ADDENDUM NO. 01

June 14, 2024

Additions and Renovations to Franklin Central High School Phase 2B
6215 S. Franklin Rd.
Indianapolis, IN, 46259

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 29, 2024, by VPS Architecture. Acknowledge receipt of the Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of Pages ADD 1 - 1through ADD 1 - 3, Phasing and Guideline Schedule and attached Sections VPS Addendum No. 01 dated June 14, 2024, consisting of 9 (nine) pages, sections 232513 Water Treatment for Closed Loop Hydronic Systems, 237313.13 Indoor and Outdoor Basic Air-Handling Units, 274130 Athletic Scoreboards Equipment, and Section 312000 Earthwork, CES Addendum No.01 dated June 14, 2024 consisting of 3 (three) pages and a combined total of 41 drawings.

A. **SPECIFICATION SECTION 00 00 20 TABLE OF CONTENTS**

ADD SECTIONS

12 35 53.13	Metal Laboratory Casework
27 14 23	Communications Optical Fiber Riser Cabling

DELETE SECTIONS

22 15 13	General-Service Compressed Air Piping
22 15 19	General-Service Packaged Air Compressors and Receivers

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

A. BID CATEGORY NO. 1 - GENERAL TRADES

Add the following Specification Section:
09 27 13 – Glass-Fiber-Reinforced Plaster Fabrications
10 21 23 – Cubicles
13 34 19 – Metal Building Systems
14 20 00 - Hydraulic Elevators

C. DELETE BID CATEGORY NO. 3 METAL BUILDING SYSTEMS

Delete BC #3 – Metal Building Systems in its entirety.

F. BID CATEGORY NO. 10 – CASEWORK

Add the following Specification Sections:
12 35 53.13 Metal Laboratory Casework
12 35 53.14 Fume Hood Extraction Arm System

H. BID CATEGORY NO. 11 – FOODSERVICE EQUIPMENT

Add the following Specification Sections:
02 41 19 Selective Structural Demolition (as applicable to your work)

Add the following Clarification:
1. Responsible for demolition of existing foodservice equipment made obsolete by new work.

I. BID CATEGORY NO. 13 – PLUMBING and HVAC

Add the following Specification Section:
22 66 00 Chemical-Waste Systems for Laboratory and Healthcare Facilities

Delete the following Specification Section:
22 15 13 General-Service Compressed Air Piping
22 15 19 General-Service Packaged Air Compressors and Receivers

Add the following Clarifications:
7. **BC #13 Contractor** is responsible for saw cuts, removal of concrete and replacement needed to install the work.
8. Review rooftop and mechanical room air handler replacement access to make sure

J. BID CATEGORY NO. 14 – ELECTRICAL AND TECHNOLOGY

Add the following Specification Section:
27 14 23 Communications Optical Fiber Riser Cabling

Add the following Clarifications:
6. **BC #14 Contractor** is responsible for saw cuts, removal of concrete and replacement needed to install the work.

C. SPECIFICATION SECTION 01 21 00 ALLOWANCES

3.01 PRODUCT ALLOWANCE

A. 1. Bid Category No. 1 – Include $150,000 in your bid for soil stabilization.

3.02 CONTINGENCY ALLOWANCES

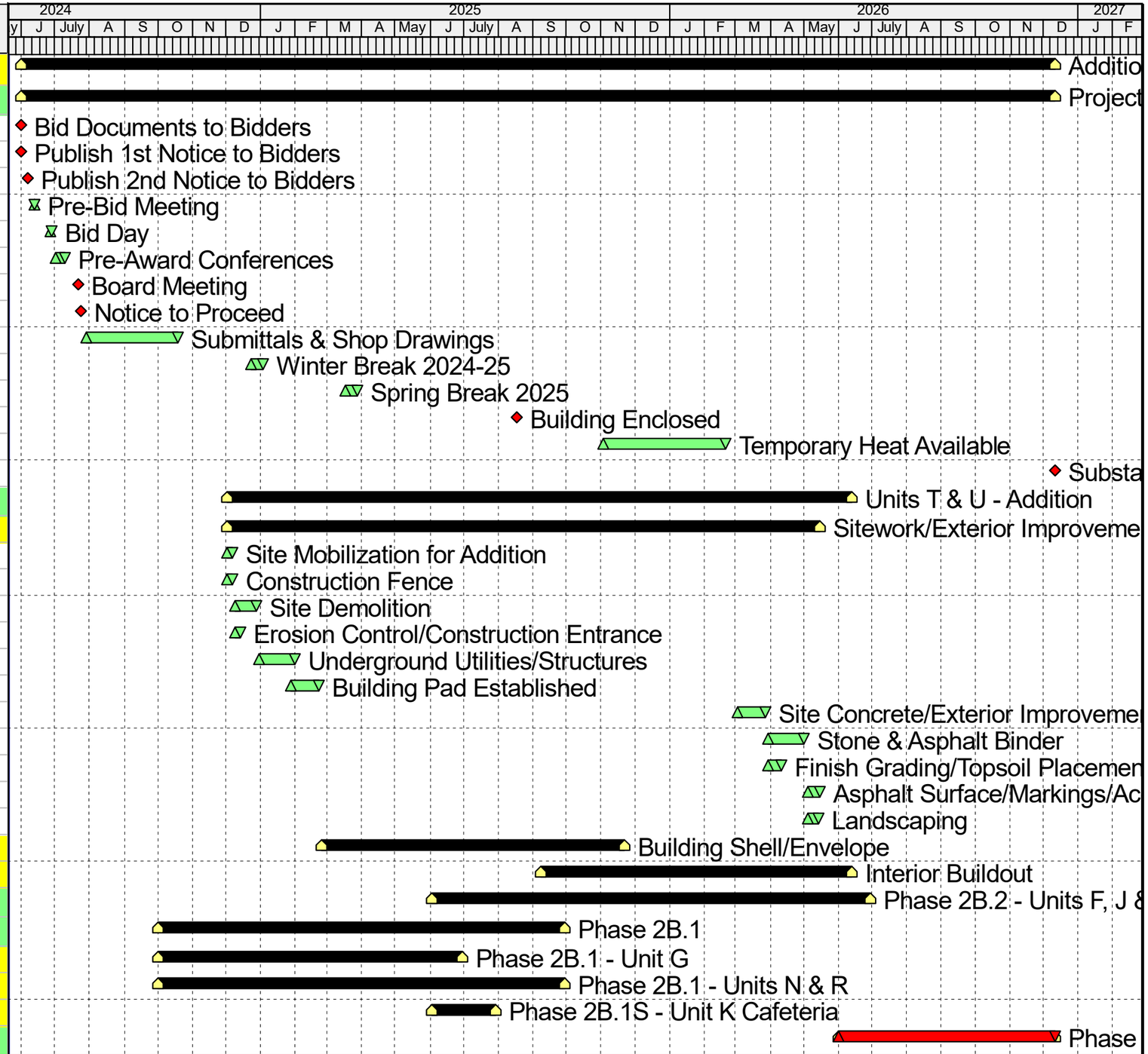
Allow a lump sum additional work required but not indicated on Drawings or reasonably anticipated.

A. Bid Category No.01	General Trades	$ 300,000
B. Bid Category No.02	Asphalt Paving	$ 25,000
C. Bid Category No.04	Masonry	$ 75,000
D. Bid Category No.05	Roofing	$ 25,000
E. Bid Category No.06	Metal Studs & Drywall	$ 40,000
F. Bid Category No.07	Curtainwall, Storefront & Glazing	$ 10,000
G. Bid Category No.08	Flooring	$ 30,000
H. Bid Category No.09	Painting	$ 15,000
I. Bid Category No.10	Casework	$ 30,000
J. Bid Category No.11	Foodservice Equipment	$ 15,000
K. Bid Category No.12	Fire Protection	$ 10,000
L. Bid Category No.13	Plumbing & HVAC	$ 100,000
M. Bid Category No.14	Electrical & Technology	$ 150,000

D. SPECIFICATION SECTION 01 32 00 SCHEDULES AND REPORTS

A. Insert the attached Phasing Plan and Guideline Schedule.

Activity Name	Original Duration	Start	Finish
Additions and Renovations to Franklin	661	31-May-2	11-Dec-26
Project Administration	661	31-May-2	11-Dec-26
Bid Documents to Bidders	0	31-May-2	
Publish 1st Notice to Bidders	0	31-May-2	
Publish 2nd Notice to Bidders	0	07-Jun-24	
Pre-Bid Meeting	1	12-Jun-24	12-Jun-24
Bid Day	1	27-Jun-24	27-Jun-24
Pre-Award Conferences	6	02-Jul-24	09-Jul-24
Board Meeting	0	22-Jul-24*	
Notice to Proceed	0	24-Jul-24	
Submittals & Shop Drawings	60	29-Jul-24	18-Oct-24
Winter Break 2024-25	9	23-Dec-2	02-Jan-25
Spring Break 2025	10	17-Mar-2	28-Mar-25
Building Enclosed	0	18-Aug-2	
Temporary Heat Available	80	03-Nov-2	20-Feb-26
Substantial Completion	0		11-Dec-26
Units T & U - Addition	400	02-Dec-2	12-Jun-26
Sitework/Exterior Improvements	380	02-Dec-2	15-May-26
Site Mobilization for Addition	5	02-Dec-2	06-Dec-24
Construction Fence	5	02-Dec-2	06-Dec-24
Site Demolition	15	09-Dec-2	27-Dec-24
Erosion Control/Construction	5	09-Dec-2	13-Dec-24
Underground Utilities/Structu	25	30-Dec-2	31-Jan-25
Building Pad Established	20	27-Jan-25	21-Feb-25
Site Concrete/Exterior Impro	20	02-Mar-2	27-Mar-26
Stone & Asphalt Binder	25	30-Mar-26	01-May-26
Finish Grading/Topsoil Place	10	30-Mar-26	10-Apr-26
Asphalt Surface/Markings/Ac	10	04-May-2	15-May-26
Landscaping	9	04-May-2	14-May-26
Building Shell/Envelope	195	24-Feb-25	21-Nov-25
Interior Buildout	200	08-Sep-2	12-Jun-26
Phase 2B.2 - Units F, J & M	281	02-Jun-25	29-Jun-26
Phase 2B.1	260	01-Oct-24	29-Sep-25
Phase 2B.1 - Unit G	195	01-Oct-24	30-Jun-25
Phase 2B.1 - Units N & R	260	01-Oct-24	29-Sep-25
Phase 2B.1S - Unit K Cafeteria	42	02-Jun-25	29-Jul-25
Phase 2B.3 - Unit F North	140	01-Jun-26	11-Dec-26



Actual Work
Remaining Work
Critical Remaining Work
Milestone
Summary

223081 Additions and Renovations to Franklin Central High School Phase 2B
Guideline Schedule
1 of 1

SKILLMAN

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ADDENDUM NO. 1 (ONE)

DATE: **June 14, 2024**
PROJECT: **Additions & Renovations to Franklin Central High School Phase 2B**
OWNER: **Franklin Township Community School Corporation**
PROJECT NO.: **2022063.10**

The original Specifications and Drawings dated May 2024 for the project referenced above, are amended as noted in this Addendum No. 1 (One). Receipt of this Addendum and any subsequent Addenda must be acknowledged on the Proposal Form. This section of the Addendum consists of 9 (Nine) addendum pages, 75 (Seventy-Five) items and 46 (Forty-Six) attachments.

ITEM **DESCRIPTION**

General Items | Clarifications:

1-1 The Casework Bid Package shall include Science Lab Tables as manufactured by TMI Systems (or approved equal): 22” x 70” fixed height w/ aircraft grade aluminum frame and lockable, dual wheel, white casters, and 1” thick 24” x 72” Durcon epoxy resin tops w/ Contoura edge. Base Bid Qty.: 204. Alternate No. 3 Qty.: 64.

1-2 The attached TorkLift T2 Double Pantograph (or approved equal) shall be installed in Storage Room U105.

1-3 The project number in the title block of all Mechanical, Electrical, and Plumbing drawings shall be revised to 2022063.10.

1-4 Windows W3, W4, W5, and W6A shall be as manufactured by Krieger Specialty Products (or equal) in size indicated with an STC rating of 46. The sliding sound control windows shall be as specified in Specification Section 084113 Aluminum-Framed Entrances and Storefronts, Page 10, Paragraph 2.11. (W13, W14, and W15).

1-5 Windows W16 and W17 shall be hollow metal.

1-6 Windows/Door Frame Elevations F10, F11, F12, F13, F14, F14A, and F15 shall have laminated glass, not security film.

1-7 Laminated glass and security film shall be to top of door in sidelites adjacent to doors.

1-8 Drawings A801 and A802 are the graphic representation tied to Specification Section 126613 Telescoping Seating.

Specification Items:

1-9 Document 000012 Project Directory: Add the following:

FOODSERVICE CONSULTANT Address: Phone:	Vorndran & Associates 7670 Shasta Drive Indianapolis, IN 46217 (812) 677-3475

1-10 Section 075423 Thermoplastic Polyolefin (TPO) Roofing: Johns Manville is an approved manufacturer.

1-11 Section 081113 Hollow Metal Doors and Frames: De La Fontaine is an approved manufacturer.

1-12 Section 083437 Sound Control Door Assemblies: Ambico is an approved manufacturer.

1-13 Section 084113 Aluminum-Framed Entrances and Storefronts:
A. Material Warranty shall be 2-year.

B. Finish Warranty shall be 10-year.

1-14 Section 084413 Glazed Aluminum Curtain Walls:
A. Material Warranty shall be 2-year.
B. Finish Warranty shall be 10-year.

1-15 Section 088000 Glazing: Add Paragraph 2.10 as follows:
2.10 SECURITY FILM
A. SW600BR Film as manufactured by Safe Haven Defense, 1320 PSI break strength. No substitutions.

1-16 Section 098000 Acoustic Room Components: G&S Acoustics is an approved manufacturer.

1-17 Section 098400 Acoustic Panels:
A. In Paragraph 1.1.A, replace the reference to drawings A801 and A802 with Elevations 19-22/A705.
B. AVL Systems is an approved manufacturer.

1-18 Section 123200 Manufactured Wood Casework:
A. Delete Paragraph 2.2.A. in its entirety (NAUF not required).
B. Paragraph 2.3.A.1.: VGS to be used on vertical, exposed surfaces.
C. Delete Paragraph 2.4.F. in its entirety.
D. Paragraph 2.6.A.7.: Drawer bodies may be doweled TFL particleboard construction.
E. Paragraph 2.7.D.: Magnetic catches are acceptable.
F. Paragraph 2.7.H.: Dual pin polycarbonate shelf clips are acceptable.

1-19 Section 123400 Laminate Clad Science Casework:
A. Case Systems, Inc. is an approved manufacturer.
B. Marine countertop edge not required. Countertops shall have eased edge.
C. Paragraph 2.4.B.: Pull shall be metal wire to match section 123200 Manufactured Wood Casework.
D. Paragraph 2.4.E.: Locks shall be on all cabinets with each room keyed separately.

1-20 Section 123553.13 Metal Laboratory Casework: Air Master Systems is an approved manufacturer.

1-21 Section 123583 Specialty Casework:
A. Case Systems is an approved manufacturer.
B. Straight grille doors are acceptable.

1-22 Section 230900 Direct Digital Control System for HVAC:
A. Add Paragraph 1.7.B. as follows, “All home run ethernet cabling from controllers to the building local area network will be provided and installed by the owner. The temperature controls contractor shall be responsible for coordinating the cabling work and shall be responsible for providing and installing all other wiring, including but not limited to wiring from controllers to end devices.”
B. Add Paragraph 3.28.A. as follows, “The temperature controls contractor shall include in their bid site supervision and programming hours to assist in chilled water solution replacement throughout the building as detailed in specification section 232513. All control valves shall be controlled to open during chilled water system draining, flushing, and filling. See section 232513 for additional scope of work information.”

1-23 Section 232513 Water Treatment for Closed Loop Hydronic Systems: Replace section in its entirety with attached revision.

1-24 Section 233600 Air Terminal Units: Add Paragraph 2.2.A.4. as follows, “Metalaire.”

1-25 Section 237313.13 Indoor, Basic Air-Handling Units: Replace section in its entirety with attached revision “237313.13 Indoor and Outdoor Basic Air-Handling Units”.

1-26 Section 274130 Athletics Scoreboards and Equipment: Add attached section in its entirety.

1-27 Section 312000 Earthwork: Replace section in its entirety with attached revision.

Drawing Items:

1-28 C210: Replace drawing in its entirety with attached revision.

1-29 C220: Replace drawing in its entirety with attached revision.

1-30 C230: Replace drawing in its entirety with attached revision.

1-31 C240: Replace drawing in its entirety with attached revision.

1-32 C241: Replace drawing in its entirety with attached revision.

1-33 C246: Replace drawing in its entirety with attached revision.

1-34 C247: Replace drawing in its entirety with attached revision.

1-35 C250: Replace drawing in its entirety with attached revision.

1-36 C251: Replace drawing in its entirety with attached revision.

1-37 C253: Replace drawing in its entirety with attached revision.

1-38 AD102: Note 10 “Remove Slab” - this slab shall be replaced to match the recessed slab for wood floor to match thickness/configuration of the note shown on S201 Foundation Plan Unit F.

1-39 A102:

A. Add nom. 8” CMU wall between sets of doors, as indicated on attached sketches, ADD1-SK3 and ADD1-SK4.
B. Delete reference to doors J150 and J150A (these are identified as M107 and M107A on drawing A104).
C. Delete reference to Corridors J149 and J150 (these are identified as G125 and M107 on drawing A104).

1-40 A601: Delete doors J150, J150A, and U205 from Door Schedule.

1-41 A603: Delete Corridors J149 and J150 from the Room Finish Schedule.

1-42 A604:1-1/2" DWC hat channel furring indicated on Sections 2 and 3 may be installed in lieu of 'Z' furring as indicated. Also, install fiberglass sound batt insulation at thickness as required for available cavity space.

1-43 S202: The stair at the end of Corridor T110 (Detail reference 3/S302) shall be constructed per Detail 17/C252.

1-44 Sinks shall be added in countertops in Dressing Rooms F122 and F123 as indicated on attached sketch, ADD1-SK1.

1-45 Revise door and window glazing, including the application of security film where noted, as indicated on attached sketch, ADD1-SK2.

1-46 At Electrical Room R109 and Electrical/Storage Room U103, door swings of doors R109 and U103 shall be reversed, as indicated on attached sketch, ADD1-SK4.

1-47 Doors T111 shall be relocated to the West as indicated on attached sketch, ADD1-SK5.

1-48 Reflected Ceiling Plan at Corridors T111 and T111A shall be revised as indicated on attached sketch, ADD1-SK5.

1-49 P601: Replace drawing in its entirety with attached revision.

1-50 PD1F: Replace drawing in its entirety with attached revision.

1-51 PD1N: Replace drawing in its entirety with attached revision.

1-52 PD1R: Replace drawing in its entirety with attached revision.

1-53 PF1T: Replace drawing in its entirety with attached revision.

1-54 PFD1N: Replace drawing in its entirety with attached revision.

1-55 PFD1R: Replace drawing in its entirety with attached revision.

1-56 PP1F: Replace drawing in its entirety with attached revision.

1-57 PP1T: Replace drawing in its entirety with attached revision.

1-58 M402: Replace drawing in its entirety with attached revision.

1-59 M404: Replace drawing in its entirety with attached revision.

1-60 M506: Replace drawing in its entirety with attached revision.

1-61 M601: Replace drawing in its entirety with attached revision.

1-62 M706: Replace drawing in its entirety with attached revision.

1-63 MD1G: Replace drawing in its entirety with attached revision.

1-64 MD1N: Replace drawing in its entirety with attached revision.

1-65 MD1R: Replace drawing in its entirety with attached revision.

1-66 MHR: Replace drawing in its entirety with attached revision.

1-67 MP1F: Replace drawing in its entirety with attached revision.

1-68 MP1G: Replace drawing in its entirety with attached revision.

1-69 MP1H: Replace drawing in its entirety with attached revision.

1-70 MP1J: Replace drawing in its entirety with attached revision.

1-71 MP1K: Replace drawing in its entirety with attached revision.

1-72 MP1M: Replace drawing in its entirety with attached revision.

1-73 MP1N: Replace drawing in its entirety with attached revision.

1-74 MP1Q: Replace drawing in its entirety with attached revision.

1-75 MP1R: Replace drawing in its entirety with attached revision.

PREPARED BY: _____
George S. Link, AIA

Attachments:

TorkLift T2 Double Pantograph
Section 232513 Water Treatment for Closed Loop Hydronic Systems
Section 237313.13 Indoor and Outdoor Basic Air-Handling Units
Section 274130 Athletics Scoreboards and Equipment
Section 312000 Earthwork
C210
C220
C230
C240
C241
C246
C247
C250
C251
C253
ADD1-SK1
ADD1-SK2
ADD1-SK3
ADD1-SK4
ADD1-SK5
P601
PD1F
PD1N
PD1R
PF1T
PFD1N
PFD1R
PP1F
PP1T
M402
M404

M506
M601
M706
MD1G
MD1N
MD1R
MHR
MP1F
MP1G
MP1J
MP1K
MP1M
MP1N
MP1Q
MP1R

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PROJECT NAME: ADDITIONS & RENOVATIONS TO FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
OWNER NAME: FRANKIN TWP. COMMUNITY SCHOOL CORP.
CES PROJECT NO. 2023-015.FP2 ARCHITECT PROJECT NO. 2022063.10
ADDENDUM NO. 1
DATED: 6/14/2024

This Addendum consists of 3 Addendum page(s) and 49 attachment pages totaling 52 pages. This Addendum shall supplement, amend, and become part of the Bid Documents. All Bids shall be based on these modifications. Bidders shall acknowledge the receipt of this addendum on their Bid Form.

PART 1 - CHANGES TO THE PROJECT MANUAL

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

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

A. **Section 230900** "**DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC**"

1. ADD Subparagraph 1.7, B as follows:

   "All home run ethernet cabling from controllers to the building local area network will be provided and installed by the owner. The temperature controls contractor shall be responsible for coordinating the cabling work and shall be responsible for providing and installing all other wiring, including but not limited to wiring from controllers to end devices."

2. ADD Subparagraph 3.28, A as follows:

   "A. The temperature controls contractor shall include in their bid site supervision and programming hours to assist in chilled water solution replacement throughout the building as detailed in specification section 232513. All control valves shall be controlled to open during chilled water system draining, flushing and filling. See section 232513 for additional scope of work information."

B. Section 232513 "**WATER TREATMENT FOR CLOSED LOOP HYDRONIC SYSTEMS**"

1. DELETE AND REPLACE Section 232513 in its entirety.

   Per attached replacement 232513 **WATER TREATMENT FOR CLOSED LOOP HYDRONIC SYSTEMS**

C. Section 233600 "**AIR TERMINAL UNITS**"

1. ADD Text within Paragraph 2.2, A as follows:

"4. Metalaire"

D. Section 237313.13 "**INDOOR BASIC AIR-HANDLING UNITS**"

1. DELETE AND REPLACE Section 237313.13 in its entirety.

   Per attached replacement 237313.13 **INDOOR AND OUTDOOR BASIC AIR-HANDLING UNITS**

PART 2 - CHANGES TO THE DRAWINGS

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

2.1 DRAWING SHEETS: ADDITIONS, DELETIONS AND REPLACEMENTS

DRAWING NO.	INDICATE ACTION: REPLACE (R), ADD (A), DELETE (D)
P-SERIES DRAWINGS	
P601 – PLUMBING SCHEDULES	DELETE AND REPLACE
PD1F – DEMOLITION FIRST FLOOR PLUMBING – UNIT F	DELETE AND REPLACE
PD1N – DEMOLITION FIRST FLOOR PLUMBING PLAN – UNIT N	DELETE AND REPLACE
PD1R – DEMOLITION FIRST FLOOR PLUMBING PLAN – UNIT R	DELETE AND REPLACE
PF1T – FOUNDATION PLUMBING PLAN UNIT T	DELETE AND REPLACE
PFD1N – DEMOLITION FOUNDATION PLUMBING PLAN – UNIT N	DELETE AND REPLACE
PFD1R – DEMOLITION FIRST FLOOR PLUMBING PLAN – UNIT R	DELETE AND REPLACE
PP1F- FIRST FLOOR PLUMBING PLAN – UNIT F	DELETE AND REPLACE
PP1T – FIRST FLOOR PLUMBING PLAN – UNIT T	DELETE AND REPLACE
M-SERIES DRAWINGS	
M402 – ENLARGED MEZZANINE PLAN – UNIT J	DELETE AND REPLACE
M404 – ENLARGED MEZZANINE PLAN – UNIT R	DELETE AND REPLACE
M506 – MECHANICAL DETAILS	DELETE AND REPLACE
M601 – MECHANICAL SCHEDULES	DELETE AND REPLACE
M706 - TEMPERATURE CONTROLS SCHEMATICS	DELETE AND REPLACE

MD1G - DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT G	DELETE AND REPLACE
MD1N - DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT N	DELETE AND REPLACE
MD1R - DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT R	DELETE AND REPLACE
MHR - MECHANICAL ROOF PLAN	DELETE AND REPLACE
MP1F – FIRST FLOOR PIPING PLAN – UNIT F	DELETE AND REPLACE
MP1G - FIRST FLOOR PIPING PLAN - UNIT G	DELETE AND REPLACE
MP1H – FIRST FLOOR PIPING PLAN – UNIT H	DELETE AND REPLACE
MP1J – FIRST FLOOR PIPING PLAN – UNIT J	DELETE AND REPLACE
MP1K – FIRST FLOOR PIPING PLAN – UNIT K	DELETE AND REPLACE
MP1M – FIRST FLOOR PIPING PLAN – UNIT M	DELETE AND REPLACE
MP1N – FIRST FLOOR PIPING PLAN – UNIT N	DELETE AND REPLACE
MP1Q – FIRST FLOOR PIPING PLAN – UNIT Q	DELETE AND REPLACE
MP1R - FIRST FLOOR PIPING PLAN - UNIT R	DELETE AND REPLACE

END OF ADDENDUM NO. 1

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 the following water treatment for closed-loop hydronic systems:
   1. Manual Chemical-Feed Equipment.
   2. Chemical-treatment test equipment.
   3. Chemicals.
   4. Ethylene Glycol removal, flushing and Propylene Glycol filling.

1.3 DEFINITIONS

A. RO: Reverse osmosis.

B. TDS: Total dissolved solids consist of salts and other materials that combine with water as a solution.

C. TSS: Total suspended solids include both organic and inorganic solids that are suspended in the water. These solids may include silt, plankton, and industrial wastes.

1.4 ACTION SUBMITTALS

A. Product Data: Include rated capacities, operating characteristics, and furnished specialties and accessories for the following products:
   1. Manual Chemical-Feed Equipment.
   2. Automatic Chemical-Feed Equipment.
   3. Chemicals.
   4. Chemical material safety data sheets.

1.5 INFORMATIONAL SUBMITTALS

A. Water-Analysis Provider Qualifications: Verification of experience and capability of HVAC water-treatment service provider.

B. Field quality-control reports.

C. Water-Treatment Program: Written sequence of operation on an annual basis for the application equipment required to achieve water quality defined in "Performance Requirements" Article.

D. Water Analysis: Illustrate water quality available at Project site.

1.6 QUALITY ASSURANCE

A. HVAC Water-Treatment Service Provider Qualifications: An experienced HVAC water-treatment service provider, capable of analyzing water qualities, installing treated fluid/water, and applying water treatment as specified in this Section.

1.7 WATER TREATMENT CONTRACTOR

A. HVAC Water-Treatment installation and services shall be performed by Chardon Laboratories, Mike Heirbrandt 765-617-5193.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Provide all hardware, chemicals, and other material necessary to maintain HVAC water quality in all systems, as indicated in this Specification. Water quality for hydronic systems shall minimize corrosion, scale buildup, and biological growth for optimum efficiency of hydronic equipment without creating a hazard to operating personnel or the environment.

B. Base HVAC water treatment on quality of water available at Project site, hydronic system equipment material characteristics and functional performance characteristics, operating personnel capabilities, and requirements and guidelines of authorities having jurisdiction.

C. Closed hydronic systems, including chilled water 30% propylene glycol solution shall have the following water qualities:
   1. pH: Maintain a value within 9.5-10.5.
   2. Alkalinity: Maintain a value below 20 ppm.
   3. Steel Corrosion Inhibiters: Provide sufficient inhibitors to limit mild steel corrosion to 9.8 mils per year. Maintain soluble iron concentrations at or below 3 ppm.
   4. Yellow Metal Corrosion Inhibitor: Provide sufficient copper and brass corrosion inhibitors to limit copper corrosion to 0.16 mils per year. Maintain soluble copper concentrations at or below 0.2 ppm.
   5. Scale Control: Provide softened water for initial fill and makeup.
   6. Dispersants: Provide sufficient dispersants to prevent sedimentation of fine particulate matter.
   7. Microbiological Limits:
      a. Total Aerobic Plate Count: Maintain a maximum value of 1000 organisms/mL.
      b. Total Anaerobic Plate Count: Maintain a maximum value of 100 organisms/mL.
      c. Nitrate Reducers: Maintain a maximum value of 100 organisms/mL.
      d. Sulfate Reducers: Maintain a maximum value of 0 organisms/mL.

e. Iron Bacteria: Maintain a maximum value of 0 organisms/mL.

D. Closed hydronic systems, including hot water heating below 250 deg F shall have the following water qualities:
1. pH: Maintain a value within 9.5-10.5.
2. Alkalinity: Maintain a value below 20 ppm.
3. Steel Corrosion Inhibiters: Provide sufficient inhibitors to limit mild steel corrosion to 9.8 mils per year. Maintain soluble iron concentrations at or below 3 ppm.
4. Yellow Metal Corrosion Inhibitor: Provide sufficient copper and brass corrosion inhibitors to limit copper corrosion to 0.16 mils per year. Maintain soluble copper concentrations at or below 0.2 ppm.
5. Scale Control: Provide softened water for initial fill and makeup.
6. Dispersants: Provide sufficient dispersants to prevent sedimentation of fine particulate matter.
7. Microbiological Limits:
   a. Total Aerobic Plate Count: Maintain a maximum value of 1000 organisms/mL.
   b. Total Anaerobic Plate Count: Maintain a maximum value of 100 organisms/mL.
   c. Nitrate Reducers: Maintain a maximum value of 100 organisms/mL.
   d. Sulfate Reducers: Maintain a maximum value of 0 organisms/mL.
   e. Iron Bacteria: Maintain a maximum value of 0 organisms/mL.

2.2 MANUAL CHEMICAL-FEED EQUIPMENT

A. Bypass Filter Feeders (Unit U Heating Water): Provide steel feeders with corrosion-resistant exterior coating, minimum 3-1/2-inch fill opening in the top, and NPS 3/4 bottom inlet and top side outlet. Provide quarter turn or threaded fill cap with gasket seal and diaphragm to lock the top on the feeder when exposed to system pressure in the vessel.
1. Capacity: 5 gal.
2. Minimum Working Pressure: 125 psig.

2.3 CHEMICAL-TREATMENT TEST EQUIPMENT

A. Corrosion Test-Coupon Assembly: Constructed of corrosive-resistant material, complete with piping, valves, and mild steel and copper coupons. Locate copper coupon downstream from mild steel coupon in the test-coupon assembly.
1. One-station rack for each closed-loop system.

2.4 CHEMICALS

A. Chemicals shall be as recommended by water-treatment system manufacturer, compatible with piping system components and connected equipment, and able to attain water quality specified in "Performance Requirements" Article.

2.5 INHIBITED PROPYLENE GLYCOL (CHILLED WATER)

A. Dowfrost

B. Inhibited Propylene Glycol:
   1. Propylene glycol with inhibitor additive, to provide freeze protection for heat-transfer fluid and corrosion protection for carbon steel, brass, copper, stainless steel, and cast-iron piping and fittings.
   2. Inhibitor creates a passive layer on all surfaces that contact propylene glycol to prevent corrosion and stabilizes fluid pH, to compensate for acids formed from glycol degradation.
   3. pH value shall be maintained between 9.5-10.5, with reserve alkalinity greater than 9 mL.
   4. Concentrated inhibited propylene glycol is to be 95.5 percent propylene glycol by weight and 4.5 percent performance additives.
   5. Concentrated inhibited propylene glycol is mixed with water in proper proportion specified by the manufacturer to provide freeze protection to 10 deg. F and burst protection to -10 deg. F. Premixed heat-transfer fluid may be used, or glycol/water mixture may be prepared at the time of installation. Use only deionized water for mixing.
   6. Provide only propylene glycol that is specifically blended for HVAC application. Automotive-type antifreeze is unacceptable.

PART 3 - EXECUTION

3.1 WATER ANALYSIS

A. Perform an analysis of supply water to determine quality of water available at Project site.

3.2 CHILLED WATER SYSTEM GLYCOL REMOVAL AND INSTALLATION

A. Draining and proper disposal of all Ethylene Glycol solution within the existing building and filling with Propylene Glycol solution to 30% PG shall be included within the water treatment scope of work. The approximate system volume is 13,000 gallons.

B. See Figure 3.2-A for new piping drain installation base bid scope of work. The Mechanical Contractor and Water Treatment Contractor shall be responsible for field investigation and shall find the low points of chilled water supply and return piping within each building unit indicated in Figure 3.2-A. Base bid work shall include installation of piping drains as indicated in Figure 3.2-A. A unit price for additional drains shall be provided. See front end documents and bid form.

C. Drains shall be hot tapped to limit disruption of the system until draining occurs.

D. The contractor shall record all new drain connections on an as-built drawing for record.

E. If additional low points requiring additional drains are discovered during contractor investigation, report the locations to Skillman.

F. All drainage, flushing and filling work shall be coordinated with the project schedule and owner’s occupancy schedule to minimize disruption of the owner’s operations.

G. The water treatment contractor shall coordinate with the mechanical contractor and temperature controls contractor (TCC) and shall engage the TCC to open all control valves when the system is drained, flushed and filled.

Unit A: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit B: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit C: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit D: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit E: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit F: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit G: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit H: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit I: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit J: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit K: (4) Drains Chilled Water Supply
(4) Drains Chilled Water Return
Unit L: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit M: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit N: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit P: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return
Unit Q: (2) Drains Chilled Water Supply
(2) Drains Chilled Water Return

All drains to be hot tapped.

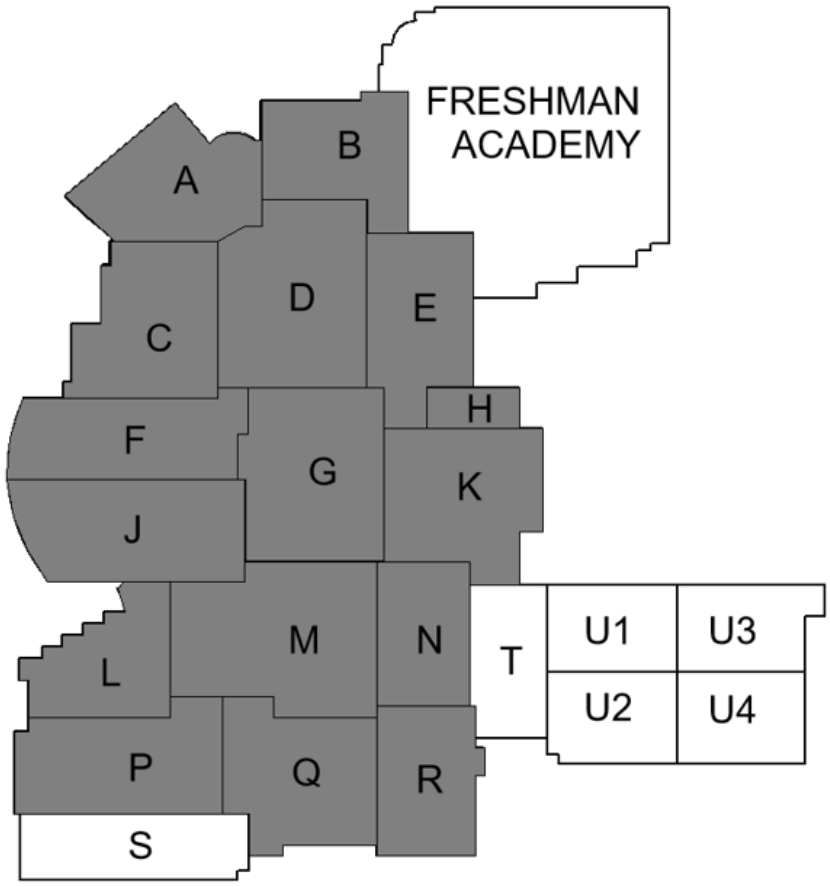

Figure 3.2-A

3.3 PIPING CONNECTIONS

A. Piping installation requirement are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to equipment, allow space for service and maintenance.

C. Make piping connections between HVAC water-treatment equipment and dissimilar-metal piping with dielectric fittings. Dielectric fittings are specified in Section 232113 "Hydronic Piping."

D. Install shutoff valves on HVAC water-treatment equipment inlet and outlet. Metal general-duty valves are specified in Section 230523 “General-Duty Valves for HVAC Piping”

E. Comply with requirements in Section 221119 "Domestic Water Piping Specialties" for backflow preventers required in makeup-water connections to potable-water systems.

3.4 ELECTRICAL CONNECTIONS

A. Confirm applicable electrical requirements in electrical Sections for connecting electrical equipment.

B. Ground equipment in accordance with Section 260526 "Grounding and Bonding for Electrical Systems."

3.5 FIELD QUALITY CONTROL

A. Perform tests and inspections with the assistance of a factory-authorized service representative.

B. Tests and Inspections:
1. Inspect field-assembled components and equipment installation, including piping and electrical connections.
2. Inspect piping and equipment to determine that systems and equipment have been cleaned, flushed, and filled with water, and are fully operational before introducing chemicals for water-treatment system.
3. Place HVAC water-treatment system into operation and calibrate controls during the preliminary phase of hydronic systems' startup procedures.
4. Do not enclose, cover, or put piping into operation until it is tested, and satisfactory test results are achieved.
5. Test for leaks and defects. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
6. Leave uncovered and unconcealed new, altered, extended, and replaced water piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved.
7. Cap and subject piping to static water pressure of 50 psig (345 kPa) above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow test pressure to stand for four hours. Leaks and loss in test pressure constitute defects.
8. Repair leaks and defects with new materials, and retest piping until no leaks exist.

C. Equipment will be considered defective if it does not pass tests and inspections.

D. At eight-week intervals following Substantial Completion, during the oner year warranty period, perform separate water analyses on hydronic systems to show that automatic chemical-feed systems are maintaining water quality within performance requirements specified in this Section. Submit written reports of water analysis, advising Owner of changes necessary to adhere to "Performance Requirements" Article.

E. Comply with ASTM D3370 and with the following standards:
   1. Silica: ASTM D859.
   2. Acidity and Alkalinity: ASTM D1067.
   3. Iron: ASTM D1068.
   4. Water Hardness: ASTM D1126.

3.6 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain HVAC water-treatment systems and equipment.

END OF DOCUMENT 232513

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DOCUMENT 237313.13 - INDOOR, AND OUTDOOR, BASIC 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 factory-assembled, indoor air-handling units with limited features, including the following components and accessories:

1. Casings.
2. Fans, drives, and motors.
3. Coils.
4. Air filtration.
5. Dampers.

1.3 ACTION SUBMITTALS

A. Product Data: For each air-handling unit.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
3. Include unit dimensions and weight.
4. Include cabinet material, metal thickness, finishes, insulation, and accessories.
5. Fans:

    a. Include certified fan-performance curves with system operating conditions indicated.
    b. Include certified fan-sound power ratings.
    c. Include fan construction and accessories.
    d. Include motor ratings, electrical characteristics, and motor accessories.

6. Include certified coil-performance ratings with system operating conditions indicated.
7. Include filters with performance characteristics.
8. Include dampers, including housings, linkages, and operators.

B. Shop Drawings: For each type and configuration of indoor, basic, air-handling unit.
1. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

2. Detail fabrication and assembly of indoor, basic air-handling units, as well as procedures and diagrams.
3. Include diagrams for power, signal, and control wiring.

C. Disassembly and Reassembly Drawings: For each AHU with sections that must be broken down in the field for movement into final position. See AHU schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Source quality-control reports.

B. Startup service reports.

C. Field quality-control reports.

D. Sample Warranty: For manufacturer's warranty.

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 for each air-handling unit.
2. Gaskets: One set for each access door.
3. Fan Belts: One set for each air-handling unit fan.

1.7 WARRANTY

A. Warranty: Manufacturer agrees to repair or replace components of indoor, basic, air-handling units that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Manufacturer's standard, but not less than one year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

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. ASHRAE 62.1 Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."

D. ASHRAE/IES 90.1 Compliance: Applicable requirements in ASHRAE/IES 90.1, Section 6 - "Heating, Ventilating, and Air-Conditioning."

2.2 CAPACITIES AND CHARACTERISTICS

A. Supply Fan:

1. ECM Fan and motor assembly

2. Type: DWDI, forward-curved centrifugal fan.
3. Class: AMCA 99, Section 14, Class I.
4. Drive: Direct.

B. Filters:

1. Minimum Efficiency Reporting Value:

a. MERV Rating: MERV 8, according to ASHRAE 52.2.

2.3 MANUFACTURERS

A. Allowed Manufacturers:
1. Trane (Basis of Design)
2. Carrier.
3. Pace.
4. Johnson Controls

2.4 OUTDOOR UNIT CASINGS

A. Frame: Modular and providing overall structural integrity without reliance on casing panels for structural support.

B. Base Rail:

1. Material: Galvanized steel.
2. Height: 6 inches.

C. Casing Joints: Hermetically sealed at each corner and around entire perimeter.

D. Double-Wall Construction:

1. Outside Casing Wall:

a. Material, Galvanized Steel: Minimum 16 gauge thick.
b. Factory Finish: Provide manufacturer's standard finish.

2. Inside Casing Wall:

a. Material, Galvanized Steel: Solid, minimum 18 gauge thick.

E. Floor Plate:

1. Material:

a. Galvanized steel, minimum 16 gauge thick.

F. Roof: Cross-broken and pitched with "C" caps over joints to provide watertight seal.

G. Piping Vestibule: Insulated with same insulation and thickness as casing, 24 inches deep by full width of piping connections.

H. Casing Insulation:

1. Materials: Glass-fiber blanket or board insulation, Type I or Type II ASTM C1071 or injected polyurethane foam insulation.
2. Casing Panel R-Value: Minimum R-6.5.
3. Insulation Thickness: 2 inches Insert dimension.
4. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roofs of air-handling unit.

I. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

J. Static-Pressure Classifications:

1. For Unit Sections Upstream of Fans: Minus 2-inch wg.
2. For Unit Sections Downstream and Including Fans: 4-inch wg.

K. Panels, Doors, and Windows:

1. Panels:

a. Fabrication: Formed and reinforced, double-wall and insulated panels of same materials and thicknesses as casing.

b. Fasteners: Two or more camlock type for panel lift-out operation. Arrangement shall allow panels to be opened against airflow
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 18 inches wide by full height of unit casing up to a maximum height of 60 inches.

2. Doors:

a. Fabrication: Formed and reinforced, double-wall and insulated panels of same materials and thicknesses as casing.
b. Hinges: A minimum of two ball-bearing hinges or stainless-steel piano hinge and two wedge-lever latches, operable from inside and outside. Arrange doors to be opened against airflow. Provide safety latch retainers on doors so that doors do not open uncontrollably.
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 24 inches wide by full height of unit casing up to a maximum height of 60 inches.

3. Service Lights: LED vaporproof luminaire with individual switched junction box located outside, adjacent to each access door and panel.

a. Locations: Fan section.

4. Convenience Outlets: One 20-A duplex GFCI receptacle per location with junction box located on outside casing wall.

a. Locations: Fan section.

L. Condensate Drain Pans:

1. Location: Each type of cooling coil.
2. Construction:
a. Double-wall, stainless-steel sheet with space between walls filled with foam insulation and moisture-tight seal.

3. Drain Connection:

a. Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.
b. Minimum Connection Size: NPS 1.

4. Slope: Minimum 0.125-in./ft. 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.
5. Width: Entire width of water producing device.
6. Depth: A minimum of 2 inches deep.

2.5 ROOF CURBS

A. Materials: Galvanized steel with corrosion-resistant coating, watertight gaskets, and factory-installed wood nailer; complying with NRCA standards.

1. Curb Insulation and Adhesive: Comply with NFPA 90A or NFPA 90B.

a. Materials: ASTM C1071, Type I or II.
b. Thickness: 2 inches.

2. Application: Factory applied with adhesive and mechanical fasteners to the internal surface of curb.

a. Liner Adhesive: Comply with ASTM C916, Type I.
b. Mechanical Fasteners: Galvanized steel, suitable for adhesive attachment, mechanical attachment, or welding attachment to duct without damaging liner when applied as recommended by manufacturer and without causing leakage in cabinet.
c. Liner materials applied in this location shall have airstream surface coated with a temperature-resistant coating or faced with a plain or coated fibrous mat or fabric depending on service air velocity.

B. Curb Dimensions: Height of 22 inches.

2.6 INDOOR UNIT CASINGS

A. AHU shall be shipped in separated sections.

B. Indoor - General Fabrication Requirements for Casings;

1. Forming: Form walls, roofs, and floors with at least two breaks at each joint.
2. Joints: Sheet metal screws or pop rivets.
3. Sealing: Seal all joints with water-resistant sealant. Hermetically seal at each corner and around entire perimeter.
4. Base Rail:

a. Material: Galvanized steel.
b. Height: 6 inches minimum or as required for proper condensate drain trapping.

C. Double-Wall Construction

1. Material: Galvanized steel with manufacturer's standard finish.
2. Floor Plate: Galvanized steel.
3. Insulation and Adhesive:

a. Materials: ASTM C1071, Type I or Type II glass-fiber blanket or board insulation with inner galvanized wall.
b. Insulation Thickness: 2 inch (25 mm).
c. Thermal Break: Provide continuity of insulation with no through-casing metal in casing walls, floors, or roofs of air-handling unit.

D. Airstream Surfaces: Surfaces in contact with airstream shall comply with requirements in ASHRAE 62.1.

E. Static-Pressure Classifications:

1. For Unit Sections Upstream of Fans: Minus 2-inch wg.
2. For Unit Sections Downstream and Including Fans: 5-inch wg (750 Pa).

F. Panels and Doors:

1. Panels:

a. Fabrication: Formed and reinforced with same materials and insulation thickness as casing.
b. Fasteners: Two or more camlock type for panel lift-out operation. Arrangement shall allow panels to be opened against airflow.
c. Gasket: Neoprene, applied around entire perimeters of panel frames.
d. Size: Large enough to allow unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 18 inches (450 mm) wide by full height of unit casing up to a maximum height of 60 inches (1500 mm.

2. Doors:

a. Fabrication: Formed and reinforced with same materials and insulation thickness as casing.
b. 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 airflow. Provide safety latch retainers on doors so that doors do not open uncontrollably.
c. Gasket: Neoprene, applied around entire perimeters of frame.
d. Size: Large enough to allow for unobstructed access for inspection and maintenance of air-handling unit's internal components. At least 18 inches (450 mm)wide by full height of unit casing up to a maximum height of 60 inches (1500 mm).

3. Locations and Applications:

a. Fan Section: Doors.
b. Coil Section: Panels.
c. Access Section: Doors.
d. Access Sections Immediately Upstream and Downstream of Coil Sections: Doors.
e. Damper Section: Doors.
f. Filter Section: Doors large enough to allow periodic removal and installation of filters.
g. Mixing Section: Doors.

G. Condensate Drain Pans:

1. Location: Each type of cooling coil.
2. Construction:

a. Single-wall, galvanized-steel or noncorrosive polymer sheet.

3. Drain Connection:

    a. Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.
    b. Minimum Connection Size: NPS 1 (DN 25).

2.7 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.

B. Fans: Centrifugal, galvanized steel; mounted on solid-steel shaft.

1. Shafts: With field-adjustable alignment.

    a. Turned, ground, and polished hot-rolled steel with keyway.

2. Shaft Bearings:

    a. Heavy-duty, self-aligning, pillow-block type with an L-50 rated life of minimum 100,000 hours according to ABMA 9.

3. Housings: Formed- and reinforced-steel panels to form curved scroll housings with shaped cutoff and spun-metal inlet bell.

    a. Bracing: Steel angle or channel supports for mounting and supporting fan scroll, wheel, motor, and accessories.

4. Housings, Plenum Fans: Steel frame and panel; fabricated without fan scroll and volute housing. Provide inlet screens for Type SWSI fans.
5. Forward-Curved, Centrifugal Fan Wheels: Inlet flange, backplate, and shallow blades with inlet and tip curved forward in direction of airflow and mechanically fastened to flange and backplate; steel or aluminum hub swaged to backplate and fastened to shaft with setscrews.
6. Airfoil, Centrifugal Fan Wheels (Plenum Fan Wheels): Smooth-curved inlet flange, backplate, and hollow die-formed airfoil-shaped blades continuously welded at tip flange and backplate; steel hub riveted to backplate and fastened to shaft with setscrews.
7. Mounting: For internal vibration isolation. Factory-mount fans with manufacturer's standard vibration isolation mounting devices having a minimum static deflection of 1 inch.
8. Shaft Lubrication Lines: Extended to a location outside the casing.
9. Flexible Connector: Factory fabricated with a fabric strip minimum 3-1/2 inches (89 mm) wide, attached to two strips of minimum 2-3/4-inch- (70-mm-) wide by 0.028-inch- (0.7-mm-) thick, galvanized-steel sheet.

    a. Flexible Connector Fabric: Glass fabric, double coated with neoprene. Fabrics, coatings, and adhesives shall comply with UL 181, Class 1.

C. Drive, Direct: Factory-mounted, direct drive.

D. Motors:

1. Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
2. 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.
3. Enclosure Type: Totally enclosed, fan cooled.

4. Efficiency: Premium efficient as defined in NEMA MG 1.

2.8 COIL SECTION

A. General Requirements for Coil Section:

1. Comply with AHRI 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.

B. Preheat Coils:
1. Hot-Water Coils: Self-draining, Cleanable.
    a. Piping Connections: Threaded or Flanged, same end of coil.
    b. Tube Material: Copper.
    c. Fin Type: Plate.
    d. Fin Material: Aluminum.
    e. Fin and Tube Joint: Mechanical bond.
    f. Headers:
        1) Seamless copper tube with brazed joints, prime coated.
        2) Fabricated steel, with brazed joints, prime coated.
        3) Provide insulated cover to conceal exposed outside casings of headers.
    g. Frames: Channel frame, minimum 0.052-inch thick galvanized steel.
    h. Coil Working-Pressure Ratings: 200 psig.
    i. Coating: None.

C. Cooling Coils:

1. Chilled-Water Coil: Self-draining and Cleanable.

    a. Piping Connections: Flanged, same end of coil.
    b. Tube Material: Copper.
    c. Fin Type: Plate.
    d. Fin Material: Aluminum.
    e. Fin and Tube Joint: Mechanical bond.
    f. Headers:
        1) Seamless copper tube with brazed joints, prime coated.
        2) Fabricated steel, with brazed joints, prime coated.
        3) Provide insulated cover to conceal exposed outside casings of headers.

    g. Frames: Channel frame, minimum 0.052-inch- (1.3-mm-) thick galvanized steel.
    h. Coatings: None.
    i. Working-Pressure Ratings: 200 psig (1380 kPa), 325 deg F.

2.9 AIR FILTRATION SECTION

A. Particulate air filtration is specified in Section 234100 "Particulate Air Filtration."

B. Panel Filters:

1. Description: Pleated factory-fabricated, self-supported disposable air filters with holding frames.
2. Filter Unit Class: UL 900.
3. Media: Interlaced glass, synthetic, or cotton fibers coated with nonflammable adhesive and antimicrobial coating.
4. Filter-Media Frame: High wet-strength beverage board with perforated metal retainer, or metal grid, on outlet side.
5. Factory installed magnehelic gauge across filter bank.

C. Side-Access Filter Mounting Frames:

1. Particulate Air Filter Frames: Match inner casing and outer casing material, and insulation thickness. Galvanized steel track.

a. Sealing: Incorporate positive-sealing device to ensure seal between gasketed material on channels to seal top and bottom of filter cartridge frames to prevent bypass of unfiltered air.

2.10 DAMPERS

A. Dampers: Comply with requirements in Section 230900 "Control Dampers."

B. 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 parallel-blade arrangement with zinc-plated steel operating rods rotating in sintered bronze or nylon bearings mounted in a single galvanized-steel frame, and with operating rods connected with a common linkage. Leakage rate shall not exceed 4 cfm/sq. ft. at 1-inch wg (250 Pa) and 8 cfm/sq. ft. at 4-inch wg.

C. Electronic Damper Operators:

1. Provided and installed by TCC for indoor unit. By manufacturer for outdoor unit.

D. Combination Filter and Mixing Section:

1. Cabinet support members shall hold 2-inch- thick, pleated, flat, permanent or throwaway filters.

2.11 MATERIALS

A. Steel:

1. ASTM A36/A36M for carbon structural steel.
2. ASTM A568/A568M for steel sheet.

B. Stainless Steel:

1. Manufacturer's standard grade for casing.
2. Manufacturer's standard type, ASTM A240/A240M for bare steel exposed to airstream or moisture.

C. Galvanized Steel: ASTM A653/A653M.

D. Aluminum: ASTM B209.

2.12 SOURCE QUALITY CONTROL

A. AHRI 430 Certification: Test, rate, and label air-handling units and their components in accordance with AHRI 430.

B. Fan Aerodynamic Performance Rating: Factory test and rate fan performance for airflow, pressure, power, air density, rotation speed, and efficiency in accordance with AMCA 210.

C. Fan Energy Index (FEI): Test in accordance with AMCA 210 and rate in accordance with AMCA 99, AMCA 207, and AMCA 208.

D. Fan Operating Limits: Classify fans in accordance with AMCA 99, Section 14.

E. Water Coils: Factory tested to 300 psig (2070 kPa) according to AHRI 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. Replace with new 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, GENERAL

A. Section Disassembly: Review drawings and schedule notes and examine pathways to determine which sections will require disassembly and reassembly in the field. The manufacturer shall provide drawings, guidance and shall honor the warranty if sections must be broken down.

B. Equipment Mounting:

1. Install air-handling units on existing cast-in-place concrete equipment bases. Extend bases as needed. Coordinate sizes and locations of concrete bases with actual equipment provided. Comply with requirements for equipment bases and foundations specified in Section 033000 "Cast-in-Place Concrete."

C. Arrange installation of units to provide access space around air-handling units for service and maintenance.

3.3 PIPING CONNECTIONS

A. Piping installation requirements are specified in other Sections. Drawings indicate general arrangement of piping, fittings, and specialties.

B. Where installing piping adjacent to air-handling unit, allow for service and maintenance.

C. Connect piping to air-handling units mounted on vibration isolators with flexible connectors.

D. Connect condensate drain pans using NPS 1-1/4, ASTM B88, Type M (ASTM B88M, Type C) copper tubing. Extend to nearest equipment or floor drain. Construct deep trap at connection to drain pan and install cleanouts at changes in direction.

E. Dual temperature Piping: Comply with applicable requirements in Section 232113 "Hydronic Piping" and Section 232116 "Hydronic Piping Specialties." Install shutoff valve and union or flange at each coil supply connection. Install balancing valve and union or flange at each coil return connection.

F. Specialties." Install shutoff valve at steam supply connections, float and thermostatic trap, and union or flange at each coil return connection.

3.4 ELECTRICAL CONNECTIONS

A. Connect wiring according to Section 260519 "Low-Voltage Electrical Power Conductors and Cables."

B. Ground equipment according to Section 260526 "Grounding and Bonding for Electrical Systems."

C. Install electrical devices furnished by manufacturer, but not factory mounted, according to NFPA 70 and NECA 1.

D. Install nameplate for each electrical connection, indicating electrical equipment designation and circuit number feeding connection.
1. Nameplate shall be laminated acrylic or melamine plastic signs with a black background and engraved white letters at least 1/2 inch (13 mm) high.

3.5 CONTROL CONNECTIONS

A. Install control and electrical power wiring to field-mounted control devices.

3.6 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. Verify that proper thermal-overload protection is installed for electric coils.
9. Install new, clean filters.
10. 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.
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.

3.7 ADJUSTING

A. Adjust damper linkages for proper damper operation.

B. Comply with requirements in Section 230593 "Testing, Adjusting, and Balancing for HVAC" for air-handling system testing, adjusting, and balancing.

3.8 CLEANING

A. After completing system installation and testing, adjusting, and balancing of 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.

3.9 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect components, assemblies, and equipment installations, including connections.

3.10 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-handling units.

END OF DOCUMENT 237313.13

PART 1 - GENERAL

1.01 SECTION INCLUDES
- A. LED matrix display
- B. Scoreboards

1.02 REFERENCES
- A. Standard for Electric Signs, UL-48, 14th Edition
- B. Standard for Control Centers for Changing Message Type Signs, UL-1433, 4th Edition
- C. Standard for CAN/CSA C22.2 No. 207-M89
- D. Federal Communications Commission Regulation Part 15
- E. National Electric Code

1.03 SUBMITTALS
- A. Product data: Submit manufacturer's product illustrations, data and literature that fully describe the displays and accessories proposed for installation.
- B. Shop drawings: Submit mechanical and electrical drawings.
- C. Maintenance data: Submit manufacturer's installation, operation, and maintenance manuals.

1.04 DELIVERY, STORAGE, AND HANDLING
- A. Product delivered on site
- B. Display and equipment to be housed in a clean, dry environment.

1.05 PROJECT CONDITIONS
- A. Environmental Limitations: Do not install 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: Coordinate display location and height with the customer. Verify dimensions by field measurements.
- C. Supply weight and mounting method for owner to verify that building structure can support the display's weight in addition to the auxiliary equipment.

1.06 QUALITY ASSURANCE
- A. For indoor use only
- B. Source Limitations: Obtain each type of electronic display through one source from a single manufacturer.
- C. ETL listed to UL Standards 48 and 1433
- D. ETLC listed to CAN/CSA 22.2
- E. CE compliant
- F. FCC compliant
- G. EU EMC Directives 55022/55024/61000 compliant
- H. Installed per NEC

1.07 WARRANTY
- A. Provide 5 year of no cost parts exchange including ground shipping on electronics parts due to manufacturing defects. Depending on the circumstances and at our discretion, Daktronics will exchange or repair and return failed parts.
- B. Provide toll-free service coordination.
- C. Provide technical online and phone support during Daktronics business hours.

PART 2 - PRODUCTS

2.01 MANUFACTURER
A. Daktronics, Inc., 201 Daktronics Drive, P.O. Box 5128, Brookings, SD 57006-5128

2.02 COMMUNICATION TYPE
A. Fiber Optic (50/125 µm multi-mode)

2.03 PRODUCT
A. DVN-2010 displays show live and recorded video clips, real-time scores/stats, animations, graphics, and text messages. Modules feature SMD (3-in-1) LED packages with 3.9 mm row and column spacing to provide wider viewing angles and extremely close viewing distances.

2.04 DISPLAY
A. General information:
Cabinet Dimensions: 13.15' (4.01 m) high, 22.99' (7.01 m) wide, 3.307" (84 mm) deep
Matrix size: 1024 x 1792

Weight: 2285 lb (1036 kg)
Power requirements: 20160 W
B. Cabinet Paint Color
1. Black
C. Construction
1. Die-Cast Aluminum construction.
2. Service Access: Front or Rear
D. Display Capabilities
1. Color Capacity: 16 bit (281 trillion colors)
2. LED Refresh Rate: 3840 Hz as defined by the number of times per second the LED image is repainted in intensity.
3. Display has signal redundancy allowing for signal path both forward and backwards through panels allowing for loss of only 1 panel vs. rows or blocks of multiple panels in case of failure.
E. Viewing Characteristics
1. Calibrated Intensity: 1500 nits
2. Brightness Control: 256 levels (manual, scheduled or automatic)
3. Suggested Viewing Angle: 140° horizontal and +60°/-80° vertical
F. Pixel Characteristics
1. Each pixel consists of one RGB 3-in-1 surface-mount device LED.
2. Pixel spacing measurement must be measured from the center points of neighboring physical pixels, rather than neighboring physical and virtual pixels.
G. LED Module Characteristics
1. Module shall be for indoor use.
2. Module shall have anti-reflective paint or coating applied to display face. Black state across all modules shall exhibit a Delta E color variation of no more than .4.
3. Modules shall have horizontal louvers running between LEDs or pixels.
4. Modules shall be able to be removed and installed from the front of the display.
5. It is not necessary to remove or insert screws in order to remove or install modules.
H. Video Processing
1. Video Frame Rate: 50/60 frames per second
2. Graphic Frame Rate: 30 frames per second
3. Processing Architecture: 22 bit (distributed)
4. System Architecture: 100% digital
5. Video Enhancement: Color space conversion, adjustable gamma correction, proprietary sharpening technology and enhancement algorithms for optimal picture quality
I. LED Quality
1. Quality Control: Sorted by intensity and color wavelength

2. LED Lifetime: 100,000 hours of operation as defined by time at which display intensity has decreased to 50 percent of the original intensity

J. Calibration
1. Pixel-to-pixel and module-to-module optical color calibration must be performed at the factory. The manufacturer must also provide easy-to-use calibration software that allows individual modules and pixels to be independently adjusted while in the display.
2. If modules should need replacement during the life of the display, the calibration software must match newer modules' brightness levels to older modules' levels to preserve picture quality and maintain a uniform display appearance.

K. Display Interface
1. The full-color video display must be able to interface and display real-time data from the control system without the need for a duplicate or redundant input.

2.05 1 VIDEO INPUT CONTROL SYSTEM

A. Equipment Rack
1. Dimensions: 25.75" (654 mm) H x 19.25" (489 mm) W x 26" (660 mm) D; 14RU

B. Media Player
1. Provide a Digital Media Player (DMP).
2. Resolution: Up to 1080p 59.94
3. Video Input: SDI or HDMI up to 1080p 59.94
4. Video Output: DisplayPort to Daktronics Display Interface
5. Audio Output: balanced 3-pin XLR
6. Memory: 16 GB DDR4
7. Storage: 1 TB
8. Networking: 10/100/1000 Ethernet (RJ-45 LAN) @1
9. Dimensions: Half-width 1RU; 1.75" (44.5 mm) H x 8.75" (222 mm) W x 12" (305 mm) D

C. Display Interface
1. Provide a Display Interface (DI).
2. Video Input: DisplayPort from Daktronics DMP
3. Video Output: Daktronics ProLink® 6 (fiber optic) @4
4. Storage: 32GB mSATA, SLC
5. Networking: 10/100/1000 Ethernet (RJ-45 LAN) @1
6. Dimensions: Half-width 2RU; 3.4" (86 mm) H x 8.7" (221 mm) W x 12.5" (318 mm) D

D. Network Router – 1 Gigabit

E. Primary/Backup System
1. Allows switching to live/hot backup system via control software if primary system goes down. No physical swapping of cables or devices is required.
2. Includes one (1) Primary and one (1) Backup Digital Media Player along with one (1) Primary and one (1) Backup Display Interface.
3. Content and files are automatically backed up to Backup System when files are loaded on Primary System, as both systems are always live.

2.06 CONTROL COMPUTER

A. Laptop
1. Operating System: Windows® 10 Pro 64
2. Processor: Intel® Core™ i5
3. Memory: 16 GB RAM

4. Hard Drive: 500 GB
5. Form Factor: Dell Latitude 5510
6. Laptop may be removed from the control location so content can be created and modified elsewhere. When the laptop is reconnected to the rack, updated content is synced in a matter of minutes.

2.07 CONTROL SOFTWARE

A. Manufacturer must provide a Windows® 10 based laptop computer with the control software loaded, configured, and ready to control display at startup.
B. Must be developed by the manufacturer of the Display, Media Player, and Display Interface.
C. The display's control software must provide simple, user-friendly features for creating, editing, scheduling, running and deleting messages.
D. Display Software features:
   1. Direct control of an infinite number of displays located on a network
   2. Simultaneous display and edit capability
   3. Content playlists with loop, shuffle, random and next play functionality
   4. Thumbnail preview of content clips
   5. Onscreen display monitor
   6. Unlimited, color-coded buttons with adjustable sizes
   7. Multiple operator workspaces
   8. Support input devices such as a mouse, keyboard, touch screen, and dual monitor
   9. Icon and pull-down menu programming features
   10. Help screens
E. Content Editor Software features:
   Display of TrueType fonts and other Windows® compatible character fonts
   1. Inline text editing
   2. Outlined, Drop shadowed, Bold, Italic, and Underlined text modes
   3. Ability to copy and paste text from most Windows applications
   4. Import common image and animation formats, including BMP, JPEG and AVI
   5. Content preview
   6. Content layering
   7. Real-time data (RTD) integration allows operators to create messages with information that automatically updates without user intervention. Such data may include scores, game time, player/team statistics, time-of-day, date or temperature.
   8. Profanity protection and Spell Check
   9. Multiple transition effects for entry, hold and exit

2.08 SCORING CONTROL SOFTWARE

A. Modern interface allows control via provided laptop and/or touchscreen tablet.
B. Score the following sports:
   - Basketball
   - Volleyball
C. Create team profiles, rosters, and matchups ahead of game time.
D. Assign common or custom rule profiles to fit the level of play.
E. Seamlessly switch between scoring the game and changing display content with Display Software Hot Buttons:
   1. Manually play content directly from the Scoring Control Software.
   2. Automatically play content via game triggers, such as when a team scores.
F. Multiple data outputs send Real-Time Data (RTD) to video displays and control fixed-digit numeric scoreboards.
G. Create custom color schemes for different teams/operators.
H. Support for tactile start/stop switches ensures precise timing during critical moments.

2.09 DECORATIVE ACCENTS

A. Decorative Piping with Non-backlit Lettering

2.10 PRODUCT

A. Daktronics BB-2125 single-sided basketball scoreboard displays period time to 99:59, HOME and GUEST scores to 199, PERIOD to nine, team FOULS to 19, PLAYER number to 99, player FOUL to nine, T.O.L. (time outs left) to nine and indicates possession and bonus. During the last minute of the period, scoreboard displays time to 1/10 of a second. Scoreboard can also score volleyball, wrestling and any sport requiring a clock, score and period function.

2.11 SCOREBOARD QTY OF 4

A. General information
   1. Dimensions: 4'-0" (1.22 m) high, 10'-0" (3.05 m) wide, 0'-6" (152 mm) deep
   2. Base weight: 150 lb (68 kg) – options may increase weight
   3. Base power requirement: 140 W – options may increase wattage
   4. Color: choose from manufacturer's standard paint selections
B. Construction
   1. All-aluminum construction
   2. Scoreboard back, face, and perimeter: 0.063" (1.60 mm) thick
   3. Cabinet withstands high-velocity impact from air-filled sports balls without the need for protective screens
C. Digits & Indicators
   1. LED color : WHITE
   2. Clock and score digits: 10" (254 mm) high
   3. PERIOD, FOULS, PLAYER/FOUL and T.O.L. digits: 7" (178 mm) high
   4. Bonus indicators: 4" (102 mm) high
   5. Possession arrows: 3" (76 mm) high
   6. Seven bar segments per digit
   7. PanaView® (PV) digit technology **–** discrete LEDs protrude through the scoreboard face
D. Captions
   1. Vinyl applied directly to scoreboard face
   2. HOME and GUEST captions: 6" (152 mm) high
   3. PERIOD, FOULS/SCORE, PLAYER/FOUL/MATCH and T.O.L. captions: 3" (76 mm) high
   4. Color: standard white or choose from manufacturer's vinyl color selections
E. Border Striping
   1. Vinyl striping applied around the clock and scoreboard face
   2. Color: standard white or choose from manufacturer's vinyl color selections
F. Horn
   1. Vibrating horn mounted inside the scoreboard cabinet behind the face
   2. Sounds automatically when period clock counts down to zero
   3. Sounds manually as directed by operator
G. Power Cord
   1. Cord is 11' (3.35 m) long
   2. Cord plugs into a standard grounded outlet
H. Accessory Equipment
   1. Two 6" (152 mm) high Programmable Team Name Message Centers (TNMCs) in place of vinyl HOME and GUEST captions – add 15 lb (7 kg) and 60 W
   2. Double Bonus

2.12 SCORING CONSOLE QTY OF 4

A. Console is an All Sport® 5000 controller
B. Scores multiple sports using changeable keyboard inserts
C. Controls multiple scoreboards, stats displays and shot clocks, including other All Sport 5000 controlled displays currently owned by customer

D. Recalls clock, score, and period information if power is lost
E. Runs Time of Day and Segment Timer modes
F. Console includes:
   1. Rugged aluminum enclosure to house electronics
   2. Sealed membrane water-resistant keyboard
   3. 32-character backlit LCD to verify entries and recall information currently displayed
   4. Power cord that plugs into a standard grounded outlet; 6 watts max
   5. Control cable to connect to the control receptacle junction box (wired system only)
   6. Hand-held switch for main clock start/stop and horn
   7. Soft-sided carrying case
G. Accessory Equipment
   1. 2.4 GHz spread spectrum radio system with frequency hopping technology and 64 non-interfering channels; system includes a transmitter installed inside the console and a receiver installed inside the scoreboard(s)

2.13 SCORING SYSTEM QTY OF 4
A. Scoring system consists of an All Sport® MX-1 interface box and a compatible **CUSTOMER-SUPPLIED** mobile device or tablet with DAK Score application installed.
B. DAK Score application scores multiple sports including baseball, football, and soccer.
C. Scoreboard(s) may be controlled via wired signal connection or wireless radio.
D. MX-1 interface box includes:
   1. Sealed USB A to USB Micro power cord and wall-plug power supply
   2. Control cable to connect to the control receptacle junction box (wired system only)
   3. 2.4 GHz spread spectrum radio system with frequency hopping technology and 64 non-interfering channels. **Requires radio receiver installed inside the scoreboard(s).**
   4. Clearly visible TX, Status, and Power diagnostic LEDs for quick system troubleshooting
E. Wireless operating ranges:
   1. 50' (15 m) between mobile device and interface box
   2. 1500' (457 m) between interface box and scoreboard

PART 3 - EXECUTION

3.01 EXAMINATION
A. Verify that mounting surface is ready to receive the display. Verify that placement of conduit and junction boxes are as specified and indicated in plans and shop drawings.

3.02 INSTALLATION
A. Power conduit, cables and outlet boxes to be provided and installed by the electrical contractor. Signal raceways, conduit and boxes to be provided by the electrical contractor. Electrical contractor is responsible for pulling signal wire and terminators between each display and control location. Display vendor to terminate signal wire of controller and conduit to display.
B. Mount interior displays to wall in location detailed and in accordance with manufacturer's instructions. Unit to be plumb and level.

3.03 INSTALLATION—CONTROL CENTER
A. Provide boxes, cover plates and jacks as required to meet control specification requirements. Control cables to control panels must be concealed.
B. Test the operation of the display, controller and all control jacks; leave control unit and other loose items with owner's designated representative.
C. Conduct operator training on the display/controller operation.

D. Manufacturer must supply all required signal conversion hardware to allow for direct wire control of electronic display.

END OF SECTION 274130

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PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavation, filling, backfilling and compacting.
2. Trenching and trench backfilling.
3. Mass earthwork and rough grading.
4. Finish grading, including spreading of topsoil.
5. Dewatering.
6. Soil stabilization.
7. Testing and inspection.

B. Related Sections:
1. Division 02 Section “Selective Site Demolition”.
2. Division 31 Section “Site Clearing”.
3. Division 31 Section “Erosion Control”.

1.2 QUALITY ASSURANCE

A. Testing and Inspection:

1. All testing and inspection shall be performed by an independent Geotechnical Engineering Consultant ("Geotechnical Engineer").
2. The Geotechnical Engineer is responsible for all testing, sampling and inspection.
3. The Geotechnical Engineer is responsible for approving materials, installation and procedures.
4. The Contractor is responsible for providing these services.
5. The Contractor is responsible for all coordination and scheduling with the Geotechnical Engineer.

B. Topsoil:

1. All topsoil shall be tested and approved by the Geotechnical Engineer.
2. Refer to 1.3 Submittals for more information.

C. Any work in public right-of-way or other areas subject to the jurisdiction of any body shall be performed either to the requirements of that jurisdiction or to the requirements of this Specification, whichever is more stringent.

1.3 SUBMITTALS

A. All submittals shall be reviewed approved by Architect/Engineer and Geotechnical Engineer.

B. Product Data and Test Reports:

1. Field and laboratory tests and inspections.
2. Drainage fill: Include material specifications and sieve analysis. Include signed material certificate from manufacturer/supplier.
3. Chemical modification: Include material specifications and signed material certificate from manufacturer/supplier.
4. Geo-synthetic materials: Include material specifications and signed material certificate from manufacturer/supplier.

C. Topsoil:

1. Furnish topsoil analysis performed by the Geotechnical Engineer.
2. Analysis shall state the following: (Refer to Part 2 for minimum requirements)

    a. Percentage of organic matter.
    b. Gradation of sand, silt and clay, Include USDA textural classification.
    c. Cation exchange capacity.
    d. Deleterious material.
    e. pH.
    f. Mineral and plant nutrient content (phosphorus, potassium, magnesium, calcium).

3. Analysis shall state if topsoil is suitable for the intended use and as defined in this Specification, and shall state any requirements or recommendations necessary to make it suitable.
4. Analysis shall state annual nutrient requirements and recommendations.
5. This analysis is required for both on site and off site topsoil.
6. Samples of the topsoil shall be taken under the following conditions:

    a. Within four (4) weeks prior to placing topsoil, take three representative samples of proposed topsoil.
    b. Within one week after placing topsoil, take three representative samples of in-place topsoil.
    c. All samples shall be taken in witness of the Owner, in areas approved by the Owner. Contractor to coordinate with Owner as required.

7. Provide copies of all topsoil analysis and recommendations to Owner and Architect/Engineer.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General:

1. All soil materials shall be approved by the Geotechnical Engineer.
2. All soil materials shall be suitable for each application.
3. Suitable soils are defined as soils which provide proper strength, compaction and drainage requirements and which are approved by the Geotechnical Engineer.
4. Fill material which is unsuitable due to excess moisture will not be classified as unsuitable if it can be dried to optimum moisture specified herein by manipulation,

aeration or blending with other materials satisfactorily as approved by the Geotechnical Engineer.

B. Fill Materials:

1. Note: The following describes fill materials and their application for use. The materials shall be used for the listed applications, unless designated otherwise on the Drawings. If the Contractor has any questions or concerns regarding the materials or intended application, contact the Architect/Engineer for direction. Compaction requirements are the percentage of maximum dry density per ASTM D698 Standard Proctor Test, unless noted otherwise in the Geotechnical Report.
2. General fill:

    a. Suitable on-site or off-site fill material free of debris, roots, organic and frozen materials, and stones having a maximum dimension of 2".
    b. Minimum compaction: 95%.
    c. Application: General filling and backfilling of excavations and trenches outside of the building.

3. Structural fill:

    a. Suitable on-site or off-site fill material free of debris, roots, organic and frozen materials, and stones having a maximum dimension of 2".
    b. Minimum compaction: 100%.
    c. Application: Compacted subgrade under buildings, foundations and areas subject to structural loads.

4. Granular fill:

    a. Clean, natural or manufactured sand per requirements of INDOTSS Type "B" borrow, 4.75mm (No. 4) gradation. Pea gravel is not acceptable.
    b. Minimum compaction: 95%.
    c. Application: Backfilling of excavations and trenches which are under or within 5' of pavement, and underneath exterior concrete pavement, walks, curbs and slabs on grade.

5. Drainage Fill:

    a. General: Clean, washed fill sand with 100% passing the 4.75mm (No.4) sieve and no more than 5% passing the 0.075 mm (No. 200) sieve. Pea gravel or #53 stone are not acceptable.
    b. Minimum compaction: 95%.
    c. Application: Free draining material required for applications such as the outside of basement walls, the back side (earth side) of retaining walls and building slabs on grade.

6. Aggregate fill: Unless otherwise indicated, shall meet the following:

    a. Naturally or artificially graded mixture of natural or crushed gravel, crushed stone and natural or crushed sand.

b. ASTM D2940, with 100 percent passing a 1 ½ inch sieve and not more than 8 percent passing a No. 200 sieve.
c. Application: base course under concrete and other items per plans.

C. Topsoil:

1. Topsoil shall be fertile, friable, natural surface soil obtained from well-drained areas and possessing characteristics of representative soils in the project vicinity that produce heavy growths of crops, grass or other vegetation.
2. Topsoil shall consist of friable loam, reasonably free of subsoil, clay lumps, brush, roots, weeds or other objectionable vegetation, stones or similar objects larger than 1-1/2" in any dimension, litter or other materials unsuitable or harmful to plant growth.
3. Supplement on-site topsoil with off-site topsoil as necessary.
4. Unless otherwise indicated, minimum compacted thickness in lawn areas is 4".
5. The mechanical analysis of topsoil shall be as follows:

    a. 1" mesh sieve size; 99%-100% passing.
    b. 1/4" mesh sieve size: 97%-99% passing.
    c. No. 100 mesh sieve size: 40%-60% passing.
    d. No. 200 mesh sieve size: 20%-40% passing.

6. The following minimum requirements shall also be met:

    a. Organic matter: 3-5%.
    b. pH: 6.5 to 7.3.
    c. Sand, silt, clay content: per USDA loam textural classification.
    d. Minerals and nutrients: Per Geotechnical Engineer recommendations and amendments suitable for use in local area.

D. Soil Separator Fabric:

1. Nonwoven, needle-punched geotextile fabric manufactured from polyolefins or polyesters per ASTM M288, suitable for subsurface drainage and other specified applications.
2. Application: subsurface drains and as specified in Contract Documents.
3. Specifications (values based on Mirafi 140N):

    a. Apparent opening size: 70 (U.S. Standard Sieve Size); ASTM D-4751-99A.
    b. Flow rate: 135 gpm/sf; ASTM D-4491-99A.
    c. Puncture strength: 65 lbs; ASTM D-4833-00.
    d. Mullen Burst: 225 lb/sq. in.
    e. Grab tensile/elongation: 155 lbs/50%.
    f. UV Resistance: 70% at 500 hours.

E. Geo-synthetic Reinforcement:

1. General**:** ~~**TriAx Geogrid TX5**~~ **H-Series HX165 Geogrid** as manufactured by Tensar International Corp., Atlanta Georgia.
2. Application: Soil stabilization as required and as recommended by the Geotechnical Engineer.

F. Chemical Modification:

1. General: INDOTSS 215.
2. Materials: Hydrated lime per INDOTSS 913.04(b) and Type I Portland cement per INDOTSS 901-01(b).
3. Quantity: 4.0 +/- 0.5% by dry unit mass of the soils.
4. Application: If Geotechnical report indicates that chemical modification may be needed for soil stabilization, then Contractor shall include provisions for chemical modification in their bid.

G. Other Materials:

1. All other materials not specifically described but not required for proper completion of the Work of this Section, shall be as selected by the Contractor subject to the approval of the Architect/Engineer and Geotechnical Engineer.

PART 3 - EXECUTION

3.1 REQUIREMENTS

A. General:

1. Weather: Do not perform earthwork activities during inclement weather.
2. Dust: Use all necessary and appropriate means, such as water sprinkling, as required to prevent dust from being a nuisance to the Owner, public and concurrent performance of other work on the site.
3. Conflicts: Should the preceding job conditions or other items specified herein because actual or possible conflicts, notify the Architect/Engineer immediately and do not proceed until such conflict has been resolved.
4. Refer to Division 31 Section “Termite Control” for termite protection requirements.

B. Preparation: Verify that the following has been completed prior to beginning earthwork:

1. Protective fencing has been installed for trees and vegetation to remain.
2 Site clearing (clearing and grubbing).
3. Selective site demolition.
4. Erosion and sediment control measures are in place.

C. Protection:

1. For items indicated to remain, provide protection to prevent damage from construction activities. Any damage or destruction to items intended to remain intact shall be repaired or replaced to the satisfaction of the Owner at the Contractor’s expense.
2. Topsoil: Protect placed topsoil from heavy machinery traffic. Remove and replace topsoil that is compacted by heavy machinery traffic.
3. Subgrade: Ditches and drains along the subgrade shall be maintained to drain effectively at all times. Repair subgrade of any ruts that may occur by reshaping and recompacting as required.
4. Utilities: Determine locations of existing utilities and the extent to which they may affect earthwork operations. Where service and utility lines are to remain, provide protection to prevent damage or disruption of services.

5. Damaged utilities shall be repaired immediately at the Contractor's expense.
6. Open excavation:

    a. The Contractor is responsible for ensuring all open excavations are properly barricaded and protected at all times. This includes work such as mass excavation and trenching, and also includes other potentially dangerous conditions such as retention ponds.
    b. Provide and install all necessary and appropriate means such as, but not limited to, signage, fencing, traffic barricades, and lighting to warn, discourage, and prevent danger to adjacent workers and general public.
    c. Unless otherwise indicated, install a minimum 6' 10-guage chain link fence around all open excavations, retention ponds, and other areas of potential danger, and maintain them while such conditions exist. Increase measures as required per site conditions.

3.2 LAYOUT

A. Surveyor: Secure the services of a licensed land surveyor, acceptable to the Architect/Engineer and Owner, to layout locations of building, parking areas, drive, walks, curbs, finish elevations and other work, including mechanical and electrical items that are to be installed on the project site.

B. References: Establish and maintain lines, corners, elevations and general reference points. Verify dimensions indicated on Drawings. If conflicts exist, immediately notify the Architect/Engineer before continuing work.

3.3 EXCESS WATER CONTROL

A. Excess moisture: If excess moisture is present in soils, do not resume operations until moisture content and density are reported to be satisfactory by the Geotechnical Engineer.

B. Flooding: Provide berms or channels to prevent flooding of subgrade. Promptly remove all water collecting in depressions.

C. Softened subgrade: Where soil has been softened or eroded by flooding or placement during inclement weather, remove all damaged areas and recompact as specified for fill and compaction.

D. Dewatering:

1. Provide and maintain ample means and devices with which to promptly remove and dispose of all water from every source entering the excavations or other parts of the work at all times during construction.
2. Dewater by means which will ensure dry excavations and the preservation of the final lines and grades at bottom of excavations, such as sump pumps, trenching, etc.
3. Do not use extreme measures or durations as to cause adverse effects to Project Site or adjoining properties.

3.4 CHEMICAL MODIFICATION

A. General:

1. Scarify and/or disc area to a depth of 12” prior to distributing modifiers.
2. Utilize screw type, cyclone, or pressure manifold type distributors to apply modifier.
3. Do not apply when wind conditions create potential hazards or transference of material to adjacent areas.
4. Mix modifiers with rotary speed mixers or disc harrow, and continue until a homogenous layer of the required thickness is obtained.
5. Compaction:

    a. Lime modified soils shall be compacted within 3 days.
    b. Cement modified soils shall be compacted within 30 minutes.

6. Observation and testing: Quantities of materials, placing, mixing, and compacting shall be, as recommended, observed and tested by the Geotechnical Engineer.

3.5 STOCKPILING

A. General:

1. See drawings for designated stockpiling areas. If Drawings do not designate specific areas, or areas shown are insufficient, contact Architect/Engineer for direction.
2. Stockpile earth materials in manners that will prevent intermixing of different materials and intrusion of trash, debris and organic materials.
3. Slope stockpiled materials to provide adequate surface drainage.
4. Install and maintain erosion control measures. Refer to drawings and Division 31 Section “Erosion Control”. At a minimum, silt fence shall be installed around all stockpiled areas. Seed areas which are to remain stockpiled for extended periods of time.
5. Storage or stockpiling of materials on the subgrade is prohibited.

3.6 EXCAVATION

A. General:

1. Excavation shall conform to OSHA and all other applicable safety regulations.
2. Excavation shall conform to the dimensions and elevations indicated on the Drawings, except as specified herein.
3. Excavation shall extend sufficient distance from walls and footings to allow for placing and removal of forms, installation of services and inspection.
4. Remove unsuitable material below indicated depths and replace with suitable, compacted material or lean concrete, at the Architect/Engineer discretion.
5. Topsoil stripping: Strip topsoil to its depth from areas to be covered by building, by walks and by other work and where existing surface areas required grading in order to establish new elevations.
6. Subgrade: Unless otherwise indicated, excavate to following subgrades:

a. Slab-on-grade: Sub-grade at bottom of drainage fill or at bottom of existing topsoil, whichever is lower.
b. Drives and paving: Sub-grade at bottom of aggregate base.
c. Footing: Sub-grade at indicated bottom of footing.
d. Lawn area: Sub-grade 4" below indicated surface elevation.

3.7 TRENCHING

A. General:

1. All trenching shall conform to OSHA and all other applicable safety standards.
2. Verification:

a. Contractor shall verify all existing grades, inverts, utilities, obstacles and topographical conditions prior to any trenching, excavation or underground installations.
b. In the event existing conditions are such as to prevent installations in accordance with the Contract Documents, immediately notify the Architect/Engineer and await decision before continuing work.
c. Architect/Engineer decision will be final and binding upon the Contractor, and installations shall be in accordance with same.

3. Saw cut existing pavements to proper width for trenching.
4. Legally dispose materials unsuitable for trench backfilling off-site.

B. Width:

1. Trenches for piping shall be not less than 12" wide or more than 16" wider than the outside diameter of the pipe to be laid therein, and shall be excavated true-to-line, so that a clear space not less than 6" or more than 8" in width is provided on each side of the pipe.
2. For sewers, the maximum width of trench specified shall apply to the width at and below the level at the top of the pipe. The width of the trench above that level may be made as wide as necessary for sheeting and bracing, and proper installation of the Work.
3. Trenches shall be open vertical construction.

C. Depth:

1. Trench as required to provide the elevations shown on the drawings.
2. Where elevations are not shown on the drawings, trench to sufficient depth to give a minimum of 36" of fill above the top of the pipes measured from the adjacent finish grade.
3. Where trench excavation is inadvertently carried below proper elevation, backfill with approved material and then compact to provide a firm and unyielding subgrade and/or foundation at no additional cost to the Owner.

D. Trench Bracing:

1. Properly support all trenches in strict accordance with all pertinent rules and regulations.
2. Brace, sheet, and support trench walls in such a manner that they will be safe and that the ground alongside the excavation will not slide or settle, and that all existing

improvements of every kind, whether on public or private property, will be fully protected from damage.

3. In the event of damage to such improvements, immediately make all repairs and replacements necessary at no additional cost to the Owner.
4. Arrange all bracing, sheeting, and shoring so as to not place stress on any portion of the completed Work until the general construction thereof has proceeded far enough to provide sufficient strength.
5. All shoring and sheeting required to perform and protect the excavation and as required for the safety of employees and abutting structures shall be performed. All workmen performing work in 48" or deeper trench or excavation shall be protected by use of a welded sheet steel "safety box."
6. Removal: Exercise care in the drawing and removal of sheeting, shoring, bracing, and timbering to prevent collapse or caving of the excavation faces being supported.

E. Bedding:

1. Where pipes or conduits are to be installed, excavate below the proposed alignment of the pipe and backfill with clean sand to provide uniform support unless otherwise noted on the drawings.
2. Unless shown otherwise on Drawings, minimum bedding to be 4" below pipe.
3. Storm sewer pipes are to be bedded with stone.
4. Refer to drawings and details for further information and requirements.

F. Grading and Handling of Trenched Material:

1. During excavation, material shall be stacked in an orderly manner a sufficient distance back from edges of trenches to avoid overloading and prevent slides or cave-ins.
2. Control the temporary stockpiling of trenched material in a manner to prevent water from running into the excavations.
3. Do not obstruct the surface drainage but provide means whereby stormwater is diverted into existing gutters, surface drains or other temporary drains.
4. Any water accumulated in the trenches shall be removed by pumping or by other approved methods.

3.8 FILLING, BACKFILLING AND COMPACTING

A. Prior to filling, backfilling and compacting, proof-roll and remediate subgrade per Part 3 Quality Assurance.

B. Unless otherwise indicated, maximum lift thickness is 8" of un-compacted material.

C. Moisture:

1. Thoroughly mix each layer to assure uniformity of material.
2. Supplement mixing with wetting or drying as required to obtain the moisture content required for the indicated percentages of compaction.
3. All fill shall be placed so that the moisture content is within +/- 2% of the optimum moisture content according to ASTM D698.
4. Do not use frozen materials in the fill or allow the fill to be placed upon frozen materials.

D. Compaction:

1. Compaction shall be accomplished by approved means and shall meet the following densities for various parts of the Work. See Part 2 for density requirements of individual soil materials.
2. Compaction by flooding is not acceptable.
3. In cut areas where pavement is planned, scarify the upper 12" of subgrade prior to compaction.

E. Equipment:

1. Tracked equipment shall not be used as compaction equipment.
2. The static weight of compaction equipment utilized for the compaction of backfill materials near walls as defined in No.3 below shall not exceed 2,000 lbs. for non-vibratory equipment and 1,000 lbs. for vibratory equipment.
3. All heavy equipment, including compaction equipment heavier than noted herein, shall not be allowed closer to walls than 3 feet plus the vertical distance from backfill surface to the bottom of the wall.

3.9 GRADING

A. General:

1. After filling and backfilling operations are complete, neatly and evenly grade areas to be seeded or sodded.
2. Scarify subgrade to a depth of 6" and place minimum 4" topsoil (6" maximum).
3. Grade to obtain the elevations indicated within a tolerance of plus or minus 0.1 foot.
4. Slope finished subgrade surface to provide drainage away from building walls.

B. Treatment After Completion of Grading:

1. After grading is completed and inspected, permit no further excavation, filling, or grading except with the review of and the inspection by the Owner.
2. Use all necessary means to prevent the erosion of freshly graded areas during construction and until such time as permanent drainage and erosion control measures have been installed.

3.10 QUALITY ASSURANCE

A. Coordination:

1. A representative from the Geotechnical Engineer shall be present to observe and perform tests at all times earthwork is in progress.
2. Contractor shall provide minimum 72 hour notice to Geotechnical Engineer before each operation requiring testing or inspection.

B. Testing:

1. To verify adequacy of compaction, the Geotechnical Engineer shall perform field density tests.
2. A grid pattern shall be established with a maximum area of 1,000 square feet.
3. For each grid, provide minimum one test per each lift of compacted material.

C. Proofrolling:

1. Proofrolling shall be supervised by the Geotechnical Engineer.
2. Since standard test procedures are not available for proofrolling, the necessary scope and method of testing shall be determined by the Geotechnical Engineer, subject to review by the Architect/Engineer.
3. In areas to be covered by buildings and other site improvements, and other areas deemed necessary by the Geotechnical Engineer or Architect/Engineer, prepare and test subgrade as follows:

    a. Using a loaded tri-axle dump truck or other approved method, the Contractor shall proof-roll the exposed subgrade under the observation of the Geotechnical Engineer.
    b. Based on this observation, plus supplemental testing as required, the Geotechnical Engineer shall determine when and where soft, loose or other undesirable materials are to be removed and replaced.

D. Approval and Remediation:

1. When testing and proofrolling indicate proper compaction has been obtained, and after approval from Geotechnical Engineer has been given, continue fill and backfill work until the indicated elevation is achieved.
2. If required density has not obtained, the Contractor shall remove the defective material and repeat operations until the required density is obtained and approval is given by the Geotechnical Engineer.
3. Cost of material removal, replacement, compaction and re-testing shall be the responsibility of the Contractor.

3.11 SURPLUS SOIL MATERIALS

A. Unless otherwise indicated or directed by Owner, remove excess soil materials and legally dispose of off-site.

3.12 JOB COMPLETION

A. Upon completion of the Work of this Section:

1. Remove all trash and debris from earthwork operations.
2. Remove surplus equipment and tools.
3. Leave the site in a neat and orderly condition.
4. Restore all adjacent areas disrupted by earthwork activities to their original condition.

END OF SECTION 31 20 00

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Product Specification

Product Line
TorkLift T2 Double Pantograph

Model Number
TRK-096-0040-T2

Travel	**96 in**
Capacity	**4000 lbs**
Height	**16.75 in (lowered) - 112.75 in (raised)**
Base Frame Width	**42 in**
Base Frame Length	**76 in**
Platform Width	**42 in - 66 in**
Platform Length	**76 in - 100 in**
Max End Load	**2000 lbs**
Max Side Load	**1320 lbs**
Raising Time	**30 secs**
Lowering Time	**30 secs**
Power Unit	**5HP**
Power Unit Location	**Remote**
No. of Cylinders	**2**
Shipping Weight	**1900 lbs**
Starting Price	**$46,379**

Durability and Quality

- All scissor rollers are captured within structural steel channels to provide excellent load stability.
- High impact, spiral wound bearings at every pivot point provide maintenance-free, rugged resistance to abrasion, impact, and uneven loads.
- Structural cross-members at every pinned joint in the scissor assembly minimizes leg deflection due to twisting or spreading under high/uneven loading.
- All hydraulic cylinders contain two-piece, self-aligning piston rods that transmit minimal side forces to the cylinder hinges/pins, significantly reducing wear.
- Structural steel channels in all top and lower frames provide additional rigidity and resistance to twisting/bending of the lift under load.
- Solid steel legs and added stiffeners provide overall stability and straight, repeatable roller tracking as the lift raises and lowers.
- Joints, the most critical wear points in the lift, feature chrome plated

Maintenance and Warranty

- Autoquip offers an industry-best 2-year warranty on all parts as a promise that you've purchased the industry's most reliable scissor lift.
- On-board maintenance devices enable maintenance crews to safely and effectively block open the scissors during inspection and routine maintenance.
- Sturdy, semi-transparent polyurethane oil reservoir provides an easily visible method of checking fluid levels and eliminates oil contamination due to rust.
- Low pressure hydraulic circuit extends the life of all hydraulic components and puts less stress on the electric motor.
- Double wire braided Parker hydraulic hoses resist wear, abrasion, and leaks.

in the lift, feature chrome-plated, 100,000 psi, ultimate-strength pins for premium load strength and long life.
- Minimum 1/4-inch-thick steel-reinforced platform minimizes deck deflection, maximizes load stability, and greatly extends the life of the platform deck.

Simplicity

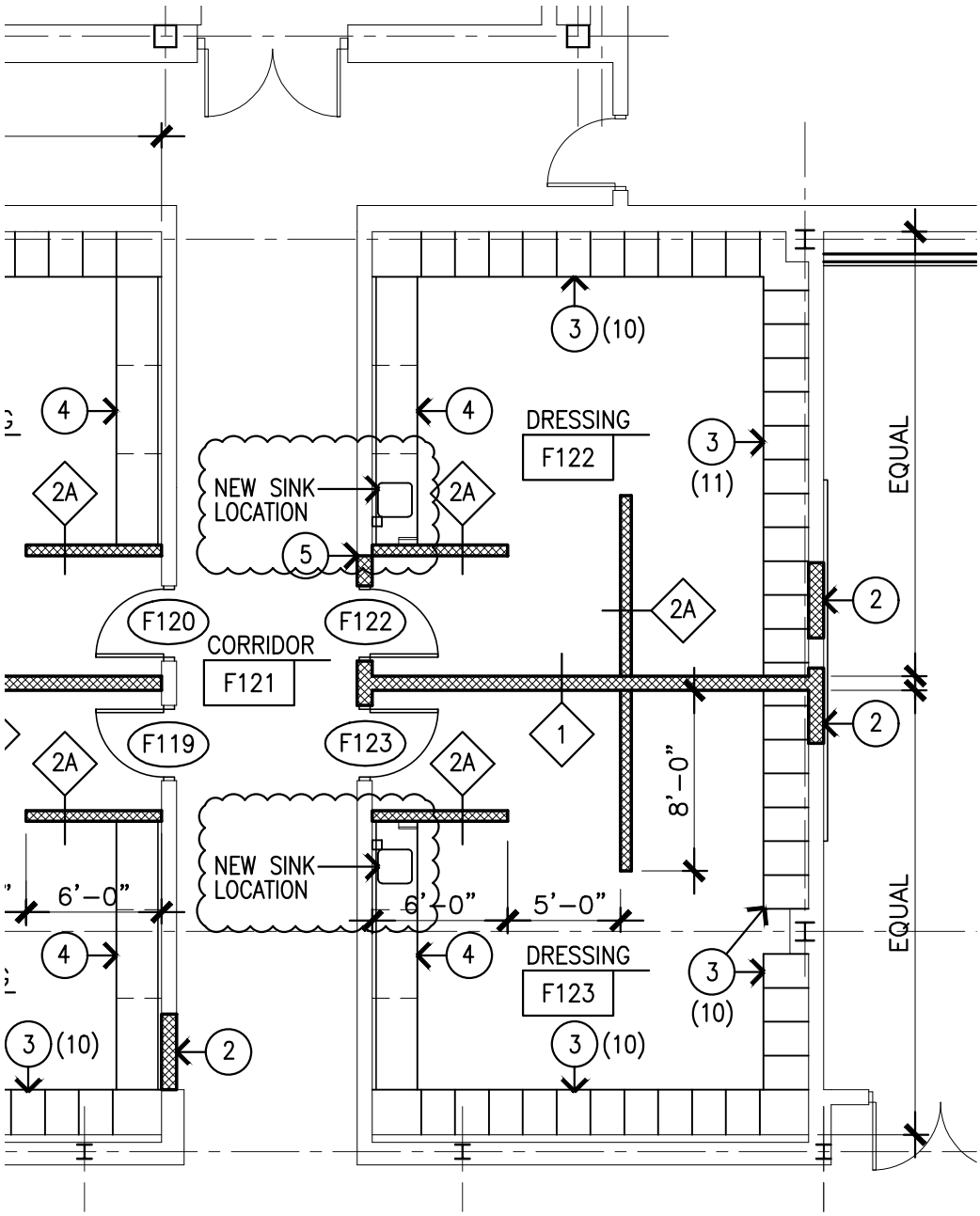
- Small footprint allows workers to stand closer to the product, minimizing the amount of floor space required for vertical travel.
- Standard controls are prewired with a remote power unit. Installation simply includes lagging the unit to the

Safety

- Hydraulic velocity fuses completely stop lifts in the unlikely event of uncontrolled descent due to sudden hose rupture.
- Minimum 3:1 structural factor of safety makes these lifts the most structurally sound in the industry.

GENERAL NOTE:

1. ADD SINK IN COUNTERTOP AS INDICATED, REFER TO PLUMBING SKETCHES.
2. PROVIDE (1) SOAP DISPENSER & (1) PAPER TOWEL DISPENSER AT EACH LOCATION.



1 / A101

PARTIAL FIRST FLOOR PLAN - UNIT F

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

VPS ARCHITECTURE

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

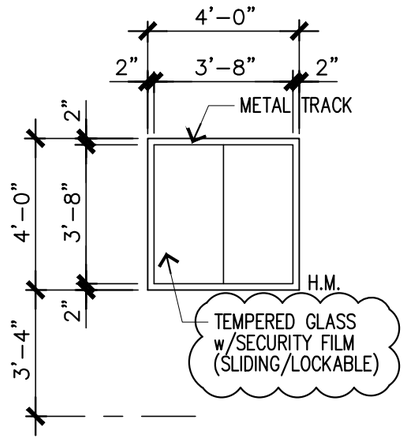
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

DRESSING ROOMS
F122 & F123 - REVISIONS

Project No.: 2022063.10

Date: 6/14/24

Drawing No.: **ADD1-SK1**



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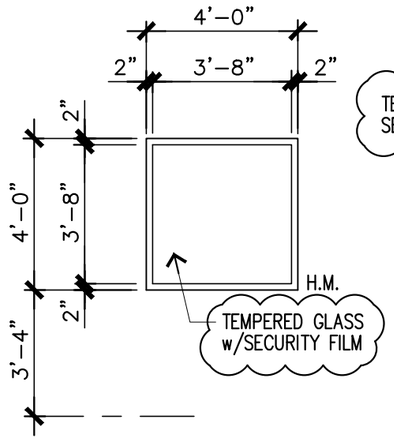
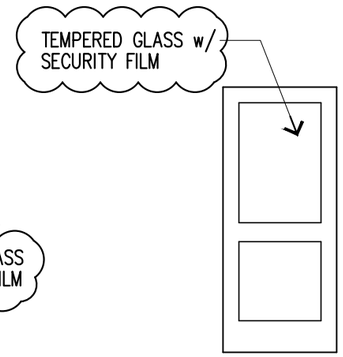


W-2



FG1

WINDOW TYPES

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

DOOR TYPE

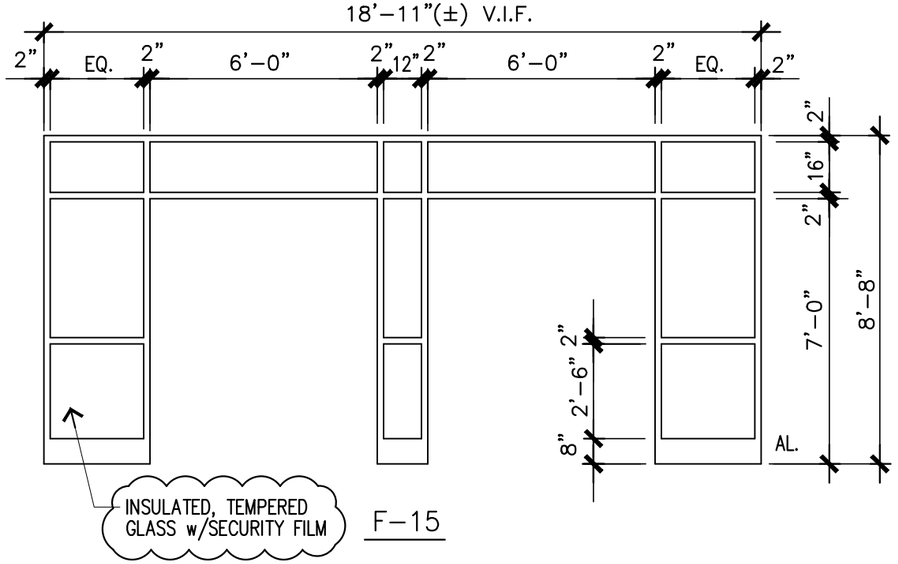
SCALE: 1/4" = 1'-0"

PHASE 2A

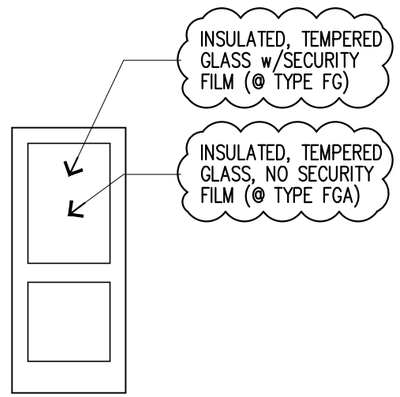
GENERAL NOTES:

1. THE FOLLOWING PHASE 2A DOOR & WINDOW FRAMES SHALL BE REVISED AS NOTED BELOW:
   A. DOOR TYPE FG1 SHALL RECEIVE SECURITY FILM, OCCURS AT DOORS L103, L103A, L104, L104A & L104B.
   B. WINDOW TYPES W-2 & W-4 SHALL RECEIVE SECURITY FILM. APPLIES TO (2) W-4 WINDOWS AT RECEPTION L102 & (2) W-2 WINDOWS AT SRO L104.

1. THE FOLLOWING PHASE 2B DOOR & WINDOW FRAMES SHALL BE REVISED AS NOTED BELOW:
   A. FRAME TYPE F-15 SHALL RECEIVE SECURITY FILM ON ALL GLAZING.
   B. DOOR TYPE FG SHALL RECEIVE SECURITY FILM, OCCURS ONLY AT DOORS J141.
   C. DOOR TYPE FGA WILL NOT REQUIRE SECURITY FILM, OCCURS AT DOORS T110, T110A, T110B, U119, U119A & U119B.



F-15



FG

FGA

FRAME TYPE

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

DOOR TYPE

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

PHASE 2B

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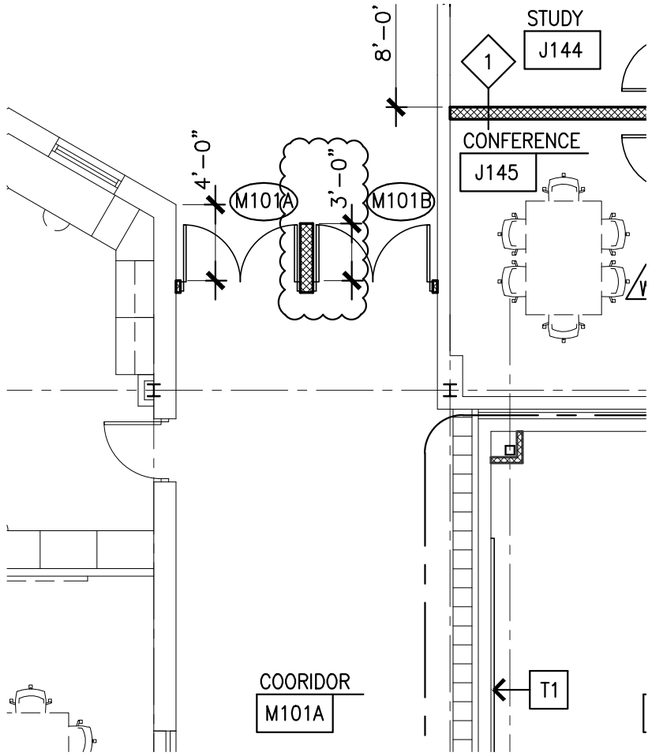
ADDITION & RENOVATIONS TO:

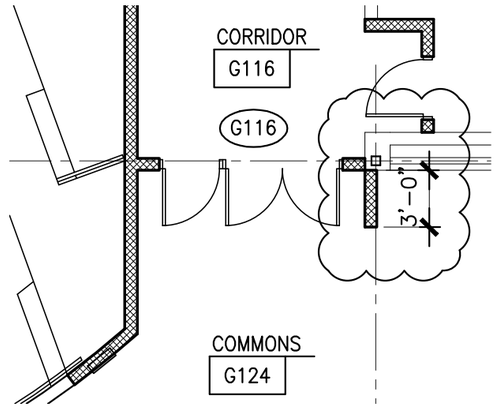
FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

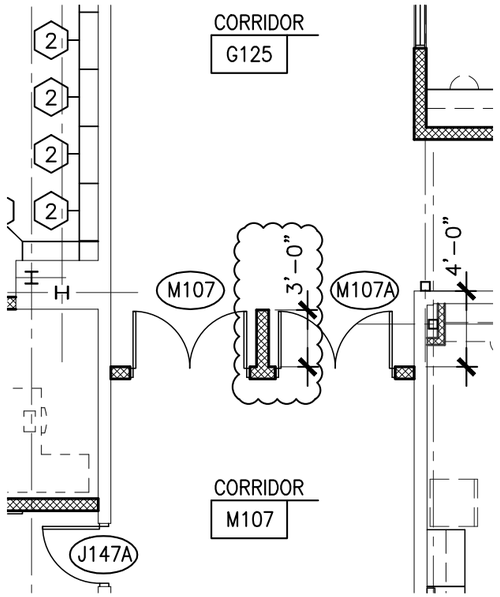
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

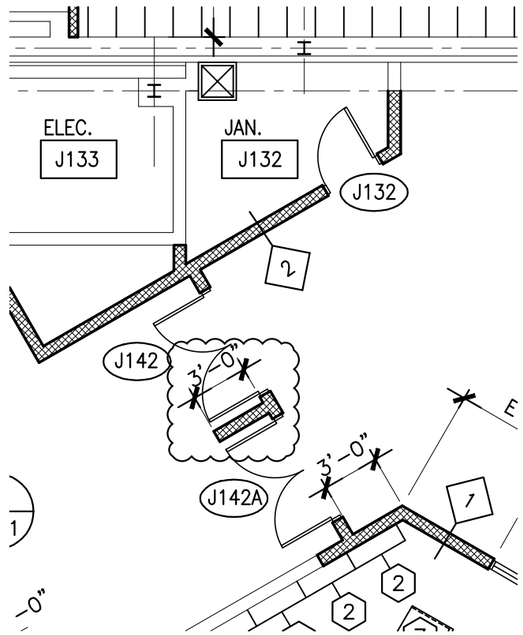
DOOR & WINDOW GLAZING REVISIONS

Project No.:	2022063.10
Date:	6/14/24
Drawing No.:	**ADD1-SK2**









1 PARTIAL FIRST FLOOR PLANS - UNITS G, J & M

ADD1SK3 SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. DELETE REFERENCE TO CORRIDORS J149 & J150 AS INDICATED ON SHT. A102, THESE SHALL BE INDENTIFIED AS CORRIDORS G125 & M107 AS INDICATED ON SHT. A104.
2. DELETE REFERENCE TO DOORS J150 & J150A AS INDICATED ON SHT. A102, THESE SHALL BE INDENTIFIED AS DOORS M107 & M107A AS INDICATED ON SHT. A104.
3. INSTALL NOM. 8" C.M.U WALL BETWEEN DOORS J142 & J142A, DOORS M101A & M101B & DOORS M107 & M107A AS INDICATED. ALSO ADJACENT TO DOORS G116 AS SHOWN. EXTEND TO 8" ABOVE FINISHED CEILING.

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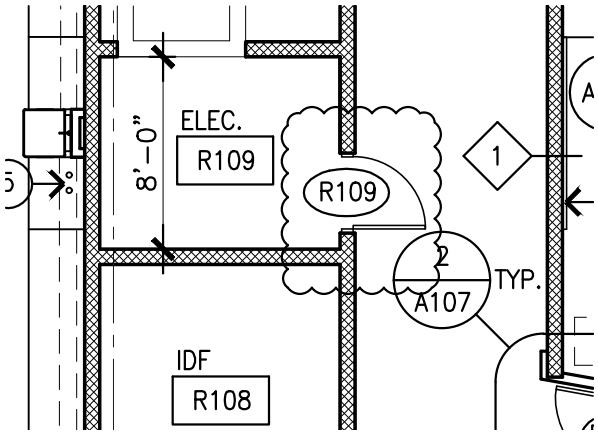
ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

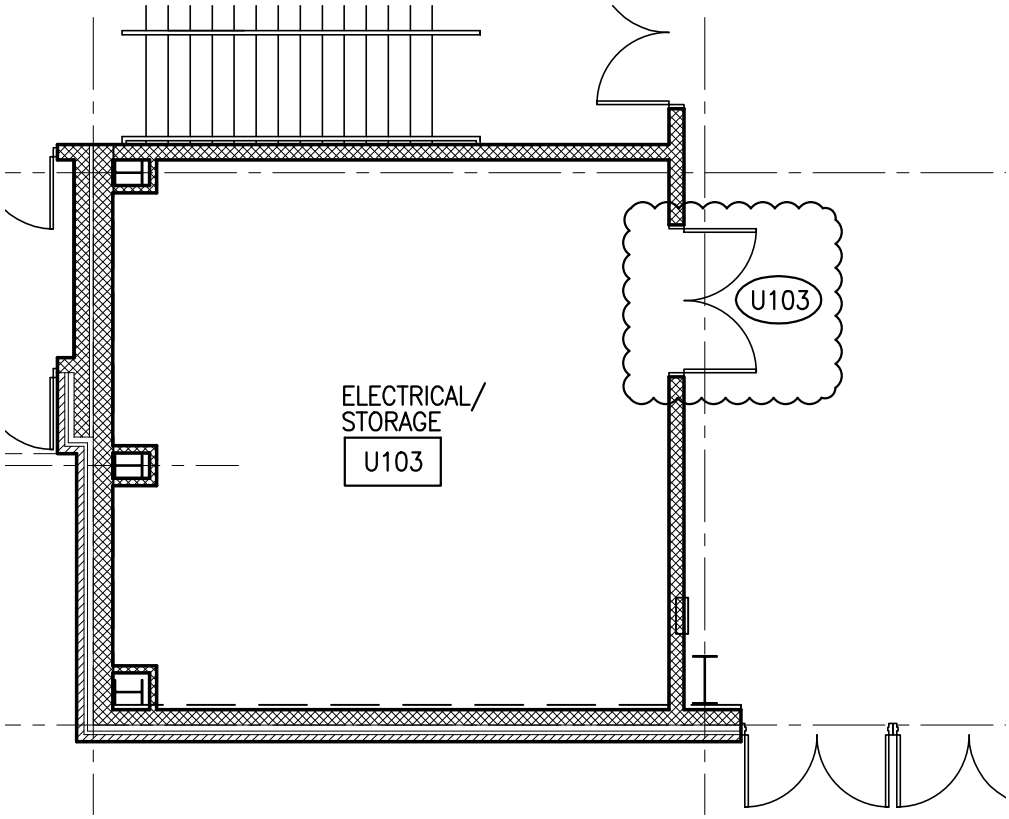
UNITS G, J & M - REVISIONS

Project No.:	2022063.10
Date:	6/14/24
Drawing No.:	**ADD1-SK3**



1 / A107 **PARTIAL FIRST FLOOR PLAN - UNIT R**

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



1 / A109.2 **PARTIAL FIRST FLOOR PLAN - UNIT U.2 - SOUTHWEST QUADRANT**

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

GENERAL NOTE:

1. REVERSE DOOR SWINGS OF DOORS R109 & U103 AS INDICATED.

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

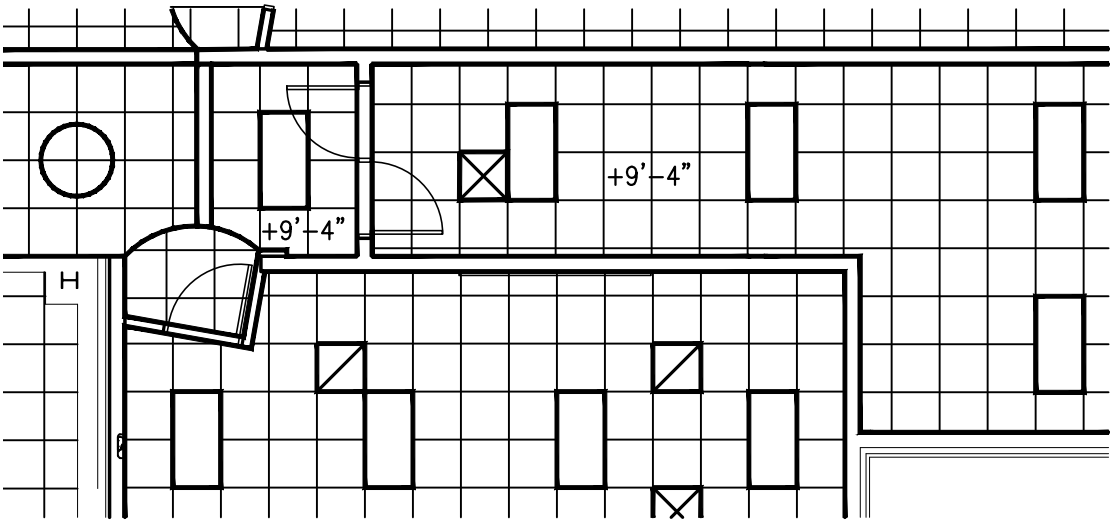
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

UNIT R & UNIT U - DOOR REVISIONS

Project No.: 2022063.10

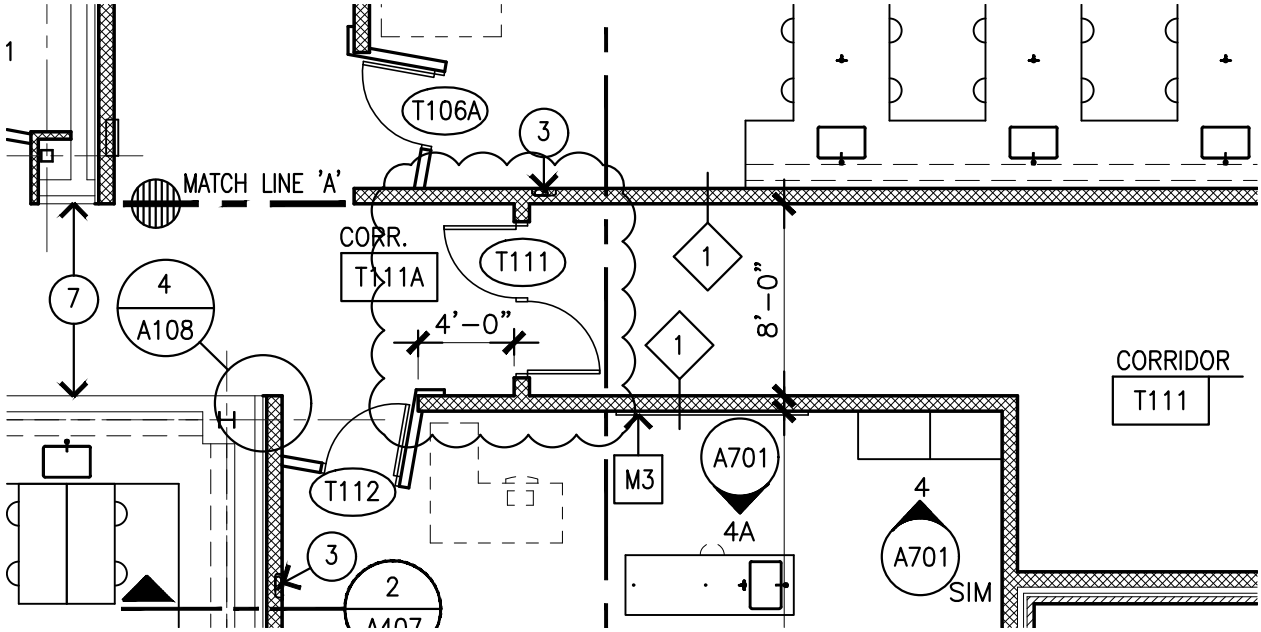
Date: 6/14/24

Drawing No.: **ADD1-SK4**



1 / A108 PARTIAL FIRST FLOOR REFLECTED CEILING PLAN - UNIT T

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



1 / A108 PARTIAL FIRST FLOOR PLAN - UNIT T

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

GENERAL NOTES:

1. DOORS T111 SHALL BE RELOCATED AS INDICATED.
2. REFLECTED CEILING PLAN AT CORRIDORS T111 & T111A SHALL BE REVISED AS INDICATED.

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

CORRIDOR T111 - RELOCATING DOORS T111 & REVISED CEILING PLAN

Project No.: 2022063.10
Date: 6/14/24
Drawing No.: **ADD1-SK5**

JUNE 1, 2024 - JULY 8, 2025
13 MONTHS

JUNE 1 2026 - DEC 12 2026
7 MONTHS

JUNE 1 2025 - JULY 1 2026
13 MONTHS

JUNE AND JULY 2025
2 MONTHS

DEC. 1 2024 - JUNE 15 2026
19.5 MONTHS

JUNE 1, 2024 - DEC 1, 2024
7 MONTHS

OCT. 1 2024 - JULY 1 2025
OCT. 1 2024 - OCT 1 2025
*DELIVER ONE BEFORE OTHER

PHASE 2A.2

PHASE 2A.1

PHASE 2B.3
8,300 sq ft

PHASE 2B.2
31,500 sq ft

PHASE 2B.1 -ALT

PHASE 2B.1
22,000 sq ft

PHASE 2B.1S

PHASE 2B.1
33,500 sq ft

PHASE 1

TUNNEL

All lockers are demo'd/removed

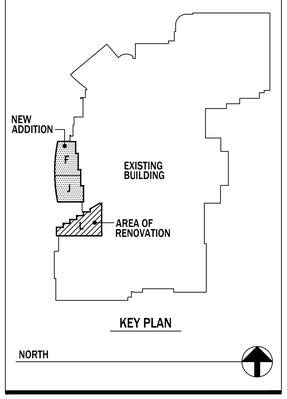
TEMP DOORS

ALTERNATE FOR BRICK ON THIS FACADE

pipe routing to be in the 2A documents

MATCH LINE

1 A001 FIRST FLOOR LIFE SAFETY PLAN - SOUTH
SCALE: 1/32" = 1'-0"



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ADDITION & RENOVATIONS TO:

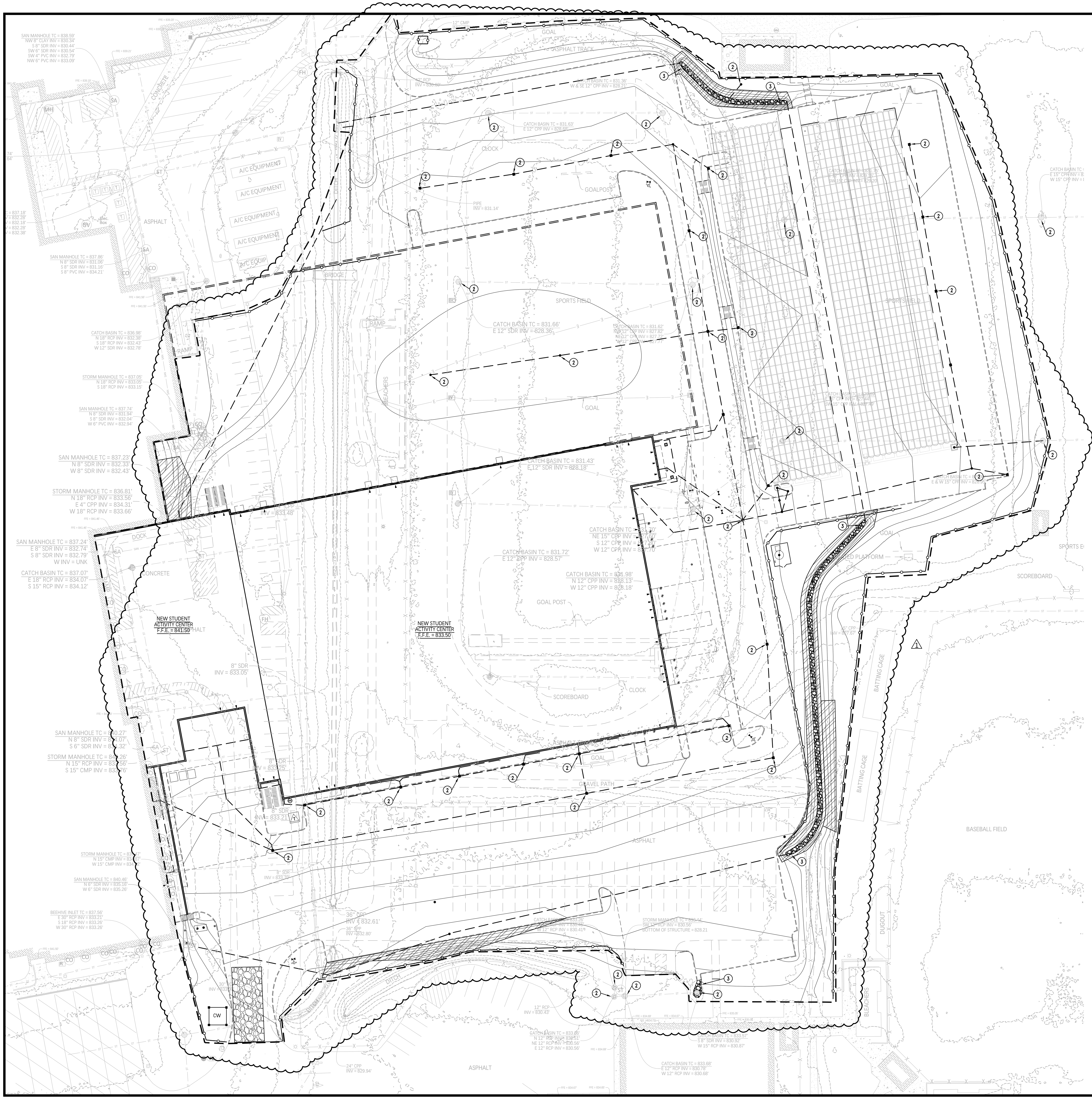
FRANKLIN CENTRAL HIGH SCHOOL PHASE 2A

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR LIFE SAFETY PLAN - SOUTH

Project No:	2022063.00
Project Date:	NOVEMBER, 2023
Drawing No:	A001



GENERAL NOTES

A. TEMPORARILY SEED ALL DISTURBED AREA.
B. REFER TO LANDSCAPE SHEETS FOR AREAS OF PERMANENT SEEDING AND/OR SOD.
C. REFER TO STORMWATER POLLUTION PREVENTION NOTES AND DETAIL SHEETS.
D. ALL PROPOSED EROSION AND SEDIMENT CONTROL SHALL BE IN CONFORMANCE WITH CHAPTER 600 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.
E. ADDITIONAL EROSION CONTROL AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED BY THE INSPECTOR.

○ PLAN NOTES

1. CONSTRUCTION ENTRANCE. REFER TO DETAIL ON C212.
2. BASKET INLET PROTECTION. REFER TO DETAIL ON C212.
3. RIPRAP APRON. REFER TO DETAIL ON C212.

PLAN SYMBOLS

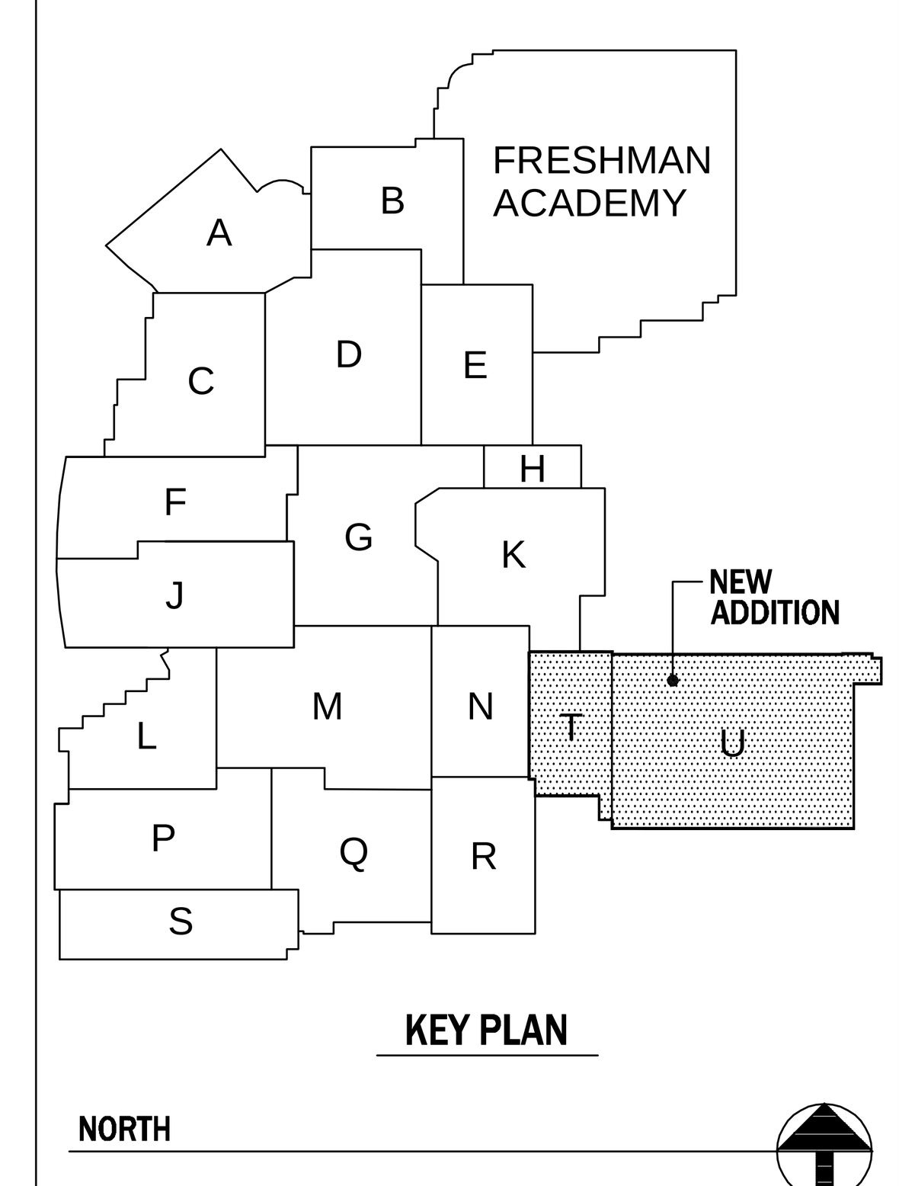
- CW — CONCRETE WASHOUT AREA
- EROSION CONTROL BLANKET
- SILT FENCE
- PROPOSED STORM SEWERS
- CONSTRUCTION/GRADING LIMITS
- PROPOSED CONTOURS
- PROPOSED IMPROVEMENTS

SOIL STOCKPILE NOTES

IF SOIL IS STOCKPILED ON THE SITE DURING CONSTRUCTION, ALL STOCKPILES MUST BE ENCLOSED BY PERIMETER PROTECTION (I.E. SILT FENCE, SILT SOCK, OR SIMILAR)

#	Revision	Date
1	ADDENDUM #1	06.14.2024

JPS CONSULTING ENGINEERS, LLC
9365 Counselors Row, Suite 116
Indianapolis, IN 46240
ph 317.617.4270
www.jpsconsultingengineers.com



KEY PLAN

NORTH

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

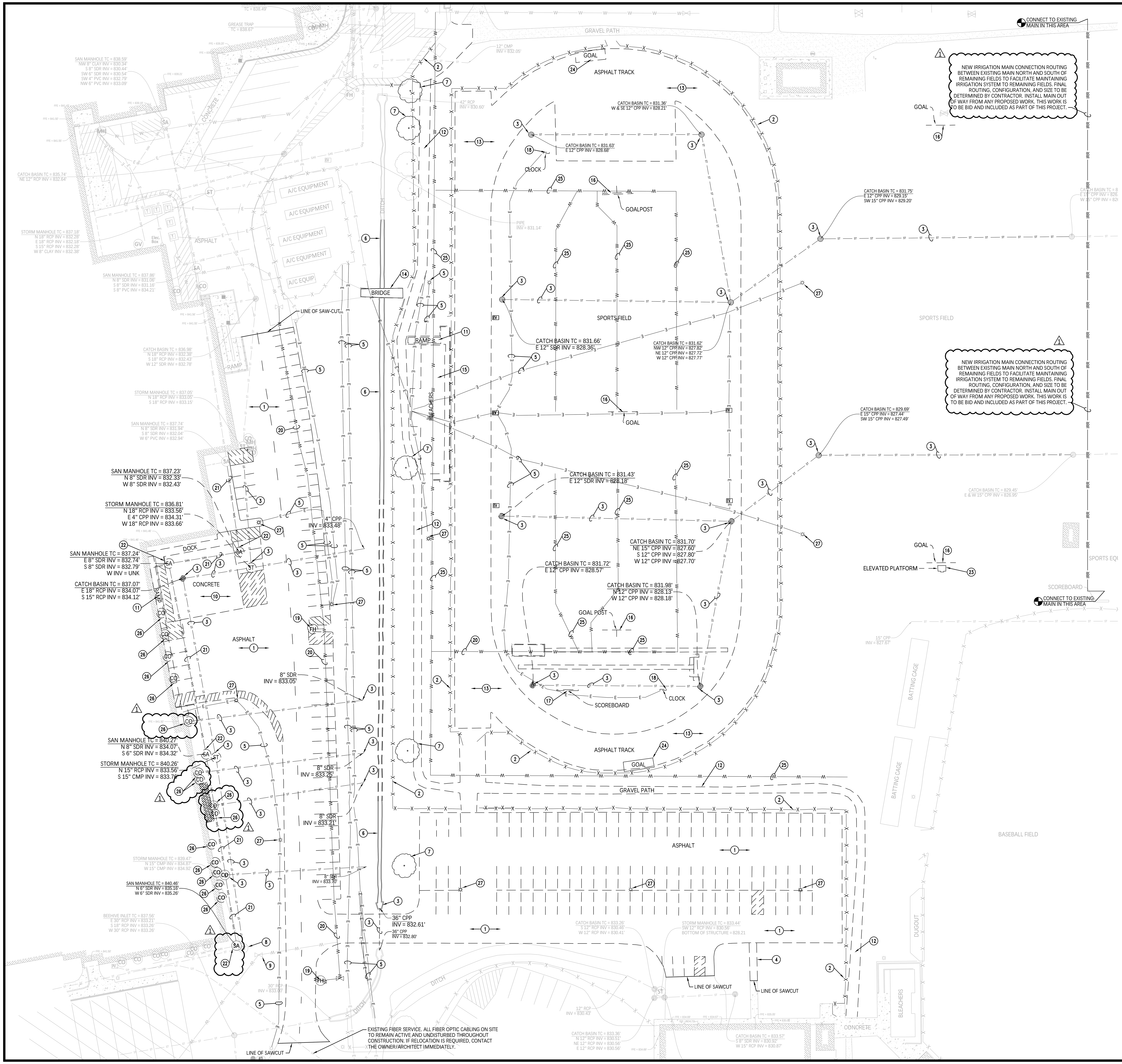
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

NICHOLAS BIJAN VERGATOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10
Project Date: MAY 29, 2024
Drawing No: C210

Nicholas Bijan Vergatos



GENERAL NOTES

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING, AND VERIFYING, THAT ALL PERMITS AND APPROVALS ARE OBTAINED FROM THE RESPECTIVE CITY, COUNTY, STATE AND FEDERAL AGENCIES PRIOR TO STARTING CONSTRUCTION.

B. CONTRACTOR SHALL VERIFY LOCATION AND INVERT ELEVATIONS OF EXISTING SEWERS PRIOR TO START OF CONSTRUCTION.

C. CONTRACTOR SHALL MAINTAIN A COMPLETE AND OPERABLE UTILITY SYSTEM AT ALL TIMES.

D. CONTRACTOR SHALL INCLUDE COSTS FOR CUTTING AND PATCHING AS REQUIRED IN THEIR BID PROPOSAL TO COMPLETELY INSTALL THE WORK INDICATED.

E. CONTRACTOR SHALL INCLUDE ALL TAP FEES, PERMIT FEES AND APPLICATION FEES IN THEIR BID PROPOSAL AS NECESSARY TO COMPLETELY INSTALL THE WORK INDICATED.

F. INFORMATION SHOWN WAS OBTAINED FROM AN OWNER FURNISHED SITE SURVEY OF EXISTING CONDITIONS AND IS UNCONFIRMED. CONTRACTOR IS REQUIRED TO FIELD VERIFY THIS INFORMATION AND NOTIFY ARCHITECT OF ANY DISCREPANCIES SO MODIFICATION CAN BE MADE.

G. CONTRACTOR SHALL COORDINATE EXACT UTILITY LOCATIONS WITH THE OWNER AND LOCAL UTILITY COMPANIES PRIOR TO COMMENCING ANY WORK. UTILIZE THE INDIANA UNDERGROUND UTILITY LOCATION SERVICE AT 811 OR 800-382-5544 PRIOR TO ANY EXCAVATION ON THE SITE.

○ PLAN NOTES

1. REMOVE EXISTING ASPHALT PAVEMENT COMPLETE. MAKE STRAIGHT SAW-CUT AT TERMINATION.
2. REMOVE CHAINLINK FENCE COMPLETE.
3. REMOVE EXISTING STORM STRUCTURE AND PIPE COMPLETE.
4. REMOVE EXISTING CONCRETE WALK COMPLETE.
5. REMOVE EXISTING ELECTRIC LINE COMPLETE. RE-FEED EXISTING CIRCUIT & LIGHTS AS NEEDED. REFER TO ELECTRICAL SITE PLAN FOR REROUTING INFORMATION.
6. REMOVE EXISTING DITCH COMPLETE.
7. REMOVE EXISTING PLANTINGS COMPLETE.
8. ADJUST CASTING TO PROPOSED GRADE.
9. ADJUST VALVES TO PROPOSED GRADE.
10. REMOVE EXISTING CONCRETE.
11. REMOVE EXISTING RAMP.
12. REMOVE EXISTING GRAVEL PATH.
13. REMOVE EXISTING ASPHALT TRACK PATH.
14. REMOVE EXISTING WOODEN BRIDGE.
15. REMOVE EXISTING BLEACHERS AND PRESS BOX STRUCTURE.
16. REMOVE EXISTING FOOTBALL GOALPOST COMPLETE.
17. REMOVE EXISTING SCORE BOARD.
18. REMOVE EXISTING CLOCK.
19. REMOVE EXISTING FIRE HYDRANT.
20. REMOVE EXISTING WATER LINE COMPLETE. MAINTAIN OPERABLE UTILITY SYSTEM AT ALL TIMES.
21. REMOVE EXISTING SANITARY PIPE COMPLETE. MAINTAIN OPERABLE UTILITY SYSTEM AT ALL TIMES.
22. REMOVE EXISTING SANITARY STRUCTURES COMPLETE. MAINTAIN OPERABLE UTILITY SYSTEM AT ALL TIMES.
23. REMOVE EXISTING ELEVATED PLATFORM COMPLETE.
24. REMOVE EXISTING SOCCER GOAL COMPLETE. STORE PER OWNER DIRECTION.
25. REMOVE IRRIGATION SYSTEM, PIPING, SPRINKLER HEADS, CONTROL BOXES, AND VALVES COMPLETE WITHIN PROJECT AREA. REFEED AND CONNECT IRRIGATION SERVICE TO SPORTS FIELDS REMAINING TO EAST OF PROJECT. SEE NEW MAIN ROUTING ON THIS DRAWING TO FACILITATE THIS REFEEDING.
26. REMOVE UTILITY CLEANOUTS COMPLETE. MAINTAIN OPERABLE UTILITY SYSTEM AT ALL TIMES.
27. REMOVE EXISTING SITE LIGHT, POLE, BASE, AND WIRING COMPLETE.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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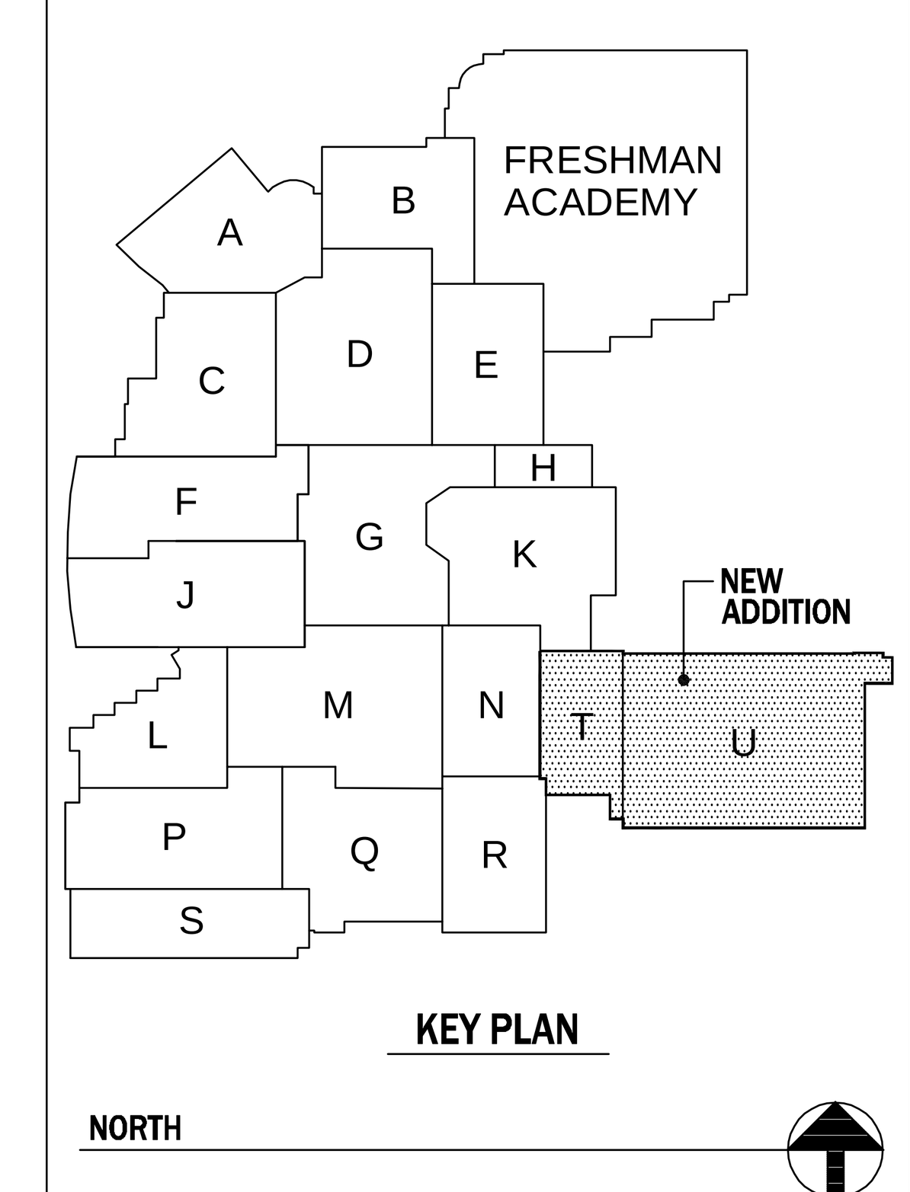

KEY PLAN

VPS ARCHITECTURE
905 N. Capital Ave. – Suite 100 Indianapolis, Indiana 46204
P (317) 353–3281
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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL
PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title: SITE DEMOLITION PLAN

Project No: 2022063.10
Project Date: MAY 29, 2024

NICHOLAS BIJAN VERGATOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

Nicholas Bijan Vergatos

Drawing No: C220

JPS Consulting Engineers - K:\Civil Projects\23\JPSC48 Franklin Township Schools - Phase 2\Drawings\C220.dwg June 13, 2024 - 11:57 AM Nvergatos

GENERAL NOTES

A. REFER TO UTILITY DETAILS FOR NOTE REFERENCES.
B. ALL CASTINGS SHALL HAVE THE WORDS "NO DUMPING DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM OF 1" HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.
C. CASTINGS TO BE NEENAH TYPE OR APPROVED EQUAL.
D. CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.

○ PLAN NOTES

1. REFER TO PLUMBING DRAWINGS FOR LOCATION, INVERT, SIZE AND CONTINUATION INTO BUILDING.
2. 6" ROOF DRAIN (HDPE). SLOPE AT 1.00% MIN TOWARD STRUCTURE.
3. 12" ROOF DRAIN (HDPE). SLOPE AT 1.00% MIN TOWARD STRUCTURE.
4. DOWNSPOUT ADAPTER, DUCTILE IRON, PAINTED BLACK. REFER TO ARCHITECTURE FOR EXACT LOCATION OF DOWNSPOUT.
5. STORM PIPE TO BE INSTALLED UNDERNEATH RETAINING WALL FOUNDATION.

STRUCTURE SCHEDULE

MARK	INVERT		CASTING		STRUCTURE	
	INLET	OUTLET	ELEVATION	TYPE	TYPE	DETAIL
STR-1	N 831.00 W 829.95	829.68	832.95	R3405	INLET	C241
STR-2	W 828.72 N 828.52	828.32	832.30	R3405	INLET	C241
STR-3	827.92	827.92	833.75	R1772	MANHOLE	C241
STR-3A	827.72	827.72	831.90	R3405	MANHOLE	C241
STR-4	N 827.50 S 827.47 NE 829.58 NW 827.47	827.47	832.35	R3405	MANHOLE (1)	C241
STR-5	827.85 (1)	827.85	832.55	R3405	MANHOLE	C241
STR-6	N 828.10 E 829.68 W 828.67	828.10	832.55	R3405	INLET	C241
STR-7	828.51	828.41	832.55	R3405	INLET	C241
STR-8	W 828.77 SE 829.58	828.77	834.35	R3405	MANHOLE	C241
STR-9	828.96 (1)	828.96	832.45	R3405	MANHOLE	C241
STR-10	829.26	829.26	832.45	R3405	INLET	C241
STR-11	-	829.56	832.45	R3405	INLET	C241
STR-12	N 828.96 SE 829.72	828.96	833.75	R3405	INLET	C241
STR-13	829.24	829.24	833.20	R3405	INLET	C241
STR-14	829.44	829.44	833.20	R3405	INLET	C241
STR-15	829.64	829.64	833.20	R3405	INLET	C241
STR-16	-	829.90	832.40	R3405	INLET	C241
STR-17	830.00	830.00	833.00	R3286-8V	INLET	C241
STR-18	-	829.90	834.45	R3286-8V	INLET	C241
STR-19	-	829.90	835.50	R3286-8V	INLET	C241
STR-20	-	830.30	835.50	R3286-8V	INLET	C241
STR-21	-	830.00	833.00	R3286-8V	INLET	C241
STR-22	832.61	832.61	837.60	R1772	MANHOLE	C241
STR-23	827.30	827.30	836.10	R1772	MANHOLE	C241
STR-24	SE 827.28 S 827.31 (1)	827.28	836.05	R1772	MANHOLE	C241
STR-25	-	827.28	833.00	R1772	OUTLET CONTROL STRUCTURE	C241
STR-26	W 828.67 E 829.39 N 829.27	828.67	832.40	R3286-8V	INLET	C241
STR-27	W 828.89 N 829.09	828.89	832.40	R3286-8V	INLET	C241
STR-28	W 829.14 N 829.14	829.14 (1)	832.40	R3286-8V	INLET	C241
STR-29	W 829.47 N 829.77	829.37	832.40	R3286-8V	INLET	C241
STR-30	829.85	829.85	832.75	R3286-8V	INLET	C241
STR-31	829.07	829.07	832.60	R2560-E	INLET	C241
STR-32	–	829.60	832.60	R2560-E	INLET	C241
STR-33	–	831.50	832.50	ROUND GRATE	NYLOPLAST	C242
STR-34	N 838.69 W 839.21 S 838.01	830.92	840.95	R1772	MANHOLE	C241
DIV-1	W 827.37 E 828.20	827.37	833.95	R1772	DIVERSION MANHOLE	C241
BMP-1	827.34	827.34	833.95	SEE DETAIL	AQUASHIELD XC-9 UNIT	C245

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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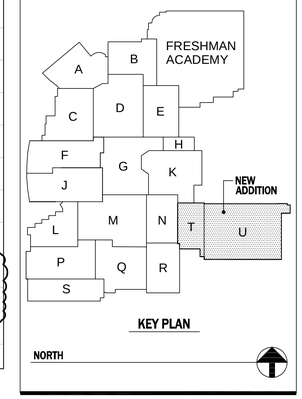

KEY PLAN

NORTH

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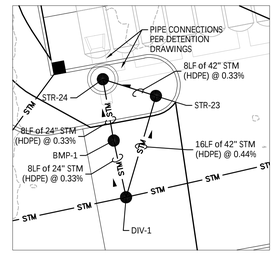
ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:



1 ENLARGEMENT
SCALE: 1"=10'

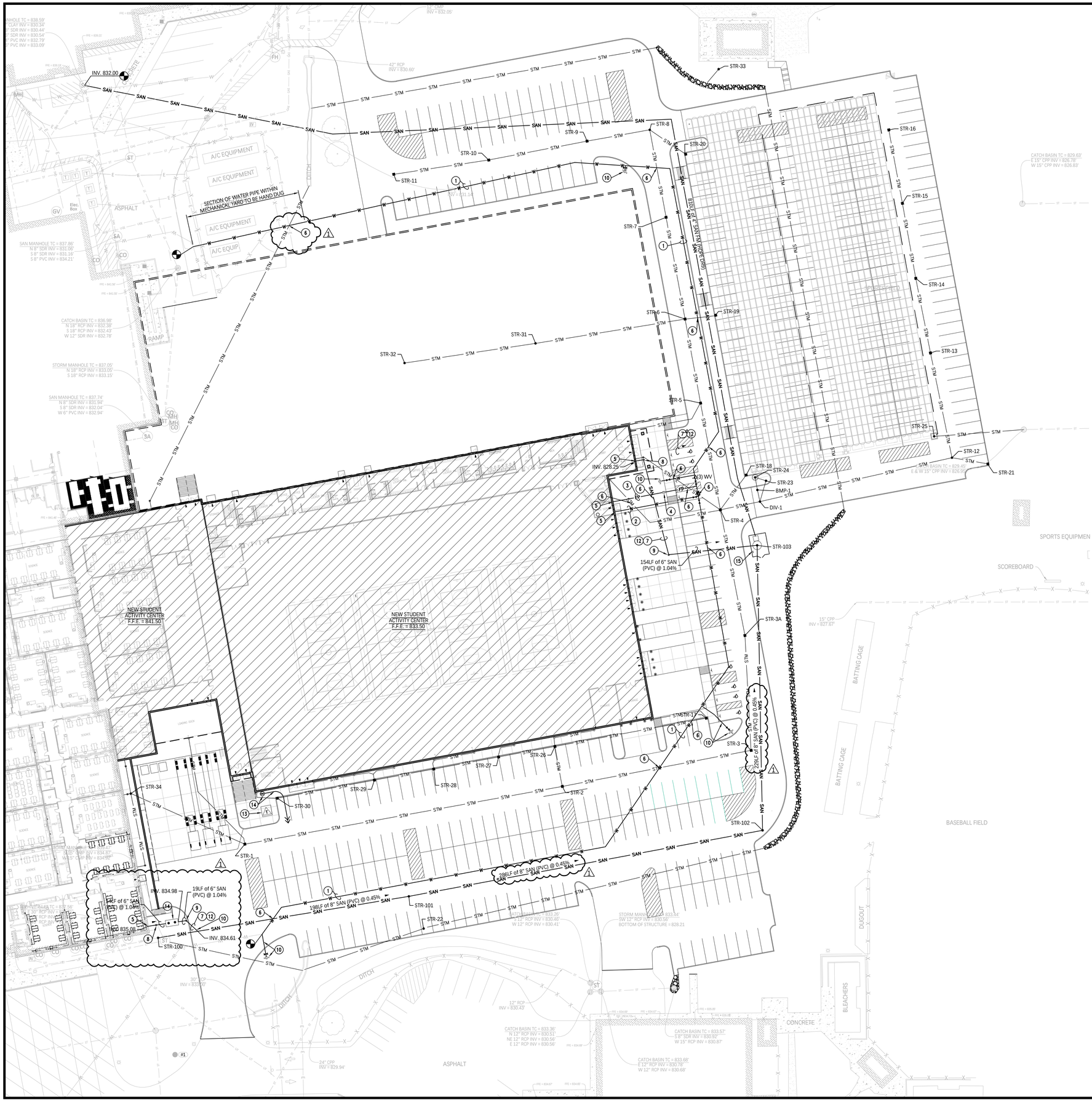
0 30 60 FEET
SCALE:1" = 30'

NICHOLAS BRIAN VIRGINIA
REGISTERED
No. PE11500269
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No:	2022063.10
Project Date:	MAY 29, 2024
Drawing No:	C230

Nicholas Brian Virginia

JPS Consulting Engineers - K:\Civil Projects\23JPSC48 Franklin Township Schools - Phase 2\Drawings\C230.dwg June 13, 2024 - 4:19 PM Nvegiatos



GENERAL NOTES

A. REFER TO UTILITY DETAILS FOR NOTE REFERENCES.
B. ALL CASTINGS SHALL HAVE THE WORDS "NO DUMPING DRAINS TO STREAM" CAST IN RAISED OR RECESSED LETTERS AT A MINIMUM OF 1" HEIGHT. A SYMBOL OF A FISH SHALL ALSO BE CAST WITH THE LETTERS.
C. CASTINGS TO BE NEENAH TYPE OR APPROVED EQUAL.
D. CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
E. SANITARY AND WATER LINES MUST BE SEPARATED BY AT-MINIMUM TEN (10) HORIZONTAL FEET WHEN PARALLEL AND WHEN CROSSING BY AT-MINIMUM EIGHTEEN (18) VERTICAL INCHES. (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).

○ PLAN NOTES

1. 6" WATER MAIN PIPE (C900 PVC).
2. 4" DOMESTIC WATER SERVICE PIPE (C900 PVC).
3. 6" FIRE PROTECTION SERVICE PIPE (C900 PVC).
4. POST INDICATOR VALVE.
5. REFER TO PLUMBING DRAWINGS FOR LOCATION, INVERT, SIZE AND CONTINUATION INTO BUILDING.
6. WATER AND SEWER CROSSING.
7. INSTALL GREEN 10-GUAGE TRACE WIRE FROM BUILDING CLEANOUTS TO CONNECTION POINT.
8. BUILDING CLEANOUT PER CITIZENS ENERGY DETAIL.
9. RIGHT OF WAY CLEANOUT PER CITIZENS ENERGY DETAIL.
10. FIRE HYDRANT WITH 6" SERVICE LINE AND VALVE.
11. ACID NEUTRALIZER BASIN. REFER TO PLUMBING DRAWINGS FOR MORE INFORMATION.
12. BACKFILL ALL PARTS OF THE SANITARY LATERAL PIPE AND TRENCH LOCATED UNDER OR WITHIN 5FT FROM A CONCRETE OR PAVED AREA WITH GRANULAR MATERIAL.
13. ELECTRICAL TRANSFORMER. REFER TO ELECTRICAL DRAWINGS FOR MORE INFORMATION AND PRIMARY ROUTING THROUGH PROJECT AREA.
14. GAS METER AND SERVICE LINE BY UTILITY COMPANY. COORDINATE WORK WITH UTILITY. REFER TO PLUMBING DRAWINGS FOR GAS LOAD, PRESSURE AND MORE INFORMATION.
15. PUMP CONTROL PANEL LOCATION. MOUNT ON UNISTRUT SUPPORTS.

STRUCTURE SCHEDULE

MARK	INVERT		CASTING		STRUCTURE	
	INLET	OUTLET	ELEVATION	TYPE	TYPE	DETAIL
STR-100	EX. 835.26 (6")	830.00	840.46	R1772	SANITARY MANHOLE INTERNAL DROP	C242
STR-101	829.10	829.00	836.40	R1772	SANITARY MANHOLE	C242
STR-102	827.71	827.61	836.60	R1772	SANITARY MANHOLE	C242
STR-103	S 826.57 W 826.64	SEE DETAIL	834.00	SEE DETAIL	SANITARY PUMP	C243

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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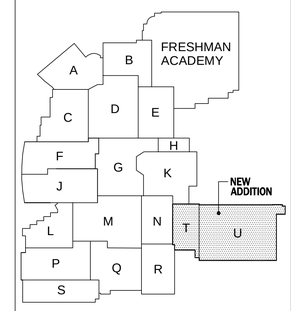

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

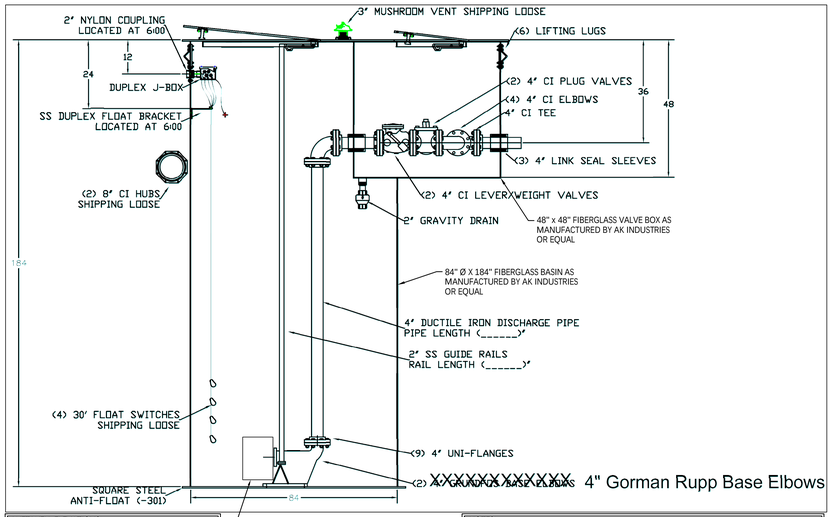
Drawing Title: SITE UTILITY PLAN

NICHOLAS BRIAN VENTRIS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No:	2022063.10
Project Date:	MAY 29, 2024
Drawing No:	C240

0 30 60 FEET
SCALE:1" = 30'

Nicholas Brian Ventris

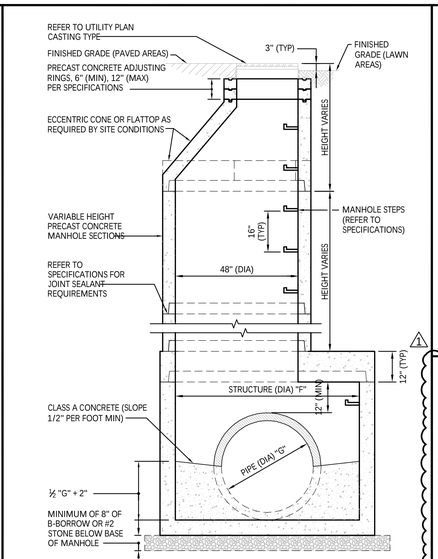


WET WELL ELEVATIONS:	
TOP OF STRUCTURE:	ELEV @ 833.60
6" PIPE INLET:	INV @ 826.64
8" PIPE INLET:	INV @ 826.44
HIGH WATER ALARM:	ELEV @ 825.90
LAG PUMP ON:	ELEV @ 825.40
LEAD PUMP ON:	ELEV @ 824.90
PUMP OFF:	ELEV @ 819.00
BOTTOM OF STRUCTURE:	ELEV @ 818.25

PUMPS, PIPING AND APPURTENANCES (REFER TO NOTE 1 TYP)

NOTES:
1. PROVIDE (2) WEIL MODEL 2529 SUBMERSIBLE QUICK REMOVAL MOUNTED GRINDER PUMPS, 4 INCH DISCHARGE, FOR UP TO 4 INCH SOLIDS, WITH A 10 HP 1150 RPM 3 PH 230 V 60 HZ MOTOR WITH MOISTURE SENSOR AND TEMPERATURE LIMITER AND STAINLESS STEEL LIFTING CABLES. INCLUDE ALL PUMP ACCESSORIES, LEVEL CONTROL AND CONTROL PANEL. ALTERNATE PUMP OPERATIONS.
2. PIPE CONNECTIONS TO STRUCTURES SHALL UTILIZE FLEXIBLE CONNECTORS LIKE KOR-N-SEAL OR APPROVED EQUAL.
3. ALUMINUM ACCESS HATCH WITH LOCKING HASP (SINGLE OR DOUBLE LEAF). SIZE AND TYPE SHALL BE IN ACCORDANCE WITH PUMP MANUFACTURER REQUIREMENTS.
4. REFER TO SITE IMPROVEMENT AND SITE UTILITY PLAN FOR LOCATION OF CONTROL PANEL.
5. PROVIDE TEMPORARY PUMPS AS REQUIRED UNTIL NEW ARE INSTALLED AND OPERATIONAL.
6. GRADE SITE TO ASSURE POSITIVE DRAINAGE AWAY FROM STRUCTURES.

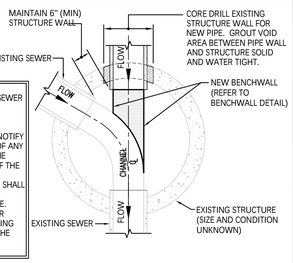
16 SANITARY GRINDER PUMP DETAIL
NO SCALE



NOTE:
THE BENCHWALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2" PER FOOT SLOPE TO THE MANHOLE WALL.

STORM MANHOLE DIAMETER TABLE		
PIPE (DIA) "G"	MANHOLE DIAMETER "F"	MAXIMUM PIPE SIZE FOR MAINLINE
36"-48"	72"	48"
48"-54"	96"	54"
54"-72"	102"	72"
72"-94"	108"	84"

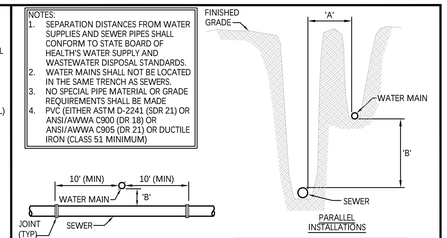
12 STORM MANHOLE DETAIL
(FOR MAINLINE PIPE DIAMETERS 36" TO 84")



NOTES:
1. CONTRACTOR TO NOTIFY SEWER UTILITY PRIOR TO MAKING CONNECTION.
2. CONTRACTOR TO INSPECT EXISTING MANHOLE AND NOTIFY ENGINEER IMMEDIATELY OF ANY CONCERNS REGARDING THE STRUCTURAL INTEGRITY OF THE MANHOLE.
3. NEW SEWER CONNECTION SHALL COMPLY WITH UTILITY STANDARDS AS APPLICABLE.
4. MAINTAIN EXISTING SEWER FLOW AT ALL TIMES UTILIZING METHODS APPROVED BY THE SEWER UTILITY OR THE ENGINEER.

9 NEW STORM PIPE TO EXISTING STORM MANHOLE DETAIL
(FOR EXISTING STRUCTURE DIAMETERS GREATER THAN 48")

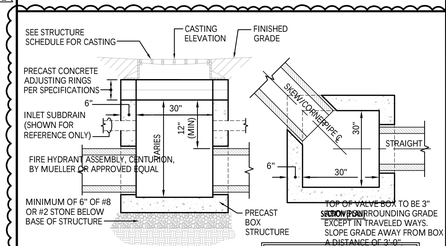
NOTES:
1. SEPARATION DISTANCES FROM WATER SUPPLIES AND SEWER PIPES SHALL CONFORM TO STATE BOARD OF HEALTH'S WATER SUPPLY AND WASTEWATER DISPOSAL STANDARDS.
2. WATER MAINS SHALL NOT BE LOCATED IN THE SAME TRENCH AS SEWERS.
3. NO SPECIAL PIPE MATERIAL OR GRADE REQUIREMENTS SHALL BE MADE.
4. PVC (EITHER ASTM D-2241 (SDR 21) OR ANSI/AWWA C900 (DR 18) OR ANSI/AWWA C905 (DR 21) OR DUCTILE IRON (CLASS 51 MINIMUM)



FOR CROSSED INSTALLATION:
IF 'B' IS GREATER THAN 18", REFER TO NOTE 3.
IF 'B' IS 18" OR LESS; REFER TO NOTE 4.

FOR PARALLEL INSTALLATION:
IF 'A' IS GREATER THAN 10', REFER TO NOTE 3.
IF 'A' IS LESS THAN 10' AND 'B' IS 18" OR LESS, REFER TO NOTE 4.
IF 'A' IS LESS THAN 10' AND 'B' IS GREATER THAN 18", REFER TO NOTE 3.

4 WATER AND SEWER CROSSING DETAIL
NO SCALE



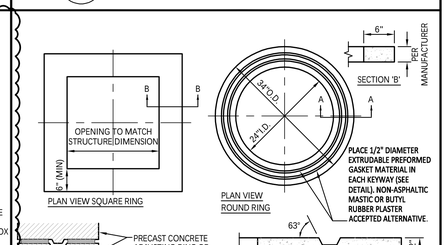
A BENCHWALL SHALL BE PROVIDED IN ALL INLETS TO FORM A DEFINED CHANNEL. TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES.

TOP OF VALVE BOX TO BE 3" BELOW SURROUNDING GRADE EXCEPT IN TRAVELED WAYS. SLOPE GRADE AWAY FROM BOX A DISTANCE OF 3'-0".

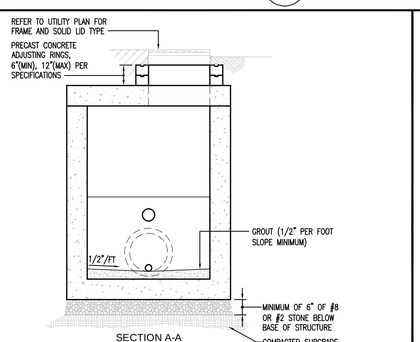
MAXIMUM PIPE INSIDE (DIA)	
STRAIGHT	"SKEW/CORNER
12"-24"	12"-15"

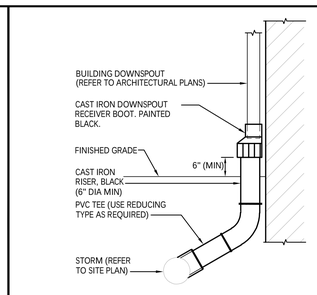
*MAXIMUM OF 2 SKEW CONNECTIONS PER STRUCTURE

8 INLET BOX DETAIL (30"x30")
NO SCALE

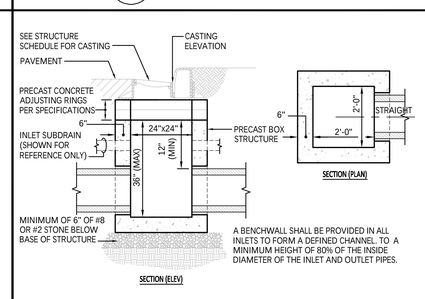


3 PRECAST CONCRETE ADJUSTING RING DETAIL
NO SCALE



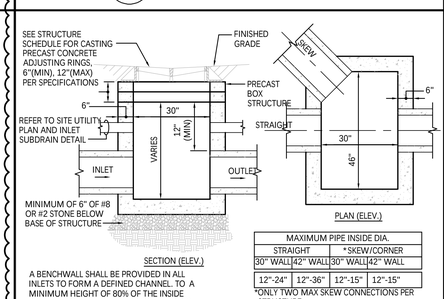


14 DOWNSPOUT ADAPTER DETAIL
NO SCALE



A BENCHWALL SHALL BE PROVIDED IN ALL INLETS TO FORM A DEFINED CHANNEL. TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES.

11 INLET BOX DETAIL (24"x24")
NO SCALE

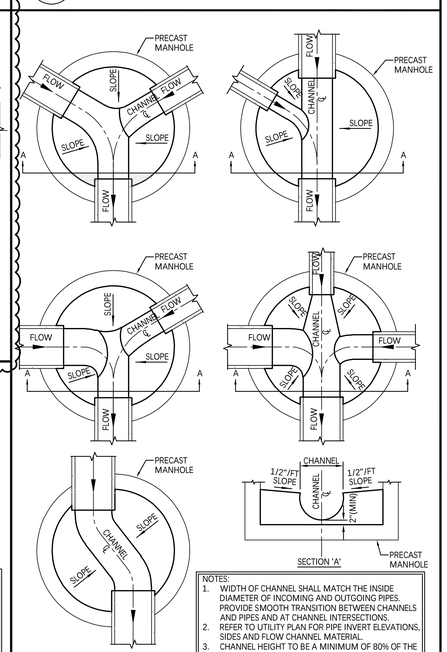


A BENCHWALL SHALL BE PROVIDED IN ALL INLETS TO FORM A DEFINED CHANNEL. TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES.

MAXIMUM PIPE INSIDE DIA.			
STRAIGHT		*SKEW/CORNER	
30" WALL	42" WALL	30" WALL	42" WALL
12"-24"	12"-36"	12"-15"	12"-15"

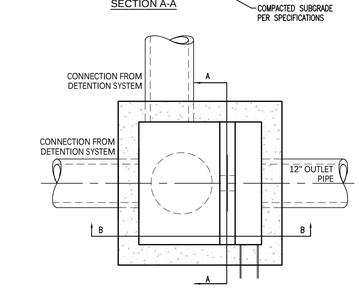
*ONLY TWO MAX SKEW CONNECTIONS PER STRUCTURE

7 INLET BOX DETAIL (30"x46")
TYPE 'C'



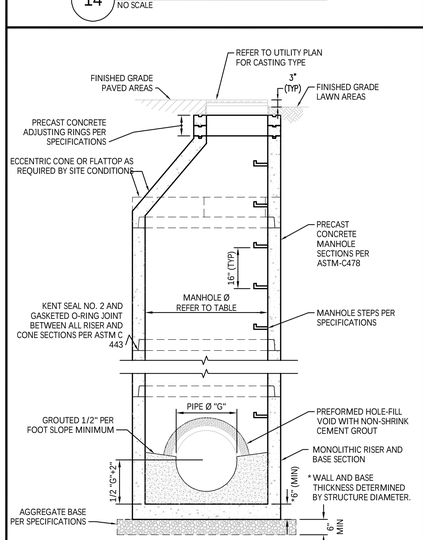
NOTES:
1. WIDTH OF CHANNEL SHALL MATCH THE INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. PROVIDE SMOOTH TRANSITION BETWEEN CHANNELS AND PIPES AND AT CHANNEL INTERSECTIONS.
2. REFER TO UTILITY PLAN FOR PIPE INVERT ELEVATIONS, SIDES AND FLOW CHANNEL MATERIAL.
3. CHANNEL HEIGHT TO BE A MINIMUM OF 80% OF THE INSIDE DIAMETER OF INLET AND OUTLET PIPES.

2 MANHOLE BENCHWALL DETAIL
NO SCALE



NOTES
1. REFER TO SPECIFICATIONS & DETAILS FOR PRECAST STRUCTURE REQUIREMENTS.
2. REFER TO UTILITY PLAN TO CONFIRM PIPE SIZES, ORIENTATION AND INVERTS.

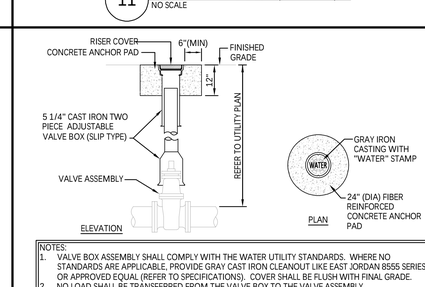
15 DETENTION OUTLET CONTROL STRUCTURE (STR-25)
NO SCALE



NOTE:
THE BENCHWALL SHALL FORM A DEFINED CHANNEL, TO A MINIMUM HEIGHT OF 80% OF THE INSIDE DIAMETER OF THE INLET AND OUTLET PIPES TO FORM A "U" SHAPED CHANNEL, CONSTRUCTED AT A MINIMUM 1/2" PER FOOT SLOPE TO THE MANHOLE WALL.

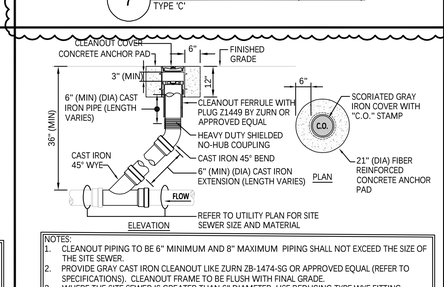
STORM MANHOLE DIAMETER TABLE		
PIPE DIA "G"	PIPES ENTERING OR LEAVING AT A 0°- 45° ANGLE	PIPES ENTERING OR LEAVING AT A 46°- 90° ANGLE
12"-21"	48"	48"
24"	48"	60"
27"-30"	60"	60"
30"-36"	60"	72"

13 STORM MANHOLE DETAIL
NO SCALE



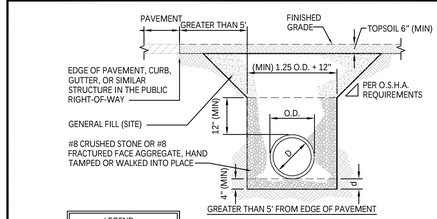
NOTES:
1. VALVE BOX ASSEMBLY SHALL COMPLY WITH THE WATER UTILITY STANDARDS. WHERE NO STANDARDS ARE APPLICABLE, PROVIDE GRAY CAST IRON CLEANOUT LIKE EAST JORDAN 8555 SERIES OR APPROVED EQUAL (REFER TO SPECIFICATIONS). COVER SHALL BE FLUSH WITH FINAL GRADE.
2. NO LOAD SHALL BE TRANSFERRED FROM THE VALVE BOX TO THE VALVE ASSEMBLY.
3. CONCRETE ANCHOR PAD REQUIRED IN LAWN AND LANDSCAPE AREAS.
4. WHEN VALVE ASSEMBLY IS DEEPER THAN 48", AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT TO WITHIN 24" OF FINISHED GRADE.

10 WATER VALVE BOX DETAIL
NO SCALE

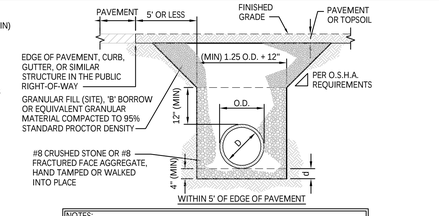


NOTES:
1. CLEANOUT PIPING TO BE 6" MINIMUM AND 8" MAXIMUM PIPING SHALL NOT EXCEED THE SIZE OF THE SITE SEWER.
2. PROVIDE GRAY CAST IRON CLEANOUT LIKE ZURN ZB-1474-SG OR APPROVED EQUAL (REFER TO SPECIFICATIONS). CLEANOUT FRAME TO BE FLUSH WITH FINAL GRADE.
3. WHERE THE SITE SEWER IS GREATER THAN 6" DIAMETER, USE REDUCING TYPE WYE FITTING.
4. REFER TO ASTM C1277 STANDARD SPECIFICATION FOR HEAVY DUTY NO-HUB SHIELDED COUPLINGS.
5. CONCRETE ANCHOR PAD REQUIRED IN LAWN AND LANDSCAPE AREAS.

6 EXTERIOR CLEANOUT DETAIL
NO SCALE

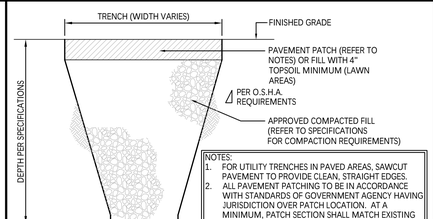


LEGEND
O.D. = OUTSIDE DIAMETER
D = INSIDE DIAMETER
d = DEPTH OF BEDDING MATERIAL BELOW PIPE



NOTES:
1. ALL BEDDING AND INITIAL BACKFILL SHALL BE INSTALLED 6" TO 12" BALANCED LIFTS.
2. A MINIMUM OF 9" CLEARANCE SHALL BE PROVIDED ON EACH SIDE OF THE INSTALLED PIPE.
3. BEDDING SHALL BE SHAPED TO RECEIVE THE PIPE BELL SO THAT THE PIPE BARREL IS UNIFORMLY SUPPORTED.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL INSTALLATION REQUIREMENTS.

5 FLEXIBLE PIPE (PVC & HDPE) BEDDING DETAIL
NO SCALE



NOTES:
1. FOR UTILITY TRENCHES IN PAVED AREAS, SAWCUT PAVEMENT TO PROVIDE CLEAN, STRAIGHT EDGES.
2. ALL PAVEMENT PATCHING TO BE IN ACCORDANCE WITH STANDARDS OF GOVERNMENT AGENCY HAVING JURISDICTION OVER PATCH LOCATION. AT A MINIMUM, PATCH SECTION SHALL MATCH EXISTING SECTION.
3. REFER TO SPECIFICATIONS AND DETAILS FOR UTILITY INSTALLATION
4. FOR ASPHALT PAVEMENT PATCH, SEAL JOINT BETWEEN NEW AND EXISTING SURFACE.
5. PAVEMENT PATCH SHALL MATCH EXISTING GRADE. VERIFY POSITIVE DRAINAGE ACROSS PATCH SURFACE. REPAIR IF NECESSARY.

1 UTILITY TRENCH CUT DETAIL
NO SCALE

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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9365 Counselors Row, Suite 116
Indianapolis, IN 46240
ph 317.617.4270
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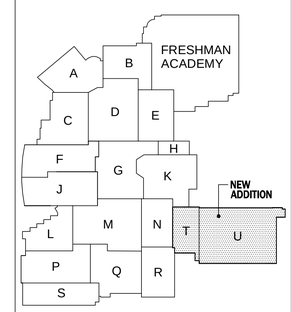


VPS ARCHITECTURE
905 N. Capital Ave. – Suite 100 Indianapolis, Indiana 46204
P (317) 353-3281
www.VPSARCH.com

ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

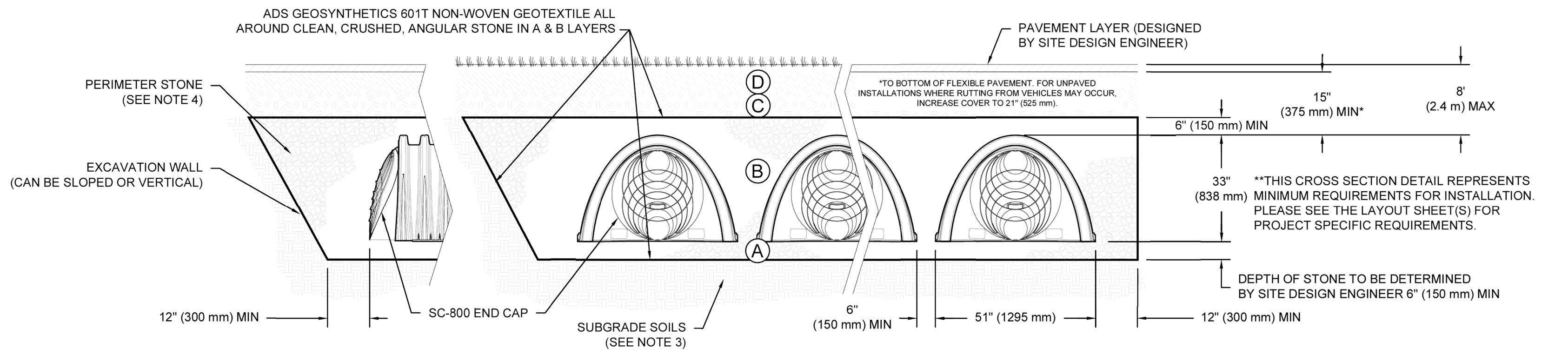
SITE UTILITY DETAILS

Project No:	2022063.10
Project Date:	MAY 29, 2024
Drawing No:	C241

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
INDIANAPOLIS, IN, USA
DATE: 05-24-24 DRAWN: SLS
PROJECT #: S414233 CHECKED: SLS
05/31/2024 RSP RC REVISED PER SALES NOTES
DATE DRW CHK DESCRIPTION
StormTech® Chamber System
888-892-2694 | WWW.STORMTECH.COM
4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473
SHEET 4 OF 7

PROPOSED LAYOUT (EAST)	
608	STORMTECH SC-800 CHAMBERS
32	STORMTECH SC-800 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	STONE VOID
51,329	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
21864	SYSTEM AREA (SF)
716	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS:	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	838.53
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	832.28
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	831.78
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	831.78
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	831.78
TOP OF STONE:	831.03
TOP OF SC-800 CHAMBER:	830.53
18" x 18" TOP MANIFOLD/CONNECTION INVERT:	828.45
18" BOTTOM CONNECTION INVERT:	827.95
BOTTOM OF SC-800 CHAMBER:	827.78
UNDERDRAIN INVERT:	827.28
BOTTOM OF STONE:	827.28

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	18" TOP CORED END CAP, PART#: SC800EPE18TPC / TYP OF ALL 18" TOP CONNECTIONS	8.00"	
PREFABRICATED END CAP	B	18" PRE-CORED END CAP, PART# SC800EPE18BPC TYP OF ALL SC-800 18" BOTTOM CONNECTIONS	2.00"	
MANIFOLD	C	18" x 18" TOP MANIFOLD, ADS N-12	8.00"	14.4 CFS IN
CONNECTION	D	18" BOTTOM CONNECTION, ADS N-12	2.00"	
CONCRETE STRUCTURE	E	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		8.0 CFS
UNDERDRAIN	F	6" ADS N-12 DUAL WALL PERFORATED UNDERDRAIN		

ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

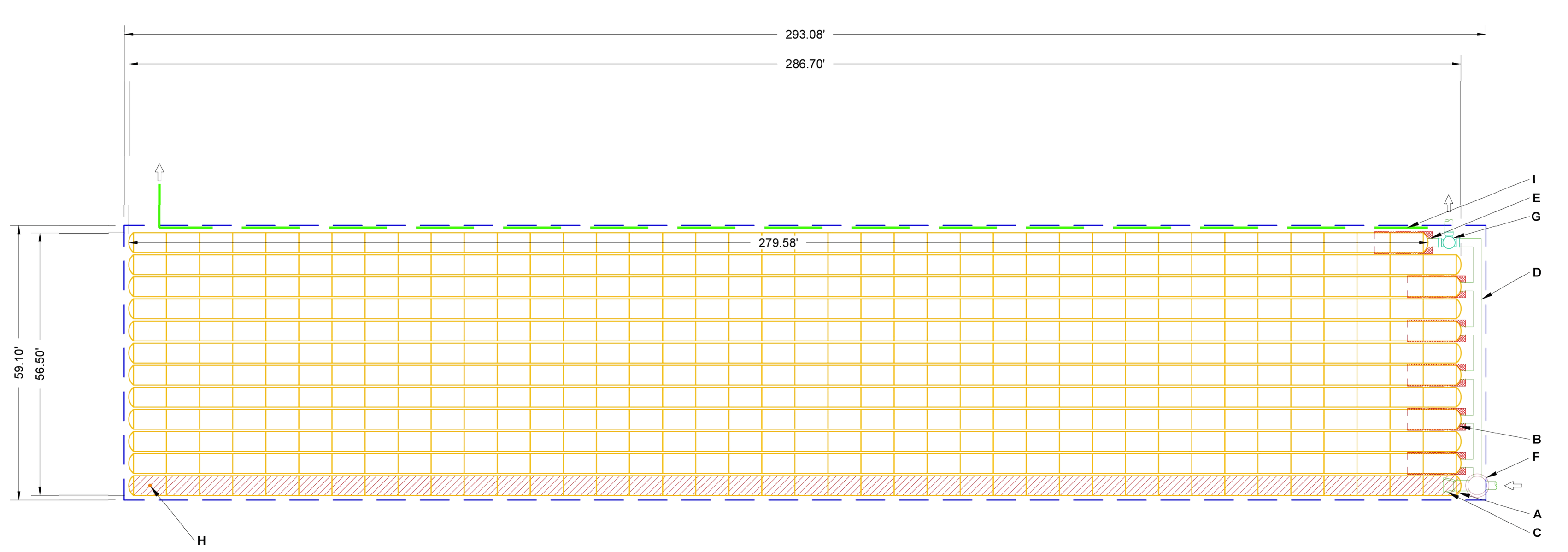
SHEET 2 OF 7

PROPOSED LAYOUT (WEST)	
479	STORMTECH SC-800 CHAMBERS
24	STORMTECH SC-800 END CAPS
6	STONE ABOVE (in)
6	STONE BELOW (in)
40	STONE VOID
40,580	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)
17321	SYSTEM AREA (SF)
704	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS:	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	838.53
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	832.28
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	831.78
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	831.78
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	831.78
TOP OF STONE:	831.03
TOP OF SC-800 CHAMBER:	830.53
18" x 18" TOP MANIFOLD/CONNECTION INVERT:	828.45
24" ISOLATOR ROW PLUS INVERT:	827.97
18" BOTTOM CONNECTION INVERT:	827.95
BOTTOM OF SC-800 CHAMBER:	827.78
UNDERDRAIN INVERT:	827.28
BOTTOM OF STONE:	827.28

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP, PART#: SC800EPE24BPC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.30"	
PREFABRICATED END CAP	B	18" TOP CORED END CAP, PART#: SC800EPE18TPC / TYP OF ALL 18" TOP CONNECTIONS	8.00"	
FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC74024RAMP		
MANIFOLD	D	18" x 18" TOP MANIFOLD / CONNECTION, ADS N-12	8.00"	14.4 CFS IN
CONNECTION	E	18" TOP CONNECTION, ADS N-12	8.00"	
CONCRETE STRUCTURE	F	STR-24 PER PLAN (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		
NYLOPLAST STRUCTURE	G	30" NYLOPLAST BASIN PER PLAN (24" SUMP MIN)		
INSPECTION PORT	H	4" (SEE DETAIL)		
UNDERDRAIN	I	6" ADS N-12 DUAL WALL PERFORATED UNDERDRAIN		



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.

SHEET 3 OF 7

PROJECT INFORMATION	
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ADS SALES REP:	MARK VITTORI 630-854-8781 MARK.VITTORI@ADSPIPE.COM
PROJECT NO:	S414233

Advanced Drainage Systems, Inc.

ADS SiteAssist™ FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

INDIANAPOLIS, IN

SC-800 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-800.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 550 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

1. STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE 3/4-2" (20-50 mm).
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH SC-310/SC-740/SC-800/DC-780 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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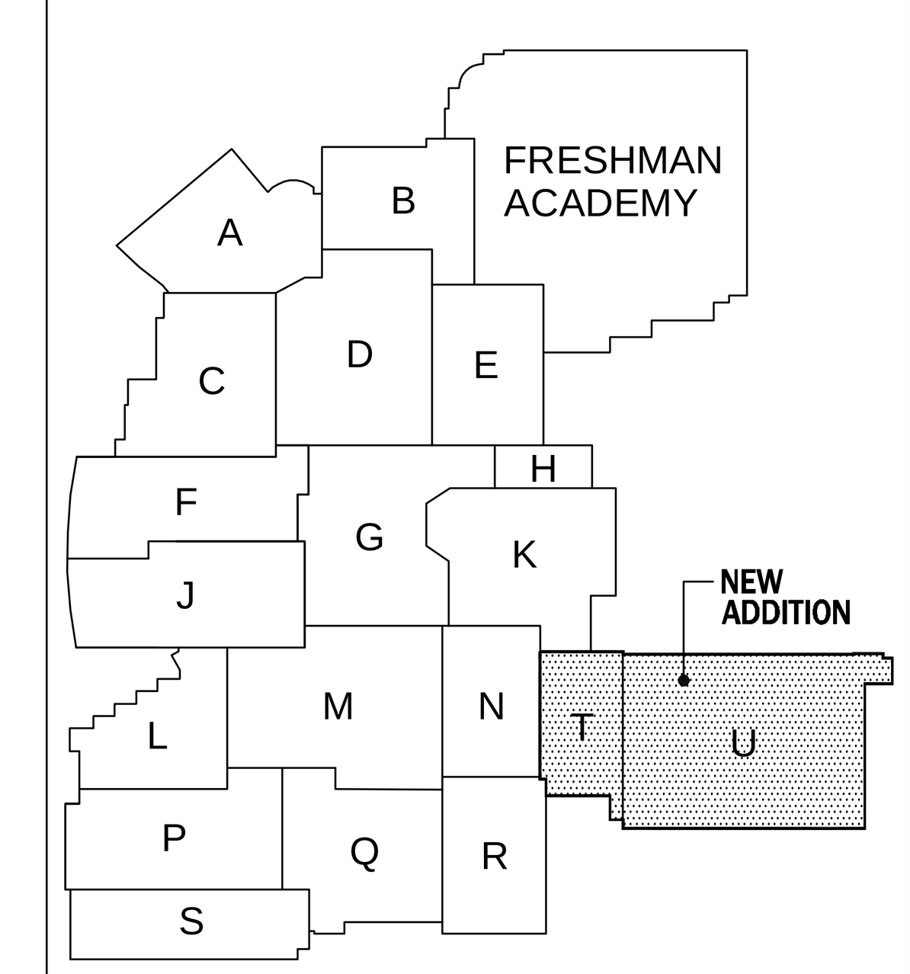

KEY PLAN

NORTH

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title: UNDERGROUND DETENTION BASIN DETAILS

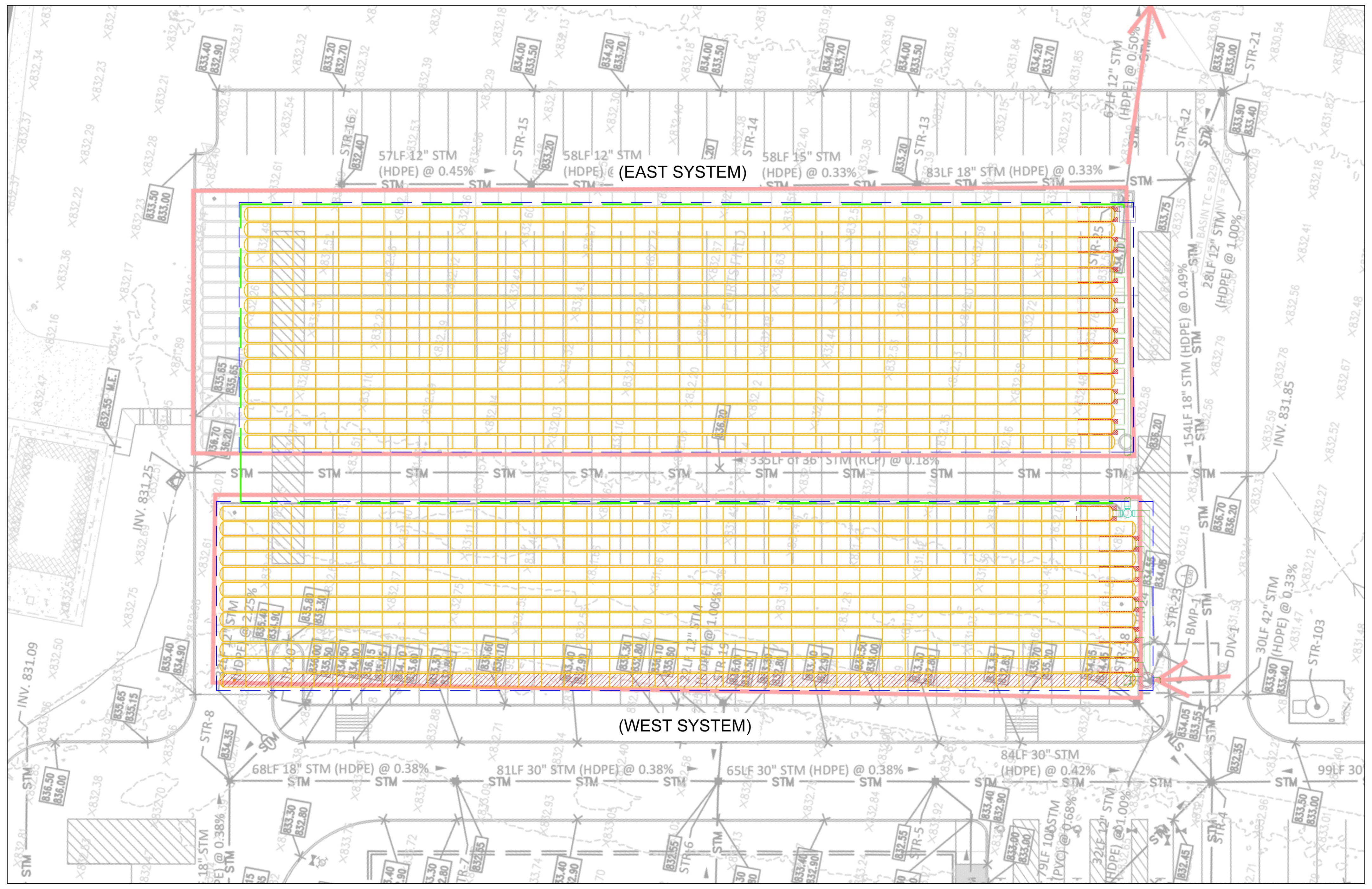
Project No: 2022063.10

Project Date: MAY 29, 2024

NICHOLAS BIJAN VERGATOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

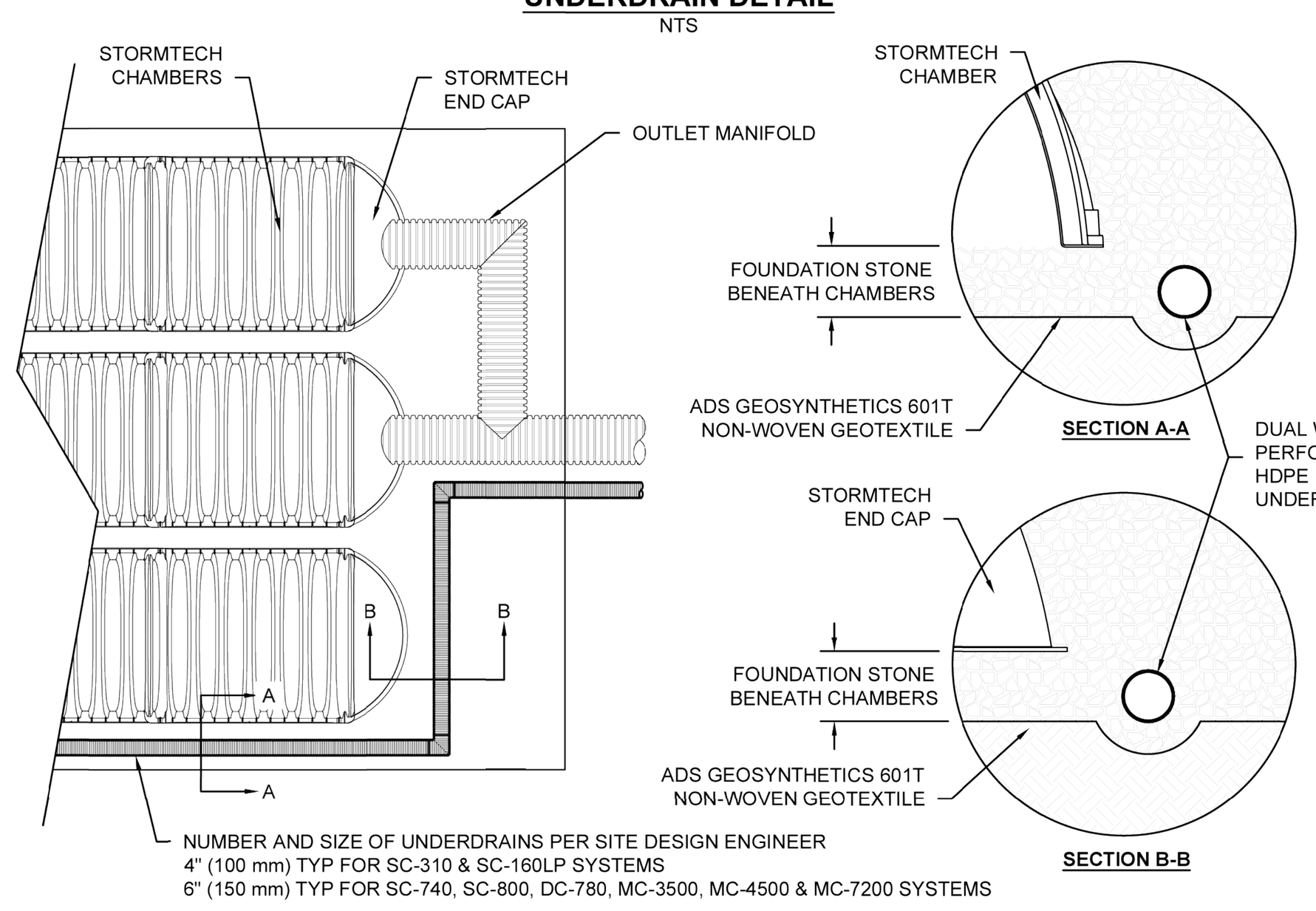
Drawing No: C246

#	Revision	Date
1	ADDENDUM #1	06.14.2024



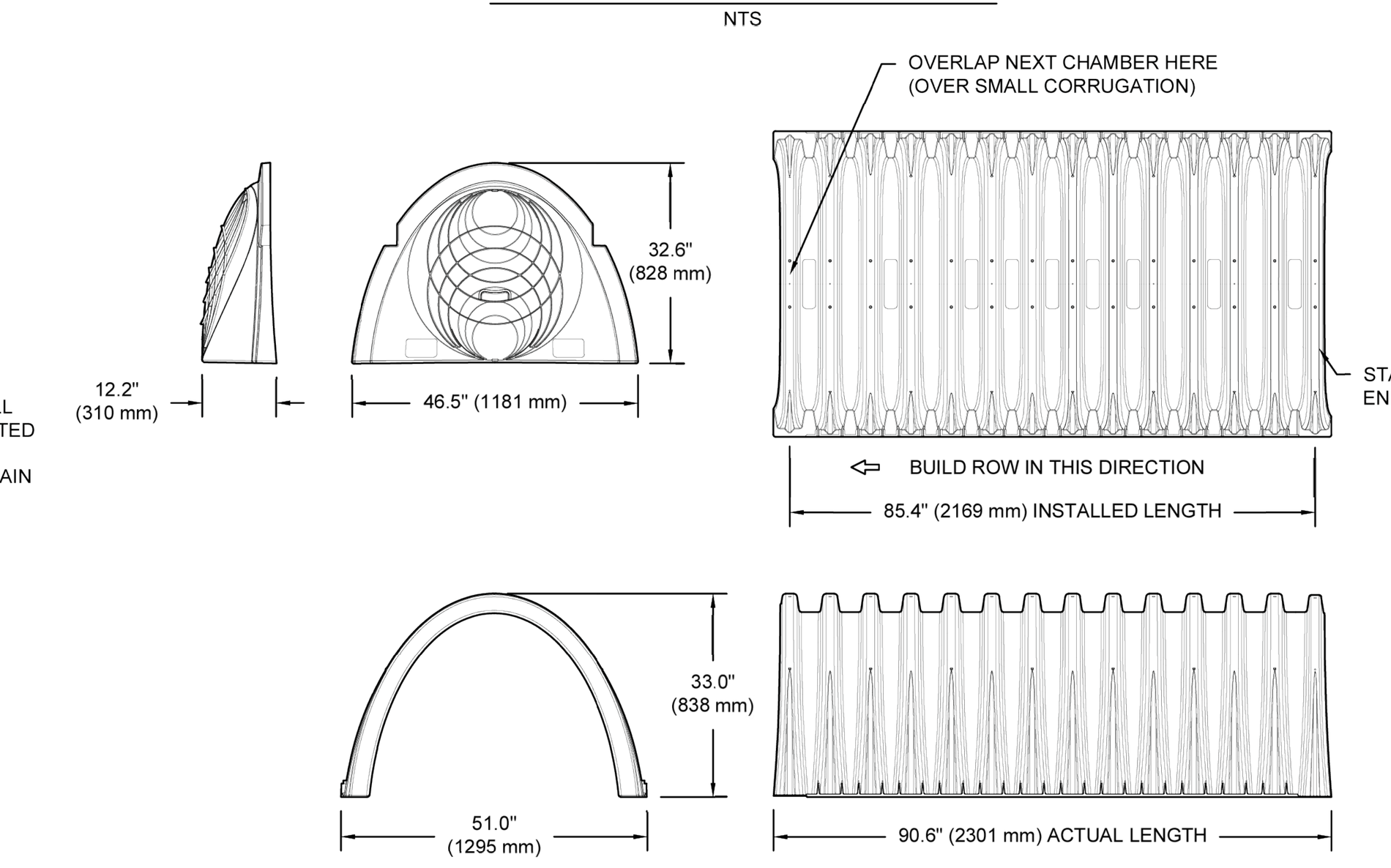
UNDERDRAIN DETAIL

NTS



SC-800 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET	($1.43 m^3$)
MINIMUM INSTALLED STORAGE*	81.0 CUBIC FEET	($2.29 m^3$)
WEIGHT	81.8 lbs.	(37.1 kg)

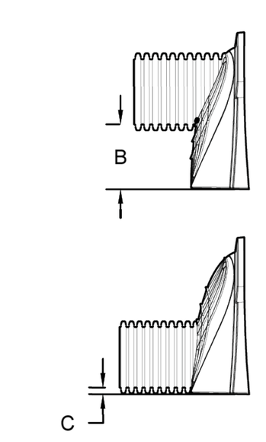
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	($0.09 m^3$)
MINIMUM INSTALLED STORAGE**	15.4 CUBIC FEET	($0.43 m^3$)
WEIGHT	15.7 lbs.	(7.1 kg)

* ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS
**ASSUMES 6" (152 mm) STONE ABOVE AND BELOW END CAPS, 6" (152 mm) BETWEEN ROWS, 12" (305 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC		---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC		---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC		---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC		---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC		---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC		---	2.0" (51 mm)
SC800EPE24BPC	24" (600 mm)	---	2.3" (58 mm)
SC800EPE	NONE	SOLID END CAP	



NOTE: ALL DIMENSIONS ARE NOMINAL

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
INDIANAPOLIS, IN, USA
DATE: 05-24-24 DRAWN: SLS
PROJECT #: S414233 CHECKED: SLS

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SHEET 6 OF 7

NYLOPLAST DRAIN BASIN

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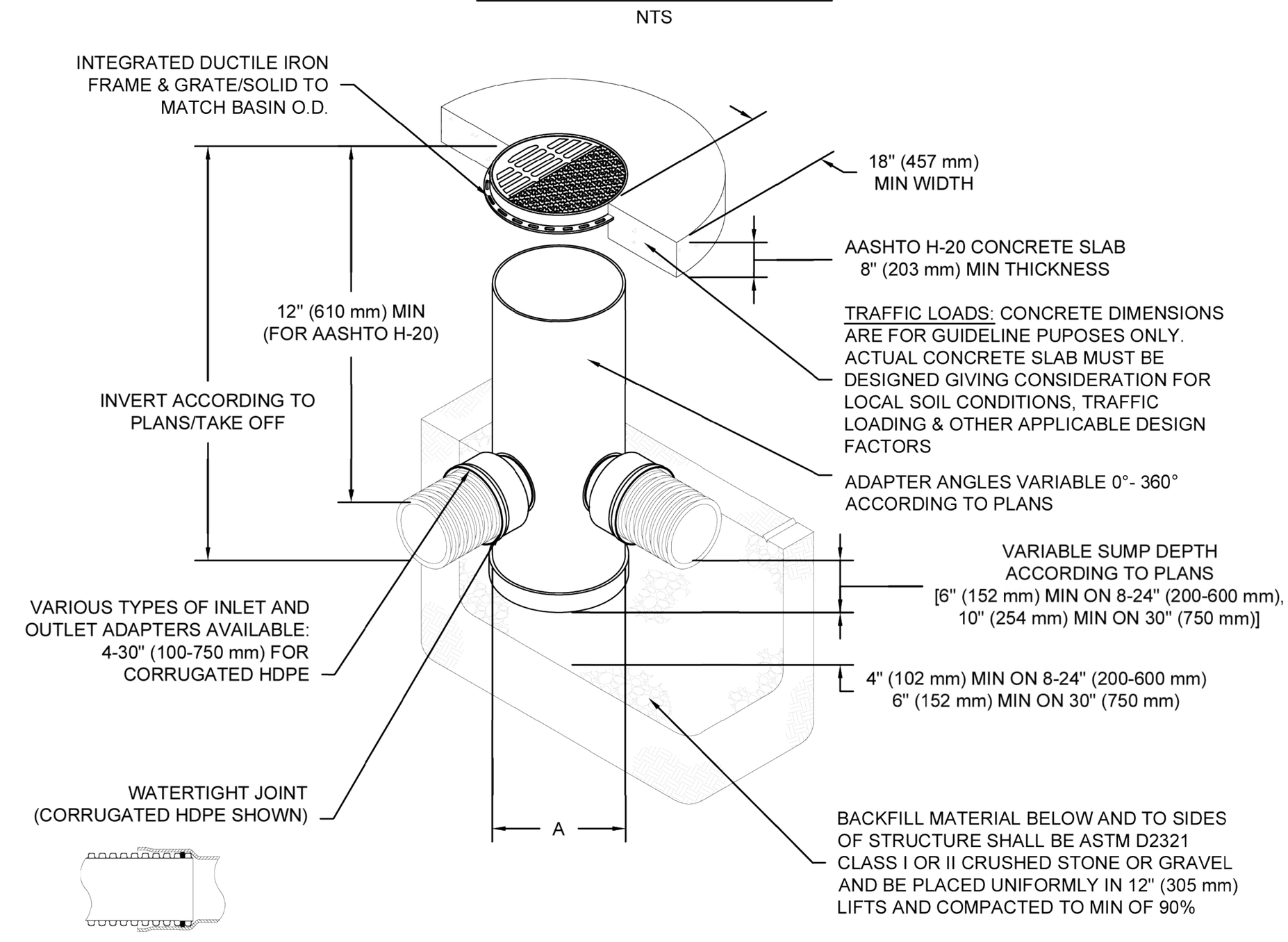

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
INDIANAPOLIS, IN
DATE: 05-24-24 DRAWN: SLS
PROJECT #: S414233 CHECKED: SLS

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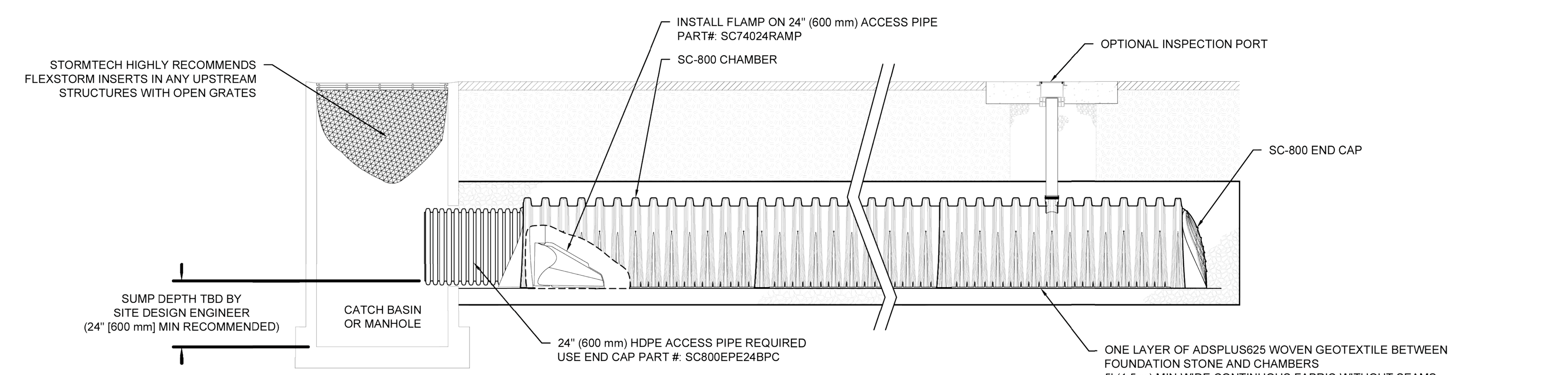
SHEET 7 OF 7



SC-800 ISOLATOR ROW PLUS DETAIL

NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

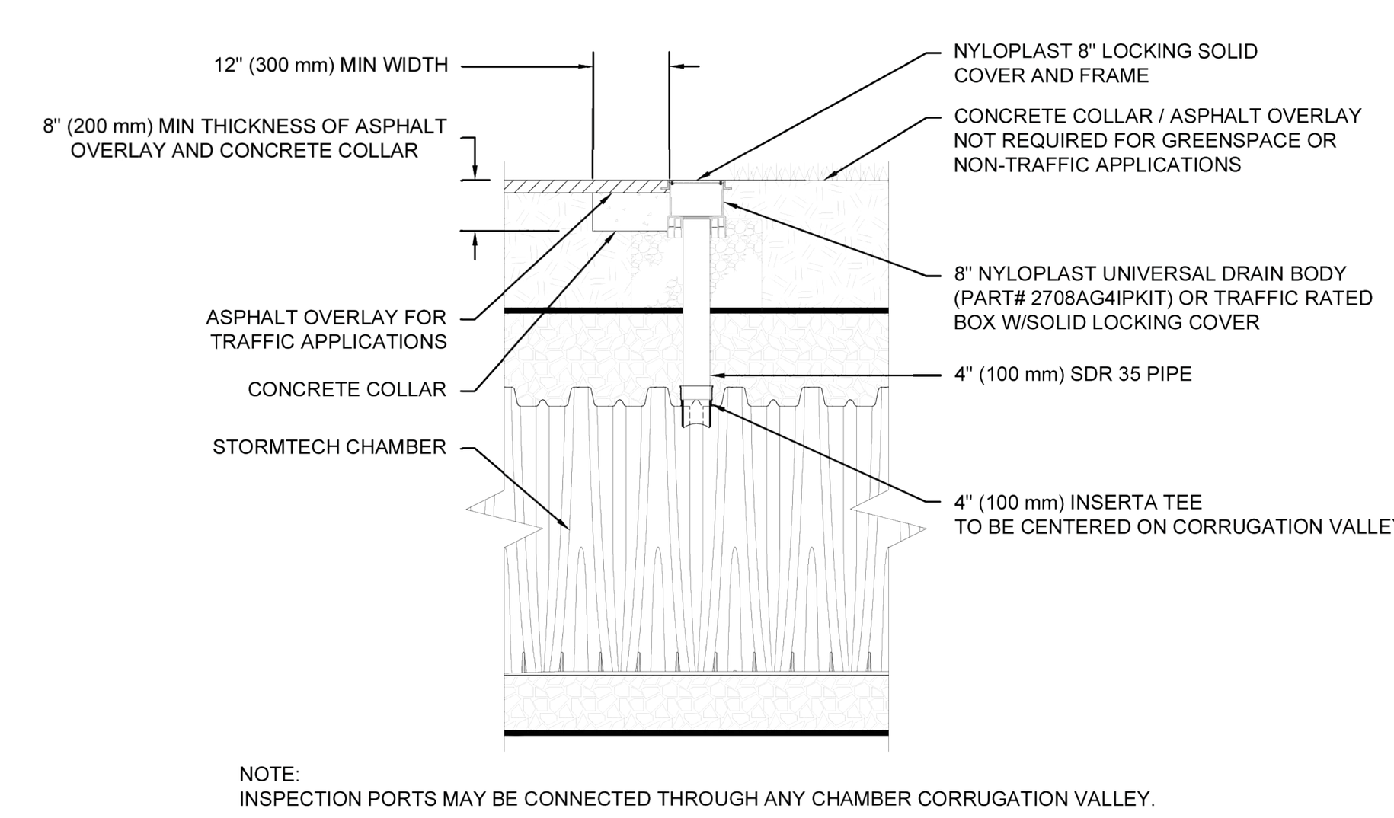
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)

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FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
INDIANAPOLIS, IN, USA
DATE: 05-24-24 DRAWN: SLS
PROJECT #: S414233 CHECKED: SLS

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SHEET 5 OF 7

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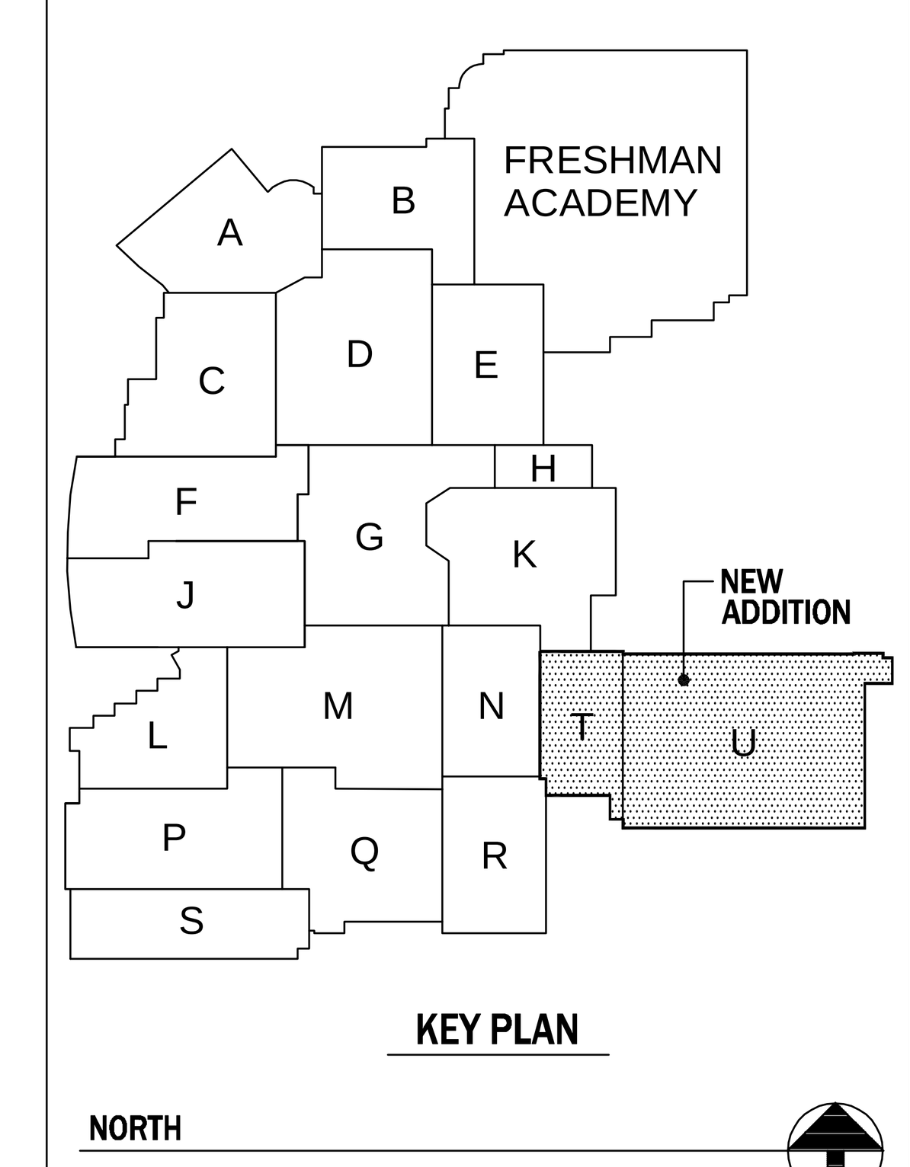

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

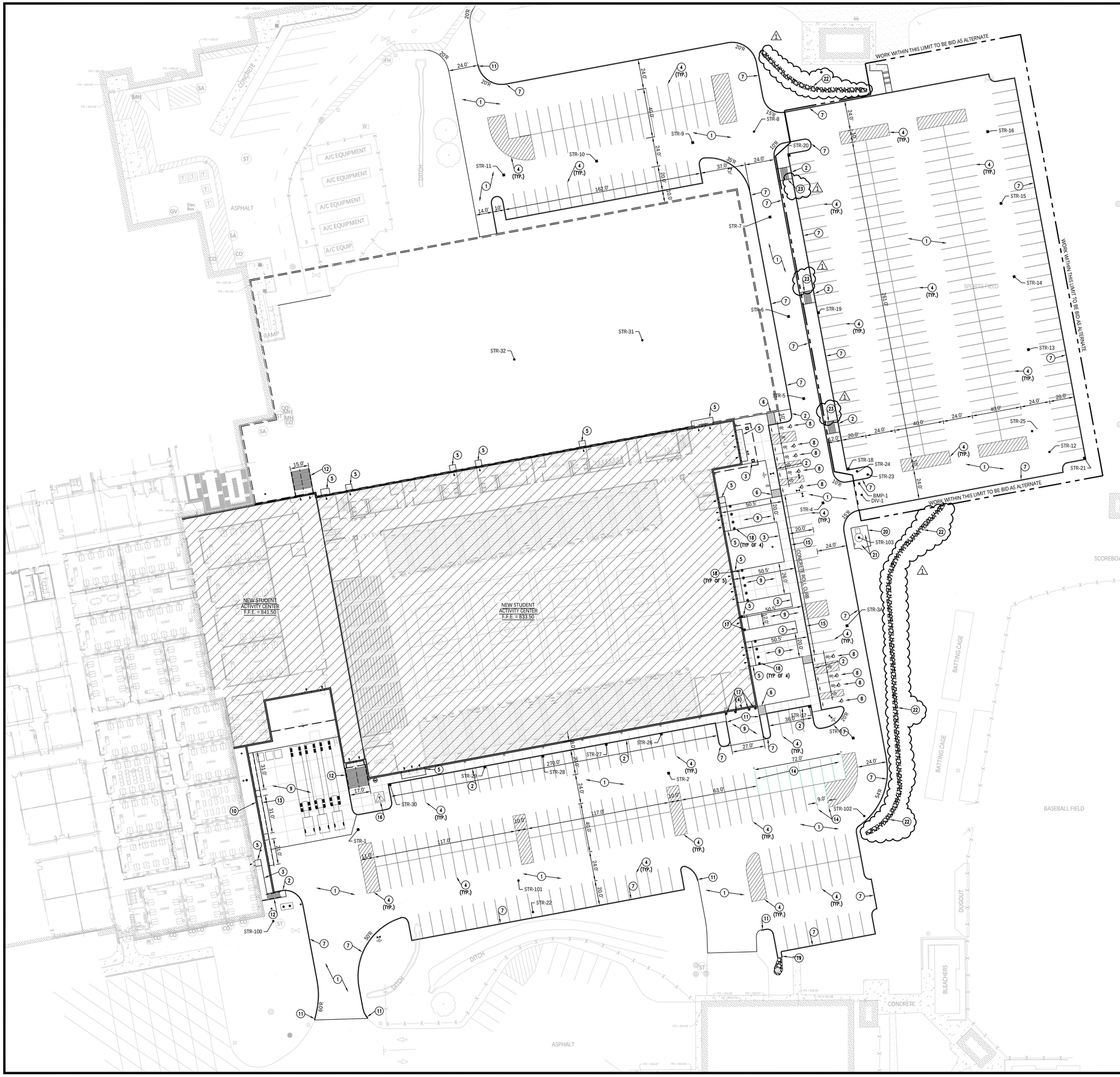
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:
UNDERGROUND DETENTION BASIN DETAILS

Project No: 2022063.10
Project Date: MAY 29, 2024

NICHOLAS BIJAN VERGATOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

Drawing No: C247



GENERAL NOTES

A. REFER TO IMPROVEMENT DETAILS FOR NOTE REFERENCES.

○ PLAN NOTES

1. ASPHALT PAVEMENT.
2. CONCRETE CURB AND WALK.
3. CONCRETE WALK.
4. 4" WIDE PAINTED PARKING STRIPE. COLOR TO MATCH EXISTING.
5. FLUSH CONCRETE STOOP. REFER TO STRUCTURAL DRAWINGS.
6. ACCESSIBLE CURB RAMP.
7. STRAIGHT CONCRETE CURB.
8. ACCESSIBLE PARKING SPACE.
9. 6" THICK CONCRETE PAVEMENT.
10. CONCRETE RETAINING WALL WITH BALUSTER HANDRAIL. 1
11. 2' CURB TAPER.
12. CONCRETE STAIRS WITH BALUSTER HANDRAIL. 1
13. ELEVATED CONCRETE RAMP.
14. 4" WIDE PAINTED PARKING STRIPE. COLOR TO BE GREEN OR AS DIRECTED BY OWNER. CONFIRM FINAL COLOR SELECTION WITH OWNER.
15. 4" TALL ROLL CURB.
16. CONCRETE EQUIPMENT PAD FOR TRANSFORMER. COORDINATE SIZE OF PAD WITH TRANSFORMER.
17. STEEL PIPE BOLLARD.
18. CONCRETE DECORATIVE BOLLARD.
19. CURB TURNOUT.
20. 5FT TALL BLACK CHAINLINK FENCE WITH BLACK PRIVACY SLATS. INSTALL AROUND PUMP STATION AND PUMP CONTROL PANEL. PROVIDE DOUBLE SWING GATE IN FENCE.
21. STONE MULCH WITHIN CHAINLINK FENCE ENCLOSURE.
22. RIP-RAP WITHIN BOTTOM OF STORM DITCH.
23. CONCRETE STAIRS WITH HANDRAIL. 1

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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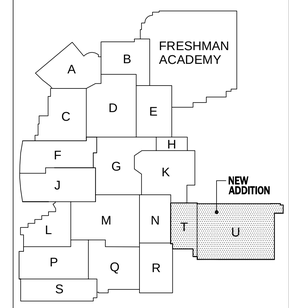

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

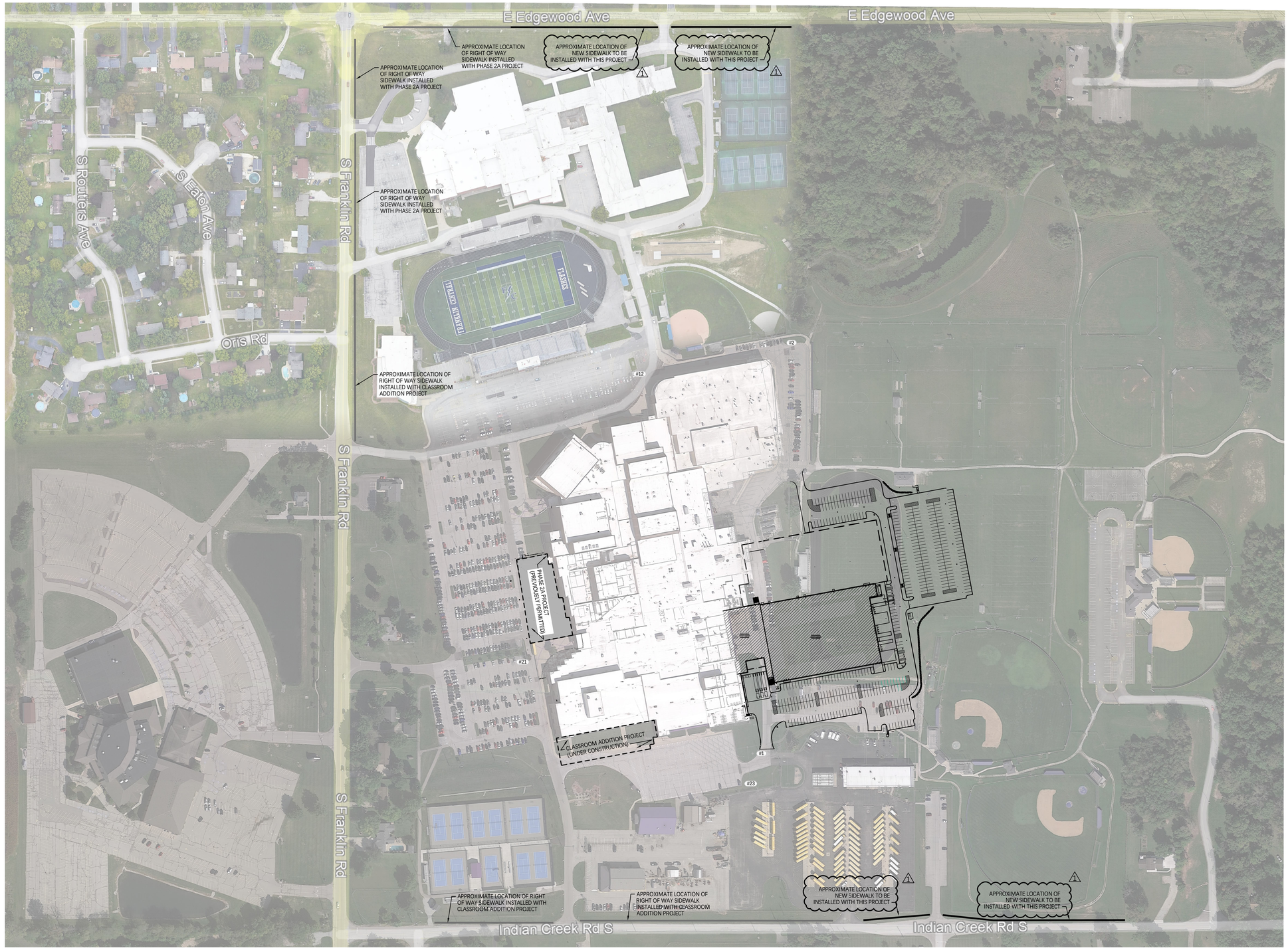
Drawing Title: SITE IMPROVEMENT PLAN

NICHOLAS BIJAN VIZVATOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No:	2022063.10
Project Date:	MAY 29, 2024
Drawing No:	C250

0 30 60 FEET
SCALE:1" = 30'

Nicholas Bijan Vizvatos



SIDEWALK REQUIREMENT

AS PART OF THIS PROJECT CONTRACTOR TO CONSTRUCT APPROX. 1520 LF OF 6' WIDE SIDEWALK IN THE RIGHT OF WAY ALONG SOUTH FRANKLIN ROAD OR E EDGEWOOD AVE FRONTAGE ON PROPERTY OWNED BY FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION PER SECTION 744-304 OF THE MARION COUNTY CODE OF ORDINANCES. EXACT LOCATION OF SIDEWALK TO BE COORDINATED WITH THE OWNER. APPROXIMATE LOCATION OF SIDEWALK IS SHOWN ON THE PLAN. CONTRACTOR TO FIELD VERIFY LOCATION AND ROUTING WITH EXISTING CONDITIONS ALONG FRANKLIN ROAD AND INDIAN CREEK RD S. CONTRACTOR TO PROVIDE ACCESSIBLE RAMPS COMPLYING WITH INDIANAPOLIS DPW STANDARDS AT EACH INTERSECTION AND DRIVEWAY. THIS LENGTH OF SIDEWALK WILL PROVIDE FRONTAGE ALONG ALL SIDES OF THE PROPERTY OWNED BY THE SCHOOL CORPORATION. NO ADDITIONAL SIDEWALK IS REQUIRED.

0 30 60 FEET
SCALE:1" = 30'

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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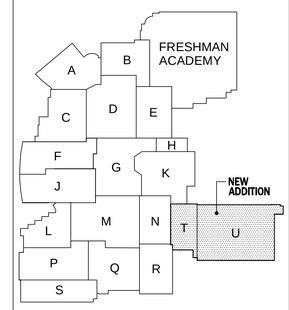

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

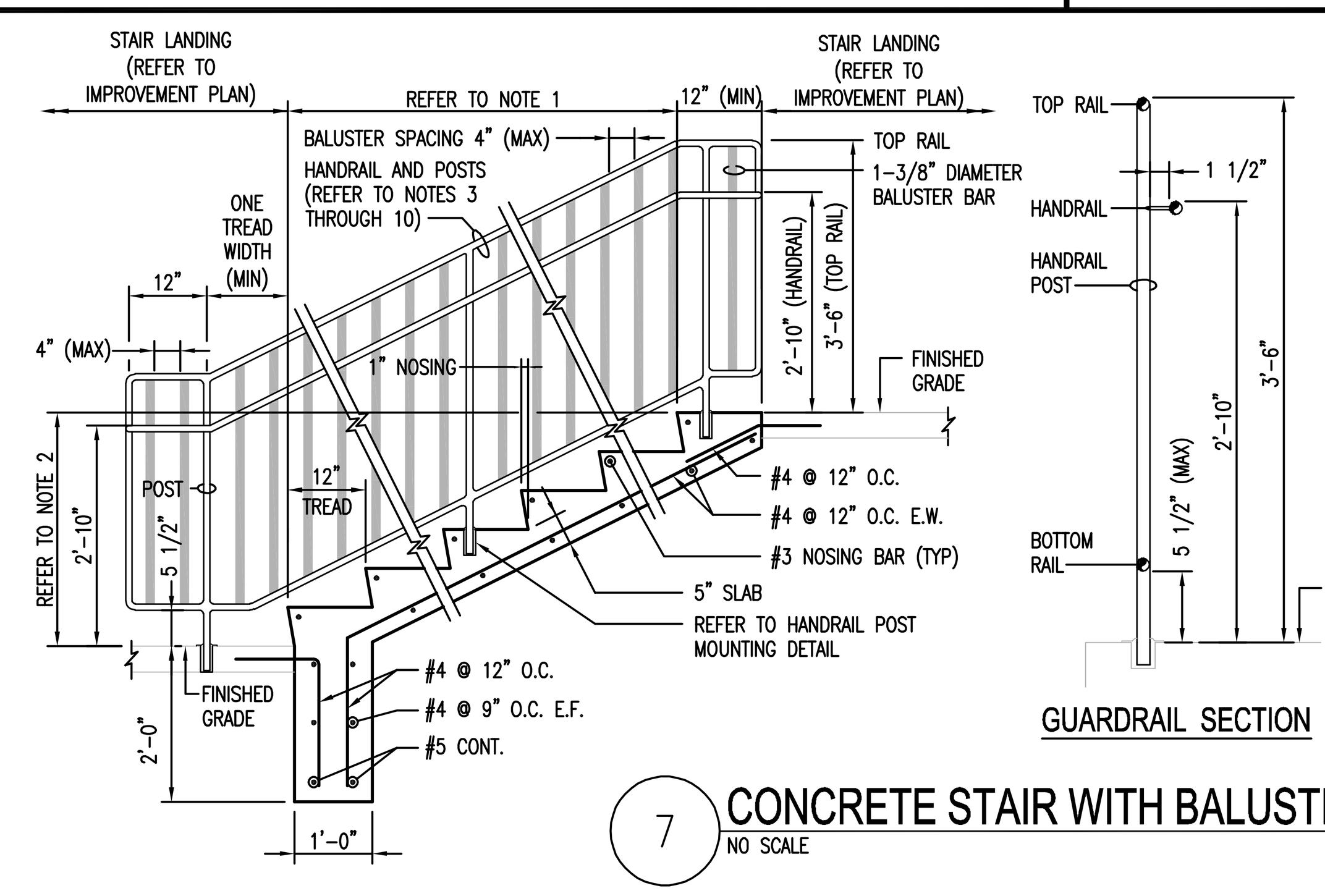
Drawing Title:
SIDEWALK LOCATION PLAN

NICHOLAS BIJAN VIRGILIOS REGISTERED No. PE11500269 STATE OF INDIANA PROFESSIONAL ENGINEER

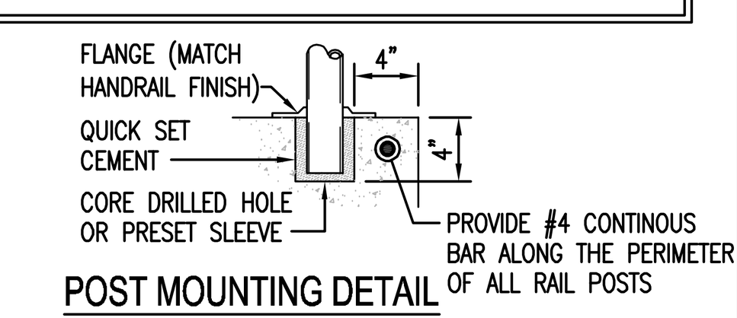
Project No:	2022063.10
Project Date:	MAY 29, 2024
Drawing No:	C251

Nicholas Bijan Virgilios

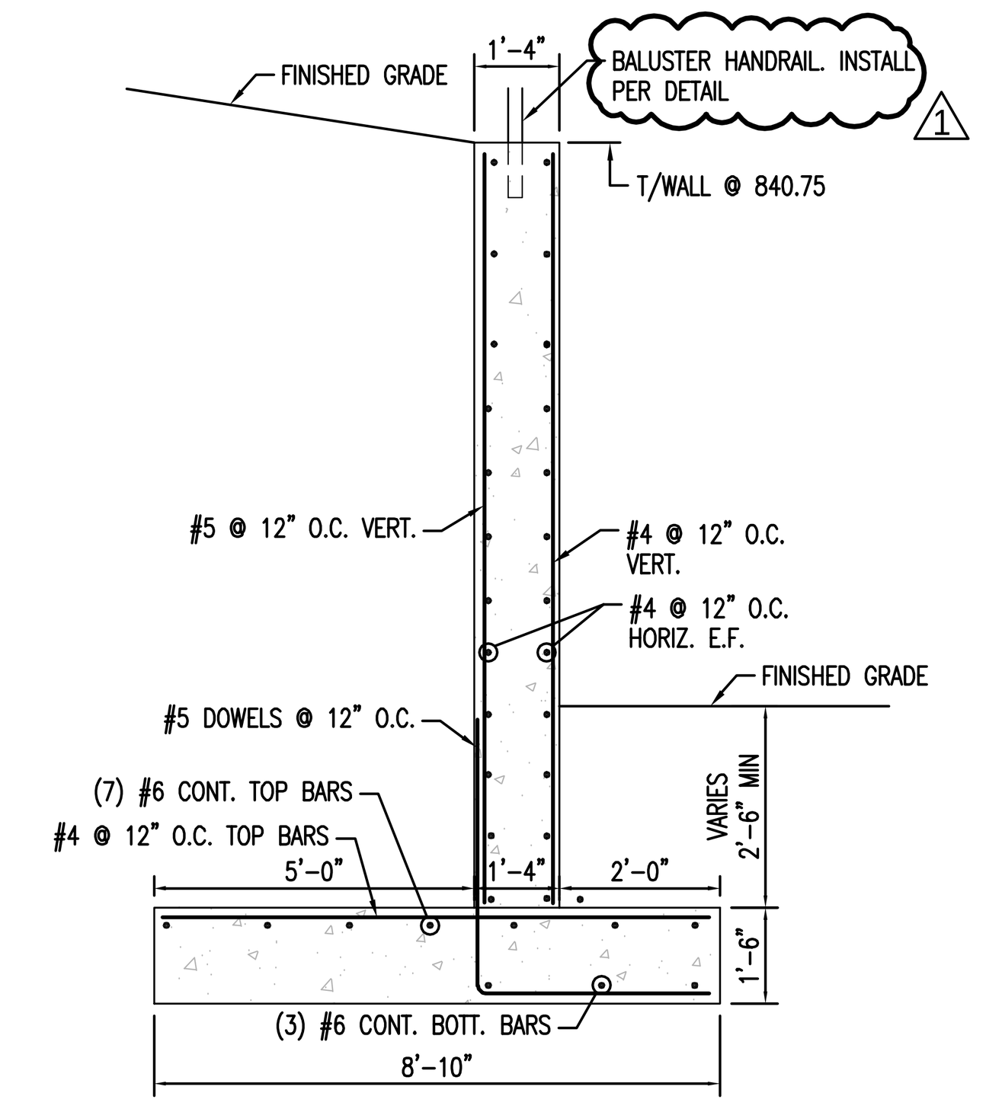
#	Revision	Date
1	ADDENDUM #1	06.14.2024



NOTE:
1. REFER TO IMPROVEMENT PLAN FOR NUMBER OF STAIR TREADS.
2. REFER TO GRADING PLAN FOR RISER HEIGHT (4" MIN, 7" MAX).
3. HANDRAILS, POSTS AND INSTALLATION SHALL COMPLY WITH THE LATEST FEDERAL, STATE AND LOCAL REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE.
4. ALL NEW HANDRAILS TO BE 1-1/2" EXTRUDED ALUMINUM PIPE ALLOY 6005-T5 SCH. 40. COORDINATE MATERIALS AND FINISH WITH ARCHITECT/ENGINEER PRIOR TO ORDERING.
5. FABRICATE BENDS SMOOTH AND WRINKLE FREE. "TIG" WELD COMPONENTS TOGETHER. GRIND WELDS SMOOTH AND FINISH TO MATCH.
6. FIT AND SHOP ASSEMBLY IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE AND INSTALLATION. PERFORM FIELD WELDING IN ACCORDANCE WITH AWS D1.1.
7. SUPPLY COMPONENTS REQUIRED FOR PROPER ANCHORAGE OF HANDRAIL.
8. INSTALLED RAILINGS TO RESIST LATERAL FORCES OF 200 LBS. AT TOP MEMBER, WITHOUT PERMANENT SET OR DAMAGE TO MEMBERS OR ANCHORS.
9. HANDRAIL POST SPACING SHALL BE 4' (MIN) TO 6' (MAX).
10. PROVIDE EXPANSION JOINTS IN HANDRAIL AS REQUIRED TO PREVENT TRANSFER OF EXPANSION STRESS TO ANCHORAGE COMPONENTS.



7 CONCRETE STAIR WITH BALUSTER HANDRAIL DETAIL
NO SCALE



4 CONCRETE RETAINING WALL DETAIL
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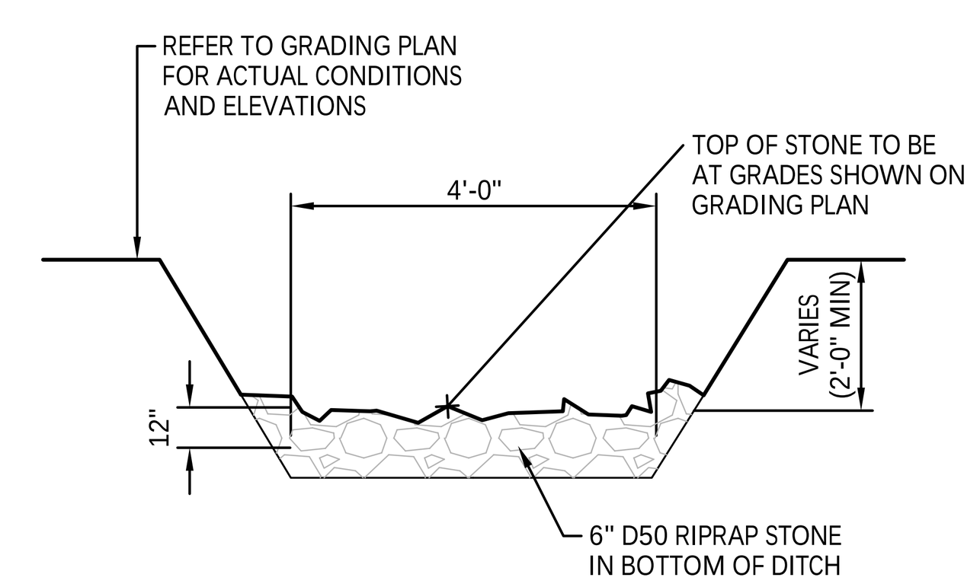
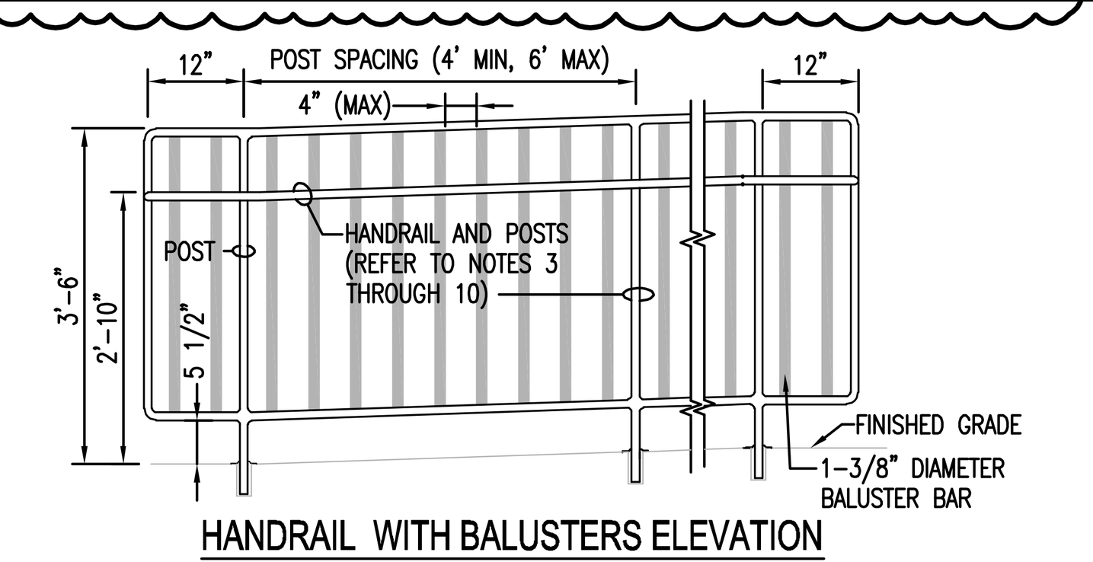
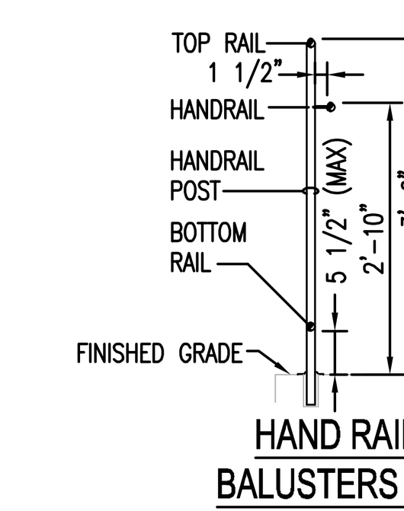
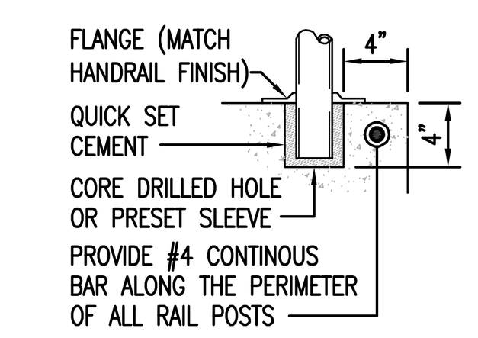


8 STORMWATER DITCH DETAIL
NO SCALE

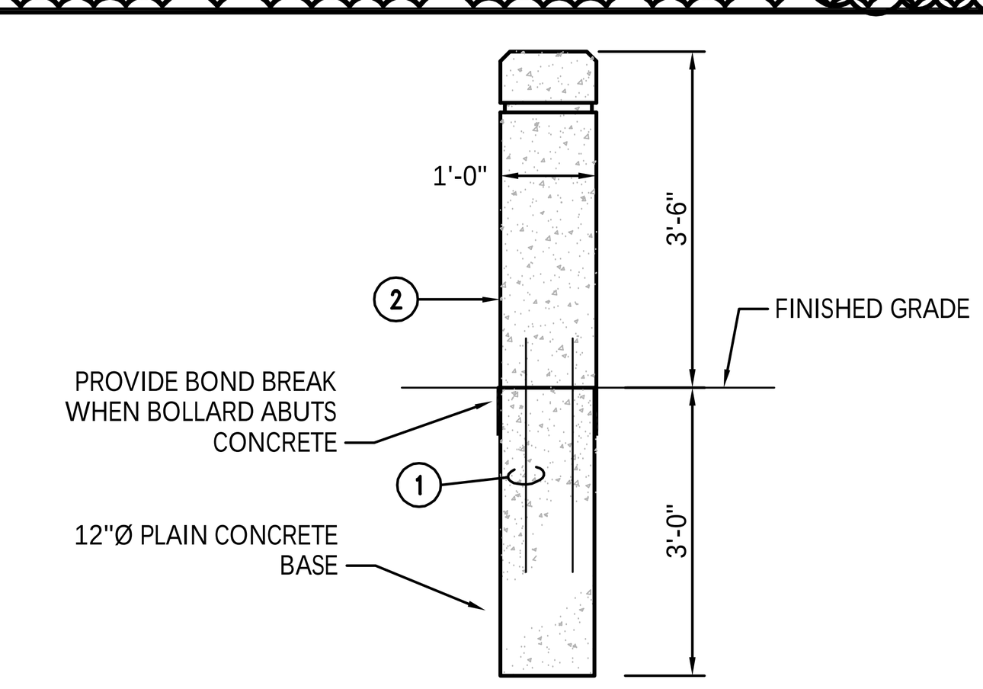






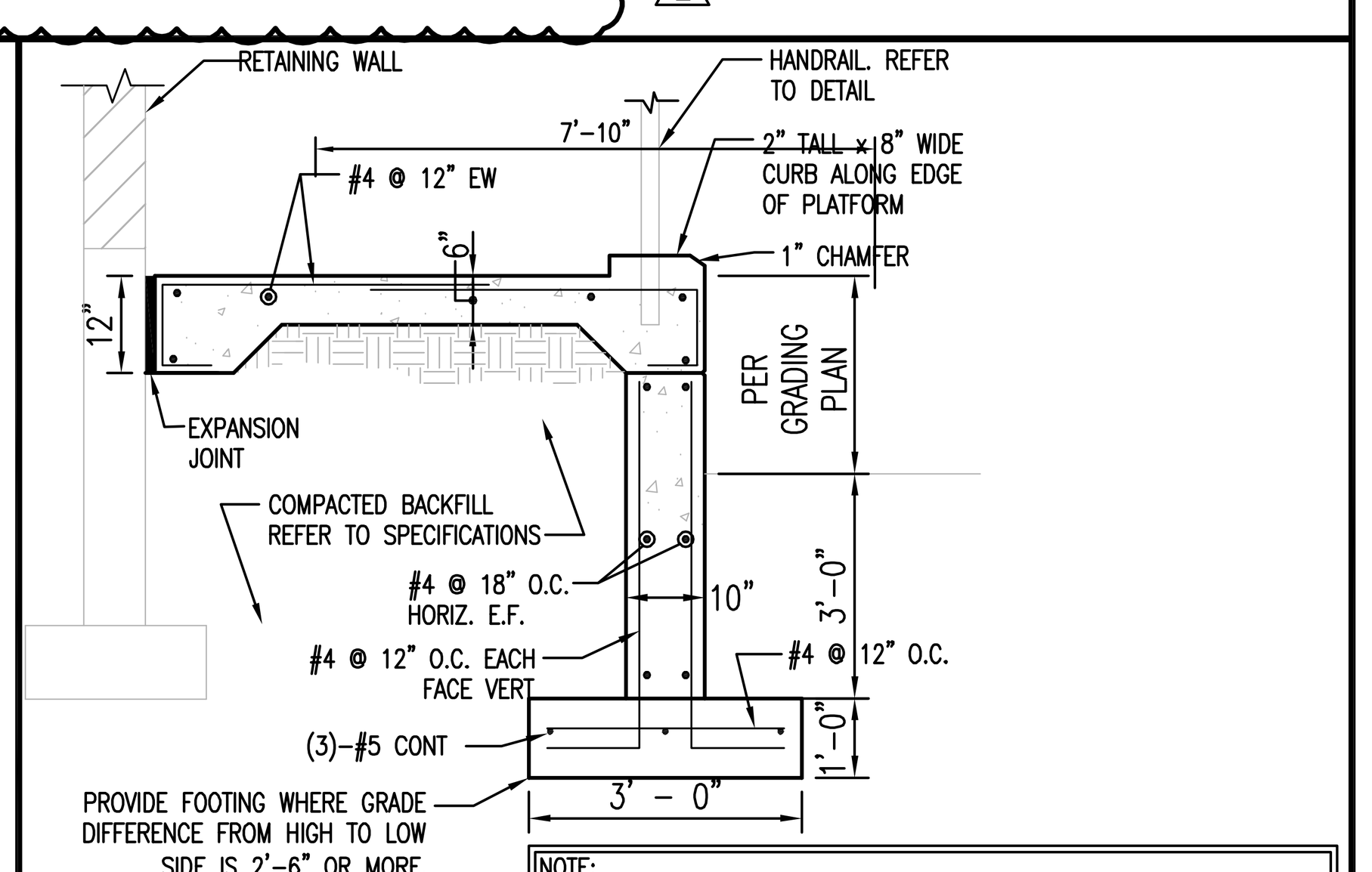
NOTE:
1. HANDRAILS, POSTS AND INSTALLATION SHALL COMPLY WITH THE LATEST FEDERAL, STATE AND LOCAL REQUIREMENTS, WHICHEVER IS MORE RESTRICTIVE.
2. ALL NEW HANDRAILS TO BE 1-1/2" EXTRUDED ALUMINUM PIPE ALLOY 6005-T5 SCH. 40. COORDINATE MATERIALS AND FINISH WITH ARCHITECT/ENGINEER PRIOR TO ORDERING.
3. FABRICATE BENDS SMOOTH AND WRINKLE FREE. "TIG" WELD COMPONENTS TOGETHER. GRIND WELDS SMOOTH AND FINISH TO MATCH.
4. FIT AND SHOP ASSEMBLY IN LARGEST PRACTICAL SECTIONS FOR DELIVERY TO SITE AND INSTALLATION. PERFORM FIELD WELDING IN ACCORDANCE WITH AWS D1.1.
5. SUPPLY COMPONENTS REQUIRED FOR PROPER ANCHORAGE OF HANDRAIL.
6. INSTALLED RAILINGS TO RESIST LATERAL FORCES OF 200 LBS. AT TOP MEMBER, WITHOUT PERMANENT SET OR DAMAGE TO MEMBERS OR ANCHORS.
7. HANDRAIL POST SPACING SHALL BE 4' (MIN) TO 6' (MAX).
8. PROVIDE EXPANSION JOINTS IN HANDRAIL AS REQUIRED TO PREVENT TRANSFER OF EXPANSION STRESS TO ANCHORAGE COMPONENTS.
9. HANDRAIL WITH BALUSTERS REQUIRED WHERE GRADES ADJACENT ARE GREATER THAN OR EQUAL TO 30" BELOW ELEVATION.

3 BALUSTER HANDRAIL DETAIL
NO SCALE



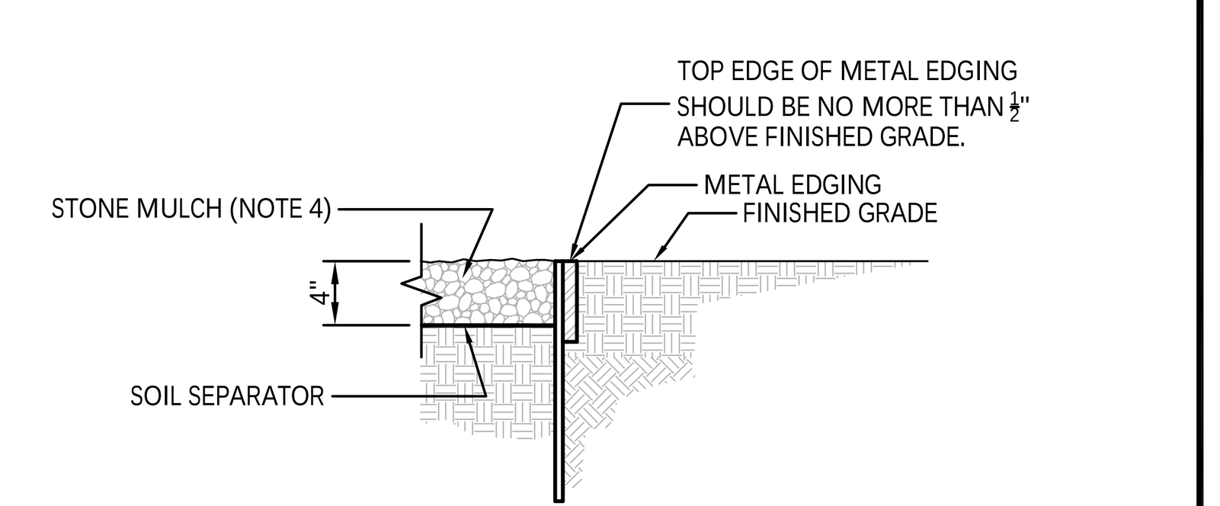
NOTE:
1. PROVIDE AND INSTALL REINFORCING AND ANCHORING AS RECOMMENDED BY MANUFACTURER.
2. 12" Ø PRECAST CONCRETE BOLLARD, MODEL B1236 BY DOTY AND SONS CONCRETE PRODUCTS, SYCAMORE, ILLINOIS. COLOR AND FINISH BY ARCHITECT.

6 CONCRETE DECORATIVE BOLLARD DETAIL
NO SCALE



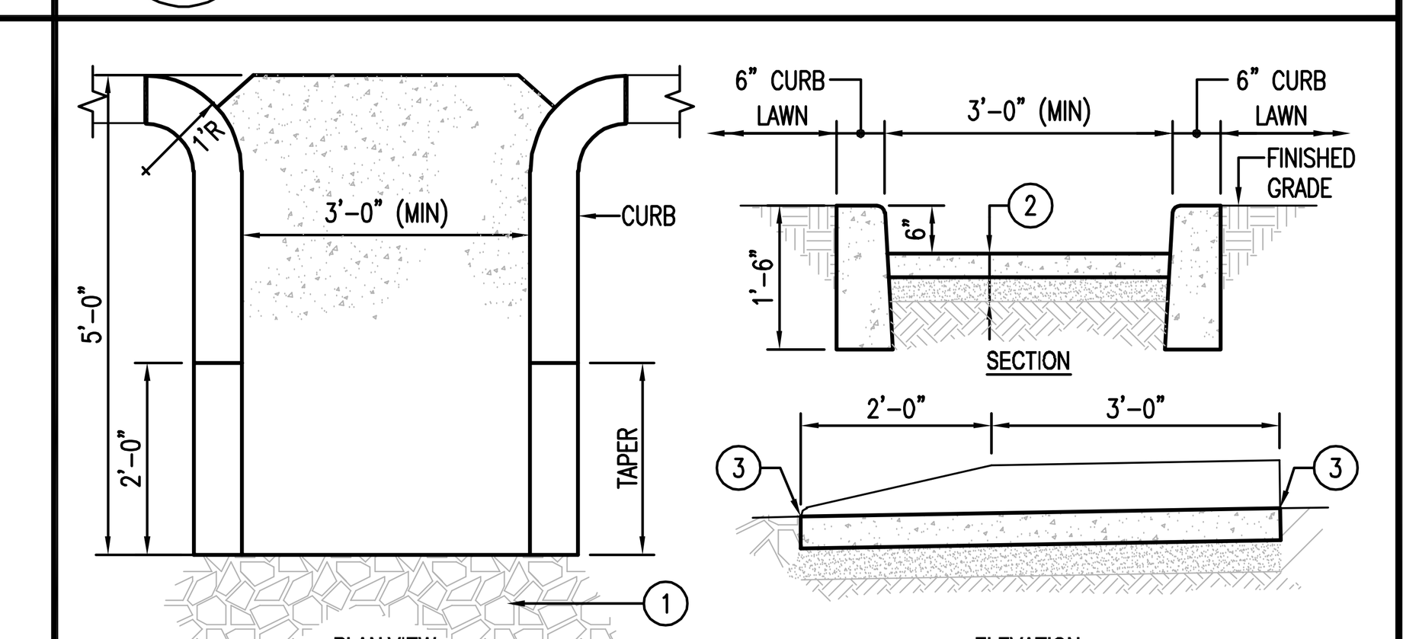
NOTE:
1. REFER TO SPECIFICATIONS FOR CONCRETE REQUIREMENTS.
2. REFER TO DEVELOPMENT PLAN FOR ELEVATIONS OF RAISED PLATFORM.

2 ELEVATED CONCRETE RAMP DETAIL
NO SCALE



NOTE:
1. INSTALL METAL EDGING WITH STAKE POCKETS ON INSIDE OF BED.
2. REFER TO SPECIFICATIONS FOR SOIL SEPARATOR AND EDGING REQUIREMENTS.
3. METAL EDGING SHALL BE FLUSH WITH FINISHED GRADE. COMPACT BACKFILL ALONG EDGING TO ASSURE THAT EDGE IS FLUSH.
4. STONE SHALL BE 1"-1 1/2" WASHED, UNCRUSHED SMOOTH RIVER GRAVEL.

5 STONE MULCH DETAIL
NO SCALE



NOTE:
1. REFER TO SEDIMENT CONTROL PLAN FOR DISCHARGE PROTECTION.
2. 4" FIBER REINFORCED CONCRETE OVER 4" COMPACTED GRANULAR FILL.
3. REFER TO GRADING PLAN FOR ELEVATION INFORMATION.

1 CURB TURNOUT DETAIL
NO SCALE

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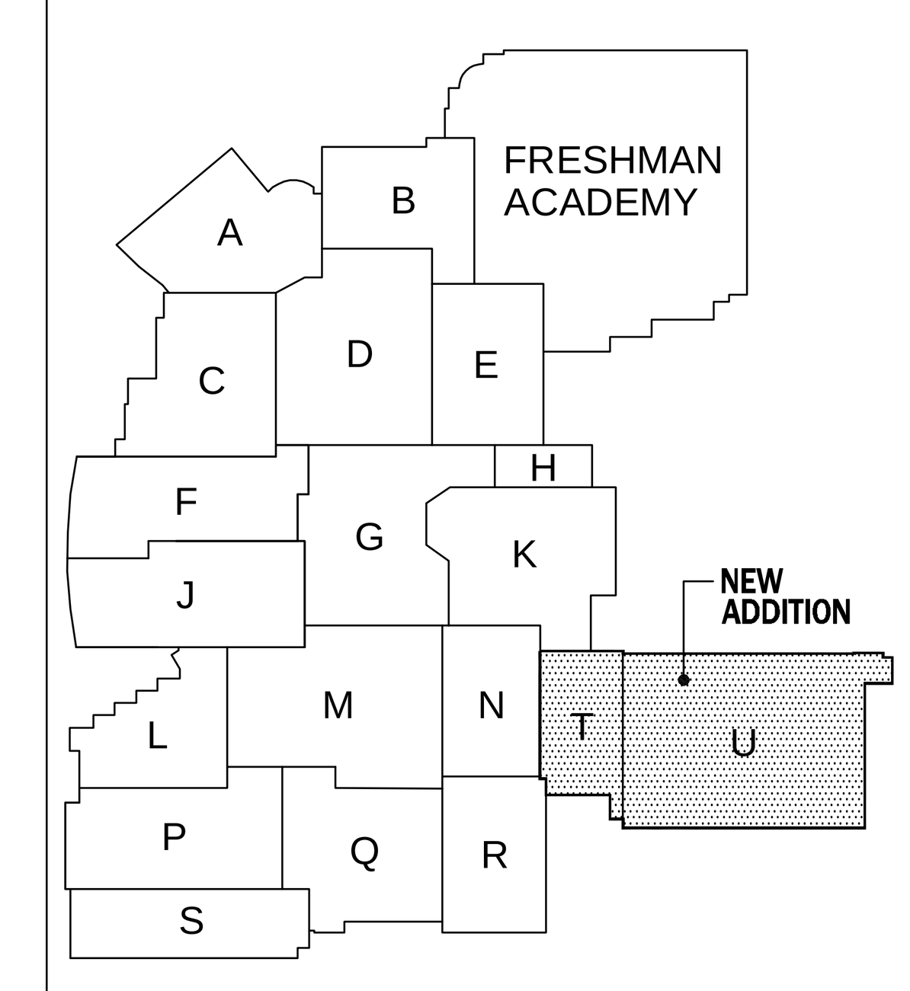

KEY PLAN

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ADDITION & RENOVATIONS TO:
FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title: SITE IMPROVEMENT DETAILS

NICHOLAS BIJAN VERGATOS
REGISTERED
No. PE11500269
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10
Project Date: MAY 29, 2024
Drawing No: C253

Nicholas Bijan Vergatos

JPS Consulting Engineers - K:\Civil Projects\23JPSC48 Franklin Township Schools - Phase 2\Drawings\C250.dwg May 29, 2024 - 12:46 PM Nvergatos

DEMOLITION GENERAL NOTES

A DARK DASHED LINES INDICATE EXISTING EQUIPMENT AND SYSTEMS THAT SHALL BE REMOVED COMPLETELY AS PART OF DEMOLITION WORK.

B LIGHT SOLID LINES INDICATE EXISTING EQUIPMENT AND SYSTEMS THAT SHALL REMAIN. THE CONTRACTOR SHALL PROTECT ALL EXISTING EQUIPMENT AND SYSTEMS THAT SHALL REMAIN, DURING DEMOLITION PHASE.

C THE CONTRACTOR SHALL INCLUDE ALL SCOPE TO REMOVE ITEMS MADE OBSOLETE BY NEW WORK. THE CONTRACTOR SHALL GIVE THE OWNER FIRST RIGHT OF REFUSAL OF ANY EXISTING EQUIPMENT PRIOR TO REMOVAL FROM THE SITE.

D THE CONTRACTOR SHALL REMOVE AND PROTECT CEILING TILES AND GRID AS NEEDED TO ACCESS AND REMOVE ITEMS AS NOTED. CEILING REMOVAL AND REINSTALLATION TO ALLOW FOR INSTALLATION OF NEW SYSTEMS ABOVE CEILING IS ALSO THE CONTRACTORS RESPOSIBILITY.

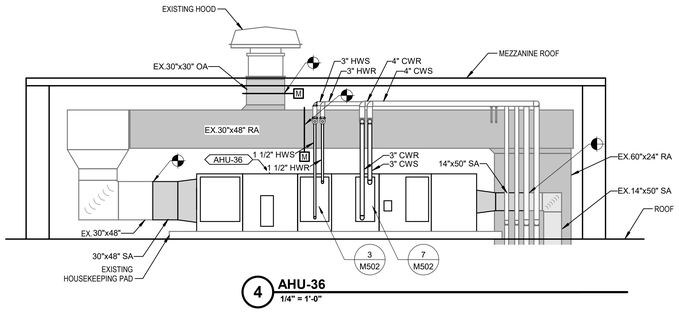
E VERIFY EXISTING CONDITIONS PRIOR TO BIDDING AND DEMOLITION.

DEMOLITION ENLARGED PLAN NOTES

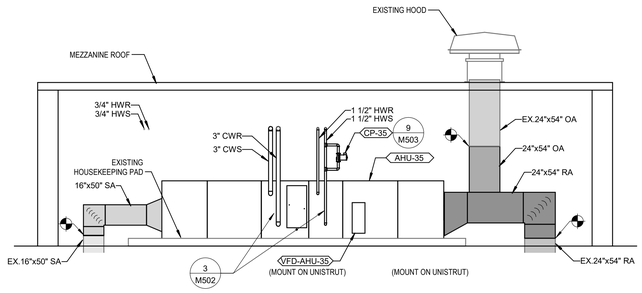
1 REMOVE EXISTING AHU COMPLETE.
2 REMOVE EXISTING VFD COMPLETE.
3 REMOVE EXISTING MOTORIZED DAMPER TO WHER SHOWN.
4 REMOVE EXISTING DUCT TO WHERE SHOWN.
5 REMOVE EXISTING PIPE COMPLETE TO WHERE SHOWN.
6 REMOVE EXISTING OA DUCT TO MAIN, PREP OA DUCT FOR RECONNECTION..
7 REMOVE EXISTING FILTER FEEDER COMPLETE.
8 REMOVE EXISTING RETURN FAN COMPLETE.

ENLARGED COMBINED PLAN NOTES

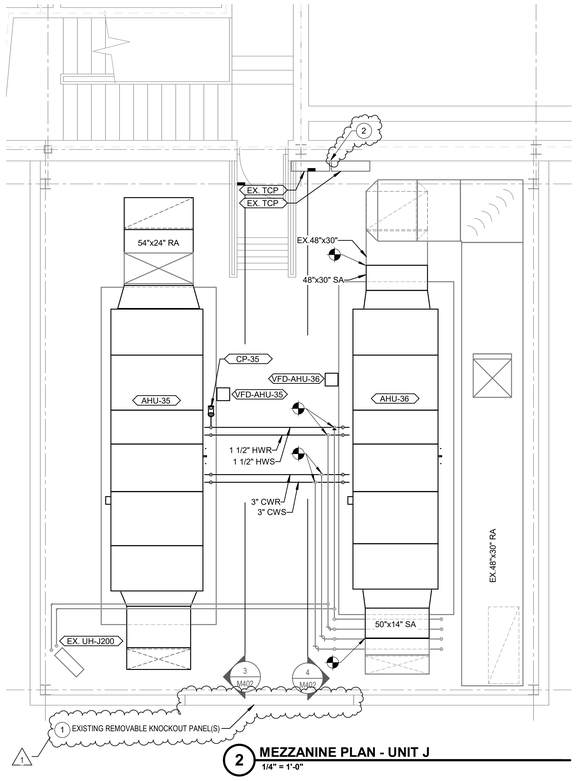
1 CONTRACTOR RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF PANELS. AREA TO BE SEALED WEATHER TIGHT DURING AND AFTER CONSTRUCTION.
2 EXISTING ANDOVER INFILINK CONTROL HUB TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.



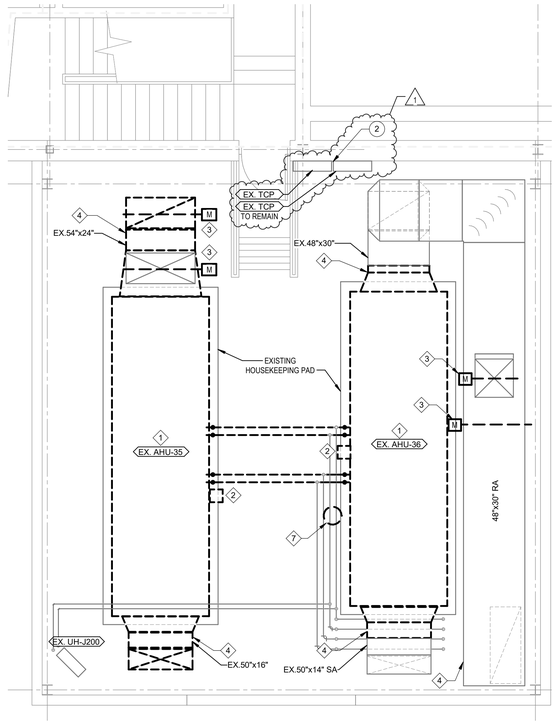
4 **AHU-36**
1/4" = 1'-0"



3 **AHU-35**
NOT TO SCALE



2 **MEZZANINE PLAN - UNIT J**
1/4" = 1'-0"



1 **MEZZANINE DEMOLITION PLAN - UNIT J**
1/4" = 1'-0"

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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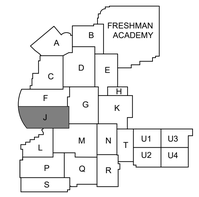

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

ENLARGED MEZZANINE PLAN - UNIT J

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022043.00

Project Date: May 29, 2024

Drawing No: M402

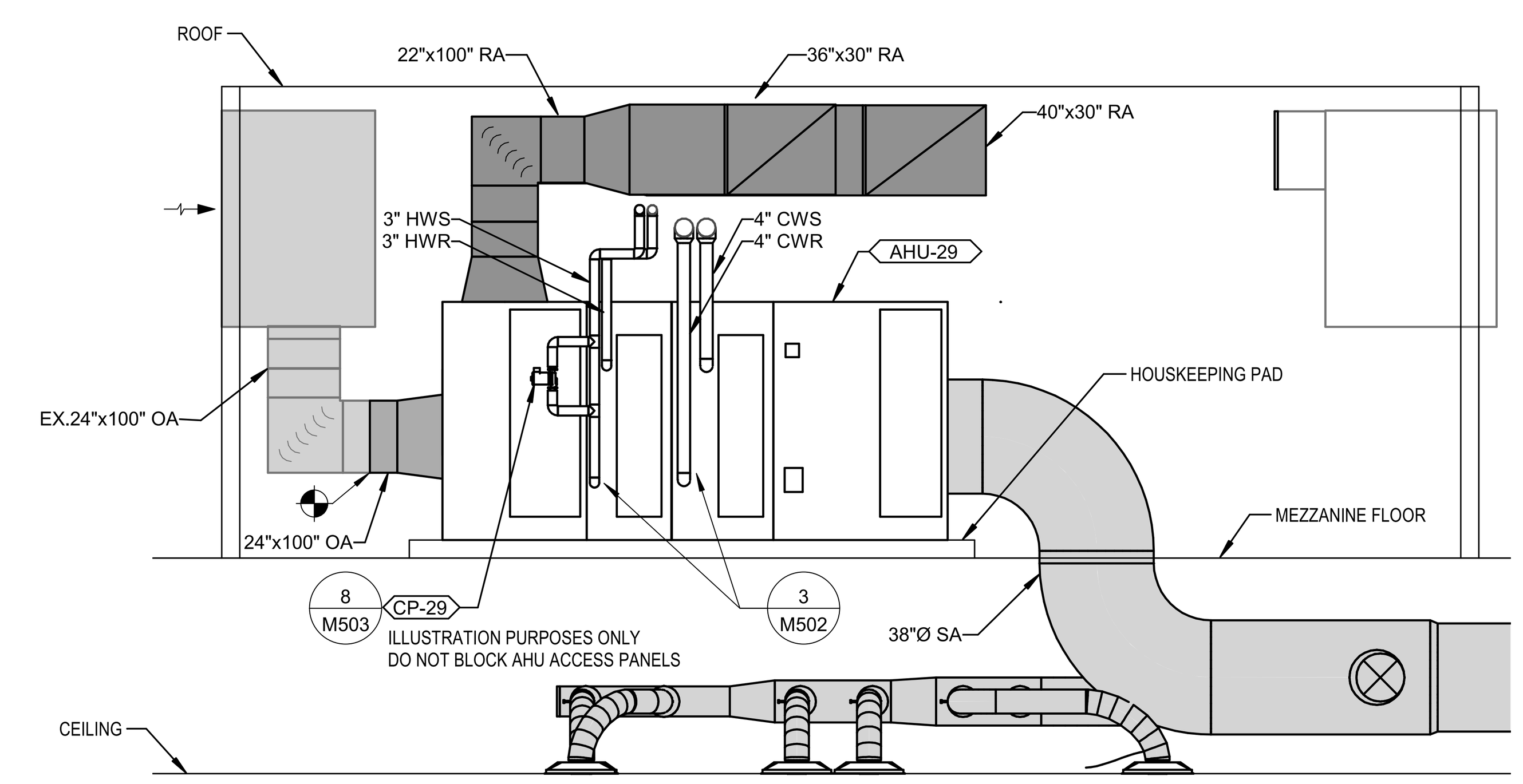
#	Revision	Date
1	ADDENDUM #1	06.14.2024

◇ DEMOLITION ENLARGED PLAN NOTES

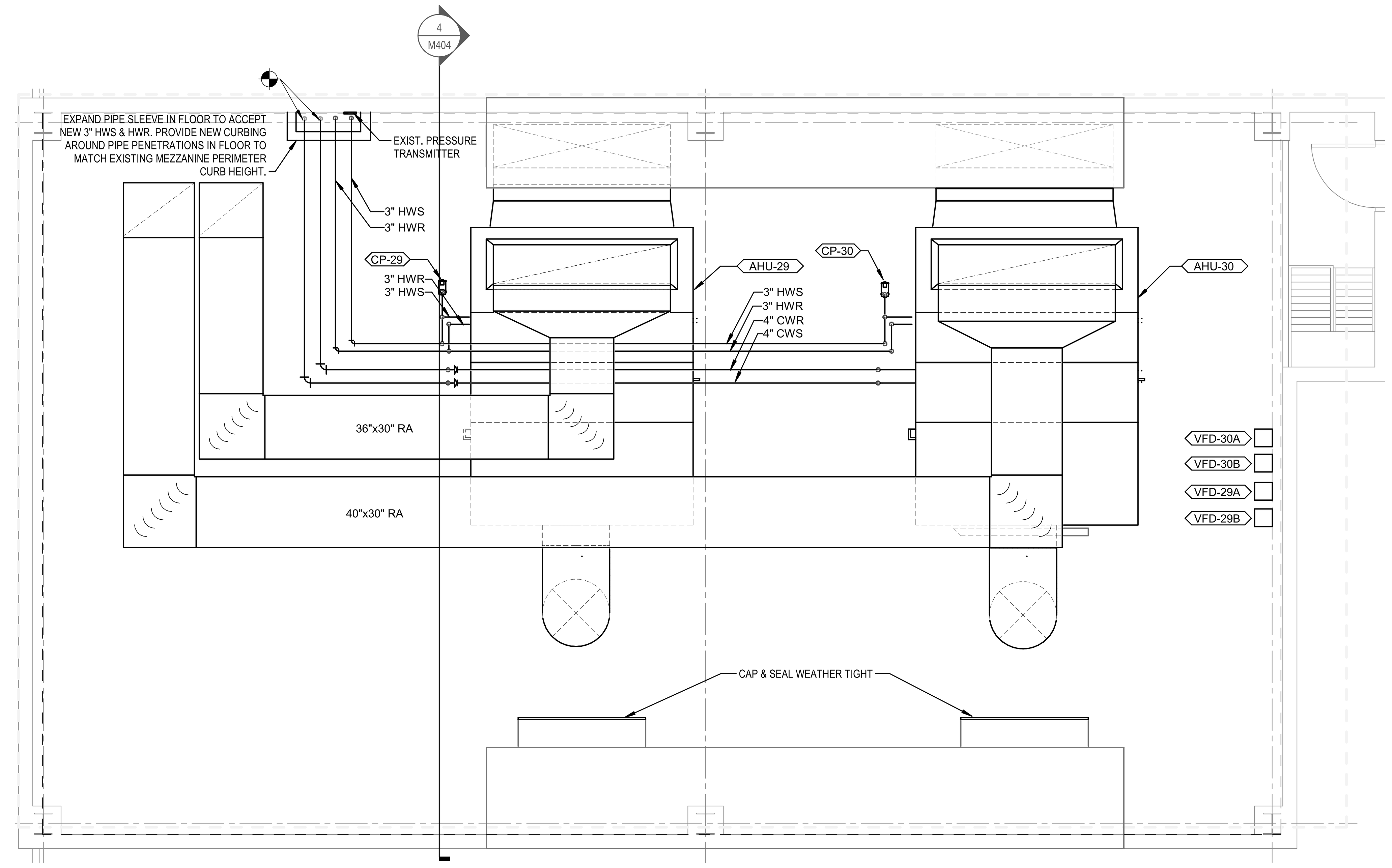
1 REMOVE EXISTING AHU COMPLETE.
2 REMOVE EXISTING VFD COMPLETE.
3 REMOVE EXISTING MOTORIZED DAMPER TO WHER SHOWN.
4 REMOVE EXISTING DUCT TO WHERE SHOWN.
5 REMOVE EXISTING PIPE COMPLETE TO WHERE SHOWN.
6 REMOVE EXISTING OA DUCT TO MAIN, PREP OA DUCT FOR RECONNECTION..
7 REMOVE EXISTING FILTER FEEDER COMPLETE.
8 REMOVE EXISTING RETURN FAN COMPLETE.

○ ENLARGED COMBINED PLAN NOTES

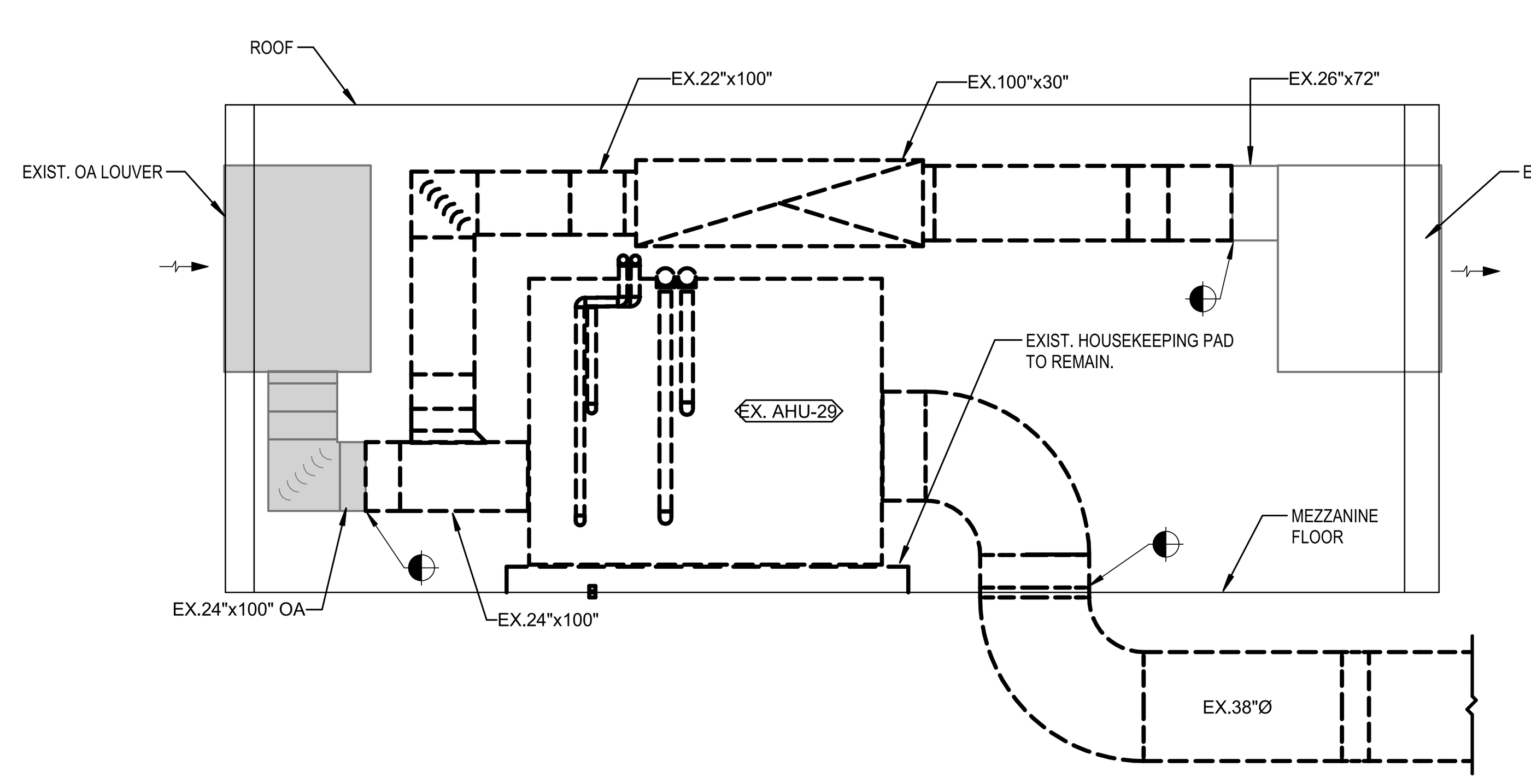
1 CONTRACTOR RESPONSIBLE FOR REMOVAL AND REINSTALLATION OF PANELS. AREA TO BE SEALED WEATHER TIGHT DURING AND AFTER CONSTRUCTION.
2 EXISTING ANDOVER INFILINK CONTROL HUB TO REMAIN AND BE PROTECTED DURING CONSTRUCTION.



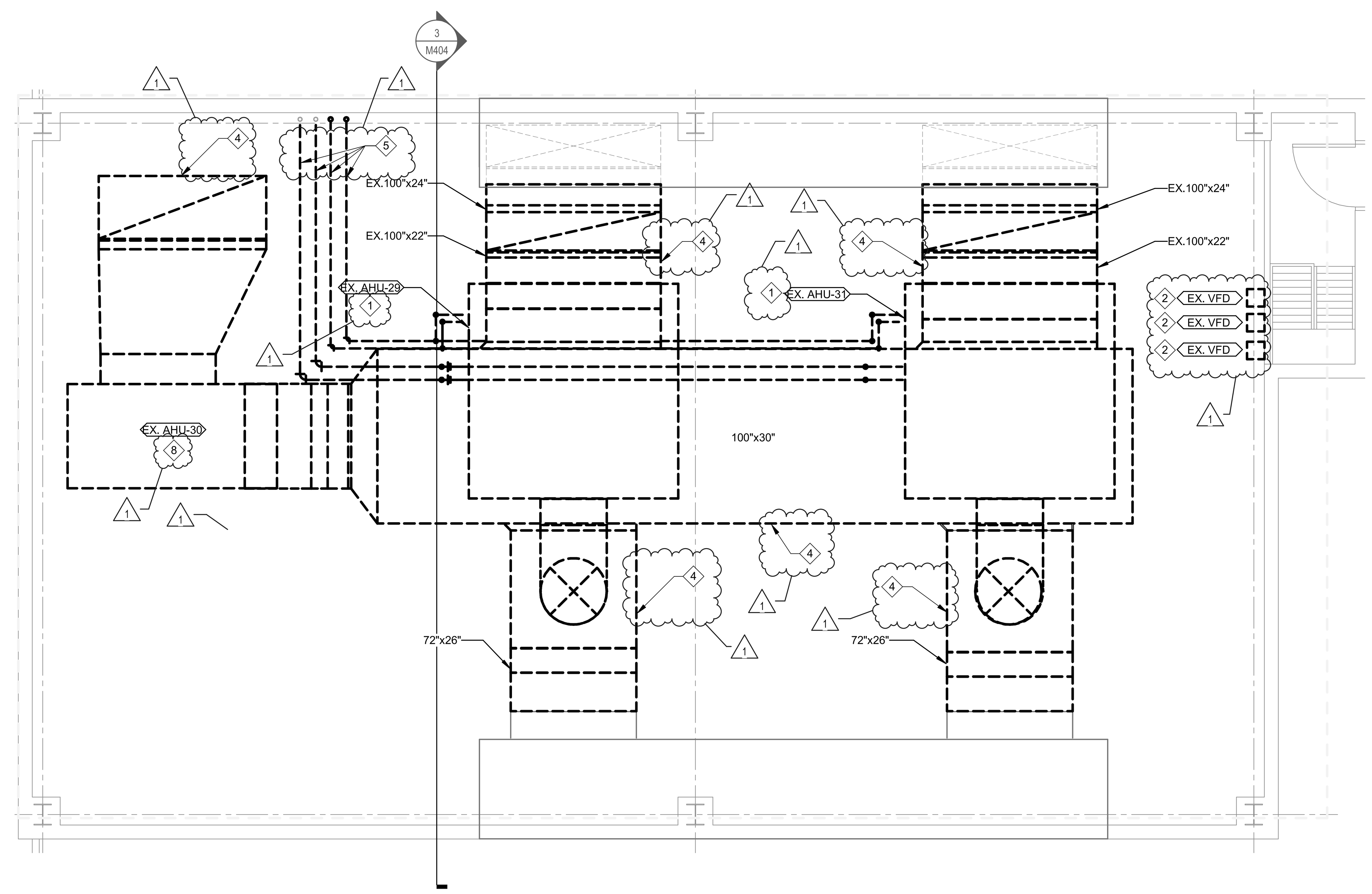
4 AHU-29 & 30 SECTION
1/4" = 1'-0"



2 MEZZANINE PLAN - UNIT R
1/4" = 1'-0"



3 AHU-29 & 30 DEMOLITION SECTION
1/4" = 1'-0"



1 MEZZANINE DEMOLITION PLAN - UNIT R
1/4" = 1'-0"

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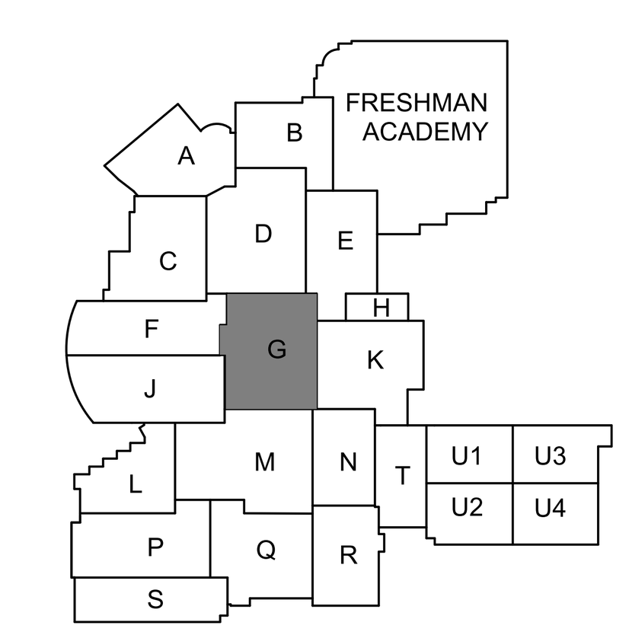

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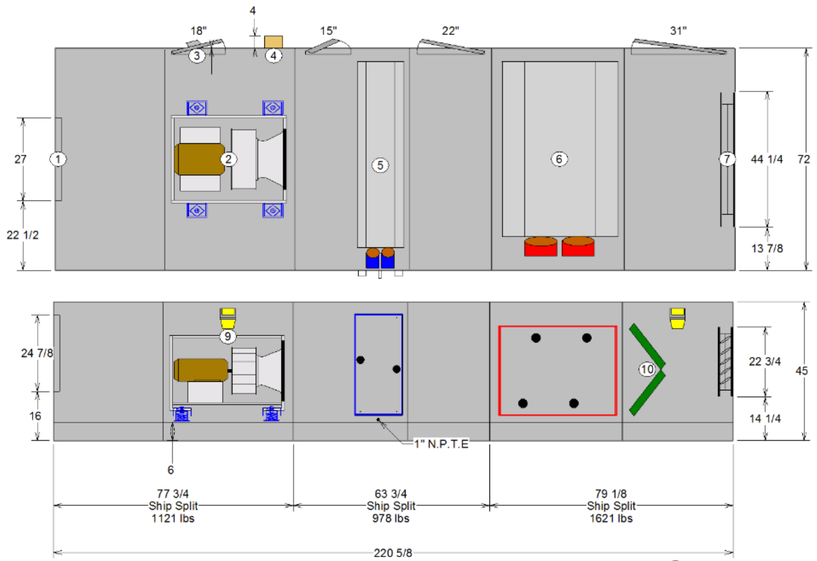
ADDITION & RENOVATIONS TO:
FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:
ENLARGED MEZZANINE PLAN - UNIT R

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

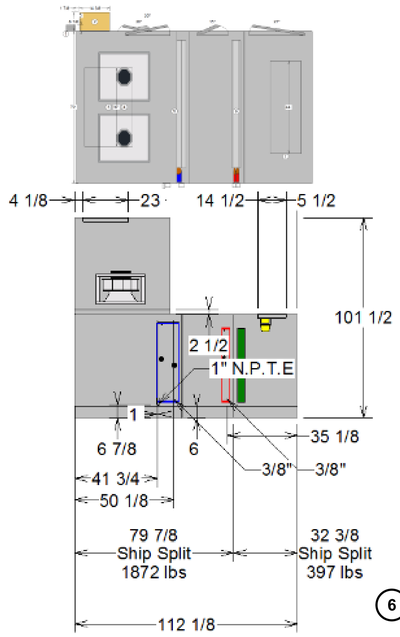
Project No: 2022063.10
Project Date: May 29, 2024
Drawing No: M404



1 Opening front
24.9 x 26.988
2 Plenum fan - 22.25in. dd plenum, 80% width, H press Supply fan 7.5 hp 460/3
3 Light switch and/or receptacle LH
4 External junction box LH
5 Cooling coil - 8 Rows
Coil type 5/8" Shipping Coil, General (W)
6 Heating coil - Rows
Coil type
7 Damper back-parallel blade
22.75 x 44.25
8 1" N.P.T.E
9 Marine light
10 Angled filters -

Doors
18 width x 35 height
15 width x 35 height
22 width x 35 height
31 width x 35 height

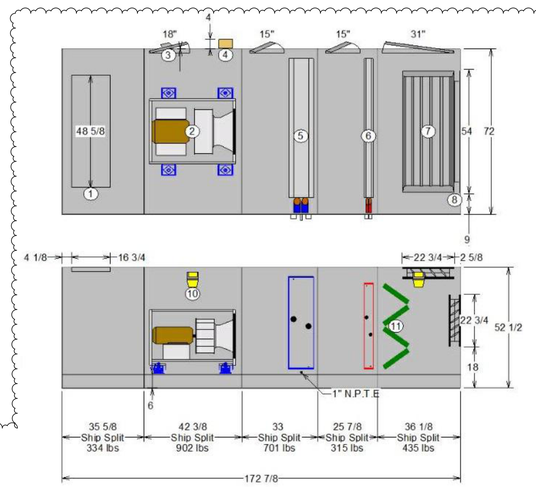
5 AHU 35 DETAIL
NOT TO SCALE



1 Light switch and/or receptacle LH
2 count=46
3 Opening top
37 x 23
4 Plenum fan - 17.7 impeller fan full width Supply fan
Motorized impeller fan 460/3
5 Cooling coil - 8 Rows
Coil type 1/2" Unit Optimized, High Water Flow(UU)
6 Heating coil - 1 Rows
Coil type 5/8" Shipping Coil, General (5W)
7 Opening top
44 x 14.5

Doors
20 width x 42 height
22 width x 42 height
15 width x 42 height
27 width x 42 height

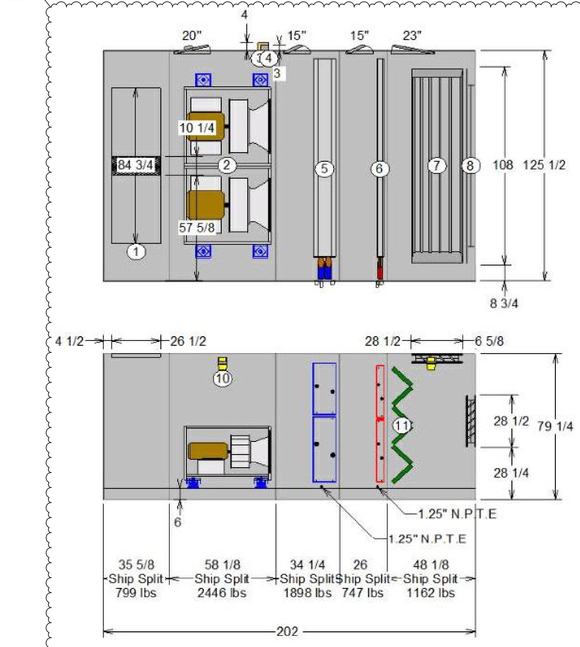
6 AHU 24 DETAIL
NOT TO SCALE



1 Opening top
48.6 x 16.79
2 Plenum fan - 22.25in. dd plenum, full width, H press Supply fan 10 hp 460/3
3 Light switch and/or receptacle LH
4 External junction box LH
5 Cooling coil - 8 Rows
Coil type 1/2" Unit Optimized, High Water Flow(UU)
6 Heating coil - 1 Rows
Coil type 5/8" Shipping Coil, General (5W)
7 Damper top-parallel blade
54 x 22.75
8 Damper back-parallel blade
22.75 x 54
9 1" N.P.T.E
10 Marine light
11 Angled filters -

Doors
18 width x 42 height
15 width x 42 height
31 width x 42 height

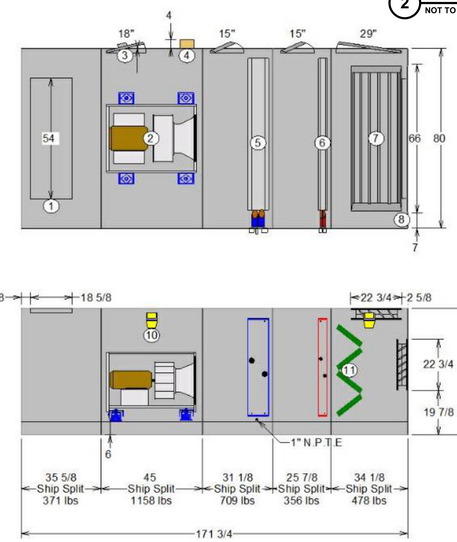
2 AHU 23 DETAIL
NOT TO SCALE



1 Opening top
84.71 x 26.5
2 Plenum fan - 27in. dd plenum, 80% width, H press Supply fan 15 hp 460/3
3 Light switch and/or receptacle LH
4 External junction box LH
5 Cooling coil - 6 Rows
Coil type 5/8" Shipping Coil, General (W)
6 Heating coil - 1 Rows
Coil type 5/8" Shipping Coil, General (5W) (3)
7 Damper top-parallel blade
108 x 28.5
8 Damper back-parallel blade
28.5 x 108
9 1.25" N.P.T.E
10 Marine light
11 Angled filters -

Doors
20 width x 69 height
15 width x 61 height
23 width x 69 height

3 AHU 29 & 30 DETAIL
NOT TO SCALE



1 Opening top
54 x 18.67
2 Plenum fan - 24.5in. dd plenum, 80% width, H press Supply fan 10 hp 460/3
3 Light switch and/or receptacle LH
4 External junction box LH
5 Cooling coil - 4 Rows
Coil type 5/8" Shipping Coil, General (W)
6 Heating coil - 1 Rows
Coil type 5/8" Shipping Coil, General (5W)
7 Damper top-parallel blade
66 x 22.75
8 Damper back-parallel blade
22.75 x 66
9 1" N.P.T.E
10 Marine light
11 Angled filters -

Doors
18 width x 46 height
15 width x 46 height
29 width x 46 height

1 AHU 22 DETAIL
NOT TO SCALE

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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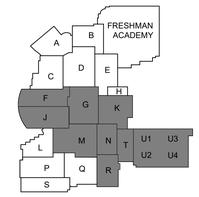

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

MECHANICAL DETAILS

GABRIEL S. CURDLER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022043.00

Project Date: May 29, 2024

Drawing No: M506

AHU SCHEDULE

MARK	MANUFACTURER	MODEL	LOCATION	AREA SERVED	DIMENSIONS L	DIMENSIONS W	DIMENSIONS H	WEIGHT (LBS)	SUPPLY FAN AIRFLOW (CFM)	SUPPLY FAN ESP/TSP (IN-WG)	SUPPLY FAN RPM	SUPPLY FAN MOTOR QTY	SUPPLY FAN MOTOR HP EA.	SUPPLY FAN MOTOR BHP EA.	SUPPLY FAN ELEC. VOLT/PH/HZ	FLA (A)	MCA (A)	MOCP (A)	RETURN FAN AIRFLOW (CFM)	RETURN FAN ESP/TSP (IN-WG)	RETURN FAN RPM	RETURN FAN MOTOR QTY	RETURN FAN MOTOR HP EA.	RETURN FAN MOTOR BHP EA.	RETURN FAN ELEC. VOLT/PH/HZ	FLA (A)	MCA (A)	MOCP (A)
AHU-2	TRANE	CSAA035	ROOF	UNIT N	192"	100"	74"	6,801	17,026	3/5	1,800	2	10.0	9.6	460/3/60	12.5	-	-	-	-	-	-	-	-	-	-	-	-
AHU-3	TRANE	CSAA025	ROOF	UNIT N	227"	80"	68"	6,501	12,420	3/5.5	1,800	1	20.0	15.1	460/3/60	24.0	-	-	-	-	-	-	-	-	-	-	-	-
AHU-4	TRANE	CSAA040	ROOF	UNIT N	167"	113"	74"	6,386	18,546	3/4.6	1,800	2	10.0	9.9	460/3/60	12.5	-	-	-	-	-	-	-	-	-	-	-	-
AHU-5	TRANE	CSAA012	ROOF	UNIT G	170"	66"	48"	2,513	5,100	1.9/3.4	1,800	1	5.0	4.1	460/3/60	6.7	-	-	-	-	-	-	-	-	-	-	-	-
AHU-6	TRANE	CSAA025	ROOF	UNIT K	189"	80"	68"	4,678	11,200	3/4.8	1,800	1	15.0	13.3	460/3/60	18.1	-	-	-	-	-	-	-	-	-	-	-	-
AHU-7	TRANE	CSAA012	MEZZANINE	UNIT G	136"	67"	45"	1,900	5,100	2/3.7	1,800	1	5.0	4.8	460/3/60	6.7	-	-	-	-	-	-	-	-	-	-	-	-
AHU-8	TRANE	CSAA012	MEZZANINE	UNIT G	136"	67"	45"	1,925	5,285	1.9/3.6	1,800	1	5.0	4.6	460/3/60	6.7	-	-	-	-	-	-	-	-	-	-	-	-
AHU-9	TRANE	CSAA012	MEZZANINE	UNIT G	135"	67"	45"	1,826	6,000	1.8/3.6	1,800	1	7.5	5.4	460/3/60	9.8	-	-	-	-	-	-	-	-	-	-	-	-
AHU-10	TRANE	CSAA014	MEZZANINE	UNIT G	140"	72"	45"	2,115	6,350	2/3.73	1,800	1	7.5	6.2	460/3/60	9.8	-	-	-	-	-	-	-	-	-	-	-	-
AHU-21	TRANE	CSAA050	ROOF	UNIT K	199"	126"	83"	8,357	21,175	3/4.75	1,800	2	15.0	12.8	460/3/60	18.1	-	-	-	-	-	-	-	-	-	-	-	-
AHU-22	TRANE	CSAA021	MEZZANINE	UNIT F	171"	80"	57"	3,000	9,300	2.5/3.9	1,800	1	10.0	9.1	460/3/60	12.5	-	-	-	-	-	-	-	-	-	-	-	-
AHU-23	TRANE	CSAA017	MEZZANINE	UNIT F	173"	72"	53"	2,619	8,445	2.3/4.2	1,800	1	10.0	9.1	460/3/60	12.5	-	-	-	-	-	-	-	-	-	-	-	-
AHU-24	TRANE	CSAA017	UNIT F	UNIT F	112"	72"	102"	2,270	7,985	1.8/3.5	1,800	2	6.0	5.4	460/3/60	12.8	14.4	20	-	-	-	-	-	-	-	-	-	-
AHU-29	TRANE	CSAA050	MEZZANINE	UNIT R	204"	126"	80"	6,940	22,000	3/4.32	1,800	2	15.0	12.9	460/3/60	18.1	-	-	-	-	-	-	-	-	-	-	-	-
AHU-30	TRANE	CSAA050	MEZZANINE	UNIT R	204"	126"	80"	6,940	22,000	3/4.32	1,800	2	15.0	12.9	460/3/60	18.1	-	-	-	-	-	-	-	-	-	-	-	-
AHU-35	TRANE	CSAA014	MEZZANINE	UNIT J	171"	72"	45"	2,304	6,500	1.5/3.0	1,800	1	7.5	5.3	460/3/60	9.8	-	-	-	-	-	-	-	-	-	-	-	-
AHU-36	TRANE	CSAA017	MEZZANINE	UNIT J	169"	72"	53"	2,362	7,790	1.5/2.8	1,800	1	7.5	6.9	460/3/60	9.8	-	-	-	-	-	-	-	-	-	-	-	-
AHU-K1	TRANE	CSAA012	MEZZANINE	UNIT K	145"	67"	48"	2,773	6,000	1.8/3.7	1,800	1	7.5	5.5	460/3/60	9.8	-	-	-	-	-	-	-	-	-	-	-	-
AHU-T1	TRANE	CSAA035	UNIT T	UNIT T	289"	100"	71"	8,485	15,000	2.25/4.63	1,800	2	10.0	8.9	460/3/60	12.5	-	-	15,000	0.5/1.1	1,800	2	5.0	3.8	460/3/60	7	-	-

AHU SCHEDULE (CONTINUED)

MARK	PREHEAT AIRFLOW (CFM)	PREHEAT CAPACITY (BTUH)	PREHEAT FLOW (GPM)	PREHEAT EAT (°F) DB	PREHEAT LAT (°F) DB	PREHEAT WPD (FT-WG)	PREHEAT FACE VEL. (FPM)	PREHEAT APD (IN-WG)	PREHEAT ROWS	PREHEAT FPI	PREHEAT FLUID TYPE	COOLING TOTAL CAP. (BTUH)	COOLING SENSIBLE CAP. (BTUH)	COOLING FLOW (GPM)	COOLING EAT (°F) DB/WB	COOLING LAT (°F) DB/WB	COOLING EWT/LWT (°F)	COOLING WPD (FT-WG)	COOLING FACE VEL. (FPM)	COOLING APD (IN-WG)	COOLING ROWS	COOLING FPI	COOLING FLUID TYPE	MIN OA (CFM)	NOTES
AHU-2	17,026	346,030	34.7	45.0	64	2.4	522	0.07	1	6.7	WATER	708,770	506,990	154	82/68	55/54.7	42/52	16.8	508	0.80	6	10.3	30% PG	4,257	1-3,7
AHU-3	6,440	438,990	50	3.9	65.83	0.62	372	0.30	4	9.0	WATER	357,690	351,260	77	82/64	55/54.4	42/52	8.3	427	0.54	6	9.2	30% PG	6,080	1-3,5,7
AHU-4	-	-	-	-	-	-	-	-	-	-	-	744,570	538,330	161	84/69	58/57	42/52	20.0	481	0.51	6	9.0	30% PG	4,637	1-3,7
AHU-5	2,735	78,790	7.9	46.6	73.2	0.9	222	0.04	2	6.0	WATER	114,050	104,680	25	73.7/61.5	55/53.7	42/52	3.2	415	0.30	4	8.4	30% PG	915	1-3,7
AHU-6	11,200	232,630	23.3	45.0	64	1.11	465	0.06	1	6.7	WATER	461,400	333,510	100	82/68	55/54.9	42/52	13.1	448	0.70	6	11.9	30% PG	2,800	1-3,7
AHU-7	2,525	94,470	9.47	30.5	65	1.12	205	0.04	2	6.4	WATER	253,260	115,970	55	75/70	55/54.9	42/52	6.6	432	0.55	4	13.3	30% PG	1,340	1,4,7
AHU-8	2,455	91,040	9.12	33.0	67	0.81	218	0.02	1	6.7	WATER	266,410	124,280	58	76/70	55/54.9	42/52	7.3	447	0.61	4	13.8	30% PG	1,575	1,4,7
AHU-9	3,000	119,730	12	28.2	65	1.5	244	0.05	2	7.6	WATER	158,410	138,420	35	76/63	55/54	42/52	5.8	488	0.45	4	10.2	30% PG	1,675	1,4,7
AHU-10	3,175	90,800	9.1	46.0	72	1.12	233	0.04	2	6.0	WATER	295,300	125,380	64	73/69	55/54.9	42/52	13.9	484	0.53	6	7.4	30% PG	890	1,4,7
AHU-21	21,175	475,750	47.7	45.0	66	2.45	450	0.06	1	6.7	WATER	873,740	630,540	189	82/68	55/54.8	42/52	12.4	432	0.63	6	11.3	30% PG	5,293	2-4,7
AHU-22	6,005	276,130	27.7	22.6	65	3.12	303	0.04	1	8.4	WATER	265,770	220,820	58	77/64	55/54.04	42/52	5.3	469	0.42	4	10.1	30% PG	3,425	1-3,6,7
AHU-23	4,820	218,500	22	23.2	65	2.4	321	0.05	1	8.7	WATER	401,370	221,850	87	78/69	54.5/54	42/52	7.8	503	0.80	8	6.0	30% PG	3,100	1,4,6,7
AHU-24	4,155	207,280	20.8	19.0	65	2.18	277	0.04	1	8.5	WATER	399,540	185,110	71	76/70	55/54.9	42/54	5.4	475	0.78	8	6.8	30% PG	2,235	1,4,7
AHU-29	11,000	585,740	59	12.9	62	3.64	234	0.02	1	47.5	WATER	623,560	611,940	135	81/63	55/53	42/52	11.4	456	0.35	6	6.9	30% PG	8,815	1,4,6,7
AHU-30	11,000	585,740	59	12.9	62	3.64	234	0.02	1	47.5	WATER	623,560	611,940	135	81/63	55/53	42/52	11.4	456	0.35	6	6.9	30% PG	8,815	1,4,6,7
AHU-35	4,000	148,790	15	30.7	65	1.6	320	0.04	1	7.7	WATER	188,570	155,790	40	76/64	55/54.2	42/52	4.1	495	0.50	4	10.8	30% PG	2,110	1,4,7
AHU-36	3,975	127,640	13	39.0	69	1.1	265	0.03	1	6.7	WATER	166,650	164,860	36	74/61	55/53.3	42/52	4.8	464	0.33	4	7.8	30% PG	1,585	1,4,7
AHU-K1	-	-	-	-	-	-	-	-	-	-	-	216,320	165,200	39	80/66	55/54	42/54	2.3	488	0.73	8	6.8	30% PG	900	1-3,7
AHU-T1	7,500	358,400	66	21.7	65	10.6	361	0.22	3	9.0	WATER	676,880	419,410	146	80.3/69	0.1	42/52	15.5	447	0.64	6	10.2	30% PG	5,000	1,4,7

AIR HANDLING UNIT SCHEDULE NOTES

1. TCC PROVIDED VFD INSTALLED BY EC.
2. EC TO PROVIDE NEMA ENCLOSURE FOR VFD.
3. PROVIDE WITH 18" ROOF CURB.
4. PROVIDE WITH 6" MOUNTING RAILS.
5. PROVIDE WITH INTEGRAL FACE & BYPASS HHW COIL.
6. SOME UNIT SPLITS WILL REQUIRE FIELD DISSASSEMBLY AND REASSEMBLY BY CONTRACTOR PER MANUFACTUERS INSTRUCTIONS. MAXIMUM SIZE TO FIT THROUGH 34"x 82" DOOR.
7. BLOW OUT STRAINER AFTER CHEMICAL TREATMENT CLEANING HAS BEEN COMPLETED PRIOR TO FILLING WITH GLYCOL.

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PACKAGED ROOFTOP UNIT SCHEDULE

MARK	MANUF.	MODEL	LOCATION	AREA SERVED	WEIGHT (LBS)	L	W	H	SUPPLY AIRFLOW (CFM)	SUPPLY ESP/TSP (IN-WG)	SUPPLY RPM	SUPPLY MOTOR QTY	SUPPLY MOTOR HP	SUPPLY MOTOR BHP	EXHAUST AIRFLOW (CFM)	EXHAUST ESP/TSP (IN-WG)	EXHAUST RPM	EXHAUST MOTOR QTY	EXHAUST MOTOR HP	EXHAUST MOTOR BHP	MIN OA (CFM)	UNIT CONTROLS	VOLT/PH/HZ	MCA (A)	MOCP (A)
RTU-U1	TRANE	SFHMF704P	ROOF	UNIT U	12,670	395"	119"	88"	22,100	2/4.27	-	1	40.0	32.3	20,000	0.5/-	555	1	15.0	6.3	14,800	PACKAGED	460/3/60	205.0	250
RTU-U2	TRANE	SFHMF704P	ROOF	UNIT U	12,670	395"	119"	88"	22,100	2/4.27	-	1	40.0	32.3	20,000	0.5/-	555	1	15.0	6.3	14,800	PACKAGED	460/3/60	205.0	250
RTU-U3	TRANE	SFHMF704P	ROOF	UNIT U	12,670	395"	119"	88"	22,100	2/4.27	-	1	40.0	32.3	20,000	0.5/-	555	1	15.0	6.3	14,800	PACKAGED	460/3/60	205.0	250
RTU-U4	TRANE	SFHMF704P	ROOF	UNIT U	12,670	395"	119"	88"	22,100	2/4.27	-	1	40.0	32.3	20,000	0.5/-	555	1	15.0	6.3	14,800	PACKAGED	460/3/60	205.0	250
RTU-U5	TRANE	N360	ROOF	UNIT U	5,546	197"	93"	93"	8,000	2.5/3.56	2,134	1	10.0	7.2	8,000	-	-	-	-	-	1,500	PACKAGED	460/3/60	112.0	125
RTU-U6	TRANE	N360	ROOF	UNIT U	5,546	197"	93"	93"	8,000	2.5/3.56	2,134	1	10.0	7.2	8,000	-	-	-	-	-	1,500	PACKAGED	460/3/60	112.0	125
ERV-U1	TRANE	D025	ROOF	UNIT U	4,529	183"	95"	68"	5,350	2/4.0	1,603	1	7.5	5.7	5,350	1.5/2.7	1,678	1	5.0	3.5	5,350	PACKAGED	460/3/60	68.0	80

DOAS SCHEDULE NOTES:

1. OVERLOAD PROTECTED DISCONNECT BY MANUFACTURER. SINGLE POINT POWER. HIGH-FAULT 65 KA SCCR.
2. PROVIDE WITH 14" ROOF CURB.
3. PROVIDE WITH FLUE EXTENSION.
4. MAXIMUM LENGTH 400".

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PACKAGED ROOFTOP UNIT SCHEDULE (CONTINUED)

MARK	AIRFLOW (CFM)	ENERGY RECOVERY TYPE	SUMMER EAT (°F) DB/WB	SUMMER LAT (°F) DB/WB	SUMMER HEAT RECOVERED (BTUH)	WINTER EAT (°F) DB/WB	WINTER LAT (°F) DB/WB	WINTER HEAT RECOVERED (BTUH)	DX TOTAL (BTUH)	DX SENSIBLE (BTUH)	EAT (°F) DB/WB	LAT (°F) DB/WB	FACE VEL. (FPM)	APD (IN-WG)	ROWS	FPI	COMPRESSOR INFO TYPE	QTY	EER	REGRIG. TYPE	GAS INPUT (BTUH)	GAS OUTPUT (BTUH)	EAT/LAT (°F)	FURNACE TYPE	FURNACE CONTROL	HOT GAS REHEAT CAPACITY (BTUH)	HOT GAS REHEAT EAT/LAT (°F)	NOTES
RTU-U1	22,100	WHEEL	88.9/74	79.5/66.9	414,000	8.7/8	48.7/41.2	852,251	835,390	604,880	78/65.7	53.2/53.1	514	-	6	-	SCROLL	4	15.5	R454B	850,000	688,500	56/84.7	INDIRECT	MODULATING	832,140	73/70	1-4
RTU-U2	22,100	WHEEL	88.9/74	79.5/66.9	414,000	8.7/8	48.7/41.2	852,251	837,190	603,390	78/65.7	53.2/53.1	514	-	6	-	SCROLL	4	15.5	R454B	850,000	688,500	56/84.7	INDIRECT	MODULATING	832,140	73/70	1-4
RTU-U3	22,100	WHEEL	88.9/74	79.5/66.9	414,000	8.7/8	48.7/41.2	852,251	837,190	603,390	78/65.7	53.2/53.1	514	-	6	-	SCROLL	4	15.5	R454B	850,000	688,500	56/84.7	INDIRECT	MODULATING	832,140	73/70	1-4
RTU-U4	22,100	WHEEL	88.9/74	79.5/66.9	414,000	8.7/8	48.7/41.2	852,251	837,190	603,390	78/65.7	53.2/53.1	514	-	6	-	SCROLL	4	15.5	R454B	850,000	688,500	56/84.7	INDIRECT	MODULATING	832,140	73/70	1-4
RTU-U5	8,000	-	-	-	-	-	-	-	299,000	217,300	79/66	56/54.2	361	0.33	6	12	DIG. SCROLL	2	8.4	R454B	300,000	243,000	54.8/82.8	INDIRECT	MODULATING	-	-	1-3
RTU-U6	8,000	-	-	-	-	-	-	-	299,000	217,300	79/67	56/54.3	361	0.33	6	12	DIG. SCROLL	2	8.4	R454B	300,000	243,000	54.8/82.9	INDIRECT	MODULATING	-	-	1-3
ERV-U1	5,350	WHEEL	95/76	80.9/69.3	137,900	.6/-1.7	49.8/40.4	334,640	277,000	178,900	81.4/67.7	51/50.9	237	0.31	6	14	INV. SCROLL	2	-	R454B	400,000	324,000	42.6/98.6	INDIRECT	MODULATING	203	51/86.1	1-3

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SPLIT SYSTEM SCHEDULE - 23 81 26

INDOOR MARK	MANUFACTURER	MODEL	WEIGHT (LBS)	L	W	H	COOLING TOTAL (BTUH)	COOLING SENSIBLE (BTUH)	CAPACITY (BTUH)	AIRFLOW MIN (CFM)	AIRFLOW MAX (CFM)	AIRFLOW DESIGN (CFM)	EXT. STATIC (IN-WG)	OUTDOOR MARK	MODEL	SERVES	WEIGHT (LBS)	NOMINAL (BTUH)	AMBIENT (°F)	EER	SEER	REF. TYPE	VOLTS (V)	PH	FREQ (HZ)	MCA (A)	MOCP (A)	NOTES
SS-F1	MITSUBISHI	TPKA0A0241KA70A	46	51"	14"	18"	24,000	18,480	24,000	635	775	705	0.00	CU-F1	TRUZA0241HA70NA	SS-F1	153	24,000.0	95	12.2	21.4	R-410A	208	1	60	19.0	30.0	1-4
SS-F1	MITSUBISHI	TPKA0A0241KA70A	46	51"	14"	18"	24,000	18,480	24,000	635	775	705	0.00	CU-F1	TRUZA0241HA70NA	SS-F1	153	24,000.0	95	12.2	21.4	R-410A	208	1	60	19.0	30.0	1-4
SS-F2	MITSUBISHI	TPKA0A0121LA00A	28	35"	9"	1'-0"	12,000	4,400	12,000	265	455	350	0.00	CU-F2	TRUYA0121KA70NA	SS-F2	92	12,000.0	95	13.3	21.0	R-410A	208	1	60	11.0	20.0	1-4
SS-J1	MITSUBISHI	TPKA0A0181LA00A	28	68"	9"	12"	18,000	13,140	18,000	265	455	350	0.00	CU-J1	TRUZA0181KA70NA	SS-J1	100	18,000.0	95	14.4	12.6	R-410A	208	1	60	11.0	20.0	1-4
SS-M1	MITSUBISHI	TPKA0A0181LA00A	28	68"	9"	12"	18,000	13,140	18,000	265	455	350	0.00	CU-J1	TRUZA0181KA70NA	SS-M1	100	18,000.0	95	14.4	12.6	R-410A	208	1	60	11.0	20.0	1-4
SS-R1	MITSUBISHI	TPKA0A0181LA00A	28	68"	9"	12"	18,000	13,140	18,000	265	455	350	0.00	CU-J1	TRUZA0181KA70NA	SS-R1	100	18,000.0	95	14.4	12.6	R-410A	208	1	60	11.0	20.0	1-4
SS-T1	MITSUBISHI	TPKA0A0121LA00A	28	35"	9"	1'-0"	12,000	4,400	12,000	265	455	350	0.00	CU-F2	TRUYA0121KA70NA	SS-T1	92	12,000.0	95	13.3	21.0	R-410A	208	1	60	11.0	20.0	1-4
SS-U1	MITSUBISHI	TPKA0A0121LA00A	28	35"	9"	1'-0"	12,000	4,400	12,000	265	455	350	0.00	CU-F2	TRUYA0121KA70NA	SS-U1	92	12,000.0	95	13.3	21.0	R-410A	208	1	60	11.0	20.0	1-4
SS-U2	MITSUBISHI	TPKA0A0121LA00A	28	35"	9"	1'-0"	12,000	4,400	12,000	265	455	350	0.00	CU-F2	TRUYA0121KA70NA	SS-U2	92	12,000.0	95	13.3	21.0	R-410A	208	1	60	11.0	20.0	1-4

SPLIT SYSTEMS UNIT SCHEDULE NOTES:

1. DISCONNECT BY DIVISION 26.
2. SUPPLY WITH WIND BAFFLES FOR LOW AMBIENT COOLING.
3. SUPPLY WITH BACNET INTERFACE CARD.
4. SUPPLY WITH CONDENSATE PUMP.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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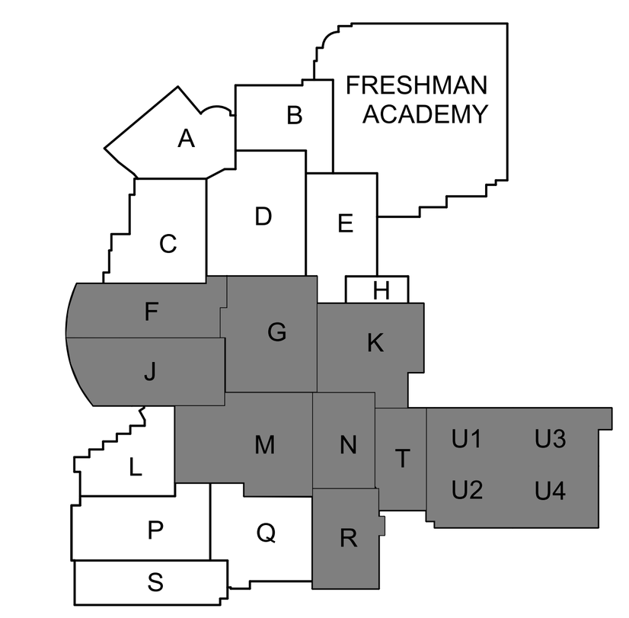

KEY PLAN

NORTH

VPS ARCHITECTURE
905 N. Capital Ave. - Suite 100 Indianapolis, Indiana 46204
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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

MECHANICAL SCHEDULES

Project No: 2022043.00

Project Date: May 29, 2024

GABRIEL S. CURRLER — REGISTERED — No. PE10808972 — STATE OF INDIANA — PROFESSIONAL ENGINEER

Drawing No: M601

MARK	MANUFACTURER	INLET SIZE	MAX AIRFLOW	MIN AIRFLOW	HTG AIRFLOW	MBH	GPM	COIL ROWS	NOTES
EX. VAV-M100	-	10	1200	400	600	22.7	2.3	-	2
EX. VAV-M101	-	10	1200	400	600	22.7	2.3	-	2
EX. VAV-M102	-	10	1200	400	600	22.7	2.3	-	2
EX. VAV-M103	-	10	1200	400	600	22.7	2.3	-	2
EX. VAV-M104	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M105	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M106	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M107	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M108	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M109	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M110	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M111	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M112	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M113	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M114	-	10	1200	400	600	22.7	2.3	-	1
EX. VAV-M1	ENVIRO-TEC	8	700	210	700	37.8	1.9	2	1
EX. VAV-M2	ENVIRO-TEC	8	700	210	700	37.8	1.9	2	1
EX. VAV-M3	ENVIRO-TEC	8	500	150	500	27	1.4	2	1
EX. VAV-M4	ENVIRO-TEC	12	1350	405	1350	72.9	3.7	2	1
EX. VAV-M5	ENVIRO-TEC	5	175	75	175	9.5	1.0	2	1
EX. VAV-M6	ENVIRO-TEC	8	500	150	500	27	1.4	2	1
EX. VAV-M7	ENVIRO-TEC	8	700	210	700	37.8	1.9	2	1
EX. VAV-M8	ENVIRO-TEC	8	800	240	800	43.2	2.2	2	1
EX. VAV-M14	ENVIRO-TEC	5	225	75	225	12.2	1.0	2	2
EX. VAV-20	TEMPMASTER	12	1220	410	410	18.1	0.9	-	1
EX. VAV-21	TEMPMASTER	8	550	550	550	24.2	1.2	-	1
EX. VAV-35	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-36	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-37	TEMPMASTER	12	1230	1230	1230	40.9	2.0	-	1
EX. VAV-38	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-39	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-40	TEMPMASTER	20	3800	400	400	13.2	0.7	-	1
EX. VAV-41	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-42	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-43	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-Q1	ENVIRO-TEC	10	800	240	800	43.2	2.2	2	1
EX. VAV-Q2	ENVIRO-TEC	12	1200	360	1200	64.8	3.2	2	1
EX. VAV-Q3	ENVIRO-TEC	10	800	240	800	43.2	2.2	2	1
EX. VAV-Q4	ENVIRO-TEC	8	600	240	800	33.8	1.7	2	1
EX. VAV-Q5	ENVIRO-TEC	10	800	240	800	43.2	2.2	2	1
EX. VAV-52	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-53	TEMPMASTER	5	290	290	290	9.6	0.5	-	1
EX. VAV-54	TEMPMASTER	10	860	240	240	13.2	0.7	-	1
EX. VAV-55	TEMPMASTER	14	1220	410	410	18.1	0.9	-	1
EX. VAV-59	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-60	TEMPMASTER	10	825	825	825	27.3	1.4	-	1
EX. VAV-61	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-62	TEMPMASTER	8	680	400	400	13.2	0.7	-	1
EX. VAV-63	TEMPMASTER	14	1520	650	650	28.6	1.4	-	1
EX. VAV-64	TEMPMASTER	14	1220	410	410	18.1	0.9	-	1
EX. VAV-77	TEMPMASTER	12	1280	1280	1280	56.3	2.8	-	1
EX. VAV-78	TEMPMASTER	12	1100	1100	1100	48.4	2.4	-	1

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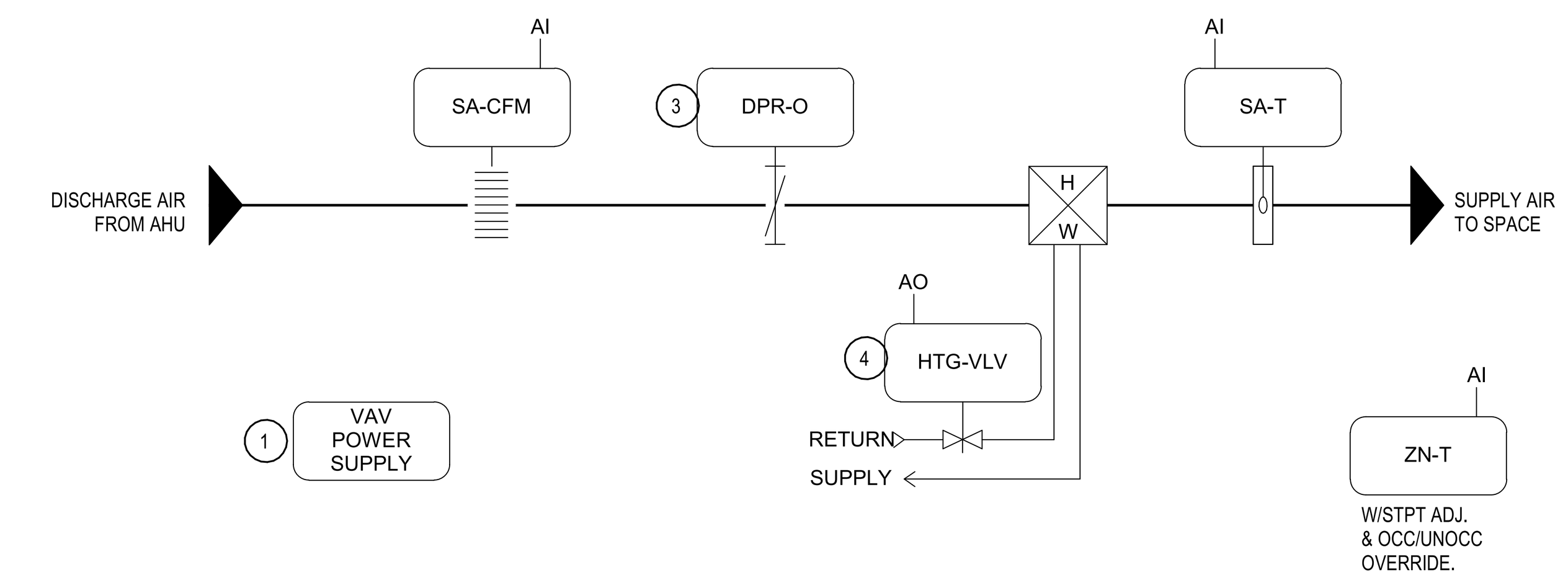
VAV CONTROLS REPLACEMENT SCHEDULE NOTES:

1 REPLACE DDC CONTROLLER UNDER BASE BID.

2 REPLACE DDC CONTROLLER UNDER BASE BID. EXCLUDE THIS SCOPE UNDER ALTERNATE BID.



VAV BOX WITH REHEAT SEQUENCE OF OPERATION

DISCHARGE AIR TEMPERATURE SENSOR: TCC SHALL PROVIDE A SUPPLY AIR TEMPERATURE SENSOR (SA-T) FOR MONITORING PURPOSES AND TO LIMIT THE DISCHARGE AT 95F (ADJ).

OCCUPIED MODE: WHEN THE ZONE TEMPERATURE (ZN-T) IS BETWEEN THE HEATING AND COOLING SETPOINTS, THE PRIMARY AIR DAMPER (DPR-O) WILL BE AT THE MINIMUM CFM (SA-CFM) AND THE REHEAT VALVE (RH-VLV) SHALL BE FULLY CLOSED. ON A RISE IN ZONE TEMPERATURE ABOVE THE COOLING SETPOINT, THE PRIMARY AIR DAMPER SHALL INCREASE THE CFM AND THE REHEAT VALVE SHALL REMAIN FULLY CLOSED. ON A DROP IN TEMPERATURE BELOW THE HEATING SETPOINT, THE REHEAT VALVE SHALL MODULATE OPEN AND THE PRIMARY AIR DAMPER SHALL MAINTAIN MINIMUM CFM. SPACE SENSORS SHALL HAVE SETPOINT ADJUSTMENT AND UNOCCUPIED CYCLE OVERRIDE (SOFTWARE SELECTABLE AS DETERMINED BY THE OWNER).

UNOCCUPIED (NIGHT SETBACK) MODE: WHEN IN THE UNOCCUPIED MODE, THE VAV BOX SEQUENCE SHALL BE THE SAME AS THE ABOVE OCCUPIED SEQUENCE. UNOCCUPIED HEATING SETPOINT SHALL BE 55F AND THE COOLING SETPOINT SHALL BE 85F. WHEN ANY TWO VAV BOXES REACH EITHER THEIR HEATING OR COOLING SETPOINT, THE AIR HANDLING UNIT SHALL START AND RUN TO MAINTAIN THE UNOCCUPIED SETPOINT. PROVIDE DIFFERENTIAL TO PREVENT SHORT CYCLING OF AHU.

NOTES FOR VAV BOXES

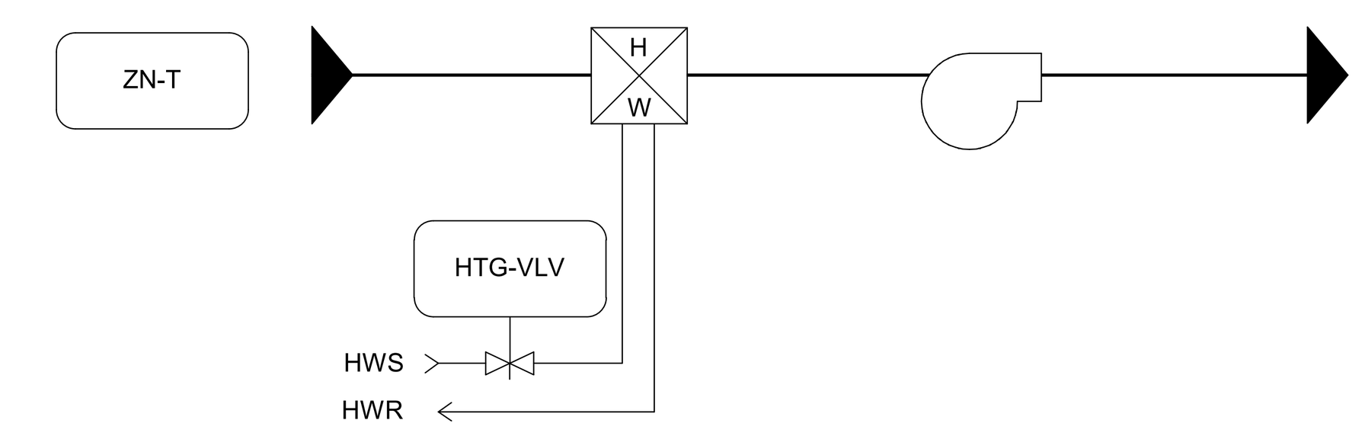
1. 24 VOLT POWER TO VAV BOXES BY TEMPERATURE CONTROL CONTRACTOR. USE POWER SUPPLY EQUAL TO FUNCTIONAL DEVICES PSH500A OR PSH300A AS APPLICABLE. 120 VOLT POWER TO POWER SUPPLIES BY DIV. 26. SEE ELECTRICAL DRAWINGS FOR LOCATIONS OF (2) POWER FEEDS PROVIDED FOR VAV CONTROLS, (1) FOR UNIT A & (1) FOR UNIT E.

2. TCC SHALL LOAD POWER SUPPLIES AS REQUIRED TO PROPERLY SERVE CONTROLS ON VAV BOXES. PROVIDE NUMBER REQUIRED. TCC SHALL PROVIDE FUSE PROTECTION AS REQUIRED FOR CONTROLS.

3. VAV CONTROLLER/ACTUATOR FURNISHED BY TCC TO VAV BOX MANUFACTURER FOR FACTORY INSTALLATION AND WIRING.

4. FURNISHED BY TCC, INSTALLED BY THE DIV. 23 CONTRACTOR.

4 VAV BOX WITH HYDRONIC REHEAT
NOT TO SCALE



PROP UNIT HEATER SEQUENCE OF OPERATION

ZONE TEMPERATURE CONTROL: LINE VOLTAGE THERMOSTAT (ZN-T) ENABLES PROPELLER UNIT HEATER CONTROL WHEN ZONE TEMPERATURE FALLS BELOW SETPOINT OF 68F (ADJ). WHEN UNIT IS ENABLED, FAN IS ENERGIZED AND TEMPERATURE CONTROL VALVE (HTG-VLV) SHALL MODULATE TO MAINTAIN SPACE TEMPERATURE SETPOINT. LOCK OUT PROPELLER UNIT OPERATION WHEN OUTDOOR AIR TEMPERATURE IS ABOVE 65F.

3 PROPELLER UNIT HEATER 2B
NOT TO SCALE

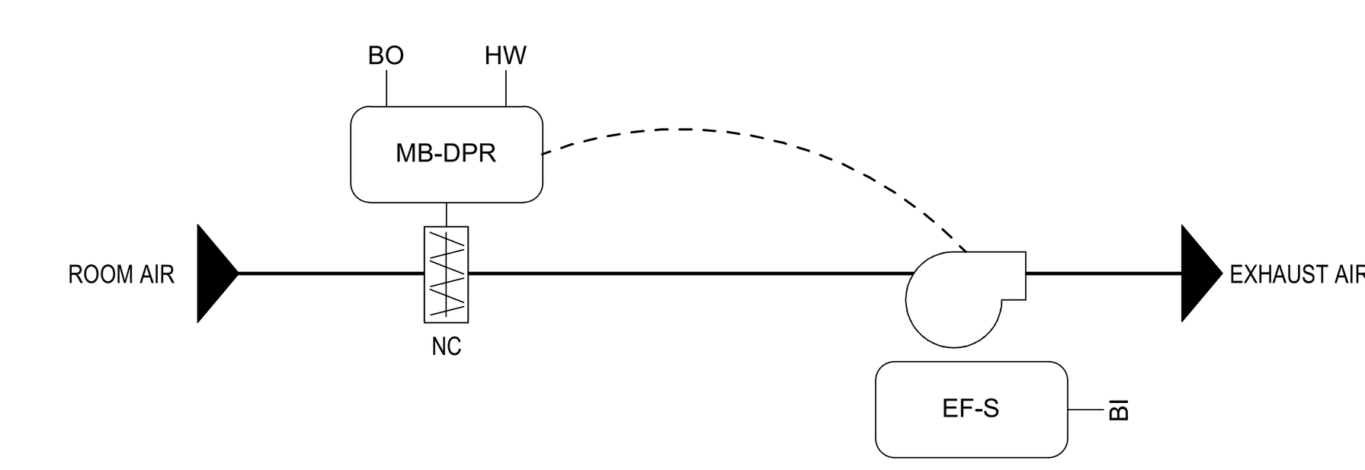
1

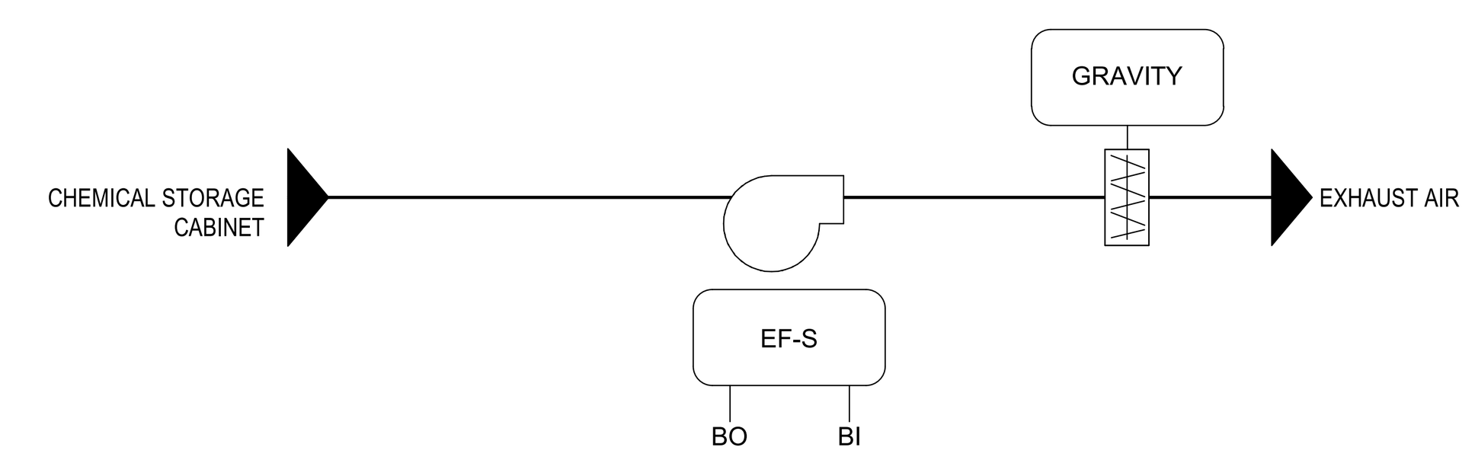
WATER TREATMENT GENERAL CONTROLS NOTES:

A. TEMPERATURE CONTROLS CONTRACTOR MUST BE PRESENT AND PROVIDE SUPPORT TO WATER TREATMENT CONTRACTOR.

B. ALL CHILLED WATER TEMPERATURE CONTROL VALVES MUST BE IN OPEN POSITION FOR DRAINING, CLEANING, FLUSHING AND FILLING OF CHILLED WATER SYSTEM.

8 WATER TREATMENT TEMPERATURE CONTROLS SCOPE
12" = 1'-0"



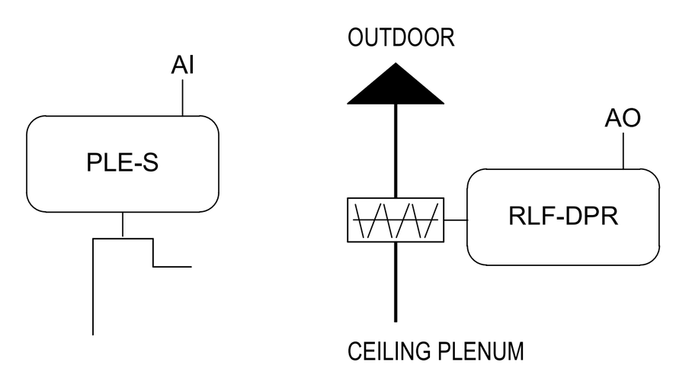


EXHAUST FAN CONTROL: THE EXHAUST FAN SHALL BE STARTED MANUALLY OR REMOTELY THROUGH OPERATOR WORKSTATION. IF EXHAUST FAN STATUS (EF-S) DOES NOT MATCH THE COMMANDED VALUE AFTER STROKE TIME PLUS 15-SECONDS (ADJ), AN ALARM SHALL BE GENERATED AT THE OPERATOR WORKSTATION. WHEN ENERGIZED, FAN SHALL RUN CONTINUOUSLY AT CONSTANT SPEED TO EXHAUST CHEMICAL STORAGE CABINET. SEE ELECTRICAL DRAWINGS FOR MOTOR STARTER LOCATION AND INFORMATION.

6 EXHAUST FANS EF-N2
NOT TO SCALE

EXHAUST FAN CONTROL: THE MOTORIZED BACKDRAFT DAMPER (MB-DPR) SHALL BE DRIVEN OPEN AND PROVEN VIA END-SWITCH CONTACTS TO PREVENT OPERATION OF THE EXHAUST FAN MOTOR WHEN CLOSED. DAMPER ACTUATOR WITH INTEGRAL END-SWITCH FURNISHED AND INSTALLED BY TCC. THE EXHAUST FAN SHALL BE STARTED ACCORDING TO THE OWNER-DEFINED SCHEDULE. IF THE EXHAUST FAN STATUS (EF-S) DOES NOT MATCH THE COMMANDED VALUE AFTER STROKE TIME PLUS 15 SECONDS (ADJ), AN ALARM SHALL BE GENERATED. SEE ELECTRICAL DRAWINGS FOR MOTOR STARTER LOCATION INFORMATION.

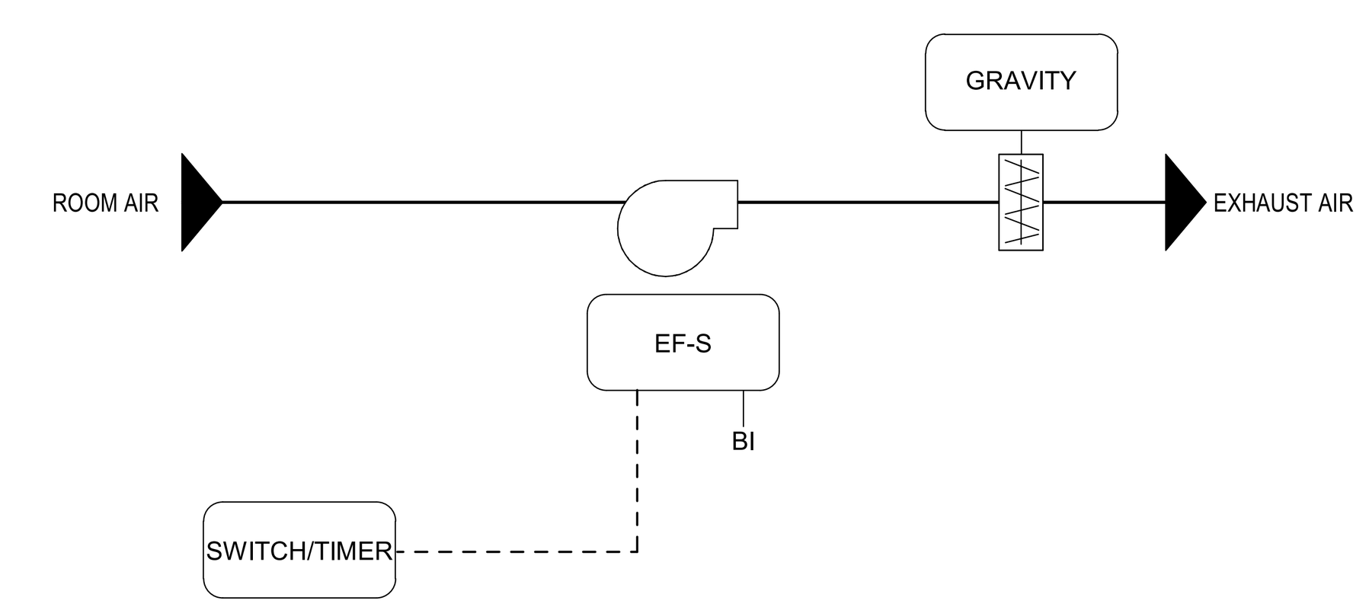
2 EXHAUST FANS EF-F1, G1, J1, M1
NOT TO SCALE



SPACE PRESSURE CONTROL: RELIEF AIR DAMPER (RLF-DPR) SHALL MODULATE TO MAINTAIN BUILDING STATIC PRESSURE SETPOINT OF + 0.05" WC (ADJ.) WITH RESPECT TO OUTDOOR AMBIENT CONDITIONS, AS SENSED BY DIFFERENTIAL PRESSURE TRANSMITTER (PLE-S). PROVIDE AN ENDSWITCH AT RELIEF AIR DAMPER (RLF-DPR) IF THE ENDSWITCH POSITION DOES NOT MATCH THE COMMAND VALUE OF THE DAMPER , AN ALARM WILL BE GENERATED.

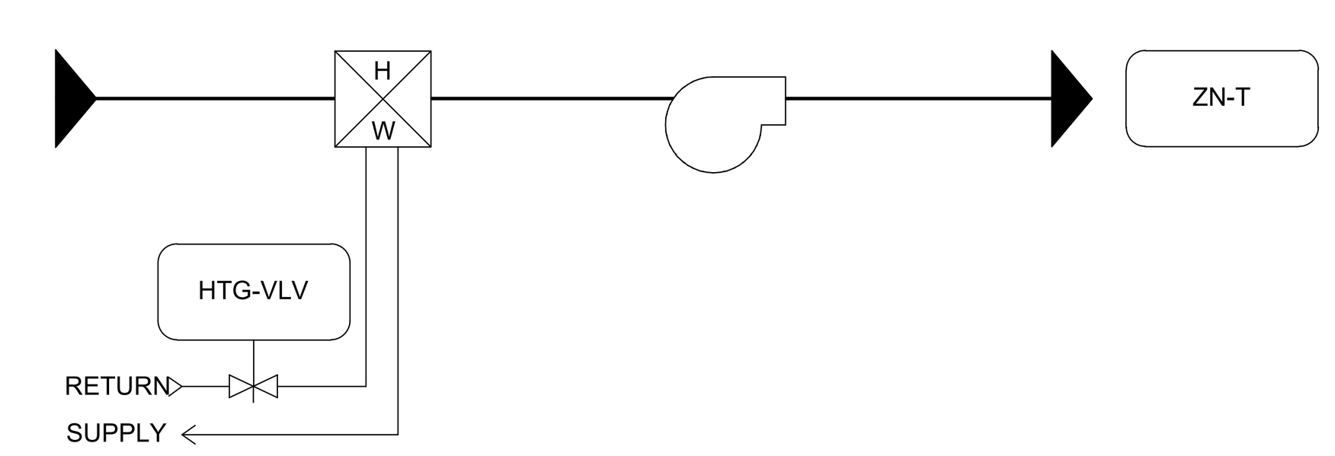
TAG	LOCATION	RELIEF HOOD	ASSOCIATED AHU(S)	CFM	DIFFERENTIAL PRESSURE SENSOR (PLE-S)	(PLE-S) LOCATION IN PLENUM SPACE
RLF-DPR1	UNIT F	RH-1	AHU-22	9300	PLE-S1	F134 CORRIDOR
RLF-DPR2	UNIT F	RH-2	AHU-23	8445	PLE-S1	F134 CORRIDOR
RLF-DPR3	UNIT G	RH-3	AHU-9	6000	PLE-S2	G109 CLASSROOM
RLF-DPR4	UNIT G	RH-4	AHU-10, AHU-7, AHU-8	8350	PLE-S3	G124 COMMONS
RLF-DPR5	UNIT G	RH-5	AHU-10, AHU-7, AHU-9	8350	PLE-S3	G124 COMMONS
RLF-DPR6	UNIT G	RH-6	AHU-5	5100	PLE-S4	G134 CORIDOR
RLF-DPR7	UNIT K	RH-7	AHU-21, AHU-K1	9060	PLE-S5	K101 CAFETERIA
RLF-DPR8	UNIT K	RH-8	AHU-21, AHU-K2	9060	PLE-S5	K101 CAFETERIA
RLF-DPR9	UNIT K	RH-9	AHU-21, AHU-K3	9060	PLE-S5	K101 CAFETERIA
RLF-DPR10	UNIT N	RH-10	AHU-3	12400	PLE-S6	N102 SCIENCE
RLF-DPR11	UNIT R	RH-11	AHU-29	11000	PLE-S7	R111 CORRIDOR
RLF-DPR12	UNIT R	RH-12	AHU-30	11000	PLE-S7	R111 CORRIDOR
RLF-DPR13	UNIT R	RH-13	AHU-29	11000	PLE-S7	R111 CORRIDOR
RLF-DPR14	UNIT R	RH-14	AHU-30	11000	PLE-S7	R111 CORRIDOR

7 SPACE PRESSURE CONTROL
NOT TO SCALE



EXHAUST FAN CONTROL: THE EXHAUST FAN SHALL BE STARTED MANUALLY VIA PUSH-BUTTON SWITCH WITH TIMER. WHEN ENERGIZED, THE FAN SHALL RUN FOR A PERIOD OF 1 HOUR. THE STATUS OF THE FAN SHALL BE MONITORED BY THE BMS AND BE VISABLE AT THE OPERATOR WORKSTATION. IF THE EXHAUST FAN STATUS (EF-S) DOES NOT MATCH THE COMMANDED VALUE, AN ALARM SHALL BE INITIATED AT THE OPERATOR WORKSTATION.

5 EXHAUST FANS EF-N1, N3, N4, T1, T2, T3, T4
NOT TO SCALE



CABINET HEATER SEQUENCE OF OPERATION

ZONE TEMPERATURE CONTROL: THE LINE VOLTAGE THERMOSTAT (ZN-T) WILL OPEN THE HEATING VALVE (HTG-VLV) AND ENABLE THE CABINET HEATER FAN WILL TO MAINTAIN THE ZONE TEMPERATURE AT 68F (ADJ). DISABLE CABINET HEATER WHEN THE OUTDOOR AIR TEMPERATURE IS ABOVE 65F (ADJ).

1 CABINET UNIT HEATER
NOT TO SCALE

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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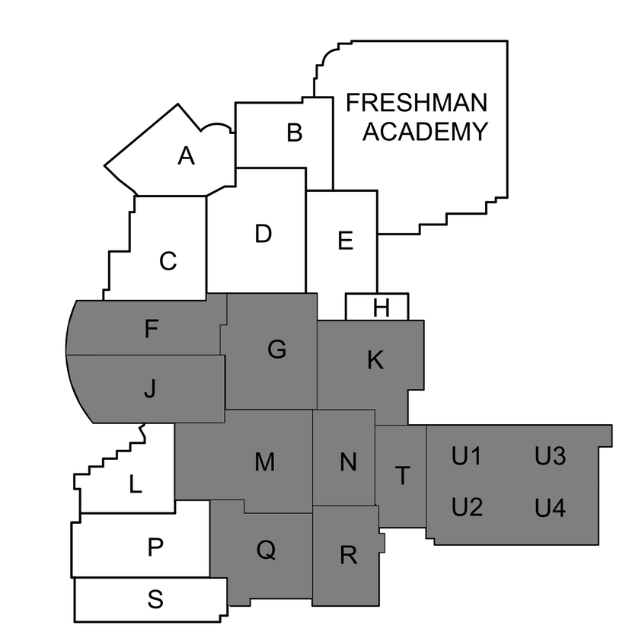

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

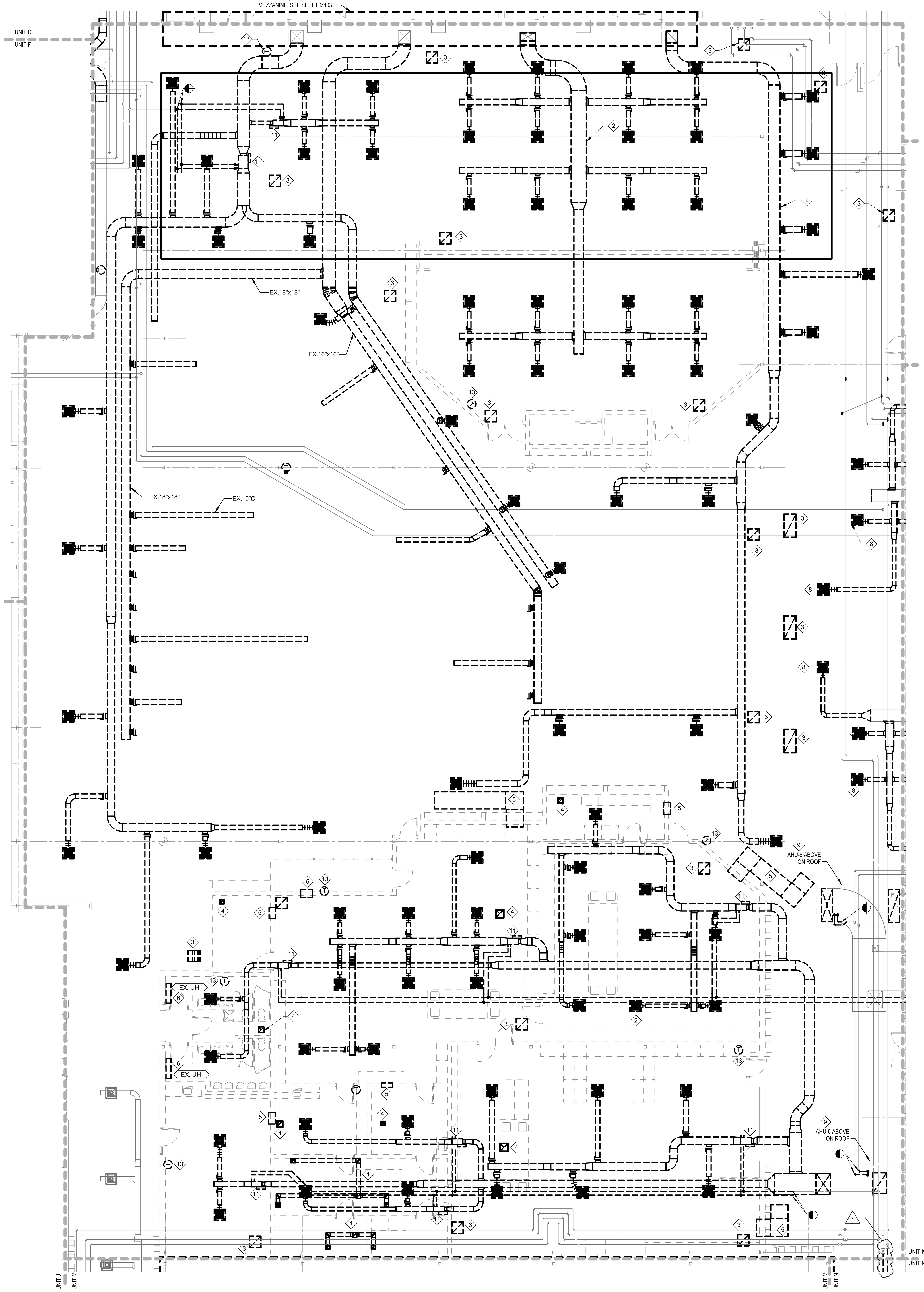
TEMPERATURE CONTROLS SCHEMATICS

Project No: 2022063.10

Project Date: May 29, 2024

GABRIEL S. CURRIER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Drawing No: M706



1 **FIRST FLOOR MECHANICAL DEMOLITION PLAN - UNIT G**
1/8" = 1'-0"

GENERAL DEMOLITION NOTES

A. DARK DASHED LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES DEMOLISHED COMPLETE. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING AND DEMOLITION. CONTRACTOR TO INCLUDE ALL COST TO REMOVE ITEMS MADE OBSOLETE DUE TO NEW HVAC WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO DEMOLITION AND BIDDING.

◇ DEMOLITION PLAN NOTES

1 REMOVE FIRE DAMPER.
2 REMOVE EXISTING DIFFUSER AND DUCT COMPLETE TO WHERE SHOWN.
3 REMOVE EXISTING RETURN GRILLE COMPLETE.
4 REMOVE EXISTING EXHAUST DUCT AND GRILLES COMPLETE UP TO EXHAUST FAN ON ROOF.
5 REMOVE EXISTING TRANSFER DUCT THROUGH WALL COMPLETE.
6 REMOVE EXISTING UNIT HEATERAND ASSOCIATED PIPING COMPLETE.
7 REMOVE EXISTING DUCT COMPLETE TO WHERE SHOWN.
8 REMOVE EXISTING FLEX DUCT AND DIFFUSER. PREPARE DUCT FOR RECONNECTION.
9 REMOVE EXISTING AHU COMPLETE, DEMO EXISTING CHW AND HHW PIPING CONNECTIONS AND SUPPLY AND RETURN DUCTWORK AS NECCESARY FOR REMOVAL OF EQUIPMENT. PREP DUCTWORK AND PIPING FOR RECONNECTION.
10 REMOVE EXISTING TERMINAL BOX, PIPING AND DUCTWORK TO WHERE SHOWN. PREP DUCTWORK AND PIPING FOR RECONNECTION.
11 REMOVE EXISTING TERMINAL BOX, PIPING AND ALL ASSOCIATED DUCTWORK COMPLETE.
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14 REMOVE EXISTING FAN COIL UNIT, DUCTWORK, DIFFUSERS AND ALL ASSOCIATED PIPING AND WIRING COMPLETE.
15 REMOVE EXISTING CONDENSATE DRAIN COMPLETE.
16 REMOVE EXISTING FIN TUBE AND ASSOCIATED PIPING COMPLETE TO WHERE SHOWN.
17 DEMO TO BE ONLY IF ALTERNATE BID IS ACCEPTED. VAV BOX, THERMOSTAT, PIPING AND GRILLES AND RADIANT PANELS ALL TO REMAIN AS BASE BID.
18 REMOVE BACK DRAFT DAMPER AND MOTORIZED DAMPER IN EXISTING RELIEF DUCT.
19 REMOVE EXISTING FAN POWERED BOX AND ASSOCIATED DUCTWORK COMPLETE TO WHERE SHOWN.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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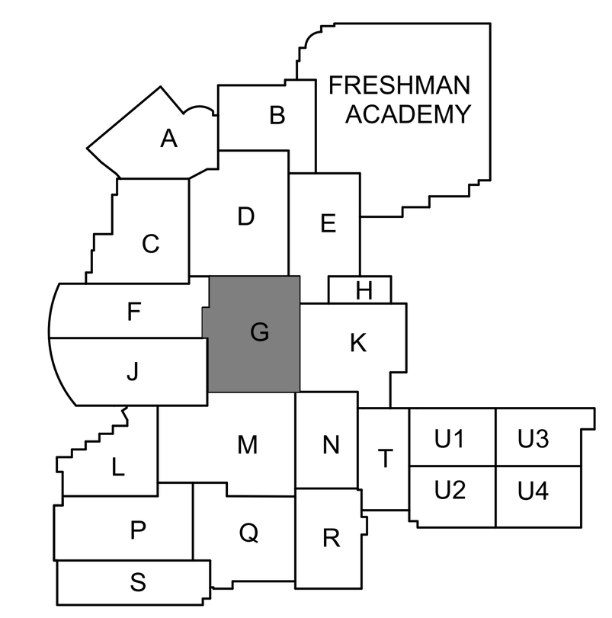

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

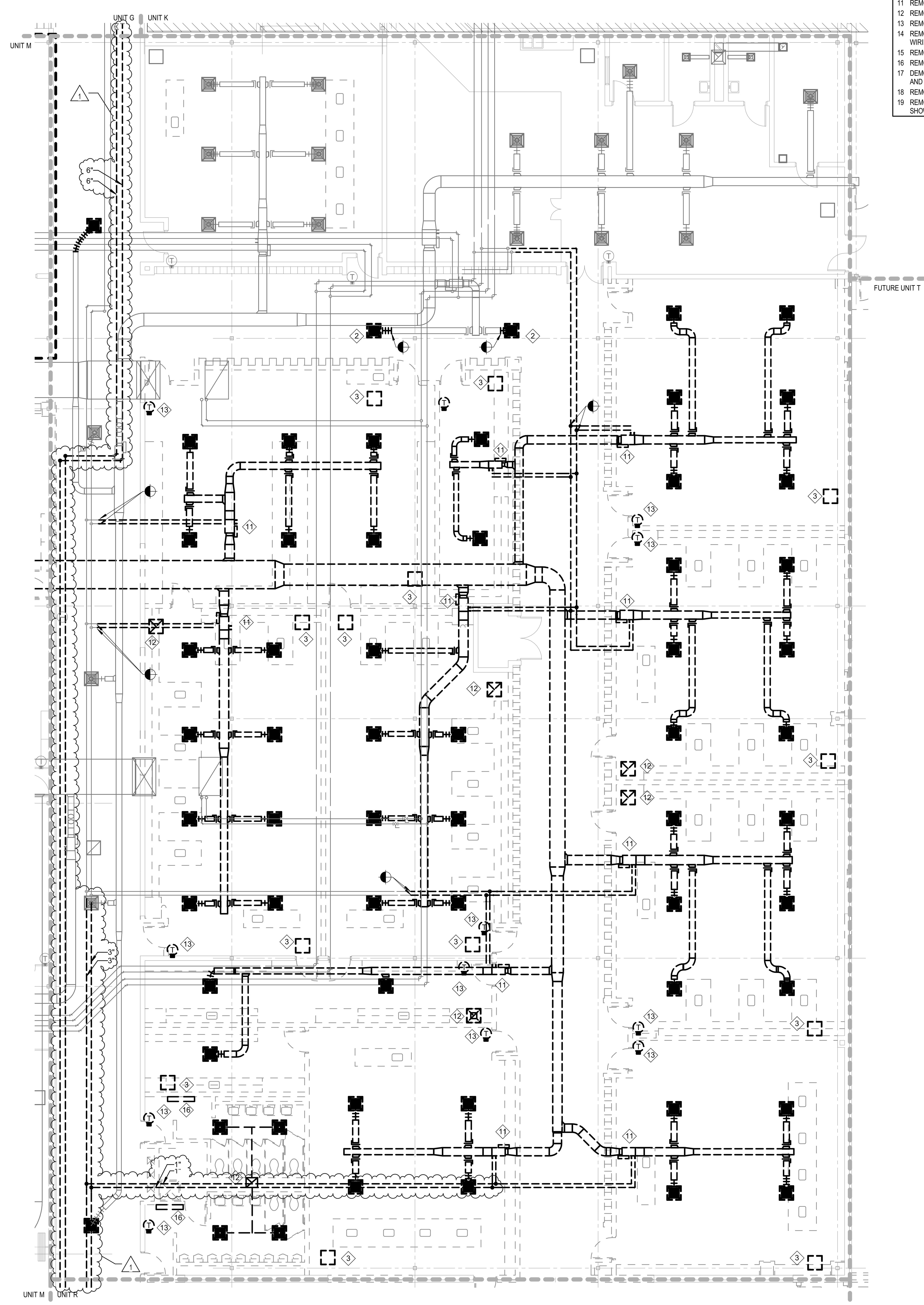
Drawing Title:
DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT G

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022043.00

Project Date: May 29, 2024

Drawing No: MD1G



1 FIRST FLOOR MECHANICAL DEMOLITION PLAN - UNIT N
1/8" = 1'-0"

GENERAL DEMOLITION NOTES

A. DARK DASHED LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES DEMOLISHED COMPLETE. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING AND DEMOLITION. CONTRACTOR TO INCLUDE ALL COST TO REMOVE ITEMS MADE OBSOLETE DUE TO NEW HVAC WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO DEMOLITION AND BIDDING.

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18 REMOVE BACK DRAFT DAMPER AND MOTORIZED DAMPER IN EXISTING RELIEF DUCT.
19 REMOVE EXISTING FAN POWERED BOX AND ASSOCIATED DUCTWORK COMPLETE TO WHERE SHOWN.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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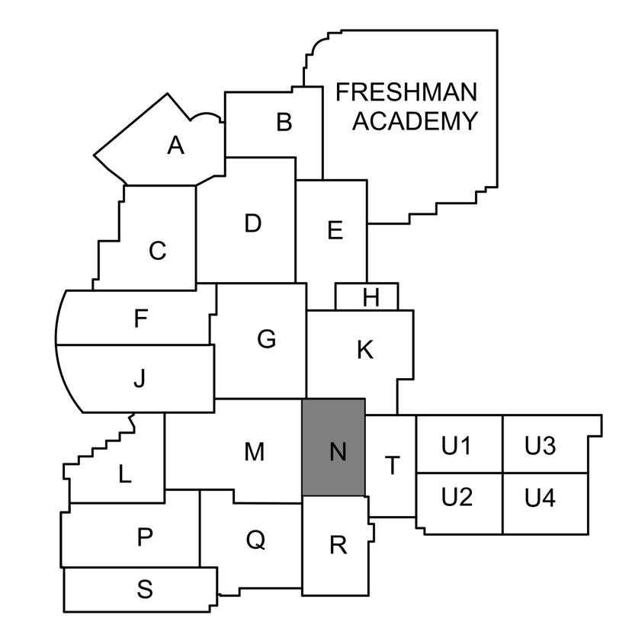

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ADDITION & RENOVATIONS TO:
FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B
FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:
DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT N

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10
Project Date: May 29, 2024
Drawing No: MD1N

#	Revision	Date
1	ADDENDUM #1	06.14.2024

GENERAL DEMOLITION NOTES

A. DARK DASHED LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES DEMOLISHED COMPLETE. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING AND DEMOLITION. CONTRACTOR TO INCLUDE ALL COST TO REMOVE ITEMS MADE OBSOLETE DUE TO NEW HVAC WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO DEMOLITION AND BIDDING.

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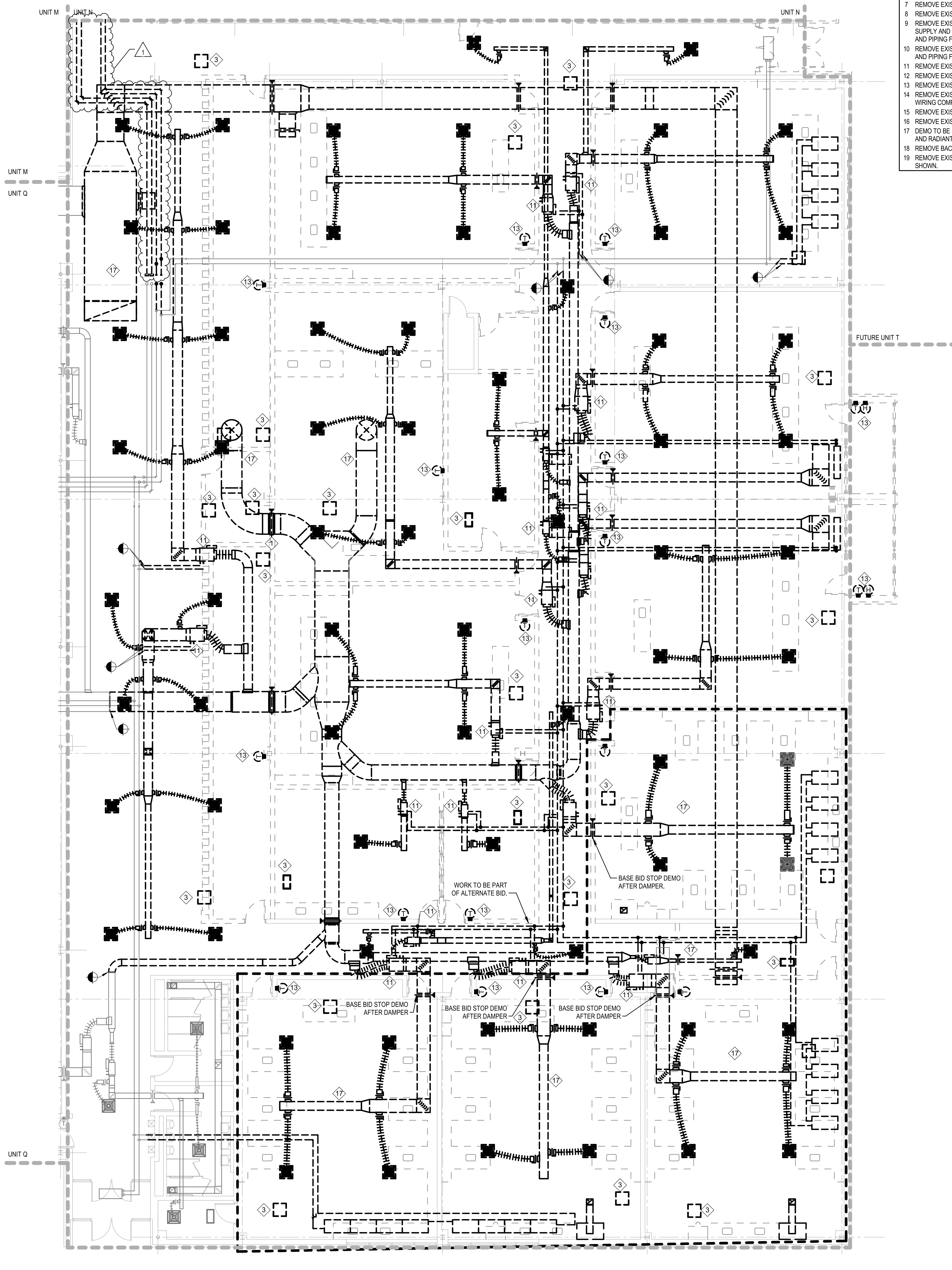

1 FIRST FLOOR MECHANICAL DEMOLITION PLAN - UNIT R
1/8" = 1'-0"

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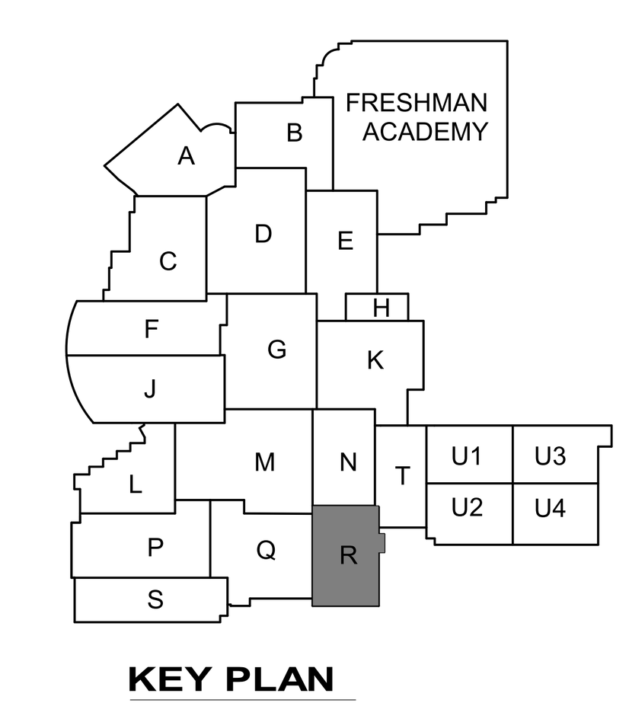

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Drawing Title:

DEMOLITION FIRST FLOOR MECHANICAL PLAN - UNIT R

GABRIEL S. CURRIER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022043.00

Project Date: May 29, 2024

Drawing No: MD1R

GENERAL ROOF PLAN NOTES

A. CONTRACTOR SHALL PROTECT ROOF THROUGHOUT CONSTRUCTION. MEANS AND METHODS ARE THE RESPONSIBILITIES OF THE CONTRACTOR.

#	Revision	Date
1	ADDENDUM #1	06.14.2024

1 MECHANICAL ROOF PLAN - OVERALL
1" = 30'-0"

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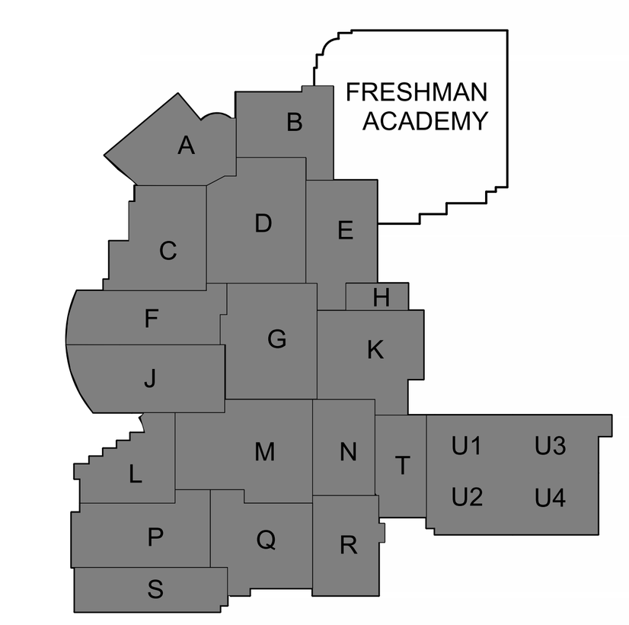

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:
MECHANICAL ROOF PLAN

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: MHR

#	Revision	Date
1	ADDENDUM #1	06.14.2024

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE SHUTOFF VALVES ON HYDRONIC PIPING AT ALL MECHANICAL EQUIPMENT.

E. PROVIDE GATE VALVES ON ALL HYDRONIC PIPING 2-1/2" AND ABOVE.

F. MARK ALL LOCATIONS OF VALVES WITH ENGRAVED PLASTIC TAGS ON CEILING GRID BELOW VALVE.

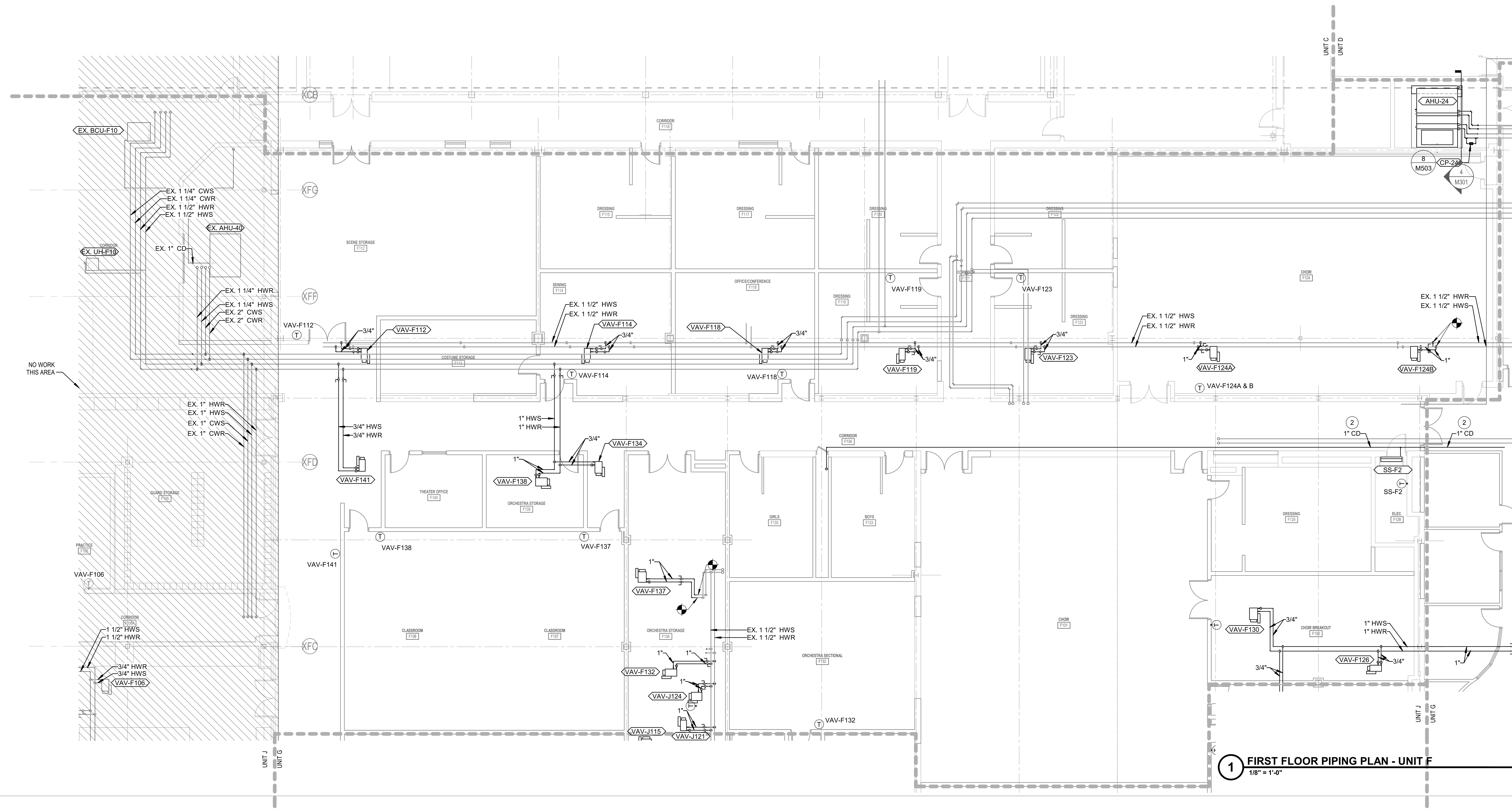
1

G. PROVIDE REMOVAL OF ETHYLENE GLYCOL SOLUTION AND FILLING SYSTEM WITH PROPLYENE GLYCOL. CHILLED WATER VOLUME APPROXIMATELY 13,000 GAL. REFER TO SPECIFICATION SECTION 232513.

H. PROVIDE HOT TAPS FOR CHILLED WATER SUPPLY & RETURN PIPING FOR REMOVAL OF ETHYLENE GLYCOL AS REQUIRED. REFER TO SPECIFICATION SECTION 232513.

MECHANICAL PIPING PLAN NOTES

1 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
2 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO FLOOR DRAIN.
3 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO OPEN SITE DRAIN BELOW COUNTER.
4 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
4 ROUTE REFRIGERANT LINES UP TO CONDENSING UNIT ON ROOF. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR SIZING AND ROUTING PREFERENCES.
5 CAP EXISTING PIPE.
6 INSTALL GATE VALVE IN EXISTING PIPING AND COORDINATE THIS WORK WITH CENTRAL PLAN SHUTDOWN AND DRAINING.
7 2" HWS & HWR DROP TO FIRST FLOOR.
8 REMOVE TERMINAL BOX CONTROLLER AND REPLACE WITH NEW CONTROLLER. REFER TO M700 SERIES DRAWINGS AND SPECIFICATION SECTIONS 23 0900 DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC AND 23 3600 AIR TERMINAL UNITS.
9 REMOVE SPACE TEMPERATURE SENSOR. REPLACE WITH COMBINATION UNIT FOR TEMPERATURE, HUMIDITY & CO2. REFER TO SPECIFICATION SECTION 23 0900 DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC.
10 REPLACE CONTROL VALVE, CONTROL VALVE WITH SPACE SENSOR IN ROOM.



1 FIRST FLOOR PIPING PLAN - UNIT F
1/8" = 1'-0"

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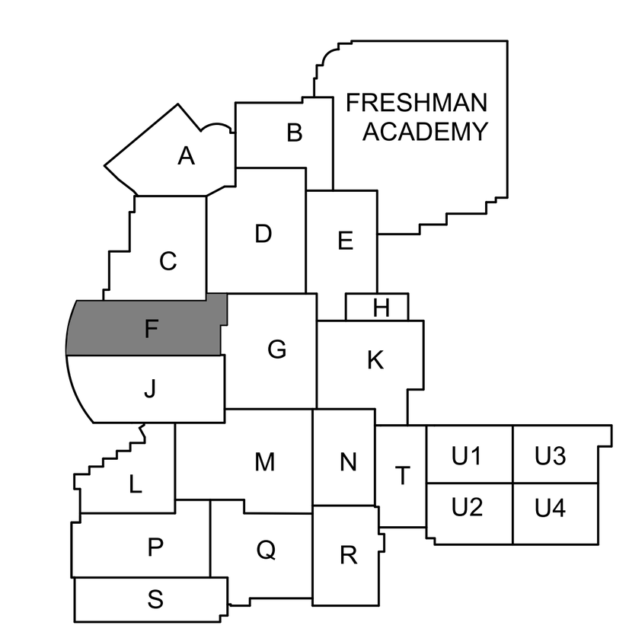

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT F

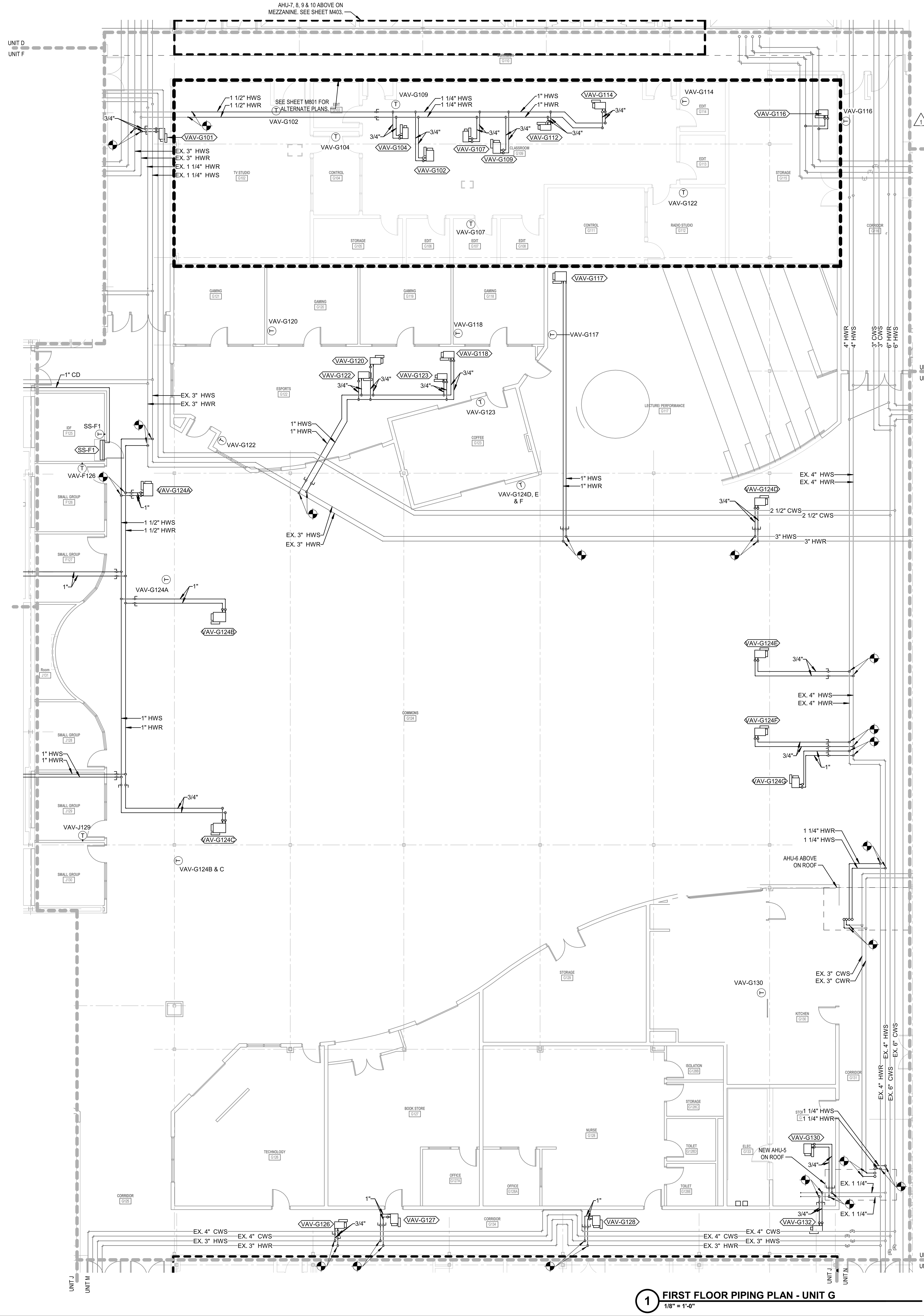
GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: **May 29, 2024**

Drawing No: MP1F

#	Revision	Date
1	ADDENDUM #1	06.14.2024



1 FIRST FLOOR PIPING PLAN - UNIT G

1/8" = 1'-0"

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE SHUTOFF VALVES ON HYDRONIC PIPING AT ALL MECHANICAL EQUIPMENT.

E. PROVIDE GATE VALVES ON ALL HYDRONIC PIPING 2-1/2" AND ABOVE.

F. MARK ALL LOCATIONS OF VALVES WITH ENGRAVED PLASTIC TAGS ON CEILING GRID BELOW VALVE.

1

G. PROVIDE REMOVAL OF ETHYLENE GLYCOL SOLUTION AND FILLING SYSTEM WITH PROPLYENE GLYCOL. CHILLED WATER VOLUME APPROXIMATELY 13,000 GAL. REFER TO SPECIFICATION SECTION 232513.

H. PROVIDE HOT TAPS FOR CHILLED WATER SUPPLY & RETURN PIPING FOR REMOVAL OF ETHYLENE GLYCOL AS REQUIRED. REFER TO SPECIFICATION SECTION 232513.

MECHANICAL PIPING PLAN NOTES

1 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.

2 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO FLOOR DRAIN.

3 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO OPEN SITE DRAIN BELOW COUNTER.

4 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.

4 ROUTE REFRIGERANT LINES UP TO CONDENSING UNIT ON ROOF. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR SIZING AND ROUTING PREFERENCES.

5 CAP EXISTING PIPE.

6 INSTALL GATE VALVE IN EXISTING PIPING AND COORDINATE THIS WORK WITH CENTRAL PLAN SHUTDOWN AND DRAINING.

7 2" HWS & HWR DROP TO FIRST FLOOR.

8 REMOVE TERMINAL BOX CONTROLLER AND REPLACE WITH NEW CONTROLLER. REFER TO M700 SERIES DRAWINGS AND SPECIFICATION SECTIONS 23 0900 DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC AND 23 3600 AIR TERMINAL UNITS.

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10 REPLACE CONTROL VALVE, CONTROL VALVE WITH SPACE SENSOR IN ROOM.

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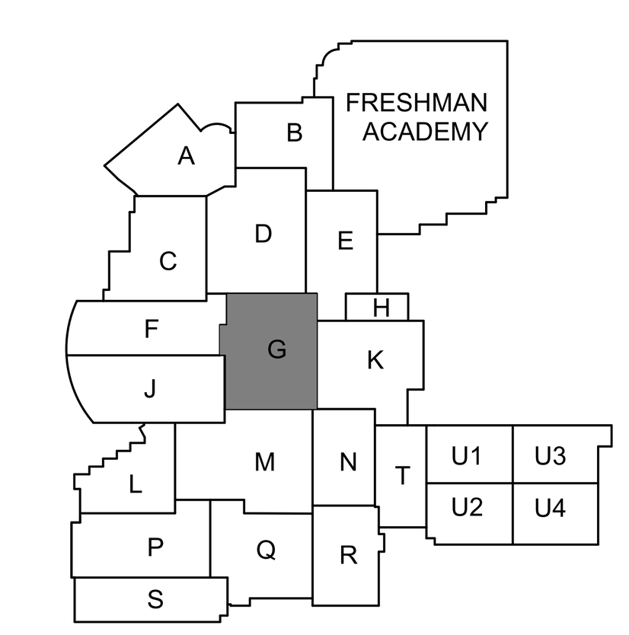

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT G

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: MP1G

GABRIEL S. CURRLER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

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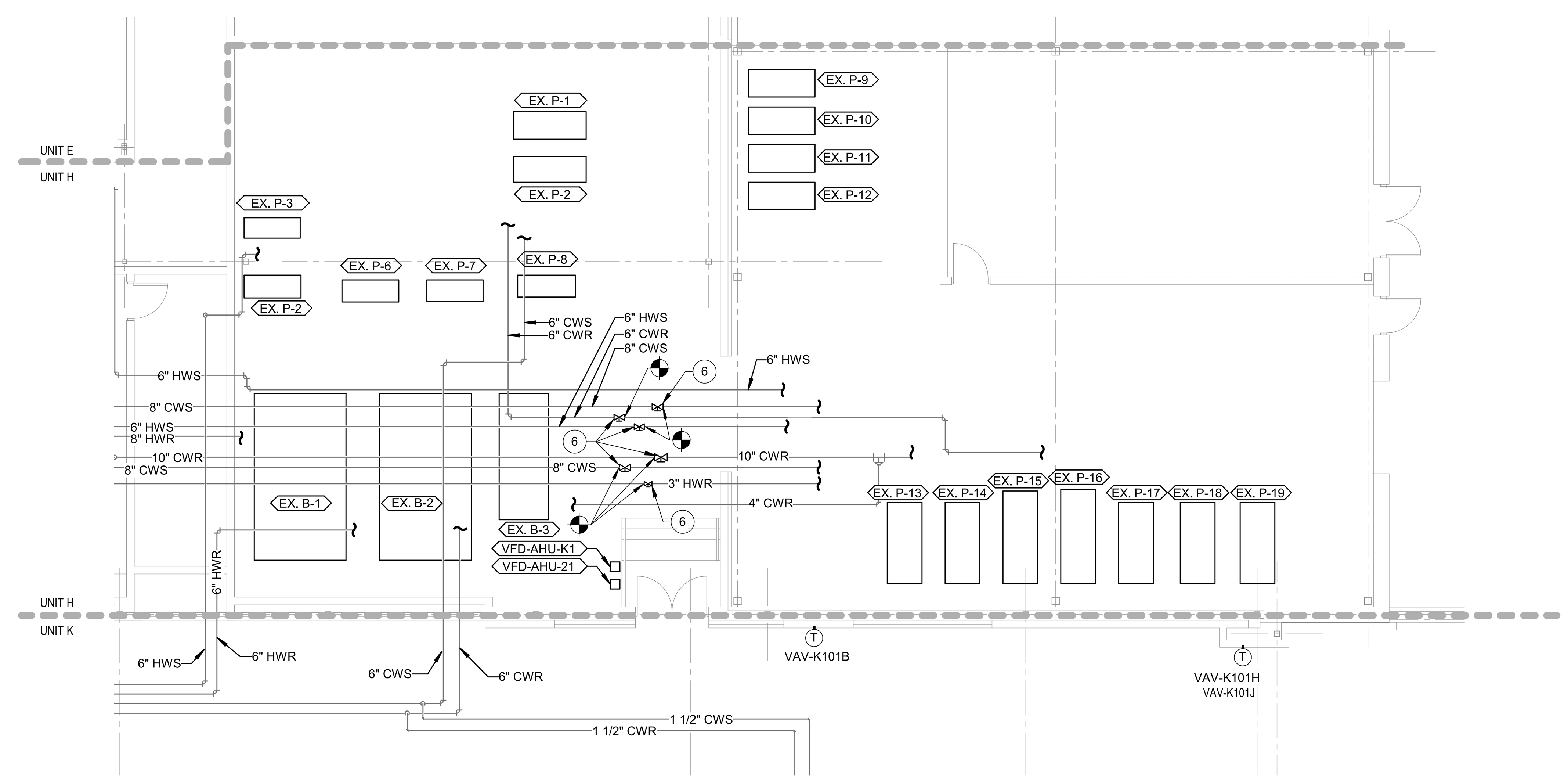

1 **FIRST FLOOR PIPING PLAN - UNIT H**
1/8" = 1'-0"

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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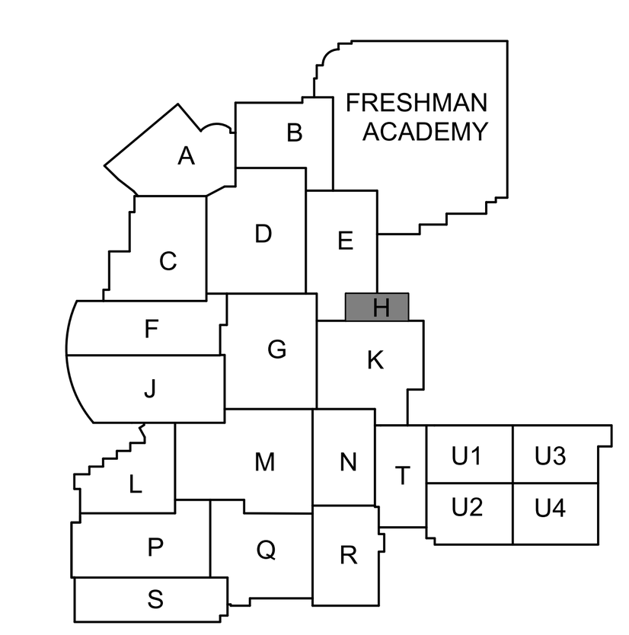

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:
FIRST FLOOR PIPING PLAN - UNIT H

GABRIEL S. CURRLER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10
Project Date: May 29, 2024
Drawing No: MP1H

#	Revision	Date
1	ADDENDUM #1	06.14.2024

MECHANICAL PIPING PLAN NOTES

1 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
2 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO FLOOR DRAIN.
3 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO OPEN SITE DRAIN BELOW COUNTER.
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10 REPLACE CONTROL VALVE, CONTROL VALVE WITH SPACE SENSOR IN ROOM.

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

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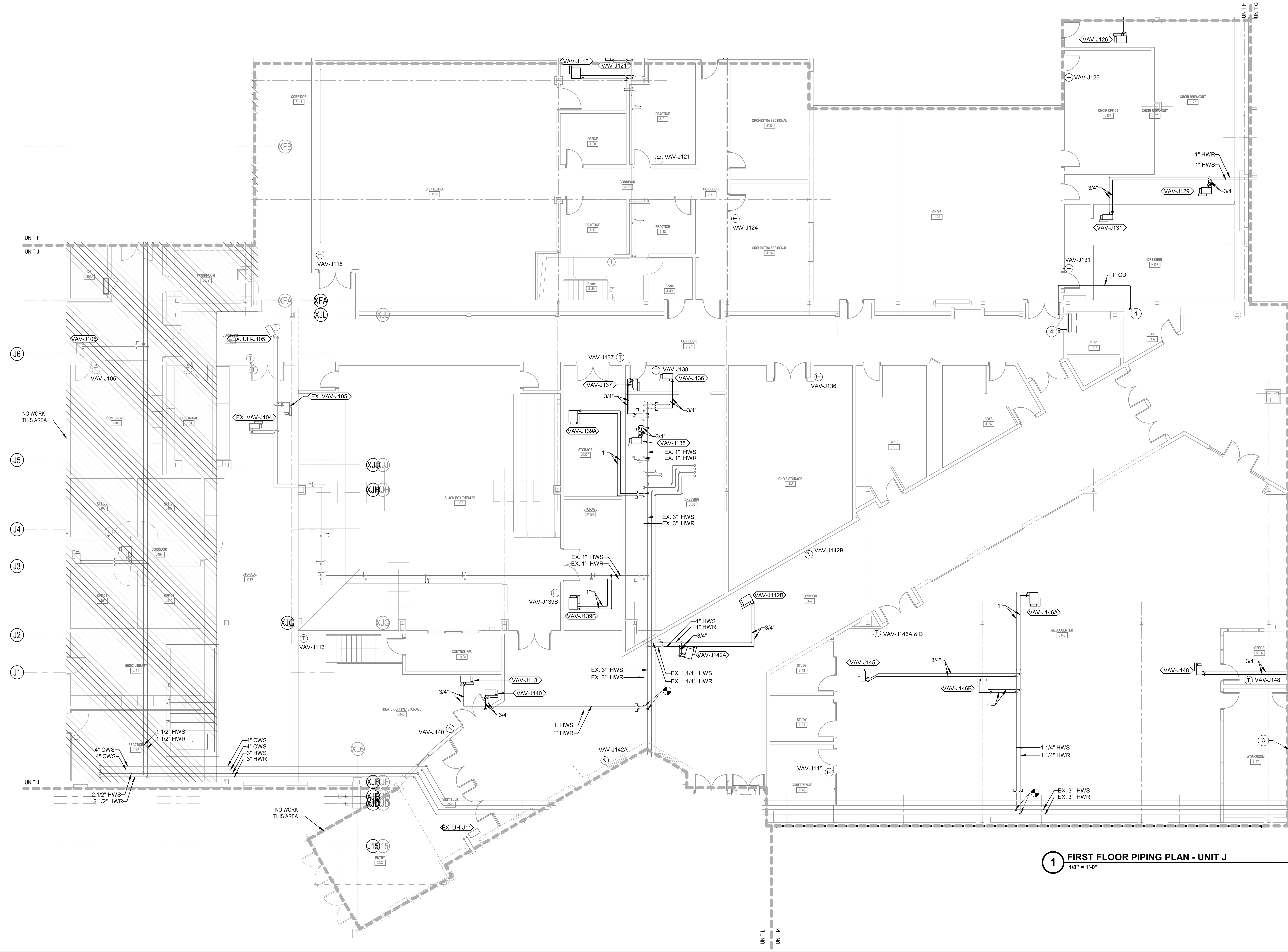

1 FIRST FLOOR PIPING PLAN - UNIT J
1/8" = 1'-0"

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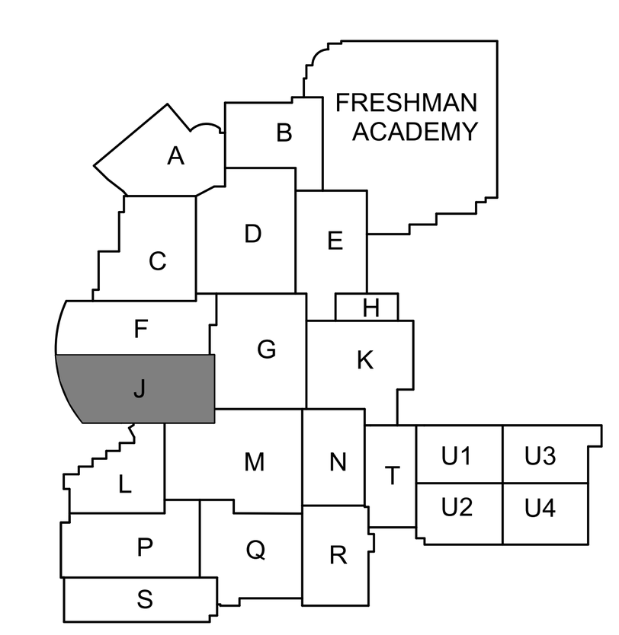

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INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT J

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: **May 29, 2024**

Drawing No: MP1J

#	Revision	Date
1	ADDENDUM #1	06.14.2024

GENERAL PIPING NOTES

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MECHANICAL PIPING PLAN NOTES

1 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
2 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO FLOOR DRAIN.
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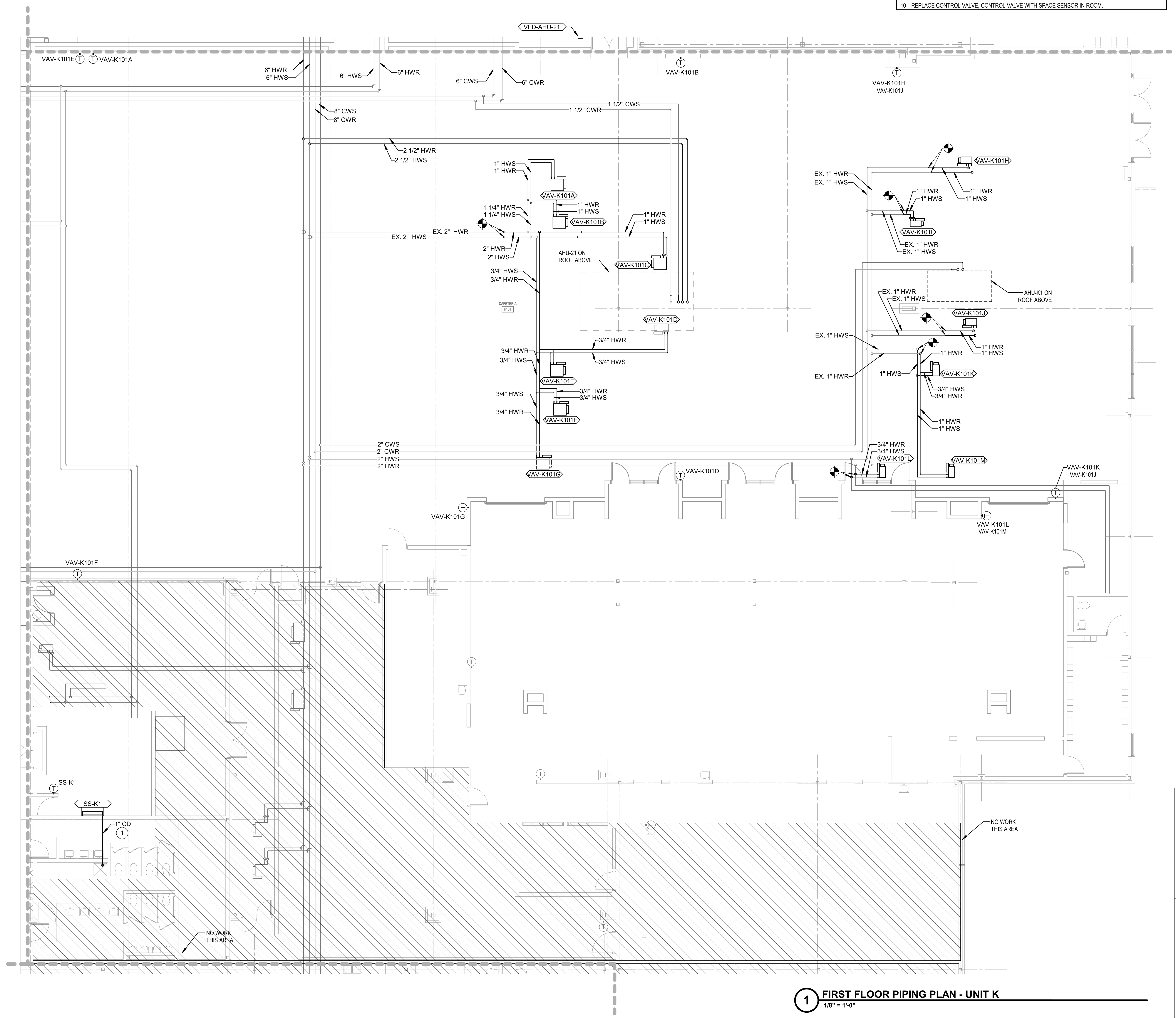

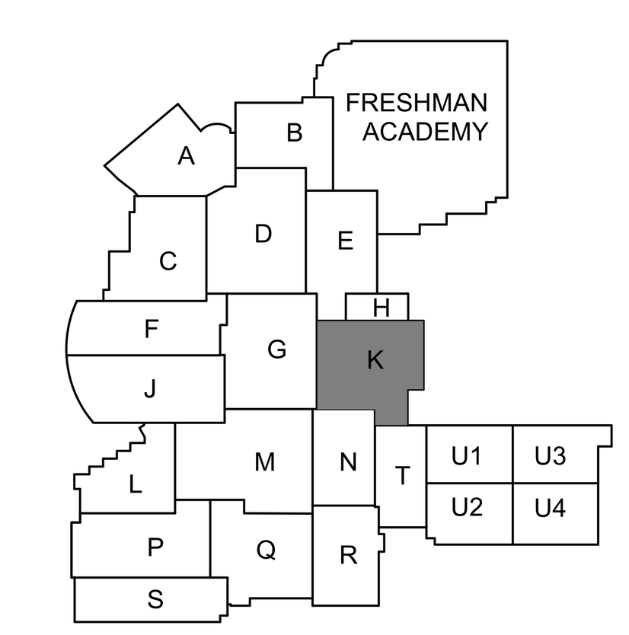

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT K

GABRIEL S. CURRIER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: MP1K

1 FIRST FLOOR PIPING PLAN - UNIT K
1/8" = 1'-0"

#	Revision	Date
1	ADDENDUM #1	06.14.2024

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

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G. PROVIDE REMOVAL OF ETHYLENE GLYCOL SOLUTION AND FILLING SYSTEM WITH PROPLYENE GLYCOL. CHILLED WATER VOLUME APPROXIMATELY 13,000 GAL. REFER TO SPECIFICATION SECTION 232513.

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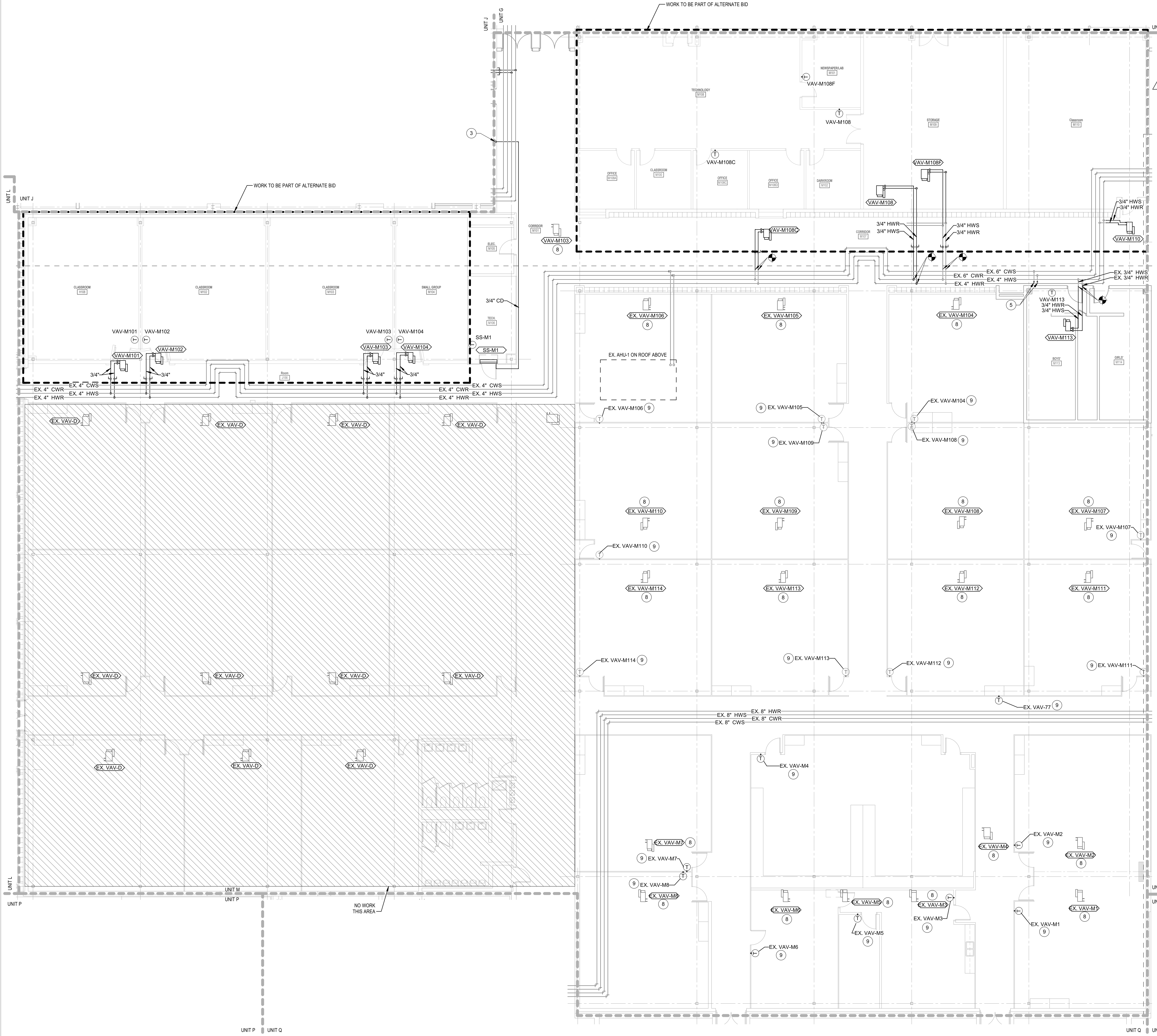

1 FIRST FLOOR PIPING PLAN - UNIT M
1/8" = 1'-0"

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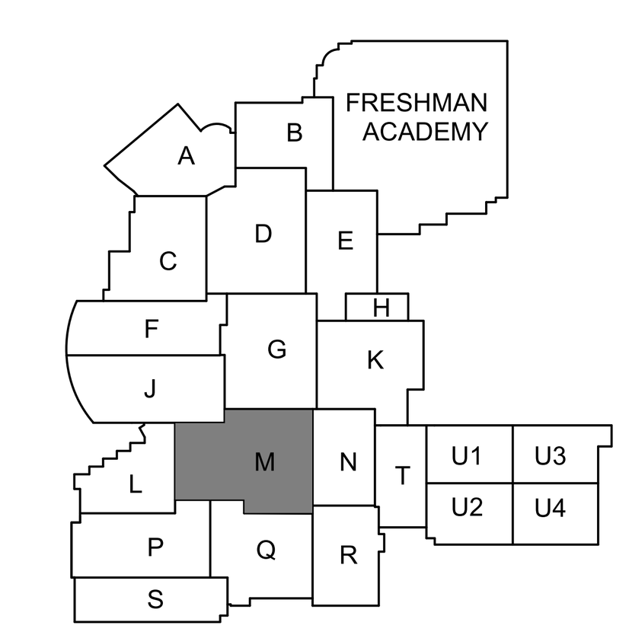

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT M

GABRIEL S. CURRIER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: MP1M

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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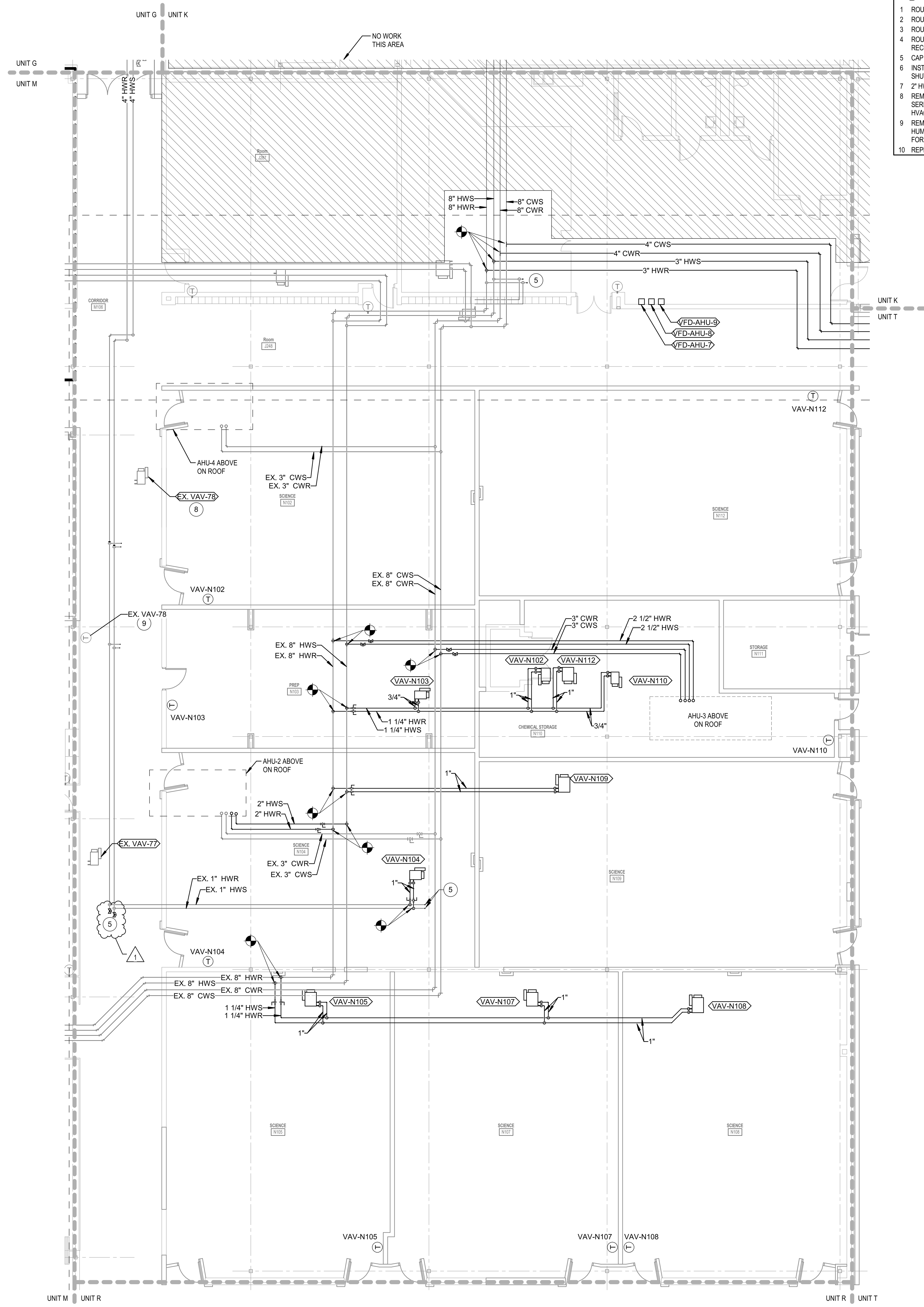

1 FIRST FLOOR PIPING PLAN - UNIT N
1/8" = 1'-0"

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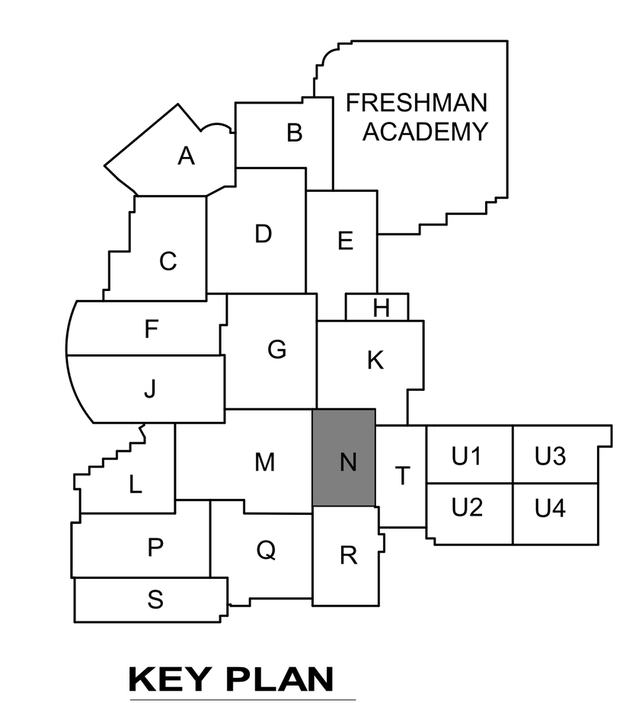

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT N

Project No: 2022063.10

Project Date: May 29, 2024

GABRIEL S. CURRIER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Drawing No: MP1N

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A. DARK LINES INDICATE NEW WORK.

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E. PROVIDE GATE VALVES ON ALL HYDRONIC PIPING 2-1/2" AND ABOVE.

F. MARK ALL LOCATIONS OF VALVES WITH ENGRAVED PLASTIC TAGS ON CEILING GRID BELOW VALVE.

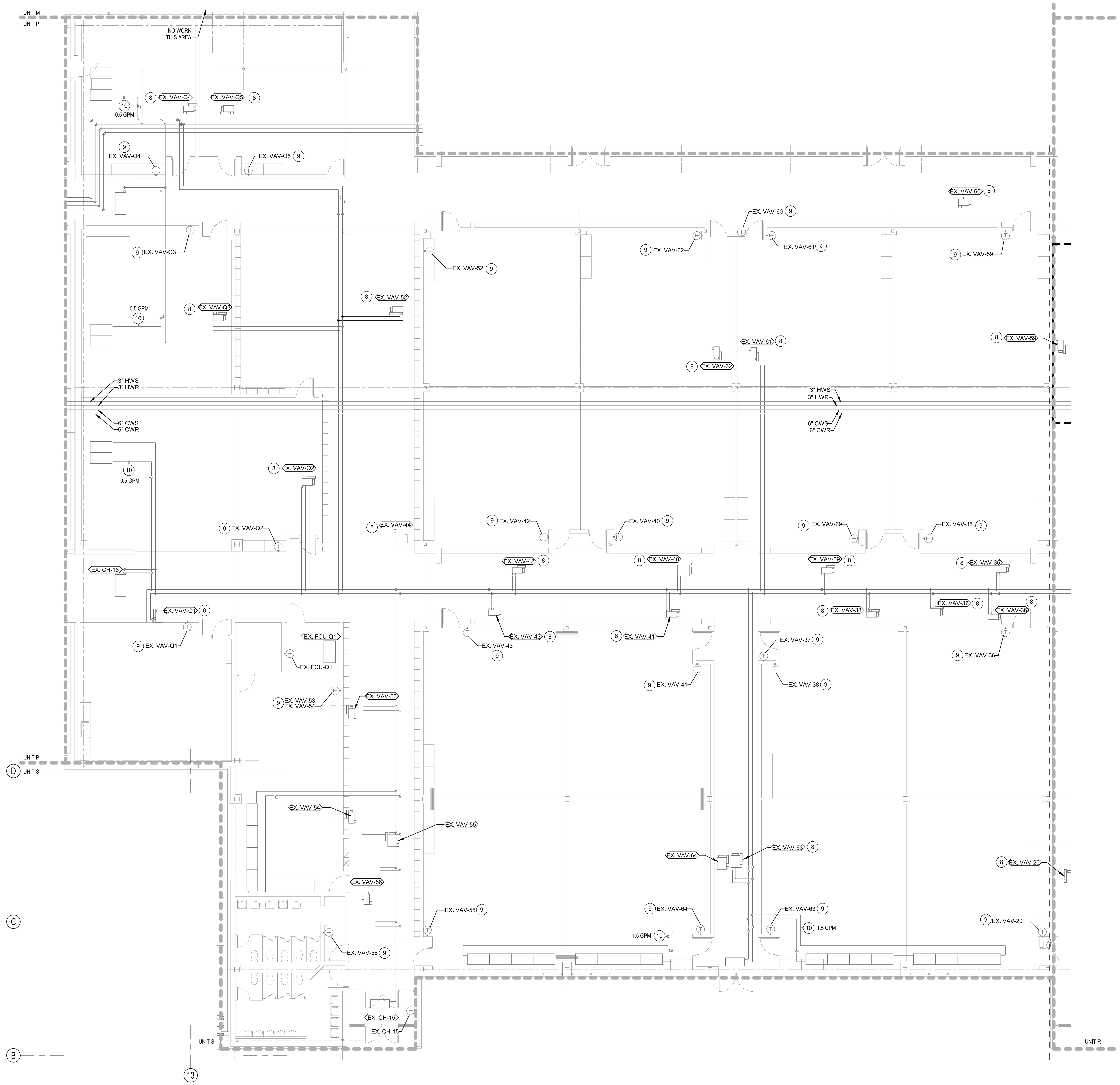
1

G. PROVIDE REMOVAL OF ETHYLENE GLYCOL SOLUTION AND FILLING SYSTEM WITH PROPLYENE GLYCOL. CHILLED WATER VOLUME APPROXIMATELY 13,000 GAL. REFER TO SPECIFICATION SECTION 232513.

H. PROVIDE HOT TAPS FOR CHILLED WATER SUPPLY & RETURN PIPING FOR REMOVAL OF ETHYLENE GLYCOL AS REQUIRED. REFER TO SPECIFICATION SECTION 232513.

MECHANICAL PIPING PLAN NOTES

1 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
2 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO FLOOR DRAIN.
3 ROUTE 1" PUMPED CONDENSATE, AIR GAP TO OPEN SITE DRAIN BELOW COUNTER.
4 ROUTE 1" PUMPED CONDESNATE AND AIR GAP TO MOP BASIN.
4 ROUTE REFRIGERANT LINES UP TO CONDENSING UNIT ON ROOF. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR SIZING AND ROUTING PREFERENCES.
5 CAP EXISTING PIPE.
6 INSTALL GATE VALVE IN EXISTING PIPING AND COORDINATE THIS WORK WITH CENTRAL PLAN SHUTDOWN AND DRAINING.
7 2" HWS & HWR DROP TO FIRST FLOOR.
8 REMOVE TERMINAL BOX CONTROLLER AND REPLACE WITH NEW CONTROLLER. REFER TO M700 SERIES DRAWINGS AND SPECIFICATION SECTIONS 23 0900 DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC AND 23 3600 AIR TERMINAL UNITS.
9 REMOVE SPACE TEMPERATURE SENSOR. REPLACE WITH COMBINATION UNIT FOR TEMPERATURE, HUMIDITY & CO2. REFER TO SPECIFICATION SECTION 23 0900 DIRECT DIGITAL CONTROL SYSTEMS FOR HVAC.
10 REPLACE CONTROL VALVE, CONTROL VALVE WITH SPACE SENSOR IN ROOM.



1 FIRST FLOOR PIPING PLAN - UNIT Q
1/8" = 1'-0"

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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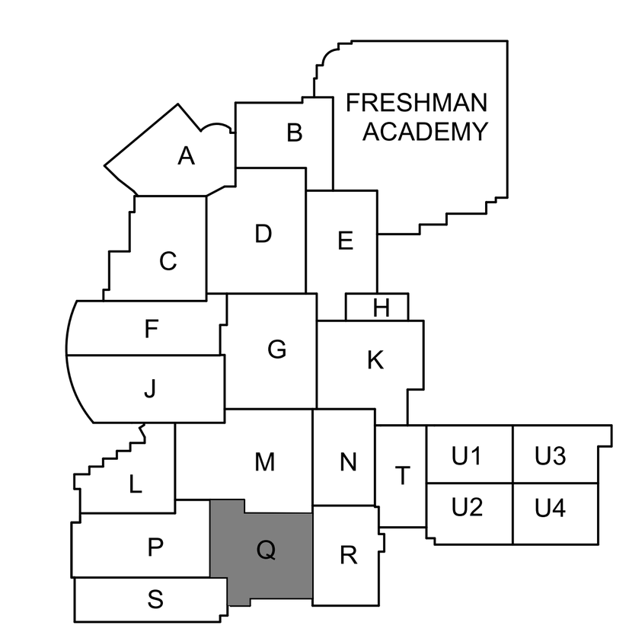

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT Q

GABRIEL S. CURRLER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: MP1Q

#	Revision	Date
1	ADDENDUM #1	06.14.2024

GENERAL PIPING NOTES

A. DARK LINES INDICATE NEW WORK.

B. LIGHT SOLID LINES INDICATE EXISTING MECHANICAL EQUIPMENT, DUCTWORK, PIPING, AND/OR MECHANICAL ACCESSORIES TO REMAIN AS-IS. CONTRACTOR TO FIELD VERIFY ACTUAL EXISTING CONDITIONS PRIOR TO BIDDING.

C. PROVIDE SHUTOFF VALVES AT EVERY BRANCH CONNECTION TO A MAIN.

D. PROVIDE SHUTOFF VALVES ON HYDRONIC PIPING AT ALL MECHANICAL EQUIPMENT.

E. PROVIDE GATE VALVES ON ALL HYDRONIC PIPING 2-1/2" AND ABOVE.

F. MARK ALL LOCATIONS OF VALVES WITH ENGRAVED PLASTIC TAGS ON CEILING GRID BELOW VALVE.

1

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H. PROVIDE HOT TAPS FOR CHILLED WATER SUPPLY & RETURN PIPING FOR REMOVAL OF ETHYLENE GLYCOL AS REQUIRED. REFER TO SPECIFICATION SECTION 232513.

MECHANICAL PIPING PLAN NOTES

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4 ROUTE REFRIGERANT LINES UP TO CONDENSING UNIT ON ROOF. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR SIZING AND ROUTING PREFERENCES.
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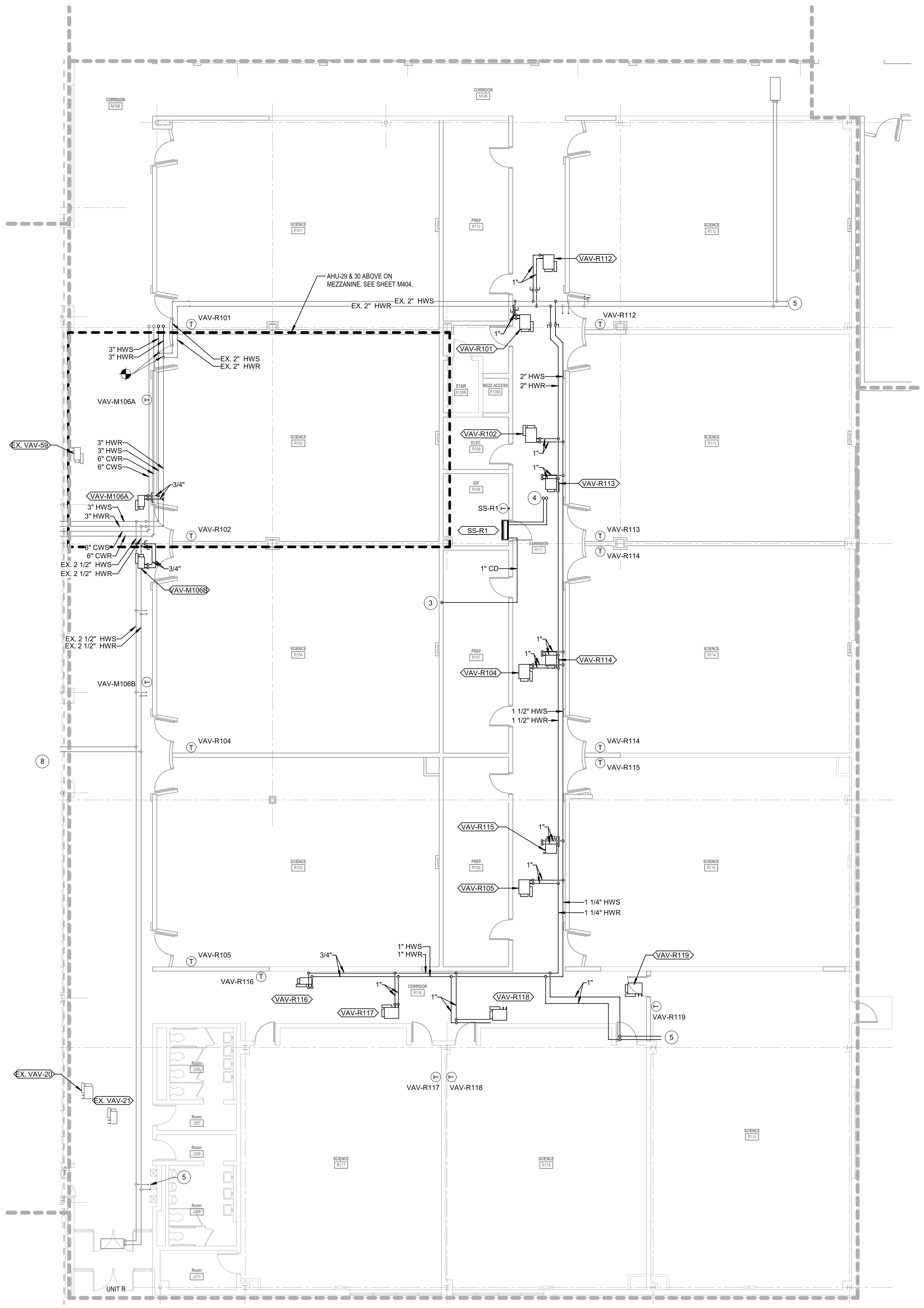

1 FIRST FLOOR PIPING PLAN - UNIT R
1/8" = 1'-0"

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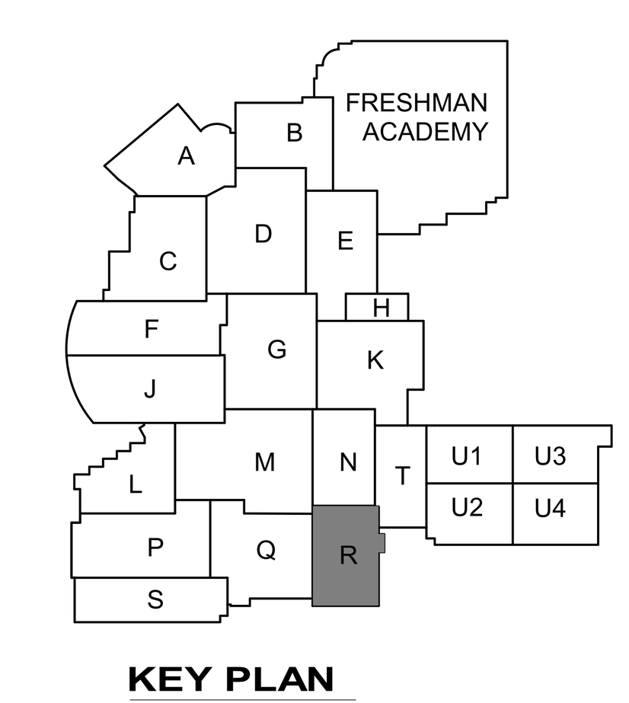

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PIPING PLAN - UNIT R

Project No: 2022063.10

Project Date: May 29, 2024

GABRIEL S. CURRLER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Drawing No: MP1R

SHOWER SCHEDULE (224223)							
FIXTURE				FIXTURE CONNECTION		ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	HW		
SH-1	LEONARD VALVE CO.	#SS-PAM-204-BC	SURFACE MOUNTER, STAILESS STEEL ENCLOSURE, PRESSURE BALANCING VALVE, SINGLE HANDLE, SOAP DISH, BACK CONNECTIONS.	1/2"	1/2"	No	
SH-2	LEONARD VALVE CO.	#SS-PAM-204-D2L /501P(G)-44 COR	SURFACE MOUNTER, STAILESS STEEL ENCLOSURE, PRESSURE BALANCING VALVE, SINGLE HANDLE, SOAP DISH, BACK CONNECTIONS, IN-LINE DIVERTER, HAND HELD SHOWER VALVE WITH 69: HOSE, 24" SLIDE BAR, IN-LINE VACUUM BREAKER, SUPPLY ELBOW, TOP AND BOTTOM CAP.	1/2"	1/2"	Yes	

WATER HAMMER ARRESTER						
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

FUEL-FIRED, DOMESTIC WATER HEATERS									
IDENTITY DATA				NATURAL GAS		ELECTRICAL			
MARK	MANUFACTURER	MODEL	DESCRIPTION	MAX. GPM FLOW RATE	INPUT (BTU/H)	VOLTAGE	PHASE	AMPS	NOTES
DWH-1	RINNAI	(2) #RSC199i	(2) INTERNAL CONDENSING TANKLESS WATER HEATERS w/ (2) UNIT WALL HANGING RACK	11	199,000	120	1	4.0	PIPE CONDENSATE TO NEAREST FLOOR DRAIN.

DOMESTIC WATER SOFTENERS											
SOFTENER				BRINE TANK	CONTINUOUS (EACH)		PEAK (EACH)		ELECTRICAL		
MARK	MANUFACTURER	MODEL	DESCRIPTION	DESCRIPTION	FLOW RATE	PRESSURE DROP	FLOW RATE	PRESSURE DROP	VOLTAGE	PHASE	NOTES
DWS-1	AQUASYSTEMS	(2) #500	DUAL DOMESTIC WATER SOFTENER WITH BRINE TANK	24"x50"	53 GPM	15.00 psi	69 GPM	25.00 psi	120	1	BRINE TANK RECESSED 2'-0" B.F.F.

CIRCULATION 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 20-18	140° DOMESTIC HOT WATER CIRCULATION PUMP, ALL BRONZE	5	15	115	1	1725	1/12
HWCP-2	BELL AND GOSSETT	ECOCIRC 20-18	140° DOMESTIC HOT WATER CIRCULATION PUMP, ALL BRONZE	5	15	115	1	1725	1/12

WET-PIPE SPRINKLER SYSTEMS					
IDENTITY DATA					
MARK	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE	PRESSURE DROP
DCVA-1	ZURN WILKINS	#350-BG - 6"	DOUBLE CHECK VALVE ASSEMBLY	1000 GPM	4.50 psi

MIXING, METERING, AND PRESSURE REDUCING VALVES					
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
BFP-3	ZURN WILKINS	#975XLS2 - 3/4"	REDUCED PRESSURE BACKFLOW PREVENTER	30 GPM	14.30 psi
TMV-1	SYMMONS	#7-400	TEMPERATURE-ACTUATED, WATER MIXING VALVE	18 GPM	5.00 psi
TMV-2	GUARDIAN	#G6040	EMERGENCY WATER MIXING VALVE	28 GPM	10.00 psi

PLUMBING EQUIPMENT SCHEDULE				
IDENTITY DATA				
MARK	MANUFACTURER	MODEL	DESCRIPTION	CAPACITY
ANB-1	ORION	STYLE 7	FIBERGLASS REINFORCED, POLYPROPYLENE ACID NEUTRALIZATION TANK WITH 36" EXTENSION AND 150PSI/SF STEEL COVER (ORION MODEL #OR-48 COVER).	600 GALLON
ET-1	AMTROL	#ST-12C-DD	DOMESTIC HOT WATER EXPANSION TANK	6.4 GALLON TANK VOLUME; .50 MAX ACCEPT. FACTOR
GI-1	ZURN	#Z-1170-200	FLOOR MOUNTED GREASE INTERCEPTOR	FLOW RATE 7 GPM; CAPACITY= 5 GALLONS WATER, 14 LBS GREASE
UCP-1	LACS	#LCP-1-G-1	UTILITY CONTROL PANEL FOR NATURAL GAS, PROVIDE MODEL #RVA-1-G-1.0 SOLENOID AND MODEL #REO-CC REMOTE MOUNTED EMERGENCY STOP BUTTON AT EACH EGRESS DOOR.	

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COMMERCIAL WATER CLOSET SCHEDULE													
FIXTURE				FLUSHOMETER				FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	TOILET SEAT	CW	W	V			
WC-1	AMERICAN STANDARD	AFWALL # 2257.101	WALL-MOUNTED, TOP SPUD WATER CLOSET	SLOAN	REGAL # 111-1.28	MANUAL	CLOSED BACK, OPEN FRONT	1"	4"	2"	15"	No	
WC-2	AMERICAN STANDARD	AFWALL # 2257.101	WALL-MOUNTED, TOP SPUD, ACCESSIBLE WATER CLOSET	SLOAN	REGAL # 111-1.28	MANUAL	CLOSED BACK, OPEN FRONT	1"	4"	2"	17"	Yes	

COMMERCIAL URINAL SCHEDULE												
FIXTURE				FLUSHOMETER			FIXTURE CONNECTION			MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	CW	W	V			
UR-1	AMERICAN STANDARD	WASHBROOK # 6590.001	WALL-HUNG, BACK OUTLET, WASHOUT, ACCESSIBLE	SLOAN	REGAL #186-0.5	MANUAL	3/4"	2"	1 1/2"	24"	No	
UR-2	AMERICAN STANDARD	WASHBROOK # 6590.001	WALL-HUNG, BACK OUTLET, WASHOUT, ACCESSIBLE	SLOAN	REGAL #186-0.5	MANUAL	3/4"	2"	1 1/2"	17"	Yes	

COMMERCIAL LAVATORY SCHEDULE													
FIXTURE				FAUCET			FIXTURE CONNECTION				MOUNTING (FLOOR TO RIM)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	OPERATION	CW	HW	W	V			
L-1	AMERICAN STANDARD	LUCERNE #0355.012	VITREOUS CHINA, WALL MOUNTED, WITH BACK	CHICAGO FAUCET	#802-VE66XKABCP	MANUAL	1/2"	1/2"	1 1/2"	1 1/2"	34"	Yes	
L-2	AMERICAN STANDARD	LUCERNE #0355.012	VITREOUS CHINA, WALL MOUNTED, WITH BACK	CHICAGO FAUCET	#802-VE66XKABCP	MANUAL	1/2"	1/2"	1 1/2"	1 1/2"	30"	Yes	

COMMERCIAL SINK SCHEDULE												
FIXTURE				FAUCET		FIXTURE CONNECTION				MOUNTING	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	MANUFACTURER	MODEL	CW	HW	W	V			
MB-1	ZURN	#Z1996-24	MOLDED STONE, FLOOR MOUNTED (RECESSED) MOP BASIN	CHICAGO FAUCET	#897-RCF	3/4"	3/4"	3"	2"	FLOOR MOUNTED		
SK-1	BY OTHERS	NA	NA	CHICAGO FAUCET	#928-317SAM	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	Yes	
SK-2	GLOBAL INDUSTRIES	#WB252979	FREE STANDING SINK	CHICAGO FAUCET	#631-L8BVBE2-2CP	3/4"	3/4"	2"	2"	FLOOR MOUNTED		
SK-3	ELKAY	#LRAD221955	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#527-GN8AE3-317ABCP	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	Yes	
SK-4	ELKAY	#3C18X18X-0X	FABRICATED NSF SINK, 3-COMPARTMENT, BOWL SIZE 18" X 18" X 12" DEEP	CHICAGO FAUCET	#445BCP-L12E1ABCP	3/4"	3/4"	2"	2"	FLOOR MOUNTED		
SK-5	BY OTHERS	NA	NA	CHICAGO FAUCET	#LWM11-A44-G	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	No	
SK-6	ELKAY	#3C10X14-0X	FRABRICATED NSF SINK, 3-COMP, BOWL SIZES 10X14X12"	CHICAGO FAUCET	#445BCP-L12E1ABCP	3/4"	3/4"	2"	2"	FLOOR MOUNTED		
SK-7	ELKAY	#LRAD221955	STAINLESS STEEL, ONE BOWL, COUNTER MOUNTED SINK	CHICAGO FAUCET	#527-GN8AE3-317ABCP	1/2"	1/2"	1 1/2"	1 1/2"	COUNTER MOUNTED	Yes	PROVIDE DISHWASHER WASTE AND WATER PIPING

PRESSURE WATER COOLER SCHEDULE									
IDENTITY DATA				FIXTURE CONNECTION			MOUNTING (FLOOR TO BUBBLER)	ADA COMPLIANT	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	W	V			
EWC-1	HALSEY TAYLOR	#HTHB-HVRGRN8-NF	ELECTRIC WATER COOLER/BOTTLE FILLER: REFRIGERATED STAINLESS STEEL, VANDAL-RESISTANT, NON-FITLERED, WALL-MOUNTED. TRIM: ADJUSTABLE P-TRAP WITH CLEANOUT, 1/2" ANGLE STOP WITH LOOSE KEY HANDLE, 1/2" O.D. CHROME PLATED SUPPLY.	3/4"	1 1/2"	1 1/2"	36" A.F.F.	Yes	
EWC-2	HALSEY TAYLOR	#HTHB-HVRGRN8-NF	ELECTRIC WATER COOLER/BOTTLE FILLER: REFRIGERATED STAINLESS STEEL, VANDAL-RESISTANT, NON-FITLERED, WALL-MOUNTED. TRIM: ADJUSTABLE P-TRAP WITH CLEANOUT, 1/2" ANGLE STOP WITH LOOSE KEY HANDLE, 1/2" O.D. CHROME PLATED SUPPLY.	3/4"	1 1/2"	1 1/2"	41" A.F.F	No	

EMERGENCY PLUMBING FIXTURE SCHEDULE (224500)								
IDENTITY DATA				FIXTURE CONNECTION			MOUNTING	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	T	W	V		
EEW/SH-1	GUARDIAN	#GBF2150	RECESSED SAFETY STATION WITH DRAIN PAN, EXPOSED SHOWER HEAD	1"	2"	2"	WALL	

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DOMESTIC WATER PIPING SPECIALTIES SCHEDULE									
IDENTITY DATA				FIXTURE CONNECTION				MOUNTING (FLOOR TO OUTLET)	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION	CW	HW	W	V		
GT-1	T & S BRASS	#BL-4203-03	3-WAY LABORATORY TURRET					COUNTER MOUNTED	
HB-1	ZURN	#Z1330XL-CL-NB-34EL	HOSE BIB WITH RECESSED BOX	3/4"				18" A.F.F.	
HB-2	ZURN	#Z1341	HOSE BIBB	3/4"				12" A.F.F.	
IMB-1	GUY GRAY	#SSIB2AB	ICEMAKER OUTLET BOX	1/2"				24" A.F.F.	
NFWH-1	ZURN	#Z1320-C-CL-NB-WC	NONFREEZE WALL HYDRANT WITH RECESSED BOX	3/4"	0"			18" A.F.F.	
RH-1	J.R. SMITH	#5903	NON-FREEZE ROOF HYDRANT	3/4"					

SANITARY WASTE PIPING SPECIALTIES SCHEDULE					
IDENTITY DATA				W CONNECTION	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION		
FD-1	ZURN	#Z456B-ZN	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER	2"	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	J.R. SMITH	#2005-A09-PB	DUCO CAST IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE 9" ROUND STRAINER HEAD AND POLISHED BRONZE STRAINER	4"	
FS-1	ZURN	#Z1901-NH-2	CAST IRON BODY, PORCELAIN ENAMELED, 1/2 GRATE AND DOME STRAINER	4"	
FS-2	ZURN	#Z1901-NH-2	CAST IRON BODY, PORCELAIN ENAMELED, 1/2 GRATE AND DOME STRAINER	3"	
SD-1	J.R. SMITH	#2005-A05-PB	DUCO CAST IRON BODY WITH FLASHING COLLAR, ADJUSTABLE ROUND STRAINER HEAD, POLISHED BRONZE STRAINER	2"	

STORM DRAINAGE PIPING SPECIALTIES SCHEDULE					
IDENTITY DATA				W CONNECTION	NOTES
MARK	MANUFACTURER	MODEL	DESCRIPTION		
OFD-1	ZURN	#ZC100-C-EA-R-89	DUCO CAST IRON BODY, FLASHING CLAMP AND GRAVEL STOP WITH CAST IRON DOME, CAST IRON WATER DAM	4"	
ORD-2	ZURN	#ZC100-C-EA-R-89	DUCO CAST IRON BODY, FLASHING CLAMP AND GRAVEL STOP WITH CAST IRON DOME, CAST IRON WATER DAM	3"	
RD-1	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP AND STAINLESS STEEL PERFORATED GRAVEL STOP, CAST IRON DOME	4"	
RD-2	ZURN	#ZC100-C-EA-R	DUCO CAST IRON BODY WITH FLASHING CLAMP AND STAINLESS STEEL PERFORATED GRAVEL STOP, CAST IRON DOME	3"	

#	Revision	Date
1	ADDENDUM #1	06.14.2024

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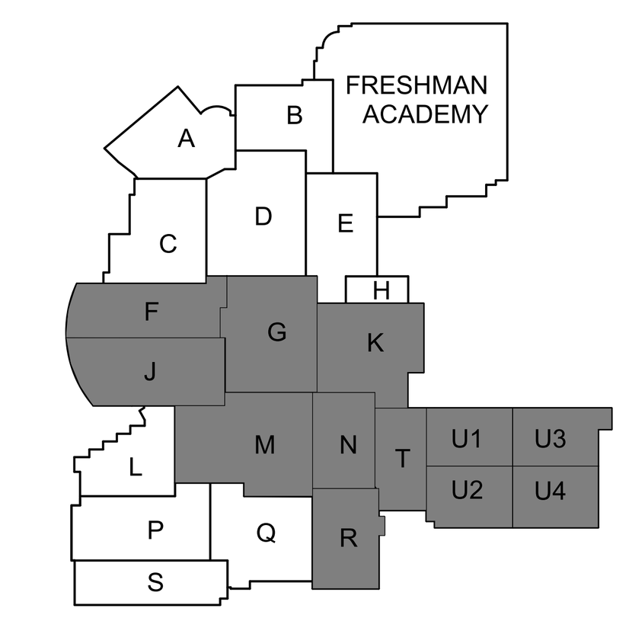

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ADDITION & RENOVATIONS TO:

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FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

PLUMBING SCHEDULES

GABRIEL S. CURRIER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

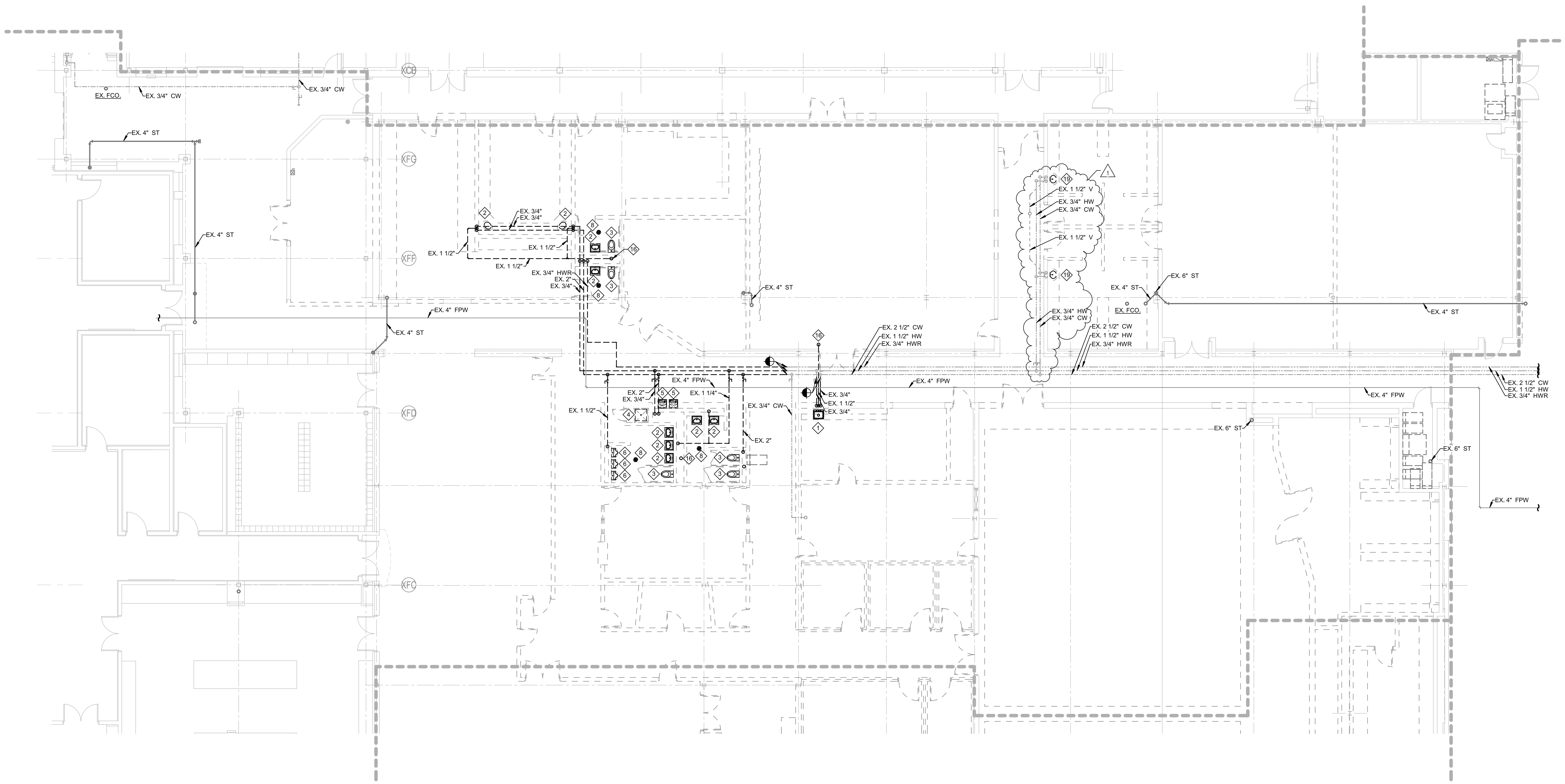
Drawing No: P601

#	Revision	Date
1	ADDENDUM #1	06.14.2024

◇ DEMOLITION PLAN NOTES PHASE 2B

1 REMOVE EXISTING SINK AND FAUCET COMPLETE. REMOVE ASSOCIATED WASTE, WATER, AND VENT PIPING COMPLETE.
2 REMOVE EXISTING LAVATORY COMPLETE. REMOVE ASSOCIATED DOMESTIC HOT AND COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
3 REMOVE EXISTING WATER CLOSET AND CARRIER COMPLETE. REMOVE ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
4 REMOVE EXISTING MOP BASIN COMPLETE. REMOVE ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
5 REMOVE EXISTING WATER COOLER COMPLETE. REMOVE ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
6 REMOVE EXISTING URINAL AND CARRIER COMPLETE. REMOVE ASSOCIATED DOMESTIC COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
7 REMOVE EXISTING EMERGENCY FIXTURE COMPLETE. REMOVE ASSOCIATED WASTE, WATER, AND VENT PIPING COMPLETE.
8 REMOVE EXISTING FLOOR DRAIN COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
9 REMOVE EXISTING SEWAGE EJECTION BASIN AND PUMP COMPLETE. REMOVE ASSOCIATED EXISTING PIPING COMPLETE.
10 REMOVE EXISTING HOT AND COLD WATER PIPING BACK TO MAIN AND CAP. REMOVE EXISTING VENT PIPING COMPLETE. REMOVE EXISTING WASTE PIPING TO BELOW FLOOR AND CAP. PATCH FLOOR TO MATCH EXISTING.
11 REMOVE EXISTING HOT AND COLD WATER PIPING BACK TO MAIN AND CAP. REMOVE EXISTING VENT PIPING AS SHOWN AND PREPARE FOR NEW CONNECTION. REMOVE EXISTING WASTE PIPING TO BELOW FLOOR AND CAP. PATCH FLOOR TO MATCH EXISTING.
12 REMOVE EXISTING VENT THROUGH ROOF AND ASSOCIATED VENT PIPING COMPLETE. PATCH ROOF TO MATCH EXISTING.
13 REMOVE EXISTING STORM RISER TO BELOW FLOOR AND PREPARE PIPING FOR NEW CONNECTION.
14 REMOVE EXISTING ICE MAKER BOX AND ASSOCIATED WATER PIPING COMPLETE.
15 REMOVE EXISTING VENT PIPING TO EXISTING VTR AND PREPARE EXISTING PIPING FOR NEW CONNECTION.
16 REMOVE EXISTING VENT THROUGH ROOF AND ASSOCIATED VENT PIPING COMPLETE. PATCH ROOF TO MATCH EXISTING.
17 REMOVE EXISTING FIRE TEST STATION AND INSTALL NEW FIRE TEST STATION IN ROOM JAN. #J132 UNIT J.
18 ~~REMOVE EXISTING HOSE BIB AND ASSOCIATED WATER PIPING COMPLETE.~~
19 REMOVE EXISTING LAVATORY COMPLETE. PREPARE EXISTING WASTE, WATER, AND VENT PIPING FOR NEW CONNECTION.

1



1 DEMOLITION FIRST FLOOR PLUMBING PLAN - UNIT F
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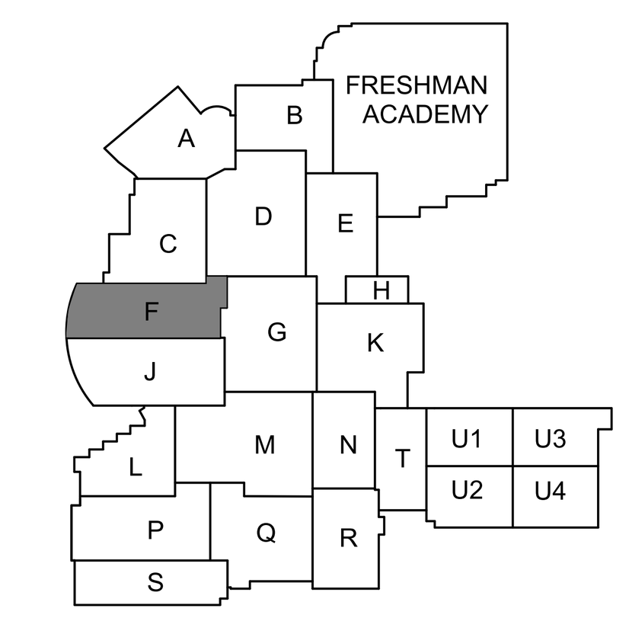

KEY PLAN

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

DEMOLITION FIRST FLOOR PLUMBING PLAN - UNIT F

GABRIEL S. CURRIER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: PD1F

#	Revision	Date
1	ADDENDUM #1	06.14.2024

◇ DEMOLITION PLAN NOTES PHASE 2B

1 REMOVE EXISTING SINK AND FAUCET COMPLETE. REMOVE ASSOCIATED WASTE, WATER, AND VENT PIPING COMPLETE.
2 REMOVE EXISTING LAVATORY COMPLETE. REMOVE ASSOCIATED DOMESTIC HOT AND COLD WATER, WASTE, AND VENT PIPING COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
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7 REMOVE EXISTING EMERGENCY FIXTURE COMPLETE. REMOVE ASSOCIATED WASTE, WATER, AND VENT PIPING COMPLETE.
8 REMOVE EXISTING FLOOR DRAIN COMPLETE. CAP WASTE PIPING BELOW FLOOR AND PATCH FLOOR TO MATCH EXISTING.
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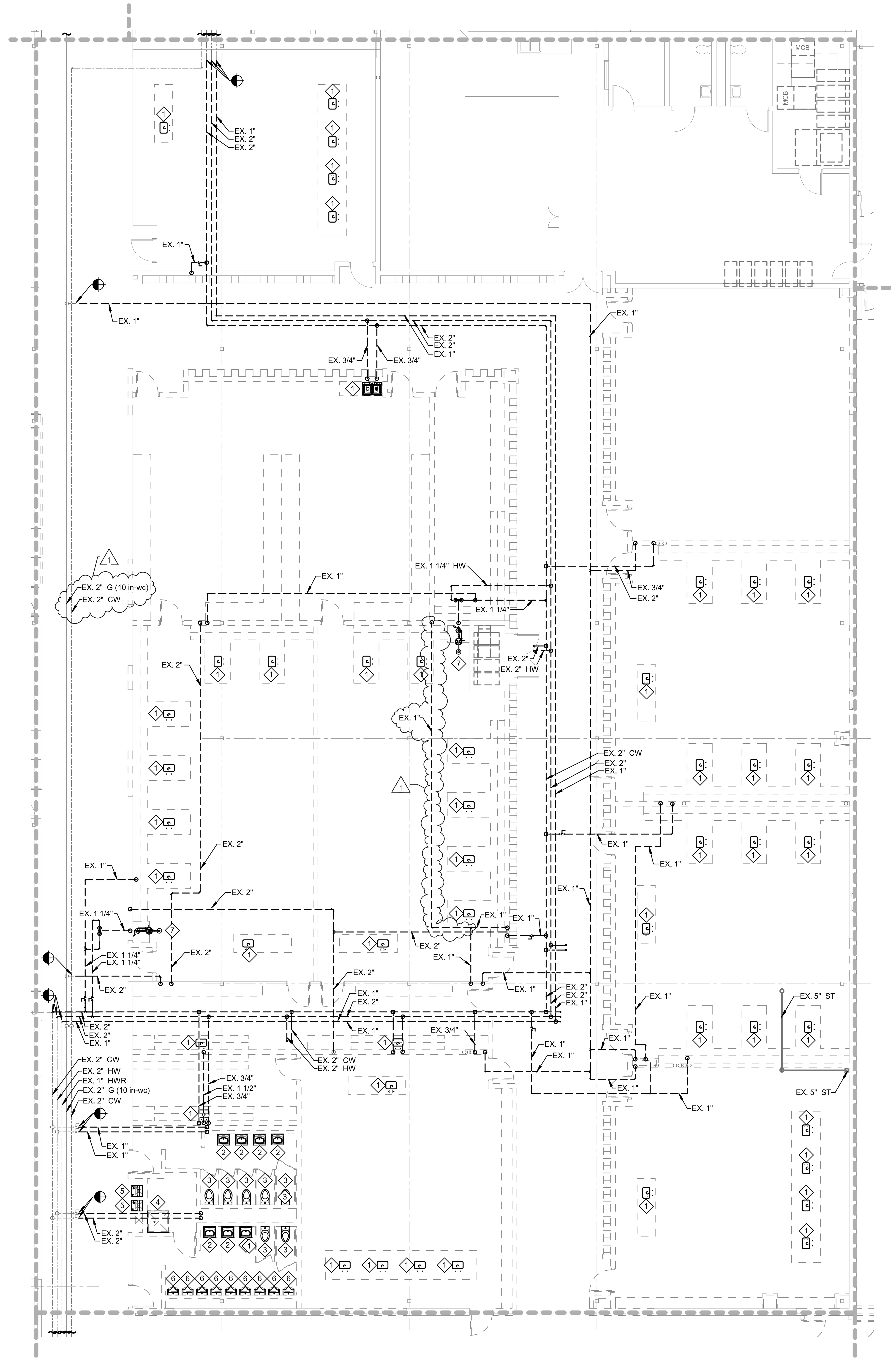

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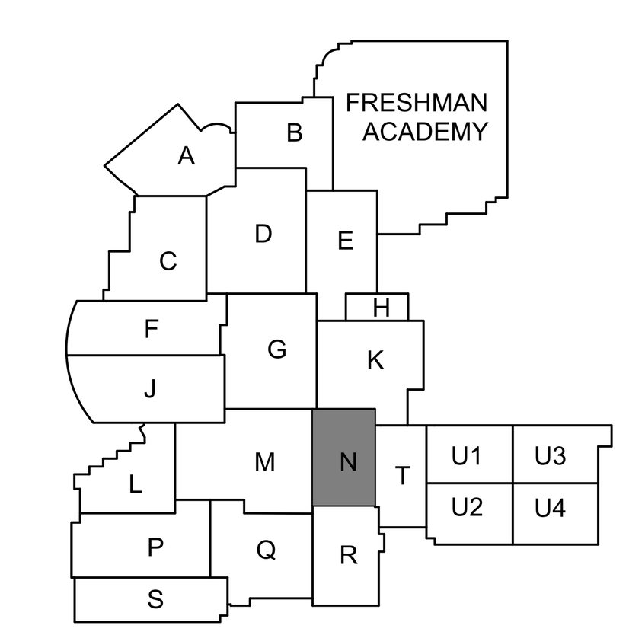

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

DEMOLITION FIRST FLOOR PLUMBING PLAN - UNIT N

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: PD1N

#	Revision	Date
1	ADDENDUM #1	06.14.2024

DEMOLITION PLAN NOTES PHASE 2B

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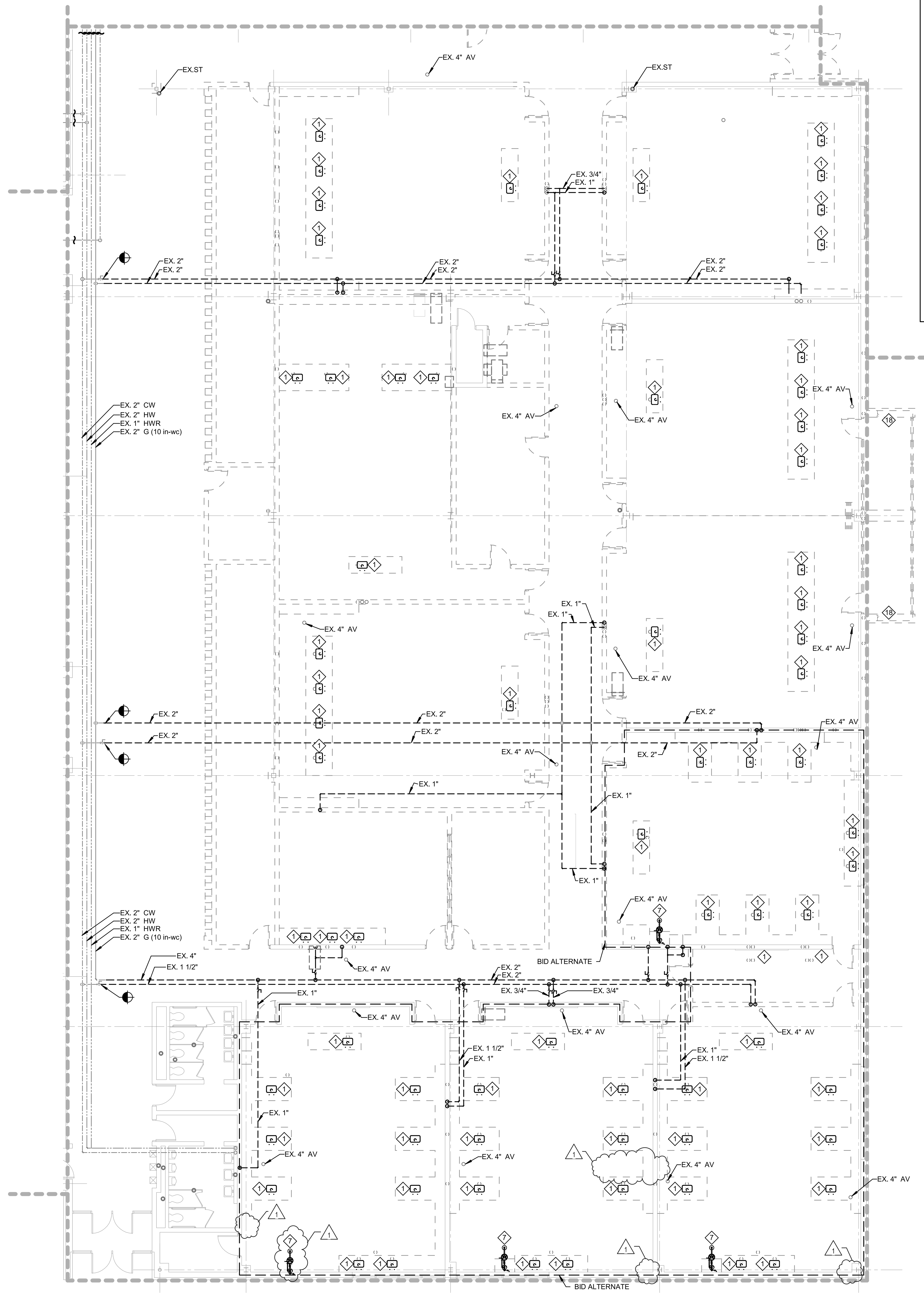

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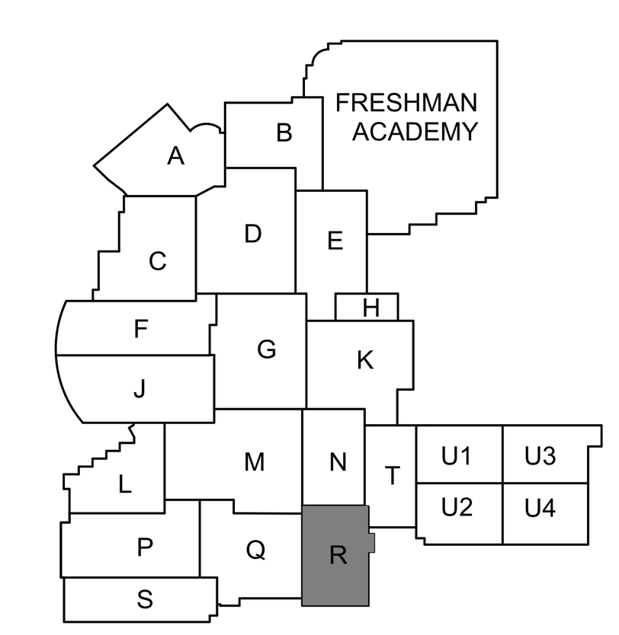

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

DEMOLITION FIRST FLOOR PLUMBING PLAN - UNIT R

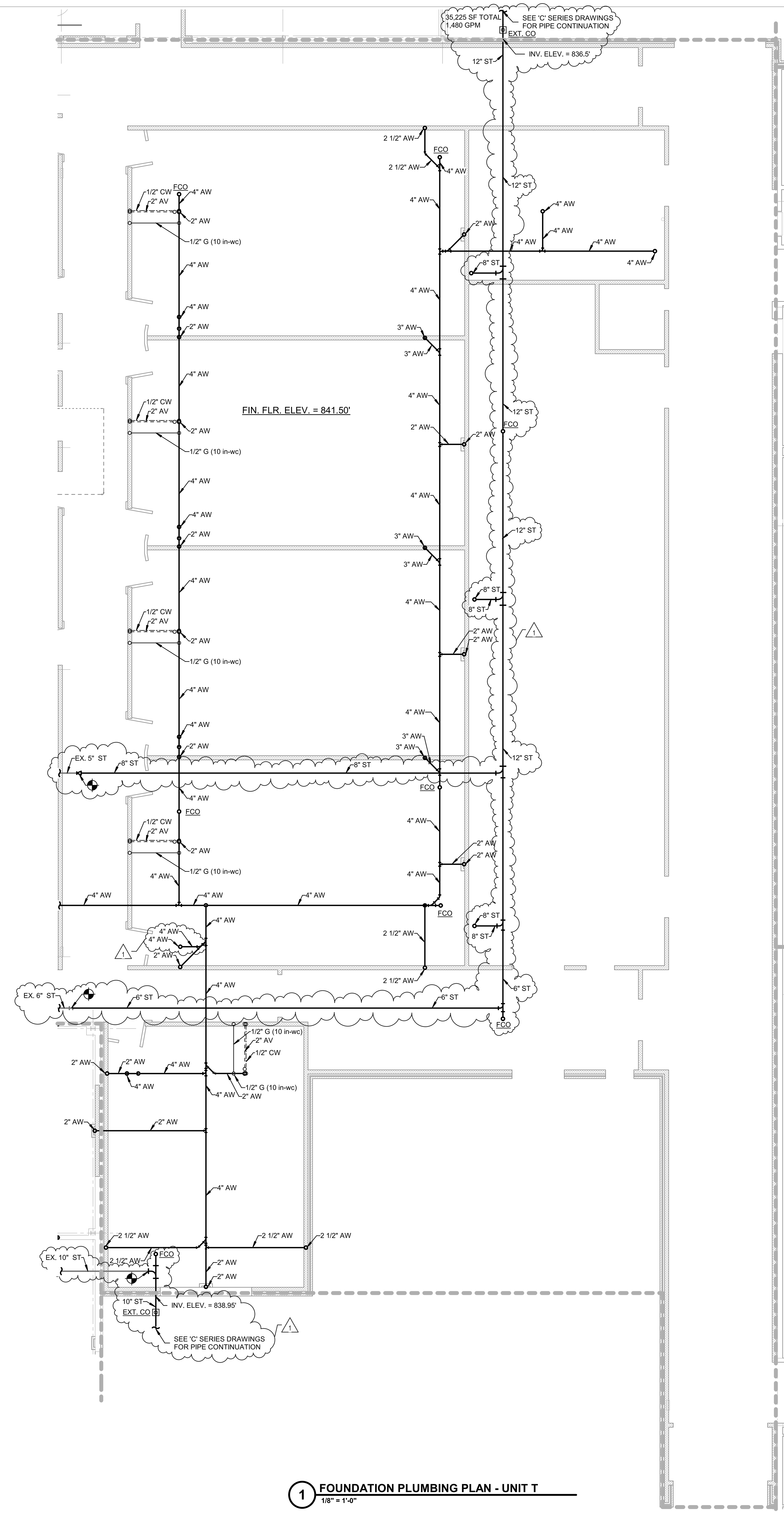
GABRIEL S. CURRLER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: PD1R

#	Revision	Date
1	ADDENDUM #1	06.14.2024



1 FOUNDATION PLUMBING PLAN - UNIT T
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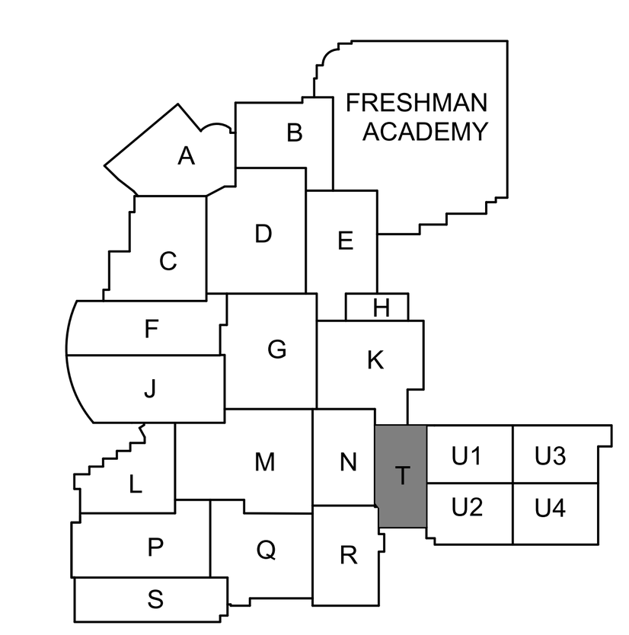

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

FOUNDATION PLUMBING PLAN - UNIT T

GABRIEL S. CURRLER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10

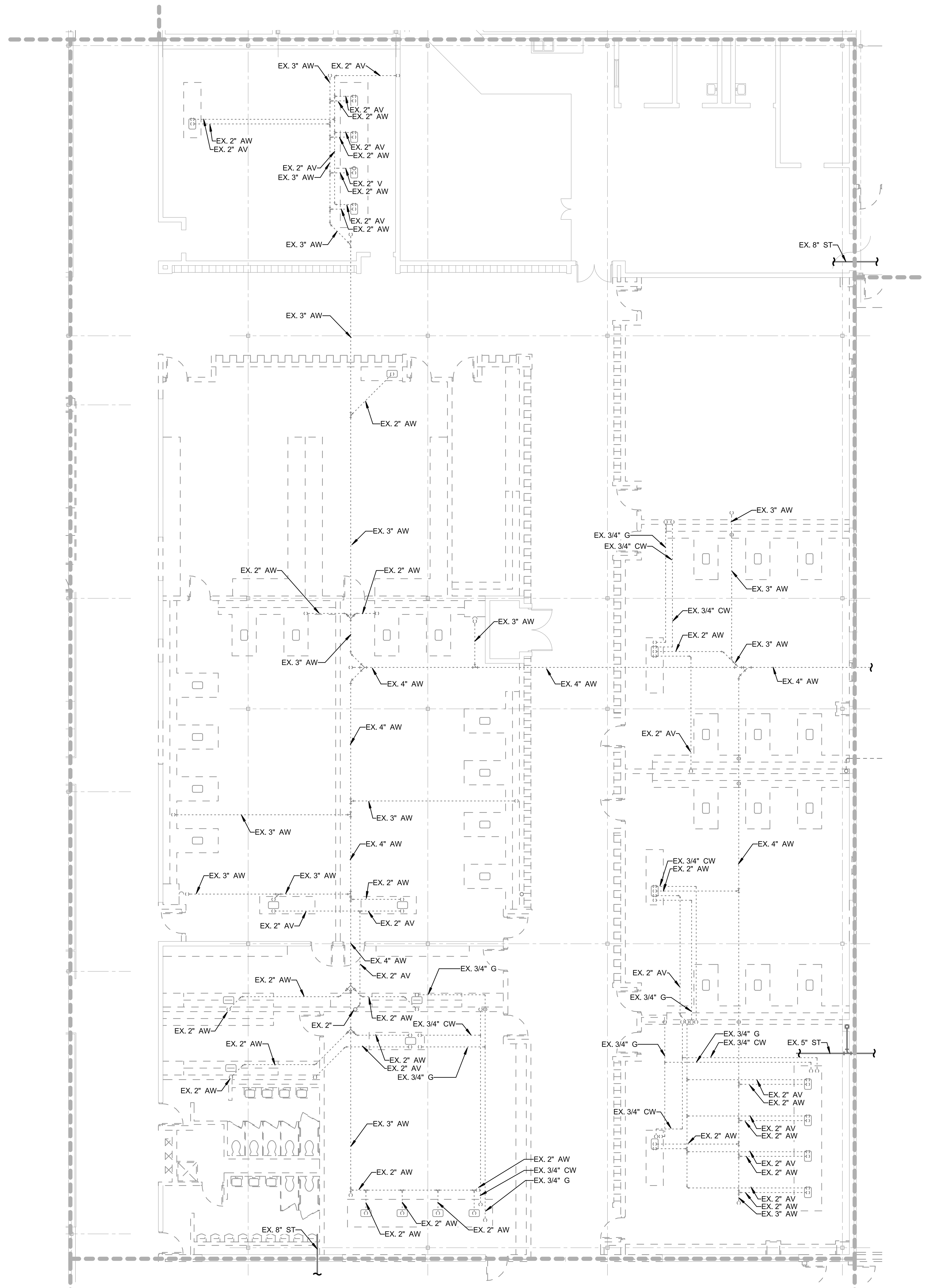
Project Date: May 29, 2024

Drawing No: PF1T

#	Revision	Date
1	ADDENDUM #1	06.14.2024

DEMO PLUMBING GENERAL NOTES

1. FILL ABANDONED WASTE AND VENT PIPING WITH FLOWABLE FILL.



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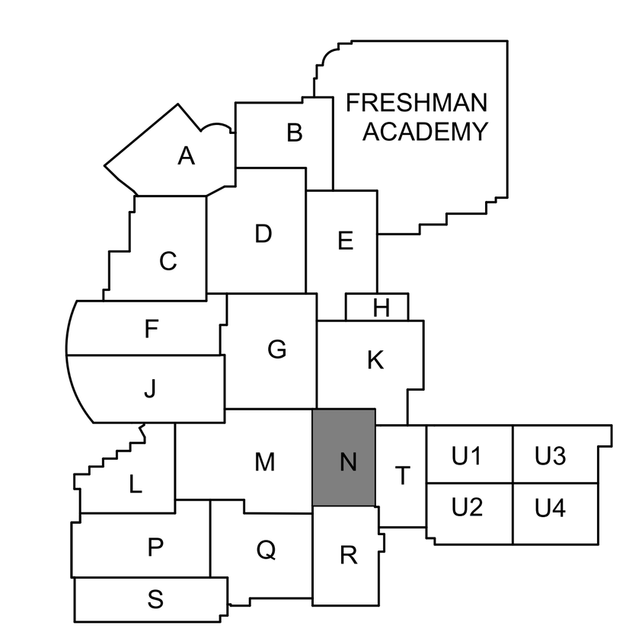

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INDIANAPOLIS, INDIANA

Drawing Title:

DEMOLITION FOUNDATION PLUMBING PLAN - UNIT N

Project No: 2022063.10

Project Date: May 29, 2024

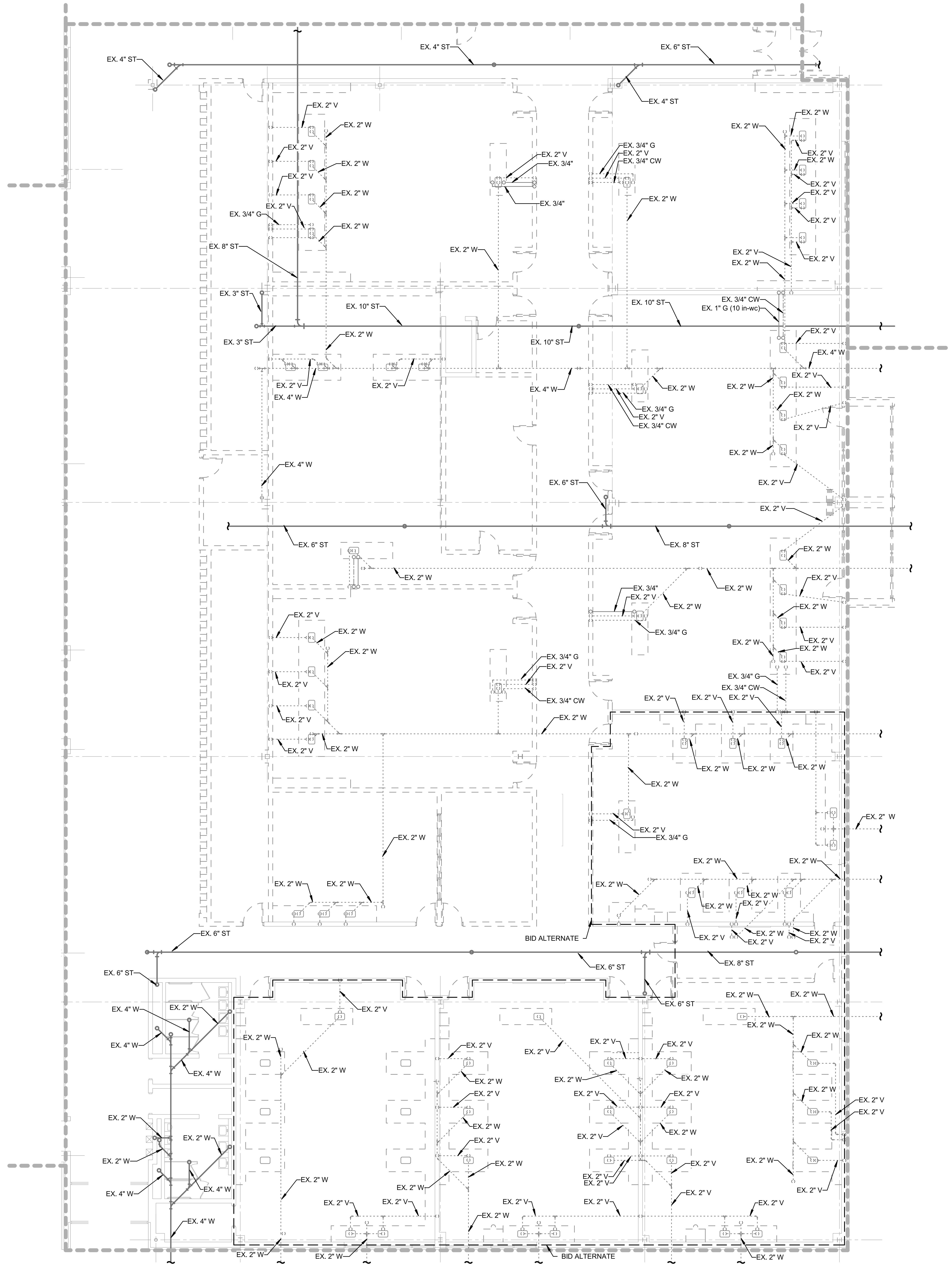
GABRIEL S. CURRLER REGISTERED No. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Drawing No: PFD1N

#	Revision	Date
1	ADDENDUM #1	06.14.2024

DEMO PLUMBING GENERAL NOTES

1. FILL ABANDONED WASTE AND VENT PIPING WITH FLOWABLE FILL.



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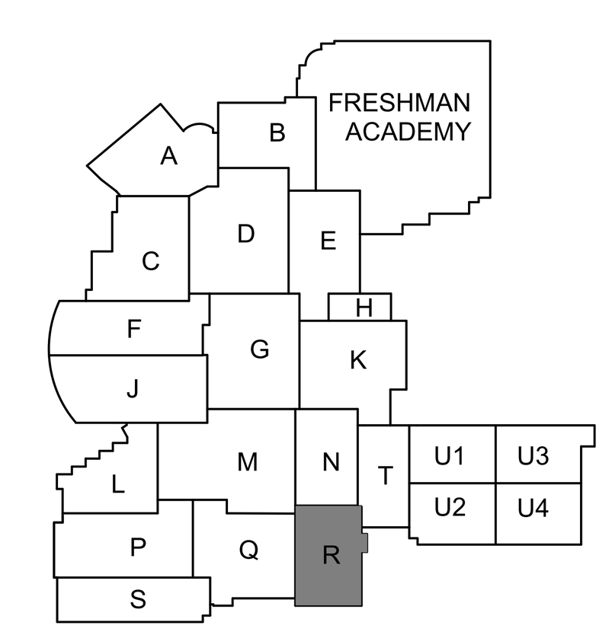

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ADDITION & RENOVATIONS TO:

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INDIANAPOLIS, INDIANA

Drawing Title:
DEMOLITION FOUNDATION PLUMBING PLAN - UNIT R

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

1

Drawing No: PFD1R

PFD1R_ DEMOLITION FOUNDATION PLUMBING PLAN - UNIT R
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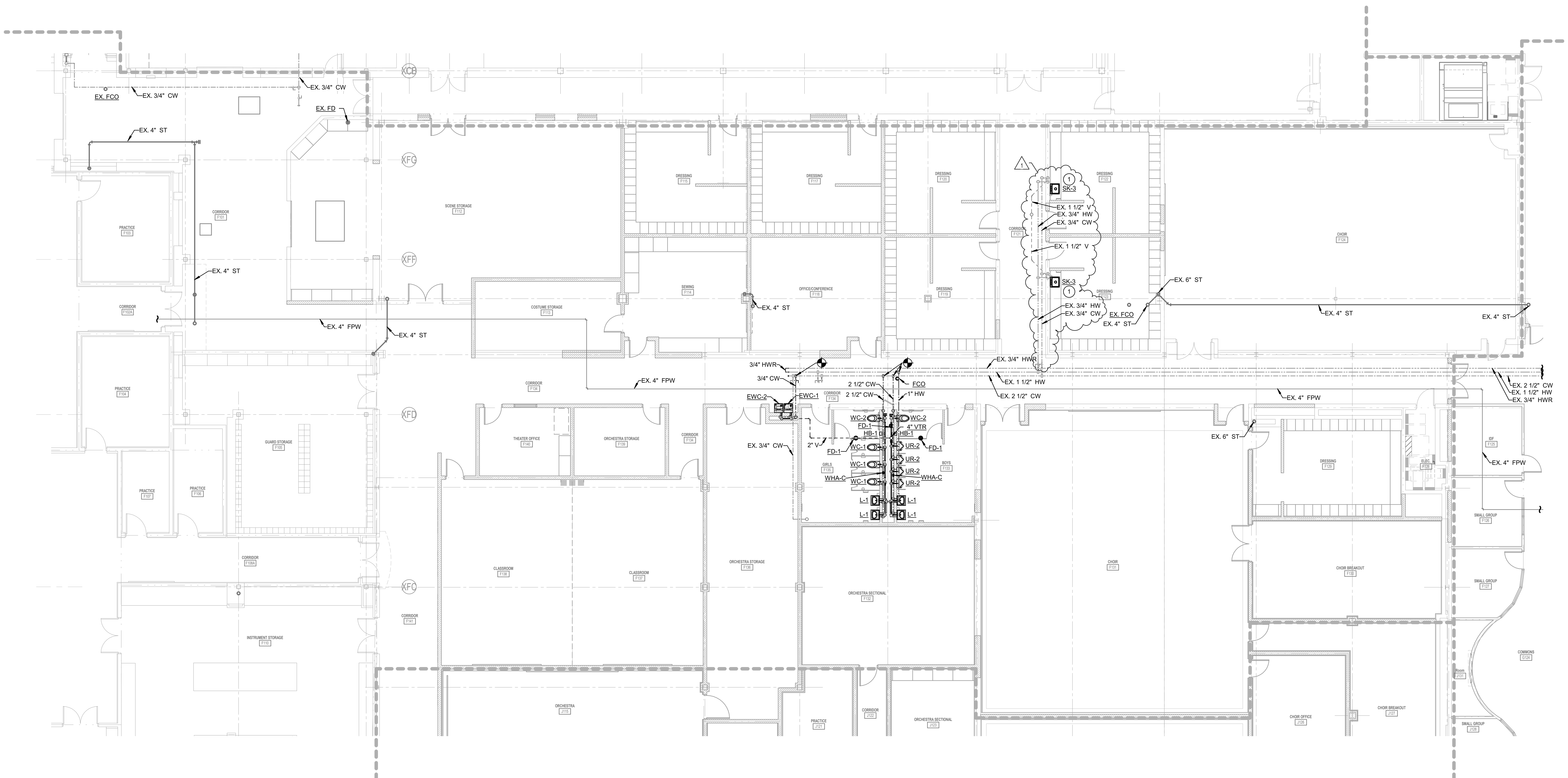
#	Revision	Date
1	ADDENDUM #1	06.14.2024

PLUMBING PLAN NOTES PHASE 2B

1 INSTALL NEW SINK COMPLETE. CONNECT NEW SINK TO EXISTING WASTE, WATER, AND VENT PIPING COMPLETE.

PLUMBING GENERAL NOTES

1. SEE DRAWING P001 FOR ADDITIONAL NOTES.
2. 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. THE ENTIRE BUILDING SHALL BE PROTECTED BY A WET PIPE SPRINKLER SYSTEM
3. FIRE PROTECTION CONTRACTOR SHALL PREPARE ALL DRAWINGS AND APPLICATIONS REQUIRED TO OBTAIN APPROVAL OF THE SYSTEM BY OWNERS INSURANCE UNDERWRITER, STATE AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL DRAWINGS TO BE SUBMITTED DURING CONSTRUCTION.
4. FIRE PROTECTION CONTRACTOR SHALL SUBMIT DRAWINGS WITH ALL SPRINKLER HEAD LOCATIONS. ALL SPRINKLER HEADS TO BE LAID OUT NEATLY WITHIN THE CEILING SYSTEMS AND BE COORDINATED WITH ALL BULKHEADS, CEILINGS AND STRUCTURE. REFERENCE ARCHITECTURAL DRAWINGS FOR CEILING PLANS.
5. ALL PIPING, SIZES, ZONES AND SPRINKLER MAINS SHOWN ON DRAWINGS ARE FOR BIDDING AND DESIGN INTENT ONLY. FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR PROPER COVERAGE AND CAPACITY OF THE SPRINKLER SYSTEM.
6. SPRINKLER PIPING SHALL NOT BE ROUTED THRU ANY TECHNOLOGY EQUIPMENT ROOMS (TR OR ER), USE SIDEWALL SPRINKLER HEADS WITH GUARDS TO SERVE THE ROOM.
7. MARK ALL LOCATIONS OF VALVES ON CEILING GRID WITH ENGRAVED BLACK PLASTIC LABELS.
8. PROVIDE GATE VALVES ON ALL WATER PIPING 2 1/2" AND ABOVE.



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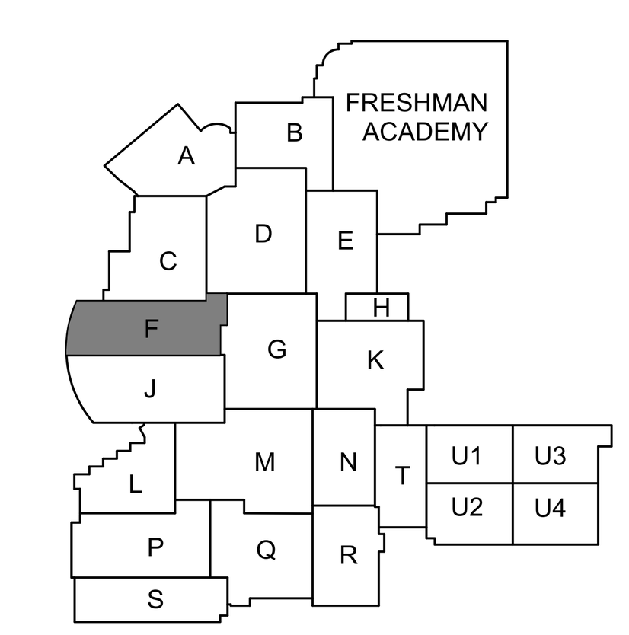

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION
INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PLUMBING PLAN - UNIT F

GABRIEL S. CURRIER REGISTERED NO. PE10808972 STATE OF INDIANA PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: PP1F

#	Revision	Date
1	ADDENDUM #1	06.14.2024

PLUMBING GENERAL NOTES

1. SEE DRAWING P001 FOR ADDITIONAL NOTES.
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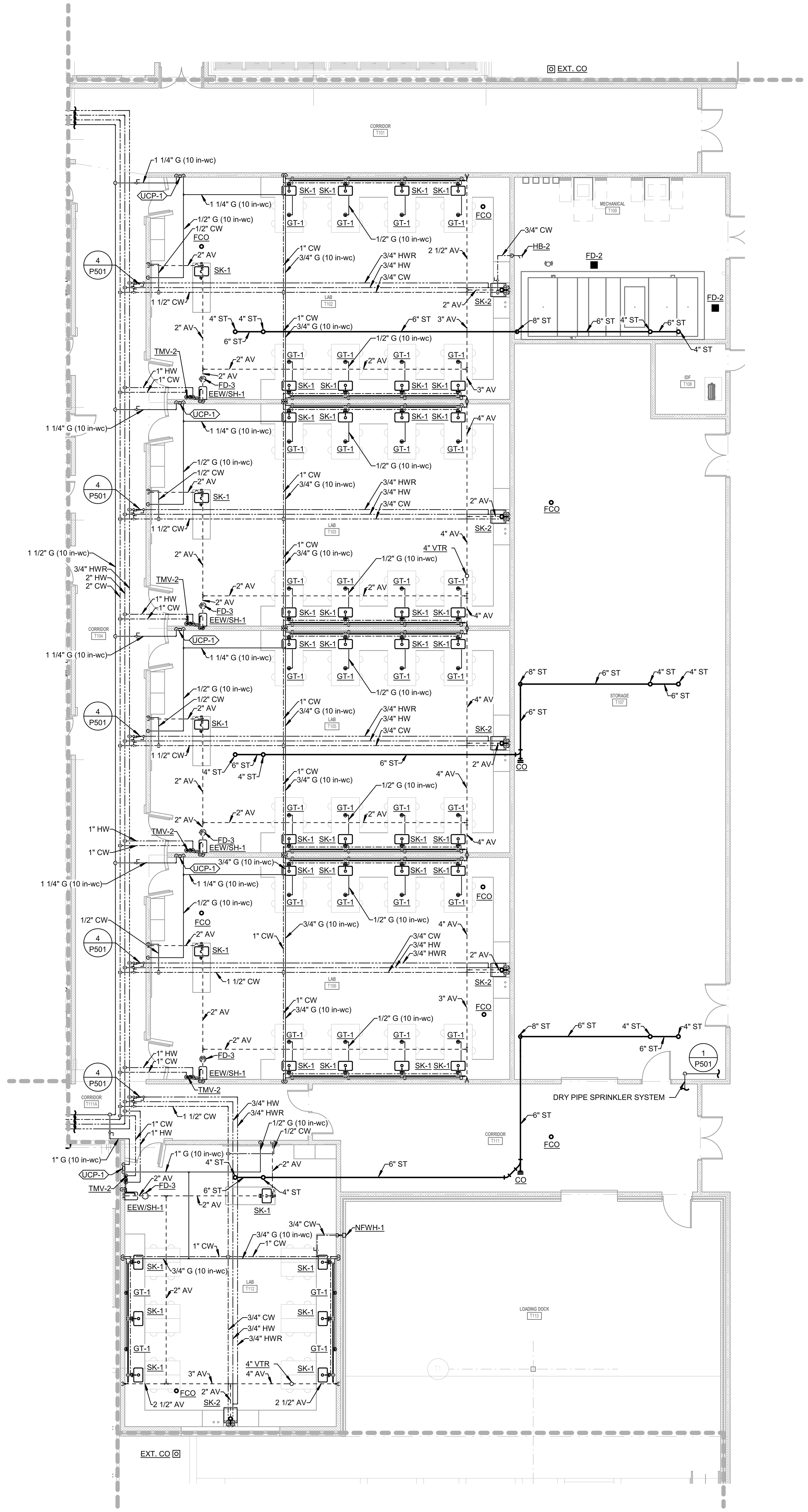

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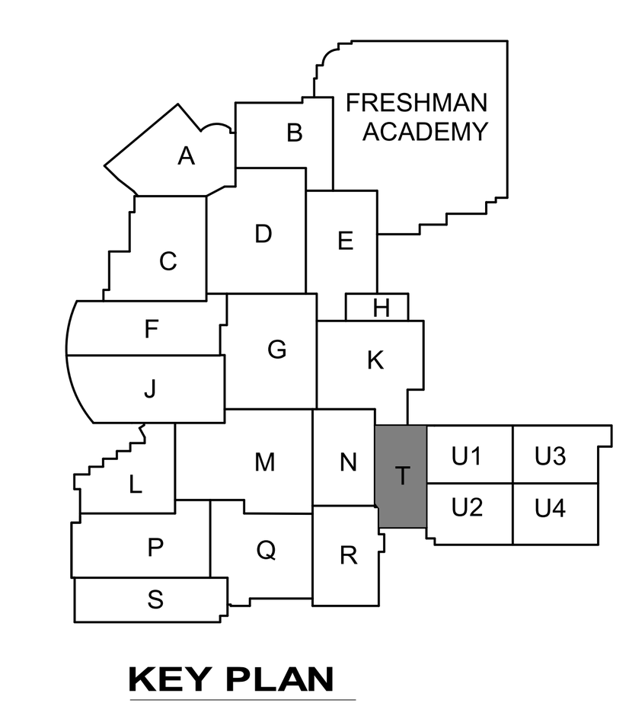

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ADDITION & RENOVATIONS TO:

FRANKLIN CENTRAL HIGH SCHOOL PHASE 2B

FRANKLIN TOWNSHIP COMMUNITY SCHOOL CORPORATION INDIANAPOLIS, INDIANA

Drawing Title:

FIRST FLOOR PLUMBING PLAN - UNIT T

GABRIEL S. CURRIER
REGISTERED
No. PE10808972
STATE OF INDIANA
PROFESSIONAL ENGINEER

Project No: 2022063.10

Project Date: May 29, 2024

Drawing No: PP1T