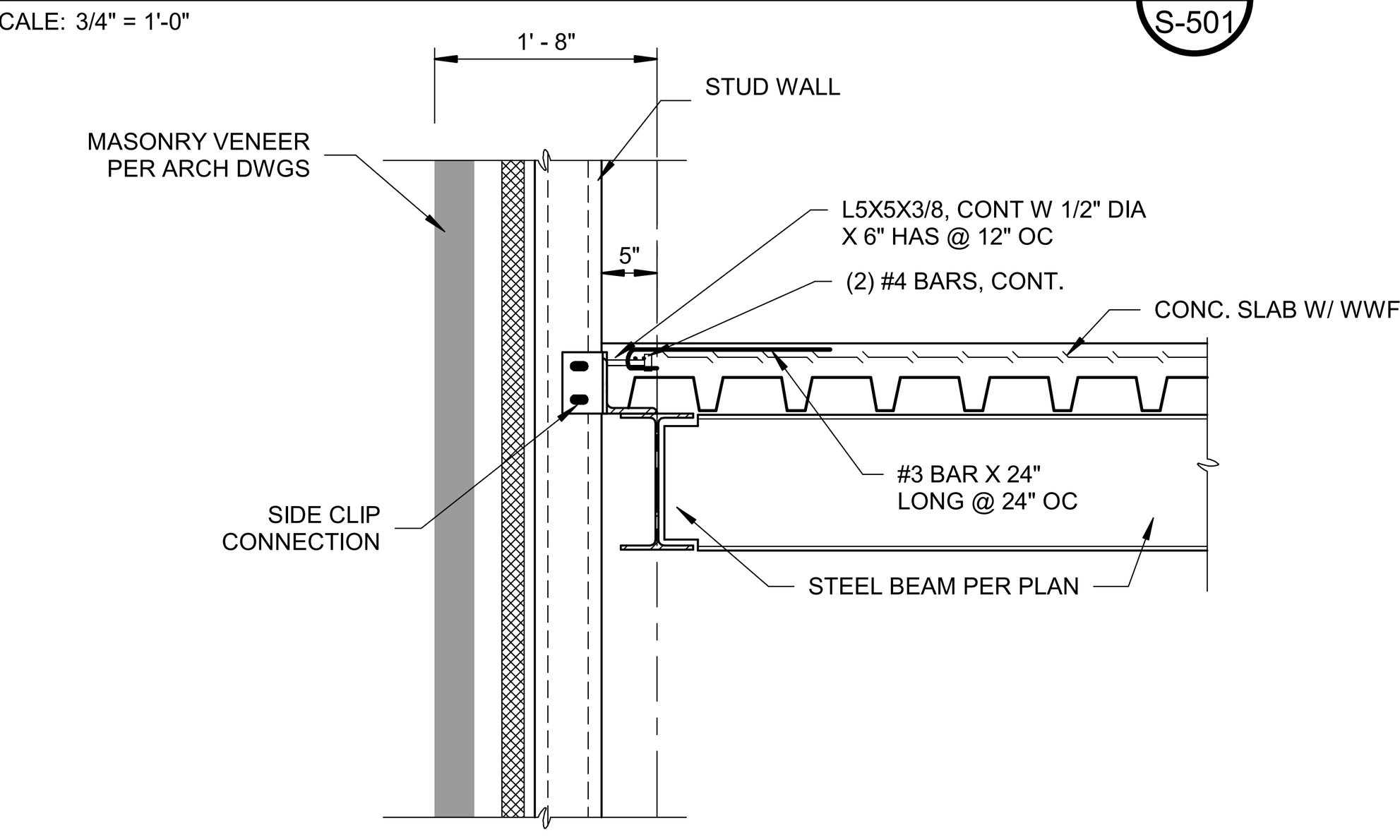
TYPICAL SLAB ON METAL DECK W/ CMU & LINTEL

SCALE: 3/4" = 1'-0" — 12 / S-501



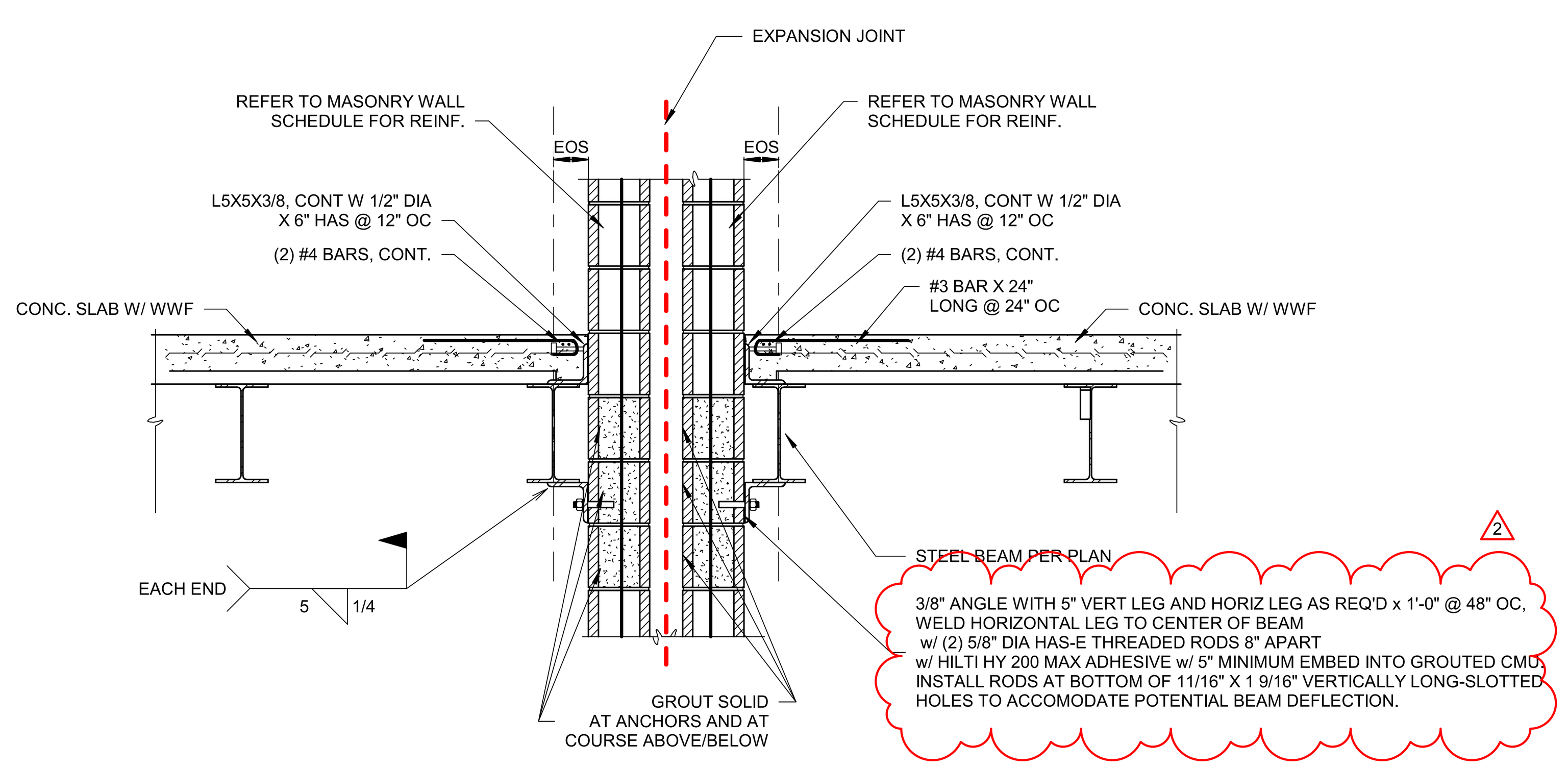
TYPICAL SLAB OVERHANG @ COLUMN TOP

SCALE: 3/4" = 1'-0" — 8 / S-501



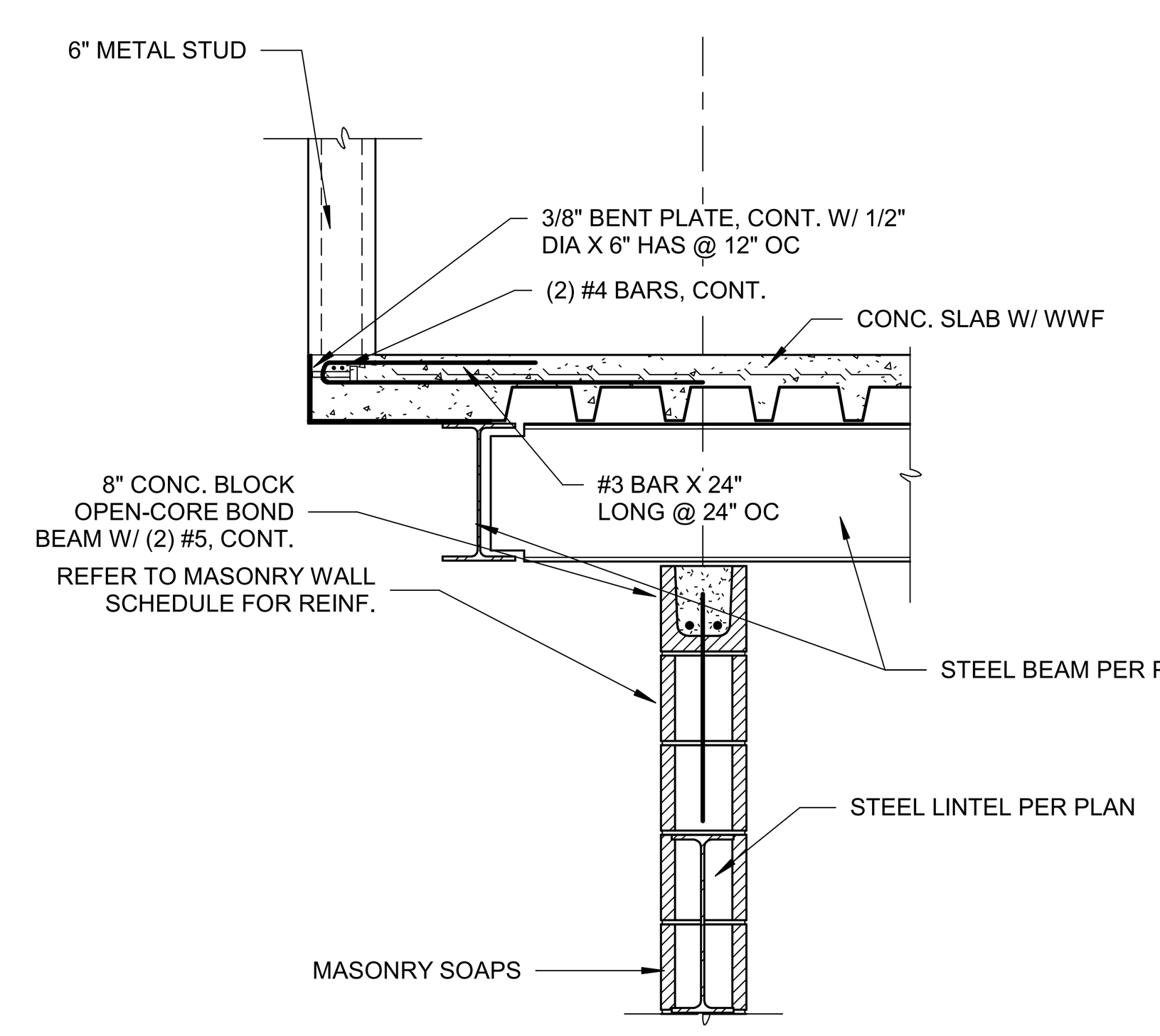
TYPICAL STUD WALL-TO-STRUCTURE CONNECTION

SCALE: 3/4" = 1'-0" — 4 / S-501



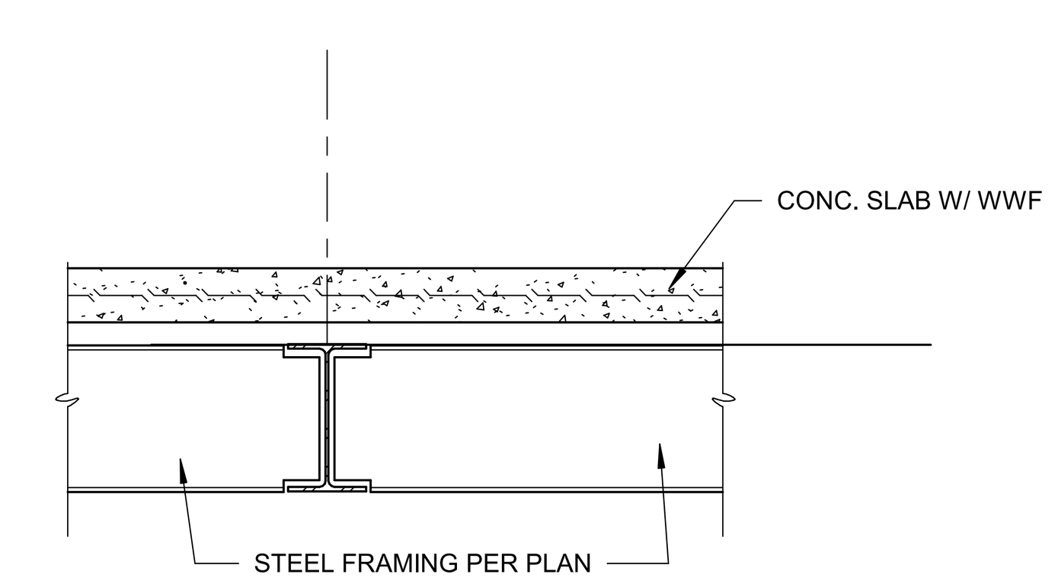
TYPICAL CMU-TO-STRUCTURE CONNECTION

SCALE: 3/4" = 1'-0" — 15 / S-501



TYPICAL SLAB OVERHANG W/ CMU PARTION

SCALE: 3/4" = 1'-0" — 9 / S-501



TYPICAL SLAB ON METAL DECK

SCALE: 3/4" = 1'-0" — 5 / S-501

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001	Addendum 1	05.26.2022
002	Addendum 2	06.06.2022

10559 E. THOMPSON RD

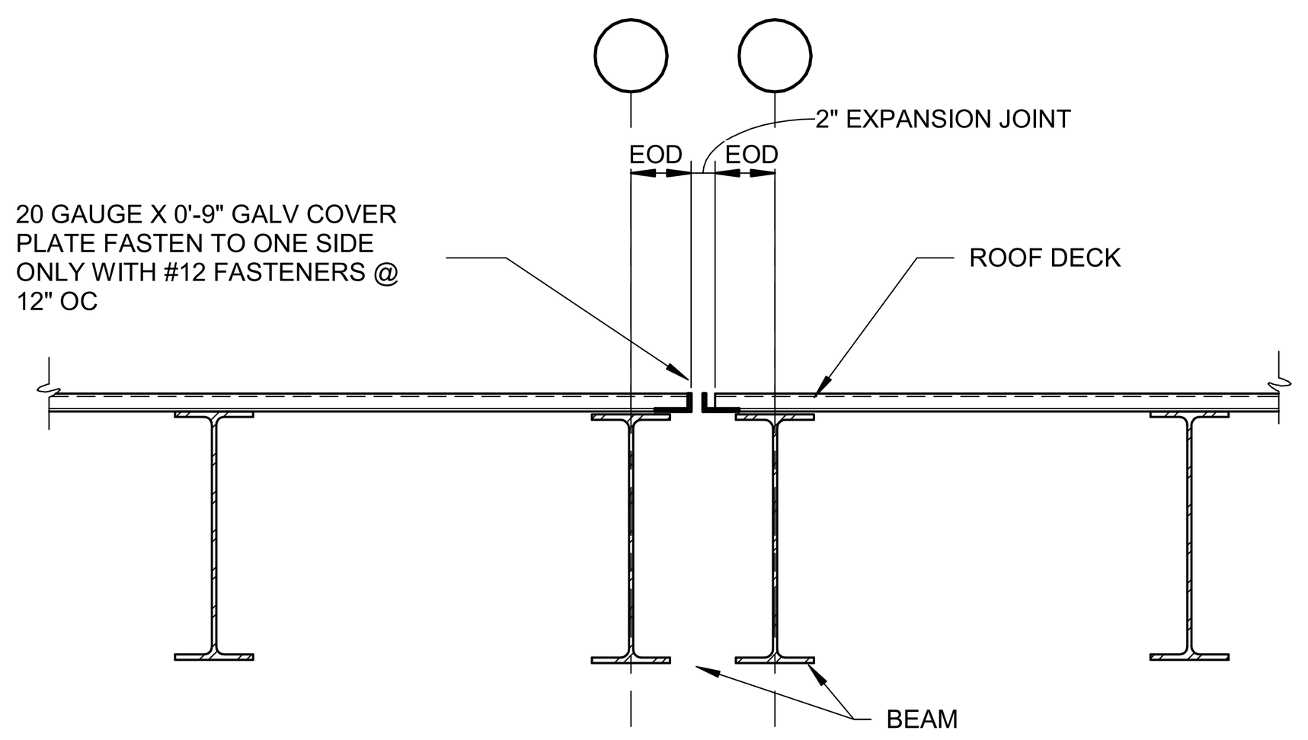
KEY PLAN

FRANKLIN TOWNSHIP CSC

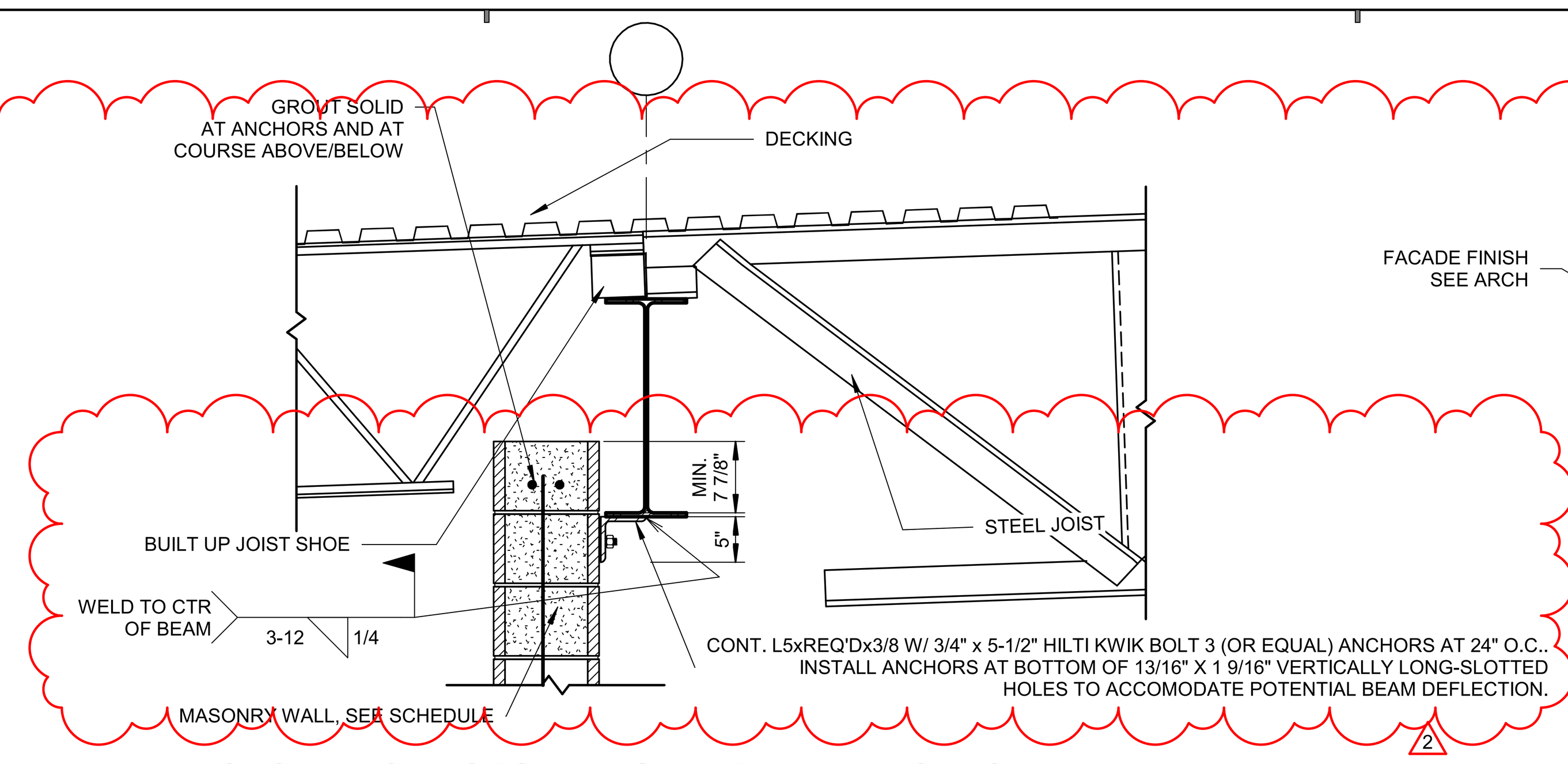
NEW ELEMENTARY SCHOOL

TYPICAL FLOOR FRAMING SECTIONS

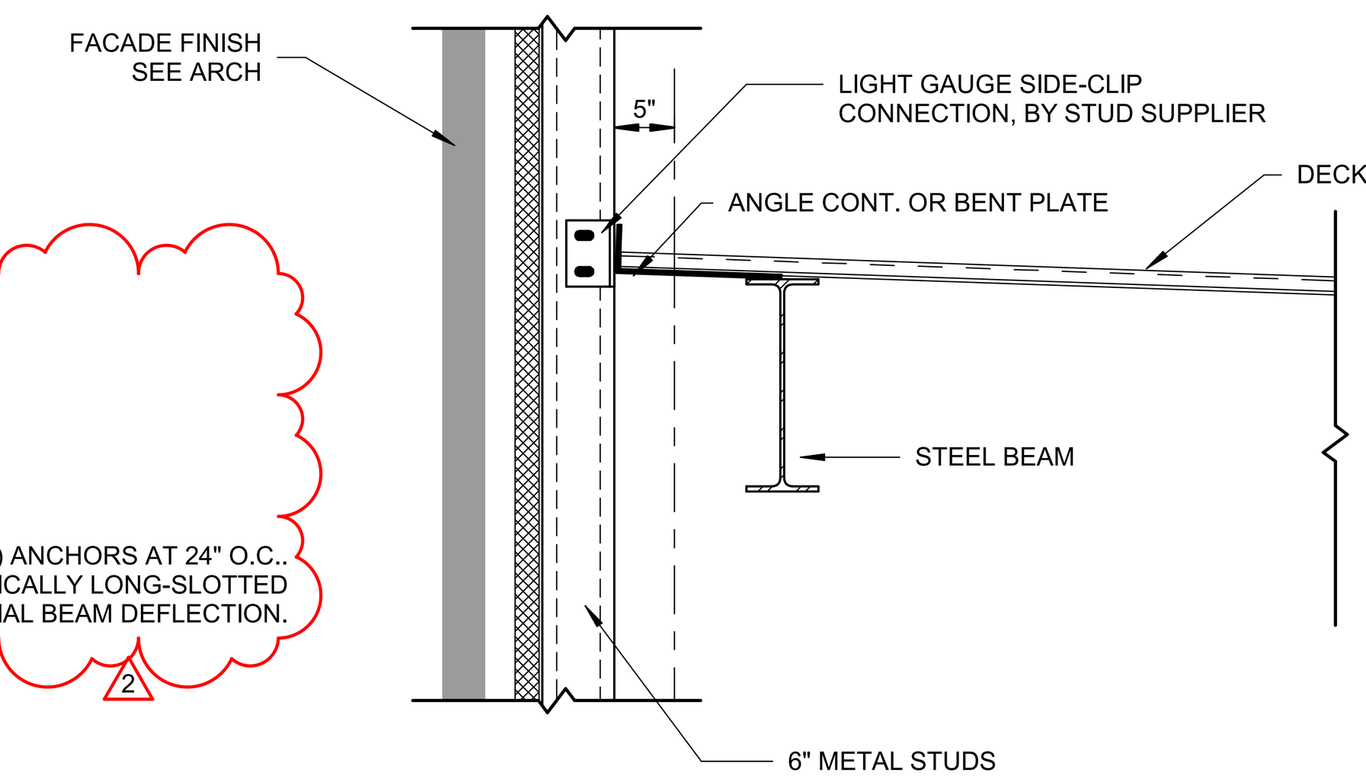
S-501



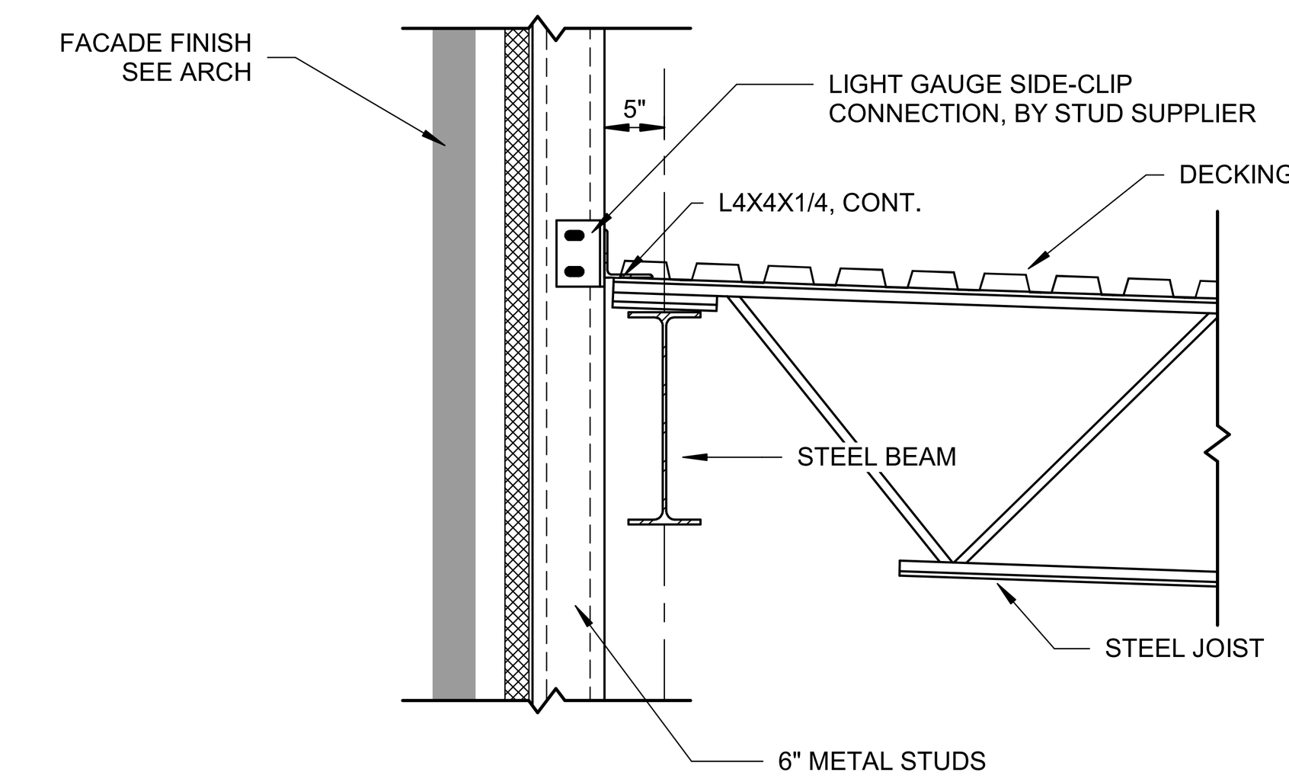
TYPICAL DECK EXPANSION JOINT
SCALE: 3/4" = 1'-0"
13 S-504



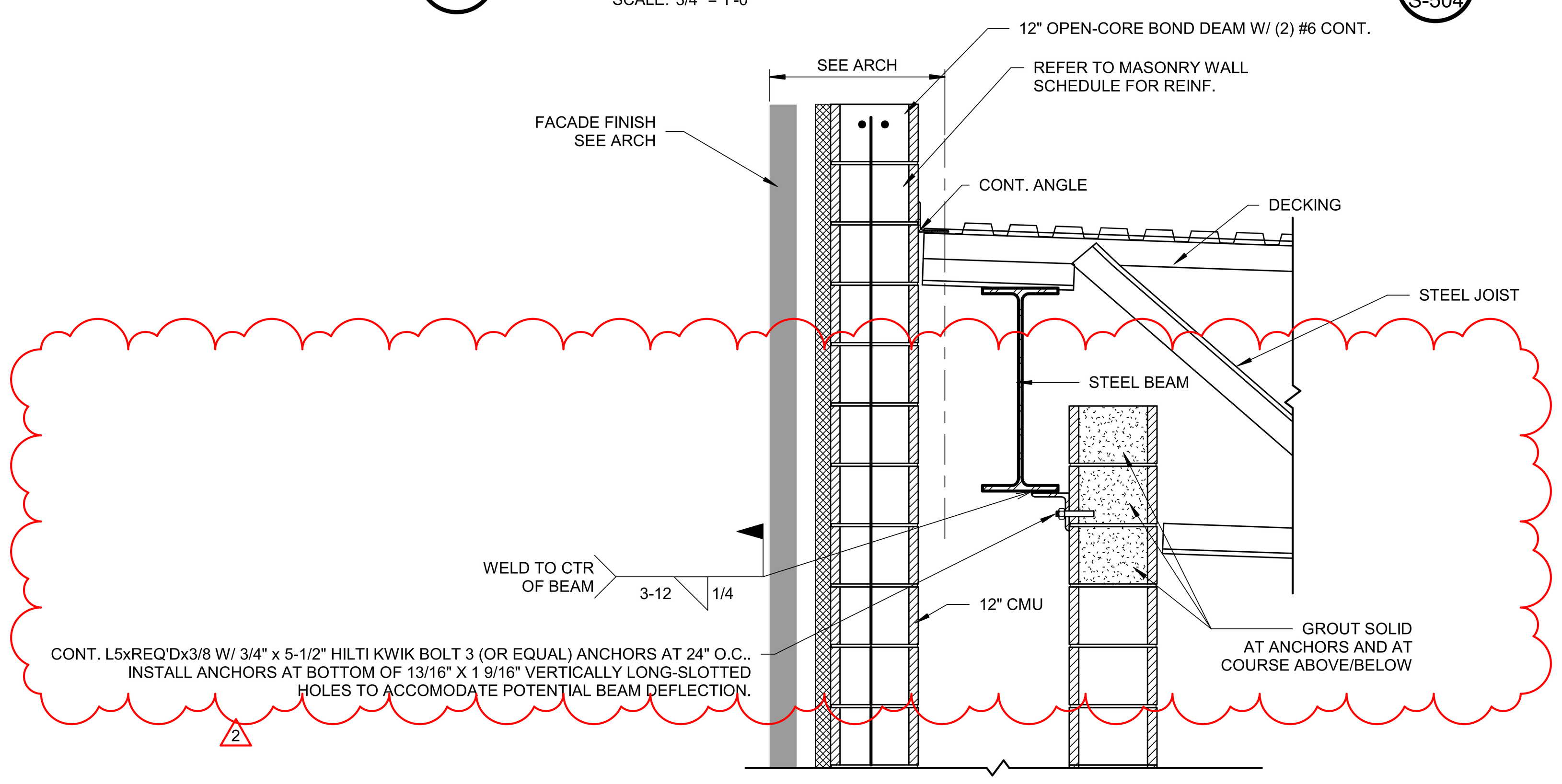
JOIST TO JOIST W/ BUILT UP SHOE ON CMU WALL OFFSET
SCALE: 3/4" = 1'-0"
12 S-504



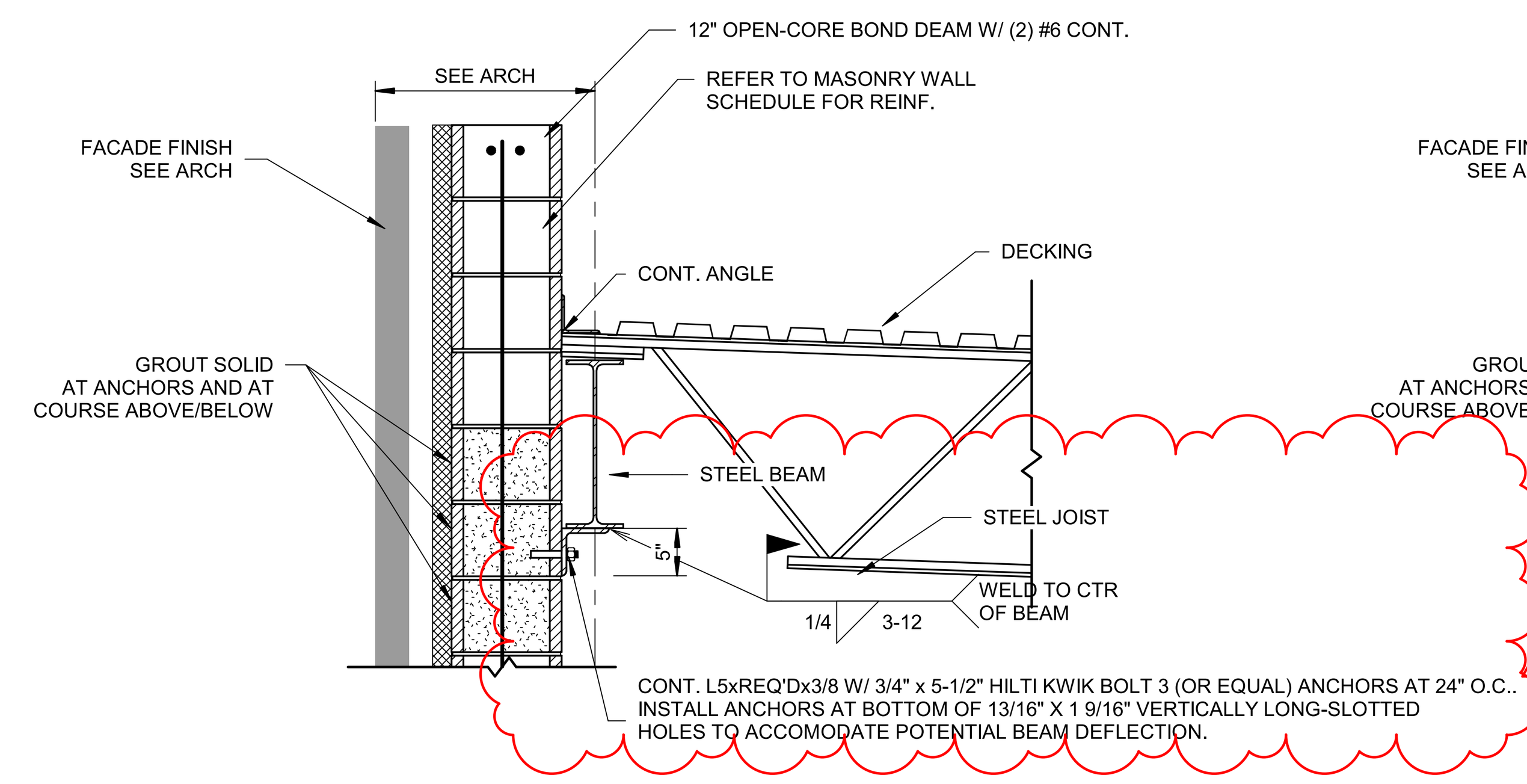
JOIST FRAMING INTO GIRDER W/ CFS AND OVERHANG
SCALE: 3/4" = 1'-0"
5 S-504



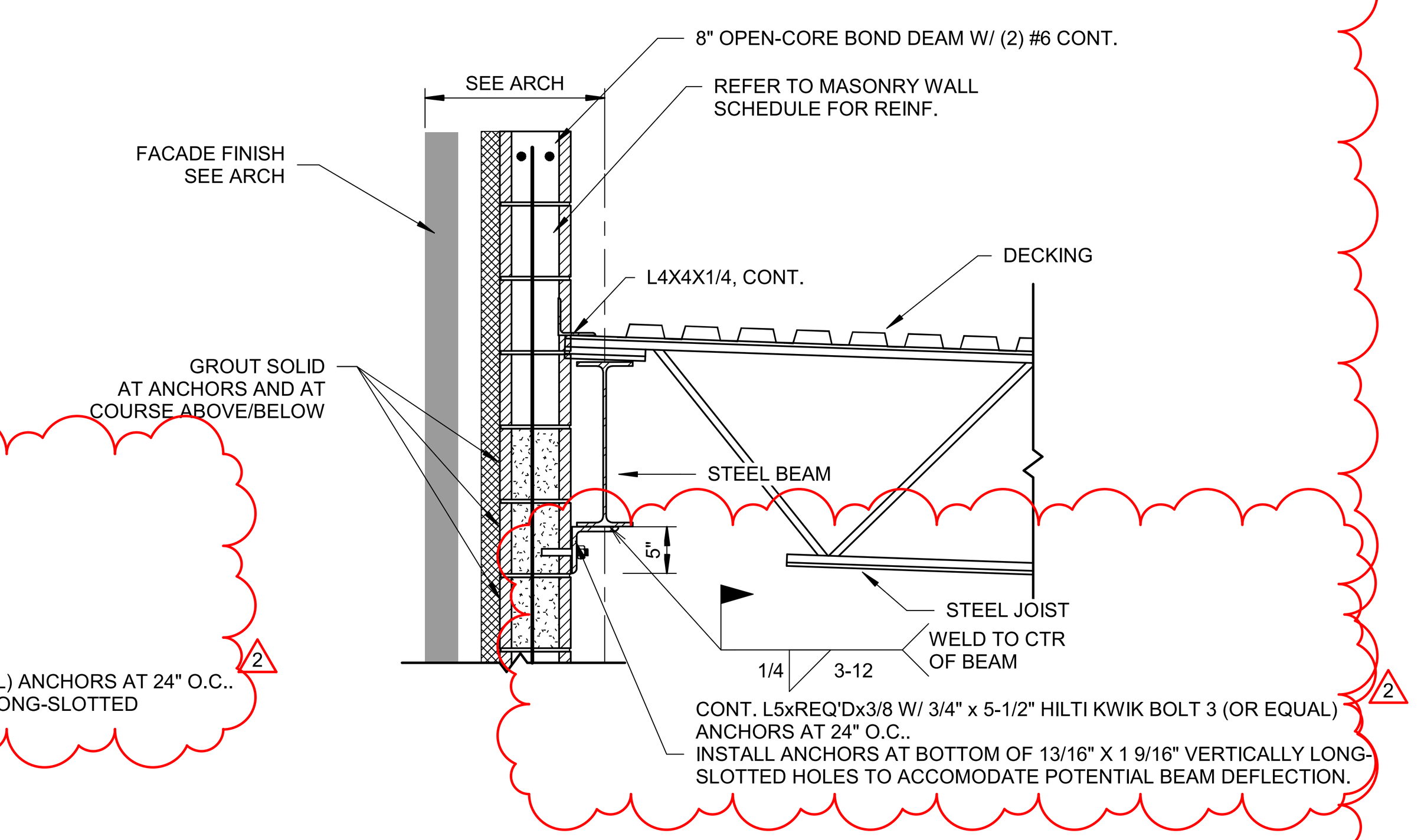
JOIST FRAMING INTO GIRDER W/ CFS
SCALE: 3/4" = 1'-0"
1 S-504



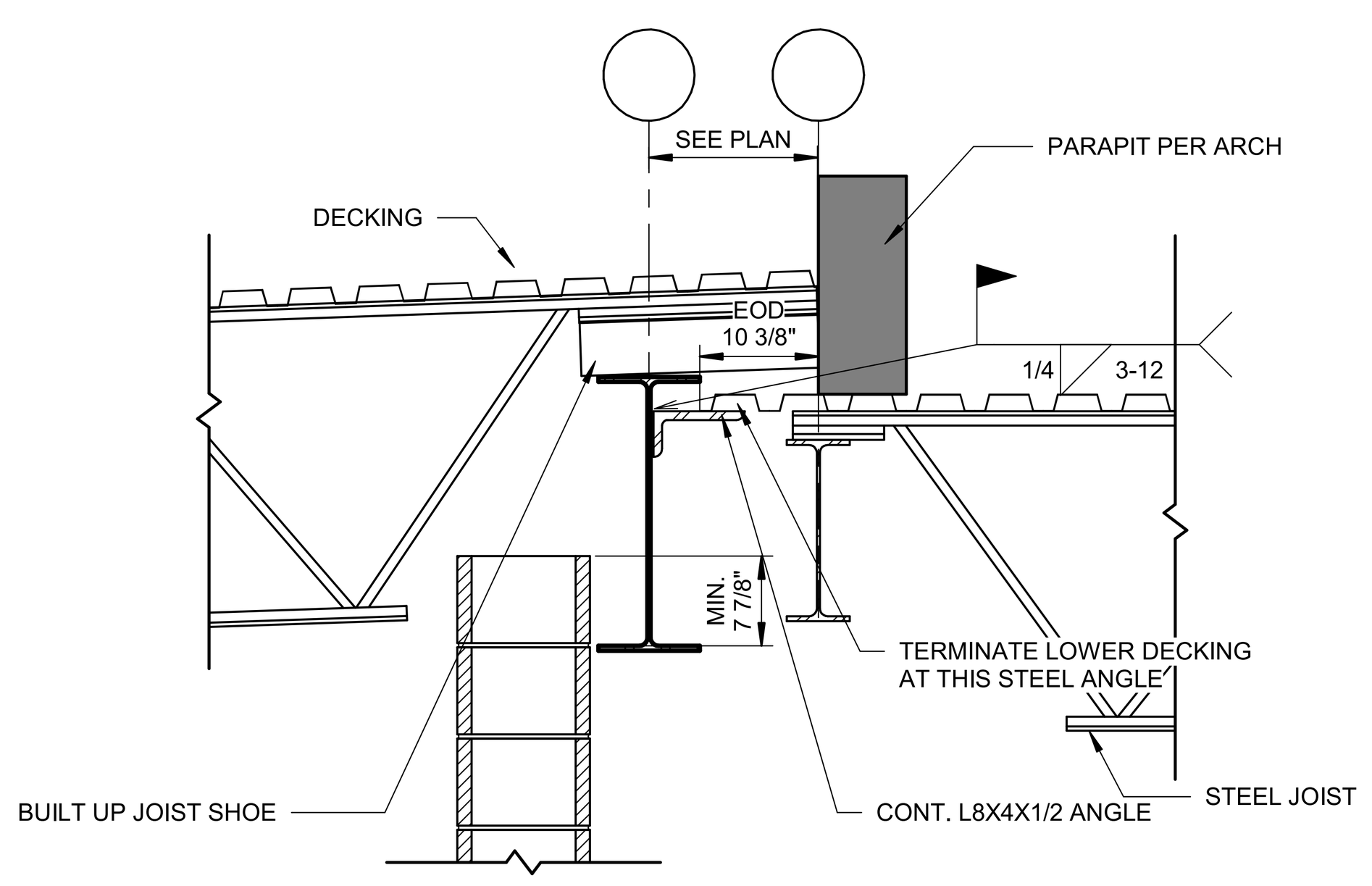
JOIST FRAMING INTO 12" CMU W/ INTERIOR CMU
SCALE: 3/4" = 1'-0"
8 S-504



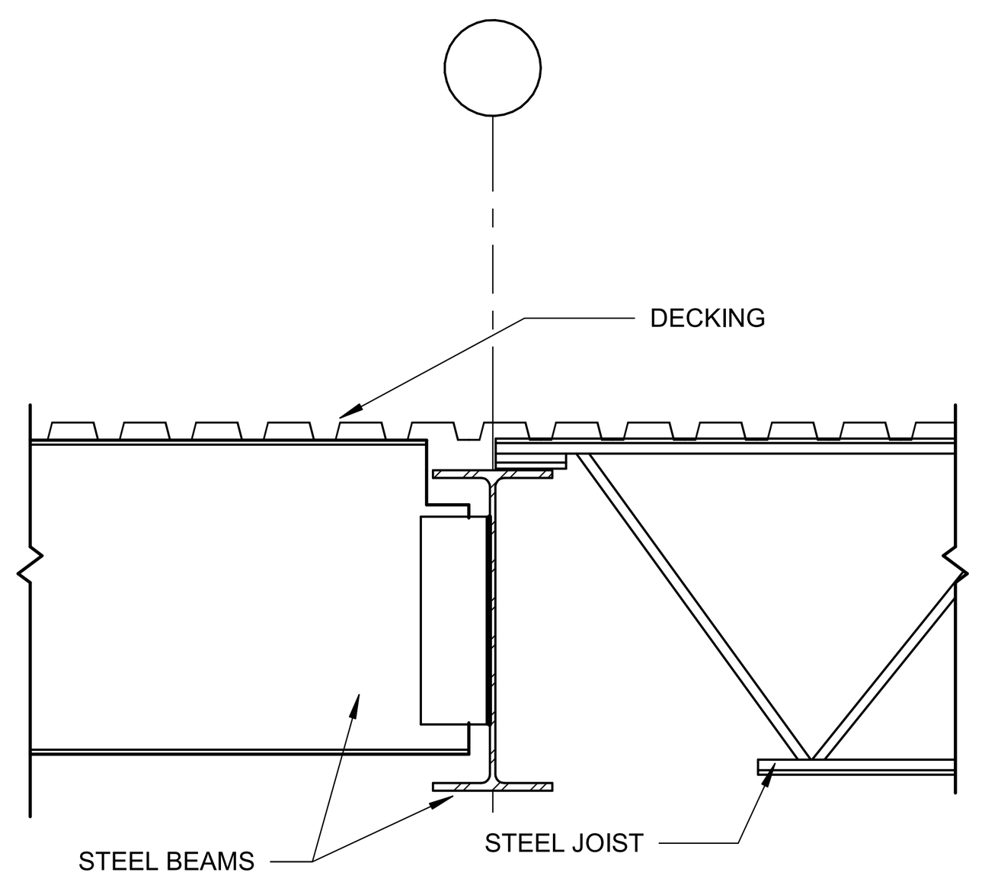
JOIST FRAMING INTO GIRDER W/ 12" CMU
SCALE: 3/4" = 1'-0"
6 S-504



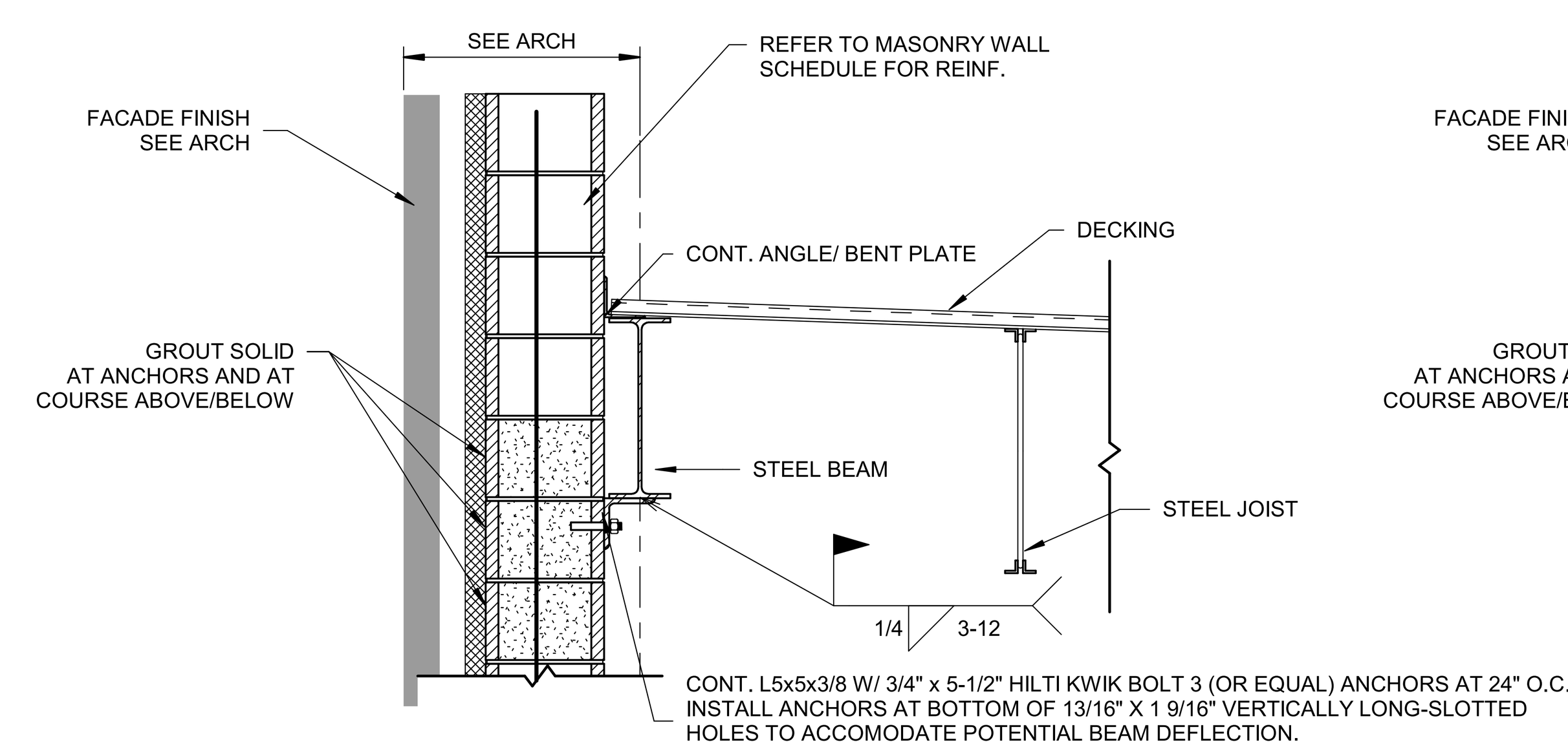
JOIST FRAMING INTO GIRDER W/8" CMU
SCALE: 3/4" = 1'-0"
2 S-504



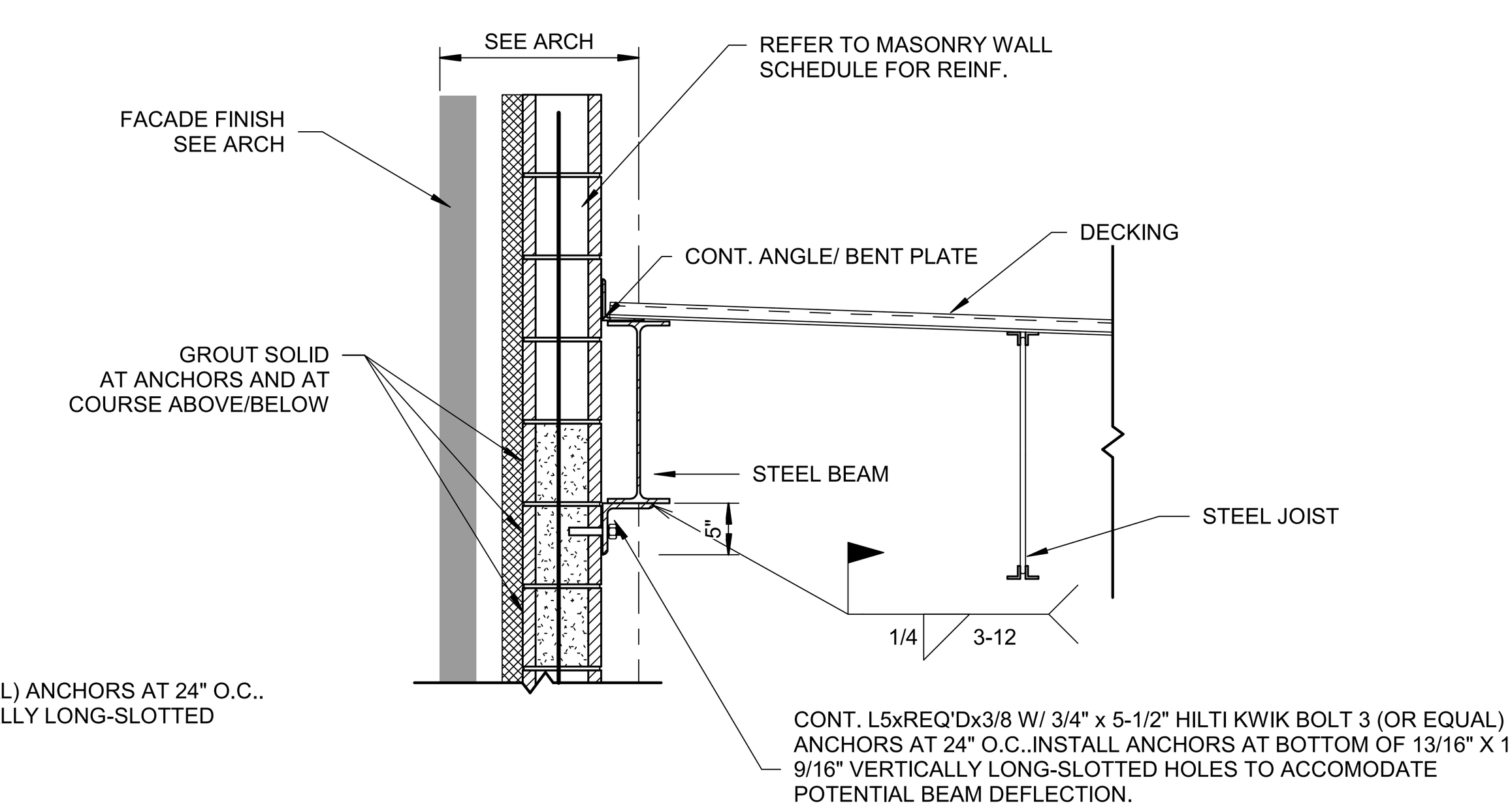
ROOF FRAMING AT PARAPET
SCALE: 3/4" = 1'-0"
14 S-504



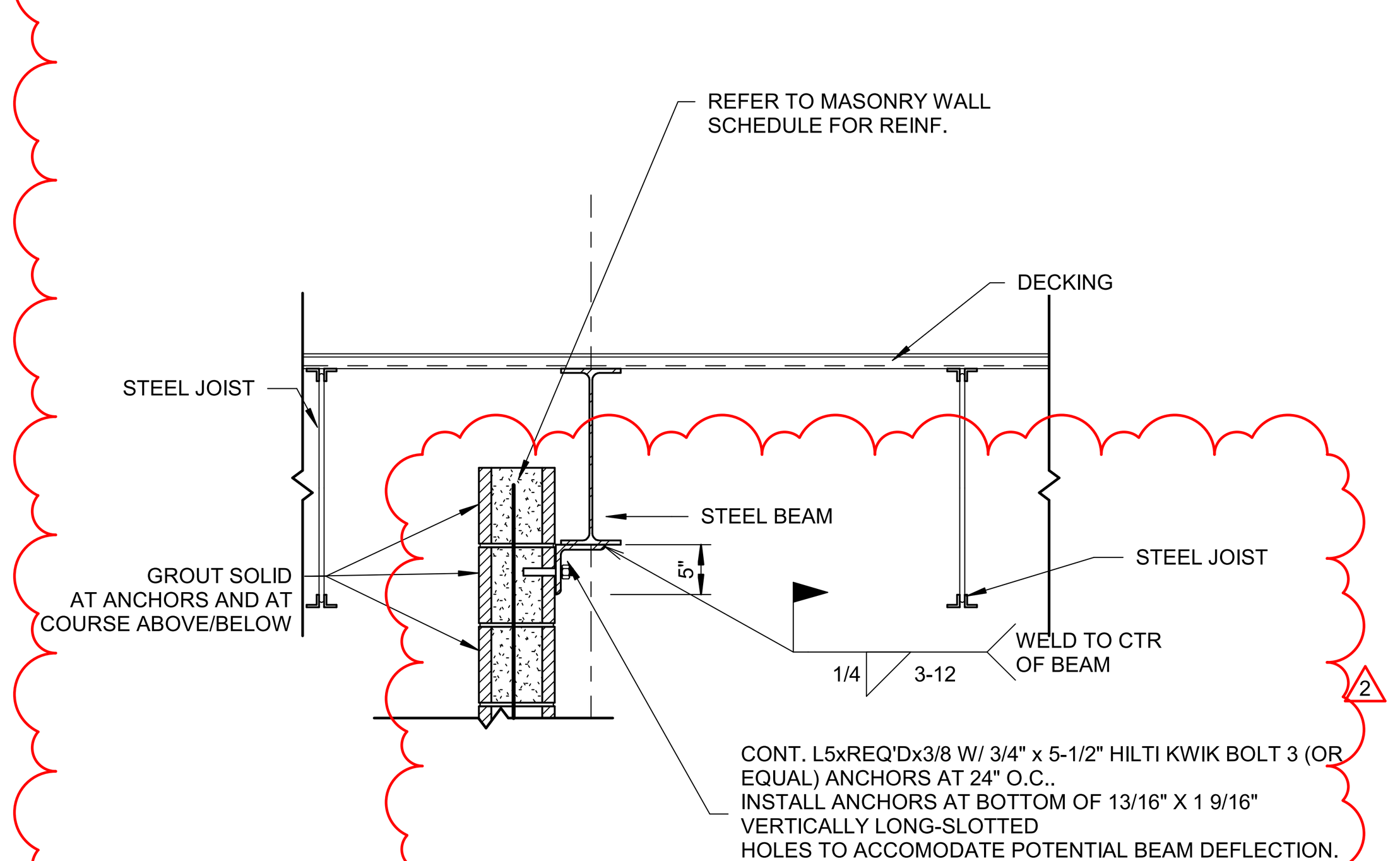
JOIST AND BEAM LOADING GIRDER
SCALE: 3/4" = 1'-0"
9 S-504



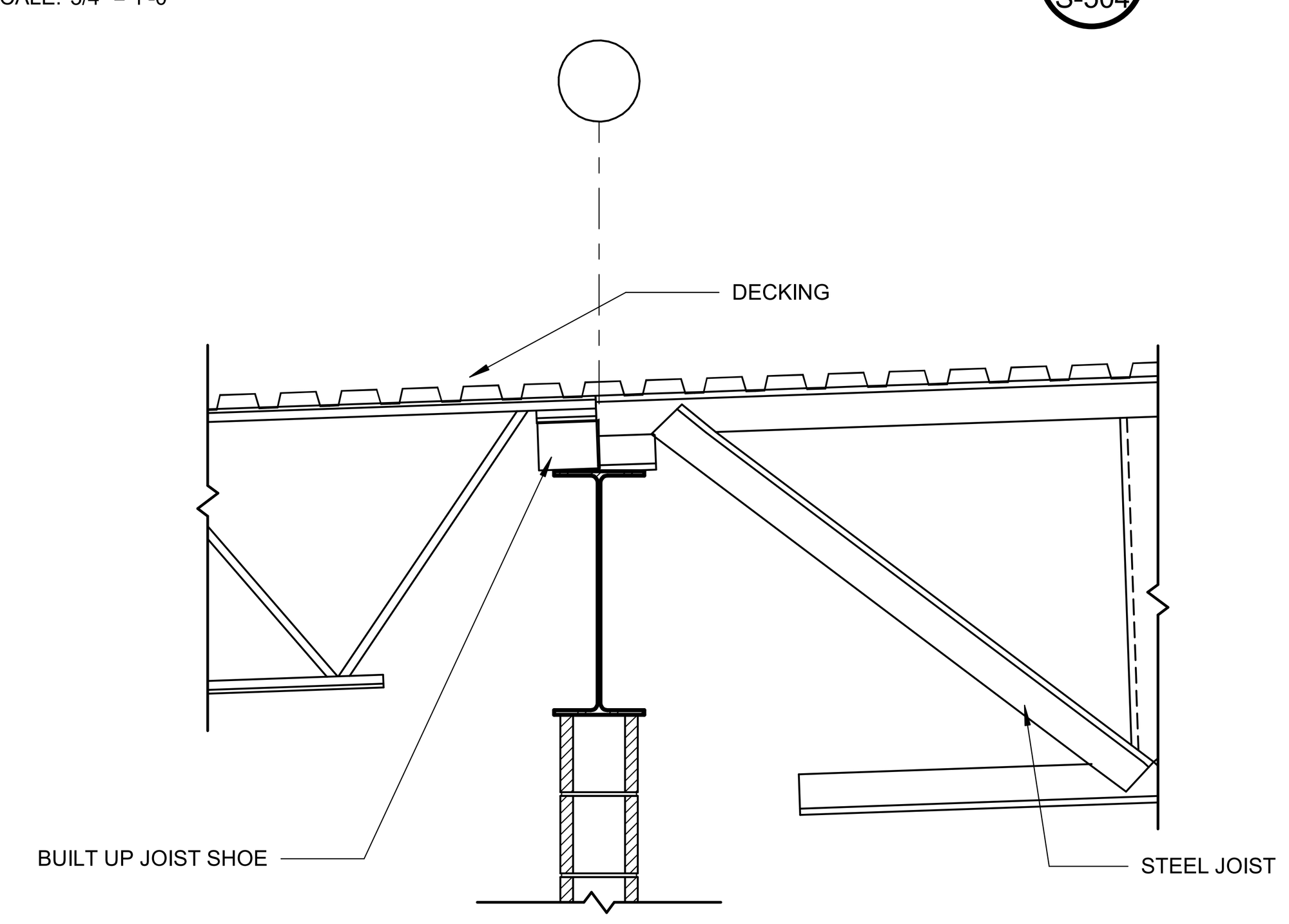
JOIST FRAMING INTO GIRDER W/ 12" CMU OPP. DECK
SCALE: 3/4" = 1'-0"
7 S-504



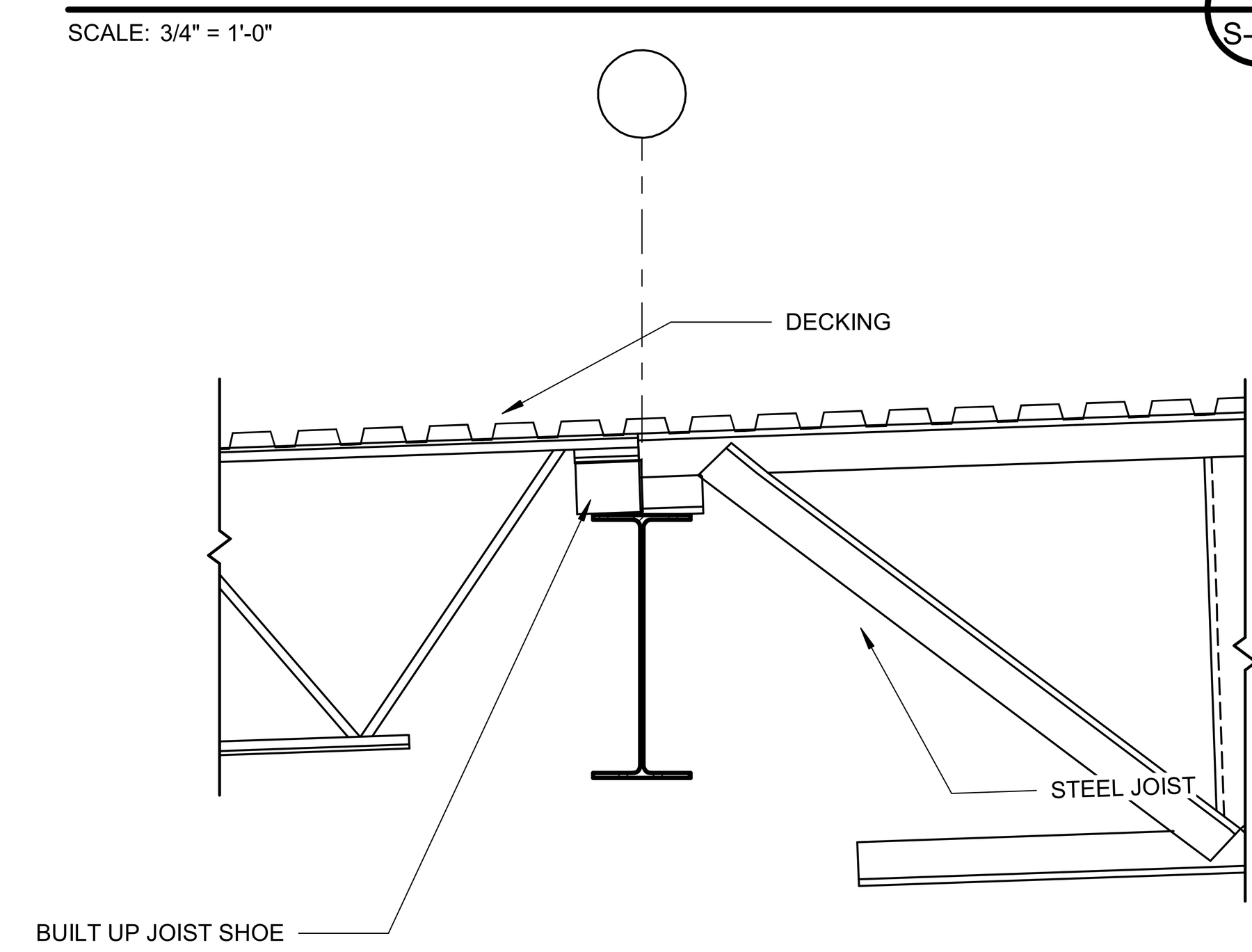
JOIST FRAMING INTO GIRDER W/8" CMU OPP. DECK
SCALE: 3/4" = 1'-0"
3 S-504



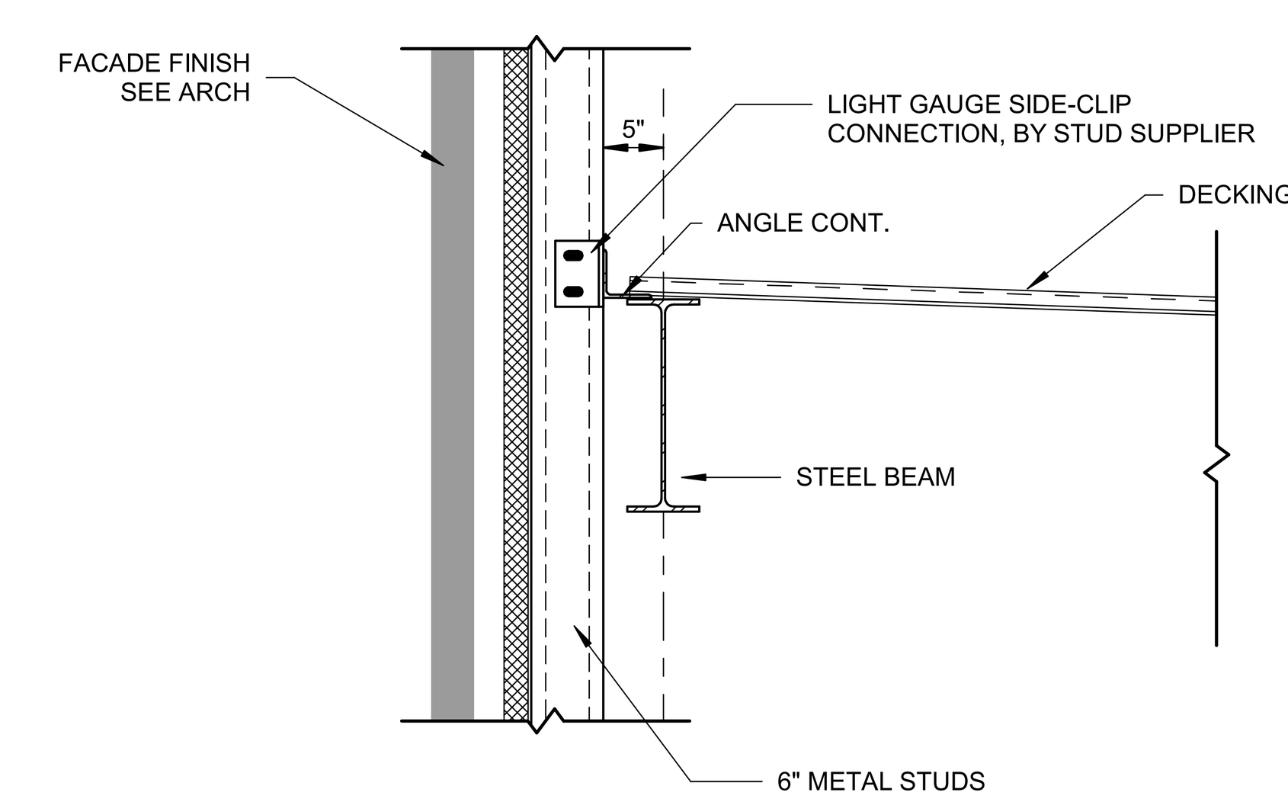
JOIST FRAMING INTO GIRDER W/8" CMU OPP. DECK
SCALE: 3/4" = 1'-0"
15 S-504



JOIST TO JOIST W/ BUILT UP SHOE ON CMU WALL
SCALE: 3/4" = 1'-0"
10 S-504



JOIST TO JOIST W/ BUILT UP SHOE
SCALE: 3/4" = 1'-0"
11 S-504



JOIST FRAMING INTO GIRDER W/ CFS OPP. DECK
SCALE: 3/4" = 1'-0"
4 S-504

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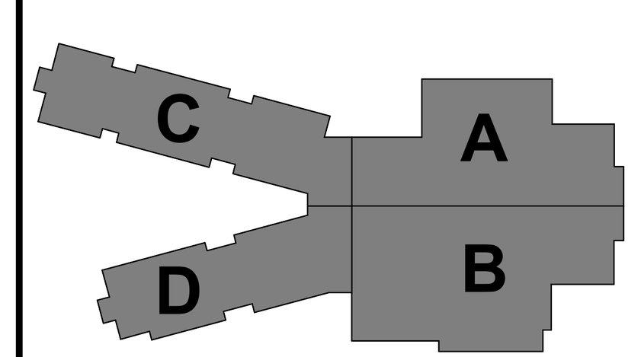
002	Addendum 2	06.06.2022

10559 E. THOMPSON RD



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

TYPICAL ROOF FRAMING SECTIONS

S-504

REINFORCING BAR LAP LENGTHS: Lt, Lc AND DEVELOPMENT LENGTHS: Ld, Ldh, Ldt, Ldc (INCHES)

	f 'c = 3000 PSI						f 'c = 4000 PSI						f 'c = 5000 PSI					
BAR SIZE	Lt	Lc	Ld	Ldh	Ldt	Ldc	Lt	Lc	Ld	Ldh	Ldt	Ldc	Lt	Lc	Ld	Ldh	Ldt	Ldc
#3	18	12	17	9	7	9	16	12	15	8	6	8	14	12	13	7	6	8
#4	29	15	22	11	9	11	25	15	19	10	8	10	23	15	17	9	7	9
#5	42	19	28	14	11	14	36	19	24	12	10	12	32	19	22	11	9	12
#6	55	23	33	17	14	17	48	23	29	15	12	15	43	23	26	13	11	14
#7	88	27	48	20	16	20	76	27	42	17	14	17	68	27	38	15	12	16
#8	107	30	55	22	18	22	93	30	48	19	16	19	83	30	43	17	14	18
#9	109	34	62	25	20	25	95	34	54	22	18	22	85	34	48	20	16	21
#10	126	39	70	28	23	28	109	39	61	25	20	25	98	39	54	22	18	23
#11	146	43	78	31	25	31	127	43	67	27	22	27	114	43	60	24	20	26

NOTES:

1. db = DIAMETER OF BAR BEING DEVELOPED
   Lt = "CLASS B" TENSION LAP SPLICE LENGTH
   Lc = COMPRESSION LAP SPLICE LENGTH
   Ld = TENSION DEVELOPMENT LENGTH OF STRAIGHT BARS
   Ldh = TENSION DEVELOPMENT LENGTH OF HOOKED BARS
   Ldt = TENSION DEVELOPMENT LENGTH OF HEADED BARS
   Ldc = COMPRESSION DEVELOPMENT LENGTH OF STRAIGHT BARS
2. TABULATED VALUES ARE CALCULATED PER THE PROVISIONS OF ACI 318
3. TABULATED VALUES ARE FOR NON-EPOXY-COATED GRADE 60 REINFORCEMENT IN NORMAL WEIGHT CONCRETE.
4. WHERE BARS OF DIFFERENT SIZES ARE LAPPED IN TENSION, THE LAP LENGTH SHALL BE THE LARGER OF Ld OF THE LARGER BAR AND Lt OF THE SMALLER BAR.
5. WHERE BARS OF DIFFERENT SIZES ARE LAPPED IN COMPRESSION, THE LAP LENGTH SHALL BE THE LARGER OF Ldc OF THE LARGER BAR AND Lc OF THE SMALLER BAR.
6. TABULATED VALUES FOR Lt ASSUME THE FOLLOWING:
   A) MINIMUM CLEAR SPACING BETWEEN REBAR IS THE GREATER OF THE BAR DIAMETER AND 1 INCH.
   B) MINIMUM CLEAR COVER IS 3/4 INCHES OR GREATER.
   C) BARS BEING SPLICED ARE NOT REQUIRED TO BE ENCLOSED WITHIN REINFOREMENT ACTING AS CONFINEMENT TIES
7. TABULATED VALUES FOR Ld ASSUME ONE OF THE FOLLOWING CONDITIONS IS PROVIDED; WHERE THESE CONDITIONS AREN'T ABLE TO BE MET, CONTACT ENGINEER OF RECORD FOR CONDITION SPECIFIC VALUES:
   A) BARS BEING DEVELOPED ARE ENLCOSED WITHIN REINFORCEMENT ACTING AS CONFINEMENT TIES, AND CLEAR SPACING OF BARS BEING DEVELOPED IS GREATER THAN OR EQUAL TO db, AND CLEAR COVER TO BAR BEING DEVELOPED IS GREATER THAN OR EQUAL TO db
   B) CLEAR SPACING OF BARS BEING DEVELOPED IS GREATER THAN OR EQUAL TO 2 TIMES db, AND CLEAR COVER TO BAR BEING DEVELOPED IS GREATER THAN OR EQUAL TO db
8. TABULATED VALUES FOR Ldt ARE ONLY VALID FOR NORMAL WEIGHT CONCRETE WITH CLEAR COVER NOT LESS THAN 2 TIMES db AND CLEAR SPACING NOT LESS THAN 4 TIMES db (CLEAR COVER AND SPACING REQUIREMENTS LISTED IN THE GENERAL NOTES APPLY TO THE HEAD/ANCHOR, CLEAR COVER AND SPACING IN THIS PROVISION ARE WITH RESPECT TO THE REINFORCING ONLY)
9. LENGTHS IN THE SCHEDULE SHALL BE MULTIPLIED BY THE FOLLOWING MODIFICATION FACTORS AS FOLLOWS:
   A) WHERE GRADE 75 REINFORCING IS USED, MULTIPLY THE TABLE VALUES AS FOLLOWS:
      i) Lt, Ld, Ldh, Ldc x1.25
      ii) Lc x1.45
      iii) Ldt NOT PERMITTED
   B) WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE BAR, ALSO REFERRED TO AS "TOP BARS" ("OTHER BARS" ARE ALL OTHER REINFORCING WHERE THIS DOES NOT APPLY)
      i) Lt, Ld x1.30
      ii) Lc, Ldh, Ldt, Ldc NO MODIFICATION
   C) WHERE EPOXY REBAR IS USED, MULTIPLY THE TABLE VALUES AS FOLLOWS:
      i) Lt, Ld (TOP BARS) x1.31
      ii) Lt, Ld (OTHER BARS) x1.50
      iii) Ldh, Ldt x1.20
      iv) Lc, Ldc NO MODIFICATION
   D) WHERE LIGHT-WEIGHT CONCRETE IS USED, MULTIPLY TABLE VALUE AS FOLLOWS:
      i) Lt, Ld, Ldh, Ldc x1.33
      ii) Lc, Ldt NOT PERMITTED
10. THIS TABLE IS NOT VALID FOR BUNDLED BARS.

COLUMN FOOTING SCHEDULE

	Ftg Dimensions			Bottom Reinforcing						
				Short Direction			Long Direction			
Mark	Width	Length	Thickness	No	Size	Length	No	Size	Length	Remarks
F4.0	4' - 0"	4' - 0"	1' - 0"	4	#5	3' - 6"	4	#5	3' - 6"	
F5.0	5' - 0"	5' - 0"	1' - 2"	5	#5	4' - 6"	5	#5	4' - 6"	
F5.5	5' - 6"	5' - 6"	1' - 2"	6	#5	5' - 0"	6	#5	5' - 0"	
F6.0	6' - 0"	6' - 0"	1' - 4"	7	#5	5' - 6"	7	#5	5' - 6"	
F7.0	7' - 0"	7' - 0"	1' - 6"	8	#6	6' - 6"	8	#6	6' - 6"	

Concrete Wall Schedule Notes:
1. Provide concrete cover to closest bar as indicated.
2. Provide wheel spacers or CRSI Typ. Bar Bend T5 at 36" each way to assure adequate concrete cover.
3. See sections for all bars not included in schedule.
4. Horizontal Bar Location: In = Horiz. bars inside of verical bars, Out = Horiz. Bars outside of vert. bars.

2

MASONRY SHEAR WALL SCHEDULE

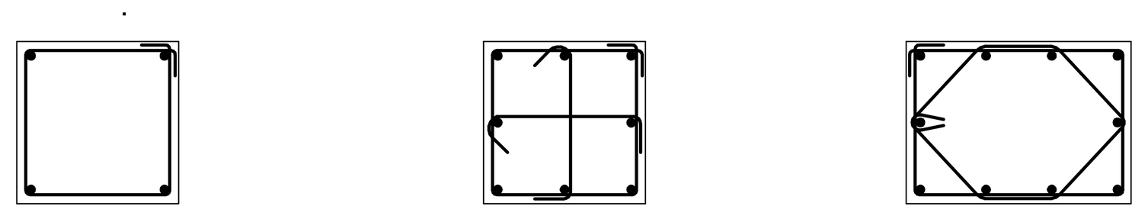
		Vertical Wall Reinforcing					Horiz Reinf		Top of Wall Bond Beam Reinforcing		
		Reinforcing			Dowel Reinforcing						
Mark	Thickness	Size	Spa	Location	Size	Spa	Size	Spa	No. of	Size	Remarks
MW8	7 5/8"	#5	2' - 8"	Center	#5	2' - 8"	Ladder	1' - 4"	2	#5	
MW10	9 5/8"	#5	2' - 8"	Center	#5	2' - 8"	Ladder	1' - 4"	2	#5	
MW12	11 5/8"	#7	2' - 8"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12A	11 5/8"	#8	1' - 4"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12B	11 5/8"	#8	8"	Center	#7	2' - 8"	Ladder	1' - 4"	2	#5	
MW12C	11 5/8"	#7	2' - 8"	Ea Face	#7	2' - 8"	Ladder	1' - 4"	2	#5	

Masonry Wall Schedule Notes
1. Provide 2" cover from outside face for bars in each face.
2. Grout all cores with rebar solid, unless solid grouted wall is shown.
3. Provide ladder type horizontal reinforcement at 16" o.c. above grade and 8" o.c. below grade and at parapets, unless noted otherwise. Side and cross rods shall be #9 wire, galvanized, see specifications. Cut joint reinforcement at control joints.
4. Provide bond beam with (2) #5 cont. at top of wall, unless noted otherwise. See schedule for additional bond beams.
5. CMU parition walls not explicitly labeled shall be reinforced with #5@48" o.c. for 6" and 8" CMU, #6@48" o.c. for 10" CMU and #7@48" o.c. for 12" CMU

PIER SCHEDULE

	Pier Size		Vert Reinf		Ties			
Mark	Width	Length	No	Size	Size	Spa	Tie Type	Remarks
P24	2' - 0"	2' - 0"	4	#8	#3	1' - 0"	TYPE A	
P28	2' - 4"	2' - 4"	8	#7	#3	1' - 0"	TYPE B	

Pier Schedule Notes:
1. Provide 2 inch concrete cover over ties.
2. Space first tie 2" from top of footing, last tie 2" from top of pier.
3. Provide (3) ties in top of pier, spacing = 2 1/2" on center.
4. Provide CRSI typical bar bend T5 for all ties.
5. Provide CRSI typical bar bend T9 additional ties for all piers with more than four vertical bars.
6. Provide 90° Hook for all ties per CRSI detailing standards.



TYPE A TYPE B TYPE C

2

MAT FOUNDATION SCHEDULE

		Bottom Reinforcing				Top Reinforcing				
		Short Direction		Long Direction		Short Direction		Long Direction		
Mark	Thickness	Size	Spa	Size	Spa	Size	Spa	Size	Spa	Remarks
MAT01	2' - 0"	#6	1' - 0"	#6	1' - 0"	#6	1' - 0"	#6	1' - 0"	

THICKENED SLAB SCHEDULE

Mark	Thickness	Width	Reinf No of	Size	Remarks
TS18	1' - 0"	1' - 6"	3	#5	See detail B/S-501

Thickened Slab Schedule Notes:
1. Thickness measured from top of slab.

WALL FOOTING SCHEDULE

	Dimensions		Bottom Reinf				
			Longitudinal Reinf		Transverse Reinf		
Mark	Width	Thickness	No	Size	Size	Spa	Remarks
WF30	2' - 6"	1' - 0"	3	#5	NA	0"	
WF36	3' - 0"	1' - 4"	4	#5	NA	0"	
WF56	4' - 8"	1' - 4"	6	#5	NA	0"	
WF72	6' - 0"	2' - 6"	6	#8	#5	1' - 6"	

Wall Footing Schedule Notes:
1. Reinforcing clearance at bottom and sides of footings = 3"

1

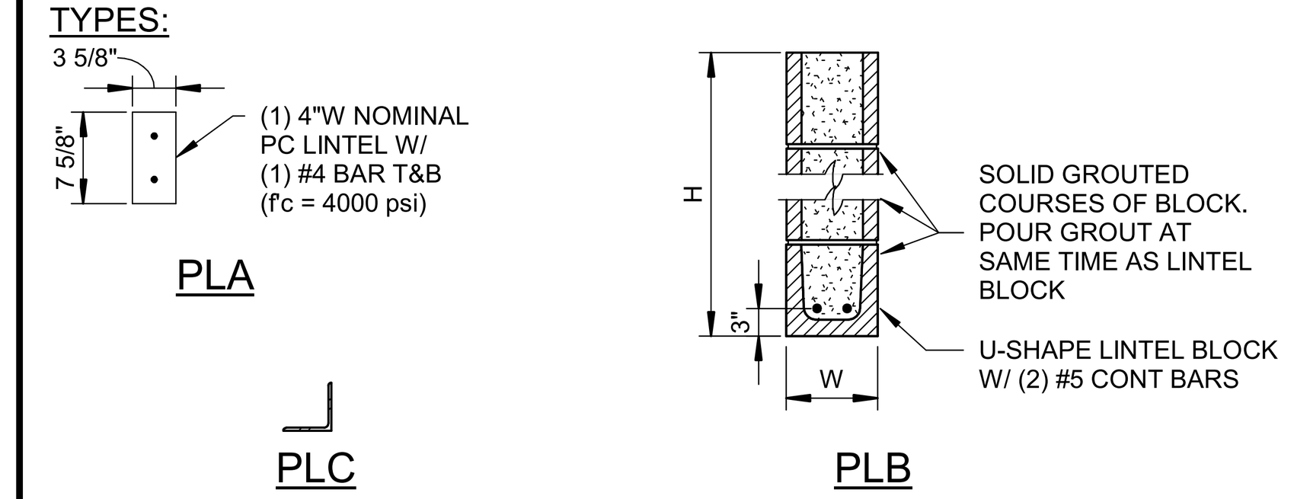
PRESCRIPTIVE LINTEL SCHEDULE

1

GENERAL NOTE: PROVIDE LINTELS IN THIS SCHEDULE FOR MASONRY OPENINGS WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED. WHERE A SPECIFIC LINTEL (L#) IS INDICATED FOR A PARTICULAR OPENING, PROVIDE THE SPECIFIC LINTEL (L#). FOR OPENINGS BEYOND THE LIMITS AND/OR MATERIALS IDENTIFIED IN THIS SCHEDULE WHERE SPECIFIC LINTELS (L#) ARE NOT OTHERWISE INDICATED, CONTACT THE STRUCTURAL ENGINEER FOR REQUIRED LINTEL SIZE AND TYPE.

SECTION	CLEAR OPENING	TYPE	NOTES
W x 8 H (NOMINAL) CMU	UP TO 3'-4"	PLB	6", 8", 10", 12" CMU
W x 16 H (NOMINAL) CMU	>3'-4" UP TO 6'-4"	PLB	6", 8", 10", 12" CMU
W x 24 H (NOMINAL) CMU	>6'-4" UP TO 10'-4"	PLB	6", 8", 10", 12" CMU
L3 1/2 x 3 1/2 x 5/16	UP TO 4'-0"	PLC	4" MASONRY VENEER
L5 x 3 1/2 x 5/16 (LLV)	>4'-0" UP TO 6'-0"	PLC	4" MASONRY VENEER
L6 x 3 1/2 x 3/8 (LLV)	>6'-0" UP TO 8'-0"	PLC	4" MASONRY VENEER

TYPES:



PRESCRIPTIVE LINTEL SCHEDULE NOTES:

1. ALL LINTELS BEAR 0'-8" ONTO SUPPORTING WALLS, UNO.
2. ALL STEEL LINTELS IN EXTERIOR WALLS SHALL BE GALVANIZED.

COLUMN BASE PLATE SCHEDULE

MARK	PLATE SIZE	ANCHOR RODS		DIMENSIONS		BASE PLATE TYPE	COLUMNS
	B" X N" X T"	QTY	DIA	E	EQ		
BP0	16" X 16" X 1.25"	4	1"	2"	6"		HSS6x6 COLUMNS
BP1	18" X 18" X 1.5"	4	1.25"	2"	7"		HSS8x8 COLUMNS
BP2	24" X 24" X 2"	4	1.75"	3"	9"		HSS12x12 COLUMNS AND (4) HSS6X1.88

NOTES:

1. REFER TO S-402 FOR TYPICAL BASE PLATE FOUNDATION DETAIL

ANCHOR ROD TABLE

ANCHOR ROD DIA	BASEPLATE HOLE DIA	MINIMUM WASHER SIZE	MINIMUM WASHER THICKNESS	MINIMUM PROJ ABOVE T/CONC	NON-SHRINK GROUT BED THK	MIN EDGE DISTANCE, E	REMARKS
3/4"	1 5/16"	2"	1/4"	8"	2"	1 1/2"	
1"	1 13/16"	3"	3/8"	8"	2"	2"	
1 1/4"	2 1/16"	3"	1/2"	10"	3"	2"	
1 1/2"	2 5/16"	3 1/2"	1/2"	10"	3"	2 1/2"	
1 3/4"	2 3/4"	4"	5/8"	10"	3"	3"	

NOTES:

1. ANCHOR RODS ARE ASTM F1554 GR. 36 UNO.
2. PROVIDE WELDED PLATE WASHERS IN ACCORDANCE WITH TYPICAL DETAIL AT ALL STEEL BRACED FRAMES AND MOMENT FRAMES, UNO.
3. REFER TO S-402 FOR ANCHOR ROD EMBEDMENT DEPTH.

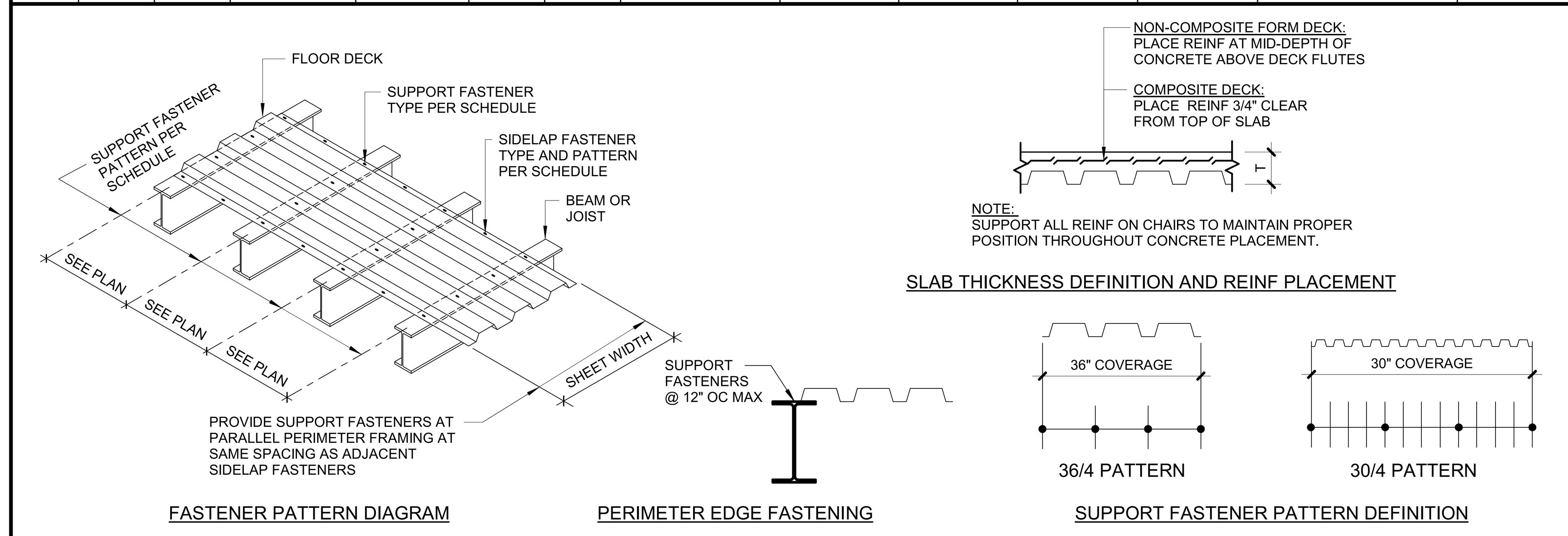
2

SLAB ON GRADE SCHEDULE

Mark	Thickness	Reinforcing	Control Jt Depth	Reinf Clearance	Control Jt Spa	Vapor Retarder	Sub-Base Depth	Remarks
SOG04P	4"	6x6-W1.4xW1.4 WWF	1"	1 1/2"	12' - 0"	Plastic	6"	

SLAB ON METAL DECK SCHEDULE

MARK	DECK HEIGHT	GAUGE	YIELD STRENGTH Fy	TYPE	FINISH	SLAB T	SLAB REINFORCING	SUPPORT FASTENER TYPE	SUPPORT FASTENER PATTERN	SIDELAP FASTENER TYPE	SIDELAP FASTENER PATTERN	BASIS OF DESIGN DECK (NOTE 6)	NOTES
SOMD5	2"	18 GA	50 KSI	COMPOSITE	GALV & PAINTED	5"	6x6-W1.4xW1.4 WWR	5/8" PUDDLE WELD	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 2VLI-36	
SOMD4	1"	22 GA	50 KSI	NON-COMP	GALV & PAINTED	4"	6x6-W1.4xW1.4 WWR	#10 TEK SCREW	36/4	SEE NOTE 5	SEE NOTE 5	VULCRAFT 1.0C-36	AT PLATFORM

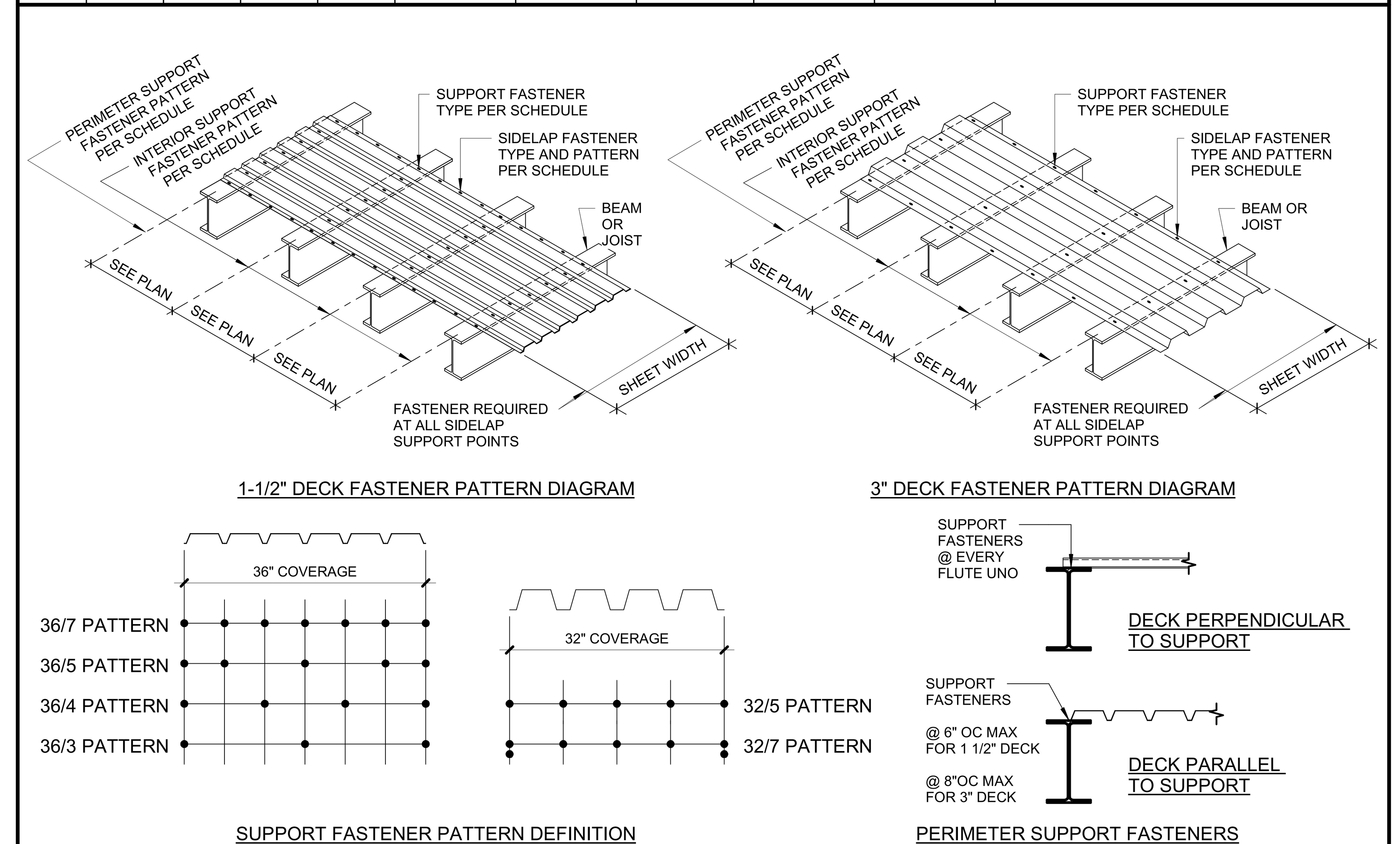


NOTES:

1. CONCRETE TO BE NORMAL WEIGHT, UNO.
2. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
3. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
4. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
5. FOR DECK SPANS 5'-0" OR LESS, PROVIDE ONE SIDELAP FASTENER AT MID-SPAN OF EACH JOIST OR BEAM SPACE. FOR DECK SPANS EXCEEDING 5'-0", PROVIDE SIDELAP FASTENERS AT 3'-0" OC, MAX. USE DECK MANUFACTURER'S RECOMMENDED PUNCHED SIDELAPS FOR COMPOSITE DECK AND NON-NESTING FORM DECK,UNO. USE #10 TEK SCREWS AT DECK WITH NESTED SIDELAPS, UNO.
6. PROVIDE DECK WITH ALL PROPERTIES MEETING OR EXCEEDING THE INDICATED BASIS OF DESIGN DECK.

ROOF DECK SCHEDULE

MARK	HEIGHT	GAUGE	TYPE	FINISH	SUPPORT FASTENER TYPE	PERIMETER SUPPORT FASTENER PATTERN	INTERIOR SUPPORT FASTENER PATTERN	SIDELAP FASTENER TYPE	SIDELAP FASTENER PATTERN	NOTES
RD01	1.5"	20 GA	TYPE B	GALV AND PAINTED	3/4" DIA PUDDLE WELDS	SEE BELOW	36/4	#10 TEK SCREWS	18" O.C. MAX	1.5B-36 VULCRAFT 20 GAUGE, AT LOW ROOFS < 25'-0"
RD02	1.5"	20 GA	TYPE B	GALV AND PAINTED	3/4" DIA PUDDLE WELDS	SEE BELOW	36/5	#10 TEK SCREWS	12" O.C. MAX	1.5B-36 VULCRAFT 20 GAUGE, AT HIGH ROOFS > 25'-0"



NOTES:

1. FASTEN THROUGH MULTIPLE SHEETS AT ALL END AND SIDE LAPS.
2. END LAPS SHALL OCCUR ONLY AT SUPPORT POINTS.
3. DECK SHALL BE INSTALLED IN A MINIMUM THREE SPAN CONDITION WHEREVER POSSIBLE. WHERE THREE SPAN CONDITION IS NOT POSSIBLE, NOTIFY STRUCTURAL ENGINEER PRIOR TO FABRICATION OF DECK SO THAT EVALUATION OF THE LESSER SPAN CONDITION(S) CAN BE PERFORMED.
4. PROVIDE 36/7 FASTENER PATTERN AT ALL BRACED FRAMES AND MOMENT FRAMES.

2

CONCRETE MIX SCHEDULE

CONCRETE USAGE	28-DAY COMPRESSIVE STRENGTH (PSI)	MAX CEMENT REPLACEMENT (NOTE 3)	MAXIMUM W/CM RATIO	AIR CONTENT (PERCENT)	MAXIMUM AGGREGATE SIZE (INCHES)	NOTES
FOOTINGS	4,000	20%	0.55	0-3	1.5	
GRADE BEAMS, PIERS, FOUNDATION WALLS	4,000	20%	0.50	0-3	1	
EXTERIOR RETG WALLS, STOOPS AND PADS	4,000	20%	0.45	6 +/- 1	1	
SLABS ON GRADE (6 INCHES OR LESS)	4,000	20%	0.48	0-3	1	
SLABS ON METAL DECK	4,000	20%	0.48	0-3	1	

NOTES:

1. SEE GENERAL NOTES AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. ALL CONCRETE IS NORMAL WEIGHT AND CEMENT IS ASTM C150 TYPE 1, UNO. DO NOT USE LIGHTWEIGHT CONCRETE UNLESS SPECIFICALLY INDICATED.
3. ACCEPTABLE CEMENT REPLACEMENT MATERIAL, WHERE PERMITTED, SHALL BE FLY ASH, ASTM C618 TYPE C OR F, UNO.
4. TARGET SLUMP SHALL BE DETERMINED BY THE CONTRACTOR AS NEEDED FOR PROPER PLACEMENT.

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Project No. 2021-141.NES
Project Date 05.11.2022
Produced JLL NRT

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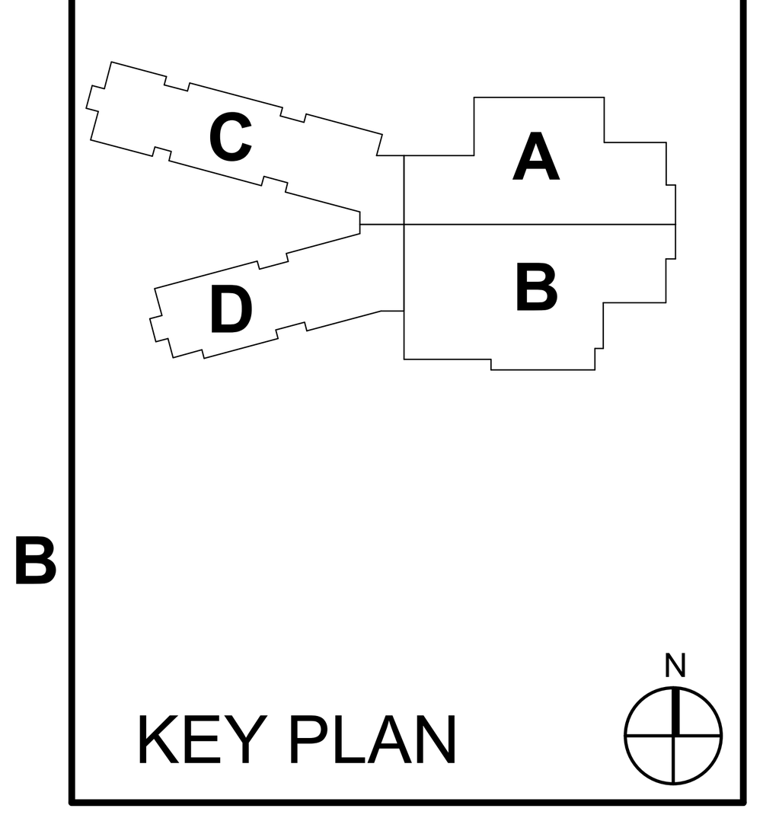
#	Revision	Date
001	Addendum 1	05.26.2022
002	Addendum 2	06.06.2022

10559 E. THOMPSON RD



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SCHEDULES

S-700

Abbreviations

A/E	ARCHITECT/ENGINEER
ADA	AMERICANS WITH DISABILITIES ACT
ADD	ADDENDUM
ADJ	ADJACENT
ADMIN	ADMINISTRATION
AFF	ABOVE FINISHED FLOOR
ALUM	ALUMINUM
APPROX	APPROXIMATE
APC	ACOUSTICAL PANEL CEILING
APT	APARTMENT
ARCH	ARCHITECT
ASSN	ASSOCIATION
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
A/V	AUDIO/VISUAL
AVG	AVERAGE
AWI	ARCHITECTURAL WOODWORKING INSTITUTE
BD	BOARD
BITUM	BITUMINOUS
BLDG	BUILDING
BLKHD	BULKHEAD
BOT	BOTTOM
BSMT	BASEMENT
CAB	CABINET
CB	CHALK BOARD
CD	CONSTRUCTION DOCUMENTS
CD	CONTRACT DOCUMENTS
CIP	CAST-IN-PLACE
CJ	CONTROL JOINT
CL	CENTER LINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONST	CONSTRUCTION
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CSI	CONSTRUCTION SPECIFICATIONS INSTITUTE
CTR	CENTER
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CUST	CUSTODIAN
CW	CURTAINWALL
DBL	DOUBLE
DEFS	DIRECT-APPLIED FINISH SYSTEM
DEG	DEGREE
DEMO	DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG (DOOR, WINDOW)
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPENSER
DIV	DIVISION
DN	DOWN
DS	DOWN SPOUT
DWG	DRAWING
EA	EACH
EC	ELECTRICAL CONTRACTOR
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
EL/ELEV	ELEVATION
ELEC	ELECTRIC
ELEV	ELEVATOR
EOS	EDGE OF SLAB
EPDM	ETHYLENE PROPYLENE DIENE MONOMER
EQ	EQUAL
EQUIP	EQUIPMENT
EST	ESTIMATE
ETC	ET CETERA
EXIST	EXISTING
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FIN	FINISH
FIN FLR	FINISH FLOOR
FIN GR	FINISH GRADE
FIXT	FIXTURE
FLASH	FLASHING
FLR	FLOOR
FR	FIRE RESISTANT
FRC	FIBER REINFORCED CONCRETE
FRG	FIBER REINFORCED GYPSUM
FRP	FIBERGLASS REINFORCED PLASTIC
FRZ	FREEZER
FT	FEET, FOOT
FTG	FOOTING
FURG	FURRING
FURN	FURNITURE
FWC	FABRIC WALL COVERING
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GFRC	GLASS-FIBER-REINFORCED CONCRETE
GFRG	GLASS-FIBER-REINFORCED GYPSUM
GFRP	GLASS-FIBER-REINFORCED PLASTER
GL BLK	GLASS BLOCK
GLU LAM	GLUE LAMINATED WOOD
GOVT	GOVERNMENT
GWB	GYPSUM WALLBOARD
HAZ	HAZARD
HAZ MAT	HAZARDOUS MATERIALS
HDBD	HEAVY DUTY HARDBOARD
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IN	INCH/ INCHES
INSTR	INSTRUMENT
INSUL	INSULATION, E, (ED)
INT	INTERIOR
JAN	JANITOR
KD	KNOCK DOWN
KIT	KITCHEN
KO	KNOCKOUT
LAM	LAMINATE
LG	LAMINATED GLASS
LAV	LAVATORY
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LKR RM	LOCKER ROOM
LRG	LARGE
LT	LIGHT
LT GA	LIGHT GAUGE
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM

MB	MARKER BOARD
MC	MECHANICAL CONTRACTOR
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MEP	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ	MEZZANINE
MFD	MANUFACTURED
MFG	MANUFACTURING
MFR	MANUFACTURER
MGT	MANAGEMENT
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	METAL LATH
MO	MASONRY OPENING
MT	MOUNT
MTD	MOUNTED
MTG	MOUNTING
MTL	METAL
MULL	MULLION
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
O/O	OUT TO OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OPG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PART	PARTIAL
PBD	PARTICLEBOARD
PERF	PERFORATED
PKG	PACKAGE
PLAS LAM	PLASTIC LAMINATE
PLYWD	PLYWOOD
PNL	PANEL
PORC	PORCELAIN
PR	PAIR
PREFAB	PREFABRICATED
PREFIN	PREFINISH
PREP	PREPARATION
PROJ	PROJECT
PT	PAINT
R	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING STEEL BARS
RECPT	RECEPTACLE
REF	REFERENCE
REF	REFRIGERATOR
REINF	REINFORCED
REQD	REQUIRED
REST	RESTROOM
RM	ROOM
RO	ROUGH OPENING
RTG	RATING
RTU	ROOF TOP UNIT
SCHED	SCHEDULE
SCHEM	SCHEMATIC
SCWD	SOLID CORE WOOD DOOR
SECT	SECTION
SF	SQUARE FOOT (FEET)
SHR	SHOWER
SHT	SHEET
SIM	SIMILAR
SM	SMALL
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQ	SQUARE
SQ YD	SQUARE YARD
SS	STAINLESS STEEL
ST	STREET
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SURR	SURROUND
SUSP	SUSPEND
SUSP CLG	SUSPENDED CEILING
SV	SHEET VINYL
SVC	SERVICE
SYS	SYSTEM
T&G	TONGUE AND GROOVE
T/O	TOP OF
TB	TACK BOARD
TD	TOWEL DISPENSER
TECH	TECHNICAL
TEMP	TEMPORARY
TFF	TOP OF FINISHED FLOOR
TG	TEMPERED GLASS
THK	THICKNESS
THRU	THROUGH
TI	TAPERED INSULATION
TOS	TOP OF STEEL
TOM	TOP OF MASONRY
TRANS	TRANSOM
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
VAR	VARIES
VB	VINYL BASE
VCT	VINYL COMPOSITION TILE
VEH	VEHICLE
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VOL	VOLUME
VR	VAPOR RETARDER
VWC	VINYL WALL COVERING
VWF	VINYL WALL FABRIC
W/	WITH
W/O	WITHOUT
WC	WALL COVERING
WD	WOOD
WP	WORKING POINT
WT	WEIGHT

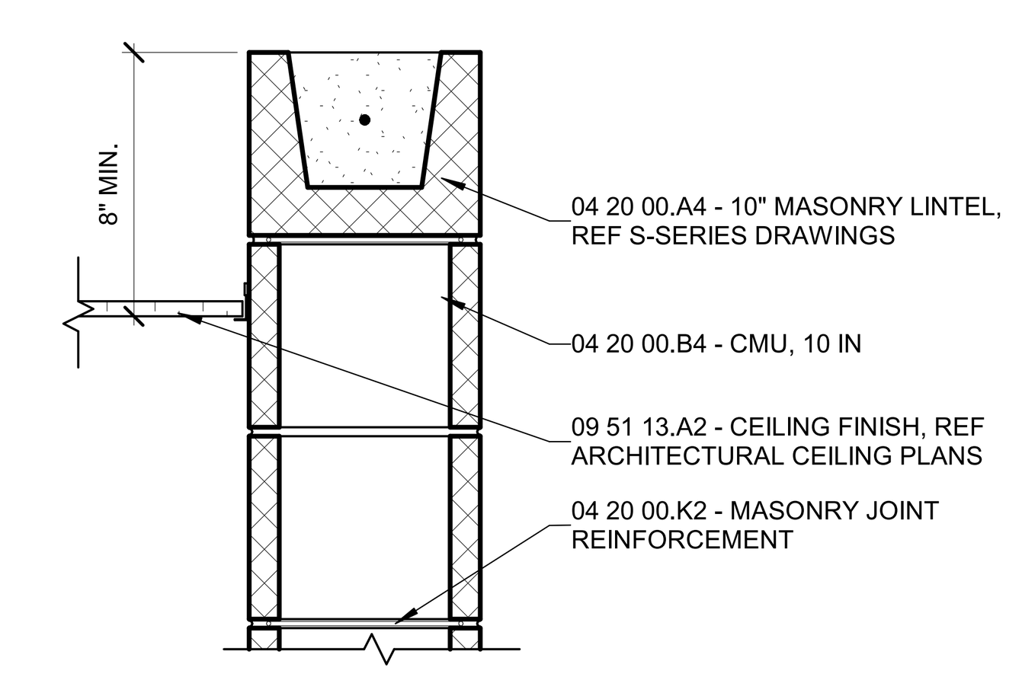
General Roof Plan Notes

A. Where utilized, tapered insulation shall be installed to achieve positive drainage with a minimum resultant slope of 1/4" per foot, unless noted otherwise.

B. Low slope roof areas shall have a minimum of 4" rigid insulation over metal roof deck. Saddles, crickets, and slope portions of flat roof deck shall be formed by tapered insulation. Areas where tapered insulation is anticipated have been indicated, but shall not be considered all inclusive. It is Contractor's responsibility to provide sloped surfaces to achieve proper drainage.

C. Roof penetrations and equipment shown shall not be considered all inclusive. Coordinate with Mechanical, Plumbing and Electrical Documents to confirm penetrations and equipment locations. Flash all roof penetrations in accordance with roofing manufacturer's recommendations. Provide crickets to allow for proper drainage around units.

D. Roof walkway pads or blocks shall be installed in accordance with roofing manufacturer's recommendation where indicated and around entire perimeter of rooftop equipment.



4A M10-C WALL TYPE
1/2" = 1'-0"

General Plan Notes

A. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.

B. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.

C. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.

D. All door frames are located 4" from adjacent wall, unless noted otherwise.

E. All exposed outside corners of CMU shall be bullnosed.

F. Seal all joints between dissimilar materials.

G. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.

H. All exterior windows are Type "SF7", unless noted otherwise.

I. All interior walls are Type "S4iD", unless noted otherwise.

J. Base elevation is 0'-0" = 819.75' (United States Geological Survey data).

K. Hatching within walls shown in plans and sections indicates new construction.

General Refl. Ceiling Plan Notes

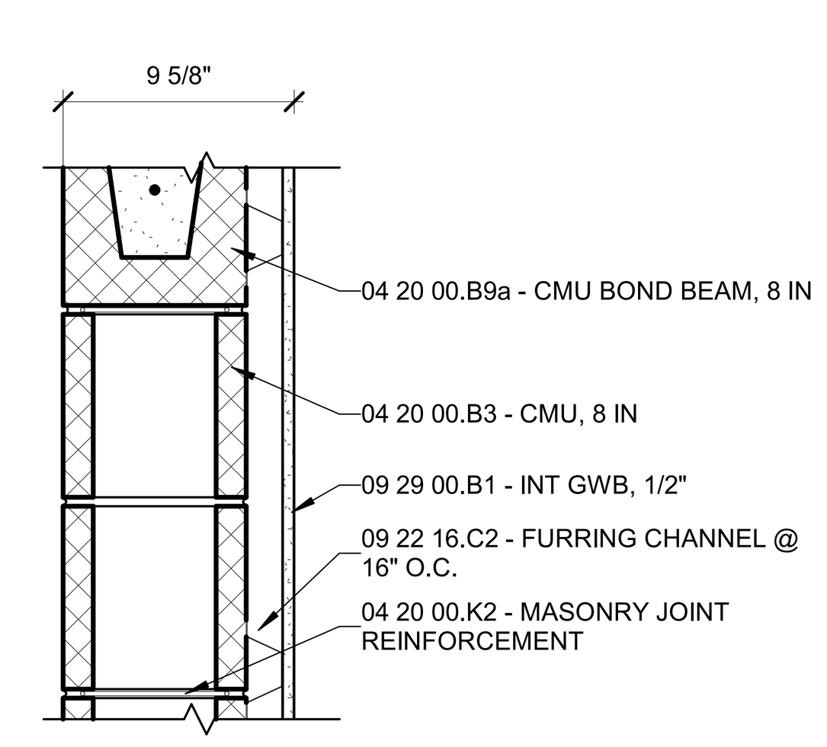
A. All ceilings are at 9'-0" AFF, unless noted otherwise.

B. All bulkheads are at 8'-8" AFF, unless noted otherwise.

C. All grids are centered in rooms, unless noted otherwise.

D. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.

E. Locate sprinkler heads in center of ceiling panel - where applicable.



3A M8CG WALL TYPE
1/2" = 1'-0"

Component Symbols

LIGHT FIXTURE IN CEILING GRID

RETURN AIR

SUPPLY AIR

EXIT LIGHT

ROOF/OVERFLOW DRAIN

SINK — DOUBLE, SINGLE, UTILITY

LAVATORY — 2 GANG, 3 GANG, COUNTERTOP, WALL HUNG

TOILET — WALL HUNG, FLOOR MOUNT

URINAL

FLOOR DRAIN

REFLECTED CEILING PLAN LEGEND

APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)	Light Fixture (Reference E-Series Dwgs)
APC-2	2' X 2' Washable Acoustical Panel Ceiling (09 51 13)	Return Air (Reference M-Series Dwgs)
APC-3	2' X 2' Humidity Resistant Acoustical Panel Ceiling (09 51 13)	Supply Air (Reference M-Series Dwgs)
GWB	5/8" GWB on Grid Suspension System (09 22 16)	Exit Light (Reference E-Series Dwgs)
		Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceilings (Reference E-Series Dwgs)
Walls to Deck		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)

EXTERIOR FINISH SCHEDULE

THIS LEGEND IS PROVIDED FOR REFERENCE PURPOSES ONLY. PRODUCTS/COLORS INDICATED ARE BASED ON BASIS OF DESIGN MANUFACTURERS. REFER TO SPECIFICATIONS FOR LIST OF ACCEPTED EQUAL MANUFACTURES/PRODUCTS.

SPEC SECTION	MAT'L	MARK	COLOR: BASIS OF DESIGN
042000	FACE BRICK	A.	COMMODORE FULL VELOUR (RED).
		B.	BELDEN; BEACON GRAY VELOUR (BUFF)
		C.	BELDEN; DUTCH GRAY VELOUR.
07 41 13	STANDING SEAM METAL ROOF		METAL-ERA; HEMLOCK GREEN
077100	FASCIA, GUTTERS, DOWNSPOUTS		METAL-ERA; SIERRA TAN
079200	SEALANTS		ALL SEALANTS USED IN MASONRY CONTROL JOINTS SHALL MATCH THE MASONRY MORTAR
			ALL SEALANTS USED IN EXPOSED CONCRETE SHALL MATCH THE SURROUNDING COLOR CONCRETE UNLESS NOTED OTHERWISE
			ALL SEALANTS USED TO SEAL AROUND EXTERIOR WINDOWS AND DOOR FRAMES SHALL MATCH THE WINDOW AND DOOR FRAME COLOR.
081113	HM DOORS AND FRAMES		PAINT COLOR AS SELECTED BY ARCHITECT
083323	OH COILING DOOR		PAINT COLOR AS SELECTED BY ARCHITECT
084113, 084413	ALUM. STOREFRONT CURTAINWALL		CLEAR ANODIZED ALUMINUM
088000	GLAZING	INSUL. GLASS	SUNGUARD SUPER NEUTRAL 54
		SPAND. GLASS	SUNGUARD SUPER NEUTRAL W/ WARM GREY FRIT
		METAL SPAND.	CLEAR ANODIZED ALUM.
089000	FIXED LOUVERS		CLEAR ANODIZED ALUM.

Material Symbols

CONCRETE MASONRY UNIT

FACE BRICK

EARTH

CONCRETE

PLYWOOD

METAL/STEEL

FINISHED WOOD TRIM

WOOD BLOCKING

WOOD SHIM

INSULATION (LOOSE OR BATT.)

INSULATION (RIGID)

GYPSUM BOARD / PLASTER

Reference Symbols

TITLE MARK — 1 View Name 1/8" = 1'-0"

SECTION MARK — 1 A101 SIM

ELEVATION MARK — Ref, A101, DETAIL REFERENCE, SHEET REFERENCE

CUT LINE

DETAIL MARK — 1 A101 SIM

PLAN NOTE DESIGNATION — #

WHEELCHAIR CLEARANCE RADIUS — ADA

WALL DESIGNATION — 1t

DOOR NUMBER — Door Number, Hardware Set, Door Label, Panel Type

WINDOW NUMBER — 1t

FURNITURE — FM

COLUMN DESIGNATION — FB

NORTH ARROW — N

ROOM TAG — Room name 101

UNIT MATCHLINE — UNIT A / UNIT B

DEMOLITION NOTE — #

REVISION TAG — A1

DATUM POINT

KEYNOTE LABEL — Specification Reference, Unique Identifier (Not A Reference), 00 00 00.B9

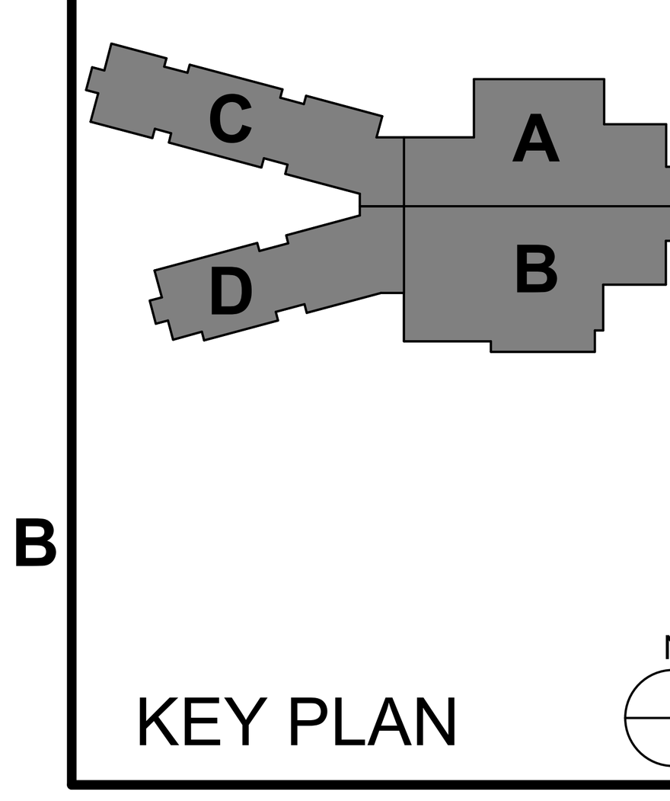
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced TE CA

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

ARCHITECTURAL GENERAL NOTES AND ABBREVIATIONS

A-001

FLOOR PLAN NOTES

#	Note
20	CONCRETE CURB, TYPICAL AROUND MECHANICAL ROOM PERIMETER AND OPENINGS. COORDINATE WITH S-SERIES DWGS.
21	KILN - BY OWNER.
22	OPEN TO BELOW.
23	07 95 00 - EXPANSION JOINT CONTROL COVER OVER ENTIRE EXPOSED AREA. REFER TO SPEC FOR DESCRIPTION OF JOINT COVERTO USE FOR DIFFERENT CONDITIONS.
24	ACCESS CONTROL CARD READER. REFER TO T-SERIES DWGS.
25	MECHANICAL EQUIPMENT. REFERENCE M-SERIES DWGS.
26	ANNUNCIATOR PANEL. REFERENCE E-SERIES DWGS.
27	10 51 13 - METAL LOCKERS ON CONCRETE BASE. TYPE A
28	05 50 00 - METAL LADDER.
29	12 24 13 - MANUAL ROLLER WINDOW SHADE.
30	06 40 23 - DISPLAY CASE.
31	11 61 43 - PLATFORM CURTAINS P-1.
32	11 61 43 - PLATFORM CURTAINS B-1.
33	10 81 13 - BIRD NETTING AT BOTH SIDES OF CANOPY STRUCTURAL MEMBERS TO FULLY PREVENT ENTRUSION.
34	10 14 00 - BUILDING PLAQUE
35	05 52 13 - PIPE AND TUBE GUARDRAIL.
36	05 73 00 - DECORATIVE METAL RAILING TYPE A
37	INTERCOM - TALK/VIDEO. REFER TO T-SERIES DRAWINGS.
38	PANIC BUTTON ON MILLWORK. REFER TO T-SERIES DRAWINGS.
39	08 71 00 - LOCK/UNLOCK SWITCH FROM RECEPTION DESK FOR 3 DOORS.
40	PLYWOOD PANELS AROUND ROOM. REFER TO T-SERIES DRAWINGS.
41	11 40 00 - KITCHEN EQUIPMENT. REFERENCE Q-SERIES DRAWINGS.
42	11 66 43.99 - INTERIOR SCORE BOARD
43	05 53 00 - METAL GRATINGS.
44	05 73 00 - DECORATIVE METAL RAILING TYPE B
45	05 73 00 - DECORATIVE METAL RAILING TYPE C
46	08 71 00 - BOLLARD MOUNTED ADA AUTOMATIC OPERATOR AND CARD READER. COORDINATE LOCATION WITH ARCHITECT.

FLOOR PLAN NOTES

#	Note
1	04 20 00 - KNOX BOX @ 46" AFF; COORDINATE EXACT LOCATION WITH OWNER AND LOCAL FIRE DEPARTMENT.
2	LINE OF CANOPY ABOVE; REFERENCE ROOF PLAN
3	07 71 00 - METAL DOWNSPOUT. REFER TO ROOF PLAN FOR SIZE. COORDINATE WITH C-SERIES DWGS FOR BOOT CONNECTION.
4	10 21 23 - CUBICAL CURTAINS AND TRACK
5	10 22 39 - GLASS OPERABLE PARTITION.
6	11 66 23 - FRONT FOLDING BACKSTOP. SUSPEND BACKSTOP FROM STRUCTURE ABOVE. COORDINATE FINAL LOCATION WITH S-SERIES DRAWINGS.
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9	LINE OF WALL ABOVE.
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11	MOP SINK. REFER TO P-SERIES DRAWINGS. PROVIDE MOP HOLDER ABOVE SINK.
12	09 64 66 - WOOD ATHLETIC FLOORING SYSTEM. PROVIDE RECESS IN CONC SLAB AS REQUIRED. REFERENCE I-SERIES DRAWINGS FOR COURT STRIPING LOCATION AND COLORS.
13	12 66 00 - TELESCOPING BLEACHERS.
14	11 66 23 - GYMNASIUM CONTROL CENTER - COORDINATE WITH E-SERIES DWGS.
15	11 66 23 - RECESSED VOLLEYBALL POST FLOOR SLEEVE WITH COVER. COORDINATE FINAL LOCATION WITH ARCHITECT.
16	10 14 00 - BUILDING SIGNAGE REFER TO ELEVATIONS.
17	SLAB RECESS FOR INSULATED COOLER/FREEZER UNIT. REFER TO QF SERIES DWGS.
18	05 50 00 - PREFABRICATED STEEL SHIPS LADDER.
19	09 64 66 - WOOD ATHLETIC FLOORING TRANSITION PLATE.

General Plan Notes

A. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.

B. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.

C. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.

D. All door frames are located 4" from adjacent wall, unless noted otherwise.

E. All exposed outside corners of CMU shall be bullnosed.

F. Seal all joints between dissimilar materials.

G. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.

H. All exterior windows are Type "SF7", unless noted otherwise.

I. All interior walls are Type "S4iD", unless noted otherwise.

J. Base elevation is 0'-0" = 819.75' (United States Geological Survey data).

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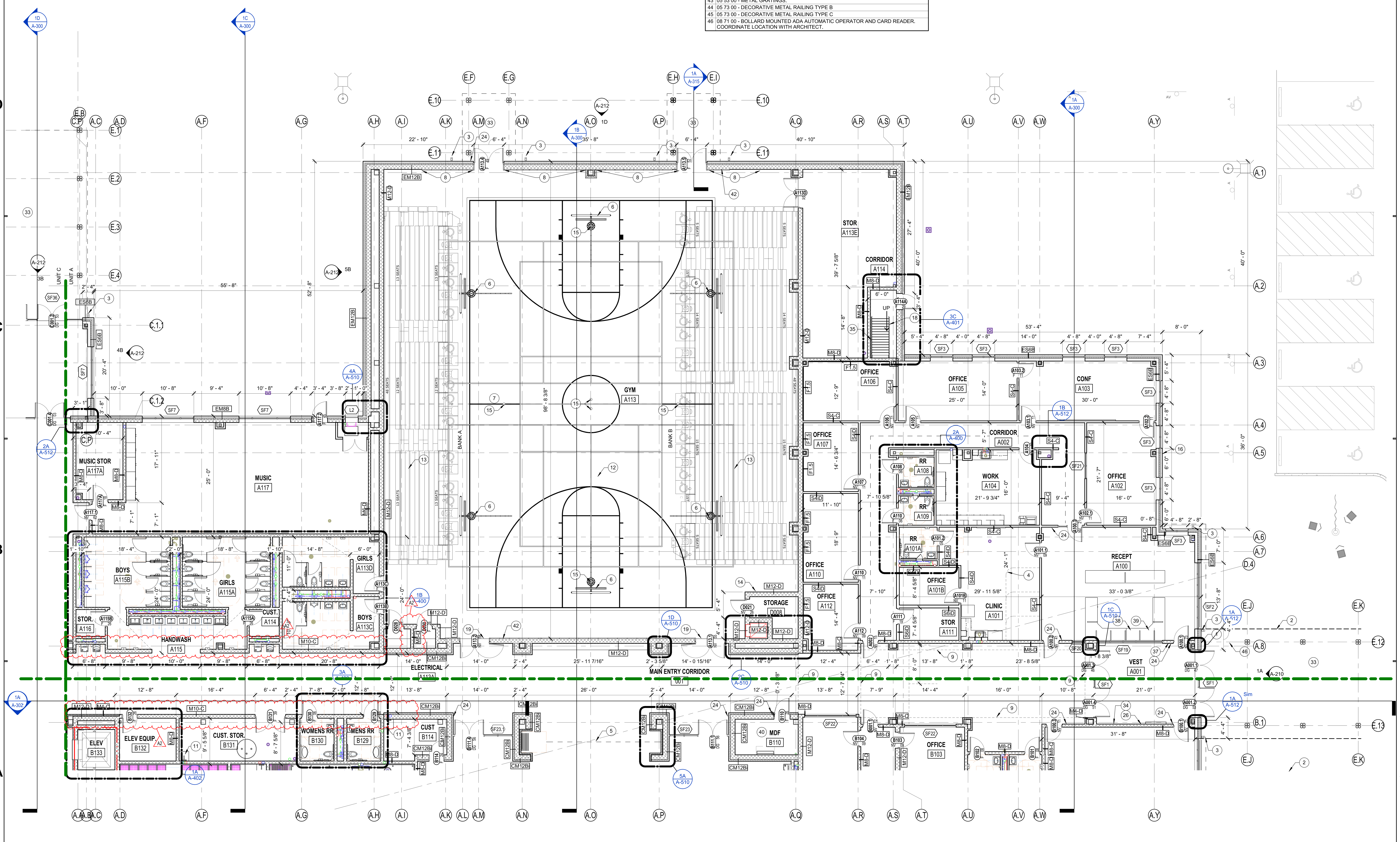

1A FIRST FLOOR - UNIT A
1/8" = 1'-0"

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Project No. 2021-141.NES
Project Date 05.11.2022
Produced TE CA

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FIRST FLOOR PLAN - UNIT A

AF1A1

FLOOR PLAN NOTES

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FLOOR PLAN NOTES

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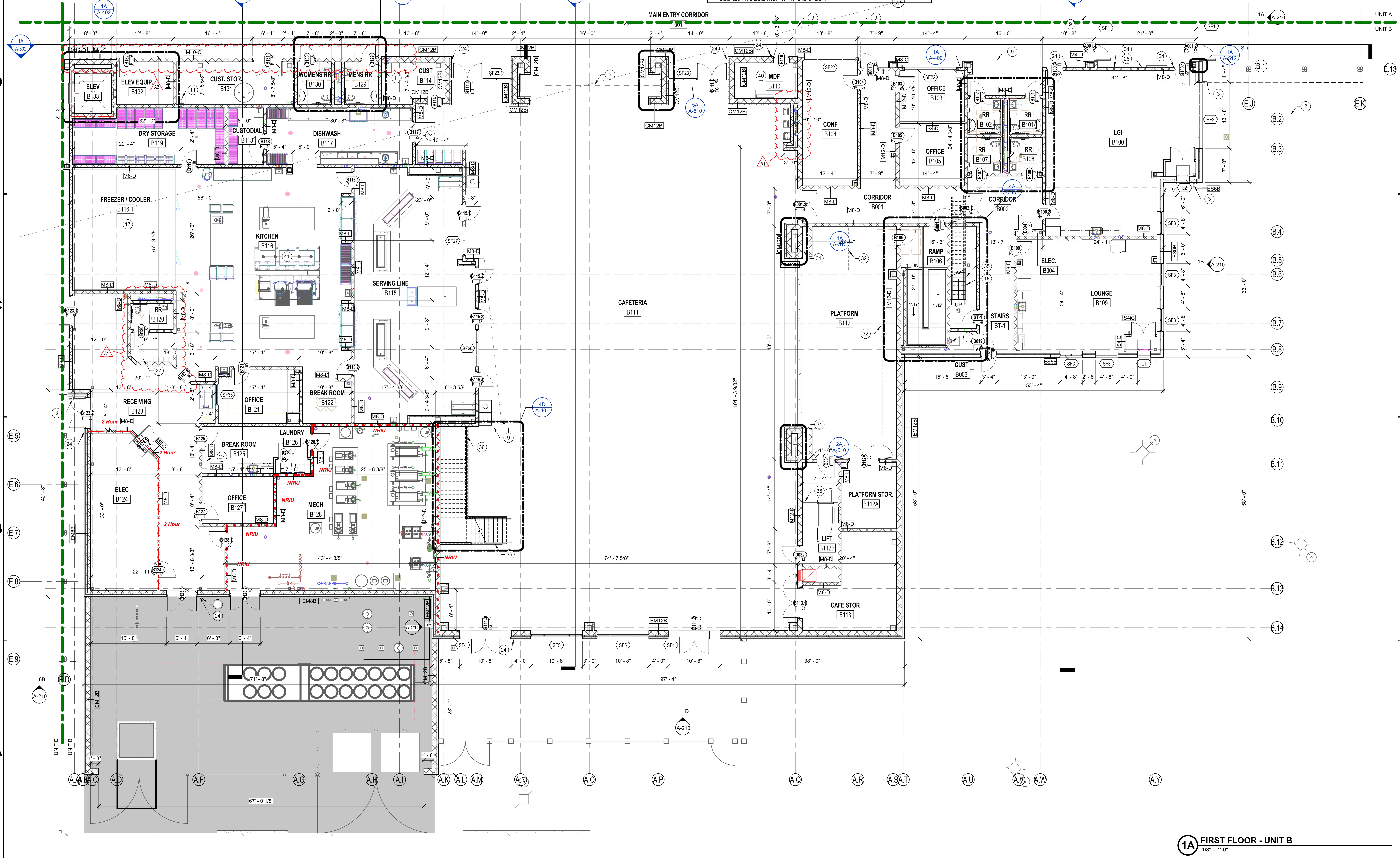

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SARAH KATHLEEN HEMPSTEAD, REGISTERED ARCHITECT, NO. AR10400134, STATE OF INDIANA

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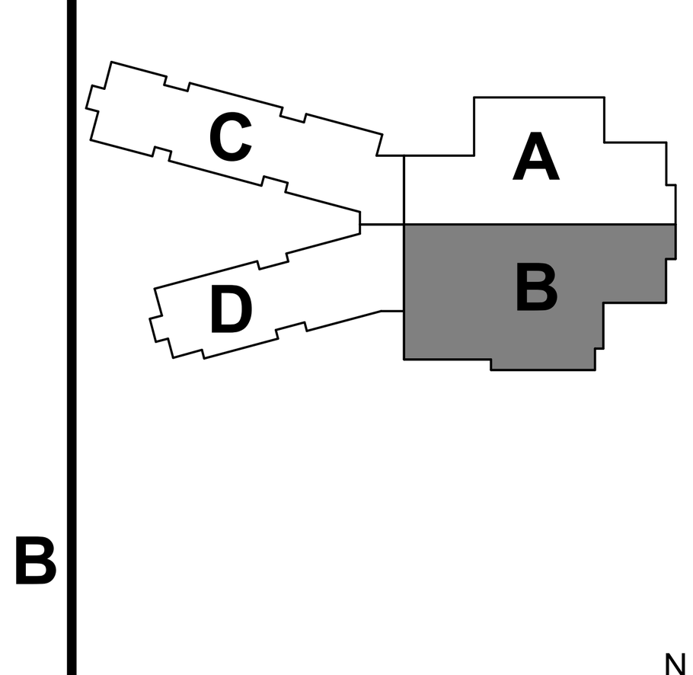
#	Revision	Date
A1	Addendum 1	05.31.2022
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR PLAN - UNIT B

AF1B1

1A FIRST FLOOR - UNIT B
1/8" = 1'-0"

FLOOR PLAN NOTES

#	Note
20	CONCRETE CURB, TYPICAL AROUND MECHANICAL ROOM PERIMETER AND OPENINGS, COORDINATE WITH S-SERIES DWGS.
21	11 54 13 - (2) KILNS
22	OPEN TO BELOW
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FLOOR PLAN NOTES

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19	09 64 66 - WOOD ATHLETIC FLOORING TRANSITION PLATE.

General Plan Notes

A. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.

B. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.

C. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.

D. All door frames are located 4" from adjacent wall, unless noted otherwise.

E. All exposed outside corners of CMU shall be bullnosed.

F. Seal all joints between dissimilar materials.

G. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.

H. All exterior windows are Type "SF7", unless noted otherwise.

I. All interior walls are Type "S4iD", unless noted otherwise.

J. Base elevation is 0'-0" = 819.75' (United States Geological Survey data).

K. Hatching within walls shown in plans and sections indicates new construction.

SCHMIDT
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415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced TE CA

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

Sarah K Hempstead

#	Revision	Date
A1	Addendum 1	05.31.2022
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR PLAN - UNIT A

AF1A2

1A SECOND FLOOR - UNIT A
1/8" = 1'-0"

FLOOR PLAN NOTES

#	Note
20	CONCRETE CURB, TYPICAL AROUND MECHANICAL ROOM PERIMETER AND OPENINGS. COORDINATE WITH S-SERIES DWGS.
21	KILN - BY OWNER.
22	OPEN TO BELOW.
23	07 95 00 - EXPANSION JOINT CONTROL COVER OVER ENTIRE EXPOSED AREA. REFER TO SPEC FOR DESCRIPTION OF JOINT COVERTO USE FOR DIFFERENT CONDITIONS.
24	ACCESS CONTROL CARD READER. REFER TO T-SERIES DWGS.
25	MECHANICAL EQUIPMENT. REFERENCE M-SERIES DWGS.
26	ANNUNCIATOR PANEL. REFERENCE E-SERIES DWGS.
27	10 51 13 - METAL LOCKERS ON CONCRETE BASE. TYPE A
28	05 50 00 - METAL LADDER.
29	12 24 13 - MANUAL ROLLER WINDOW SHADE.
30	06 40 23 - DISPLAY CASE.
31	11 61 43 - PLATFORM CURTAINS P-1.
32	11 61 43 - PLATFORM CURTAINS B-1.
33	10 81 13 - BIRD NETTING AT BOTH SIDES OF CANOPY STRUCTURAL MEMBERS TO FULLY PREVENT ENTRUSION.
34	10 14 00 - BUILDING PLAQUE
35	05 52 13 - PIPE AND TUBE GUARDRAIL.
36	05 73 00 - DECORATIVE METAL RAILING TYPE A
37	INTERCOM - TALK/VIDEO. REFER TO T-SERIES DRAWINGS.
38	PANIC BUTTON ON MILLWORK. REFER TO T-SERIES DRAWINGS.
39	08 71 00 - LOCK/UNLOCK SWITCH FROM RECEPTION DESK FOR 3 DOORS.
40	PLYWOOD PANELS AROUND ROOM. REFER TO T-SERIES DRAWINGS.
41	11 40 00 - KITCHEN EQUIPMENT. REFERENCE Q-SERIES DRAWINGS.
42	11 66 43.99 - INTERIOR SCORE BOARD
43	05 53 00 - METAL GRATINGS.
44	05 73 00 - DECORATIVE METAL RAILING TYPE B
45	05 73 00 - DECORATIVE METAL RAILING TYPE C
46	08 71 00 - BOLLARD MOUNTED ADA AUTOMATIC OPERATOR AND CARD READER. COORDINATE LOCATION WITH ARCHITECT.

FLOOR PLAN NOTES

#	Note
1	04 20 00 - KNOX BOX @ 46" AFF; COORDINATE EXACT LOCATION WITH OWNER AND LOCAL FIRE DEPARTMENT.
2	LINE OF CANOPY ABOVE; REFERENCE ROOF PLAN
3	07 71 00 - METAL DOWNSPOUT. REFER TO ROOF PLAN FOR SIZE. COORDINATE WITH C-SERIES DWGS FOR BOOT CONNECTION.
4	10 21 23 - CUBICAL CURTAINS AND TRACK
5	10 22 39 - GLASS OPERABLE PARTITION.
6	11 66 23 - FRONT FOLDING BACKSTOP. SUSPEND BACKSTOP FROM STRUCTURE ABOVE. COORDINATE FINAL LOCATION WITH S-SERIES DRAWINGS.
7	11 66 23 - GYMNASIUM DIVIDER CURTAIN.
8	11 66 23 - GYMNASIUM ATHLETIC WALL PADS. CUSTOM FIT TO COLUMNS AND PROVIDE CUT OUTS AROUND EQUIPMENT AND DEVICES.
9	LINE OF WALL ABOVE.
10	08 71 00 - ADA AUTOMATIC OPERATOR. COORDINATE LOCATION WITH ARCHITECT.
11	MOP SINK. REFER TO P-SERIES DRAWINGS. PROVIDE MOP HOLDER ABOVE SINK.
12	09 64 66 - WOOD ATHLETIC FLOORING SYSTEM. PROVIDE RECESS IN CONC SLAB AS REQUIRED. REFERENCE I-SERIES DRAWINGS FOR COURT STRIPING LOCATION AND COLORS.
13	12 66 00 - TELESCOPING BLEACHERS.
14	11 66 23 - GYMNASIUM CONTROL CENTER - COORDINATE WITH E-SERIES DWGS.
15	11 66 23 - RECESSED VOLLEYBALL POST FLOOR SLEEVE WITH COVER. COORDINATE FINAL LOCATION WITH ARCHITECT.
16	10 14 00 - BUILDING SIGNAGE REFER TO ELEVATIONS.
17	SLAB RECESS FOR INSULATED COOLER/FREEZER UNIT. REFER TO QF SERIES DWGS.
18	05 50 00 - PREFABRICATED STEEL SHIPS LADDER.
19	09 64 66 - WOOD ATHLETIC FLOORING TRANSITION PLATE.

General Plan Notes

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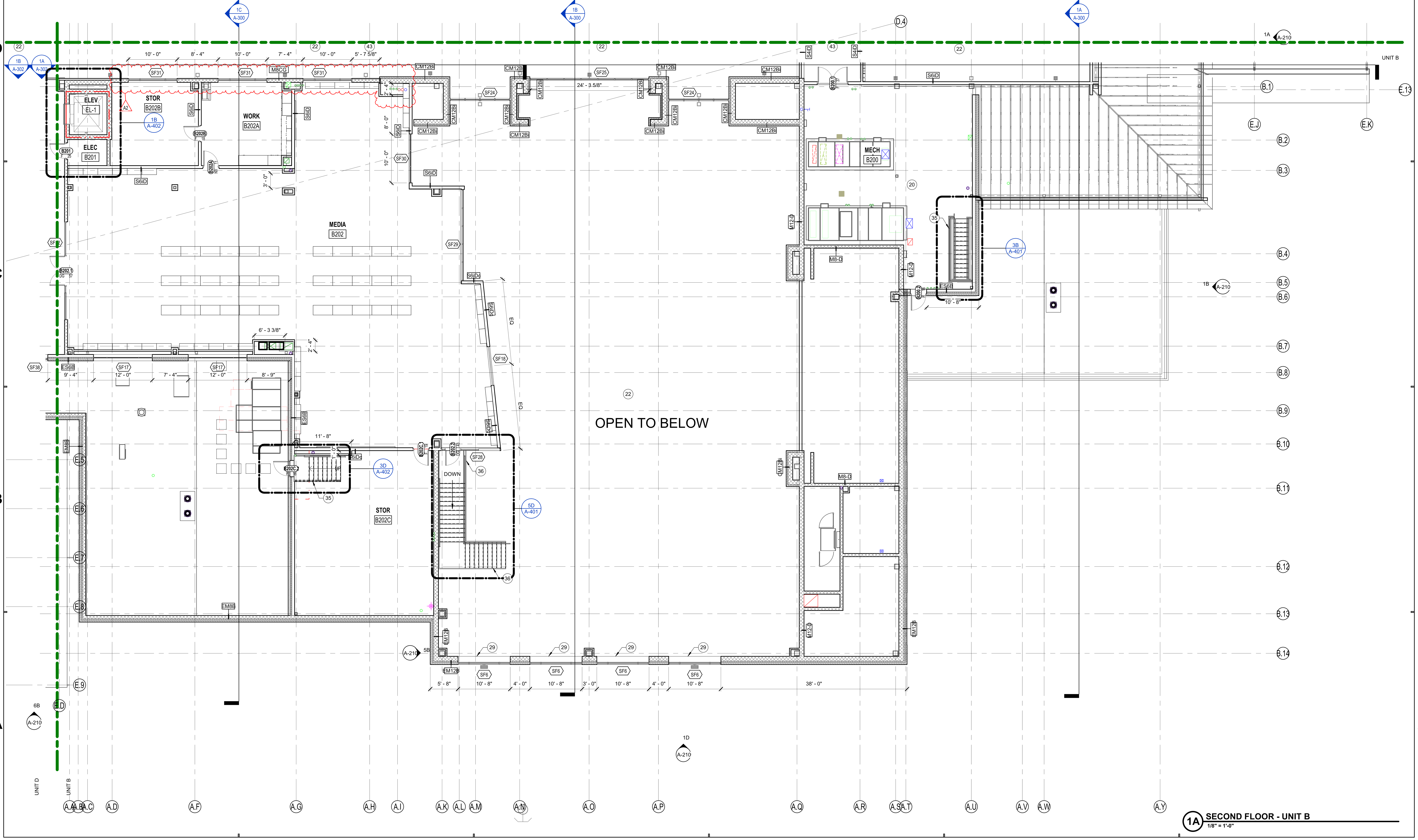

1A SECOND FLOOR - UNIT B
1/8" = 1'-0"

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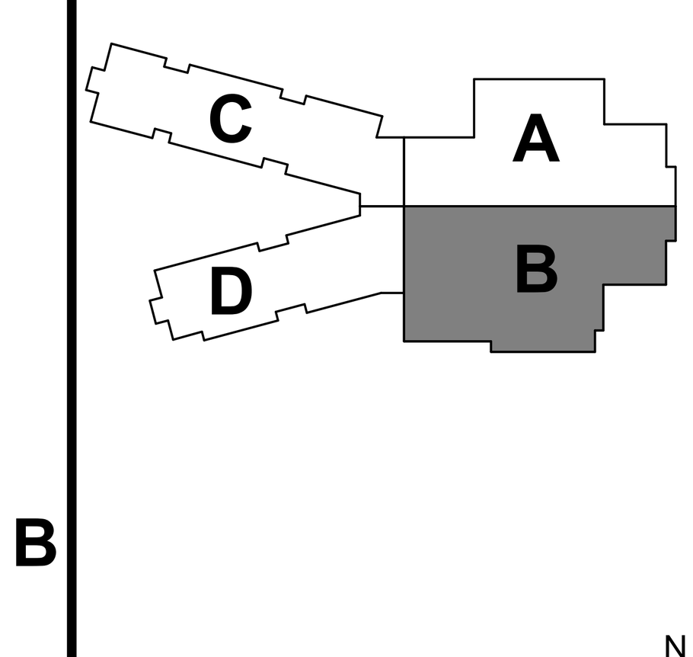
SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR PLAN - UNIT B

AF1B2

REFLECTED CEILING PLAN LEGEND			
APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)	Light Fixture (Reference E-Series Dwgs)	
APC-2	2' X 2' Washable Acoustical Panel Ceiling (09 51 13)	Return Air (Reference M-Series Dwgs)	
APC-3	2' X 2' Humidity Resistant Acoustical Panel Ceiling (09 51 13)	Supply Air (Reference M-Series Dwgs)	
GWB	5/8" GWB on Grid Suspension System (09 22 16)	Exit Light (Reference E-Series Dwgs)	
		Recessed Light Fixture Suspended Fixture in Areas with Exposed Ceilings (Reference E-Series Dwgs)	
Walls to Deck		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)	S

General Refl. Ceiling Plan Notes

A. All ceilings are at 9'-0" AFF, unless noted otherwise.

B. All bulkheads are at 8'-8" AFF, unless noted otherwise.

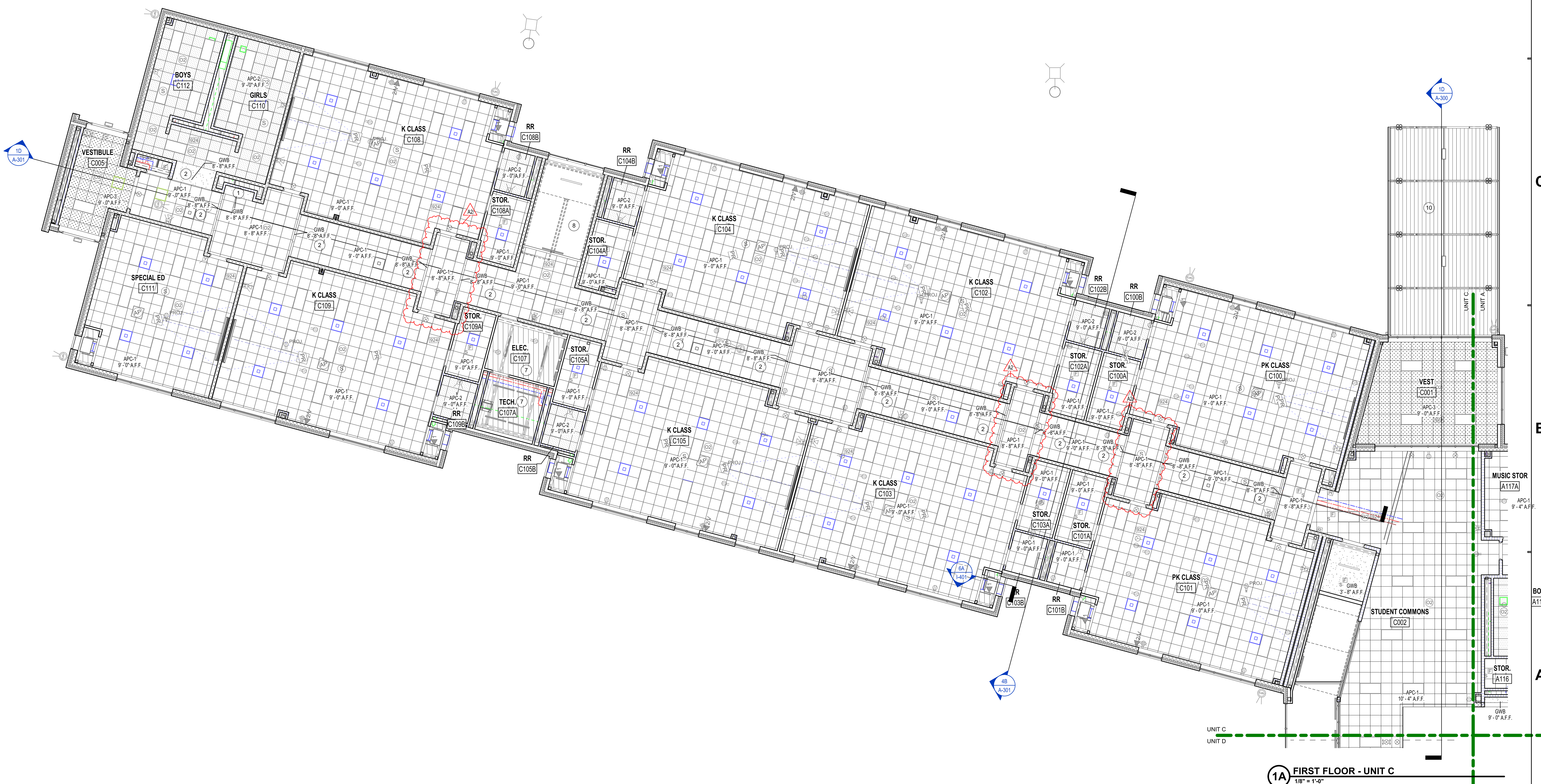
C. All grids are centered in rooms, unless noted otherwise.

D. All exposed ductwork, piping etc. shall be painted. Color selected by Architect.

E. Locate sprinkler heads in center of ceiling panel - where applicable.

REFLECTED CEILING PLAN NOTES

#	NOTE
1	ALL EXPOSED FACES OF BULKHEAD TO BE PAINTED, P-X (COLOR).
2	ALL EXPOSED FACES OF BULKHEAD TO BE PAINTED, P-4 (DARK BLUE).
3	ALL EXPOSED FACES OF BULKHEAD TO BE PAINTED, P-5 (BRIGHT BLUE).
4	ALL EXPOSED FACES OF BULKHEAD TO BE PAINTED, P-X (COLOR).
6	COORDINATE OPENINGS IN CEILING FOR KITCHEN EQUIPMENT HOOD.
7	09 91 23 - PAINT ALL EXPOSED STRUCTURE, DECK, PIPING, CONDUITS AND DUCTWORK, AS SPECIFIED ON I-SERIES DRAWINGS.
8	5/8" GWB CEILING ATTACHED TO 3-5/8" METAL STUD. ATTACHED TO UNDERSIDE OF STAIR STRINGER. WRAP DRYWALL VERTICALLY TO ALIGN WITH EXTERIOR SIDE OF STRINGER. PROVIDE 5/8" ALUMINUM EXTRUDED TRIM BETWEEN STRINGER AND GWB.
9	09 51 13 - METAL EDGE TRIM FOR CEILING CLOUD.
10	REFERENCE STRUCTRAL DRAWINGS FOR FULL EXTENT OF CANOPY.
11	1 HOUR RATED CEILING. PROVIDE 2 LAYERS OF GYP. WALL BOARD.



1A FIRST FLOOR - UNIT C
1/8" = 1'-0"

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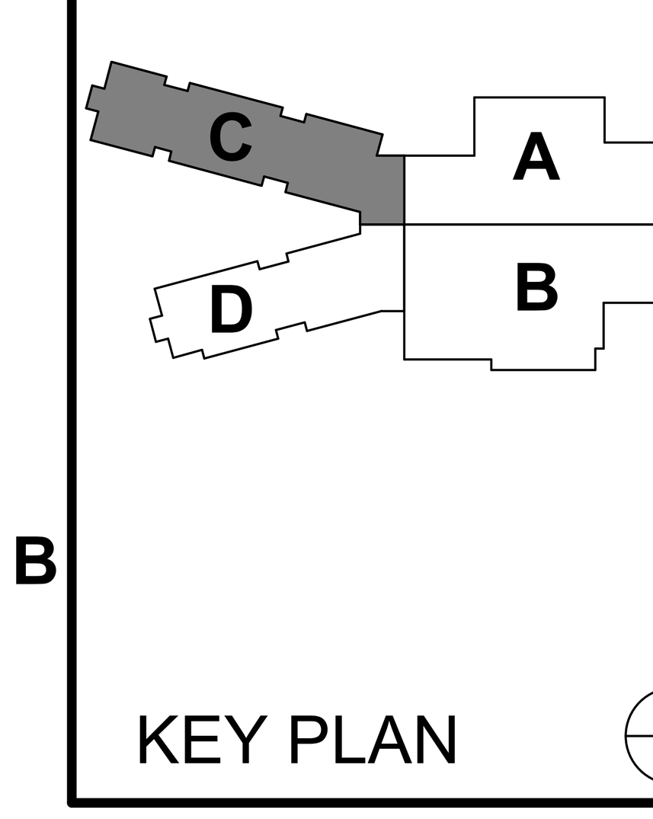


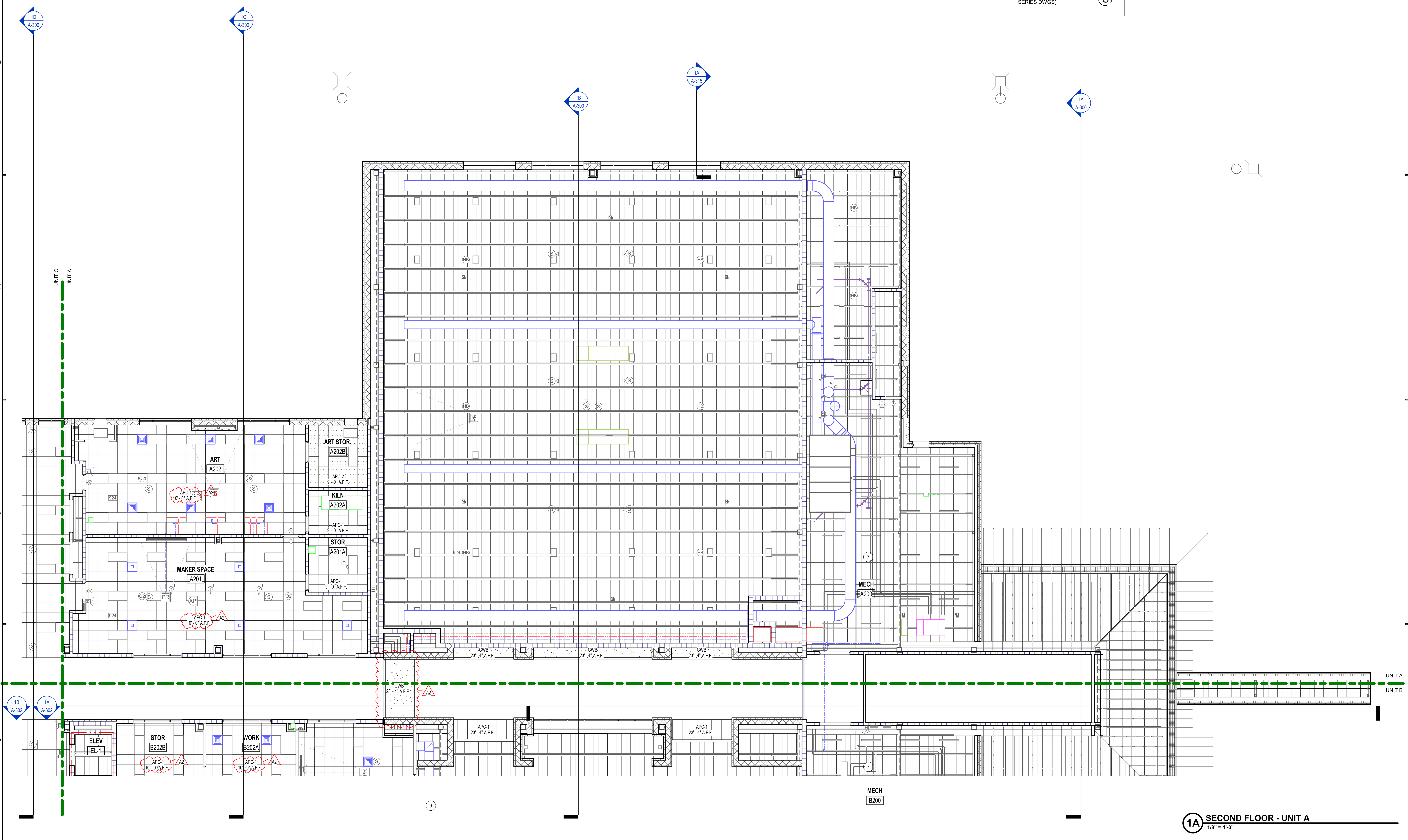
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR REFLECTED CEILING PLAN - UNIT C

AC1C1



REFLECTED CEILING PLAN LEGEND

APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)	Light Fixture (Reference E-Series Dwgs)	
APC-2	2' X 2' Washable Acoustical Panel Ceiling (09 51 13)	Return Air (Reference M-Series Dwgs)	
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Walls to Deck		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)	S

General Refl. Ceiling Plan Notes

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E. Locate sprinkler heads in center of ceiling panel - where applicable.

1A SECOND FLOOR - UNIT A
1/8" = 1'-0"

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A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR REFLECTED CEILING PLAN - UNIT A

AC1A2

REFLECTED CEILING PLAN LEGEND

APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)	Light Fixture (Reference E-Series Dwgs)	
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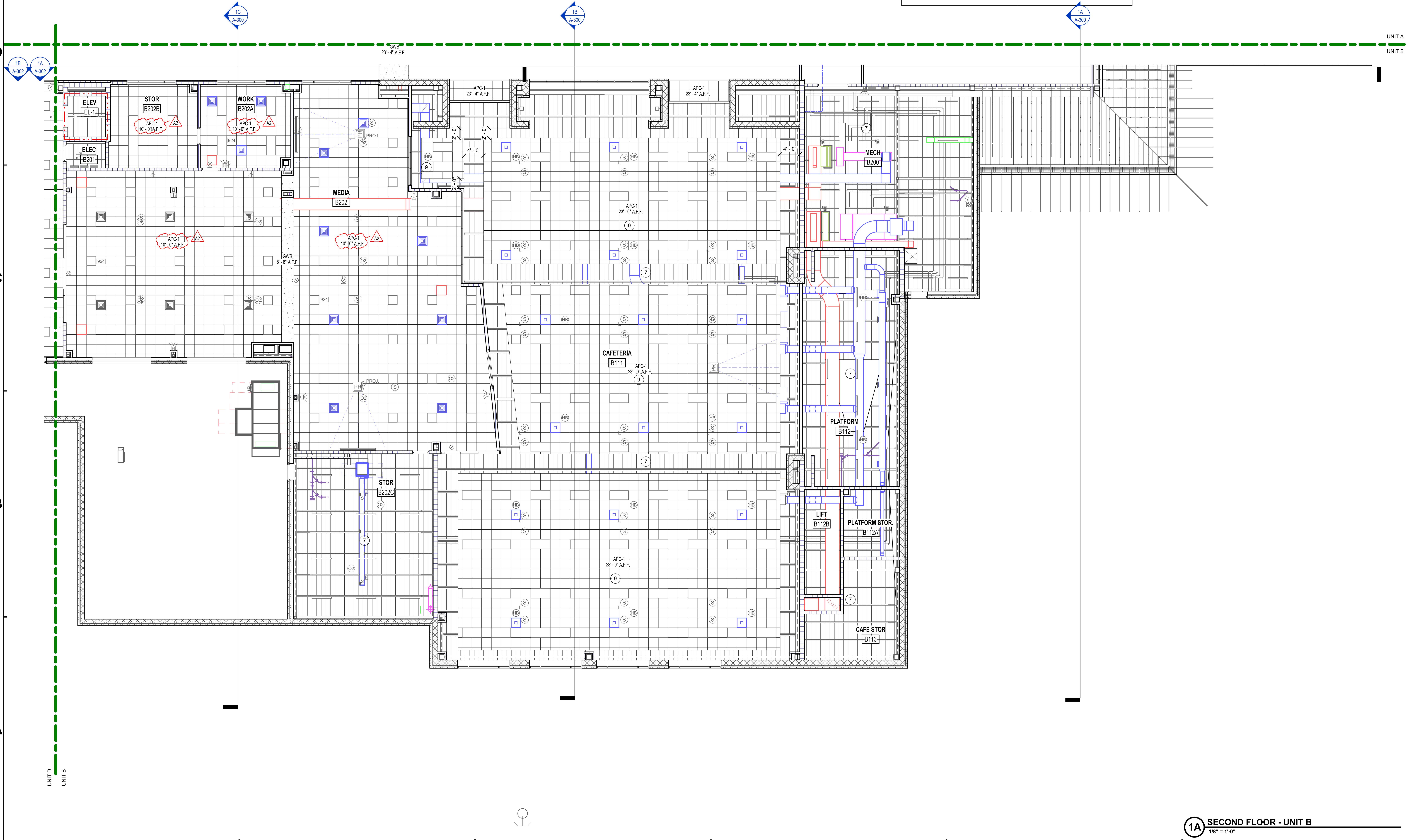

1A SECONDFLOOR - UNIT B
1/8" = 1'-0"

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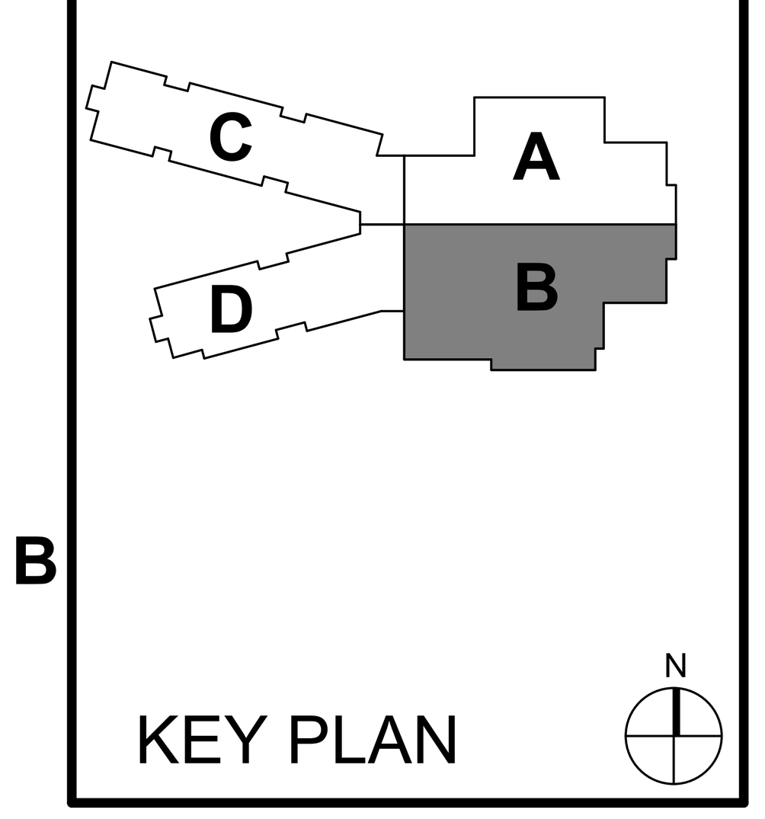
5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

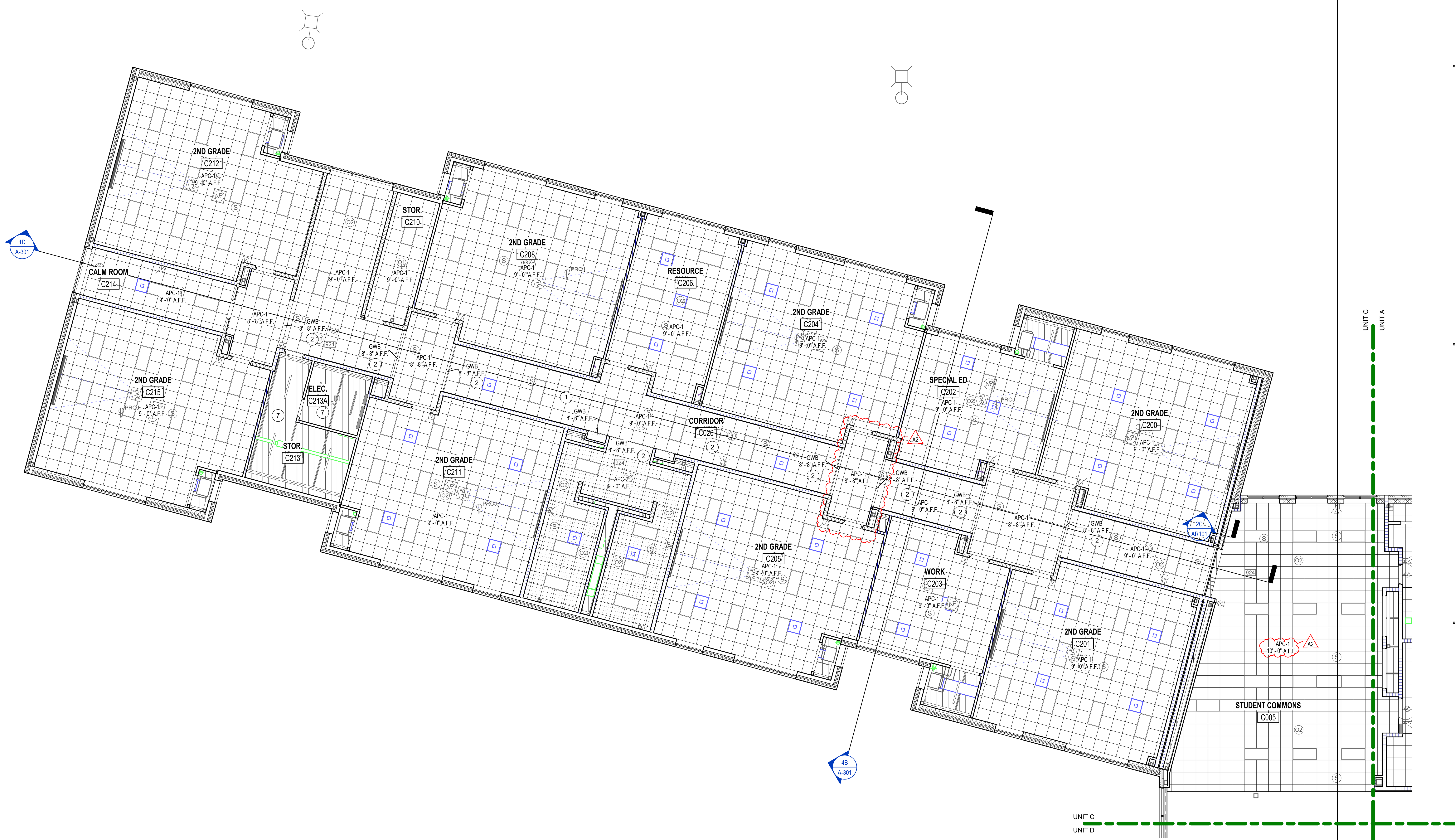
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR REFLECTED CEILING PLAN - UNIT B

AC1B2



1A SECOND FLOOR - UNIT C
1/8" = 1'-0"

REFLECTED CEILING PLAN LEGEND

APC-1	2' X 2' Acoustical Panel Ceiling (09 51 13)	Light Fixture (Reference E-Series Dwgs)	
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Walls to Deck		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)	S

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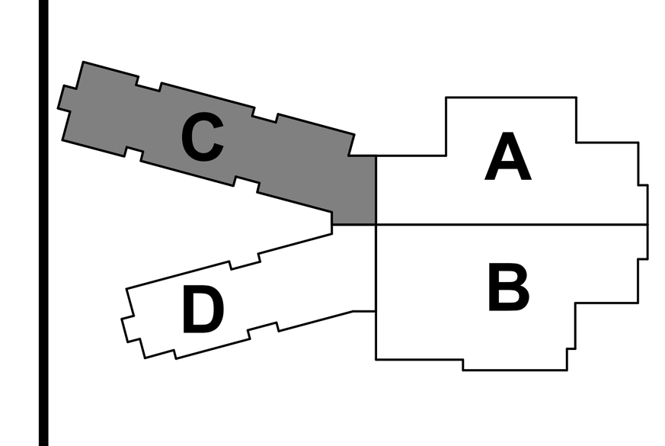

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR REFLECTED CEILING PLAN - UNIT C

AC1C2

REFLECTED CEILING PLAN LEGEND

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Walls to Deck		SOUND SYSTEM SPEAKER (REFERENCE E-SERIES/T-SERIES DWGS)	S

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1A SECONDARY: **SECOND FLOOR - UNIT D**
1/8" = 1'-0"

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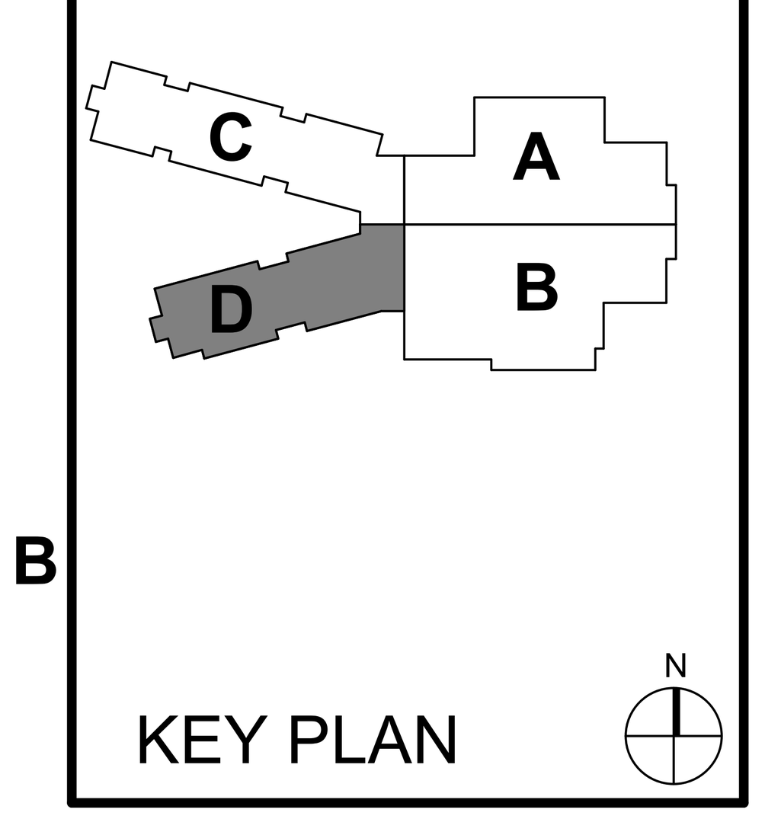


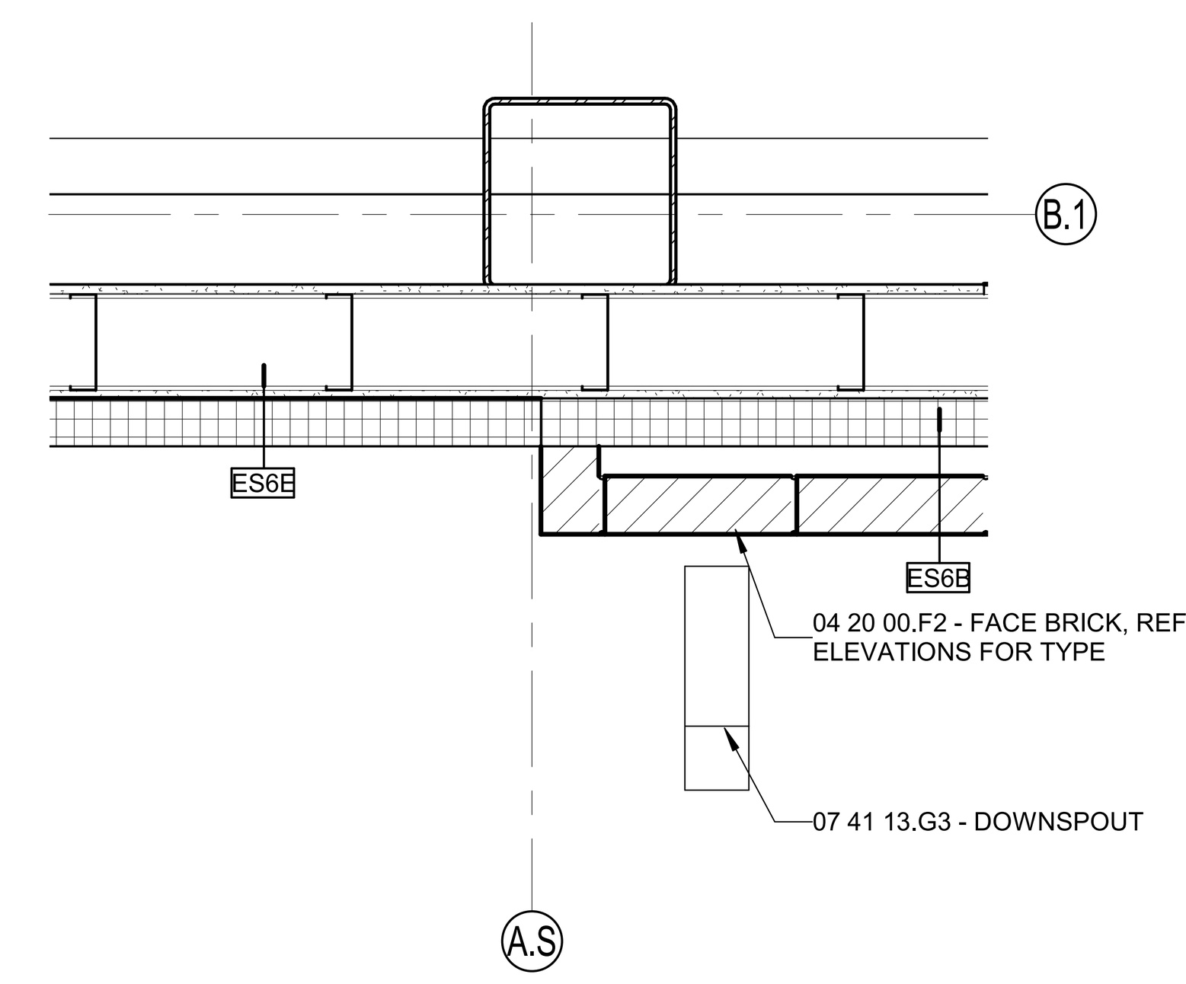
KEY PLAN

FRANKLIN TOWNSHIP CSC

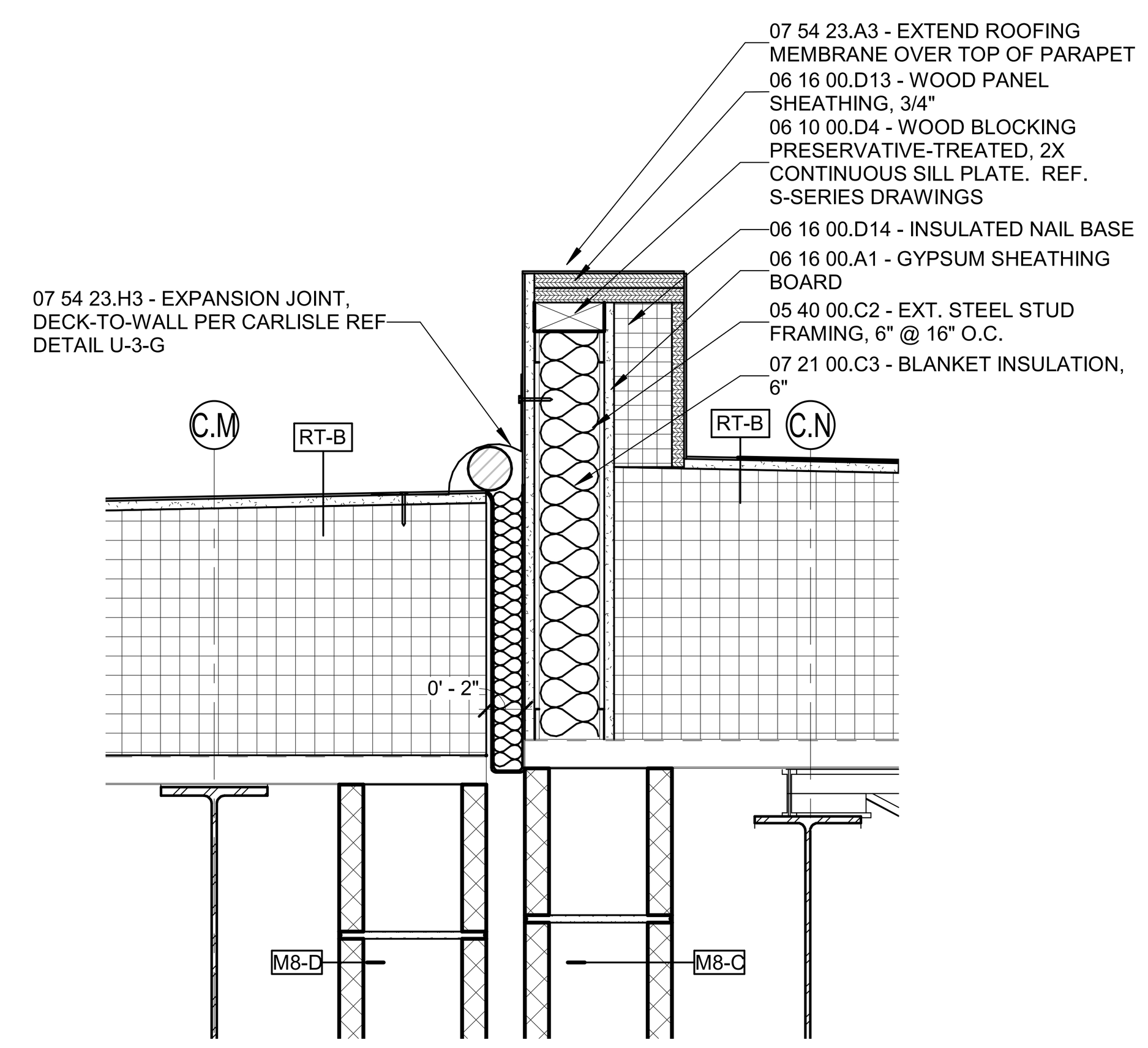
NEW ELEMENTARY SCHOOL

SECOND FLOOR REFLECTED CEILING PLAN - UNIT D

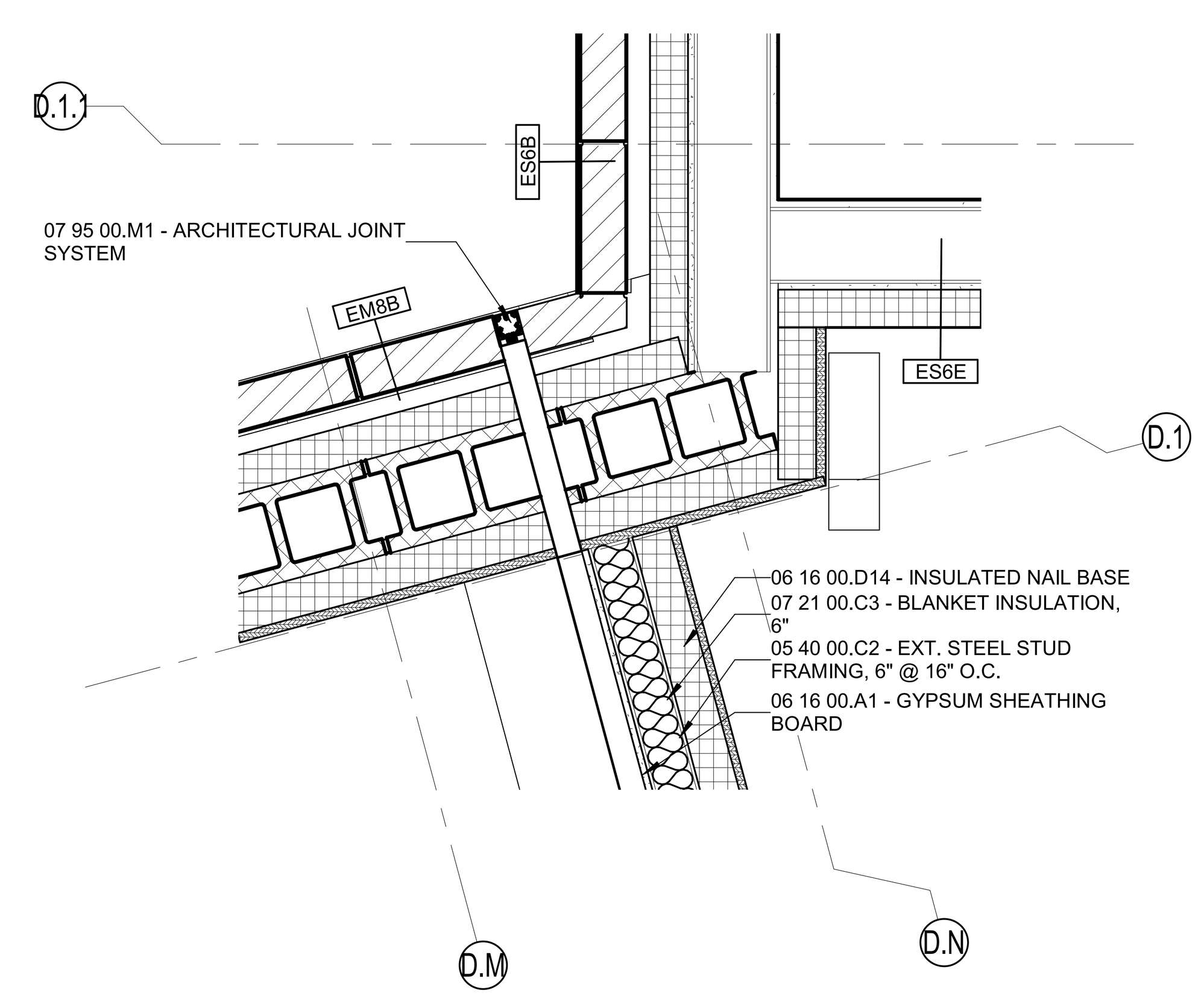
AC1D2



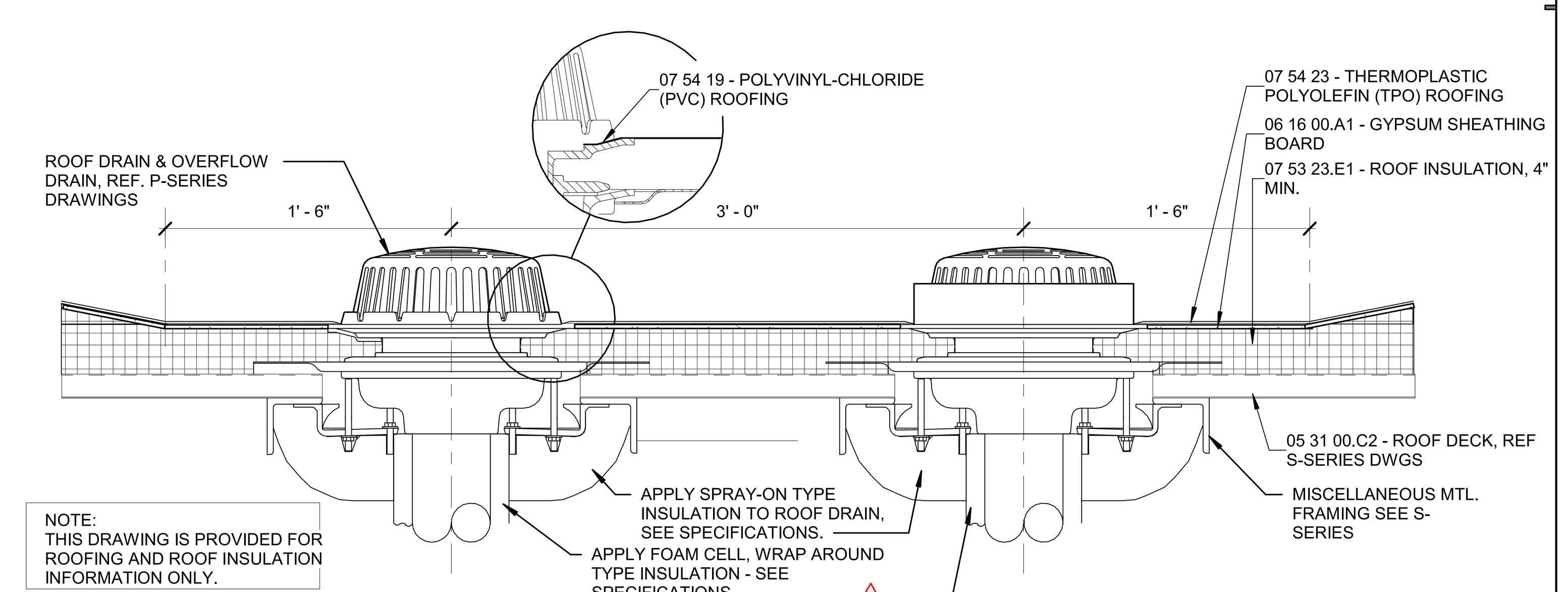
1D PLAN DETAIL
1" = 1'-0"



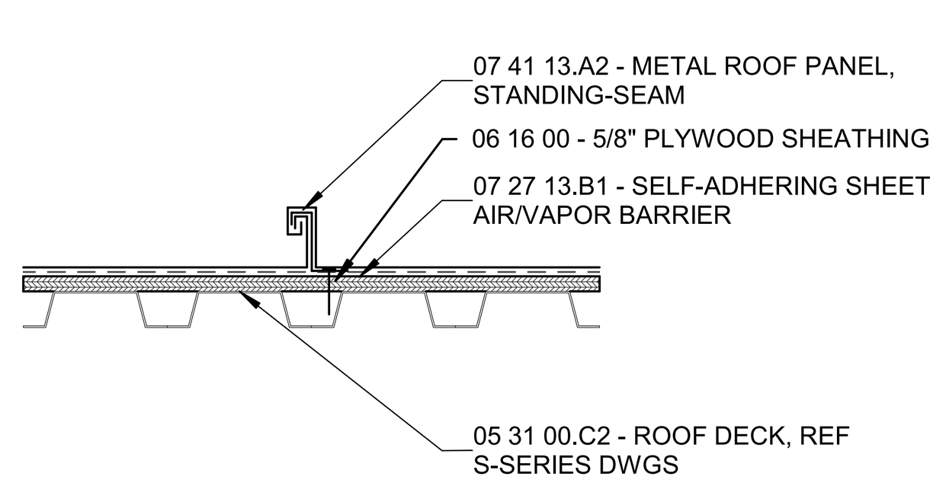
2C ROOF EXPANSION JOINT
1 1/2" = 1'-0"



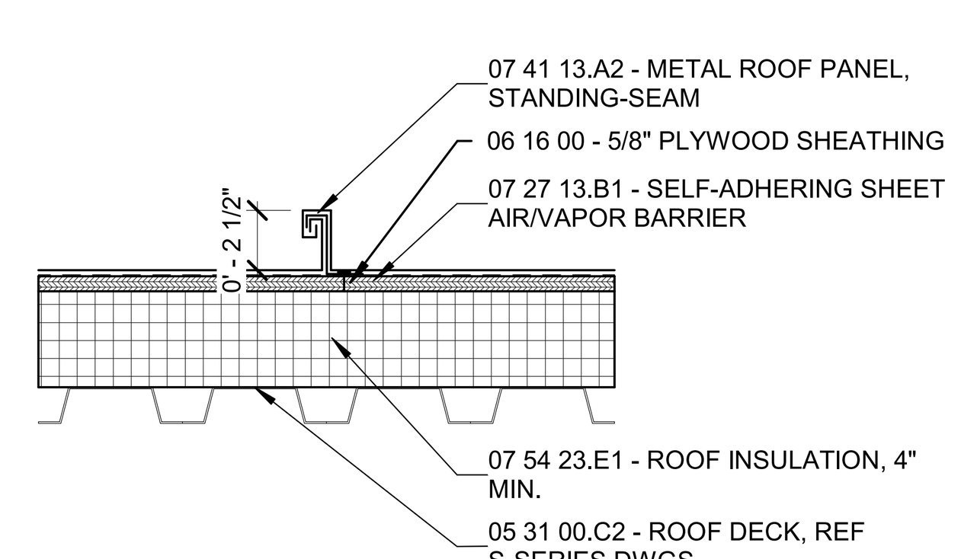
1C PLAN DETAIL
1" = 1'-0"



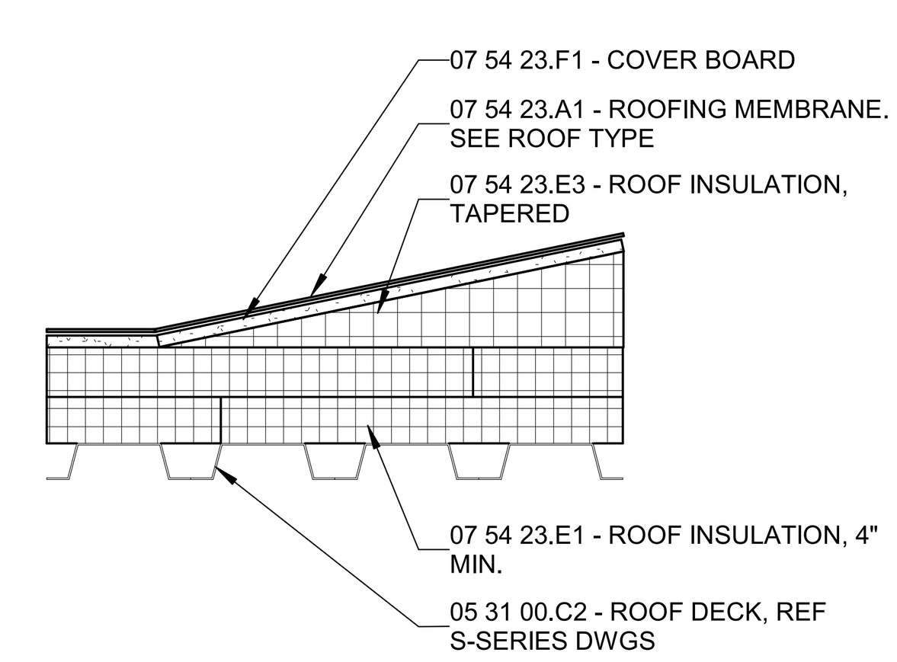
1B ROOF DRAIN DETAIL
1 1/2" = 1'-0"



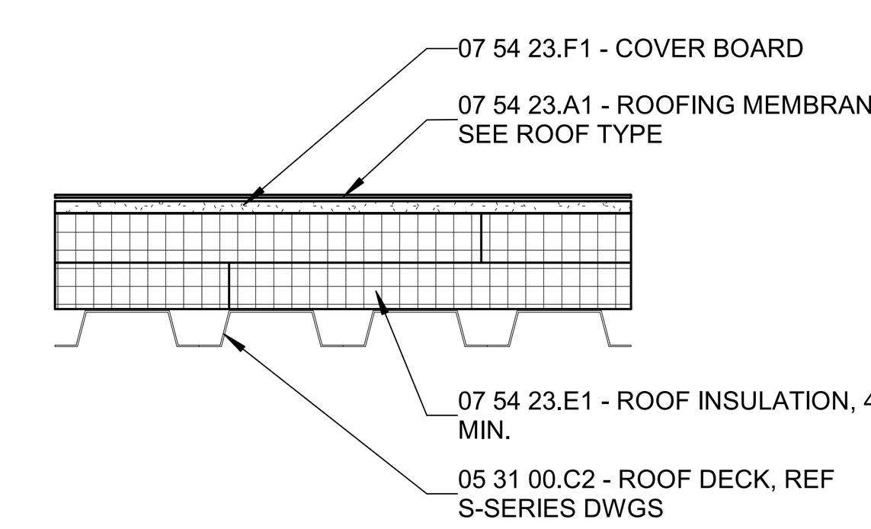
4A ROOF TYPE - RT-D
1 1/2" = 1'-0"



3A ROOF TYPE - RT-C
1 1/2" = 1'-0"



2A ROOF TYPE - RT-B
1 1/2" = 1'-0"



1A ROOF TYPE - RT-A
1 1/2" = 1'-0"

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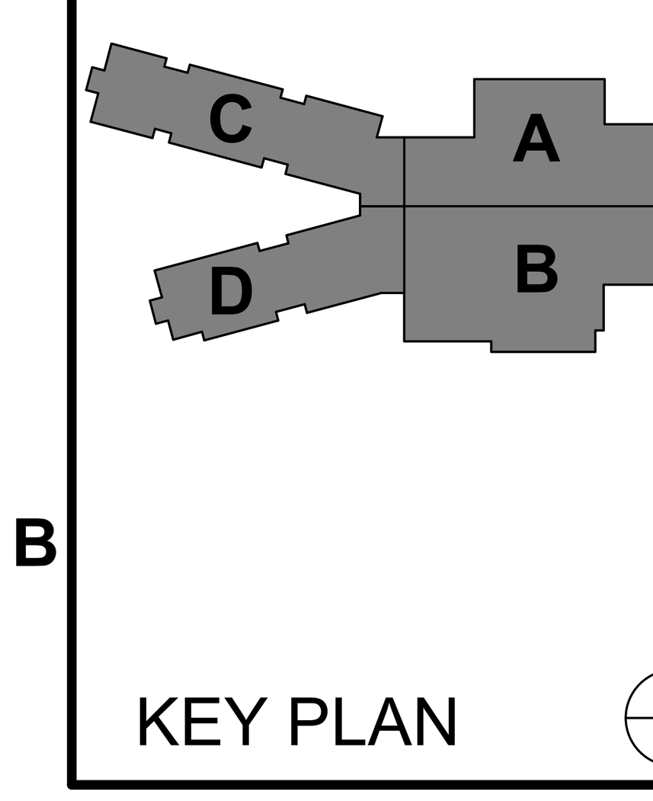
5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

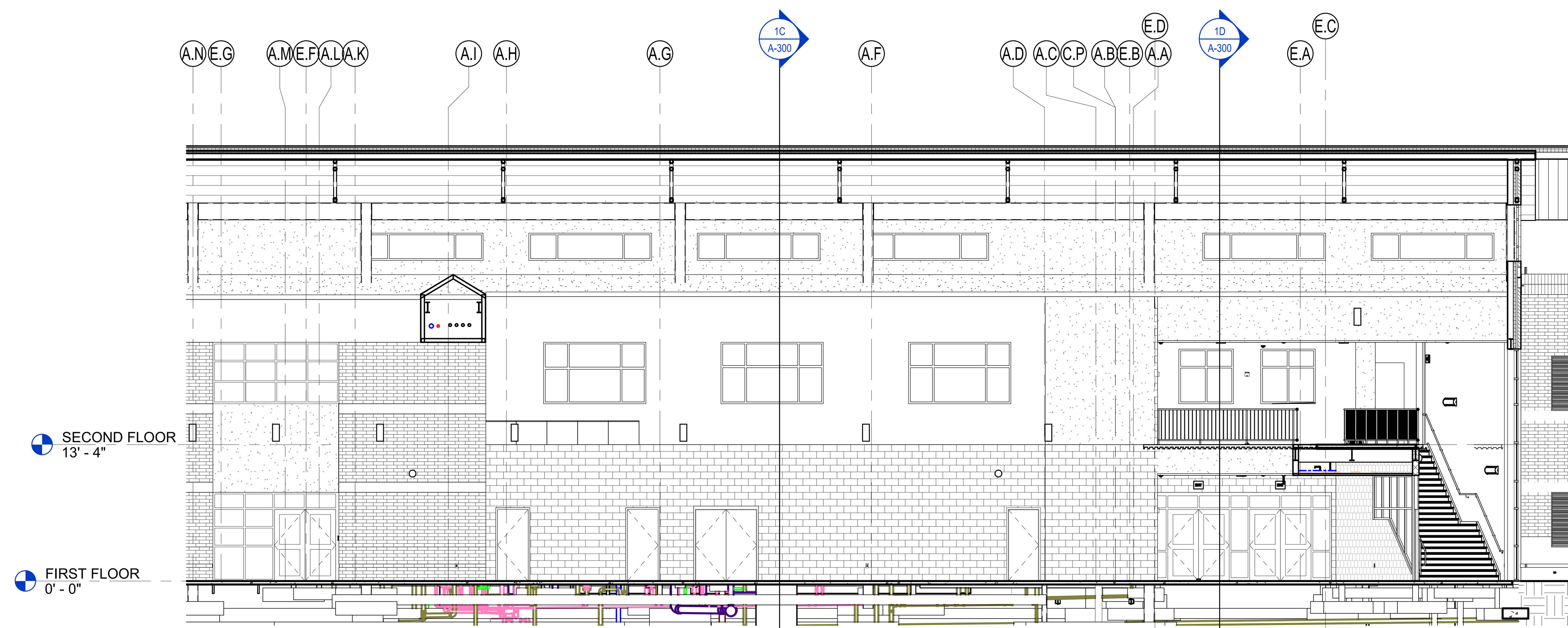
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

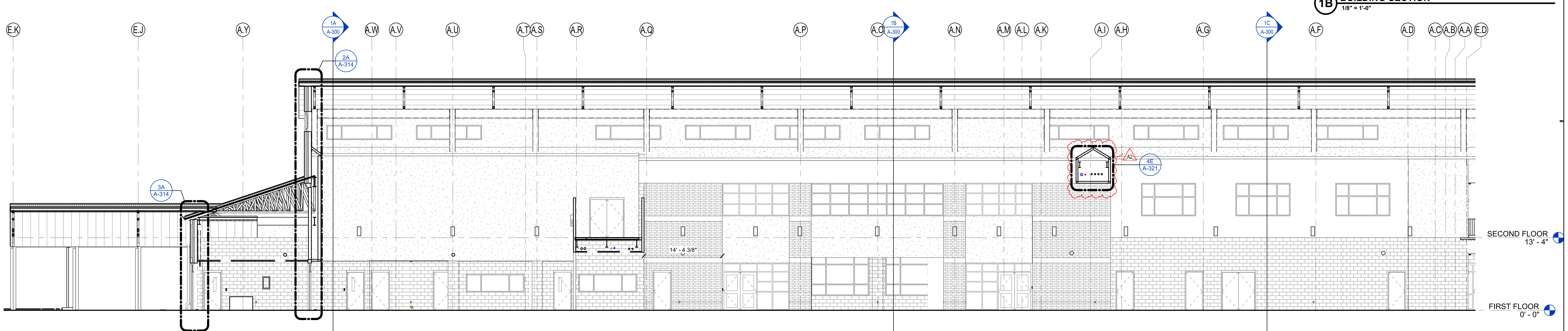
NEW ELEMENTARY SCHOOL

ROOF PLAN DETAILS

AR101



1B BUILDING SECTION
1/8" = 1'-0"



1A BUILDING SECTION
1/8" = 1'-0"

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NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN (C, A, D, B)

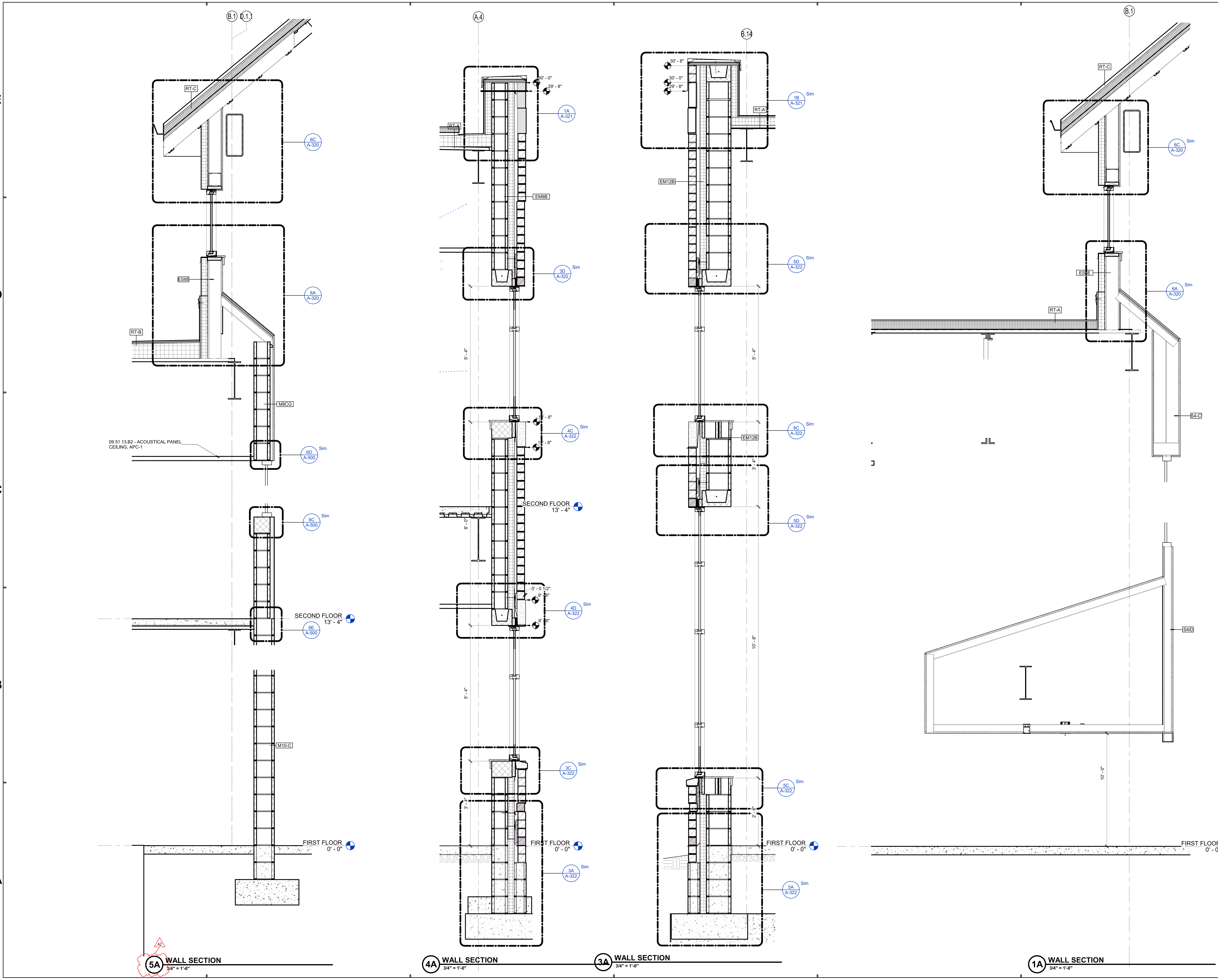
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

BUILDING SECTIONS

A-302



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Project No. 2021-141.NES
Project Date 05.11.2022
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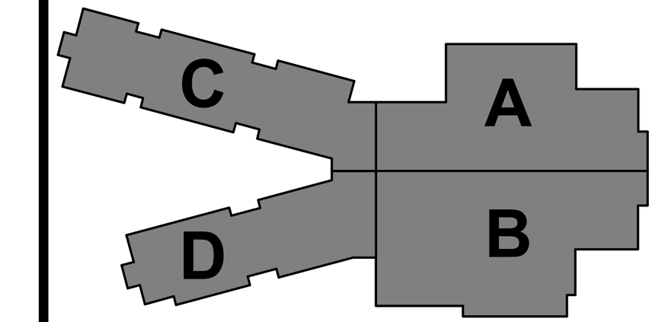
SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

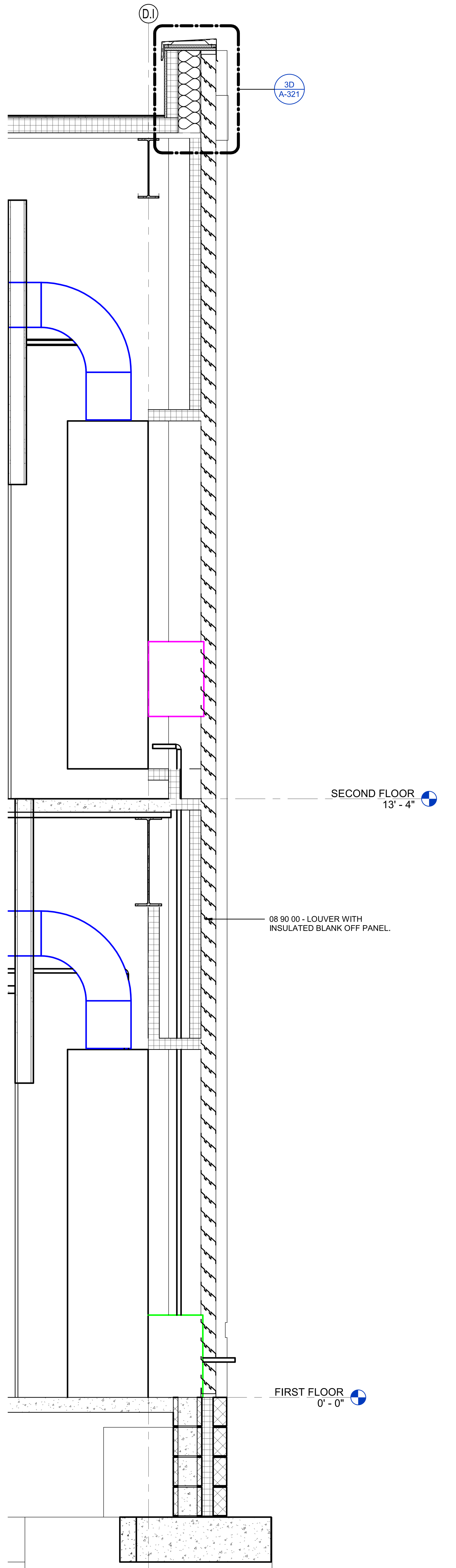
Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

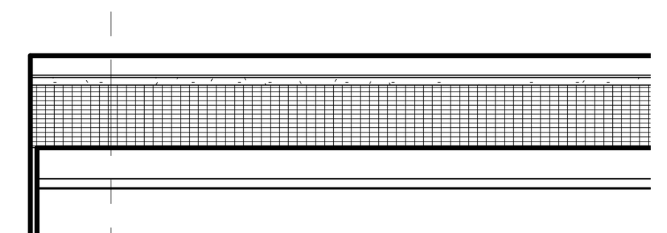
WALL SECTIONS

A-311

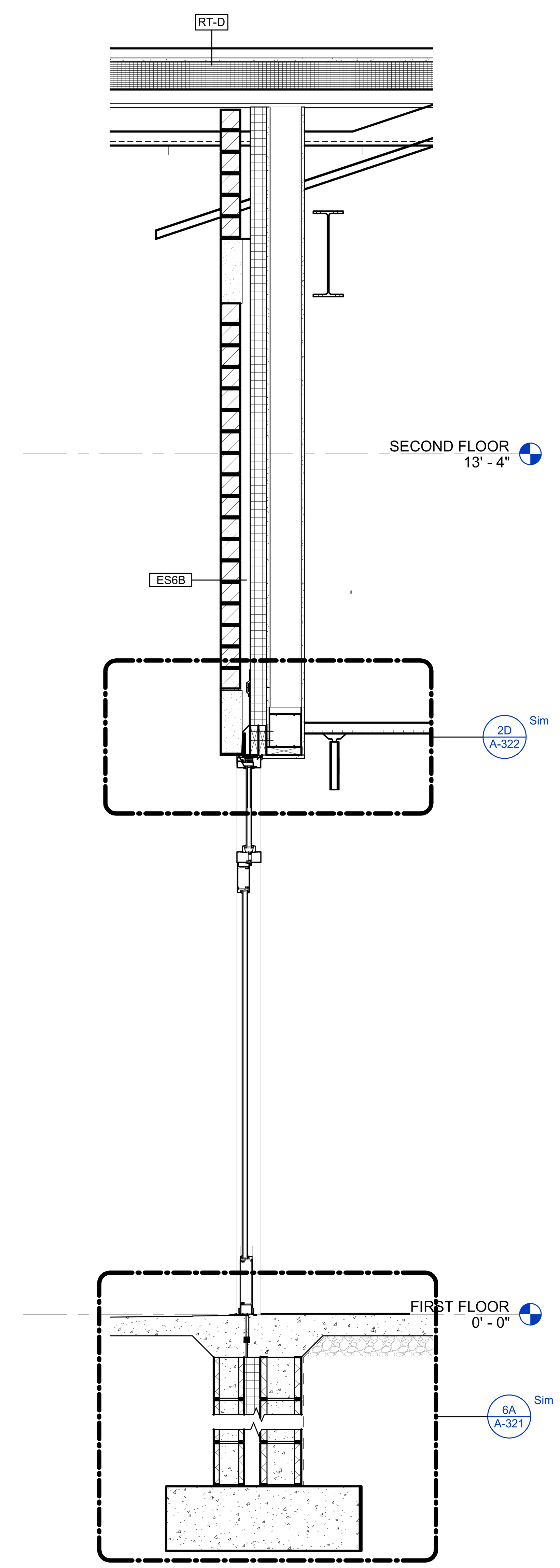
6	5	4	3	2	1



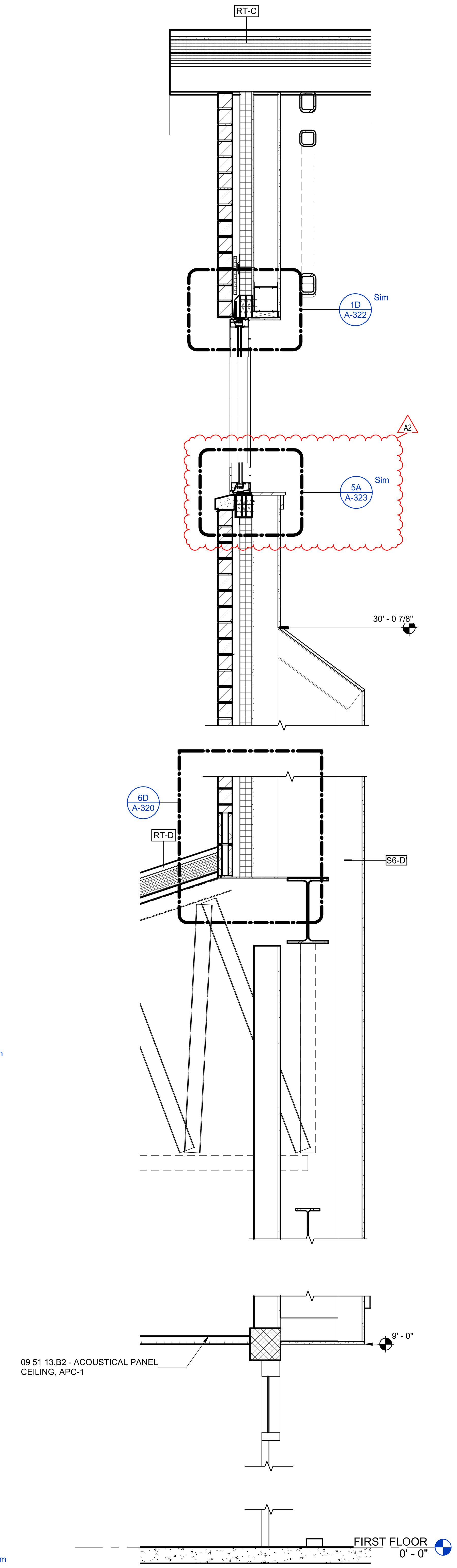
6A WALL SECTION
3/4" = 1'-0"



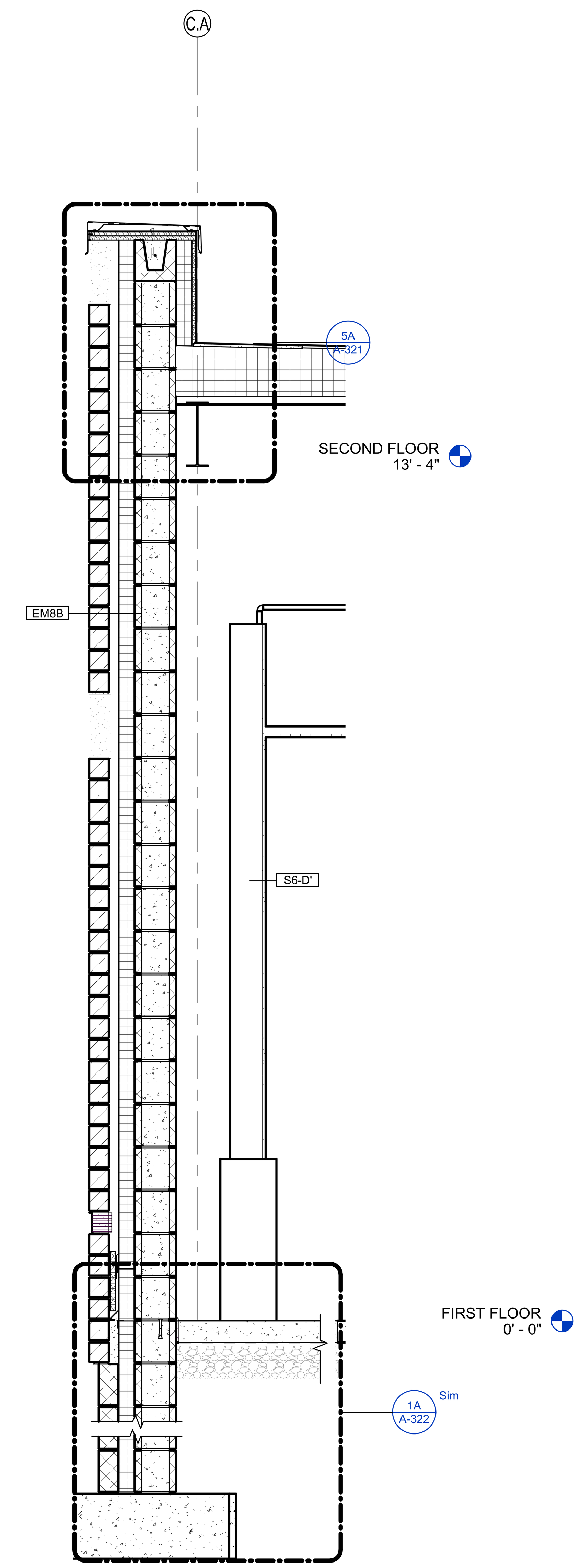
4A WALL SECTION
3/4" = 1'-0"



3A WALL SECTION
3/4" = 1'-0"



2A WALL SECTION
3/4" = 1'-0"



1A WALL SECTION
3/4" = 1'-0"

6	5	4	3	2	1

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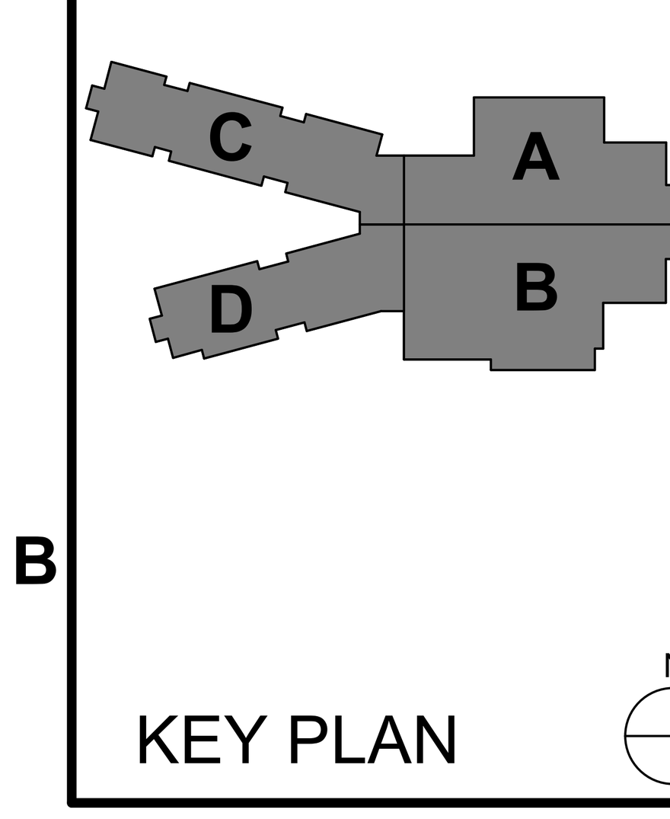
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

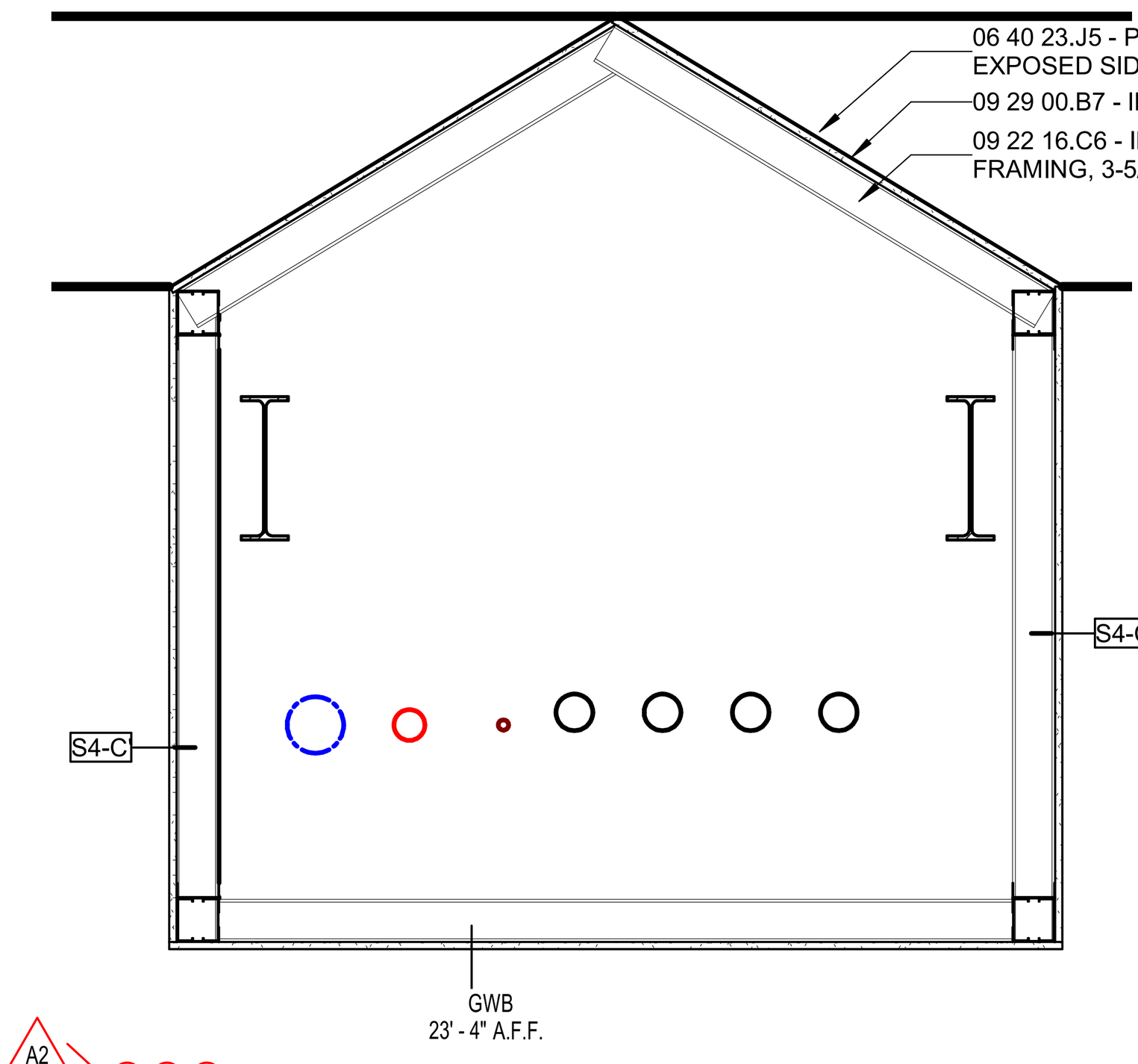
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

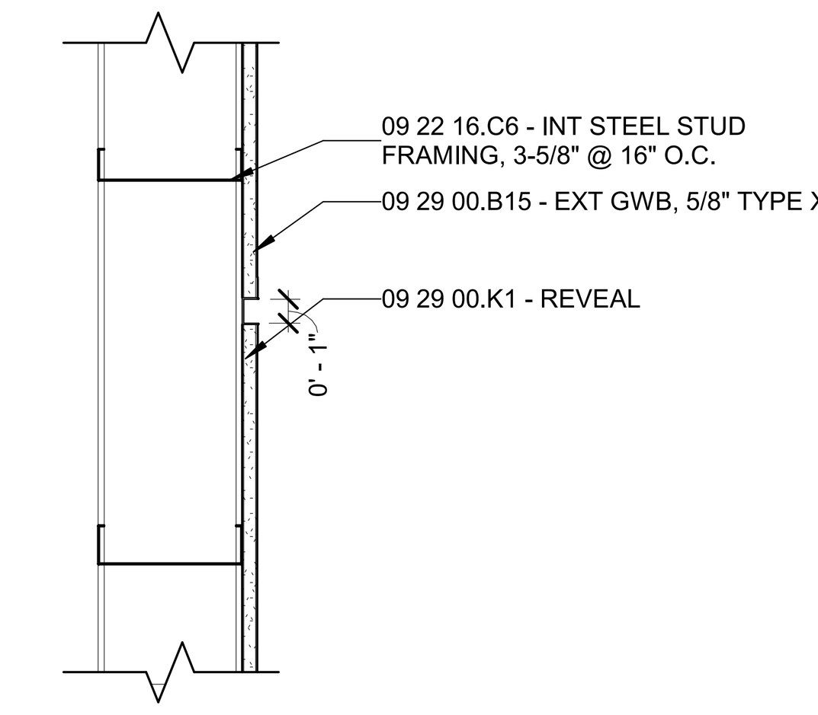
NEW ELEMENTARY SCHOOL

WALL SECTIONS

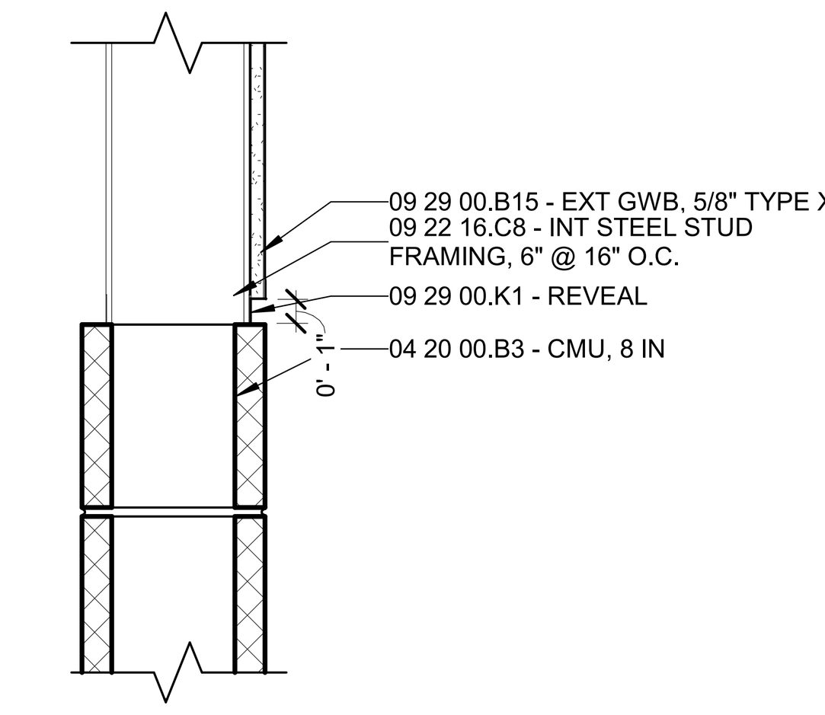
A-314



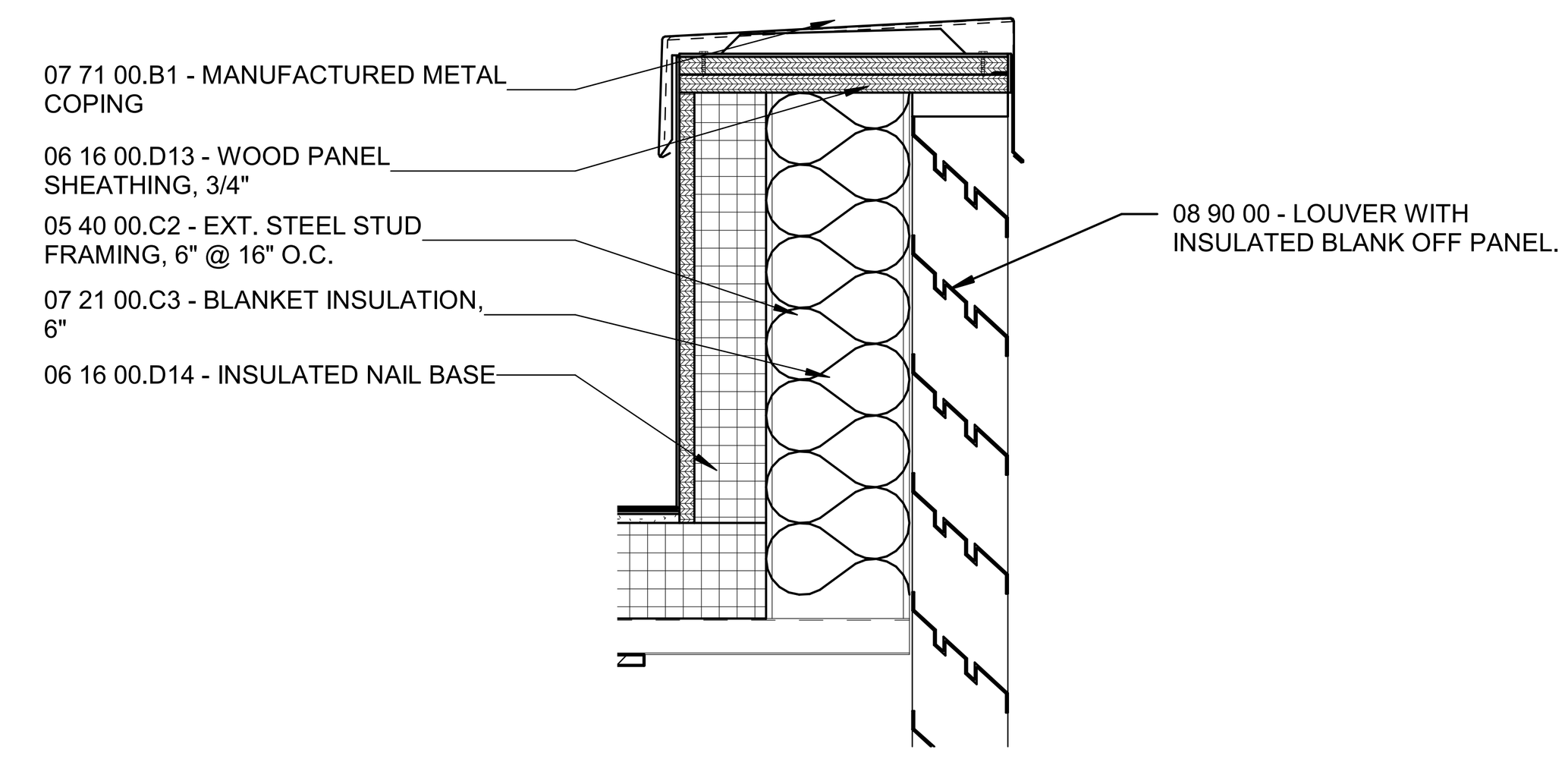
A2
4E SECTION DETAIL
3/4" = 1'-0"



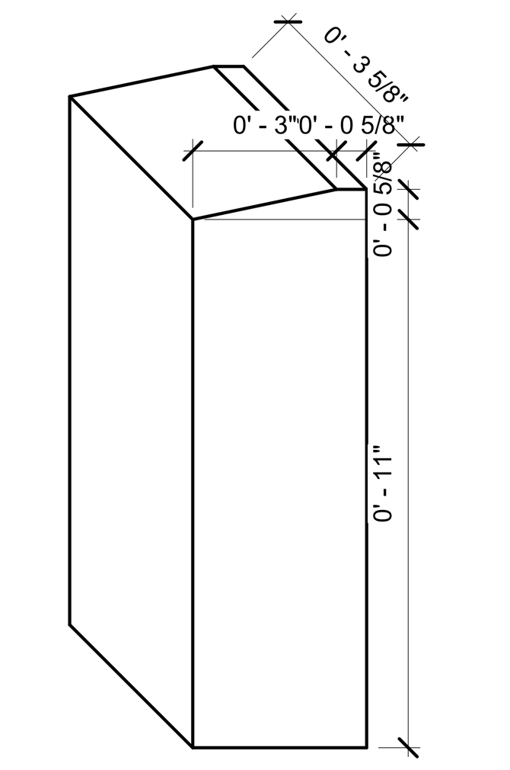
2E REGLET VERTICAL REVEAL
1 1/2" = 1'-0"



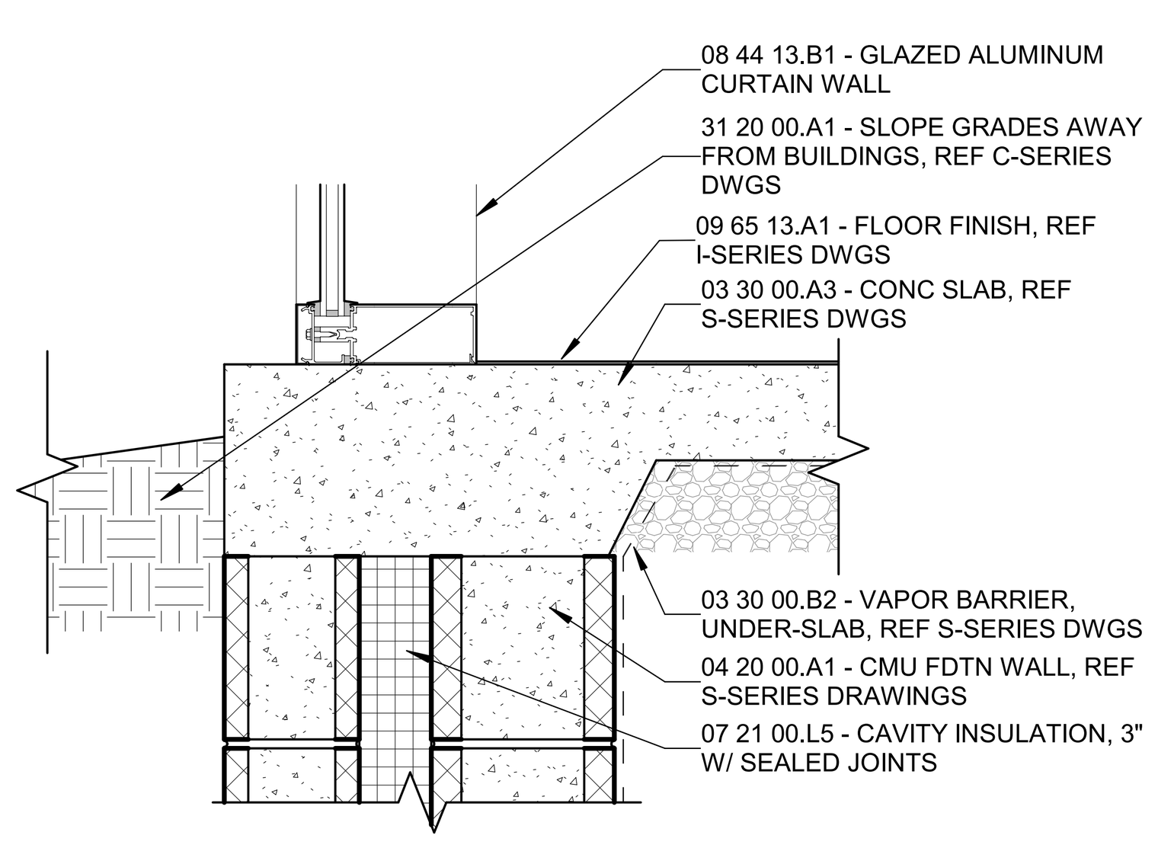
1E REGLET HORIZONTAL REVEAL
1 1/2" = 1'-0"



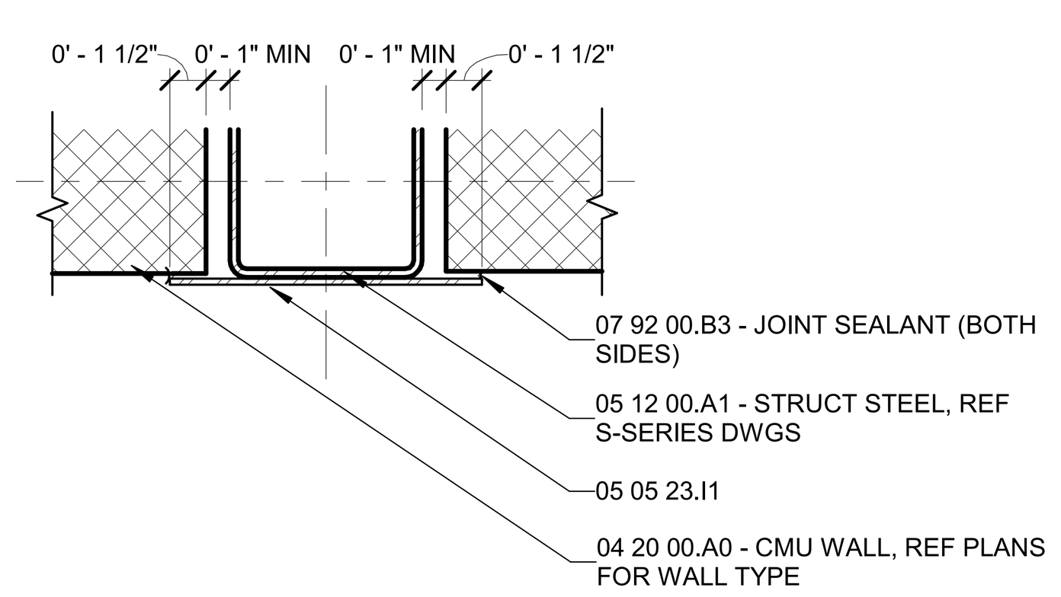
3D SECTION DETAIL
1 1/2" = 1'-0"



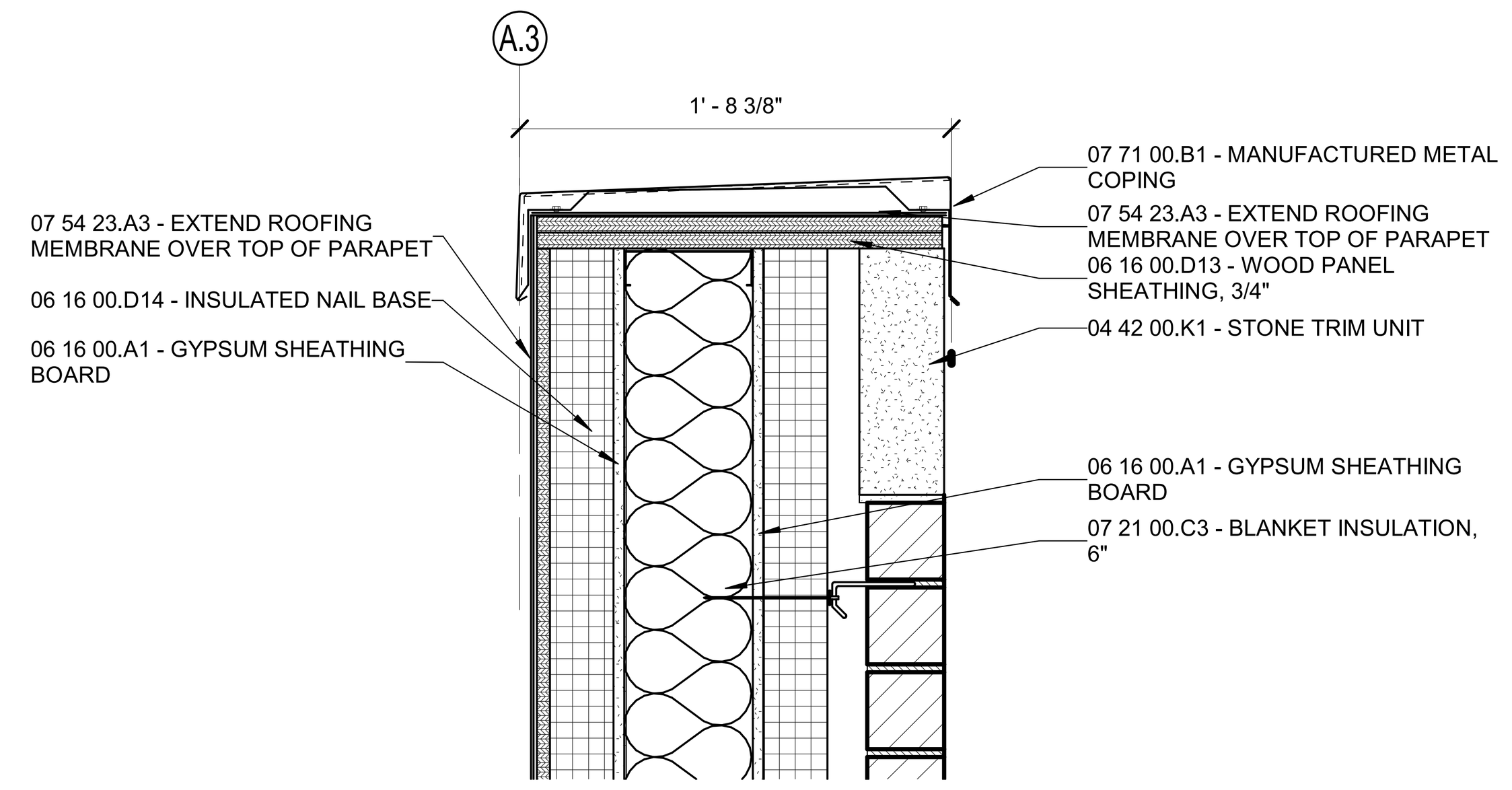
1D LIMESTONE TRIM UNIT @ SILL LOCATIONS
3" = 1'-0"



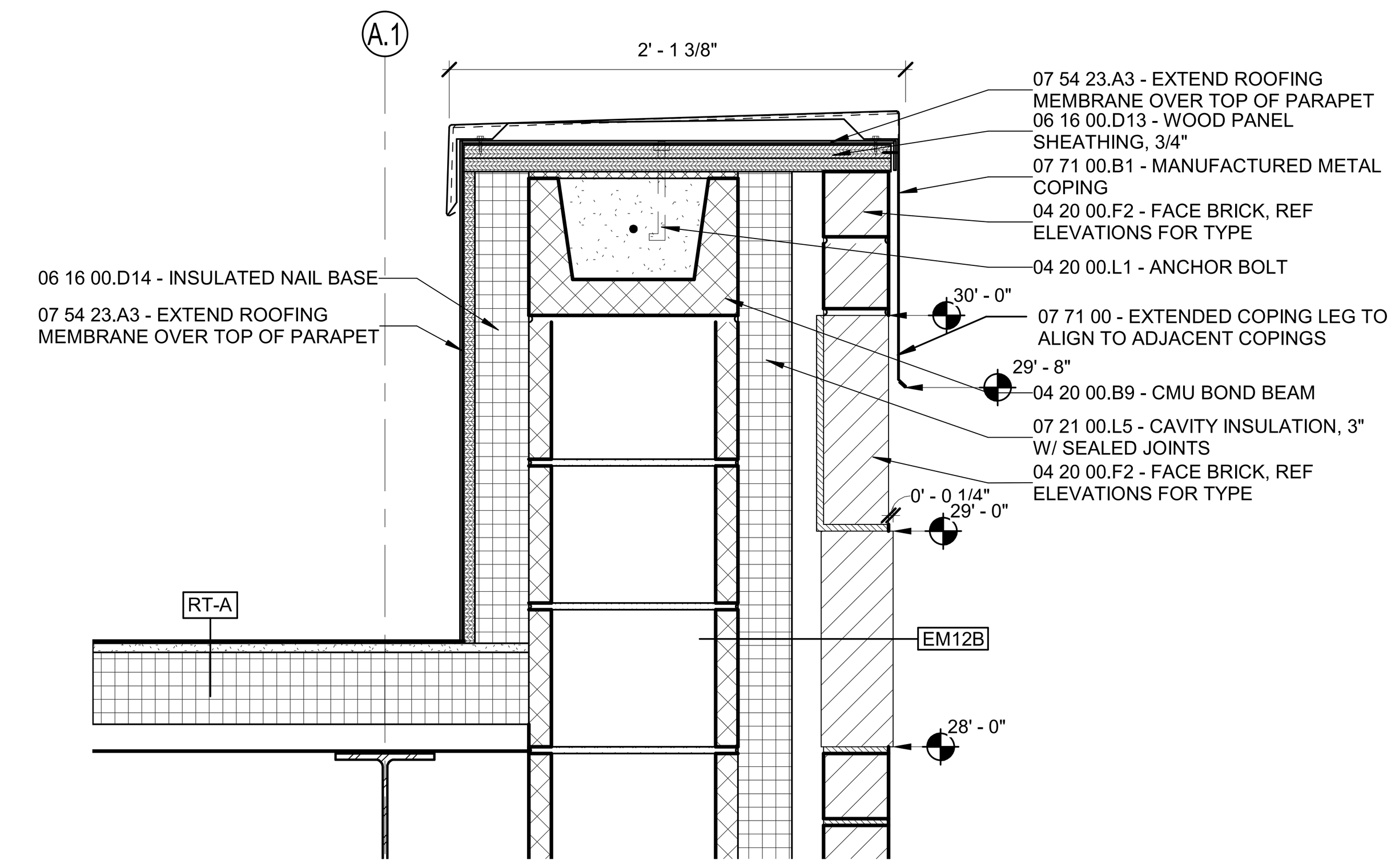
6B SECTION DETAIL
1 1/2" = 1'-0"



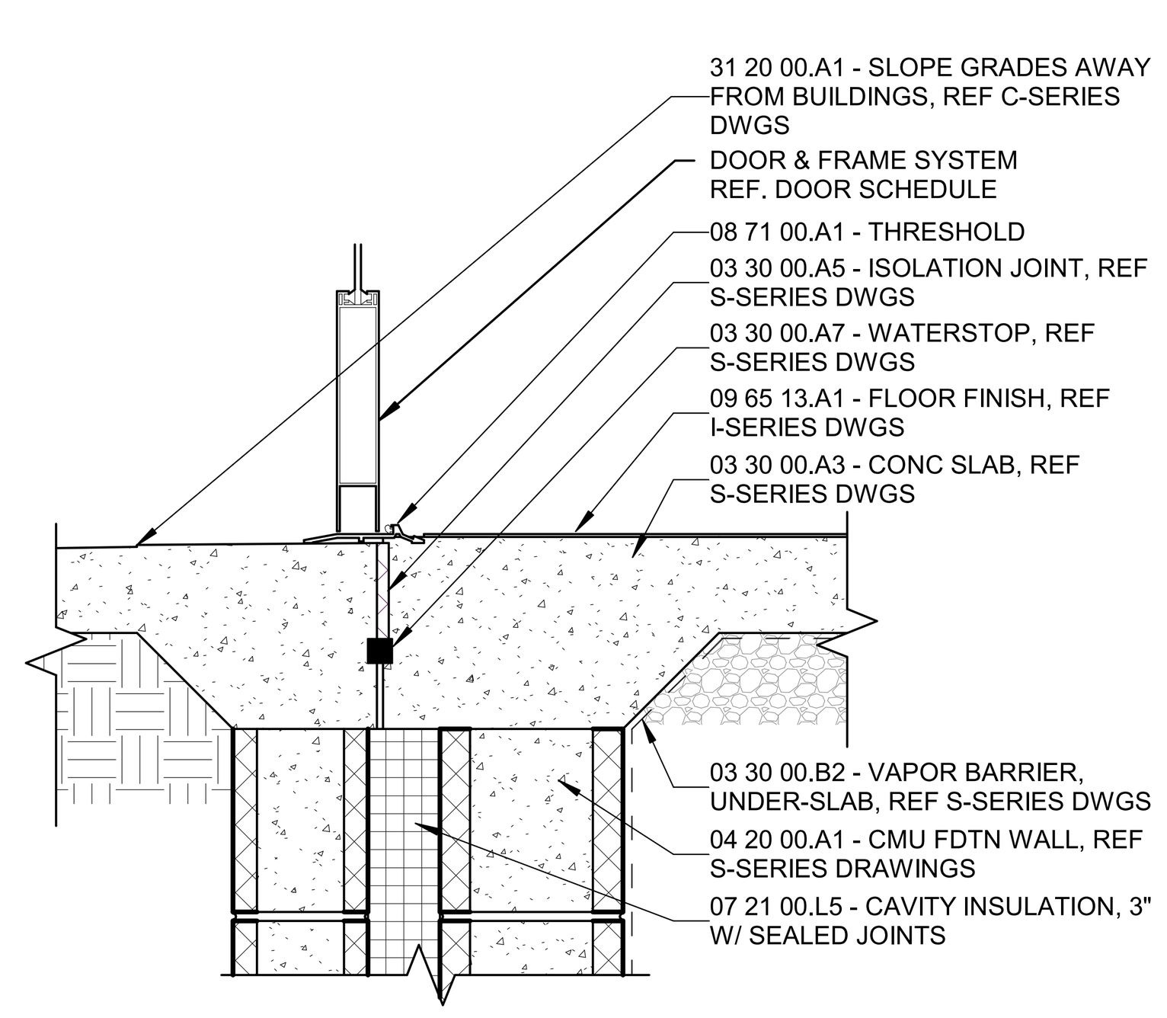
5D CC-MX-SP
1 1/2" = 1'-0"



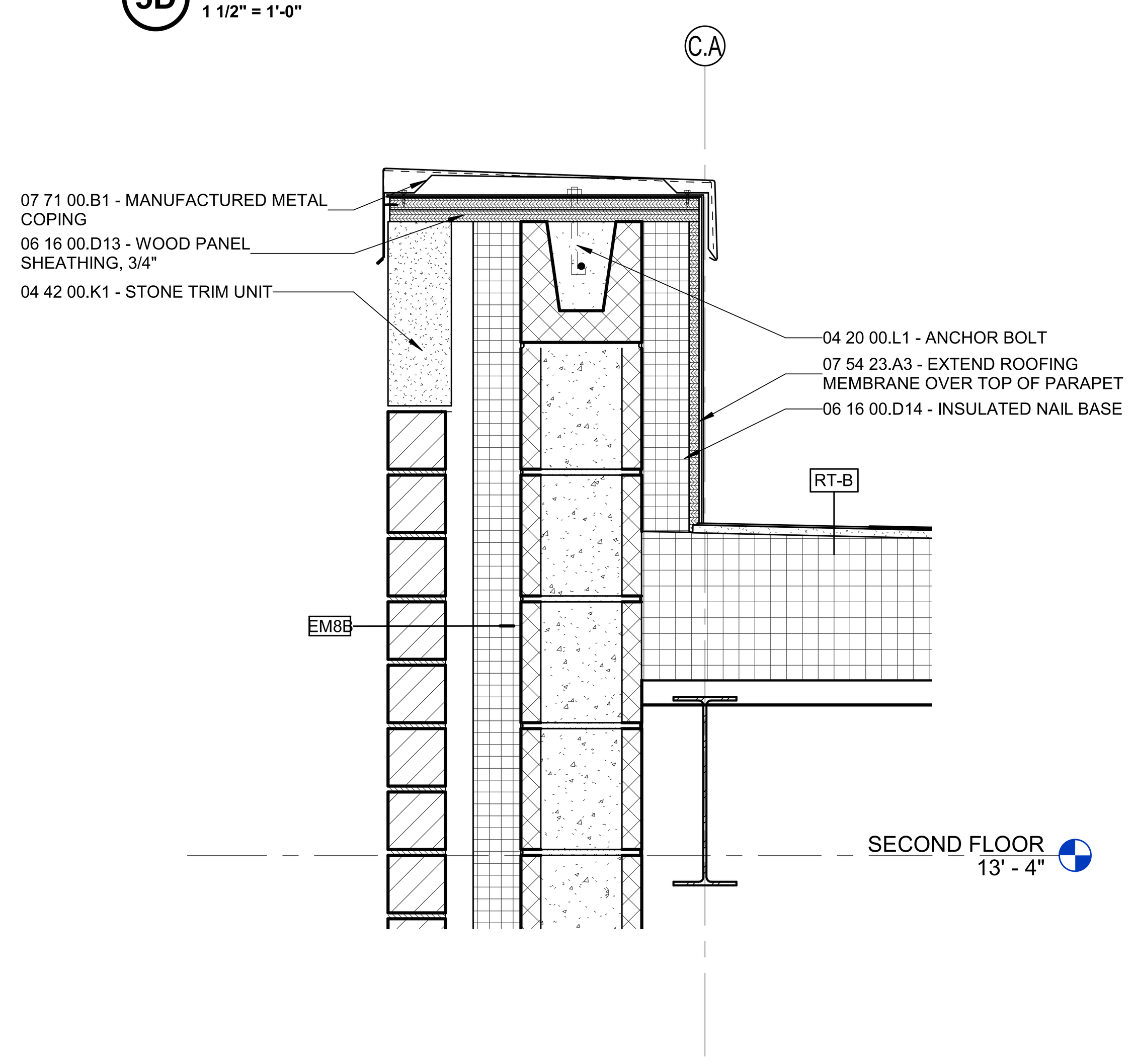
3B SECTION DETAIL
1 1/2" = 1'-0"



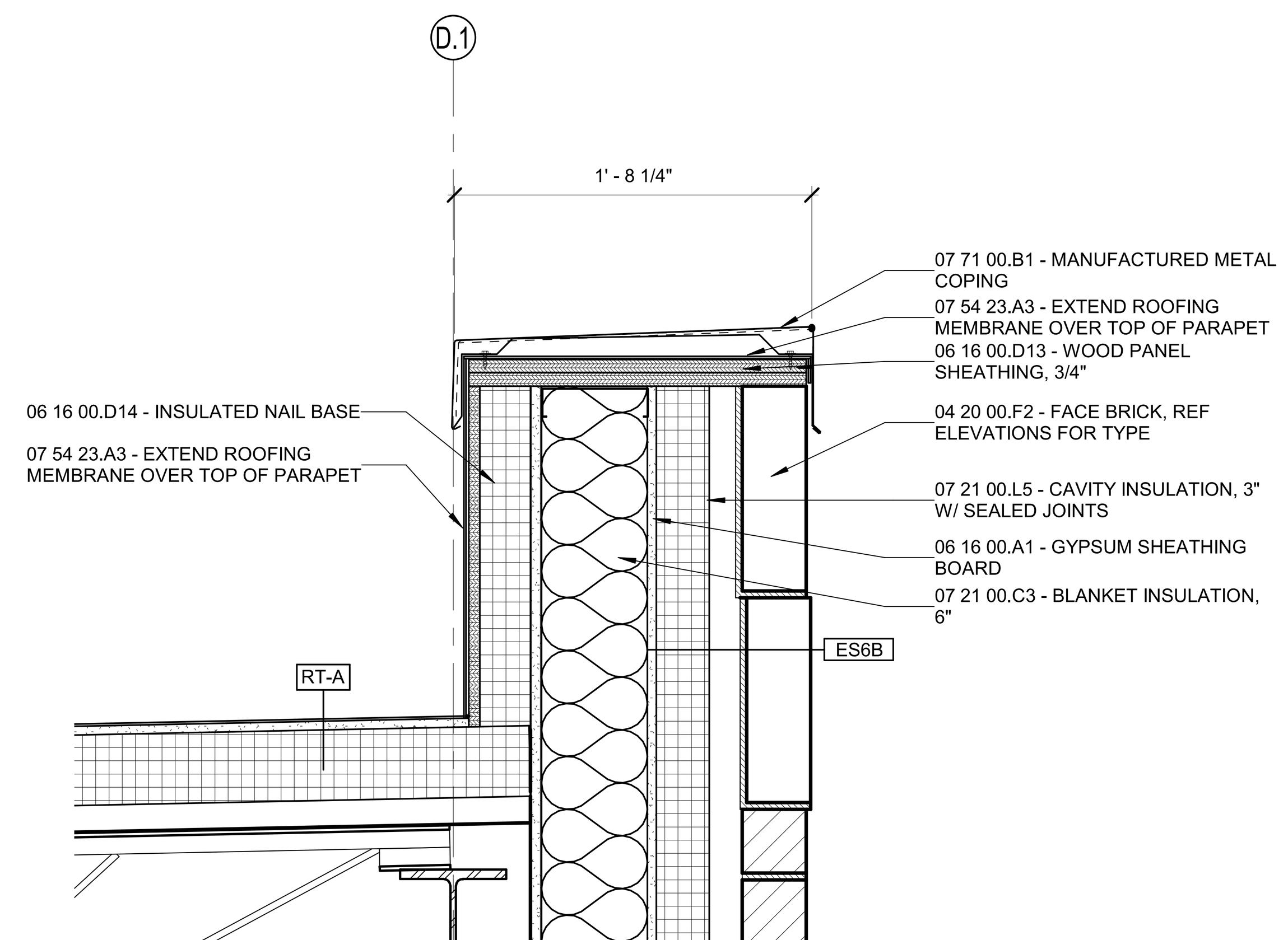
1B SECTION DETAIL
1 1/2" = 1'-0"



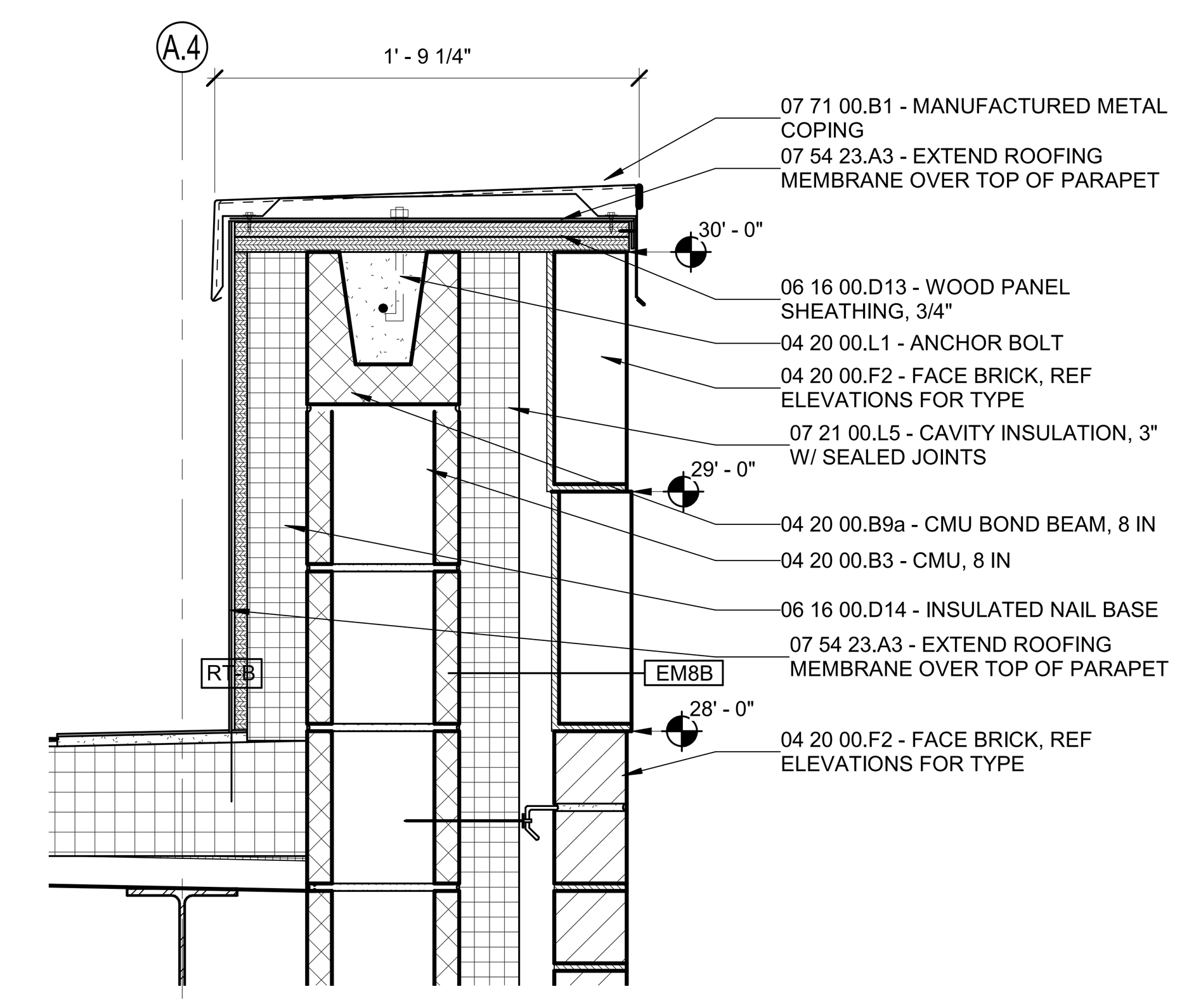
6A FOUNDATION - THRESHOLD
1 1/2" = 1'-0"



5A MASONRY STONE TRIM COPING
1 1/2" = 1'-0"



3A SECTION DETAIL
1 1/2" = 1'-0"



1A SECTION DETAIL
1 1/2" = 1'-0"

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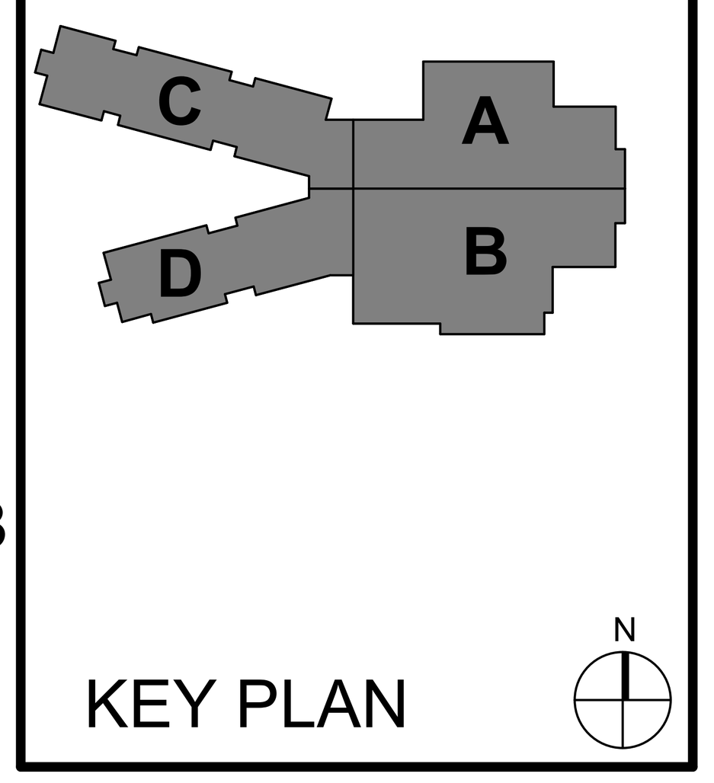
#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

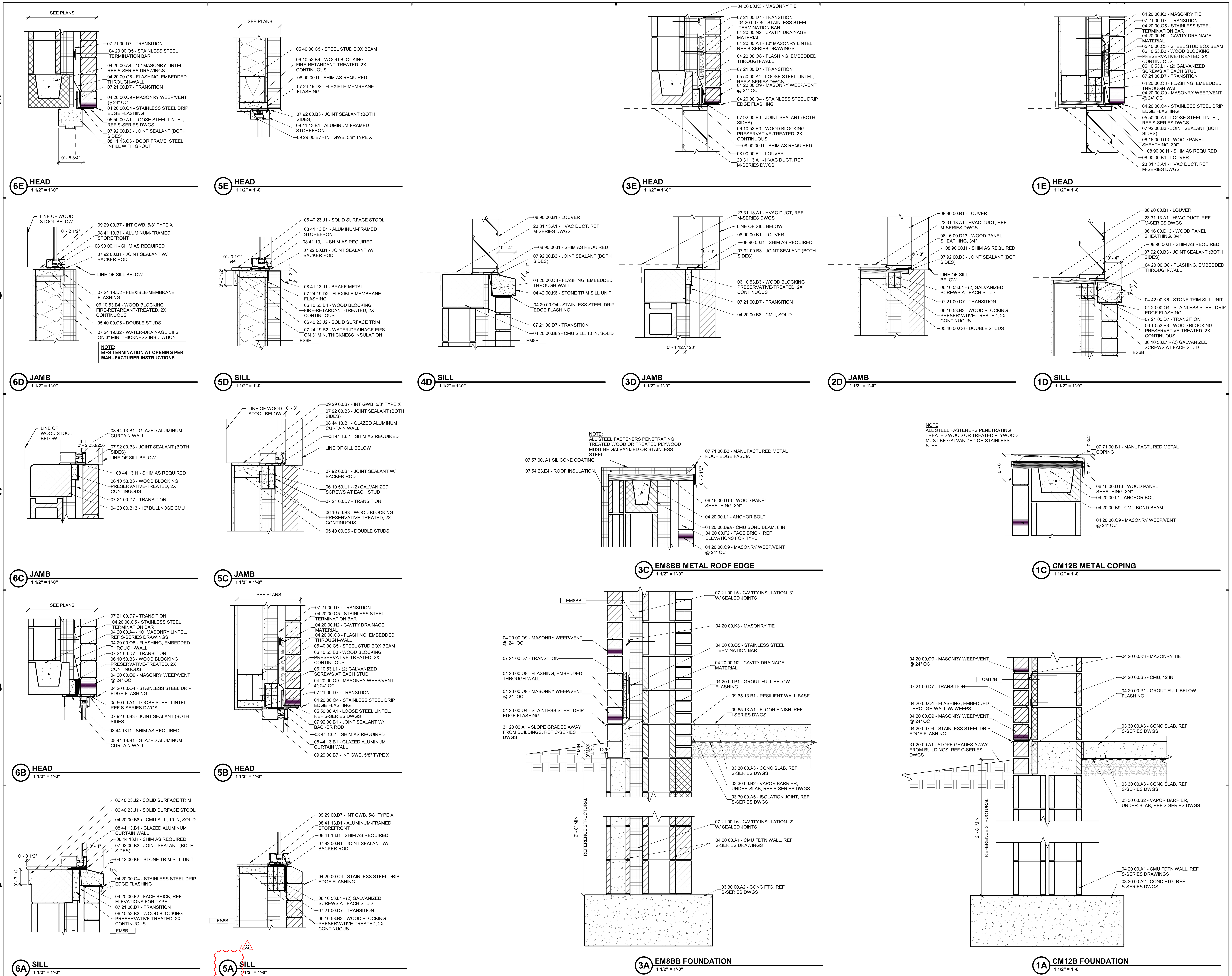
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

WALL SECTION DETAILS

A-321



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#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

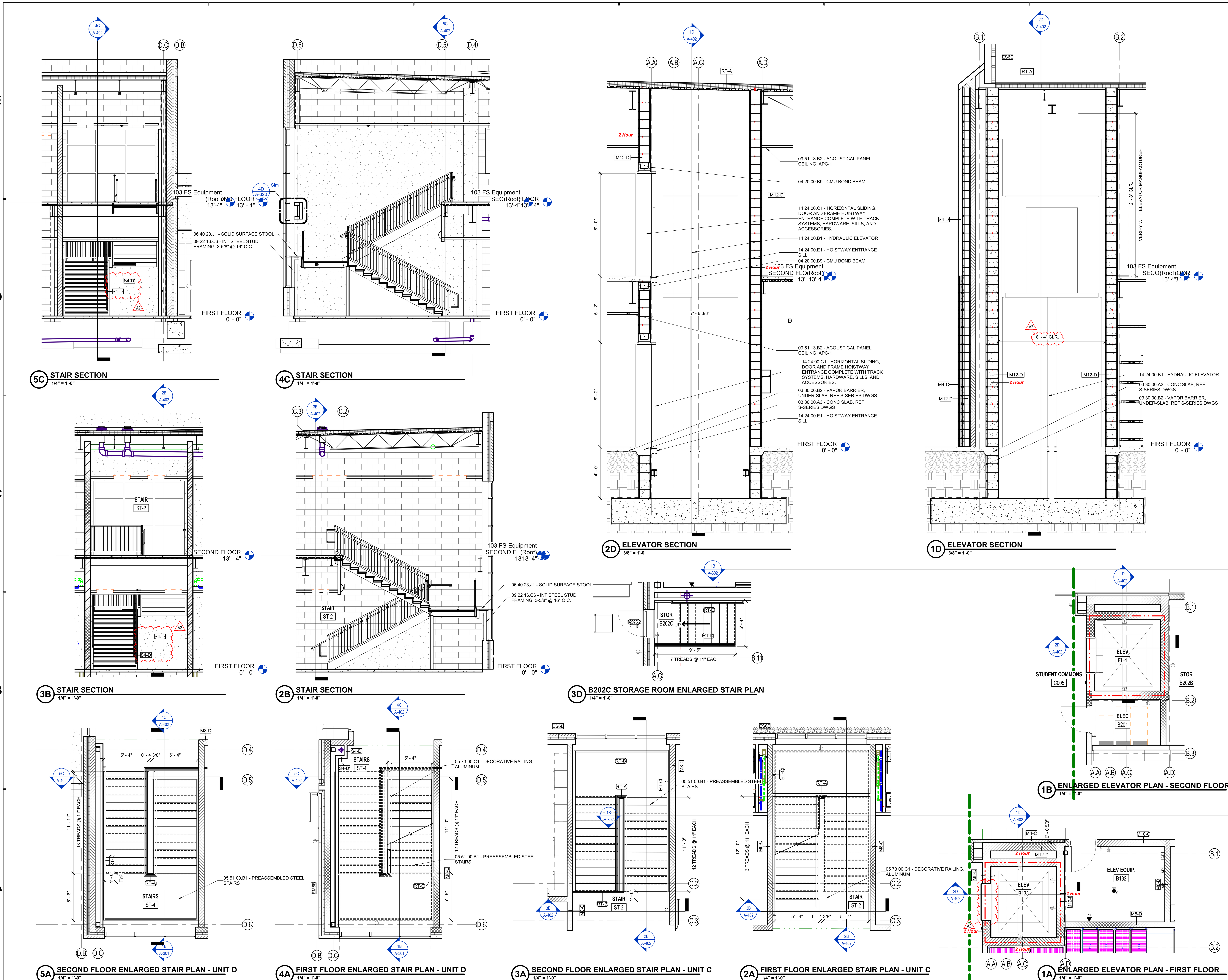
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

WALL SECTION DETAILS

A-323



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#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

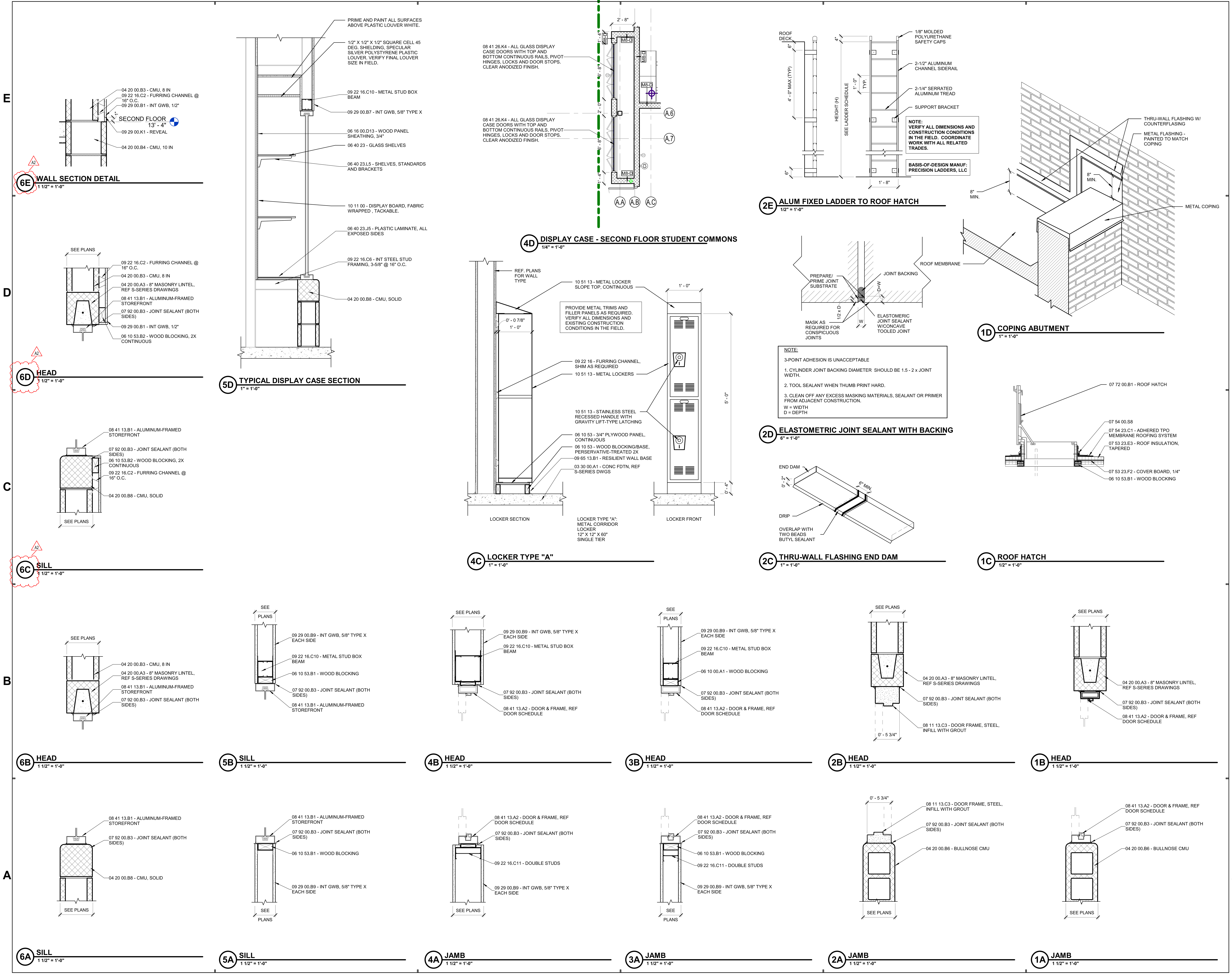
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

ENLARGED STAIR AND ELEVATOR PLANS

A-402



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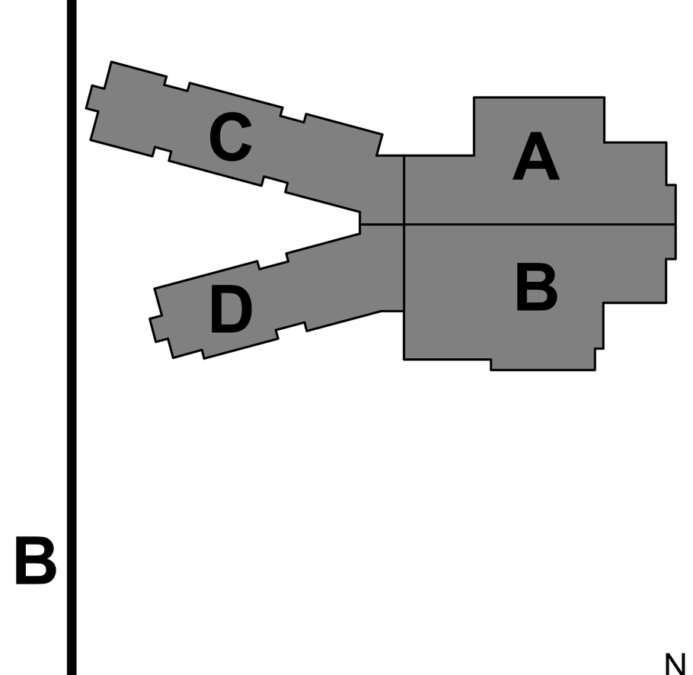
#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

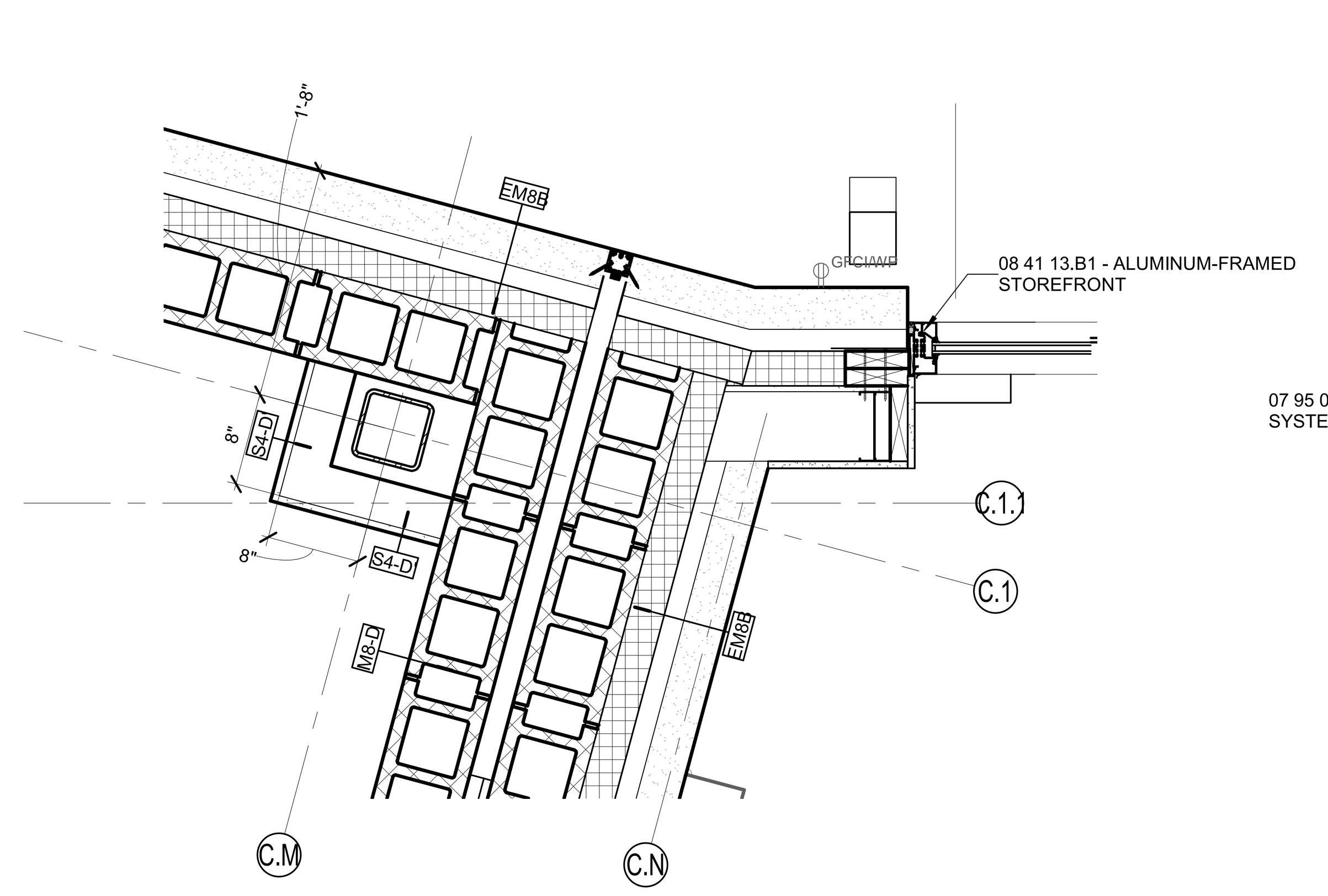
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

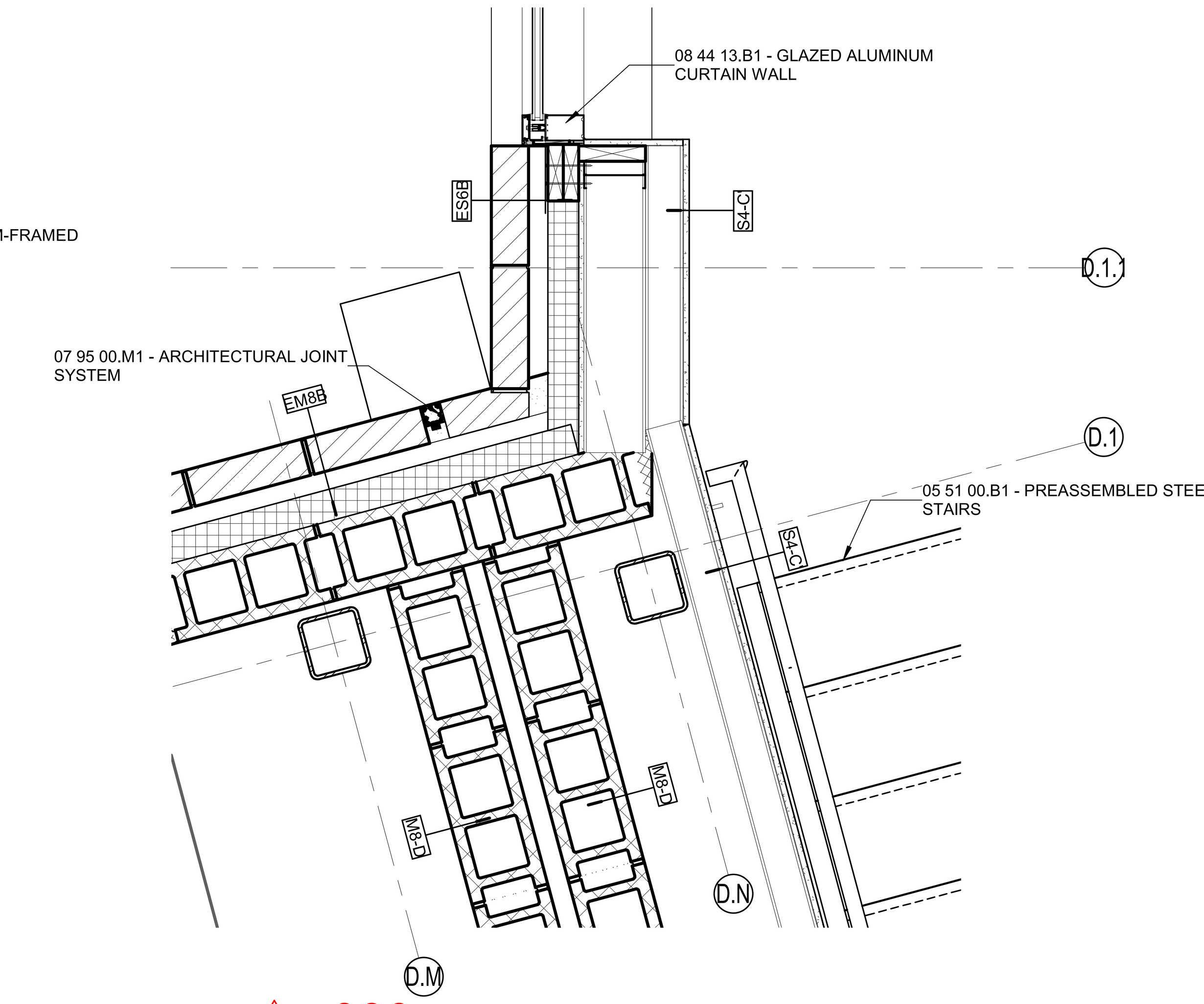
NEW ELEMENTARY SCHOOL

TYPICAL DETAILS

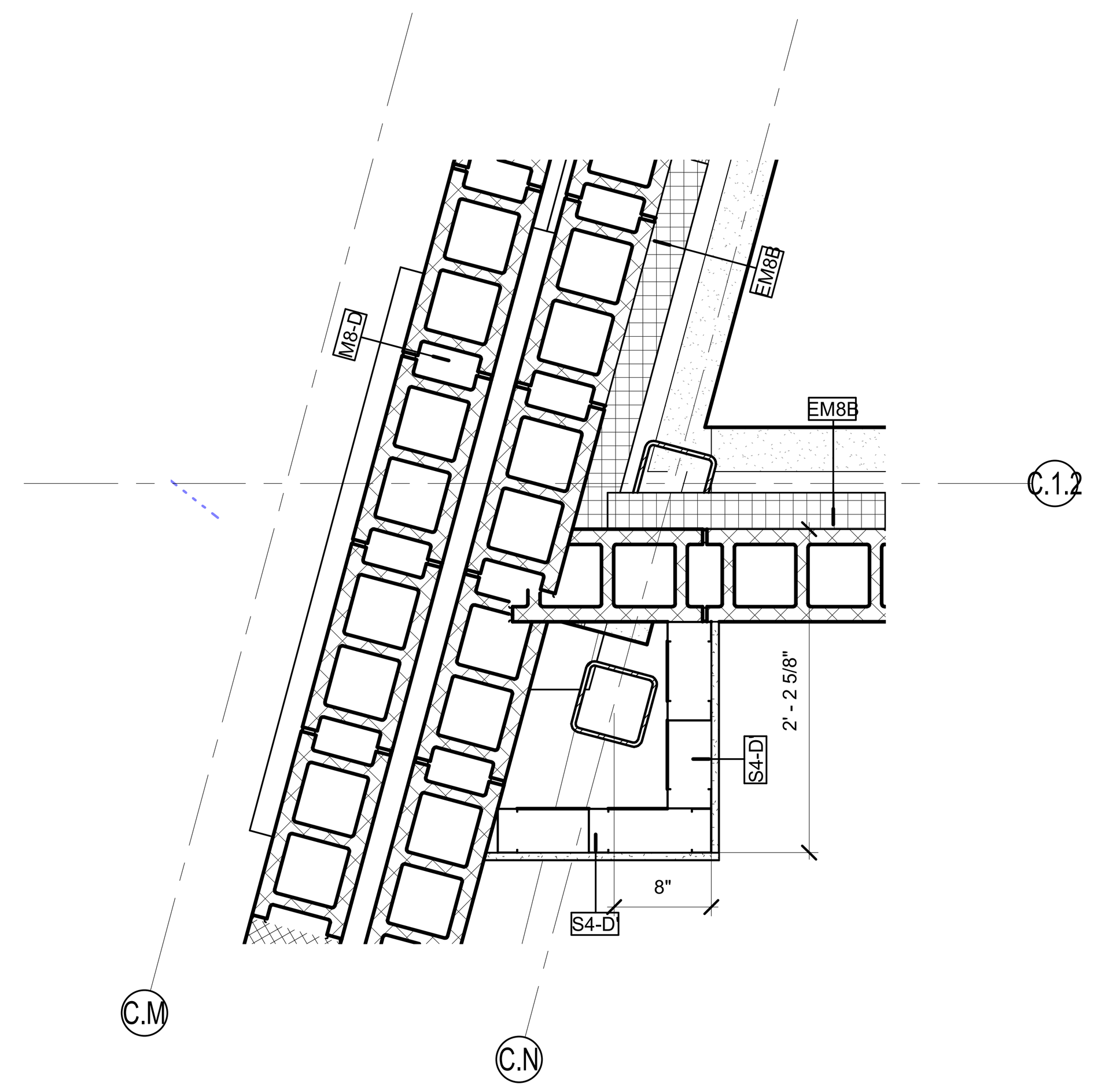
A-500



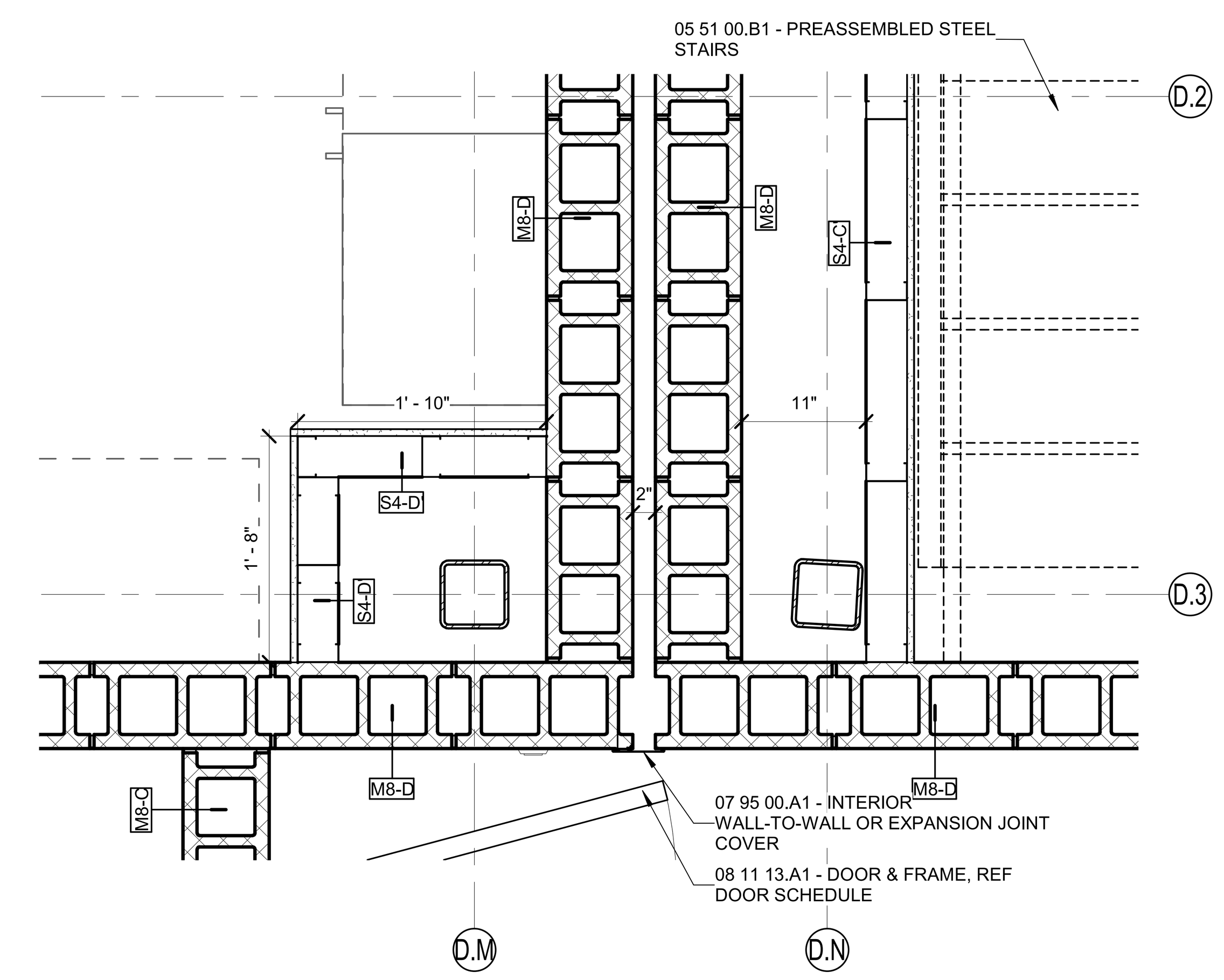
A1 3D PLAN DETAIL - EXPANSION JOINT
1" = 1'-0"



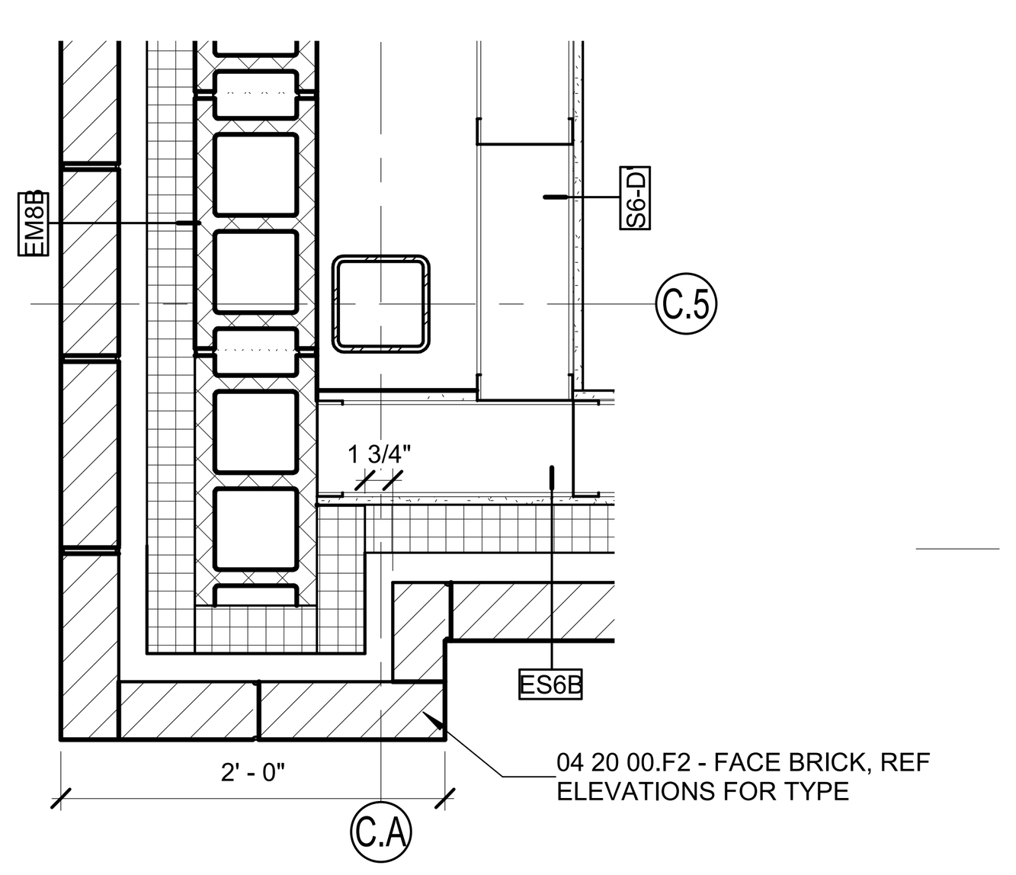
A1 1D PLAN DETAIL - EXPANSION JOINT
1" = 1'-0"



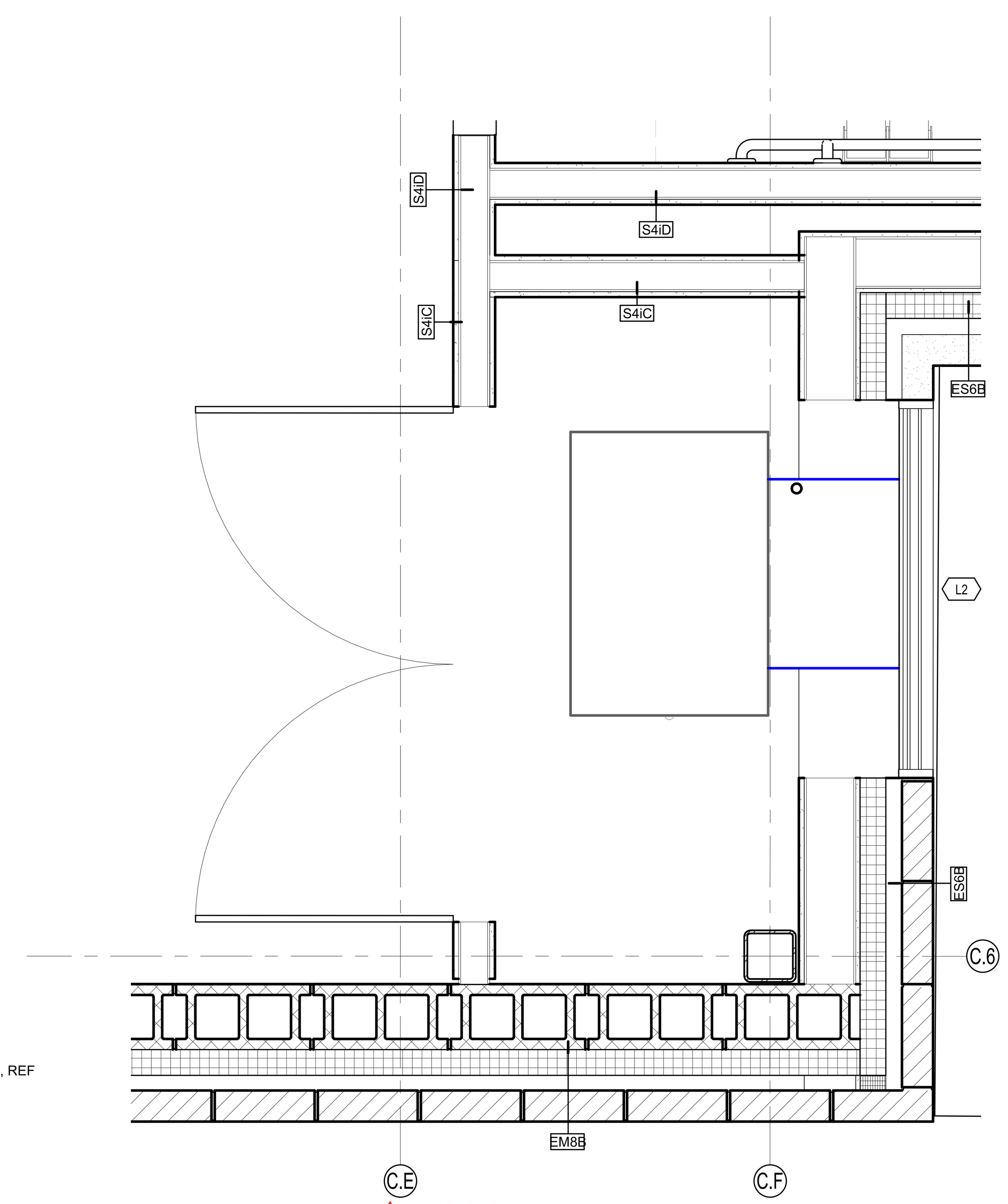
A1 3C PLAN DETAIL - EXPANSION JOINT
1" = 1'-0"



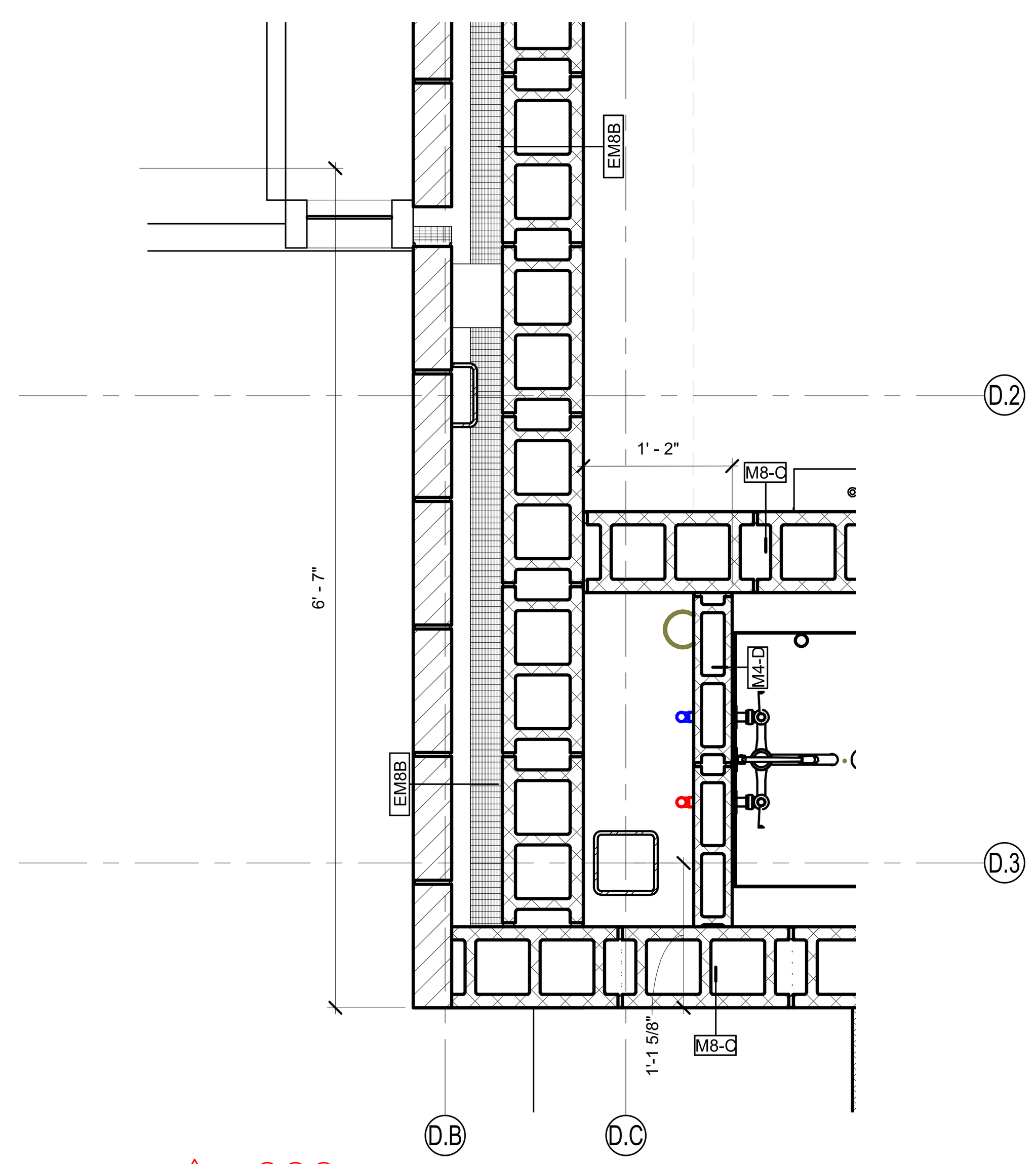
A1 1B PLAN DETAIL - EXPANSION JOINT
1" = 1'-0"



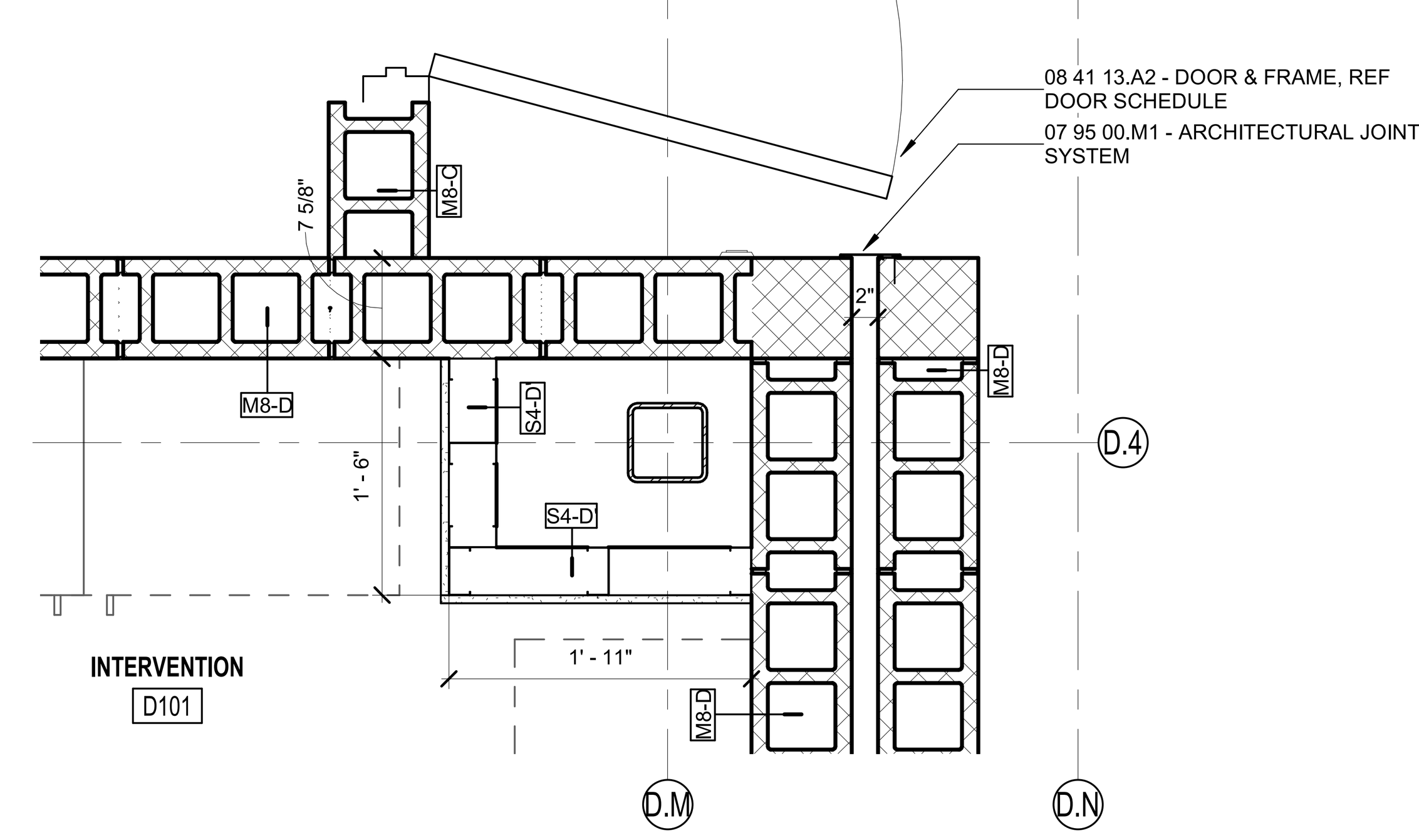
A2 5A PLAN DETAIL - VESTIBULE END WALL TYP.
1" = 1'-0"



A1 4A PLAN DETAIL - VUV
1" = 1'-0"



A1 3A PLAN DETAIL - VESTIBULE
1" = 1'-0"



A1 1A PLAN DETAIL - INTERVENTION D101
1" = 1'-0"

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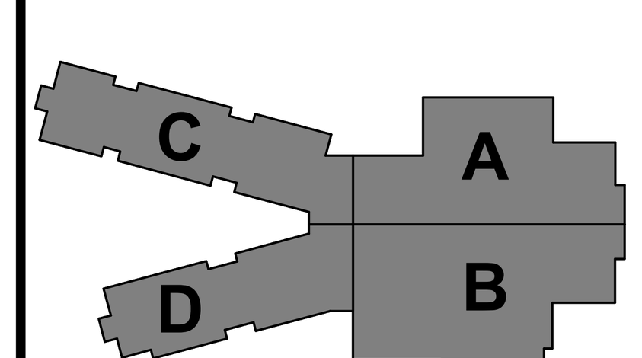
#	Revision	Date
A1	Addendum 1	05.31.2022
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PLAN DETAILS

A-511

DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
A001.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF1	AL	IG-1		47		A001.1
A001.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF1	AL	IG-1		53		A001.2
A001.3	DG	2	AL	TG	7' - 0"	6' - 0"	0' - 1 3/4"	SF1	AL	TG		46	1	A001.3
A001.4	DG	2	AL	TG	7' - 0"	6' - 0"	0' - 1 3/4"	SF1	AL	TG		51	1	A001.4
A002	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		15		A002
A100.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		23	1	A100.1
A100.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		41		A100.2
A100.3	NV	1	HM	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F3	HM	TG		21		A100.3
A101.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		09		A101.1
A101.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		A101.2
A101B	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A101B
A102.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A102.1
A102.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		11		A102.2
A103.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A103.1
A103.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		11		A103.2
A104	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		10		A104
A105	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A105
A106	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A106
A107	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A107
A108	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		A108
A110	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A110
A110	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		A110
A111	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		19		A111
A112	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		09		A112
A113.1	NV	2	WD	TG	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	TG		55		A113.1
A113.2	NV	2	WD	TG	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	TG		58		A113.2
A113.4	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		49		A113.4
A113.5	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		52		A113.5
A113B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		01		A113B
A113C	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		01		A113C
A113D	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		32		A113D
A114A	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		29		A114A
A115A	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		A115A
A115B	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		A115B
A117.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		62		A117.1
A117.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--	#HR	45		A117.2
A117A	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		A117A
A200.1	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		37		A200.1
A200.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		16		A200.2
A200.3	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		28		A200.3
A201.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A201.1
A201.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		17		A201.2
A201A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		19		A201A
A202	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		A202
A202A	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		20		A202A
A202B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		19		A202B
B001.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		12		B001.1
B001.2	F	2	WD	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		04		B001.2
B001.3	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		15		B001.3
B002.1	NV	2	WD	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		34		B002.1
B002.a	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		29		B002.a
B004	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		B004
B100.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		21		B100.1
B100.2	NV	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		09		B100.2
B100.3	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		B100.3
B101	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		08		B101
B102	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		08		B102
B103	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		09		B103
B104	NV	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		09		B104
B105	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		B105
B106	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		14		B106
B107	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		08		B107
B108	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		06		B108
B109	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		B109
B110	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		B110
B111.1	DG	2	AL	TG	7' - 0"	6' - 0"	0' - 1 3/4"	SF23	AL	TG		56		B111.1
B111.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF4	AL	IG-1		53	2	B111.2
B111.3	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF4	AL	IG-1		49	2	B111.3
B111.4	DG	2	AL	TG	7' - 0"	6' - 0"	0' - 1 3/4"	SF23	AL	TG		56		B111.4
B112A	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		33		B112A
B113.1	F	2	WD	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		33		B113.1
B114	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		24		B114
B115.1	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		13		B115.1
B115.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		13		B115.2
B115.3	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		13		B115.3
B115.4	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		13		B115.4
B116.1	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		14		B116.1
B116.2	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		14		B116.2
B117	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		22		B117
B118	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		19		B118
B119	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		18		B119
B120	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		07		B120
B121	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		09		B121
B123.1	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		38		B123.1
B123.2	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		36		B123.2
B123.3	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		36		B123.3
B123.4	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		35		B123.4
B124.1	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--	90 min	54		B124.1
B124.2	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--	90 min	54		B124.2
B125	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		11		B125
B125	F	1	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		26		B125
B127	NV	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		11		B127
B128.1	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		30		B128.1
B128.2	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		40		B128.2
B128.3	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		30		B128.3
B129	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		B129
B130	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		06		B130
B131	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		39		B131
B132	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		B132
B200.1	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		37		B200.1
B200.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		16		B200.2
B201	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		25		B201
B202.1	DG		AL	TG	7' - 0"	6' - 0"	0' - 1 3/4"	SF32	AL	TG		57		B202.1
B202.2	DG	1	AL	TG	7' - 0"	3' - 0"	0' - 1 3/4"	SF28	AL	TG		43		B202.2
B202A	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		B202A
B202B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		B202B
B202C.1	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		19		B202C.1
B202C.2	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		16		B202C.2
C001.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF36	AL	IG-1		48	2	C001.1
C001.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF36	AL	IG-1		53	2	C001.2
C001.3	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF37	AL	IG-1		02		C001.3
C001.4	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF37	AL	IG-1		03		C001.4
C002A	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		27		C002A
C003.1	NV	2	WD	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	TG		61		C003.1
C003.2	DG	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		03		C003.2
C003.3	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		26		C003.3
C004.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF13	AL	IG-1		53	2	C004.1
C004.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF13	AL	IG-1		50	2	C004.2
C100.1	NV : NVF2	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C100.1
C100.2	NV : NVF2	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C100.2
C100A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C100A
C100B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C100B
C101.1	NV : NVF2	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C101.1
C101.2	NV : NVF2	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C101.2
C101A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C101A
C101B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C101B
C102.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C102.1
C102.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C102.2
C102A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C102A
C102B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C102B
C103.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C103.1
C103.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C103.2
C103A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C103A
C103B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C103B
C104.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C104.1
C104.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C104.2
C104A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C104A
C104B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C104B
C105.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C105.1
C105.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C105.2
C105A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C105A
C105B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C105B
C107	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		25		C107
C107A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		25		C107A
C108.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C108.1
C108.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C108.2
C108A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C108A
C108B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C108B
C109.1	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C109.1
C109.2	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		42		C109.2
C109A	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		18		C109A

DOOR & FRAME SCHEDULE

MARK	DOOR PANEL TYPE	QTY	MATL	GLAZ	SIZE H	SIZE W	SIZE TH	FRAME MARK	FRAME MATL	FRAME GLAZ	LABEL	HDWR SET	NOTES	MARK
C109B	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		05		C109B
C111	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C111
C200	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C200
C201	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C201
C202	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C202
C203	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C203
C204	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C204
C205	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C205
C206	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C206
C208	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C208
C210	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		C210
C211	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C211
C212	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C212
C213	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		C213
C213A	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F1	HM	--		26		C213A
C214	NV	1	AL	IG	7' - 0"	3' - 0"	0' - 1 3/4"	F4	AL	IG		09		C214
C215	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		C215
D001.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF8	AL	IG-1		48	2	D001.1
D001.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF8	AL	IG-1		53	2	D001.2
D001.3	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF8	AL	IG-1		02		D001.3
D001.4	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF8	AL	IG-1		03		D001.4
D001A	F	1	WD	--	7' - 0"	4' - 0"	0' - 1 3/4"	F2	HM	--		26		D001A
D003.1	NV	2	WD	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	TG		61		D003.1
D003.2	DG	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		03		D003.2
D003.3	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		D003.3
D004.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF13	AL	IG-1		53	2	D004.1
D004.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF13	AL	IG-1		50	2	D004.2
D019	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		D019
D021	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D021
D028	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		D028
D030	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		D030
D032	F	1	WD	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		14		D032
D034	F	1	HM	--	7' - 0"	3' - 6"	0' - 1 3/4"	F2	HM	--		14		D034
D036	F	1	WD	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		D036
D100	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D100
D101	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D101
D102	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D102
D103	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D103
D104	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D104
D105	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D105
D107	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D107
D107A	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D107A
D108	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D108
D109	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D109
D110	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D110
D111	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D111
D113	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D113
D200	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D200
D201	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D201
D202	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D202
D203	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D203
D204	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D204
D205	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D205
D206	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D206
D207	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		26		D207
D208	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D208
D209	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D209
D210	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D210
D211	NV	1	WD	TG	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	TG		11		D211
D213	F	2	HM	--	7' - 0"	6' - 0"	0' - 1 3/4"	F2	HM	--		39		D213
ST-1	F	1	HM	--	7' - 0"	3' - 0"	0' - 1 3/4"	F2	HM	--		26		ST-1
ST-2.1	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF34	AL	IG-1				ST-2.1
ST-2.2	DG	2	AL	IG-1	7' - 0"	6' - 0"	0' - 1 3/4"	SF34	AL	IG-1				ST-2.2

GENERAL NOTES

A. This Door Schedule(s) is furnished for whatever assistance it may afford the Contractor. Do not consider it as entirely inclusive. Carefully examine the Drawings (especially the Floor Plans) and the Specifications to determine the extent of door and frame quantities required (including interior borrowed lite or sidelite openings). Should any particular door, frame, or interior borrowed lite or sidelite shown on the Drawings be inadvertently omitted from this Schedule, supply same as required for similar openings.

B. The "QTY" column designates the number of leaves in the opening. The "Door Width" column designates the total width of all leaves. In multiple leaf conditions, the leaves shall equally divide the "Door Width" unless noted otherwise; however, the active leaf shall not be less than 3'-0" wide.

C. Door Type "X" denotes a frame with no door such as a borrowed lite, reference Frame Elevations.

D. An asterisk (*) in a dimension denotes a width that varies, reference plans, elevations, details and schedules.

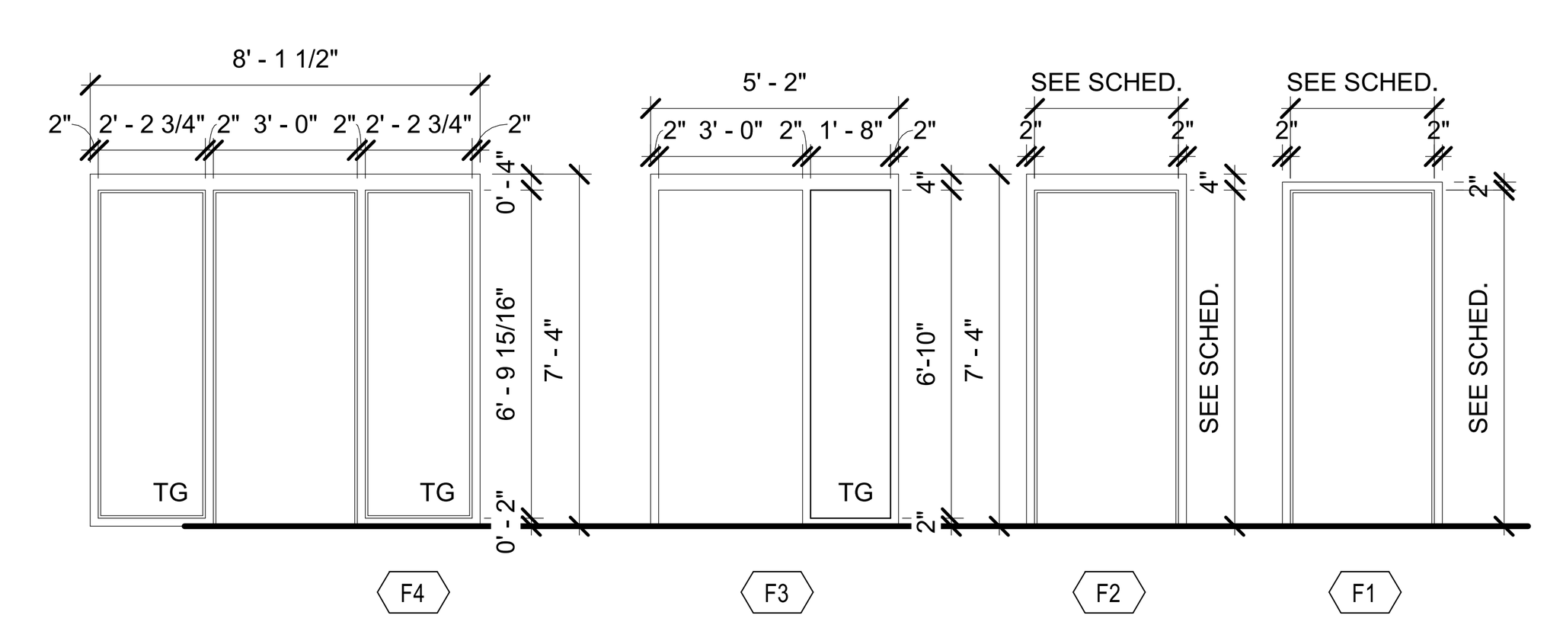
E. Verify locksets with the Owner during submittals.

ABBREVIATIONS

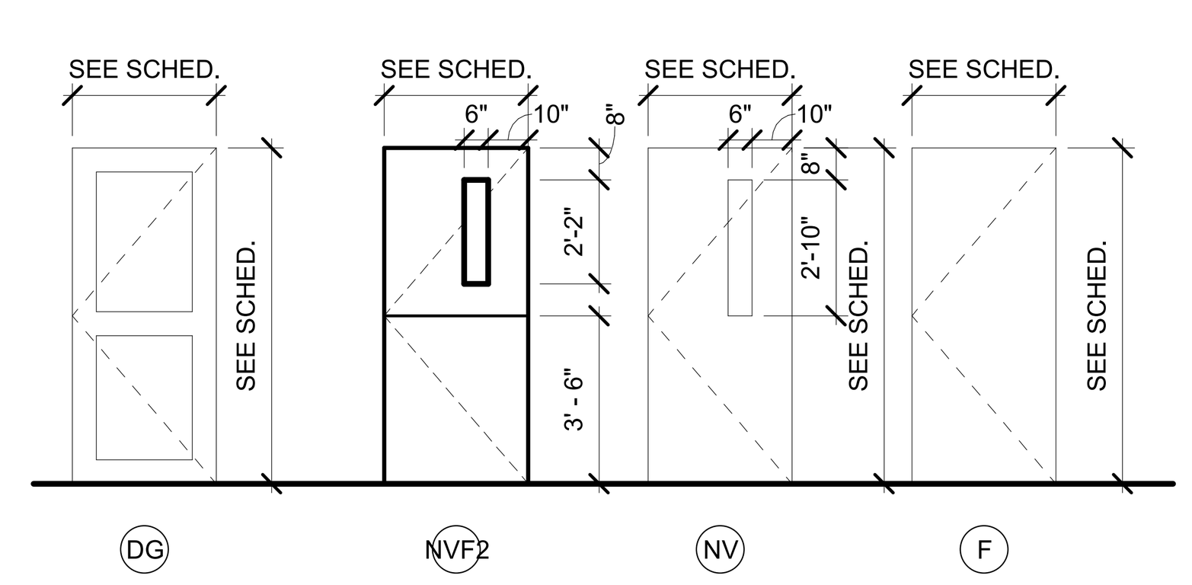
AL Aluminum
HM Hollow Metal
ST Steel
WD Wood
TG Tempered Glazing
IG Insulated Glazing
LG Laminated Glazing
FG Frosted Glazing
SP Spandrel Panel

DOOR & FRAME SCHEDULE NOTES
See Door Schedule

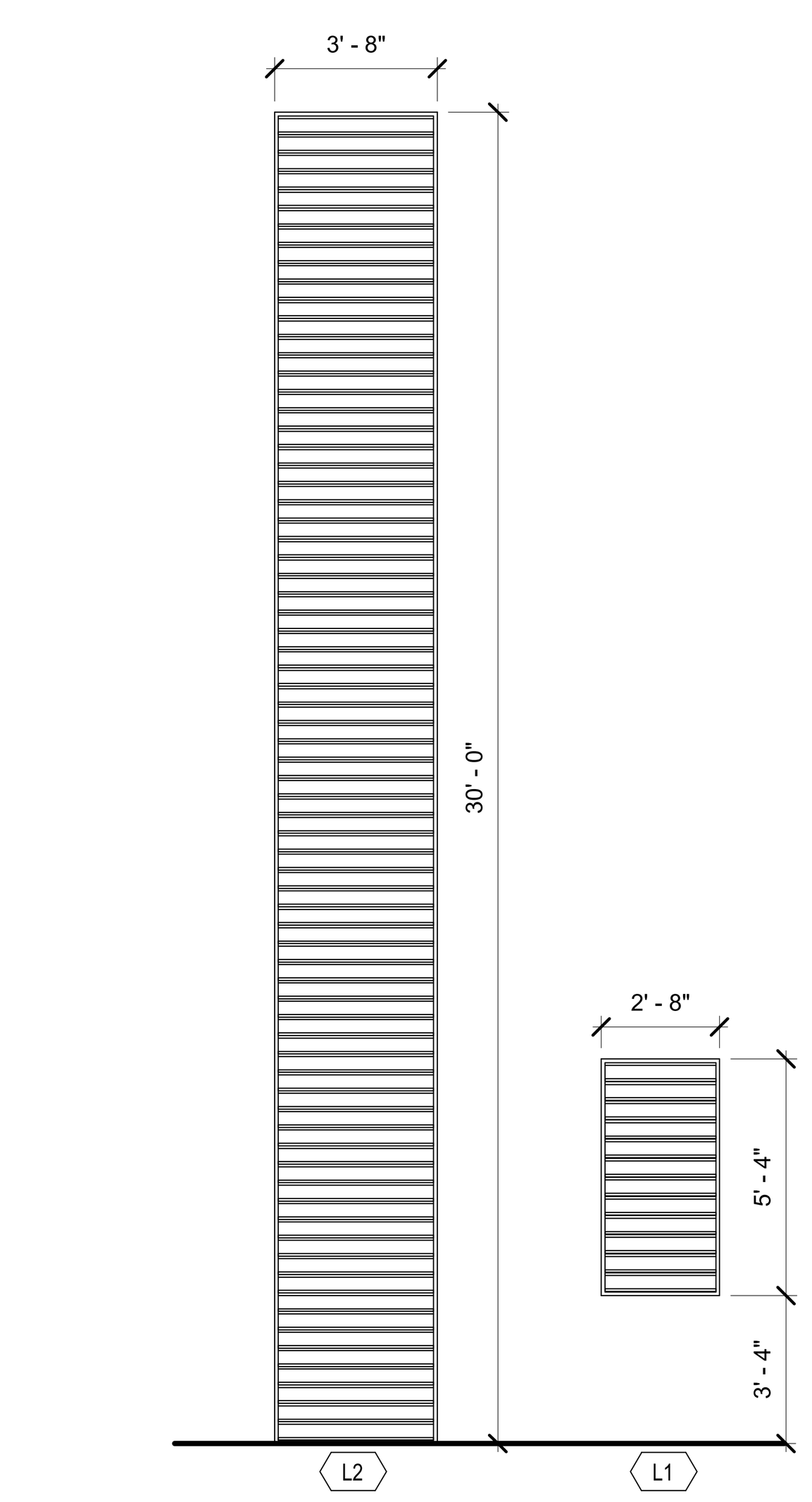
1. Alternate 01 : Ballisitcs Resistant Film - Limited Scope
   A. Provide Ballistic film on door panel glazing.
2. Alternate 02 : Ballisitcs Resistant Film - Extended Scope
   A. Provide Ballistic film on door panel glazing.
3. Set door in frame to allow for 180° door swing.



5.4.603 - FRAME ELEVATIONS
1/4" = 1'-0"



5.4.602 - DOOR PANEL ELEVATIONS
1/4" = 1'-0"



LOUVER ELEVATIONS
1/4" = 1'-0"

SCHMIDT ASSOCIATES
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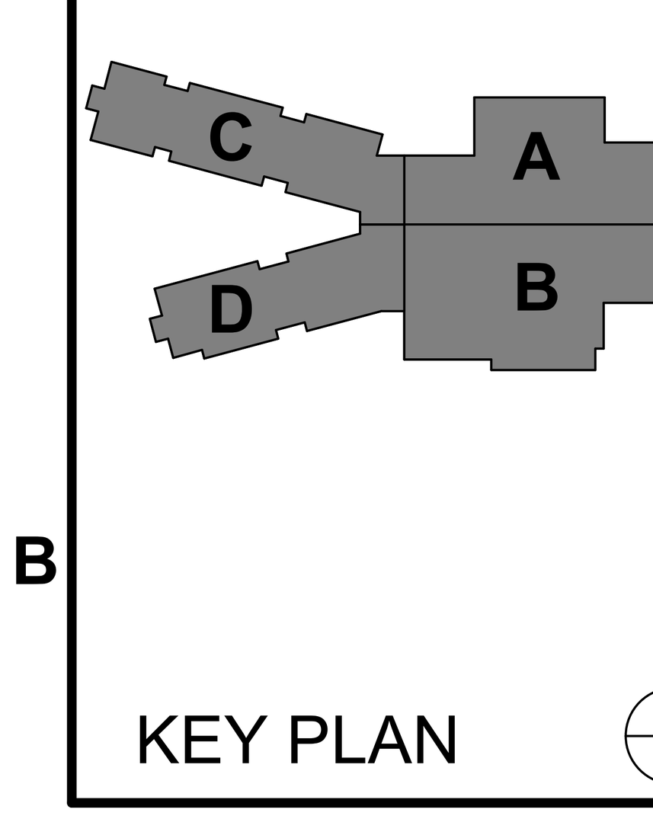
Project No. 2021-141.NES
Project Date 05.11.2022
Produced TE \ CA

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

Sarah K Hempstead

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

DOOR & FRAME SCHEDULE

A-600

A-600_ DOOR & FRAME SCHEDULE
2021-141.NES_FRANKLIN TOWNSHIP CSC_NEW ELEMENTARY SCHOOL_
C:_RevitLocal\2021-141.NES_Bldg001_A_2021\2021-141.NES_Bldg001_A_2021_tearl.rvt
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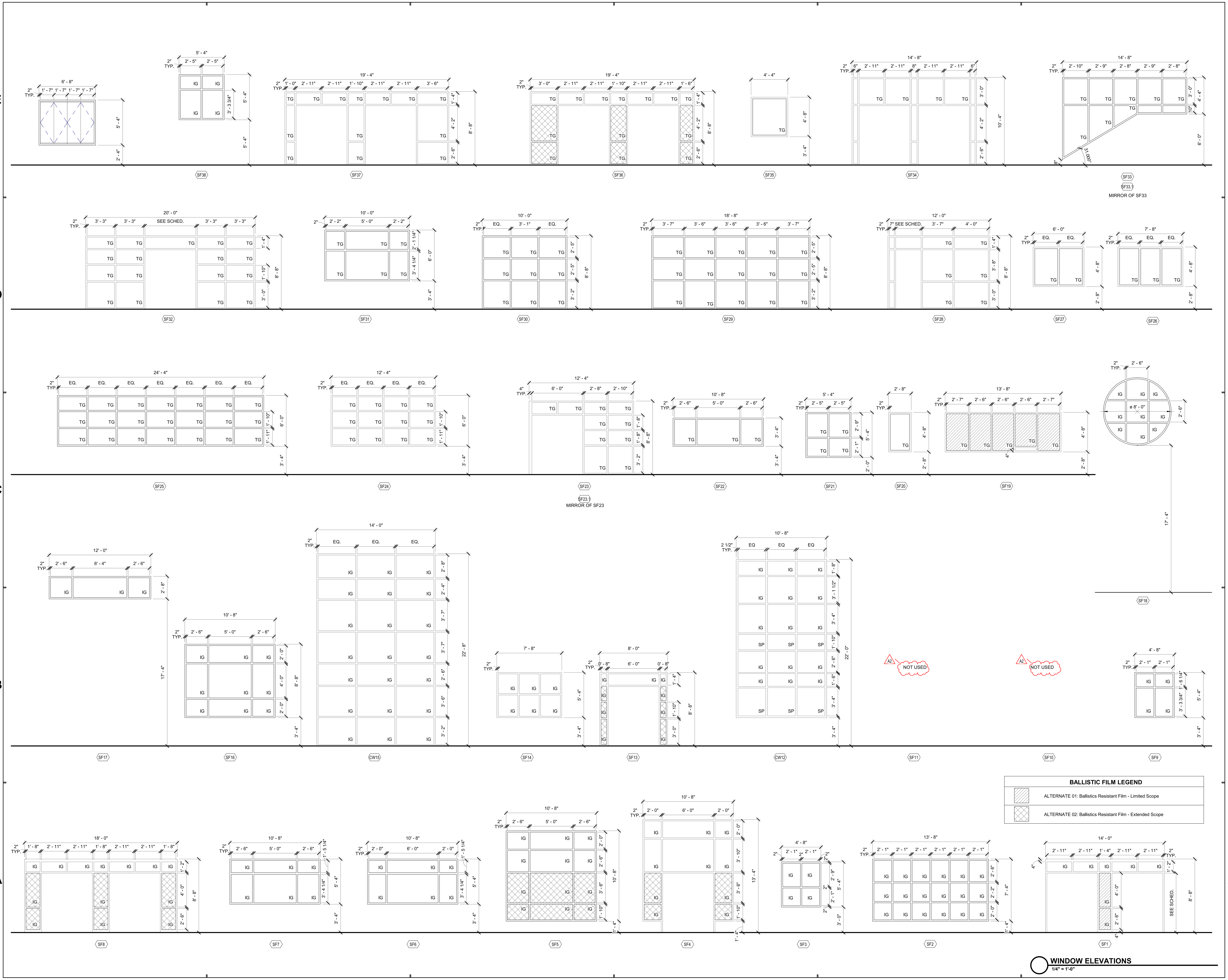

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A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FRAME ELEVATIONS

A-601

INTERIOR FLOOR PLAN NOTES

#	NOTE
1	12 24 13 - MANUAL ROLLER SHADES; 3% OPENESS.
2	10 14 00 - INTERIOR PANEL SIGN TYPE A.
3	10 14 00 - INTERIOR PANEL SIGN TYPE B.
4	10 14 00 - INTERIOR PANEL SIGN TYPE C.
5	FINISHES TO BE: FLOOR: CFC-1, BASE: VWB-1, WALLS: P-1.
6	10 21 23 - CUBICLE CURTAIN AND TRACK.
7	09 30 00 - PROVIDE CERAMIC WALL TILE (CWT-1) AT ALL WALLS 52 INCHES ABOVE FINISHED FLOOR. TOP TILE SHALLHAVE BULLNOSE TOP EDGE. PROVIDE SCHLUTER METAL EDGE AT TOP OF RESINOUS FLOORING COVE BASE. REMAINDER OF WALL SHALL RECEIVE HIGH PERFORMANCE COATING AS INDICATED.
8	09 65 13 - PROVIDE RUBBER STAIR LANDING (RSL) AT INTERMEDIATE LANDING AND RUBBER STAIR TREADS AT STEPS.
9	PAINT ELECTRIC PANEL DOORS TO MATCH ADJACENT WALL. COORDINATE PAINTING WITH DIVISION 26 CONTRACTOR.
10	09 65 16 - PROVIDE SHEET VINYL IN FREEZER AND COOLER.
11	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT HP-2 (DARK NEUTRAL) TO CEILING.
12	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-4 (DARK BLUE) TO CEILING.
13	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-5 (BRIGHT BLUE) TO CEILING.
14	REFERENCE INTERIOR ELEVATIONS FOR WALL PAINT CONFIGURATIONS.
15	10 26 00 - SURFACE-MOUNTED CORNER GUARD WITH CAP.
16	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-2 (DARK NEUTRAL) TO CEILING.
17	06 40 23 - PLASTIC LAMINATE DOOR WITH UNDERCUT. PROVIDE WIRE PULL AND LOCK. REFERENCE INTERIOR DETAILS.
18	09 91 23 .99 - EXTENT OF WALL TO BE PAINTED P-6 (BLUE).

INTERIOR FLOOR PLAN NOTES

#	NOTE
19	06 40 23 - EXTENT OF WALL TO RECEIVE WOOD WALL PANEL, WP-1. PROVIDE MANUFACTURER'S STANDARD TRIM FOR EXPOSED EDGES.
20	PERFORATED WINDOW FILM WITH CLOUD GRAPHIC, WF-1. REFERENCE INTERIOR ELEVATIONS.
21	LOCKERS. REFERENCE "A" SERIES DRAWINGS.
22	MOBILE BOOK CASES BY OWNER.
23	11 51 23 - SINGLE SIDED BOOK CASE: STARTER - 30"HEIGHT, 36" WIDTH. (BS-1)
24	11 51 23 - SINGLE SIDED BOOK CASE: STARTER - 60 "HEIGHT, 36" WIDTH. (BS-2)
25	12 00 50.99 - MOBILE TRASH RECEPTACLE. PLASTIC LAMINATE WITH LOGO ON FRONT DOOR MATCHING DISTRICT STANDARD. BASIS-OF-DESIGN: MANUFACTURER-SICO.
26	MOTORIZE ROLLER SHADES; 3% OPENESS. PROVIDE AT UPPER AND LOWER WINDOWS. TERMINATE LENGTH AT DOOR AND ADJACENT SIDELIGHTS.
27	10 14 00 - INTERIOR PANEL SIGN TYPE D.
28	10 14 00 - INTERIOR PANEL SIGN TYPE E.
29	12 24 13 - MANUAL ROLLER SHADES; 1% OPENESS.
30	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-4 (DARK BLUE) STARTING AT 7'-4" AFF TO CEILING. REFERENCE PAINT CONFIRGURATION AT LAVATORY ELEVATION.
31	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-5 (BRIGHT BLUE) STARTING AT 7'-4" AFF TO CEILING. REFERENCE PAINT CONFIRGURATION AT LAVATORY ELEVATION.
32	09 91 23.99 - EXTENT OF WALL TO RECEIVE PAINT P-6 (NAVY BLUE) STARTING AT 7'-4" AFF TO CEILING. REFERENCE PAINT CONFIRGURATION AT LAVATORY ELEVATION.

Interior General Notes

Reference A-001 for general plan notes. All notes may not apply to this sheet.

A. Furniture is not provided in this contract. Layouts and final design will need to be determined by the owner.

B. Reference architectural ceilings plans for ceiling heights and bulkhead color designations. Paint all bulkheads P-1 unless specifically noted otherwise. Bulkheads that are flush with walls provide color to match adjacent wall color.

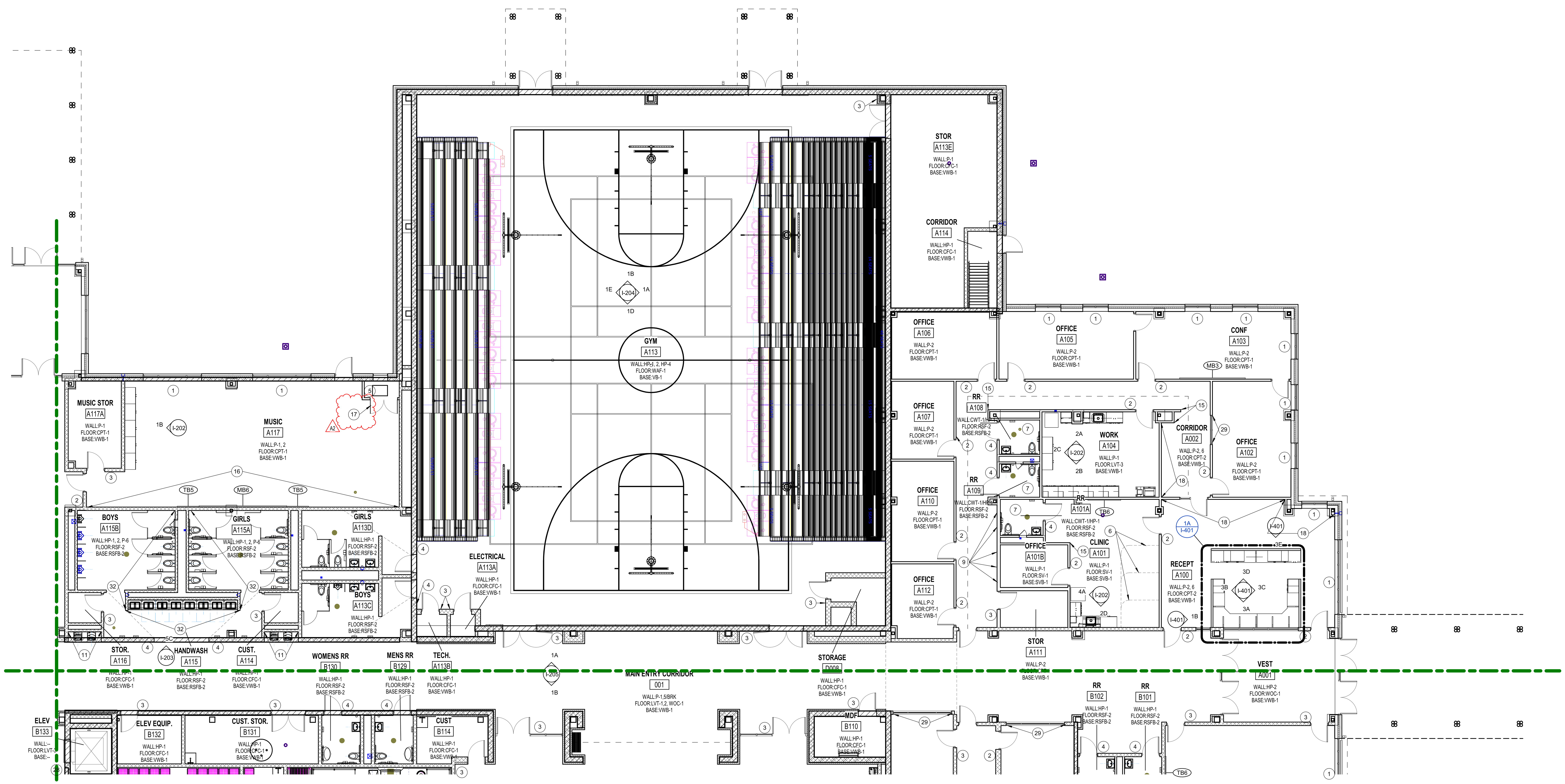
C. Paint interior hollow metal door frames and all stair assembly HP-3.

D. Paint general walls HP-1 or P-1 (Neutral) unless specifically noted otherwise.

E. Appliances and vending equipment are not provided in this contract.

F. Do not install vinyl wall base on interior brick unless specifically noted othwerwise. Provide a caulk joint at floor level.

G. Provide vinyl wall base around all casework unless specificlaly noted otherwise.



2A FIRST FLOOR INTERIOR PLAN - UNIT A
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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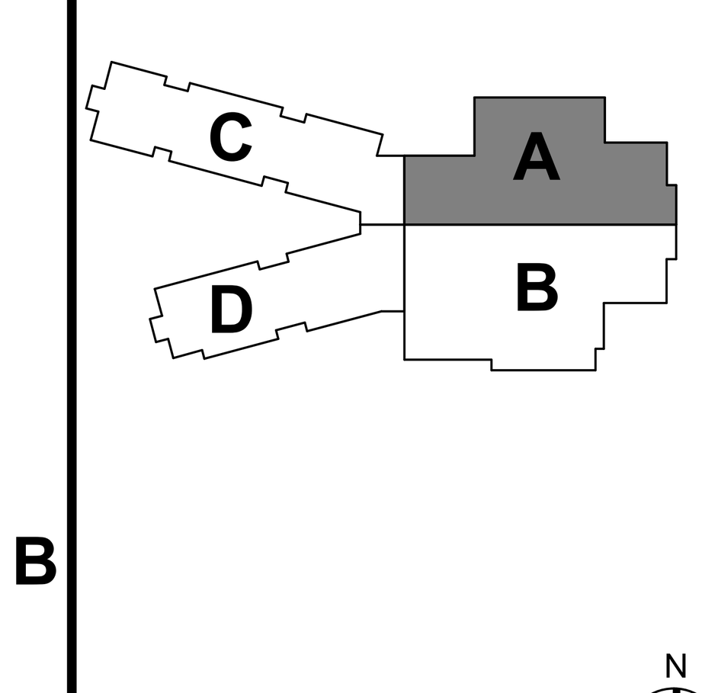
Project No. 2021-141.NES
Project Date 05.11.2022
Produced AEC

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FIRST FLOOR INTERIOR PLAN - UNIT A

IN1A1

INTERIOR FLOOR PLAN NOTES

#	NOTE
1	12 24 13 - MANUAL ROLLER SHADES; 3% OPENESS.
2	10 14 00 - INTERIOR PANEL SIGN TYPE A.
3	10 14 00 - INTERIOR PANEL SIGN TYPE B.
4	10 14 00 - INTERIOR PANEL SIGN TYPE C.
5	FINISHES TO BE: FLOOR: CFC-1, BASE: VWB-1, WALLS: P-1.
6	10 21 23 - CUBICLE CURTAIN AND TRACK.
7	09 30 00 - PROVIDE CERAMIC WALL TILE (CWT-1) AT ALL WALLS 52 INCHES ABOVE FINISHED FLOOR. TOP TILE SHALLHAVE BULLNOSE TOP EDGE. PROVIDE SCHLUTER METAL EDGE AT TOP OF RESINOUS FLOORING COVE BASE. REMAINDER OF WALL SHALL RECEIVE HIGH PERFORMANCE COATING AS INDICATED.
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15	10 26 00 - SURFACE-MOUNTED CORNER GUARD WITH CAP.
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17	06 40 23 - PLASTIC LAMINATE DOOR WITH UNDERCUT. PROVIDE WIRE PULL AND LOCK. REFERENCE INTERIOR DETAILS. (A2)
18	09 91 23 .99 - EXTENT OF WALL TO BE PAINTED P-6 (BLUE).

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21	LOCKERS. REFERENCE "A" SERIES DRAWINGS.
22	MOBILE BOOK CASES BY OWNER.
23	11 51 23 - SINGLE SIDED BOOK CASE: STARTER - 30"HEIGHT, 36" WIDTH. (BS-1)
24	11 51 23 - SINGLE SIDED BOOK CASE: STARTER - 60 "HEIGHT, 36" WIDTH. (BS-2)
25	12 00 50.99 - MOBILE TRASH RECEPTACLE. PLASTIC LAMINATE WITH LOGO ON FRONT DOOR MATCHING DISTRICT STANDARD. BASIS-OF-DESIGN: MANUFACTURER-SICO.
26	MOTORIZE ROLLER SHADES; 3% OPENESS. PROVIDE AT UPPER AND LOWER WINDOWS. TERMINATE LENGTH AT DOOR AND ADJACENT SIDELIGHTS.
27	10 14 00 - INTERIOR PANEL SIGN TYPE D.
28	10 14 00 - INTERIOR PANEL SIGN TYPE E.
29	12 24 13 - MANUAL ROLLER SHADES; 1% OPENESS.
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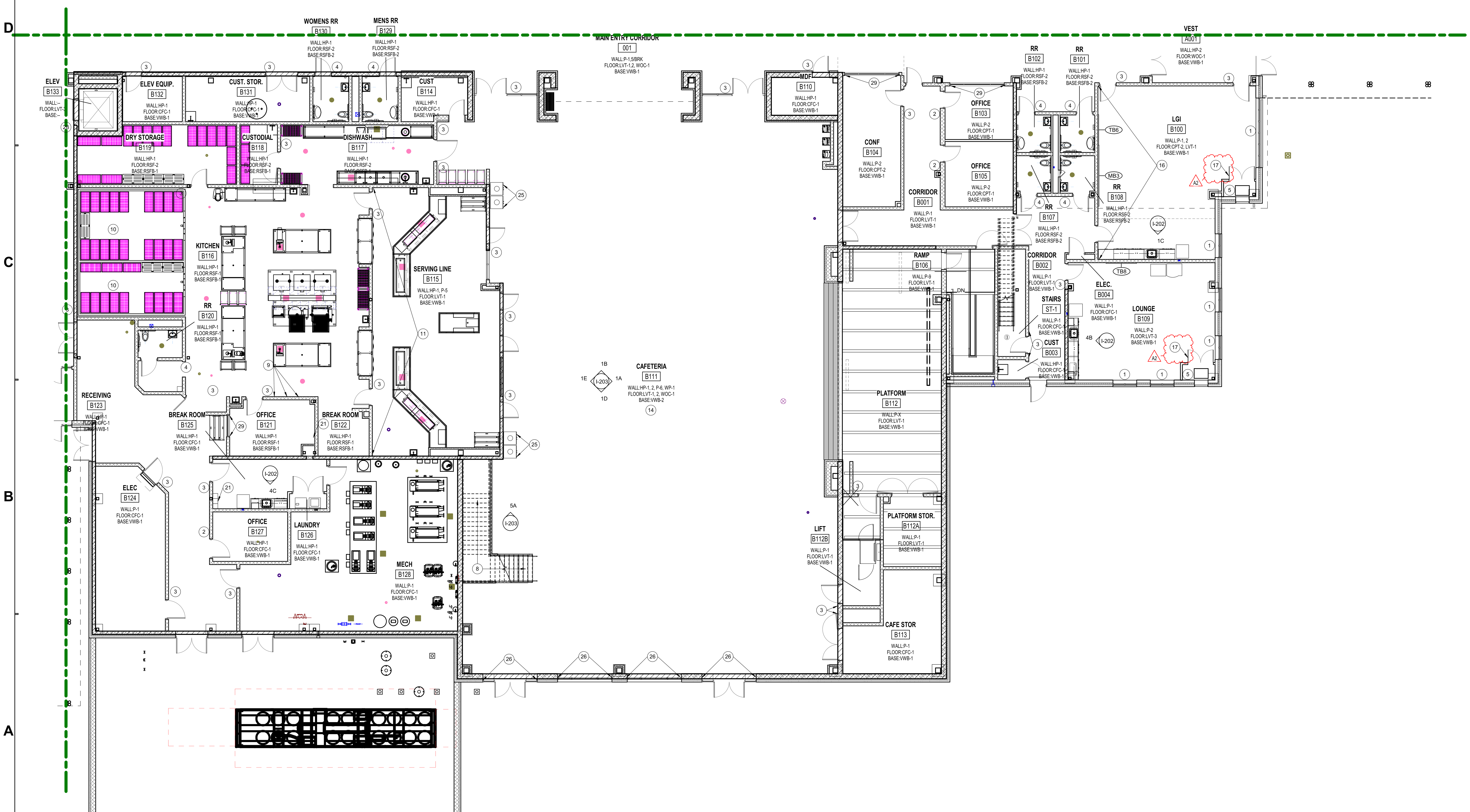

2A FIRST FLOOR INTERIOR PLAN - UNIT B
1/8" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced AEC

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

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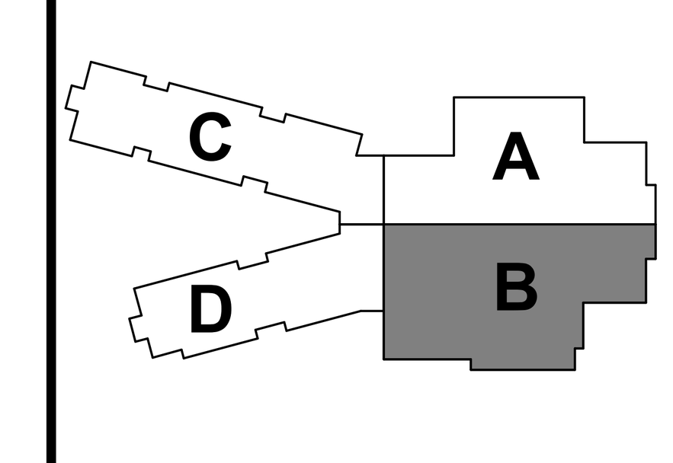
#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR INTERIOR PLAN - UNIT B

IN1B1

INTERIOR FLOOR PLAN NOTES

#	NOTE
1	12 24 13 - MANUAL ROLLER SHADES; 3% OPENESS.
2	10 14 00 - INTERIOR PANEL SIGN TYPE A.
3	10 14 00 - INTERIOR PANEL SIGN TYPE B.
4	10 14 00 - INTERIOR PANEL SIGN TYPE C.
5	FINISHES TO BE: FLOOR: CFC-1, BASE: VWB-1, WALLS: P-1.
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24	11 51 23 - SINGLE SIDED BOOK CASE: STARTER - 60 "HEIGHT, 36" WIDTH. (BS-2)
25	12 00 50.99 - MOBILE TRASH RECEPTACLE. PLASTIC LAMINATE WITH LOGO ON FRONT DOOR MATCHING DISTRICT STANDARD. BASIS-OF-DESIGN: MANUFACTURER-SICO.
26	MOTORIZE ROLLER SHADES; 3% OPENESS. PROVIDE AT UPPER AND LOWER WINDOWS. TERMINATE LENGTH AT DOOR AND ADJACENT SIDELIGHTS.
27	10 14 00 - INTERIOR PANEL SIGN TYPE D.
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29	12 24 13 - MANUAL ROLLER SHADES; 1% OPENESS.
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E. Appliances and vending equipment are not provided in this contract.

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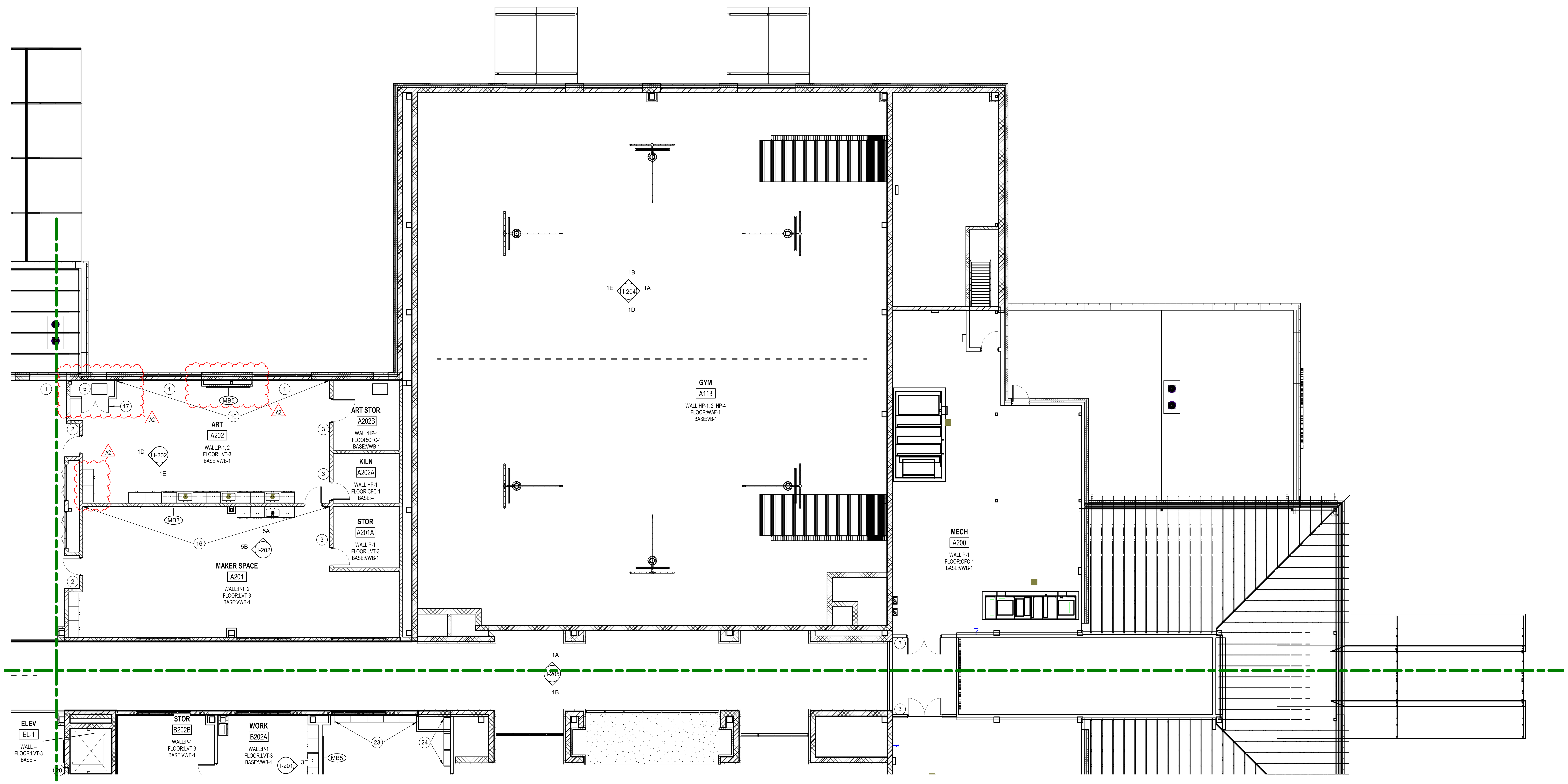
G. Provide vinyl wall base around all casework unless specificlaly noted otherwise.



2A SECOND FLOOR INTERIOR PLAN - UNIT A
1/8" = 1'-0"

SCHMIDT
ASSOCIATES
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Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
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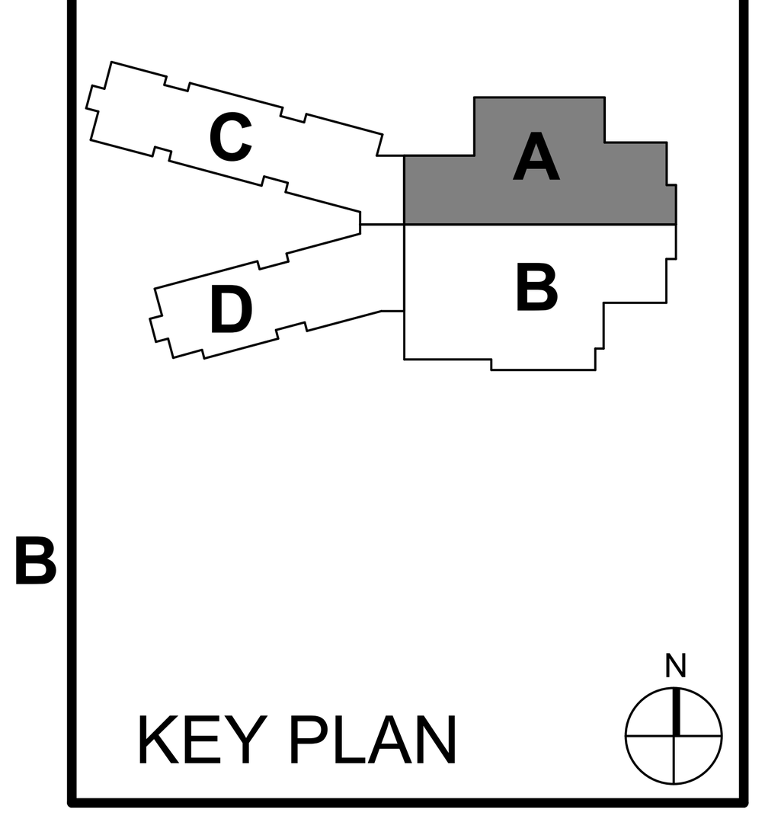
SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

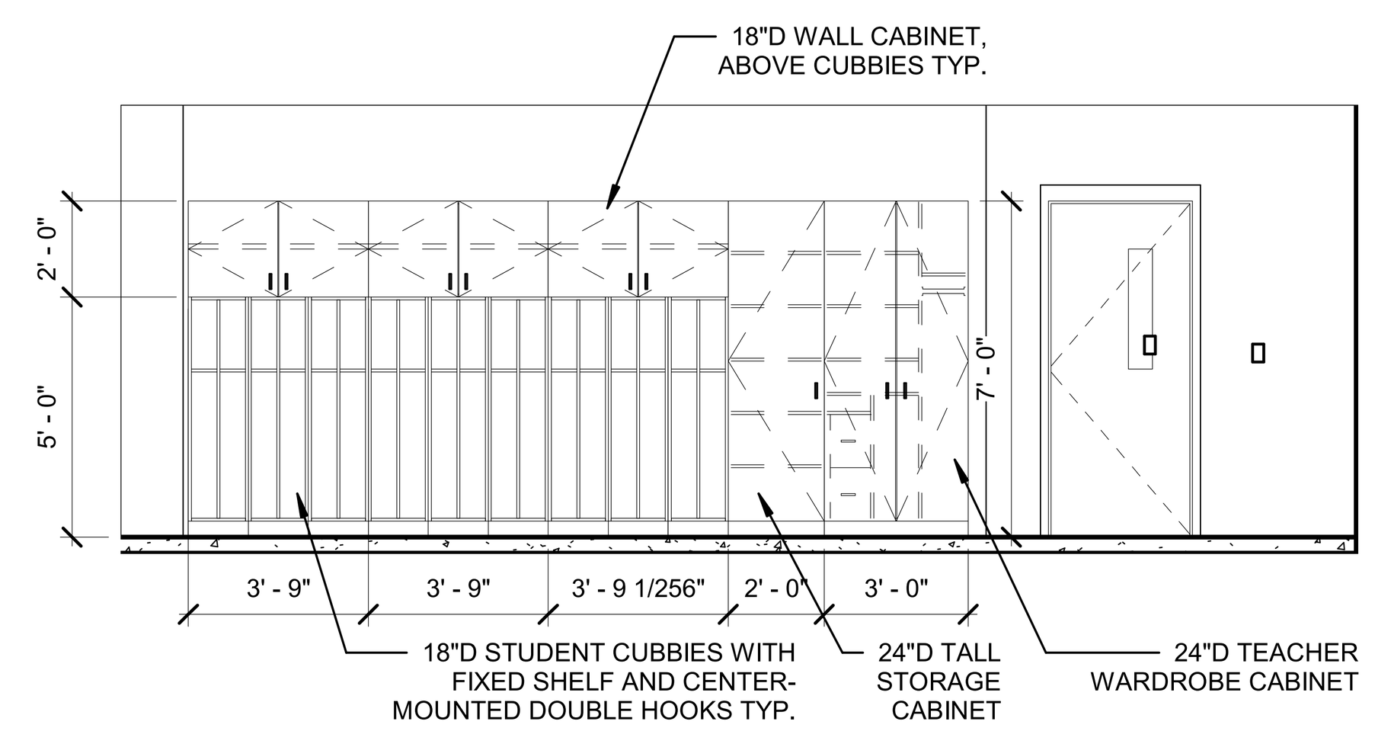
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

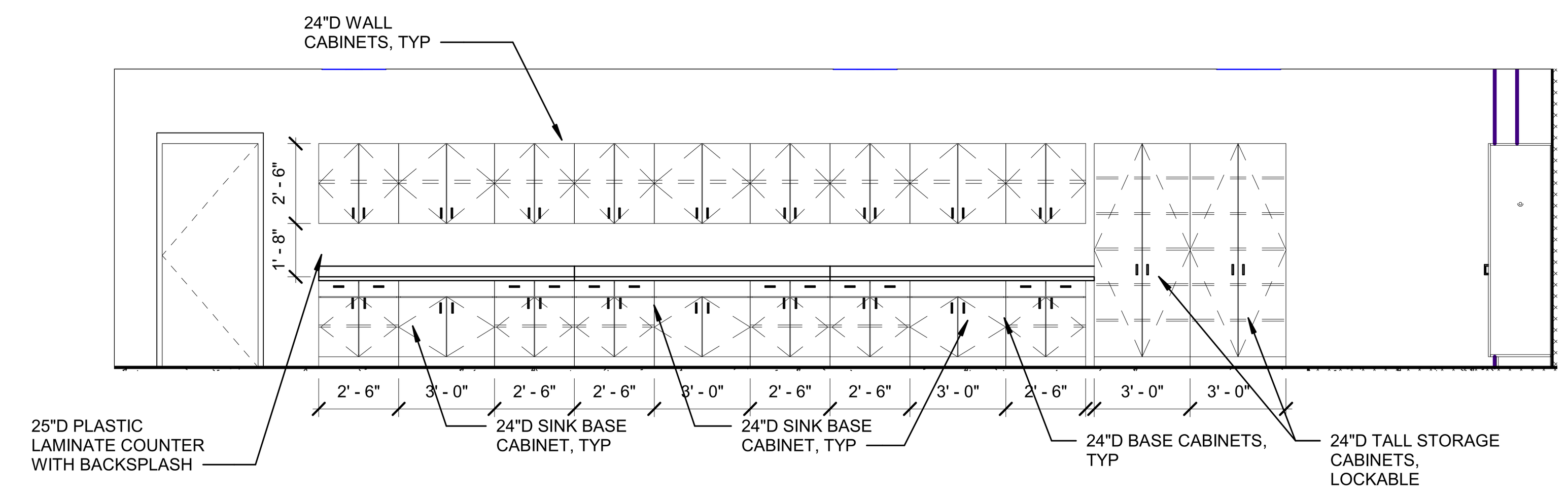
NEW ELEMENTARY SCHOOL

SECOND FLOOR INTERIOR PLAN - UNIT A

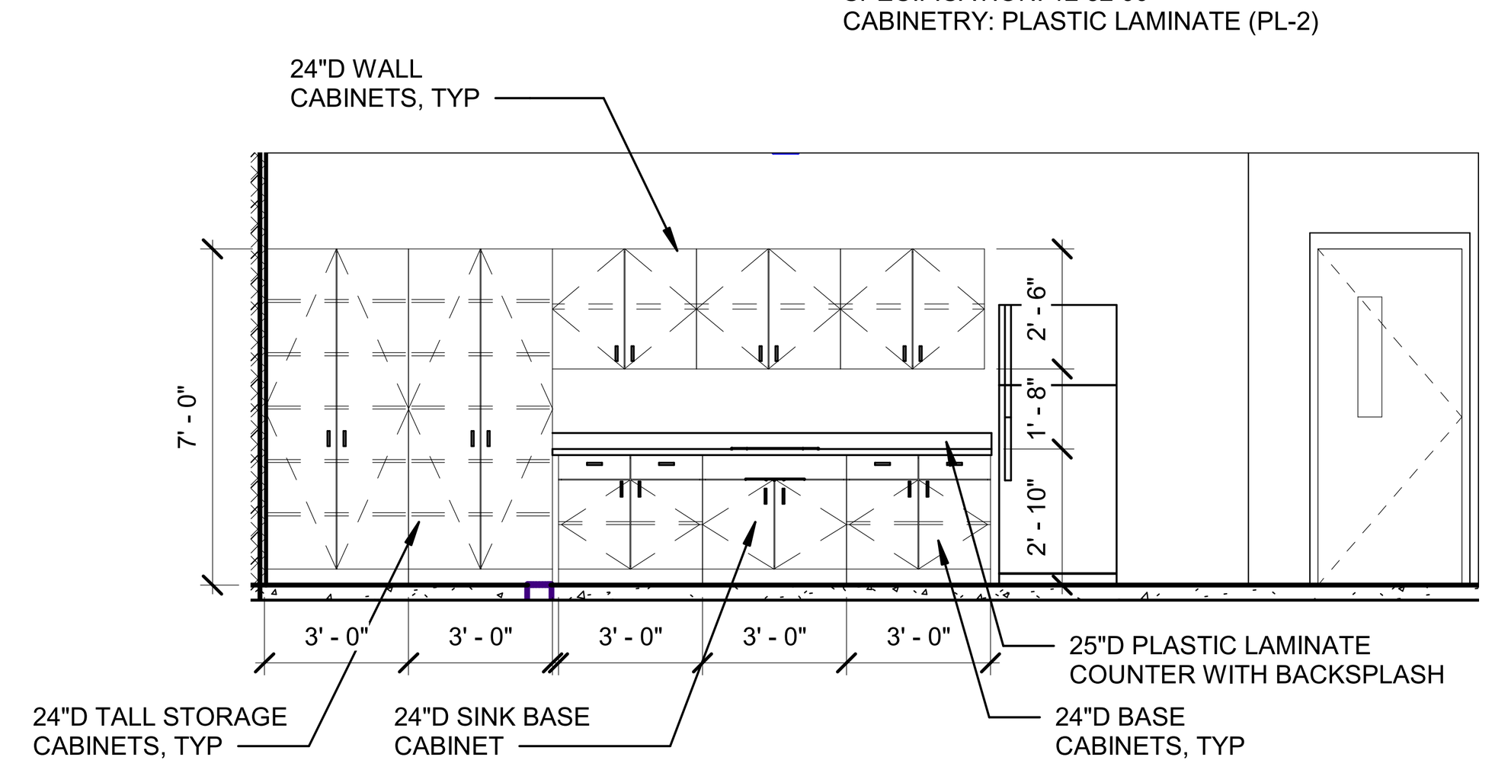
IN1A2



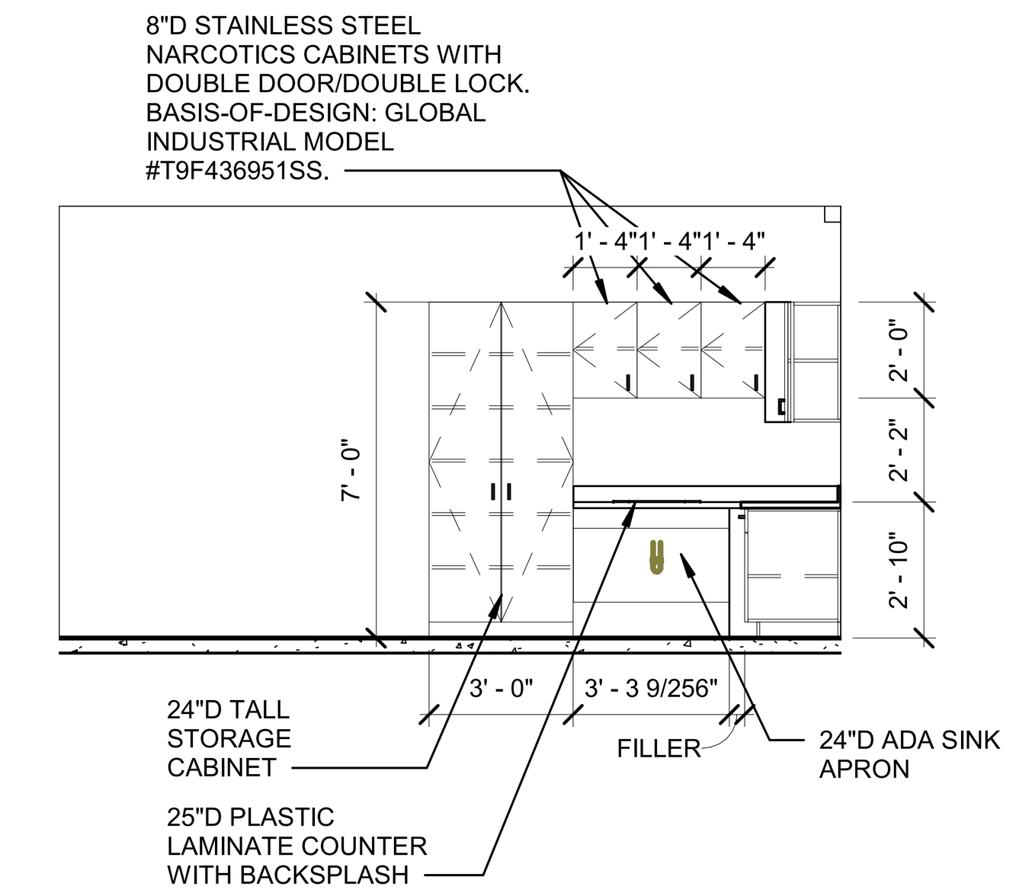
4E SPECIAL ED C111 CASEWORK ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)



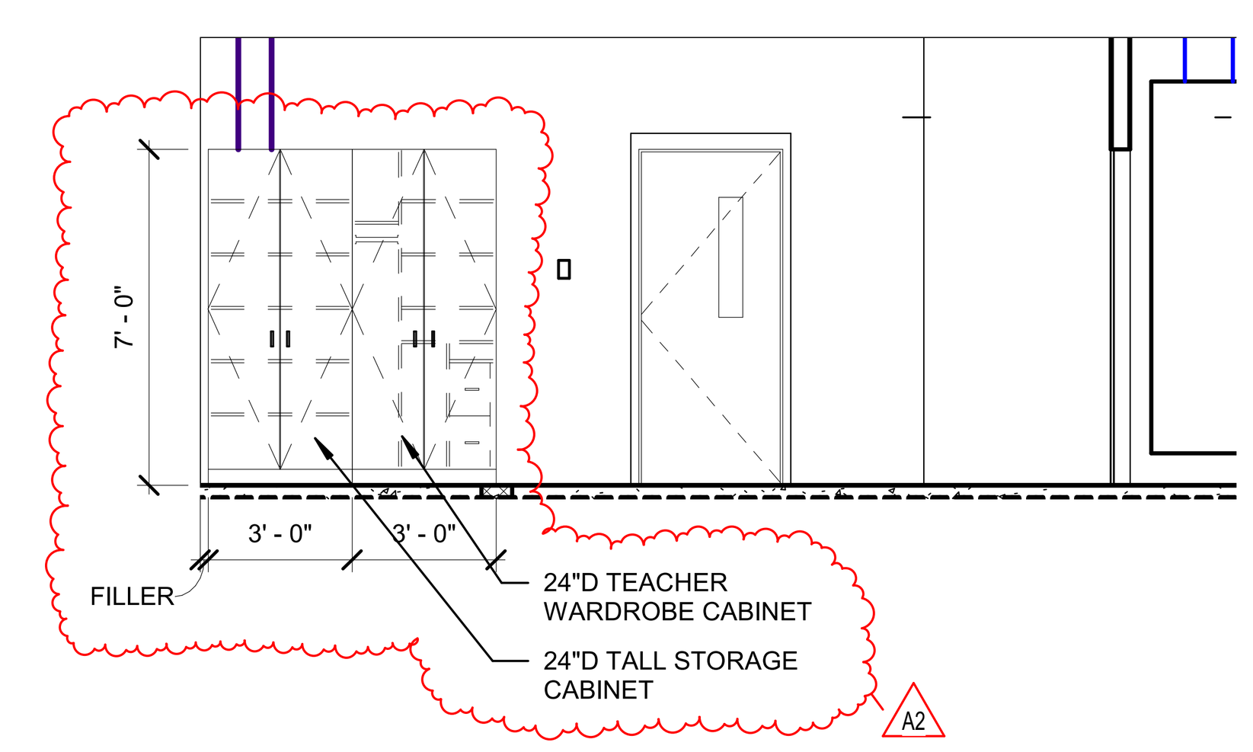
1E ART CASEWORK ELEVATION 2
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



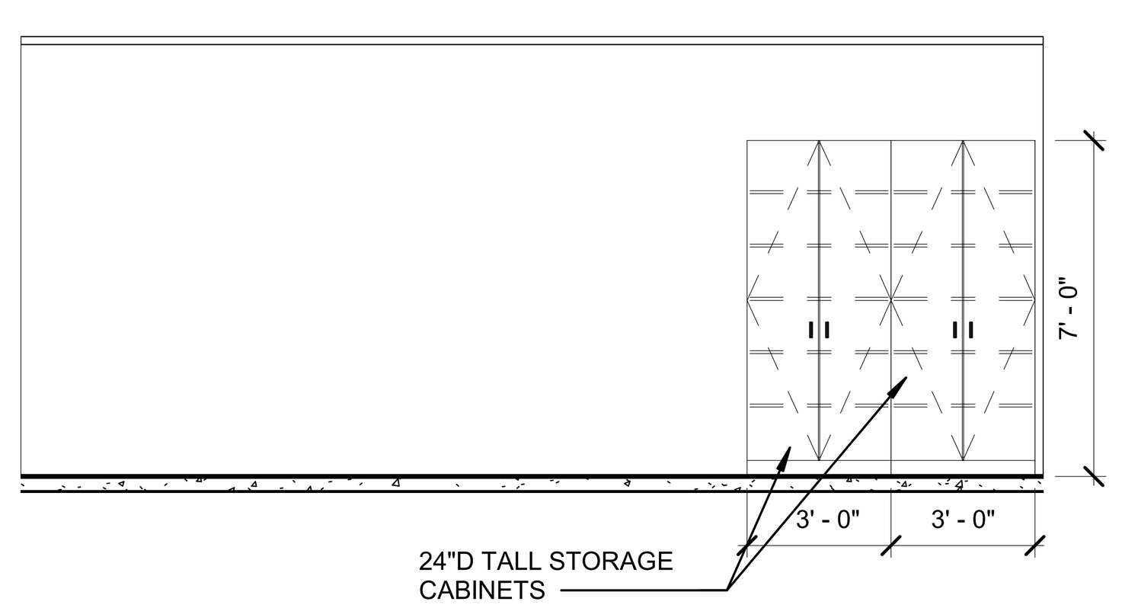
4D TYPICAL WORK ROOM ELEVATION 1
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



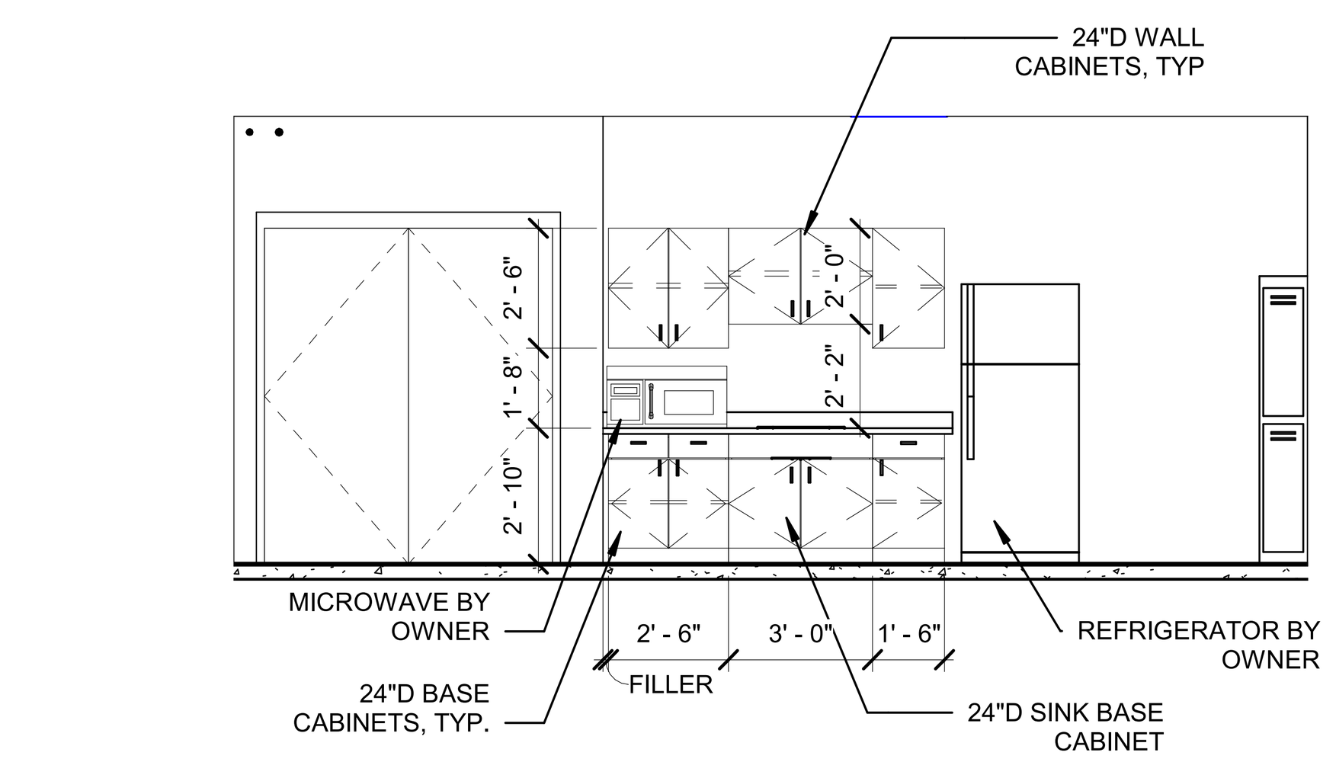
2D CLINIC CASEWORK ELEVATION 1
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)
ALL CABINETS SHALL RECEIVE LOCKS.



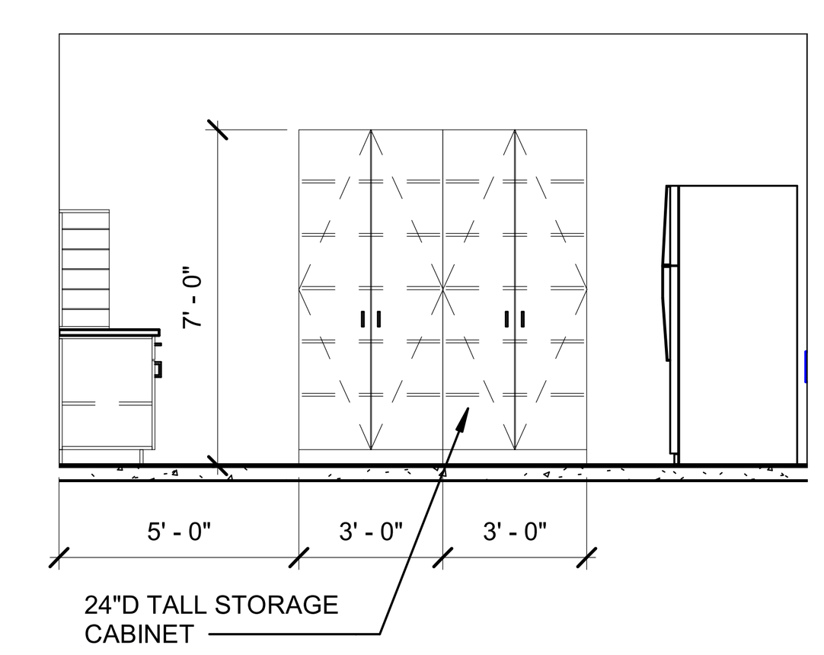
1D ART CASEWORK ELEVATION 1
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)
ALL CABINETS SHALL RECEIVE LOCKS.



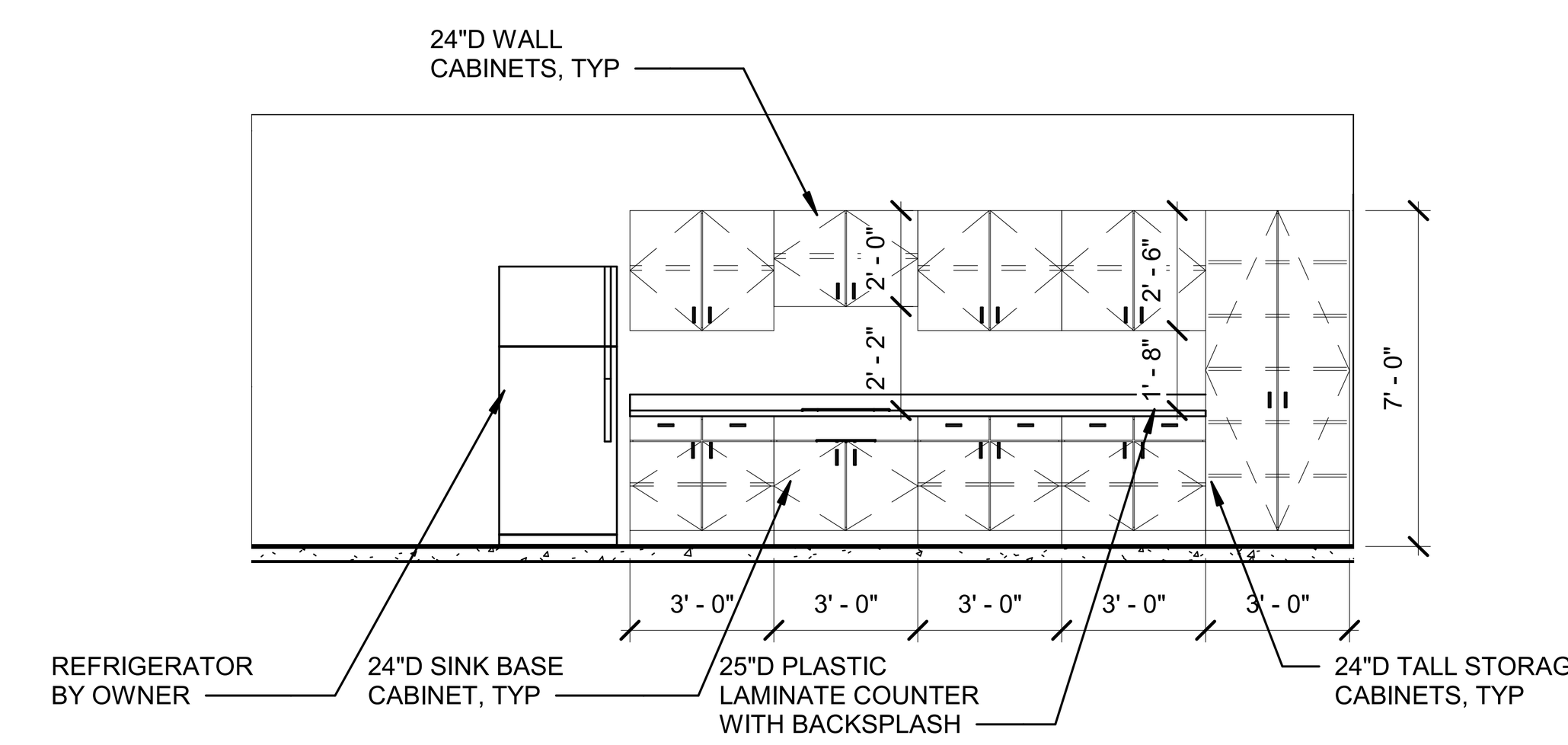
5C TYPICAL RESOURCE ROOM CASEWORK
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)



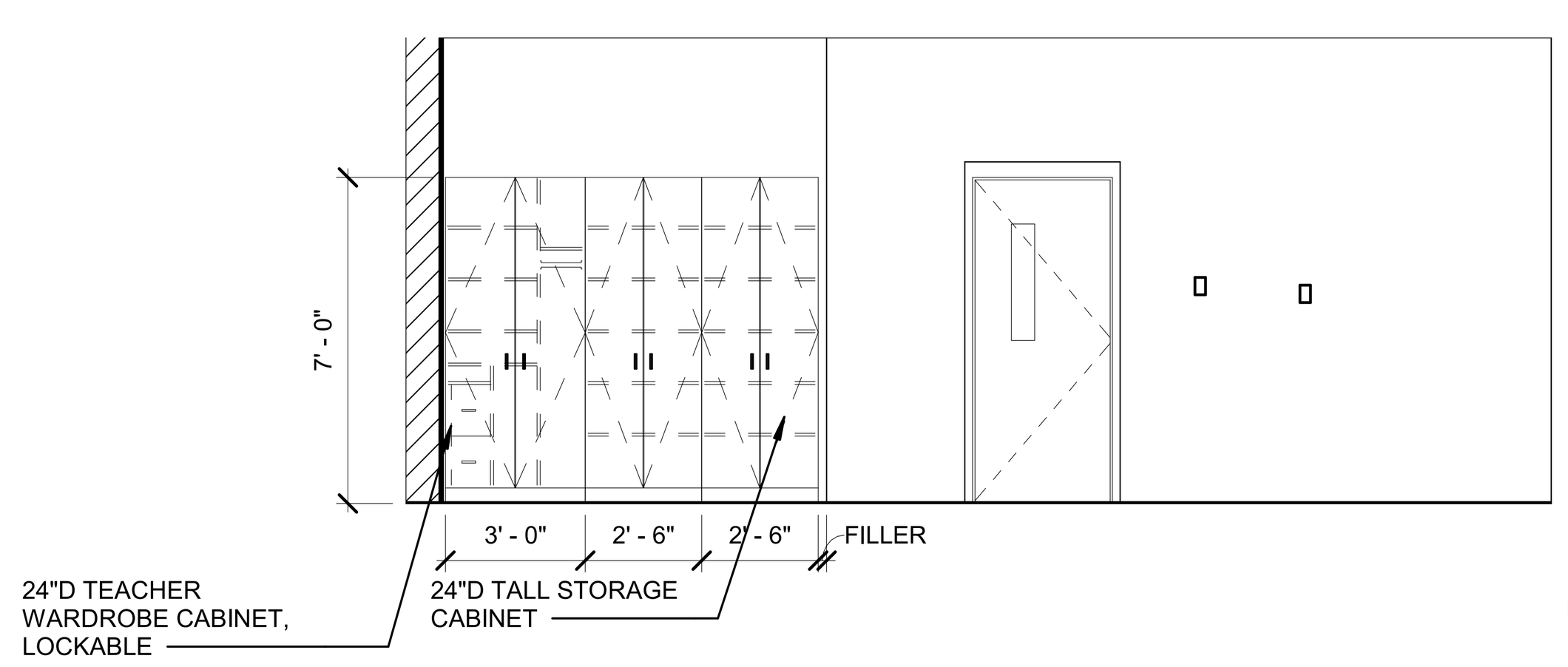
4C BREAK ROOM ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



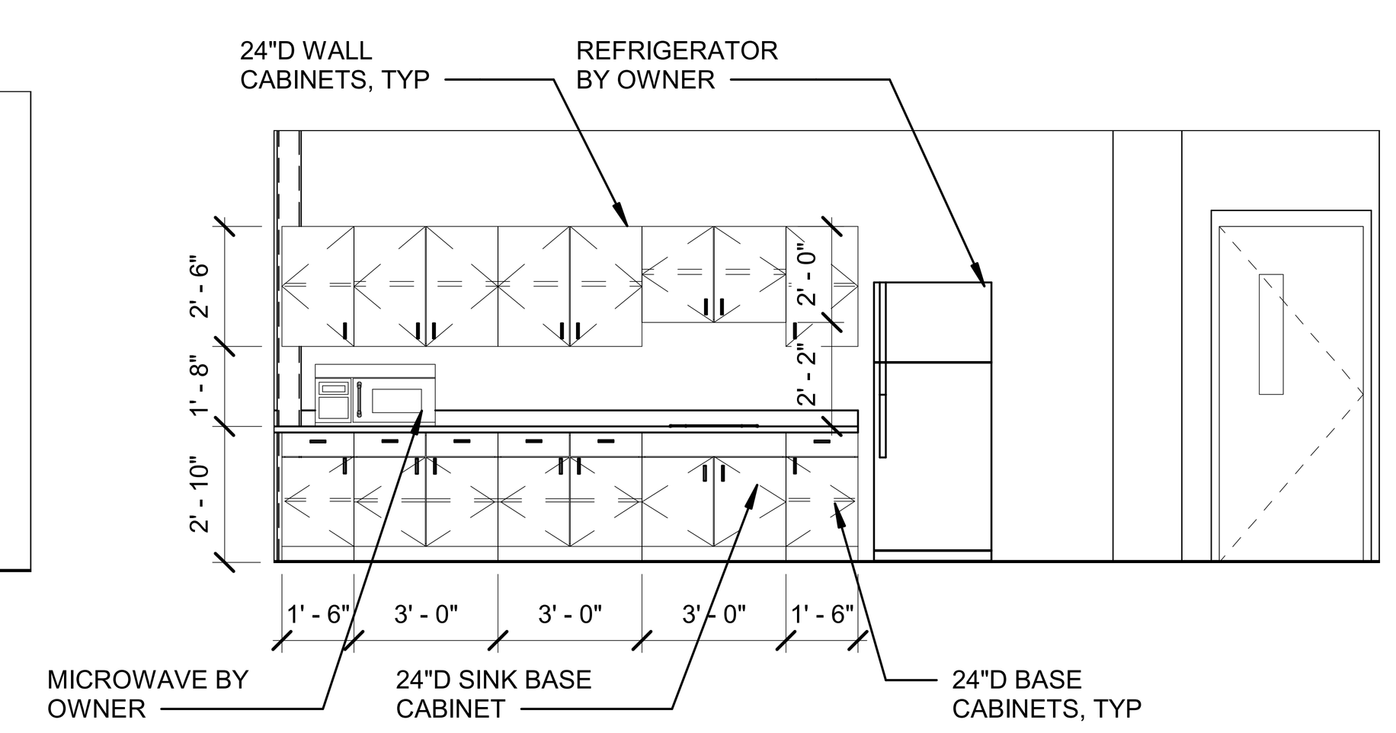
2C WORK ROOM CASEWORK ELEVATION 3
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



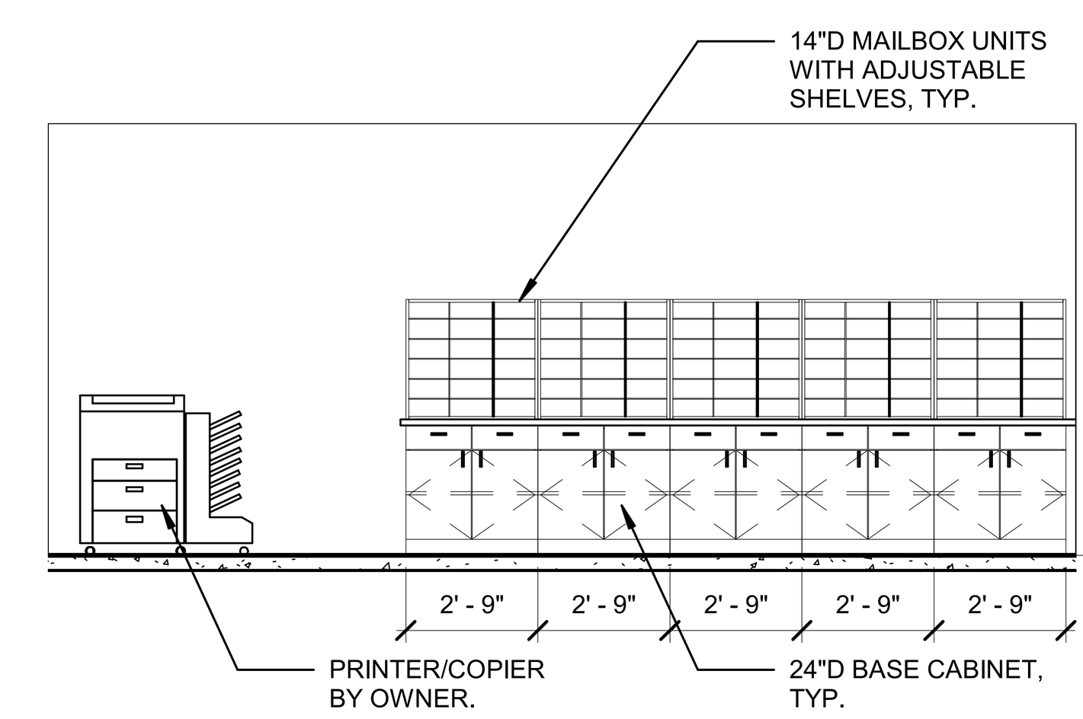
1C LGI CASEWORK ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)
ALL CABINETS SHALL RECEIVE LOCKS.



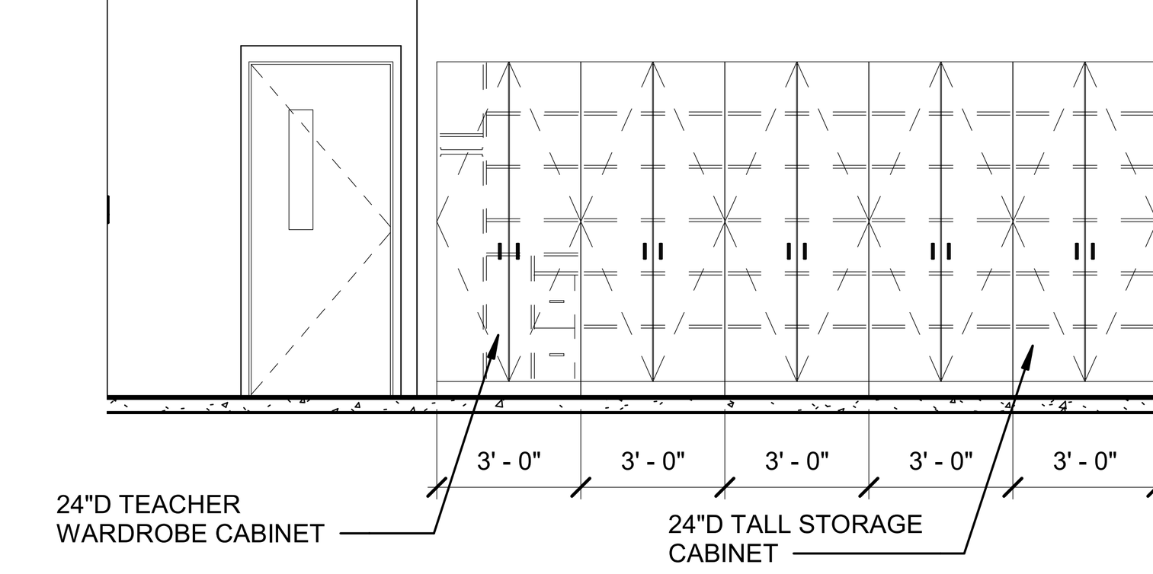
5B MAKERSPACE CASEWORK WEST ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)



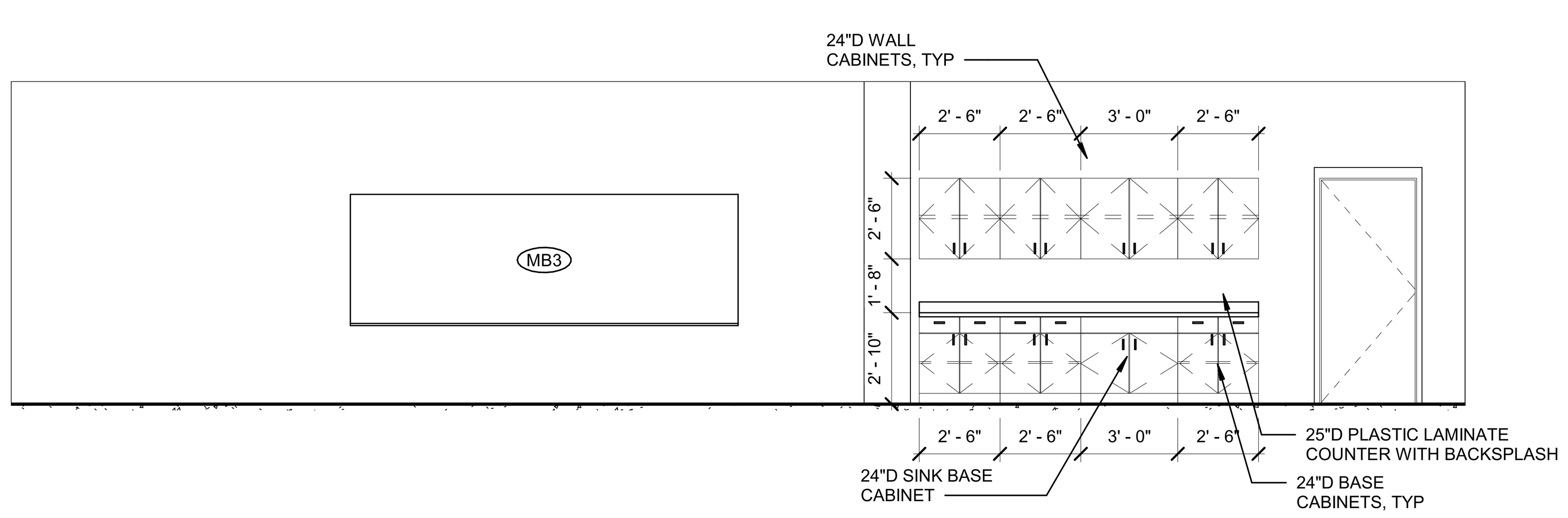
4B STAFF LOUNGE CASEWORK ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



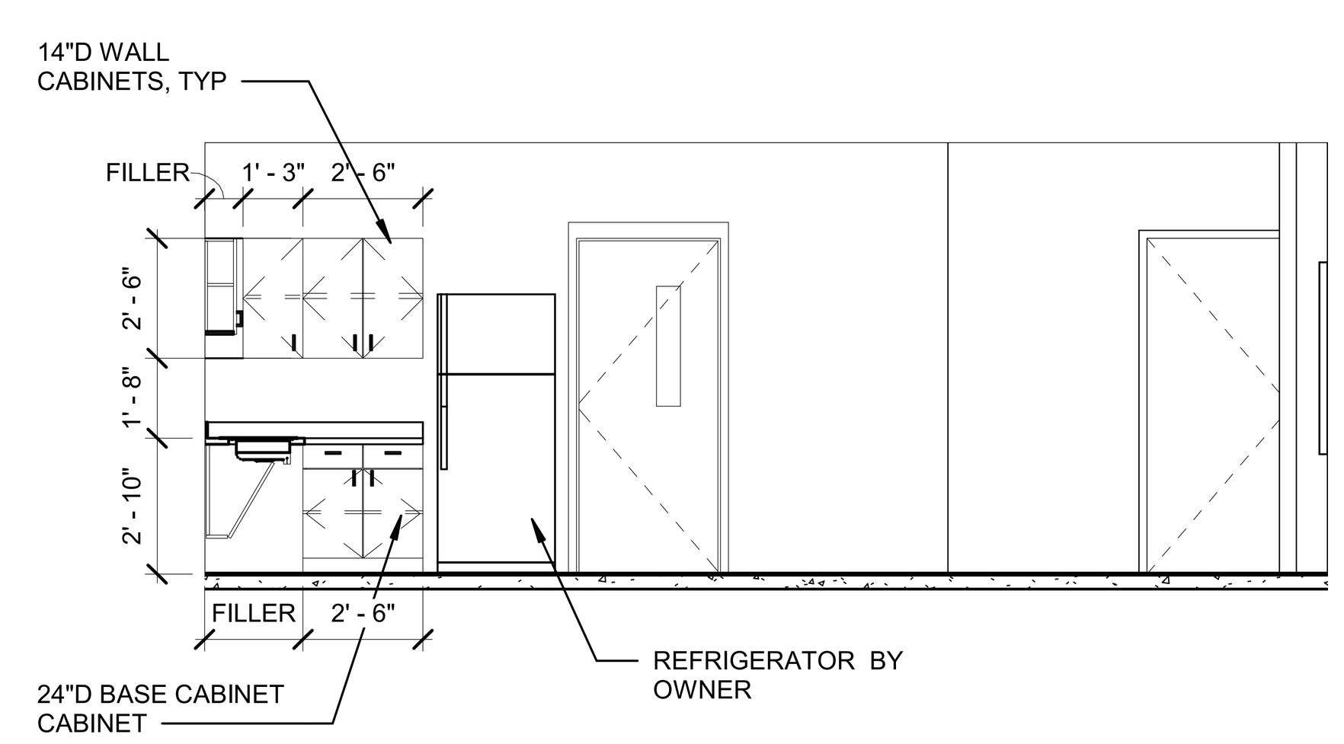
2B WORK ROOM CASEWORK ELEVATION 2
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)



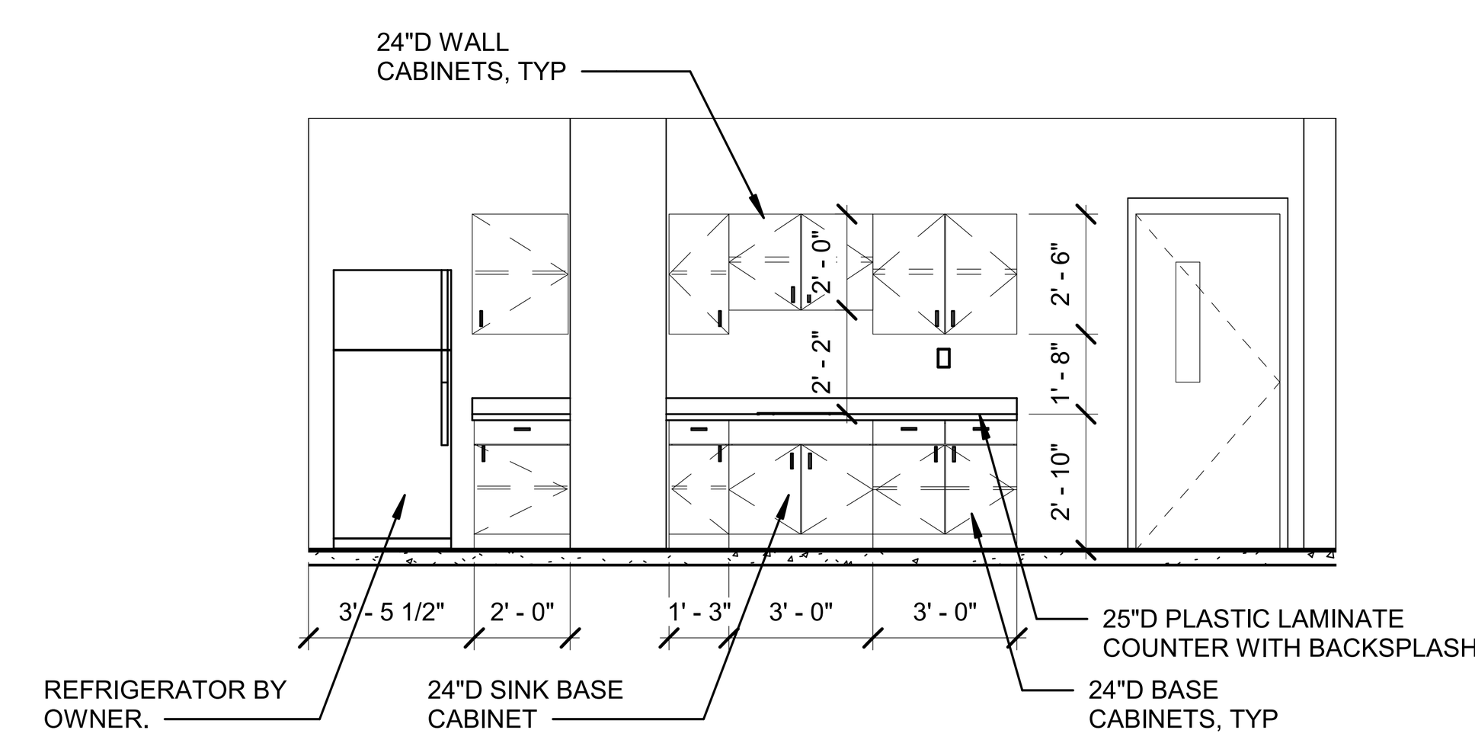
1B MUSIC CASEWORK ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
CABINETRY: PLASTIC LAMINATE (PL-2)



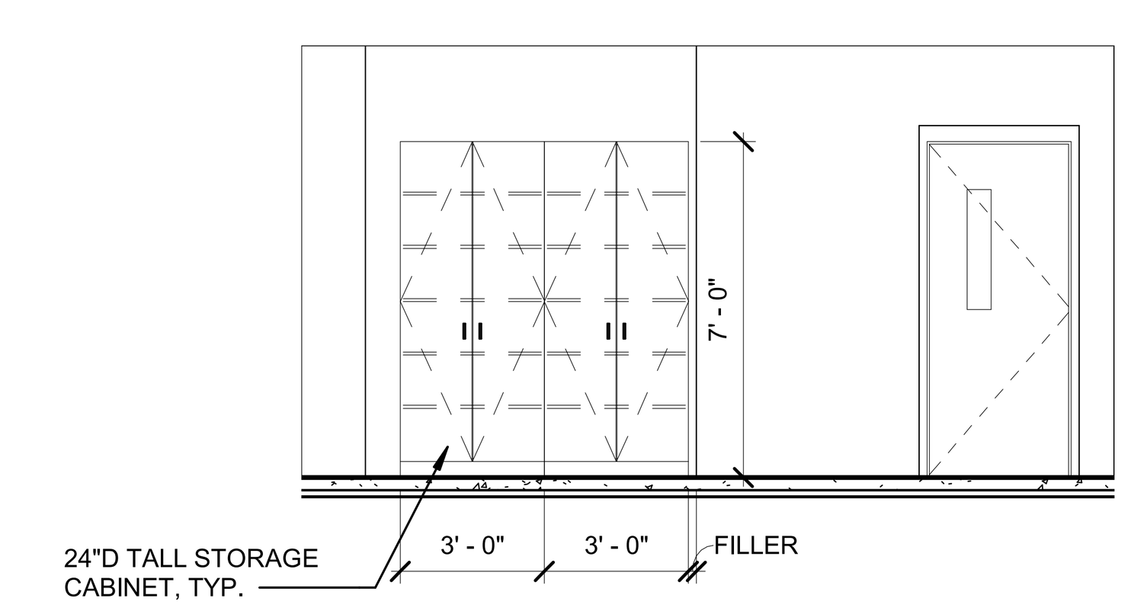
5A MAKERSPACE CASEWORK NORTH ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



4A CLINIC CASEWORK ELEVATION 2
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)
ALL CABINETS SHALL RECEIVE LOCKS.



2A WORK ROOM CASEWORK ELEVATION 1
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



1A RESOURCE CASEWORK ELEVATION
1/4" = 1'-0"
SPECIFICATION: 12 32 00
COUNTER: PLASTIC LAMINATE (PL-1)
CABINETRY: PLASTIC LAMINATE (PL-2)

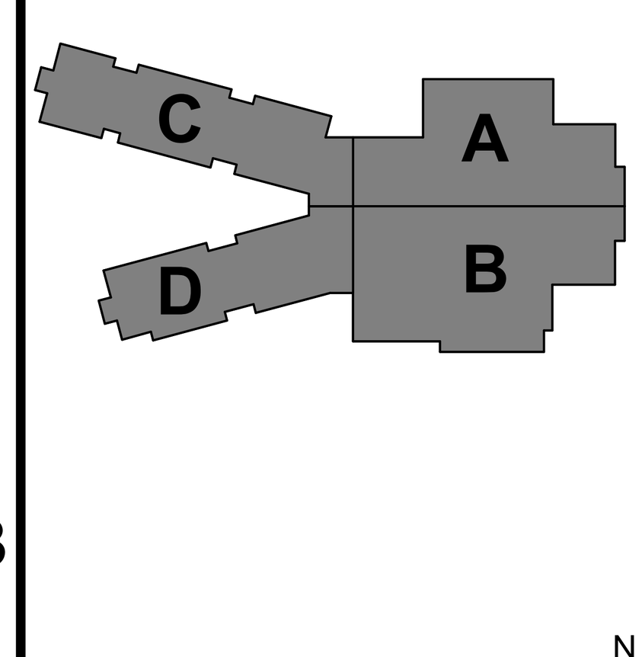
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced AEC

SARAH KATHLEEN HEMPSTEAD
REGISTERED ARCHITECT
NO. AR10400134
STATE OF INDIANA

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

INTERIOR ELEVATIONS

I-202

SCHMIDT
ASSOCIATES
415 Massachusetts Avenue
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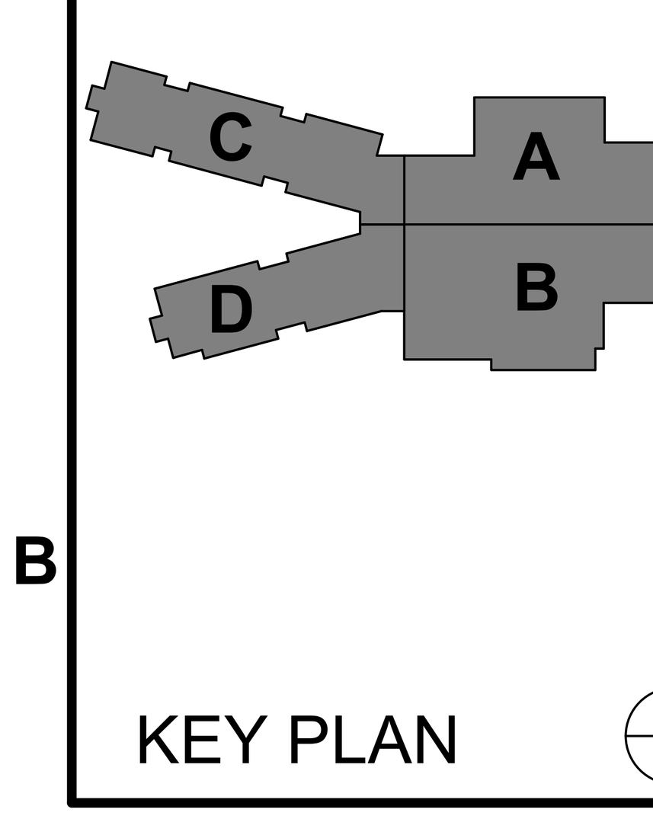
Project No. 2021-141.NES
Project Date 05.11.2022
Produced AEC

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



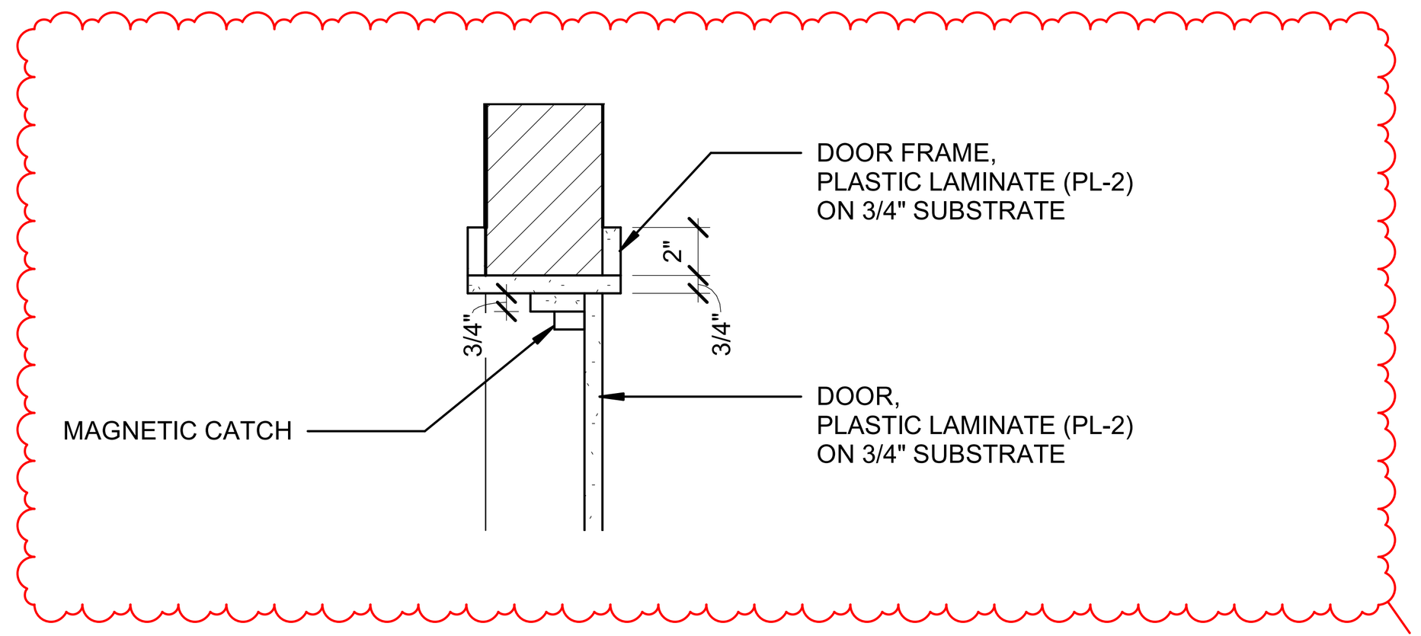
KEY PLAN

FRANKLIN TOWNSHIP CSC

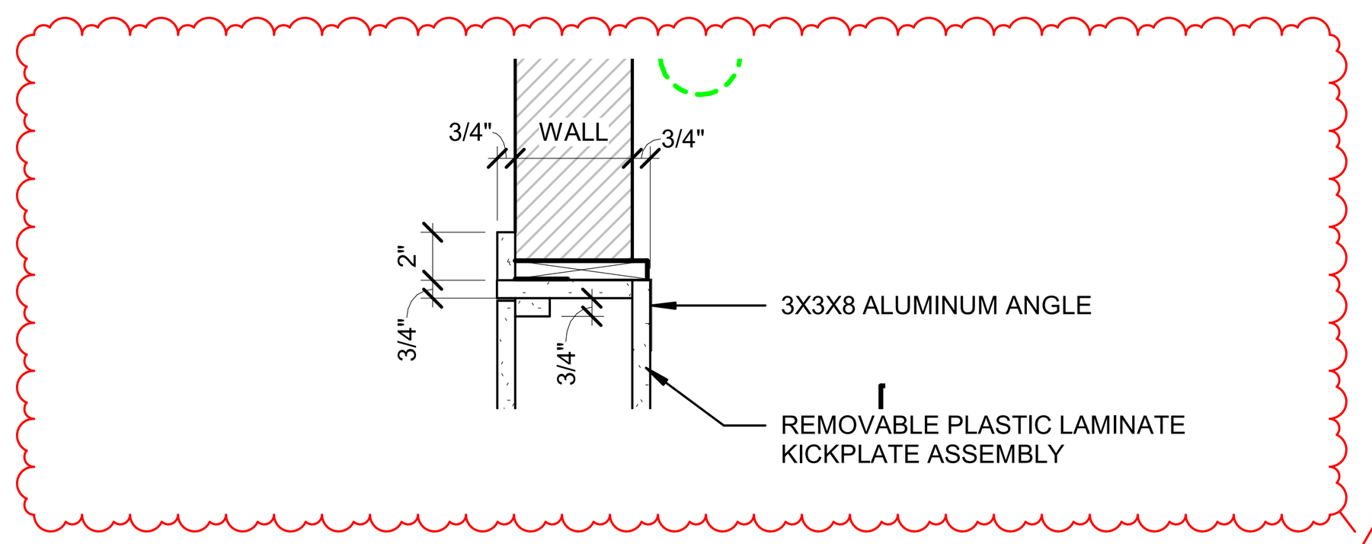
NEW ELEMENTARY SCHOOL

INTERIOR ENLARGED PLANS

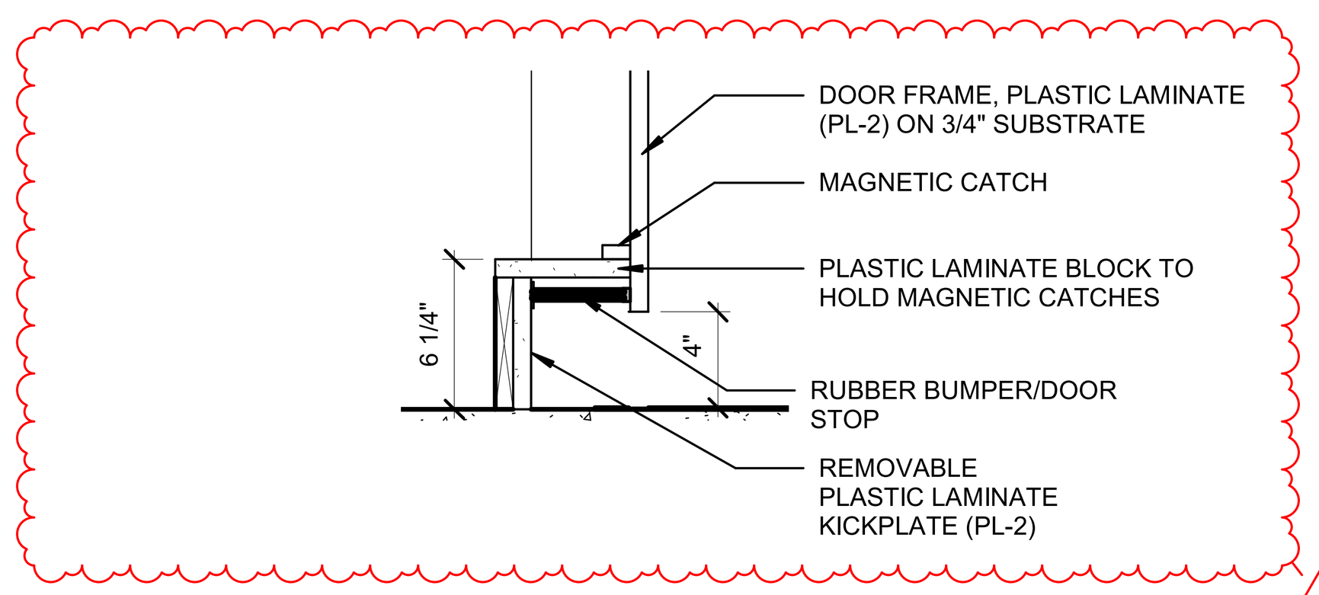
I-401



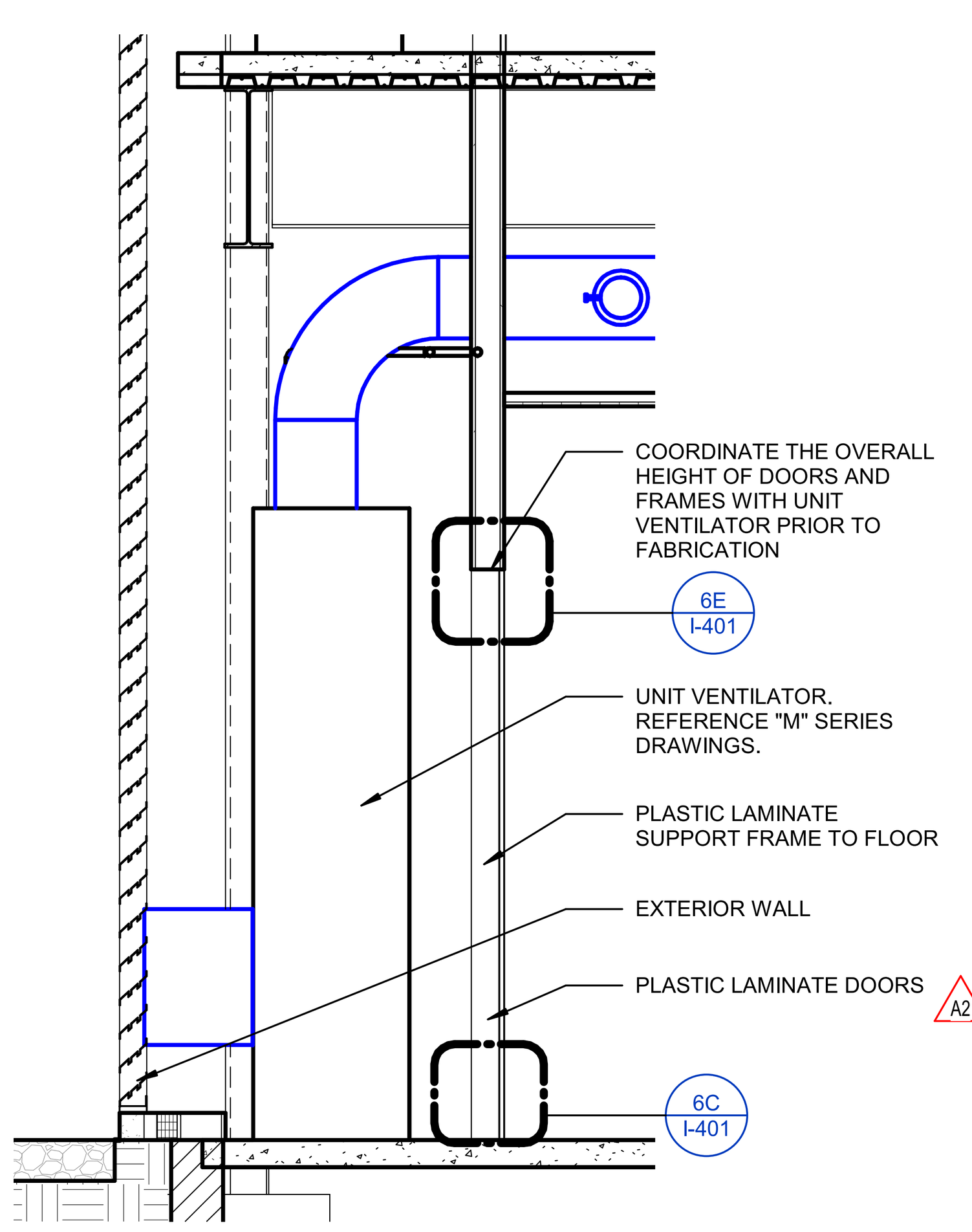
6E PLASTIC LAMINATE DOOR - HEAD DETAIL
1 1/2" = 1'-0"



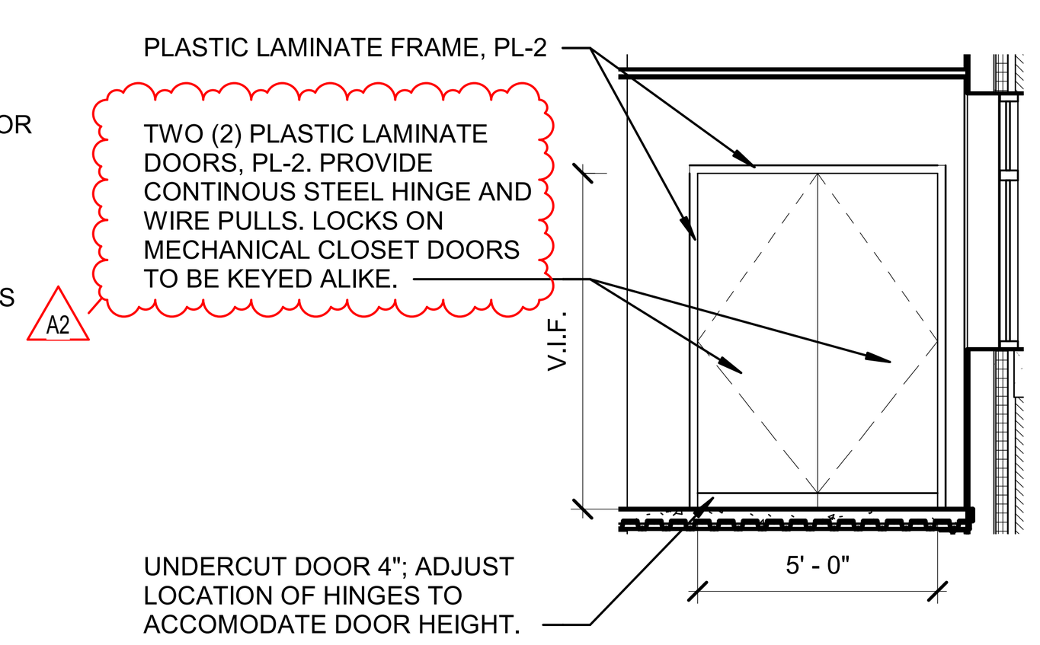
6D PLASTIC LAMINATE DOOR - JAMB DETAIL
1 1/2" = 1'-0"



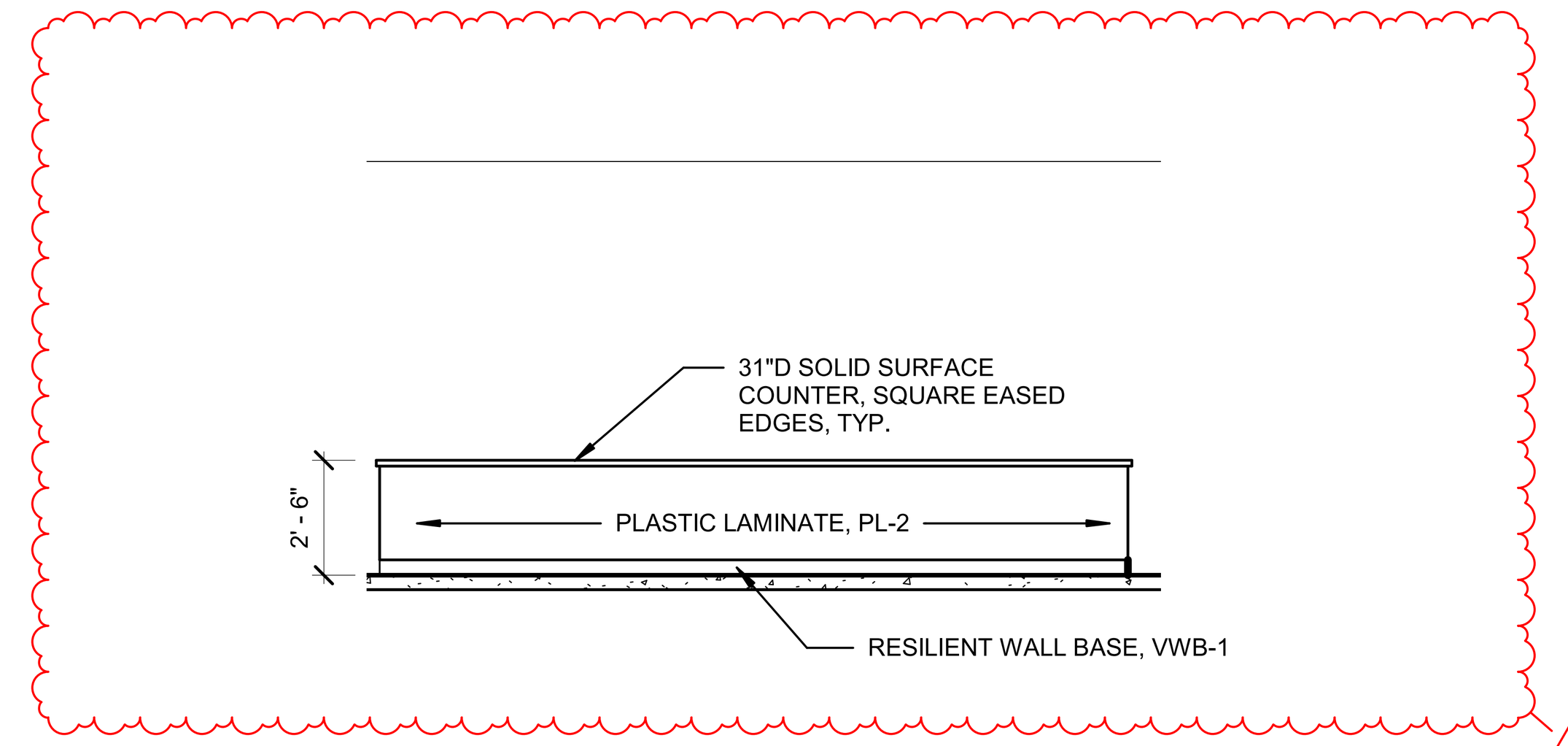
6C PLASTIC LAMINATE DOOR - BASE DETAIL
1 1/2" = 1'-0"



6A TYPICAL DOOR SECTION AT UNIT VENT
1/2" = 1'-0"

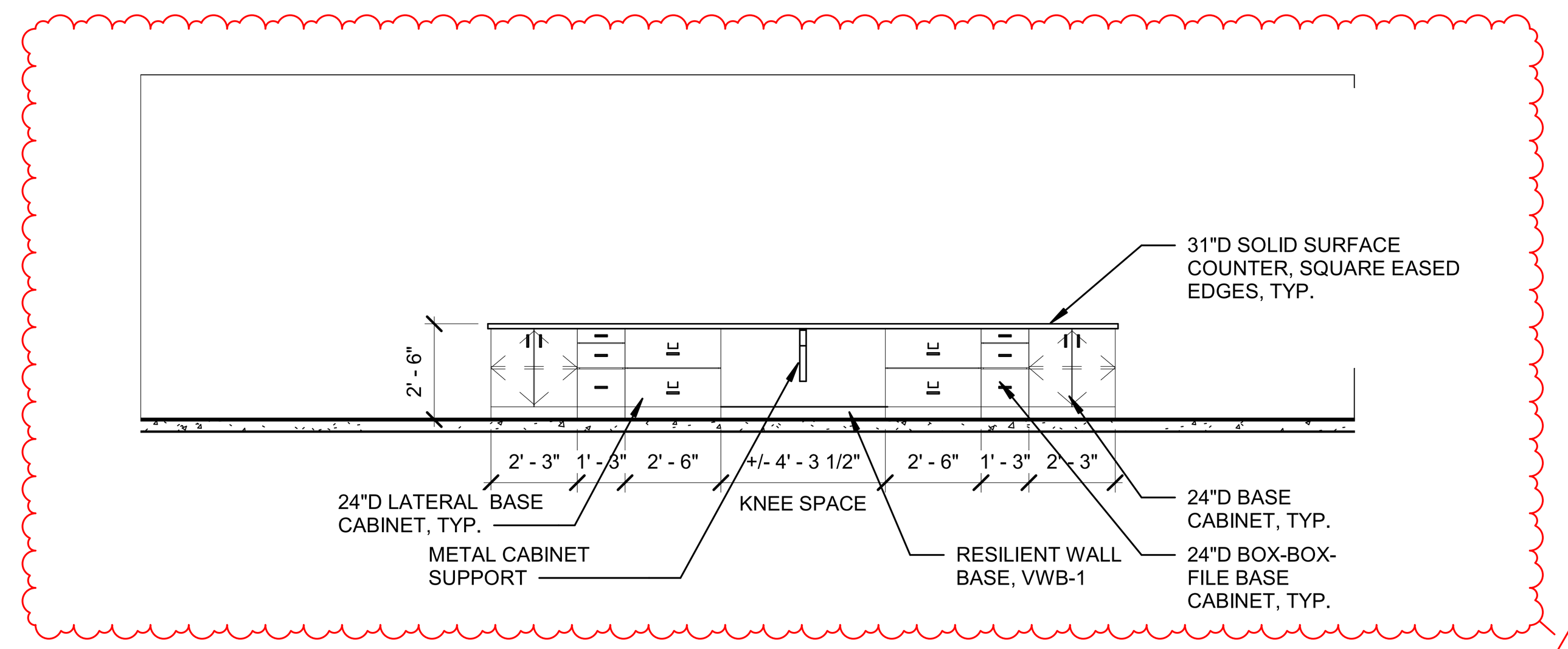


5A TYPICAL CLASSROOM MECHANICAL CLOSET DOOR
1/4" = 1'-0"



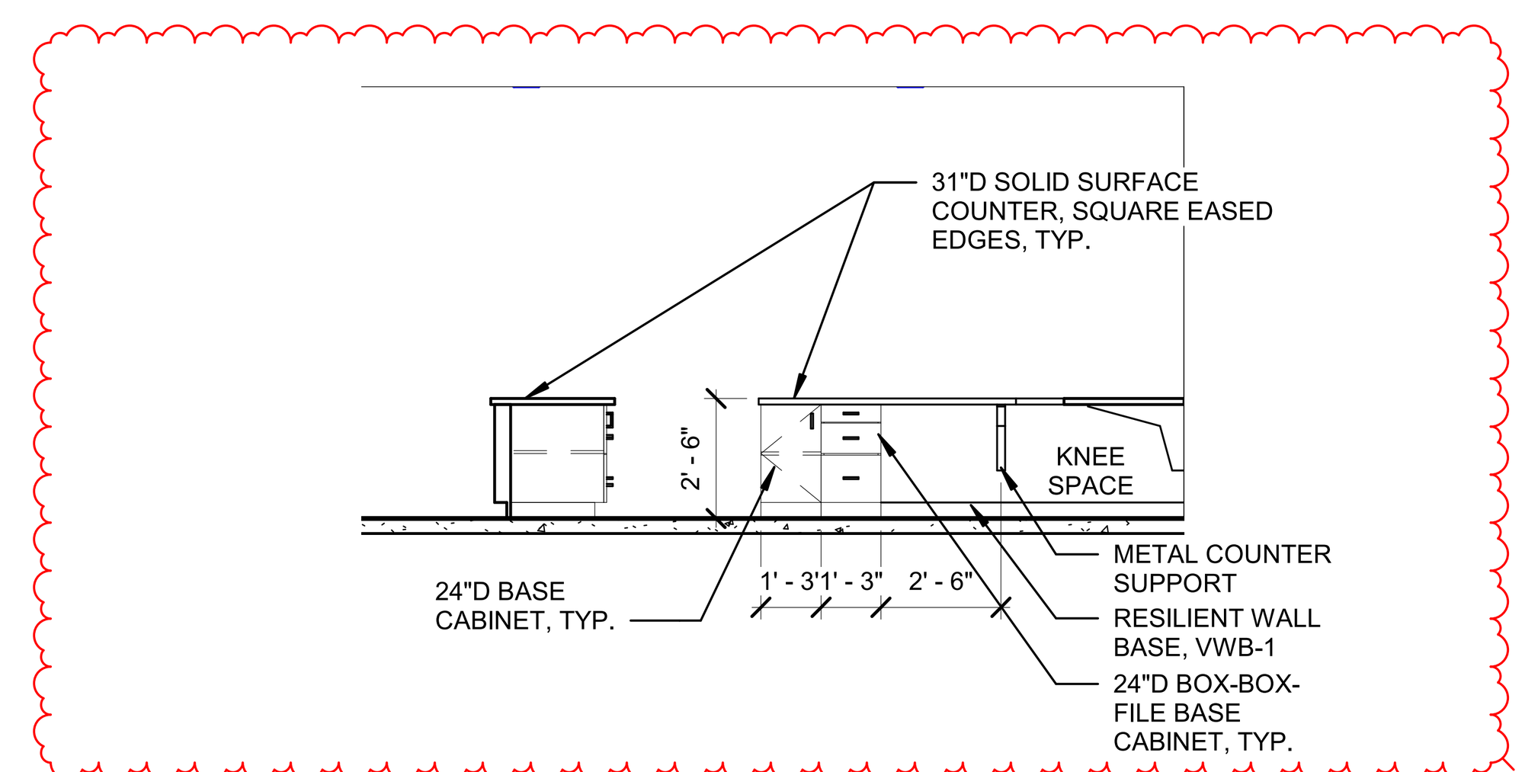
3E RECEPTION DESK - ELEVATION 5
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



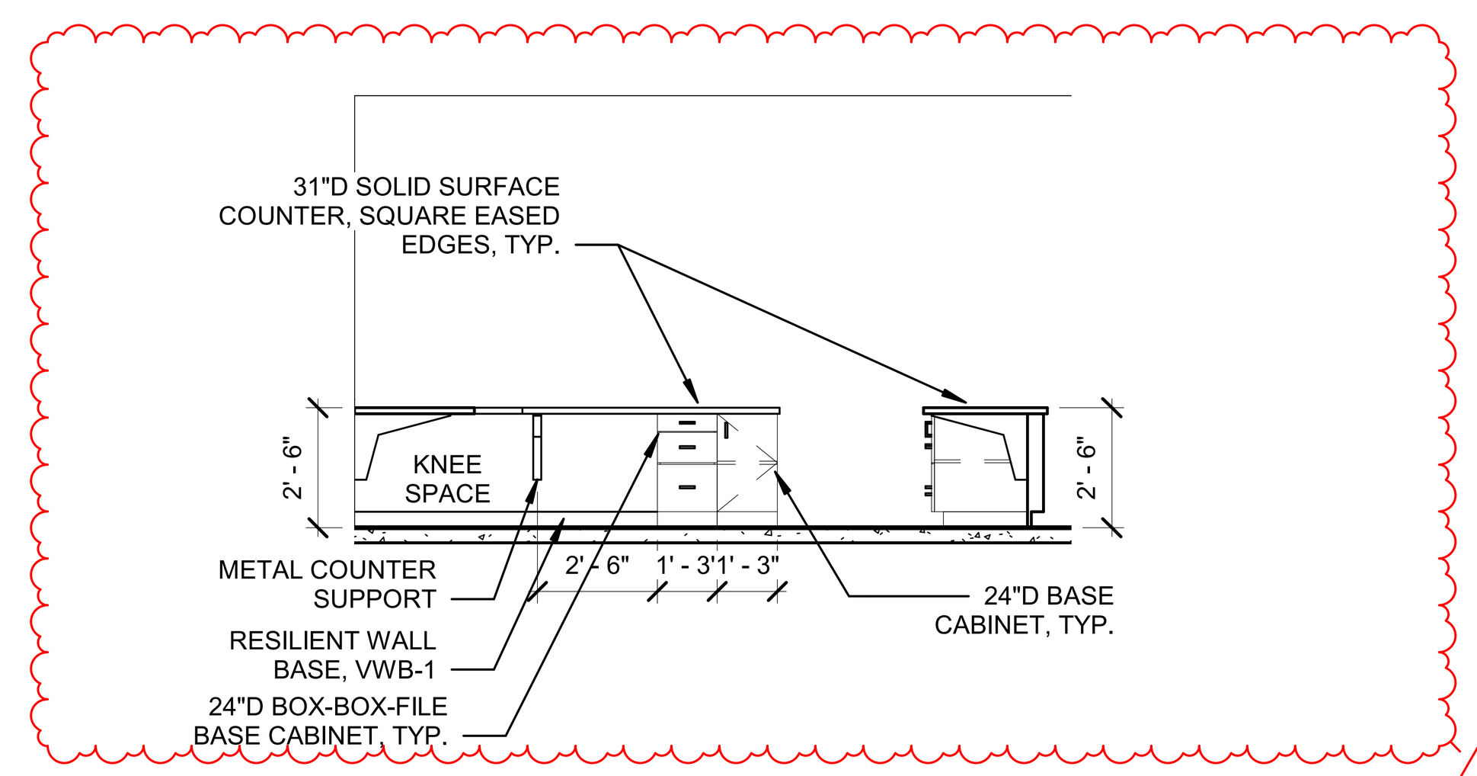
3D RECEPTION DESK - ELEVATION 4
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2), LOCKS



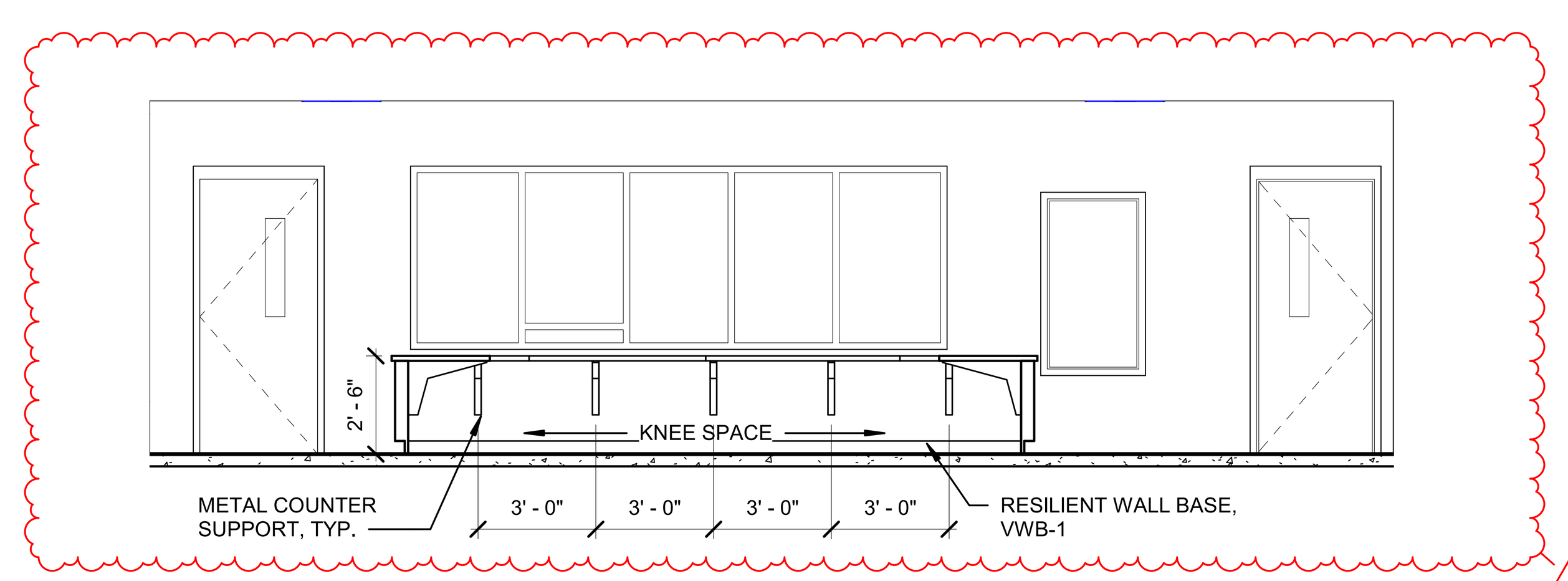
3C RECEPTION DESK - ELEVATION 3
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2), LOCKS



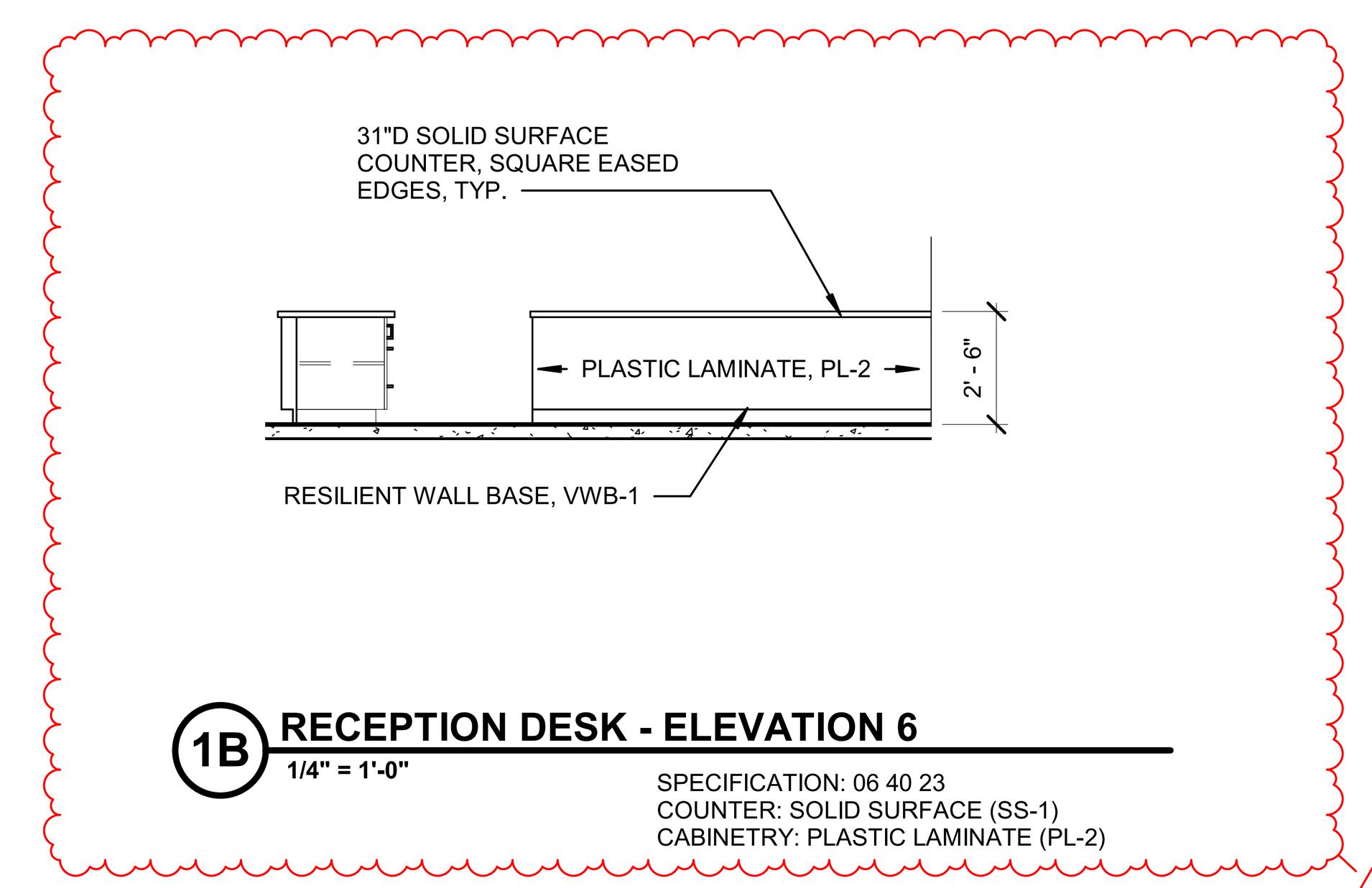
3B RECEPTION DESK - ELEVATION 2
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2), LOCKS



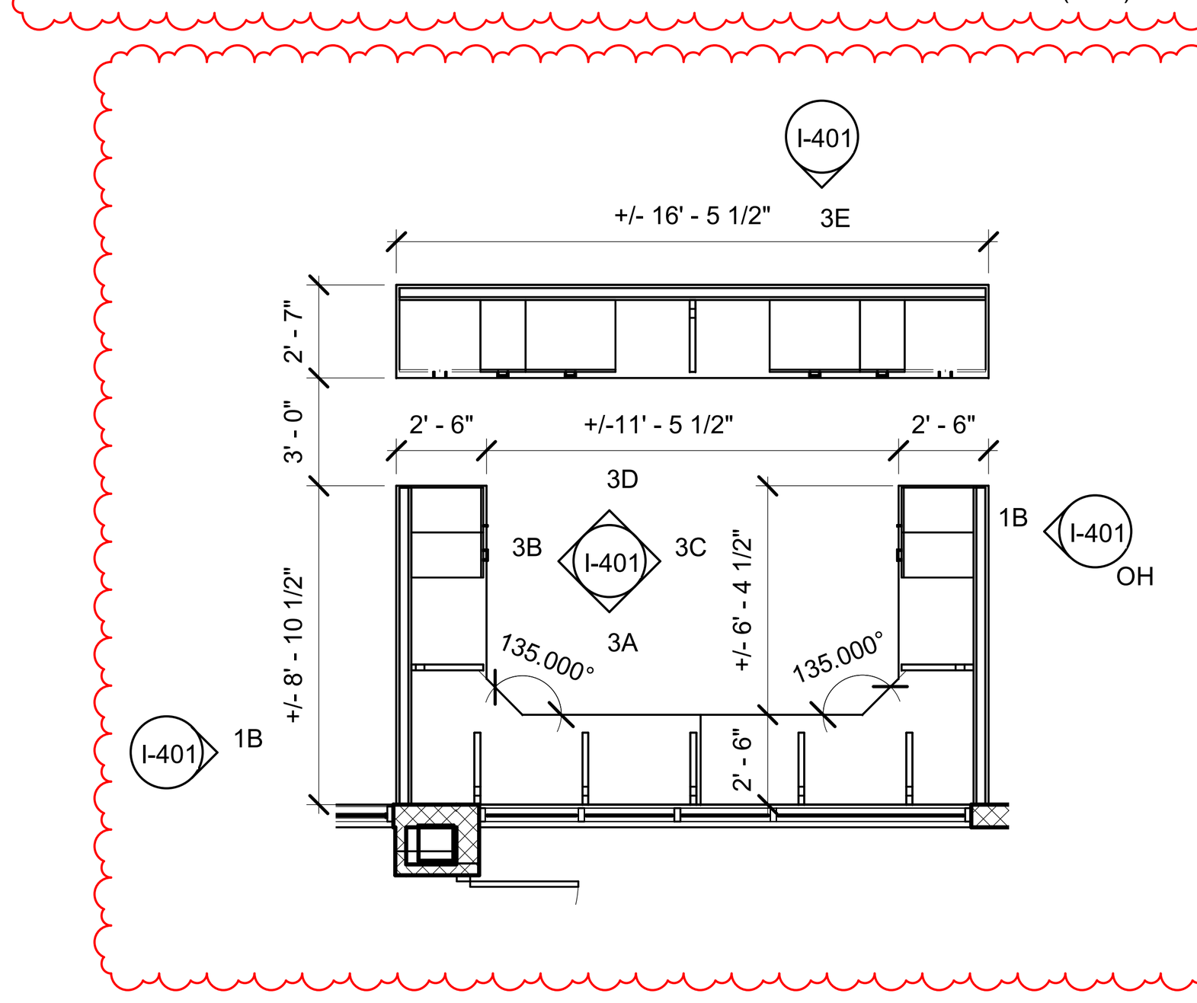
3A RECEPTION DESK - ELEVATION 1
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2)

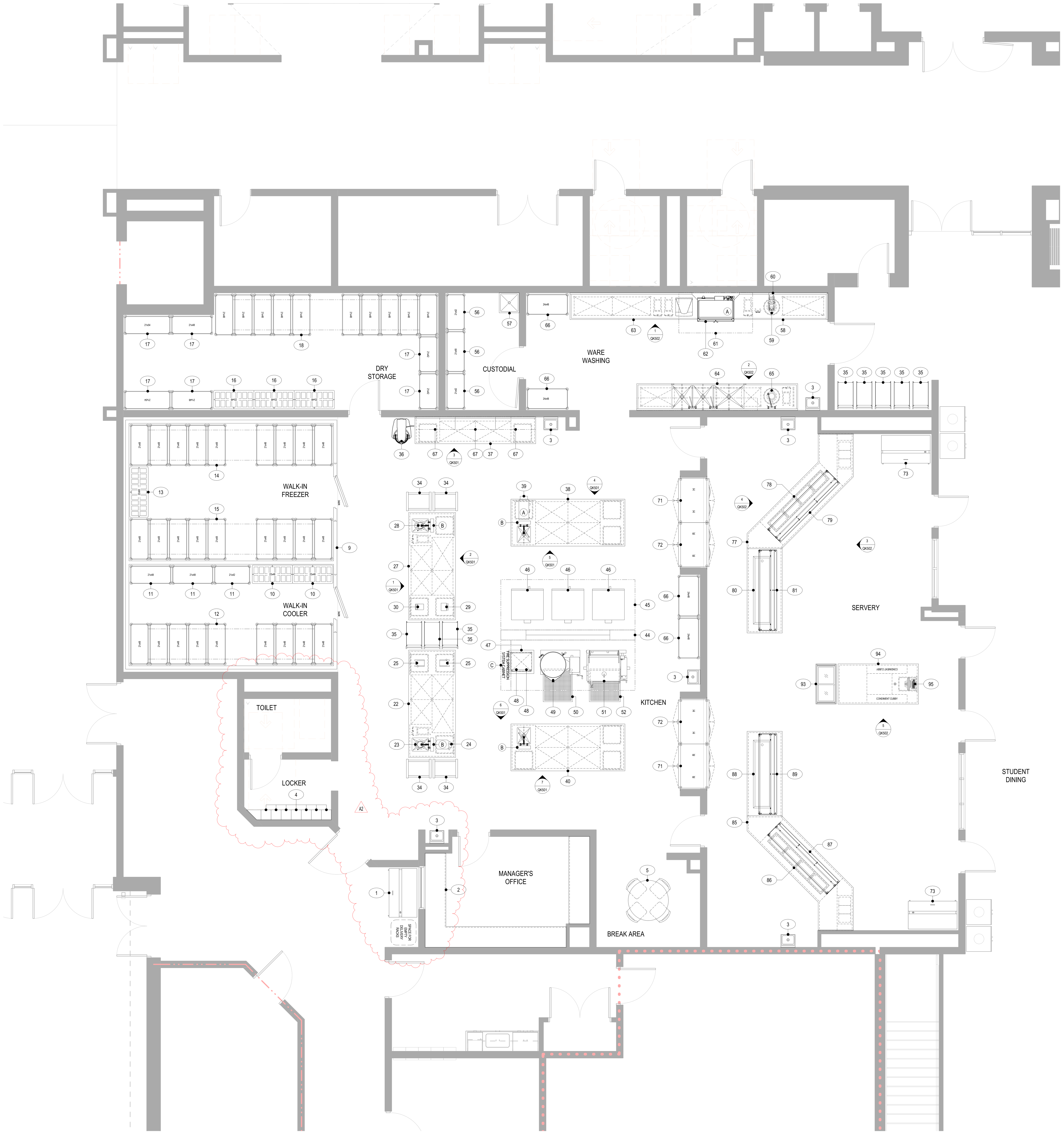


1B RECEPTION DESK - ELEVATION 6
1/4" = 1'-0"

SPECIFICATION: 06 40 23
COUNTER: SOLID SURFACE (SS-1)
CABINETRY: PLASTIC LAMINATE (PL-2)



1A ENLARGED RECEPTION DESK
3/16" = 1'-0"



FOODSERVICE EQUIPMENT SCHEDULE

ITEM	QTY	ITEM DESCRIPTION	MANUFACTURER	MODEL
1	1	SINGLE SIDED 16-CRATE MILK COOLER	TRUE FOODSERVICE	TMC-58-S-SS-HC
2	1	KITCHEN OFFICE FURNITURE	BY OWNER/ARCHITECT	NOT IN KEC CONTRACT
3	6	WALL MOUNTED HAND SINK	JOHN BOOS & COMPANY	PBHS-W-1410-SSLR
4	7	FULL SIZE EMPLOYEE LOCKERS	BY OWNER/ARCHITECT	NOT IN KEC CONTRACT
5	1	KITCHEN BREAK AREA FURNITURE	BY OWNER/ARCHITECT	NOT IN KEC CONTRACT
6	1	SPARE NUMBER	----------	----------
7	1	SPARE NUMBER	----------	----------
8	1	SPARE NUMBER	----------	----------
9	1	WALK-IN COOLER/FREEZER	FABRICATED EQUIPMENT	CUSTOM
10	2	STATIONARY COOLER DUNNAGE	INTERMETRO	HP22PDMB SERIES
11	3	MOBILE COOLER SHELVING	INTERMETRO	METROMAX Q
12	1	HI-DENSITY COOLER SHELVING	INTERMETRO	METROMAX Q
13	1	STATIONARY FREEZER DUNNAGE	INTERMETRO	HP22PDMB SERIES
14	1	HI-DENSITY FREEZER SHELVING	INTERMETRO	METROMAX Q
15	1	HI-DENSITY FREEZER SHELVING	INTERMETRO	METROMAX Q
16	3	STATIONARY DRY STORAGE DUNNAGE	INTERMETRO	HP22PDMB SERIES
17	6	MOBILE DRY STORAGE SHELVING	INTERMETRO	METROMAX Q
18	1	HI-DENSITY DRY STORAGE SHELVING	INTERMETRO	METROMAX Q
19	1	SPARE NUMBER	----------	----------
20	1	SPARE NUMBER	----------	----------
21	1	SPARE NUMBER	----------	----------
22	1	VEGETABLE PREP WORKTABLE	FABRICATED EQUIPMENT	CUSTOM
23	1	GARBAGE DISPOSAL SYSTEM	IN-SINK-ERATOR	SS-200-7/AS-101
24	1	COUNTERTOP FOOD PROCESSOR	PIPER PRODUCTS	GSM 5 STAR
25	2	ELECTRIC CAN OPENER	EDLUND COMPANY	270/115V
26	1	MANUAL CAN OPENER (NOT SHOWN)	EDLUND COMPANY	S-11
27	1	VEGETABLE PREP WORKTABLE	FABRICATED EQUIPMENT	CUSTOM
28	1	GARBAGE DISPOSAL SYSTEM	IN-SINK-ERATOR	SS-200-7/AS-101
29	1	COUNTERTOP PORTION SCALE	EDLUND COMPANY	HD-25
30	1	COUNTERTOP DIGITAL SCALE	EDLUND COMPANY	WSC-10
31	1	SPARE NUMBER	----------	----------
32	1	SPARE NUMBER	----------	----------
33	1	SPARE NUMBER	----------	----------
34	4	HEAVY DUTY BUN PAN RACK	CRES COR INDUSTRIES	207-1820-SD
35	8	HEAVY DUTY UTILITY CART	LAKESIDE MANUFACTURING	521
36	1	40 QUART FLOOR MIXER	HOBART CORPORATION	HL400
37	1	KITCHEN PREP COUNTER	FABRICATED EQUIPMENT	CUSTOM
38	1	KITCHEN PREP WORKTABLE	FABRICATED EQUIPMENT	CUSTOM
39	1	COUNTERTOP HOT WATER DISPENSER	HATCO CORPORATION	AWD-12
40	1	KITCHEN PREP WORKTABLE	FABRICATED EQUIPMENT	CUSTOM
41	1	SPARE NUMBER	----------	----------
42	1	SPARE NUMBER	----------	----------
43	1	SPARE NUMBER	----------	----------
44	1	UTILITY DISTRIBUTION SYSTEM	FABRICATED EQUIPMENT	CUSTOM
45	1	KITCHEN EXHAUST VENTILATION	FABRICATED EQUIPMENT	CUSTOM
46	3	DOUBLE DECK CONVECTION OVEN	BLODGETT CORPORATION	ZEPHAIRE-100-E-DOUBLE
47	1	MICROWAVE EQUIPMENT STAND	FABRICATED EQUIPMENT	CUSTOM
48	2	HIGH WATTAGE MICROWAVE OVEN	PANASONIC	NE-3280
49	1	40 GALLON TILTING KETTLE	GROEN COOKING EQUIPMENT	DEES-40
50	1	STAINLESS STEEL FLOOR TROUGH	FABRICATED EQUIPMENT	CUSTOM
51	1	40 GALLON TILTING SKILLET	GROEN COOKING EQUIPMENT	BPM-40E/TDO
52	1	STAINLESS STEEL FLOOR TROUGH	FABRICATED EQUIPMENT	CUSTOM
53	1	SPARE NUMBER	----------	----------
54	1	SPARE NUMBER	----------	----------
55	1	SPARE NUMBER	----------	----------
56	3	MOBILE KITCHEN STORAGE SHELVING	INTERMETRO	METROMAX Q
57	1	FLOOR MOUNTED MOP SINK	BY PLUMBING DIVISION	NOT IN KEC CONTRACT
58	1	SOILED DISHTABLE/TRAY DROP-OFF	FABRICATED EQUIPMENT	CUSTOM
59	1	GARBAGE DISPOSAL SYSTEM	IN-SINK-ERATOR	SS-200-18A/AS-101
60	1	WALL MOUNTED HOSE REEL	T & S BRASS	B-1459-7112-QDS
61	1	DISHMACHINE EXHAUST VENTILATION	FABRICATED EQUIPMENT	CUSTOM
62	1	DISHMACHINE W/ BOOSTER HEATER	HOBART CORPORATION	CL44EN-BAS
63	1	CLEAN DISHTABLE	FABRICATED EQUIPMENT	CUSTOM
64	1	THREE COMPARTMENT SINK	FABRICATED EQUIPMENT	CUSTOM
65	1	GARBAGE DISPOSAL SYSTEM	IN-SINK-ERATOR	SS-200-18A/AS-101
66	4	MOBILE POT AND PAN DRYING RACK	INTERMETRO	MAX4-PR48VX3
67	3	STAINLESS STEEL WALL CABINET	IMC TEDDY	OC-15HS SERIES
68	1	SPARE NUMBER	----------	----------
69	1	SPARE NUMBER	----------	----------
70	1	SPARE NUMBER	----------	----------
71	2	TWO DOOR PASS-THRU HOT CABINET	TRUE FOODSERVICE	STA2HPT-4G-4S
72	2	TWO DOOR PASS-THRU REFRIGERATOR	TRUE FOODSERVICE	STA2RPT-4G-4S
73	2	SINGLE SIDED 16-CRATE MILK COOLER	TRUE FOODSERVICE	TMC-58-S-SS-HC
74	1	SPARE NUMBER	----------	----------
75	1	SPARE NUMBER	----------	----------
76	1	SPARE NUMBER	----------	----------
77	1	MAIN ENTREE SERVING COUNTER	FABRICATED EQUIPMENT	CUSTOM
78	1	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	LOW TEMP INDUSTRIES	TW-D-4-SL
79	1	HOT FOOD BREATH GUARD	VERSA GARD	VG7
80	1	DROP-IN THREE PAN FROST TOP (SLIMLINE)	HATCO CORPORATION	FTB-S3
81	1	FROST TOP BREATH GUARD	VERSA GARD	VG7
82	1	SPARE NUMBER	----------	----------
83	1	SPARE NUMBER	----------	----------
84	1	SPARE NUMBER	----------	----------
85	1	MAIN ENTREE SERVING COUNTER	FABRICATED EQUIPMENT	CUSTOM
86	1	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	LOW TEMP INDUSTRIES	TW-D-4-SL
87	1	HOT FOOD BREATH GUARD	VERSA GARD	VG7
88	1	DROP-IN THREE PAN FROST TOP (SLIMLINE)	HATCO CORPORATION	FTB-S3
89	1	FROST TOP BREATH GUARD	VERSA GARD	VG7
90	1	SPARE NUMBER	----------	----------
91	1	SPARE NUMBER	----------	----------
92	1	SPARE NUMBER	----------	----------
93	1	ICE CREAM NOVELTY FREEZER	EXISTING EQUIPMENT	TO BE RELOCATED
94	1	DOUBLE SIDED CASHIER COUNTER	FABRICATED EQUIPMENT	CUSTOM
95	1	POINT OF SALE SYSTEM	BY OWNER/ARCHITECT	NOT IN KEC CONTRACT
96	6	MOBILE TRASH RECEPTACLES (NOT SHOWN)	FABRICATED EQUIPMENT	CUSTOM
97	1	SPARE NUMBER	----------	----------
98	1	SPARE NUMBER	----------	----------
99	1	SPARE NUMBER	----------	----------
100	1	SPARE NUMBER	----------	----------

SCHMIDT ASSOCIATES
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Project No. 2021-141.NES
Project Date 05.11.2022
Produced JAK JAK

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06/09/2022

VORNDRAN and ASSOCIATES
PROFESSIONAL FOOD SERVICE DESIGN

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239

KEY PLAN

C A D B

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FOODSERVICE EQUIPMENT LAYOUT

QK101

FOODSERVICE EQUIPMENT MECHANICAL SCHEDULE

ITEM	DESCRIPTION	MARK	HW	CW	AFF	DRAIN	AFF	INDIRECT	GAS	MBTU	AFF	REMARKS
FD1	STANDARD FLOOR DRAIN	FD1						FLR DRAIN				
FS1	12"x12"x8" DEEP FLOOR SINK	FS1						FLR SINK				
3	PEDAL-OPERATED HAND SINK	P3	0.50	0.50	20	2.00	24					EXTEND SERVICE TO FAUCET MOUNTED ON EQUIPMENT. EXTEND DRAIN LINE FROM SINK TO DIRECT DRAIN.
9	WALK-IN COOLER/FREEZER	P9										REFER TO WALK-IN COOLER/FREEZER DRAWING QK300 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.
22	VEGETABLE PREP WORKTABLE	P22	0.50	0.75	DFA							DROP SERVICE FROM ABOVE THRU CHASE AND EXTEND TO CHASE MOUNTED FAUCET. EXTEND DRAIN LINE FROM BOTTOM OF SINK DRAIN TO FLOOR SINK
23	GARBAGE DISPOSAL SYSTEM	P23		0.50	ITM#22	2.00	STUB					BRANCH SERVICE FROM ITEM #30 TO EQUIPMENT THRU KEC FURNISHED SOLENOIDS & VACUUM BREAKER. EXTEND DRAIN LINE FROM EQUIPMENT TO DIRECT DRAIN.
27	VEGETABLE PREP WORKTABLE	P27	0.50	0.75	DFA							DROP SERVICE FROM ABOVE THRU CHASE AND EXTEND TO CHASE MOUNTED FAUCET. EXTEND DRAIN LINE FROM BOTTOM OF SINK DRAIN TO FLOOR SINK
28	GARBAGE DISPOSAL SYSTEM	P28		0.50	ITM#27	2.00	STUB					BRANCH SERVICE FROM ITEM #30 TO EQUIPMENT THRU KEC FURNISHED SOLENOIDS & VACUUM BREAKER. EXTEND DRAIN LINE FROM EQUIPMENT TO DIRECT DRAIN.
38	KITCHEN PREP WORKTABLE	P38	0.50	0.50	DFA	2.00		FLR SINK				DROP SERVICE FROM ABOVE THRU CHASE AND EXTEND TO CHASE MOUNTED FAUCET. EXTEND DRAIN LINE FROM BOTTOM OF SINK DRAIN TO INDIRECT DRAIN.
39	COUNTERTOP HOT WATER DISPENSER	P39	0.25		ITM#38	0.75		FLR SINK				BRANCH SERVICE FROM ITEM #27 TO EQUIPMENT THRU KEC FURNISHED WATER FILTRATION SYSTEM. EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
40	KITCHEN PREP WORKTABLE	P40	0.50	0.50	DFA	2.00		FLR SINK				DROP SERVICE FROM ABOVE THRU CHASE AND EXTEND TO CHASE MOUNTED FAUCET. EXTEND DRAIN LINE FROM BOTTOM OF SINK DRAIN TO INDIRECT DRAIN.
44	UTILITY DISTRIBUTION SYSTEM	P44										REFER TO UTILITY DISTRIBUTION SYSTEM DRAWING FS4.0 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.
45	KITCHEN EXHAUST VENTILATION	P45										REFER TO EXHAUST VENTILATION DRAWING FS4.1 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.
49	40 GALLON TILTING KETTLE	P49										REFER TO UTILITY DISTRIBUTION SYSTEM DRAWING FS4.0 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.
50	STAINLESS STEEL FLOOR TROUGH	P50				4.00	STUB					TRAP BELOW FLOOR FOR FLOOR TROUGH DRAIN FURNISHED BY KEC
51	40 GALLON TILTING SKILLET	P51										REFER TO UTILITY DISTRIBUTION SYSTEM DRAWING FS4.0 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.

FOODSERVICE EQUIPMENT MECHANICAL SCHEDULE

ITEM	DESCRIPTION	MARK	HW	CW	AFF	DRAIN	AFF	INDIRECT	GAS	MBTU	AFF	REMARKS
52	STAINLESS STEEL FLOOR TROUGH	P52				4.00	STUB					TRAP BELOW FLOOR FOR FLOOR TROUGH DRAIN FURNISHED BY KEC
57	FLOOR MOUNTED MOP SINK	P57	0.75	0.75	20	2.00	STUB					EXTEND SERVICE TO FAUCET MOUNTED ON EQUIPMENT. EXTEND DRAIN LINE FROM SINK TO DIRECT DRAIN
59	GARBAGE DISPOSAL SYSTEM	P59		0.50	ITM#60	2.00	8					BRANCH SERVICE FROM ITEM #80 TO EQUIPMENT THRU KEC FURNISHED SOLENOIDS & VACUUM BREAKER. EXTEND DRAIN LINE FROM EQUIPMENT TO DIRECT DRAIN.
60	WALL MOUNTED HOSE REEL	P60	0.50	0.75	20							EXTEND SERVICE TO KEC FURNISHED MIXING VALVE AND THEN EXTEND SINGLE TEMPERED LINE IN WALL AND OUT @ 90" AFF TO EQUIPMENT. SEE SHEET FS5.0 FOR HOSE REEL PLUMBING DETAIL.
61	DISHMACHINE EXHAUST VENTILATION	P61										REFER TO EXHAUST VENTILATION DRAWING FS4.1 FOR MORE MEP UTILITY REQUIREMENT INFORMATION.
62	DISHMACHINE W/ BOOSTER HEATER	P62	0.75	0.75	20	2.00		FLR SINK				EXTEND 140 DEGREE HOT WATER TO EQUIPMENT THRU KEC FURNISHED WATER FILTRATION SYSTEM. EXTEND COLD WATER TO DRAIN WATER TEMPERING DEVICE ON EQUIPMENT. EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
64	THREE COMPARTMENT SINK	P64	0.75	0.75	20	2.00	8	FLR SINK				EXTEND SERVICE TO SPLASH MOUNTED FAUCET. EXTEND SERVICE TO TWO (2) SPLASH MOUNTED "BIG FLOW" FAUCETS. MANIFOLD DRAIN LINES FROM WASH AND RINSE SINKS AND EXTEND TO DIRECT DRAIN. EXTEND DRAIN LINE FROM SANITIZE SINK TO INDIRECT DRAIN.
65	GARBAGE DISPOSAL SYSTEM	P65	0.50	0.50	20	2.00	8					EXTEND SERVICE TO SPLASH MOUNTED FAUCET. BRANCH SERVICE TO EQUIPMENT THRU KEC FURNISHED SOLENOIDS & VACUUM BREAKER. EXTEND DRAIN LINE FROM EQUIPMENT TO DIRECT DRAIN.
78	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	P78				0.75		FLR SINK				EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
80	DROP-IN THREE PAN FROST TOP (SLIMLINE)	P80				0.75		FLR SINK				EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
86	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	P86				0.75		FLR SINK				EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
88	DROP-IN THREE PAN FROST TOP (SLIMLINE)	P88				0.75		FLR SINK				EXTEND DRAIN LINE FROM EQUIPMENT TO INDIRECT DRAIN.
V1	DRY STORAGE ROOM VENTILATION	V1										DRY STORAGE ROOM MUST BE COOLED, HEATED, AND/OR VENTILATED AS REQUIRED TO MAINTAIN A TEMPERATURE OF 68-72 DEGREES FAHRENHEIT YEAR ROUND.
V2	WAREWASH ROOM VENTILATION	V2										WAREWASH EQUIPMENT DISSIPATES HEAT DIRECTLY INTO THE WAREWASH AREA WHICH MUST BE EXHAUSTED BY MEANS OTHER THAT THAT OF THE DISHMACHINE EXHAUST SYSTEM

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Project No. 2021-141.NES
Project Date 05.11.2022
Produced JAK JAK

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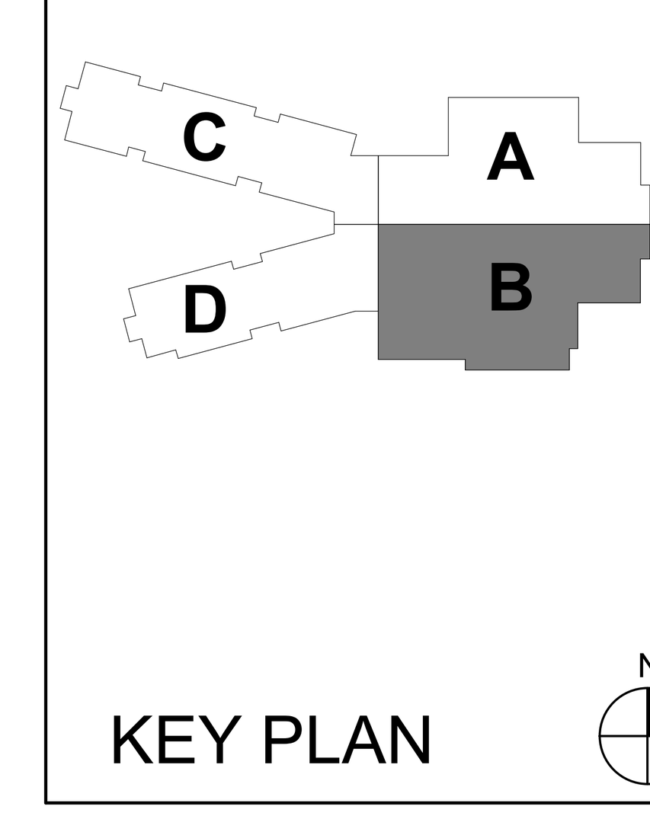
INDIANA
ARCHITECT

#	Revision	Date
A2	Addendum #2	06/09/2022

VORNDRAN
and ASSOCIATES
PROFESSIONAL FOOD SERVICE DESIGN
10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FOODSERVICE SPOT LOCATION LAYOUT

QK200

A2

EXHAUST FAN ASSEMBLY DESCRIPTION

DRIVES	SIZED FOR 150% OF DRIVE H.P., ADJUSTABLE PITCH SHEAVES
OVERSIZED VENT TUBE	FOR MAXIMUM MOTOR COOLING
BEARINGS	BALL BEARING TYPE PERMANENTLY SEALED AND LUBRICATED
ENCLOSED MOTOR COMPARTMENT	ISOLATES MOTOR AND DRIVES FOR EXHAUST AIR
MOTOR	OPEN DRIP-PROOF CONSTRUCTION STANDARD
MOTOR BASE	MOTOR IS ADJUSTABLE FOR PROPER BELT TENSION
INSULATION	HIGH TEMPERATURE INSULATION PROVIDES LONGER MOTOR LIFE
ALL ALUMINUM CENTRIFUGAL WHEEL	NON-OVERLOADING, BACKWARDS INCLINE TAPERED BLADES FOR MAXIMUM EFFICIENCY AND MINIMUM SOUND
DISCONNECT SWITCH	RAINPROOF ELECTRICAL BOX WITH WIRING CHASE. ELIMINATES THE NEED TO UNWIRE AND REWIRE THE MOTOR WHEN REMOVING MOTOR COMPARTMENT HOUSING
DEEP SPUN ONE PIECE INLET	NON-OVERLOADING, BACKWARDS INCLINE TAPERED BLADES FOR MAXIMUM EFFICIENCY AND MINIMUM SOUND

NOTES

MOTOR COMPARTMENT TO BE PROVIDED WITH FORCED AIR COOLING, COMPARTMENT TO BE SEALED FROM CONTAMINATED EXHAUST AIR.

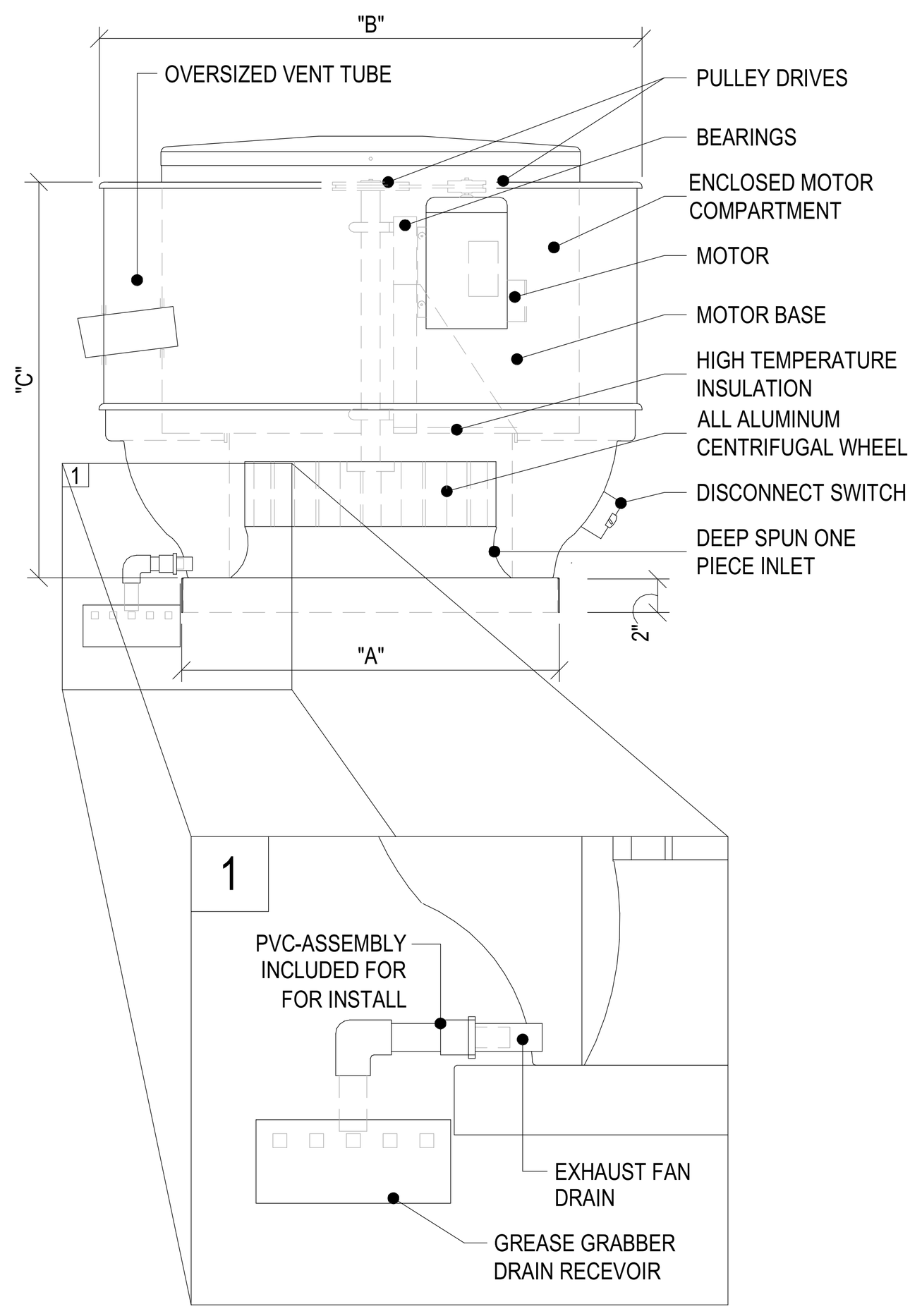
EXTERNALLY MOUNTED JUNCTION BOX PREWIRED FOR FIELD CONNECTION.

NEOPRENE ISOLATORS ARE INCLUDED TO REDUCE NOISE AND VIBRATION.

STANDARD ACCESSORIES:
GREASE GRABBER
HINGED CURB
UL762 RESTAURANT LISTING
VENTED RESTAURANT CURB

DIMENSIONS

ITEM #:	EF45	
MODEL:	CUBE-300	
A:	40.00"	
B:	50.00"	
C:	36.00"	



UPBLAST EXHAUST FAN — NOT TO SCALE — B

NOTES

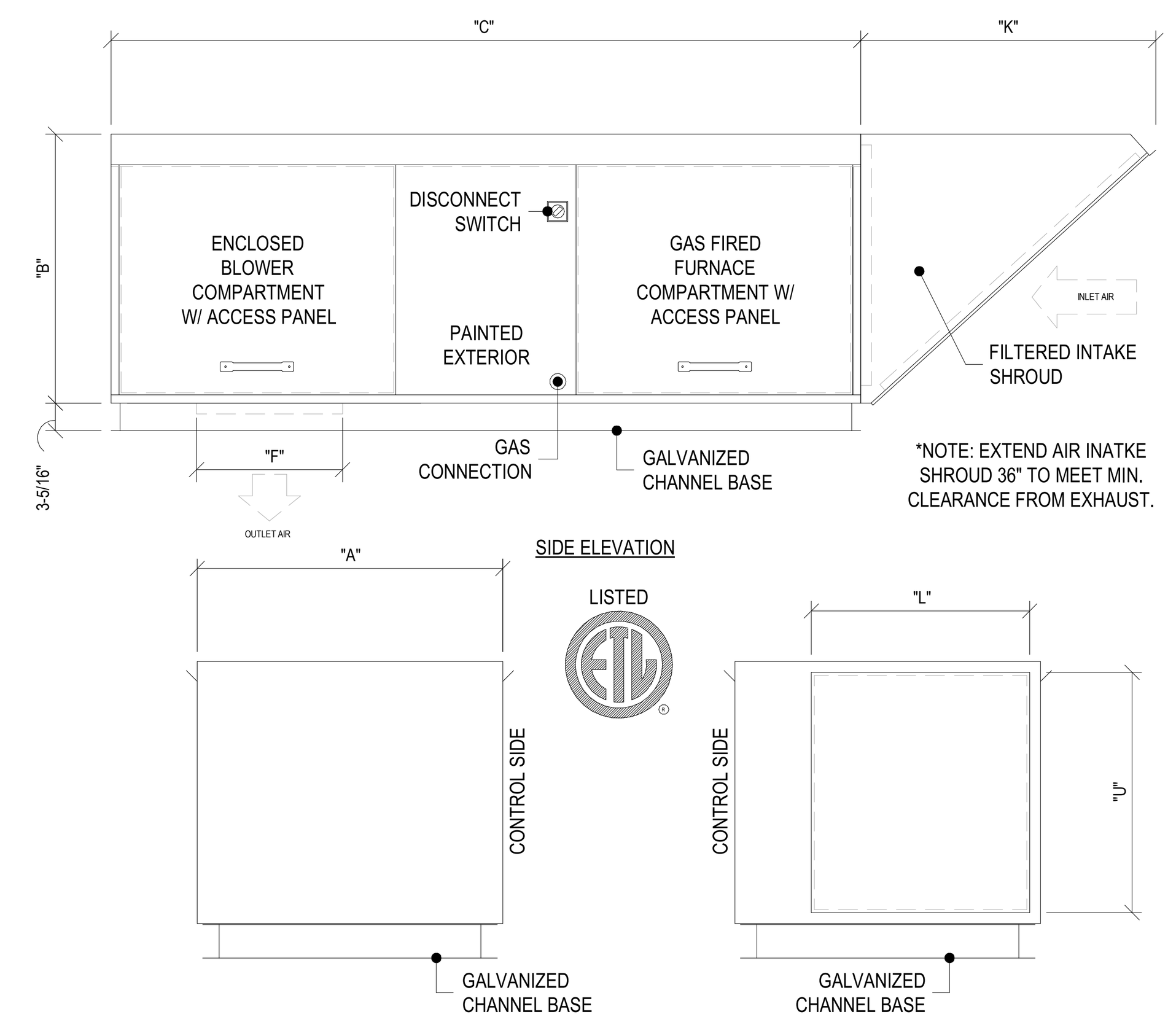
MOTOR COMPARTMENT TO BE PROVIDED WITH FORCED AIR COOLING, COMPARTMENT TO BE SEALED FROM DUST AND VERMIN.

MAINTAIN A MINIMUM OF 30" CLEARANCE AROUND UNIT FOR SERVICE.

STANDARD OPTIONS:
WEATHER-TIGHT HOUSING
FOIL-FACED INTERIOR INSULATION
END OR BOTTOM DISCHARGE
FAN & MOTOR VIBRATION ISOLATORS
REMOTE CONTROL PANEL
NON-FUSED DISCONNECT SWITCH
DIRECT IGNITION WITH LOW FIR START

DIMENSIONS

ITEM #:	SF45	
MODEL:	MA15	
A:	40.00"	
B:	43.50"	
C:	84.00"	
F:	17.875"	
K:	38.00"	
L:	31.875"	
U:	35.75"	



*NOTE: EXHAUST AND SUPPLY FANS TO BE INTERWIRED THROUGH SINGLE SWITCH SUCH THAT BOTH UNITS WILL COME ON TOGETHER.

MAKE-UP AIR UNIT — NOT TO SCALE — A

EXHAUST HOOD SCHEDULE

ITEM	DESCRIPTION	HOOD WEIGHT	EXHAUST CFM	EXHAUST S. PRESSURE	SUPPLY CFM	SUPPLY S. PRESSURE
45	COOKING VENTILATION HOOD	800 LBS	6500	2.250"	6200	2.625"
61	DISHROOM VENTILATION HOOD	225 LBS	1200	0.750"	----------	----------

KITCHEN VENTILATION TOTALS		DISHROOM VENTILATION TOTALS	
TOTAL EXHAUST (CFM)	TOTAL SUPPLY (CFM)	TOTAL EXHAUST (CFM)	TOTAL SUPPLY (CFM)
6500	5200	1200	----------

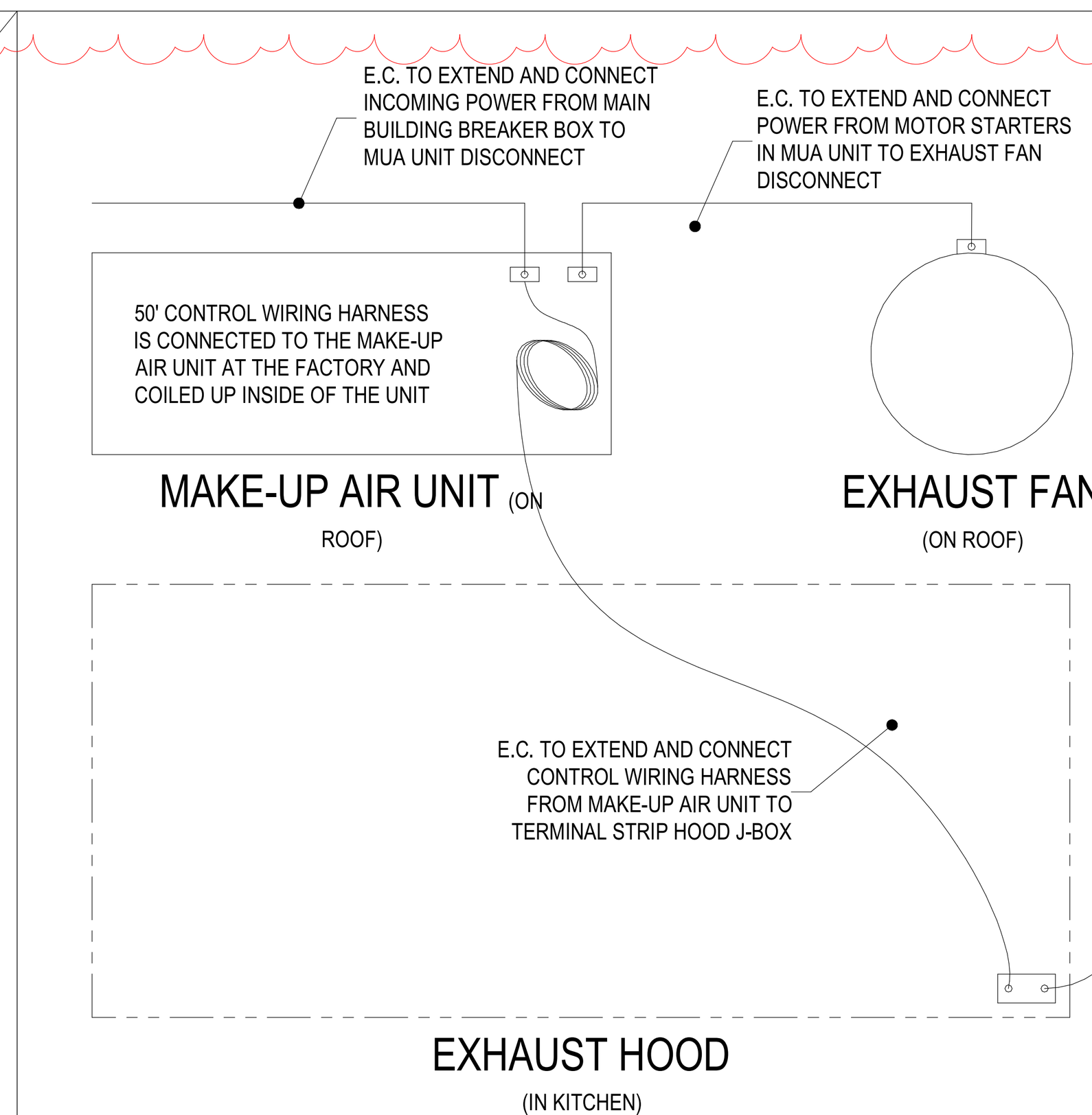
TOTAL AIR REMOVED BY HOODS (CFM)	7700	TOTAL AIR RETURNED BY HOODS (CFM)	5200	BALANCE BY BUILDING HVAC RESOURCES (CFM)	2500

EXHAUST ELECTRICAL SCHEDULE

ITEM	DESCRIPTION	VOLTAGE	PHASE	KW	AMPS	LOCATION	REMARKS
E45A	COOKING VENTILATION (LIGHTS)	120	1		1.50	DFA	SEE BELOW
E45B	COOKING VENT. (ROOFTOP FANS)	480	3		17.10	ROOFTOP	SEE BELOW
E45C	COOKING VENT. (SUPPLY FURNACE)	480	3	107.40		ROOFTOP	SEE BELOW
E61	DISHROOM VENT. (EXHAUST FAN)	120	1		9.80	ROOFTOP	SEE BELOW

EXHAUST MECHANICAL SCHEDULE

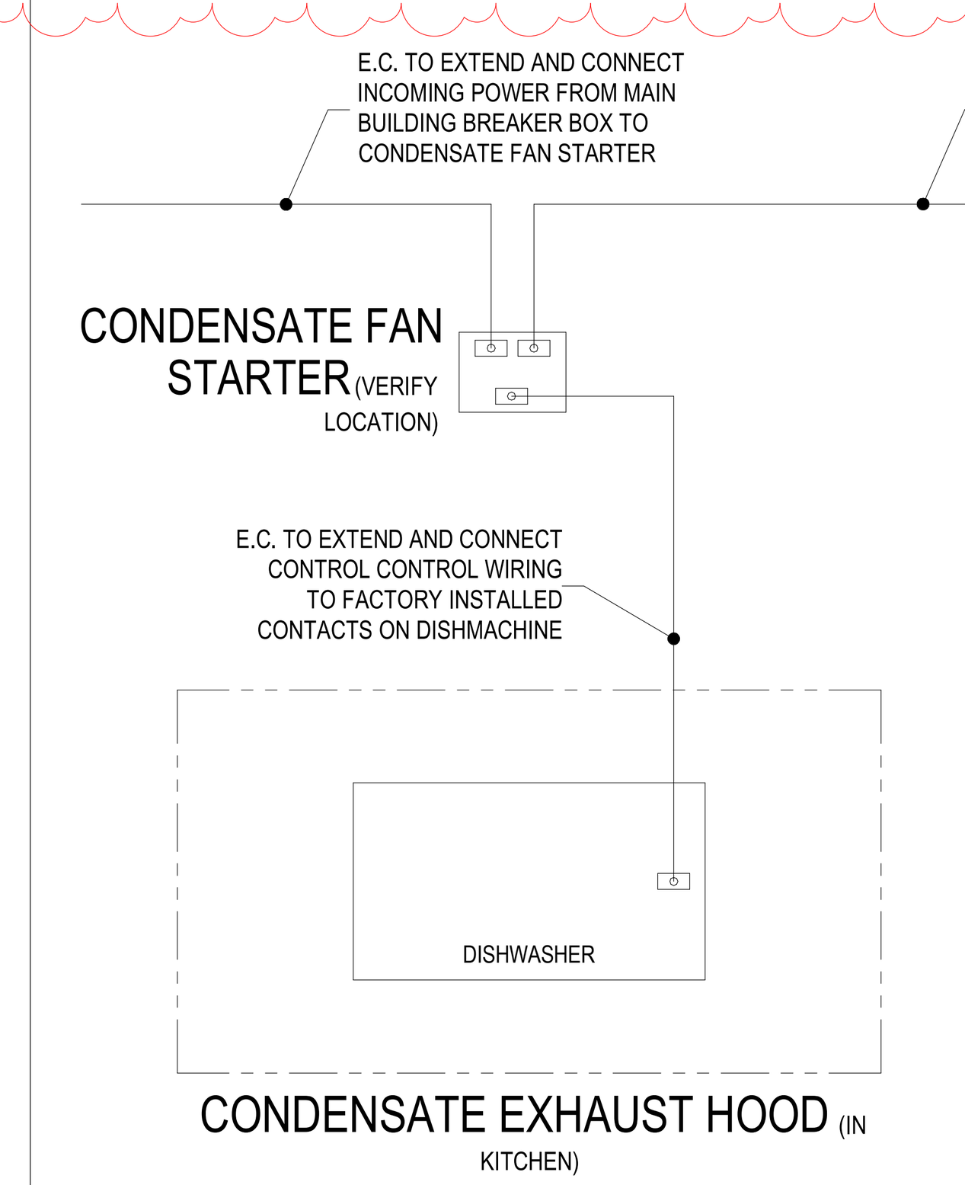
ITEM	DESCRIPTION	CFM	WEIGHT	GAS REQUIREMENTS		ROOF OPENING	REMARKS
				CONN	BTU		
P45A	COOKING VENT. (EXHAUST FAN)	6500	242 LBS			36.00" x 36.00"	SEE BELOW
P45B	COOKING VENT. (SUPPLY FAN)	5200	294 LBS			36.00" x 36.00"	SEE BELOW
P61	DISHROOM VENT. (EXHAUST FAN)	1200	75 LBS			15.00" x 15.00"	SEE BELOW



NOTES:

1. ALL WIRE, CONDUIT AND HARDWARE FOR INCOMING POWER TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. CONTROL WIRING FROM THE STARTER TO THE DISHWASHER TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
3. ALL WIRE, CONDUIT AND HARDWARE FROM MOTOR STARTER TO EXHAUST FAN TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

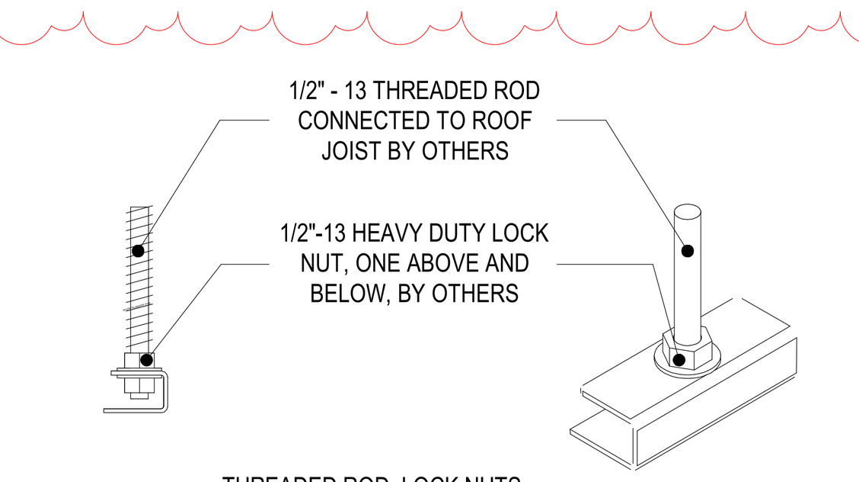
KITCHEN EXHAUST WIRE ROUTING — NOT TO SCALE — F



NOTES:

1. ALL WIRE, CONDUIT AND HARDWARE FOR INCOMING POWER TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
2. CONTROL WIRING FROM THE STARTER TO THE DISHWASHER TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
3. ALL WIRE, CONDUIT AND HARDWARE FROM MOTOR STARTER TO EXHAUST FAN TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

CONDENSATE EXHAUST WIRE ROUTING — NOT TO SCALE — E

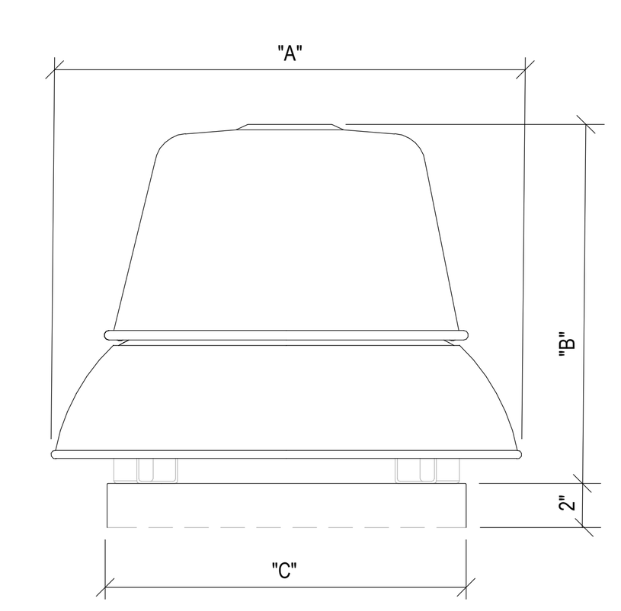


THREADED ROD, LOCK NUTS AND HARDWARE TO BE SUPPLIED BY INSTALLING CONTRACTOR.

EQUIPMENT MUST BE SUPPORTED BY ALL HANGING BRACKETS PROVIDED.

HANGER BRACKET — NOT TO SCALE — C

A2



NOTES

STANDARD ACCESSORIES:
ALL ALUMINUM HOUSING
FLAT ROOF HINGED CURB
UL705 LISTING

DIMENSIONS

ITEM #:	EF61	
MODEL:	G8-131-5	
A:	28.375"	
B:	23.75"	
C:	19.00"	

DOWNBLAST FAN — NOT TO SCALE — D

VENTILATION WORK BY OTHER TRADES

(FINAL SCOPE ASSIGNMENT TO BE DIRECTED BY WRITTEN SPECIFICATIONS)

GENERAL DIVISION:

PROVIDE DUCT SHAFT(S), OPENING(S) THRU WALLS, CEILINGS AND ROOF FOR EXHAUST AND MAKE-UP AIR DUCTS. COORDINATE JOIST OR STRUCTURAL MEMBER INSTALLATION TO PROVIDE REQUIRED CLEARANCES FOR DUCTWORK AND SHAFT ASSEMBLIES. GENERAL CONTRACTOR TO VERIFY DUCT CONFIGURATION, INSTALLATION AND ACCESS FOR CONNECTION OF EXHAUST DUCT TO HOOD PRIOR TO CONSTRUCTION OF DUCT SHAFT(S).

GENERAL CONTRACTOR TO PROVIDE RATED ACCESS DOORS AND/OR PANELS AT ALL DUCT TURNS AND HORIZONTAL DUCT RUNS IN EXCESS OF 10'-0" INTERVALS. ACCESS TO BE PROVIDED IN BOTH SHAFT AND DUCT.

PROVIDE ROOF DECK OPENINGS. SET-IN-PLACE AND FLASH (WITH CANT IF REQUIRED) ROOF CURBS AND EQUIPMENT SUPPORT RAIL FURNISHED BY THE HOOD SYSTEM MANUFACTURER. VERIFY HEIGHTS OF ROOFTOP EQUIPMENT AS IT RELATES TO ROOF PARAPET WALLS OR SCREENS REQUIRED BY ALL GOVERNING AGENCIES.

ELECTRICAL DIVISION:

KITCHEN EXHAUST WORK:PROVIDE 120/60/1 20 AMP CIRCUIT, FOR HOOD LIGHTS AND CONTROLS TO JUNCTION BOX ON TOP OF HOOD. PROVIDE CIRCUIT (FOR FAN MOTOR) TO DISCONNECT SWITCH MOUNTED ON EXTERIOR OF EXHAUST FAN CABINET. EXTEND POWER WIRING FROM MOTOR STARTER TO CONNECTION POINT ON EXHAUST FAN. PROVIDE CONDUIT AND FOUR WIRES FROM TERMINAL BLOCK ON EXHAUST HOOD TO EXHAUST FAN MOTOR STARTER PANEL.

PROVIDE CONDUIT AND THREE WIRES FROM TERMINAL BLOCK ON HOOD TO MICRO-SWITCH OF FIRE PROTECTION SYSTEM. PROVIDE AND INSTALL AN OCTAGON BOX FOR THE FIRE SYSTEM PULL STATION, MOUNTING THE CENTERLINE OF THE BOX AT 42" ABOVE THE FINISHED FLOOR. RUN ½" CONDUIT FROM THE TOP OF THE BOX TO 6" ABOVE THE CEILING. PULL STATION TO BE PROVIDED WITH FIRE SYSTEM. PROVIDE AND INSTALL AUTOMATIC POWER SHUT-OFF DEVICES (SHUNT TRIP BREAKERS OR DEFINITE PURPOSE CONTACTORS) WITH INTERLOCK TO FIRE SYSTEM MICRO SWITCH, SHUTTING OFF ALL POWER BELOW THE HOOD (INCLUDING CONTROL VOLTAGE) IN THE EVENT OF FIRE SYSTEM ACTUATION. THIS WORK MUST BE IN ACCORDANCE WITH N.F.P.A. 17A, IEC, AND THE I.E.C.

DISHMACHINE EXHAUST WORK:FURNISH POWER TO ROOFTOP UNIT AS INDICATED ON HOOD SYSTEM DRAWINGS TO INCLUDE: INTERCONNECT WITH DISHMACHINE FAN CONTROLLER AND SINGLE PHASE POWER FOR MOTOR AS REQUIRED. FURNISH CONNECTION 120/60/1 CONTROL WIRING BETWEEN FAN AND CONTROLLER.

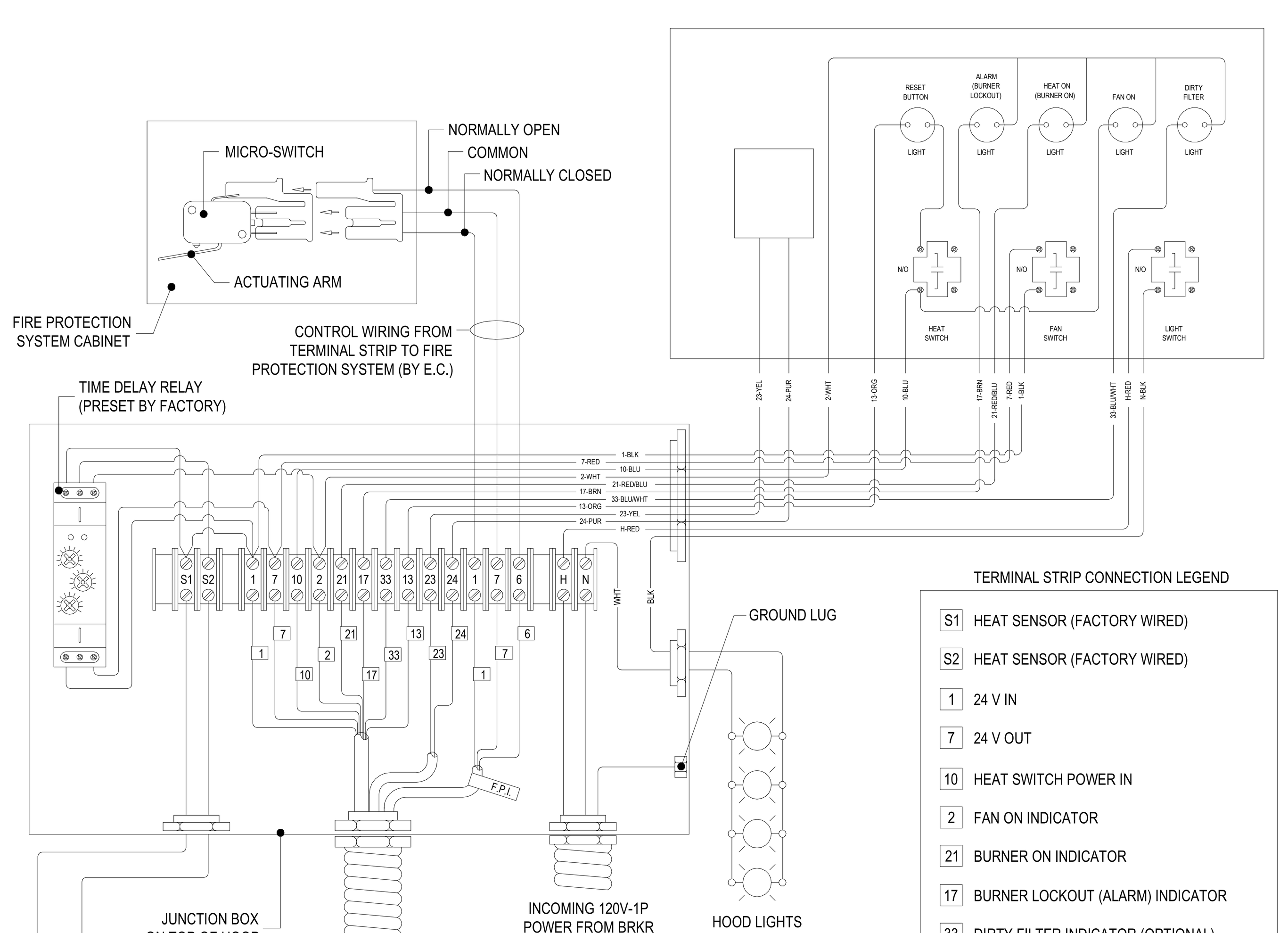
MECHANICAL DIVISION:

PROVIDE NET ROOM AIR DEMAND AS INDICATED ON THE HOOD SYSTEM DRAWINGS. THIS AIR VOLUME IS REQUIRED ONLY WHEN HOOD SYSTEM IS IN OPERATION. PROVIDE NORMAL HEATING AND COOLING OF THE KITCHEN AREA. INSTALL GAS VALVE (SUPPLIED WITH THE FIRE SUPPRESSION SYSTEM) IN THE MAIN SUPPLY LINE SERVING THE COOKING EQUIPMENT TO SHUT-OFF GAS SERVICE TO THE COOKING EQUIPMENT IN THE EVENT OF FIRE SYSTEM ACTUATION. PROVIDE AND INSTALL SERVICE TO GAS FIRED FURNACE ON BUILDING ROOF.

GENERAL VENTILATION NOTES

1. MECHANICAL EXHAUST SYSTEM TO BE PROVIDED OVER ALL COOKING EQUIPMENT, WITH MINIMUM OVERHANG AS REQUIRED BY ALL GOVERNING AGENCIES.
2. MECHANICALLY INDUCED MAKE-UP AIR MUST BE PROVIDED FOR COOKING AND DISH WASHING EXHAUST HOOD(S) IN CONJUNCTION WITH HVAC SYSTEMS IN ORDER TO REPLACE 100% OF EXHAUSTED AIR. MAKE-UP AIR SHALL BE DELIVERED IN THE PROXIMITY OF THE EXHAUST HOOD IN A MANNER NOT TO CREATE UNDUE TURBULENCE IN THE WORKING AREAS
3. MAKE-UP AIR UNIT INTAKE MUST CLEAR ANY EXHAUST AIR DISCHARGE BY A MINIMUM OF 10'-0".
4. ALL HORIZONTAL DUCT RUNS REQUIRE A MINIMUM OF 1/4" PER FOOT SLOPE BACK TOWARD EXHAUST HOOD. (VERIFY WITH LOCAL CODES)
5. EXHAUST AND MAKE-UP AIR SYSTEMS MUST BE INTERLOCKED FOR SIMULTANEOUS OPERATION EXCEPT IN THE CASE OF EMERGENCY AS MANDATED BY THE FIRE MARSHALL.

KITCHEN EQUIPMENT CONTRACTOR TO COORDINATE WITH GENERAL, ROOFING, STRUCTURAL, ELECTRICAL, HVAC AND PLUMBING CONTRACT DOCUMENTS. HOOD SYSTEM INSTALLER TO FIELD MEASURE KITCHEN VENTILATION SYSTEM BEFORE PRODUCTION CONSTRUCTION AND INSTALLATION. SEE MANUFACTURER'S SHOP DRAWINGS FOR ALL FINAL CONNECTIONS AND UTILITY REQUIREMENTS



NOTES:

1. ALL FIELD WIRNG SHALL BE THWN, THHN OR WTW WIRE TYPE OR SHIELDED CABLE WHERE NOTED ON SCHEMATIC. WIRE MUST BE AT LEAST 75 DEGREE C WIRE AND LABELED AT BOTH ENDS.
2. ALL WIRING MUST BE INSTALLED PER NEC AND LOCAL CODE REQUIREMENTS.
3. OPERATION OF HEAT SENSORS: WHEN FAN SWITCH IS OFF AND HEAT SENSORS ACTIVATE, FANS WILL RUN FOR 15 MINUTES. IF HEAT SENSORS ARE STILL ABOVE SET TEMPERATURE THE FANS WILL REACTIVATE. HEAT SENSORS ARE FACTORY SET TO 120 F.

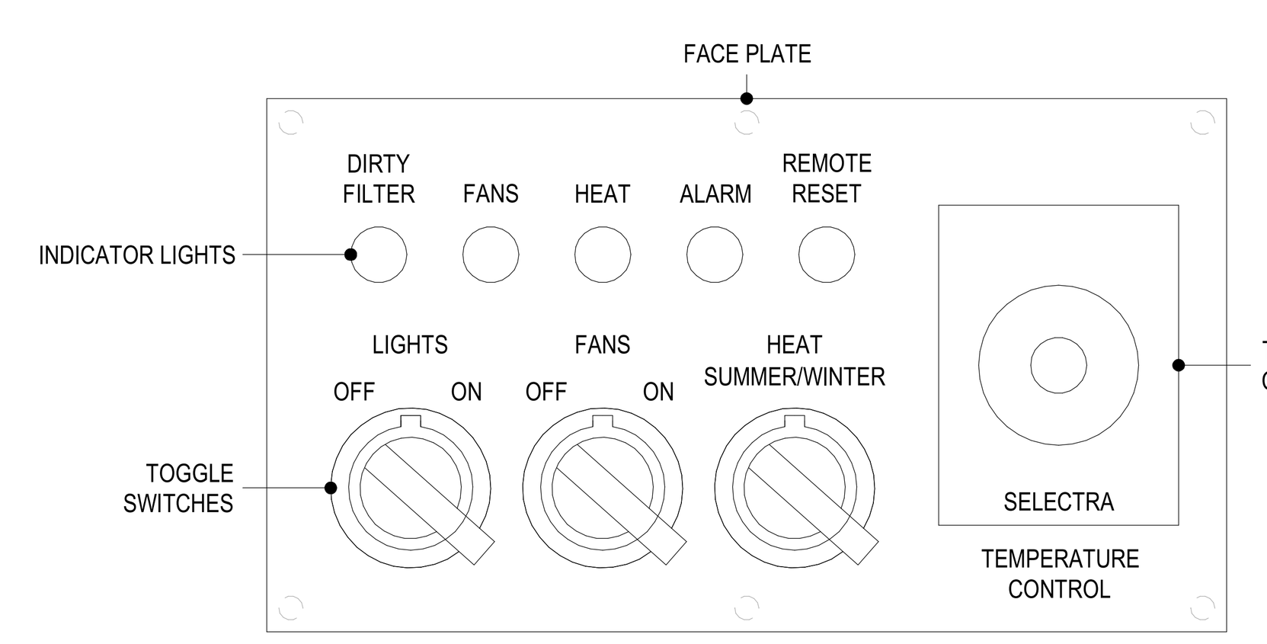
WIRE LEGEND

- FACTORY WIRING
- FIELD WIRING (BY E.C.)
- PIGTAIL WIRING

TERMINAL STRIP CONNECTION LEGEND

S1	HEAT SENSOR (FACTORY WIRED)
S2	HEAT SENSOR (FACTORY WIRED)
1	24 V IN
7	24 V OUT
10	HEAT SWITCH POWER IN
2	FAN ON INDICATOR
21	BURNER ON INDICATOR
17	BURNER LOCKOUT (ALARM) INDICATOR
33	DIRTY FILTER INDICATOR (OPTIONAL)
13	HEAT SWITCH POWER OUT
23	MAXITROL 14 TEMP DIAL - DIAL ONLY
24	MAXITROL 14 TEMP DIAL - DIAL ONLY
1	FIRE PROTECTION (NORMALLY OPEN)
7	FIRE PROTECTION (COMMON)
6	FIRE PROTECTION (NORMALLY CLOSED)
H	120V LIGHTS - 15 AMP MAX.
N	NEUTRAL FOR HOOD LIGHTS

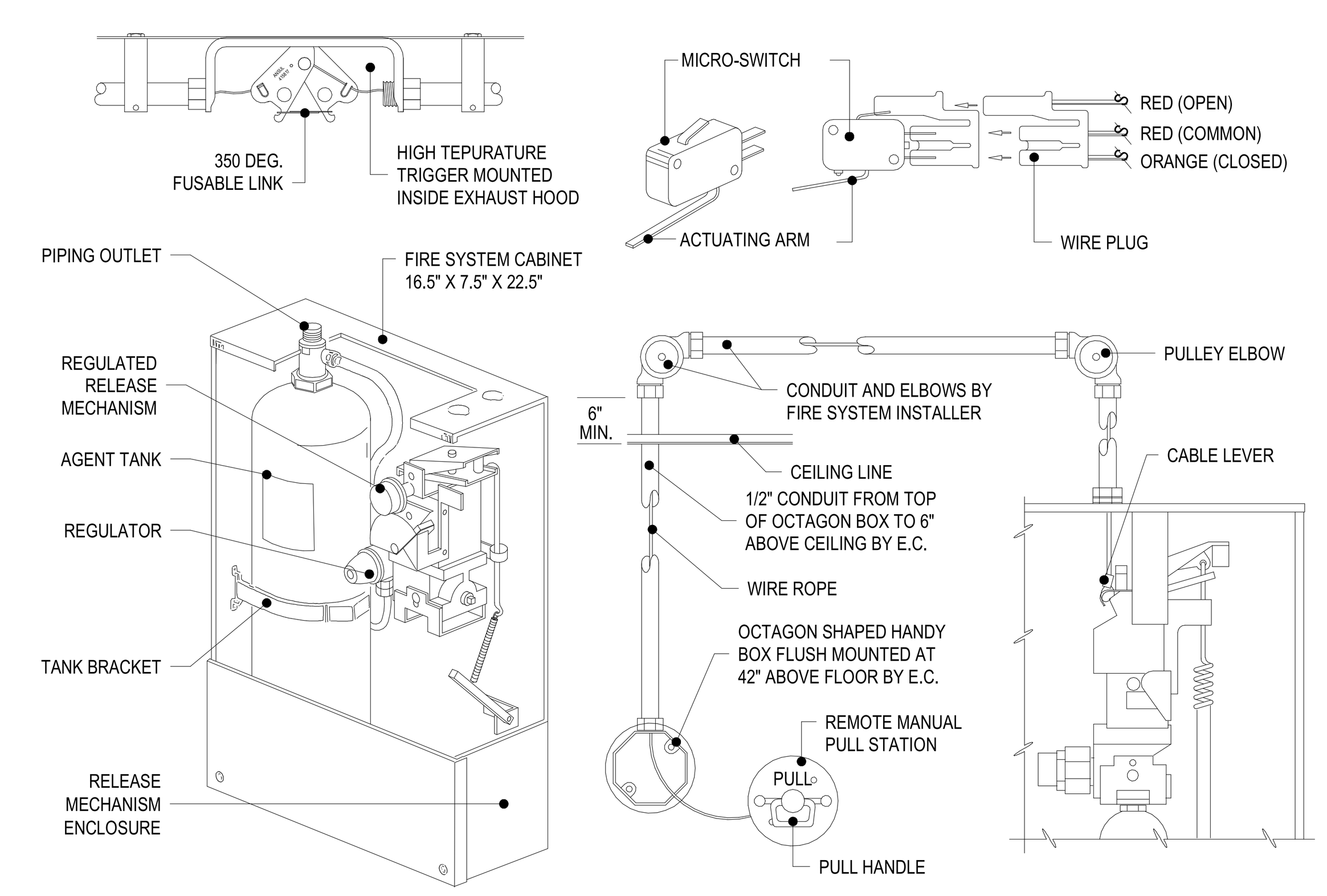
TYPICAL WIRING CONNECTION DETAIL — NOT TO SCALE — K



NOTES:

1. FLUSH HOOD CONTROL PANEL.
2. DESIGNED FOR OPERATION ON 24V CIRCUIT.
3. MUST BE WIRED TO MATE WITH WIRING HARNESS

EXHAUST HOOD CONTROLS — NOT TO SCALE — J



GENERAL NOTES:

1. THIS INSTALLATION TO BE MADE IN ACCORDANCE WITH THE R-102 INSTALLATION MANUAL AND ALL STATE AND LOCAL CODES.
2. THIS DRAWING MAY BE USED FOR APPROVAL PURPOSES.
3. ALL PIPE FITTINGS AND NOZZLES ARE TO BE WRENCH TIGHTENED AND SECURELY SUPPORTED. ALL NOZZLES ARE TO BE AIMED AS INDICATED IN THE R-102 INSTALLATION MANUAL.
4. THE WIRE ROPE FOR THE DETECTOR AND REMOTE PULL STATION TO BE INSTALLED BY AN AUTHORIZED AND FACTORY TRAINED INSTALLER.
5. INSTALLATION TO BE INSPECTED, ACTIVATED AND CERTIFIED BY AN AUTHORIZED AND FACTORY TRAINED REPRESENTATIVE.
6. E.C. TO PROVIDE ALL CONTACTS AND WIRING FOR APPLIANCE SHUT-OFF.
7. ANSUL R-102 RESTAURANT FIRE SUPPRESSION SYSTEMS HAVE BEEN UL TESTED, LISTED AND COMPLY WITH ALL RELEVANT DOCUMENTATION AND NFPA 96 WHEN INSTALLED AS DIRECTED BY AN AUTHORIZED AND FACTORY TRAINED INSTALLER.
8. ALL EXHAUST HOOD PENETRATIONS TO BE SEALED PER NFPA 96.
9. ALL PIPE LENGTHS TO BE FIELD VERIFIED.
10. ALL PIPE TO BE 3/8" SCH. 40 BLACK PIPE, CHROME PLATED OR S/S.
11. PIPE ENDS TO BE REAMED. PIPE ENDS AND INTERIOR TO BE FREE OF ALL OIL, DIRT AND DEBRIS.
12. PIPING DIMENSIONS ARE FROM CENTER TO CENTER OF FITTINGS.
13. FINAL NOZZLE LOCATIONS MAY NOT VARY FROM LOCATION SHOWN.

FIRE SUPPRESSION SYSTEM DETAIL — NOT TO SCALE — I

ALL EXHAUST FANS, SUPPLY FANS, AND MAKE-UP AIR UNITS TO BE LOCATED ON THE SECOND STORY ROOF LOCATED ABOVE THE MEDIA CENTER WHICH IS LOCATED ABOVE THE FOODSERVICE AREA.

REFER TO ARCHITECTURAL AND STRUCTURAL DRAWING SETS FOR FURTHER INFROMATION AND COORDINATION OF REQUIRED LENGTHS OF ANY EXHAUST/SUPPLY DUCTWORK.

TYPICAL BUILDING SECTION THRU KITCHEN SPACE — SCALE 1/4" = 1'-0" — H

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Project No. 2021-141.NES
Project Date 05.11.2022
Produced JAK JAK

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

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A2	Addendum #2	06/09/2022

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PROFESSIONAL FOOD SERVICE DESIGN
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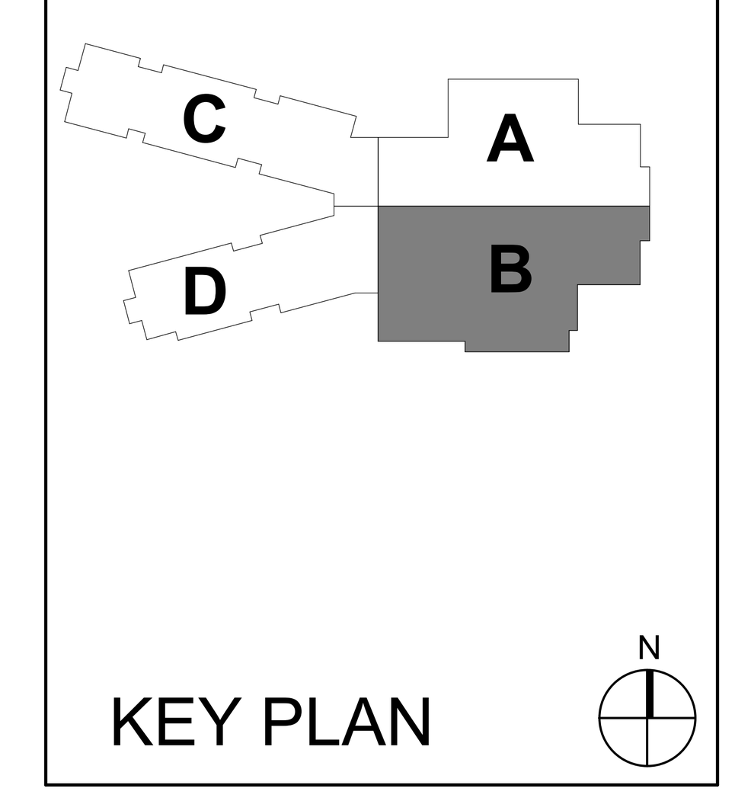
INDIANAPOLIS, IN 46239



KEY PLAN

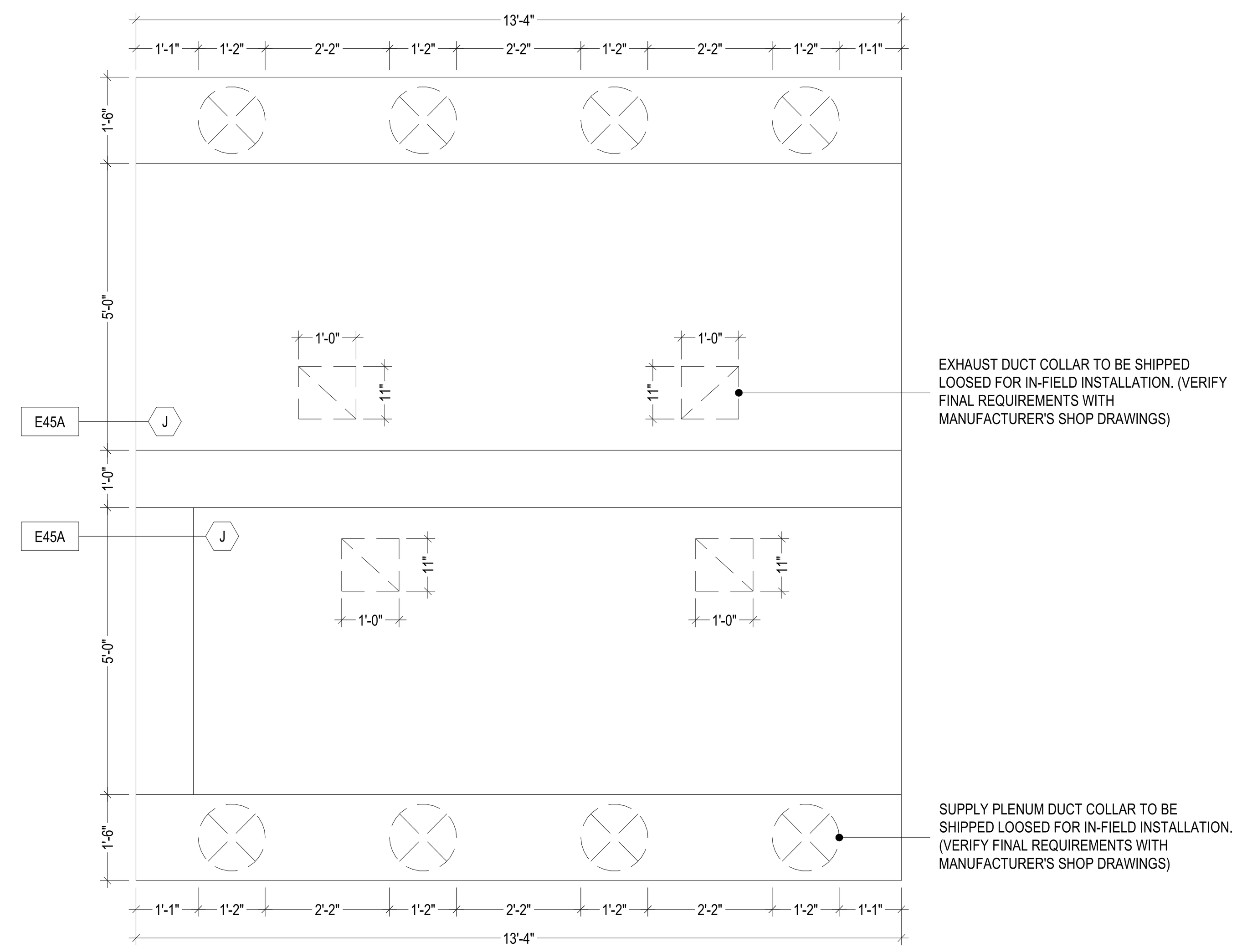
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

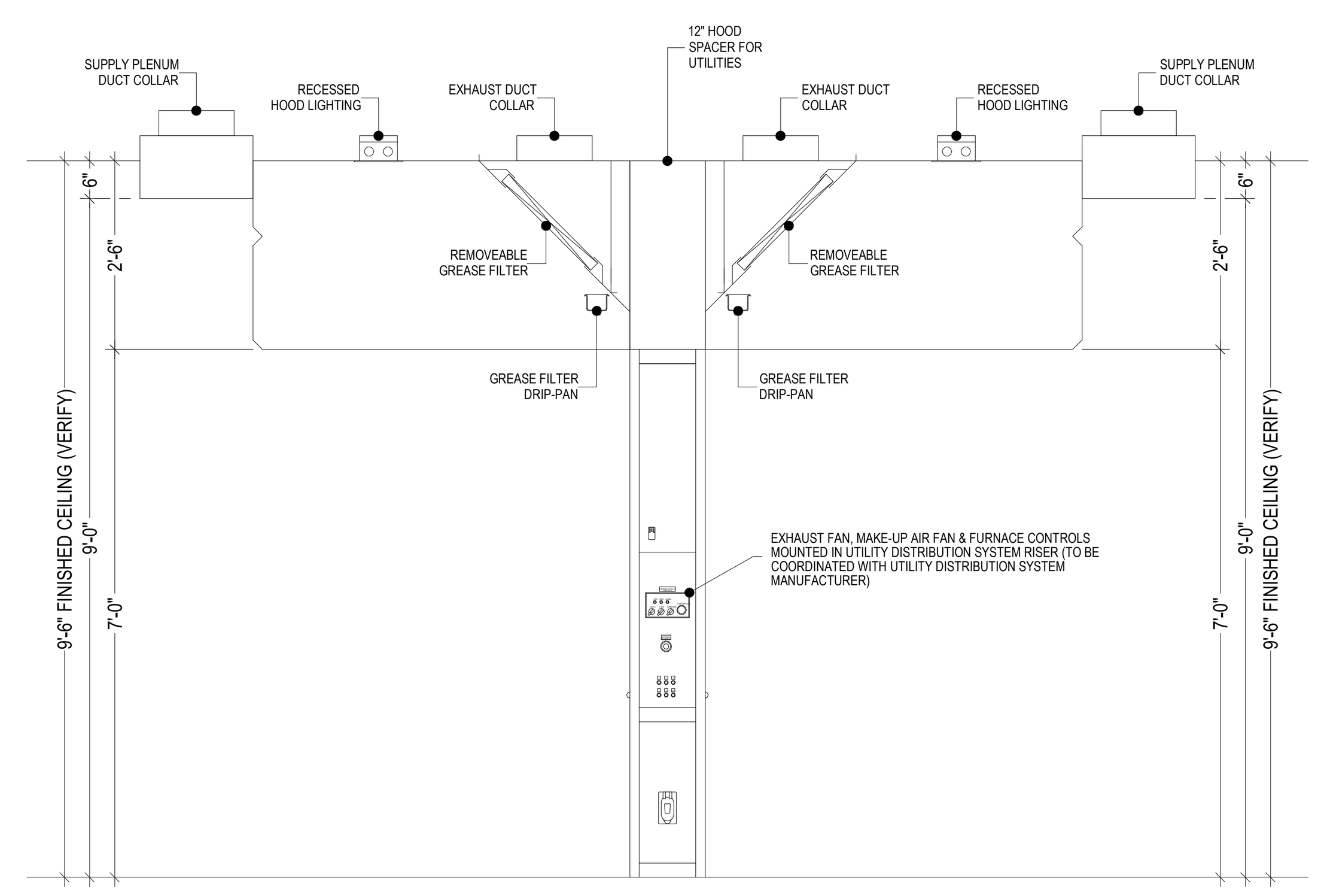
NEW ELEMENTARY SCHOOL

EXHAUST VENTILATION SYSTEM DRAWING

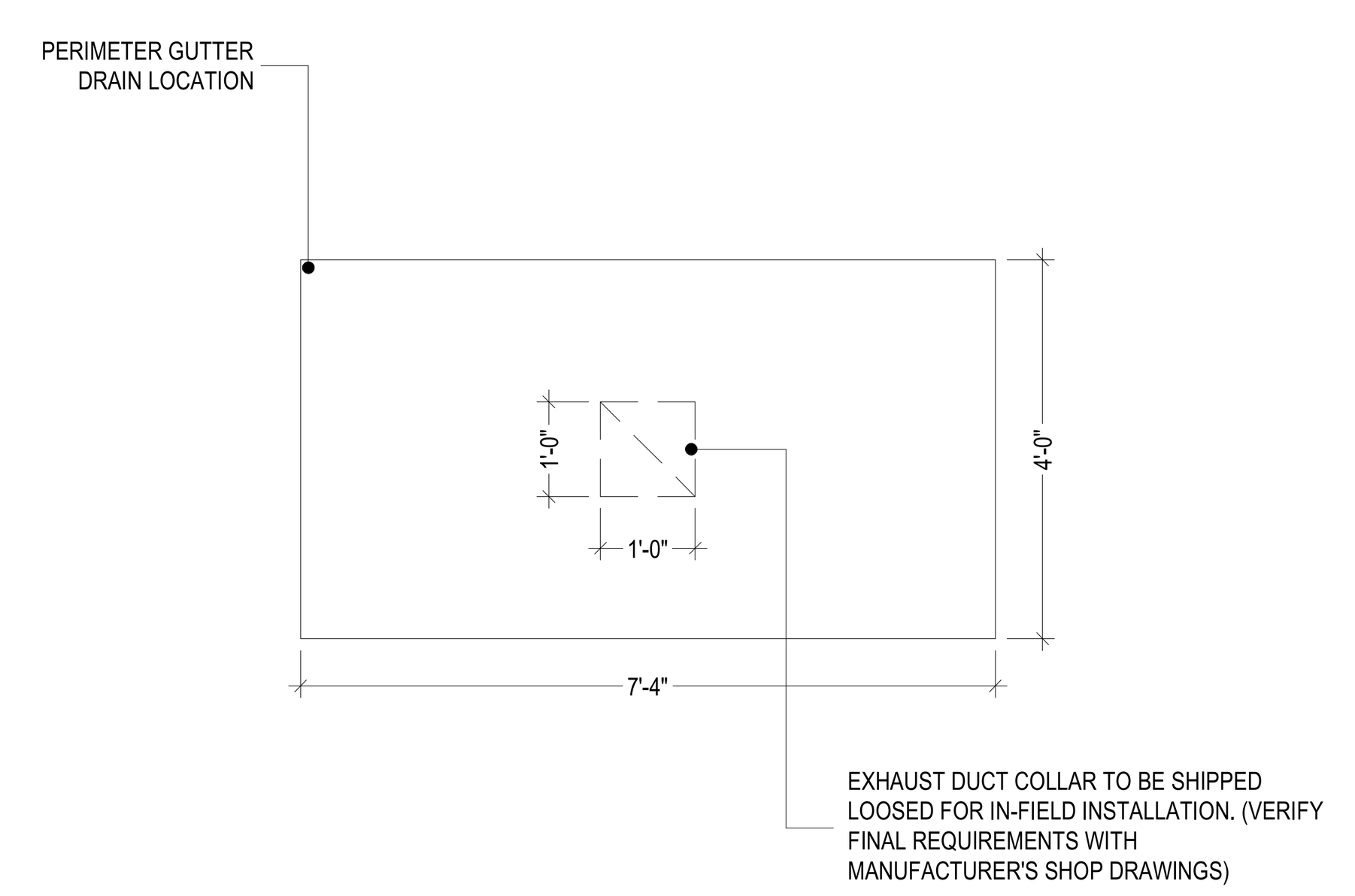
QK401



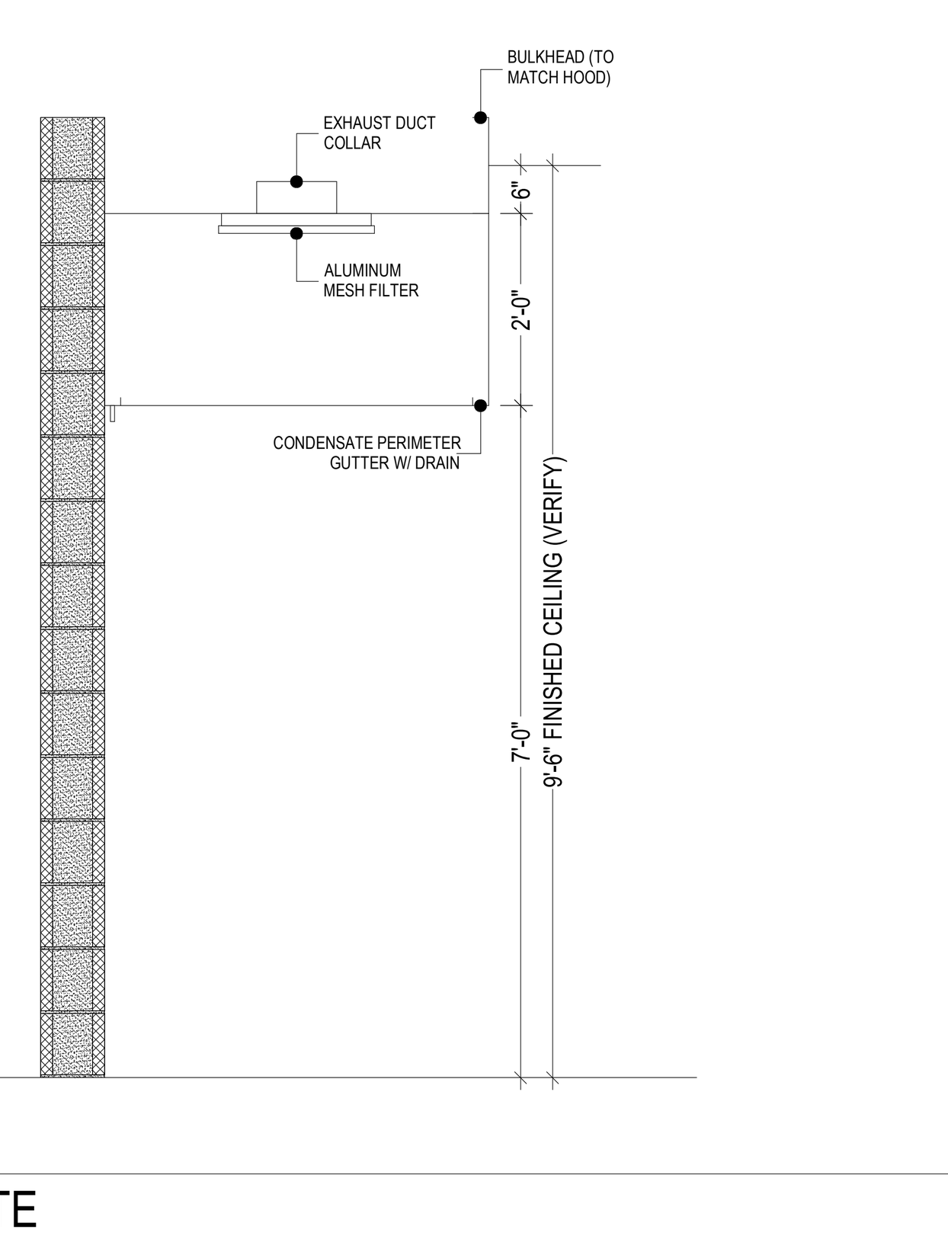
EXHAUST COLLAR DRAWING (ITEM #45) — SCALE 1/2" = 1'-0" — C



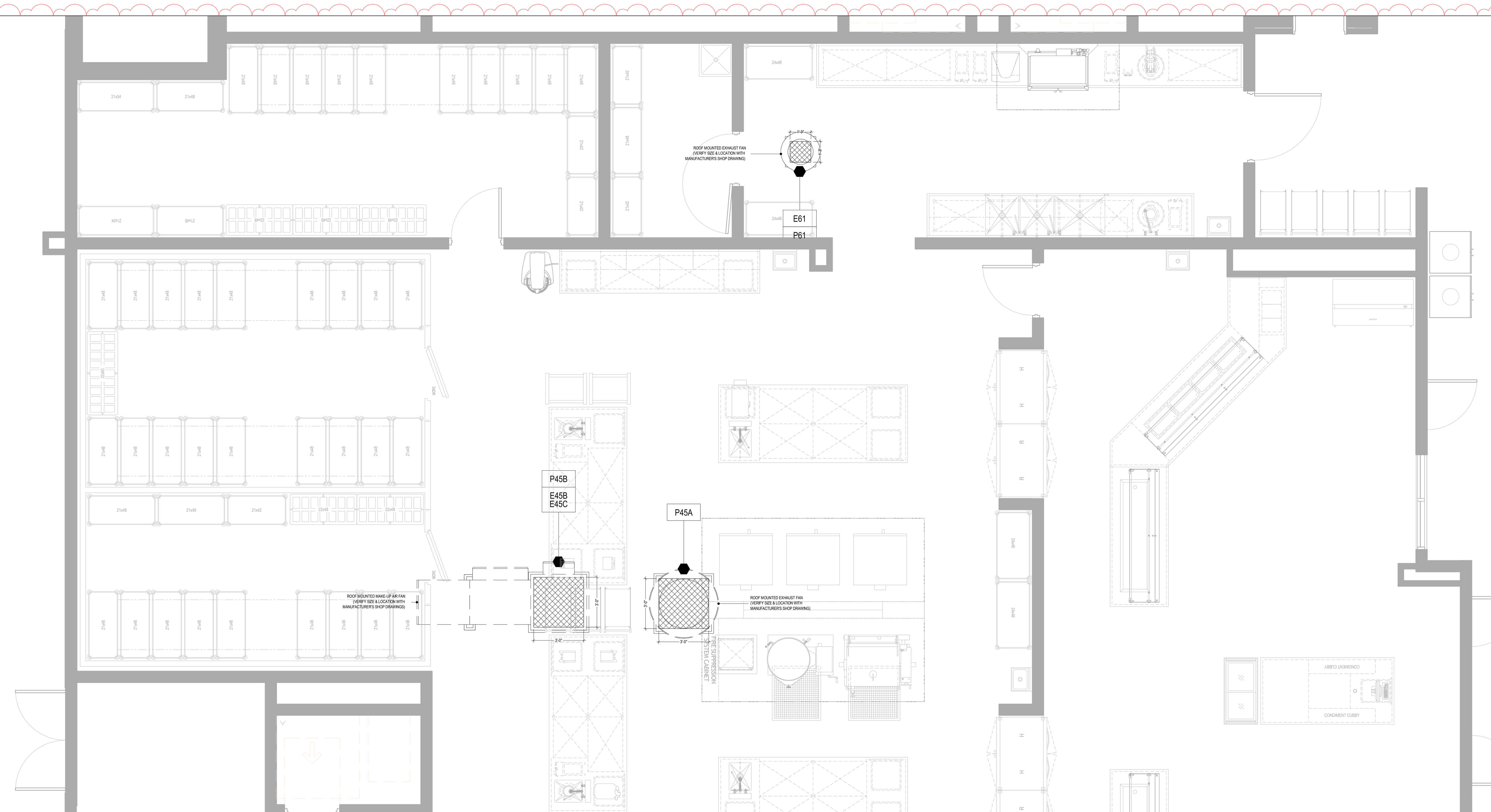
SECTION @ ISLAND STYLE EXHAUST HOOD — SCALE 1/2" = 1'-0" — D



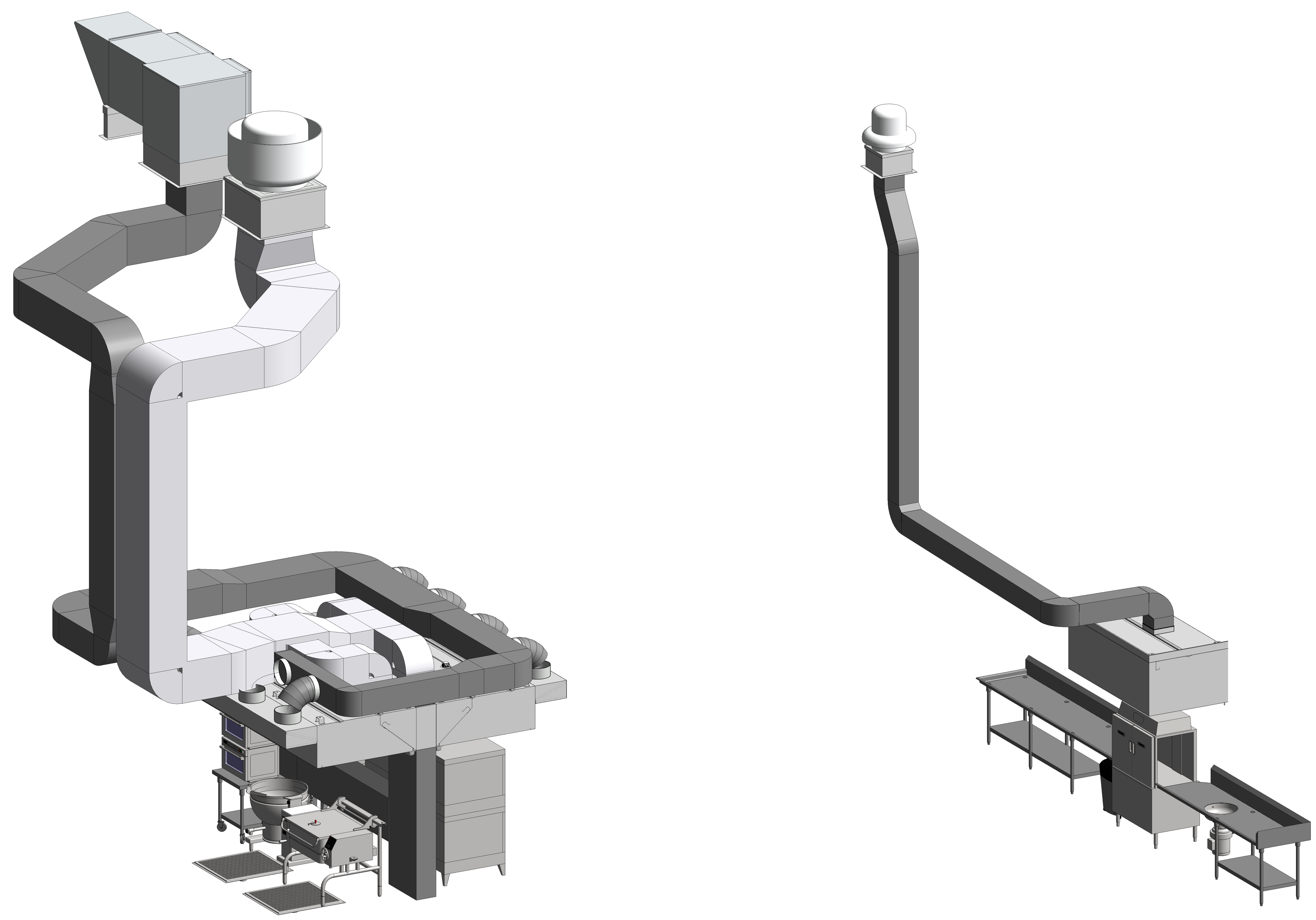
EXHAUST COLLAR DRAWING (ITEM #61) — SCALE 1/2" = 1'-0" — E



SECTION @ WALL MOUNTED CONDENSATE — SCALE 1/2" = 1'-0" — F



EXHAUST VENTILATION SYSTEM ROOFTOP EQUIPMENT LAYOUT — SCALE 1/4" = 1'-0" — A



EXHAUST VENTILATION SYSTEM 3D VIEW — SCALE 1/2" = 1'-0" — B

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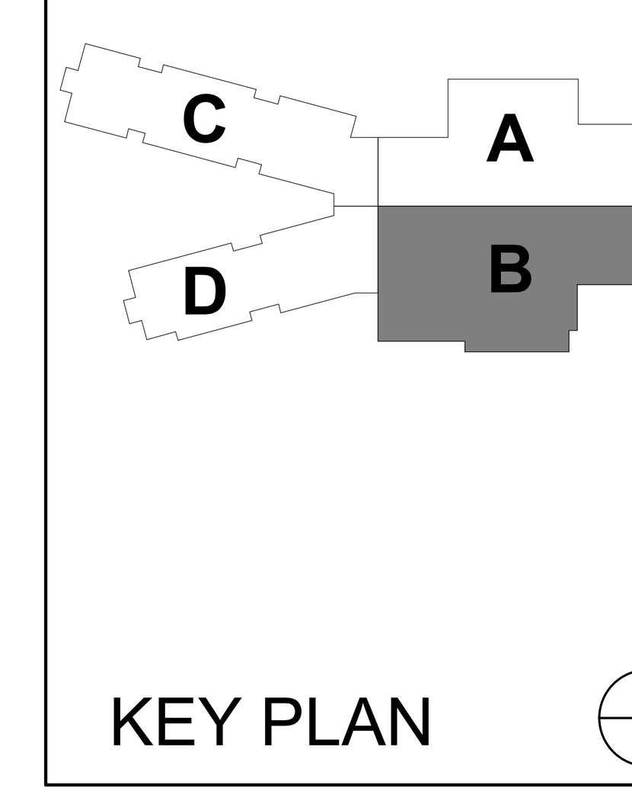
Project No. 2021-141.NES
Project Date 05.11.2022
Produced JAK JAK

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06/09/2022

VORNDRAN and ASSOCIATES
PROFESSIONAL FOOD SERVICE DESIGN

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

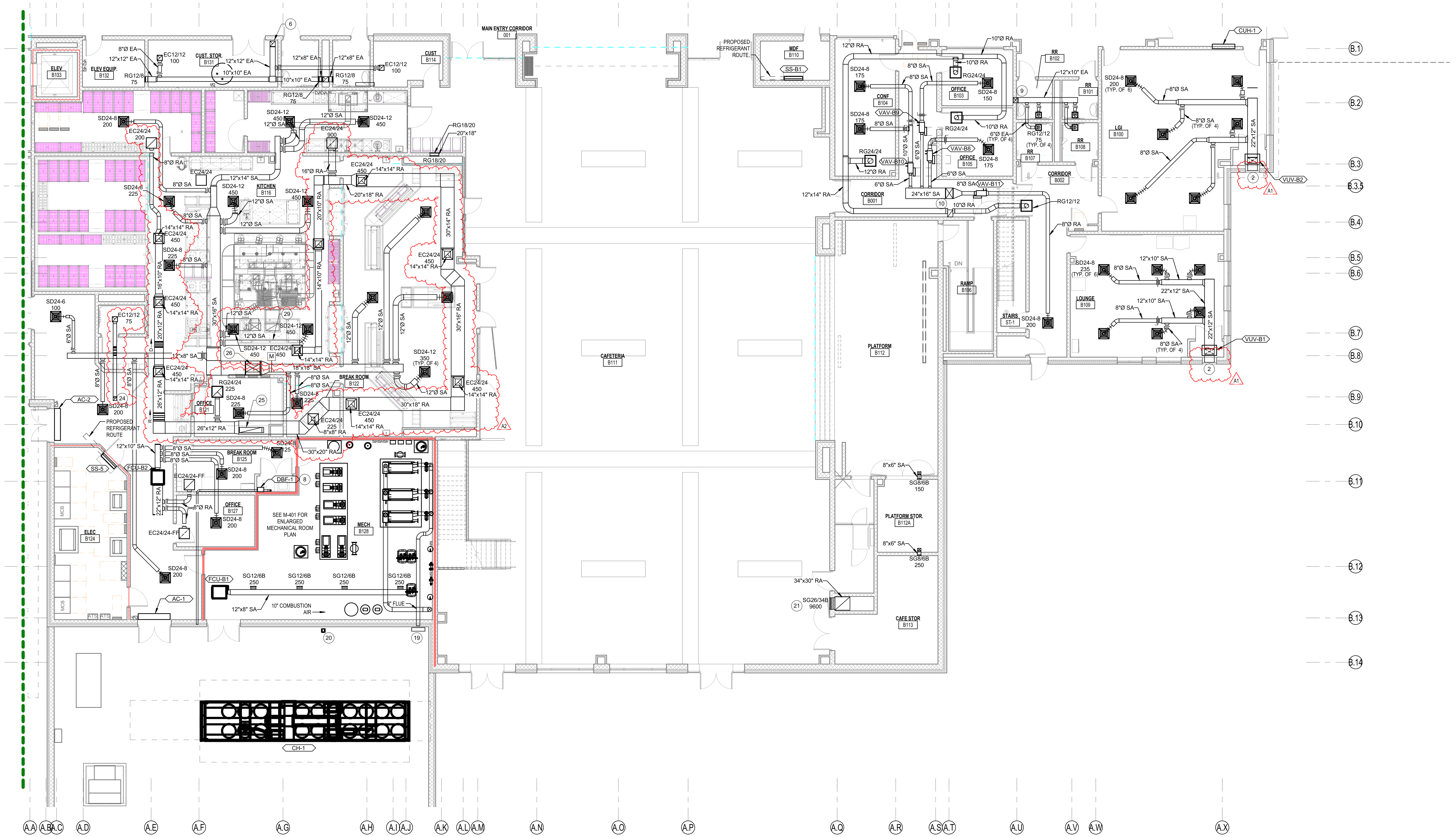
NEW ELEMENTARY SCHOOL

EXHAUST VENTILATION SYSTEM DRAWING

QK402

MECHANICAL HVAC PLAN NOTES

#	NOTE
1	6" ROUND EXHAUST UP.
2	CUT-OUT OPENING IN LOUVER BACKER PANEL FOR REAR PLENUM ASSEMBLY. SEE M-504 FOR SIZE OF CUT-OUT, SEAL WEATHER TIGHT AROUND PLENUM ASSEMBLY AND BACKER PANEL.
3	MOUNT 8" AFF. HEATER TO BE RECESSED IN WALL UNLESS CMU. SEE ARCHITECTURAL PLANS FOR DETAILS.
4	TRANSITION TO FABRIC DUCT. SEE DETAIL ON M-504.
5	18"x18" EXHAUST DUCT UP TO EF-A2 ON ROOF. TRANSITION AS REQUIRED.
6	12"x12" EXHAUST DUCT UP TO EF-B2 ON ROOF. TRANSITION AS REQUIRED.
7	ROUTE DUCT UP AND OVER DUCT AND THROUGH STRUCTURAL TRUSS.
8	MOUNT DRYER BOOSTER FAN NO FURTHER THAN 8'-0" FROM DRYER CONNECTION. LED NOTIFICATION WALL PLATE TO BE MOUNTED ABOVE DRYER, NEXT TO TJERNLUND MODEL LT4 SECONDARY LINT TRAP AND BE VISIBLE TO USERS.
9	12"x10" EXHAUST UP TO EF-B1 ON ROOF. TRANSITION AS REQUIRED.
10	24"x16" SUPPLY AND 16"x12" RETURN DUCT UP TO AHU-1 ON MEZZANINE.
11	12"x8" EXHAUST DUCT UP TO EF-A1 ON ROOF. TRANSITION AS REQUIRED.
12	35"x40" RETURN DUCT UP.
13	10" DUCT UP TO EF-A3/EF-A4 ON ROOF. TRANSITION AS REQUIRED.
14	12"x12" EXHAUST DUCT UP TO EF-C1 ON ROOF. TRANSITION AS REQUIRED.
15	12"x12" EXHAUST DUCT UP TO EF-C2 ON ROOF. TRANSITION AS REQUIRED.
16	14"x14" EXHAUST DUCT UP TO EF-C3 ON ROOF. TRANSITION AS REQUIRED.
17	12"x12" EXHAUST DUCT UP TO EF-C4 ON ROOF. TRANSITION AS REQUIRED.
18	12"x12" EXHAUST DUCT UP TO EF-C5 ON ROOF. TRANSITION AS REQUIRED.
19	INSTALL TEE AND TURN DOWN 45° FOR BOILER EXHAUST FLUE. INSTALL METAL MESH SCREEN. AC29-4C FLUE MATERIAL.
20	INSTALL TEE AND TURN DOWN 45° FOR BOILER COMBUSTION AIR. INSTALL METAL MESH SCREEN. SCH. 40 PVC MATERIAL.
21	BOTTOM OF GRILLE TO BE 0'-8" AFF.
22	66"x36" UP TO GV-1 ON ROOF. HORIZONTAL DUCT STUB SHALL BE 36"x20" WITH TWO 28"x20" OPENINGS CUT OUT ON TOP OF THE DUCT. COVER OPENINGS WITH 1/2" GALVENIZED MESH. EXPOSED DUCT SHALL HAVE PAINT GRIP FINISH PAINT COLOR TO BE DETERMINED BY ARCHITECT.
23	BOTTOM OF GRILL TO BE 0'-8" AFF.
24	8"x8" EXHAUST DUCT UP TO EF-B3.TRANSITION AS REQUIRED.
25	12"x50" RETURN DUCT UP TO RTU-1.
26	18"x32" SUPPLY DUCT UP TO RTU-1.
27	12"x12" EXHAUST DUCT UP TO EF-A5 ON ROOF. TRANSITION AS REQUIRED. FAN TO BE CONTROLLED BY TIMER SWITCH LOCATED NEXT TO TEMP SENSOR, PROVIDED BY TCC.
28	12"x12" EXHAUST DUCT UP TO EF-A6 ON ROOF. TRANSITION AS REQUIRED.FAN TO BE CONTROLLED BY TIMER SWITCH LOCATED NEXT TO TEMP SENSOR, PROVIDED BY TCC.
29	COORDINATE RETURN DUCT WITH KITCHEN EQUIPMENT MAKE-UP AIR AND EXHAUST DUCT.



1 FIRST FLOOR - HVAC PLAN - UNIT B
1/8" = 1'-0"

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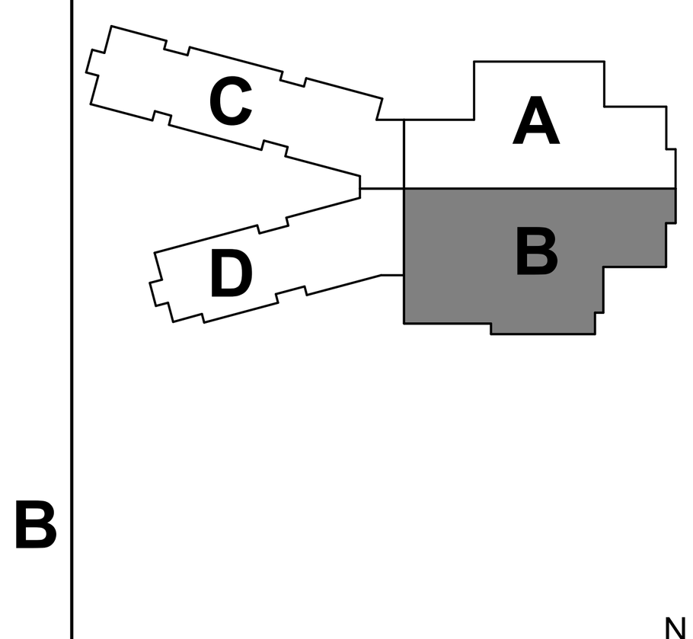
Project No. 2021-141.NES
Project Date 05.11.2022
Produced CSM

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A1	ADDENDUM #001	05/20/2022
A2	ADDENDUM #002	06/09/2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR HVAC PLAN -UNIT B

MH1B1

GENERAL PIPING NOTES

A. ALL THERMOSTATS TO BE NON-DISPLAY SLIDER TYPE.

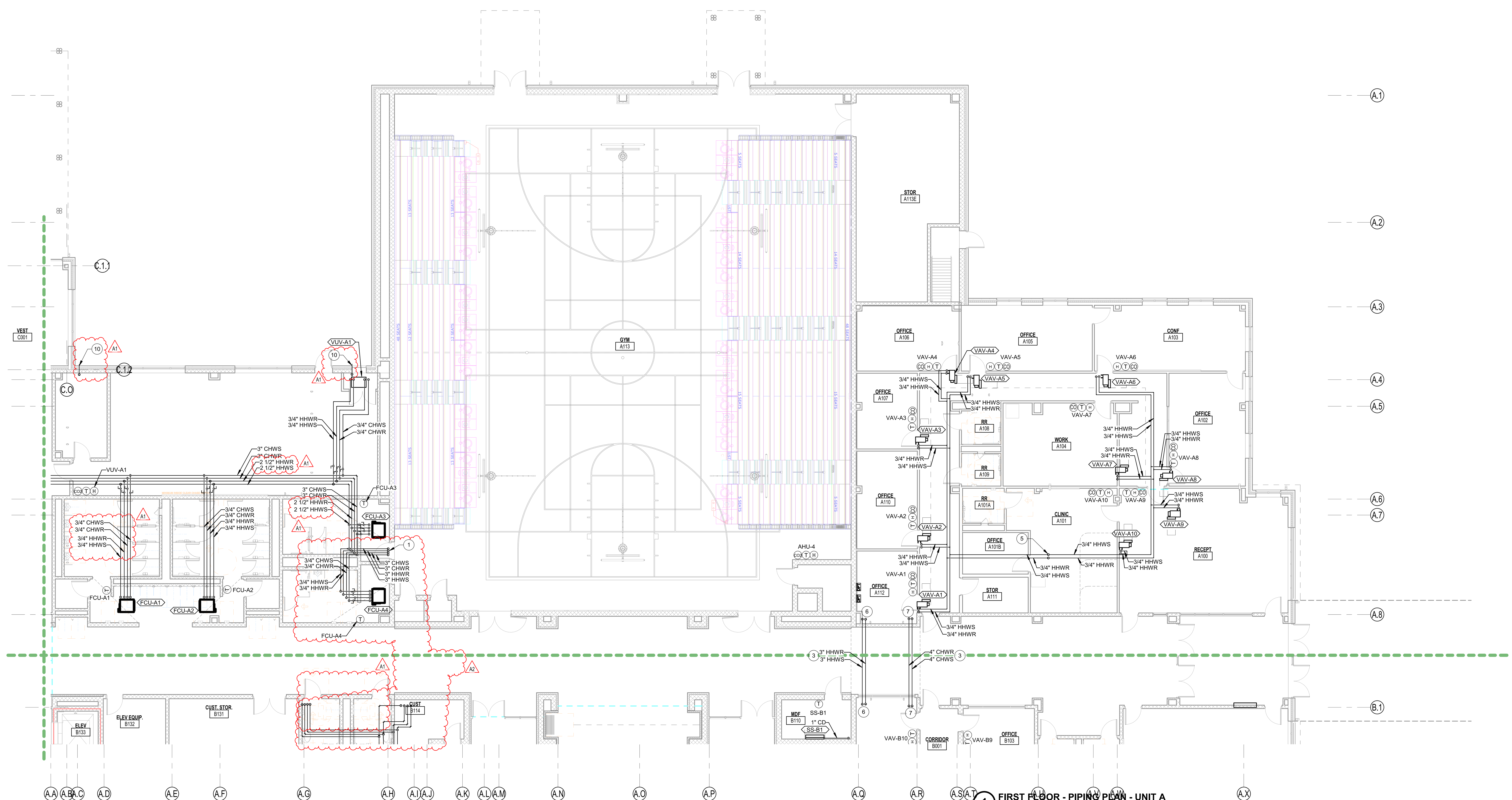
B. ALL VALVES ON PIPING OVER 2 1/2" SHALL BE GATE VALVES.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE LABELS ON CEILING GRID AT LOCATION OF ALL MECHANICAL EQUIPMENT AND VALVES THAT ARE LOCATED ABOVE CEILING TILES.

MECHANICAL PIPING PLAN NOTES

#	NOTE
1	3" CHWS & CHWR, 3" HHWS & HHWR UP TO SECOND FLOOR.
2	2-1/2" CHWS & CHWR, 1-1/2" HHWS & HHWR UP TO RTU-1 ON ROOF.
3	PIPING TO BE ROUTED INSIDE PIPE BRIDGE.
4	THERMOSTAT TO CONTROL SERVING AREA MECHANICAL DAMPER. SEE CONTROL DRAWINGS FOR DETAILS.
5	1" HHWS & HHWR UP TO MEZZANINE ABOVE.
6	3" HHWS & HHWR UP TO MEZZANINE ABOVE.
7	4" CHWS & CHWR UP TO MEZZANINE ABOVE.
8	1" CONDENSATE DOWN TO MOP BASIN.
9	1" CONDENSATE DOWN.
10	1" CONDENSATE COPPER, ROUTE OUTSIDE OF BUILDING TO DRAIN TO MOW STRIP.
11	1" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK ON ROOF.
12	3/4" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK.



1 FIRST FLOOR - PIPING PLAN - UNIT A
1/8" = 1'-0"

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5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR PIPING PLAN - AREA A

MP1A1

GENERAL PIPING NOTES

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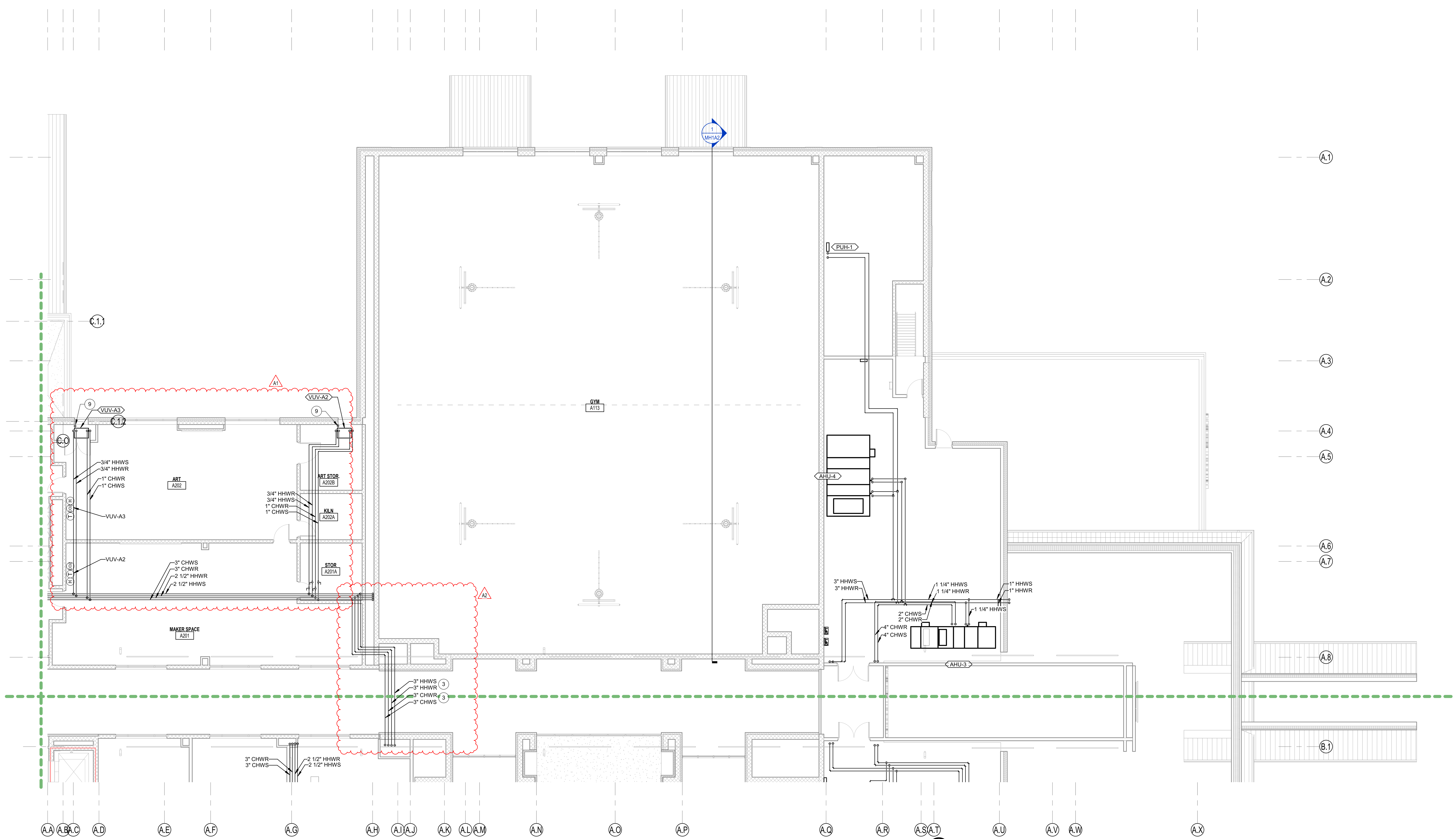
B. ALL VALVES ON PIPING OVER 2 1/2" SHALL BE GATE VALVES.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE LABELS ON CEILING GRID AT LOCATION OF ALL MECHANICAL EQUIPMENT AND VALVES THAT ARE LOCATED ABOVE CEILING TILES.

MECHANICAL PIPING PLAN NOTES

#	NOTE
1	3" CHWS & CHWR, 3" HHWS & HHWR UP TO SECOND FLOOR.
2	2-1/2" CHWS & CHWR, 1-1/2" HHWS & HHWR UP TO RTU-1 ON ROOF.
3	PIPING TO BE ROUTED INSIDE PIPE BRIDGE.
4	THERMOSTAT TO CONTROL SERVING AREA MECHANICAL DAMPER. SEE CONTROL DRAWINGS FOR DETAILS.
5	1" HHWS & HHWR UP TO MEZZANINE ABOVE.
6	3" HHWS & HHWR UP TO MEZZANINE ABOVE.
7	4" CHWS & CHWR UP TO MEZZANINE ABOVE.
8	1" CONDENSATE DOWN TO MOP BASIN.
9	1" CONDENSATE DOWN.
10	1" CONDENSATE COPPER, ROUTE OUTSIDE OF BUILDING TO DRAIN TO MOW STRIP.
11	1" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK ON ROOF.
12	3/4" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK.



1 SECOND FLOOR - PIPING PLAN UNIT A
1/8" = 1'-0"

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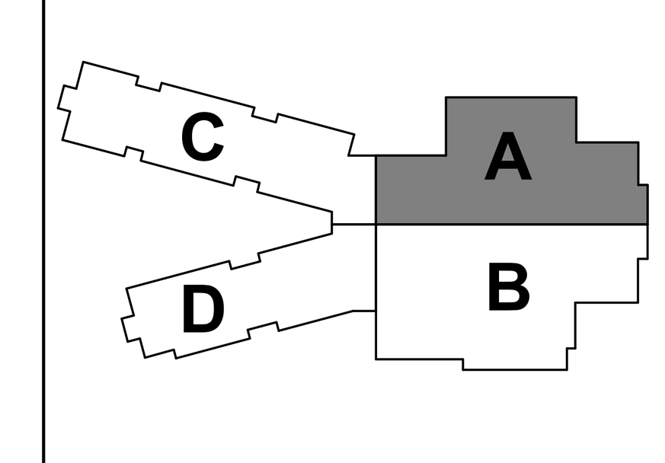
A2	ADDENDUM #002	06/09/2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR PIPING PLAN - AREA A

MP1A2

GENERAL PIPING NOTES

A. ALL THERMOSTATS TO BE NON-DISPLAY SLIDER TYPE.

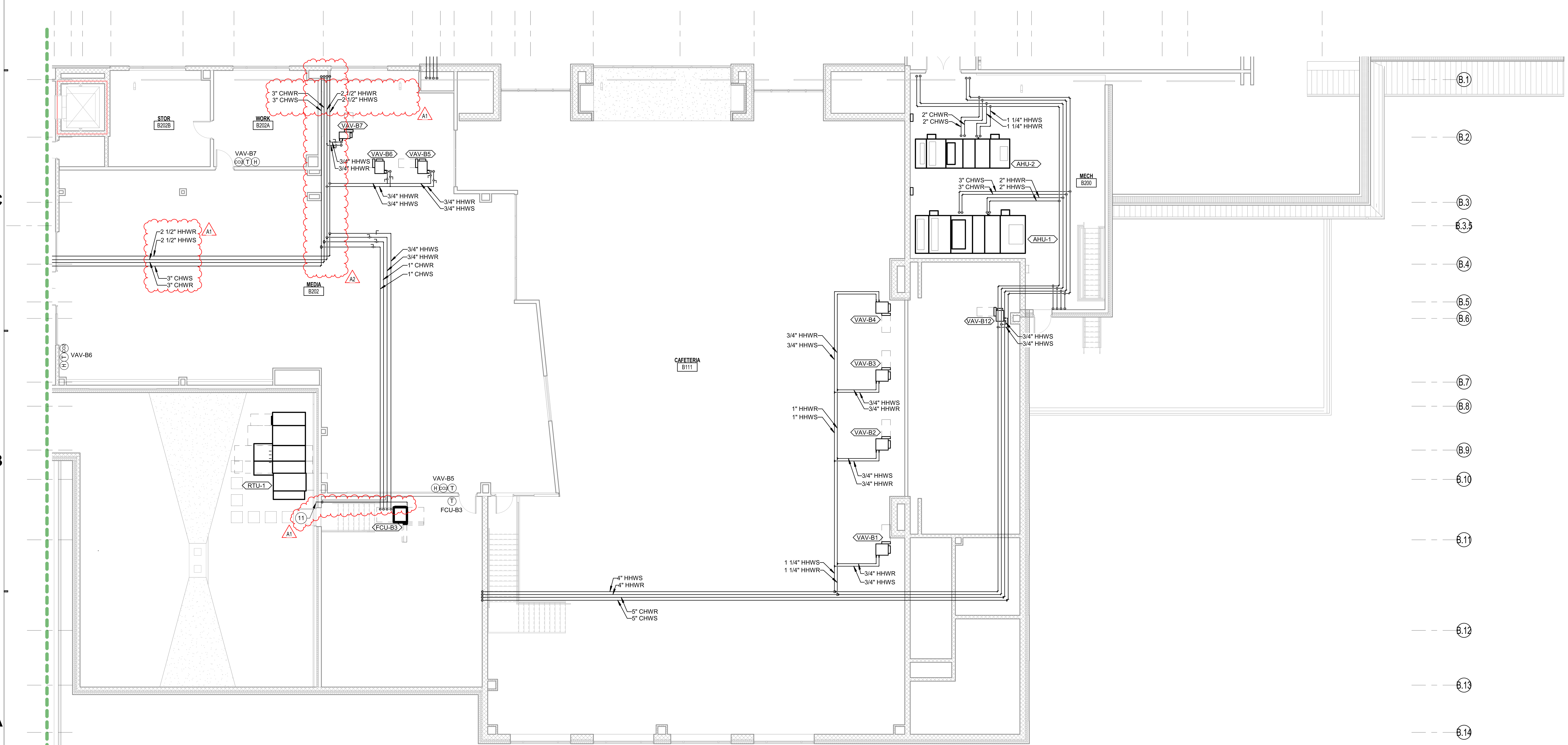
B. ALL VALVES ON PIPING OVER 2 1/2" SHALL BE GATE VALVES.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE LABELS ON CEILING GRID AT LOCATION OF ALL MECHANICAL EQUIPMENT AND VALVES THAT ARE LOCATED ABOVE CEILING TILES.

MECHANICAL PIPING PLAN NOTES

#	NOTE
1	3" CHWS & CHWR, 3" HHWS & HHWR UP TO SECOND FLOOR.
2	2-1/2" CHWS & CHWR, 1-1/2" HHWS & HHWR UP TO RTU-1 ON ROOF.
3	PIPING TO BE ROUTED INSIDE PIPE BRIDGE.
4	THERMOSTAT TO CONTROL SERVING AREA MECHANICAL DAMPER. SEE CONTROL DRAWINGS FOR DETAILS.
5	1" HHWS & HHWR UP TO MEZZANINE ABOVE.
6	3" HHWS & HHWR UP TO MEZZANINE ABOVE.
7	4" CHWS & CHWR UP TO MEZZANINE ABOVE.
8	1" CONDENSATE DOWN TO MOP BASIN.
9	1" CONDENSATE DOWN.
10	1" CONDENSATE COPPER, ROUTE OUTSIDE OF BUILDING TO DRAIN TO MOW STRIP.
11	1" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK ON ROOF.
12	3/4" CONDENSATE COPPER, ROUTE OUTSIDE TO SPLASHBLOCK.



1 SECOND FLOOR - PIPING PLAN UNIT B
1/8" = 1'-0"

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SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	ADDENDUM #001	05/20/2022
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5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR PIPING PLAN - AREA B

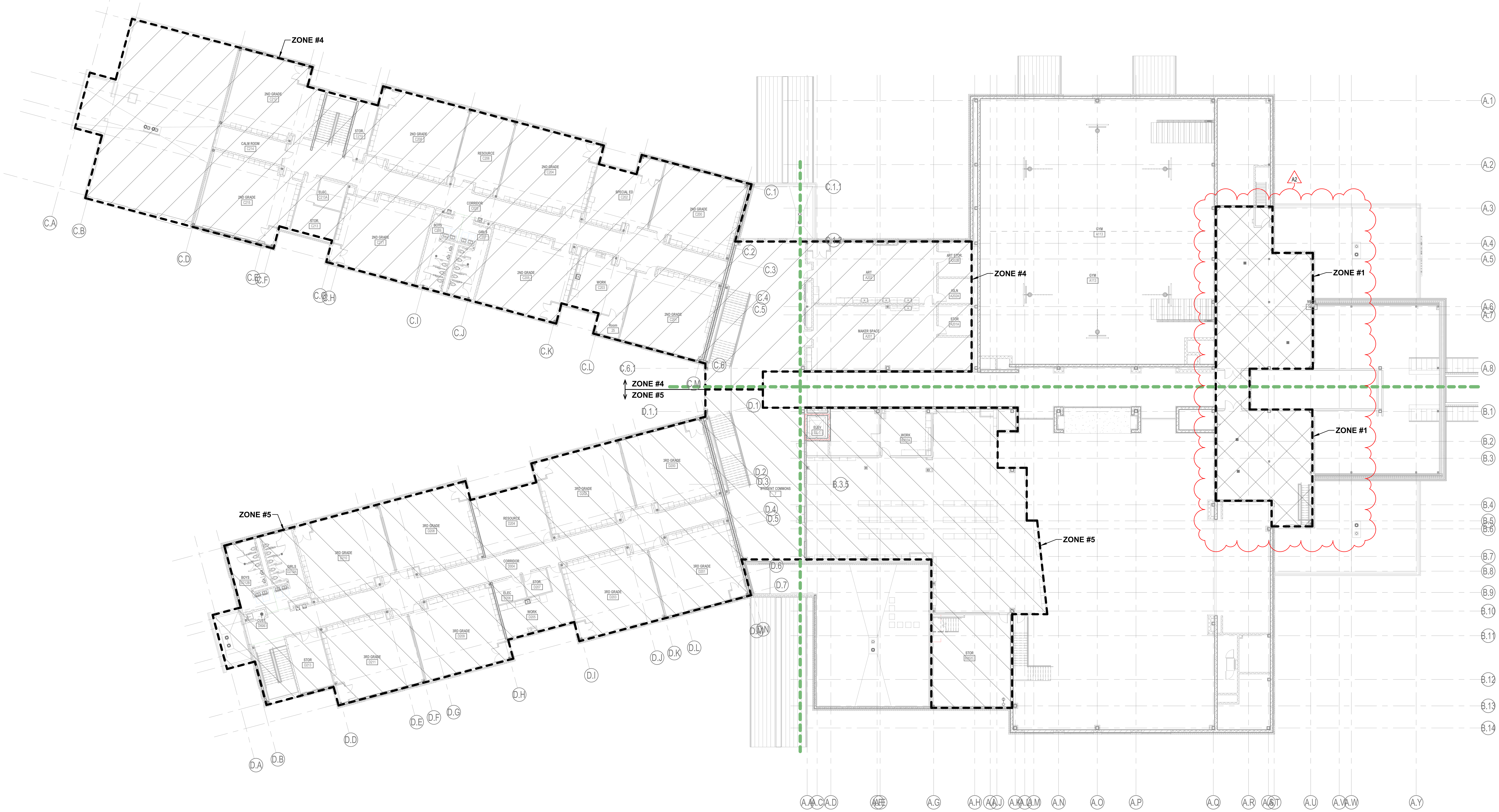
MP1B2

FIRE PROTECTION NOTES

1. SPRINKLER SCHEDULE:

ROOMS WITHOUT CEILINGS:	UPRIGHT SPRINKLERS
ROOMS WITH CEILINGS:	SEMI-RECESSED SPRINKLER HEADS
WALL MOUNTING:	SIDEWALL SPRINKLER HEADS

2. ALL SPRINKLER COVERAGE SHALL COMPLY WITH MINIMUM STANDARDS AS ESTABLISHED BY NFPA 13, INCLUDING OFFICE SPACES.
3. EXTENDED COVERAGE SPRINKLER HEADS WILL BE PERMITTED AS ESTABLISHED BY NFPA 13.
4. INCOMING FIRE PROTECTION WATER SERVICE AND FIRE DEPARTMENT CONNECTION MAIN FROM 5'-0" OUTSIDE OF BUILDING TO FLANGED CONNECTION 12" ABOVE FLOOR OR FROM WALL SHALL BE PROVIDED BY DIVISION 22.
5. THE BUILDING WILL BE A FULLY SPRINKLERED. FIRE PROTECTION CONTRACTOR SHALL DESIGN THE COMPLETE SYSTEM ACCORDING TO THE CRITERIA OUTLINED ON THE DRAWINGS, IN THE SPECIFICATIONS, N.F.P.A. 13 AND N.F.P.A. 14. THE ENTIRE BUILDING SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM
6. WHERE MAIN ELECTRIC ROOMS HAVE A 2-HOUR RATING, DO NOT INSTALL SPRINKLER COVERAGE.
7. DO NOT ROUTE SPRINKLER PIPING OVER ANY TELEDATA, IDF, MDF OR SIMILAR ROOM. PROVIDE SIDEWALL SPRINKLER COVERAGE FOR THE SPACE WITH HEAD LOCATED ABOVE DOOR WHEREVER POSSIBLE.
8. DO NOT ROUTE SPRINKLER PIPING OVER ANY UNRATED ELECTRICAL ROOM. PROVIDE SIDEWALL SPRINKLER COVERAGE FOR THE SPACE WITH HEAD LOCATED ABOVE DOOR WHEREVER POSSIBLE.



2A OVERALL SECOND FLOOR FIRE PROTECTION PLAN
1/16" = 1'-0"

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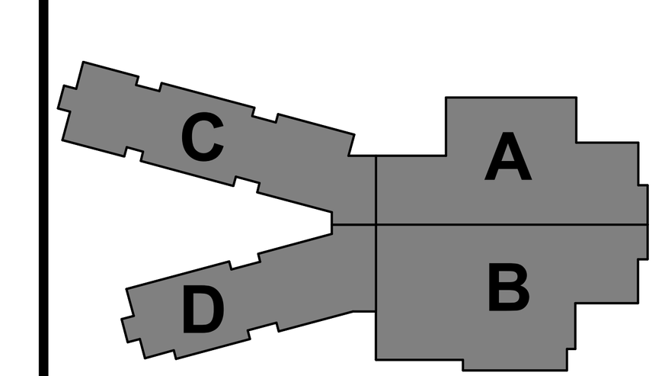
Project No. 2021-141.NES
Project Date 05.11.2022
Produced JH / EP / KAV

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



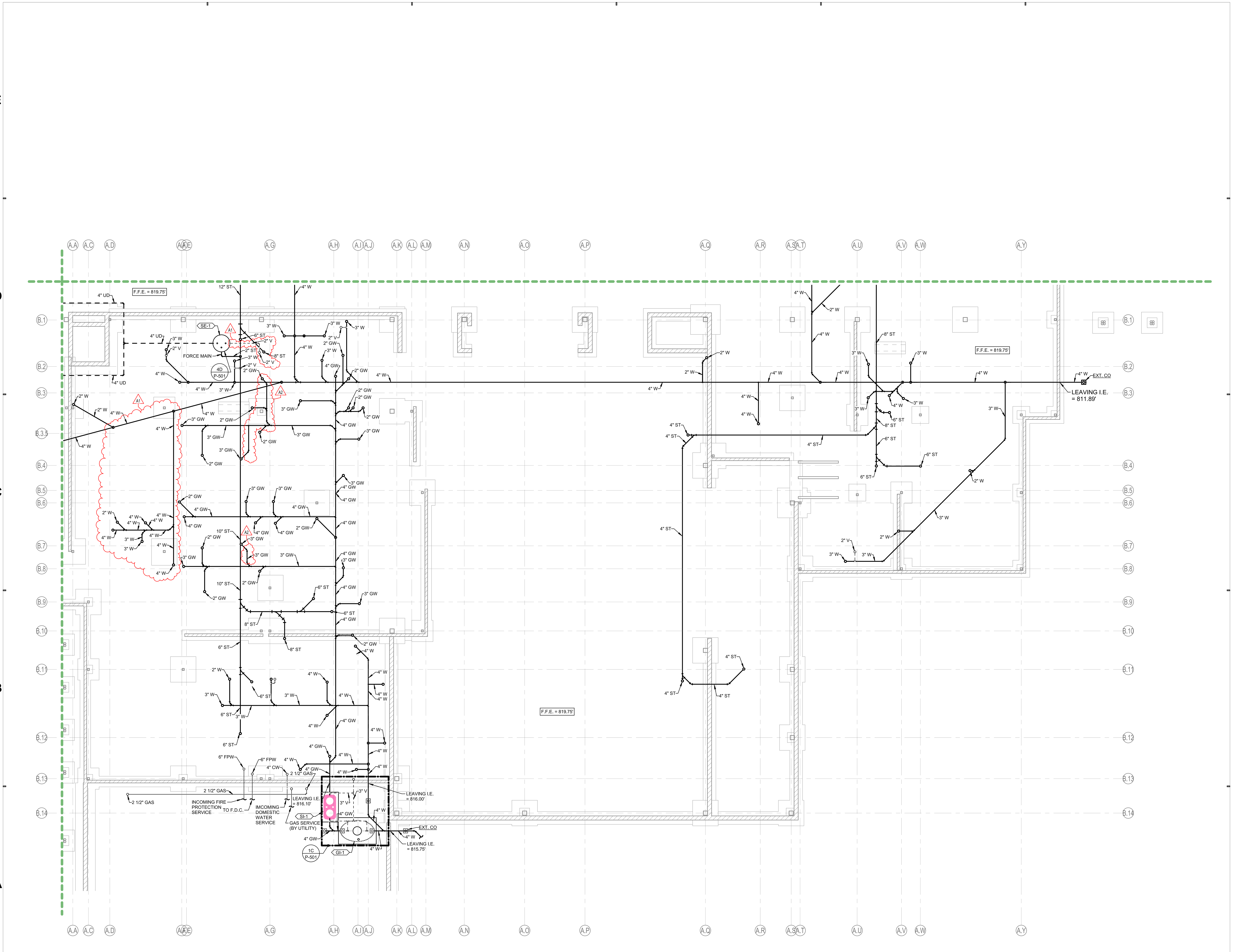
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

OVERALL SECOND FLOOR FIRE PROTECTION PLAN

FP102



1A FOUNDATION PLUMBING PLAN - UNIT B
1/8" = 1'-0"

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Project No.	2021-141.NES
Project Date	05.11.2022
Produced	JH / EP / KAV

SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A1	ADDENDUM #1	05.31.2022
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

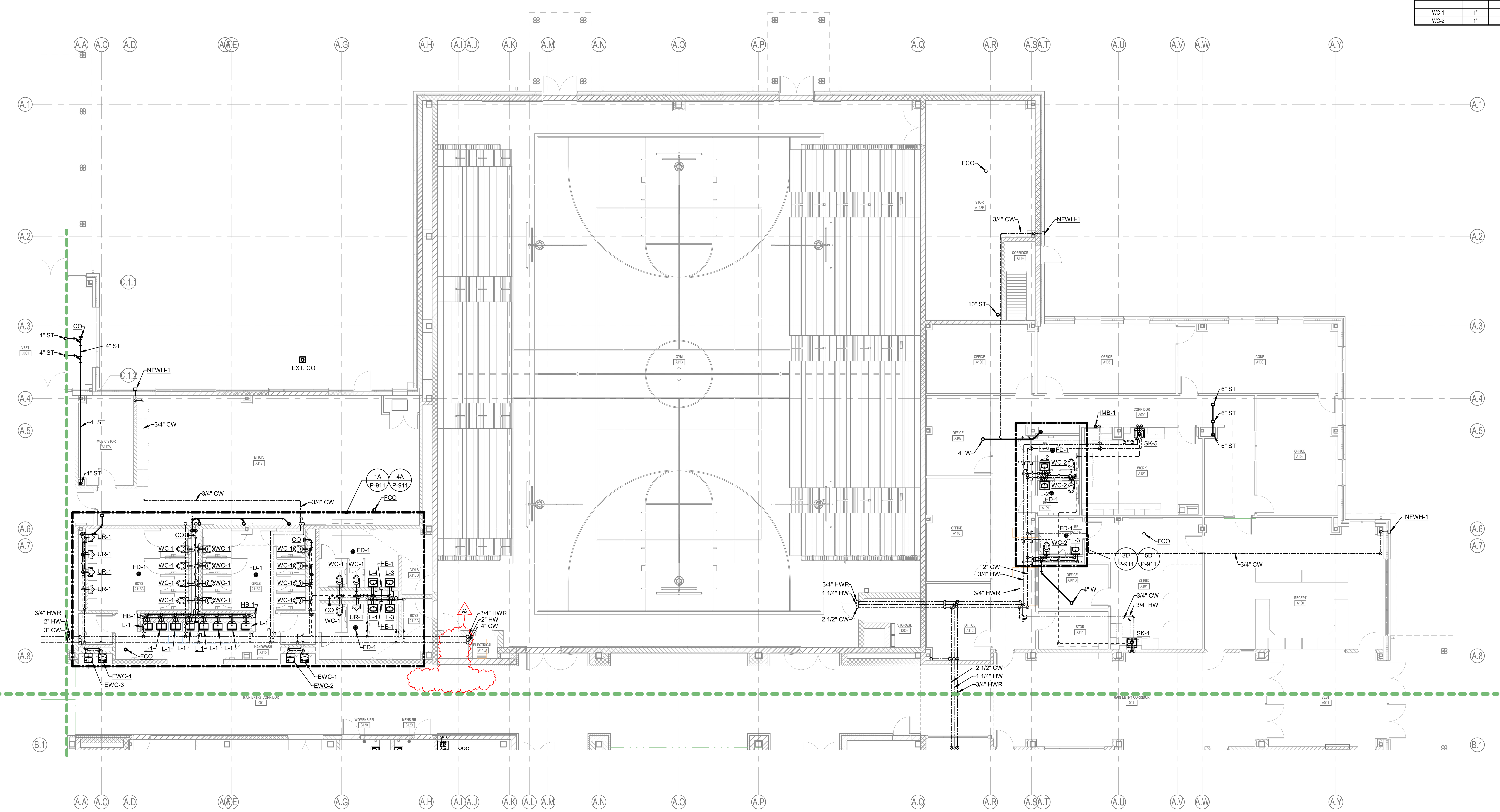
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FOUNDATION PLUMBING PLAN - UNIT B

PF1B1



PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION CW	HW	W	V
EWC-1	1/2"		1 1/2"	1 1/2"
EWC-2	3/4"		1 1/2"	1 1/2"
EWC-3	3/4"		1 1/2"	1 1/2"
EWC-4	1/2"		1 1/2"	1 1/2"
FD-1			3"	
FD-2			4"	
FD-3			2"	
FD-4			2"	
FS-1			4"	
SI-2				
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
L-3	1/2"	1/2"	1 1/2"	1 1/2"
L-4	1/2"	1/2"	1 1/2"	1 1/2"
HB-1	3/4"			
HB-2	3/4"			
IMB-1	1/2"			
NFWH-1	3/4"			
NFWH-2	3/4"	3/4"		
WMB-1	3/4"	3/4"	2"	1 1/2"
OFD-1			4"	
OFD-2			6"	
OFD-3			8"	
RD-1			4"	
RD-2			6"	
RD-3			8"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
SK-2	1/2"	1/2"	1 1/2"	1 1/2"
SK-3	1/2"	1/2"	1 1/2"	1 1/2"
SK-4	1/2"	1/2"	1 1/2"	1 1/2"
SK-5	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"		2"	1 1/2"
WC-1	1"		4"	2"
WC-2	1"		4"	2"

1A FIRST FLOOR PLUMBING PLAN - UNIT A
1/8" = 1'-0"

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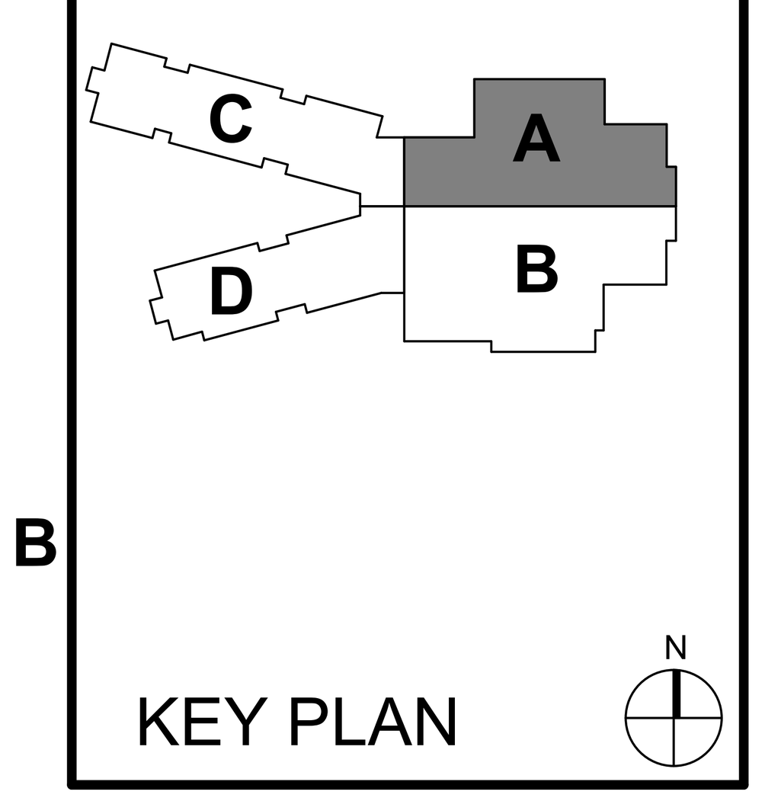
SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



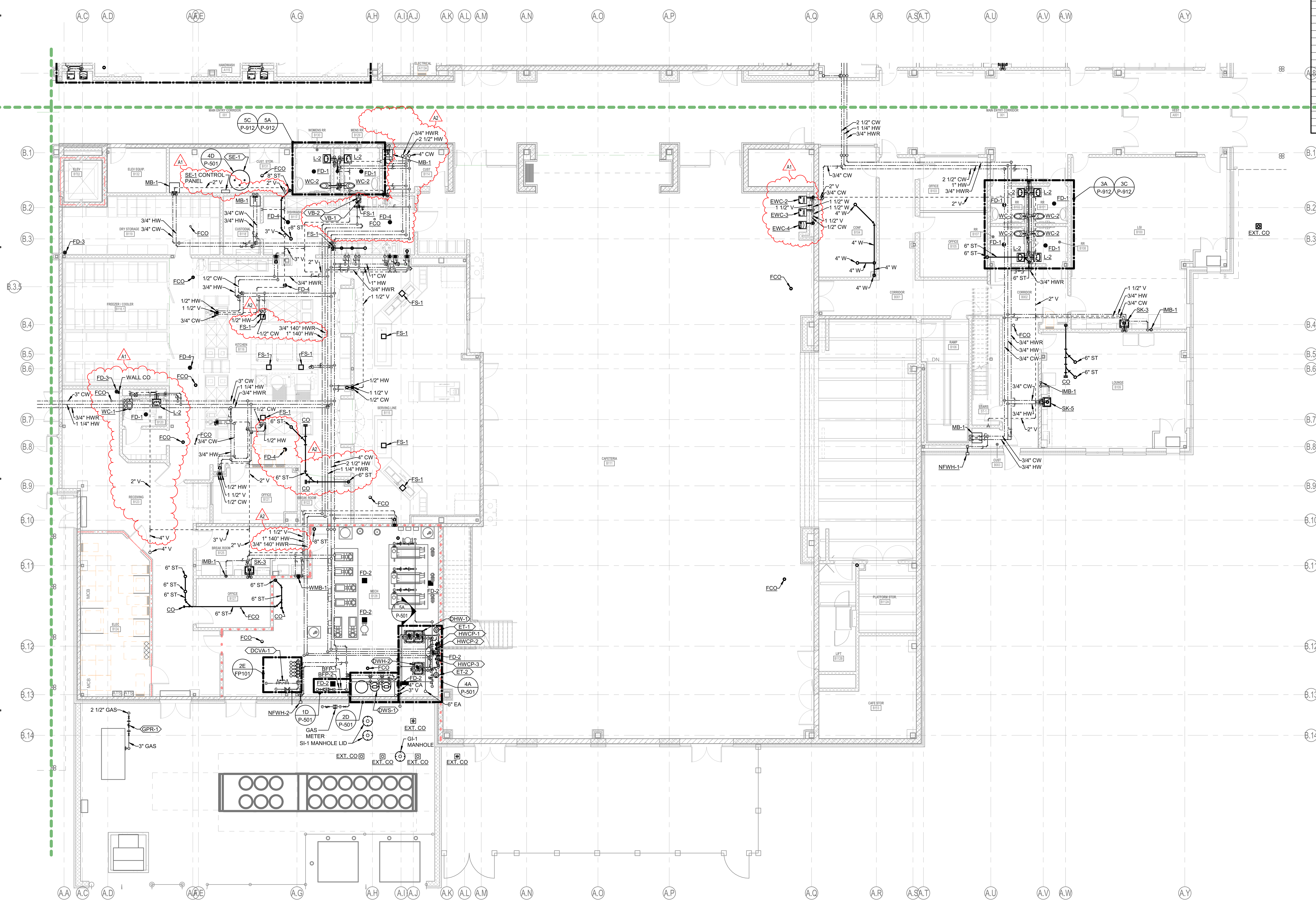
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR PLUMBING PLAN - UNIT A

PP1A1



1A FIRST FLOOR PLUMBING PLAN - UNIT B
1/8" = 1'-0"

PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION CW	HW	W	V
EWC-1	1/2"		1 1/2"	1 1/2"
EWC-2	3/4"		1 1/2"	1 1/2"
EWC-3	3/4"		1 1/2"	1 1/2"
EWC-4	1/2"		1 1/2"	1 1/2"
FD-1			3"	
FD-2			4"	
FD-3			2"	
FD-4			2"	
FS-1			4"	
SI-2				
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
L-3	1/2"	1/2"	1 1/2"	1 1/2"
L-4	1/2"	1/2"	1 1/2"	1 1/2"
HB-1	3/4"			
HB-2	3/4"			
IMB-1	1/2"			
NFWH-1	3/4"			
NFWH-2	3/4"	3/4"		
WMB-1	3/4"	3/4"	2"	1 1/2"
OFD-1			4"	
OFD-2			6"	
OFD-3			8"	
RD-1			4"	
RD-2			6"	
RD-3			8"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
SK-2	1/2"	1/2"	1 1/2"	1 1/2"
SK-3	1/2"	1/2"	1 1/2"	1 1/2"
SK-4	1/2"	1/2"	1 1/2"	1 1/2"
SK-5	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"		2"	1 1/2"
WC-1	1"		4"	2"
WC-2	1"		4"	2"

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A1	ADDENDUM #1	05.31.2022
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5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FIRST FLOOR PLUMBING PLAN - UNIT B

PP1B1

PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION CW	HW	W	V
EWC-1	1/2"		1 1/2"	1 1/2"
EWC-2	3/4"		1 1/2"	1 1/2"
EWC-3	3/4"		1 1/2"	1 1/2"
EWC-4	1/2"		1 1/2"	1 1/2"
FD-1			3"	
FD-2			4"	
FD-3			2"	
FD-4			2"	
FS-1			4"	
SI-2				
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
L-3	1/2"	1/2"	1 1/2"	1 1/2"
L-4	1/2"	1/2"	1 1/2"	1 1/2"
HB-1	3/4"			
HB-2	3/4"			
IMB-1	1/2"			
NFWH-1	3/4"			
NFWH-2	3/4"	3/4"		
WMB-1	3/4"	3/4"	2"	1 1/2"
OFD-1			4"	
OFD-2			6"	
OFD-3			8"	
RD-1			4"	
RD-2			6"	
RD-3			8"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
SK-2	1/2"	1/2"	1 1/2"	1 1/2"
SK-3	1/2"	1/2"	1 1/2"	1 1/2"
SK-4	1/2"	1/2"	1 1/2"	1 1/2"
SK-5	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"		2"	1 1/2"
WC-1	1"		4"	2"
WC-2	1"		4"	2"

1A SECOND FLOOR PLUMBING PLAN - UNIT A
1/8" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced JH / EP / KAV

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

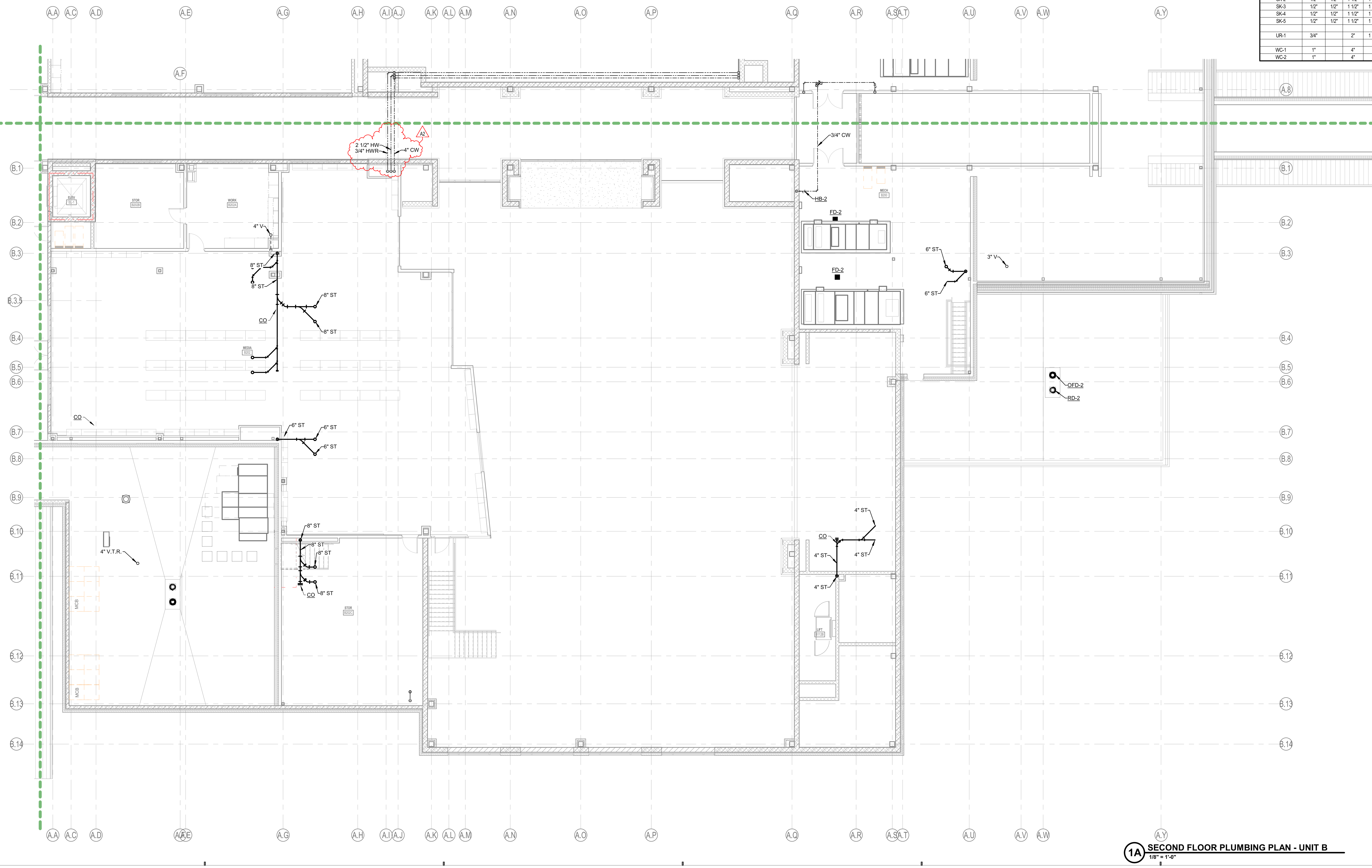
Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR PLUMBING PLAN - UNIT A

PP1A2

PLUMBING FIXTURE ROUGH-IN LEGEND				
	FIXTURE CONNECTION			
MARK	CW	HW	W	V
EWC-1	1/2"		1 1/2"	1 1/2"
EWC-2	3/4"		1 1/2"	1 1/2"
EWC-3	3/4"		1 1/2"	1 1/2"
EWC-4	1/2"		1 1/2"	1 1/2"
FD-1			3"	
FD-2			4"	
FD-3			2"	
FD-4			2"	
FS-1			4"	
SI-2				
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
L-3	1/2"	1/2"	1 1/2"	1 1/2"
L-4	1/2"	1/2"	1 1/2"	1 1/2"
HB-1	3/4"			
HB-2	3/4"			
IMB-1	1/2"			
NFWH-1	3/4"			
NFWH-2	3/4"	3/4"		
WMB-1	3/4"	3/4"	2"	1 1/2"
OFD-1			4"	
OFD-2			6"	
OFD-3			8"	
RD-1			4"	
RD-2			6"	
RD-3			8"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
SK-2	1/2"	1/2"	1 1/2"	1 1/2"
SK-3	1/2"	1/2"	1 1/2"	1 1/2"
SK-4	1/2"	1/2"	1 1/2"	1 1/2"
SK-5	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"		2"	1 1/2"
WC-1	1"		4"	2"
WC-2	1"		4"	2"



1A SECOND FLOOR PLUMBING PLAN - UNIT B
1/8" = 1'-0"

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
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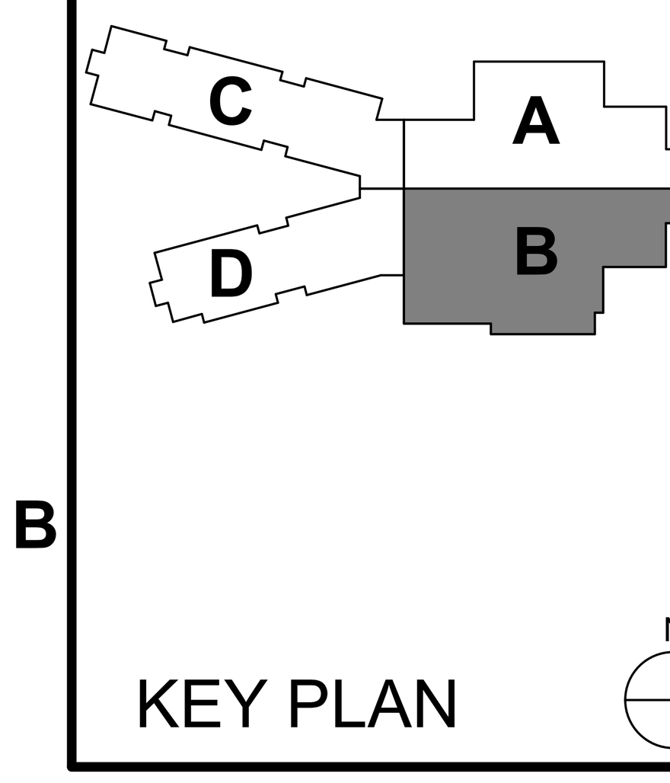
SARAH KATHLEEN HEMPSTEAD
REGISTERED ARCHITECT
NO. AR10400134
STATE OF INDIANA

#	Revision	Date
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

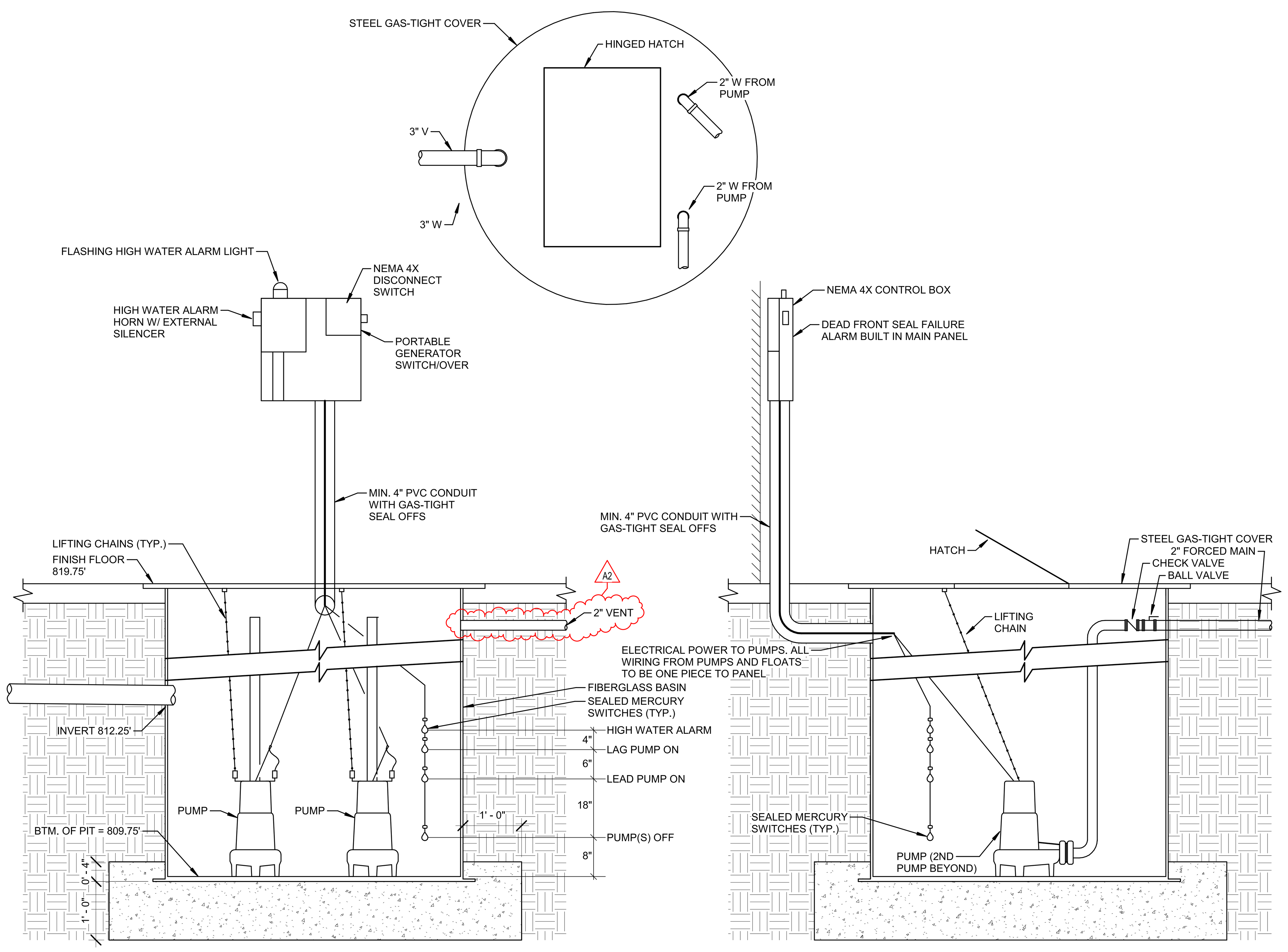
FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

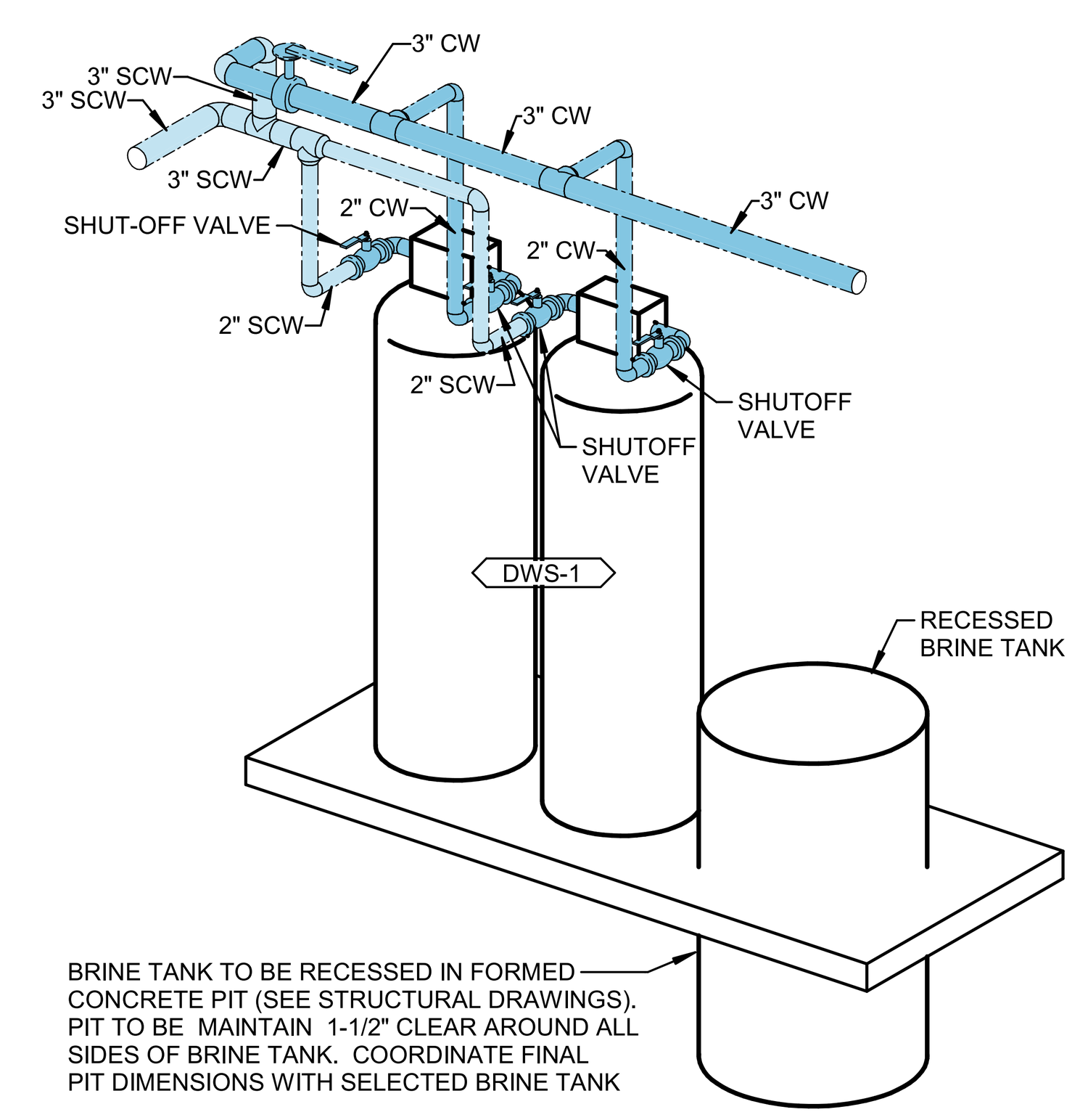
SECOND FLOOR PLUMBING PLAN - UNIT B

PP1B2

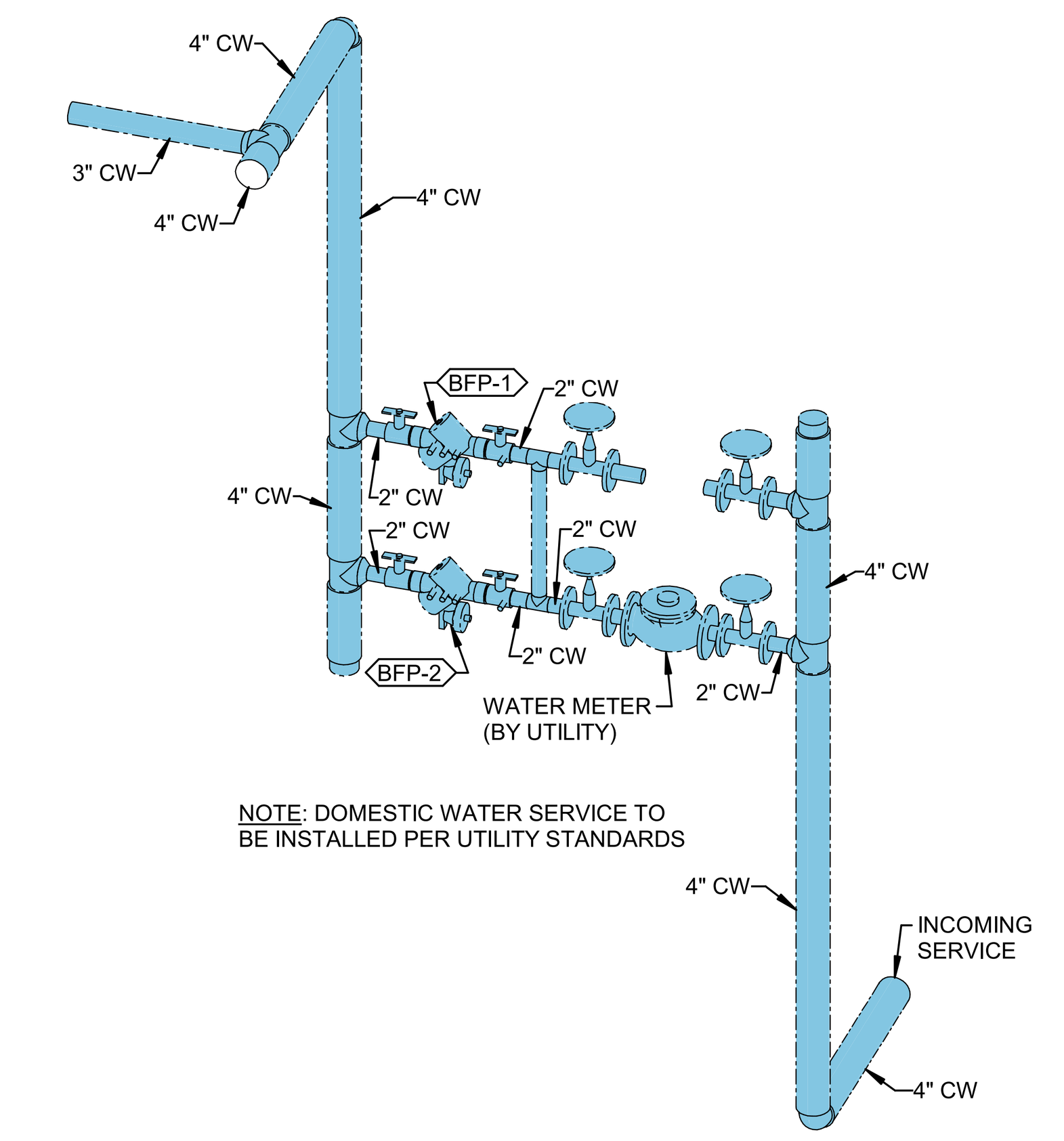
6 5 4 3 2 1



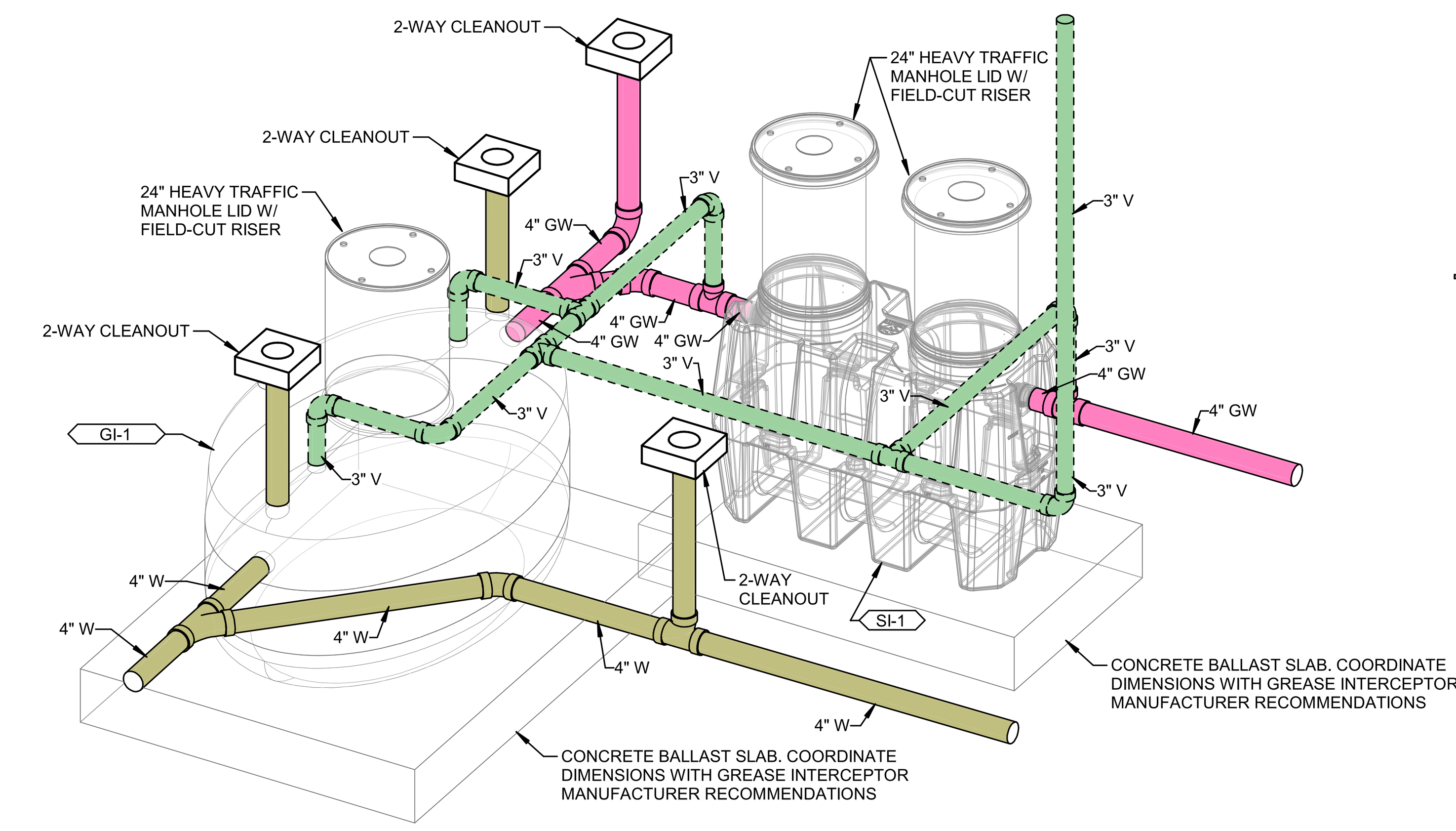
4D DUPLEX STORM EJECTOR PUMP DETAIL
NOT TO SCALE



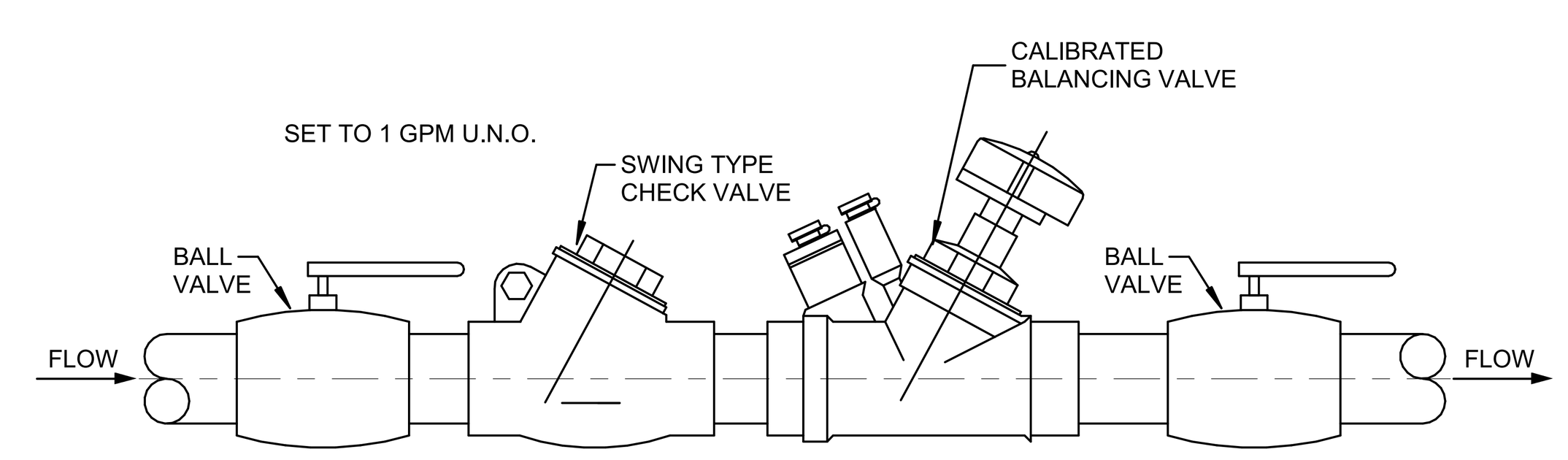
2D DOMESTIC WATER SOFTENER PIPING DIAGRAM
NOT TO SCALE



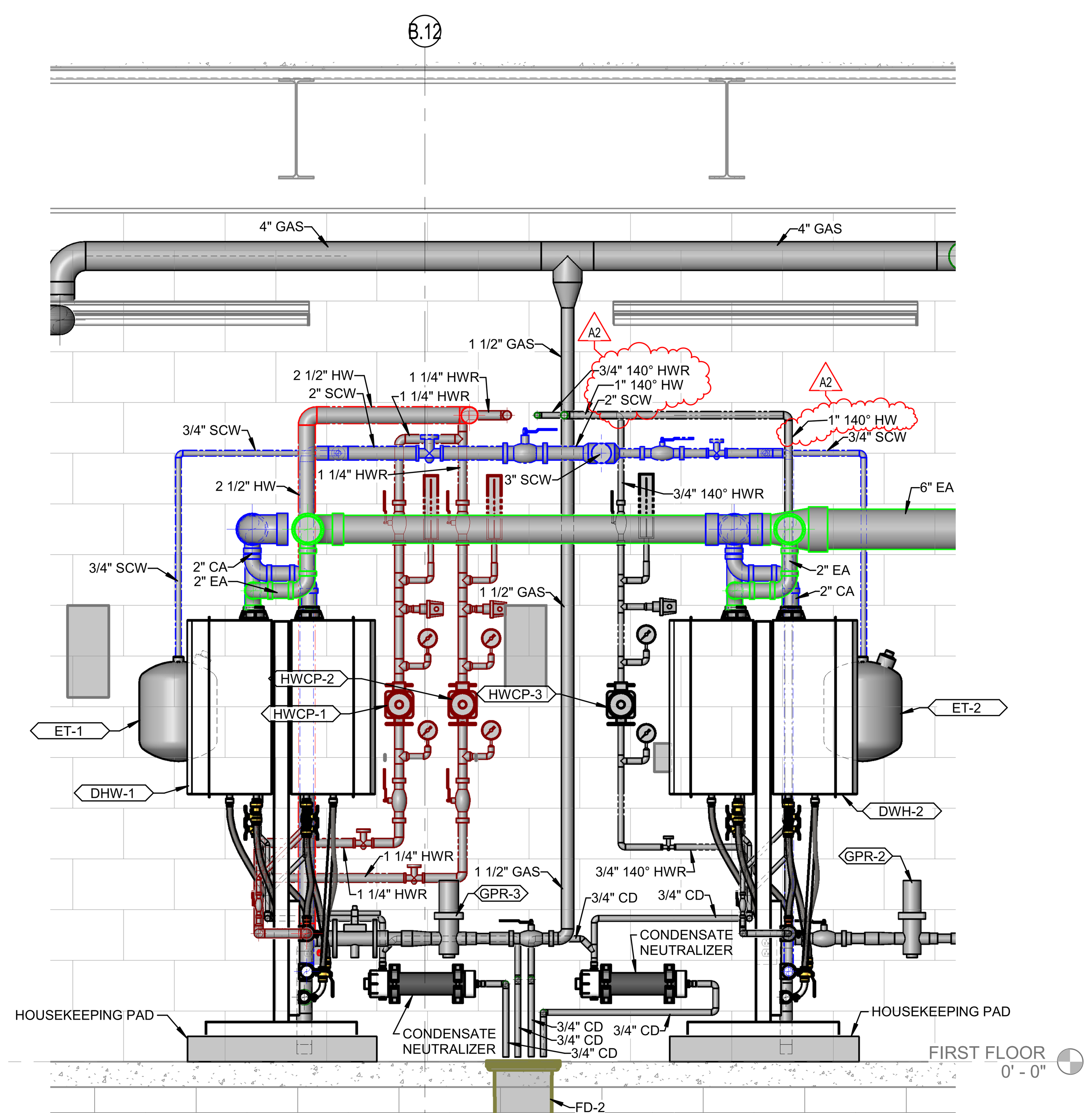
1D INCOMING DOMESTIC WATER SERVICE PIPING DIAGRAM
NOT TO SCALE



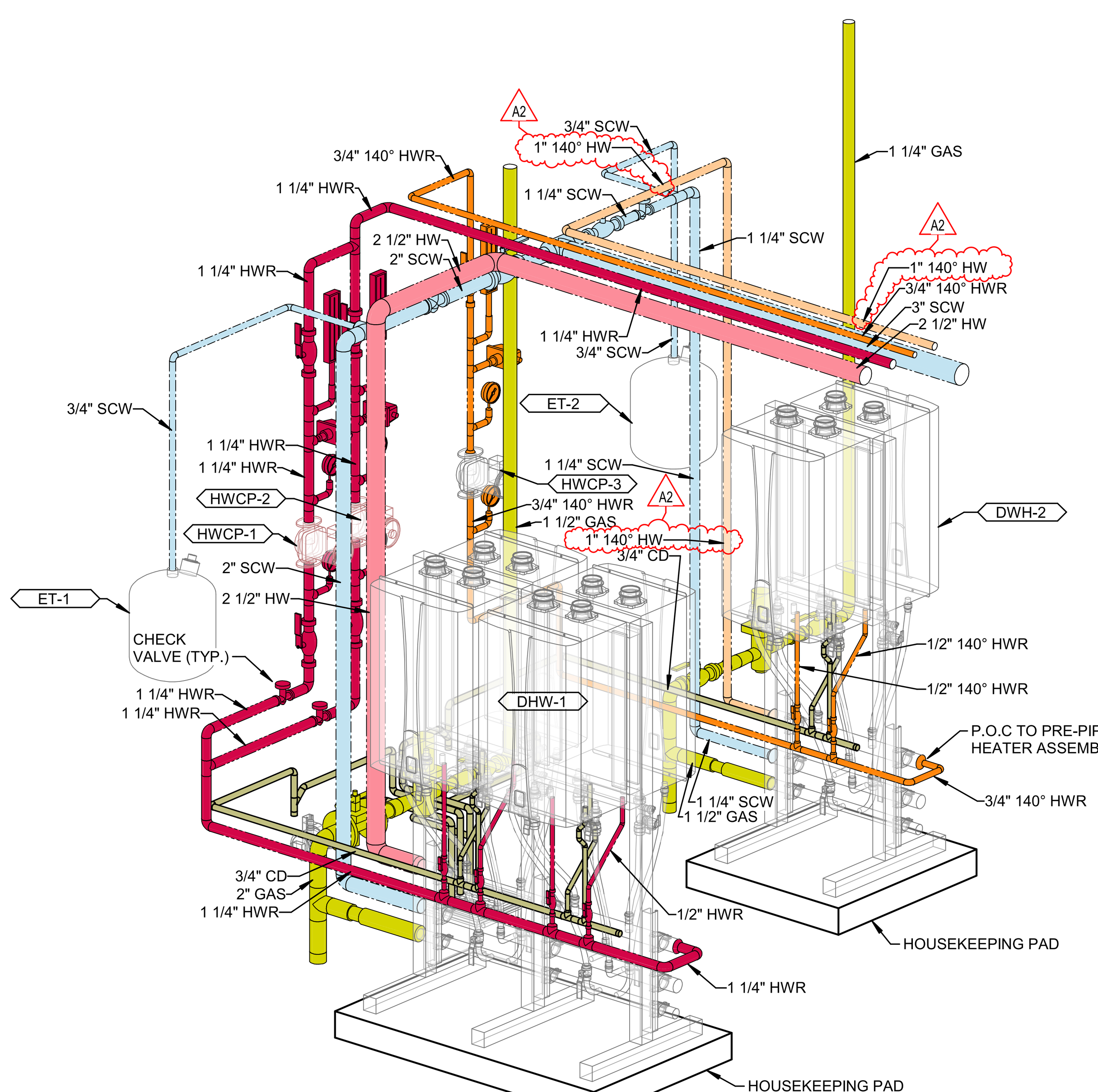
1C EXTERIOR SOLIDS AND GREASE INTERCEPTORS PIPING DIAGRAM
NOT TO SCALE



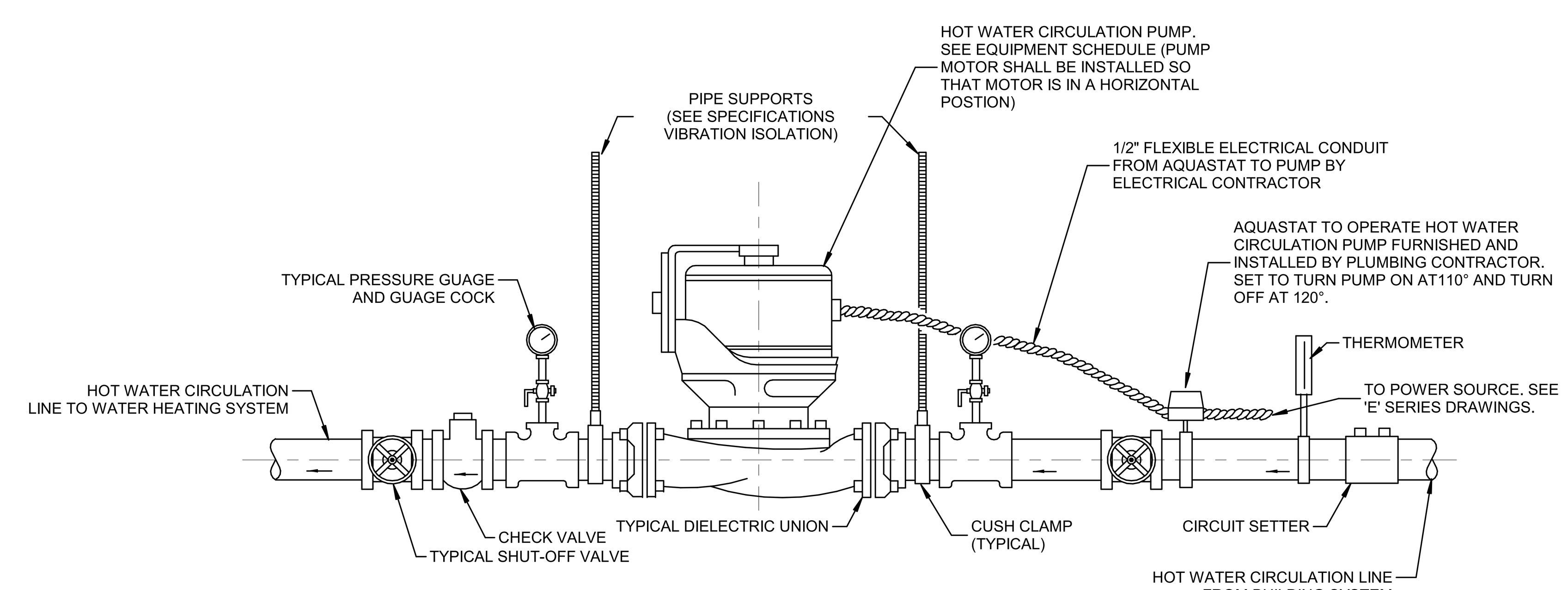
4C HOT WATER BALANCING VALVE STATION DETAIL
NOT TO SCALE



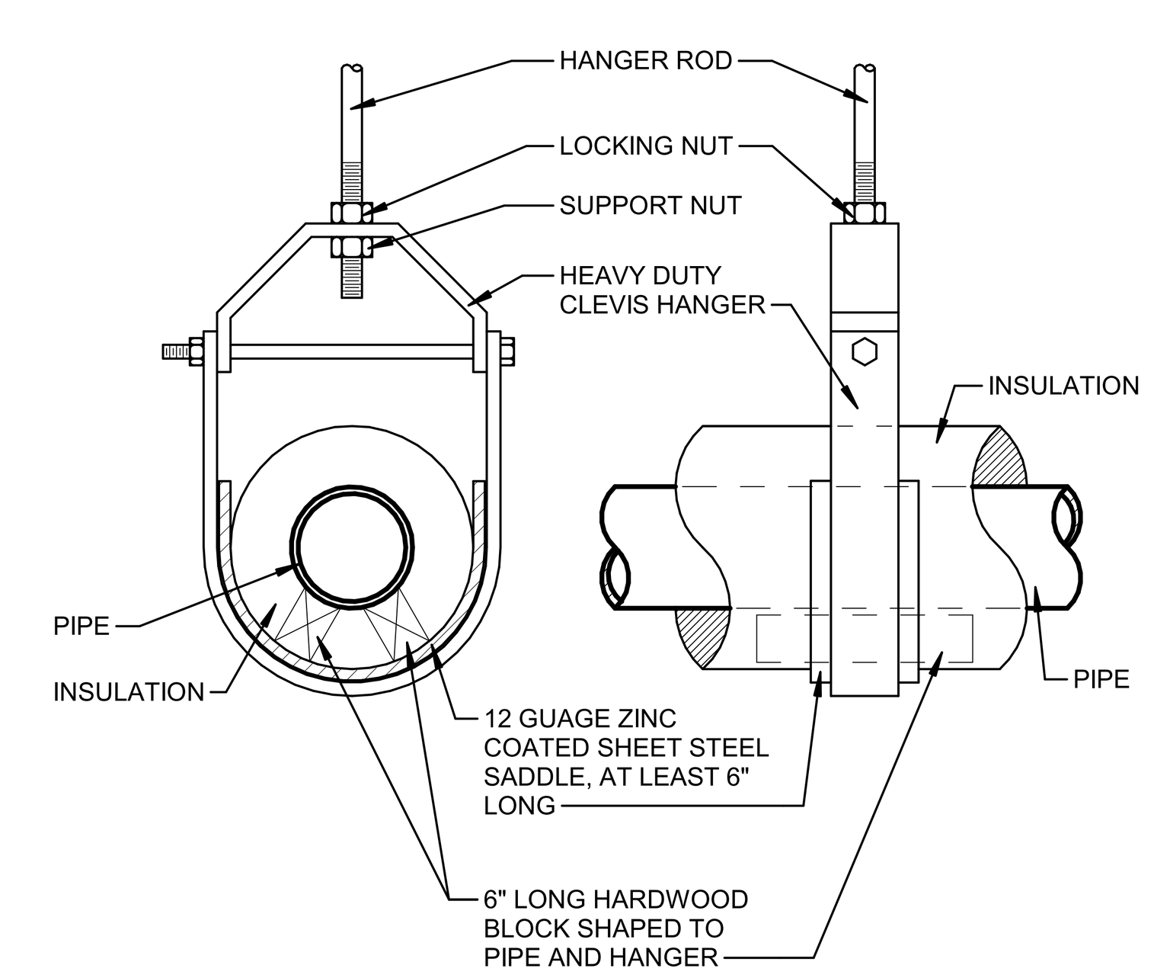
5A DOMESTIC WATER HEATING PIPING DIAGRAM - SECTION
NOT TO SCALE



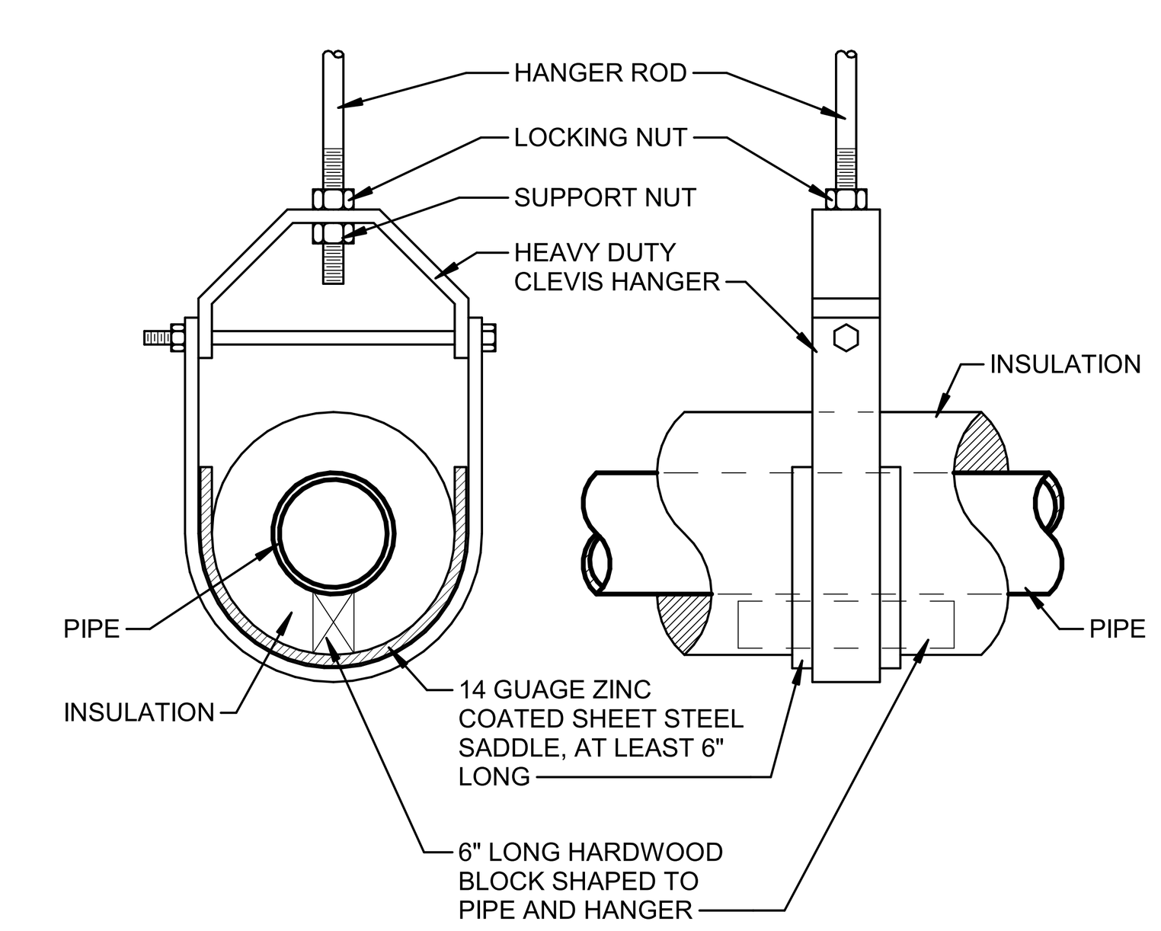
4A DOMESTIC WATER HEATING PIPING DIAGRAM - ISOMETRIC
NOT TO SCALE



2B HOT WATER RECIRCULATING PUMP DETAIL
NOT TO SCALE



2A PIPE HANGERS (8" & LARGER) DETAIL
NOT TO SCALE



1A PIPE HANGER (6" & SMALLER) DETAIL
NOT TO SCALE

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SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

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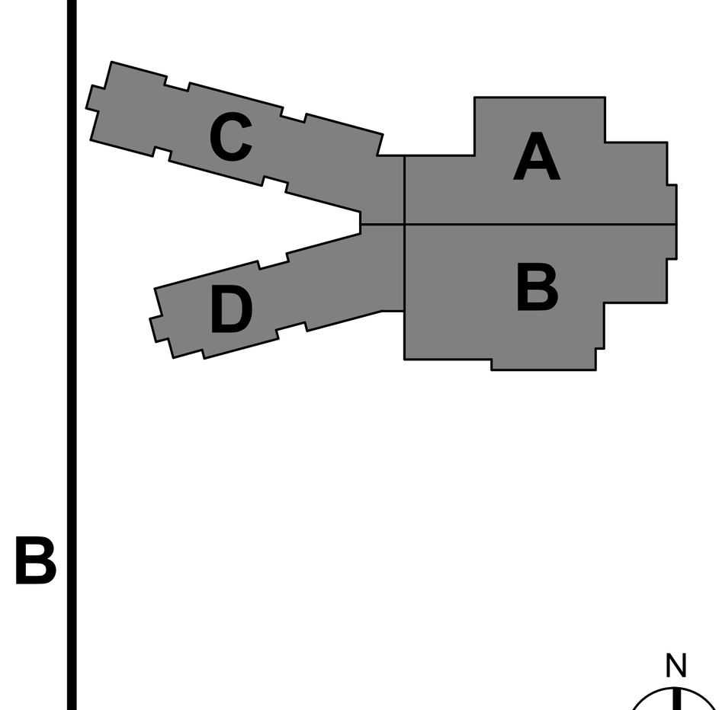
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PLUMBING DETAILS

P-501

A2

VACUUM BREAKERS						
IDENTITY DATA						NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE	PRESSURE DROP	
VB-1	ZURN	#460XL - 3/4"	SPILL-RESISTANT PRESSURE VACUUM BREAKER	8 GPM	5.00 psi	
VB-2	ZURN	#460XL - 3/4"	SPILL-RESISTANT PRESSURE VACUUM BREAKER	8 GPM	5.00 psi	

A1

FUEL-FIRED, DOMESTIC WATER HEATERS										
IDENTITY DATA				PLUMBING (EACH HEATER)				ELECTRICAL (EACH HEATER)		NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	GPH RECOVERY (GAL)	INTAKE	EXHAUST	NATURAL GAS INPUT (BTU/H)	VOLTAGE	PHASE	
DHW-1	RINNAI	#TRS04CU	(4) INSTANTANEOUS GAS-FIRED DOMESTIC WATER HEATERS (#CU199), RACK MOUNTED, PRE-PIPED HEADERS	4	2"	2"	199000	120	1	EACH HEATER TO BE CAPABLE OF INTERNAL RECIRCULATION. PROVIDE CONTROLS FOR CONNECTION TO BUILDING MANAGEMENT SYSTEM
DWH-2	RINNAI	#TRS02ILCU	(2) INSTANTANEOUS GAS-FIRED DOMESTIC WATER HEATERS (#CU199), RACK MOUNTED, PRE-PIPED HEADERS	4	2"	2"	199000	120	1	EACH HEATER TO BE CAPABLE OF INTERNAL RECIRCULATION. PROVIDE CONTROLS FOR CONNECTION TO BUILDING MANAGEMENT SYSTEM

A1

DOMESTIC WATER SOFTENERS (223100)										
SOFTENER				BRINE TANK	CONTINUOUS (EACH)		PEAK (EACH)		ELECTRICAL	
MARK	MANUFACTURER	MODEL	DESCRIPTION	DESCRIPTION	FLOW RATE	PRESSURE DROP	FLOW RATE	PRESSURE DROP	VOLTAGE	PHASE
DWS-1	AQUASYSTEMS	(2) #500	DUAL DOMESTIC WATER SOFTENER WITH BRINE TANK	24" x 50"	53 GPM	15.00 psi	69 GPM	25.00 psi	120	1

TANK SCHEDULE					
IDENTITY DATA					NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CAPACITY	
ET-1	AMTROL	#ST-12-C	DOMESTIC HOT WATER EXPANSION TANK	4.4 GAL. VOLUME; .73 MAX. ACCEPTANCE VOLUME	
ET-2	AMTROL	#ST-12-C	DOMESTIC HOT WATER EXPANSION TANK	4.4 GAL. VOLUME; .73 MAX. ACCEPTANCE VOLUME	

PLUMBING EQUIPMENT SCHEDULE					
IDENTITY DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	CAPACITY
GI-1	SCHIER	#GB-500	PROCEPTOR GREASE INTERCEPTOR		
SI-1	STRIEM	#PS-275-S	SCREEN STYLE SOLIDS INTERCEPTOR		

A1

CIRCULATION AND SUMP PUMPS									
IDENTITY DATA				PLUMBING		ELECTRICAL			
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE (GPM)	PUMP HEAD (TDH)	VOLTAGE	PHASE	RPM	HP
HWCP-1	BELL AND GOSSETT	ECOCIRC #XL 20-140	120° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	22	18	208	1	VARIABLE	1/2
HWCP-2	BELL AND GOSSETT	ECOCIRC #XL 20-140	120° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	22	18	208	1	VARIABLE	1/2
HWCP-3	BELL AND GOSSETT	ECOCIRC #XL 20-35	140° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	3	10	115	1	VARIABLE	1/12

A1

EJECTOR AND WASTEWATER PITS										
	IDENTITY DATA			BASIN	PLUMBING		ELECTRICAL			
MARK	MANUFACTURER	MODEL	DESCRIPTION	ACCESSORIES	FLOW RATE (GPM)	PUMP HEAD (TDH)	VOLTAGE	PHASE	RPM	HP
SE-1	ZOELLER	MODEL #55	DUPLEX SUMP PUMP WITH CONTROL PANEL, 4'-0" (DIA.) X 10'-0" (D) FIBERGLASS BASIN	REMOVAL RAIL SYSTEM	25	13	120	1	1550	3/10

WET-PIPE SPRINKLER SYSTEMS (211313)						
IDENTITY DATA						
MARK	MANUFACTURER	MODEL	DESCRIPTION	LOCATION	FLOW RATE	PRESSURE DROP
DCVA-1	ZURN WILKINS	#350 ADA - 6"	DOUBLE DETECTOR CHECK VALVE ASSEMBLY		1000 GPM	4.80 psi

MIXING, METERING, AND PRESSURE REDUCING VALVES (221119)					
IDENTITY DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE	PRESSURE DROP
BFP-1	ZURN WILKINS	#975XLS2 - 2"	REDUCED PRESSURE BACKFLOW PREVENTER	160 GPM	15.20 psi
BFP-2	ZURN WILKINS	#975XLS2 - 2"	REDUCED PRESSURE BACKFLOW PREVENTER	160 GPM	15.20 psi

CIRCULATION AND SUMP PUMPS									
IDENTITY DATA				PLUMBING		ELECTRICAL			
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE (GPM)	PUMP HEAD (TDH)	VOLTAGE	PHASE	RPM	HP
HWCP-1	BELL AND GOSSETT	ECOCIRC #XL 20-140	120° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	22	18	208	1	VARIABLE	1/2
HWCP-2	BELL AND GOSSETT	ECOCIRC #XL 20-140	120° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	22	18	208	1	VARIABLE	1/2
HWCP-3	BELL AND GOSSETT	ECOCIRC #XL 20-35	140° DOMESTIC HOT WATER CIRCULATION PUMP, STAINLESS STEEL	3	10	115	1	VARIABLE	1/12

DOMESTIC WATER PIPING SPECIALTIES SCHEDULE (221119)									
IDENTITY DATA				FIXTURE CONNECTION				MOUNTING (FLOOR TO OUTLET)	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	HW	W	V		
HB-1	ZURN	#Z1330-XL	HOSE BIB WITH RECESSED BOX	3/4"				18" A.F.F.	
HB-2	ZURN	#Z1341XL	HOSE BIBB	3/4"				24" A.F.F.	
IMB-1	GUY GRAY	#SSIB2AB	ICEMAKER OUTLET BOX	1/2"				24" A.F.F.	
NFWH-1	ZURN	#Z1320-C	NONFREEZE WALL HYDRANT WITH RECESSED BOX	3/4"				26" A.F.F	
NFWH-2	ZURN	#Z1325-VB	VARI-TEMP NONFREEZE WALL HYDRANT WITH RECESSED BOX	3/4"	3/4"			26" A.F.F	
WMB-1	IPS CORPORATION	#SSWB2	CLOTHES WASHER OUTLET BOX	3/4"	3/4"	2"	1 1/2"	42" A.F.F.	

SANITARY WASTE PIPING SPECIALTIES SCHEDULE (221319)					
IDENTITY DATA				W CONNECTION	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION		
FD-1	ZURN	#Z415B-ZB	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER	3"	TRAPGUARD BY PROSET, NO SUBSTITUTIONS
FD-2	ZURN	#Z662-DG	DUCO CAST IRON BODY WITH FLASHING COLLAR AND CAST IRON GRATE, SQUARE GRATE AND SEDIMENT BUCKET	4"	
FD-3	ZURN	#ZB415-NH WITH #ZI400I-5I STRAINER	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER. FLUSH WITH FLOOR FUNNEL WITH ANTI-SPLASH RIM AND GRATE	2"	TRAPGUARD BY PROSET, NO SUBSTITUTIONS
FD-4	ZURN	#Z415B-ZB	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER	2"	TRAPGUARD BY PROSET, NO SUBSTITUTIONS
FS-1	ZURN	#Z1901-NH-2	CAST IRON BODY, PORCELAIN ENAMELED, 1/2 GRATE AND DOME STRAINER	4"	
SI-2	STRIEM	SIDEKICK	POINT OF USE SOLIDS INTERCEPTOR		

STORM DRAINAGE PIPING SPECIALTIES SCHEDULE (221423)					
IDENTITY DATA				W CONNECTION	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION		
OFD-1	ZURN	#ZC100-C-EA-R-89	DUCO CAST IRON BODY, FLASHING CLAMP AND CAST IRON WATER DAM	4"	
OFD-2	ZURN	#ZC100-C-EA-R-89	DUCO CAST IRON BODY, FLASHING CLAMP AND CAST IRON WATER DAM	6"	
OFD-3	ZURN	#ZC100-C-EA-R-89	DUCO CAST IRON BODY, FLASHING CLAMP AND CAST IRON WATER DAM	8"	
RD-1	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP AND CAST IRON DOME	4"	
RD-2	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP AND CAST IRON DOME	6"	
RD-3	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP AND CAST IRON DOME	8"	

COMMERCIAL WATER CLOSET SCHEDULE (224213.13)														
IDENTITY DATA				FLUSHOMETER				TOILET SEAT	FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPF		CW	W	V			
WC-1	AMERICAN STANDARD	#2257.101	WALL-MOUNTED, TOP SPUD, ACCESSIBLE WATER CLOSET			MANUAL	1.6	CLOSED BACK, OPEN FRONT	1"	4"	2"	14"	Yes	
WC-2	AMERICAN STANDARD	#2257.101	WALL-MOUNTED, TOP SPUD, ACCESSIBLE WATER CLOSET	SLOAN	REGAL #111-1.6	MANUAL	1.6	CLOSED BACK, OPEN FRONT	1"	4"	2"	17"	Yes	

COMMERCIAL URINAL SCHEDULE (224213.16)													
FIXTURE				FLUSHOMETER				FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPF	CW	W	V			
UR-1	AMERICAN STANDARD	#6590.001	WALL-HUNG, BACK OUTLET, WASHOUT, ACCESSIBLE	SLOAN	REGAL #186-0.5	MANUAL	0.5	3/4"	2"	1 1/2"	14"	Yes	

COMMERCIAL LAVATORY SCHEDULE (224216.13)														
FIXTURE				FAUCET				FIXTURE CONNECTION				MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPM	CW	HW	W	V			
L-1	N/A	N/A	SOLID SURFACE COUNTER WITH BOWL BY INTERIORS	CHICAGO FAUCET	#404-HZE70ABCP	MANUAL	0.5	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED		
L-2	AMERICAN STANDARD	#0356.015	VITREOUS CHINA, WALL MOUNTED, WITH BACK					1/2"	1/2"	1 1/2"	1 1/2"	34"	Yes	
L-3	AMERICAN STANDARD	#0356.015	VITREOUS CHINA, WALL MOUNTED, WITH BACK	CHICAGO FAUCET	#404-HZE70ABCP	MANUAL	0.5	1/2"	1/2"	1 1/2"	1 1/2"	30"	Yes	
L-4	AMERICAN STANDARD	#0356.015	VITREOUS CHINA, WALL MOUNTED, WITH BACK	CHICAGO FAUCET	#404-HZE70ABCP	MANUAL	0.5	1/2"	1/2"	1 1/2"	1 1/2"	24"	Yes	

COMMERCIAL SINK SCHEDULE (224216.16)														
IDENTITY DATA				TRIM				FIXTURE CONNECTION				MOUNTING	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	GPM	CW	HW	W	V			
MB-1	ZURN	#Z1996-24	MOLDED STONE, FLOOR MOUNTED (RECESSED) MOP BASIN	CHICAGO FAUCET	#540-LD897SCP	MANUAL	2.2	3/4"	3/4"	3"	1 1/2"	FLOOR MOUNTED		
SK-1	ELKAY	#LRAD221955	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#786-HR8AE3V317XKAB	MANUAL	2.2	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	Yes	
SK-2	ELKAY	#LR2219	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#201-AHA8XKABCP	MANUAL	2.2	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	No	
SK-3	ELKAY	#LR2219	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#201-AHA8XKABCP	MANUAL	2.2	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	No	
SK-4	ELKAY	#DLR312210	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#786-HR8AE3V317XKAB	MANUAL	2.2	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	No	
SK-5	ELKAY	#LR2219	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#200-AHA8ABCP	MANUAL	2.2	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	Yes	PROVIDE GARBAGE DISPOSER EQUAL TO INSINKERATOR #BADGER 1

PRESSURE WATER COOLER SCHEDULE (224716)									
IDENTITY DATA				FIXTURE CONNECTION			MOUNTING (FLOOR TO BUBBLER)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	W	V			
EWC-1	HALSEY TAYLOR	#HVR-WF LR	ELECTRIC WATER COOLER, WALL-MOUNTED	1/2"	1 1/2"	1 1/2"	41" A.F.F.	No	
EWC-2	HALSEY TAYLOR	#HTHB-HVRGRN8-WF	ELECTRIC WATER COOLER WITH BOTTLE FILLER (FILTERED), STAINLESS STEEL, VANDAL RESISTANT	3/4"	1 1/2"	1 1/2"	34" A.F.F.	Yes	
EWC-3	HALSEY TAYLOR	#HTHB-HVRGRN8-WF	ELECTRIC WATER COOLER WITH BOTTLE FILLER (FILTERED), STAINLESS STEEL, VANDAL RESISTANT	3/4"	1 1/2"	1 1/2"	26" A.F.F	Yes	
EWC-4	HALSEY TAYLOR	#HVR-WF LR	ELECTRIC WATER COOLER, WALL-MOUNTED, STAINLESS STEEL, VANDAL RESISTANT	1/2"	1 1/2"	1 1/2"	26" A.F.F.	No	

WATER HAMMER ARRESTER (221119)						
MARK	IPS	F.U. RATING	J.R. SMITH NO.	WADE NO.	ZURN NO.	REMARKS
A	3/4"	1-11	5005	W-5	100	P.D.I. CERTIFIED
B	1"	12-32	5010	W-10	200	P.D.I. CERTIFIED
C	1"	33-60	5020	W-20	300	P.D.I. CERTIFIED
D	1"	61-113	5030	W-50	400	P.D.I. CERTIFIED
E	1"	114-154	5040	W-75	500	P.D.I. CERTIFIED

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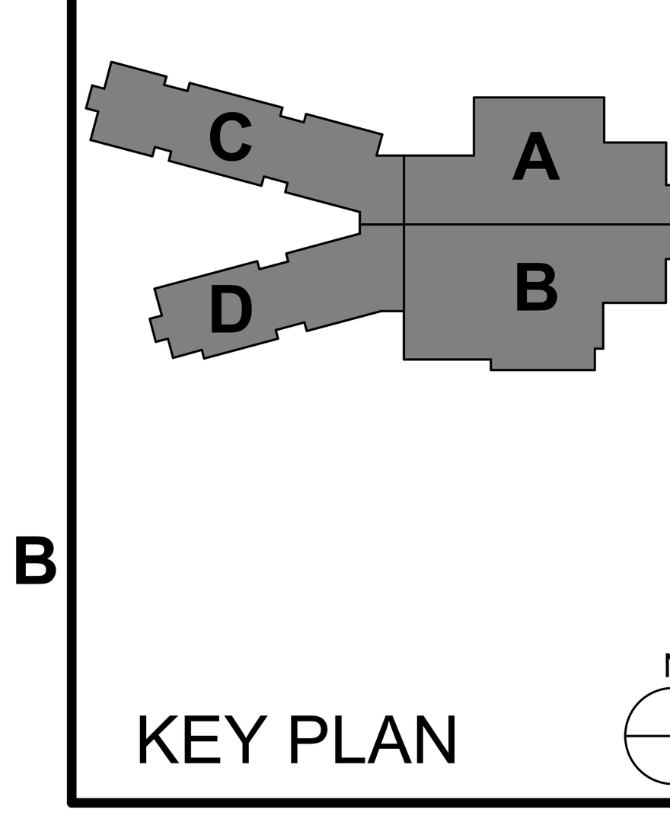
Project No. 2021-141.NES
Project Date 05.11.2022
Produced JH / EP / KAV

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	ADDENDUM #1	05.31.2022
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

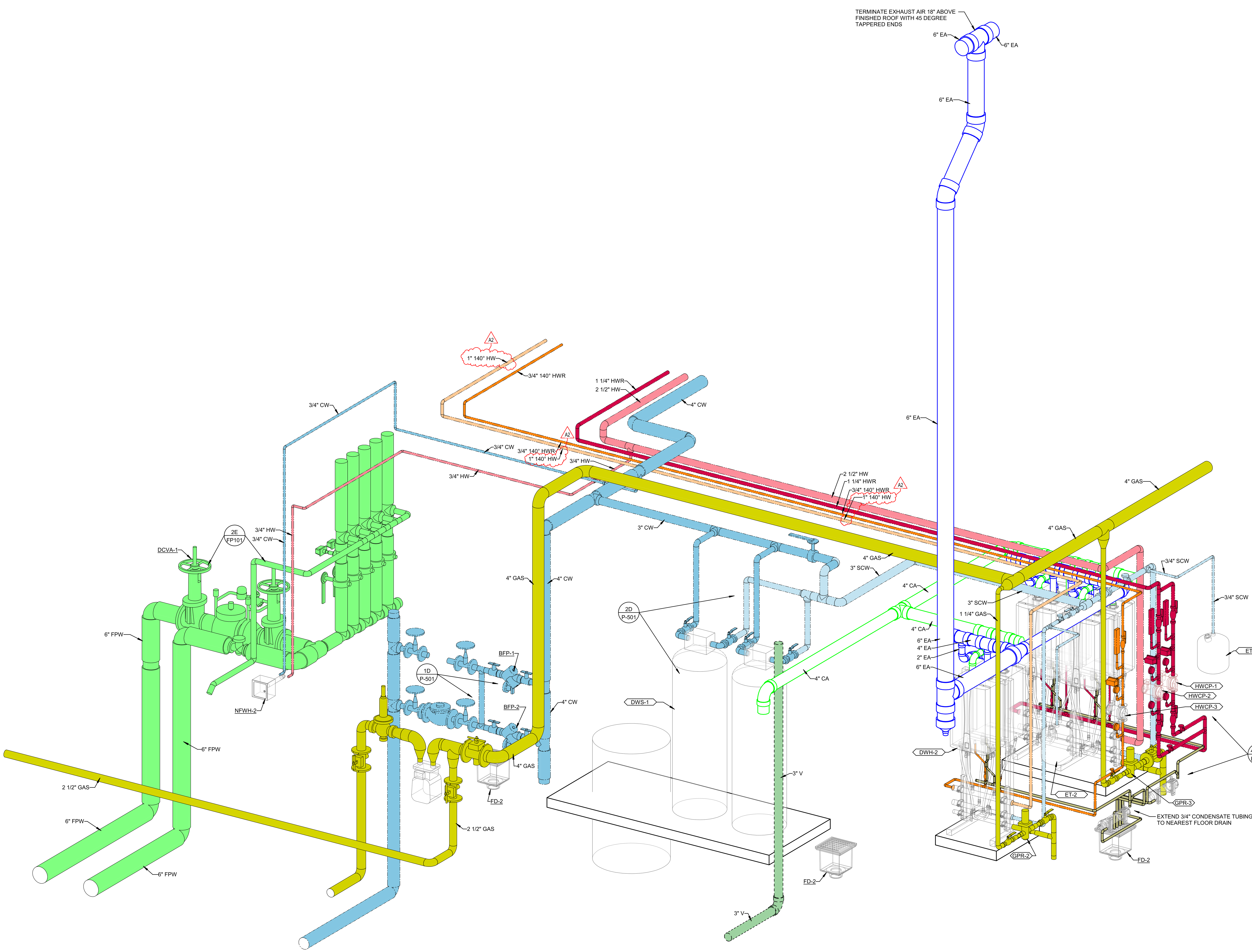
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

PLUMBING SCHEDULES

P-601



1 **MECHANICAL ROOM PLUMBING ISOMETRIC**
NOT TO SCALE

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#	Revision	Date
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

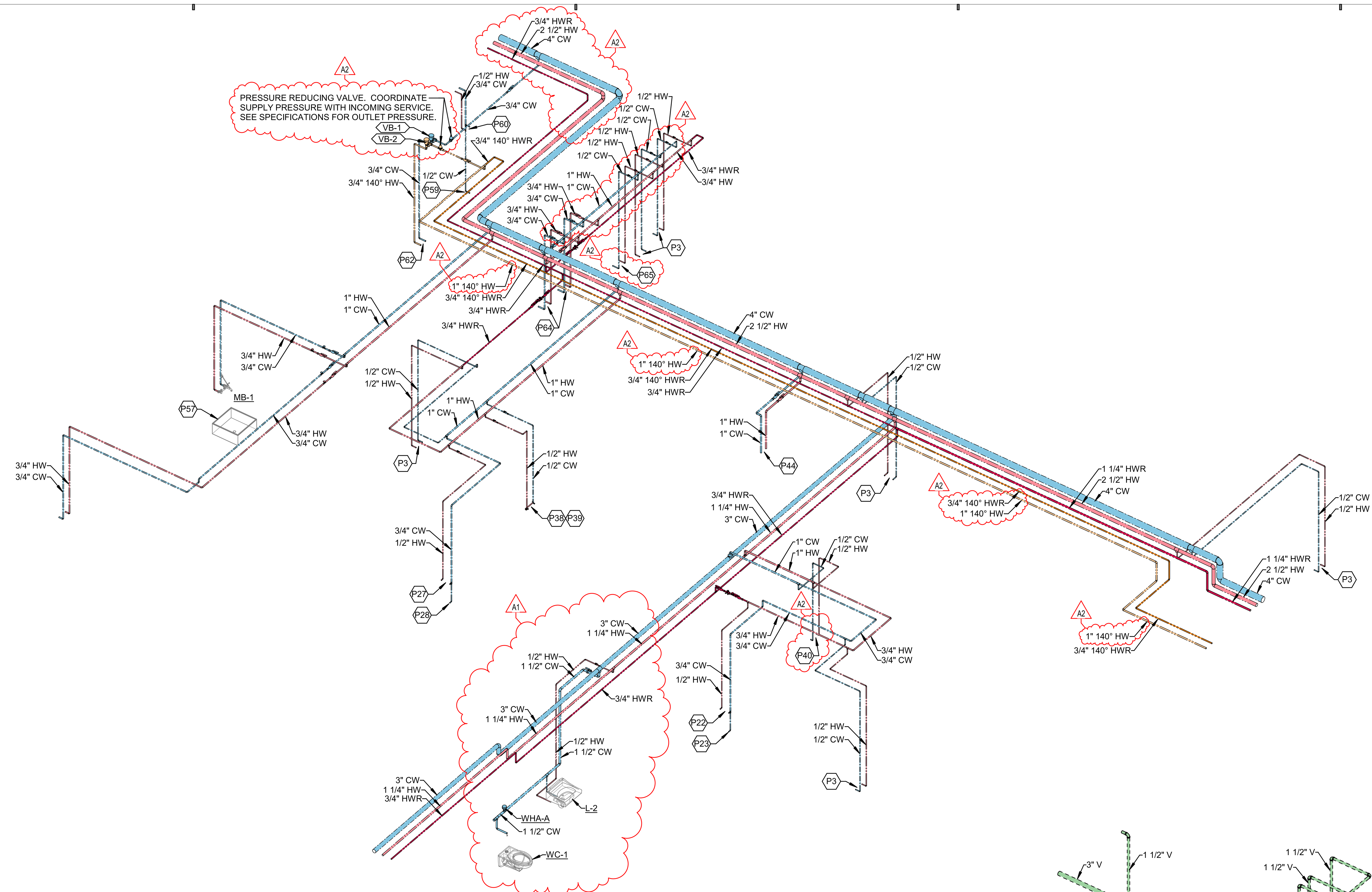
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

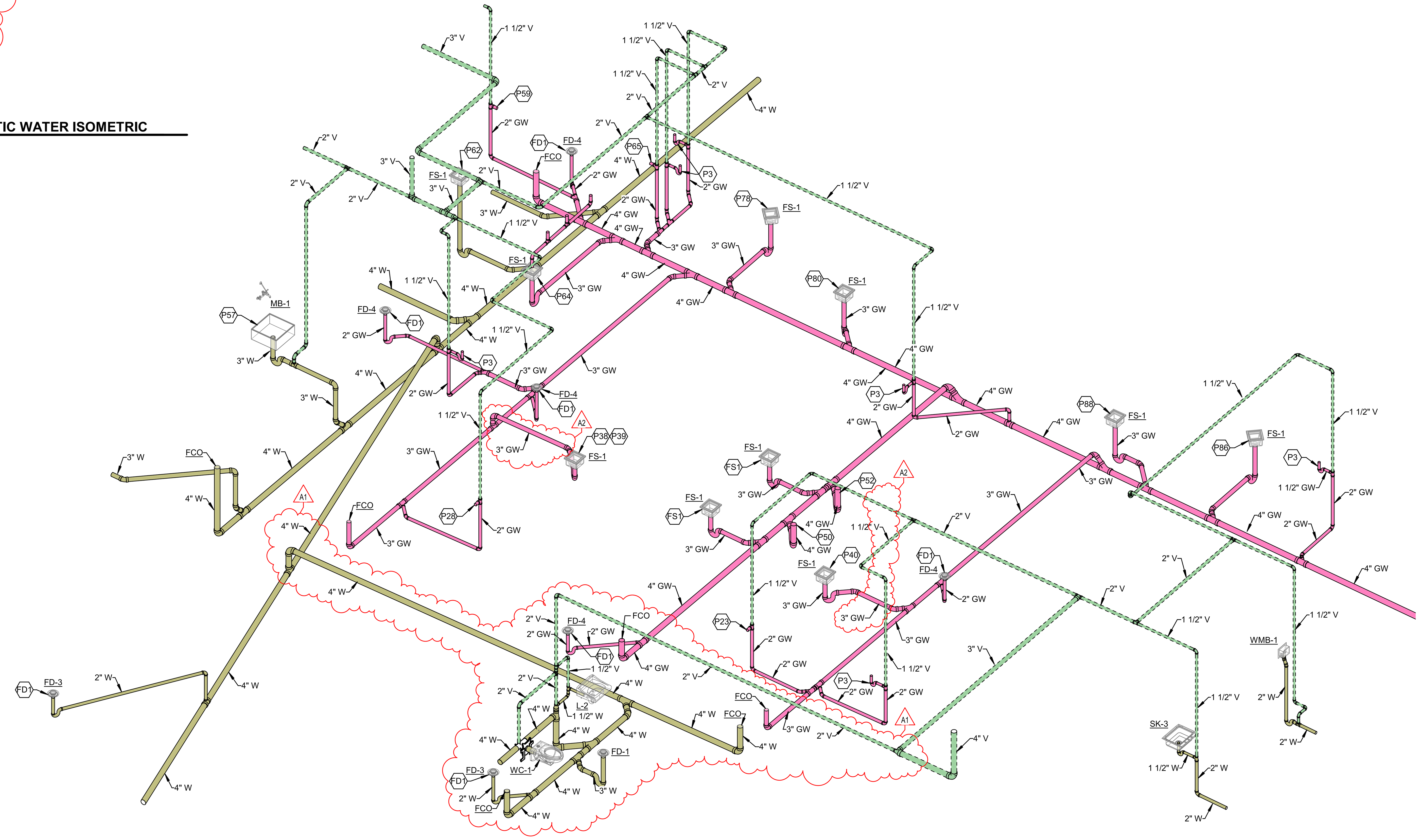
NEW ELEMENTARY SCHOOL

MECHANICAL ROOM ISOMETRIC

P-905



4D KITCHEN DOMESTIC WATER ISOMETRIC
NOT TO SCALE



2A KITCHEN WASTE AND VENT ISOMETRIC
NOT TO SCALE

PLUMBING FIXTURE ROUGH-IN LEGEND

MARK	FIXTURE CONNECTION CW	HW	W	V
EWC-1	1/2"		1 1/2"	1 1/2"
EWC-2	3/4"		1 1/2"	1 1/2"
EWC-3	3/4"		1 1/2"	1 1/2"
EWC-4	1/2"		1 1/2"	1 1/2"
FD-1			3"	
FD-2			4"	
FD-3			2"	
FD-4			2"	
FS-1			4"	
SI-2				
L-1	1/2"	1/2"	1 1/2"	1 1/2"
L-2	1/2"	1/2"	1 1/2"	1 1/2"
L-3	1/2"	1/2"	1 1/2"	1 1/2"
L-4	1/2"	1/2"	1 1/2"	1 1/2"
HB-1	3/4"			
HB-2	3/4"			
IMB-1	1/2"			
NFWH-1	3/4"			
NFWH-2	3/4"	3/4"		
WMB-1	3/4"	3/4"	2"	1 1/2"
OFD-1			4"	
OFD-2			6"	
OFD-3			8"	
RD-1			4"	
RD-2			6"	
RD-3			8"	
MB-1	3/4"	3/4"	3"	1 1/2"
SK-1	1/2"	1/2"	1 1/2"	1 1/2"
SK-2	1/2"	1/2"	1 1/2"	1 1/2"
SK-3	1/2"	1/2"	1 1/2"	1 1/2"
SK-4	1/2"	1/2"	1 1/2"	1 1/2"
SK-5	1/2"	1/2"	1 1/2"	1 1/2"
UR-1	3/4"		2"	1 1/2"
WC-1	1"		4"	2"
WC-2	1"		4"	2"

A2 — XX NOTE REFERENCES KITCHEN DRAWINGS. SEE K-SERIES DRAWINGS FOR INFORMATION

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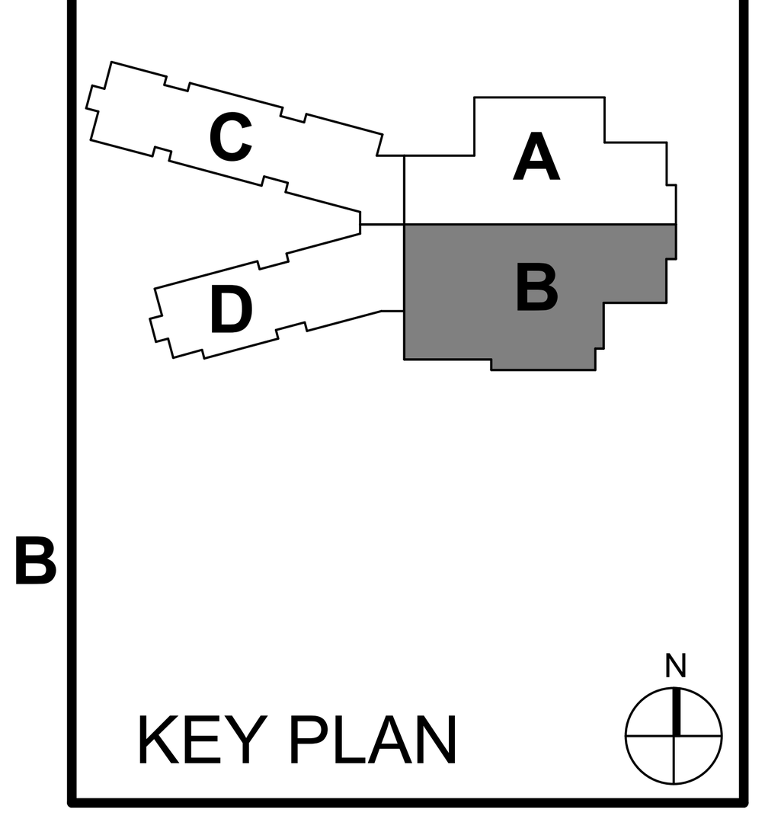
SARAH KATHLEEN HEMPSTEAD — REGISTERED ARCHITECT — NO. AR10400134 — STATE OF INDIANA

#	Revision	Date
A1	ADDENDUM #1	05.31.2022
A2	ADDENDUM #2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

KITCHEN ISOMETRICS - UNIT B

P-913

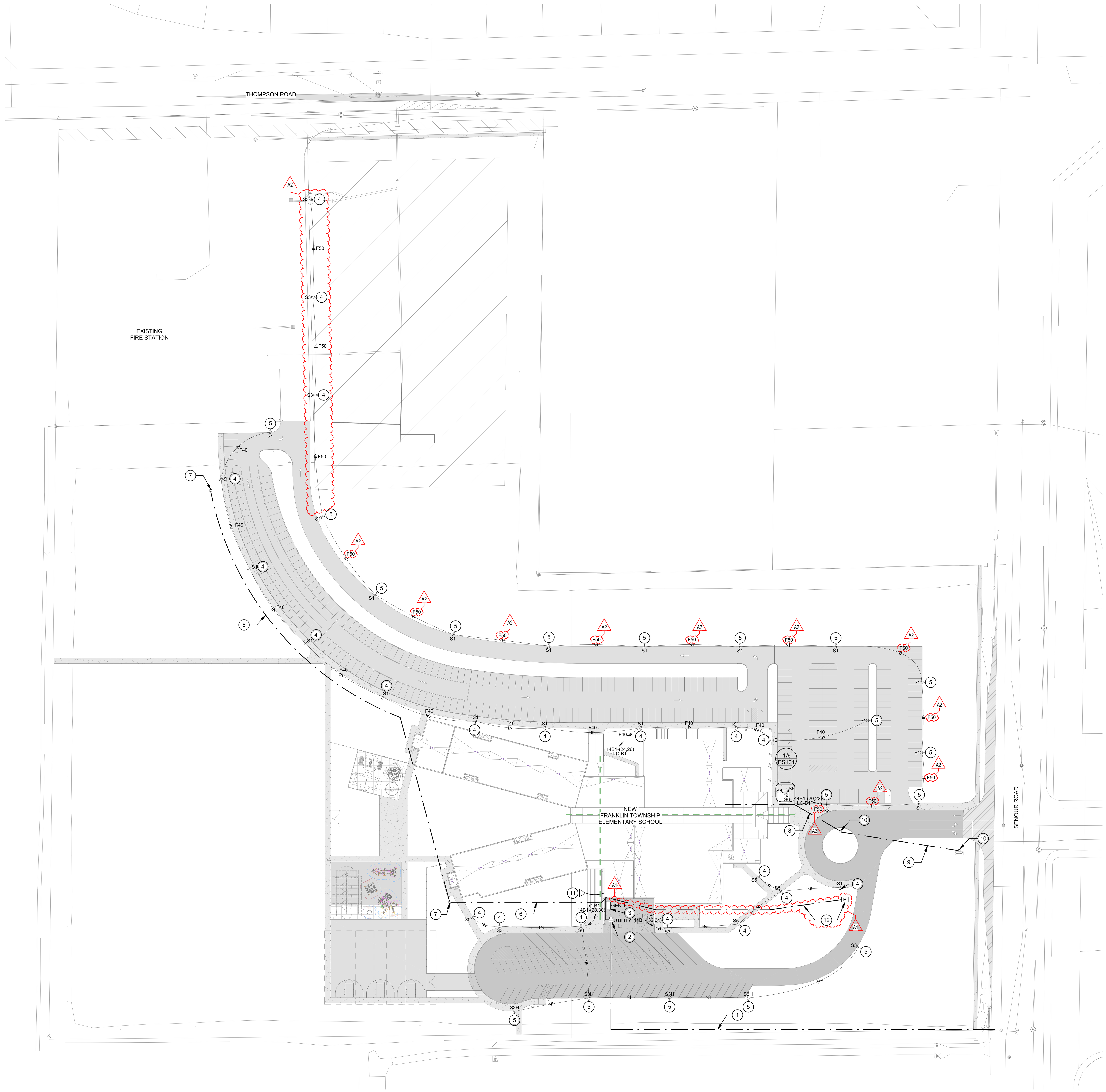
LOCAL UTILITY CONTACT INFORMATION
- AUSTIN McMILLAN
- austin.mcmillan@aes.com
- 317-261-8006
- AES INDIANA

GENERAL SITE NOTES

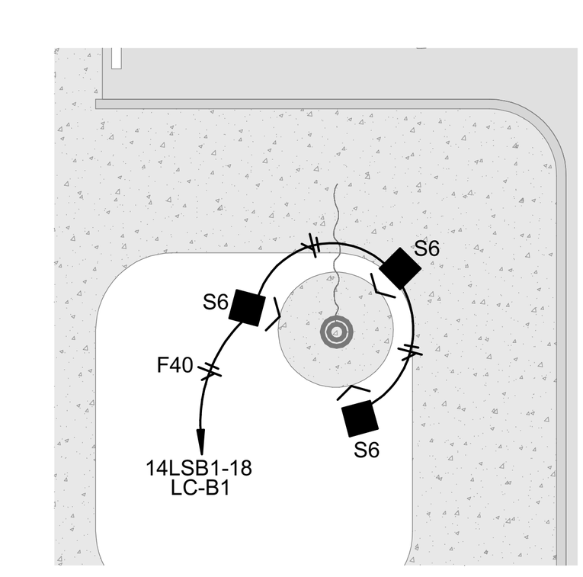
#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

SITE PLAN NOTES

#	NOTES
1	PRIMARY UNDERGROUND FEEDER BY AES INDIANA TO UTILITY TRANSFORMER BY AES INDIANA. ROUTING SHOWN IS DIAGRAMMATIC. COORDINATE FINAL ROUTING WITH SITE CONDITIONS.
2	UTILITY TRANSFORMER AND PAD BY AES INDIANA. PROVIDE SECONDARY FEEDER BETWEEN TRANSFORMER AND MAIN SWITCHBOARD IN BUILDING. COORDINATE LOCATION OF SECONDARY WITH AES INDIANA.
3	EMERGENCY BACK-UP GENERATOR AND PAD BY DIVISION 26. REFER TO ONE-LINE DIAGRAM AND POWER PLAN THIS AREA.
4	PROVIDE POLE BASE FOR FIXTURE 6" ABOVE FINISHED GRADE. REFER TO E-500 SERIES DRAWINGS FOR DETAIL.
5	PROVIDE POLE BASE FOR FIXTURE 42" ABOVE FINISHED GRADE. REFER TO E-500 SERIES DRAWINGS FOR DETAIL.
6	PROVIDE 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
7	IN-GROUND QUAZITE BOX. STUB-UP UP CONDUIT AND PULL STRING FROM MAIN ELECTRICAL ROOM INSIDE QUAZITE BOX AND CAP CONDUIT BELOW GRADE.
8	PROVIDE 2 1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX IN ISLAND OF TRAFFIC CIRCLE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
9	PROVIDE 2 1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX ON SOUTH SIDE OF SENOUR ROAD ENTRANCE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
10	IN-GROUND QUAZITE BOX. STUB-UP UP CONDUIT AND PULL STRING FROM UNIT A STORAGE ROOM INSIDE QUAZITE BOX AND CAP CONDUIT BELOW GRADE.
11	GROUNDING TRIANGLE. REFER TO GROUNDING DETAILS ON E-500 LEVEL SHEETS FOR DETAILS.
12	INSTALL (1) 1" PVC CONDUIT FOR FIRE ALARM SYSTEM CONNECTION TO POST INDICATOR VALVE (PIV). LOCATE MONITORING MODULE IN MAIN ELECTRICAL ROOM B124. INSTALL WIRING FROM PIV TO MODULE. COORDINATE PIV LOCATION WITH C-SERIES DRAWINGS.



2A SITE PLAN
1" = 60'-0"



1A SITE PLAN - FLAG POLE LIGHTING DETAIL
1" = 10'-0"

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Project Date 05.11.2022
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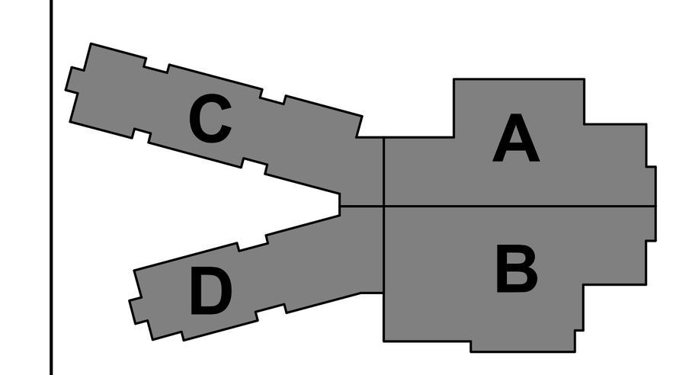
SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SITE PLAN

ES101

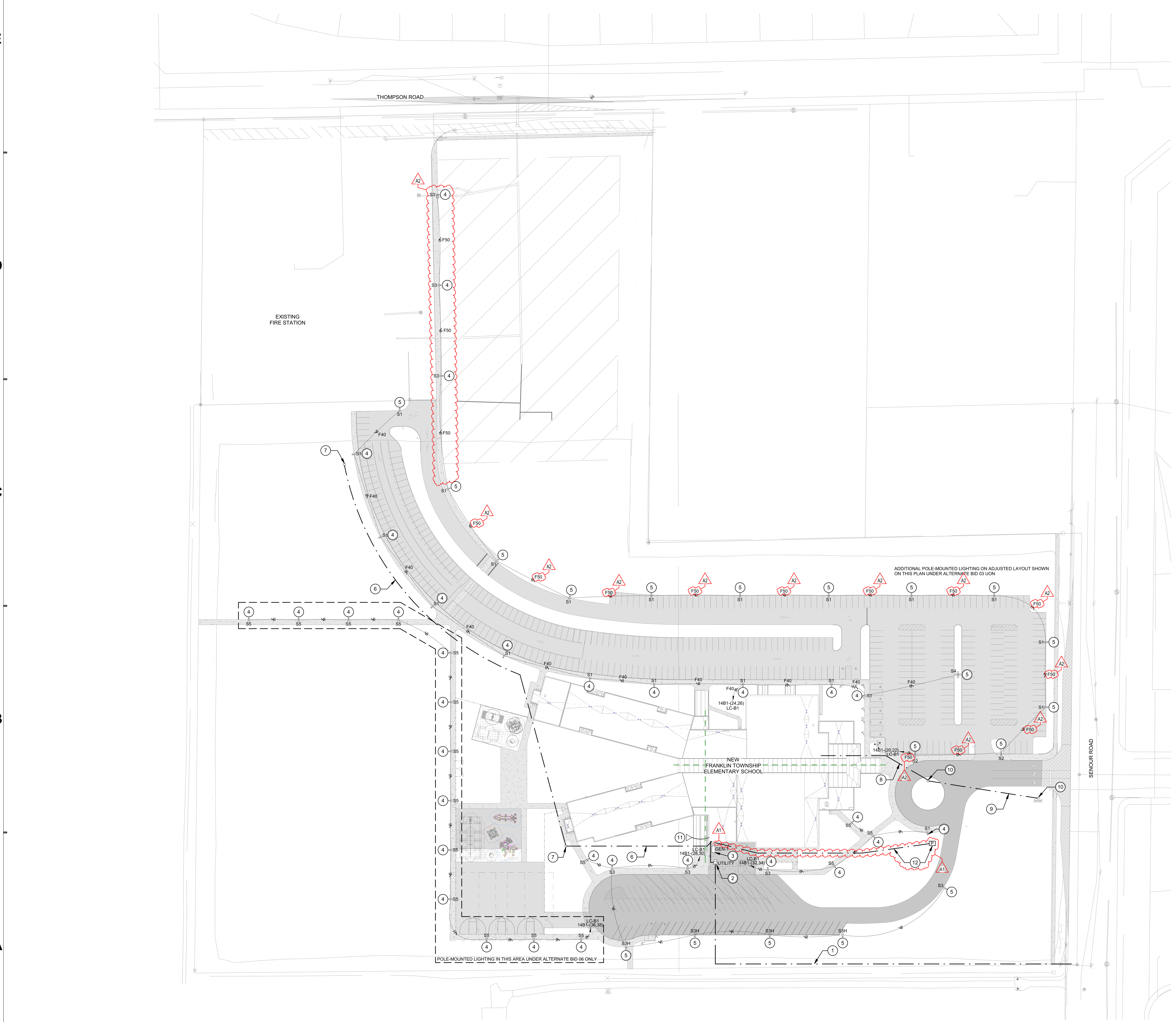
LOCAL UTILITY CONTACT INFORMATION
- AUSTIN McMILLAN
- austin.mcmillan@aes.com
- 317-261-8006
- AES INDIANA

GENERAL SITE NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.
B	REFER TO LOCAL UTILITIES GUIDE FOR DETAILS AND REQUIREMENTS. INCLUDING, BUT NOT LIMITED TO, SERVICE REQUIREMENTS FOR UNDERGROUND PRIMARY, PROTECTIVE POLES FOR PAD-MOUNTED EQUIPMENT, UTILITY TRANSFORMER CONCRETE PAD DETAIL, ETC. INCLUDE ALL UTILITY FEES REQUIRED IN BID.

SITE PLAN NOTES

#	NOTES
1	PRIMARY UNDERGROUND FEEDER BY AES INDIANA TO UTILITY TRANSFORMER BY AES INDIANA. ROUTING SHOWN IS DIAGRAMMATIC. COORDINATE FINAL ROUTING WITH SITE CONDITIONS.
2	UTILITY TRANSFORMER AND PAD BY AES INDIANA. PROVIDE SECONDARY FEEDER BETWEEN TRANSFORMER AND MAIN SWITCHBOARD IN BUILDING. COORDINATE LOCATION OF SECONDARY WITH AES INDIANA.
3	EMERGENCY BACK-UP GENERATOR AND PAD BY DIVISION 26. REFER TO ONE-LINE DIAGRAM AND POWER PLAN THIS AREA.
4	PROVIDE POLE BASE FOR FIXTURE 6" ABOVE FINISHED GRADE. REFER TO E-500 SERIES DRAWINGS FOR DETAIL.
5	PROVIDE POLE BASE FOR FIXTURE 42" ABOVE FINISHED GRADE. REFER TO E-500 SERIES DRAWINGS FOR DETAIL.
6	PROVIDE 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
7	IN-GROUND QUAZITE BOX. STUB-UP UP CONDUIT AND PULL STRING FROM MAIN ELECTRICAL ROOM INSIDE QUAZITE BOX AND CAP CONDUIT BELOW GRADE.
8	PROVIDE 2 1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX IN ISLAND OF TRAFFIC CIRCLE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
9	PROVIDE 2 1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX ON SOUTH SIDE OF SENOUR ROAD ENTRANCE FOR FUTURE POWER NEEDS. REFER TO POWER PLANS.
10	IN-GROUND QUAZITE BOX. STUB-UP UP CONDUIT AND PULL STRING FROM UNIT A STORAGE ROOM INSIDE QUAZITE BOX AND CAP CONDUIT BELOW GRADE.
11	GROUNDING TRIANGLE. REFER TO GROUNDING DETAILS ON E-500 LEVEL SHEETS FOR DETAILS.
12	INSTALL (1) 1" PVC CONDUIT FOR FIRE ALARM SYSTEM CONNECTION TO POST INDICATOR VALVE (PIV). LOCATE MONITORING MODULE IN MAIN ELECTRICAL ROOM B124. INSTALL WIRING FROM PIV TO MODULE. COORDINATE PIV LOCATION WITH C-SERIES DRAWINGS.



2A SITE PLAN ALTERNATE
1" = 60'-0"

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SARAH KATHLEEN HEMPSTEAD REGISTERED No. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
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10559 E. THOMPSON RD
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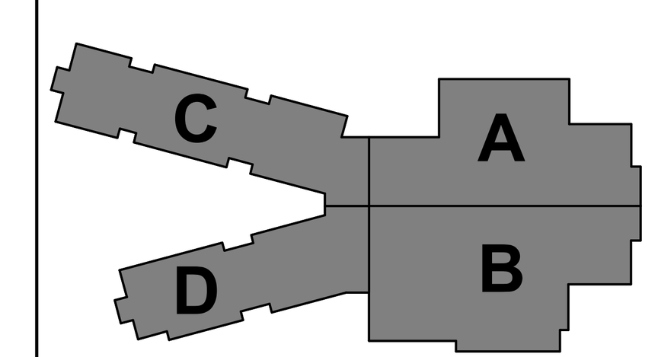


KEY PLAN

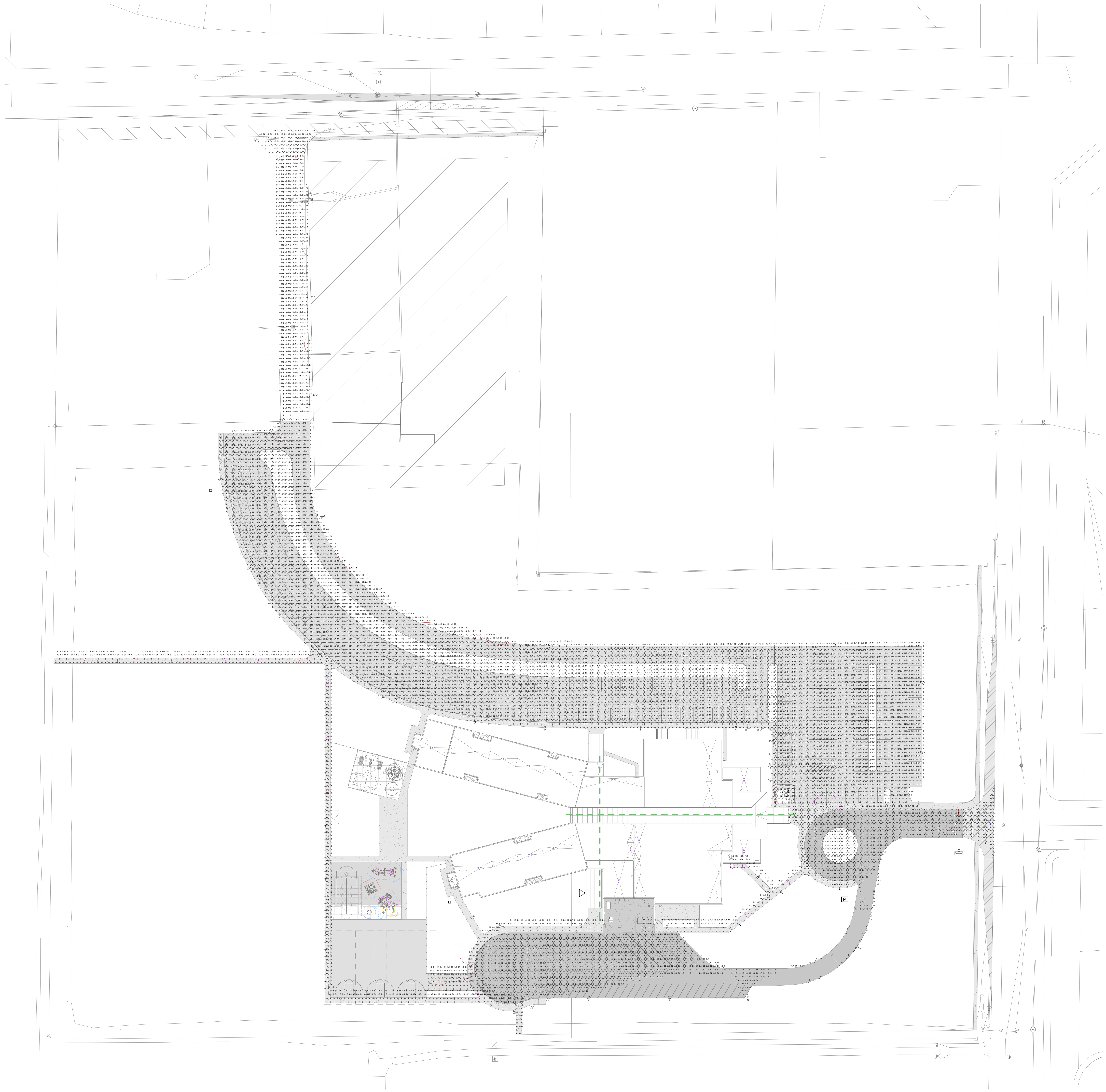
FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SITE PLAN ALTERNATE

ES102



2A SITE PLAN PHOTOMETRICS
1" = 60'-0"

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SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

Sarah K. Hempstead

#	Revision	Date
A2	Addendum #2	06.09.2022

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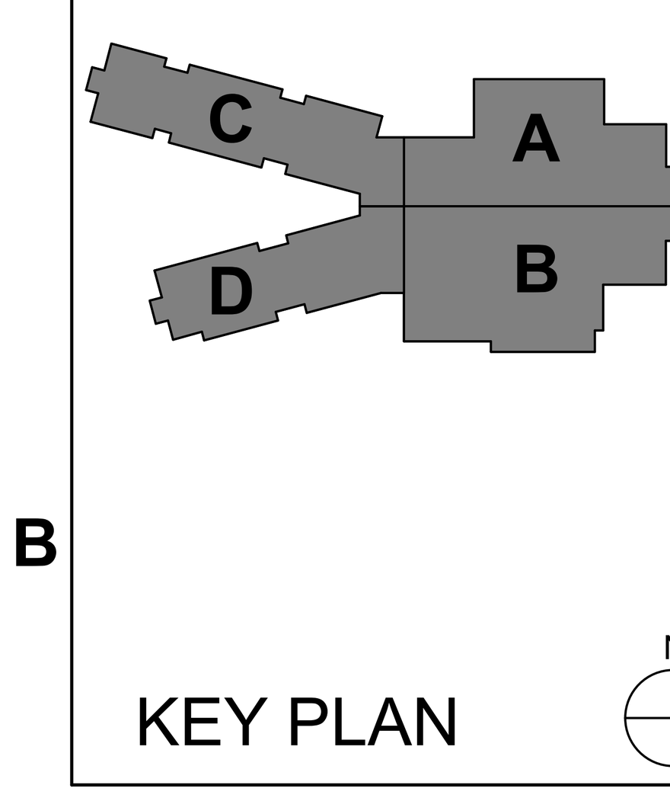


KEY PLAN

FRANKLIN
TOWNSHIP CSC

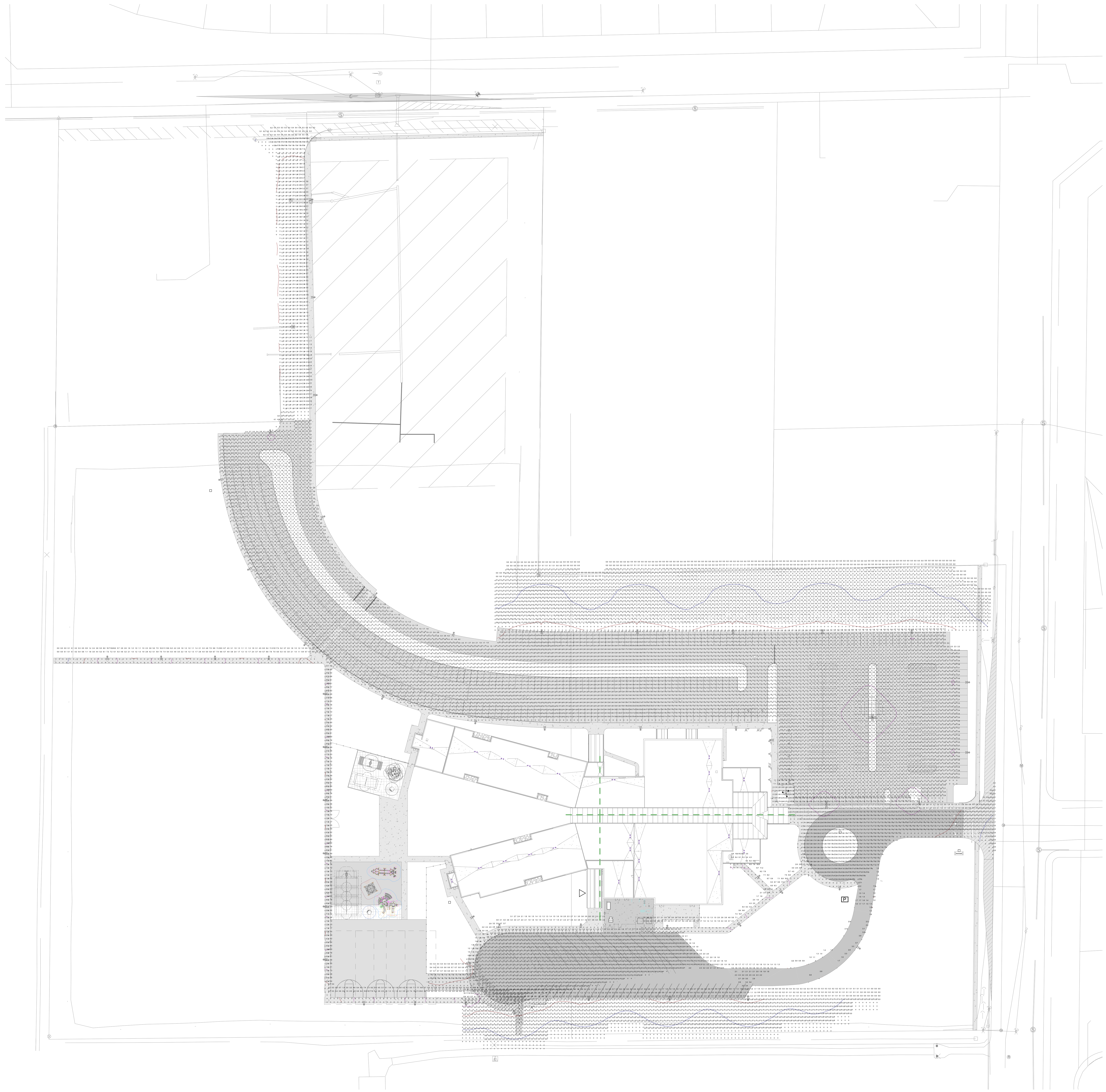
Franklin Township Community School Corporation

NEW ELEMENTARY
SCHOOL

SITE PLAN
PHOTOMETRICS

ES103

6 5 4 3 2 1



2A SITE PLAN ALTERNATE PHOTOMETRICS
1" = 60'-0"

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NO. AR10400134
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ARCHITECT

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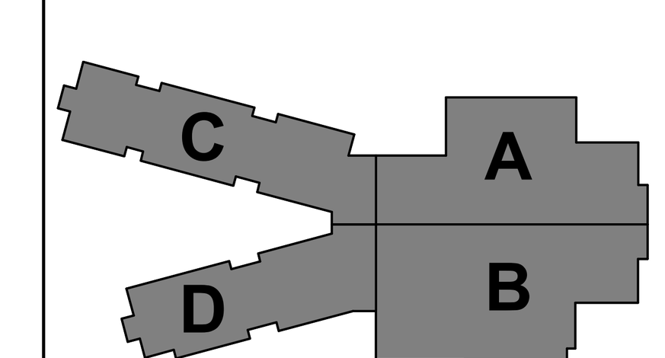


KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SITE PLAN ALTERNATE PHOTOMETRICS

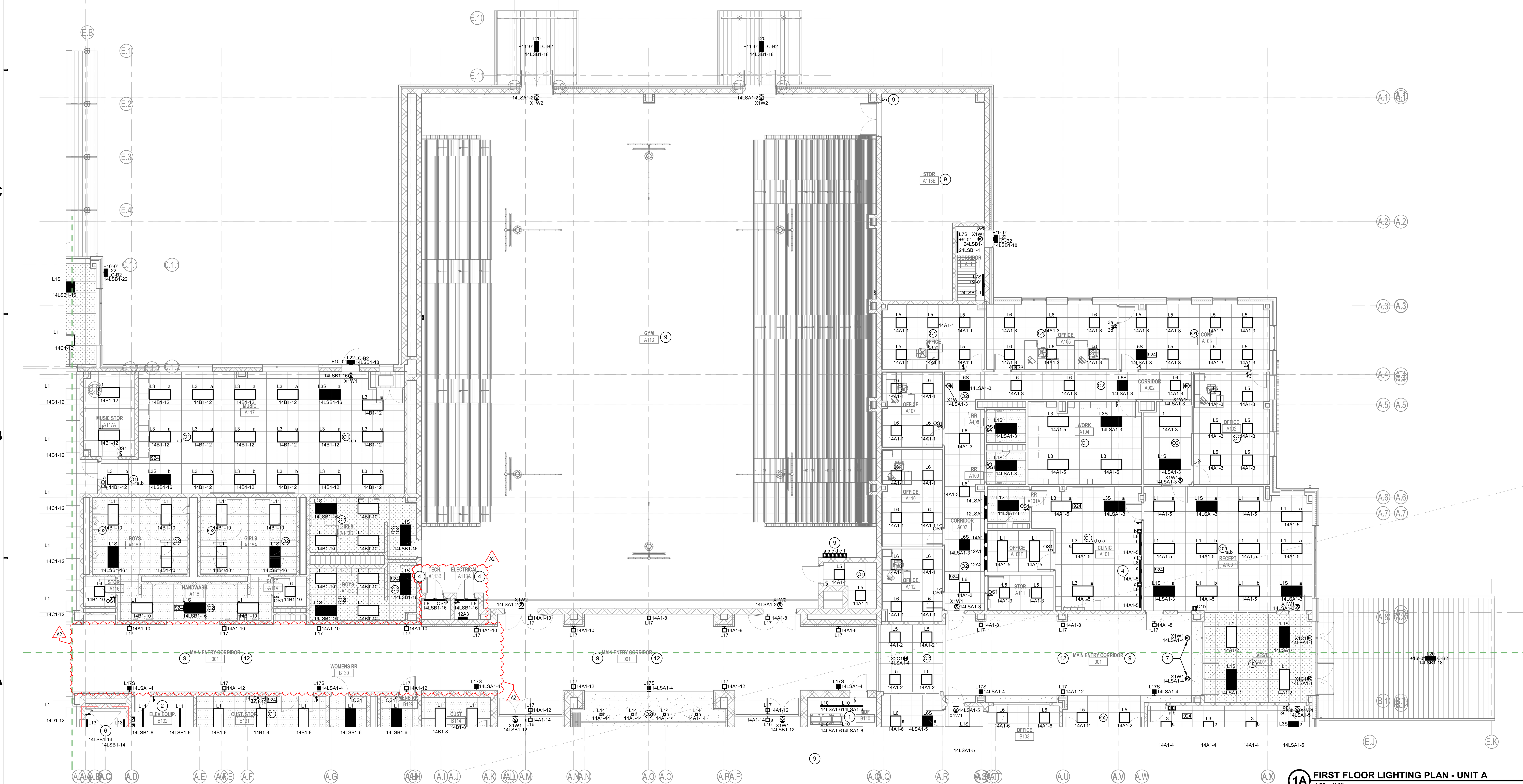
ES104

GENERAL LIGHTING NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

LIGHTING PLAN NOTES

#	NOTES
1	INSTALL SUSPENDED FIXTURES +9'-0" A.F.F. TO BOTTOM OF FIXTURE IN THIS SPACE UON.
2	INSTALL SUSPENDED FIXTURES +10'-0" A.F.F. TO BOTTOM OF FIXTURE IN THIS SPACE UON.
3	INSTALL LIGHT FIXTURES WITH BOTTOM OF FIXTURE AT BOTTOM OF JOIST, FOLLOWING SLOPE OF JOIST.
4	INSTALL WALL-MOUNTED FIXTURES +7'-0" A.F.F. TO C.L. OF FIXTURE IN THIS SPACE UON.
5	INSTALL FIXTURE CENTERED VERTICALLY ON MULLION APPROXIMATELY AT +11'-1" TO C.L. ROUTE MC CABLE THROUGH THE MULLIONS TO THE FIXTURE.
6	PROVIDE LIGHT FIXTURES IN ELEVATOR PIT. COORDINATE LOCATIONS WITH ELEVATOR MANUFACTURER. LOCATE LIGHT SWITCH IN ELEVATOR HOISTWAY ADJACENT TO LADDER ON FIRST FLOOR.
7	INSTALL WALL-MOUNTED FIXTURE +10'-0" A.F.F. TO C.L. OF FIXTURE.
8	INSTALL FIXTURE UNDER STAIR LANDING.
9	REFER TO SECOND FLOOR LIGHTING PLAN IN THIS SPACE FOR CEILING LIGHT FIXTURES AND/OR OCCUPANCY SENSORS IN THIS SPACE.
10	REFER TO FIRST FLOOR LIGHTING PLAN IN THIS SPACE FOR WALL MOUNTED CONTROLS FOR LIGHTING IN THIS SPACE.
11	REFER TO FIRST FLOOR LIGHTING PLAN IN THIS SPACE FOR WALL MOUNTED LIGHT FIXTURES CONTROLLED BY HIGH BAY OCCUPANCY SENSORS SHOWN IN THIS SPACE.
12	INSTALL WALL-MOUNTED FIXTURES +14'-6" A.F.F. TO C.L. OF FIXTURE IN THIS SPACE UON, EXCLUDING EXIT SIGNS.



1A FIRST FLOOR LIGHTING PLAN - UNIT A
1/8" = 1'-0"

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10559 E. THOMPSON RD
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KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR LIGHTING PLAN - UNIT A

EL1A1

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION WITH MANUFACTURER PRIOR TO INSTALLATION. CIRCUIT PROTECTED BY GFCI BREAKER.
2	RECEPTACLE FOR REFRIGERATOR AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
3	RECEPTACLE FOR MICROWAVE OVEN. COORDINATE LOCATION WITH A-SERIES AND I-SERIES DRAWINGS.
4	RECEPTACLE FOR COPIER AT +36" A.F.F. TO C.L.
5	NEMA 6-20 RECEPTACLE FOR COPIER AT +36" A.F.F. TO C.L.
6	RECEPTACLE FOR VENDING MACHINE AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
7	RECEPTACLE FOR PROJECTOR LOCATED ON CEILING. COORDINATE LOCATION WITH T-SERIES DRAWINGS.
8	MANUFACTURER FURNISHED CONTROL SWITCH INSTALLED BY DIVISION 26. PROVIDE CIRCUIT. PROVIDE WIRING BETWEEN SWITCH AND PROJECTION SCREEN PER MANUFACTURER'S INSTRUCTIONS. REFER TO T-SERIES DRAWINGS FOR MORE INFORMATION.
9	RECEPTACLE FOR DISPLAY MONITOR ('TV'). COORDINATE LOCATION WITH T-SERIES DRAWINGS.
10	QUADRUPLEX RECEPTACLE FOR SOUND RACK. COORDINATE WITH T-SERIES DRAWINGS.
11	DISCONNECT SWITCH FOR BASKETBALL GOAL ELECTRIC HOIST. CONNECT COMPLETE TO HOIST RELAY BOX AND MOTOR. REFER TO DETAIL SHEET FOR ADDITIONAL INFORMATION. REFER TO FIRST FLOOR PLAN FOR LOCATION OF RELAY BOX.
12	CIRCUIT CONNECTION FOR ADA DOOR OPERATOR. PROVIDE ALL CONDUIT AND WIRING FOR CONNECTION OF PUSH PADS TO MOTOR. COORDINATE PUSH PAD LOCATIONS WITH A-SERIES DRAWINGS.
13	PROVIDE CIRCUIT AND CONNECT TO MANUFACTURER PROVIDED DISCONNECT SWITCH.
14	PROVIDE CIRCUIT CONNECTION TO BOILER PUMP FROM BOILER.
15	NEMA 14-30R FOR DRYER AT +36" A.F.F. TO C.L.
16	RECEPTACLE FOR WASHER AT +36" A.F.F. TO C.L.
17	RECEPTACLE FOR WATER SOFTENER. COORDINATE LOCATION WITH P-SERIES DRAWINGS.
18	PROVIDE FLOOR-TO-CEILING SUPPORTED UNISTRUT RACK FOR THE MOUNTING OF ELECTRICAL EQUIPMENT SUPPORTING MECHANICAL EQUIPMENT.
19	MAIN ELECTRICAL GROUNDING BAR. REFER TO GROUNDING AND BONDING SCHEMATIC FOR ADDITIONAL INFORMATION.
20	PROVIDE (1) 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
21	PROVIDE(1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX IN ISLAND OF TRAFFIC CIRCLE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
22	PROVIDE (1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX ON SOUTH SIDE OF SENOUR ROAD ENTRANCE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.

POWER PLAN NOTES

#	NOTES
23	BASKETBALL GOAL HOIST KEYPAD AND RELAY BOX FURNISHED BY MANUFACTURER, INSTALLED BY DIV. 26. PROVIDE 120V, 30A/ 1P BRANCH CIRCUIT TO BASKETBALL HOIST RELAY BOX. PROVIDE WIRING BETWEEN CONTROLLER, KEYPAD, AND HOIST MOTOR PER MANUFACTURER'S INSTRUCTIONS. REFER TO DETAIL SHEET FOR MORE INFORMATION. REFER TO 2ND FLOOR PLAN FOR BRANCH CIRCUIT INFORMATION ON EACH HOIST MOTOR.
24	RECEPTACLE AND CONTROLS OUTLET FOR SCOREBOARD. INSTALL CONTROL WIRING TO LOCATION INDICATED ON BLEACHERS. COORDINATE MOUNTING HEIGHT WITH A-SEIES AND MANUFACTURER RECOMMENDATION.
25	12"X12"X6" JUNCTION BOX FOR MOTORIZED BLEACHERS. INSTALL BOX AT 5'-0" A.F.F. TO C.L. INSTALL IN LOCATION AS RECOMMENDED BY BLEACHER MANUFACTURER. CONTACTORS AND CONTROLLERS ARE PROVIDED, INSTALLED AND WIRED BY THE MANUFACTURER. INSTALL (1) 3/4"C BETWEEN JUNCTION BOX AND ADJACENT DISCONNECT SWITCH. CONNECT COMPLETE.
26	INSTALL RECEPTACLE IN BOTTOM RISER OF BLEACHERS CONNECT TO FLEXIBLE CABLE FROM WALL OUTLET BOX. COORDINATE OPENING IN BLEACHER WITH MANUFACTURER.
27	INSTALL SCOREBOARD CONTROL OUTLET IN BOTTOM RISER OF BLEACHERS. CONNECT TO FLEXIBLE CABLE FROM WALL OUTLET BOX. COORDINATE OPENING IN BLEACHER WITH MANUFACTURER.
28	PROVIDE FLEXIBLE WIRING FROM OUTLET BOX ON WALL TO DEVICE LOCATED ON BLEACHERS.
29	DISCONNECT SWITCH FOR KILN. PROVIDE INTERLOCK WITH EXHAUST FAN. REFER TO DETAIL/ WIRING SCHEMATIC FOR ADDITIONAL INFORMATION. COORDINATE NEMA CONFIGURATION OF KILN RECEPTACLE WITH OWNER FURNISHED KILN.
30	PROVIDE 120V POWER FOR GAS FIRED WATER HEATER.
31	MOUNT NEMA 6-30 RECEPTACLE ON TELECOM RACK AT +18" A.F.F. TO C.L.
32	QUAD RECEPTACLE FOR ACCESS CONTROL PANELS AT +48" A.F.F. TO C.L.
33	DISCONNECT SWITCH FOR SPLIT SYSTEM FAN COIL UNIT. REFER TO ROOF PLANS FOR LOCATION OF CORRESPONDING CONDENSING UNIT.
34	RECEPTACLE FOR CHARGING CART AT +18" A.F.F. TO C.L.
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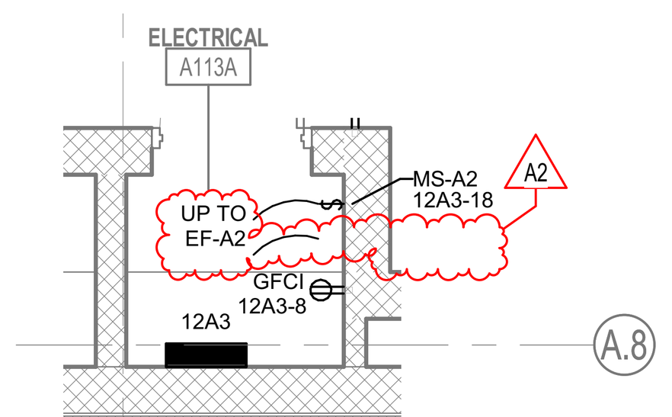
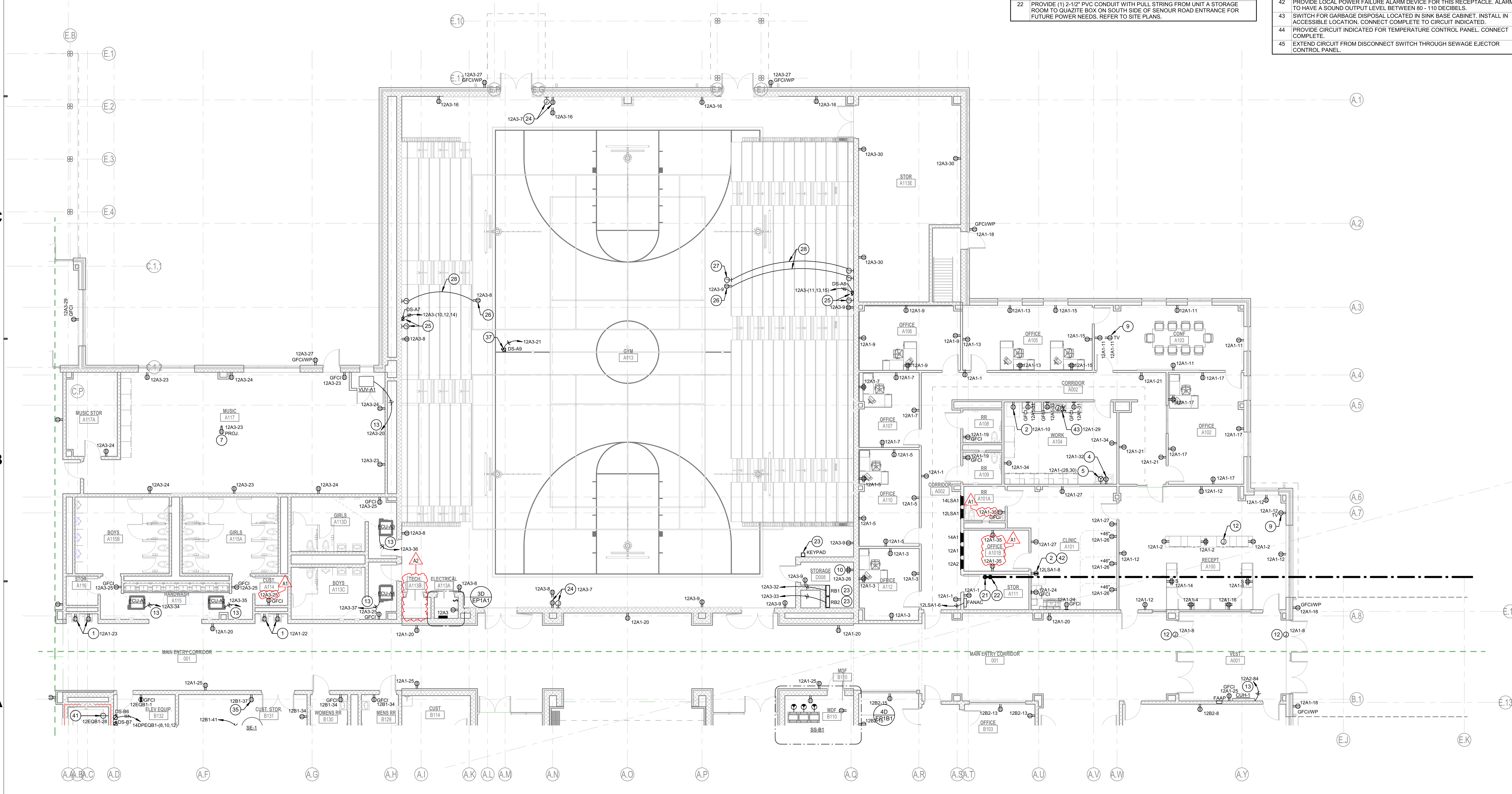
36	RECEPTACLE FOR DRYER DUCT BOOSTER FAN. LOCATE RECEPTACLE ADJACENT TO FAN. COORDINATE LOCATION WITH M-SERIES DRAWINGS.
37	PROVIDE POWER FOR DIVIDER CURTAIN. COORDINATE LOCATION WITH A-SERIES DRAWINGS. REFER TO DETAIL SHEET.
38	PROVIDE POWER TO BLOCK HEATER AND BATTERY CHARGER WITHIN GENERATOR ENCLOSURE. REFER TO ONELINE FOR MORE INFORMATION.
39	PROVIDE EMERGENCY OFF PUSHBUTTON. REFER TO GENERATOR SPECIFICATION FOR MORE INFORMATION.
40	PROVIDE CEILING MOUNTED TWIST LOCK RECEPTACLE (NEMA L5-20) WITH COMPATIBLE CORD AND PLUG SUSPENDED FROM LOCKING RECEPTACLE DOWN TO QUAD RECEPTACLE. REFER TO E-500 LEVEL SHEETS FOR DETAIL.
41	PROVIDE SIMPLEX RECEPTACLE FOR FUTURE SUMP PUMP.
42	PROVIDE LOCAL POWER FAILURE ALARM DEVICE FOR THIS RECEPTACLE. ALARM TO HAVE A SOUND OUTPUT LEVEL BETWEEN 80 - 110 DECIBELS.
43	SWITCH FOR GARBAGE DISPOSAL LOCATED IN SINK BASE CABINET. INSTALL IN ACCESSIBLE LOCATION. CONNECT COMPLETE TO CIRCUIT INDICATED.
44	PROVIDE CIRCUIT INDICATED FOR TEMPERATURE CONTROL PANEL. CONNECT COMPLETE.
45	EXTEND CIRCUIT FROM DISCONNECT SWITCH THROUGH SEWAGE EJECTOR CONTROL PANEL.



3D ENLARGED POWER PLAN - A113A ELEC
1/4" = 1'-0"



1A FIRST FLOOR POWER PLAN - UNIT A
1/8" = 1'-0"

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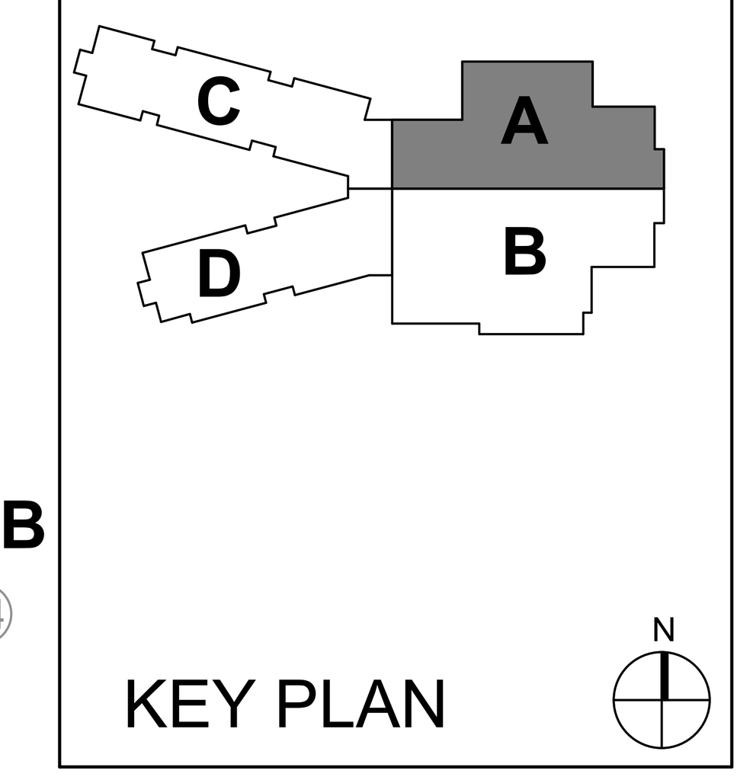
Project No. 2021-141.NES
Project Date 05.11.2022
Produced BLM

SARAH KATHLEEN HEMPSTEAD
REGISTERED ARCHITECT
NO. AR10400134
STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR POWER PLAN - UNIT A

EP1A1

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION WITH MANUFACTURER PRIOR TO INSTALLATION. CIRCUIT PROTECTED BY GFCI BREAKER.
2	RECEPTACLE FOR REFRIGERATOR AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
3	RECEPTACLE FOR MICROWAVE OVEN. COORDINATE LOCATION WITH A-SERIES AND I-SERIES DRAWINGS.
4	RECEPTACLE FOR COPIER AT +36" A.F.F. TO C.L.
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6	RECEPTACLE FOR VENDING MACHINE AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
7	RECEPTACLE FOR PROJECTOR LOCATED ON CEILING. COORDINATE LOCATION WITH T-SERIES DRAWINGS.
8	MANUFACTURER FURNISHED CONTROL SWITCH INSTALLED BY DIVISION 26. PROVIDE CIRCUIT. PROVIDE WIRING BETWEEN SWITCH AND PROJECTION SCREEN PER MANUFACTURER'S INSTRUCTIONS. REFER TO T-SERIES DRAWINGS FOR MORE INFORMATION.
9	RECEPTACLE FOR DISPLAY MONITOR ('TV'). COORDINATE LOCATION WITH T-SERIES DRAWINGS.
10	QUADRUPLEX RECEPTACLE FOR SOUND RACK. COORDINATE WITH T-SERIES DRAWINGS.
11	DISCONNECT SWITCH FOR BASKETBALL GOAL ELECTRIC HOIST. CONNECT COMPLETE TO HOIST RELAY BOX AND MOTOR. REFER TO DETAIL SHEET FOR ADDITIONAL INFORMATION. REFER TO FIRST FLOOR PLAN FOR LOCATION OF RELAY BOX.
12	CIRCUIT CONNECTION FOR ADA DOOR OPERATOR. PROVIDE ALL CONDUIT AND WIRING FOR CONNECTION OF PUSH PADS TO MOTOR. COORDINATE PUSH PAD LOCATIONS WITH A-SERIES DRAWINGS.
13	PROVIDE CIRCUIT AND CONNECT TO MANUFACTURER PROVIDED DISCONNECT SWITCH.
14	PROVIDE CIRCUIT CONNECTION TO BOILER PUMP FROM BOILER.
15	NEMA 14-30R FOR DRYER AT +36" A.F.F. TO C.L.
16	RECEPTACLE FOR WASHER AT +36" A.F.F. TO C.L.
17	RECEPTACLE FOR WATER SOFTENER. COORDINATE LOCATION WITH P-SERIES DRAWINGS.
18	PROVIDE FLOOR-TO-CEILING SUPPORTED UNISTRUT RACK FOR THE MOUNTING OF ELECTRICAL EQUIPMENT SUPPORTING MECHANICAL EQUIPMENT.
19	MAIN ELECTRICAL GROUNDING BAR. REFER TO GROUNDING AND BONDING SCHEMATIC FOR ADDITIONAL INFORMATION.
20	PROVIDE (1) 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
21	PROVIDE(1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX IN ISLAND OF TRAFFIC CIRCLE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
22	PROVIDE (1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX ON SOUTH SIDE OF SENOUR ROAD ENTRANCE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.

POWER PLAN NOTES

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23	BASKETBALL GOAL HOIST KEYPAD AND RELAY BOX FURNISHED BY MANUFACTURER, INSTALLED BY DIV. 26. PROVIDE 120V, 30A/ 1P BRANCH CIRCUIT TO BASKETBALL HOIST RELAY BOX. PROVIDE WIRING BETWEEN CONTROLLER, KEYPAD, AND HOIST MOTOR PER MANUFACTURER'S INSTRUCTIONS. REFER TO DETAIL SHEET FOR MORE INFORMATION. REFER TO 2ND FLOOR PLAN FOR BRANCH CIRCUIT INFORMATION ON EACH HOIST MOTOR.
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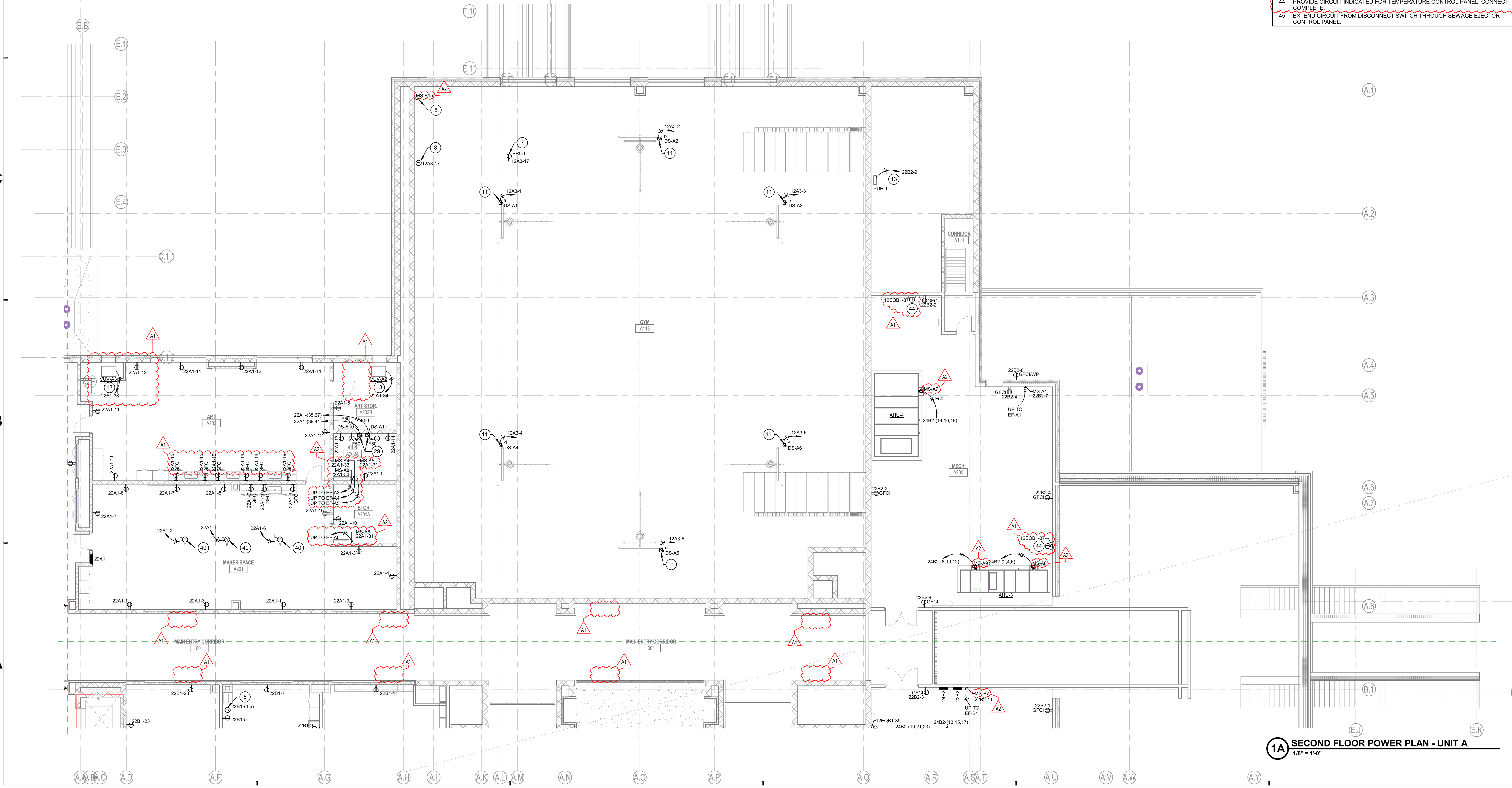
45	EXTEND CIRCUIT FROM DISCONNECT SWITCH THROUGH SEWAGE EJECTOR CONTROL PANEL.

A1



1A SECOND FLOOR POWER PLAN - UNIT A
1/8" = 1'-0"

SCHMIDT
ASSOCIATES
415 Massachusetts Avenue
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Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR POWER PLAN - UNIT A

EP1A2

6 5 4 3 2 1

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
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POWER PLAN NOTES

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20	PROVIDE (1) 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
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22	PROVIDE (1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX ON SOUTH SIDE OF SENOUR ROAD ENTRANCE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
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POWER PLAN NOTES

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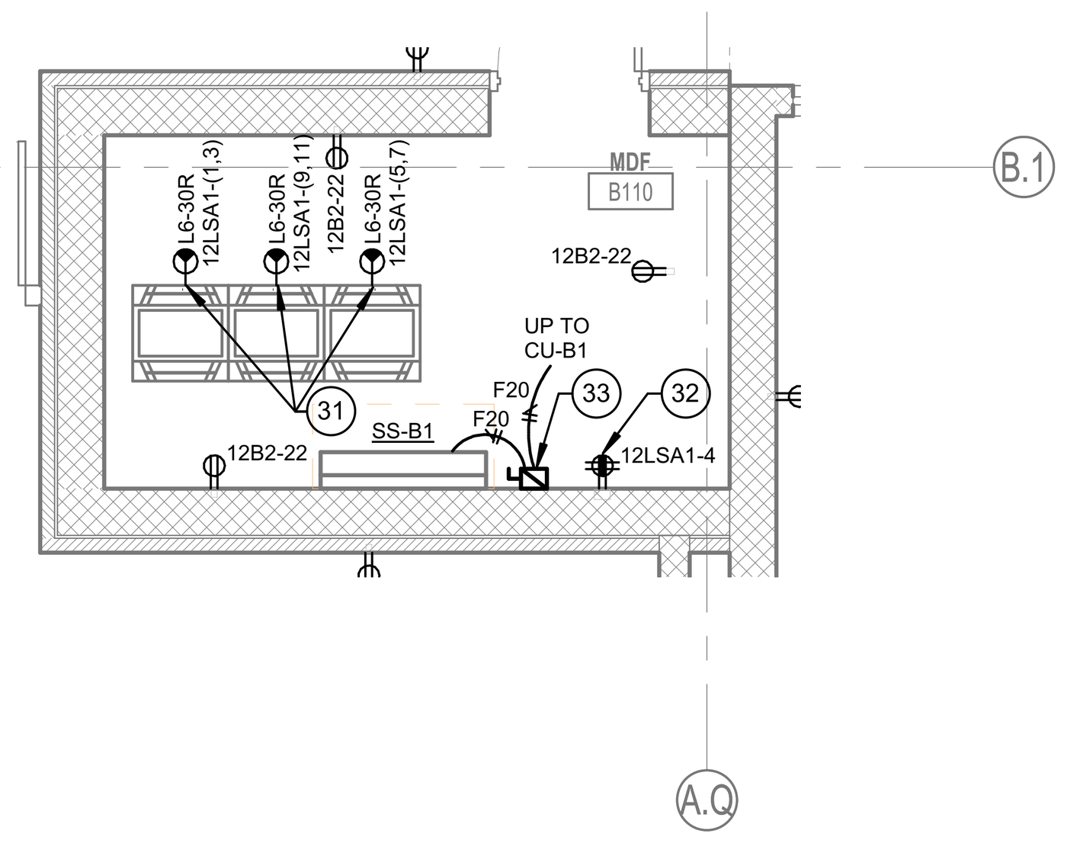
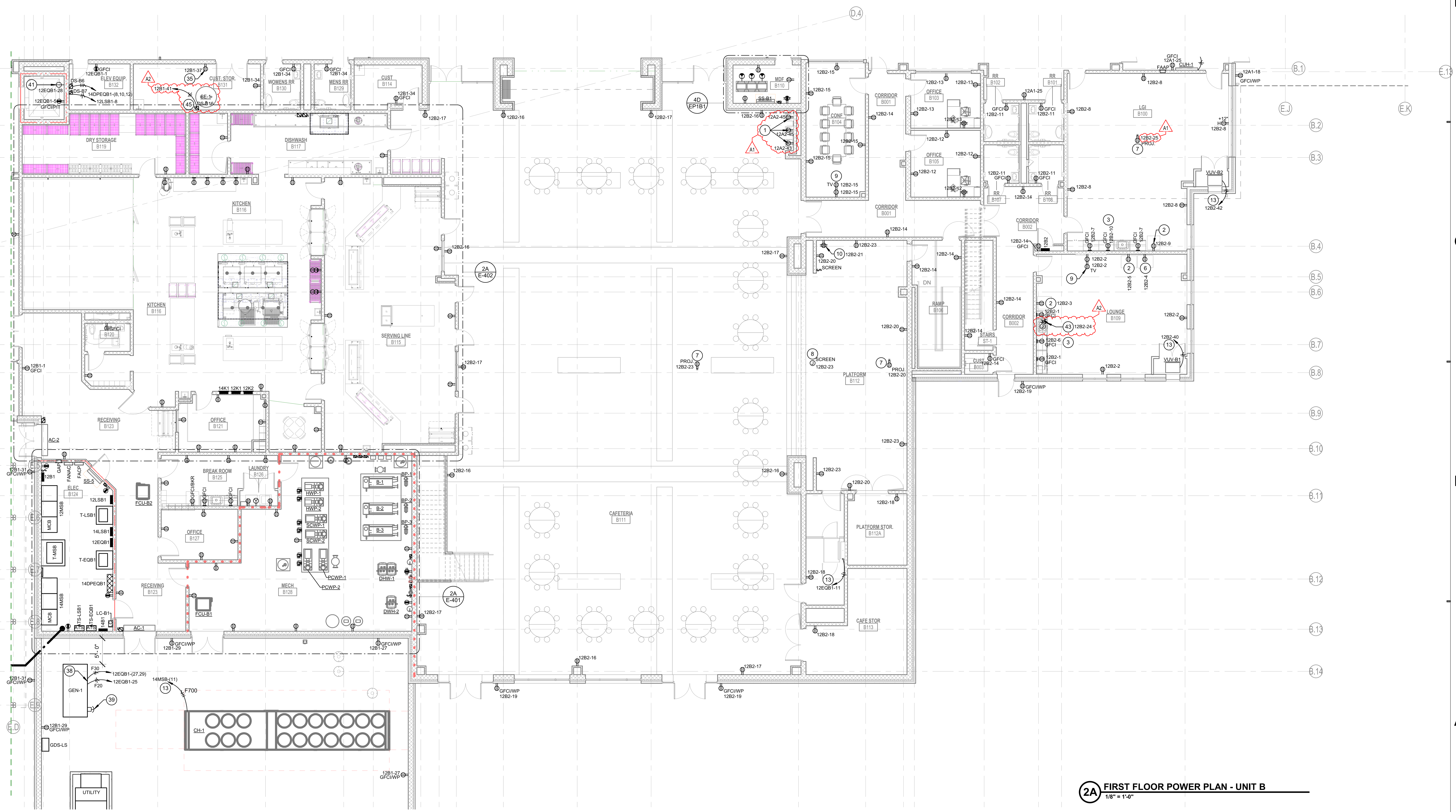
45	EXTEND CIRCUIT FROM DISCONNECT SWITCH THROUGH SEWAGE EJECTOR CONTROL PANEL.

A2



4D ENLARGED POWER PLAN - MDF B110

1/4" = 1'-0"



2A FIRST FLOOR POWER PLAN - UNIT B

1/8" = 1'-0"

SCHMIDT ASSOCIATES

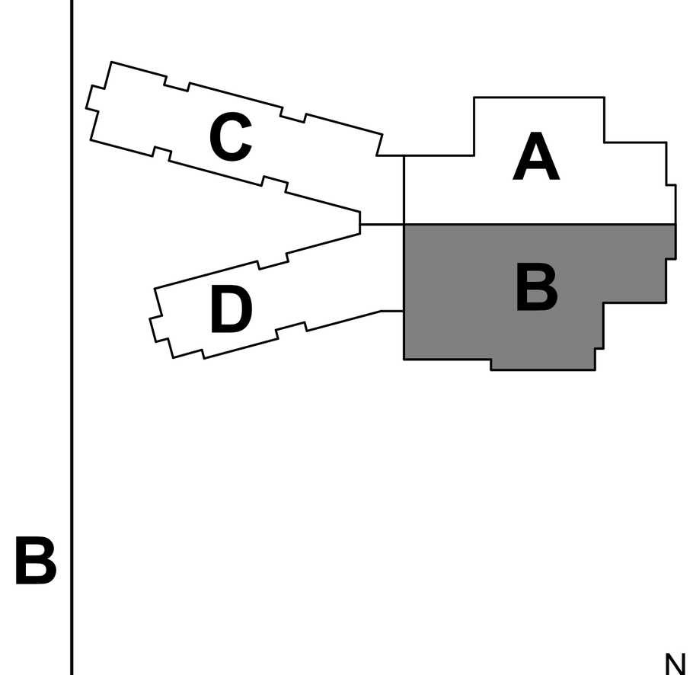
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No.	2021-141.NES
Project Date	05.11.2022
Produced	BLM

SARAH KATHLEEN HEMPSTEAD, REGISTERED ARCHITECT, NO. AR10400134, STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR POWER PLAN - UNIT B

EP1B1

6 5 4 3 2 1

GENERAL POWER NOTES

#	NOTES
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POWER PLAN NOTES

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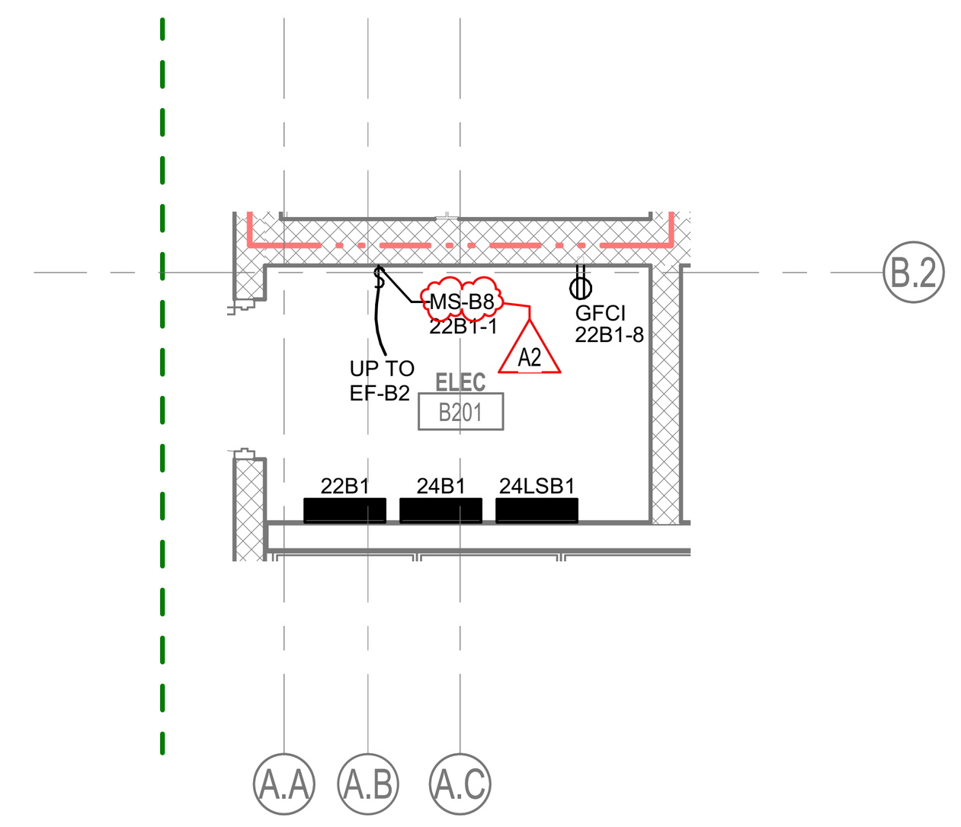
24	RECEPTACLE AND CONTROLS OUTLET FOR SCOREBOARD. INSTALL CONTROL WIRING TO LOCATION INDICATED ON BLEACHERS. COORDINATE MOUNTING HEIGHT WITH A-SEIES AND MANUFACTURER RECOMMENDATION.
25	12"X12"X6" JUNCTION BOX FOR MOTORIZED BLEACHERS. INSTALL BOX AT 5'-0" A.F.F. TO C.L. INSTALL IN LOCATION AS RECOMMENDED BY BLEACHER MANUFACTURER. CONTACTORS AND CONTROLLERS ARE PROVIDED, INSTALLED AND WIRED BY THE MANUFACTURER. INSTALL (1) 3/4"C BETWEEN JUNCTION BOX AND ADJACENT DISCONNECT SWITCH. CONNECT COMPLETE.
26	INSTALL RECEPTACLE IN BOTTOM RISER OF BLEACHERS CONNECT TO FLEXIBLE CABLE FROM WALL OUTLET BOX. COORDINATE OPENING IN BLEACHER WITH MANUFACTURER.

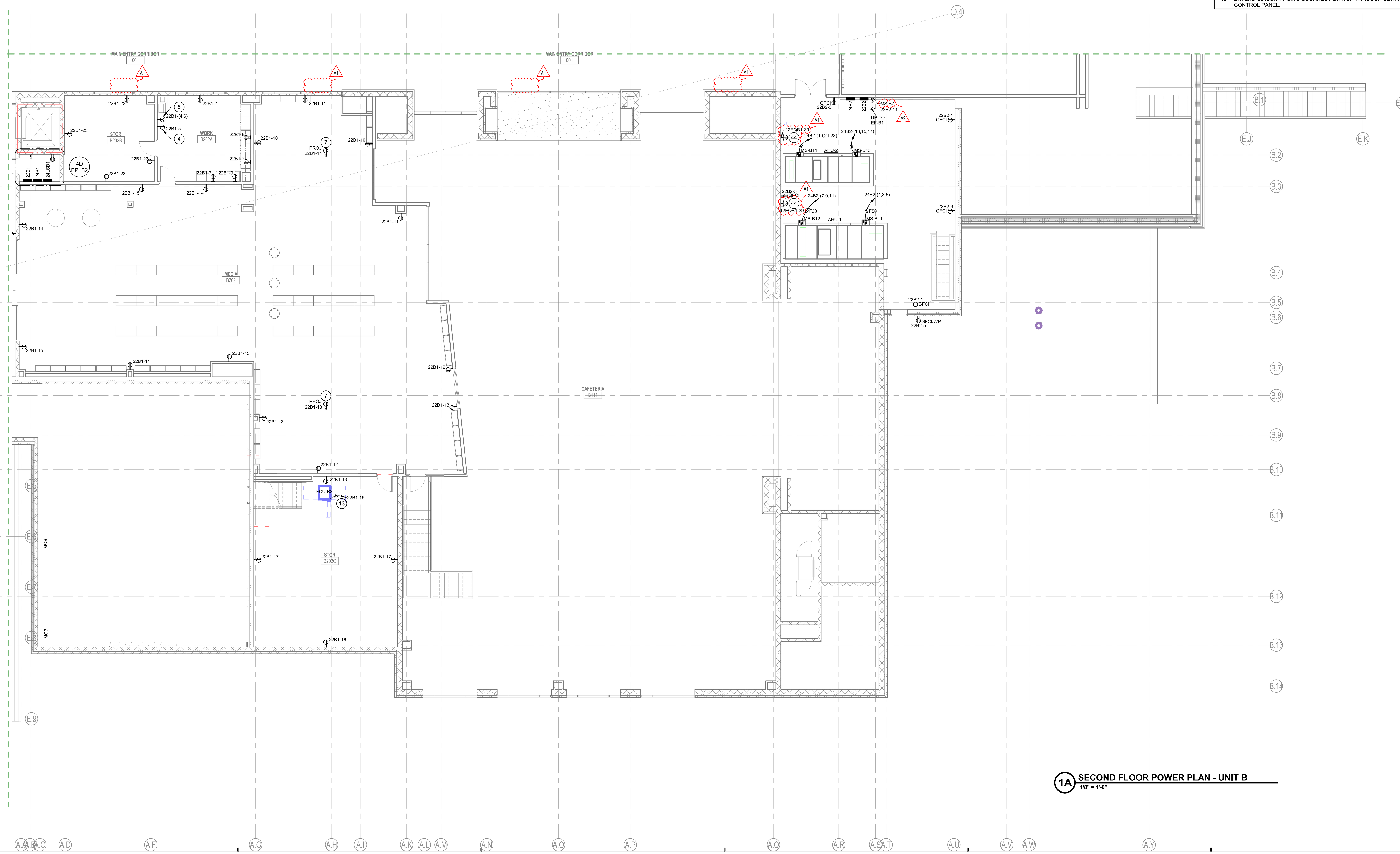
POWER PLAN NOTES

#	NOTES
27	INSTALL SCOREBOARD CONTROL OUTLET IN BOTTOM RISER OF BLEACHERS. CONNECT TO FLEXIBLE CABLE FROM WALL OUTLET BOX. COORDINATE OPENING IN BLEACHER WITH MANUFACTURER.
28	PROVIDE FLEXIBLE WIRING FROM OUTLET BOX ON WALL TO DEVICE LOCATED ON BLEACHERS.
29	DISCONNECT SWITCH FOR KILN. PROVIDE INTERLOCK WITH EXHAUST FAN. REFER TO DETAIL/ WIRING SCHEMATIC FOR ADDITIONAL INFORMATION. COORDINATE NEMA CONFIGURATION OF KILN RECEPTACLE WITH OWNER FURNISHED KILN.
30	PROVIDE 120V POWER FOR GAS FIRED WATER HEATER.
31	MOUNT NEMA 6-30 RECEPTACLE ON TELECOM RACK AT +18" A.F.F. TO C.L.
32	QUAD RECEPTACLE FOR ACCESS CONTROL PANELS AT +48" A.F.F. TO C.L.
33	DISCONNECT SWITCH FOR SPLIT SYSTEM FAN COIL UNIT. REFER TO ROOF PLANS FOR LOCATION OF CORRESPONDING CONDENSING UNIT.
34	RECEPTACLE FOR CHARGING CART AT +18" A.F.F. TO C.L.
35	RECEPTACLE FOR CHARGING RIDE ON SWEEPER AT +18" A.F.F. TO C.L.
36	RECEPTACLE FOR DRYER DUCT BOOSTER FAN. LOCATE RECEPTACLE ADJACENT TO FAN. COORDINATE LOCATION WITH M-SERIES DRAWINGS.
37	PROVIDE POWER FOR DIVIDER CURTAIN. COORDINATE LOCATION WITH A-SERIES DRAWINGS. REFER TO DETAIL SHEET.
38	PROVIDE POWER TO BLOCK HEATER AND BATTERY CHARGER WITHIN GENERATOR ENCLOSURE. REFER TO ONELINE FOR MORE INFORMATION.
39	PROVIDE EMERGENCY OFF PUSHBUTTON. REFER TO GENERATOR SPECIFICATION FOR MORE INFORMATION.
40	PROVIDE CEILING MOUNTED TWIST LOCK RECEPTACLE (NEMA L5-20) WITH COMPATIBLE CORD AND PLUG SUSPENDED FROM LOCKING RECEPTACLE DOWN TO QUAD RECEPTACLE. REFER TO E-500 LEVEL SHEETS FOR DETAIL.
41	PROVIDE SIMPLEX RECEPTACLE FOR FUTURE SUMP PUMP.
42	PROVIDE LOCAL POWER FAILURE ALARM DEVICE FOR THIS RECEPTACLE. ALARM TO HAVE A SOUND OUTPUT LEVEL BETWEEN 80 - 110 DECIBELS.
43	SWITCH FOR GARBAGE DISPOSAL LOCATED IN SINK BASE CABINET. INSTALL IN ACCESSIBLE LOCATION. CONNECT COMPLETE TO CIRCUIT INDICATED.
44	PROVIDE CIRCUIT INDICATED FOR TEMPERATURE CONTROL PANEL. CONNECT COMPLETE.
45	EXTEND CIRCUIT FROM DISCONNECT SWITCH THROUGH SEWAGE EJECTOR CONTROL PANEL.

A1



4D ENLARGED POWER PLAN - B201 ELEC
1/4" = 1'-0"



1A SECOND FLOOR POWER PLAN - UNIT B
1/8" = 1'-0"

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Project No. 2021-141.NES
Project Date 05.11.2022
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SARAH KATHLEEN HEMPSTEAD
REGISTERED ARCHITECT
NO. AR10400134
STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR POWER PLAN - UNIT B

EP1B2

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
1	RECEPTACLE FOR ELECTRIC WATER COOLER. COORDINATE LOCATION WITH MANUFACTURER PRIOR TO INSTALLATION. CIRCUIT PROTECTED BY GFCI BREAKER.
2	RECEPTACLE FOR REFRIGERATOR AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
3	RECEPTACLE FOR MICROWAVE OVEN. COORDINATE LOCATION WITH A-SERIES AND I-SERIES DRAWINGS.
4	RECEPTACLE FOR COPIER AT +36" A.F.F. TO C.L.
5	NEMA 6-20 RECEPTACLE FOR COPIER AT +36" A.F.F. TO C.L.
6	RECEPTACLE FOR VENDING MACHINE AT +46" A.F.F. TO C.L. CIRCUIT PROTECTED BY GFCI BREAKER.
7	RECEPTACLE FOR PROJECTOR LOCATED ON CEILING. COORDINATE LOCATION WITH T-SERIES DRAWINGS.
8	MANUFACTURER FURNISHED CONTROL SWITCH INSTALLED BY DIVISION 26. PROVIDE CIRCUIT. PROVIDE WIRING BETWEEN SWITCH AND PROJECTION SCREEN PER MANUFACTURER'S INSTRUCTIONS. REFER TO T-SERIES DRAWINGS FOR MORE INFORMATION.
9	RECEPTACLE FOR DISPLAY MONITOR ('TV'). COORDINATE LOCATION WITH T-SERIES DRAWINGS.
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12	CIRCUIT CONNECTION FOR ADA DOOR OPERATOR. PROVIDE ALL CONDUIT AND WIRING FOR CONNECTION OF PUSH PADS TO MOTOR. COORDINATE PUSH PAD LOCATIONS WITH A-SERIES DRAWINGS.
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18	PROVIDE FLOOR-TO-CEILING SUPPORTED UNISTRUT RACK FOR THE MOUNTING OF ELECTRICAL EQUIPMENT SUPPORTING MECHANICAL EQUIPMENT.
19	MAIN ELECTRICAL GROUNDING BAR. REFER TO GROUNDING AND BONDING SCHEMATIC FOR ADDITIONAL INFORMATION.
20	PROVIDE (1) 4" PVC CONDUIT WITH PULL STRING FROM MAIN ELECTRICAL ROOM TO QUAZITE BOX AT NORTHWEST SIDE OF SITE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
21	PROVIDE(1) 2-1/2" PVC CONDUIT WITH PULL STRING FROM UNIT A STORAGE ROOM TO QUAZITE BOX IN ISLAND OF TRAFFIC CIRCLE FOR FUTURE POWER NEEDS. REFER TO SITE PLANS.
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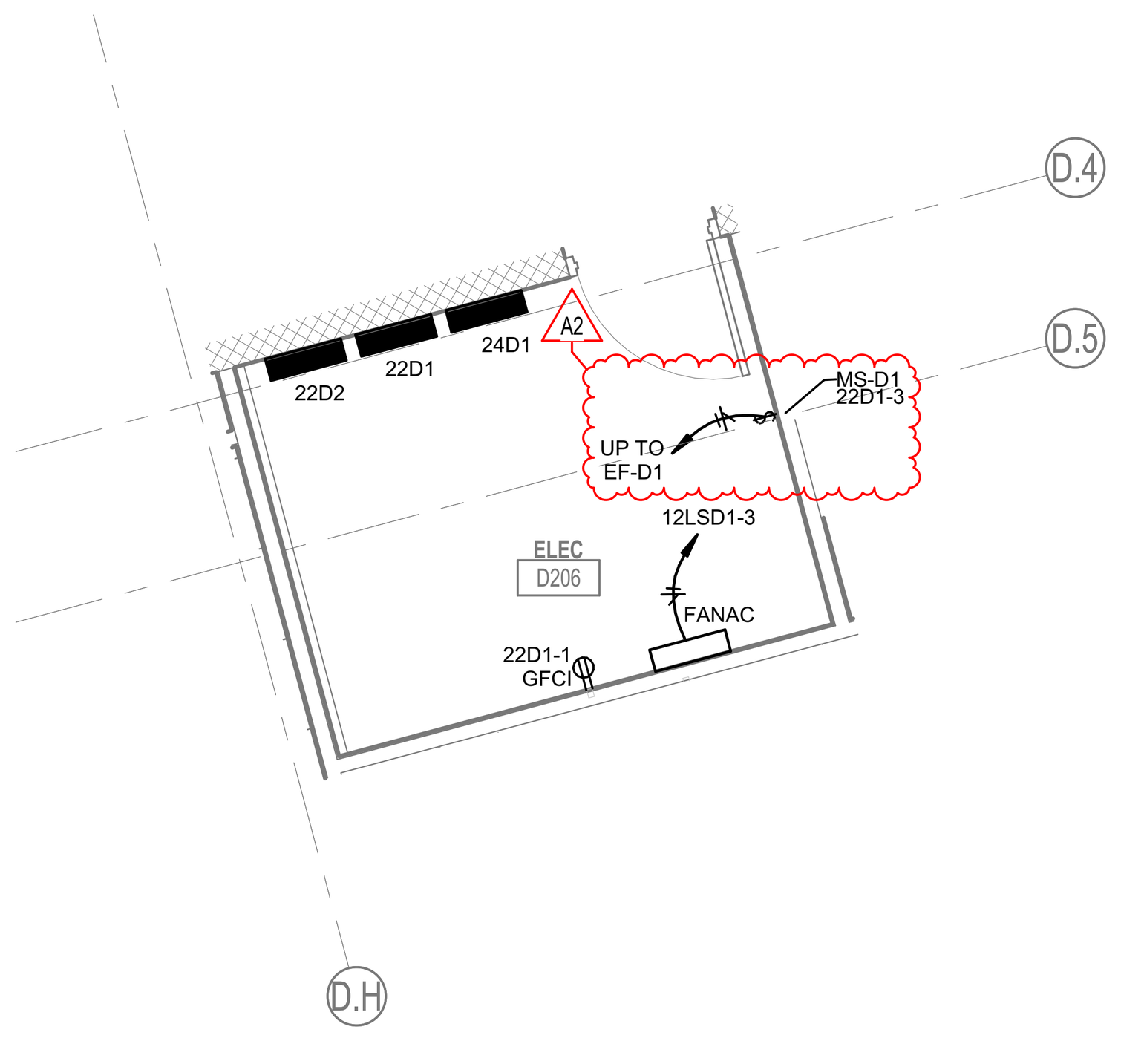
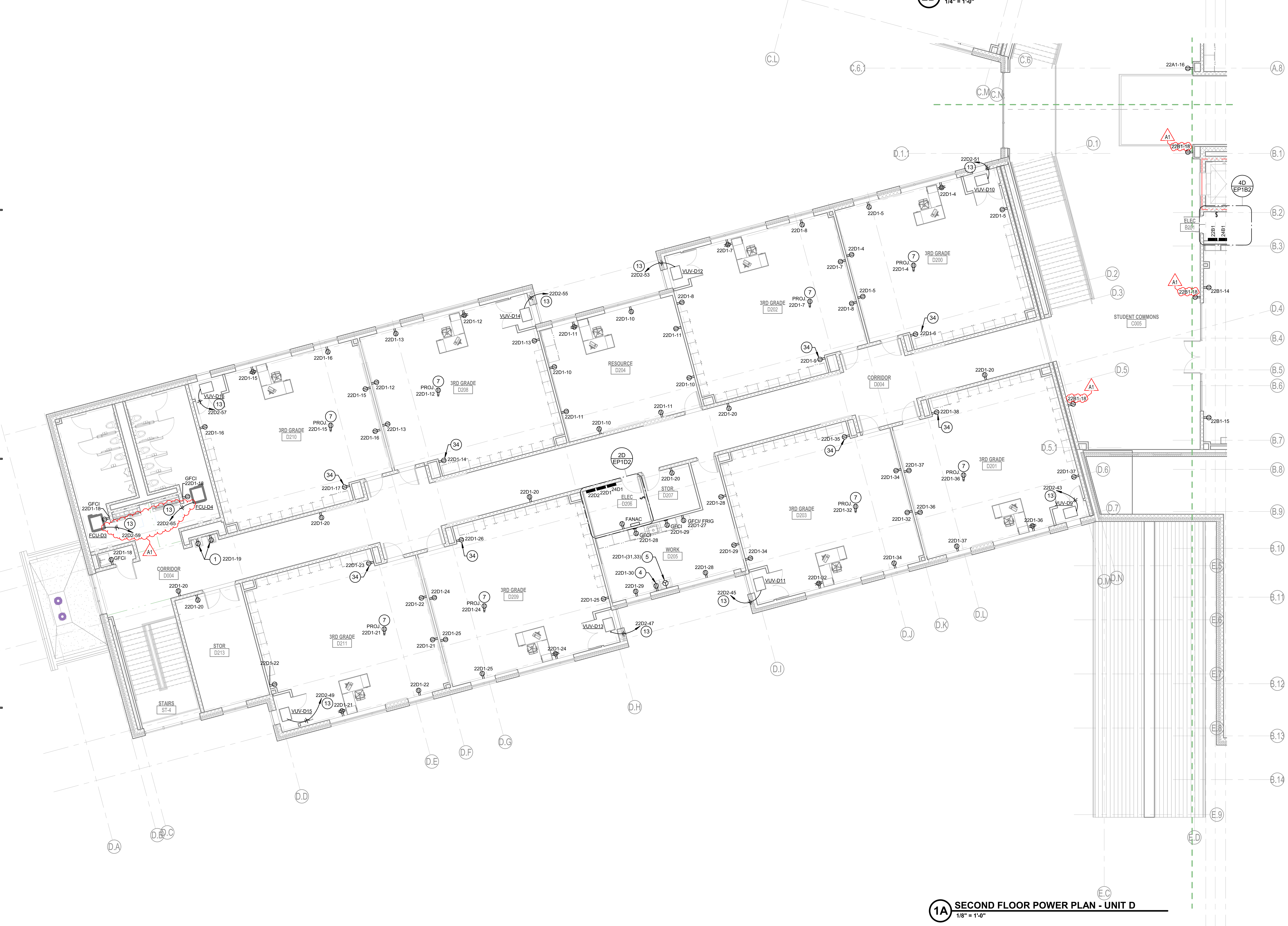
45	EXTEND CIRCUIT FROM DISCONNECT SWITCH THROUGH SEWAGE EJECTOR CONTROL PANEL.



2D ENLARGED POWER PLAN - D206 ELEC
1/4" = 1'-0"



1A SECOND FLOOR POWER PLAN - UNIT D
1/8" = 1'-0"

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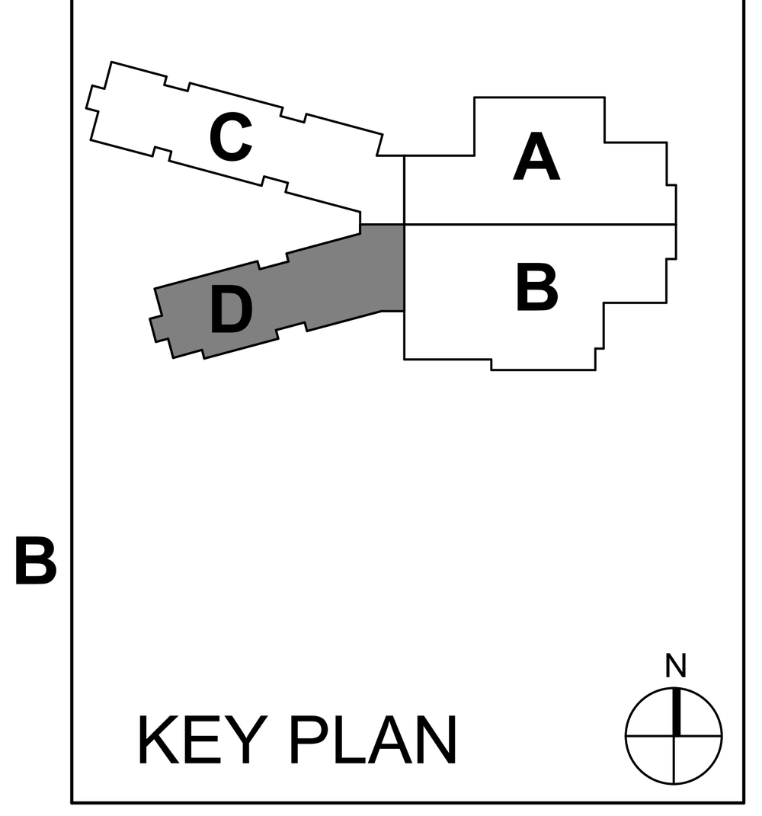
Project No. 2021-141.NES
Project Date 05.11.2022
Produced BLM

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR POWER PLAN - UNIT D

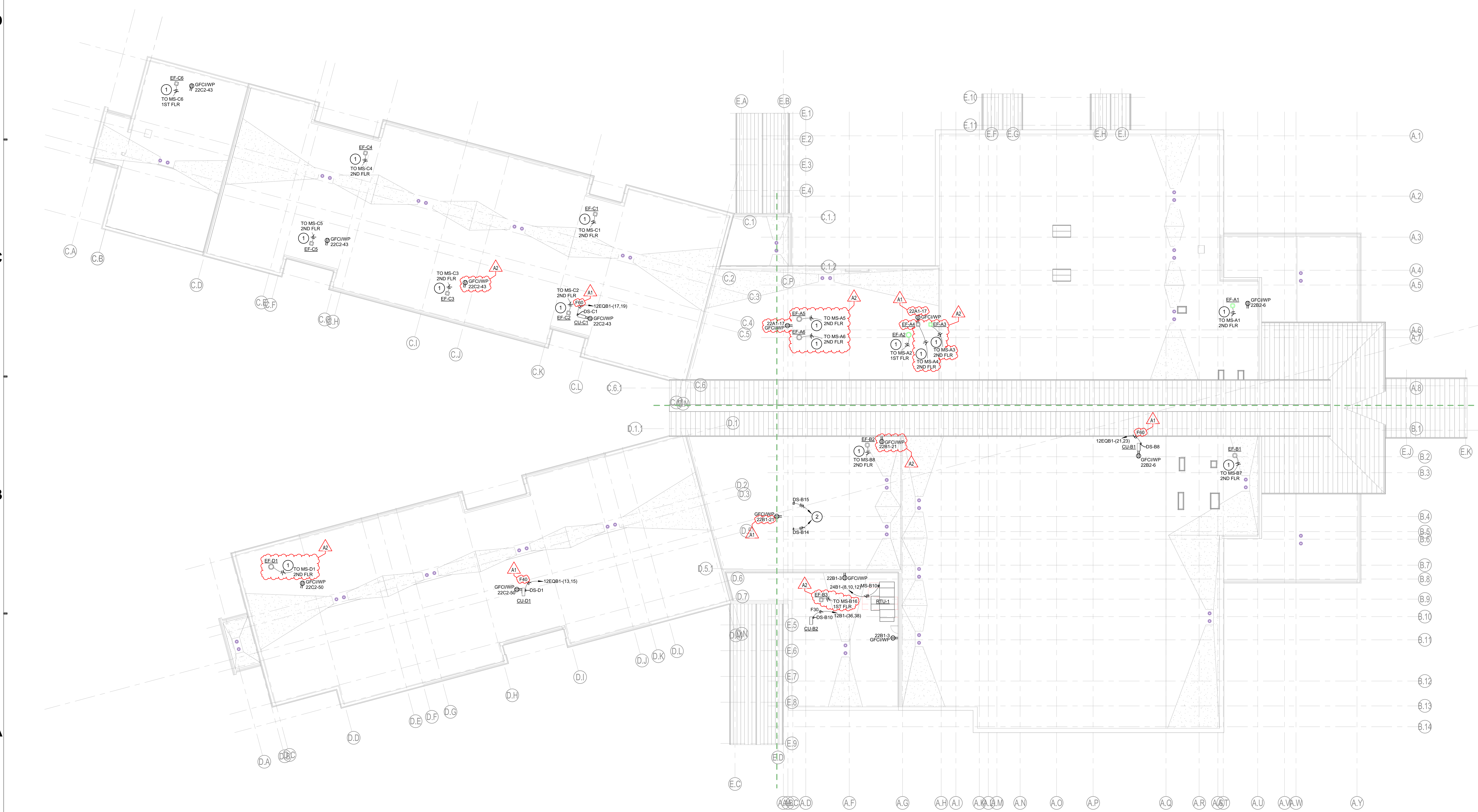
EP1D2

GENERAL ROOF NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

ROOF PLAN NOTES

#	NOTES
1	CONNECT MANUAL MOTOR STARTER LOCATED IN BUILDING TO UNIT PROVIDED DISCONNECT SWITCH IN EXHAUST FAN ON ROOF. REFER TO POWER PLANS AND MOTOR CONTROLLER/ STARTER/ VFD SCHEDULE FOR INFORMATION ON CORRESPONDING MANUAL MOTOR STARTER.
2	REFER TO KITCHEN POWER PLAN AND FOODSERVICE EQUIPMENT SCHEDULE FOR WIRE SIZE AND CIRCUIT INFORMATION. COORDINATE LOCATION WITH K-SERIES.



1A ROOF PLAN - OVERALL
1/16" = 1'-0"

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Project No. 2021-141.NES
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SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

Sarah K Hempstead

#	Revision	Date
A1	Addendum #1	05.31.2022
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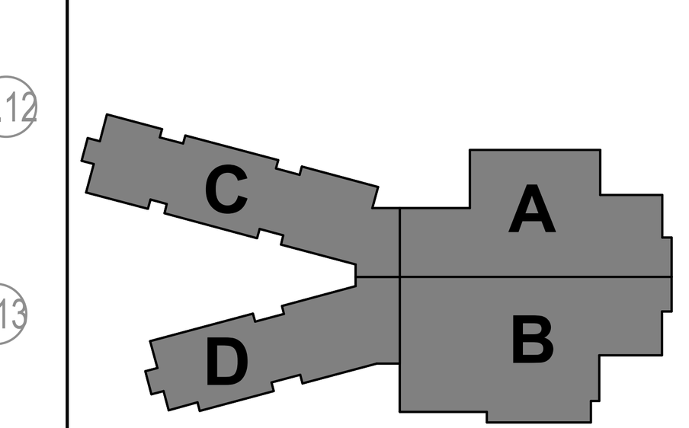

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

ROOF PLAN

ER101

GENERAL POWER NOTES

#	NOTES
A	REFER TO SHEET E-001 FOR ADDITIONAL INFORMATION.

POWER PLAN NOTES

#	NOTES
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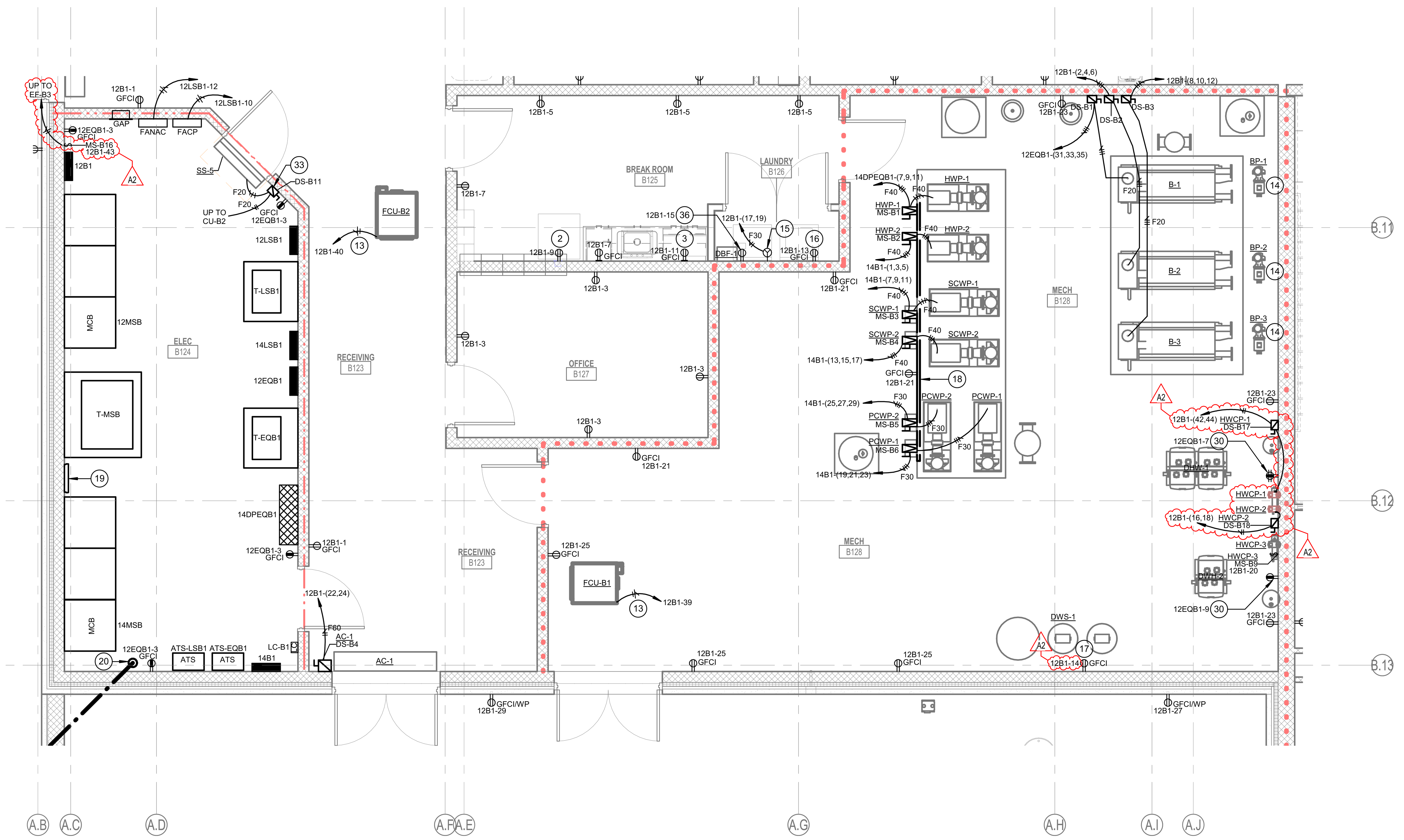

2A ENLARGED POWER PLAN - MECH/ELEC AREAS
1/4" = 1'-0"

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SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
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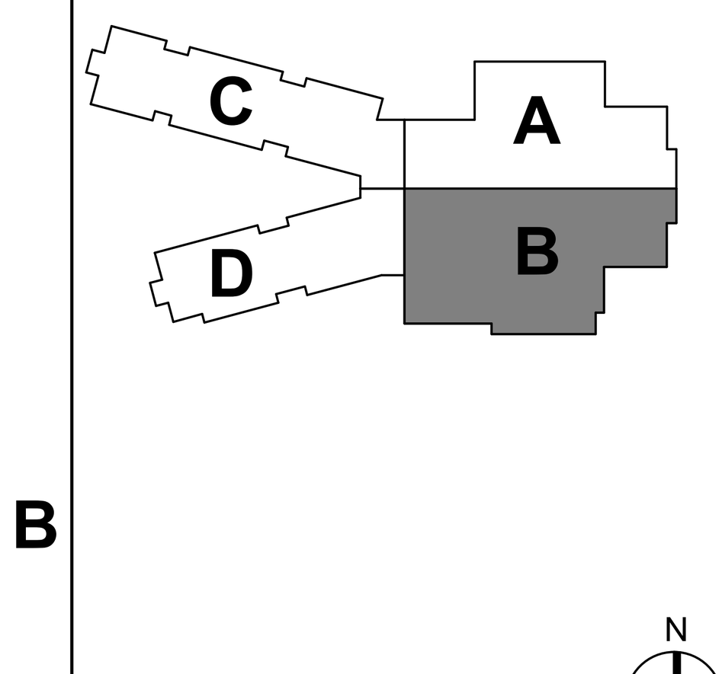


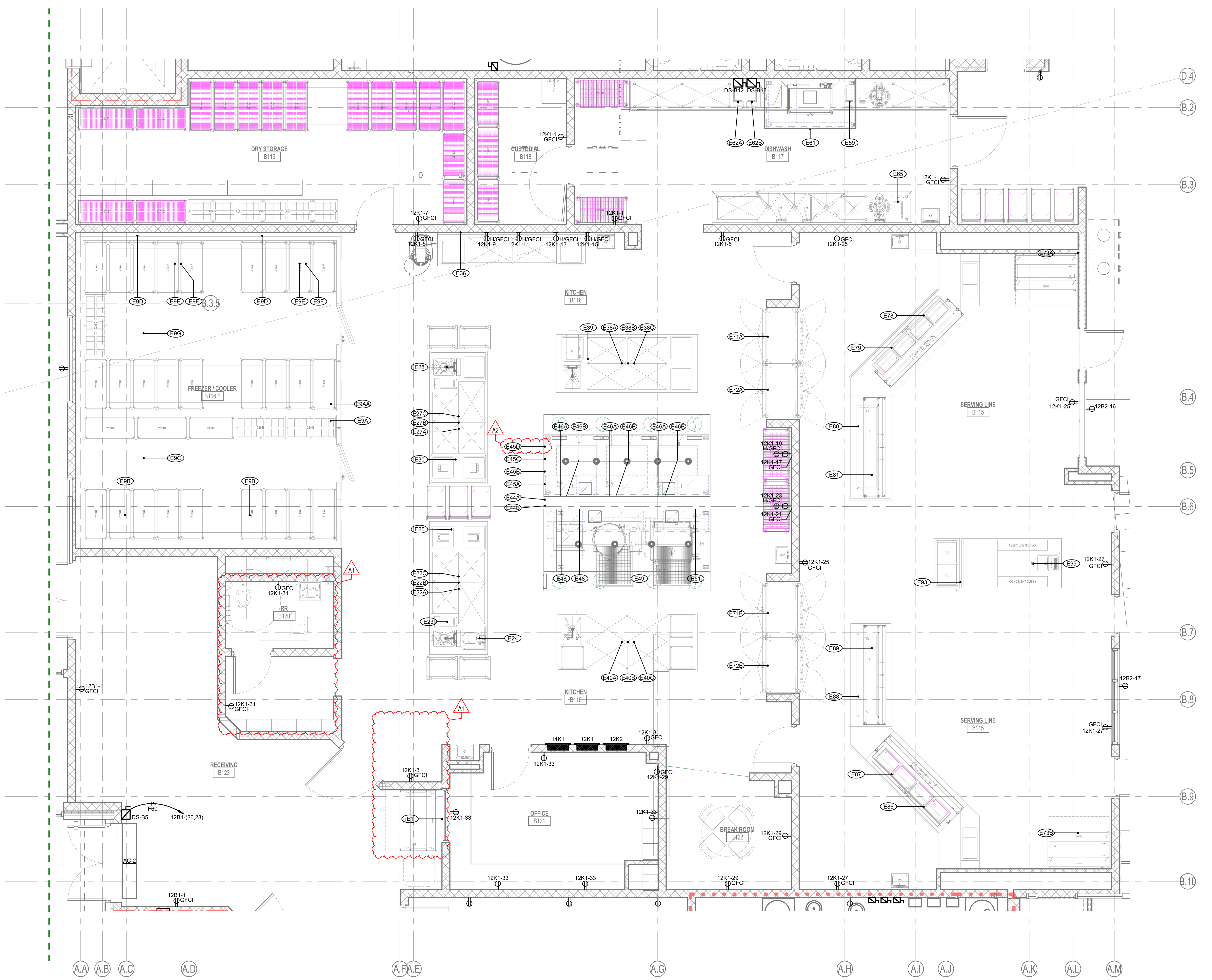
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

ENLARGED PLAN - MECH/ELEC AREAS

E-401



2A ENLARGED POWER PLAN - KITCHEN
1/4" = 1'-0"

REFER TO SHEET E-403 FOR FOODSERVICE EQUIPMENT SCHEDULE

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SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

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10559 E. THOMPSON RD
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KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

ENLARGED PLAN - KITCHEN

E-402

114000.1 - FOODSERVICE EQUIPMENT SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	EQUIPMENT SERVED	VOLTAGE	PHASE	AMPERAGE	PANEL	CIRCUIT	FEEDER/BRANCH CIRCUIT SIZE	WIRE QTY P	WIRE QTY N	WIRE QTY G	REMARKS
E1	B123	RECEIVING	SINGLE SIDED 16-CRATE MILK COOLER	120 V	1	2.70 A	12EQB1	2	F20	1	1	1	PLUG CONNECTION; +18" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E9A	B116.1	FREEZER / COOLER	WALK-IN COOLER LIGHTS & DOOR OPTIONS	120 V	1	16.00 A	12EQB1	8	F20	1	1	1	DIRECT CONNECTION; DROP FROM ABOVE
E9AA	B116.1	FREEZER / COOLER	WALK-IN FREEZER LIGHTS & DOOR OPTIONS	120 V	1	16.00 A	12EQB1	24	F20	1	1	1	DIRECT CONNECTION; DROP FROM ABOVE
E9B	B116.1	FREEZER / COOLER	WALK-IN COOLER EVAPORATOR FANS	120 V	1	1.60 A	12EQB1	10	F20	1	1	1	DIRECT CONNECTION; DROP FROM ABOVE
E9C	B116.1	FREEZER / COOLER	WALK-IN COOLER CONDENSING UNIT	208 V	3	11.27 A	12EQB1	12,14,16	F20	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; COORDINATE LOCATION
E9D	B116.1	FREEZER / COOLER	WALK-IN FREEZER HEATED DRAIN TAPE	120 V	1	8.00 A	12EQB1	26	F20	1	1	1	DIRECT CONNECTION; DROP FROM ABOVE
E9E	B116.1	FREEZER / COOLER	WALK-IN FREEZER EVAPORATOR FANS	208 V	1	2.00 A			F20	2	0	1	DIRECT CONNECTION; DROP FROM ABOVE; POWER FED FROM FREEZER CONDENSING UNIT
E9F	B116.1	FREEZER / COOLER	WALK-IN FREEZER EVAPORATOR HEATER	208 V	1	17.60 A			F30	2	0	1	DIRECT CONNECTION; DROP FROM ABOVE; POWER FED FROM FREEZER CONDENSING UNIT
E9G	B116.1	FREEZER / COOLER	WALK-IN FREEZER CONDENSING UNIT	208 V	3	22.97 A	12EQB1	18,20,22	F40	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON ROOF; COORDINATE LOCATION ON ROOF.
E22A	B116	KITCHEN	VEGETABLE PREP WORKTABLE	120 V	1	16.00 A	12K1	14	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E22B	B116	KITCHEN	VEGETABLE PREP WORKTABLE	120 V	1	16.00 A	12K1	16	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E22C	B116	KITCHEN	VEGETABLE PREP WORKTABLE	208 V	1	24.00 A	12K1	10,12	F30	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP
E23	B116	KITCHEN	GARBAGE DISPOSAL SYSTEM	480 V	3	2.20 A	14K1	1,3,5	F20	3	0	1	EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP
E24	B116	KITCHEN	COUNTERTOP FOOD PROCESSOR	120 V	1	3.00 A			F20	1	1	1	SERVICE FROM RECEPTACLE ON WORKTABLE
E25	B116	KITCHEN	ELECTRIC CAN OPENER	120 V	1	1.50 A			F20	1	1	1	SERVICE FROM RECEPTACLE ON WORKTABLE
E27A	B116	KITCHEN	VEGETABLE PREP WORKTABLE	120 V	1	16.00 A	12K1	18	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E27B	B116	KITCHEN	VEGETABLE PREP WORKTABLE	120 V	1	16.00 A	12K1	20	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E27C	B116	KITCHEN	VEGETABLE PREP WORKTABLE	208 V	1	24.00 A	12K1	22,24	F30	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP
E28	B116	KITCHEN	GARBAGE DISPOSAL SYSTEM	480 V	3	2.20 A	14K1	2,4,6	F20	3	0	1	EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP
E30	B116	KITCHEN	COUNTERTOP DIGITAL SCALE	120 V	1	1.50 A			F20	1	1	1	SERVICE FROM RECEPTACLE ON WORKTABLE
E36	B116	KITCHEN	40 QUART FLOOR MIXER	208 V	1	9.30 A			F20	2	0	1	PLUG CONNECTION; +46" A.F.F. TO C.L.; NEMA 6-15 RECEPTACLE
E38A	B116	KITCHEN	KITCHEN PREP WORKTABLE	120 V	1	16.00 A	12K2	43	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E38B	B116	KITCHEN	KITCHEN PREP WORKTABLE	120 V	1	16.00 A	12K2	45	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E38C	B116	KITCHEN	KITCHEN PREP WORKTABLE	208 V	1	24.00 A	12K2	47,49	F30	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP
E39	B116	KITCHEN	COUNTERTOP HOT WATER DISPENSER	208 V	1	24.00 A			F30	2	0	1	SERVICE FROM NEMA 6-30 RECEPTACLE ON WORKTABLE
E40A	B116	KITCHEN	KITCHEN PREP WORKTABLE	120 V	1	16.00 A	12K1	2	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E40B	B116	KITCHEN	KITCHEN PREP WORKTABLE	120 V	1	16.00 A	12K1	4	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E40C	B116	KITCHEN	KITCHEN PREP WORKTABLE	208 V	1	24.00 A	12K1	6,8	F30	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF WORKTABLE; STUB UP
E44A	B116	KITCHEN	UTILITY DISTRIBUTION SYSTEM - 120/208V, 3-PHASE	208 V	3	80.00 A	12K1	37,39,41	F100	3	1	1	EXTEND DIRECT CONNECTION THROUGH UTILITY DISTRIBUTION SYSTEM; STUB UP; INTERCONNECT SHUNT TRIP MAIN CIRCUIT BREAKER IN UTILITY DISTRIBUTION SYSTEM WITH FIRE ALARM SYSTEM
E44B	B116	KITCHEN	UTILITY DISTRIBUTION SYSTEM - 480V, 3-PHASE	480 V	3	175.00 A	14K1	37,39,41	F225	3	0	1	EXTEND DIRECT CONNECTION THROUGH UTILITY DISTRIBUTION SYSTEM; STUB UP; INTERCONNECT SHUNT TRIP MAIN CIRCUIT BREAKER IN UTILITY DISTRIBUTION SYSTEM WITH FIRE ALARM SYSTEM
E45A	B116	KITCHEN	COOKING VENTILATION (LIGHTS)	120 V	1	16.00 A			F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON TOP OF HOOD; DROP FROM ABOVE
E45B	B116	KITCHEN	COOKING VENTILATION (EXHAUST FAN)	480 V	3	5.40 A	14K1	20,22,24	F20	3	0	1	POWER FED FROM SUPPLY FAN/MAKE-UP AIR UNIT; EXTEND CIRCUIT WIRING FROM MOTOR STARTER IN MAKE-UP AIR UNIT THROUGH DISCONNECT SWITCH ON EXHAUST FAN ON ROOF; PROVIDE CONDUIT AND FOUR WIRES FROM TERMINAL BLOCK ON EXHAUST FAN HOOD TO EXHAUST FAN MOTOR STARTER PANEL; COORDINATE LOCATIONS; REFER TO KEC PLANS AND DETAILS
E45C	B116	KITCHEN	COOKING VENTILATION (SUPPLY FAN)	480 V	3	5.40 A	14K1	20,22,24	F20	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON MAKE-UP AIR UNIT ON ROOF; COORDINATE LOCATIONS; REFER TO KEC PLANS AND DETAILS
E45D	B116	KITCHEN	COOKING VENTILATION (SUPPLY FAN ELECTRIC HEAT)	480 V	3	129.18 A	14MSB	12	F175	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH ON MAKE-UP AIR UNIT ON ROOF; COORDINATE LOCATIONS; REFER TO KEC PLANS AND DETAILS
E46A	B116	KITCHEN	DOUBLE DECK CONVECTION OVEN (TOP)	480 V	3	14.00 A			F20	3	0	1	DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM
E46B	B116	KITCHEN	DOUBLE DECK CONVECTION OVEN (BOTTOM)	480 V	3	14.00 A			F20	3	0	1	DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM
E48	B116	KITCHEN	HIGH WATTAGE MICROWAVE OVEN	208 V	1	28.00 A			F30	2	0	1	PLUG CONNECTION; NEMA 6-30 RECEPTACLE; EXTEND CIRCUIT TO TO RECEPTACLE FROM 120/208V UTILITY DISTRIBUTION SYSTEM
E49	B116	KITCHEN	40 GALLON TILTING KETTLE	480 V	3	29.00 A			F40	3	0	1	DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM
E51	B116	KITCHEN	40 GALLON TILTING SKILLET	480 V	3	19.00 A			F30	3	0	1	DIRECT CONNECTION TO EQUIPMENT FROM 480V UTILITY DISTRIBUTION SYSTEM
E59	B117	DISHWASH	GARBAGE DISPOSAL SYSTEM	480 V	3	2.20 A	14K1	7,9,11	F20	3	0	1	EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP
E61	B117	DISHWASH	DISHMACHINE EXHAUST VENTILATION	120 V	1	7.80 A	12K2	63	F20	1	1	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH IN EXHAUST FAN ON ROOF; INTERCONNECT EXHAUST FAN WITH DISHMACHINE FAN CONTROLLER
E62A	B117	DISHWASH	DISHMACHINE TANK HEAT, MOTOR, & CONTROLS	480 V	3	27.90 A	14K1	13,15,17	F40	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH. INTERCONNECT EXHAUST FAN WITH DISHMACHINE.
E62B	B117	DISHWASH	DISHMACHINE BOOSTER HEATER	480 V	3	40.10 A	14K1	14,16,18	F50	3	0	1	EXTEND CIRCUIT THROUGH DISCONNECT SWITCH. INTERCONNECT BOOSTER HEATER WITH DISHMACHINE.
E65	B117	DISHWASH	GARBAGE DISPOSAL SYSTEM	480 V	3	2.20 A	14K1	8,10,12	F20	3	0	1	EXTEND DIRECT CONNECTION SERVICE THROUGH KEC FURNISHED CONTROL PANEL; STUB UP
E71A	B116	KITCHEN	TWO DOOR PASS-THRU HEATED CABINET	208 V	1	14.42 A	12K2	51,53	F20	2	0	1	DIRECT CONNECTION; +90" A.F.F. ON WALL ABOVE UNIT
E71B	B116	KITCHEN	TWO DOOR PASS-THRU HEATED CABINET	208 V	1	14.42 A	12K2	57,59	F20	2	0	1	DIRECT CONNECTION; +90" A.F.F. ON WALL ABOVE UNIT
E72A	B116	KITCHEN	TWO DOOR PASS-THRU REFRIGERATOR	120 V	1	5.90 A	12K2	55	F20	1	1	1	PLUG CONNECTION; +90" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E72B	B116	KITCHEN	TWO DOOR PASS-THRU REFRIGERATOR	120 V	1	5.90 A	12K2	61	F20	1	1	1	PLUG CONNECTION; +90" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E73A			SINGLE SIDED 16-CRATE MILK COOLER	120 V	1	2.70 A	12EQB1	4	F20	1	1	1	PLUG CONNECTION; +18" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E73B	B115	SERVING LINE	SINGLE SIDED 16-CRATE MILK COOLER	120 V	1	2.70 A	12EQB1	6	F20	1	1	1	PLUG CONNECTION; +18" A.F.F. TO C.L.; NEMA 5-20 RECEPTACLE; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E78	B115	SERVING LINE	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	208 V	1	10.80 A	12K2	44,46	F20	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E79	B115	SERVING LINE	HOT FOOD BREATH GUARD	120 V	1	1.00 A	12K2	48	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E80	B115	SERVING LINE	DROP-IN THREE PAN FROST TOP (SLIMLINE)	120 V	1	3.80 A	12K2	50	F20	1	1	1	PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E81	B115	SERVING LINE	FROST TOP BREATH GUARD	120 V	1	1.00 A	12K2	48	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E86	B115	SERVING LINE	DROP-IN FOUR PAN HOT WELL (SLIMLINE)	208 V	1	10.80 A	12K2	52,54	F20	2	0	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E87	B115	SERVING LINE	HOT FOOD BREATH GUARD	120 V	1	1.00 A	12K2	56	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E88	B115	SERVING LINE	DROP-IN THREE PAN FROST TOP (SLIMLINE)	120 V	1	3.80 A	12K2	58	F20	1	1	1	PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E89	B115	SERVING LINE	FROST TOP BREATH GUARD	120 V	1	1.00 A	12K2	56	F20	1	1	1	DIRECT CONNECTION TO JUNCTION BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP
E93	B115	SERVING LINE	ICE CREAM NOVELTY FREEZER	120 V	1	16.00 A	12K2	60	F20	1	1	1	PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER
E95	B115	SERVING LINE	POINT OF SALE SYSTEM	120 V	1	16.00 A	12K2	62	F20	1	1	1	PLUG CONNECTION; NEMA 5-20 RECEPTACLE IN OUTLET BOX ON UNDERSIDE OF SERVING COUNTER BASE; STUB UP; CIRCUIT PROTECTED BY GFCI CIRCUIT BREAKER

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#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

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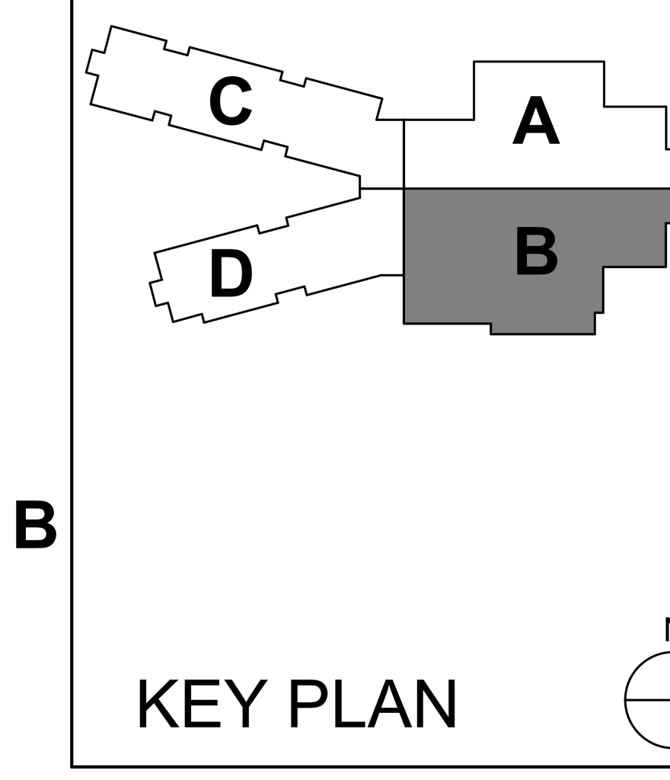

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

KITCHEN EQUIPMENT SCHEDULE

E-403

GENERAL LIGHT FIXTURE SCHEDULE NOTES

#	NOTES
A	REFER TO LIGHT FIXTURE SCHEDULE AND REFLECTED CEILING PLANS FOR MOUNTING REQUIREMENTS, CEILING TYPES, AND FINAL LOCATIONS. PROVIDE APPROPRIATE MOUNTING TRIM REQUIRED FOR CEILING TYPE.
B	PROVIDE FACTORY INSTALLED DISCONNECTS FOR ALL LINEAR FIXTURES.
C	PROVIDE VIBRATION DAMPERS FOR ALL ALUMINUM & STEEL POLES 20'-0" AND ABOVE.
D	PROVIDE SELF-DIAGNOSTICS AND SELF-TESTING FOR ALL LIFE SAFETY FIXTURES (EXIT FIXTURES, WALL PACKS, INVERTERS BALLASTS, ETC.)

265119/265619/26213.1 - INTERIOR/EXTERIOR/EMERGENCY & EXIT LIGHT FIXTURES SCHEDULE

LABEL	DESCRIPTION	VOLTAGE	SOURCE: TYPE	LUMENS	WATTS	CCT	MOUNTING	LENS/REFLECTOR	CERTIFICATIONS	ACCEPTABLE MANUFACTURERS	LABEL
L1	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	3,500 LM	30 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L1
L1S	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	3,500 LM	30 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L1S
L2	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	4,400 LM	47 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L2
L3	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	5,500 LM	50 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L3
L3S	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	5,500 LM	50 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L3S
L4	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	6,400 LM	69 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L4
L4S	2X4 EDGE LIT LED FLAT PANEL. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	6,400 LM	69 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 24FP COLUMBIA SRP24 LITHONIA EPANL 24	L4S
L5	2X2 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	2,000 LM	21 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA SRP22 LITHONIA EPANL 22	L5
L5S	2X2 EDGE LIT LED FLAT PANEL. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	2,000 LM	21 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA SRP22 LITHONIA EPANL 22	L5S
L6	2X2 EDGE LIT LED FLAT PANEL. 0-10V DIMMING.	120/277 V	LED	3,200 LM	32 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC	METALUX 22FP COLUMBIA SRP22 LITHONIA EPANL 22	L6
L6S	2X2 EDGE LIT LED FLAT PANEL. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	3,200 LM	32 W	3500 K	RECESSED IN GRID	WHITE FROST ACRYLIC	DLC A2	METALUX 22FP COLUMBIA SRP22 LITHONIA EPANL 22	L6S
L7S	46" LONG, LED STAIR FIXTURE. 18 GAUGE STEEL. INTEGRAL ULTRASONIC ZONELESS ACTIVATED SENSOR. BLACK FINISH. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	7,600 LM	50 W	3500 K	HORIZONTAL ON WALL	CLEAR PRISMATIC	DLC	LUMINAIRE TSL9 NEW STAR LIGHTING VIC2W PARAMOUNT VRSW9	L7S A1
L8	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	3,000 LM	27 W	3500 K	SURFACE/WALL	SEMI-FROSTED CURVED LENS	DLC	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L8
L9	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	3,000 LM	27 W	3500 K	SURFACE MOUNTED	SEMI-FROSTED CURVED LENS	DLC	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L9
L10	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	3,000 LM	27 W	3500 K	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED CURVED LENS	DLC	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L10
L11	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	5,000 LM	45 W	3500 K	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED CURVED LENS	DLC A2	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L11
L12	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH.	120/277 V	LED	6,500 LM	62 W	3500 K	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED CURVED LENS	DLC	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L12
L12S	4' LENSED LED STRIP LIGHT. 0-10V DIMMING, WHITE FINISH. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	6,500 LM	62 W	3500 K	CHAIN MOUNTED TO STRUCTURE	SEMI-FROSTED CURVED LENS	DLC	METALUX SNLED COLUMBIA MPS LITHONIA CLX	L12S
L13	4' LED VAPORTIGHT FIXTURE. FIBERGLASS HOUSING. U.L. LISTED WET LOCATION.	120/277 V	LED	4,000 LM	38 W	3500 K	SURFACE/WALL	IMPACT RESISTANT, GASKETED PRISMATIC LENS	DLC	METALUX 4VT2 COLUMBIA LXEM4 LITHONIA FEM4 LED	L13
L14	4" SQUARE LED DOWNLIGHT. SELF-FLANGED TRIM. 0-10V DIMMING.	120/277 V	LED	1,000 LM	11 W	3500 K	RECESSED IN DRYWALL	SEMI-SPECULAR CLEAR	ES	PORTFOLIO LDSQ4B PRESCOLITE LTR-4SQD GOTHAM EVO	L14
L15 A1	8" SQUARE LED CYLINDER WALL SCONCE FIXTURE WITH UP AND DOWN DISTRIBUTION AND ADJUSTABLE OPTICS. 0-10V DIMMING DRIVER. CHAMPAGNE FINISH.	120/277 V	LED	4,000 LM UP 4,000 LM DOWN	81 W	3500 K	WALL MOUNTED	SEMI-SPECULAR CLEAR WITH TILT ADJUSTMENT	N/A	LUMINIS SQ802 PROVIDE AN ALLOWANCE OF $1,517 PER FIXTURE FOR MATERIAL ONLY, ADD LABOR REQUIRED FOR INSTALLATION.	L15
L16	8" SQUARE LED CYLINDER WALL SCONCE FIXTURE WITH DOWN DISTRIBUTION AND ADJUSTABLE OPTICS. 0-10V DIMMING DRIVER. CHAMPAGNE FINISH.	120/277 V	LED	7,000 LM	55 W	3500 K	WALL MOUNTED	SEMI-SPECULAR CLEAR WITH TILT ADJUSTMENT	N/A	LUMINIS SQ802 PROVIDE AN ALLOWANCE OF $1,148 PER FIXTURE FOR MATERIAL ONLY, ADD LABOR REQUIRED FOR INSTALLATION.	L16
L17	8" SQUARE LED CYLINDER WALL SCONCE FIXTURE WITH UP AND DOWN DISTRIBUTION AND ADJUSTABLE OPTICS. 0-10V DIMMING DRIVER. CHAMPAGNE FINISH.	120/277 V	LED	7,000 LM UP 7,000 LM DOWN	110 W	3500 K	WALL MOUNTED	SEMI-SPECULAR CLEAR WITH TILT ADJUSTMENT	N/A	LUMINIS SQ802 PROVIDE AN ALLOWANCE OF $1,517 PER FIXTURE FOR MATERIAL ONLY, ADD LABOR REQUIRED FOR INSTALLATION.	L17
L17S	8" SQUARE LED CYLINDER WALL SCONCE FIXTURE WITH UP AND DOWN DISTRIBUTION AND ADJUSTABLE OPTICS. 0-10V DIMMING DRIVER. CHAMPAGNE FINISH. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	7,000 LM UP 7,000 LM DOWN	110 W	3500 K	WALL MOUNTED	SEMI-SPECULAR CLEAR WITH TILT ADJUSTMENT	N/A	LUMINIS SQ802 PROVIDE AN ALLOWANCE OF $1,517 PER FIXTURE FOR MATERIAL ONLY, ADD LABOR REQUIRED FOR INSTALLATION.	L17S
L18	15" X 18" LED HIGHBAY. WHITE ALUMINUM HOUSING. WIDE DISTRIBUTION. 0-10V DIMMING.	120/277 V	LED	18,000 LM	150 W	4000 K	CABLE MOUNTED WITH SEPARATE SAFETY CABLE	HIGH IMPACT POLYCARBONATE LENS	DLC	METALUX VHB COLUMBIA PEL LITHONIA CPHB	L18
L18S	15" X 18" LED HIGHBAY. WHITE ALUMINUM HOUSING. WIDE DISTRIBUTION. 0-10V DIMMING. CONNECT THROUGH EMERGENCY SHUNT RELAY (UL 924 DEVICE) TO EMERGENCY CIRCUIT.	120/277 V	LED	18,000 LM	150 W	4000 K	CABLE MOUNTED WITH SEPARATE SAFETY CABLE	HIGH IMPACT POLYCARBONATE LENS	DLC	METALUX VHB COLUMBIA PEL LITHONIA CPHB	L18S
L19	2X4 PRISMATIC LED TROFFER. WHITE FLUSH ALUMINUM DOOR. 0-10V DIMMING. WHITE COLOR TEMPERATURE TUNABLE.	120/277 V	LED	3,400 LM	28 W	2700 K - 6500 K	RECESSED IN GRID	PATTERN 12 FROST ACRYLIC LENS, 0.125" MINIMUM	DLC	METALUX 24GR COLUMBIA LJT24 LITHONIA 2GTL	L19
L20	LED CANOPY DOWNLIGHT. CAST ALUMINUM HOUSING. PENDANT MOUNT. WIDE DISTRIBUTION. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. PROVIDE ANTI-BIRD SPIKES OR GUARD(S) ON TOP OF FIXTURE.	120/277 V	LED	3,000 LM	26 W	4000 K	PENDANT SUSPENDED	IMPACT RESISTANT FROSTED LENS	N/A	RAB PLED2X13N McGRAW EDISON TT BEACON SRT1	L20 A1
L21	LED WALL LIGHT. DIE-CAST ALUMINUM HOUSING. HINGED DOOR FRAME. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	2,600 LM	30 W	4000 K	WALL MOUNTED	TYPE IV DISTRIBUTION	N/A	MCGRAW-EDISON ISS SPAULDING QSP LITHONIA WSQ	L21
L22	LED WALL LIGHT. DIE-CAST ALUMINUM HOUSING. HINGED DOOR FRAME. DARK BRONZE FINISH. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	4,300 LM	50 W	4000 K	WALL MOUNTED	TYPE IV DISTRIBUTION	N/A	MCGRAW-EDISON ISS SPAULDING QSP LITHONIA WSQ	L22
S1	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	22,000 LM	150 W	4000 K	30' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE IV DISTRIBUTION	N/A	LUMARK PRV-XL BEACON VPS LITHONIA RSX2	S1
S2	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (2) HEADS, 180° APART.	480 V	LED	22,000 LM	300 W	4000 K	30' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE IV DISTRIBUTION	N/A	LUMARK PRV-XL BEACON VPS LITHONIA RSX2	S2
S3	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	22,000 LM	150 W	4000 K	30' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION A2	N/A	LUMARK PRV-XL BEACON VPS LITHONIA RSX2	S3
S3H	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD. HOUSE SIDE SHIELD.	480 V	LED	22,000 LM	150 W	4000 K	30' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	LUMARK PRV-XL BEACON VPS LITHONIA RSX2	S3H
S4	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (4) HEADS, 90° APART.	480 V	LED	22,000 LM	600 W	4000 K	30' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE IV DISTRIBUTION	N/A	LUMARK PRV-XL BEACON VPS LITHONIA RSX2	S4
S5	LED SITE FIXTURE. SINGLE-PIECE ALUMINUM HOUSING. ARM MOUNT. U.L. LISTED WET LOCATION. DARK BRONZE FINISH. ROUND, STRAIGHT, STEEL, POLE DESIGNED TO SUPPORT FIXTURE(S) IN 100 MPH WINDS WITH 1.3 GUST FACTOR. PRIMARY FUSES. FLAT LENS. SURGE PROTECTION. (1) HEAD.	480 V	LED	10,000 LM	72 W	4000 K	12' POLE, BASE BY DIVISION 26 CONTRACTOR	TYPE III DISTRIBUTION	N/A	LUMARK PRV-P BEACON VPS LITHONIA RSX1	S5
S6	LED FLOOD LIGHT WITH KNUCKLE BASE AND VISOR. DIE-CAST ALUMINUM HOUSING. HINGED DOOR FRAME. DARK BRONZE FINISH. SPOT DISTRIBUTION. U.L. LISTED FOR WET LOCATIONS.	120/277 V	LED	5,500 LM	52 W	4000 K	KNUCKLE MOUNT ON IN GROUND CONCRETE FOUNDATION	IMPACT RESISTANT TEMPERED GLASS	DLC	LUMARK NFFLD-S HUBBELL OUTDOOR MHS LITHONIA QTE LED	S6
X1C1	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. AC ONLY.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE	X1C1
X1W1	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. SINGLE FACE. STENCIL FACE, RED LETTERS. AC ONLY	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE	X1W1
X1W2	VANDAL PROOF LED EXIT LIGHT, DIE-CAST ALUMINUM HOUSING, BLACK FINISH. SINGLE FACE. STENCIL FACE, RED LETTERS. AC ONLY	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	VANDAL-RESISTANT POLYCARBONATE SHIELD WITH TAMPERPROOF SCREWS	N/A	SURE-LITES UX DUAL-LITE SEWL LITHONIA LV	X1W2
X2C1	LED EXIT LIGHT, MATTE BLACK DIE-CAST ALUMINUM HOUSING, BRUSHED ALUM. DUAL FACE. STENCIL FACE, RED LETTERS. AC ONLY.	120/277 V	LED	N/A	5 W	N/A	UNIVERSAL	N/A	N/A	SURE-LITES CX DUAL-LITE SE LITHONIA LE	X2C1

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#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
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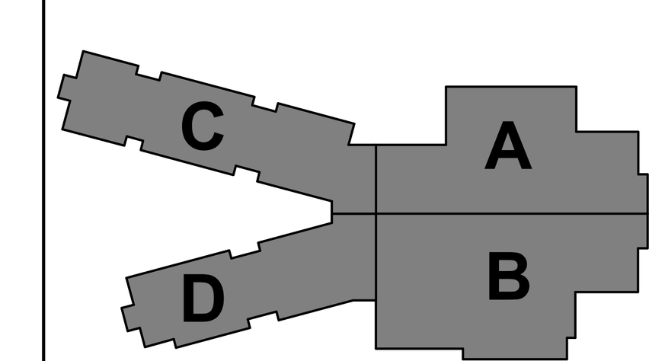

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

LIGHTING SCHEDULES

E-605

263600.1 - TRANSFER SWITCHES SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	EQUIPMENT SERVED	VOLTAGE	PHASE	AMPERAGE	POLES	NEMA ENCL	WCR RATING	CONTROL	ACCESSORIES	REMARKS
ATS-EQB1	B124	ELEC	14DPEQB1	480Y/277	3	400 A	3	1		AUTOMATIC - OPEN TRANSITION		
ATS-LSB1	B124	ELEC	14LSB1	480Y/277	3	260 A	3	1		AUTOMATIC - OPEN TRANSITION		

262213.1 - LOW-VOLTAGE DISTRIBUTION TRANSFORMERS SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	EQUIPMENT SERVED	KVA	PHASE	TYPE	MOUNT	NEMA ENCL	VOLTAGE PRIMARY	VOLTAGE SECONDARY	CONNECTION PRIMARY	CONNECTION SECONDARY	FEEDER SIZES PRIMARY	FEEDER SIZES SECONDARY	GEC	SBJ / SSBJ	REMARKS
T-EQB1	B124	ELEC	14EQB1	75	3	DRY	FLOOR	2	480 V	208Y/120	DELTA	WYE	F150	F225	1#2GND, 1"C	1#2GND, 1"C	
T-LSB1	B124	ELEC	12LSB1	75	3	DRY	FLOOR	2	480 V	208Y/120	DELTA	WYE	F150	F225	1#2GND, 1"C	1#2GND, 1"C	
T-MSB	B124	ELEC	12MDP	500	3	DRY	FLOOR	2	480 V	208Y/120	DELTA	WYE	F800	F1600	1#3/0GND, 1"C	1#350GND, 1"C	

262816.1 - ENCLOSED SWITCHES & CIRCUIT BREAKERS SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	EQUIPMENT SERVED	VOLTAGE	POLES	AMPERAGE	FUSED	FUSE SIZE	NEMA ENCL	AUX. CONTACTS	SOLID NEUTRAL	REMARKS
DS-A1	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A2	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A3	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A4	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A5	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A6	A113	GYM	BASKETBALL GOAL	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	PROVIDE CONTROL WIRING TO KEYED SWITCHES.
DS-A7	A113	GYM	BLEACHERS	240 V	3	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	
DS-A8	A113	GYM	BLEACHERS	240 V	3	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	
DS-A9	A113	GYM	GYMNASIUM DIVIDER CURTAIN	120V	1	30 A	Yes	20 A	1	(1) N.O. / N.C.	Yes	
DS-A10	A202A	KILN	KILN 1	240 V	2	60 A	Yes	50 A	1	(1) N.O. / N.C.	No	
DS-A11	A202A	KILN	KILN 2	240 V	2	60 A	Yes	50 A	1	(1) N.O. / N.C.	No	
DS-B1	B128	MECH	BOILER B-1	240 V	3	30 A	Yes	20A	1	(1) N.O. / N.C.	No	
DS-B2	B128	MECH	BOILER B-2	240 V	3	30 A	Yes	20A	1	(1) N.O. / N.C.	No	
DS-B3	B128	MECH	BOILER B-3	240 V	3	30 A	Yes	20A	1	(1) N.O. / N.C.	No	
DS-B4	B123	RECEIVING	AIR CURTAIN AC-1	240 V	2	60 A	Yes	60 A	1	(1) N.O. / N.C.	No	
DS-B5	B123	RECEIVING	AIR CURTAIN AC-2	240 V	2	60 A	Yes	60 A	1	(1) N.O. / N.C.	No	
DS-B6	B132	ELEV EQUIP.	ELEVATOR MOTOR	600 V	3	100 A	Yes	60A	1	(1) N.O. / N.C.	No	
DS-B7	B132	ELEV EQUIP.	ELEVATOR CAB LIGHTS AND FAN	240 V	2	30 A	Yes	20A	1	(1) N.O. / N.C.	Yes	
DS-B8			SPLIT SYSTEM CONDENSER CU-B1	240 V	2	30 A	Yes	30 A	3R	(1) N.O. / N.C.	No	
DS-B9	B110	MDF	MINI SPLIT INTERIOR SS-B1	240 V	2	30 A	Yes	20 A	1	(1) N.O. / N.C.	No	
DS-B10			SPLIT SYSTEM CONDENSER CU-B2	240 V	2	30 A	Yes	30 A	3R	(1) N.O. / N.C.	No	
DS-B11	B124	ELEC	MINI SPLIT INTERIOR SS-B2	240 V	2	30 A	Yes	20 A	1	(1) N.O. / N.C.	No	
DS-B12	B117	DISHWASH	DISHMACHINE	600 V	3	60 A	Yes	40 A	4X	(1) N.O. / N.C.	No	
DS-B13	B117	DISHWASH	BOOSTER HEATER	600 V	3	60 A	Yes	50 A	4X	(1) N.O. / N.C.	No	
DS-B14			WALK-IN COOLER CONDENSING UNIT	240 V	3	30 A	Yes	20 A	3R	(1) N.O. / N.C.	No	
DS-B15			WALK-IN FREEZER CONDENSING UNIT	240 V	3	60 A	Yes	35 A	3R	(1) N.O. / N.C.	No	
DS-B16	B131	STOR.	SEWAGE EJECTOR SE-1	240 V	2	30 A	Yes	15 A	4X	(1) N.O. / N.C.	Yes	
DS-B17	B128	MECH	HWCP-1	240 V	2	30 A	Yes	15 A	1	(1) N.O. / N.C.	No	
DS-B18	B128	MECH	HWCP-2	240 V	2	30 A	Yes	15 A	1	(1) N.O. / N.C.	No	
DS-C1			SPLIT SYSTEM CONDENSER CU-C1	240 V	2	30 A	Yes	30 A	3R	(1) N.O. / N.C.	No	
DS-C2	C107A	TECH.	MINI SPLIT INTERIOR SS-C1	240 V	2	30 A	Yes	20 A	1	(1) N.O. / N.C.	No	
DS-D1			SPLIT SYSTEM CONDENSER CU-D1	240 V	2	30 A	Yes	30 A	3R	(1) N.O. / N.C.	No	
DS-D2	D107A	TECH	MINI SPLIT INTERIOR SS-D1	240 V	2	30 A	Yes	20 A	1	(1) N.O. / N.C.	No	

A2

262913/262923.1 - ENCLOSED & VARIABLE-FREQUENCY MOTOR CONTROLLERS SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	EQUIPMENT SERVED	VOLTAGE	PHASE	HP	FLA	NEMA ENCL	STARTER TYPE	STARTER NEMA SIZE	DISCONNECT SWITCH TYPE	DISCONNECT SWITCH FUSE SIZE	REMOTE CAPACITOR	REMARKS
MS-A1	A200	MECH	EXHAUST FAN EF-A1	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A2	A113A	ELECTRICAL	EXHAUST FAN EF-A2	120 V	1	1/2	9.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A3	A202A	KILN	EXHAUST FAN EF-A3	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A4	A202A	KILN	EXHAUST FAN EF-A4	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A5	A202A	KILN	EXHAUST FAN EF-A5	120 V	1	1/4	5.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A6	A201A	STOR	EXHAUST FAN EF-A6	120 V	1	1/4	5.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-A7	A200	MECH	AHU-4 SUPPLY FAN	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-A8	A200	MECH	AHU-3 SUPPLY FAN	480 V	3	5	7.6 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-A9	A200	MECH	AHU-3 RETURN FAN	480 V	3	2	3.4 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B1	B128	MECH	HWP-1	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B2	B128	MECH	HWP-2	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B3	B128	MECH	PCWP-1	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B4	B128	MECH	PCWP-2	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B5	B128	MECH	SCWP-2	480 V	3	10	14.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B6	B128	MECH	SCWP-1	480 V	3	10	14.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B7	B200	MECH	EXHAUST FAN EF-B1	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-B8	B201	ELEC	EXHAUST FAN EF-B2	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-B9	B128	MECH	HWCP-3	120 V	1	1/2	9.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-B10			RTU-1 SUPPLY FAN	480 V	3	7.5	11.0 A	3R	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B11	B200	MECH	AHU-1 SUPPLY FAN	480 V	3	15	21.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B12	B200	MECH	AHU-1 RETURN FAN	480 V	3	10	14.0 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B13	B200	MECH	AHU-2 SUPPLY FAN	480 V	3	5	7.6 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B14	B200	MECH	AHU-2 RETURN FAN	480 V	3	2	3.4 A	1	VFD	-	-	-	-	FURNISHED BY TEMPERATURE CONTROLS CONTRACTOR, INSTALLED BY DIVISION 26 CONTRACTOR.
MS-B15	A113	GYM	PROJECTOR	120 V	1	1/2	9.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-B16	B124	ELEC	EXHAUST FAN EF-B3	120 V	1	1/10	1.7 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C1	C213A	ELEC.	EXHAUST FAN EF-C1	120 V	1	1/12	1.6 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C2	C213A	ELEC.	EXHAUST FAN EF-C2	120 V	1	1/12	1.6 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C3	C213A	ELEC.	EXHAUST FAN EF-C3	120 V	1	1/6	4.4 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C4	C213A	ELEC.	EXHAUST FAN EF-C4	120 V	1	1/15	0.9 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C5	C213A	ELEC.	EXHAUST FAN EF-C5	120 V	1	1/15	0.9 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-C6	C107	ELEC.	EXHAUST FAN EF-C6	120 V	1	1/6	4.4 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS
MS-D1	D206	ELEC	EXHAUST FAN EF-D1	120 V	1	1/2	9.8 A	-	1	-	-	-	-	FRACTIONAL HORSEPOWER RATED TOGGLE SWITCH WITH THERMAL OVERLOADS

A2 A2 A2 A2 A2 A2

262913.1 - LIGHTING CONTACTORS SCHEDULE

LABEL	LOCATION NUMBER	LOCATION NAME	VOLTAGE	AMPERAGE	POLES	NEMA ENCL	ACCESSORIES	COIL CIRCUIT VOLTAGE	COIL CIRCUIT PANEL	COIL CIRCUIT CIRCUIT	CONTROL	CIRCUIT(S) CONTROLLED	REMARKS
LC-B1	B124	ELEC	600 V	30 A	1	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	277 V	14B1	16	PHOTOCELL LOCATED ON ROOF	14B1-20,22,24,26,28,30,32,34,36,38	BUILDING EXTERIOR AND POLE MOUNTED SITE LIGHTING
LC-B2	B124	ELEC	600 V	30 A	1	NEMA 1	H-O-A PILOT LIGHT DDC INTEGRATION	277 V	14LSB1	42	PHOTOCELL LOCATED ON ROOF	14LSB1-18,20,22,24	BUILDING EXTERIOR EMERGENCY LIGHTING

A1

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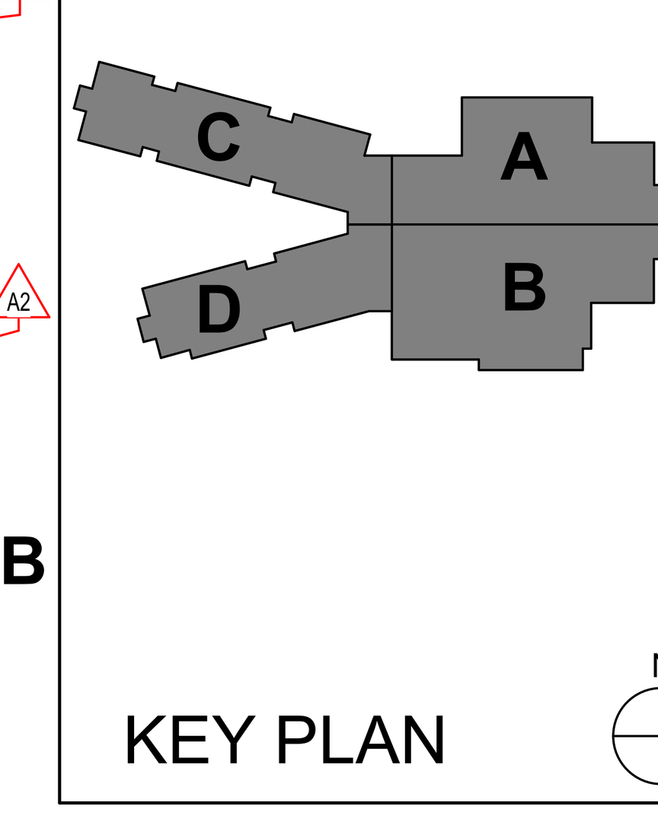
Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD
REGISTERED
NO. AR10400134
STATE OF INDIANA
ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

EQUIPMENT SCHEDULES

E-606

BRANCH PANELBOARD SCHEDULE

DESIGNATION:	14B1	VOLTS:	480Y/277 V
LOCATION:	ELEC B124	PHASES:	3
MOUNTING:	SURFACE	WIRES:	4
SUPPLY FROM:	14MSB	AIC RATING:	65,000
MAINS RATING:	225 A	MAINS TYPE:	MLO

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	MECH B128	HWP-2	40 A	3	5.82	0.50					1	20 A	LIGHTING	B121, B123, B125, B127	2	
--	3	--	--	--	--			5.82	1.52			1	20 A	LIGHTING	B116, B122	4	
--	5	--	--	--	--					5.82	0.83	1	20 A	LIGHTING	B115	6	
	7	MECH B128	PCWP-1	40 A	3	5.82	0.61					1	20 A	LIGHTING	001, B117, B118, B119	8	
--	9	--	--	--	--			5.82	0.48			1	20 A	LIGHTING	A113s, A114, A115s, A116	10	
--	11	--	--	--	--					5.82	0.91	1	20 A	LIGHTING	MUSIC A117, STO. A117A	12	
	13	MECH B128	PCWP-2	40 A	3	5.82	0.23					1	20 A	LIGHTING	B113, B112A	14	
--	15	--	--	--	--			5.82	0.50			1	20 A	LC-B1	ELEC B124	16	
--	17	--	--	--	--					5.82	0.00	1	20 A		SPARE	18	--
	19	MECH B128	SCWP-1	25 A	3	3.88	1.28					2	20 A	LIGHTING	NORTH PARKING FAR SIDE POLES	20	
--	21	--	--	--	--			3.88	1.28			--	--	--	--	22	--
--	23	--	--	--	--					3.88	1.05	2	20 A	LIGHTING	NORTH PARKING NEAR SIDE...	24	
	25	MECH B128	SCWP-2	25 A	3	3.88	1.05					--	--	--	--	26	--
--	27	--	--	--	--			3.88	0.56			2	20 A	LIGHTING	SOUTH PARKING POLES	28	
--	29	--	--	--	--					3.88	0.56	--	--	--	--	30	--
--	31	SPARE		40 A	3	0.00	0.26					2	20 A	LIGHTING	SOUTHEAST PATH & CIRCLE...	32	
--	33	--	--	--	--			0.00	0.26			--	--	--	--	34	--
--	35	--	--	--	--					0.00	0.47	2	20 A	LIGHTING	WEST PATHWAY POLES (ALT)	36	
--	37	SPARE		25 A	3	0.00	0.47					--	--	--	--	38	--
--	39	--	--	--	--			0.00	0.00			2	20 A		SPARE	40	--
--	41	--	--	--	--					0.00	0.00	--	--	--	--	42	--

	A	B	C
TOTAL LOAD:	29.61 kVA	29.82 kVA	29.04 kVA
TOTAL AMPS:	107 A	108 A	105 A

TOTAL CONNECTED LOAD:	88.46 kVA	89.73 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	108 A	108 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	5074 VA	125.00%	6343 VA
C	CONTACTOR CONTROLLED	Lighting - Exterior	7224 VA	100.00%	7224 VA
G	GFCI PROTECTED	Mechanical - Motor	75660 VA	100.00%	75660 VA
P	HANDLE LOCKING DEVICE	LE	500 VA	100.00%	500 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:

BRANCH PANELBOARD SCHEDULE

DESIGNATION:	12B1	VOLTS:	208Y/120 V
LOCATION:	ELEC B124	PHASES:	3
MOUNTING:	SURFACE	WIRES:	4
SUPPLY FROM:	12MSB	AIC RATING:	25,000
MAINS RATING:	225 A	MAINS TYPE:	MLO

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	RECEIVING B123	RECEPT	20 A	1	0.54	1.93					3	20 A	B-2	MECH B128	2	S
	3	OFFICE B127	RECEPT	20 A	1			0.72	1.93			--	--	--	--	4	--
	5	BREAK ROOM B125	RECEPT	20 A	1					0.54	1.93	--	--	--	--	6	--
	7	BREAK ROOM B125	RECEPT	20 A	1	0.36	1.93					3	20 A	B-3	MECH B128	8	S
G	9	BREAK ROOM B125	REFRIG	20 A	1			1.20	1.93			--	--	--	--	10	--
	11	BREAK ROOM B125	MWAVE	20 A	1					1.20	1.93	--	--	--	--	12	--
	13	LAUNDRY B126	WASHER	20 A	1	1.20	0.50					1	20 A	DWS-1	MECH B128	14	
	15	LAUNDRY B126	DBF-1	20 A	1			0.18	0.51			2	20 A	HWCP-2	MECH B128	16	
G	17	LAUNDRY B126	DRYER	30 A	2					2.00	0.51	--	--	--	--	18	--
--	19	--	--	--	--	2.00	1.18					1	20 A	HWCP-3	MECH B128	20	
	21	MECH B128	RECEPT	20 A	1			0.54	4.18			2	60 A	AC-1	RECEIVING B123	22	
	23	MECH B128	RECEPT	20 A	1					0.54	4.18	--	--	--	--	24	--
	25	MECH B128	RECEPT	20 A	1	0.54	4.18					2	60 A	AC-2	RECEIVING B123	26	
	27	EXTERIOR MECH YARD	RECEPT	20 A	1			0.36	4.18			--	--	--	--	28	--
	29	EXTERIOR MECH YARD	RECEPT	20 A	1					0.36	1.00	1	20 A		DOOR OPENER VEST. D001	30	
	31	EXTERIOR	RECEPT	20 A	1	0.36	0.34					1	20 A	CUH-6	VEST D001	32	
	33	D001, D002	RECEPT	20 A	1			0.54	0.72			1	20 A	RECEPT	B130, B129, B114, B131	34	
	35	D002, D001A	RECEPT	20 A	1					0.72	1.98	2	20 A		DS-B9, MINI SPLIT SS-5 ELEC B124	36	
	37	SWEEPER STOR. B131	RECEPT	20 A	1	0.18	1.98					--	--	--	--	38	--
	39	MECH B128	FCU-B1	15 A	1			0.90	0.90			1	15 A	FCU-B2	RECEIVING B123	40	
	41	STOR. B131	SE-1	20 A	1					0.86	0.51	2	20 A	HWCP-1	MECH B128	42	
	43	ELEC B124, ROOF	EF-B3	20 A	1	0.21	0.51					--	--	--	--	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	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	50	--
--	51	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	52	--
--	53	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	54	--

	A	B	C
TOTAL LOAD:	17.94 kVA	18.80 kVA	18.27 kVA
TOTAL AMPS:	149 A	157 A	153 A

TOTAL CONNECTED LOAD:	55.01 kVA	52.36 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	157 A	145 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	15300 VA	82.68%	12650 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	38706 VA	100.00%	38706 VA
G	GFCI PROTECTED	Power - Continuous	1000 VA	100.00%	1000 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION:	12B2	VOLTS:	208Y/120 V
LOCATION:	Space A118	PHASES:	3
MOUNTING:	SURFACE	WIRES:	4
SUPPLY FROM:	12MSB	AIC RATING:	10,000
MAINS RATING:	225 A	MAINS TYPE:	MLO

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	LOUNGE B109	RECEPT	20 A	1	0.36	0.72					1	20 A	RECEPT	LOUNGE B109	2	
G	3	LOUNGE B109	FRIDGE	20 A	1			1.20	1.20			1	20 A	VEND	LOUNGE B109	4	G
G	5	LOUNGE B109	VEND	20 A	1					1.20	0.18	1	20 A	RECEPT	LOUNGE B109	6	
	7	LGI B100	RECEPT	20 A	1	0.36	0.90					1	20 A	RECEPT	LGI B100	8	
G	9	LGI B100	FRIDGE	20 A	1			1.20	0.18			1	20 A	RECEPT	LGI B100	10	
	11	RR B107, B102, B108, B101	RECEPT	20 A	1					0.72	0.90	1	20 A	RECEPT	OFFICE B105	12	
	13	OFFICE B103	RECEPT	20 A	1	0.90	1.62					1	20 A	RECEPT	CORRIDOR B001, B002, B106	14	
	15	CONF B104	RECEPT	20 A	1			1.08	1.08			1	20 A	RECEPT	CAFETERIA B111	16	
	17	CAFETERIA B111	RECEPT	20 A	1					1.08	0.54	1	20 A	RECEPT	B113, B112B, B112A	18	
	19	EXTERIOR RECEPTS AREA B	RECEPT	20 A	1	0.54	1.04					1	20 A	RECEPT	PLATFORM B112	20	
	21	PLATFORM B112	SND RK	20 A	1			0.36	0.54			1	20 A	RECEPT	MDF B110	22	
	23	PLATFORM B112	RECEPT	20 A	1					1.54	0.70	1	20 A	MOTOR	B109 - GARBAGE DISPOSAL	24	
	25	LGI B100	PROJ	20 A	1	0.50	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	1.44			1	20 A	VUV-B1	LOUNGE B109	40	
--	41	SPARE		20 A	1					0.00	1.20	1	20 A	VUV-B2	LGI B100	42	

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	6.94 kVA	8.28 kVA	8.06 kVA
	TOTAL AMPS:	58 A	70 A	69 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	1.11 kVA	1.25 kVA	0.75 kVA
	TOTAL AMPS:	10 A	11 A	6 A
GRAND TOTAL LOADS:	TOTAL LOAD:	8.05 kVA	9.53 kVA	8.81 kVA
	TOTAL AMPS:	67 A	80 A	74 A

TOTAL CONNECTED LOAD:	26.38 kVA	20.40 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	80 A	57 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	21960 VA	72.77%	15980 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	3750 VA	100.00%	3750 VA
G	GFCI PROTECTED	Power - Continuous	668 VA	100.00%	668 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

PANELBOARD ABBREVIATIONS

#	NOTES
FTL	FEED THROUGH LUGS
MCB	MAIN CIRCUIT BREAKER
MFS	MAIN FUSED SWITCH
MLO	MAIN LUGS ONLY
SFL	SUB-FEED LUGS
SPD	SURGE PROTECTION DEVICE

CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS) ABBREVIATIONS

#	NOTES
C	CONTACTOR CONTROLLED
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.

GENERAL SWITCHBOARD/PANELBOARD NOTES

#	NOTES
A	VERIFY SIZE AND QUANTITY OF LUGS REQUIRED PER ONE-LINE DIAGRAM.
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.

SWITCHBOARD SCHEDULE

SWITCHBOARD:	14MSB	VOLTS:	480Y/277 V
LOCATION:	ELEC B124	PHASES:	3
MOUNTING:	FLOOR	WIRES:	4
SUPPLY FROM:	UTILITY	AIC RATING:	65,000
MAINS RATING:	3000 A	MAINS TYPE:	MCB
MCB RATING:	3000 A	MCB OPTIONS:	Z

O	CKT NO.	CIRCUIT DESCRIPTION	P	FRAME SIZE	TRIP RATING	A	B	C	LOAD	REMARKS
	1	T-MSB	3	800 A	800 A	143.72	145.02	141.82	430.56	TRANSFORMER
	2	ATS-LSB1	3	225 A	225 A	15.35	15.41	11.27	42.04	ATS
X	3	ATS-EQB1	3	400 A	300 A	31.50	30.30	32.50	94.30	ATS
	4	14A1	3	225 A	225 A	6.07	6.34	5.26	17.67	PANELBOARD
	5	14B1	3	225 A	225 A	29.61	29.82	29.04	88.46	PANELBOARD
	6	24B1	3	225 A	100 A	4.58	4.57	4.07	13.22	PANELBOARD
	7	24B2	3	225 A	225 A	21.62	21.62	21.62	64.86	PANELBOARD
X	8	14K1	3	400 A	400 A	72.77	72.77	72.77	218.32	PANELBOARD
	9	14C1, 24C1	3	225 A	225 A	5.19	5.12	3.68	13.99	PANELBOARDS
	10	14D1, 24D1	3	225 A	225 A	4.40	4.60	3.72	12.72	PANELBOARDS
X	11	CHAC-1	3	800 A	700 A	162.12	162.12	162.12	486.36	CHILLER
	12	KITCHEN B116 - COOKING SUPPLY ELEC HEAT	3	225 A	175 A	35.80	35.80	35.80	107.40	E45D
--	13	SPARE	3	225 A	225 A	--	--	--	0.00	
--	14	SPARE	3	225 A	225 A	--	--	--	0.00	
--	15	SPARE	3	225 A	100 A	--	--	--	0.00	
--	16	SPACE	1	--	--	--	--	--	--	
--	17	SPACE	1	--	--	--	--	--	--	
--	18	SPACE	1	--	--	--	--	--	--	
--	19	SPACE	1	--	--	--	--	--	--	
--	20	SPACE	1	--	--	--	--	--	--	

	A	B	C
TOTAL LOAD:	532.73 kVA	533.48 kVA	523.68 kVA
TOTAL AMPS:	1928 A	1931 A	1891 A

TOTAL CONNECTED LOAD:	1,589.89 kVA
TOTAL CONNECTED AMPS:	1931 A
TOTAL DEMAND LOAD:	1345.63 kVA
TOTAL DEMAND AMPS:	1,619 A

SWITCHBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	233480 VA	52.14%	121740 VA
C	CONTACTOR CONTROLLED	Kitchen Equipment -...	427396 VA	65.00%	277808 VA
G	GFCI PROTECTED	Lighting - Interior	64420 VA	125.00%	80525 VA
P	HANDLE LOCKING DEVICE	Lighting - Exterior	7934 VA	100.00%	7934 VA
S	SHUNT TRIP	Mechanical - Motor	832990 VA	100.00%	832990 VA
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI	Power - Continuous	18318 VA	100.00%	18318 VA
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI	Other	500 VA	100.00%	500 VA
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG	LE	1000 VA	100.00%	1000 VA
		LI	3852 VA	125.00%	4815 VA

Notes:

SWITCHBOARD SCHEDULE

SWITCHBOARD:	12MSB	VOLTS:	208Y/120 V
LOCATION:	ELEC B124	PHASES:	3
MOUNTING:	FLOOR	WIRES:	4
SUPPLY FROM:	T-MSB	AIC RATING:	65,000
MAINS RATING:	1600 A	MAINS TYPE:	MCB
MCB RATING:	1600 A	MCB OPTIONS:	Y

O	CKT NO.	CIRCUIT DESCRIPTION	P	FRAME SIZE	TRIP RATING	A	B	C	LOAD	REMARKS
	1	12A1, 12A2	3	225 A	225 A	8.93	8.24	9.18	26.35	PANELBOARDS
	2	12A3, 22A1	3	225 A	225 A	22.04	21.47	22.28	65.78	PANELBOARDS
	3	12B1	3	225 A	225 A	17.94	18.80	18.27	55.01	PANELBOARD
	4	22B1	3	225 A	225 A	4.22	3.23	3.54	10.99	PANELBOARD
	5	12B2, 22B2	3	225 A	225 A	8.05	9.53	8.81	26.38	PANELBOARDS
X	6	12K1, 12K2	3	400 A	400 A	29.41	29.34	29.23	87.98	PANELBOARDS
	7	12C1, 12C2	3	225 A	225 A	15.39	16.43	15.80	47.62	PANELBOARDS
	8	22C1, 22C2	3	225 A	225 A	12.12	13.97	11.98	38.07	PANELBOARDS
	9	12D1, 12D2	3	225 A	225 A	13.37	11.44	11.76	36.57	PANELBOARDS
	10	22D1, 22D2	3	225 A	225 A	12.26	12.58	10.98	35.82	PANELBOARDS
--	11	SPARE	3	225 A	225 A	--	--	--	0.00	
--	12	SPARE	3	225 A	225 A	--	--	--	0.00	
--	13	SPARE	3	225 A	100 A	--	--	--	0.00	
--	14	SPACE	1	--	--	--	--	--	--	
--	15	SPACE	1	--	--	--	--	--	--	
--	16	SPACE	1	--	--	--	--	--	--	
--	17	SPACE	1	--	--	--	--	--	--	
--	18	SPACE	1	--	--	--	--	--	--	
--	19	SPACE	1	--	--	--	--	--	--	
--	20	SPACE	1	--	--	--	--	--	--	

	A	B	C
TOTAL LOAD:	143.72 kVA	145.02 kVA	141.82 kVA
TOTAL AMPS:	1200 A	1211 A	1182 A

TOTAL CONNECTED LOAD:	430.56 kVA
TOTAL CONNECTED AMPS:	1211 A
TOTAL DEMAND LOAD:	302.48 kVA
TOTAL DEMAND AMPS:	840 A

SWITCHBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	208600 VA	52.40%	109300 VA
C	CONTACTOR CONTROLLED	Kitchen Equipment -...	82225 VA	65.00%	53446 VA
G	GFCI PROTECTED	Mechanical - Motor	130713 VA	100.00%	130713 VA
P	HANDLE LOCKING DEVICE	Power - Continuous	9018 VA	100.00%	9018 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				

Notes:

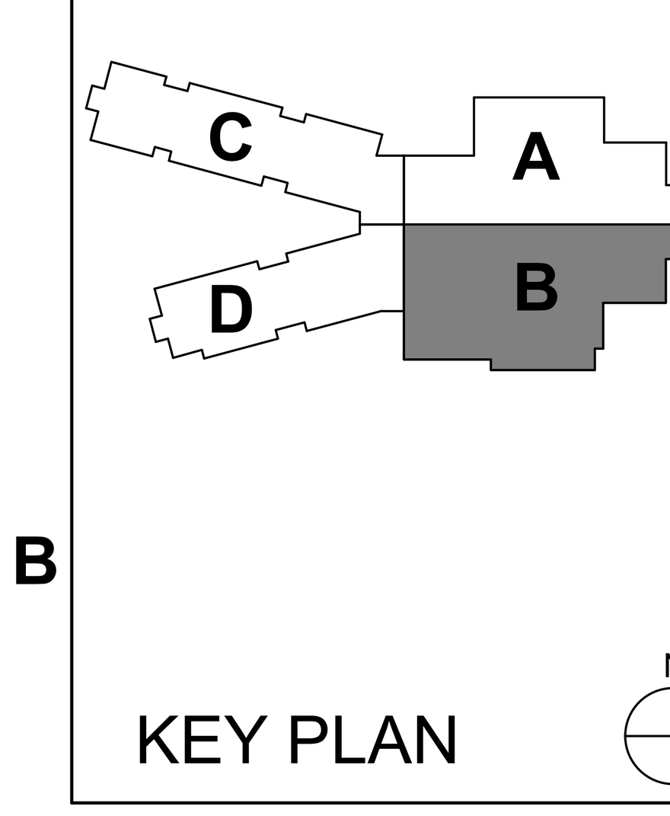
SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PANELBOARD SCHEDULES - UNIT B NORMAL POWER

E-607

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12A3 | **VOLTS:** 208Y/120 V | **MAINS RATING:** 225 A
LOCATION: ELECTRICAL A113A | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: SURFACE | **WIRES:** 4
SUPPLY FROM: 12MSB | **AIC RATING:** 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	BASKETBALL GOAL NW GYM...	RECEPT	20 A	1	1.20	1.20					1	20 A	RECEPT	BASKETBALL GOAL N. GYM A113	2	
	3	BASKETBALL GOAL NE GYM...	RECEPT	20 A	1			1.20	1.20			1	20 A	RECEPT	BASKETBALL GOAL SW GYM A113	4	
	5	BASKETBALL GOAL S. GYM...	RECEPT	20 A	1					1.20	1.20	1	20 A	RECEPT	BASKETBALL GOAL SE GYM A113	6	
	7	SCOREBOARD N. & S. GYM...	RECEPT	20 A	1	0.36	1.08					1	20 A	RECEPT	S.W. GYM A113, ELEC A113A	8	
	9	RECEPT. EAST WALL GYM A113	RECEPT	20 A	1			1.08	1.20			3	20 A	MECH	BLEACHERS WEST GYM A113	10	
	11	BLEACHERS EAST GYM A113	MECH	20 A	3					1.20	1.20	--	--	--	--	12	--
--	13	--	--	--	--	1.20	1.20					--	--	--	--	14	--
--	15	--	--	--	--			1.20	0.72			1	20 A	RECEPT	NORTH WALL GYM A113	16	
	17	PROJ. & SCREEN GYM A113	RECEPT	20 A	1					0.98	1.18	1	20 A	EF-A2	ELEC. A113A	18	
--	19	SPARE		20 A	1	0.00	1.44					1	20 A	VUV-A1	MUSIC A117	20	
	21	DIVIDER CURTAIN GYM A113	RECEPT	20 A	1			1.20	0.34			1	20 A	CUH-2	VEST C001	22	
	23	MUSIC A117	RECEPT	20 A	1					1.22	0.90	1	20 A	RECEPT	MUSIC A117, STO. A117A	24	
	25	A115, A113D, A113C, A114	RECEPT	20 A	1	0.90	0.36					1	20 A	RECEPT	STORAGE D008	26	
	27	EXTERIOR RECEPTS AREA A	RECEPT	20 A	1			0.54	1.00			1	20 A	RECEPT	DOOR OPENER VEST C001	28	
	29	VEST. C001, CORRIDOR C002	RECEPT	20 A	1					1.08	0.54	1	20 A	RECEPT	STOR A113E	30	
--	31	SPARE		20 A	1	0.00	2.40					1	30 A	MOTOR	BB HOIST RELAY BOX STO D008	32	
	33	BB HOIST RELAY BOX STO D008	MOTOR	30 A	1			2.40	0.90			1	15 A	MECH	FCU-A1 HANDWASH A115	34	
	35	FCU-A2 HANDWASH A115	MECH	15 A	1					0.90	0.34	1	15 A	MECH	FCU-A3 GIRLS A113D	36	
	37	FCU-A4 BOYS A113C	MECH	15 A	1	0.34	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	--

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	11.68 kVA	12.98 kVA	11.94 kVA
	TOTAL AMPS:	97 A	108 A	100 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	10.36 kVA	8.49 kVA	10.34 kVA
	TOTAL AMPS:	89 A	71 A	89 A
GRAND TOTAL LOADS:	TOTAL LOAD:	22.04 kVA	21.47 kVA	22.28 kVA
	TOTAL AMPS:	184 A	179 A	186 A

TOTAL CONNECTED LOAD:	65.78 kVA	53.81 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	186 A	149 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Receptacle - General	33940 VA	64.73%	21970 VA
G	GFCI PROTECTED	Mechanical - Motor	25243 VA	100.00%	25243 VA
P	HANDLE LOCKING DEVICE	Power - Continuous	6600 VA	100.00%	6600 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:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 22A1 | **VOLTS:** 208Y/120 V | **MAINS RATING:** 225 A
LOCATION: MAKER SPACE A201 | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: FLUSH | **WIRES:** 4
SUPPLY FROM: 12A3 | **AIC RATING:** 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	MAKER SPACE A201	RECEPT	20 A	1	0.54	0.36					1	20 A	RECEPT	MAKER SPACE A201	2	
	3	MAKER SPACE A201	RECEPT	20 A	1			0.54	0.36			1	20 A	RECEPT	MAKER SPACE A201	4	
	5	STORAGE A202A, A202B	RECEPT	20 A	1					0.36	0.36	1	20 A	RECEPT	MAKER SPACE A201	6	
	7	MAKER SPACE A201	RECEPT	20 A	1	0.36	0.36					1	20 A	RECEPT	MAKER SPACE A201, A201A	8	
	9	MAKER SPACE A201	RECEPT	20 A	1			0.36	0.54			1	20 A	RECEPT	MAKER SPACE A201, A201A	10	
	11	ART A202	RECEPT	20 A	1					0.72	0.54	1	20 A	RECEPT	ART A202	12	
	13	KILN EXHAUST FAN KILN A202A	MECH	20 A	1	0.80	0.80					1	20 A	MECH	KILN EXHAUST FAN KILN A202A	14	
	15	ART A202	RECEPT	20 A	1			0.54	0.54			1	20 A	RECEPT	STUDENT COMMONS C005 NORTH	16	
	17	ROOF EXTERIOR UNIT A WEST	RECEPT	20 A	1					0.36	0.00	1	20 A		SPARE	18	--
	19	ART A202	RECEPT	20 A	1	0.54	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	A201A, A202A	EF-A5,A6	20 A	1	1.40	0.00					1	20 A		SPARE	32	--
	33	KILN A202A	EF-A3,A4	20 A	1			0.41	1.20			1	20 A	VUV-A2	ART STOR. A202B	34	
	35	KILN A202A	KILN 2	50 A	2					4.00	0.00	1	20 A		SPARE	36	--
--	37	--	--	--	--	4.00	1.20					1	20 A	VUV-A3	ART STOR. A202B	38	
	39	KILN A202A	KILN 1	50 A	2			4.00	0.00			2	50 A		SPARE	40	--
--	41	--	--	--	--					4.00	0.00	--	--	--	--	42	--

	A	B	C
TOTAL LOAD:	10.36 kVA	8.49 kVA	10.34 kVA
TOTAL AMPS:	89 A	71 A	89 A

TOTAL CONNECTED LOAD:	29.19 kVA	21.70 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	89 A	60 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Receptacle - General	24980 VA	70.02%	17490 VA
G	GFCI PROTECTED	Mechanical - Motor	4210 VA	100.00%	4210 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:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 14A1 | **VOLTS:** 480Y/277 V | **MAINS RATING:** 225 A
LOCATION: CORRIDOR A002 | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: FLUSH | **WIRES:** 4
SUPPLY FROM: 14MSB | **AIC RATING:** 22,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	D008, A106, A107, A110, A112	LIGHTING	20 A	1	0.55	0.19					1	20 A	LIGHTING	001, A001	2	
	3	A002, A102, A103, A105, A111	LIGHTING	20 A	1			0.73	0.90			1	20 A	LIGHTING	B002, B003, B100, B109	4	
	5	A100, A101, A101B, A104	LIGHTING	20 A	1					0.71	0.51	1	20 A	LIGHTING	B001, B103, B104, B105	6	
	7	STOR A113E	LIGHTING	20 A	1	0.81	0.77					1	20 A	LIGHTING	MAIN ENTRY CORRIDOR 001	8	
--	9	SPARE		20 A	1			0.00	0.77			1	20 A	LIGHTING	MAIN ENTRY CORRIDOR 001	10	
--	11	SPARE		20 A	1					0.00	0.77	1	20 A	LIGHTING	MAIN ENTRY CORRIDOR 001	12	
	13	GYM A113	LIGHTING	20 A	1	0.45	0.80					1	20 A	LIGHTING	CAFETERIA B111	14	
	15	GYM A113	LIGHTING	20 A	1			0.90	1.10			1	20 A	LIGHTING	CAFETERIA B111	16	
	17	GYM A113	LIGHTING	20 A	1					0.75	0.89	1	20 A	LIGHTING	CAFETERIA B111	18	
	19	GYM A113	LIGHTING	20 A	1	0.75	0.83					1	20 A	LIGHTING	CAFETERIA B111	20	
	21	GYM A113	LIGHTING	20 A	1			0.90	1.04			1	20 A	LIGHTING	CAFETERIA B111	22	
	23	GYM A113	LIGHTING	20 A	1					0.60	1.04	1	20 A	LIGHTING	CAFETERIA B111	24	
--	25	SPARE		20 A	1	0.00	0.93					1	20 A	LIGHTING	PLATFORM B112	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	--

	A	B	C
TOTAL LOAD:	6.07 kVA	6.34 kVA	5.26 kVA
TOTAL AMPS:	22 A	23 A	19 A

TOTAL CONNECTED LOAD:	17.67 kVA	22.09 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	23 A	27 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Lighting - Interior	15088 VA	125.00%	18860 VA
G	GFCI PROTECTED	LI	2582 VA	125.00%	3228 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:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12A1 | **VOLTS:** 208Y/120 V | **MAINS RATING:** 225 A
LOCATION: CORRIDOR A002 | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: FLUSH | **WIRES:** 4
SUPPLY FROM: 12MSB | **AIC RATING:** 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	A002, A111	RECEPT	20 A	1	0.72	0.72					1	20 A	RECEPT	RECEPTION A100	2	
	3	OFFICE A112	RECEPT	20 A	1			0.90	0.36			1	20 A	RECEPT	RECEPTION A100	4	
	5	OFFICE A110	RECEPT	20 A	1					1.08	0.36	1	20 A	RECEPT	RECEPTION A100	6	
	7	OFFICE A107	RECEPT	20 A	1	0.90	0.75					1	20 A	ACCESS	RECEPTION A001, VEST. A001	8	
	9	OFFICE A106	RECEPT	20 A	1			0.90	0.18			1	20 A	RECEPT	WORK A104	10	G
	11	CONF A103	RECEPT	20 A	1					0.90	1.08	1	20 A	RECEPT	RECEPTION A100	12	
	13	OFFICE A105	RECEPT	20 A	1	0.72	0.36					1	20 A	RECEPT	RECEPTION A100	14	
	15	OFFICE A105	RECEPT	20 A	1			0.72	0.36			1	20 A	RECEPT	RECEPTION A100	16	
	17	OFFICE A102	RECEPT	20 A	1					1.08	0.54	1	20 A	RECEPT	AREA EXTERIOR RECEPTS.	18	
	19	A108, A109	RECEPT	20 A	1	0.36	0.90					1	20 A	RECEPT	MAIN ENTRY CORRIDOR 001	20	
	21	CORRIDOR A002	RECEPT	20 A	1			0.54	1.00			1	20 A	RECEPT	MAIN ENTRY N. CORR. 001	22	
	23	MAIN ENTRY CORR. 001	RECEPT	20 A	1					1.00	0.36	1	20 A	RECEPT	CLINIC A101	24	
	25	MAIN ENTRY S. CORR. 001	RECEPT	20 A	1	0.90	0.54					1	20 A	RECEPT	CLINIC A101	26	
	27	CLINIC A101	RECEPT	20 A	1			0.54	1.20			2	15 A	RECEPT	208V COPIER RECPT. WORK A104	28	
	29	A104 - GARBAGE DISPOSAL	MOTOR	20 A	1					0.70	1.20	--	--	--	--	30	--
	31	COUNTERTOP WORK A104	RECEPT	20 A	1	0.36	1.20					1	20 A	RECEPT	120V COPIER RECPT. WORK A104	32	
	33	COUNTERTOP WORK A104	RECEPT	20 A	1			0.18	0.36			1	20 A	RECEPT	WORK A104	34	
	35	A101A, A101B	RECEPT	20 A	1					0.54	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	--

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	8.43 kVA	7.24 kVA	8.84 kVA
	TOTAL AMPS:	72 A	60 A	75 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	0.50 kVA	1.00 kVA	0.34 kVA
	TOTAL AMPS:	4 A	9 A	3 A
GRAND TOTAL LOADS:	TOTAL LOAD:	8.93 kVA	8.24 kVA	9.18 kVA
	TOTAL AMPS:	75 A	69 A	77 A

TOTAL CONNECTED LOAD:	26.35 kVA	18.69 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	77 A	52 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Receptacle - General	25310 VA	69.76%	17655 VA
G	GFCI PROTECTED	Mechanical - Motor	1036 VA	100.00%	1036 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12A2 | **VOLTS:** 208Y/120 V | **MAINS RATING:** 225 A
LOCATION: CORRIDOR A002 | **PHASES:** 3 | **MAINS TYPE:** MLO
MOUNTING: FLUSH | **WIRES:** 4
SUPPLY FROM: 12A1 | **AIC RATING:** 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
G	43	CAFETERIA B111	EWC	20 A	1	0.50	0.00					1	20 A		SPARE	44	--
G	45	CAFETERIA B111	EWC	20 A	1			1.00	0.00			1	20 A		SPARE	46	--
--	47	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	48	--
--	49	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	50	--
--	51	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	52	--
--	53	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	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	--
--	61	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	62	--
--	63	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	64	--
--	65	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	66	--
--	67	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	68	--
--	69	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	70	--
--	71	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	72	--
--	73	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	74	--
--	75	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	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	0.34	1	20 A	CUH-1	VEST A001	84	

	A	B	C
TOTAL LOAD:	0.50 kVA	1.00 kVA	0.34 kVA
TOTAL AMPS:	4 A	9 A	3 A

TOTAL CONNECTED LOAD:	1.84 kVA	1.84 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	9 A	5 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Receptacle - General	1500 VA	100.00%	1500 VA
G	GFCI PROTECTED	Mechanical - Motor	336 VA	100.00%	336 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:

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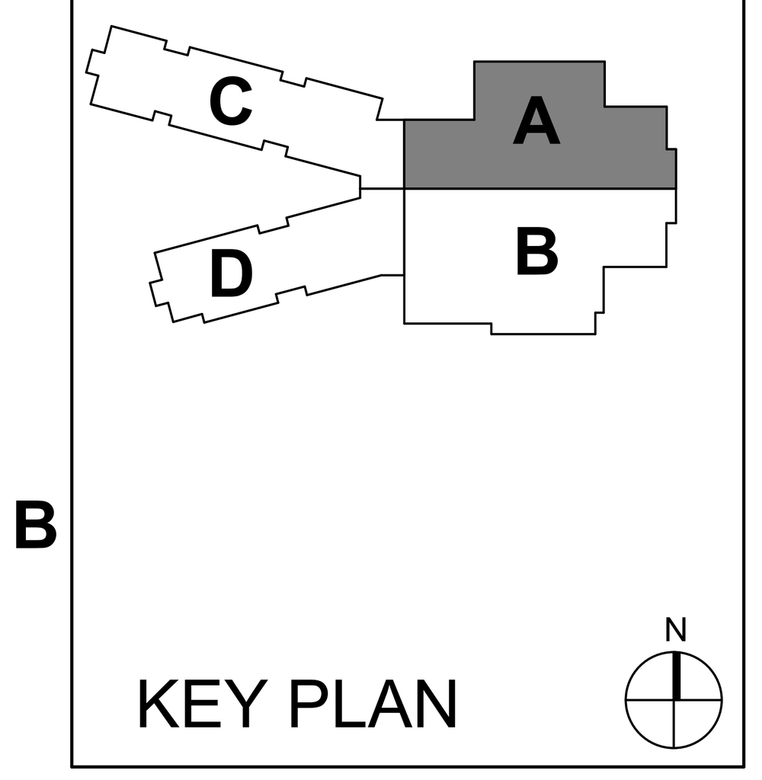
Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT No. AR10400134 STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PANELBOARD SCHEDULES - UNIT A NORMAL POWER

E-609

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 24C1 **VOLTS:** 480Y/277 V **MAINS RATING:** 100 A
LOCATION: ELEC. C213A **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 (A2)
SUPPLY FROM: 14C1 **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	C020, C207, C209,C210, C213	LIGHTING	20 A	1	0.80	0.55					1	20 A		Lighting - Interior 2ND GRADE C215	2	
	3	2ND GRADE C212	LIGHTING	20 A	1			0.55	0.60			1	20 A	LIGHTING	2ND GRADE C211	4	
	5	2ND GRADE C208	LIGHTING	20 A	1					0.60	0.55	1	20 A	LIGHTING	2ND GRADE C205	6	
	7	RESOURCE C206	LIGHTING	20 A	1	0.30	0.25					1	20 A	LIGHTING	WORK C203	8	
	9	2ND GRADE C204	LIGHTING	20 A	1			0.60	0.60			1	20 A	LIGHTING	2ND GRADE C201	10	
	11	SPECIAL ED C202	LIGHTING	20 A	1					0.33	0.38	1	20 A	LIGHTING	STUDENT COMMONS C005	12	
	13	2ND GRADE C200	LIGHTING	20 A	1	0.60	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	--

	A	B	C
TOTAL LOAD:	2.51 kVA	2.35 kVA	1.86 kVA
TOTAL AMPS:	9 A	9 A	7 A

TOTAL CONNECTED LOAD:	6.71 kVA	8.39 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	9 A	10 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	6632 VA	125.00%	8290 VA
C	CONTACTOR CONTROLLED	LI	81 VA	125.00%	101 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: 14C1 **VOLTS:** 480Y/277 V **MAINS RATING:** 100 A
LOCATION: ELEC. C107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 (A2)
SUPPLY FROM: 14MSB **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	C003, C005, C110, C112	LIGHTING	20 A	1	0.90	0.40					1	20 A	LIGHTING	SPECIAL ED C111	2	
	3	C108, C108A	LIGHTING	20 A	1			0.69	0.69			1	20 A	LIGHTING	C109, C109A	4	
	5	C104, C104A	LIGHTING	20 A	1					0.69	0.69	1	20 A	LIGHTING	C105, C105A	6	
	7	C102, C102A	LIGHTING	20 A	1	0.69	0.69					1	20 A	LIGHTING	C103, C103A	8	
	9	C100, C100A	LIGHTING	20 A	1			0.69	0.69			1	20 A	LIGHTING	C101, C101A	10	
--	11	SPARE		20 A	1					0.00	0.44	1	20 A	LIGHTING	C002, D002, C001, C001A	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	--

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	2.68 kVA	2.77 kVA	1.83 kVA
	TOTAL AMPS:	10 A	10 A	7 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	2.51 kVA	2.35 kVA	1.86 kVA
	TOTAL AMPS:	9 A	9 A	7 A
GRAND TOTAL LOADS:	TOTAL LOAD:	5.19 kVA	5.12 kVA	3.68 kVA
	TOTAL AMPS:	20 A	19 A	13 A

TOTAL CONNECTED LOAD:	13.99 kVA	17.48 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	20 A	21 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	13906 VA	125.00%	17383 VA
C	CONTACTOR CONTROLLED	LI	81 VA	125.00%	101 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 22C1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC. C213A **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 12MSB **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	MS-C1 FOR EF-C1 ELEC. C213	MECH	20 A	1	0.19	0.19					1	20 A	MECH	MS-C2 FOR EF-C2 ELEC. C213	2	
	3	RECEPT. ELEC. C213	RECEPT	20 A	1			0.18	0.53			1	20 A	MECH	MS-C3 FOR EF-C3 ELEC. C213	4	
	5	MS-C4 FOR EF-C4 ELEC. C213	MECH	20 A	1					0.11	0.11	1	20 A	MECH	MS-C5 FOR EF-C5 ELEC. C213	6	
	7	2ND GRADE C200	RECEPT	20 A	1	0.54	0.54					1	20 A	RECEPT	2ND GRADE C200	8	
	9	CHARGING CART 2ND C200	RECEPT	20 A	1			0.18	1.04			1	20 A	RECEPT	SPECIAL ED C202	10	
	11	SPECIAL ED C202	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	CHARGING CART SPECIAL ED...	12	
	13	2ND GRADE C204	RECEPT	20 A	1	0.54	0.36					1	20 A	RECEPT	2ND GRADE C204	14	
	15	CHARGING CART 2ND C204	RECEPT	20 A	1			0.18	0.54			1	20 A	RECEPT	RESOURCE C206	16	
	17	RESOURCE C206	RECEPT	20 A	1					0.54	0.54	1	20 A	RECEPT	2ND GRADE C208	18	
	19	2ND GRADE C208	RECEPT	20 A	1	0.36	0.18					1	20 A	RECEPT	CHARGING CART 2ND GRADE C208	20	
	21	2ND GRADE C212	RECEPT	20 A	1			0.54	0.54			1	20 A	RECEPT	2ND GRADE C212	22	
	23	CHARGING CART 2ND C212	RECEPT	20 A	1					0.18	0.54	1	20 A	RECEPT	2ND GRADE C215	24	
	25	2ND GRADE C215	RECEPT	20 A	1	0.54	0.18					1	20 A	RECEPT	CHARGING CART 2ND GRADE C215	26	
	27	CORR. C202	RECEPT	20 A	1			0.90	0.54			1	20 A	RECEPT	STOB C210, C213; CALM C214	28	
G	29	WATER FOUNTAIN CORR. C202	RECEPT	20 A	1					1.00	0.54	1	20 A	RECEPT	2ND GRADE C211	30	
	31	2ND GRADE C211	RECEPT	20 A	1	0.36	0.18					1	20 A	RECEPT	CHARGING CART 2ND GRADE C211	32	
	33	2ND GRADE C205	RECEPT	20 A	1			0.54	0.36			1	20 A	RECEPT	2ND GRADE C205	34	
	35	CHARGING CART 2ND C205	RECEPT	20 A	1					0.18	0.18	1	20 A	RECEPT	WORK C203	36	
	37	WORK C203	RECEPT	20 A	1	0.72	1.20					2	20 A	RECEPT	WORK C203	38	
	39	WORK C203	RECEPT	20 A	1			0.18	1.20			--	--	--	--	40	--
	41	C207, C209	RECEPT	20 A	1					0.36	0.36	1	20 A	RECEPT	WORK C203	42	

(A1)

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	6.08 kVA	7.45 kVA	5.36 kVA
	TOTAL AMPS:	52 A	63 A	45 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	6.04 kVA	6.52 kVA	6.62 kVA
	TOTAL AMPS:	50 A	55 A	56 A
GRAND TOTAL LOADS:	TOTAL LOAD:	12.12 kVA	13.97 kVA	11.98 kVA
	TOTAL AMPS:	101 A	117 A	100 A

TOTAL CONNECTED LOAD:	38.07 kVA	31.02 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	117 A	86 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	24100 VA	70.75%	17050 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	13970 VA	100.00%	13970 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12C1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC. C107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 (A2)
SUPPLY FROM: 12MSB **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	RECEPT. C107A, C107	RECEPT	20 A	1	0.54	0.53					1	20 A	RECEPT	MS-C6 FOR EF-C6 ELEC. C107	2	
	3	PK CLASS C100	RECEPT	20 A	1			0.90	0.54			1	20 A	RECEPT	PK CLASS C100	4	
	5	CHARGING CART PK C100	RECEPT	20 A	1					0.18	0.72	1	20 A	RECEPT	RR C100B, 102B, STO. C100A, 102A	6	
	7	CHARGING CART K C102	RECEPT	20 A	1	0.18	0.54					1	20 A	RECEPT	K CLASS C102	8	
	9	K CLASS C102	RECEPT	20 A	1			0.90	0.90			1	20 A	RECEPT	K CLASS C104	10	
	11	K CLASS C104	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	CHARGING CART K CLASS C104	12	
	13	RR C104A/108A, STO. C104/108A	RECEPT	20 A	1	0.72	0.18					1	20 A	RECEPT	CHARGING CART K CLASS C108	14	
	15	K CLASS C108	RECEPT	20 A	1			0.54	0.90			1	20 A	RECEPT	K CLASS C108	16	
	17	RR C110, C112, CUST. C004	RECEPT	20 A	1					0.54	0.75	1	20 A	POWER	DOOR OPENER VEST. C005	18	
G	19	WATER FOUNTAIN CORR. C003	RECEPT	20 A	1	1.00	0.72					1	20 A	RECEPT	CORRIDOR C003	20	
	21	EXTERIOR AREA C	RECEPT	20 A	1			0.54	0.54			1	20 A	RECEPT	SPECIAL ED C111	22	
	23	SPECIAL ED C111	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	CHARGING CART SPEC ED C111	24	
	25	CHARGIG CART K CLASS C109	RECEPT	20 A	1	0.18	0.54					1	20 A	RECEPT	K CLASS C109	26	
	27	K CLASS C109	RECEPT	20 A	1			0.90	0.72			1	20 A	RECEPT	RR C105/109B, STO. C105/109A	28	
	29	K CLASS C105	RECEPT	20 A	1					0.90	0.54	1	20 A	RECEPT	K CLASS C105	30	
	31	K CLASS C105	RECEPT	20 A	1	0.18	0.90					1	20 A	RECEPT	K CLASS C103	32	
	33	K CLASS C103	RECEPT	20 A	1			0.54	0.18			1	20 A	RECEPT	CHARGING CART K CLASS C103	34	
	35	RR C101/103B, STO. C101/103A	RECEPT	20 A	1					0.72	0.90	1	20 A	RECEPT	PK CLASS C101	36	
	37	PK CLASS C101	RECEPT	20 A	1	0.54	0.18					1	20 A	RECEPT	PK CLASS C101	38	
--	39	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	40	--
--	41	SPARE		20 A	1					0.00	0.54	1	20 A	RECEPT	CORRIDOR C003	42	

(A1)

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	6.93 kVA	8.10 kVA	7.23 kVA
	TOTAL AMPS:	58 A	68 A	61 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	8.46 kVA	8.33 kVA	8.57 kVA
	TOTAL AMPS:	71 A	69 A	72 A
GRAND TOTAL LOADS:	TOTAL LOAD:	15.39 kVA	16.43 kVA	15.80 kVA
	TOTAL AMPS:	128 A	137 A	132 A

TOTAL CONNECTED LOAD:	47.62 kVA	39.88 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	137 A	111 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	25480 VA	69.62%	17740 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	21386 VA	100.00%	21386 VA
G	GFCI PROTECTED	Power - Continuous	750 VA	100.00%	750 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 22C2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC. C213A **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4
SUPPLY FROM: 22C1 **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	43	AREA C ROOF	RECEPT	20 A	1	0.72	1.44					1	20 A	VUV-C13	2ND GRADE C204	44	
	45	2ND GRADE C205	VUV-C12	20 A	1			1.20	1.44			1	20 A	VUV-C17	2ND GRADE C212	46	
	47	2ND GRADE C211	VUV-C14	20 A	1					1.20	1.44	1	20 A	VUV-C11	SPECIAL ED C202	48	
	49	2ND GRADE C208	VUV-C15	20 A	1	1.44	0.36					1	20 A	RECEPT	AREA D ROOF	50	
	51	2ND GRADE C215	VUV-C16	20 A	1			1.44	0.54			1	20 A	RECEPT	2ND GRADE C201	52	
	53	WORK C203	VUV-C10	20 A	1					1.44	0.54	1	20 A	RECEPT	2ND GRADE C201	54	
	55	CHARGING CART 2ND C201	RECEPT	20 A	1	0.18	0.90					1	15 A	FCU-C3	BOYS C209	56	
	57	GIRLS C207	FCU-C4	15 A	1			0.90	1.00			1	20 A	PROJ	C208, C212	58	
	59	C211, C215	PROJ	20 A	1					1.00	1.00	1	20 A	PROJ	C200, C204	60	
	61	C201, C205	PROJ	20 A	1	1.00	0.00					1	20 A		SPARE	62	--
--	63	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	64	--
--	65	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	66	--
--	67	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	68	--
--	69	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	70	--
--	71	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	72	--
--	73	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	74	--
--	75	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	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	--

(A1) (A1)

	A	B	C
TOTAL LOAD:	6.04 kVA	6.52 kVA	6.62 kVA
TOTAL AMPS:	50 A	55 A	56 A

TOTAL CONNECTED LOAD:	19.18 kVA	19.18 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	56 A	53 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	6340 VA	100.00%	6340 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	12840 VA	100.00%	12840 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: 12C2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC. C107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 (A2)
SUPPLY FROM: 12C1 **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	43	VESTIBULE C005	CUH-3,4	20 A	1	0.34	1.44					1	20 A	VUV-C4	K CLASS C102	44	
	45	RR C100B	ECUH-C2	20 A	1			0.75	1.20			1	20 A	VUV-C9	SPECIAL ED C111	46	
	47	RR C101B	ECUH-C1	20 A	1					0.75	1.44	1	20 A	VUV-C5	K CLASS C105	48	
	49	K CLASS C103	VUV-C3	20 A	1	1.44	0.75					1	20 A	ECUH-C5	RR C105B	50	
	51	K CLASS C104	VUV-C6	20 A	1			1.44	0.75			1	20 A	ECUH-C8	RR C108B	52	
	53	K CLASS C108	VUV-C8	20 A	1					1.44	0.75	1	20 A	ECUH-C7	RR C109B	54	
	55	RR C102B	ECUH-C4	20 A	1	0.75	1.44					1	20 A	VUV-C7	K CLASS C109	56	
	57	RR C103B	ECUH-C3	20 A	1			0.75	1.44			1	20 A	VUV-C2	PK CLASS C100	58	
	59	RR C104B	ECUH-C6	20 A	1					0.75	1.44	1	20 A	VUV-C1	PK CLASS C101	60	
	61	BOYS C112	FCU-C1	15 A	1	0.90	0.90					1	15 A	FCU-C2	GIRLS C110	62	
	63	C109, C111	PROJ	20 A	1			1.00	1.00			1	20 A	PROJ	C104, C108	64	
	65	C103, C105	PROJ	20 A	1					1.00	1.00	1	20 A	PROJ	C100, C102	66	
	67	PK CLASS C101	PROJ	20 A	1	0.50	0.00					1	20 A		SPARE	68	--
--	69	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	70	--
--	71	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	72	--
--	73	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	74	--
--	75	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	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	--

(A1) (A1)

	A	B	C
TOTAL LOAD:	8.46 kVA	8.33 kVA	8.57 kVA
TOTAL AMPS:	71 A	69 A	72 A

TOTAL CONNECTED LOAD:	25.36 kVA	25.36 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	72 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)
		Receptacle - General	4500 VA	100.00%	4500 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	20856 VA	100.00%	20856 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

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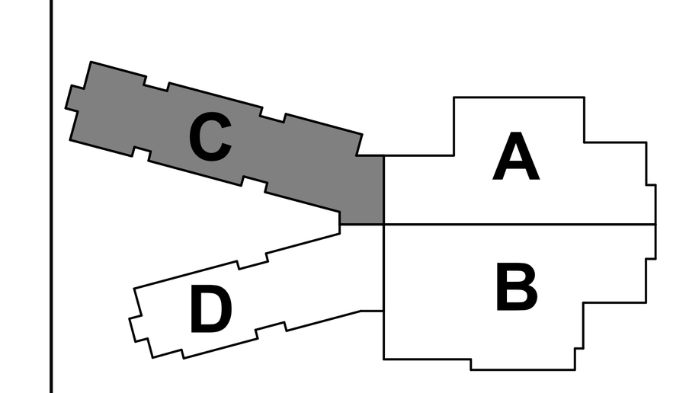
Produced EAG

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PANELBOARD SCHEDULES - UNIT C NORMAL POWER

E-610

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 24D1 **VOLTS:** 480Y/277 V **MAINS RATING:** 100 A
LOCATION: ELEC D206 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 14D1 **AIC RATING:** 14,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	D004, D212A, D212B, D213	LIGHTING	20 A	1	0.77	0.55					1	20 A	LIGHTING	3RD GRADE D211	2	
	3	3RD GRADE D210	LIGHTING	20 A	1			0.55	0.55			1	20 A	LIGHTING	3RD GRADE D209	4	
	5	3RD GRADE D208	LIGHTING	20 A	1					0.55	0.31	1	20 A	LIGHTING	D205, D207	6	
	7	RESOURCE D204	LIGHTING	20 A	1	0.27	0.55					1	20 A	LIGHTING	3RD GRADE D203	8	
	9	3RD GRADE D202	LIGHTING	20 A	1			0.55	0.55			1	20 A	LIGHTING	3RD GRADE D201	10	
	11	3RD GRADE D200	LIGHTING	20 A	1					0.55	0.44	1	20 A	LIGHTING	STUDENT COMMONS C005 SOUTH	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	--

	A	B	C
TOTAL LOAD:	2.14 kVA	2.20 kVA	1.86 kVA
TOTAL AMPS:	8 A	8 A	7 A

TOTAL CONNECTED LOAD:	6.19 kVA	7.74 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	8 A	9 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Lighting - Interior	6112 VA	125.00%	7640 VA
G	GFCI PROTECTED	LI	81 VA	125.00%	101 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:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 22D1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC D206 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 12MSB **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	ELEC D206	RECEPT	20 A	1	0.18	0.00					1	20 A		SPARE	2	--
	3	ELEC D206	EF-D1	20 A	1			1.18	1.04			1	20 A	RECEPT	3RD GRADE D200	4	
	5	3RD GRADE D200	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	CHARGING CART 3RD GRADE D200	6	
	7	3RD GRADE D202	RECEPT	20 A	1	1.04	0.54					1	20 A	RECEPT	3RD GRADE D202	8	
	9	CHARGING CART 3RD D202	RECEPT	20 A	1			0.18	0.72			1	20 A	RECEPT	RESOURCE D204	10	
	11	RESOURCE D204	RECEPT	20 A	1					0.90	1.04	1	20 A	RECEPT	3RD GRADE D208	12	
	13	3RD GRADE D208	RECEPT	20 A	1	0.54	0.18					1	20 A	RECEPT	CHARGING CART 3RD GRADE D208	14	
	15	3RD GRADE D210	RECEPT	20 A	1			1.04	0.54			1	20 A	RECEPT	3RD GRADE D210	16	
	17	CHARGING CART 3RD D210	RECEPT	20 A	1					0.18	0.54	1	20 A	RECEPT	RR D212A/B CUST. D006	18	
	19	WATER FOUNTAIN CORR. D004	RECEPT	20 A	1	1.00	1.26					1	20 A	RECEPT	CORR. D004, STO. D213	20	
	21	3RD GRADE D211	RECEPT	20 A	1			1.04	0.54			1	20 A	RECEPT	3RD GRADE D211	22	
	23	CHARGING CART 3RD D211	RECEPT	20 A	1					0.18	1.04	1	20 A	RECEPT	3RD GRADE D209	24	
	25	3RD GRADE D209	RECEPT	20 A	1	0.54	0.18					1	20 A	RECEPT	CHARGING CART 3RD GRADE D209	26	
	27	WORK D205	FRIG	20 A	1			0.18	0.54			1	20 A	RECEPT	WORK D205	28	
	29	WORK D205	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	COPIER WORK D205	30	
	31	COPIER WORK D205	RECEPT	20 A	2	1.20	1.04					1	20 A	RECEPT	3RD GRADE D203	32	
--	33	--	--	--	--			1.20	0.54			1	20 A	RECEPT	3RD GRADE D203	34	
	35	CHARGING CART 3RD D203	RECEPT	20 A	1					0.18	1.04	1	20 A	RECEPT	3RD GRADE D201	36	
	37	3RD GRADE D201	RECEPT	20 A	1	0.54	0.18					1	20 A	RECEPT	CHARGING CART 3RD GRADE D201	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	--

A2 (circuits 1–3 left; circuit 2 right)

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	8.42 kVA	8.74 kVA	6.54 kVA
	TOTAL AMPS:	73 A	75 A	55 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	3.84 kVA	3.84 kVA	4.44 kVA
	TOTAL AMPS:	32 A	32 A	37 A
GRAND TOTAL LOADS:	TOTAL LOAD:	12.26 kVA	12.58 kVA	10.98 kVA
	TOTAL AMPS:	104 A	106 A	92 A

TOTAL CONNECTED LOAD:	35.82 kVA	29.56 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	106 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)
C	CONTACTOR CONTROLLED	Receptacle - General	22520 VA	72.20%	16260 VA
G	GFCI PROTECTED	Mechanical - Motor	13300 VA	100.00%	13300 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 22D2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC D206 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 22D1 **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	43	3RD GRADE D201	VUV-D9	20 A	1	1.44	0.00					1	20 A		SPARE	44	--
	45	3RD GRADE D203	VUV-D11	20 A	1			1.44	0.00			1	20 A		SPARE	46	--
	47	3RD GRADE D209	VUV-D13	20 A	1					1.20	0.00	1	20 A		SPARE	48	--
	49	3RD GRADE D211	VUV-D15	20 A	1	1.20	0.00					1	20 A		SPARE	50	--
	51	3RD GRADE D200	VUV-D10	20 A	1			1.20	0.00			1	20 A		SPARE	52	--
	53	3RD GRADE D202	VUV-D12	20 A	1					1.44	0.00	1	20 A		SPARE	54	--
	55	3RD GRADE D208	VUV-D14	20 A	1	1.20	0.00					1	20 A		SPARE	56	--
	57	3RD GRADE D210	VUV-D16	20 A	1			1.20	0.00			1	20 A		SPARE	58	--
	59	BOYS D212B	FCU-D3	20 A	1					0.90	0.00	1	20 A		SPARE	60	--
--	61	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	62	--
--	63	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	64	--
	65	GIRLS D212A	FCU-D4	20 A	1					0.90	0.00	1	20 A		SPARE	66	--
--	67	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	68	--
--	69	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	70	--
--	71	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	72	--
--	73	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	74	--
--	75	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	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	--

A1 (circuits 59 and 65)

	A	B	C
TOTAL LOAD:	3.84 kVA	3.84 kVA	4.44 kVA
TOTAL AMPS:	32 A	32 A	37 A

TOTAL CONNECTED LOAD:	12.12 kVA	12.12 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	37 A	34 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Mechanical - Motor	12120 VA	100.00%	12120 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: 14D1 **VOLTS:** 480Y/277 V **MAINS RATING:** 100 A
LOCATION: ELEC D107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 14MSB **AIC RATING:** 14,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	D003-D005, D112-D114	LIGHTING	20 A	1	0.79	0.60					1	20 A	LIGHTING	D111	2	
	3	D110	LIGHTING	20 A	1			0.60	0.60			1	20 A	LIGHTING	D109	4	
	5	D108	LIGHTING	20 A	1					0.60	0.22	1	20 A	LIGHTING	D105	6	
	7	D104	LIGHTING	20 A	1	0.27	0.60					1	20 A	LIGHTING	D103	8	
	9	D102	LIGHTING	20 A	1			0.60	0.60			1	20 A	LIGHTING	D101	10	
	11	D100	LIGHTING	20 A	1					0.60	0.44	1	20 A	LIGHTING	D001A, D002	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	--

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	2.26 kVA	2.40 kVA	1.87 kVA
	TOTAL AMPS:	8 A	9 A	7 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	2.14 kVA	2.20 kVA	1.86 kVA
	TOTAL AMPS:	8 A	8 A	7 A
GRAND TOTAL LOADS:	TOTAL LOAD:	4.40 kVA	4.60 kVA	3.72 kVA
	TOTAL AMPS:	16 A	17 A	13 A

TOTAL CONNECTED LOAD:	12.72 kVA	15.90 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	17 A	19 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Lighting - Interior	12639 VA	125.00%	15799 VA
G	GFCI PROTECTED	LI	81 VA	125.00%	101 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12D1 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC D107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 12MSB **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	ELEC D107, TECH D107A	RECEPT	20 A	1	0.54	1.04					1	20 A	RECEPT	ESSENTIAL SKILLS D100	2	
	3	ESSENTIAL SKILLS D100	RECEPT	20 A	1			0.54	0.18			1	20 A	RECEPT	CHARGING CART SKILLS D100	4	
	5	1ST GRADE D102	RECEPT	20 A	1					1.04	0.54	1	20 A	RECEPT	1ST GRADE D102	6	
	7	1ST GRADE D102	RECEPT	20 A	1	0.18	0.72					1	20 A	RECEPT	RESOURCE D104	8	
	9	RESOURCE D104	RECEPT	20 A	1			0.90	1.04			1	20 A	RECEPT	1ST GRADE D108	10	
	11	1ST GRADE D108	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	1ST GRADE D108	12	
	13	1ST GRADE D110	RECEPT	20 A	1	1.04	0.54					1	20 A	RECEPT	1ST GRADE D110	14	
	15	1ST GRADE D110	RECEPT	20 A	1			0.18	0.54			1	20 A	RECEPT	RR D112, D004; CUST. D004	16	
	17	EXTERIOR AREA D; VEST. D005	RECEPT	20 A	1					0.54	1.00	1	20 A	RECEPT	WATER FOUNTAIN CORR. D003	18	
	19	AREA-D CORRIDOR D003	RECEPT	20 A	1	1.44	1.04					1	20 A	RECEPT	1ST GRADE D111	20	
	21	1ST GRADE D111	RECEPT	20 A	1			0.54	0.18			1	20 A	RECEPT	1ST GRADE D111	22	
	23	1ST GRADE D109	RECEPT	20 A	1					1.04	0.54	1	20 A	RECEPT	1ST GRADE D109	24	
	25	1ST GRADE D109	RECEPT	20 A	1	0.18	0.54					1	20 A	RECEPT	WORK D105	26	
	27	COPIER WORK D105	RECEPT	20 A	1			0.18	1.20			2	20 A	RECEPT	COPIER WORK D105	28	
	29	WORK D105	RECEPT	20 A	1					0.54	1.20	--	--	--	--	30	--
	31	1ST GRADE D103	RECEPT	20 A	1	1.04	0.54					1	20 A	RECEPT	1ST GRADE D103	32	
	33	CHARGING CART 1ST D103	RECEPT	20 A	1			0.18	1.04			1	20 A	RECEPT	INTERVENTION D101	34	
	35	INTERVENTION D101	RECEPT	20 A	1					0.54	0.18	1	20 A	RECEPT	CHARGING CART INTERVENT....	36	
	37	DOOR OPENER VEST. D005		20 A	1	0.75	0.18					1	20 A	RECEPT	FRIG. WORK D105	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	--

		A	B	C
THIS SECTION TOTAL:	TOTAL LOAD:	9.77 kVA	6.70 kVA	7.88 kVA
	TOTAL AMPS:	83 A	56 A	67 A
TOTAL LOAD CONNECTED TO FEED THROUGH LUGS:	TOTAL LOAD:	3.60 kVA	4.74 kVA	3.88 kVA
	TOTAL AMPS:	30 A	40 A	33 A
GRAND TOTAL LOADS:	TOTAL LOAD:	13.37 kVA	11.44 kVA	11.76 kVA
	TOTAL AMPS:	112 A	95 A	98 A

TOTAL CONNECTED LOAD:	36.57 kVA	29.39 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	112 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)
C	CONTACTOR CONTROLLED	Receptacle - General	24350 VA	70.53%	17175 VA
G	GFCI PROTECTED	Mechanical - Motor	12216 VA	100.00%	12216 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12D2 **VOLTS:** 208Y/120 V **MAINS RATING:** 225 A
LOCATION: ELEC D107 **PHASES:** 3 **MAINS TYPE:** MLO
MOUNTING: SURFACE **WIRES:** 4 A2
SUPPLY FROM: 12D1 **AIC RATING:** 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A		B		C		P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	43	INTERVENTION D101	VUV-D1	20 A	1	1.20	0.00					1	20 A		SPARE	44	--
	45	1ST GRADE D103	VUV-D3	20 A	1			1.44	0.00			1	20 A		SPARE	46	--
	47	1ST GRADE D109	VUV-D5	20 A	1					1.20	0.00	1	20 A		SPARE	48	--
	49	1ST GRADE D111	VUV-D7	20 A	1	1.20	0.00					1	20 A		SPARE	50	--
	51	ESSENTIAL SKILLS D100	VUV-D2	20 A	1			1.20	0.00			1	20 A		SPARE	52	--
	53	1ST GRADE D102	VUV-D4	20 A	1					1.44	0.00	1	20 A		SPARE	54	--
	55	1ST GRADE D108	VUV-D6	20 A	1	1.20	0.00					1	20 A		SPARE	56	--
	57	1ST GRADE D110	VUV-D8	20 A	1			1.20	0.00			1	20 A		SPARE	58	--
	59	VEST D005	CUH-5	20 A	1					0.34	0.00	1	20 A		SPARE	60	--
--	61	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	62	--
	63	BOYS D114	FCU-D1	20 A	1			0.90	0.00			1	20 A		SPARE	64	--
	65	GIRLS D112	FCU-D2	20 A	1					0.90	0.00	1	20 A		SPARE	66	--
--	67	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	68	--
--	69	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	70	--
--	71	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	72	--
--	73	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	74	--
--	75	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	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	--

A1 (circuits 63 and 65)

	A	B	C
TOTAL LOAD:	3.60 kVA	4.74 kVA	3.88 kVA
TOTAL AMPS:	30 A	40 A	33 A

TOTAL CONNECTED LOAD:	12.22 kVA	12.22 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	40 A	34 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
C	CONTACTOR CONTROLLED	Mechanical - Motor	12216 VA	100.00%	12216 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

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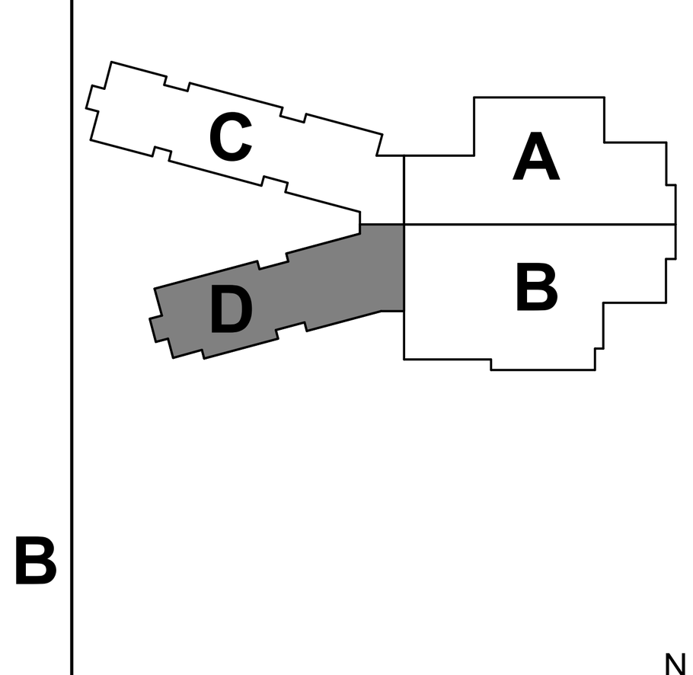
Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PANELBOARD SCHEDULES - UNIT D NORMAL POWER

E-611

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 14LSD1 | VOLTS: 480Y/277 V | MAINS RATING: 100 A
LOCATION: ELEC D107 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: SURFACE | WIRES: 4
SUPPLY FROM: 14LSB1 | AIC RATING: 10,000

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	UNIT D FIRST FLOOR EM	LIGHTING	20 A	1	0.32	0.09					1	20 A	LIGHTING	ELEC D206	2	
	3	D107, D107A	LIGHTING	20 A	1			0.18	0.68			1	20 A	LIGHTING	UNIT D SECOND FLOOR EM	4	
	5	D001, D002	LIGHTING	20 A	1					0.21	0.17	1	20 A	LIGHTING	ST-4	6	
--	7	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	8	--
--	9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10	--
--	11	SPARE		20 A	1					0.00	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	--
					TOTAL LOAD:	0.41 kVA		0.86 kVA		0.38 kVA							
					TOTAL AMPS:	1 A		3 A		1 A							

TOTAL CONNECTED LOAD:	1.65 kVA	2.06 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	3 A	2 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	1645 VA	125.00%	2056 VA
C	CONTACTOR CONTROLLED				
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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12LSD1 | VOLTS: 208Y/120 V | MAINS RATING: 100 A (A2)
LOCATION: ELEC D107 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: SURFACE | WIRES: 4
SUPPLY FROM: 12LSB1 | AIC RATING: 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	D107	FANAC	20 A	1	0.25	2.08					2	20 A	DATA RK	TECH D107A	2	
	3	ELEC D206	RECEPT	20 A	1			0.00	2.08			--	--	--	--	4	--
--	5	SPARE		20 A	1					0.00	0.36	1	20 A	RECEPT	TECH D107A	6	
--	7	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	8	--
--	9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10	--
--	11	SPARE		20 A	1					0.00	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	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	--
					TOTAL LOAD:	2.33 kVA		2.08 kVA		0.36 kVA							
					TOTAL AMPS:	22 A		20 A		3 A							

TOTAL CONNECTED LOAD:	4.77 kVA	4.77 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	22 A	13 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	4520 VA	100.00%	4520 VA
C	CONTACTOR CONTROLLED	Other	250 VA	100.00%	250 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12LSA1 | VOLTS: 208Y/120 V | MAINS RATING: 100 A
LOCATION: CORRIDOR A002 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: FLUSH | WIRES: 4
SUPPLY FROM: 12LSB1 | AIC RATING: 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	MDF B110	DATA RK	30 A	2	2.08	0.00					1	20 A		SPARE	2	-- (A2)
--	3	--	--	--	--			2.08	0.36			1	20 A	RECEPT	MDF B110	4	
	5	MDF B110	DATA RK	30 A	2					2.08	0.30	1	20 A	FANAC	STOR A111	6	
--	7	--	--	--	--	2.08	1.20					1	20 A	RECEPT	CLINIC A101	8	G
	9	MDF B110	DATA RK	30 A	2			2.08	0.00			1	20 A		SPARE	10	--
--	11	--	--	--	--					2.08	0.00	1	20 A		SPARE	12	--
--	13	SPARE		30 A	2	0.00	0.00					1	20 A		SPARE	14	--
--	15	--	--	--	--			0.00	0.00			1	20 A		SPARE	16	--
--	17	SPARE		30 A	2					0.00	0.00	1	20 A		SPARE	18	--
--	19	--	--	--	--	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	--
					TOTAL LOAD:	5.36 kVA		4.52 kVA		4.46 kVA							
					TOTAL AMPS:	45 A		38 A		37 A							

TOTAL CONNECTED LOAD:	14.34 kVA	12.32 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	45 A	34 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	14040 VA	85.61%	12020 VA
C	CONTACTOR CONTROLLED	Power - Continuous	300 VA	100.00%	300 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: 14LSC1 | VOLTS: 480Y/277 V | MAINS RATING: 100 A
LOCATION: ELEC. C107 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: SURFACE | WIRES: 4
SUPPLY FROM: 14LSB1 | AIC RATING: 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	C003, C005, C110, C112	LIGHTING	20 A	1	0.35	0.29					1	20 A	LIGHTING	C107, C107A, C213A	2	
	3	C101, C103, C105, C109, C111	LIGHTING	20 A	1			0.61	0.33			1	20 A	LIGHTING	C020, C207, C209, C214	4	
	5	C100, C102, C104, C108	LIGHTING	20 A	1					0.56	0.17	1	20 A	LIGHTING	STAIR ST-2	6	
--	7	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	8	--
--	9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10	--
--	11	SPARE		20 A	1					0.00	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	--
					TOTAL LOAD:	0.64 kVA		0.94 kVA		0.73 kVA							
					TOTAL AMPS:	2 A		3 A		3 A							

TOTAL CONNECTED LOAD:	2.31 kVA	2.89 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	3 A	3 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	2308 VA	125.00%	2885 VA
C	CONTACTOR CONTROLLED				
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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12LSC1 | VOLTS: 208Y/120 V | MAINS RATING: 100 A
LOCATION: ELEC. C107 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: SURFACE | WIRES: 4
SUPPLY FROM: 12LSB1 | AIC RATING: 10,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	C107	FANAC	20 A	1	0.25	2.08					2	20 A	DATA RK	TELECOM RACK TECH. C107A	2	
	3	TECH. C107A	RECEPT	20 A	1			0.36	2.08			--	--	--	--	4	--
--	5	SPARE		20 A	1					0.00	0.00	1	20 A		SPARE	6	--
--	7	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	8	--
--	9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10	--
--	11	SPARE		20 A	1					0.00	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	--
					TOTAL LOAD:	2.33 kVA		2.44 kVA		0.00 kVA							
					TOTAL AMPS:	22 A		23 A		0 A							

TOTAL CONNECTED LOAD:	4.77 kVA	4.77 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	23 A	13 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	4520 VA	100.00%	4520 VA
C	CONTACTOR CONTROLLED	Other	250 VA	100.00%	250 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				
Yes	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 14LSB1 | VOLTS: 480Y/277 V | MAINS RATING: 225 A
LOCATION: ELEC B124 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: SURFACE | WIRES: 4 | MCB RATING: 225 A
SUPPLY FROM: ATS-LSB1 | AIC RATING: 35,000 (A2) | MCB OPTIONS:

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	14LSA1	PANEL	100 A	3	0.99	0.47					1	20 A	LIGHTING	B123, B124	2	
--	3	--	--	--	--			1.24	0.68			1	20 A	LIGHTING	MECH B128	4	
--	5	--	--	--	--					0.68	1.28	1	20 A	LIGHTING	KITCHEN AREA	6	
	7	14LSC1	PANEL	100 A	3	0.64	0.00					1	20 A		SPARE	8	--
--	9	--	--	--	--			0.94	0.00			1	20 A		SPARE	10	--
--	11	--	--	--	--					0.73	1.38	1	20 A	LIGHTING	B111, B112, B112B	12	
	13	14LSD1	PANEL	100 A	3	0.41	0.08					1	20 A	LIGHTING	ELEV B133	14	
--	15	--	--	--	--			0.86	0.56			1	20 A	LIGHTING	A113s, A115s, C001, C002	16	
--	17	--	--	--	--					0.38	0.33	1	20 A	LIGHTING	UNIT A BLDG EXTERIOR	18	
	19	24LSB1	PANEL	100 A	3	1.24	0.31					1	20 A	LIGHTING	UNIT B BLDG EXTERIOR	20	
--	21	--	--	--	--			1.40	0.20			1	20 A	LIGHTING	UNIT C BLDG EXTERIOR	22	
--	23	--	--	--	--					0.47	0.20	1	20 A	LIGHTING	UNIT D BLDG EXTERIOR	24	
--	25	SPARE		100 A	3	0.00	0.00					1	20 A		SPARE	26	--
--	27	--	--	--	--			0.00	0.00			1	20 A		SPARE	28	--
--	29	--	--	--	--					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	T-LSB1		150 A	3	11.22	--					1	--		SPACE	38	--
--	39	--	--	--	--			9.54	--			1	--		SPACE	40	--
--	41	--	--	--	--					5.32	0.50	1	20 A	LC-B2	ELEC B124	42	
					TOTAL LOAD:	15.35 kVA		15.41 kVA		11.27 kVA							
					TOTAL AMPS:	58 A		58 A		41 A							

TOTAL CONNECTED LOAD:	42.04 kVA	39.19 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	58 A	47 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	23080 VA	71.66%	16540 VA
C	CONTACTOR CONTROLLED	Lighting - Interior	13641 VA	125.00%	17051 VA
G	GFCI PROTECTED	Lighting - Exterior	710 VA	100.00%	710 VA
P	HANDLE LOCKING DEVICE	Mechanical - Motor	1200 VA	100.00%	1200 VA
S	SHUNT TRIP	Power - Continuous	1300 VA	100.00%	1300 VA
X	80% RATED MAIN CIRCUIT BREAKER WITH LSI	Other	500 VA	100.00%	500 VA
Y	100% RATED MAIN CIRCUIT BREAKER WITH LSI	LE	500 VA	100.00%	500 VA
Z	100% RATED MAIN CIRCUIT BREAKER WITH LSIG	LI	1108 VA	125.00%	1385 VA
	FEED THROUGH LUGS (FTL)				
	SUB FEED LUGS (SFL)				

NOTES:

BRANCH PANELBOARD SCHEDULE

DESIGNATION: 12LSB1 | VOLTS: 208Y/120 V | MAINS RATING: 225 A
LOCATION: ELEC B124 | PHASES: 3 | MAINS TYPE: MCB
MOUNTING: SURFACE | WIRES: 4 | MCB RATING: 225 A
SUPPLY FROM: T-LSB1 | AIC RATING: 10,000 | MCB OPTIONS:

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	12LSA1	PANEL	100 A	3	5.36	2.33					3	100 A	PANEL	12LSC1	2	
--	3	--	--	--	--			4.52	2.44			--	--	--	--	4	--
--	5	--	--	--	--					4.46	0.00	--	--	--	--	6	--
	7	12LSD1	PANEL	100 A	3	2.33	1.20					1	20 A	LIGHTING	ELEVATOR CAB	8	
--	9	--	--	--	--			2.08	0.50			1	20 A	FACP	ELEC B124	10	
--	11	--	--	--	--					0.36	0.50	1	20 A	FANAC	ELEC B124	12	
--	13	SPARE		100 A	3	0.00	0.00					1	20 A		SPARE	14	--
--	15	--	--	--	--			0.00	0.00			1	20 A		SPARE	16	--
--	17	--	--	--	--					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	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	--
					TOTAL LOAD:	11.22 kVA		9.54 kVA		5.32 kVA							
					TOTAL AMPS:	99 A		85 A		44 A							

TOTAL CONNECTED LOAD:	26.08 kVA	19.54 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	99 A	54 A	TOTAL DEMAND AMPS:

PANELBOARD & CIRCUIT BREAKER OPTIONS ("O" COLUMN / MCB OPTIONS ABBREVIATIONS)		LOAD CLASSIFICATION	CONNECTED LOAD (VA)	DEMAND FACTOR	ESTIMATE DEMAND (VA)
		Receptacle - General	23080 VA	71.66%	16540 VA
C	CONTACTOR CONTROLLED	Mechanical - Motor	1200 VA	100.00%	1200 VA
G	GFCI PROTECTED	Power - Continuous	1300 VA	100.00%	1300 VA
P	HANDLE LOCKING DEVICE	Other	500 VA	100.00%	500 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: 14LSA1 | VOLTS: 480Y/277 V | MAINS RATING: 100 A
LOCATION: CORRIDOR A002 | PHASES: 3 | MAINS TYPE: MLO
MOUNTING: FLUSH | WIRES: 4
SUPPLY FROM: 14LSB1 | AIC RATING: 14,000 (A2)

O	CKT NO.	CIRCUIT ROOM #	CIRCUIT TYPE	TRIP	P	A	A	B	B	C	C	P	TRIP	CIRCUIT TYPE	CIRCUIT ROOM #	CKT NO.	O
	1	VEST A001	LIGHTING	20 A	1	0.07	0.92					1	20 A	LIGHTING	GYM A113	2	
	3	UNIT A OFFICES	LIGHTING	20 A	1			0.45	0.79			1	20 A	LIGHTING	MAIN ENTRY CORRIDOR 001	4	
	5	B001, B002, B100-109	LIGHTING	20 A	1					0.57	0.11	1	20 A	LIGHTING	MDF B110	6	
--	7	SPARE		20 A	1	0.00	0.00					1	20 A		SPARE	8	--
--	9	SPARE		20 A	1			0.00	0.00			1	20 A		SPARE	10	--
--	11	SPARE		20 A	1					0.00	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	--
					TOTAL LOAD:	0.99 kVA		1.24 kVA		0.68 kVA							
					TOTAL AMPS:	4 A		5 A		2 A							

TOTAL CONNECTED LOAD:	2.91 kVA	3.63 kVA	TOTAL DEMAND LOAD:
TOTAL CONNECTED AMPS:	5 A	4 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	2137 VA	125.00%	2671 VA
C	CONTACTOR CONTROLLED	LI	770 VA	125.00%	963 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:

SCHMIDT ASSOCIATES
415 Massachusetts Avenue
Indianapolis, IN 46204
www.schmidt-arch.com

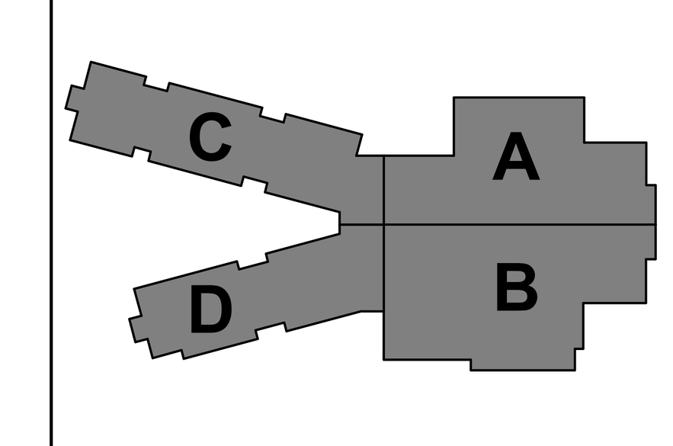
Project No. 2021-141.NES
Project Date 05.11.2022
Produced EAG

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

Sarah K Hempstead

#	Revision	Date
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

PANELBOARD SCHEDULES - LIFE SAFETY POWER

E-612

E-612_ PANELBOARD SCHEDULES - LIFE SAFETY POWER
2021-141.NES_FRANKLIN TOWNSHIP CSC_NEW ELEMENTARY SCHOOL_
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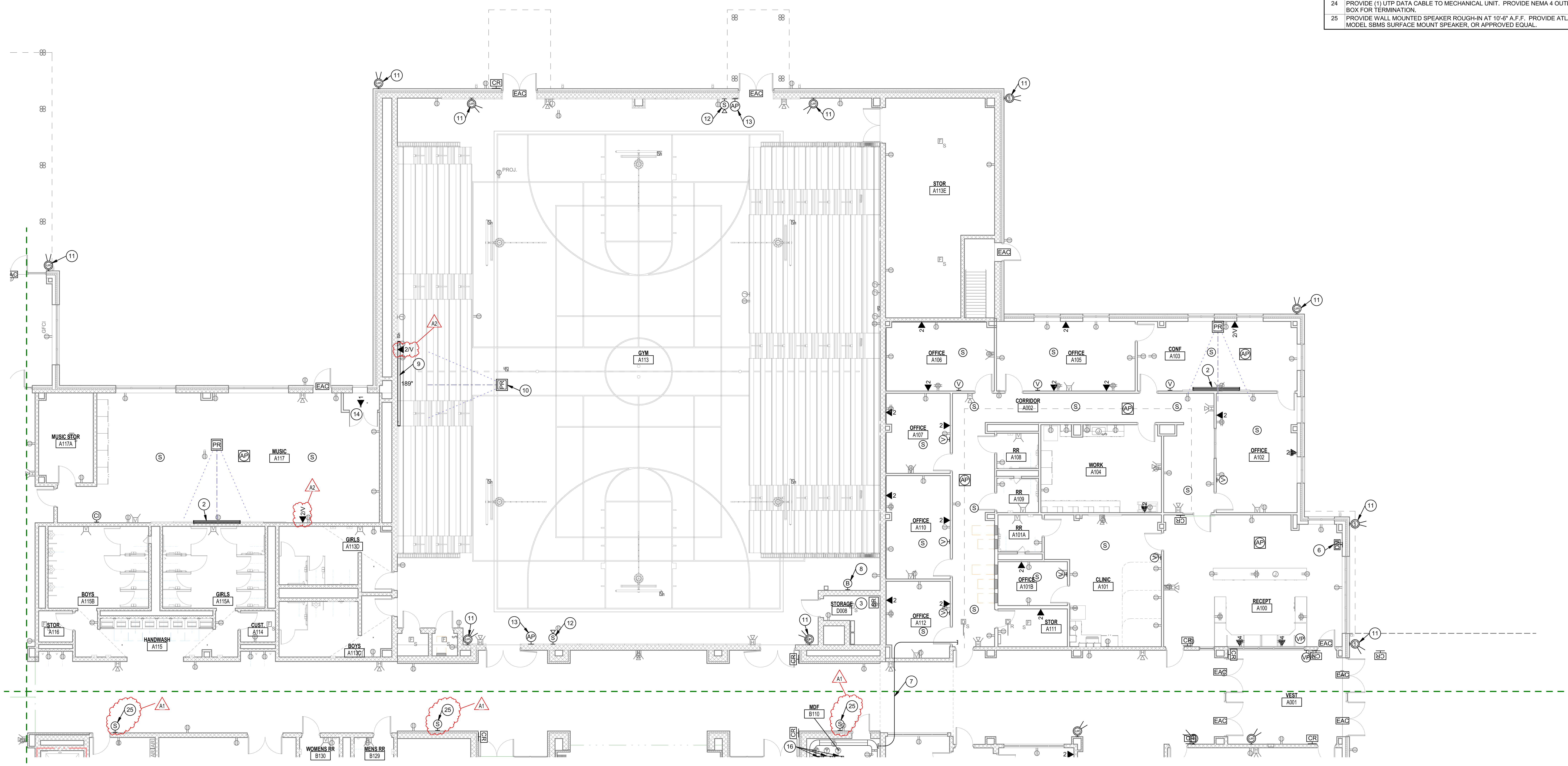

GENERAL TELECOMMUNICATIONS NOTES

#	NOTES
A	REFER TO SHEET T-001 FOR ADDITIONAL INFORMATION.

TELECOMMUNICATIONS PLAN NOTES

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1 FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT A
1/8" = 1'-0"

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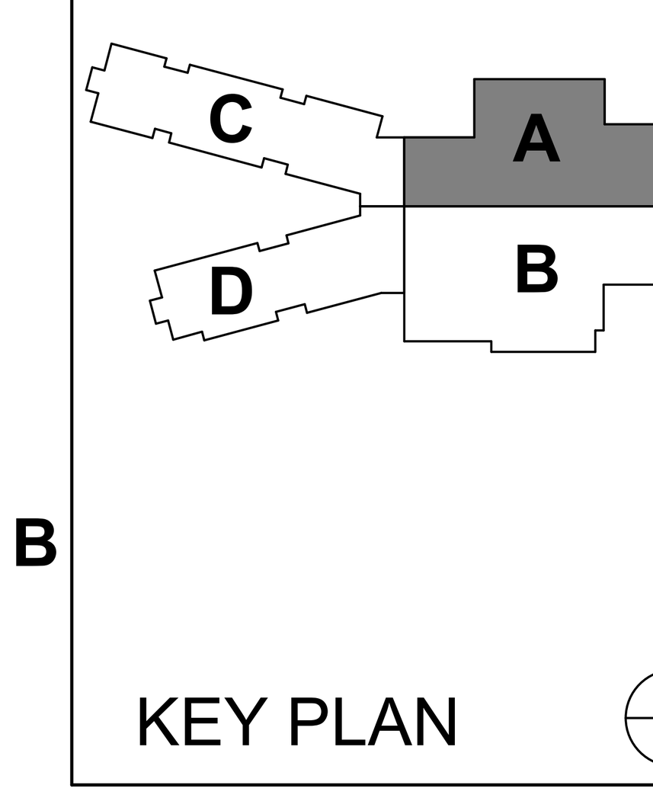
Project No. 2021-141.NES
Project Date 05.11.2022
Produced MD

SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

#	Revision	Date
A1	Addendum #1	05.31.2022
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT A

TF1A1

GENERAL TELECOMMUNICATIONS NOTES

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TELECOMMUNICATIONS PLAN NOTES

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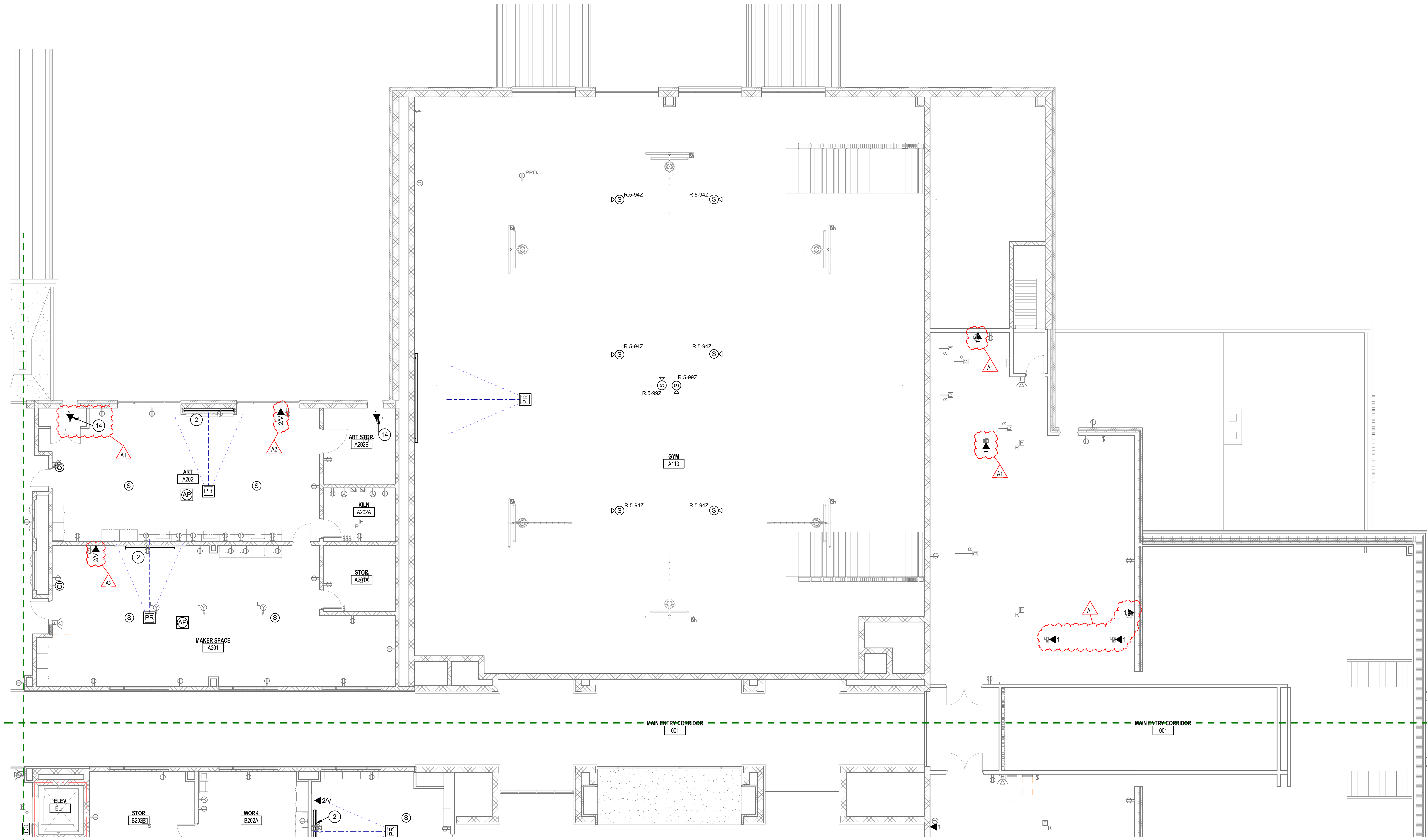

1 SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT PLAN A
1/8" = 1'-0"

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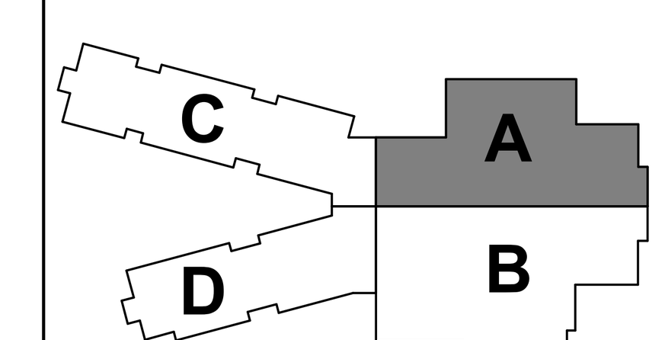

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT A

TF1A2

GENERAL TELECOMMUNICATIONS NOTES

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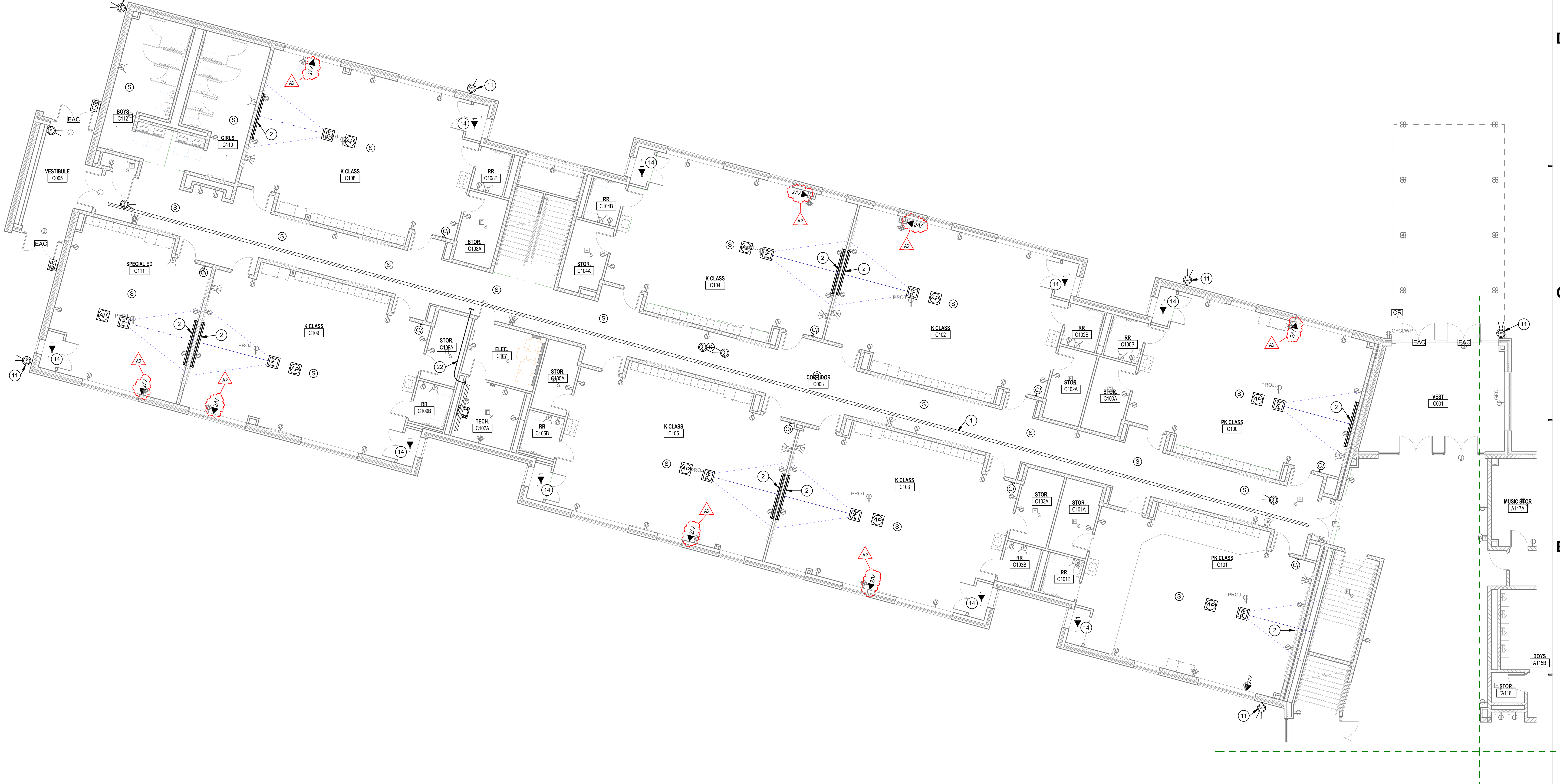

1 FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT C

1/8" = 1'-0"

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Project No. 2021-141.NES

Project Date 05.11.2022

Produced MD

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
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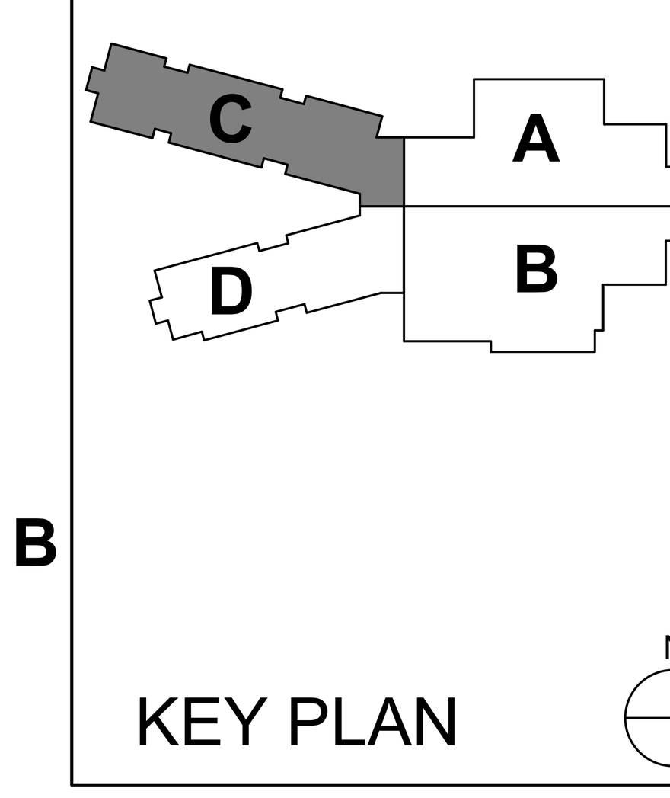

KEY PLAN

FRANKLIN TOWNSHIP CSC

Franklin Township Community School Corporation

NEW ELEMENTARY SCHOOL

FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT C

TF1C1

GENERAL TELECOMMUNICATIONS NOTES

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TELECOMMUNICATIONS PLAN NOTES

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1 SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT PLAN C

1/8" = 1'-0"

SCHMIDT
ASSOCIATES
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www.schmidt-arch.com

Project No. 2021-141.NES
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A2	Addendum #2	06.09.2022

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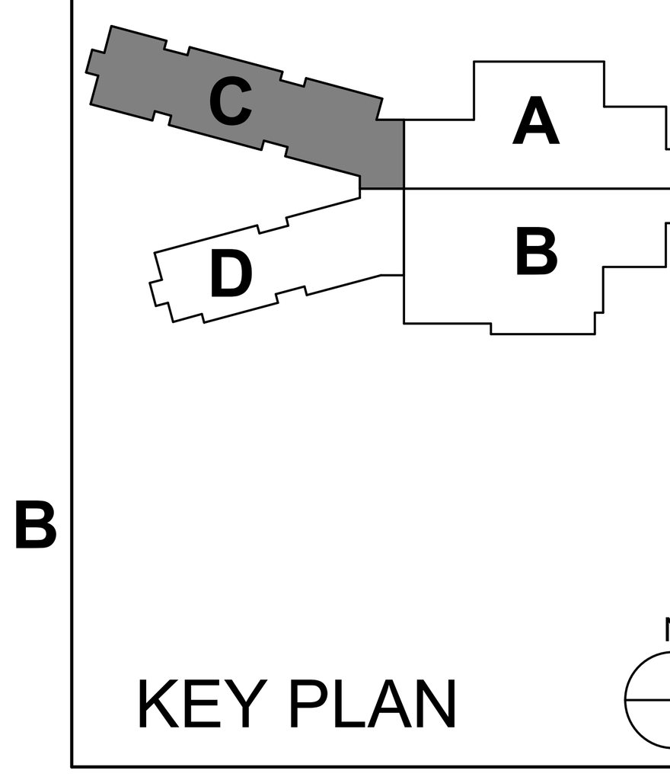


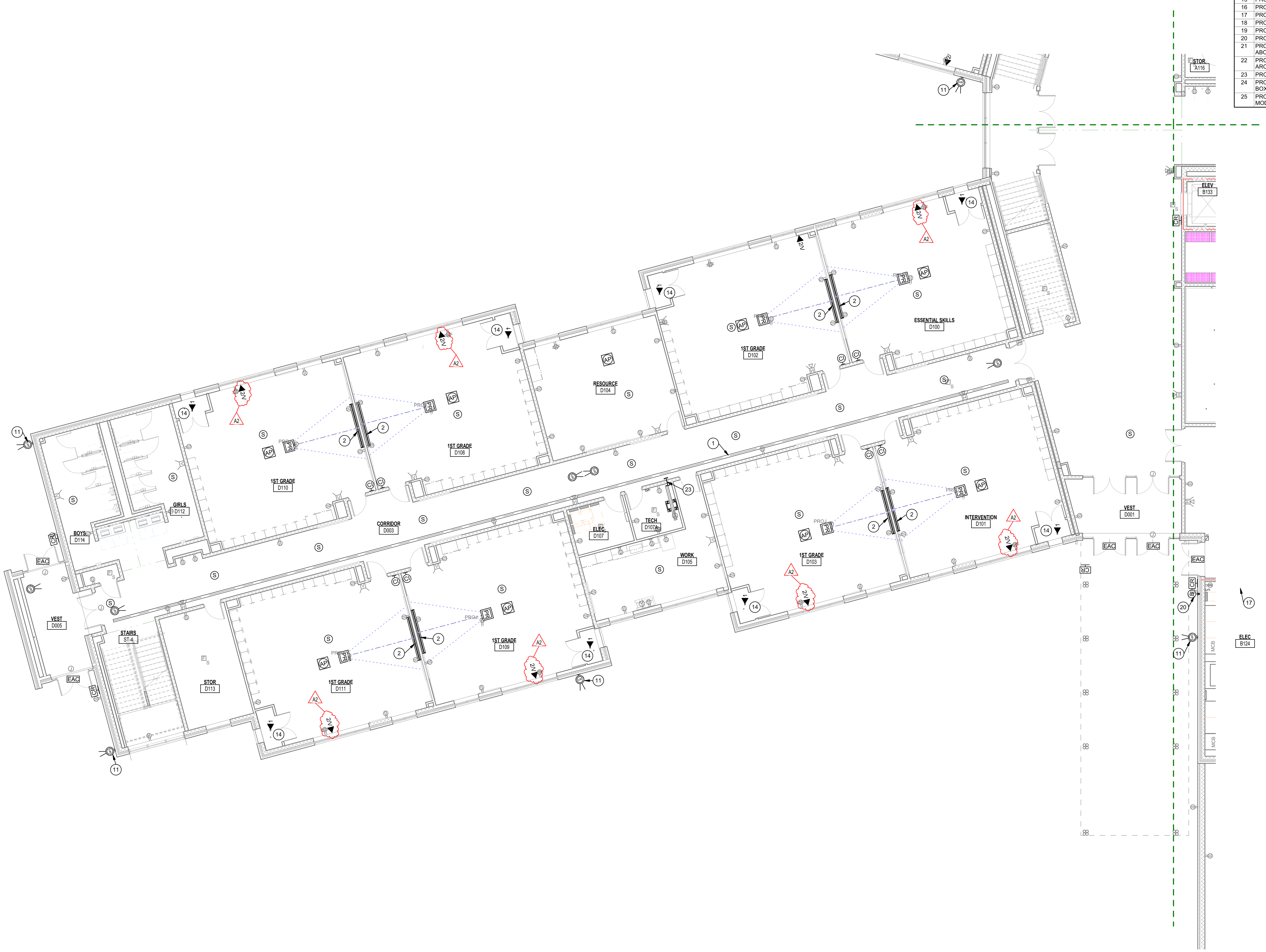
KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT C

TF1C2



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1 FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT D
1/8" = 1'-0"

SCHMIDT ASSOCIATES
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www.schmidt-arch.com

Project No. 2021-141.NES
Project Date 05.11.2022
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SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06.09.2022

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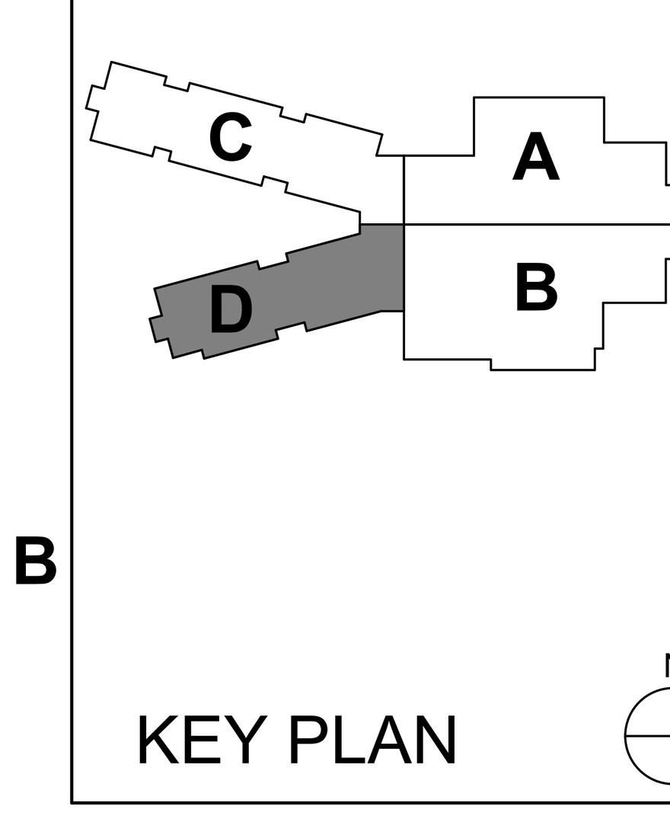

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

FIRST FLOOR TELECOMMUNICATIONS PLAN - UNIT D

TF1D1

GENERAL TELECOMMUNICATIONS NOTES

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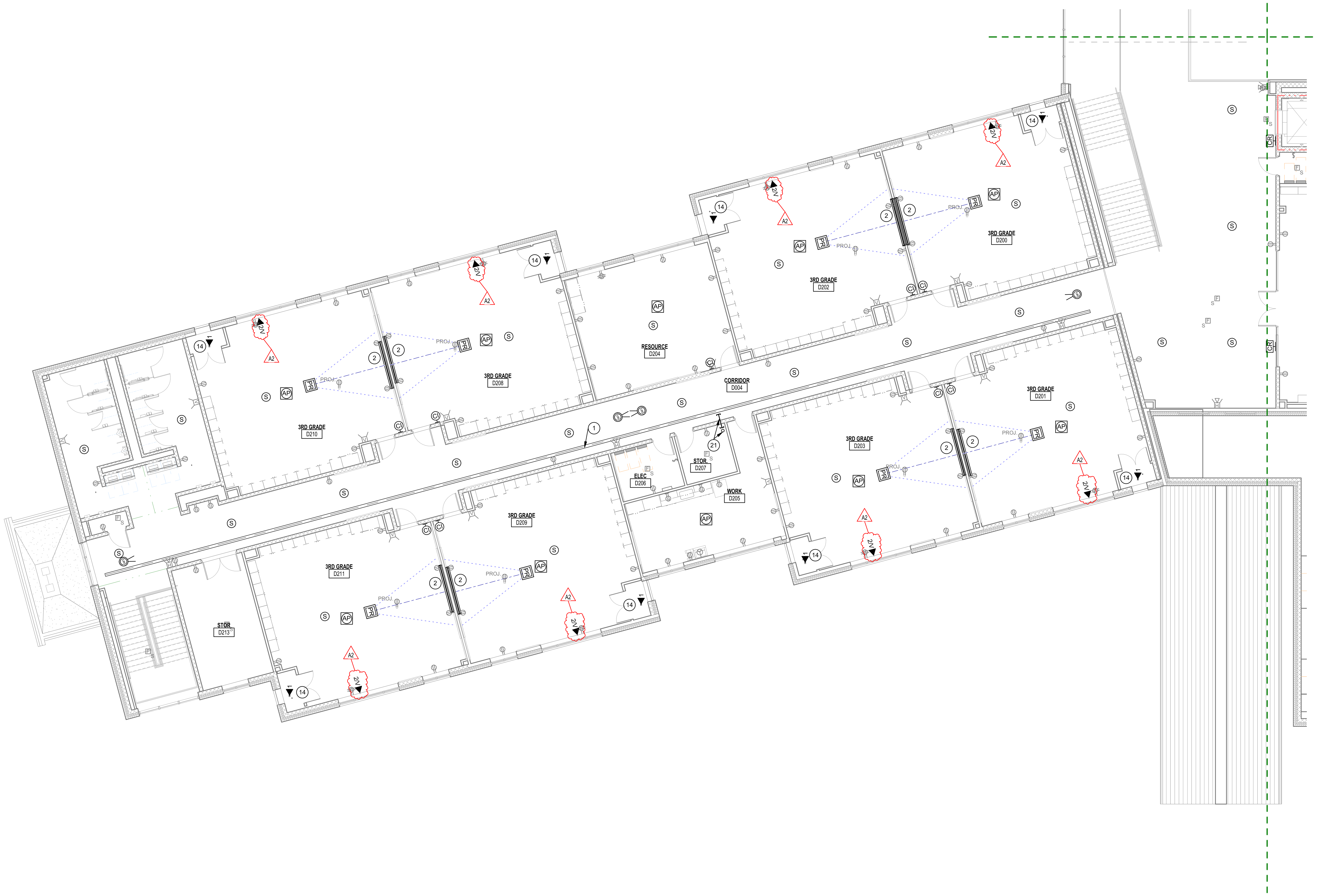
3	GYM SOUND SYSTEM CENTRAL EQUIPMENT.
4	CAFETORIUM SOUND SYSTEM CENTRAL EQUIPMENT.
5	PROVIDE BUZZER/BELL DEVICE AT 8'-0" A.F.F.
6	PROVIDE DATA AND POWER AT 7'-0" A.F.F.
7	PROVIDE (2) 4" CONDUITS FROM MDF (B110) TO ABOVE CEILING IN CORRIDOR (A002) FOR LOW VOLTAGE CABLE PATHWAY.
8	PROVIDE UP/DOWN/STOP SWITCH FOR MOTORIZED PROJECTION SCREEN.
9	PROVIDE PROJECTION SCREEN AS SPECIFIED. MOUNT SCREEN CASE AT 18'-0" A.F.F.
10	PROVIDE PROJECTOR AS SPECIFIED. PROVIDE EXTENSION AS REQUIRED (APPROX. 4' TO 5').
11	PROVIDE VIDEO SURVEILLANCE ROUGH-IN AT 10'-0" A.F.F.
12	PROVIDE ROUGH-IN FOR INTERCOM SPEAKER HORN AT 10'-0" A.F.F.
13	PROVIDE ROUGH-IN FOR WIRELESS ACCESS POINT AT 10'-0" A.F.F.
14	PROVIDE (1) UTP DATA CABLE TO MECHANICAL UNIT. COIL 15' SLACK LOOP.
15	PROVIDE PLYWOOD BACKBOARD.
16	PROVIDE RACKS AS SPECIFIED.
17	PROVIDE (4) UTP DATA CABLES FOR FIRE ALARM CONTROL PANEL.
18	PROVIDE (2) UTP DATA CABLES FOR TEMPERATURE CONTROL PANEL.
19	PROVIDE (2) UTP DATA CABLES FOR POINT OF SALE COMPUTERS.
20	PROVIDE BUZZER/BELL BUTTON AT 46" A.F.F.
21	PROVIDE 4" EMT SLEEVE FROM IDF BELOW. PROVIDE 4" EMT SLEEVE OUT TO ABOVE CEILING CORRIDOR.
22	PROVIDE 4" EMT CONDUIT FROM IDF TO ABOVE CEILING IN CORRIDOR. ROUTING AROUNG ELECTRICAL ROOM.
23	PROVIDE 4" EMT SLEEVE TO ABOVE CEILING IN CORRIDOR.
24	PROVIDE (1) UTP DATA CABLE TO MECHANICAL UNIT. PROVIDE NEMA 4 OUTLET BOX FOR TERMINATION.
25	PROVIDE WALL MOUNTED SPEAKER ROUGH-IN AT 10'-6" A.F.F. PROVIDE ATLASIED MODEL SBMS SURFACE MOUNT SPEAKER, OR APPROVED EQUAL.



1 SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT PLAN D
1/8" = 1'-0"

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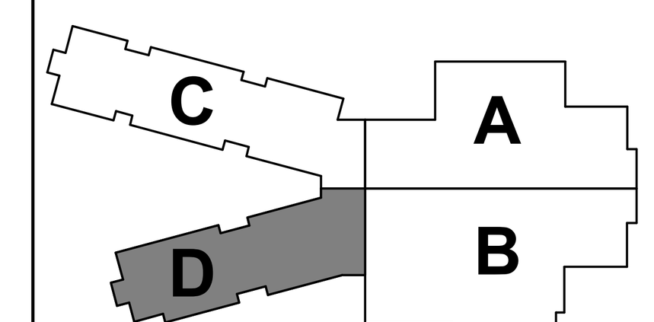
Project No. 2021-141.NES
Project Date 05.11.2022
Produced MD

SARAH KATHLEEN HEMPSTEAD REGISTERED NO. AR10400134 STATE OF INDIANA ARCHITECT

#	Revision	Date
A2	Addendum #2	06.09.2022

10559 E. THOMPSON RD
INDIANAPOLIS, IN 46239



KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR TELECOMMUNICATIONS PLAN - UNIT D

TF1D2

FLOOR PLAN NOTES

#	Note
20	CONCRETE CURB, TYPICAL AROUND MECHANICAL ROOM PERIMETER AND OPENINGS, COORDINATE WITH S-SERIES DWGS.
21	11 54 13 - (2) KILNS
22	OPEN TO BELOW
23	07 95 00 - EXPANSION JOINT CONTROL COVER OVER ENTIRE EXPOSED AREA. REFER TO SPEC FOR DESCRIPTION OF JOINT COVERTO USE FOR DIFFERENT CONDITIONS.
24	ACCESS CONTROL CARD READER. REFER TO T-SERIES DWGS.
25	MECHANICAL EQUIPMENT. REFERENCE M-SERIES DWGS.
26	ANNUNCIATOR PANEL. REFERENCE E-SERIES DWGS.
27	10 51 13 - METAL LOCKERS ON CONCRETE BASE. TYPE A
28	05 50 00 - METAL LADDER.
29	12 24 13 - MANUAL ROLLER WINDOW SHADE.
30	06 40 23 - DISPLAY CASE.
31	11 61 43 - PLATFORM CURTAINS P-1.
32	11 61 43 - PLATFORM CURTAINS B-1.
33	10 81 13 - BIRD NETTING AT BOTH SIDES OF CANOPY STRUCTURAL MEMBERS TO FULLY PREVENT ENTRUSION.
34	10 14 00 - BUILDING PLAQUE
35	05 52 13 - PIPE AND TUBE GUARDRAIL.
36	05 73 00 - DECORATIVE METAL RAILING TYPE A
37	INTERCOM - TALK/VIDEO. REFER TO T-SERIES DRAWINGS.
38	PANIC BUTTON ON MILLWORK. REFER TO T-SERIES DRAWINGS.
39	08 71 00 - LOCK/UNLOCK SWITCH FROM RECEPTION DESK FOR 3 DOORS.
40	PLYWOOD PANELS AROUND ROOM. REFER TO T-SERIES DRAWINGS.
41	11 40 00 - KITCHEN EQUIPMENT. REFERENCE Q-SERIES DRAWINGS.
42	11 66 43.99 - INTERIOR SCORE BOARD
43	05 53 00 - METAL GRATINGS.
44	05 73 00 - DECORATIVE METAL RAILING TYPE B
45	05 73 00 - DECORATIVE METAL RAILING TYPE C
46	08 71 00 - BOLLARD MOUNTED ADA AUTOMATIC OPERATOR AND CARD READER. COORDINATE LOCATION WITH ARCHITECT.

FLOOR PLAN NOTES

#	Note
1	04 20 00 - KNOX BOX @ 46" AFF; COORDINATE EXACT LOCATION WITH OWNER AND LOCAL FIRE DEPARTMENT.
2	LINE OF CANOPY ABOVE; REFERENCE ROOF PLAN
3	07 71 00 - METAL DOWNSPOUT. REFER TO ROOF PLAN FOR SIZE. COORDINATE WITH C-SERIES DWGS FOR BOOT CONNECTION.
4	10 21 23 - CUBICAL CURTAINS AND TRACK
5	10 22 39 - GLASS OPERABLE PARTITION.
6	11 66 23 - FRONT FOLDING BACKSTOP. SUSPEND BACKSTOP FROM STRUCTURE ABOVE. COORDINATE FINAL LOCATION WITH S-SERIES DRAWINGS.
7	11 66 23 - GYMNASIUM DIVIDER CURTAIN.
8	11 66 23 - GYMNASIUM ATHLETIC WALL PADS. CUSTOM FIT TO COLUMNS AND PROVIDE CUT OUTS AROUND EQUIPMENT AND DEVICES.
9	LINE OF WALL ABOVE.
10	08 71 00 - ADA AUTOMATIC OPERATOR. COORDINATE LOCATION WITH ARCHITECT.
11	MOP SINK. REFER TO P-SERIES DRAWINGS. PROVIDE MOP HOLDER ABOVE SINK.
12	09 64 66 - WOOD ATHLETIC FLOORING SYSTEM. PROVIDE RECESS IN CONC SLAB AS REQUIRED. REFERENCE I-SERIES DRAWINGS FOR COURT STRIPING LOCATION AND COLORS.
13	12 66 00 - TELESCOPING BLEACHERS.
14	11 66 23 - GYMNASIUM CONTROL CENTER - COORDINATE WITH E-SERIES DWGS.
15	11 66 23 - RECESSED VOLLEYBALL POST FLOOR SLEEVE WITH COVER. COORDINATE FINAL LOCATION WITH ARCHITECT.
16	10 14 00 - BUILDING SIGNAGE REFER TO ELEVATIONS.
17	SLAB RECESS FOR INSULATED COOLER/FREEZER UNIT. REFER TO QF SERIES DWGS.
18	05 50 00 - PREFABRICATED STEEL SHIPS LADDER.
19	09 64 66 - WOOD ATHLETIC FLOORING TRANSITION PLATE.

General Plan Notes

A. All dimensions shown are to face of stud or masonry, unless noted otherwise. Dimensions designated as "CLR or "clear" indicate a clear dimension from face of finish to face of finish. Dimensions of exterior walls are to outside edge of foundation.

B. Dimensions for all openings for Mechanical, Plumbing, Fire Protection and Electrical shall be fire stopped at each floor penetration.

C. Provide bracing and blocking as required in walls supporting casework, tackboards, markerboards, and restroom accessories.

D. All door frames are located 4" from adjacent wall, unless noted otherwise.

E. All exposed outside corners of CMU shall be bullnosed.

F. Seal all joints between dissimilar materials.

G. All gypsum wallboard is 5/8" Type "X", unless noted otherwise.

H. All exterior windows are Type "SF7", unless noted otherwise.

I. All interior walls are Type "S4iD", unless noted otherwise.

J. Base elevation is 0'-0" = 819.75' (United States Geological Survey data).

K. Hatching within walls shown in plans and sections indicates new construction.

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SARAH KATHLEEN HEMPSTEAD REGISTERED ARCHITECT NO. AR10400134 STATE OF INDIANA

Sarah K Hempstead

#	Revision	Date
A1	Addendum 1	05.31.2022
A2	Addendum 2	06.09.2022

5120 SENOUR ROAD
INDIANAPOLIS, IN 46239

KEY PLAN

FRANKLIN TOWNSHIP CSC

NEW ELEMENTARY SCHOOL

SECOND FLOOR PLAN - UNIT A

AF1A2

1A SECOND FLOOR - UNIT A
1/8" = 1'-0"