ADDENDUM No. 3 – February 3, 2022

PART 1 - GENERAL

Note: Addendum No. 1 and Addendum No. 2 were previously issued in earlier bid packages and are included in Appendix K.

This addendum modifies, amends, and supplements designated parts of the Contract Documents for the above project and is hereby made part thereof by reference and shall be as binding as though inserted in locations designated hereunder.

It shall be the responsibility of the bidders to notify all subcontractors and suppliers he proposes to use for the various parts of the work for any changes or modifications contained in this addendum. No claim for additional compensation because of lack of knowledge of the contents of this addendum will be considered.

NOTE: The bid due date has been extended until February 24, 2022.

PART 2 - SPECIFICATIONS

1. SPECIFICATIONS VOLUME III

Cover:
Delete: "January 20, 2021"
Insert: "January 20, 2022"

2. SECTION 00 01 10 – TABLE OF CONTENTS

00 72 00 CITY OF WORCESTER CM AT RISK CONTRACT - GENERAL CONDITIONS OF THE CONTRACT:
Insert: "00 72 00f Owner-Construction Manager Agreement"

3. SECTION 00 01 15 – LIST OF DRAWINGS

Page 14, ELECTRICAL:
Delete: ELECTRICAL and PHOTOVOLTAIC drawing lists
Insert: New drawing lists below

ELECTRICAL

E0.1 - Electrical Legend
E0.2 - Electrical Notes
E0.3 - Electrical Site Lighting
E0.3A - Electrical Site Lighting
E0.4 - Electrical Site Power
E0.5 - Electrical Site Technology
E0.6 - Electrical Site Details
E0.7 - Electrical Site Details

E0.8 - Electrical Site Details
E0.11 - Underground Conduit Pathways Ground Floor
E0.12 - Ceiling Mounted Conduit Pathways -Main floor Section CD
E1.1 - Lighting -Ground Floor Plan Section AB
E1.2 - Lighting -Ground Floor Plan Section E
E1.3 - Lighting -Main Floor Plan Section AB
E1.4 - Lighting -Main Floor Plan Section E
E1.5 - Lighting -Main Floor Plan Section CD
E1.6 - Lighting -Main Floor Plan Section DE
E1.7 - Lighting -Level 2 Plan Section AB
E1.8 - Lighting -Level 2 Plan Section E
E1.9 - Lighting -Level 2 Plan Section CD
E1.10 - Lighting -Level 2 Plan Section DE
E1.11 - Lighting -Level 3 Plan Section AB
E1.12 - Lighting -Level 3 Plan Section E
E1.13 - Lighting -Level 3 Plan Section CD
E1.14 - Lighting -Level 3 Plan Section DE
E1.15 - Lighting -Level 4 Plan Section B
E1.16 - Lighting -Level 4 Plan Section CD
E1.17 - Lighting -Level 5 Plan Section CD
E1.18 - Lighting -Auditorium
E1.19 - Lighting Fixture Schedule
E2.1 - Power -Ground Floor Plan Section AB
E2.2 - Power -Ground Floor Plan Section E
E2.3 - Power -Main Floor Plan Section AB
E2.4 - Power -Main Floor Plan Section E
E2.5 - Power -Main Floor Plan Section CD
E2.6 - Power -Main Floor Plan Section DE
E2.6A - Power -Foodservice Plan
E2.6B - Electrical -Foodservice Equipment Schedule
E2.6C - Power -Main Electrical Rooms Enlarged Views
E2.7 - Power -Level 2 Plan Section AB
E2.8 - Power -Level 2 Plan Section E
E2.9 - Power -Level 2 Plan Section CD
E2.10 - Power -Level 2 Plan Section DE
E2.11 - Power -Level 3 Plan Section AB
E2.12 - Power -Level 3 Plan Section E
E2.13 - Power -Level 3 Plan Section CD
E2.14 - Power -Level 3 Plan Section DE
E2.15 - Power -Level 4 Plan Section B
E2.16 - Power -Level 4 Plan Section CD
E2.17 - Power -Level 5 Plan Section CD
E2.18 - Electrical -Outdoor Toilet, Storage Building and Press Box Plan
E3.1 - HVAC Power -Ground Floor Plan Section AB
E3.2 - HVAC Power -Ground Floor Plan Section E

E3.3 - HVAC Power -Main Floor Plan Section AB
E3.4 - HVAC Power -Main Floor Plan Section E
E3.5 - HVAC Power -Main Floor Plan Section CD
E3.6 - HVAC Power -Main Floor Plan Section DE
E3.7 - HVAC Power -Level 2 Plan Section AB
E3.8 - HVAC Power -Level 2 Plan Section E
E3.9 - HVAC Power -Level 2 Plan Section CD
E3.10 - HVAC Power -Level 2 Plan Section DE
E3.11 - HVAC Power -Level 3 Plan Section AB
E3.12 - HVAC Power -Level 3 Plan Section CD
E3.13 - HVAC Power -Level 4 Plan Section B
E3.14 - HVAC Power -Level 4 Plan Section CD
E3.15 - HVAC Power -Level 5 Plan Section CD
E3.16 - HVAC Power -Roof Plan Section AB
E3.17 - HVAC Power -Roof Plan Section E
E3.18 - HVAC Power -Roof Plan Section CD
E3.19 - HVAC Power -Roof Plan Section DE
E3.20 - HVAC Power -Schedules
E4.0 - Electrical Details
E4.1 - Electrical Details
E4.2 - Electrical Details
E4.3 - Electrical Details
E4.4 - Electrical Details
E4.5 - Electrical Details
E4.6 - Electrical Details
E5.0A - Electrical Distribution Riser
E5.0B - Electrical Distribution Riser
E5.0C - Electrical Distribution Riser
E5.0D - Electrical Distribution Riser
E5.0E - Electrical Distribution Riser
E5.0F - Electrical Distribution Riser
E5.0G - Electrical Distribution Riser
E5.0H - Emergency Electrical Distribution Riser
E5.0I - Emergency Electrical Distribution Riser
E6.0A - Lighting Control System Riser
E6.0B - Lighting Control Details
E6.0C - Lighting Control Details
E6.0D - Lighting Control Details
E7.1 - Electrical Site Sport Field Lighting
E7.2 - Electrical Sport Field Lighting Details and Schedule
E7.3 - Electrical Site Sport Field Technology
E8.1 - Lightning Protection Plan
E8.2 - Lightning Protection Details
E9.00 - Panel Schedules
E9.01 - Panel Schedules

E9.02 - Panel Schedules
E9.03 - Panel Schedules
E9.04 - Panel Schedules
E9.05 - Panel Schedules
E9.06 - Panel Schedules
E9.07 - Panel Schedules
E9.08 - Panel Schedules
E9.09 - Panel Schedules
E9.10 - Panel Schedules
E9.11 - Panel Schedules
E9.12 - Panel Schedules
E9.13 - Panel Schedules
E9.14 - Panel Schedules
E9.15 - Panel Schedules
E9.16 - Panel Schedules
E9.17 - Panel Schedules
E9.18 - Panel Schedules
E9.19 - Panel Schedules
E9.20 - Panel Schedules
E9.21 - Panel Schedules
FA0.1 - Fire Alarm Legend
FA0.2 - Fire Alarm Details
FA1.1 - Fire Alarm -Ground Floor Plan Section AB
FA1.2 - Fire Alarm -Ground Floor Plan Section E
FA1.3 - Fire Alarm -Main Floor Plan Section AB
FA1.4 - Fire Alarm -Main Floor Plan Section E
FA1.5 - Fire Alarm -Main Floor Plan Section CD
FA1.6 - Fire Alarm -Main Floor Plan Section DE
FA1.7 - Fire Alarm -Level 2 Plan Section AB
FA1.8 - Fire Alarm -Level 2 Plan Section E
FA1.9 - Fire Alarm -Level 2 Plan Section CD
FA1.10 - Fire Alarm -Level 2 Plan Section DE
FA1.11 - Fire Alarm -Level 3 Plan Section AB
FA1.12 - Fire Alarm -Level 3 Plan Section E
FA1.13 - Fire Alarm -Level 3 Plan Section CD
FA1.14 - Fire Alarm -Level 3 Plan Section DE
FA1.15 - Fire Alarm -Level 4 Plan Section B
FA1.16 - Fire Alarm -Level 4 Plan Section CD
FA1.17 - Fire Alarm -Level 5 Plan Section CD
FA1.18 - Fire Alarm -Roof Plan
FA2.1A - Fire Alarm Riser
FA2.1B - Fire Alarm Riser
FA2.1C - Fire Alarm Riser
FA2.1D - Fire Alarm Riser
FA2.1E - Fire Alarm Riser

FA3.0 - Fire Alarm Riser
FA4.0 - Stair Pressurization Riser
FA5.0A - DAS System Riser
FA5.0B - DAS System Riser
TC0.1 - Telecom Legend
TC1.1 - Technology -Ground Floor Plan Section AB
TC1.2 - Technology -Ground Floor Plan Section E
TC1.3 - Technology -Main Floor Plan Section AB
TC1.4 - Technology -Main Floor Section E
TC1.5 - Technology -Main Floor Plan Section CD
TC1.6 - Technology -Main Floor Plan Section DE
TC1.7 - Technology -Level 2 Plan Section AB
TC1.8 - Technology -Level 2 Plan Section E
TC1.9 - Technology -Level 2 Plan Section CD
TC1.10 - Technology -Level 2 Plan Section DE
TC1.11 - Technology -Level 3 Plan Section AB
TC1.12 - Technology -Level 3 Plan Section E
TC1.13 - Technology -Level 3 Plan Section CD
TC1.14 - Technology -Level 3 Plan Section DE
TC1.15 - Technology -Level 4 Plan Section B
TC1.16 - Technology -Level 4 Plan Section CD
TC1.17 - Technology -Level 5 Plan Section CD
TC1.18 - Telecom -Enlarged Telecom Rooms
TC2.1 - Cable Trays -Ground Floor Plan
TC2.2 - Cable Trays -Main Floor Plan
TC2.3 - Cable Trays -Second Floor
TC2.4 - Cable Trays -Third Floor
TC2.5 - Cable Trays -Fourth Floor
TC2.6 - Cable Trays -Fifth Floor
TC3.1A - Telecom Riser
TC3.1B - Telecom Riser
TC3.1C - Telecom Riser
TC3.2A - In-Building Cellular Amplification System Riser
TC3.2B - In-Building Cellular Amplification System Riser
TC3.2C - In-Building Cellular Amplification System Riser
TC3.2D - In-Building Cellular Amplification System Riser
TC3.3A - Local Sound System Riser Media Center
TC3.3B - Local Sound System Riser Wellness Center
TC3.3C - Local Sound System Riser Weight Room
TC3.3D - Local Sound System Riser Weight Room
TC3.4A - Surveillance System Riser
TC3.4B - Surveillance System Riser
TC3.4C - Surveillance System Details
TC3.5A - Public Address System Riser
TC3.5B - Public Address System Riser

TC3.6 - Speech Reinforcement System Riser
TC3.7A - Intrusion Detection System Riser
TC3.7B - Intrusion Detection Riser
TC3.8A - Access Control Riser
TC3.8B - Access Control Riser
TC3.8C - Access Control Riser
TC3.8D - Access Control Details
TC4.0 - Telecom Detail

PHOTOVOLTAIC

PV001 - PV SITE PLAN
PV002 - PV SYSTEM NOTES
PV101 - PV LAYOUT – A & B
PV102 - PV LAYOUT – C & D1
PV103 - PV LAYOUT – D2, E1, & E3
PV104 - PV LAYOUT – E2, E4, & E5
PV201 - INVERTER SOURCE LAYOUT
PV202 - SOURCE CIRCUITS – ROOFS A, B, E4, & E5
PV203 - SOURCE CIRCUITS 0 ROOFS C, D1, D2, E1, E2, & E3
PV204 - OPTIMIZER LAYOUT A & B
PV205 - OPTIMIZER LAYOUT C & D
PV206 - OPTIMIZER LAYOUT D2, E1 & E3
PV207 - OPTIMIZER LAYOUT E2, E4, & E5
PV208 - WIRING DETAILS – DUAL TILT
PV209 - WIRING DETAILS – SOLARDOCK ROOF C
PV301 - IN-BLDG AC OUTPPUT, DATA & CTRL CONDUIT LAYOUT
PV302 - IN-BLDG AC, DC & DATA CONDUIT
PV303 - AC, DATA & CONTROL CONDUIT LAYOUT
PV304 - DC CONDUIT LAYOUT
PV305 - GROUNDING PLAN
PV306 - WIRE MANAGEMENT LAYOUT
PV307 - CONDUIT & GROUNDING DETAILS
PV401 - STRUCTURAL CRITERIA & ROOF C RACKING
PV501 - INVERTER STATION 1: WALL LAYOUT
PV502 - INVERTER STATION 2: WALL LAYOUT
PV503 - INVERTER STATION 3: WALL LAYOUT
PV504 - C-CHANNEL (INV STATION 1) & INV DETAILS
PV505 - GRADE-LEVEL ELECTRICAL EQPT
PV601 - SINGLE LINE
PV602 - SEL RELAY WIRING
PV603 - INVERTER & WIRING SCHEDULES
PV604 - DAS DRAWINGS
PV605 - LABELS
PV606 - SYSTEM MAP

PV607 - DATASHEETS 1

4. SECTION 00 11 16 – INVITATION TO BID

Page 2, SEALED FILED TRADE-BIDS:
Delete: "11:00 a.m., Thursday, February 17, 2022"
Insert: "11:00 a.m., Thursday, February 24, 2022"

5. SECTION 00 72 00 – CITY OF WORCESTER CONSTRUCTION MANAGER AT RISK CONTRACT - GENERAL CONDITIONS OF THE CONTRACT:

Insert: New appendix 00 72 00f - Owner-Construction Manager Agreement (attached)

6. SECTION 04 20 00 – MASONRY TRADE CONTRACT REQUIREMENTS
SECTION 05 00 01 – MISC. & ORNAMENTAL IRON TRADE CONTRACT REQUIREMENTS
SECTION 07 00 00 – DAMPPROOFING, WATERPROOFING & CAULKING TRADE CONTRACT REQUIREMENTS
SECTION 07 00 02 – ROOFING & FLASHING TRADE CONTRACT REQUIREMENTS
SECTION 08 00 05 – METAL WINDOWS TRADE CONTRACT REQUIREMENTS
SECTION 08 00 08 – GLASS & GLAZING TRADE CONTRACT REQUIREMENTS
SECTION 09 00 05 – ACOUSTICAL CEILINGS TRADE CONTRACT REQUIREMENTS
SECTION 09 00 06 – RESILIENT FLOOR TRADE CONTRACT REQUIREMENTS
SECTION 09 00 09 – PAINTING TRADE CONTRACT REQUIREMENTS
SECTION 14 00 02 – ELEVATOR TRADE CONTRACT REQUIREMENTS
Page 2, 1.2 Paragraph F, Item 2

SECTION 21 00 01 – FIRE PROTECTION
Paragraph 1.5.G

SECTION 22 00 00 – PLUMBING
Paragraph 1.1.E.2

SECTION 23 00 00 – HVAC
Paragraph 1.01.E.2

SECTION 26 00 01 – ELECTRICAL
Paragraph 1.2.E.1

Delete: E0.1 through —through PV605
Insert: New list below:

E0.1, E0.2, E0.3, E0.3A, E0.4, E0.5, E0.6, E0.7, E0.8, E0.11, E0.12, E1.1, E1.2, E1.3, E1.4, E1.5, E1.6, E1.7, E1.8, E1.9, E1.10, E1.11, E1.12, E1.13, E1.14, E1.15, E1.16, E1.17, E1.18, E1.19, E2.1, E2.2, E2.3, E2.4, E2.5, E2.6, E2.6A, E2.6B, E2.6C, E2.7, E2.8, E2.9, E2.10, E2.11, E2.12, E2.13, E2.14, E2.15, E2.16, E2.17, E2.18, E3.1, E3.2, E3.3, E3.4, E3.5, E3.6, E3.7, E3.8, E3.9, E3.10, E3.11,

E3.12, E3.13, E3.14, E3.15, E3.16, E3.17, E3.18, E3.19, E3.20, E4.0, E4.1, E4.2, E4.3, E4.4, E4.5, E4.6, E5.0A, E5.0B, E5.0C, E5.0D, E5.0E, E5.0F, E5.0G, E5.0H, E5.0I, E6.0A, E6.0B, E6.0C, E6.0D, E7.1, E7.2, E7.3, E8.1, E8.2, E9.00, E9.01, E9.02, E9.03, E9.04, E9.05, E9.06, E9.07, E9.08, E9.09, E9.10, E9.11, E9.12, E9.13, E9.14, E9.15, E9.16, E9.17, E9.18, E9.19, E9.20, E9.21, FA0.1, FA0.2, FA1.1, FA1.2, FA1.3, FA1.4, FA1.5, FA1.6, FA1.7, FA1.8, FA1.9, FA1.10, FA1.11, FA1.12, FA1.13, FA1.14, FA1.15, FA1.16, FA1.17, FA1.18, FA2.1A, FA2.1B, FA2.1C, FA2.1D, FA2.1E, FA3.0, FA4.0, FA5.0A, FA5.0B, TC0.1, TC1.1, TC1.2, TC1.3, TC1.4, TC1.5, TC1.6, TC1.7, TC1.8, TC1.9, TC1.10, TC1.11, TC1.12, TC1.13, TC1.14, TC1.15, TC1.16, TC1.17, TC1.18, TC2.1, TC2.2, TC2.3, TC2.4, TC2.5, TC2.6, TC3.1A, TC3.1B, TC3.1C, TC3.2A, TC3.2B, TC3.2C, TC3.2D, TC3.3A, TC3.3B, TC3.3C, TC3.3D, TC3.4A, TC3.4B, TC3.4C, TC3.5A, TC3.5B, TC3.6, TC3.7A, TC3.7B, TC3.8A, TC3.8B, TC3.8C, TC3.8D, TC4.0, PV001, PV002, PV101, PV102, PV103, PV104, PV201, PV202, PV203, PV204, PV205, PV206, PV207, PV208, PV209, PV301, PV302, PV303, PV304, PV305, PV306, PV307, PV401, PV501, PV502, PV503, PV504, PV505, PV601, PV602, PV603, PV604, PV605, PV606, PV607.

8. SECTION 05 50 00 – METAL FABRICATIONS

Page 2, Paragraph 1.2. SUMMARY, B:
Delete: Item “18.” In its entirety.
Delete: Item “36.” In its entirety.

Page 2, Paragraph 1.2.B.g:
Delete: “satellite AP Suite, ”

Page 7, Paragraph 1.4.X.:
Delete: “Elevator guide rails, tube steel, bracket support, embed plates and sill support angles as indicated on drawings.”
Insert: “Sill support angles and pit ladder as indicated on drawings.”

Page 22, Paragraph 2.13 SUSPENDED STEEL GRID SYSTEM AT ART ROOMS:
Delete: Section in its entirety

9. SECTION 06 10 00 – ROUGH CARPENTRY

Page 1, Paragraph 1.1, B, 7, j
Insert: “1) Blocking for items, including but not limited to, toilet accessories that are furnished by Owner and installed by Contractor.
2) Blocking for furniture, fixtures, and equipment that require attachment to a wall.”

10. SECTION 06 20 00 – FINISH CARPENTRY

Page 9, PART 2 - PRODUCTS:
Insert: “2.9 FRAMELESS DOOR FRAME

A. Frameless door frame cut from finish grade hardwood, clear without knots or surface defects, and conform to AWI/AWMAC/WI "Architectural Woodwork Standards", latest edition. Cut from continuous length of wood (no splicing).
   1. Yellow poplar; plain sawn
   2. Natural Birch; plain sawn
   3. Natural Maple; plan sawn.

B. Provide adequate shimming in wall to ensure that frames are installed square and true."

11. SECTION 07 21 63 – FLUID-APPLIED INSULATIVE COATING

Page 1, Paragraph 1.1.A:
Insert: "8. Overhead door metal fabrications frame not exposed to view."

12. SECTION 07 42 43 – COMPOSITE WALL PANELS

Page 7, Paragraph 2.1.A.3:
Delete: "Fairfield Metal, LLC, Fairfield, NJ"
Insert: "Fairfield Architectural, Bloomfield, CT"

Page 9, Paragraph 2.4.C.3:
Delete: "Fairfield Metal, LLC, Fairfield, NJ, product "Vitrabond FR""
Insert: "Fairfield Architectural, Bloomfield, CT, product Vitrabond FR""

13. SECTION 07 42 49 – SINTERED CERAMIC FAÇADE SYSTEM

Page 5 Paragraph 1.6 3. a.
Delete: "Color samples: Architect to select custom color including colors. Up to three colors may be selected"
Insert: "Color samples: Architect to select custom burgundy color. Up to three colors may be selected."

Page 9 Paragraph 2.4 D
Delete: "Custom Color selected by Architect"
Insert: "Custom burgundy color selected by Architect"

Page 10 Paragraph 2.5 D. 2
Delete: Entire note

14. SECTION 08 00 05 – METAL WINDOWS TRADE CONTRACT REQUIREMENTS

Page 5, Paragraph 1.7.B:
Delete: "curtain wall, storefront, entrance doors,"

15. SECTION 08 43 13 – ALUMINUM FRAMED STOREFRONTS

Page 10, Paragraph 2.11.A.8:

Delete: "Color and Appearance: Provide custom colors as provided by Architect including colors designated by the coating manufacturer as "bright," "premium," "pearlescent," or "metallic". Colors shall be in configuration approved by the Architect.""

Insert: "Custom color finish and appearance: Provide color and finish matching Alucobond Harvest Gold Mica. Color shall be in configuration approved by the Architect."

16. SECTION 08 44 13 – GLAZED ALUMINUM CURTAIN WALLS

Page 10, Paragraph 2.7.D:

Delete: "Custom color finish and appearance: Finish to match curtainwall factory finishing including custom color options listed therein. Provide three (3) minimum custom colors as provided by Architect including colors designated by the coating manufacturer as "bright," "premium," or "metallic". Colors shall be in configuration approved by the Architect."

Insert: "Custom color finish and appearance: Provide color and finish matching Alucobond Harvest Gold Mica. Color shall be in configuration approved by the Architect."

Page 20, Paragraph 2.19.A.8:

Delete: "Color and Appearance: Provide up to three colors as selected by Architect from manufacturer's complete range of options, without additional cost to the Owner. Color required may be considered "premium," or "metallic" by the coating manufacturer.""

Insert: "Color and Appearance: Provide color and finish to match Alucobond Harvest Gold Mica. Color shall be in configuration approved by the Architect."

17. SECTION 08 51 13 – ALUMINUM WINDOWS

Page 22, Paragraph 2.11.L.8:

Delete: "Color and Appearance: Provide up to three custom colors as selected by Architect including colors designated by the coating manufacturer as "premium", "bright", or "metallic". Colors shall be in configuration approved by the Architect.""

Insert: "Color and Appearance: Provide color and finish matching Alucobond Harvest Gold Mica. Color shall be in configuration approved by the Architect."

18. SECTION 09 51 00 – ACOUSTICAL CEILINGS

Page 9, Paragraph 2.4.B.7.a:

Insert: "Number 1941" at the end

Page 10, Paragraph 2.4.G:

Insert: "4. Acoustic Board: Applied on top of ACT-6 & ACT-3 panels in Piano Lab (E156) Band (E157) and Chorus (E151). Basis of Design "Black Theater Board" by Sound Seal, 2" thick, 3#s/SF.

5. Acceptable Products:

a. Acoustical Solutions “Black Theater Board”
b. Owens Corning “Select Sound” ”

Page 11, Paragraph 2.4.I.5:
Delete: “full range of available colors”
Insert: “full range of interior “Effects” colors”

Page 11, Paragraph 2.4.I.
Insert: “9. Wall plank system at Media Center: Armstrong Metalworks Linear Wall Planks, or approved equal. Match finish selection of ceiling planks.”

Page 12, Paragraph 2.4.L:
Delete: “(Auditorium)”
Insert: “(Auditorium, Media Center, College & Career Center)”

Page 12, Paragraph 2.4.L.5:
Delete: “from manufacturer’s full range of available colors”
Insert: “1. Auditorium: Standard six (6) painted finishes
2. Media Center: Standard “Effects” finishes
3. College & Career Center: RAL color”

Page 12, Paragraph 2.4.O.2:
Insert: “c. Gordon “Linear Fin Ceiling””

Page 12, Paragraph 2.4.P:
Delete: “Gordon “Linear Fin Ceiling”Type ACT-15 ceiling panel (Partial Ceiling at E281, Lower Cafeteria)”
Insert: “Type ACT-15 ceiling panel (Partial Ceiling at E281, and Lower Cafeteria ceiling clouds)”

19. SECTION 09 65 43 – LINOLEUM FLOORING

Page 6, Paragraph 2.1.A.1.b:
Delete: “Armstrong World Industries, Inc., Flooring Division, Lancaster PA
Insert: “Gerflor, USA Bensenville, IL

Page 7, Paragraph 2.3.A.2:
Delete: “Armstrong World Industries, Lancaster PA, product: Marmorette” and “Colorette””
Insert: “Gerflor, USA “DLW Linoleum”

20. SECTION 10 28 13 – TOILET ACCESSORIES

Page 5, Paragraph 2.2.F:
Delete: Paragraph F. in its entirety.

Insert: "F. Electric dryer (HD): high speed, ADA-compliant, low energy consumption, surface-mounted hand dryer with no-touch infrared-sensor operation. Automatic shut-off after 90 seconds of non-use. GreenSpec™ Listed.

1. Basis of Design Products: To establish a standard of quality, design, and function desired, Drawings and Specifications have been based on World Dryers, VERDEdri, model Q-973A2
    a. Acceptable manufacturers: Subject to compliance with the requirements specified herein, manufacturers offering products which may be incorporated in the work include the following, or approved equal:
        i. American Specialties, Inc., Yonkers, NY; model 0196-1-93
        ii. Excel Dryer, East Longmeadow, MA; model XL-SB
    b. Substitutions: The Architect will consider products of comparable manufacturers as a substitution, pending the Contractor's submission of adequate documentation of the substitution in accordance with procedures in Division 1 of the Project Manual. Documentation shall include a list of five similar projects of equivalent size where products have been installed for a minimum of two years, and manufacturer's certification that products are fabricated in the United States.
2. Electrical Requirements: 120v, 10A (confirm with Electrical Drawings)
3. Cover: One piece having brushed stainless steel finish.
4. Filtration System: HEPA- filter"

21. SECTION 12 35 53 – LABORATORY CASEWORK

Page 8, Paragraph 2.3.B:
Delete: "Construction: "
Insert: "Typical construction:"

Page 8, Paragraph 2.3.B:
Insert new subsection:

"1. Construction at expansion joints passing through millwork (10th Grade Science A002: Extruded aluminum face bars in ½" centers parallel to the long dimension; 0 degree deflection; 1-inch nominal frame border with concealed spring clips. Provide aligning pins to join multiple sections together for continuous appearance. Leave gap in adjacent grilles at expansion joint and provide snap-on .032 aluminum slip cover to bridge gap (finish to match grille)."

22. SECTION 14 21 20 – ELECTRIC TRACTION ELEVATORS

Page 1, Paragraph 1.2.C.:
Insert: "C. Provide bracket support inserts, documentation and instructions. Installation of inserts by 04 20 00 Unit Masonry."

Page 1, Paragraph 1.3.C.:

Delete: "and grouting of sills"
Insert: "grouting of sills and inserts"

Page 1, Paragraph 1.3.D.:
Delete: "pit ladder, divider beams, supports for entrances and rails, and hoisting beam at top of elevator hoistway"
Insert: "Sill support angles and pit ladder"

23. SECTION 21 00 01 – FIRE PROTECTION

Page 16, Paragraph 1.9 G 6:
Delete: "1 week"
Insert: "2 weeks written"
Insert: after notice to the, "Construction Manager, with copies of notice sent to the Architect and FP Engineer of Record"
Insert: paragraph "e" "Device acceptance testing with F/A trade contractor.

Page 16, Paragraph 1.9 G 7:
Delete: Entire paragraph

Page 38, Paragraph 2.19 H
Delete: Acoustical roof decks (may be installed in the gym, auditorium, and cafeteria, and/or music rooms) have
Insert: ***An acoustical roof deck will be installed in the gym. It has***

Page 50, Paragraph 3.8 K 3
Insert: ***Note: the acoustical roof deck to be installed in the gym precludes the use of retaining straps. See special hanger / bracing attachments specified under section 2.19 H.***

Page 55, Paragraph 3.16 , A. 3:
Insert: paragraph "a". "Where drains are located above accessible ceiling, provide a 1-1/2" diameter, "FP Drn" valve tag permanently mounted to the ceiling grid, by the best tile to remove for accessing the drain."

Page 56, Paragraph 3.16 , A. 4:
Insert: paragraph "a". "Where control valves are located above accessible ceiling, provide a 1-1/2" diameter, "FP" valve tag permanently mounted to the ceiling grid, by the best tile to remove for accessing the valve."

Page 57, Paragraph 3.17:
Insert: Paragraph "A" "Provide minimum 2 weeks written notice to the Construction Manager, with copies of the notice sent to the Architect and FP Engineer of Record, of all proposed testing dates per section 1.9.

Page 57, Paragraph 3.17 C 3.

Insert: "the list below). The FP trade contractor may submit the list below with each item initialed as tested and passed. OR the FP trade contractor may submit the full NFPA 72 test report, with all fire protection devices highlighted."

Page 60, Paragraph 3.19, A. 1. c:
Delete: "Provide 1 spare"
Insert: "Provide 2 spares"

Page 60, Paragraph 3.19, A. 1:
Insert: paragraph "d" – "For concealed pendants, provide 1 spare cap for each spare sprinkler provided."

24. SECTION 22 00 00 – PLUMBING

Page 11, 1.2 H.
Change: Change Section 01 91 00 Commissioning to Section 01 91 13.

Page 26, 2.2 H.
Delete: P17 Wall Mounted Eyewash is not used on this project, therefore delete the wording from the specification and state "Not Used"

Page 33, 2.4 B.
Delete: Delete the reference to "natural gas" in the sentence.

Page 33, 2.4 E.
Delete: Delete the reference to "gas" in the first sentence.
Add: Replace this reference with "RO system".

Page 34, 2.4 E.
Add: Add Drop-In Frost Top to the list of Kitchen Equipment

Page 44, 2.6 O.
Add: RO System Piping, below and above grade: PEX Piping as specified below.

1. Tubing
   a. Material: Crosslinked polyethylene (PEX) manufactured by PEX-a or Engel method
   b. Type: Wirsbo AQUAPEX
   c. Material Standard: Manufactured in accordance with ASTM F876 and ASTM F877 and tested for compliance by an independent third party agency
   d. Standard grade hydrostatic design and pressure ratings from PPI
   e. Fire-rated assembly listings in accordance with ANSI/UL 263
      (1) UL Design No. L557 — 1-hour wood frame floor/ceiling assemblies
      (2) UL Design No. K913 — 2-hour concrete floor/ceiling assemblies

(3) UL Design No. U372 — 1-hour wood stud/gypsum wallboard wall assemblies

(4) UL Design No. V444 — 1-hour steel stud/gypsum wallboard wall assemblies

f. Minimum Bend Radius (cold bending): No less than six times the outside diameter. Use a bend support as supplied by the PEX tubing manufacturer for tubing with a bend radius less than stated.

g. Nominal Inside Diameter: Provide tubing with nominal inside diameter, in accordance with ASTM F876 as indicated.

(1) ⅜ inch

(2) ½ inch

(3) ¾ inch

(4) 1 inch

(5) 1¼ inch

(6) 1½ inch

(7) 2 inch

2. Fittings

a. Material: Fitting assembly is manufactured from material listed in paragraph 5.1 of ASTM F1960.

b. Material Standard: Comply with ASTM F1960.

c. Type: PEX-a cold expansion fitting.

(1) Assembly consists of the appropriate ProPEX insert with a corresponding ProPEX Ring.

3. Manifolds

a. Material

(1) Type L copper body with UNS 3600 series brass ProPEX outlet connections

(2) Engineered Plastic (EP) body with ProPEX outlet connections

b. Manifold Type

(1) Uponor ProPEX 1" Copper Manifold

(2) Uponor engineered plastic (EP) Manifold

(3) All manifolds manufactured with the appropriate-sized ProPEX fittings on the manifold supply inlets.

4. Accessories

a. Angle stops and straight stops that are compatible with PEX tubing are supplied by the PEX tubing manufacturer.

b. Bend supports designed for maintaining tight radius bends are supplied by the PEX tubing manufacturer.

c. ProPEX expander tool to install the ASTM F1960 compatible fittings are supplied by the PEX tubing manufacturer.

d. The tubing manufacturer provides clips and/or PEX rails for supporting tubing runs.

e. All horizontal tubing hangers and riser clamps are epoxy-coated material.

5. Alternate manufacturers: Watts WaterPEX, Viega, or approved equal.

Page 47, 2.7 J.
Change: In the last sentence, change (3) to (2).

Add: After the last sentence, add the following:
"The school building requires a total tank volume of 60 gallons minimum. Therefore, the expansion tank should be a Taco model #PAX254-150 with a Tank Volume of 67 gallons and an Acceptance Volume of 34 gallons or approved equal. The Outdoor Toilet and Storage Building requires a total tank volume of 2.5 gallons minimum. Therefore, the expansion tank should be a Taco model #PTA-12 with a Tank Volume of 6.4 gallons and an Acceptance Volume of 3.2 gallons or approved equal."

Page 47, 2.7 J.1.
Add: In the list of equal manufacturers, include "Wessels Company" after Flexcon Industries.

Page 51, 2.10 A.
Change: In the last sentence, change the specification section reference from 2.27.A to 2.47.A.1.

Page 69, 2.35 A..1.
Change: Change the pipe size for the boiler/chiller water feed from 1" to 1-1/4".

Page 110, 2.50 B.
Change: Change the size of the elevator sump pump basin from 24" diameter x 84" tall to 24" diameter x 96" tall.

Page 110, 2.50 B.3
Add: Fiberglass sump pump basins shall be manufactured by TOPP Industries Inc., Liberty Pumps, AK Industries Inc. or approved equal

25. SECTION 23 00 00 – HVAC

Page 9, 1.05 B.
Change: Change the first sentence reading "Product data: within 30….." with the following: "Product Data: Within 30 calendar days after the HVAC Trade Contractor has received the Owner's Notice to Proceed, submit two (2) hard copies and an electronic copy in PDF format of the following:"

Page 9, 1.05 B.

Change: Change the heading of the third paragraph reading “B. Record Drawings” to “C. Record Drawings”.

Page 17, 2.01 Y.

Change: Paragraphs “Acoustic Insulation” and “Sound Attenuating Units” are both tagged as paragraph “Y”. These are two unique paragraphs. Change acoustic insulation paragraph tag to “Y1” and Sound Attenuating Units to “Y2”.

Page 90. 2.28 H.

Add: Add the following paragraph: “7. Refrigerant coils shall be provided be compatible with the VRV manufacturers equipment. Refer to article 2.32 on Variable Refrigerant units for associated heat pump condensers required for each RTU or AHU unit. RTU/AHU manufacturer shall factory install, refrigerant pipe, control wire and power wire all the electronic expansion valves and associated VRV controllers. Refrigerant piping shall be brought to a single termination location on the unit coordinated with the exterior supporting heat pump locations.”

Page 99, 2.29 D.

Change: In paragraph D. line item #1 on manufacturers change the sentence to read as follows: “1. Valent or approved equal by Daikin or Trane.”

Page 113, 2.32 A.

Change: In paragraph A., change the 4th sentence referencing or equal manufacturers to the following: “The system shall be as manufactured by Daikin, Mitsubishi or Trane.” In addition, in paragraph A change the line item #5 to the following: “5. Acceptable manufacturer: Daikin, Mitsubishi or Trane.”

Page 125. 2.28 I.

Add: Add the following paragraph: “3. For this project, provide no less than four (4) I-Touch Managers with BACnet licenses placed throughout the project to communicate to all VRV equipment. Furnish to the custom RTU and AHU unit manufacturer refrigerant coils (or compatible information) as well as all electronic expansion valves and associated VRV controllers to facilitate mounting, piping and wiring at the RTU/AHU manufacturer.”

Page 129, 2.35 Heat Exchanger

Add: Add the following paragraph: “E. Provide 1” thick closed cell insulation on each heat exchanger. Insulation shall be as manufactured by Armorcell or equal with all seams and joints cemented vapor tight. Insulation shall cover all exposed components of the heat exchanger including protruding plate and frame support rods. Support rods shall be insulated for a minimum distance of 12” from heat exchanger plate.”

Page 151, 2.49 G.

Change: In the last sentence change the two commissioning section references from “section 01 91 00” to “section 01 91 13”.

Page 160, 2.49 L.
Add: Add the following paragraph: "6. Pandemic Mode: Provide a graphical software mode button that will override CO2 demand ventilation reset schemes on select groupings of systems thereby allowing systems to operate at their scheduled design OA capacity levels."

26. SECTION 26 32 13 – ENGINE GENERATORS

Page 1, Paragraph 1.3A:
Delete: "1000kW/1250kVA"
Insert: "900kW/1125kVA"

Page 1, Paragraph 1.3:
Insert: "B. If the generator provided is equal to or greater than 1 MW, the electrical subcontractor shall be responsible for providing a DEP emissions study; and install a stack running to no less than 10 feet (or more if required by the DEP study) above the D bldg. 5th floor high roof line."

PART 3 – DRAWINGS

ARCHITECTURAL

1. DRAWING A3.1 – GROUND FLOOR PLAN SECTION AB

A. Detail callouts added at expansion joint at doors A000 and A002A (Callouts are to existing details only; no new details added)

B. Detail callouts added at expansion joint in A002 10th Grade Science

C. Widen pilaster at column line U.9/5.6A to encapsulate expansion joint within

D. Detail callout added at expansion joint at door B010

1. Refer to sketch ADD-3/A-005 for items A-D above

2. DRAWING A3.4 – MAIN FLOOR PLAN SECTION E

A. At Detail 1 Main Level Floor Plan – Section E, add text note “DOOR LEAF OPERATED BY AUTOMATIC OPENER” to south side door leaves of doors X3 and E100.1B

B. At Detail 1 Main Level Floor Plan – Section E, add three HC symbols to walls of Room E101 – Main Admin

C. At Detail 1 Main Level Floor Plan – Section E, add new entry access pedestal and callout detail 17/A6.29

3. DRAWING A3.5 – MAIN FLOOR PLAN SECTION CD

A. At Detail 5, delete overhead generator exhaust stack (shown dashed).

B. At room C111 VOC & Tech Teacher Planning, a Refrigerator and CW4 Teacher planning sink cabinet has been added. As part of this change, a P-14 sink has been added, as well as an above countertop GCFI outlet.

C. At room C111 VOC & Tech Teacher Planning, the CW6 Classroom Window Casework has been replaced by a CW6D Chilled Beam Cabinetry unit, and the flanking wall chases enlarged accordingly.

D. Doors C111A and C113A removed from project.

E. Large format printer removed from C111 VOC & Tech Teacher Planning.

4. DRAWING A3.19 – ROOF PLAN SECTION AB

A. At ROOF DETAIL LOCATIONS LEGEND:

Insert: “FPRH (2): FIRE PROTECTION ROOF HYDRANTS (2) TWO PENETRATIONS: 20/A6.30.”.

5. DRAWING A3.20 – ROOF PLAN SECTION E

A. At ROOF DETAIL LOCATIONS LEGEND:

Insert: "FPRH (2): FIRE PROTECTION ROOF HYDRANTS (2) TWO PENETRATIONS: 20/A6.30.".

6. DRAWING A3.21 – ROOF PLAN CD

A. At ROOF DETAIL LOCATIONS LEGEND:

Insert: "FPRH (2): FIRE PROTECTION ROOF HYDRANTS (2) TWO PENETRATIONS: 20/A6.30.".

7. DRAWING A3.22 – ROOF PLAN SECTION DE

A. At ROOF DETAIL LOCATIONS LEGEND:

Insert: "FPRH (2): FIRE PROTECTION ROOF HYDRANTS (2) TWO PENETRATIONS: 20/A6.30.".

8. DRAWING A4.1 – GROUND FLOOR REFLECTED CEILING PLAN SECTION AB

A. Dimensions added to clarify ACT location with regard to expansion joint

9. DRAWING A4.6 – MAIN FLOOR REFLECTED CEILING PLAN SECTION DE

A. Revise ceiling material to CT-5 at lower Cafeteria E181 below stairs (outside Servery)

B. Delete: All "ACT-3" callouts at lower Cafeteria cloud ceilings

C. Add acoustic drywall joints & control joints at Servery E190 ceiling; add dimensions to locate linear LED lights

1. Refer to sketch ADD-3/A-003 for items A-C above

10. DRAWING A4.8 – LEVEL 2 REFLECTED CEILING PLAN SECTION E

A. Adjusted heights and dimensions of ACT Ceiling in Band (E157) and Chorus (E151)
1. Refer to sketch ADD-A-004 for item A above.

B. In Piano Lab (E156) Add note "ACOUSTIC BOARD BY 09 51 00 ABOVE ACT"

11. DRAWING A4.10 – LEVEL 2 REFLECTED CEILING PLAN SECTION DE

A. In Multi-Media Makers Space (E285) update ACT-9 grid to a 24" x 24" grid spacing.
1. Refer to Sketch ADD-3 / A-029 for item A above.

12. DRAWING A5.1– EXTERIOR ELEVATIONS

A. At Detail 5, Building E North Elevation at Ground Floor windows between Column Lines 20 and 23:

Delete: "W4"
Insert: "W5"

13. DRAWING A5.4 – EXTERIOR ELEVATIONS

A. At Detail 1 and Detail 2, delete generator exhaust stack.

B. At Detail 3, Building C and D Connector West Elevation @ Roof, at Main Floor, Workshop C115.1, Window Type W2:

Insert: "IG-1, TYP."

C. At Detail 1, at garage entry:

Delete: "OVERHEAD MAXIMUM CLEARANCE BAR"
Insert: "OVERHEAD POWDER-COATED ALUMINUM CLEARANCE BAR BY 05 50 00, 7" TALL WITH BLACK LETTERING AS SHOWN; CENTERED ON OVERHEAD DOOR OPENING BEYOND"

D. At Detail 1, at garage entry, add note "6" DIA. SCHEDLE 40 WELDED GALVANIZED STEEL FRAME WITH ALUMINUM HANGERS BY 05 50 00"

E. At Detail 1, at garage entry, add note "CONCEALED FLANGE CONNECTORS BY 05 50 00"

F. At Detail 1, add "10-4"" dimension to steel frame height and "13'-0"" dimension to clearance bar width

14. DRAWING A6.17 – CURTAIN WALL, WINDOW, STOREFRONT, AND ALUMINUM FRAME TYPES

A. Glazing Elevation CW50 – mullion shifted, changing dimension from 8' 7 ¾"to 8' 9 ½", and 2' 8 ¼" to 2' 6 ½"

B. At CW44:

Delete: "6'-6 ¾"".
Insert: "6'-8" M.O.".

C. At CW44, Doors X5:

Delete: "6'-0 1/4" D.O.".
Insert: "6'-1 1/2" D.O.".

D. At CW44:

Delete: "6'-6 3/4"".
Insert: "6'-8" M.O.".

E. At CW48, Doors X6, X7, X10, X14 & X21:

Delete: "6'-4"".
Insert: "6'-8" M.O.".

F. At CW48, Doors X6, X7, X10, X14 & X21:

Delete: "6'-11"".
Insert: "7'-4" R.O.".

15. DRAWING A6.24 – EXTERIOR DETAILS

A. Detail 16: Revised to coordinate expansion joint detailing through millwork
   1. Refer to sketch ADD-3/A-006

16. DRAWING A6.29 – EXTERIOR DETAILS

A. Add new Detail 17 Plan – Entry Access Pedestal

B. Add new Detail 18 Elevation – Entry Access Pedestal

17. DRAWING A6.30– ROOF DETAILS

A. At Detail 3, Roof Curb

Delete: "07 54 00"
Insert: "07 54 19"

18. DRAWING A7.0– ELEVATOR PLANS, SECTIONS AND DETAILS

A. At details 1 and 2:

Delete: "EMBED PLATE (05 50 00) AT BRACKET SUPPORTS; LOCATION AND DIMENSIONS TO BE COORDINATED WITH MANUFACTURER"
Insert: "BRACKET SUPPORT INSERTS (14 21 20) INSTALLED BY (04 20 00) UNIT MASONRY; LOCATION AND DIMENSIONS TO BE COORDINATED WITH MANUFACTURER"

B. At details 14 and 16:

Delete: "TUBE STEEL (05 50 00) FLUSH WITH HOISTWAY; LOCATION AND DIMENSIONS TO BE COORDINATED WITH MANUFACTURER"
Insert: "BRACKET SUPPORT INSERTS (14 21 20) INSTALLED BY (04 20 00) UNIT MASONRY; LOCATION AND DIMENSIONS TO BE COORDINATED WITH MANUFACTURER"

19. DRAWING A7.7 – ENLARGED STAIR PLANS, SECTIONS AND ELEVATIONS

A. Detail 3: Detail revised to clarify wall finishes at area below community stair; new millwork bench added in alcove below community stair

   1. Refer to sketch ADD-3/A-026

B. Detail 4: Detail revised to clarify wall finishes at area below community stair; new millwork bench added in alcove below community stair

1. Refer to sketch ADD-3/A-026

C. Detail 6: Delete “Linear LED light fixture” note; new millwork bench added in alcove

D. Detail 7: Detail revised to clarify wall finishes at exterior of community stair (looking W-E)

1. Refer to sketch ADD-3/A-027

E. Detail 8: Detail revised to clarify wall finishes at area below stairs; new millwork bench added in alcove below stairs

F. Detail 9: Detail revised to clarify wall finishes at exterior of community stair (looking E-W)

1. Refer to sketch ADD-3/A-028

20. DRAWING A7.8– STAIR SECTIONS

A. Replace the entire drawing with the attached new drawing A7.8.

21. DRAWING A7.9– STAIR SECTIONS

A. At details 2 and 4:

Delete: “WAYFINDING SIGNAGE (10 14 00)”
Insert: “STAIR SIGNAGE (10 14 00)”

22. DRAWING A7.10– STAIR SECTIONS

A. At details 2 and 4:

Delete: “WAYFINDING SIGNAGE (10 14 00)”
Insert: “STAIR SIGNAGE (10 14 00)”

23. DRAWING A7.11 – STAIR SECTIONS

A. Replace the entire drawing with the attached new drawing A7.11.

24. DRAWING A7.12 – STAIR AND GUARD DETAILS

A. Replace the entire drawing with the attached new drawing A7.12.

DRAWING A7.13 – STAIR AND GUARD DETAILS

A. At detail 15:

Delete: “1’-2”
Insert: “1’-5 1/2”

B. At detail 17:

Delete: "STEEL FILLER AT TOP OF STRINGER, WELD TO TOP STRINGER AND SCRIBE TO WALL (05 50 00) PAINTED (09 91 23) TYPICAL"

Insert: "3/16" X 3" STEEL FILLER PLATE AT TOP OF STRINGER, WELD TO TOP STRINGER, SCRIBE TO FILL VOID AT TOP OF STRINGER TO WALL, WELD ALL BUTT JOINTS (05 50 00); PAINTED (09 91 23) TYPICAL"

25. DRAWING A8.2 – TYPICAL SCIENCE CLASSROOM 1 ELEVATIONS

A. Insert: 12a/A8.2 "Pencil Grille Attachment at A002 10th Gr. Sci." (NEW DETAIL)

B. Insert: 19/A8.2 "Exp Jt Dtl at Casework – A002 10th Grade Science Classroom" (NEW DETAIL)

1. Refer to sketch ADD-3/A-006 for items A-B above

26. DRAWING A8.24a – INTERIOR ELEVATIONS & DETAILS – SERVERY

A. Detail 4:

Delete: "Tile to underside of soffit"
Insert: "CT-4M tile to underside of soffit (09 30 13)"

Delete: "Terrazzo base"
Insert: "Terrazzo base (09 66 13)

B. Detail 5: add finish information at exterior Servery wall; locate electrical devices/switches
1. Refer to sketch ADD-3/A-018

C. Insert: Details 5a and 5b – side elevations of Servery pilaster at tile transition (col line K.2/19)
1. Refer to sketch ADD-3/A-018

D. Detail 6: extended extents of section view and added dimension indicating location of isolation ceiling type 3; add various detail callouts for clarification (Callouts are to existing details only; no new details added)

E. Detail 7: add notes to detail; add callout to isolation ceiling type 3 detail (AC6/A11.5); revise installation method from metal stud framing to acoustical drywall suspension grid
1. Refer to sketch ADD-3/A-023

27. DRAWING A8.18 – ENLARGED AUDITORIUM REFLECTED CEILING PLAN

A. At Detail 4, at "Steel Flat Stock Outrigger…" note, add "by 05 50 00" immediately after the word "OUTRIGGER"

B. At Detail 5, at "1 ½" Dia. Handrails…" note, add "BY 05 50 00" immediately after the word "HANDRAILS"

C. At Detail 5, at "Welding Tab…" note, add "BY 05 50 00" immediately after the word "CHANNEL"

D. At Detail 5, at “1/4” Closure Plate…” note, add “BY 05 50 00” immediately after the word “PLATE”

E. At Detail 5, at “Bar Grating…” note, add “BY 05 50 00” immediately after the word “GRATING”

F. At Detail 5, at “Steel Flat Stock Outrigger…” note, add “by 05 50 00” immediately after the word “OUTRIGGER”

28. DRAWING A8.20 – ENLARGED LOADING DOCK PLAN

A. At Detail 1, delete overhead generator exhaust stack (shown dashed).

B. At Detail 1, delete text note “GENERATOR EXHAUST OVERHEAD, RUN VERTICALLY UP ADJACENT WALL TO LOW ROOF; SEE HVAC DRAWINGS”

C. At Detail 2, change the width dimension of the clearance bar steel from “14’-6”” to “15’-0””

29. DRAWING A8.21 – INTERIOR ELEVATIONS – LOBBY & ENTRANCE

A. At Detail 3 Lobby – Partial North Elevation (2 of 2) and Detail 9 Lobby Vestibule – North Elevation, add automatic door opener and text “AUTOMATIC DOOR OPENER”

30. DRAWING A8.23 – INTERIOR ELEVATIONS – BAND

A. E157 ACT Ceiling heights have been revised, refer to ADD-3 / A-004.

31. DRAWING A8.26 – INTERIOR ELEVATIONS – GYMNASIUM

A. Insert new drawing detail 4/A8.26 Volleyball Floor Sleeve Detail, refer to sketch ADD-3/A-008

32. DRAWING A8.23A – INTERIOR ELEVATIONS – CHORUS

A. E151 ACT Ceiling heights have been revised, refer to ADD-3 / A-004.

B. On 2/A8.23.a Chorus South Change all AP-1 fabric covered acoustic panels in elevation to 2’-0” high, resulting in ten rows if five stacked 2’-0” x 4’-0” AP-1 Fabric covered acoustic panels.

C. On 4/A8.23.a Chorus North add one 2’-0 x 4’-0” AP-1 Fabric covered acoustic panel.

33. DRAWING A8.39– INTERIOR ELEVATIONS @ STAIRS

A. At detail 4:

Delete: “24" STAINLESS STEEL SIGNAGE INDICATING FLOOR LEVEL (10 14 00)”
Insert: “STAIR SIGNAGE (10 14 00)”

34. DRAWING A9.0 – CASEWORK SCHEDULES

A. At Casework Schedule – Main Floor Section C, a single instance of CW4 Cabinetry has been added to the schedule at room C111.

B. At Casework Schedule – Main Floor Section C, the instance of CW6 has been changed to CW6D.

35. DRAWING A9.5 MILLWORK ENLARGED PLANS AND ELEVATIONS

A. Millwork item “MW18 – Condiment Counter” omitted from design documents.

B. Millwork item “MW17 – Café” has been substantially redesigned from a series of garbage receptacles set in millwork by food service, to a standing countertop set inside a low wall, by millwork provider. Refer to sketch ADD-3/A-006.

C. Millwork item “MW20 – Book Drop Off Slot Section” added to drawing. Refer to sketch ADD-3/A-007.

36. DRAWING A10.2 – DOOR SCHEDULE – MAIN FLOOR

A. At schedule “DOOR SCHEDULE – MAIN FLOOR SECTION C” Omit Doors C111A and C113A.

B. Insert General Note “DOORS C111A and C113A NOT USED/OMIT”

37. DRAWING A11.1 – ROOM FINISH SCHEDULE GROUND AND MAIN LEVEL SECTIONS A-D

A. At the following rooms in the floor finish column of the room finish schedule: E018, A104, A104.1, B106, B114, B114.1, C107, C107.1

Delete: “CONCRETE SEALED”
Insert: “LINOLEUM”

B. At B102 The Arts’ Maker Space in the ceiling finish column of the room finish schedule:

Delete: “GWB; PAINT / ACT-9”
Insert: “GWB; PAINT / ACT-4”

13. DRAWING A11.2 – ROOM FINISH SCHEDULES MAIN LEVEL SECTION E & LEVEL2

A. At Elec C212 in the floor finish column of the room finish schedule:

Delete: “CONCRETE SEALED”
Insert: “LINOLEUM”

B. At Outdoor Storage D201.1 in the floor finish column of the room finish schedule:

Delete: "LINOLEUM"
Insert: "SEALED CONCRETE"

C. At E181 Cafeteria in the Ceiling Finish Column of the Room Finish Schedule:

Delete: ACT-3 and ACT-1

D. At Piano Lab E156 in the ceiling finish column of the room finish schedule:

Delete: ACT-3 / ACT-6 / EXPOSED STRUCTURE; PAINT
Insert: ACT-3 / ACT-6 / ACOUSTIC BOARD / EXPOSED STRUCTURE; PAINT

E. At Band E157 in the ceiling finish column of the room finish schedule:

Delete: ACT-3 / ACT-6 / EXPOSED STRUCTURE; PAINT
Insert: ACT-3 / ACT-6 / ACOUSTIC BOARD / EXPOSED STRUCTURE; PAINT

F. At Chorus E151 in the ceiling finish column of the room finish schedule:

Delete: 60% ACT-3 / 40% ACT-6 / EXPOSED STRUCTURE; PAINT
Insert: ACT-3 / ACT-6 / ACOUSTIC BOARD / EXPOSED STRUCTURE; PAINT

14. DRAWING A11.3 – ROOM FINISH SCHEDULE LEVELS 3 & 4

A. At Mech E302 in the floor finish column of the room finish schedule:

Delete: "CONCRETE SEALED"
Insert: "LINOLEUM"

15. DRAWING A11.4– ROOM FINISH SCHEDULE LEVEL 5 & STAIRS

A. At details 4, 4A AND 4B:

Delete: "STAINLESS STEEL"
Insert: "CAST ALUMINUM LETTER"

16. DRAWING A12.10 – LEVEL 2 FINISH PLAN SECTION DE

A. At IDF D205.1:

Delete: "RAF-2" (resilient athletic flooring) hatch pattern
Insert: "SL-4" (sheet linoleum) hatch pattern

FIRE PROTECTION

1. DRAWING FP1.0 – FIRE PROTECTION LEGENDS, SCOPE AND NOTES

A. Legend – open triangle symbol for sidewall sprinkler

a. Delete: Bid Set Description
b. Insert: "EC Sidewall, QR, K5.6, 155 F, Listed for slopes up to 4:12. VK 605 or Equal.

2. DRAWING FP1.1 – FIRE PROTECTION KEY PLAN

A. Levels Main, 2, 3, 4, 5, Roof

a. Delete Riser 2 Bid Set Descriptions

b. Insert: For Riser 2 – "STDP Riser 2, 6", with 2-1/2" drain riser. Serves levels main and 2 as a combination sprinkler-standpipe riser. Serves 3, 4, 5, as a standpipe only riser. Continues up to 2 hose valves in a roof penthouse."

c. Delete: "proposed 8" underground site water loop" from Main level key plan site-loop call-out.

d. Locations clouded and tagged and will be issued in the conformed set.

3. DRAWING FP1.2 – FIRE PROTECTION DETAILS

A. Hanger schedule:

a. Insert: "(Levels 3, 4, and 5 only)" under EOL hanger spacing for under 100 psi

b. Insert: "(Levels Ground, Main, and 2)" under EOL hanger spacing for over 100 psi

c. Locations clouded and tagged and will be issued in the conformed set.

B. Typical Concrete deck Hanger Detail:

a. Delete: Bid set note on hanging pipe from concrete decks

b. Insert: "Hang up to 3" pipe only from concrete floor deck. Do not hang any pipe from hollow steel roof deck. Install all deck hangers per the detail on structural drawing S1.03"

c. Delete: "Threaded rod 3/8" for pipe 4" or smaller. ½" for pipe 5" and 6. Hangers for 6" pipe shall be max. 6' o.c."

d. Insert: "Threaded rod 3/8" for pipe 3" and smaller. Larger sizes must hang from structural steel."

e. Locations clouded and tagged and will be issued in the conformed set.

4. DRAWING FP1.4 – FIRE PROTECTION SCHEMATICS

A. Delete: “and beacon” from 2 callouts to 24 V bell above each (of 2) FDCs

B. Insert: “north wall of CCL lab B001” to call-out for ground level aux. drain.

C. Insert: “(except Riser 7 in non-required stair – No hose valves required)” to call-out for standpipe only hose valves.

D. Delete: “2” from standpipe only, roof hydrant call-out.

E. Insert: “Riser 2 extends to 2 hose valves in roof penthouse.”

F. Locations clouded and tagged and will be issued in the conformed set.

5. DRAWING FP4.1 - FIRE PROTECTION GROUND LEVEL REFLECTED CEILING PLAN SECTION AB

A. Commons A015 - 1 pendant added, 2 relocated to avoid linear diffusers

B. Stair A2.0 – 1 missing, 1” pipe added to upright going “up” to next landing

C. 1 missing pipe size added.

D. Locations clouded and tagged and will be issued in the conformed set.

6. DRAWING FP4.2 - FIRE PROTECTION GROUND LEVEL REFLECTED CEILING PLAN SECTION E

A. Jan E008 - Sprinkler with excessive coverage re-located

B. Computer E056 – 2 pendants added.

C. Callout added clarifying coverage in North row of classrooms.

D. Women’s E032 shower – missing sprinkler put back.

E. Locations clouded and tagged and will be issued in the conformed set.

7. DRAWING FP4.3 - FIRE PROTECTION MAIN LEVEL REFLECTED CEILING PLAN SECTION AB

A. Commons A115 - 1 pendant added, 2 relocated to avoid linear diffusers

B. Coverage of Maker-space perimeter soffits clarified with text note

C. Stair A1.1 – missing section of pipe made visible

D. Locations clouded and tagged and will be issued in the conformed set.

8. DRAWING FP4.4 - FIRE PROTECTION GROUND LEVEL REFLECTED CEILING PLAN SECTION E

A. Room names added to E137 and E175.3

B. Stair E2.1 – 2 sprinklers and piping called-out but not shown - made visible.

C. Women's E171 chase with ceiling clarified to be a chase.

D. Piano Lab E156 high-deck work incorrectly shown this sheet. Made not-visible.

E. Locations clouded and tagged and will be issued in the conformed set.

F. Some drafting dribble deleted (not clouded)

9. DRAWING FP4.5 - FIRE PROTECTION MAIN LEVEL REFLECTED CEILING PLAN SECTION CD

A. Delete: 18, un-piped, EC concealed pendants in horse-shoe-shaped 9'6" AFF soffits.

B. Insert: 28 SS concealed dry pendants on 1" swing arms in horse-shoe shaped, 9'6" AFF soffits.

C. Locations clouded and tagged and will be issued in addendum 4.

D. Room names added to 5 locations:C100, C102, C115, C117, C118

10. DRAWING FP4.6 - FIRE PROTECTION MAIN LEVEL REFLECTED CEILING PLAN SECTION DE

A. Re-located 8 sprinklers in serving to eliminate an "excessive coverage area" issue.

B. Locations above clouded and tagged and will be issued in the conformed set.

C. Added room names where missing. (not clouded)

D. Flipped direction of 4" Metraflex by col. F / 7 and 8 to make more readable. (not clouded)

11. DRAWING FP4.7 - FIRE PROTECTION LEVEL 2 REFLECTED CEILING PLAN SECTION AB

A. Piped 4 classroom entrance sprinklers, North side A wing

B. Commons A215: 1 pendant added, 2 relocated to avoid linear diffusers

C. Locations above clouded and tagged and will be issued in the conformed set.

D. Added pipe sizes where missing (not clouded)

E. Added room names A212, A214 (not clouded)

12. DRAWING FP4.8 - FIRE PROTECTION LEVEL 2 REFLECTED CEILING PLAN SECTION E

A. Replace the entire drawing with the attached new drawing FP4.8.

B. Stage: 25 upright sprinklers, on 4 rows of 2" branch-piping made visible. Calc area shape revised – adds 2 more sprinklers to calculation.

C. Auditorium: 1 row of high-deck uprights on 1-1/2" branches added – 6 uprights in front of front ceiling-cloud.

D. Chorus: drop nipples added at each of 12 pendants to reach lowered-ceiling.

E. Added pipe sizes to Corridor B210 cross main feeding west side of hall. Upsized feed to Access E268 and Access E271.3 to 2" and tied in both rooms.

F. Career Center: sprinklers and ceiling shown on this sheet are "high", belonging on FP 4.12. Made not visible.

G. Sprinklers re-located off HVAC register Storage E258, E260.

H. Tied in south branch in Vestibule – SW corner of sheet.

I. Locations clouded and tagged and the full sheet is issued as part of this addendum.

13. DRAWING FP4.10 – FIRE PROTECTION LEVEL 2 REFLECTED CEILING PLAN SECTION DE

A. Replace the entire drawing with the attached new drawing FP4.10.

B. Cafeteria cross main size increased to 4". 2 sprinklers added, 1 sprinkler deleted, numerous re-located for revised ceiling layout.

C. Media center: CM size increased. EC sprinklers replaced with SS – spacing and locations updated to match updated ceiling.

D. Sprinklers and piping incorrectly shown on this sheet for the gym, wellness center and adaptive PE were made not-visible.

E. Stair just north of Media Center – 1 sprinkler added under upper slope.

F. Locations clouded and tagged and the full sheet is issued as part of this addendum.

G. Several duplicate room names, as well as stray pipe and sprinklers showing from Level 3 were made not-visible. (locations not clouded)

14. DRAWING FP4.12 – FIRE PROTECTION LEVEL 3 REFLECTED CEILING PLAN SECTION E

A. 1 Upright added in Access A317, and 1 concealed pendant added at west end of corridor A310. Also roof hydrant drain call-out added same cloud.

B. Access E305 piping made visible (mirrors piping in access E306.

C. Career Center "high deck" – 6 pendants were called out but not showing. Made visible, with sprinkler EC tags.

D. Common Room A315 – 1 pendant added. 2 re-located to avoid linear diffusers

E. Locations clouded and tagged and will be issued in the conformed set.

15. DRAWING FP4.14 – FIRE PROTECTION LEVEL 3 REFLECTED CEILING PLAN SECTION DE

A. Media Center High-Deck piping and sprinklers revised from EC to SS, and all re-located to match new ceiling plan and sprinkler type. North cross main size increased to 2-1/2".

16. DRAWING FP4.18 – FIRE PROTECTION 1/16" SCALE ROOF PLAN

A. Insert: into call-out for Riser 8 roof hydrants: "Coordinate exact hydrant / PIV locations and routing with roof drain and drain piping." Location clouded and tagged and will be issued in the conformed set.

PLUMBING

1. GENERAL: Darken boxes around the Enlarged Plumbing Plans on the floor plans. This will be shown on the conformed set.

2. DRAWING P2.1 – Ground Floor Below Grade Plumbing Plan Section AB

A. Add RO System piping to legend.

B. For 8" storm drain up near column line 4A and V, change the roof area to 9,302 SF.

C. For elevator sump basin and sump pump, add note to refer to detail 3/P4.10.

D. In Storeroom E002, add dimensions for the floor drain location. This will be shown on the conformed set.

3. DRAWING P2.2 – Ground Floor Below Grade Plumbing Plan Section E

A. In Corridor E020 near column line 23-T.1, delete note stating "3"W UP". Also, change the 3"W from the P7A water cooler to 2"W. Possibly reroute 2"W to closer 3"W line.

B. Delete the 4"W UP in the wall between IT Services E022 and Corridor E020.

4. DRAWING P2.3 – Ground Floor Below Grade Plumbing Plan Section CD

A. For elevator sump basin and sump pump, add note to refer to detail 1/P4.10.

B. Refer to ADD-3/P006 for addition of sink in C111 Voc & Tech Teacher Planning.

5. DRAWING P3.1 – Ground Floor Above Grade Plumbing Plan Section AB

A. In Corridor A010, delete the 2”HW line from the pipe intersection at Corridor B010 down to ETA Common E060.

B. In the piping note for the plumbing chase of Unisex A014, in the second line, add “DROP” after 1/2”HW.

C. In 9th Grade Science A004, delete the 2”AV piping from lab fixture L3 to L4 (Refer to ADD-3/P003). Refer to ADD-3/P002 for acid waste and vent riser diagram for fixtures L3 and L5 along the corridor wall. Also, refer to ADD-3/P001 for acid waste and vent riser diagram for fixtures L1 and L2 along the stair tower wall.

6. DRAWING P3.2– Ground Floor Above Grade Plumbing Plan Section E

A. In IT Services E022, combine the 4”W line between column line 25 & 26.2 with the 4”W line in Help Desk E021. Delete the 4”W DN&RISE in the IT Services E022 wall is it only a 3-5/8” stud wall.

B. In ETA Construct. & Fab Shop E062, in the 4th line of the piping description for the chase along column line S.3, add “TWO SINKS” after the work “FOR”. Also, the 1/2”TW piping into this chase and the chase in ETA Digital Elect. & Robotics Shop E061 should be renamed 1/2”TWR.

C. In ETA 3D Printing Shop E063, change the 1/2”HW line running through the room to 3/4”HW.

7. DRAWING P3.3 – Main Floor Plumbing Plan Section AB

A. At Girls A111 and Boys A113, in the note for the piping in the chase, change the first three lines to state:

1/2”HWR UP
3/4”HW UP AND 1/2”HW DROP
2-1/2”CW UP AND 2”CW DROP
Also, after the note that states:
2"W DROP & 2"V UP FOR FD1'S.
Add the following note:
2"V DN&RISE FOR FD1'S

8. DRAWING P3.4 – Main Floor Plumbing Plan Section E

A. Unisex Restroom E139, the water closet, P27, is floor mounted. Provide 4”W DN from outlet.

B. At Unisex Restroom E147, in the note for the piping in the chase, in the third line, change P6’s to P2.

C. Near column line 8B and Aud Chair Storage E175.4, there are 5 plumbing risers down in a chase adjacent to Corridor B110. This is a duct chase and there may not be room to install the piping without interfering with the ductwork. These can be relocated closer to the Elevator as required to avoid the ducts.

D. In Men E174 for the piping callouts for the Lavatories, change the first line from 1/2"CW&HW DROP to 1/2"CW&HWR DROP. Add another line after 2"W DN to read 1/2"HW DROP

E. The 3" rain leader located in the wall between Conference Rm E102 and Instr Coach E103 should not be insulated so it can fit in 3-5/8" stud wall.

F. In Clinic Office E145, relocated the 10" Emergency Rain Leader to the plumbing chase provided and relocate the downspout outlet.

G. In Resting Area E133, change the 3/4"HW line size from Exam E135 to 1/2"HW.

H. In Corridor E125.1, for fixture P14, change the piping note for the vent from 2"V to 1-1/2"V. Combine the 1-1/2"V line to the 1-1/2"V from fixture P6 in Women E132.

9. DRAWING P3.5 – Main Floor Above Grade Plumbing Plan Section CD

A. Kitchen plumbing plan will be updated for various changes including RO System piping and addition of floor sink under RO systems.

B. Provide 3" Schedule 80 PVC piping for cleaning grease interceptor piped to Receiving C116 near the exterior wall. This should make evacuating the interior grease interceptor easier. Piping can run underground.

C. In Mechanical C115, add notes for gas meters stating "Domestic Hot Water System Gas Sub-Meter" and "Heating System Gas Sub-Meter" for clarity. These will be shown on the conformed set.

D. In Water Service Room D108, the 6"CW piping can connect to either end of the pipe headers. The exact connections are to be determined by the Plumber.

E. In Corridor C110 & C110.1, extend the CW, HW & HWR piping from the kitchen and kitchen equipment to the corridor piping mains.

F. Refer to ADD-3/P006 for addition of sink in C111 Voc & Tech Teacher Planning.

10. DRAWING P3.6 – Main Floor Above Grade Plumbing Plan Section DE

A. In Kitchen Storage E186, provide 2" Backwater Valve with 24"H standpipe, p-trap and 2"vent for HVAC condensate drain. Provide funnel. Connect to 10" rain leader. Refer to ADD-3/P009 for additional piping.

11. DRAWING P3.7 - Second Floor Plumbing Plan Section AB

A. At Girls A211 and Boys A213, in the note for the piping in the chase, change the third line to state:

2-1/2”CW DN AND 2”CW UP
Also, there is a 2”V riser from below for the first floor FD’s. It should
connect to the vent line in the chase. Therefore, after the note that states:
2"W DROP & 2"V UP FOR FD1'S. CONNECT TO 4"W LINE
Add the following note:
2"V DN&RISE FOR FD1'S

12. DRAWING P3.8 - Second Floor Plumbing Plan Section E

A. In Upper Auditorium E275, outside of Control E271, relocate the 4”V riser to the stud wall of the Control Room.

13. DRAWING P3.9 - Second Floor Plumbing Plan Section CD

A. At Sped Restroom C203.4, change the callout for the lavatory from P5 to P6. Change it in the pipe labelling note as well.

B. In Corridor D200 outside of Family Lockers D214, change 2”V to 3”V.

C. Possibly re-route CW piping serving FPSC in Outdoor Storage D201.1 to Showers/Toilets D218.1 to avoid unheated space. Alternate FPSC location shown for reference. Only one FPSC needs to be installed in this area.

D. In Weight Room D201 near Training D202, change 2”V.T.R. in note the 3”V.T.R.

E. In Storage D204.1 above the double doors, change note stating “3”W UP FOR LAVATORIES” to “2”W UP FOR LAVATORIES”.

F. In Team Room D222, change the note pointing to the riser near column line B.5 and 3D to 2”AW UP FOR L4’S ABOVE.

G. Refer to ADD-3/P007 for additional vent piping for added sink in C111 Voc & Tech Teacher Planning on Main Floor.

14. DRAWING P3.10 - Second Floor Plumbing Plan Section DE

A. In TV Studio E295.1, change the note stating 4”V UP TO 4”V.T.R. to 4”V UP.

B. In Upper Lobby E270, add vent for the HVAC condensate standpipe being installed on the Main Floor. Run 2”V to new 3”V.T.R. Refer to ADD-3/P009 for additional piping.

15. DRAWING P3.11 – Third Floor Plumbing Plan Section AB

A. In Prep Room A309.1, change FD-1 under Ice Maker to AFD-1

16. DRAWING P3.13 - Third Floor Plumbing Plan Section CD

A. In Boys D313, change waste stack size for lavatories from 3” to 2”.

B. In Prep D306.1, in the note for the piping serving the fume hoods, fixture L7, change the last line that states: “Typical for all P7’s” to “Typical for all L7’s”. There are 2 notes changing on this plan.

C. Refer to ADD-3/P004 for waste and vent riser diagram for Teacher Planning D316 sink and the stacked sinks on the fourth and fifth floors above.

D. Refer to ADD-3/P005 for acid waste and vent riser diagram for Science D308 lab fixtures along the exterior wall including the stacked rooms on the fourth and fifth floors above.

17. DRAWING P3.16 - Fourth Floor Plumbing Plan Section CD

A. In Boys D413, change waste stack size for lavatories from 3” to 2”. Also, the automatic trap primer valve only serves one (1)FD for this floor, so there is only one (1)1/2” trap primer line down, not two (2).

B. In Corridor D400, for the 1/2”CW line crossing column lines 6C and 6.C1 , the building expansion joint, add note stating:
“Provide Metraflex expansion coupling or equal S.S. braided hose with piping across building expansion joint (CW)”.

C. In Prep D404.1 and D406.1, in the note for the piping serving the fume hoods, fixture L7, change the last line that states: “Typical for all P7’s” to “Typical for all L7’s”. There are 4 notes changing on this plan.

18. DRAWING P3.17 - Fifth Floor Plumbing Plan Section CD

A. In Boys D513, change waste stack size for lavatories from 3” to 2”.

B. In Prep D502.1 and D506.1, in the note for the piping serving the fume hoods, fixture L7, change the last line that states: “Typical for all P7’s” to “Typical for all L7’s”. There are 4 notes changing on this plan.

C. In Science D502, for fixture L3, change the last note on the piping description from 2”AV DN&RISE to 1-1/2”AV DN&RISE.

D. In Science D502 & D506, the LCW piping in the wall between column lines C.2 and B.5 is 1-1/4”, not 1-1/2”.

19. DRAWING P3.20 – Roof Plumbing Plan Section CD

A. Change 2”V.T.R. to3”V.T.R. between column lines B.5&C and 6D.

20. DRAWING P3.21 – Roof Plumbing Plan Section DE

A. Add 3”V.T.R. between column lines 12 and 13.5 near column line F.1.

21. DRAWING P4.1 – Partial Plumbing Plans

A. In detail 1/P4.1, in the piping note for the plumbing chase of Unisex A014, in the second line, add “DROP” after 1/2”HW.

B. In detail 7/P4.1, connect the 1-1/2”V for fixture P14 in the corridor to the left to the 1-1/2”V from fixture P6 in Women E132.

C. In detail 8/P4.1, at Unisex Restroom E147, in the note for the piping is the chase, in the third line, change P6’s to P2.

D. In detail 11/P4.1, at Girls A111 and Boys A113, in the note for the piping in the chase, change the first three lines to state:

1/2”HWR UP
3/4”HW UP AND ½”HW DROP
2-1/2”CW UP AND 2”CW DROP
Also, after the note that states:
2"W DROP & 2"V UP FOR FD1'S.
Add the following note:
2"V DN&RISE FOR FD1'S

E. In detail 12/P4.1, at Girls A211 and Boys A213, in the note for the piping in the chase, after the note stating:

2"W DROP & 2"V UP FOR FD1'S
Add the following note:
2"V DN&RISE FOR FD1'S

F. In detail 13/P4.1, in the note for the piping serving the chase between Girls A311 and Boys A313, in the third line, change “2”CW DN” to 2"CW DN & 3/4"CW RISE

G. In detail 18/P4.1, add 2”vent riser behind fixture P7 and offset above ceiling to new 3”V.T.R.

H. In detail 19/P4.1, add note for the drain and vent piping for fixture P22 that states: 2"W DN & 2”V RISE

I. In detail 20/P4.1, there will be a 2”V rise added in the chase near the exterior wall of Life Skills Classroom C207. This is shown on ADD-3/P007.

J. In detail 23/P4.1 title, change E-Wing to Section A. Also, change the three room names that state “Toilet” to “Unisex”.

22. DRAWING P4.2 – Partial Plumbing Plans

A. In detail 2/P4.2, in Boys D313, change waste stack size for lavatories from 3” to 2”.

B. In detail 5/P4.2, in Boys D413, change waste stack size for lavatories from 3” to 2”.

C. In detail 8/P4.2, in Boys D513, change waste stack size for lavatories from 3” to 2”.

D. In detail 10/P4.2, in Corridor Dm 200 outside of Family Lockers D214, change 2”V to 3”V.

E. In detail 11/P4.2, in Showers/Toilets D218.1, add missing note for P12 shower drain stating 2”W DN. Also, for the 6” Emergency Rain Leader DN&RISE at column line 4D-F, change the area to 6,877 SF. For the 6” Emergency Rain Leader UP at column line 3D-F, change the area to 3,614 SF For the 6” Emergency Rain Leader DN&RISE at column line 3D-B, change the area to 3,694 SF in two places. Near column line 4D-B, an alternate FPSC location is shown to avoid the unheated Outdoor Storage Room D201.1. Only one FPSC needs to be installed in this area. Finally, In Team Room D222, change the note pointing to the riser near column line B.5 and 3D to 2”AW UP FOR L4’S ABOVE.

23. DRAWING P4.3 – Partial Science Room Plumbing Plans

A. In detail 1/P4.3, in Prep D306.1, there are two references to fixture P7. This should be changed to L7. In Step Clinician D302, the arrow for the 2”AV UP and 2”AW&T UP TO 2”AFD1 is not directed to the correct piping and will be changed in the conformed set. Also, delete note in same room stating 2”AW UP FOR D/W.

B. In detail 2/P4.3, at the left hand door outside of 10th Grade Science A002, there is a piping note for fixture L3. Delete the note that states “8”STORM”. Provide note for 8” storm drain through Prop A002.1. Also, between column lines 5.6A and 6A near column line T, there is a piping note. Delete the note stating “5”STORM (OFD)”.

C. Refer to ADD-3/P003 for changes to the piping in 9th Grade Science A004.

24. DRAWING P4.4 – Partial Science Room Plumbing Plans

A. In detail 1/P4.4, in Prep A109.1, change the floor drain under the ice maker from FD1 to AFD1

B. In detail 3/P4.4, in the note for the piping serving the fume hoods, fixture L7, change the last line that states: “Typical for all P7’s” to “Typical for all L7’s”. There are 3 notes changing on this plan.

25. DRAWING P4.5 – Partial Science Room & Boiler Rm Plumbing Plans

A. In detail 1/P4.5, in Prep Room A309.1, change FD-1 under Ice Maker to AFD-1

B. In detail2/P4.5, in the note for the piping serving the fume hoods, fixture L7, change the last line that states: “Typical for all P7’s” to “Typical for all L7’s”. There are 2 notes changing on this plan. Also in Science D502 & D506, the LCW piping in the wall between column lines C.2 and B.5 is 1-1/4”, not 1-1/2”. Finally, in Science D502, the note for the LCW&LHW piping serving fixture L3 along column line 6D should state 1/2" LCW&LHW DN&RISE.

C. In detail 3/P4.5, there is an Emergency Eyewash, P25, that is only shown on the Plumbing drawings. Coordinate location with HVAC equipment as it may need to be relocated closer to the double doors. Also note that MV-2 and associated piping and recirculation pumps should be installed as close to MV-1 as possible. The HVAC Contractor needs more room along this wall. The 3”CW drop to the inlet of MV-1 will have

an automatic trap primer valve serving two floor drains in the Mechanical Room with ½" trap primer piping, Finally, the interconnecting piping between the boilers and storage tanks appears to be located in the walls. It should be racked along the wall.

26. DRAWING P4.6 – Kitchen Plumbing Plans

A. Replace the entire drawing with the attached new drawing P4.6.

B. Update kitchen background so pizza oven is shown correctly. The entire plan is issued as an addendum

C. Add floor sink under RO systems in Janitors Closet. See update plans.

D. Revise piping for RO system to run below grade to the cooking line, not above the ceiling. See update plans.

20. DRAWING P4.7 – Plumbing Details

A. In detail 11, this detail pertains to items #25A and #62. There is no disposer at item #27A.

B. In detail 15, the actual exterior grease trap dimensions are 17'-4"L x 10'-4"W x 11'-6"H with inlet invert at 10'-2" and outlet invert at 10'-0". Therefore, the liquid depth is 10'-0" and half the liquid depth is 5'-0". This is shown in submittal 33 30 00-2 Sanitary Sewerage Utilities 10,000 Gallon Grease Trap.

C. In detail 17, change FD-1 to AFD-1, change W line to AW line and change W&V PIPING note to AW&AV PIPING.

D. In detail 22, rename pump RP-1A to RP-2. Also, change the Potable Water Rated Expansion Tank to Taco model #PAX254-150 with a Tank Volume of 67 gallons and an Acceptance Volume of 34 gallons.

21. DRAWING P4.10 – Plumbing Details and Outdoor Toilet and Storage Building Plumbing Plans

A. The Outdoor Toilet and Storage Building will be updated for the correct floor plan. Room names will be added to the plan. Note that the plumbing does not change, just architectural elements.

B. In Detail 1/P4.10 and Detail 3/P4.10, change the simple fiberglass basin size from 24" diameter x 84" tall to 24" diameter x 96" tall. Note that the G.C. is installing (or has installed) a pipe sleeve in the elevator sump pit so that they can be poured. Note that the bottom of the elevator sump pit is 7'-0" below finished floor.

22. DRAWING P4.11 – Plumbing Schedules, Notes and Details

A. In the Plumbing Fixture Schedule, delete fixture P17 Wall Mounted Eyewash.

B. In the Kitchen Equipment Schedule – Plumbing Connections, add Item #59, Drop-In Frost Top. This equipment has a 1"I.W. connection.

HVAC

1. **DRAWING H3.2 – Ground Level HVAC Plan Section E**

   A. Replace drawing with addendum #3 drawing H3.2 attached

2. **DRAWING H3.4 – Main Level HVAC Plan Section E**

   A. Replace drawing with addendum #3 drawing H3.4 attached.

3. **DRAWING H3.8 – Level 2 HVAC Plan Section E**

   A. Replace drawing with addendum #3 drawing H3.8 attached.

4. **DRAWING H3.12 – Level 3 HVAC Plan Section E**

   A. Replace drawing with addendum #3 drawing H3.12 attached

5. **DRAWING H3.13 – Level 3 HVAC Plan Section CD**

   A. Replace drawing with addendum #3 drawing H3.13 attached

6. **DRAWING H3.16 – Level 4 HVAC Plan Section CD**

   A. Replace drawing with addendum #3 drawing H3.16 attached.

7. **DRAWING H3.17 – Level 5 HVAC Plan Section CD**

   A. Replace drawing with addendum #3 drawing H3.17 attached.

8. **DRAWING H4.1 – Ground Level HVAC Piping Plan Section AB**

   A. Replace drawing with addendum #3 drawing H4.1 attached.

9. **DRAWING H4.2 – Ground Level HVAC Piping Plan Section E**

   A. Replace drawing with addendum #3 drawing H4.2 attached.

10. **DRAWING H4.3 – Main Level HVAC Piping Plan Section AB**

    A. Replace drawing with addendum #3 drawing H4.3 attached.

11. **DRAWING H4.4 – Main Level HVAC Piping Plan Section E**

    A. Replace drawing with addendum #3 drawing H4.4 attached

12. **DRAWING H4.5 – Main Level HVAC Piping Plan Section CD**

    A. Replace drawing with addendum #3 drawing H4.5 attached.

13. DRAWING H4.6 – Main Level HVAC Piping Plan Section DE

A. Replace drawing with addendum #3 drawing H4.6 attached.

14. DRAWING H4.7 – Level 2 HVAC Piping Plan Section AB

A. Replace drawing with addendum #3 drawing H4.7 attached.

15. DRAWING H4.8 – Level 2 HVAC Piping Plan Section E

A. Replace drawing with addendum #3 drawing H4.8 attached.

16. DRAWING H4.9 – Level 2 HVAC Piping Plan Section CD

A. Replace drawing with addendum #3 drawing H4.9 attached.

17. DRAWING H4.10 – Level 2 HVAC Piping Plan Section DE

A. Replace drawing with addendum #3 drawing H4.10 attached.

18. DRAWING H4.11 – Level 3 HVAC Piping Plan Section AB

A. Replace drawing with addendum #3 drawing H4.11 attached.

19. DRAWING H4.12 – Level 3 HVAC Piping Plan Section E

A. Replace drawing with addendum #3 drawing H4.12 attached.

20. DRAWING H4.13 – Level 3 HVAC Piping Plan Section CD

A. Replace drawing with addendum #3 drawing H4.13 attached.

21. DRAWING H4.14 – Level 3 HVAC Piping Plan Section DE

A. Replace drawing with addendum #3 drawing H4.14 attached

22. DRAWING H4.15 – Level 4 HVAC Piping Plan Section AB

A. Replace drawing with addendum #3 drawing H4.15 attached.

23. DRAWING H4.16 – Level 4 HVAC Piping Plan Section CD

A. Replace drawing with addendum #3 drawing H4.16 attached.

24. DRAWING H4.18 – Level 5 HVAC Piping Plan Section CD

A. Replace drawing with addendum #3 drawing H4.18 attached.

25. DRAWING H5.3 – HVAC Details & Enlarged Mechanical Room Plan

A. Replace drawing with addendum #3 drawing H5.3 attached

26. DRAWING H5.4 – HVAC Piping Riser Diagrams

A. In Riser Diagram A2,A4 on the CWR pipe segment shown between the main floor and ground floor on the right side of the detail, add the pipe size 1" to the CWR tag and change the HWS tag on the ground floor to CWR.

B. In Riser Diagram A12 on the HWR riser pipe change the In Riser Diagram A2,A4 on the CWR pipe segment, change the flow shown on the 3rd level from 6 GPM to 8 GPM and change the 1" pipe size to 1-1/4". In addition, change the Ground level GPM from 2 GPM to 4 GPM and change the 3/4" pipe size from ¾" to 1".

C. In Riser Diagram A11 change the HWR tags on the left riser detail to HWS and change the GPM at the 3rd floor level from 16 GPM to 6 GPM.

D. In Riser Diagram A11 on the right HWR riser detail change the GPM at the 3rd floor level from 16 GPM to 20 GPM and change the 1-1/4" pie size shown on the 2nd level to 1-1/2".

E. In Riser Diagram A11 add pipe size tags of 1" to the HWS and HWR taps on the Main and 2nd floor levels.

27. DRAWING H5.5 – HVAC Piping Riser Diagrams

A. Replace drawing with addendum #3 drawing H5.5 attached.

28. DRAWING H5.6 – HVAC Piping Riser Diagrams

A. Refer to ADD-3/H001 Piping Riser Diagrams

29. DRAWING H6.1 – HVAC Controls

A. In the AHU-1 System Control Diagram, change the unit tag "ACCU-5" to "ACHP-13".

B. In the AHU-1 System Control Diagram, on the ACHP-13 unit the "AO – Supply Air Reset, S/S – Start/Stop and S/S – Dehum Enable Disable as well as the RS-485 comm. shall all be communicated to the VRV Central Controller. Detail shall reflect the communication wiring between the ACHP-13 unit and the AHU electronic expansion valve controllers (multiple). Each expansion valve (multiple per unit) requires 1) a digital input from EMS for On/Off control, 2) an analog input from EMS of 0-10 volt, 3) a digital output to EMS to identify defrost mode and 4) an error feedback output to the EMS.

C. In RTU-1,2,3,4,11,18 & 19 System Control Diagram, on the remote condenser sections the "AO – Supply Air Reset, S/S – Start/Stop and S/S – Dehum Enable Disable as well as the RS-485 comm. shall all be communicated to the VRV Central Controller(s). Detail shall reflect the communication wiring between the condensers and the RTU electronic expansion valve controllers(multiples). Each expansion valve (multiple per unit) requires 1) a digital input from EMS for On/Off control, 2) an analog

input from EMS of 0-10 volt, 3) a digital output to EMS to identify defrost mode and 4) an error feedback output to the EMS

30. DRAWING H6.3 – HVAC VRF Schematics and Controls

A. Replace drawing with addendum #3 drawing H6.3 attached.

31. DRAWING H7.1 – HVAC Schedules

A. Replace drawing with addendum #3 drawing H7.1 attached.

ELECTRICAL

1. DRAWING E0.4 – Electrical Site Power

A. Keyed Notes for E0.04, changes will be identified and clouded on the conformed set:
   a. Delete: 1000KW/1250KVA
   b. Insert: 900KW/1125KVA

B. Refer to Sketch ADD-3/E-014

C. Refer to Sketch ADD-3/E-018

2. DRAWING E0.6 – Electrical Site Details

A. Detail #3, changes will be identified and clouded on the conformed set:
   a. Insert: “6. ALL EMPTY CONDUITS TO BE SEALED WITH A WATERTIGHT CAP, ALL CONDUITS WITH WIRES TO BE SEALED.”

B. Detail #4, changes will be identified and clouded on the conformed set:
   a. Insert: “13. ALL EMPTY CONDUITS TO BE SEALED WITH A WATERTIGHT CAP, ALL CONDUITS WITH WIRES TO BE SEALED.”

3. DRAWING E1.4 – Lighting - Main Floor Plan E

A. Revise keyed note #2 to read as such; “Coordinate mounting of exit signs with the Architect prior to installation”.

4. DRAWING E1.6 – Lighting – Main Floor Plan Section DE

A. Refer to Sketch ADD-3/E-026.

5. DRAWING E1.6 – Lighting – Level 3 Plan Section DE

A. Refer to Sketch ADD-3/E-027.

6. DRAWING E1.17 – Lighting Level 5 Plan Section CD

A. Refer to Sketch ADD-3/E-030.

7. DRAWING E1.18 – Lighting Auditorium

A. Delete (2) light fixtures type LA-1 and replace with (4) type LA-1B. See revision to drawing E1.19 for fixture catalog number. Changes will be identified and clouded on the conformed set.

8. DRAWING E1.19 – Lighting Fixture Schedule

A. Revise light fixtures as follows;

a. Type AP: PORTFOLIO- LSR8B50-DMXDRIVER-EC8B50835-8LBW-PENDANT-CUSTOM COLOR

b. Type HP12: Rename to PX12.

c. Type HS: rename to type PX.

d. Type LA-1B: LIGMAN - ULA-60001-28W-N-W35-120/277V-DMX DRIVER

e. Type LA-2: TRACK: SMART TRAC-LENGTH: 44FT-DMX DRIVER / PROVIDE (12) TRACK HEADS-LEHIGH-ALTMAN-GAL-WW-3K-FINISH-DMX-Y-Provide with all parts and accessories for a full and complete installation.

f. Type MRx: Round down the fixture length to nearest foot. For example, 74’-11” to 74’-0”.

g. Type N2: Revise “WL-LED200” to “WL-LED201”.

h. Type T14H4: Revise “WHT-8” to “WHT-12-8”. Revise “WHK-6010” to “WHK-6022”.

i. Type T48H26: Revise “WHK-6010” to “WHK-6022”.

9. DRAWING E2.5 – Power – Main Floor Section CD

A. Refer to Sketch ADD-3/E-033.

10. DRAWING E2.6 – Power – Main Floor Plan Section DE

A. Refer to Sketch ADD-3/E-023.

11. DRAWING E2.6A – Power – Foodservice Plan

A. Refer to Sketch ADD-3/E-015.

B. Refer to Sketch ADD-3/E-017.

12. DRAWING E2.10 – Power – Level 2 Plan Section DE

A. Refer to Sketch ADD-3/E-029.

13. DRAWING E2.18 – Electrical - Outdoor Toilet, Storage Building and Press Box Plan

A. First floor plan – lighting, at Lift 10.5, delete light fixture type TD1E.

B. Second floor plan – lighting, at Elec. 10.1, delete light fixture type TD1E.

C. First floor plan – Technology, at Jan. 06, delete card reader.

D. Second floor plan – Technology, at Jan. 14, delete card reader.

14. DRAWING E3.1 – HVAC Power - Ground Floor Plan Section AB

A. AHU-1, changes will be identified and clouded on the conformed set:
   a. Revise: AHU-1 circuit to MDP2-15
   b. Delete: AHU-1-C

15. DRAWING E3.2 – HVAC Power - Ground Floor Plan Section E

A. Refer to Sketch ADD-3/E-003.

16. DRAWING E3.3 – HVAC Power - Main Floor Plan Section AB

A. Room IDF B106.1, revise FCU circuit to TS1B-14. Changes will be identified and clouded on the conformed set.

B. Room IDF A106, revise FCU circuit to TS1A-16. Changes will be identified and clouded on the conformed set.

C. Refer to Sketch ADD-3/E-004.

17. DRAWING E3.4 – HVAC Power - Main Floor Plan Section E

A. Main Admin E101, Revise (1) FC unit at the entrance from Vestibule to FCU. Revise circuit to HP1E-17. Changes will be identified and clouded on the conformed set.

18. DRAWING E3.5 – HVAC Power - Main Floor Plan Section CD

A. Refer to Sketch ADD-3/E-002.

B. Refer to Sketch ADD-3/E-005.

C. Refer to Sketch ADD-3/E-019.

D. Refer to Sketch ADD-3/E-021.

19. DRAWING E3.6 – HVAC Power - Main Floor Plan Section DE

A. Refer to Sketch ADD-3/E-006.

B. Refer to Sketch ADD-3/E-007.

C. Refer to Sketch ADD-3/E-020.

20. DRAWING E3.8 – HVAC Power - Level 2 Plan Section E

A. Refer to Sketch ADD-3/E-008.

B. Refer to Sketch ADD-3/E-013.

21. DRAWING E3.9 – HVAC Power - Level 2 Plan Section CD

A. Corridor E280, relocate FC unit outside Elec 212, (approx. distance 10FT), changes will be identified and clouded on the conformed set.

B. IDF D213, revise FCU circuit to TS2D-44. Changes will be identified and clouded on the conformed set:

22. DRAWING E3.10 – HVAC Power - Level 2 Plan Section DE

A. Refer to Sketch ADD-3/E-009.

23. DRAWING E3.11 – HVAC Power - Level 3 Plan Section AB

A. IDF A306, revise FCU circuit to TS3A-28. Changes will be identified and clouded on the conformed set.

B. Refer to Sketch ADD-3/E-001.

24. DRAWING E3.14 – HVAC Power – Level 3 Plan Section AB

A. IDF B412, revise FCU circuit to TS4B-26. Changes will be identified and clouded on the conformed set.

25. DRAWING E3.15 – HVAC Power – Level 3 Plan Section AB

A. IDF C417, revise FCU circuit to TS4C-8, changes will be identified and clouded on the conformed set:

26. DRAWING E3.16 – HVAC Power – Roof Plan Section AB

A. RTU-5, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-5 circuit to MDP2-11
   b. Delete: RTU-5-C

B. RTU-15, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-15 circuit to MDP2-20
   b. Delete: RTU-15-C

27. DRAWING E3.17 – HVAC Power – Roof Plan Section DE

A. RTU-7, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-7 circuit to MDP2-12
   b. Delete: RTU-7-C

B. RTU-8, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-8 circuit to MDP2-13
   b. Delete: RTU-8-C

C. RTU-9, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-9 circuit to MDP2-14
   b. Delete: RTU-9-C

D. RTU-10, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-10 circuit to HOSBB-11
   b. Delete: RTU-10-C

E. RTU-11, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-11 circuit to HOSBB-8

F. ACCU-1, changes will be identified and clouded on the conformed set:
   a. Insert: Power for ACCU-1 Add to circuit HP2E-31,33,35.

28. DRAWING E3.19 – HVAC Power – Roof Plan Section DE

A. RTU-17, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-17 circuit to MDP1-12
   b. Delete: RTU-17-C

B. RTU-18, changes will be identified and clouded on the conformed set:
   a. Revise: RTU-18 circuit to HOSB1-16

C. ACCU-4, changes will be identified and clouded on the conformed set:
   a. Insert: Power for ACCU-4 Add to circuit HP2D-31,33,35.

29. DRAWING E3.20 – HVAC Power Schedules

A. Refer to Sketch ADD-3/E-022

30. DRAWING E5.0H – Emergency Electrical Distribution Riser

A. Notes for Generator, changes will be identified and clouded on the conformed set:
   a. Delete: 1000KW/1250KVA
   b. Insert: 900KW/1125KVA

31. DRAWING E9.00 – Panel Schedules

A. Refer to Sketch ADD-3/E-031

32. DRAWING E9.01 – Panel Schedules

A. Panel DHGB, changes will be identified and clouded on the conformed set:
   a. Insert: (1) 30A-3P circuit breaker for ACHP-13

33. DRAWING E9.06 – Panel Schedules

A. Panel HP1B, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P circuit breaker for FCUs: 10
   b. Insert: (1) 20A-1P circuit breaker for Motorized Dampers.

B. Panel HP1C, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 22,24
   b. Insert: (2) 20A-1P circuit breakers for Motorized Dampers.

C. Panel HP2D, changes will be identified and clouded on the conformed set:
   a. Delete: (3) 20A-1P spares: 15,17,19
   b. Insert: (1) 20A-3P circuit breakers for ACCU-4.

D. Panel HP2E, changes will be identified and clouded on the conformed set:
   a. Delete: (5) 20A-1P spares: 26,27,28,29,30,31,33,35
   b. Insert: (1) 20A-1P circuit breaker for Motorized Dampers.
   c. Insert: (2) 20A-2P circuit breakers for FC units.
   d. Insert: (1) 20A-3P circuit breakers for ACCU-1.

E. Panel HP3A, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 6,8
   b. Insert: (2) 20A-1P circuit breakers for CUH-2 units.

34. DRAWING E9.08 – Panel Schedules

A. Panel HSPB1, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 13
   b. Insert: (1) 20A-1P circuit breaker for Motorized Dampers.

B. Panel HSLB1, changes will be identified and clouded on the conformed set:
   a. Insert: (1) 60A-3P circuit breaker for P10-A,B,C (circuit: 44,4648).
   b. Delete: (1) 20A-3P spare: 44,46,48

C. Panel KPA, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 50
   b. Insert: (1) 20A-1P circuit breakers for Office Receptacles.

D. Panel KPB, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 37.39
   b. Insert: (1) 20A-2P GFCI circuit breaker for item 87.

E. Panel KSP, changes will be identified and clouded on the conformed set:
   a. Delete: (3) 20A-1P spares: 48,50,52

35. DRAWING E9.18 – Panel Schedules

A. Panel TS1A, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 16
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

B. Panel TS1B, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 14
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

C. Panel TS1C, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 20
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

36. DRAWING E9.19 – Panel Schedules

A. Panel TS2D, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spares: 44
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

B. Panel TS2E, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spares: 24
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

C. Panel TS3A, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 26,28
   b. Insert: (1) 20A-1P circuit breakers for CUH-1 unit.
   c. Insert: (1) 20A-1P circuit breakers for FCU unit.

37. DRAWING E9.20 – Panel Schedules

A. Panel TS4B, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 26
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

B. Panel TS4C, changes will be identified and clouded on the conformed set:
   a. Delete: (1) 20A-1P spare: 8
   b. Insert: (1) 20A-1P circuit breakers for FCU unit.

C. Panel TSGB, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 13,15
   b. Insert: (1) 20A-2P circuit breakers for FC unit.

D. Panel TSB1, changes will be identified and clouded on the conformed set:
   a. Delete: (2) 20A-1P spares: 27,29
   b. Insert: (1) 20A-2P circuit breakers for FC units.

38. DRAWING FA1.6 – Fire Alarm – Main Floor Plan Section DE

A. Refer to Sketch ADD-3/E-016.

B. Refer to Sketch ADD-3/E-024.

39. DRAWING FA1.10 – Fire Alarm - Level 2 Plan Section DE

A. Relocate: RTU Duct Smoke into Adaptive PE D204, changes will be identified and clouded on the conformed set.

B. Refer to Sketch ADD-3/E-025.

C. Refer to Sketch ADD-3/E-028.

40. DRAWING FA1.11 – Fire Alarm - Level 3 Plan Section AB

A. Refer to Sketch ADD-3/E-010.

41. DRAWING FA1.17 – Fire Alarm - Level 5 Plan Section CD

A. Refer to Sketch ADD-3/E-011.

B. Refer to Sketch ADD-3/E-012.

42. DRAWING TC1.5 – Technology – Main Floor Section CD

A. Refer to Sketch ADD-3/E-033.

43. DRAWING TC1.6 – Technology – Main Floor Section DE

A. Refer to Sketch ADD-3/E-015.

44. DRAWING TC1.14 – Technology – Level 3 Plan Section DE

A. Refer to Sketch ADD-3/E-032.

45. DRAWING TC4.0

A. At Title Block, insert Drawing Title “Telecom Detail”.

PHOTOVOLTAIC

1. DRAWING PV001 – PV SITE PLAN

A. Replace this entire drawing with attached new drawing PV001 – PV SITE PLAN

2. DRAWING PV202 – SOURCE CIRCUITS – ROOFS A, B, E4, & E5

A. Replace this entire drawing with attached new drawing PV202 – SOURCE CIRCUITS – ROOFS A, B, E4, & E5

3. DRAWING PV203 – SOURCE CIRCUITS – ROOFS C, D1, D2, E1, E2, & E3

A. Replace this entire drawing with attached new drawing PV203 – SOURCE CIRCUITS – ROOFS C, D1, D2, E1, E2, & E3

4. DRAWING PV204 – OPTIMIZER LAYOUT – A & B

A. Insert New Drawing PV204 – OPTIMIZER LAYOUT – A & B

5. DRAWING PV205 – OPTIMIZER LAYOUT – C & D

A. Insert New Drawing PV205 – OPTIMIZER LAYOUT – C & D

6. DRAWING PV206 – OPTIMIZER LAYOUT – D2, E1, & E3

A. Insert New Drawing PV206 – OPTIMIZER LAYOUT – D2, E1, & E3

7. DRAWING PV207 – OPTIMIZER LAYOUT – E2, E4, & E5

A. Insert New Drawing PV207 – OPTIMIZER LAYOUT – E2, E4, & E5

8. DRAWING PV208 – WIRING DETAILS – DUAL TILT

A. Replace this entire drawing with attached new drawing PV208 – WIRING DETAILS – DUAL TILT

9. DRAWING PV209 – WIRING DETAILS – SOLARDOCK ROOF C

A. Replace this entire drawing with attached new drawing PV209 – WIRING DETAILS – SOLARDOCK ROOF C

10. DRAWING PV504 – C-CHANNEL (INV STATION 1) & INV DETAILS

A. Replace this entire drawing with attached new drawing PV504 – C-CHANNEL (INV STATION 1) & INV DETAILS

PART 4 - TRADE CONTRACTORS QUESTIONS AND RESPONSES

Question	Response
The HVAC Piping drawings do not show a lot of pipe sizes and show broken lines that lead out to no where.	Refer to HVAC drawings issued with this Addendum # 3
1) Can you please provide the height of the operating vent sash for the type W1 window shown on architectural sheet A6.17? 2) Windows shown on the ground floor level of the North Elevation on architectural sheet A5.1 are labeled as type W4, however they are drawn as a type W1. Can you please indicate which is correct? 3) Window type W3 on architectural sheet A6.17 is indicated to have glass type IG3 and is drawn as shaded. Window type W2 on the South Elevation on architectural sheets A5.4, A5.5, A5.6 are all indicated to have glass type IG-3, yet are not drawn as shaded. Can you please confirm if these windows should in fact receive glass type IG-3? 4) Exhibit 1, Detailed Scope of Work indicates that 080005 and 085113 are part of this trade bid package. Spec section 080005, 1.7 indicates that the warranty is to include windows, storefront, curtainwall, entrances, door hardware and glazing. Also in the Supplementary Instructions to Bidders, L is called out to include windows, storefront, curtainwall, glazing and metal skylights. Can you please clarify which scope items are part of the Metal Windows Trade Bid Package?	See Sketches and specifications clarifications included in this Addendum # 3
The specs state the liquidated damages are listed in the Owner-CM Agreement. However that seems to be missing from the specs. Please advise.	Refer to Owner-CM Agreement included in this Addendum #3
The Black Box House Lighting Control Schedule on TL9.3 does not appear to match E1.8/ E1.4. Example is HP12. Please confirm which house lighting fixtures are being controlled by the theatrical lighting system.	Refer to specification clarifications included in this Addendum # 3
In section 095100 Acoustical Ceilings, there are several references regarding the metal ceilings that state the finish shall be “selected from the manufacturer’s full range of colors” Does this include simulated wood ceiling patterns also? As these are a significant upcharge over the color palette.	Refer to specification clarifications included in this Addendum # 3
1) Is the pipe grid at the blackbox theater (A4.8) provided by the theater contractor or is it included in the misc. metals sub bid? 2) Which trade owns the sill angle shown on 21/A6.26? 3) Sheet A7.0 shows HSS elevator posts and embed plates my misc. metals. However, the posts/plates are not sized and details are not provided. Please provide the required information so all misc. metals bidders are including the same scope.	1) Pipe grid by AV subcontractor is in the specifications - See 11 06 10.2.9 Pipe Grid 2) Structural steel owns it. See Structural Drawings Section 10 S4.08 3) Refer to clarification included in

Question	Response
4) Was the intention to have the strap anchors shown on S4.24 field welded by the misc. metals subcontractor? Typically these would be shop welded to the web of the adjacent structural beams. It will be a much more costly process to have them field welded by the misc. metals subcontractor after the structural steel is erected. Please advise.	this Addendum # 3
Spec section 007300a, page 19 has the Curtainwall & Glazing Systems contractor provide the modeling for all aluminum windows (see line A). Aluminum windows is it's own Filed Sub Bid Trade Contractor. Are you certain that you want the curtainwall contractor to provide this?	Section 007300 clarification in upcoming Addenda
1) Due to the size and complexity of this project, we respectfully request a 2-week extension of the bid. 2) Please confirm if the cost of the electrical permit will be waived. 3) Please confirm who owns the test boring and the concrete footings for the sports lighting. This is separate from the concrete base that is supplied with the pole. 4) In the Supplementary Instructions to Bidders, Item KK, Electrical 007300, page 52 of 53, Item #31, please have this included in the plumbing contractor's scope of work, or provide an allowance for the electrical contractor to carry in their bid. 5) In the Supplementary Instructions to Bidders, Item KK, Electrical 007300, page 47 of 53, Item #5B, Temporary Generators, please provide the size generator(s) and duration needed or provide an allowance for the electrical contractor to can-y for this item, so that all electrical bidders are pricing this item the same way.	1) Refer to time extension in this Addenda # 3 2) Refer to the published specifications on verbiage regarding the fee waiver 3) Clarification to be issued in upcoming Addenda 4) Section 007300a clarification to be included in upcoming Addenda 5) Section 007300a clarification to be included in upcoming Addenda
1) Please confirm that bidders are not required to provide the information requested in Section 263105 (1.5)(B) with their bids. 2) A majority of Section 272100 of the specifications is missing. Please provide a complete specification for this scope of work. 3) A majority of Section 273100 of the specifications is missing. Please provide a complete specification for this scope of work. 4) Specification Section 274100 AV System, specifications state must provide certifications. Is this intended to be submitted with the bid, or at the time of submittal after award? Please advise.	1) To be provided at the time of submittal after award. 2) Specifications sections to be included in upcoming addendum 3) Specifications sections to be included in upcoming addendum 4) To be provided at the time of submittal after award.
1) I'd like to formally request Gerflor be considered as an acceptable equal for the Linoleum Sheet Flooring. 2) Can you please confirm linoleum seams will be net fit and not heat welded?	1) Refer to clarification included in this Addendum # 3 2) Refer to specifications, heat welded seams are not specified
Our bid shall be prepared in accordance with the Massachusetts public bidding laws. We understand the Massachusetts public bidding laws, and applicable	MGL and specifications outline contractual requirements

Question	Response
decisions from the Bid Protest Unit of the Massachusetts Attorney General's Office, require all of the electrical work and materials included in the bid to be contained entirely, and described clearly, within the written electrical specifications. We understand that bidders also are responsible for the work and materials shown on the electrical drawings to the extent that work and those materials also are described and defined in the electrical specifications. We also understand that electrical work may be contained in drawings outside of the electrical drawings provided the work is described in the electrical specifications and there is a clear reference to the affected drawings in the electrical specifications. Please confirm we are correct in our understanding that work and materials described in non-electrical specifications or shown on non-electrical drawings, without also being described and listed in the electrical specifications, is for coordination purposes only and shall not be part of the electrical contractor's bid for this project.	
1) There are pipe sizes missing on all of the following systems HHW, CW, GCW, GHW. Many of the main runs have no sizing. This happens on all drawings in sections A, B, C, D 2) Condensate Piping missing, partially drawn, sections A,B,C,D 3) Piping mains that go no where, partially drawn, section A, B, C, D 4) Will revised drawings be coming out soon?	Refer to HVAC drawings issued with this Addendum # 3
1) Please advise if Owner or Contractor/CM will buy the builder's risk property insurance for this project. 2) Also, can you confirm that trade contractors/subcontractors of all tiers will be named insureds under the policy per wide spread industry practice? 3) Finally, can you tell us what the basic deductible will be under the policy and who will be required to pay it if an accident happens-I) Owner, 2) Contractor/CM, 3) Trade Contractor/Subcontractor?"	Section 007300a clarification to be included upcoming Addenda
1) Spec 055000 1.2/B/3 lists “tormentor bars” as a scope item. What does this term refer to? Where are they located?	Refer to A8.18 with details on A8.42. for tormentor bars
2) Spec 055000 1.2/B/3/G calls for wall reinforcement posts at three locations: auditorium, media center café, and satellite AP suite. I cannot locate posts at the satellite AP suite. Please advise.	Reference to “satellite AP Suite”. will be omitted in this Addendum #3
3) Spec 055000 1.2/B/3/J calls for media center accent ceiling supports. I cannot locate a detail for this item. Please advise.	Media center updates to be included in future Addendum
4) Spec 055000 1.2/B/3/K calls for lightening protection masts. I cannot locate these on the plans. Where are they located and is a detail provided?	Lightning masts are located on the Roof drawings and Electrical drawings, including detail shown on

Question	Response
	E8.2 Clarification to be made in upcoming Addenda
5) Spec 055000 1.2/B/10 refers to "catwalks with railings" at auditorium and "catwalks" at the blackbox theater. The plans call out only the intermediate railings and 3/8" floor plates to be by the misc. metals subcontractor. All catwalk framing/hangers are called out by structural. Please clarify.	Catwalk and catwalk stair sections are included on A8.18a, noting Misc. Metals responsibilities. Structural Steel is limited to hangers, HSS tubes at sides of catwalks, and steel angles required to support the walking surface. All other components are by 05 50 00
6) Spec 055000 1.2/B/17 calls for downspout boots at the storage/toilet building at the sports field. I cannot locate a detail for the boots. Can a detail be provided?	Downspout boot detail is shown on the Civil Drawing C10.3 Downspout locations are shown on A3.18
7) Spec 055000 1.2/B/18 calls for "parapet support outriggers, welded to parapet supports at curtain wall and roof overhang". These look to be by the structural steel contractor per 1,2,3/S4.05 & 2,3/S4.07. Please clarify.	Noted parapet support riggers note will be deleted with this addendum # 3
8) Spec 055000 1.2/B/19 calls for "miscellaneous support assemblies at masonry fire wall". Does this refer to the HSS framing per 1-4/A6.3 & 18/A6.28 at the gym CMU walls? If not, where can I find this item?	This is a general note, support items are indicated on the drawings and labeled by MF
9) Spec 055000 1.2/B/22 calls for overhead door support beams, channels, plates. The details show the 3/8" bent plate header by misc. metals, but all other framing by structural. Please clarify.	Exterior overhead M.M. will be shown in multiple. ADD# sketches, in this and upcoming Addenda clarifications
10) Spec 055000 1.2/B/35 aluminum diamond plate with end dams at roof access door thresholds. I cannot locate a detail for this item. Please advise.	This will be detailed on upcoming Addenda clarifications
11) Spec 055000 1.2/B/36 calls for stage curtain support beams and supports. Is this item referring to the HSS3x3's per 6/A8.18a? If so, are the Z Clips attached to the structural beam by misc. metals also? If they are provided by misc. metals, can you provide a detail/sizing for the Z Clips? Are any other supports required at this location by misc. metals?	Noted stage curtain supports note B/36 will be deleted with this Addendum # 3
12) Spec 055000 1.2/B/37 calls for galvanized mounting bracket for roof top side wall antenna installation. I cannot locate this item. Please advise.	Antenna support is covered under electrical Supports note will be deleted with this Addendum # 3
13) Spec 055000 1.2/B/41 galvanized round tube framing for overhead clearance bar. I cannot locate a detail for this item. Can a detail be provided?	Clearance bar clarification to be included in this Addendum # 3
14) Spec 055000 1.2/D/1 Volleyball sleeves. They are shown on sheet A3.10, but a detail is not provided. Please provide a detail so we know what is involved in the installation.	Volleyball sleeve clarification to be included in this Addendum # 3
15) Spec 055000 page 22 of 29 part 2.13 calls for unistrut at the classroom suspended grids. Details 2A,2B/A8.2	Page 2 section 1.2/B/l "Suspended steel experiment frame at Science

Question	Response
call for 2x2 steel tube framing. Please clarify.	Rooms" correlate with details 2A, 2B/A8.2 and shall remain 2x2 steel tube framing. Page 22 part 2.13 references Grid System at Art Rooms and will be omitted in this Addendum #3.
Could you please clarify if Telecor may be considered "or equal" manufacturer for the Public Address System (Section 275116) and Digital Signage and Clock System (Section 275119).	Provide a fully detailed substitution request form with supporting information as required as outlined in the specifications
The stair details showing filler plates (14,21/A7.12) call for the filler plates to be scribed to match the wall. However, the filler plate edge that meets the wall will be covered by wall tile. Scribing of filler plates requires a very large amount of time and labor. Especially for the quantity of plates required on this project. Please confirm that scribing the plates will be required.	Detail is as drawn, should trimming/scribing be required to maintain a clean parallel line, it is required
Please clarify the following: ACT-9 as drawn on the RCPs is not scaling correctly. This ceiling is specified to be a 24" module, but the modules are scaling larger. ACT-7 mentions "flush tegular" in paragraph 095100.2.4.H.2, then calls for "metalworks torsion spring" in paragraph 095100.2.4.H.6, this product is not "tegular" but "square" ACT-8 does not specify if the panels should have a filler strip or open reveal between planks. If the panels are to have filler strip, please clarify matching color or black or other color. ACT-11, 095100.2.4.L.4 says see drawings for perforation pattern. I cannot locate this information on the drawings. Please provide a perforation pattern.	Clarification to be included in upcoming Addendum
Finish Schedule calls for ACT-8 in Media Center. The enlared RCP shown on 9/A8.25 does not show linear ceiling system(ACT-8) Please clarify what type of ceiling this is…it notes some type of metal panel PLAM 1.	Media center ceiling updates to be included in upcoming Addendum
1) We are submitting a FSB/Trade bid for Metal Windows on this project. Please let us know if the REO is required on this project for the FSB. Supplementary Condition state that they are suspended but there is an instruction section for REO in the documents section 00 95 00 . Is the REO suspended for this project ? 2) Are there any Liquidated damages on this project ? 3) Also, please inform us which company is performing the work on the Curtainwall for this project.	1) City of Worcester REO is required for the project as outlined in the documents, and REO Form 101 , signature page must be submitted with the bid as specified. Workforce goals are outlined under the CM Supplementary Instructions to Bidders 0073 00 2) Refer to Owner-CM Agreement included in this Addendum #3 3) TBD
ACT-15, paragraph 095100.2.4.P, calls for "Gordon linear fin ceiling", but then the spec goes on to specify a 2x2	Refer to clarifications made in this Addendum # 3

Question	Response
tegular panel. Please clarify	
Kindly provide clarification for the following prequalified Trade-bid requirements, section 00 11 16, page 5 of 7, Invitation to Bid for: (08) Provide Evidence of Compliance with the Responsible Employer Ordinance (REO), as per Document 00 95 00. What Evidence is the Awarding Authority seeking? Form REO-101 Page 2 is required by Item #7.	City Response-Sign the forms as indicated on invitation and submit w your bid

PART 5 - ATTACHMENTS

SPECIFICATIONS:

1. Section 00 72 00f Owner-Construction Manager Agreement

SKETCHES:

Architectural

1. ADD-3/A-001 Gymnasium Fiberglass Sandwich Panel Head Revisions
2. ADD-3/A-002 Automatic Door Openers
3. ADD-3/A-003 Cafeteria E181 & Servery E190 Ceiling Clarifications
4. ADD-3/A-004 Band E157 and Chorus E151 Ceiling Clarifications
5. ADD-3/A-005 Ground Floor Plan Section AB Expansion Joint Detail Clarifications
6. ADD-3/A-006 Millwork Changes
7. ADD-3/A-007 Millwork Changes
8. ADD-3/A-008 Volleyball Floor Sleeve Detail
9. ADD-3/A-009 Garage Entry Overhead Clearance Bar
10. ADD-3/A-010 Detail Clarification at Expansion Joint through Millwork
11. ADD-3/A-011 Detail Clarification at Expansion Joint through Millwork
12. ADD-3/A-012 OH005 Door Surround
13. ADD-3/A-013 Ground Level Section AB Masonry Opening Dimensions
14. ADD-3/A-014 Main Level Section AB Masonry Opening Dimensions
15. ADD-3/A-015 Main Level Section CD Masonry Opening Dimensions
16. ADD-3/A-016 Window Dimension Clarifications
17. ADD-3/A-017 Room C111 Layout Revision
18. ADD-3/A-018 Servery E190 Exterior Wall Finish Updates
19. ADD-3/A-019 Casework Revisions
20. ADD-3/A-020 Main Level Section CD Masonry Opening Dimensions
21. ADD-3/A-021 Lobby Stair Elevation – Main Level
22. ADD-3/A-022 Lobby Stair Elevation – Level 2
23. ADD-3/A-023 Servery E190 Sloped Ceiling Detail Updates
24. ADD-3/A-024 HVAC Platform Grating, Posts, Railings and Ladder Assembly
25. ADD-3/A-025 Main Level Section CD Masonry Opening Dimensions
26. ADD-3/A-026 Cafeteria E181 Finish Clarifications Below Community Stair
27. ADD-3/A-027 Cafeteria E181 Elevation at Cafeteria Stair – Tiered Seating W-E
28. ADD-3/A-028 Cafeteria E181 Elevation at Cafeteria Stair – Tiered Seating E-W
29. ADD-3/A-029 Multi-media Maker Space Ceiling Grid
30. ADD-3/A-030 Exterior Hollow Metal Door Frame Revisions
31. ADD-3/A-031 Exterior Hollow Metal Door Head at Brick Masonry Revisions
32. ADD-3/A-032 HM Door Frame Connection to Air Barrier
33. ADD-3/A-033 Brick Between Window-Door Masonry Openings
34. ADD-3/A-034 OH116 Door Surround
35. ADD-3/A-035 Cover 4 Partial List of Drawings
36. ADD-3/A-036 Masonry Opening Dimensions

Fire Protection

1. ADD-3/FP-001 High Media Revisions

Plumbing

1. ADD-3/P001 9th Grade Science Acid Waste and Vent Riser Diagram, Section A, Along Stair Tower Wall
2. ADD-3/P002 9th Grade Science Acid Waste and Vent Riser Diagram, Section A, Along Corridor Wall
3. ADD-3/P003 Partial Ground Level Plumbing Plan – Section A
4. ADD-3/P004 Teacher Planning Waste and Vent Riser Diagram, Section D
5. ADD-3/P005 Science Rm Acid Waste and Vent Riser Diagram, Section D, Along Exterior Wall
6. ADD-3/P006 Partial Main Floor Above and Below Grade Plumbing Plans – Section CD
7. ADD-3/P007 Partial Second Floor Plumbing Plan – Section CD
8. ADD-3/P008 Detail of Recessed Eyewash Units Piping
9. ADD-3/P009 Partial Main Floor Above Grade and Second Floor Plumbing Plans – Section DE

HVAC

1. ADD-3/H001 Pipe Riser Diagrams

Electrical

1. ADD-3/E-001 HVAC Power – Level 3 Plan Section AB
2. ADD-3/E-002 HVAC Power – Mechanical C115
3. ADD-3/E-003 HVAC Power – Elev Mach E003
4. ADD-3/E-004 HVAC Power –VAV and Motorized Dampers
5. ADD-3/E-005 HVAC Power – Stair D2.1 CUH
6. ADD-3/E-006 HVAC Power – Dry Storage/Prep E196 VAV
7. ADD-3/E-007 HVAC Power – Elev Mach D102
8. ADD-3/E-008 HVAC Power – VAV and FCU
9. ADD-3/E-009 HVAC Power – Level 2 Plan Section DE
10. ADD-3/E-010 Fire Alarm – Common Room B315 Duct Smoke
11. ADD-3/E-011 Fire Alarm – Science D502 Duct Smoke Relocation
12. ADD-3/E-012 Fire Alarm – Stair C2.5 Duct Smoke Relocation
13. ADD-3/E-013 HVAC Power – Control E271 FC
14. ADD-3/E-014 Site Power – Handhole Relocation
15. ADD-3/E-015 Power and Data – Office E193
16. ADD-3/E-016 Kitchen Fire Alarm NG Detector Removal
17. ADD-3/E-017 Power - Foodservice
18. ADD-3/E-018 Utility Underground Conduits
19. ADD-3/E-019 HVAC Power – Motorized Dampers D107
20. ADD-3/E-020 HVAC Power – Motorized Dampers Garage

21. ADD-3/E-021 HVAC Power – Section C FCUs
22. ADD-3/E-022 HVAC Power – Schedules
23. ADD-3/E-023 Power - Cafeteria E181.
24. ADD-3/E-024 Fire Alarm – Cafeteria E181.
25. ADD-3/E-025 Fire Alarm – Cafeteria E181.
26. ADD-3/E-026 Lighting – Cafeteria E181.
27. ADD-3/E-027 Lighting – Media Center E290.
28. ADD-3/E-028 Fire Alarm – Media Center E290.
29. ADD-3/E-029 Power – Media Center Café E281.
30. ADD-3/E-030 Lighting - Level 5 Plan Section CD
31. ADD-3/E-031 Panel Schedules
32. ADD-3/E-032 Technology – Media Center E290
33. ADD-3/E-033 Electrical – VOC & Tech Teacher Planning C111

DRAWINGS:

Architectural

1. A7.8 Stair Sections
2. A7.11 Stair Sections
3. A7.12 Stair and Guard Details

Fire Protection

1. FP-4.8 Fire Protection Level 2 Reflected Ceiling Plan Section E
2. FP-4.10 Fire Protection Level 2 Reflected ceiling Plan Section DE

Plumbing

1. P4.6 Kitchen Plumbing Plans

HVAC

1. H3.2 – Ground Level HVAC Plan Section E
2. H3.4 – Main Level HVAC Plan Section E
3. H3.8 – Level 2 HVAC Plan Section E
4. H3.12 – Level 3 HVAC Plan Section E
5. H3.13 – Level 3 HVAC Plan Section CD
6. H3.16 – Level 4 HVAC Plan Section CD
7. H3.17 – Level 5 HVAC Plan Section CD
8. H4.1 – Ground Level HVAC Piping Plan Section AB
9. H4.2 – Ground Level HVAC Piping Plan Section E
10. H4.3 – Main Level HVAC Piping Plan Section AB
11. H4.4 – Main Level HVAC Piping Plan Section E
12. H4.5 – Main Level HVAC Piping Plan Section CD
13. H4.6 – Main Level HVAC Piping Plan Section DE
14. H4.7 – Level 2 HVAC Piping Plan Section AB

15. H4.8 – Level 2 HVAC Piping Plan Section E
16. H4.9 – Level 2 HVAC Piping Plan Section CD
17. H4.10 – Level 2 HVAC Piping Plan Section DE
18. H4.11 – Level 3 HVAC Piping Plan Section AB
19. H4.13 – Level 3 HVAC Piping Plan Section CD
20. H4.15 – Level 4 HVAC Piping Plan Section AB
21. H4.16 – Level 4 HVAC Piping Plan Section CD
22. H4.18 – Level 5 HVAC Piping Plan Section CD
23. H5.3 – HVAC Details & Enlarged Mechanical Room Plan
24. H5.5 – HVAC Piping Riser Diagrams
25. H6.3 – HVAC VRF Schematics and Controls
26. H7.1 – HVAC Schedules

Photovoltaic

1. PV202 – SOURCE CIRCUITS – ROOFS A, B, E4, & E5
2. PV203 – SOURCE CIRCUITS – ROOFS C, D1, D2, E1, E2, & E3
3. PV204 – OPTIMIZER LAYOUT – A & B
4. PV205 – OPTIMIZER LAYOUT – C & D
5. PV206 – OPTIMIZER LAYOUT – D2, E1, & E3
6. PV207 – OPTIMIZER LAYOUT – E2, E4, & E5
7. PV208 – WIRING DETAILS – DUAL TILT
8. PV209 – WIRING DETAILS – SOLARDOCK ROOF C
9. PV504 – C-CHANNEL (INV STATION 1) & INV DETAILS

END OF ADDENDUM #3

CITY OF WORCESTER

Document 00 72 00f

OWNER – CONSTRUCTION MANAGER AGREEMENT

(See attached document)

City of Worcester

Owner - Construction Manager Agreement

Awarding Authority: City of Worcester

This agreement ("Contract") is made as of the ____ day of _____, 20____, by and between the City of Worcester acting by and through the Awarding Authority identified above with a principal place of business at 455 Main St. Worcester MA. 01608,

and_____,

a _____ with a principal place of business at

_____,

_____, hereinafter called the "Construction Manager or CM".

The terms used in this Owner - Construction Manager Agreement, which are defined in the General Conditions of the Contract shall have the meanings designated therein.

Preliminary Statement

A. Pursuant to M.G.L. c. 149A the City of Worcester is undertaking the multi-phased construction of a new Doherty Memorial high school in Worcester ("the Project").
B. The Construction Manager shall be liable to the City of Worcester for all of the obligations, responsibilities and liabilities of the Construction Manager under this Contract.
C. The City of Worcester has engaged Lamoureux Pagano Associates Architects, Inc. (the "Designer") under a separate agreement to provide design services for the Project.

NOW, THEREFORE, in consideration of the mutual agreements and obligations of the parties set forth below, the City of Worcester and the Construction Manager do hereby agree as follows:

Article 1. The Work.

1.1 **The Construction Manager's Responsibilities:** The CM shall perform the Work as required by the construction documents for the multi-phased construction of the New Doherty Memorial High School totaling approximately 421,858 square feet and demolition of the existing Doherty High School at 299 Highland Street in Worcester, MA.

1.2 **Site:** The Site is defined in Article I of the General Conditions.

1.2.1 **Site Inspection:** By executing this Agreement, the CM acknowledges that it has visited the Site and has learned as much about the Site as may reasonably learned from such an inspection. No information which would reasonably have been obtained by such a site inspection may serve as the basis for any change order proposal or claim for additional costs and/or additional time.

1.2.2 **Site Conditions:** Information about soil and other subsurface conditions at the Site are provided in Specifications of the Request for Proposals of this Agreement. Neither the City of Worcester nor the Designer represents that such information is complete, accurate, or an approximate indication of subsurface conditions. No change order proposal or claim for additional costs and/or additional time resulting from the CM's reliance on such information shall be allowed except as expressly provided in the Contract Documents.

1.2.3 **Site Testing By CM:** Prior to the commencement of the deep and/or shallow foundation portions of the Work, the CM, if directed by the City of Worcester, or if it elects at its own discretion, shall conduct further testing of the subsurface conditions at the Site. If such testing is performed at the direction of the City of Worcester, or to the extent that the CM demonstrates to the City of Worcester that further testing as proposed by the CM is likely to significantly reduce differing site condition and other costs for which the City of Worcester may be responsible under the Contract, and the City of Worcester approves such testing, the costs of such testing shall be paid by the City of Worcester.

Article 2. The Contract Documents.

2.1 **Contract Documents:** The following documents form the Contract, are incorporated by reference herein, and are referred to as the "Contract Documents:"

-The Request for Proposals for Construction Management Services for the Doherty Memorial High School

-The Construction Manager's Proposal

-The Owner – Construction Manager Agreement including amendments and negotiated terms

-The General Conditions of the Contract

-The Supplementary General Conditions of the Contract

-The Plans and Specifications prepared by the Designer, including Addenda

-All Approved Change Orders/Contract Modifications issued after execution of this Owner - Construction Manager Agreement

Article 3. Relationship of the Parties.

3.1 **CM's Obligation:** The CM accepts the relationship of trust and confidence between the City of Worcester and the CM established by this Agreement and covenants with the City of Worcester to cooperate at all times with the City of Worcester, the Designer and any other consultants or project representatives engaged or employed by the City of Worcester, and to utilize the CM's best skill, efforts and judgment in furthering the interests of the City of Worcester to furnish efficient business administration and supervision; to furnish at all times an adequate supply of workers and materials; and, consistent with the requirements of the Contract Documents, to perform the Work in the best way and most expeditious and economical manner consistent with the interests of the City of Worcester and to make every effort to achieve time savings and construction efficiencies with respect to the Work. The CM, in performing its services under this Agreement, is an independent contractor and is not an agent or employee of, or a joint venture with, the City of Worcester. The CM shall endeavor to promote harmony and cooperation among the City of Worcester, the Designer, the CM, Subcontractors, separate contractors and other persons or entities engaged by the City of Worcester or otherwise employed in connection with the Project, as well as other public agencies having jurisdiction with respect to the Project. The City of Worcester agrees to use its best efforts to enable the CM to perform the Work in an expeditious manner by furnishing on a timely basis information required by the CM and making payments to the CM in accordance with the requirements of the Contract Documents.

3.2 **Standard of Performance:** The CM represents that it is experienced and skilled in construction of projects of the type, magnitude and complexity described in the Contract Documents, that it is familiar with the special problems and requirements of construction of the type required for the Project and in the location of the Site, and that it will furnish a complete and fully operable Project as indicated by and reasonably inferable from the Contract Documents.

Article 4. Contract Time.

4.1 **Commencement Date:** The CM shall begin preconstruction and construction phase services pursuant to the terms and conditions included in written Notices to Proceed ("NTP") issued by the City of Worcester.

4.1.1 **Preconstruction Services:** The NTP for preconstruction services shall be issued within a reasonable time following execution of the Contract. It may, in the City of Worcester's discretion, instruct the CM to begin only certain portions of the preconstruction services.

4.1.2 **Construction Services:** The NTP for construction services shall be issued within a reasonable time following the execution of the GMP Amendment as defined in Paragraph 6.7.2, provided that, in the City of Worcester's discretion, it may elect to issue such NTP prior to the execution of the GMP Amendment. If the NTP is issued prior to the execution of the GMP Amendment, the City of Worcester may, in its discretion, limit the scope of the NTP in whatever manner it deems appropriate until the execution of the GMP Amendment or a reasonable period following such execution, at which time, such limitations, if any, shall be rescinded.

4.2 **Substantial and Final Completion:** The CM shall achieve Substantial Completion of Phase 1 Early Site Enabling work no later than August 31, 2021 subject to any adjustments in the Contract Time approved by the City of Worcester in accordance with the Contract Documents (the "Phase 1 Substantial Completion Date"). The CM shall achieve Substantial Completion of Phase 2 of the new school building no later than June 6, 2024, subject to any adjustments in the Contract Time approved by the City of Worcester in accordance with the Contract Documents (the "Building Substantial Completion Date") and made ready for occupancy by the School staff and Students no later than August 19, 2024. Phase 3A parking and site work shall achieve Substantial Completion no later than August 15, 2024 subject to any adjustments in the Contract Time approved by the City of Worcester in accordance with the Contract Documents (the "Phase 3A Substantial Completion Date") and Phase 3B shall achieve Substantial Completion of Abatement and Demolition of existing building no later than November 15, 2024. The Final completion of Phase 4 Sports Field and Site work shall be no later than July 18, 2025 subject to any adjustments in the Contract Time approved by the City of Worcester in accordance with the Contract Documents (the "Phase 4 Substantial Completion Date"). The overall project duration is 50 months May 2021 through July 2025. The CM shall achieve Final Completion of the Work, no later than 45 days after completion of Phase 4 work, subject to adjustments of the Contract Time approved by the City of Worcester in accordance with the Contract Documents (the "Final Completion Date").

4.3 **Time is of the Essence:** The CM acknowledges that the times of Substantial Completion of the Work, Final Completion of the Work, any other milestones for completion of portions of construction, times for submitting proposals for contract modifications, and other times set forth in the Contract Documents are essential conditions of this Agreement.

4.4 Liquidated Damages.

4.4.1 If the CM shall neglect, fail or refuse to achieve Substantial Completion of the Work within the Contract Time, as adjusted in accordance with the provisions of the Contract Documents, the CM and the CM's surety agree, as a part of the consideration for the execution of this Contract by the City of Worcester to pay the City of Worcester the amounts set forth in this Subsection 4.4.1 below, not as a penalty, but as liquidated damages to cover certain losses, expenses and damages of the City of Worcester for such breach of contract as herein set forth. The CM acknowledges that delay in Substantial Completion of the Project will cause disruption of the City of Worcester's operations. Such disruptions include without limitation, loss of productivity and efficiency and duplication of effort. The City of Worcester will incur loss of revenue from scheduled events should such a delay occur. Delay in Substantial Completion will also require the City of Worcester to incur additional costs for compensation to the Designer and other consultants or contractors for extended or additional work on the Project. In light of the costs, damages, losses, risks and liabilities described above, the parties have agreed upon the liquidated damages stated below. Such damages have been fixed and agreed upon because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages by the City of Worcester would in such event sustain, and said amounts may be retained by the City of Worcester on or after the scheduled date of Substantial Completion from current progress payments or any other amounts owing to the CM. The agreed liquidated damages amounts are $2,000 per day of delay in achieving Substantial Completion.

4.4.2 Except as otherwise expressly provided, none of the following shall constitute a waiver of the CM's or its surety's obligations to pay liquidated damages or any portion thereof:

(a) Acceptance of any portion of the Work or payment to the CM or its surety therefor;
(b) Completion of a portion of the Work or the use or occupancy thereof by the City of Worcester or others;
(c) The City of Worcester's requiring or allowing the CM or its surety to complete the Work.

4.4.3 Substantial Completion: As used in this Article, the term Substantial Completion shall mean Substantial Completion as defined in the General Conditions of the Contract.

Article 5. Construction Manager's Services.

5.1 **Preconstruction Services:** Commencing upon the date of this Agreement, unless otherwise directed in a notice to proceed issued by the City of Worcester, the CM shall perform preconstruction services as provided in this Article and elsewhere in the Contract Documents.

5.1.1 **Construction Planning:** The CM shall attend regular Project meetings with the City of Worcester and the Designer. If requested by the City of Worcester, the CM shall schedule and lead such meetings and keep minutes of such meetings. The CM shall consult with the City of Worcester and the Designer concerning planning for construction of the Project. The CM shall make recommendations as to the purchase and assist in expediting the procurement of long lead items, which are required for the Project to ensure their delivery by the required dates. The CM shall review and, if appropriate, make recommendations with respect to the phasing of the Work, and shall otherwise advise and assist the City of Worcester and the Designer with respect to the division of the Work to facilitate the development of bid and proposal packages, bidding and awarding of subcontracts, allowing for scheduled sequential bid and proposal packages and taking into consideration such factors as economies, time of performance, availability of labor and materials, and provisions for temporary facilities.

5.2 **Preconstruction and Construction Services:** The CM shall perform its preconstruction and construction services, responsibilities and obligations concurrently as necessary during the term of this Agreement as directed by the City of Worcester.

5.2.1 **Design Review:** The CM shall review, on a continuous basis, development of the Drawings, Specifications and other design documents produced by the Designer. The design reviews shall be performed with a group of Architects and Engineers, who are either employees of the CM or independent consultants under contract with the CM. Review of the documents is to discover inconsistencies, errors and omissions between and within design disciplines. The CM shall consult with the City of Worcester and the Designer regarding the selection of materials, building systems and equipment, and shall recommend alternative solutions whenever design details affect construction feasibility, schedules, cost or quality (without, however, assuming the Designer's responsibility for design) and shall provide other value engineering services to the City of Worcester. Without limitation, the CM shall review the design documents for clarity, consistency, constructability, maintainability/operability and coordination among the trades, coordination between the specifications and drawings, compliance with M.G.L. c.149A for procurement, installation and construction, and sequence of construction, including recommendations designed to minimize adverse effects of labor or material shortages. The CM reviews shall be performed by the project team

members as approved by the City of Worcester. The reviews shall be provided in writing with detailed notations on the drawings and specifications and coordinated with a detailed spreadsheet of the notations and recommended solutions in order to track the issues to final resolution. The CM shall attend meetings as necessary with the Designer and the City of Worcester in order to discuss and resolve all issues.

5.2.2 **Master Development Schedule:** The CM shall assist the City of Worcester to meet any scheduling responsibilities assigned by the City of Worcester. The CM shall also coordinate and integrate its Project schedules with the services and activities of the City of Worcester and other parties. The requirements provided herein are in addition to and not in limitation of the CM's obligation to prepare and maintain the Baseline Critical Path Method (CPM) Schedule and other schedules as provided in the Contract Documents.

5.2.3 **Cost Estimates**

(a.) Schematic Design Documents have been prepared by the Designer and approved by the City of Worcester or otherwise directed by the City of Worcester. The CM shall prepare for the review of the Designer and approval of the City of Worcester, a detailed estimate of the Construction Cost (hereafter defined) with supporting data including but not limited to unit costs of all materials, equipment and labor hours required to complete the work of all sections of the specification. As used herein, "Construction Cost" shall mean the total cost or, to the extent the Project is not completed, the total estimated cost of constructing the Project, including the Hard Cost of the Work, the General Conditions Payment, and the CM Fee. The Construction Cost does not include costs of land acquisition, existing building demolition costs, financing costs, or design fees. The CM shall provide value engineering analysis and recommendations during design and construction as directed and in order to meet the requirements of the project budget. The CM shall provide a minimum of three (3) complete, detailed estimates for this project, including 100% Design Development documents, 60% and 90% Construction Documents as indicated in paragraph 3.2.J.f.

(b.) The City of Worcester may, but shall not be required to, arrange for periodic estimates of Construction Cost to be performed by other consultants or staff of the City of Worcester. The CM shall work in good faith and in cooperation and coordination with the Designer, and any other consultants or staff of the City of Worcester involved in preparing estimates of Construction Cost, in order to reconcile any differences between cost estimates prepared by the CM and such parties, to clarify assumptions upon which cost estimates are based, and otherwise to address any concerns or questions with respect to such cost estimates raised by the Designer, the City of Worcester or such other consultants. If in any case the agreed-upon, reconciled estimate of Construction Cost exceeds the Construction

Budget established by the City of Worcester, the CM shall advise and cooperate with the City of Worcester and the Designer in identifying, specifying and recommending changes in, or additional specification of materials, equipment, component systems and types of construction, or other adjustments in the scope or quality of the Project (collectively, "Cost Reduction Alternatives"), including contingencies or alternative bid items, so as to facilitate revision of the design of the Project to reduce the Construction Cost so as to comply with the Construction Budget. Implementation of any Cost Reduction Alternative shall be subject to the approval of the City of Worcester, and the City of Worcester shall have the right, in its sole discretion, to choose which of the Cost Reduction Alternatives developed by the parties shall be implemented, provided, however, that the Designer shall not be required to incorporate Cost Reduction Alternatives into the design of the Project if doing so would result in a violation of Applicable Laws.

(c.) The process and responsibilities of the CM described in this Section 5 shall also apply to any separate cost limits within the Construction Budget that have been established by the City of Worcester for certain phases, components or elements of the Work.

5.2.4 **Permits and Approval:** Consistent with the General Conditions, the CM shall assist the City of Worcester and the Designer in identifying all governmental permits, user fees, approvals and licenses of any kind which must be obtained and be met in connection with the construction, use and occupancy of the Project ("Permits and Approvals"). The CM shall be responsible for obtaining all Permits and Approvals. The CM shall perform the Work in accordance with all conditions, mitigation measures and other requirements of all Permits and Approvals. Unless specified elsewhere, the CM shall obtain and pay for all permits, inspections and certificates of occupancy for the Project. The Owner shall be responsible for the cost of the Building Permit. All applications, requests, appeals, filings and other documents, materials and information prepared by the CM to be submitted to governmental authorities in connection with the Permits and Approvals shall be subject to the prior approval of the City of Worcester, and shall be delivered to the City of Worcester sufficiently in advance of the time of their proposed filing or submission so as to permit a reasonable period for the review and comment of the City of Worcester and its consultants. If requested by the City of Worcester at any time, any such documents or materials to be used in connection with the Permits and Approvals may be prepared by the City of Worcester or other persons designated by the City of Worcester, and the City of Worcester or other persons designated by the City of Worcester may appear on behalf of the City of Worcester at any hearing, presentation or conference. In addition, the CM shall promptly complete and provide such other documentation as may be required by the City of Worcester, or such other parties as the City of Worcester may indicate, provided that if the CM believes in any instance that compliance with such requirement materially modifies, enlarges or abridges the

CM's duties, obligations or rights under the Contract Documents, the CM may submit a proposal for an increase in the Contract Price and/or the Contract Time in accordance with the applicable provisions of the Contract Documents.

5.2.5 **Monthly Progress Reports:** On the fifth (5^{th}) day of each month, or on such other day established by the City of Worcester, the CM shall submit to the City of Worcester the documents listed in this paragraph for the preceding month, in form and substance acceptable to the City of Worcester, containing, without limitation, the following information:

(a) Project status overview including, without limitation, the following:
  (i) Progress report by division of work or area.
  (ii) Quality control/quality assurance report.
  (iii) Safety and loss control report.
  (iv) MBE/WBE and workforce participation status.

(b) Procurement status report, including, without limitation, a status of MBE/WBE participation; In addition to Monthly reporting, the CM shall provide a dedicated Compliance Officer to submit weekly status updates on the MBE/WBE and minority, women and Worcester resident workforce utilization goals.

(c) Project schedule update including, without limitation, a Summary Schedule (progress bar chart) from the CPM.

(d) Project cost update, including, without limitation, the following:
  (i) Cost summary.
  (ii) Cash flow update.
  (iii) List of outstanding Change Orders and Change Directives.
  (iv) Lists of potential changes and outstanding Change Proposal requests and CM Change Requests; and

(e) Such other reports: logs or documents as the City of Worcester may reasonably require for the management of the Project.

5.2.6 **Executive Summary Progress Report:** On the fifteenth (15^{th}) day of each month, or such other day established by the City of Worcester, the CM shall submit to the City of Worcester an Executive Summary Progress Report in form and content satisfactory to the City of Worcester. Such Report shall include but not be limited to a summary of the important information from the submittals listed in Paragraph 5.2.5 and a discussion of the important issues facing the Project as of the date of the Report's submittal.

5.2.7 **Subcontracts:** Unless otherwise specifically approved by the City of Worcester, all Work shall be performed by the CM pursuant to Subcontracts awarded by the CM in accordance with the General Conditions of the Contract, Appendix C: Procedures for Award of Subcontracts.

(a) The CM shall consult with the City of Worcester with respect to proposed bidding and proposal forms and procedures for all subcontracts. The CM understands and agrees that the City of Worcester may participate in negotiations with subcontractors and that the City of Worcester and its representatives shall have access to any documents submitted by all trade contractors and other subcontractors to the CM, for review as to compliance with bidding and proposal procedures and other requirements of the Contract Documents. No subcontract or other agreement between the CM and any third party for the furnishing or supply of any labor, materials or equipment in the performance of the Work shall be entered into without the City of Worcester's prior written approval. The City of Worcester shall respond promptly to any request for approval of a subcontract. Standard forms of subcontract Appendix D agreement for all Trade contractors and other subcontractors are attached as to the General Conditions of the Contract. No material revisions shall be made to any such Subcontract or other agreement approved by the City of Worcester without the prior approval of the City of Worcester. Copies of all executed Subcontracts shall be provided to the City of Worcester promptly.

(b) Purchases from Affiliated Entities. Except in the event of an emergency as provided herein, neither the CM nor any subcontractor shall enter into any subcontract, contract, agreement, purchase order, or other arrangement (collectively, an "Arrangement") for the performance of any portion of the Work or the furnishing of any materials, services or equipment in connection therewith with any party or entity if such party or entity is an Affiliated Entity (as defined below), unless such Arrangement has been approved by the City of Worcester, after full disclosure in writing by the CM and subcontractor, if applicable, to the City of Worcester of such affiliation and all details relating to the proposed Arrangement. The term "Affiliated Entity" means any entity related to or affiliated with the CM and/or any Subcontractor, as applicable, or with respect to which the CM and/or any Subcontractor, as applicable, has direct or indirect ownership or control, including, without limitation, any entity owned in whole or in part by the CM and/or any subcontractor, as applicable; any holder of the issued and outstanding shares of, or the holder of any interest in, the CM and/or Subcontractor, as applicable; any entity in which any officer, director, employee, partner or shareholder (or member of the family of any of the foregoing persons) of the CM and/or any subcontractor, as applicable, has a direct or indirect interest which interest includes, but is not limited to, that of a partner, employee, agent or shareholder.

5.3 **Construction Services:** Commencing upon the date of the Notice to Proceed with Construction, unless otherwise directed by the City of Worcester, the CM shall perform Construction Services as provided in these paragraphs and elsewhere in the Contract Documents.

5.3.1 **Construction Cost Monitoring:** The CM shall provide a system of Project cost monitoring and reporting and shall develop cash flow reports and forecasts in such format as approved by the City of Worcester to coordinate with the cost loaded CPM. The CM shall identify variances between actual costs and its estimated costs and shall immediately advise the City of Worcester whenever projected costs exceed previous reports. Such reports and other information shall be included in the Monthly Progress Reports to be submitted to the City of Worcester.

5.3.2 **Prevailing Wage:** Work under this project is subject to the prevailing wage laws M.G.L.c. 149, s.26-27 H. The Schedules for the Example wages are included in the RFP and must be completed and signed by each Offeror.

5.3.3 **CM Responsibility for Managing Construction:** The CM shall be responsible for managing, coordinating, and supervising all aspects of the Work as described in this Agreement, the General Conditions, and all other Contract Documents.

5.4 **General Requirements for Preconstruction and Construction Services**

5.4.1 **Design Related:** The recommendations and advice of the CM concerning design modifications or alternatives shall be subject to the review and approval of the City of Worcester. If the CM recognizes or discovers that any portion of the Drawings and Specifications is at variance with Applicable Laws, the CM shall promptly notify the Designer and the City of Worcester in writing, and if the CM fails to promptly so notify the Designer and the City of Worcester, having recognized or discovered such variance, the CM shall be liable for an equitable portion of any loss, cost or damage sustained by the City of Worcester on account of such variance.

5.4.2 **CM's Organization and Staff:** The CM shall establish an organization and lines of communication required to carry out the requirements of this Agreement in order to organize and direct the complete construction of the Project. A listing of the CM's key staff as set forth in section 3.2.G, Qualifications of Personnel, of the RFP. All key staff shall be available for and actively participate in the performance of the services provided under the Contract Documents unless such failure is for good cause beyond the control of the CM. No substitution of any assigned and approved key staff shall be made by the CM without the prior written consent of the City of Worcester in its sole discretion. Before any such substitution is made, the CM shall submit to the City of Worcester the

qualifications of any proposed replacement. The removal or replacement, without City of Worcester's consent, of any of the key staff listed in 3.2.G of the RFP, other than as a result of retirement, disability, death or bona fide termination of employment, shall constitute a material breach of this Agreement and the City of Worcester reserves the right to terminate the contract and assess damages. Within thirty (30) days after execution of this Agreement, the CM shall furnish to the City of Worcester a detailed organizational chart (the "Organizational Chart") for approval by the City of Worcester. Such chart shall reflect the same persons as set forth in the Proposal unless otherwise approved by the City of Worcester. The Organization Chart shall expand upon and update the General Conditions Cost Administrative Breakdown set forth in Exhibit GC of the RFP, and shall identify each staff position, the anticipated start date and end date for each identified staff person and the estimated personnel cost on account of each such staff person. Upon approval by the City of Worcester, which approval shall not be unreasonably withheld, the Organizational Chart shall supersede and replace the General Conditions Cost Administrative Breakdown set forth on Exhibit GC. The CM's management and field supervisory staffing shall be in accordance with the approved Organizational Chart. All modifications to the Organizational Chart after initial approval by the City of Worcester must be approved by the City of Worcester, such approval not to be unreasonably withheld. The City of Worcester may require replacement of any member of the CM's staff with or without cause, and may require increased levels of staffing by the CM, at no increase in the Contract Price, if necessary to achieve proper production, management, administration or superintendence, or if otherwise necessary to maintain progress in accordance with the Project Schedule. By executing this Agreement, the CM certifies that the CM and each member of its key staff comply with all licensing, registration and other requirements applicable to the CM and the performance of its services hereunder pursuant to Applicable Laws. Furthermore, the City of Worcester shall have the right to require the CM and any Subcontractor to replace any on-site personnel who it reasonably finds objectionable, with other personnel approved by the City of Worcester.

Article 6. Contract Price

6.1 Contract Price

6.1.1 The City of Worcester shall pay to the CM in current funds for the CM's proper performance of the Contract and completion of the Work, the "Contract Price" consisting of the General Conditions Payment, as defined in Section 6.2, the Hard Cost of the Work, as defined in Article 7, and the CM Fee as defined in Section 6.3. Notwithstanding anything in the foregoing sentence to the contrary, after the City of Worcester has determined that a payment is owing to the CM, such payment may be disbursed by the City of Worcester on behalf of the City of Worcester. The total payments to the CM (the Contract Price) shall not exceed the

Guaranteed Maximum Price agreed to by the Parties, subject to authorized additions and deductions as provided in the Contract Documents

6.1.2 For Change Orders or Contract Modifications authorized by the City of Worcester pursuant to the Contract Documents, the Contract Price shall be adjusted as provided in Section 6.4 below and Article VII of the General Conditions and not otherwise. After agreement by the City of Worcester and the CM on a guaranteed maximum price for construction of the Work (the "GMP") and execution of the GMP Amendment, as provided in Section 6.7, any increase or decrease in the Contract Price approved by the City of Worcester by execution of a Change Order shall increase or decrease the GMP, accordingly.

6.2 General Conditions Payment

6.2.1 In consideration of the performance by the CM of the work described in the Contract Documents the City of Worcester shall pay to the Construction Manager, as full and complete reimbursement to the Construction Manager for all General Conditions costs incurred in the performance of such work an amount equal to the payment specified in Section A of **Exhibit GC** ("General Conditions Costs") found in the RFP and subject to Subsection, 6.2.5 below. For purposes of payment the General Conditions Costs shall be divided into Preconstruction General Conditions Costs and Construction General Conditions Costs as specified in Section A of **Exhibit GC**. The total dollar values for Preconstruction and Construction General Condition's Costs set forth in Section A of **Exhibit GC** represent the maximum amount to be paid to the CM for all Preconstruction and Construction General Conditions Costs. The provisions in the Contract Documents concerning the anticipated schedule for the Project and the durations of the Preconstruction Period, and Construction Period, are not for the purpose of describing the compensation for General Conditions Costs and do not extend or authorize any extension of the Contract Substantial Completion date and/or the Final Completion date. The CM may make a claim for extension of the Contract Substantial Completion date and/or the Final Completion date only as provided in, and subject to the limitations specified in, the Contract Documents.

6.2.2 Preconstruction: From the commencement of the Preconstruction Period through the end of the Preconstruction Period, monthly payments on account of the General Conditions Costs shall be made. The amount of the monthly payments shall be determined by applying the percentage of completion of the Preconstruction General Conditions work set forth in **Exhibit GC** as approved by the City of Worcester on the Schedule of Values, and deducting from such value any amounts previously paid to the CM on account of Preconstruction General Conditions Costs. For each month or partial month during the period from the commencement of the Preconstruction Period, through the period when Preconstruction services end, the CM shall submit a monthly invoice to the City

of Worcester requesting payment of the Preconstruction General Conditions Costs. Payment shall be processed in accordance with Article VIII of the General Conditions of the Contract.

6.2.3 **Construction:** During the Construction Period monthly payments to the CM on account of General Conditions Costs shall be made. The amount of the monthly payments shall be determined by applying the percentage of the Hard Cost of the Work approved for payment by the City of Worcester to the total amount of the Construction Period General Conditions Costs set forth in Exhibit GC, and deducting from such value any amounts previously paid to the CM on account of Construction Period General Conditions Costs. For each month or partial month during the period from the commencement of the Construction Period, through Final Completion, the CM shall submit a monthly invoice to City of Worcester requesting payment of the Construction Period General Conditions Costs. Payment shall be processed in accordance with the provisions of Article VIII of the General Conditions of the Contract.

6.2.4 Either the City of Worcester, or the Construction Manager, subject to the approval of the City of Worcester, may request that one or more specific items included in General Conditions Costs be included in a Subcontract bid or proposal package or otherwise separately procured. Whether included in a Trade Contractor bid package or Subcontractor proposal or otherwise separately procured, each such item shall be bid as an alternate and, if accepted by the City of Worcester, the cost of such item shall be considered part of the Hard Cost of the Work, and the amount of the General Conditions Payment due hereunder shall be reduced by the total cost of such item.

6.2.5 If the Construction Manager performs additional work of the type described in **Exhibit GC** under a Change Order approved by the City of Worcester, compensation, if any, due to the Construction Manager shall be computed in accordance with Section 6.4, below, and Article VII of the General Conditions of the Contract; otherwise, the City of Worcester shall have no obligation to reimburse the Construction Manager on account of the cost of the work for any amounts exceeding the total payments as set forth in Section A in **Exhibit GC.**

6.2.6 The General Conditions Costs for payment bond, performance bond and builders risk Insurance that appear in Section C.4 of **Exhibit GC** shall be adjusted up or down by change order, based on the difference between the GMP and the estimated Project amount carried in **Exhibit GC**. There will be no CM Fee attributable to any such adjustment.

6.3 Construction Manager's Fee

6.3.1 Preconstruction: In further consideration of the performance of the Contract by the CM, the City of Worcester shall pay to the CM a fee associated with preconstruction services as identified in Section A of Exhibit GC (the "CM Preconstruction Fee") in monthly payments. The amount of the monthly payments shall be determined by applying the percentage of completion of the Preconstruction General Conditions work as approved by the City of Worcester on the Schedule of Values, and deducting from such value any amounts previously paid to the CM on account of the CM Preconstruction Fee. For each month or partial month during the period from the commencement of the Preconstruction Period, through the end of the period when preconstruction services end, the CM shall submit a monthly invoice to the City of Worcester requesting payment of the CM Preconstruction Fee. Payment shall be processed in accordance with Article VIII of the General Conditions of the Contract.

6.3.2 Construction: In further consideration of the performance of the Contract by the CM, the City of Worcester shall pay to the CM a fee associated with construction services in monthly payments. The amount of the monthly payments shall be determined by applying the percentage of the Hard Cost of the Work approved for payment by the City of Worcester, to the total amount of the CM Construction Fee and deducting from such value any amounts previously paid to the CM on account of the CM Construction Fee.

6.4 Changes in the Work: The City of Worcester may make changes in the Work when the City of Worcester considers it to be necessary or desirable, as further provided in Article VII of the General Conditions of the Contract.

6.5 Intentionally Omitted

6.6 Retainage: The City of Worcester shall retain five percent (5%) from the amount approved for payment in the monthly Applications for Payment, as provided in the General Conditions of the Contract. Such retainage shall be applied with respect to all amounts payable under the Application for Payment, including the Hard Cost of the Work, the CM Fee and the General Conditions Payment. Retainage shall be paid as provided in the General Conditions.

6.7 Guaranteed Maximum Price

6.7.1 On the date agreed upon by the City of Worcester and the CM, or, if no such date is agreed upon, on the date established by the City of Worcester by written notice to the CM, which date shall be at least 20 days after the date of such written notice, the CM shall submit to the City of Worcester a proposed GMP, which shall be the sum of the estimated total Hard Cost of the Work, the Construction

Contingency (hereafter defined), total payment for General Conditions Costs, and the CM Fee. The CM shall include with the GMP proposal a written statement of its basis in form and substance satisfactory to the City of Worcester, which shall include at least:

(a) a list of the Project design documents upon which the GMP proposal is based.

(b) a list of allowances and a statement of their basis.

(c) a list of any assumptions, qualifications and clarifications made by the CM in the preparation of the GMP proposal to supplement the information contained in the Project design documents.

(d) a statement that the proposed GMP is based on the Baseline CPM Schedule and the Substantial Completion Date specified in this Agreement.

(e) the proposed GMP, including a detailed statement of the actual and estimated Hard Cost of the Work organized by CSI (Construction Specification Institute) format with quantities, units, and unit rates, Preconstruction and Construction General Conditions Costs, allowances, Construction Contingency, Preconstruction and Construction CM Fee and other items that comprise the GMP;

(f) a schedule of applicable alternate prices.

(g) a schedule of applicable unit prices; and

(h) the time limit for acceptance of the GMP proposal (which shall not be less than 90 days).

6.7.2 The CM shall meet with the City of Worcester and the Designer to review the GMP proposal and the written statement of its basis. In the event that the City of Worcester or the Designer discover any inconsistencies or inaccuracies in the GMP proposal and accompanying information, they shall promptly notify the CM, which shall make appropriate revisions thereto. The City of Worcester may elect in its sole discretion to accept or not to accept the CM's GMP proposal. The CM understands that any agreement on a GMP shall be subject to approval of the City of Worcester. Prior to the City of Worcester's acceptance of the CM's GMP proposal, the CM shall not incur any cost to be reimbursed by the City of Worcester except as provided in this Contract or as the City of Worcester may specifically authorize in writing. If the City of Worcester accepts the CM's GMP proposal, the City of Worcester and CM shall execute and deliver within fifteen

(15) days after such acceptance an amendment to this Agreement, in form acceptable to the City of Worcester and the CM, incorporating the items listed in Subparagraph 6.7.1, above, subject to any modifications agreed upon by the parties (the "GMP Amendment"). The CM shall execute and deliver together with the GMP Amendment, performance and payment (labor and materials) bonds in the form provided by the City of Worcester, executed by a surety licensed by the Commonwealth of Massachusetts Division of Insurance. Each such bond shall be in the amount of the GMP. These bonds shall be substituted for the bonds obtained from the CM at the time of signing the contract, which said bonds shall be returned to the CM by the City of Worcester. If the City of Worcester does not accept the CM's GMP proposal, the City of Worcester may elect to solicit bids or proposals for the construction of the Project from other contractors, using any solicitation method or methods chosen by the City of Worcester, consistent with Applicable Laws and procedures, or, if the City of Worcester determines that it is in its best interest to do so, the City of Worcester may enter into negotiations for a contract with one or more of the offerors that submitted proposals in response to the Request for Proposals for this Contract. If the City of Worcester does not accept the CM's GMP proposal within the time limit for acceptance specified in the GMP proposal, as it may be extended by agreement of the parties, then this Contract shall terminate upon the completion of the CM's performance of the Work then in progress or upon notice from the City of Worcester as provided in the General Conditions.

Article 7. Hard Cost of the Work.

7.1 **Hard Cost of the Work:** The "Hard Cost of the Work" shall mean those costs listed in this Section. Hard Cost of the Work shall not include any item included in the General Conditions Costs.

7.1.1 **Subcontract Costs:** Payments made by the Construction Manager to any Subcontractor in accordance with the requirements of an approved Subcontract.

7.1.2 Costs of Materials and Equipment Incorporated in the Completed Construction

(a) Costs, including transportation, of materials and equipment incorporated or to be incorporated in the completed construction, less all discounts and rebates.

(b) Costs of materials described herein which are in excess of those actually installed, but which are required to provide reasonable allowance for waste and spoilage. Unused excess materials, if any, shall be delivered to the City of Worcester at the completion of the Work or, at City of Worcester's option, shall be sold by the Construction Manager. Amounts

realized, if any, from such sales shall be credited to the City of Worcester as a deduction from the Hard Cost of the Work.

7.1.3 Intentionally Omitted

7.1.4 <u>Emergencies and Repairs to Damaged or Nonconforming Work</u>

The following costs, incurred by the Construction Manager shall become a part of the Hard Cost of the Work:

(a) in taking action to prevent threatened damage, injury or loss in case of an emergency affecting the safety of persons and property, as provided in the General Conditions.

(b) in repairing damaged Work, provided that such damage did not result from the fault or negligence of the Construction Manager or the Construction Manager's personnel or any Subcontractor, and only to the extent that the cost of such repairs is not recoverable by the Construction Manager from others or the Construction Manager is not compensated therefor by insurance or otherwise.

(c) in correcting defective or nonconforming Work, provided that such defective or nonconforming Work did not result from the fault or negligence of the Construction Manager or the Construction Manager's personnel or any Subcontractor or material supplier, and only to the extent that the cost of correcting the defective or nonconforming Work is not recoverable by the Construction Manager from third parties or the Construction Manager is not compensated by insurance or otherwise.

Any costs incurred by the CM which would otherwise be within the scope of this Subsection but are excluded because such costs result from the fault or negligence of the CM, the CM’s personnel, any Subcontractor or any other party for whom the CM is responsible may be charged against the Construction Contingency to the extent permitted by and in accordance with the provisions of Paragraph 7.2.1, and any such costs incurred after the Construction Contingency has been exhausted shall not be reimbursable as a Hard Cost of the Work.

7.1.5 <u>Miscellaneous Hard Costs</u>

The following costs shall be included in the Hard Cost of the Work:

(a) Subcontractor Bond premiums.

(b) Royalties and license fees paid for the use of a particular design, process or product required by the Contract Documents in accordance with the General Conditions.

(c) Other costs incurred in the performance of the Work if and to the extent approved in advance in writing by the City of Worcester as Hard Costs of the Work.

7.2 Construction Contingency

7.2.1 The term "Construction Contingency" shall mean the line item included by the CM in the GMP and the Schedule of Values that is available to cover the net amount of any additional costs resulting from unforeseen conditions and events not evidenced at the time that the CM awards a Subcontract or the parties execute the GMP Amendment, as applicable, to the extent that such conditions or events do not result in or constitute a change in the Work but which are reasonably inferable from the GMP documents. Any claim against the construction contingency shall be submitted in accordance with Article VII of the General Conditions. Examples of such unforeseen conditions and events include, but are not limited to, the following:

(a) unanticipated cost overruns on the CM's procurement of Subcontracts or other purchases of materials or labor costs, provided that the same are not caused by the fault, negligence, or breach of contract of the CM or any Subcontractor.

(b) expediting or acceleration costs required to meet the Baseline CPM Schedule, as long as the same are not made necessary by the fault or negligence of the CM or any Subcontractor; and

(c) such other unforeseen events and conditions as may be specified in the Contract Documents as chargeable to the Construction Contingency.

After execution of the GMP Amendment, if the contract price of any subcontract as awarded is less than the amount carried for such subcontract in the GMP breakdown, the Construction Contingency referenced in this section shall be increased by the amount of such savings.

7.2.2 Costs authorized to be reimbursed from the Construction Contingency by Paragraph 7.2.1 shall be paid to the CM as Hard Cost of the Work only if and to the extent reasonably approved by the City of Worcester. The Construction Contingency shall be reduced by the net amount of the additional Hard Cost of the Work resulting from the use of the Construction Contingency as authorized by

Paragraph 7.2.1. The CM shall not receive any CM Fee in connection with any use of the Construction Contingency.

7.2.3 **Contingency Balance:** If, at the time the City of Worcester issues the final payment to the CM pursuant to Article VIII of the General Conditions of the Contract, there is a balance in the Construction Contingency, it shall be retained by the City of Worcester.

7.3 **Non-Compensable Costs:** Neither the Hard Cost of the Work nor the General Conditions Costs shall include any of the items set forth below:

1. Salaries, bonuses and other compensation of the Construction Manager's personnel stationed at the Construction Manager's principal offices, or other offices, except the site office for this project.

2. Expenses of the Construction Manager's principal offices, site office or other offices, except the site office for this project (including, without limitation, in-house computer costs, and other costs of doing business, services, and related expenses to maintain such offices).

3. Overhead and general expenses of any kind, including but not limited to office or fabrication shop overhead and drafting and printing costs.

4. The CM's capital expenses, including interest on the CM's capital employed for the Work.

5. Costs of machinery and equipment owned or rented by the CM.

6. Costs incurred due to the fault, negligence or breach of contract of the CM, Subcontractors, anyone directly or indirectly employed by any of them, or for whose acts any of them may be liable, including, but not limited to, death or injury to person or damage to property, the correction of damaged, defective or nonconforming Work, disposal and replacement of materials and equipment incorrectly ordered or supplied, unanticipated cost overruns incurred by the CM in the procurement of Subcontracts, materials or labor, and making good damage to property not forming part of the Work, except: (i) to the extent reimbursement is received through the recovery of insurance proceeds, or (ii) to the extent such items may be charged to the Construction Contingency pursuant to Paragraph 7.2.1.

7. Cost for purchase and maintenance of tools, materials, supplies and facilities not consumed during construction or incorporated into the Work.

8. Penalties, fines or costs imposed by governmental authorities in

connection with, or resulting from any violation of, or noncompliance with Applicable Laws by the Construction Manager or any Subcontractor, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable.

9. Any legal fees incurred by the Construction Manager, unless the same are incurred at the written direction, or with the prior written approval, of City of Worcester.

10. Travel or meal expenses and personnel relocation expenses.

11. General Conditions Costs in excess of the total of all General Conditions costs.

12. Any cost incurred by the CM as a result of knowing violation of or failure to comply with this Agreement or the other Contract Documents by the CM.

13. Costs which would cause the GMP to be exceeded.

14. Costs incurred by the CM after final payment; provided, however, that to the extent there is Contingency remaining at final payment, such Contingency shall be available to pay costs incurred during the one year period after final payment, but only if Contingency would be available, subject to reasonable approval by the City of Worcester, to pay such costs had such costs been incurred prior to final payment.

7.4 **Discounts, Rebates, Refunds and Expenses:** Cash discounts obtained on payments made by the CM shall accrue to the City of Worcester if (a) before making the payments the CM included them in an Application for Payment and received payment therefore from the City of Worcester, or (b) the City of Worcester has deposited funds with the CM with which to make payments; otherwise, cash discounts shall accrue to the CM. The CM shall notify the City of Worcester of the availability of any cash discounts so that the City of Worcester may elect to pay or deposit such funds with the CM in order to obtain such cash discount. Such cash discounts and any other trade discounts, rebates, refunds and other amounts received from sales of surplus materials and equipment shall be credited to the Hard Cost of the Work, and the CM shall make provisions so that they can be secured and credited accordingly. The City of Worcester anticipates an energy rebate for this Project. CM shall apply for the rebate; however, the full amount of the rebate shall be paid to the City of Worcester.

7.5 Accounting Records

7.5.1 The Construction Manager shall check all materials, equipment and labor entering into the Work, and shall keep such full and detailed accounts and exercise such controls as may be necessary for proper accounting and financial management under this Agreement. All books and records shall be maintained in accordance with generally accepted accounting principles, consistently applied. Without limitation, the CM shall comply with the requirements set forth in Article XI of the General Conditions. The City of Worcester and its authorized representatives shall, upon request by the City of Worcester, be afforded copies of, and at all times shall be afforded access to, all of the Construction Manager's records, books, correspondence, instructions, drawings, receipts, invoices, vouchers, memoranda, estimates, budgets, breakdowns, accounting data, bid proposals, cost control information and any other documents and data relating to this Agreement, including data in electronic media or any other media (collectively, "records") and the Construction Manager shall preserve all such records for a period of six years, or for such longer period as may be required by law, after Final Payment. With respect to work performed by the CM's own forces on a lump sum basis, the CM shall only be required to maintain certified payrolls, documentation required by the Supplementary Conditions for Equal Employment Opportunity, Non-Discrimination and Affirmative Action, and such other records as are required by Applicable Laws or the terms of the Contract Documents.

7.5.2 Without limitation of the foregoing, the City of Worcester shall have the right, at any time and from time to time, upon notice to the Construction Manager, to audit the Construction Manager's records in connection with the Work at the Construction Manager's offices. The Construction Manager shall facilitate any such audit by making necessary facilities available to the City of Worcester and its accountants or other representatives.

7.5.3 Subcontractors shall have the same obligations to maintain books and records and to permit audits by the Construction Manager or the City of Worcester as are applicable to the Construction Manager under the Contract Documents.

7.5.4 If any inspection of the Construction Manager's or any Subcontractor's books, records or other documents reveals an overcharge, the Construction Manager shall pay the City of Worcester or, at the City of Worcester's election, the City of Worcester may reimburse itself by taking as a credit against future payments due the Construction Manager, an amount equal to the overcharge. If one or more overcharges is equal to or greater than $200,000 in the aggregate, the CM shall also pay all administrative and auditing expenses up to an aggregate of $40,000 incurred by the City of Worcester in determining the existence and amount of the overcharge. Nothing contained in this provision is intended as a limitation of any

other rights or remedies which may be available to the City of Worcester, be they civil or criminal.

Article 8. Payments to Construction Manager

8.1 Based upon Applications for Payment submitted by the CM, the City of Worcester shall make payments to the CM on account of the Contract Price as provided in Article VIII of the General Conditions of the Contract, and elsewhere in the Contract Documents. Notwithstanding anything in the foregoing sentence to the contrary, after the City of Worcester has determined that a payment is owing to the CM, such payment may be disbursed by the City of Worcester on behalf of the City of Worcester

Article 9. Equal Employment Opportunity, Nondiscrimination and Affirmative Action

9.1 The CM and all of its Subcontractors shall comply at all times and in all respects with Applicable Laws affecting or regulating employment of persons in connection with the Work, and with the Supplementary Conditions and all other provisions in the Contract Documents relating to Equal Employment Opportunity, Nondiscrimination and Affirmative Action.

Article 10. Miscellaneous Provisions

10.1 **Successors and Assigns:** The City of Worcester and the CM bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither the CM nor any partner of the CM shall assign or transfer the Contract or sublet or subcontract it (other than subcontracting portions of the Work as expressly permitted by and in accordance with the Contract Documents), or otherwise transfer or assign any of its or their rights or obligations under all or any portion of the Contract Documents without the prior written consent of the City of Worcester, which consent may be withheld by the City of Worcester in its sole discretion, nor shall the CM or any partner of the CM assign any moneys due or to become due to it hereunder, without such prior written consent of the City of Worcester. Any assignment of the Contract or any interest therein by the CM or any partner of the CM shall be void, and the assignee in such case shall acquire no rights in the Contract or in such moneys. The City of Worcester may assign the Contract to any successor or assignee of City of Worcester's interests, provided that the City of Worcester demonstrates to the reasonable satisfaction of the CM that such successor or assignee has the capability of fulfilling the City of Worcester's obligations under the Contract.

10.2 **Additional Information:** Recognizing that the City of Worcester may find it necessary during the progress of the Work to establish the current status of performance under the Contract Documents, the CM shall, without limitation of any other requirements of the Contract Documents, promptly provide upon request statements, documents or information to the City of Worcester or others regarding the status of the Work, compliance of the Work with the Contract Documents, compliance by the CM or any Subcontractor with the Contract Documents, the names of Subcontractors or suppliers, amounts due or to become due or amounts previously paid to Subcontractors or suppliers, estimates of the portion of the Work completed and the cost of completing the Work, and such other matters within the scope of the CM's performance under the Contract Documents as the City of Worcester may reasonably require.

10.3 **Information Confidential:** The CM shall treat as confidential any information relating to the Project that is specifically designated or identified by the City of Worcester as confidential or proprietary and shall not permit release of such information to other parties without the City of Worcester's prior express written authorization.

10.4 **Governing Law:** The Contract shall be governed by the laws of the Commonwealth of Massachusetts.

10.5 No Personal Liability; Consequential Damages.

10.5.1 No member, officer, consultant, volunteer participant, employee, agent or representative of the City of Worcester or the Designer shall be personally liable to the CM under any term or provision of this Contract for City of Worcester's payment obligations or otherwise, or because of any breach hereof, the CM agreeing to look solely to the assets of the City of Worcester or the Designer entities for the satisfaction of any liability hereunder.

10.5.2 In no event shall the City of Worcester or the Designer be liable to the CM except for obligations expressly assumed by the City of Worcester or the Designer under the Contract Documents, nor shall the City of Worcester or the Designer ever be liable to the CM for indirect, special or consequential damages.

10.6 Conflict of Interest: The CM shall familiarize its employees assigned to perform services under this Agreement with the provisions of Chapter 268A of the Massachusetts General Laws (the Massachusetts conflict-of-interest statute). Accordingly, the CM, its employees and agents shall not offer or provide any employee of the City of Worcester any gift, gratuity, favor, meal, entertainment, loan or other item of monetary value. The CM warrants and represents that it currently has no interest and shall not acquire any interest, direct or indirect, which would be adverse to or conflict in any manner with the performance of its

services under this Agreement or with the interest of the City of Worcester or the Project. The CM further agrees that in the performance of this Agreement no person or entity having any such adverse or conflicting interest shall be employed or granted a subcontract. Except with the City of Worcester's knowledge and express consent, the CM shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to be adverse to the interests of the City of Worcester or to compromise the CM's professional judgment with respect to the Project. The CM has a continuing obligation to divulge to the City of Worcester all circumstances of its relationships with third parties, as well as any other interests that may have an effect on the City of Worcester or the Project at the time of execution of this Agreement or during its effectiveness. If the City of Worcester believes that there is or has been a conflict of interest, or the appearance of a conflict of interest, it will so notify the CM. The CM shall make full disclosure of all material facts, and shall have a period of thirty (30) days after receipt of such notice to cure the conflict of interest or the appearance of conflict of interest, including the right to request a meeting with the City of Worcester board to explain its position. If the conflict of interest or appearance of conflict of interest is not cured to the satisfaction of the City of Worcester or the controversy otherwise resolved prior to expiration of such thirty (30) days period, the CM shall be deemed to be in default of this Agreement and the City of Worcester may exercise any remedies available to it under this Agreement or applicable law.

10.7 **Termination of Contract:** The Contract may be terminated as provided in Article XVII of the General Conditions.

10.8 **Additional Information**

TBD

Article 11. Approved Subcontractors.

No Trade Contractors or other Subcontractors shall be used for any portions of the Work without the prior written approval of the City of Worcester.

Article 12. Certifications.

Pursuant to M.G.L. c. 62(c), s.49 (a), the individual signing this Contract on behalf of the Construction Manager hereby certifies, under the penalties of perjury, that to the best of his or her knowledge and belief the Construction Manager has complied with any and all applicable state and federal tax laws. The individual signing this Contract on behalf of the Construction Manager further certifies under penalties of perjury that the Construction Manager is not presently suspended or debarred from doing public construction work in the Commonwealth under the provisions of M.G.L. c. 29, s. 29F, or any other applicable debarment provisions of any other

chapter of the General Laws or any rule or regulation promulgated thereunder and is not presently suspended or debarred from doing public construction work by any agency of the United States. Please refer to the Proposal Response Form contained in the RFP.

Article 13. Minority Business Enterprise and Women Business Enterprise Participation Goals and Minority/Women and Worcester resident Workforce Utilization Percentages.

The applicable goals for minority business enterprise and woman business enterprise participation established for this Contract are as follows:

MBE: 10 % of the GMP. WBE: 5 % of the GMP.

The applicable minority workforce utilization percentage is 38%.

The applicable women workforce utilization percentage is 10%.

The applicable Worcester resident workforce utilization percentage is 25%.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be executed in triplicate under seal as of the date set forth above.

CONSTRUCTION MANAGER

By: _____

Name: _____

Title: _____

Date: _____

City of Worcester

By executing this Agreement, the undersigned authorized signatory of the City of Worcester, who incurs no personal liability by reason of the execution hereof or anything herein contained, hereby certifies under penalties of perjury that this Contract is executed in accordance with a prior approval of the City of Worcester Board

By: _____

Name: _____

Title: _____

Date: _____

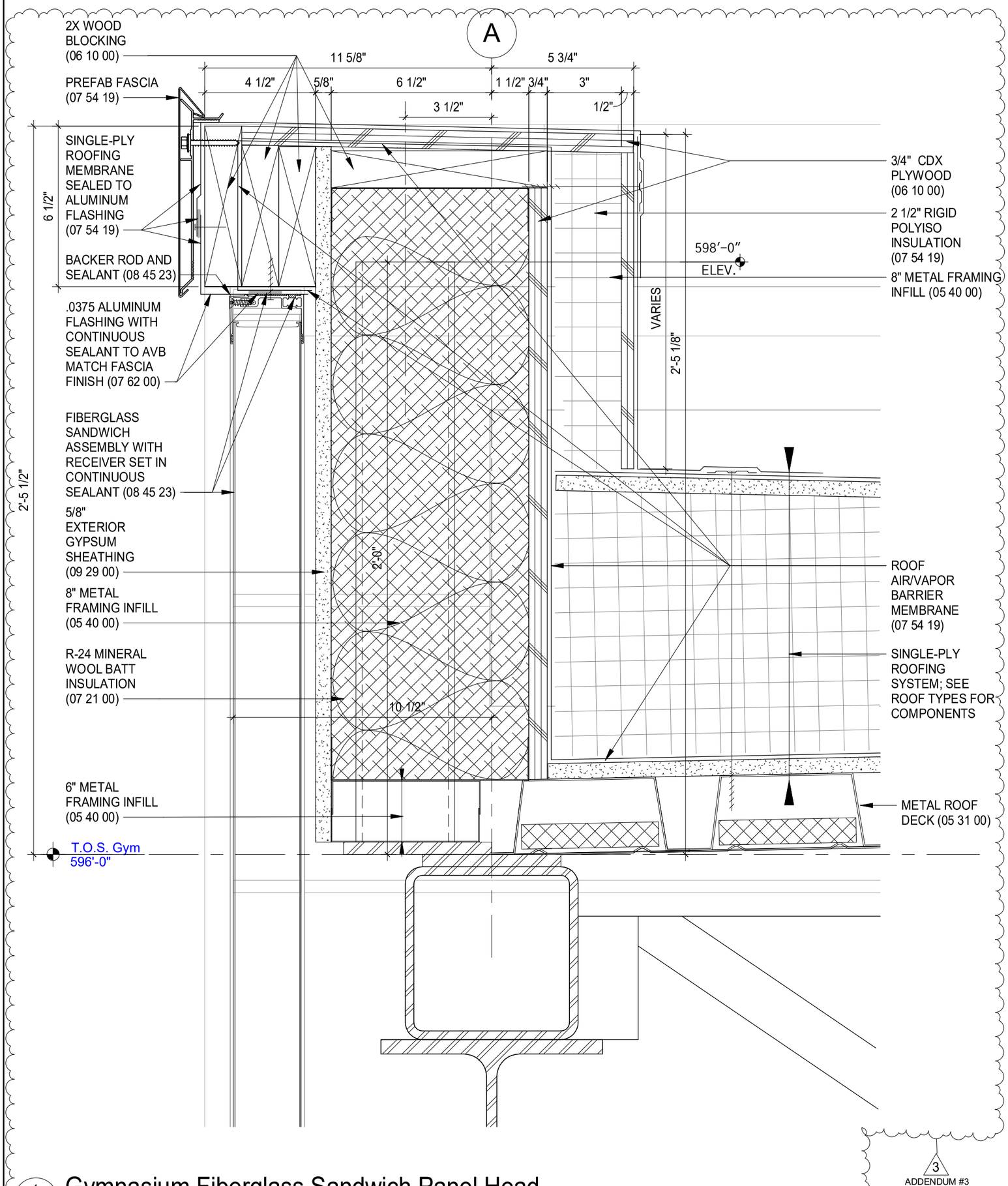
Approved as to Form:

By: _____

Name: _____

Title: _____

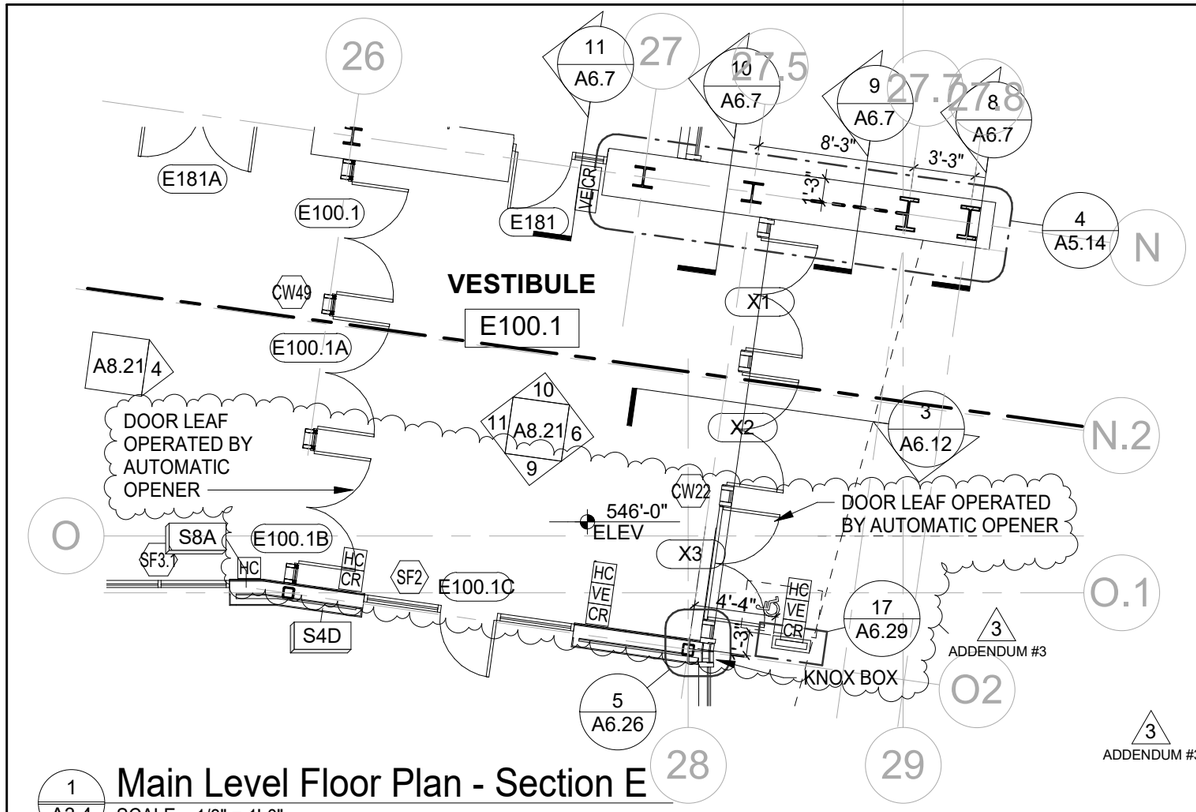
Date: _____



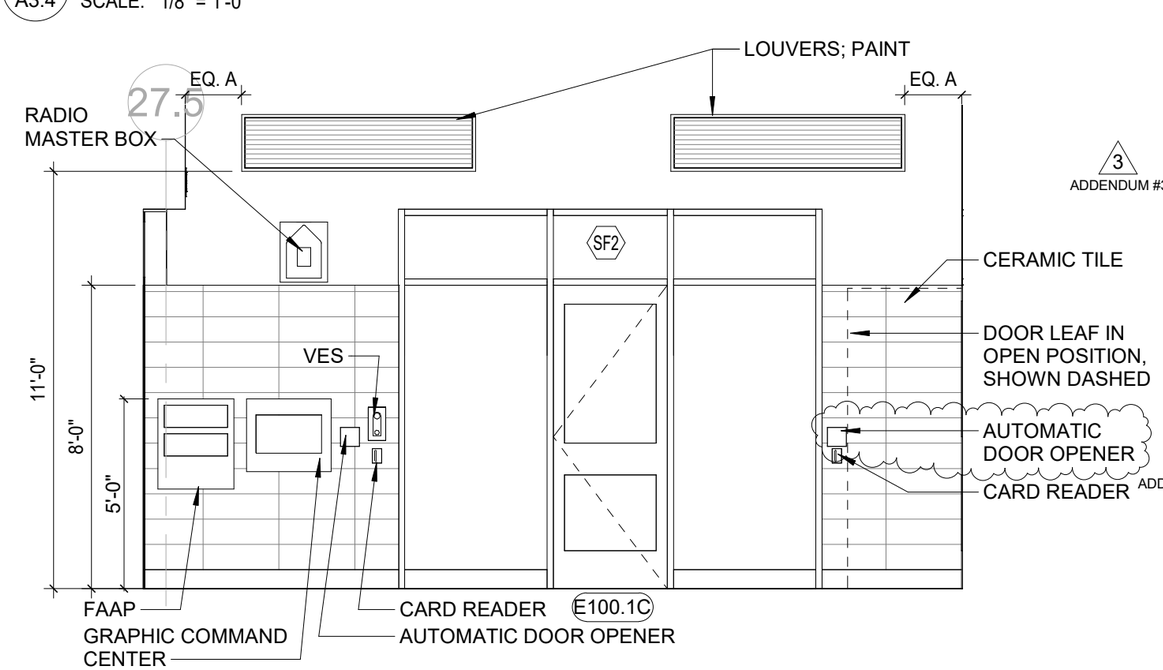
1 / A6.23 **Gymnasium Fiberglass Sandwich Panel Head**

SCALE: 3" = 1'-0"

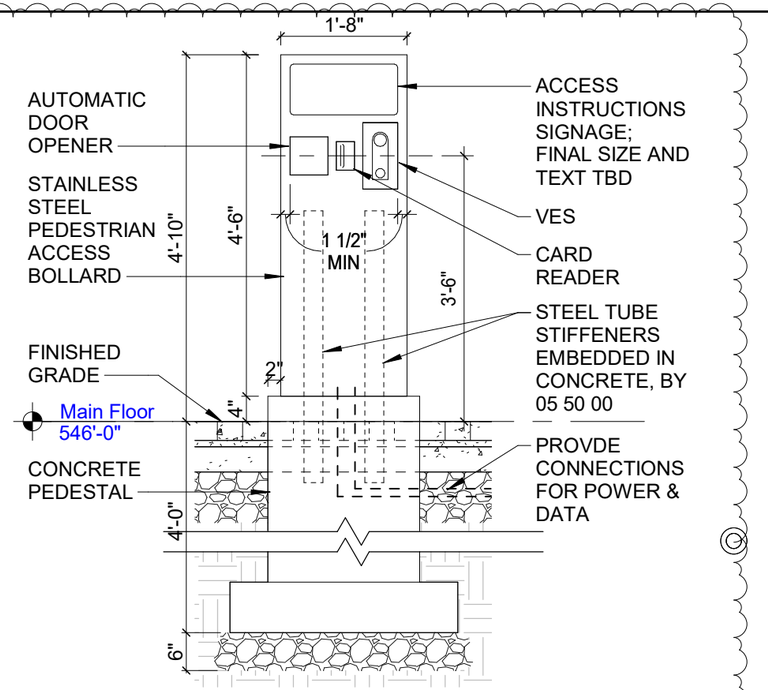
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 1/A6.23	DATE: 02/03/22
		DRAWING TITLE: Gymnasium Fiberglass Sandwich Panel Head Revisions	DRAWING NUMBER: ADD-3 A-001



1 A3.4 **Main Level Floor Plan - Section E**
SCALE: 1/8" = 1'-0"

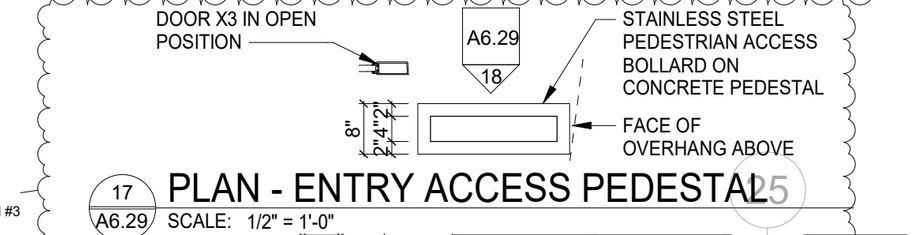


9 A8.21 **Lobby Vestibule - North Elevation**
SCALE: 1/4" = 1'-0"



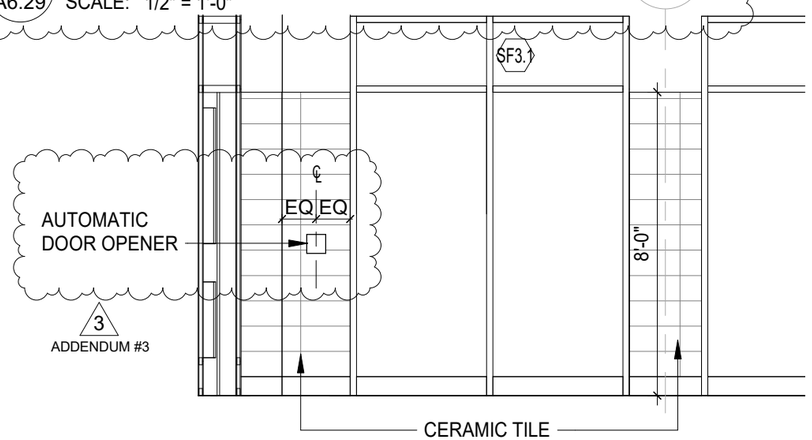
18 A6.29 **ELEVATION - ENTRY ACCESS PEDESTAL**
SCALE: 1/2" = 1'-0"

3 ADDENDUM #3



3 ADDENDUM #3

17 A6.29 **PLAN - ENTRY ACCESS PEDESTAL**
SCALE: 1/2" = 1'-0"

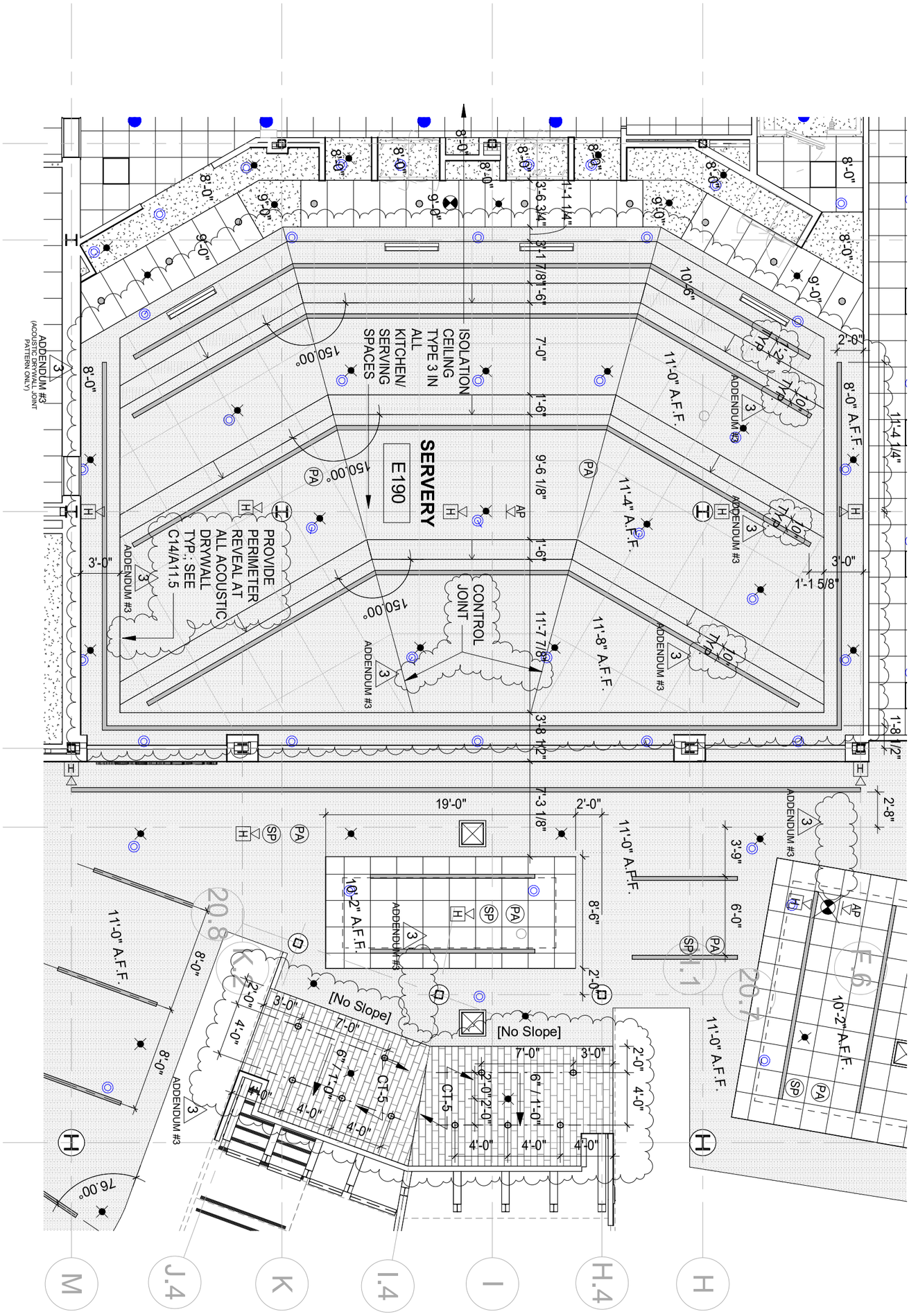


3 A8.21 **Lobby - Partial North Elevation**
SCALE: 1/4" = 1'-0"

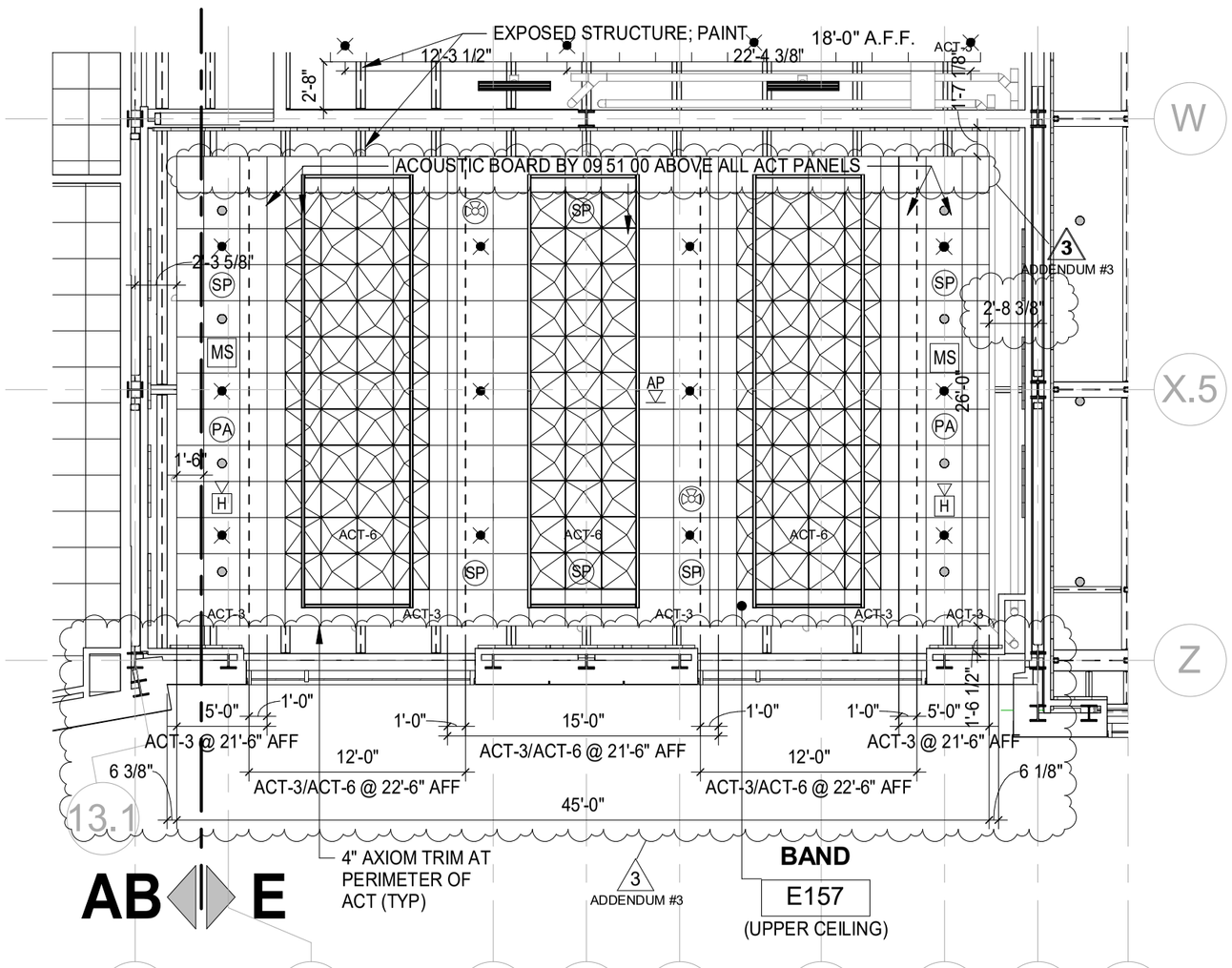
DATE: 02/03/22
DRAWING NUMBER: ADD-3 / A-002
REFERENCE: VARIES
DRAWING TITLE: AUTOMATIC DOOR OPENERS

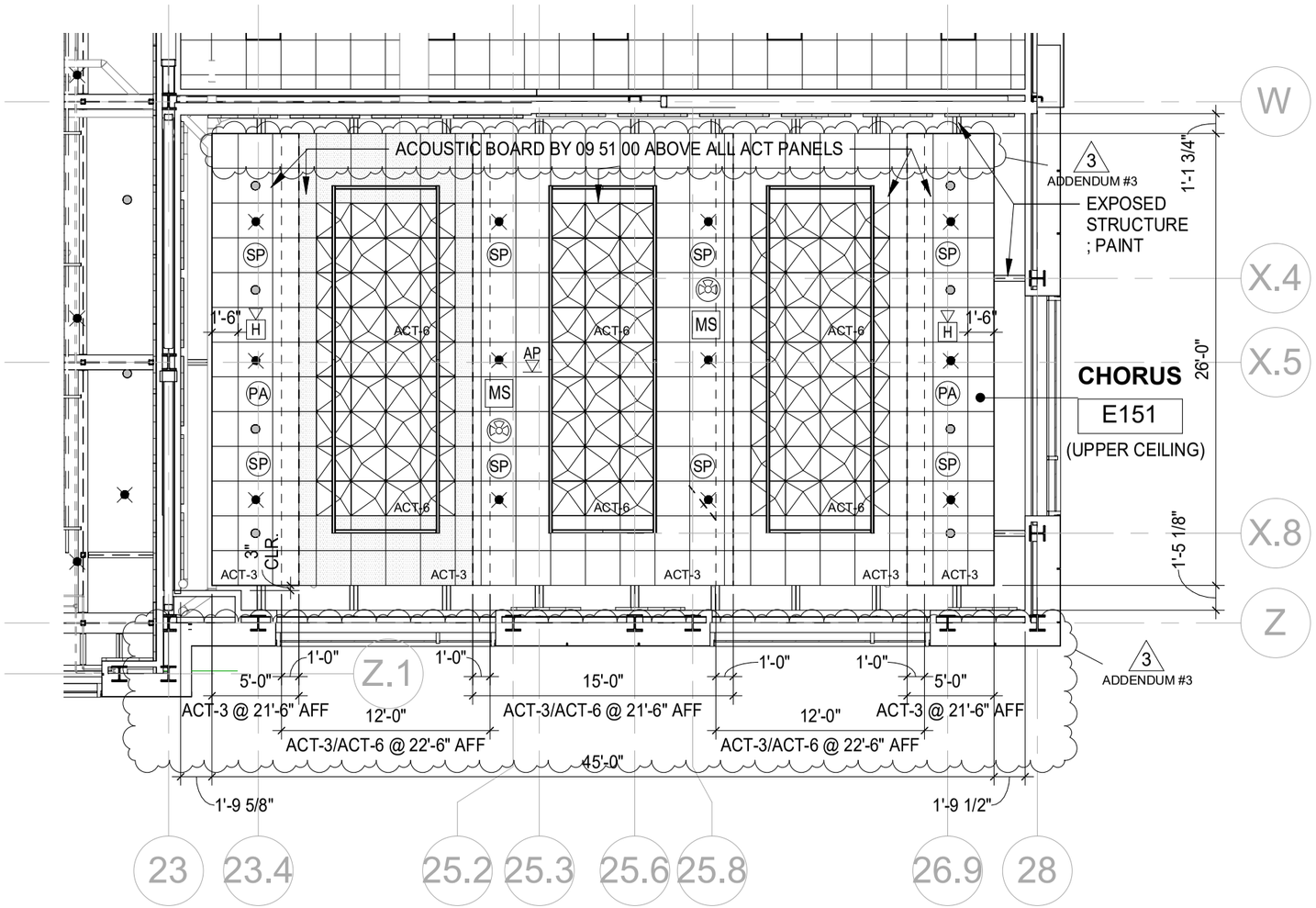
PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

ARCHITECT:
LPA A
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com



ARCHITECT: LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE: A4.6	DATE: 02/01/22
		DRAWING TITLE: Cafeteria E181 & Servery E190 Ceiling Clarifications	DRAWING NUMBER: ADD-3 / A-003





ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

100% CONSTRUCTION DOCUMENTS & BID PACKAGE #4

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: A4.8

DATE: 02/03/22

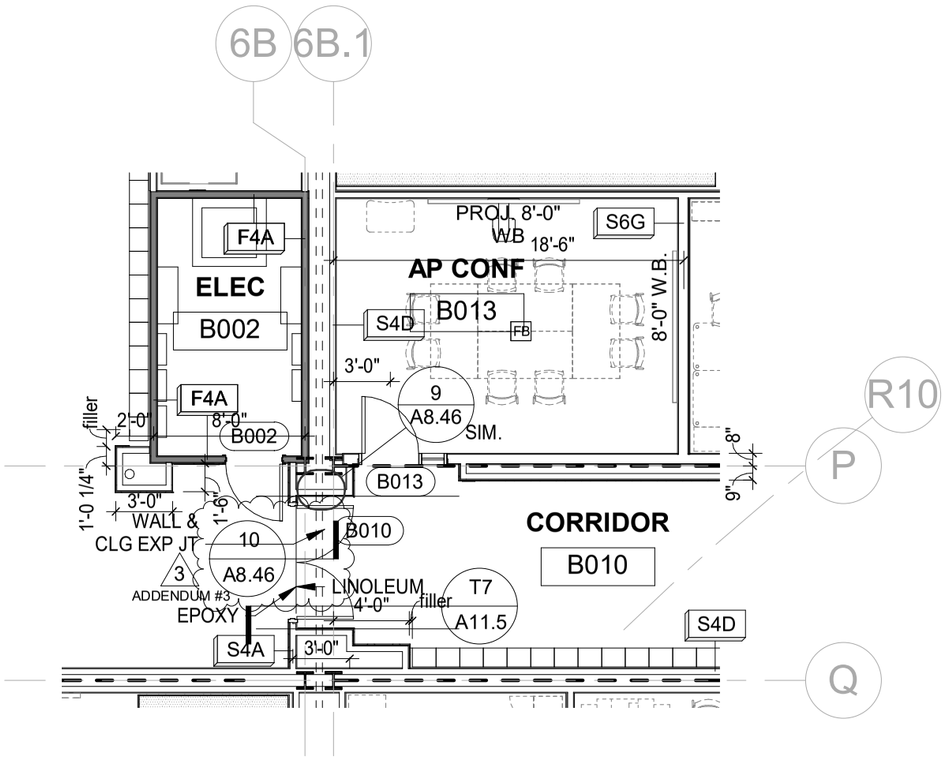
DRAWING TITLE:

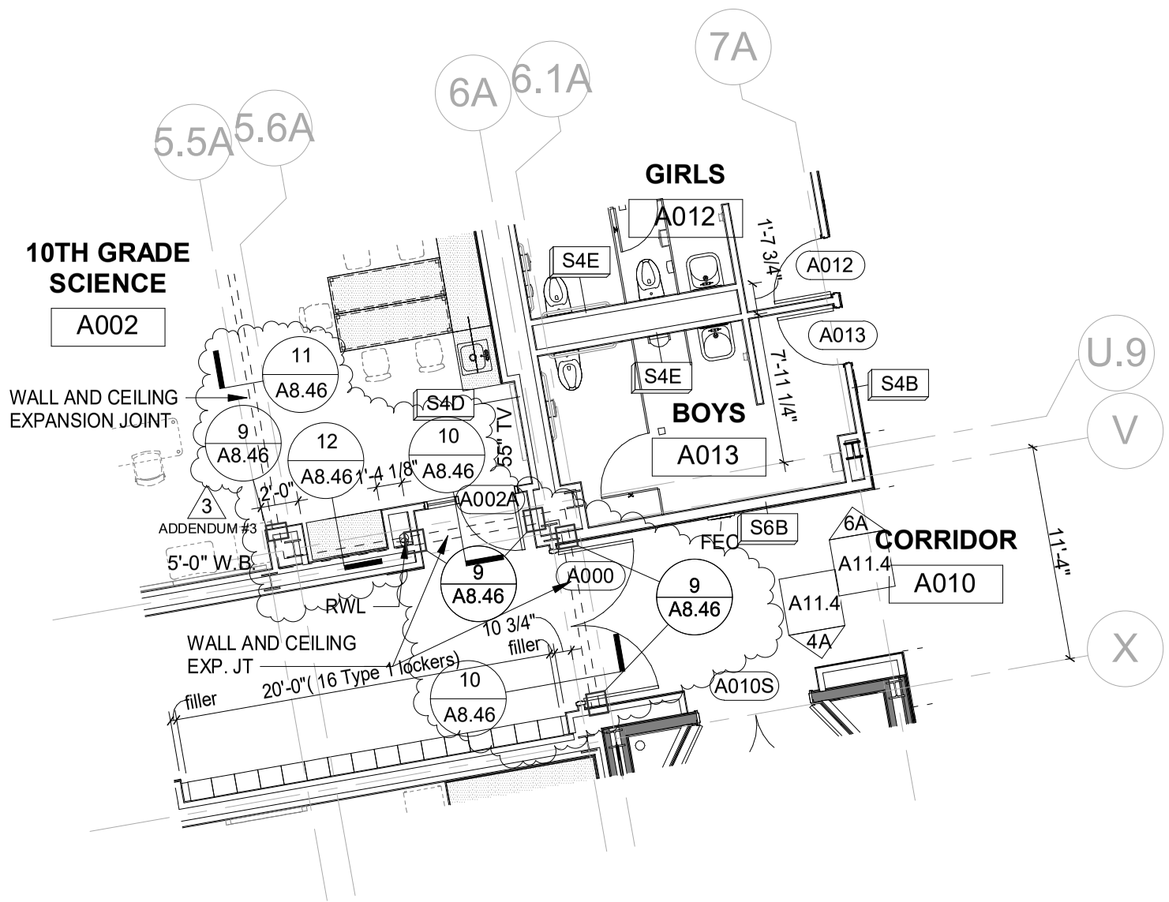
BAND E157 & CHORUS E151 CEILING CLARIFICATIONS

DRAWING NUMBER:

ADD-3

A-004





ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES |
ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: A3.1

DRAWING TITLE:

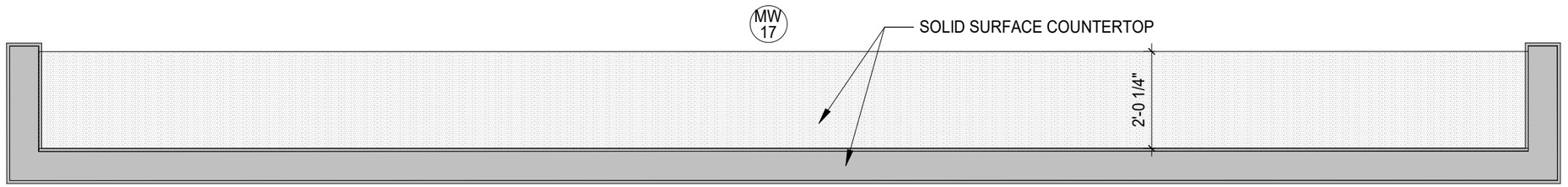
Ground Floor Plan Section AB Expansion Joint Detail Clarifications

DATE 02/03/22

DRAWING NUMBER:

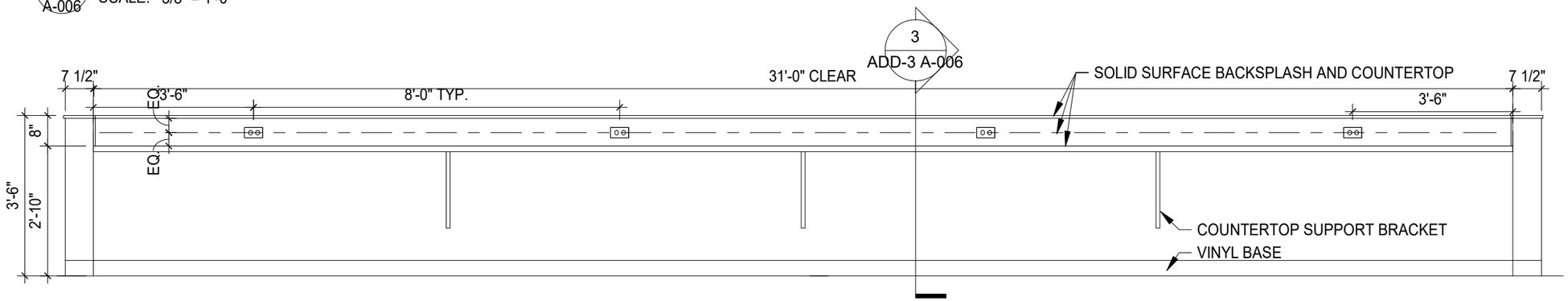
ADD-3

A-005



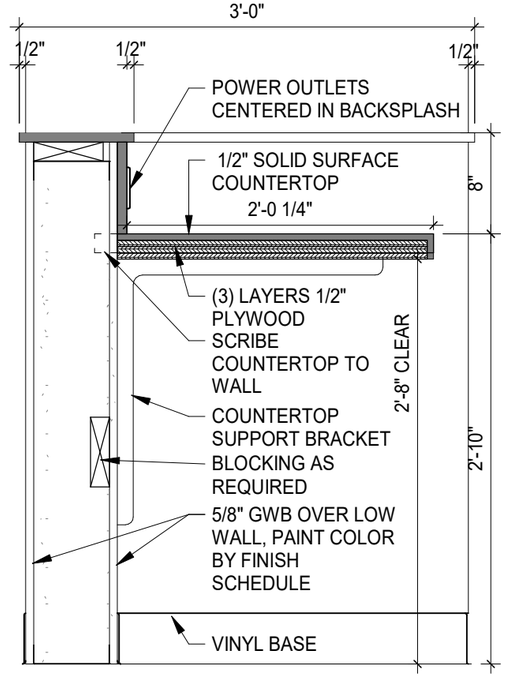
1 ADD-3 A-006 MW17 - Enlarged Millwork Plan @ Cafe ADD-03

SCALE: 3/8" = 1'-0"



2 ADD-3 A-006 MW17 - Cafe ADD-03

SCALE: 3/8" = 1'-0"



3 ADD-3 A-006 M17 - Cafe ADD-03

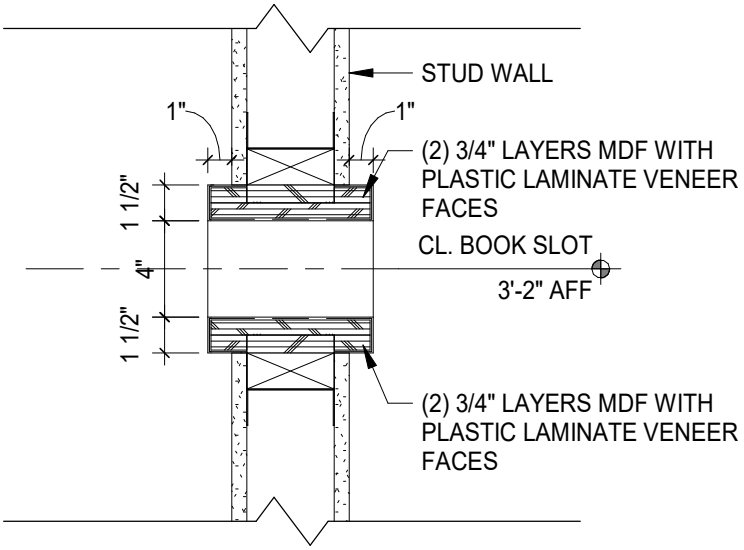
SCALE: 1" = 1'-0"

DATE: 02/03/22
DRAWING NUMBER: ADD–3 / A–006

REFERENCE: A9.5
DRAWING TITLE: Millwork Changes

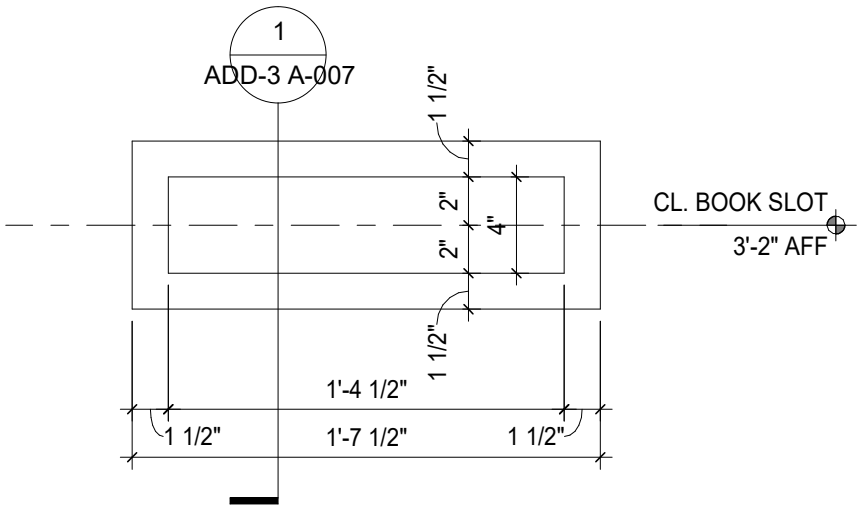
PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

ARCHITECT:
LPA|A
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com



Book Drop Off Slot Section ADD-03

1 1/2" = 1'-0"

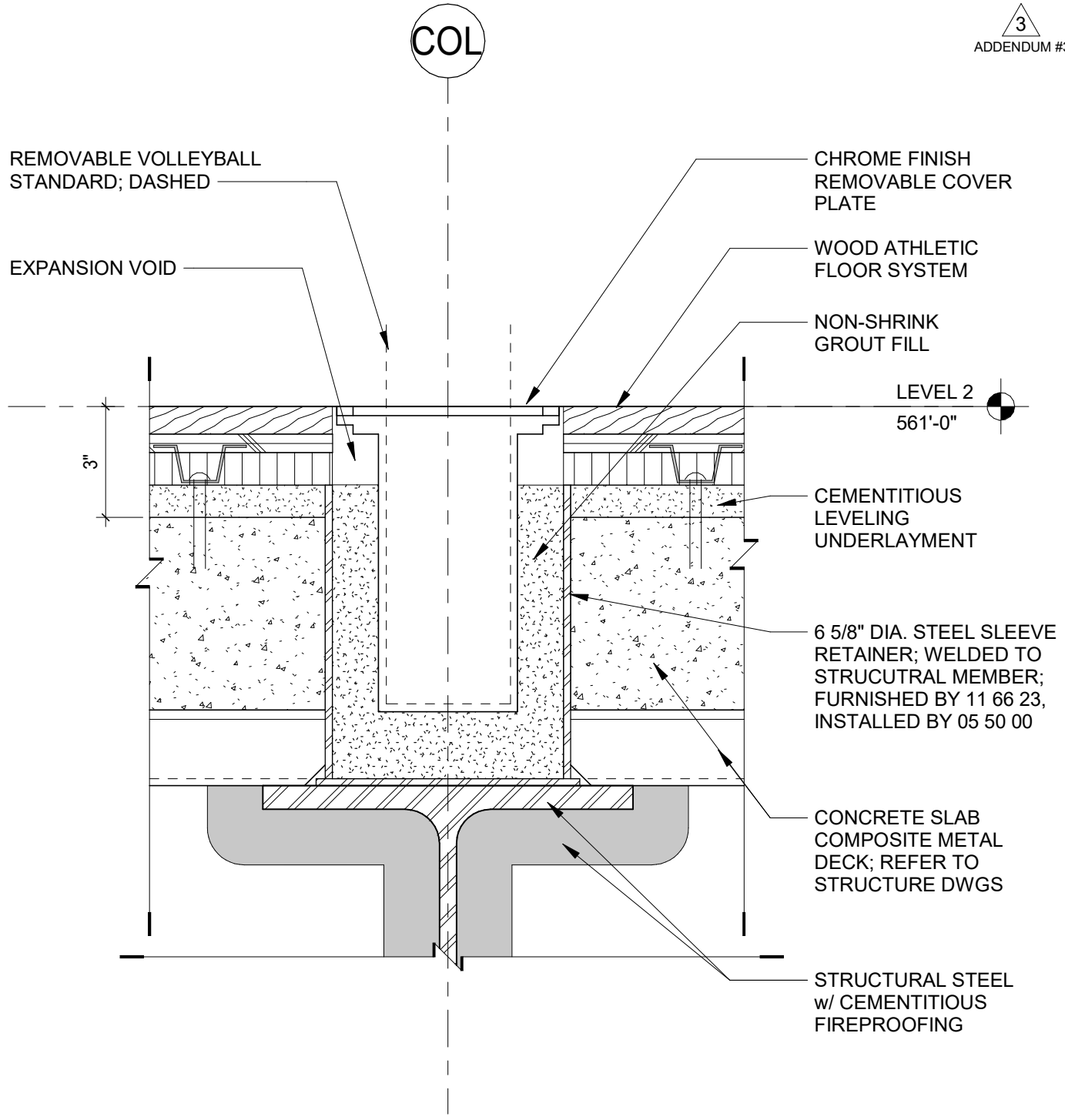


Book Slot Drop Box Elevation ADD-03

1 1/2" = 1'-0"

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A9.5 DRAWING TITLE: Millwork Changes	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-007

3
ADDENDUM #3

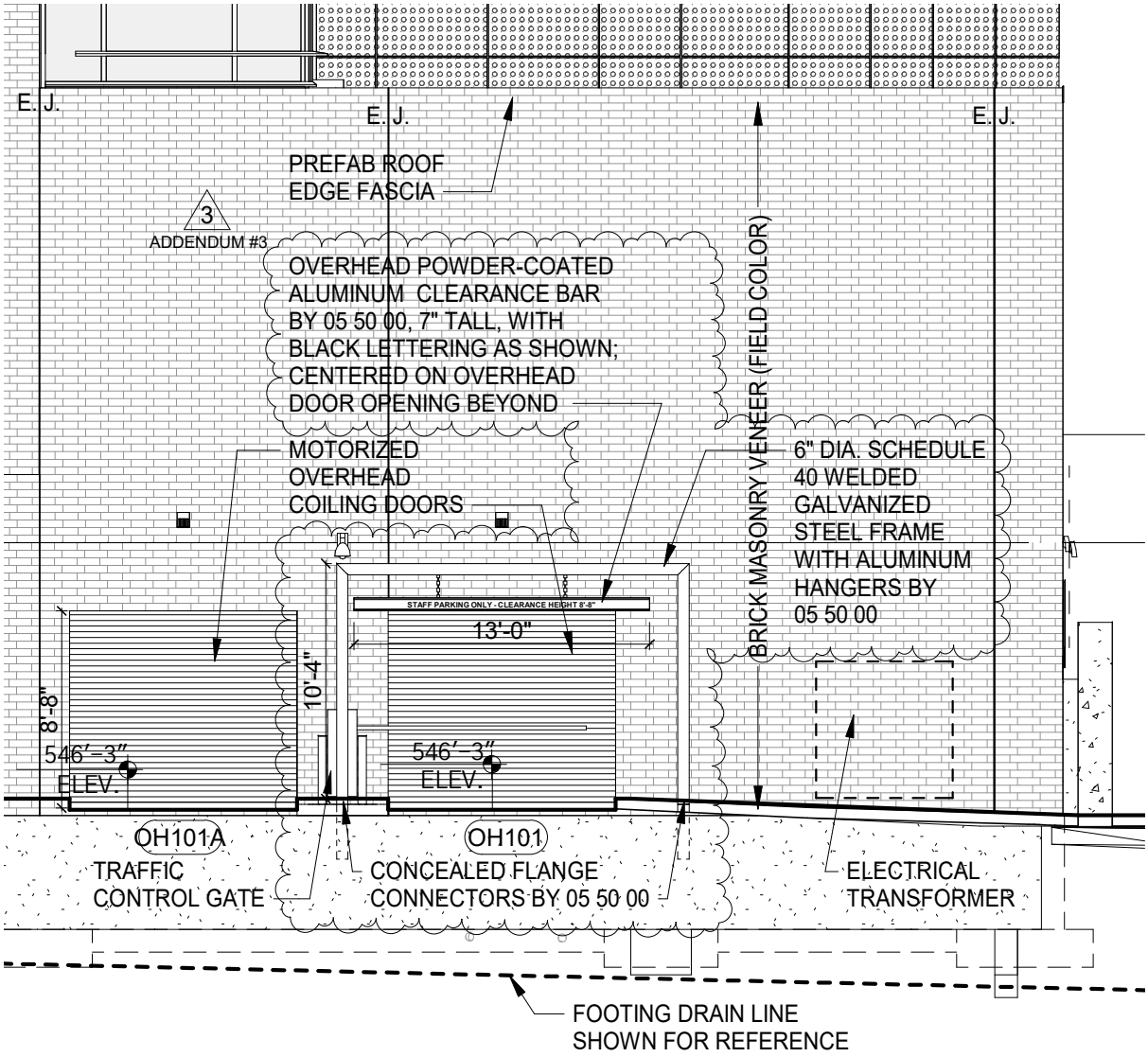


4
A8.26

Volleyball Floor Sleeve Detail

SCALE: 3" = 1'-0"

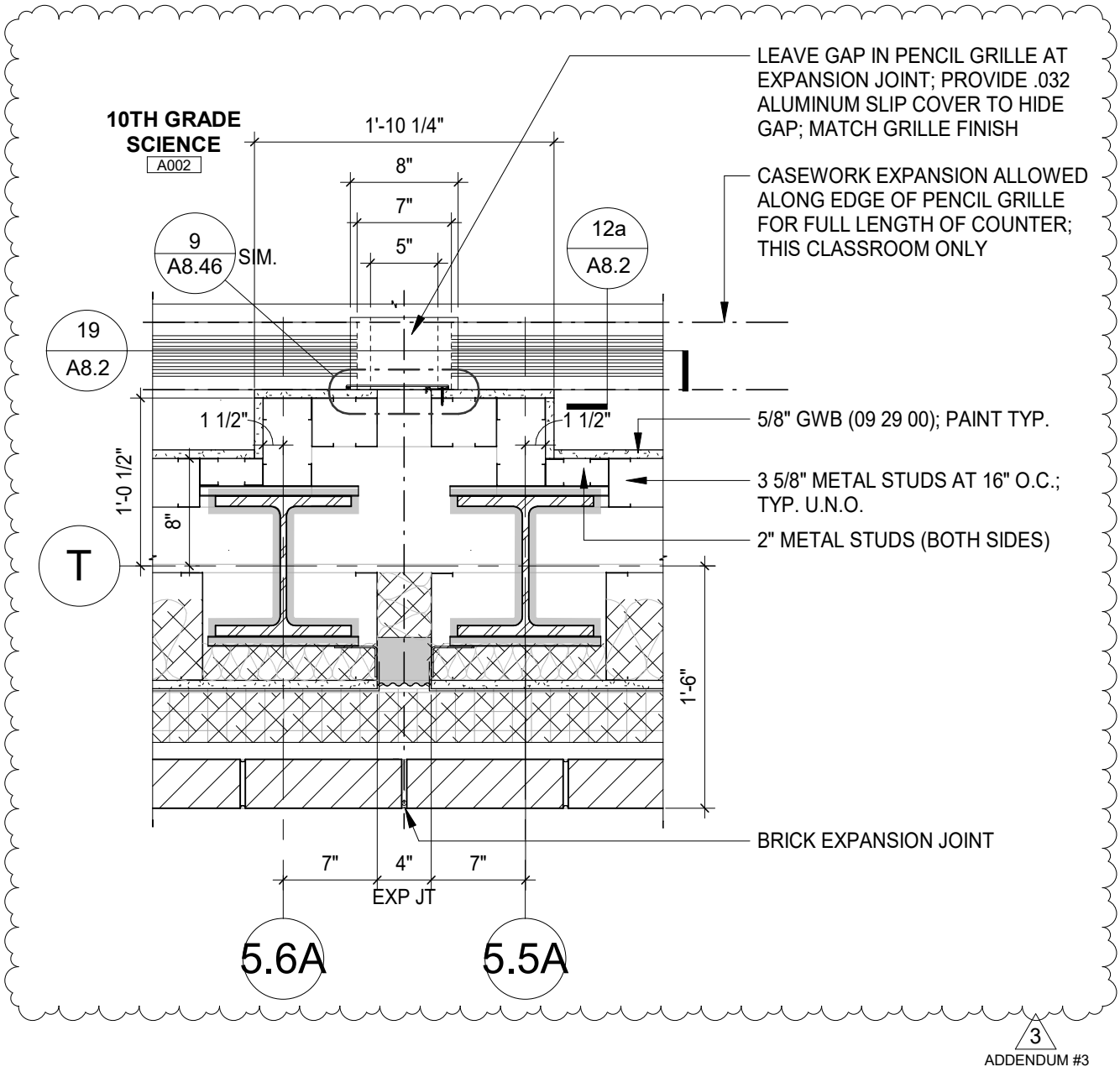
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 4/A8.26 DRAWING TITLE: Volleyball Floor Sleeve Detail	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-008



1 / A3.4 Building D (Math and Science) East Elevation

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

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A5.4	DATE: 02/03/22
		DRAWING TITLE: GARAGE ENTRY OVERHEAD CLEARANCE BAR	DRAWING NUMBER: ADD-3 A-009



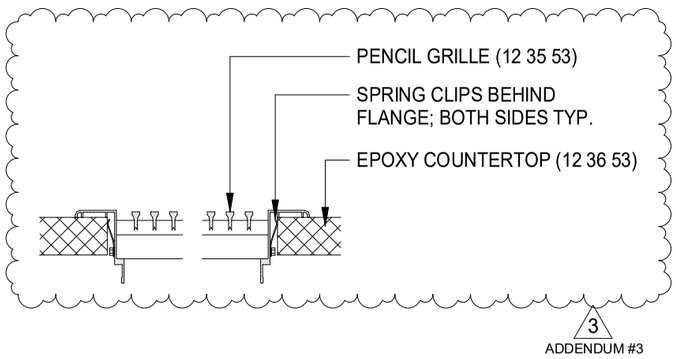
3
ADDENDUM #3

16
A6.24

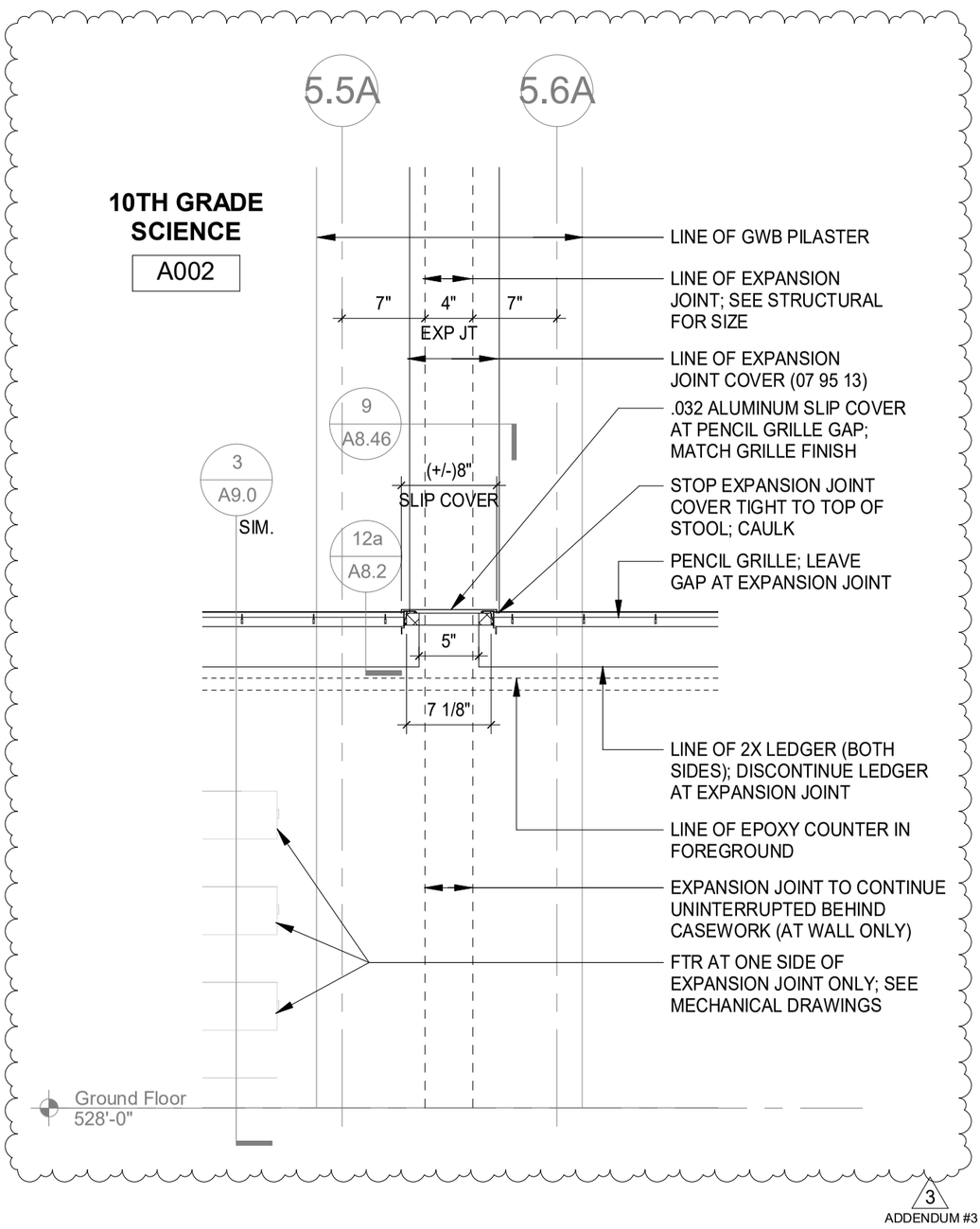
Ground Section AB Exp. Joint T/5.5A

SCALE: 1" = 1'-0"

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A6.24 DRAWING TITLE: Detail Clarification at Exp Jt Thru Millwork (10th Gr Sci A002)	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-010



12a / A8.2 **Pencil Grille Attachment at A002 10th Gr. Sci.**
SCALE: 3" = 1'-0"

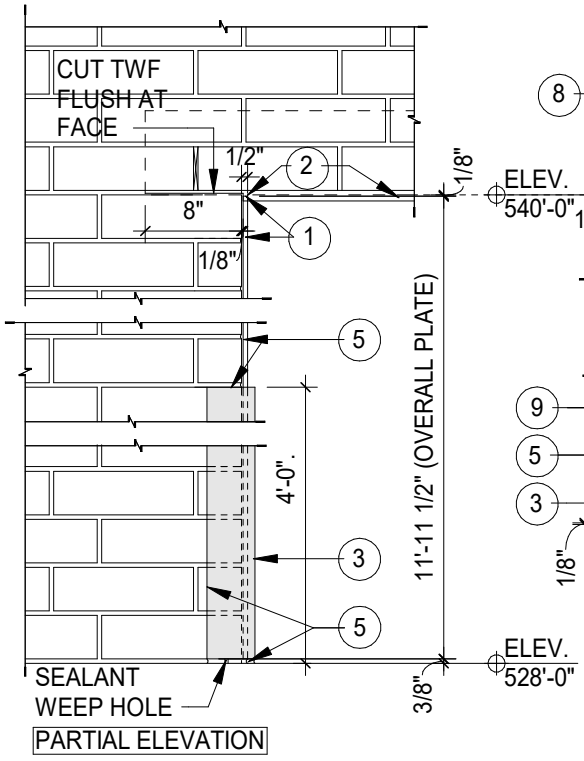


19 / A8.2 **Exp Jt Dtl at Casework - A002 10th Grade Science Classroom**
SCALE: 1" = 1'-0"

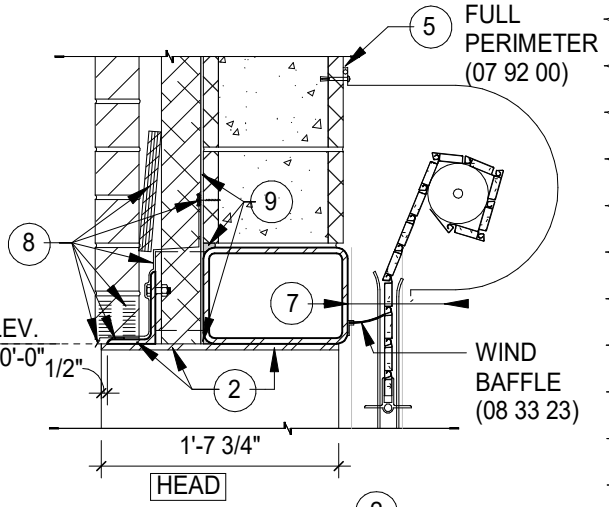
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: 100% CONSTRUCTION DOCUMENTS & BID PACKAGE #4 Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A8.2 DRAWING TITLE: Detail Clarification at Expansion Joint Thru Millwork (10th Grade Science A002)	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-011

NOTE LEGEND

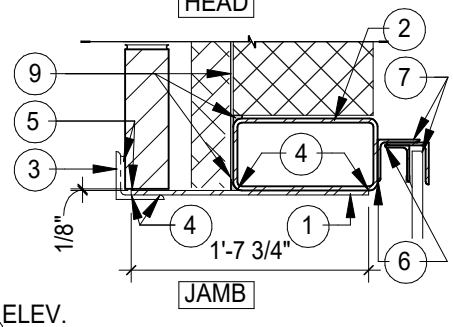
1. 3/8" GALV. STEEL JAMBS (05 50 00)
2. GALV. STEEL HSS TUBE, PLATE & ANGLE (05 12 00)
3. L4x4x3/8" (05 50 00); WELDED TO VERTICAL PLATE PRIOR TO GALV.
4. CONTINUOUS WELDS, GRIND EXPOSED WELDS SMOOTH (05 50 00)
5. BACKER ROD AND SEALANT (07 92 00)
6. SEAL ALL JOINTS AT METAL CONNECTIONS (07 92 00)
7. OVERHEAD DOOR ASSEMBLY (08 33 23)
8. TYPICAL THROUGH WALL FLASHING, TERMINATION BAR, SEALANTS, DRIP EDGE, WEEPS AND MORTAR STOP (04 20 00)
9. TYPICAL FLUID-APPLIED AIR BARRIER WITH INFILL AND TERMINATION SEALERS (07 27 00)



PARTIAL ELEVATION



HEAD



JAMB

(OPPOSITE JAMB SIMILAR)

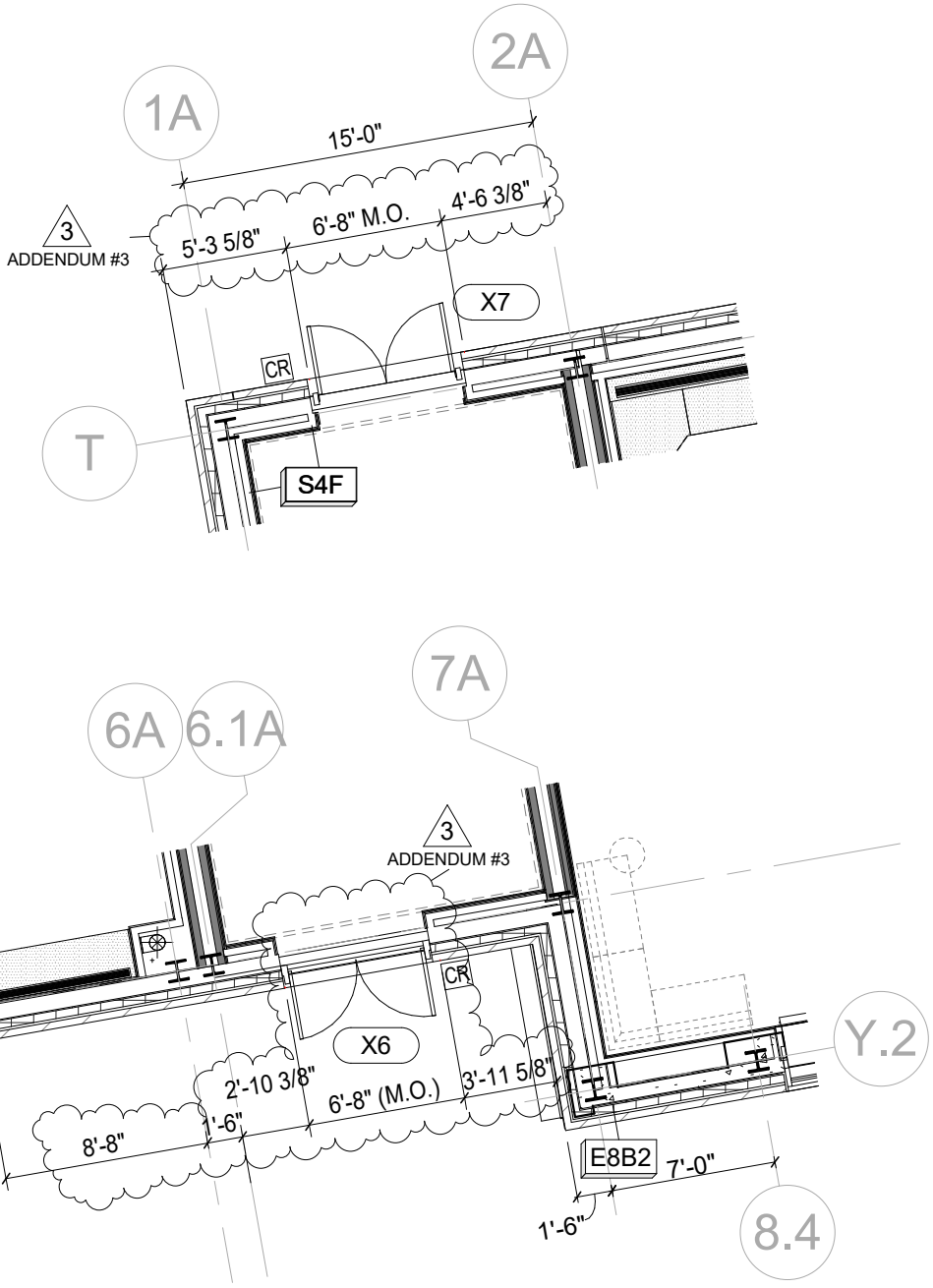
19 / A6.29

OH005 Door Surround

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

3 ADDENDUM #3

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 19/A6.29	DATE: 02/03/22
		DRAWING TITLE: OH005 Door Surround	DRAWING NUMBER: ADD-3 A-012

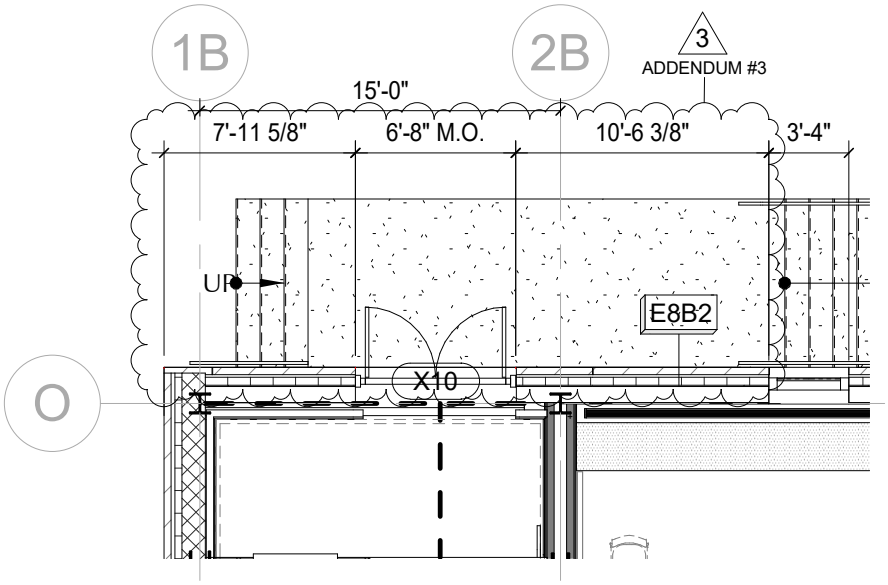


1
A3.1

Partial Ground Level Floor Plan - Section AB

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

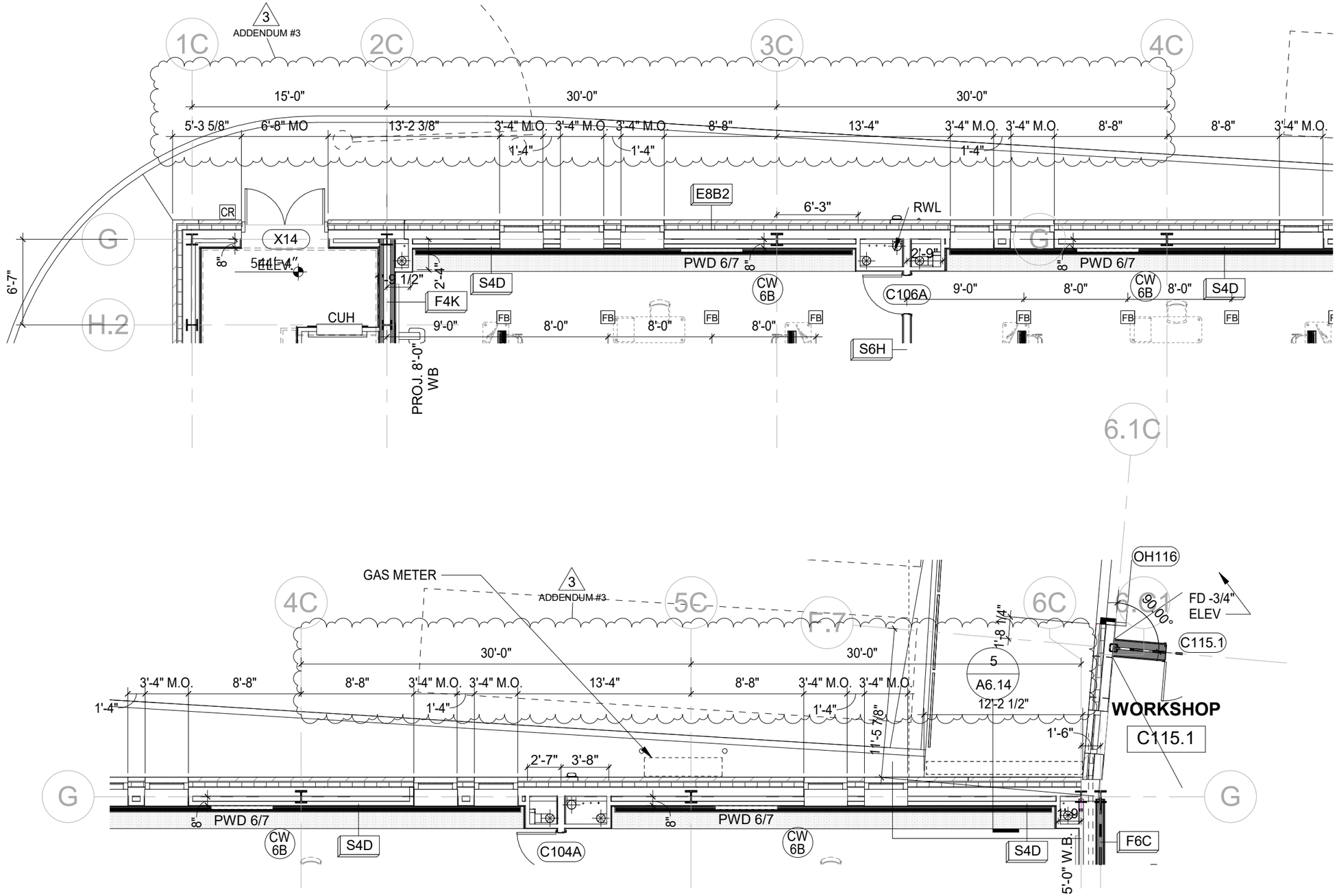
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 1/A3.1 DRAWING TITLE: Ground Level Section AB Masonry Opening Dimensions	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-013



1 / A3.3 **Partial Main Level Floor Plan - Section AB**

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

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 1/A3.3 DRAWING TITLE: Main Level Section AB Masonry Opening Dimensions	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-014



5
A3.5
SCALE: 1/8" = 1'-0"

Partial Main Level Floor Plan - Section CD

DATE: 02/03/22
DRAWING NUMBER: ADD–3 / A–015

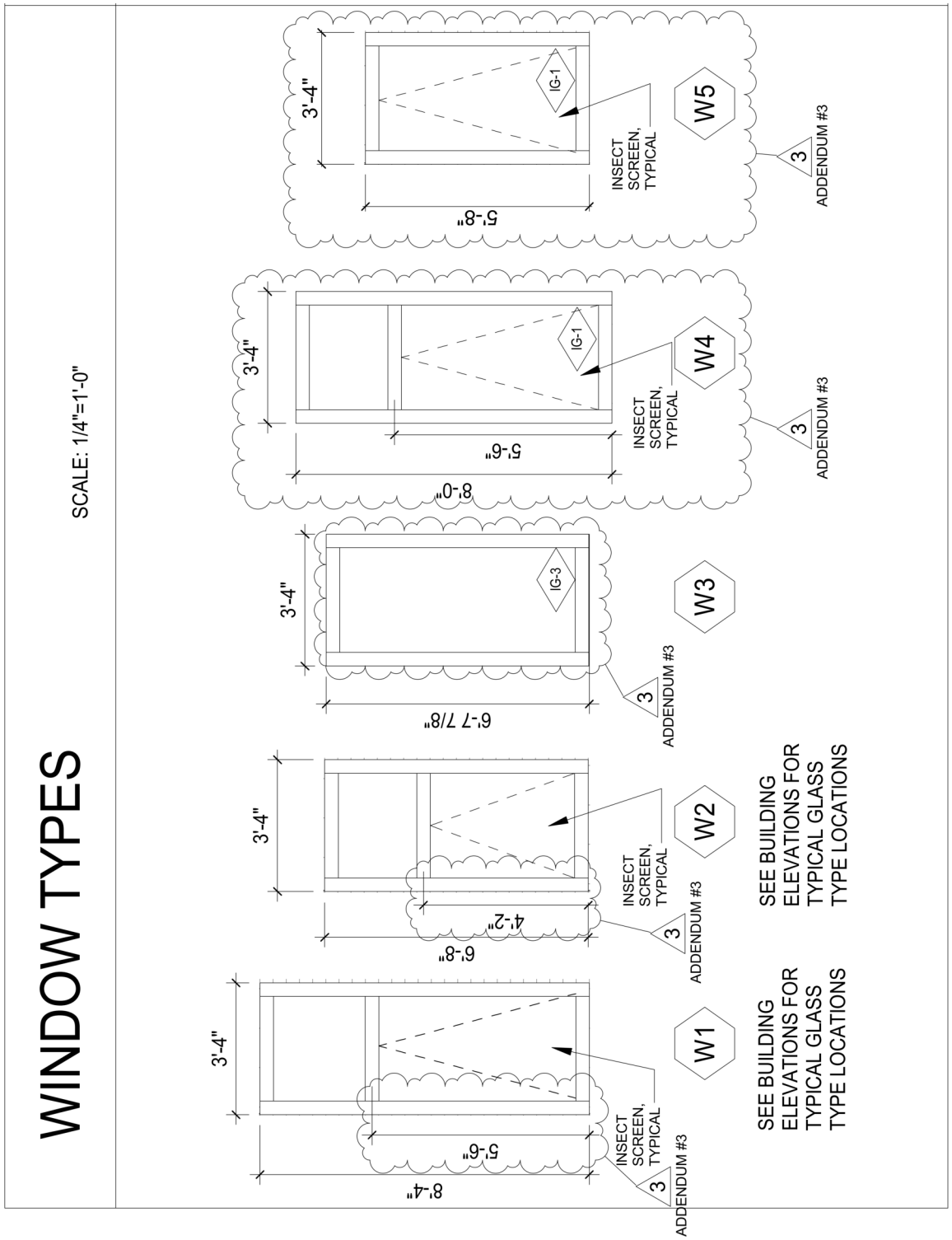
REFERENCE: 5/A3.5
DRAWING TITLE: Main Level Section CD Masonry Opening Dimensions

PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

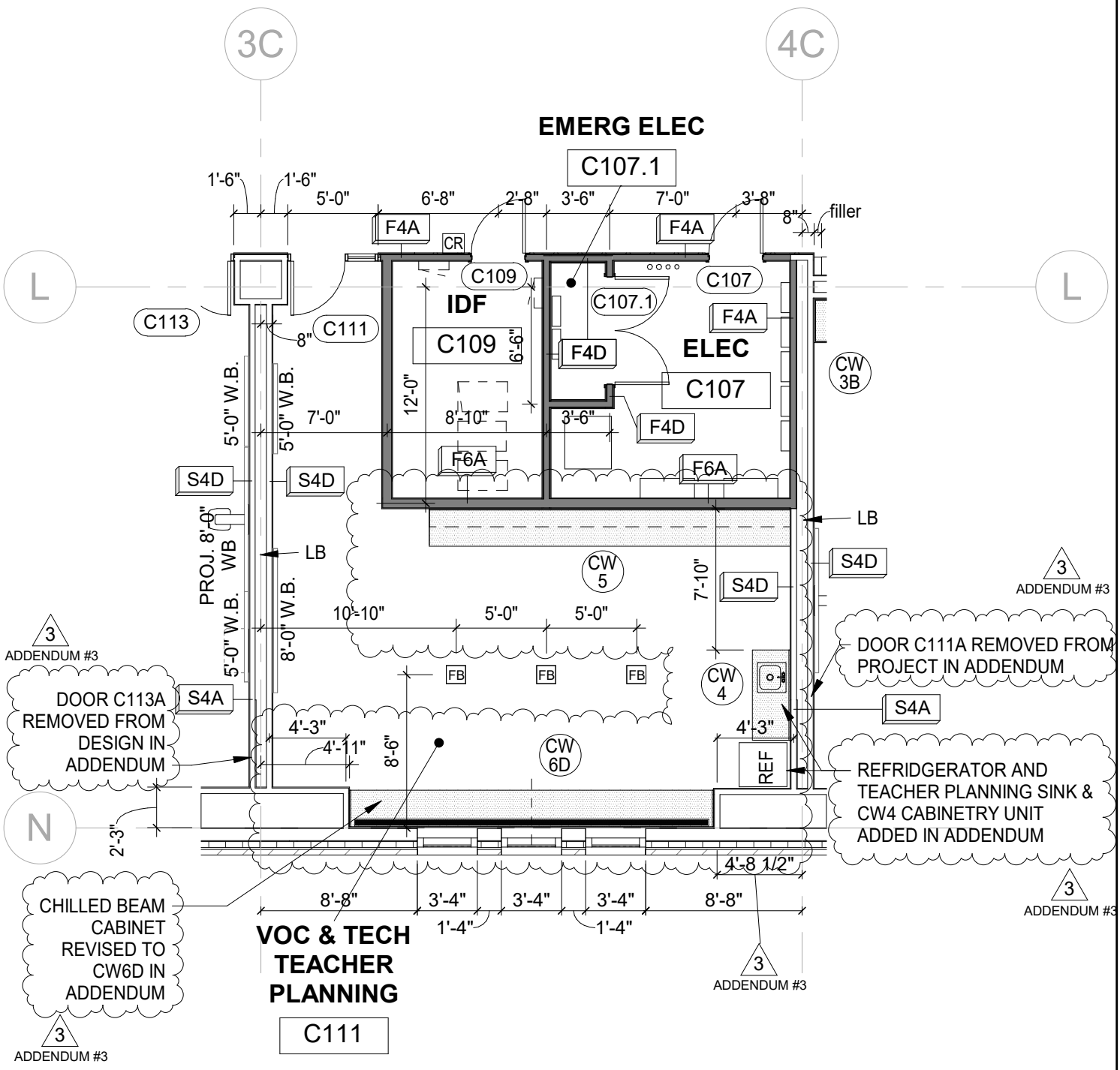
ARCHITECT:
LPA|A
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

WINDOW TYPES

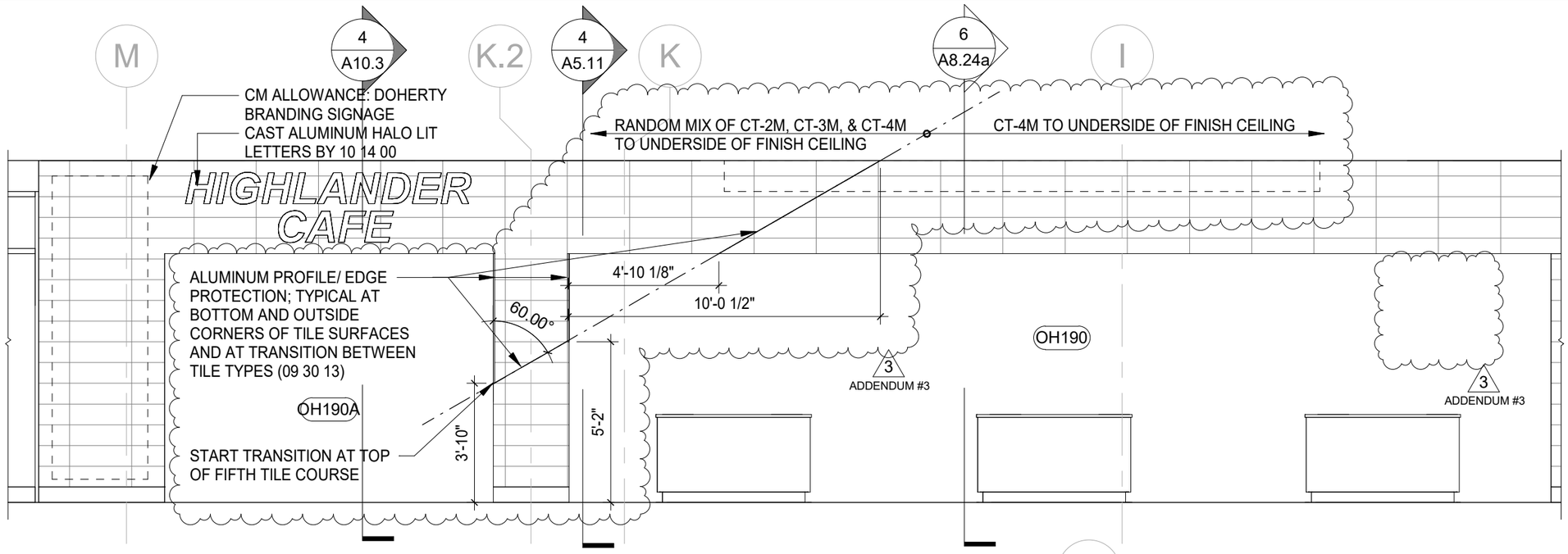
SCALE: 1/4"=1'-0"



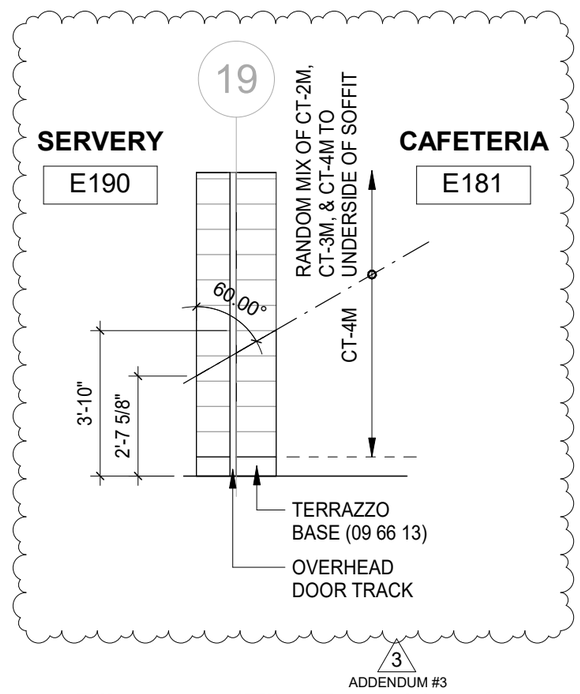
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A6.17 DRAWING TITLE: Window Dimension Clarifications	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-016



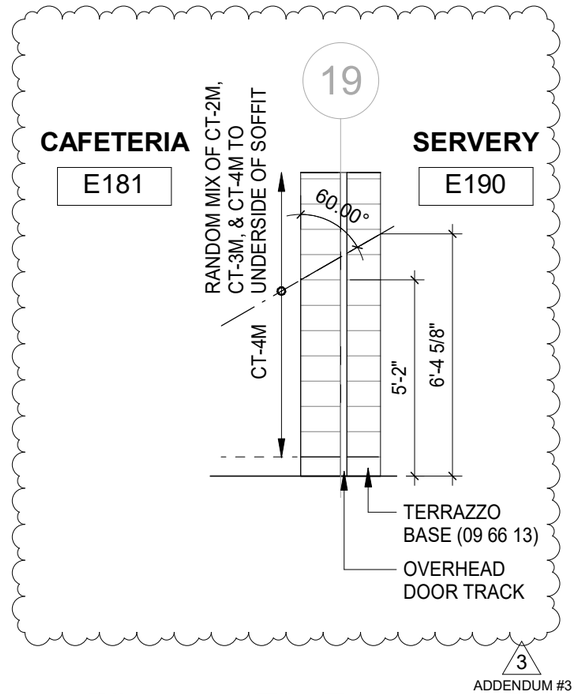
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE: A3.5	DATE: 02/03/22
		DRAWING TITLE: Room C11 Layout Revision	DRAWING NUMBER: ADD-3 / A-017



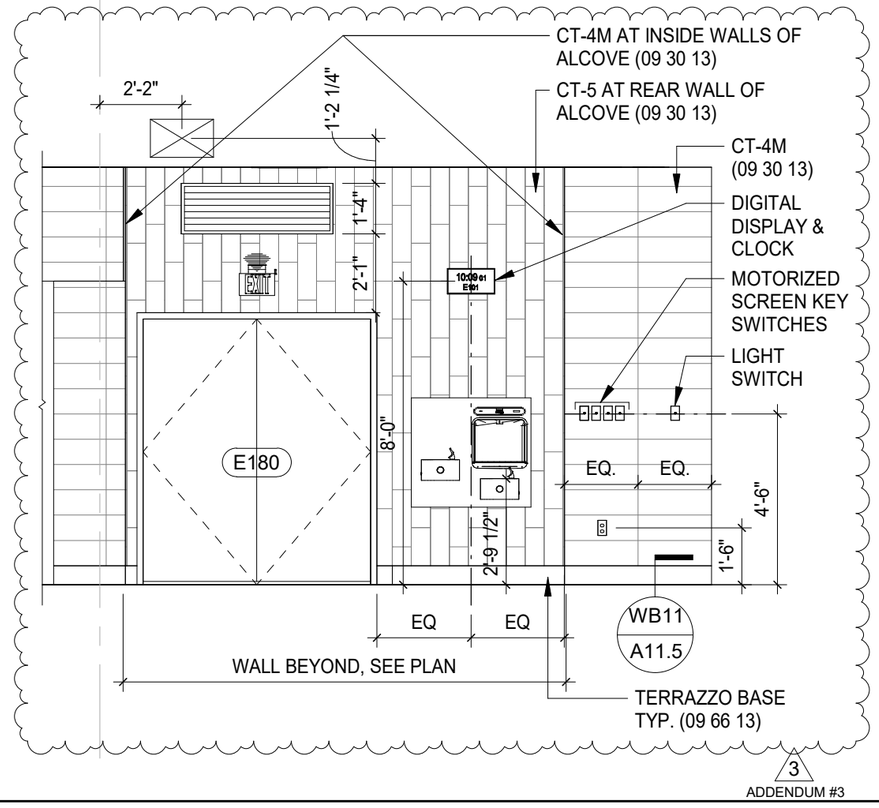
5 / A8.24a **Cafeteria / Servery / School Store - East**
SCALE: 1/4" = 1'-0"



5a / A8.24a **Pilaster at Tile Transition (Left)**
SCALE: 1/4" = 1'-0"



5b **Pilaster at Tile Transition (Right)**
SCALE: 1/4" = 1'-0"



DATE: 02/02/22
DRAWING NUMBER: ADD-3 / A-018

REFERENCE: A8.24a
DRAWING TITLE: Servery E190 Exterior Wall Finish Updates

PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

ARCHITECT:
LPA
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

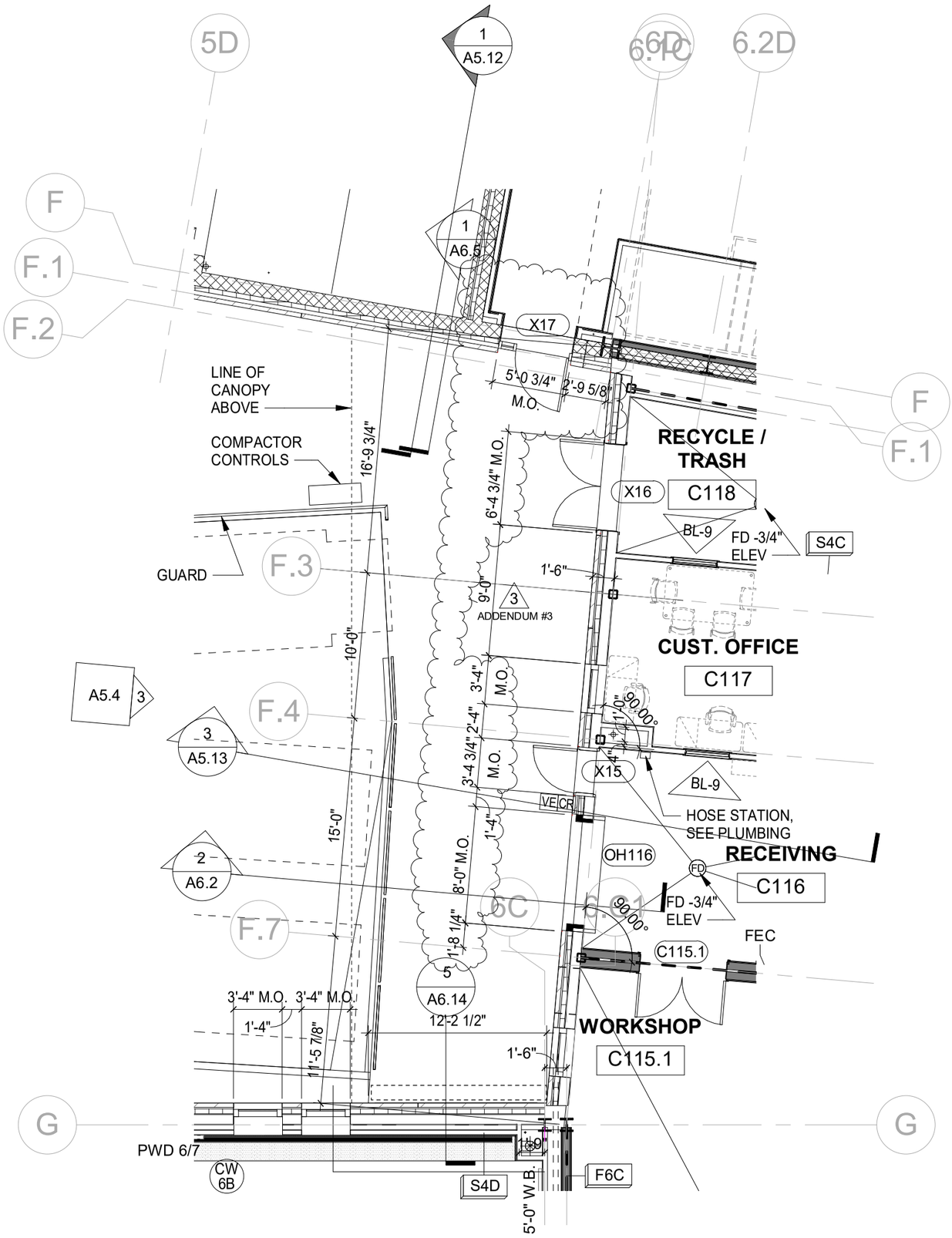
Casework Schedule - Main Floor Section C ADD-3			
Room: Number	Room: Name	Type Mark	Comments
C101	MARKETING & FINANCE CR	3B	
C101	MARKETING & FINANCE CR	6C	
C102	PROG. & WEB DEV. CR	3A	
C102	PROG. & WEB DEV. CR	6B	
C103	MARKETING & FINANCE CR	6	
C103	MARKETING & FINANCE CR	3B	
C104	PROG. & WEB DEV. CR	3A	
C104	PROG. & WEB DEV. CR	6B	
C105	MARKETING & FINANCE CR	6	
C105	MARKETING & FINANCE CR	3B	
C106	PROG. & WEB DEV. CR	3A	
C106	PROG. & WEB DEV. CR	6B	
C111	VOC & TECH TEACHER PLANNING	5	
C111	VOC & TECH TEACHER PLANNING	6D	REVISED ADDENDUM 3
C111	VOC & TECH TEACHER PLANNING	4	ADDED ADDENDUM 3
C113	PROG. & WEB DEV. CR	6C	
C113	PROG. & WEB DEV. CR	3A	

3
ADDENDUM #3

NOTE: REFER TO ADD-3/A-017 FOR ADDITIONAL INFORMATION RELATED TO THIS CASEWORK REVISION.

3
ADDENDUM #3

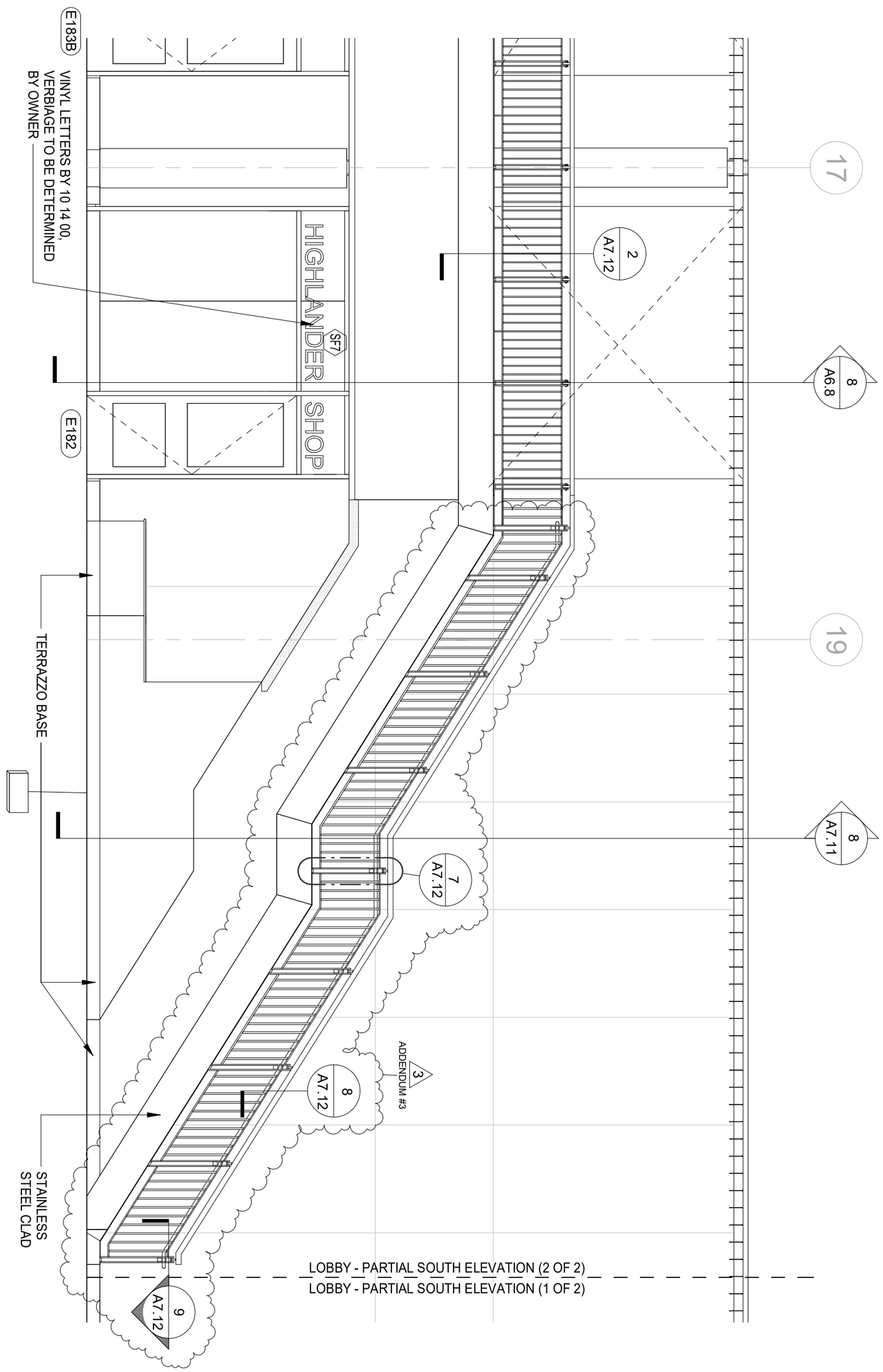
ARCHITECT:	PROJECT TITLE:	REFERENCE: A9.0	DATE: 02/03/22
LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	DRAWING TITLE: Casework Revisions	DRAWING NUMBER: ADD-3 A-019



5 / A3.5 Partial Main Level Floor Plan - Section CD

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

ARCHITECT: LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE: 5/A3.5	DATE: 02/03/22
		DRAWING TITLE: Main Level Section CD Masonry Opening Dimensions	DRAWING NUMBER: ADD-3 A-020



ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: 1/A8.21

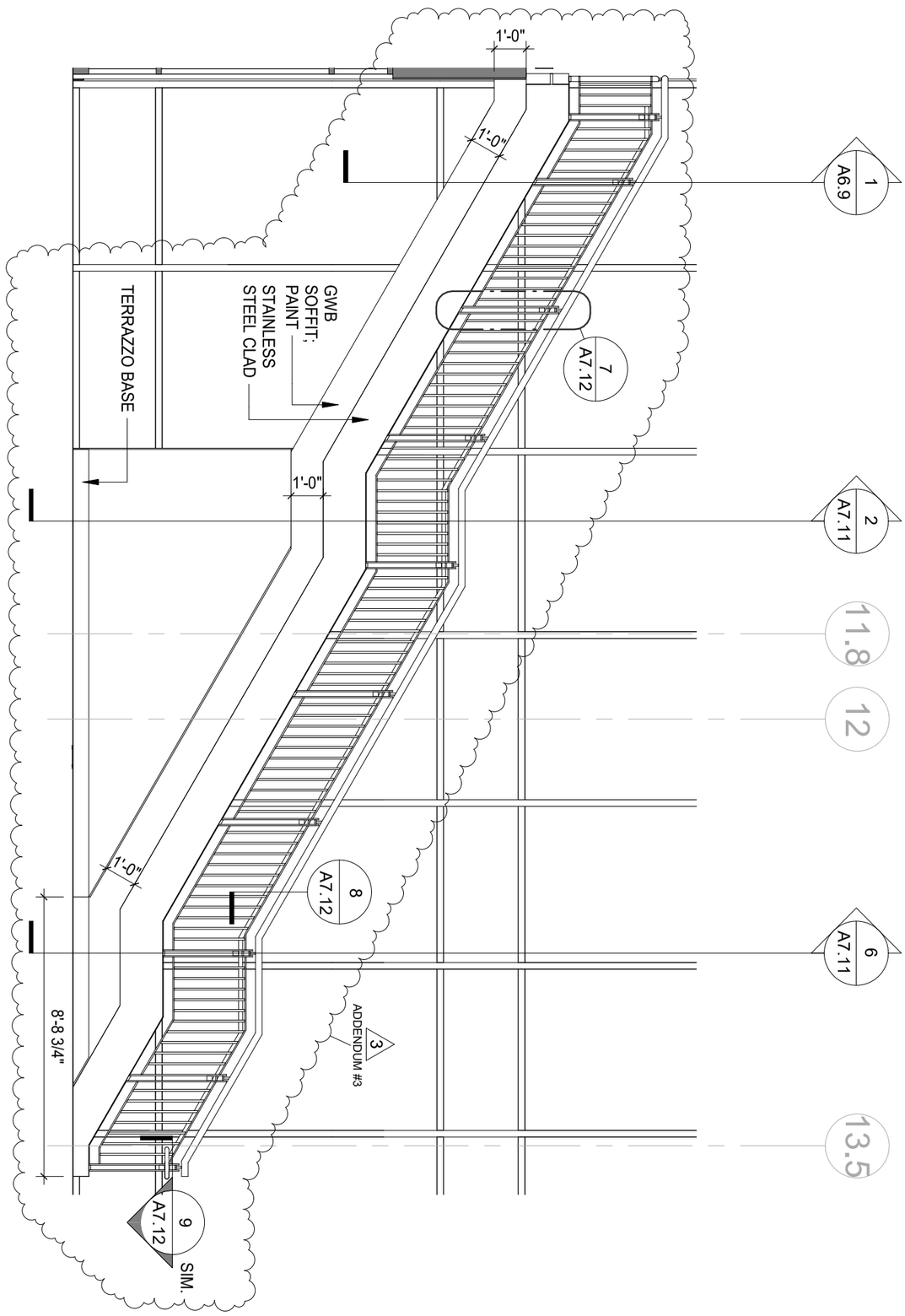
DRAWING TITLE:

Lobby Stair Elevation – Main Level

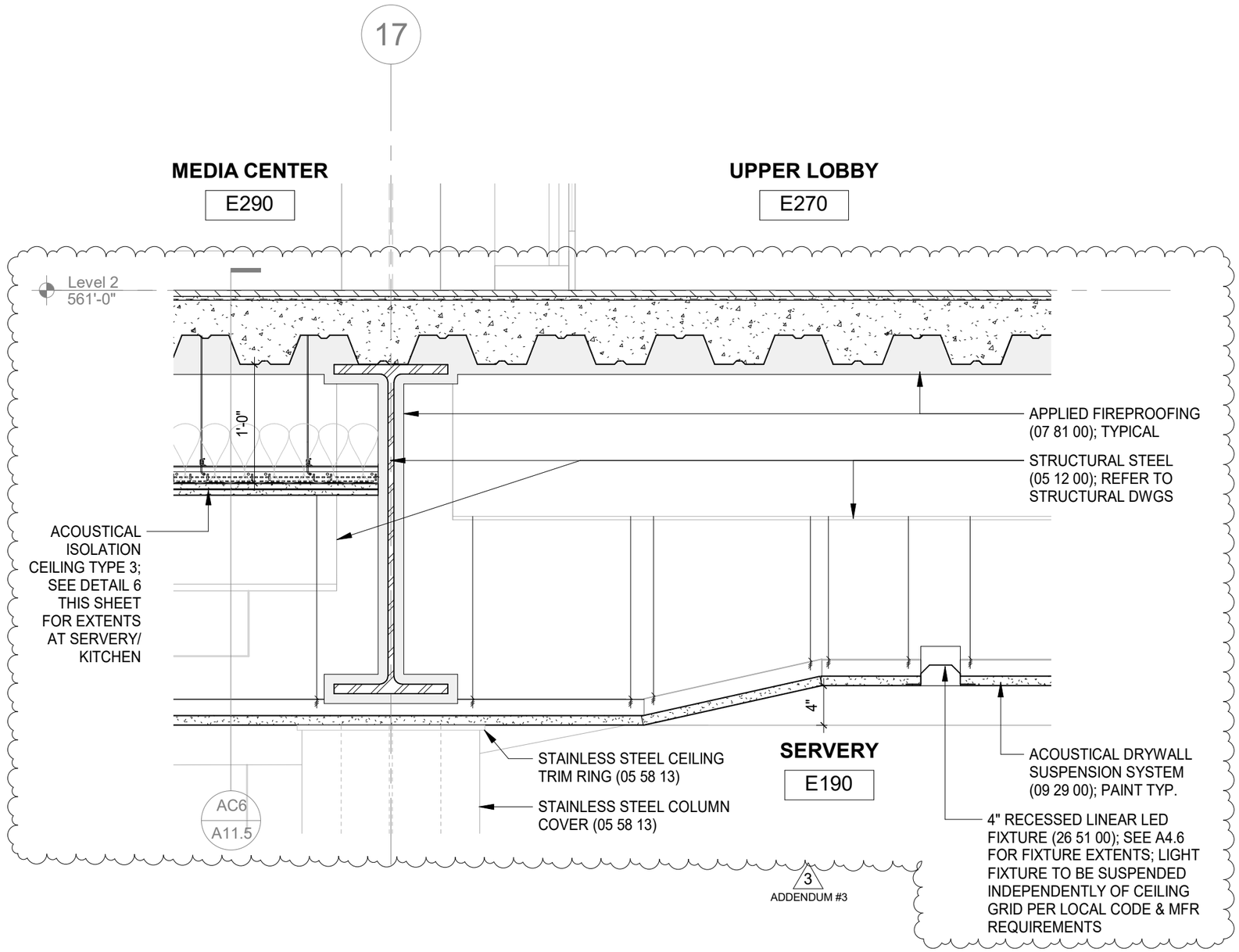
DATE: 02/03/22

DRAWING NUMBER:

ADD-3
A-021



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 2/A8.33 DRAWING TITLE: Lobby Stair Elevation – Level 2	DATE: 02/03/22 DRAWING NUMBER: ADD-3 / A-022



7 / A8.24a Sloped Ceiling Detail at Servery

SCALE: 1" = 1'-0"

DATE: 02/02/22

DRAWING NUMBER: ADD-3 / A-023

REFERENCE: A8.24a

DRAWING TITLE: Servery E190 Sloped Ceiling Detail Updates

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

ARCHITECT:

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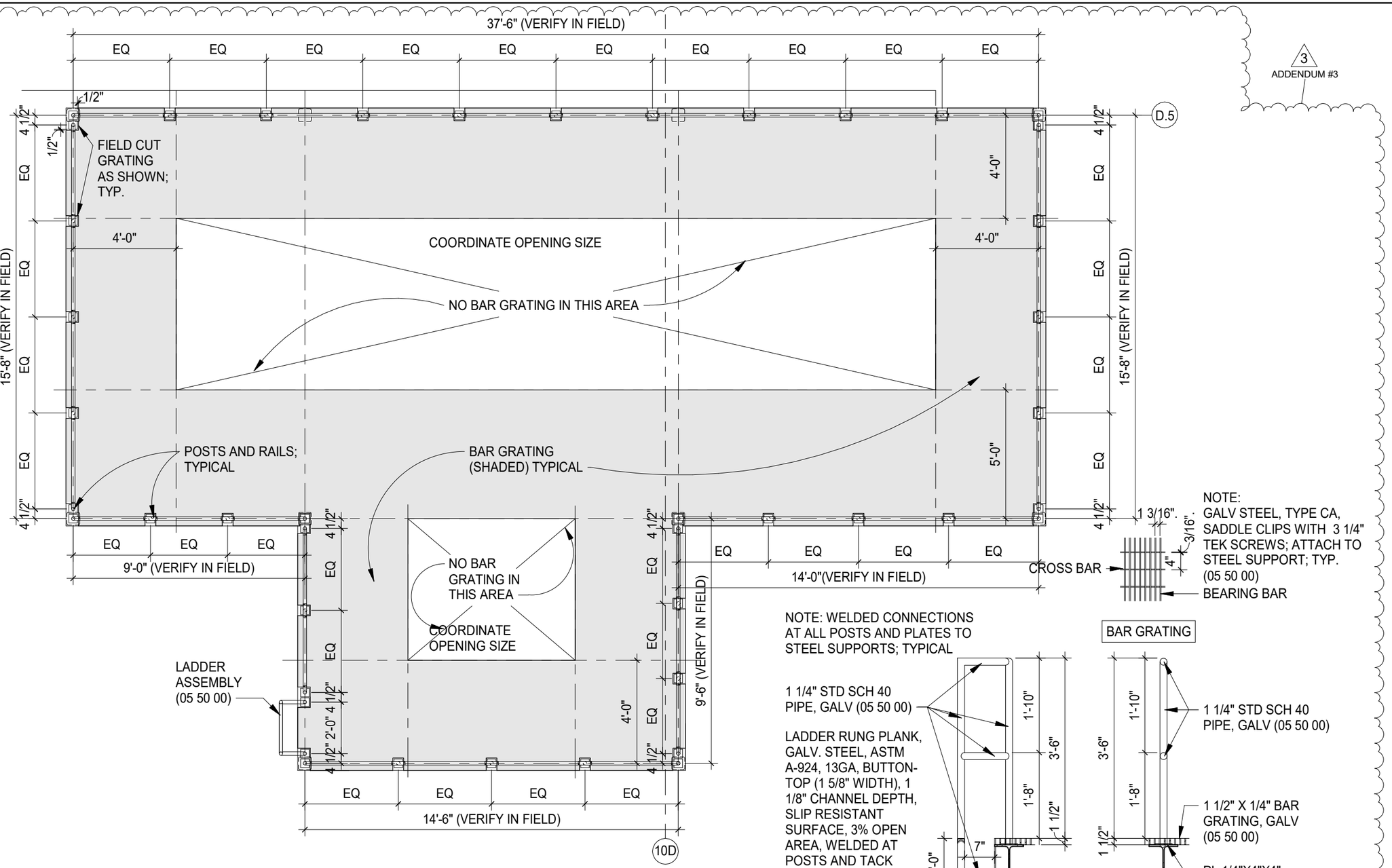


20 / A6.29 HVAC Platform Grating, Posts, Railings and Ladder Assembly

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

DATE: 02/03/22

DRAWING NUMBER: ADD-3 / A-024

REFERENCE: 20/A6.29

DRAWING TITLE: HVAC Platform Grating, Posts, Railings and Ladder Assembly

PROJECT TITLE: Doherty Memorial High School

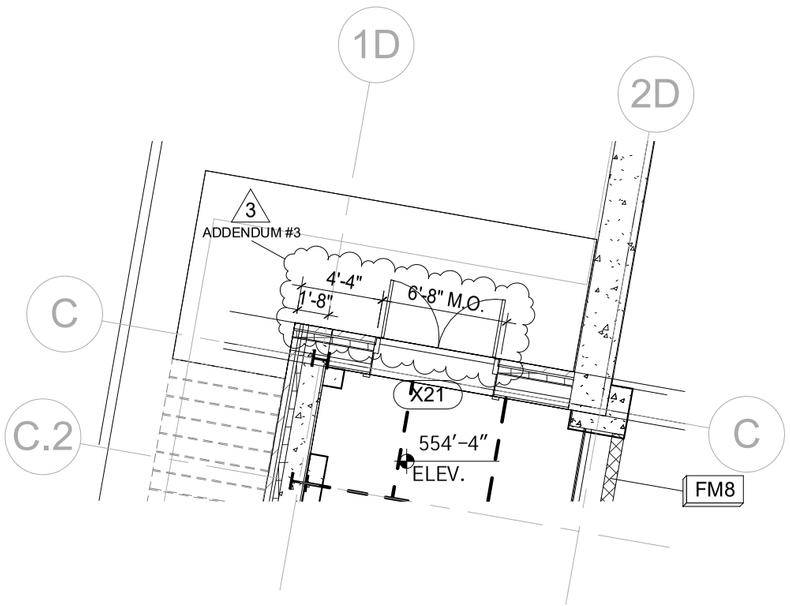
299 Highland Street, Worcester, MA 01602

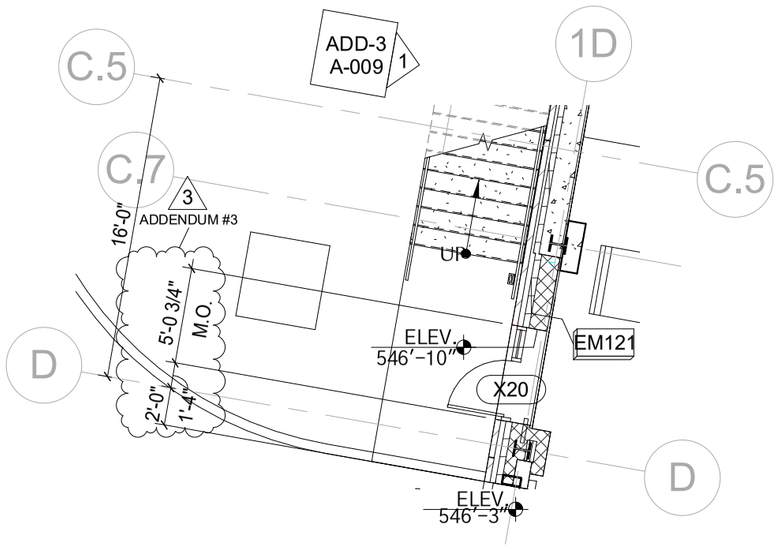
ARCHITECT:

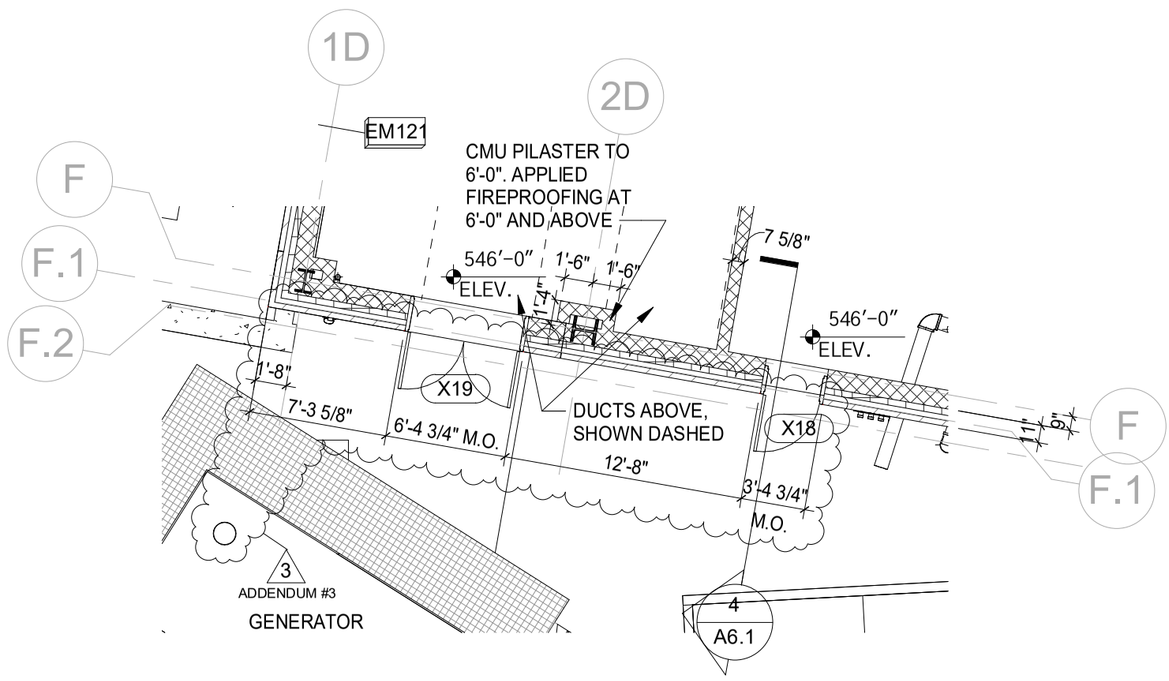
LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



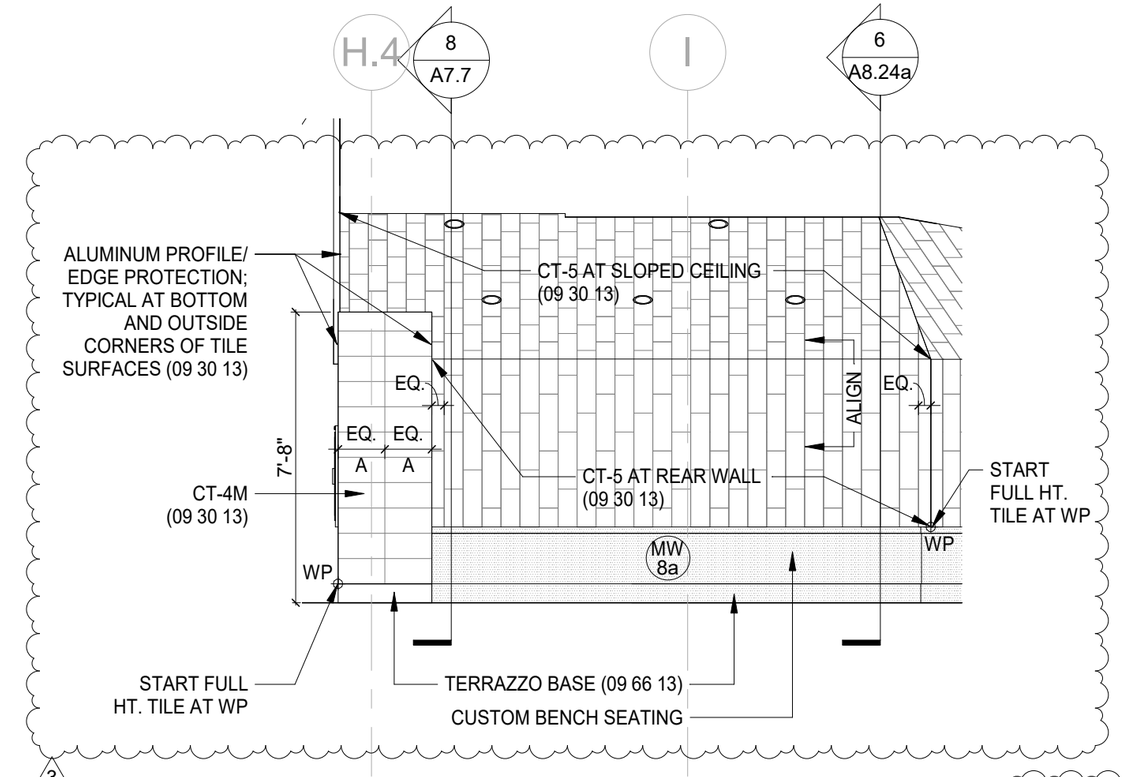




5 / A3.5 **Partial Main Level Floor Plan - Section CD**

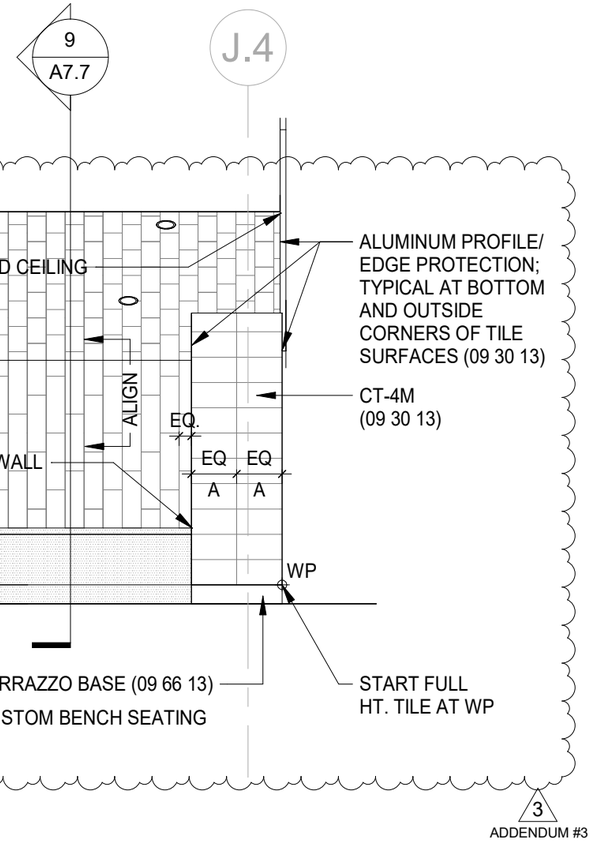
SCALE: 1/8" = 1'-0"

ARCHITECT: LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE: 5/A3.5	DATE: 02/03/22
		DRAWING TITLE: Main Level Section CD Masonry Opening Dimensions	DRAWING NUMBER: ADD-3 A-025



3 A7.7 Elevation @ Cafeteria Stair/Tiered Seating S-N

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



4 A7.7 Elevation @ Cafeteria Stair/Tiered Seating S-N

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

DATE: 02/02/22

DRAWING NUMBER: ADD-3 / A-026

REFERENCE: A7.7

DRAWING TITLE: Cafeteria E181 Finish Clarifications Below Community Stair

PROJECT TITLE: Doherty Memorial High School

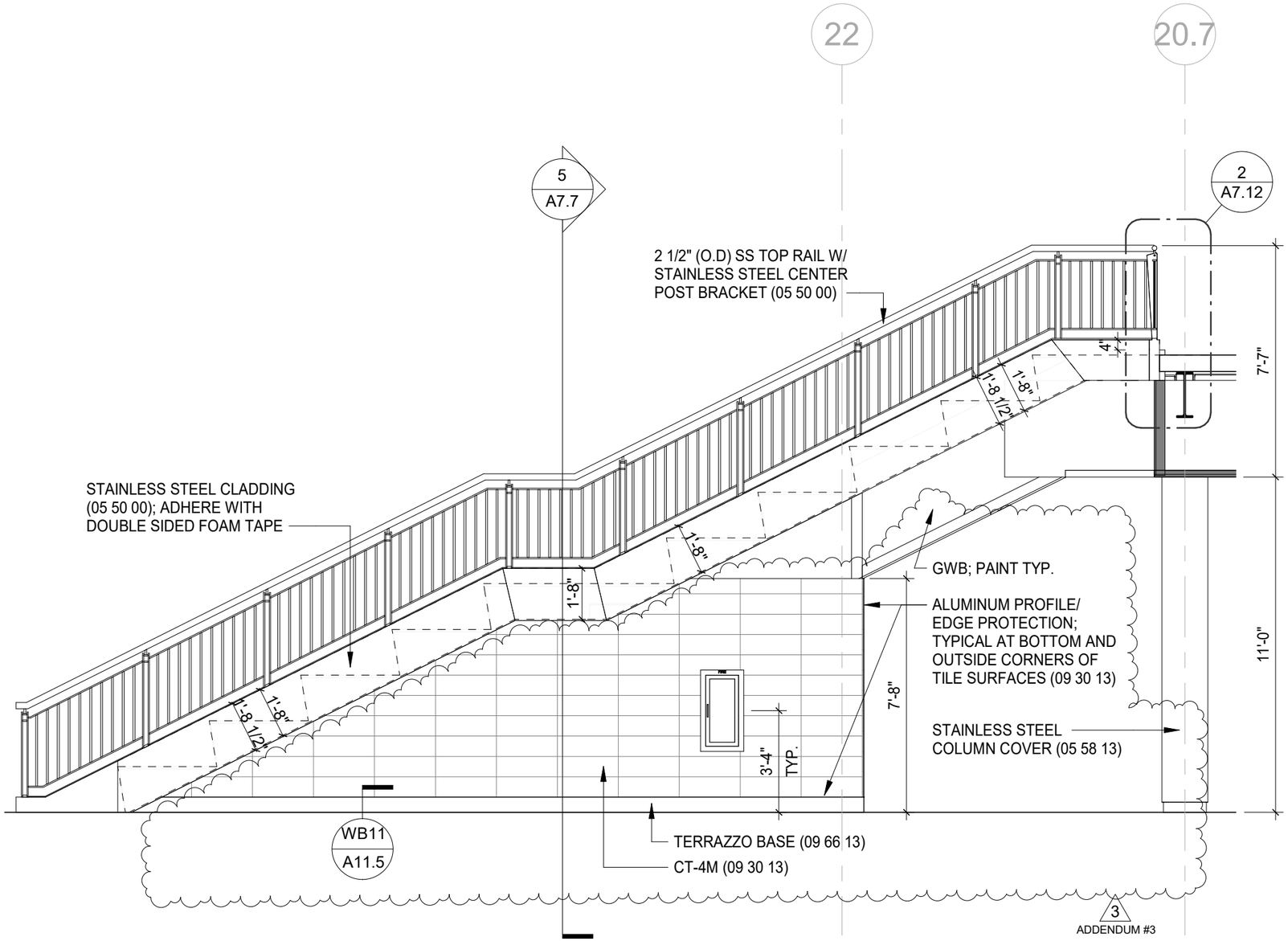
299 Highland Street, Worcester, MA 01602

ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



7 / A7.7 Elevation @ Cafeteria Stair/Tiered Seating W-E

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

DATE: 02/02/22

DRAWING NUMBER: ADD-3 / A-027

REFERENCE: A7.7

DRAWING TITLE: Cafeteria E181 Elevation @ Cafeteria Stair/Tiered Seating W-E

PROJECT TITLE:

Doherty Memorial High School

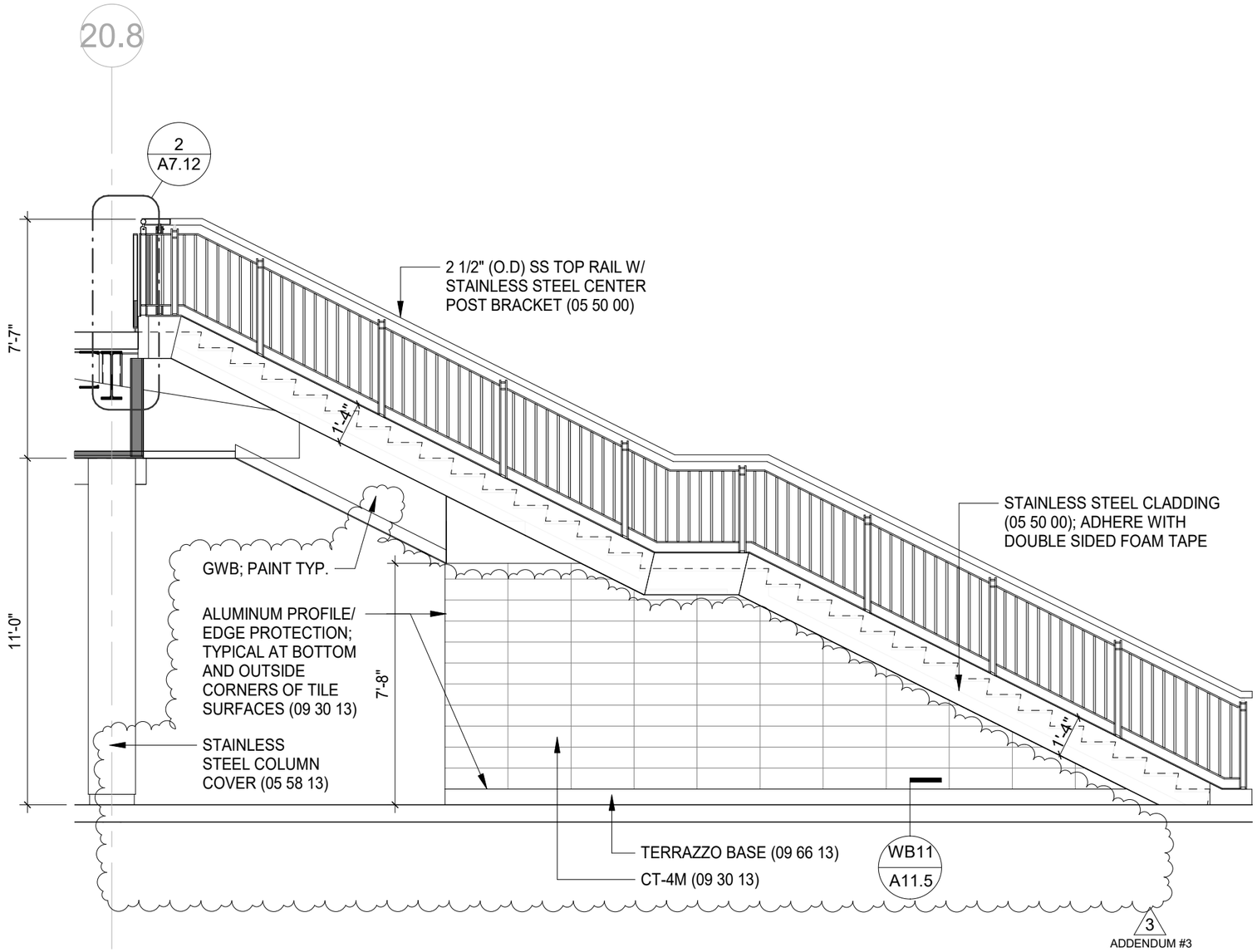
299 Highland Street, Worcester, MA 01602

ARCHITECT:

LPA

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



10 / A7.7 Elevation @ Cafeteria Stair/Tiered Seating E-W

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

DATE: 02/02/22

DRAWING NUMBER: ADD-3 / A-028

REFERENCE: A7.7

DRAWING TITLE: Cafeteria E181 Elevation @ Cafeteria Stair/Tiered Seating E-W

PROJECT TITLE: Doherty Memorial High School

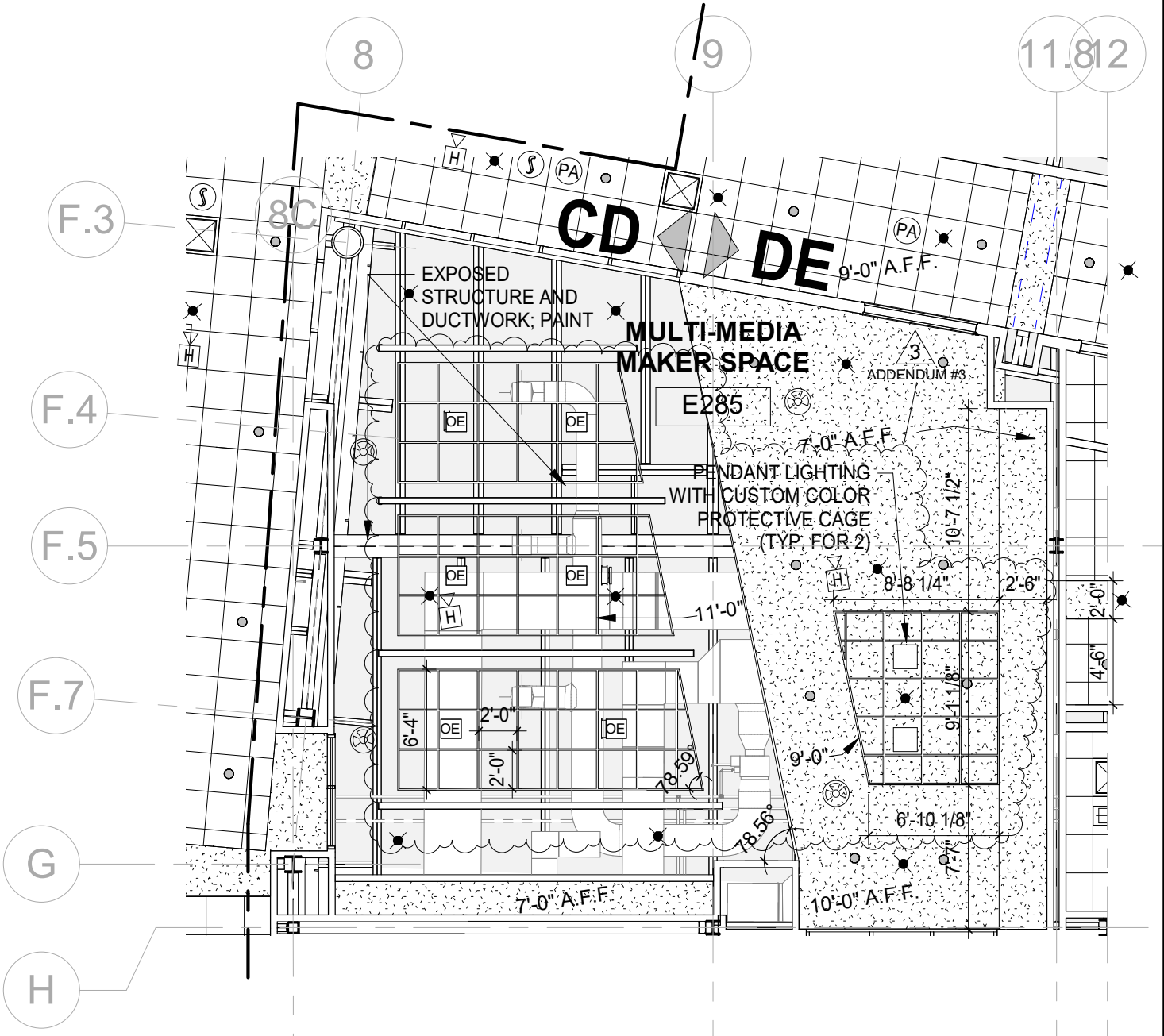
299 Highland Street, Worcester, MA 01602

ARCHITECT:

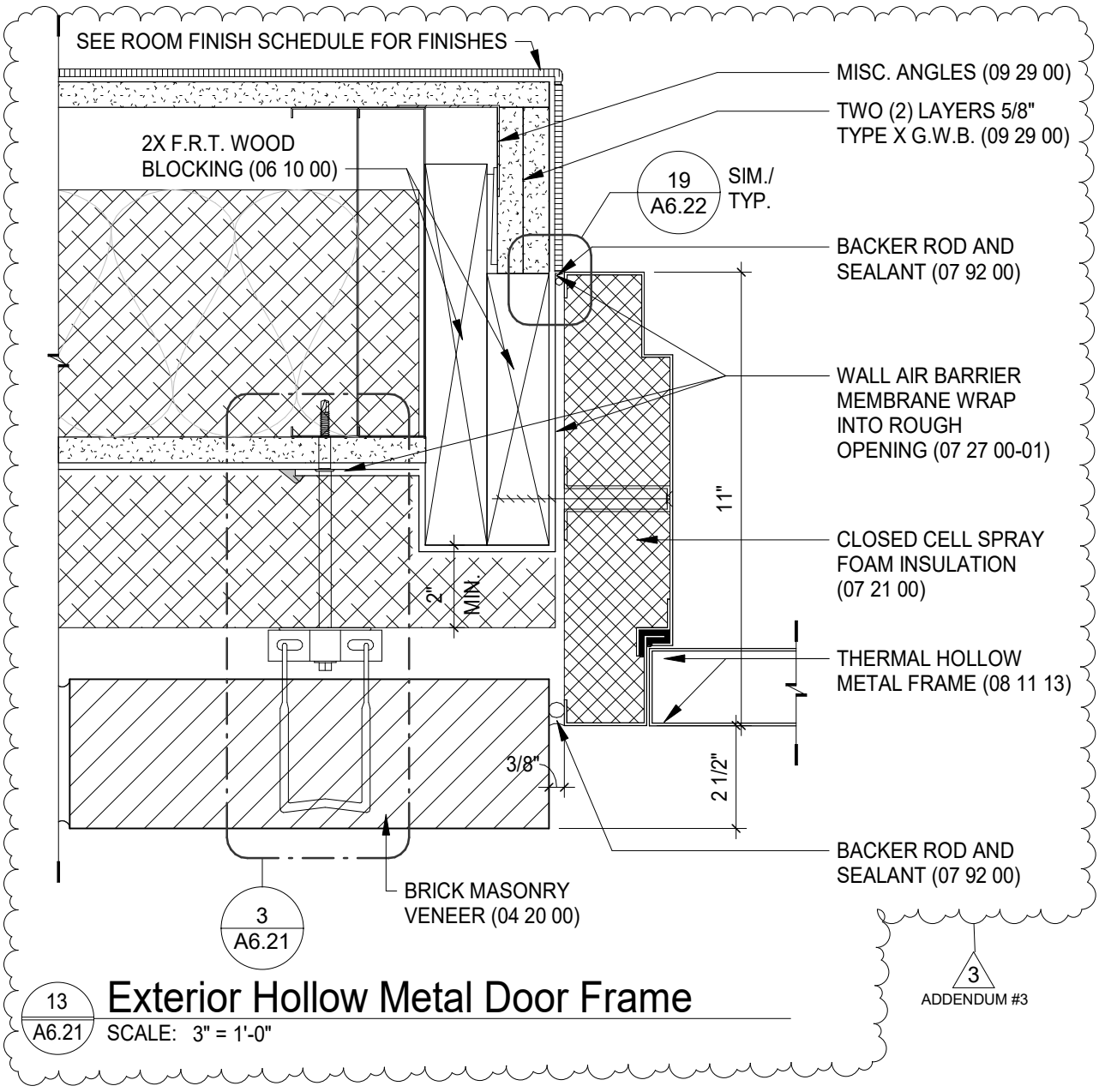
LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: A4.10 DRAWING TITLE: Multi-Media Maker Space Ceiling Grid	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-029

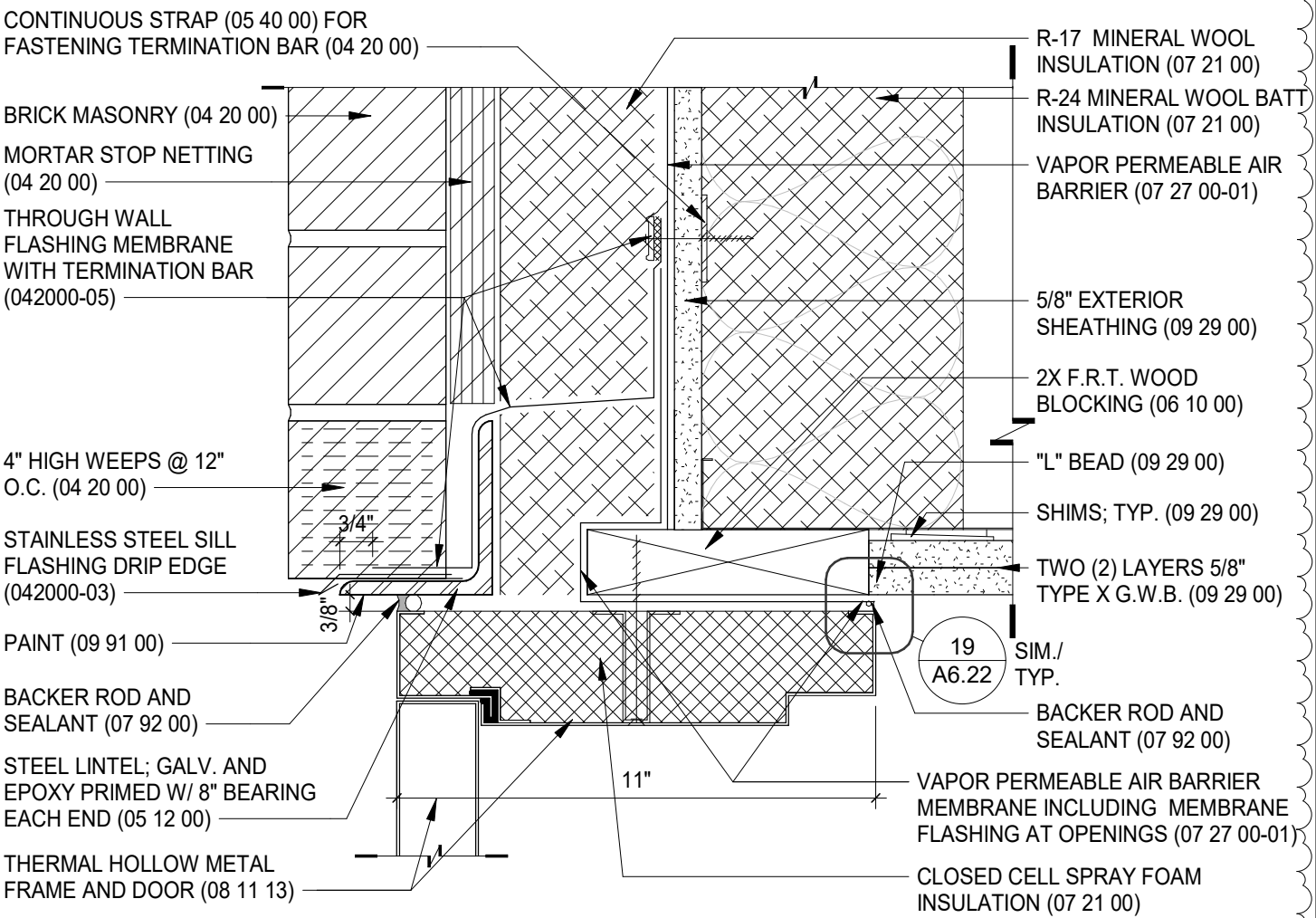


13
A6.21

Exterior Hollow Metal Door Frame

SCALE: 3" = 1'-0"

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 13/A6.21 DRAWING TITLE: Exterior Hollow Metal Door Frame Revisions	DATE: 02/03/22 DRAWING NUMBER: ADD–3 A–030



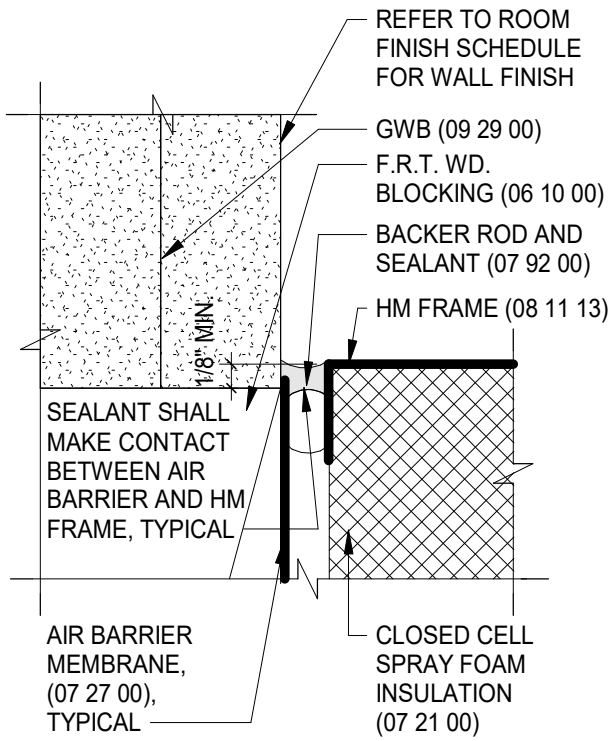
14 / A6.21 **Hollow Metal Door Head at Brick Masonry**

SCALE: 3" = 1'-0"

3 ADDENDUM #3

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE: 14/A6.21	DATE: 02/03/22
		DRAWING TITLE: Exterior Hollow Metal Door Head at Brick Masonry Revisions	DRAWING NUMBER: ADD-3 A-031

3
ADDENDUM #3



19
A6.22

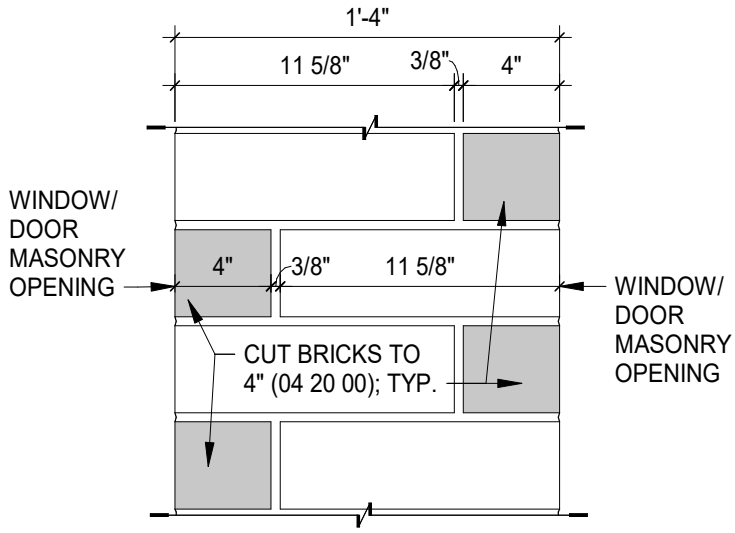
HM Door Frame Connection to Air Barrier

SCALE: 12" = 1'-0"

(TYPICAL)

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 19/A6.22 DRAWING TITLE: HM Door Frame Connection to Air Barrier	DATE: 02/03/22 DRAWING NUMBER: ADD–3 A–032

3
ADDENDUM #3



TYPICAL AT ALL LOCATIONS
BETWEEN WINDOWS OR DOORS
IN BRICK MASONRY VENEER

18
A6.27

Brick Between Window/Door Masonry Openings

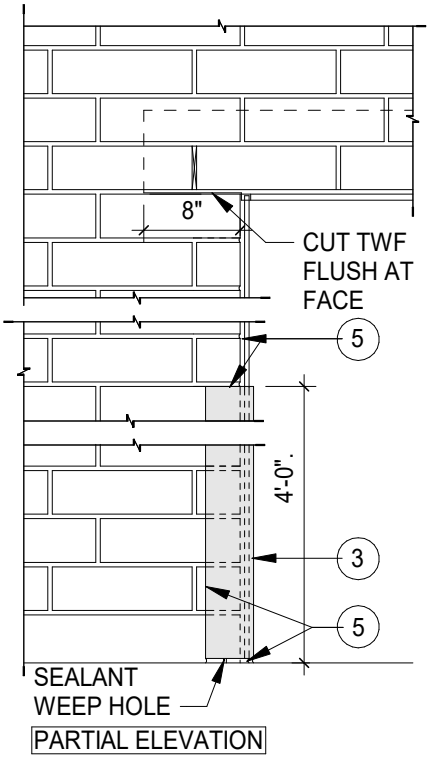
SCALE: 1 1/2" = 1'-0"

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 18/A6.27 DRAWING TITLE: Brick Between Window/Door Masonry Openings	DATE: 02/03/22 DRAWING NUMBER: ADD-3 A-033

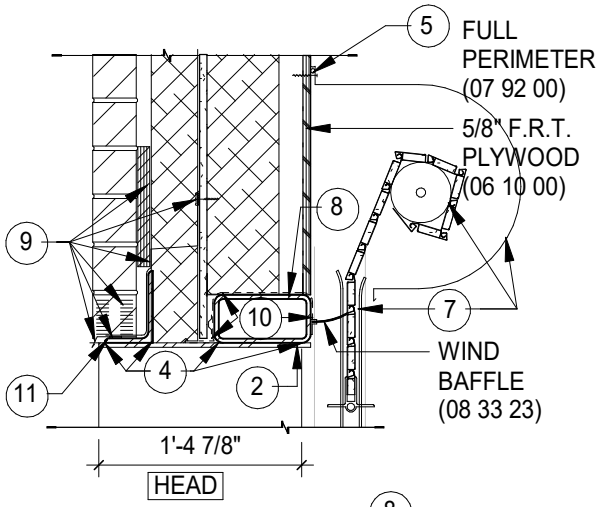
3
ADDENDUM #3

NOTE LEGEND

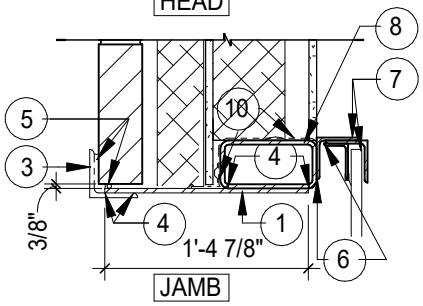
1. 3/8" GALV. STEEL JAMBS (05 50 00)
2. 3/8" GALV. STEEL HEAD (05 50 00)
3. L4x4x3/8" (05 50 00); WELDED TO VERTICAL PLATE PRIOR TO GALV.
4. CONTINUOUS WELDS, GRIND EXPOSED WELDS SMOOTH (05 50 00), SHIM
5. BACKER ROD AND SEALANT (07 92 00)
6. SEAL ALL JOINTS AT METAL CONNECTIONS (07 92 00)
7. OVERHEAD DOOR ASSEMBLY (08 33 23)
8. HSS 8X4X3/8" GALV. (05 50 00)
9. TYPICAL THROUGH WALL FLASHING, TERMINATION BAR, SEALANTS, DRIP EDGE, WEEPS AND MORTAR STOP (04 20 00)
10. FLUID-APPLIED INSULATIVE COATING (07 21 63)
11. GALV. LINTEL ANGLE WELDED TO PLATE WITH 8" MIN. BEARING EACH SIDE (05 50 00)



PARTIAL ELEVATION



HEAD



JAMB

NOTE: GALV. HSS BASE PLATE ATTACHMENT TO FOUNDATION (05 50 00)

21
A6.29

OH116 Door Surround

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

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 21/A6.29	DATE: 02/03/22
		DRAWING TITLE: OH116 Door Surround	DRAWING NUMBER: ADD-3 A-034

DRAWING LIST - VOLUME 4...

ELECTRICAL

E0.1	Electrical Legend
E0.2	Electrical Notes
E0.3	Electrical Site Lighting
E0.3A	Electrical Site Lighting
E0.4	Electrical Site Power
E0.5	Electrical Site Technology
E0.6	Electrical Site Details
E0.7	Electrical Site Details
E0.8	Electrical Site Details
E0.11	Underground Conduit Pathways Ground Floor
E0.12	Ceiling Mounted Conduit Pathways Main Floor Section CD
E1.1	Lighting Ground Floor Plan Section AB
E1.2	Lighting Ground Floor Plan Section E
E1.3	Lighting Main Floor Plan Section AB
E1.4	Lighting Main Floor Plan Section E
E1.5	Lighting Main Floor Plan Section CD
E1.6	Lighting Main Floor Plan Section DE
E1.7	Lighting Level 2 Plan Section AB
E1.8	Lighting Level 2 Plan Section E
E1.9	Lighting Level 2 Plan Section CD
E1.10	Lighting Level 2 Plan Section DE
E1.11	Lighting Level 3 Plan Section AB
E1.12	Lighting Level 3 Plan Section E
E1.13	Lighting Level 3 Plan Section CD
E1.14	Lighting Level 3 Plan Section DE
E1.15	Lighting Level4 Plan Section B
E1.16	Lighting Level 4 Plan Section CD
E1.17	Lighting Level 5 Plan Section CD
E1.18	Lighting Auditorium
E1.19	Lighting Fixture Schedule
E2.1	Power Ground Floor Plan Section AB
E2.2	Power Ground Floor Plan Section E
E2.3	Power Main Floor Plan Section AB
E2.4	Power Main Floor Plan Section E
E2.5	Power Main Floor Plan Section CD
E2.6	Power Main Floor Plan Section DE
E2.6A	Power - Foodservice Plan
E2.6B	Electrical - Foodservice Equipment Schedule
E2.6C	Power - Main Floor Plan Enlarged Views
E2.7	Power Level 2 Plan Section AB
E2.8	Power Level 2 Plan Section E
E2.9	Power Level 2 Plan Section CD
E2.10	Power Level 2 Plan Section DE
E2.11	Power Level 3 Plan Section AB
E2.12	Power Level 3 Plan Section E
E2.13	Power Level 3 Plan Section CD
E2.14	Power Level 3 Plan Section DE
E2.15	Power Level 4 Plan Section B
E2.16	Power Level 4 Plan Section CD
E2.17	Power Level 5 Plan Section CD
E2.18	Electrical - Outdoor Toilet, Storage Building and Press Box Plan
E3.1	HVAC Power - Ground Floor Plan Section AB
E3.2	HVAC Power - Ground Floor Plan Section E
E3.3	HVAC Power - Main Floor Plan Section AB
E3.4	HVAC Power - Main Floor Plan Section E
E3.5	HVAC Power - Main Floor Plan Section CD
E3.6	HVAC Power - Main Floor Plan Section DE
E3.7	HVAC Power - Level 2 Plan Section AB
E3.8	HVAC Power - Level 2 Plan Section E
E3.9	HVAC Power - Level 2 Plan Section CD
E3.10	HVAC Power - Level 2 Plan Section DE
E3.11	HVAC Power - Level 3 Plan Section AB
E3.12	HVAC Power - Level 3 Plan Section CD
E3.13	HVAC Power - Level 4 Plan Section B
E3.14	HVAC Power - Level 4 Plan Section CD
E3.15	HVAC Power - Level 5 Plan Section CD
E3.16	HVAC Power - Roof Plan Section AB
E3.17	HVAC Power - Roof Plan Section E
E3.18	HVAC Power - Roof Plan Section CD
E3.19	HVAC Power - Roof Plan Section DE
E3.20	HVAC Power - Schedules
E4.0	Electrical Details
E4.1	Electrical Details
E4.2	Electrical Details
E4.3	Electrical Details
E4.4	Electrical Details
E4.5	Electrical Details
E4.6	Electrical Details

3 ADDENDUM #3

DRAWING LIST - VOLUME 4...

E5.0A	Electrical Distribution Riser
E5.0B	Electrical Distribution Riser
E5.0C	Electrical Distribution Riser
E5.0D	Electrical Distribution Riser
E5.0E	Electrical Distribution Riser
E5.0F	Electrical Distribution Riser
E5.0G	Electrical Distribution Riser
E5.0H	Emergency Electrical Distribution Riser
E5.0I	Emergency Electrical Distribution Riser
E6.0A	Lighting Control System Riser
E6.0B	Lighting Control Details
E6.0C	Lighting Control Details
E6.0D	Lighting Control Details
E7.1	Electrical Site Sport Field Lighting
E7.2	Electrical Sport Lighting Details and Schedule
E7.3	Electrical Site Sport Field Technology
E8.1	Lightning Protection Plan
E8.2	Lightning Protection Details
E9.00	Panel Schedules
E9.01	Panel Schedules
E9.02	Panel Schedules
E9.03	Panel Schedules
E9.04	Panel Schedules
E9.05	Panel Schedules
E9.06	Panel Schedules
E9.07	Panel Schedules
E9.08	Panel Schedules
E9.09	Panel Schedules
E9.10	Panel Schedules
E9.11	Panel Schedules
E9.12	Panel Schedules
E9.13	Panel Schedules
E9.14	Panel Schedules
E9.15	Panel Schedules
E9.16	Panel Schedules
E9.17	Panel Schedules
E9.18	Panel Schedules
E9.19	Panel Schedules
E9.20	Panel Schedules
E9.21	Panel Schedules
FA0.1	Fire Alarm Legend
FA0.2	Fire Alarm Details
FA1.1	Fire Alarm Ground Floor Plan Section AB
FA1.2	Fire Alarm Ground Floor Plan Section E
FA1.3	Fire Alarm Main Floor Plan Section AB
FA1.4	Fire Alarm Main Floor Plan Section E
FA1.5	Fire Alarm Main Floor Plan Section CD
FA1.6	Fire Alarm Main Floor Plan Section DE
FA1.7	Fire Alarm Level 2 Plan Section AB
FA1.8	Fire Alarm Level 2 Plan Section E
FA1.9	Fire Alarm Level 2 Plan Section CD
FA1.10	Fire Alarm Level 2 Plan Section DE
FA1.11	Fire Alarm Level 3 Plan Section AB
FA1.12	Fire Alarm Level 3 Plan Section E
FA1.13	Fire Alarm Level 3 Plan Section CD
FA1.14	Fire Alarm Level 3 Plan Section DE
FA1.15	Fire Alarm Level 4 Plan Section B
FA1.16	Fire Alarm Level 4 Plan Section CD
FA1.17	Fire Alarm Level 5 Plan Section CD
FA1.18	Fire Alarm -Roof Plan
FA2.1A	Fire Alarm Riser
FA2.1B	Fire Alarm Riser
FA2.1C	Fire Alarm Riser
FA2.1D	Fire Alarm Riser
FA2.1E	Fire Alarm Riser
FA3.0	Fire Alarm Riser
FA4.0	Stair Pressurization Riser
FA5.0A	DAS System Riser
FA5.0B	DAS System Riser
TC0.1	Telecom Legend
TC1.1	Technology Ground Floor Plan Section AB
TC1.2	Technology Ground Floor Plan Section E
TC1.3	Technology Main Floor Plan Section AB
TC1.4	Technology Main Floor Plan Section E
TC1.5	Technology Main Floor Plan Section CD
TC1.6	Technology Main Floor Section DE
TC1.7	Technology Level 2 Plan Section AB

3 ADDENDUM #3

3 ADDENDUM #3

3 ADDENDUM #3

3 ADDENDUM #3

DRAWING LIST - VOLUME 4...

TC1.8	Technology Level 2 Plan Section E
TC1.9	Technology Level 2 Plan Section CD
TC1.10	Technology Level 2 Plan Section DE
TC1.11	Technology Level 3 Plan Section AB
TC1.12	Technology Level 3 Plan Section E
TC1.13	Technology Level 3 Plan Section CD
TC1.14	Technology Level 3 Plan Section DE
TC1.15	Technology Level 4 Plan Section B
TC1.16	Technology Level 4 Plan Section CD
TC1.17	Technology Level 5 Plan Section CD
TC1.18	Telecom Enlarged Telecom Rooms
TC2.1	Cable Trays - Ground Floor Plan
TC2.2	Cable Trays - Main Floor Plan
TC2.3	Cable Trays - Second Floor
TC2.4	Cable Trays - Third Floor
TC2.5	Cable Trays - Fourth Floor
TC2.6	Cable Trays - Fifth Floor
TC3.1A	Telecom Riser
TC3.1B	Telecom Riser
TC3.1C	Telecom Riser
TC3.2A	In-Building Cellular Amplification System Riser
TC3.2B	In-Building Cellular Amplification System Riser
TC3.2C	In-Building Cellular Amplification System Riser
TC3.2D	In-Building Cellular Amplification System Riser
TC3.3A	Local Sound System Riser Media Center
TC3.3B	Local Sound System Riser Wellness Center
TC3.3C	Local Sound System Riser Weight Room
TC3.3D	Local Sound System Riser Weight Room
TC3.4A	Surveillance System Riser
TC3.4B	Surveillance System Riser
TC3.4C	Surveillance System Details
TC3.5A	Public Address System Riser
TC3.5B	Public Address System Riser
TC3.6	Speech Reinforcement System Riser
TC3.7A	Intrusion Detection System Riser
TC3.7B	Intrusion Detection Riser
TC3.8A	Access Control Riser
TC3.8B	Access Control Riser
TC3.8C	Access Control Riser
TC3.8D	Access Control Details
TC4.0	Telecom Detail
PHOTOVOLTAIC	
PV001	PV Site Plan
PV002	PV System Notes
PV101	PV Layout A&B
PV102	PV Layout C&D1
PV103	PV Layout D2E1 & E
PV104	PV Layout E2E4 & E
PV201	Inverter Source Layout
PV202	Source Circuits – Roofs A, B, E4, & E5
PV203	Source Circuits – Roofs C, D1, D2, E1, E2, & E3
PV204	Optimizer Layout - A&B
PV205	Optimizer Layout - C&D
PV206	Optimizer Layout - D2, E1 & E3
PV207	Optimizer Layout - E2, E4 &E5
PV208	Wiring Details – Dual Tilt
PV209	Wiring Details – Solardock Roof C
PV301	In-Building AC Output Data & Control Conduit Layout
PV302	In-Building AC DC & Data Output
PV303	AC Data & Control Conduit Layout
PV304	DC Conduit Layout
PV305	Grounding Plan
PV306	Wire Management Layout
PV307	Conduit & Grounding Details
PV401	Structural Criteria & Roof Cracking
PV501	Inverter Station 1 Mounting Wall Layout
PV502	Inverter Station 2 Mounting Wall Layout
PV503	Inverter Station 3 Mounting Wall Layout
PV504	C-Channel & Inv Details
PV505	Grade Level Electrical Eqpt
PV601	Single Line
PV602	SEL Relay Wiring
PV603	Inverter & Wiring Schedules
PV604	DAS Drawings
PV605	Labels
PV606	System Map
PV607	Datasheets 1

3 ADDENDUM #3

3 ADDENDUM #3

NOTE: SHEETS NOT USED:
E0.9
E01.A
E010.B
E4.7
E4.8

DATE: 02/03/22

DRAWING NUMBER: ADD–3 / A–035

REFERENCE:

DRAWING TITLE: Cover 4 List of Drawings

PROJECT TITLE:

Doherty Memorial High School

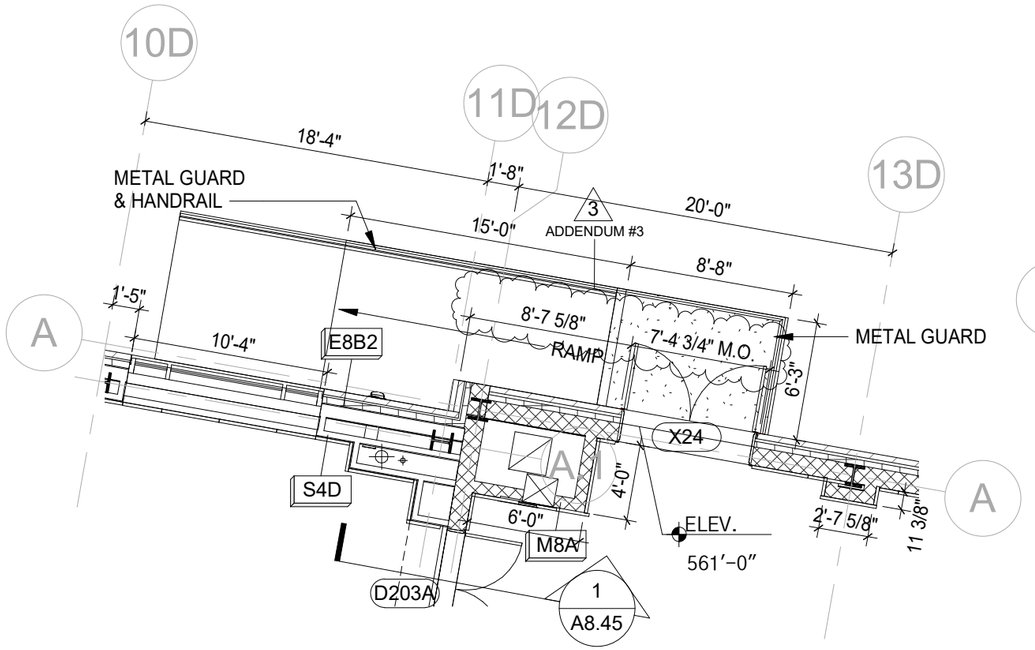
299 Highland Street, Worcester, MA 01602

ARCHITECT:

LPA|A

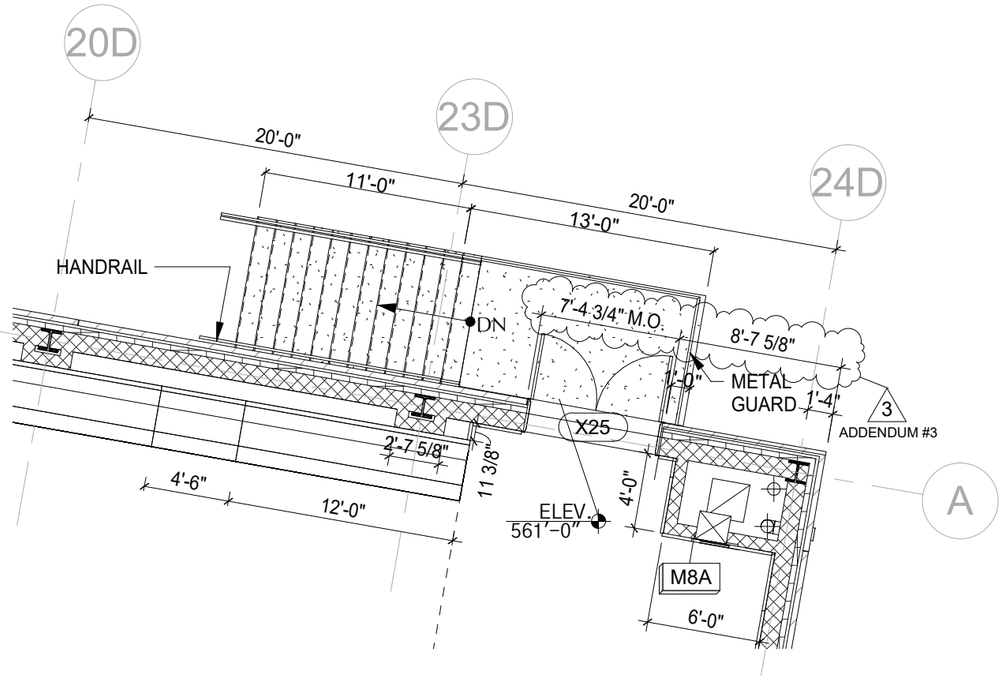
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

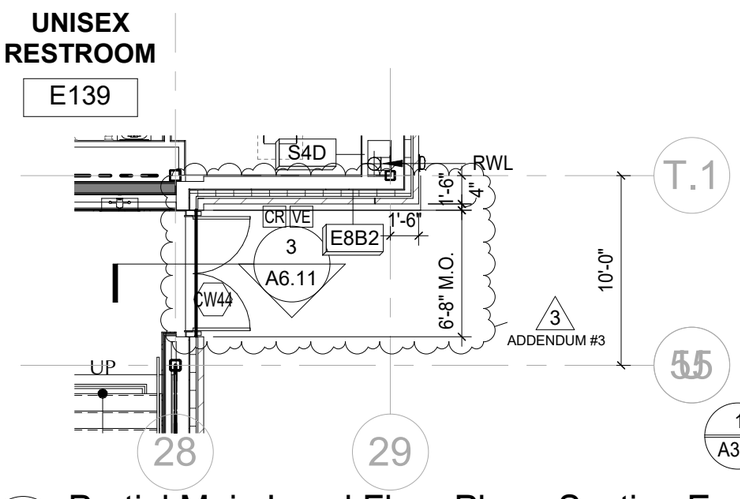
lpaa.com

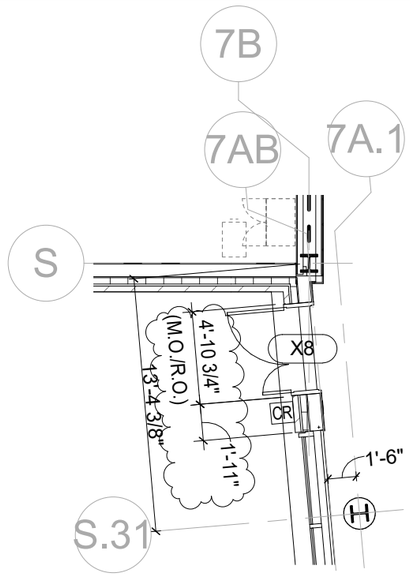


10 / A3.10 **Partial Level 2 Floor Plan - Section DE**

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

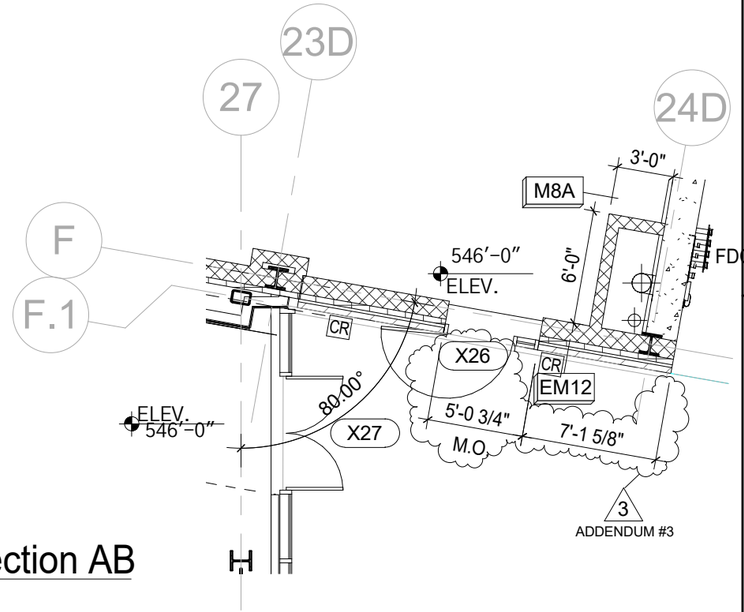






1 / A3.1 **Partial Ground Level Floor Plan - Section AB**

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



4 / A3.4 **Partial Main Level Floor Plan - Section E**

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

6 / A3.6 **Partial Main Level Floor Plan - Section DE**

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

DATE: 02/03/22

DRAWING NUMBER: ADD–3 / A–036

REFERENCE:

DRAWING TITLE: Masonry Opening Dimensions

PROJECT TITLE: Doherty Memorial High School

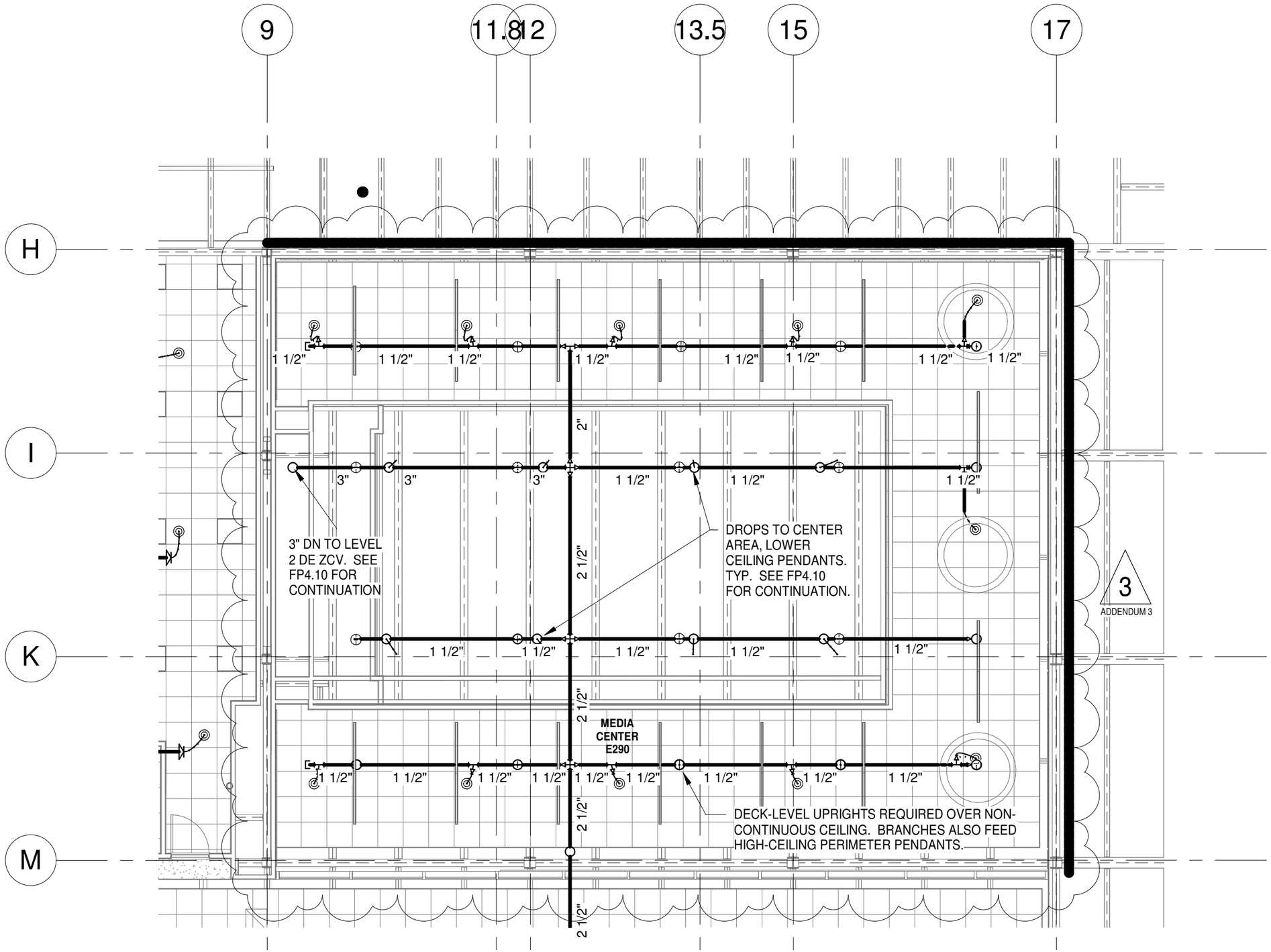
299 Highland Street, Worcester, MA 01602

ARCHITECT:

LPA

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



DATE: 02/3/22

DRAWING NUMBER: ADD–3 FP–001

REFERENCE:

DRAWING TITLE: High Media Revisions

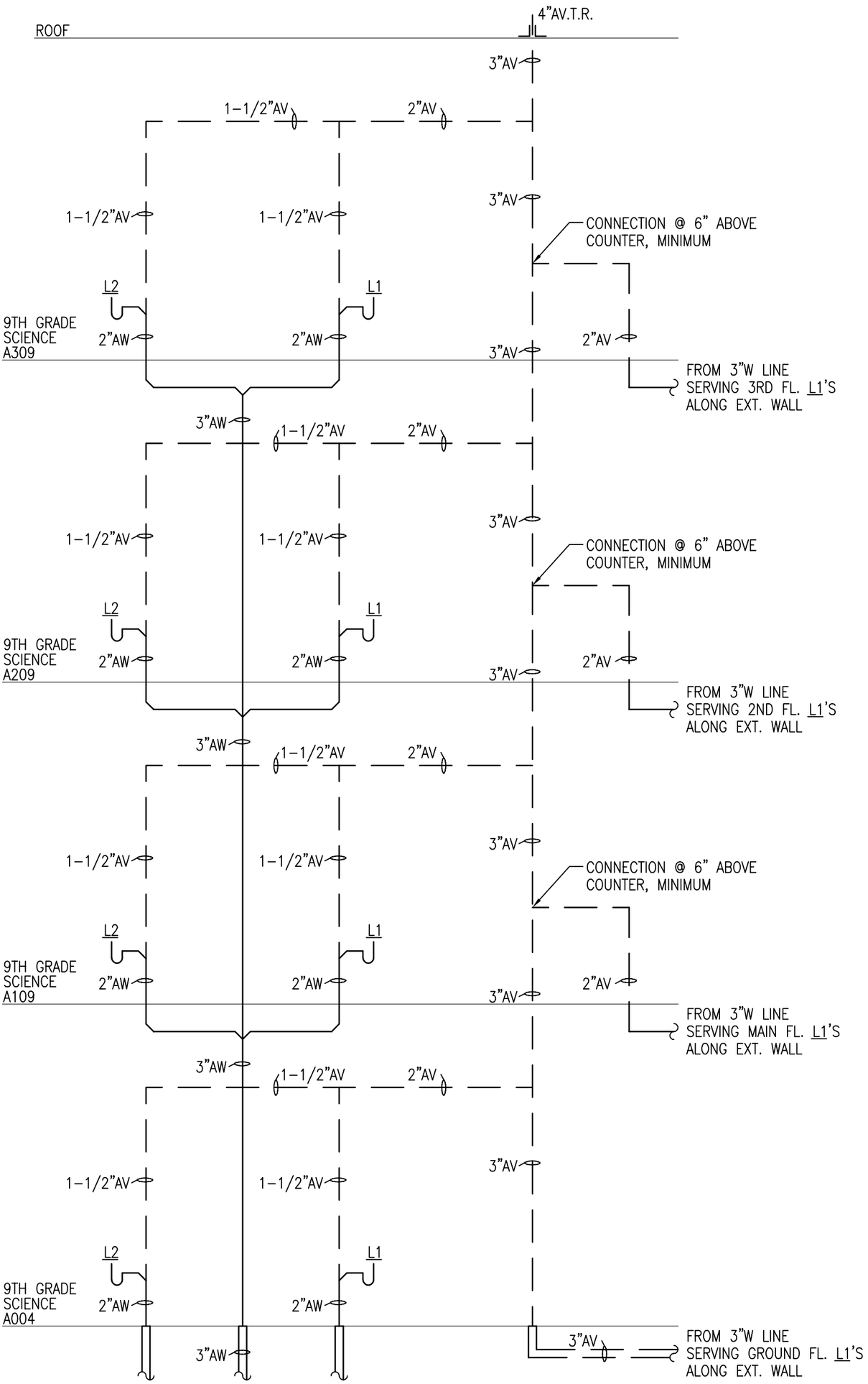
PROJECT TITLE: Doherty Memorial High School

Highland Street, Worcester, MA. 01600

ARCHITECT: LPA|A

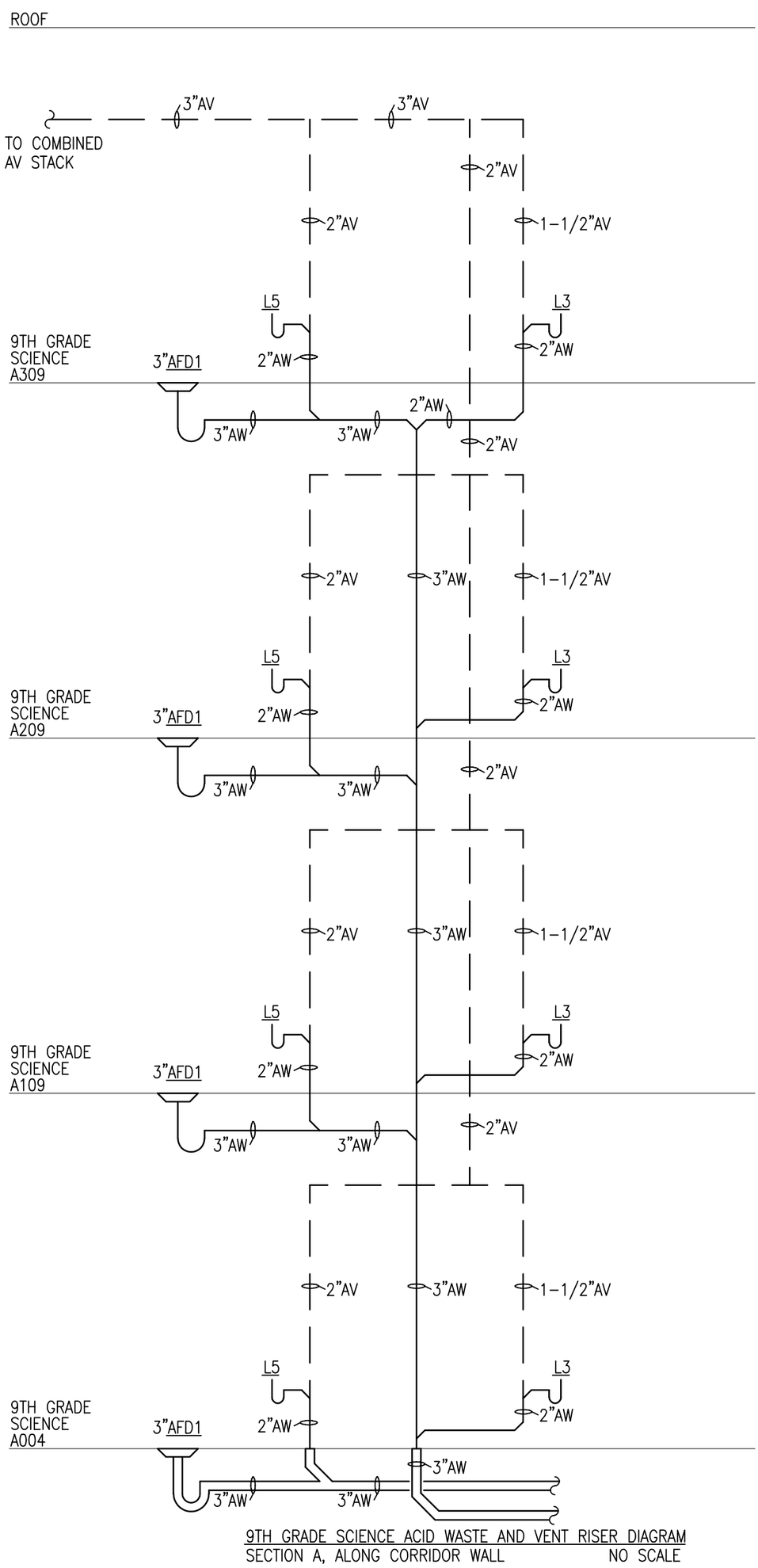
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



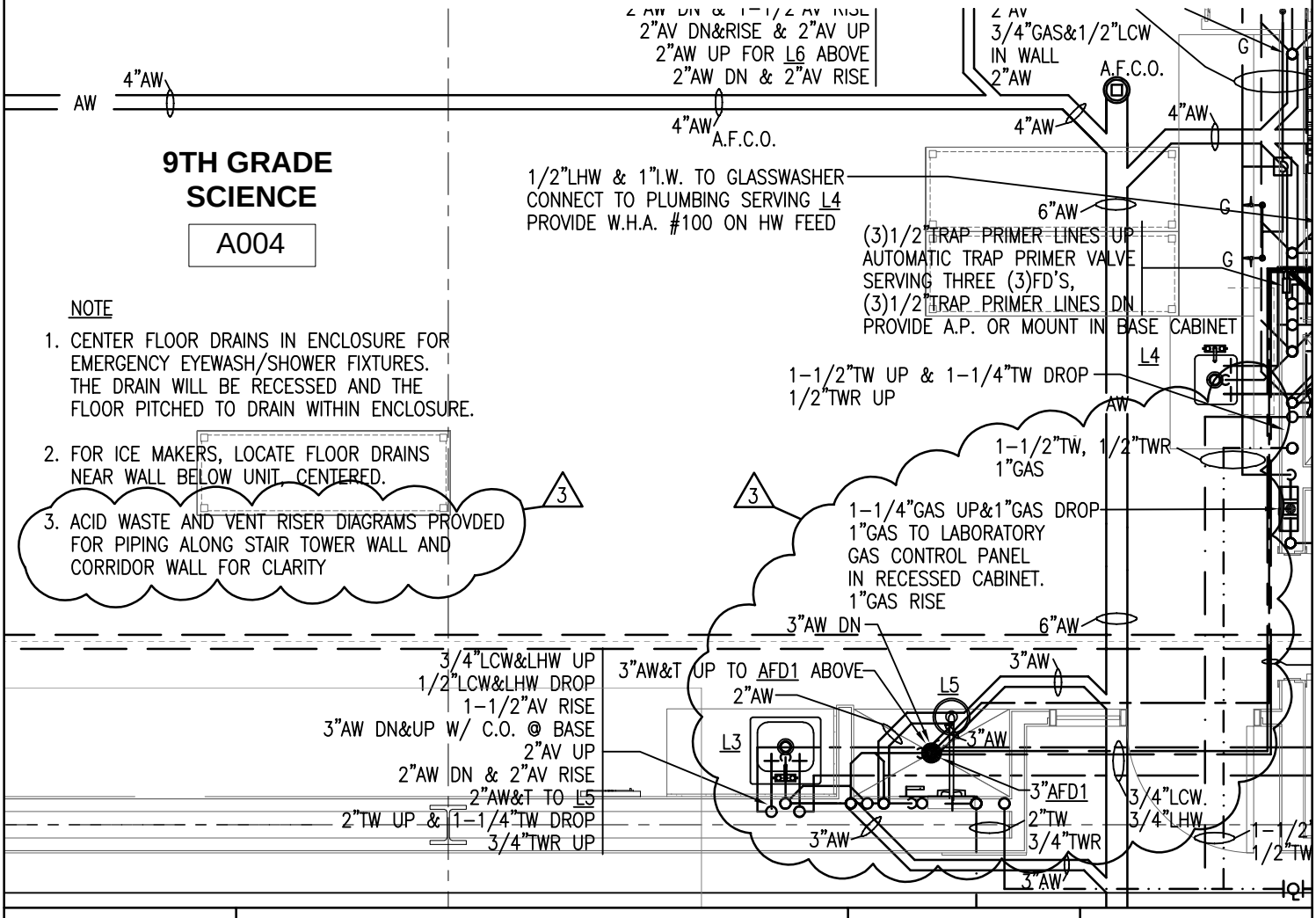
9TH GRADE SCIENCE ACID WASTE AND VENT RISER DIAGRAM
SECTION A, ALONG STAIR TOWER WALL NO SCALE

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE:	DATE: 02/03/22
		DRAWING TITLE: 9TH GRADE SCIENCE ACID WASTE AND VENT RISER DIAGRAM, SECTION A, ALONG STAIR TOWER WALL	DRAWING NUMBER: ADD-3 P-001

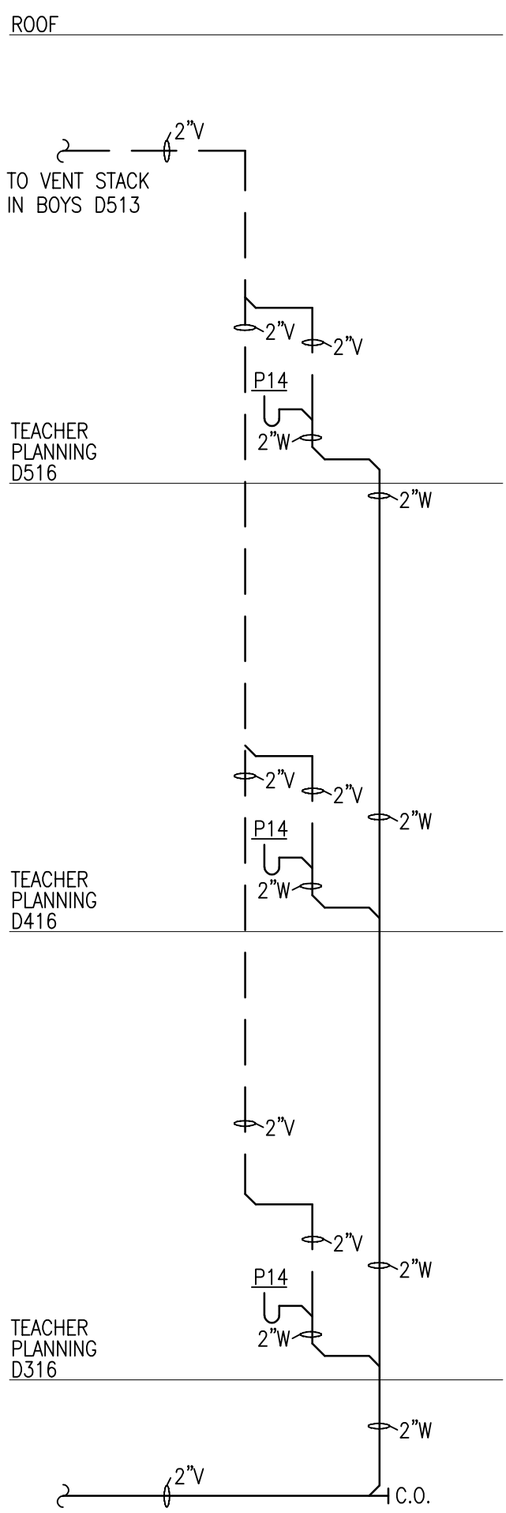


9TH GRADE SCIENCE ACID WASTE AND VENT RISER DIAGRAM
SECTION A, ALONG CORRIDOR WALL NO SCALE

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE:	DATE: 02/03/22
		DRAWING TITLE: 9TH GRADE SCIENCE ACID WASTE AND VENT RISER DIAGRAM, SECTION A, ALONG CORRIDOR WALL	DRAWING NUMBER: ADD-3 P-002

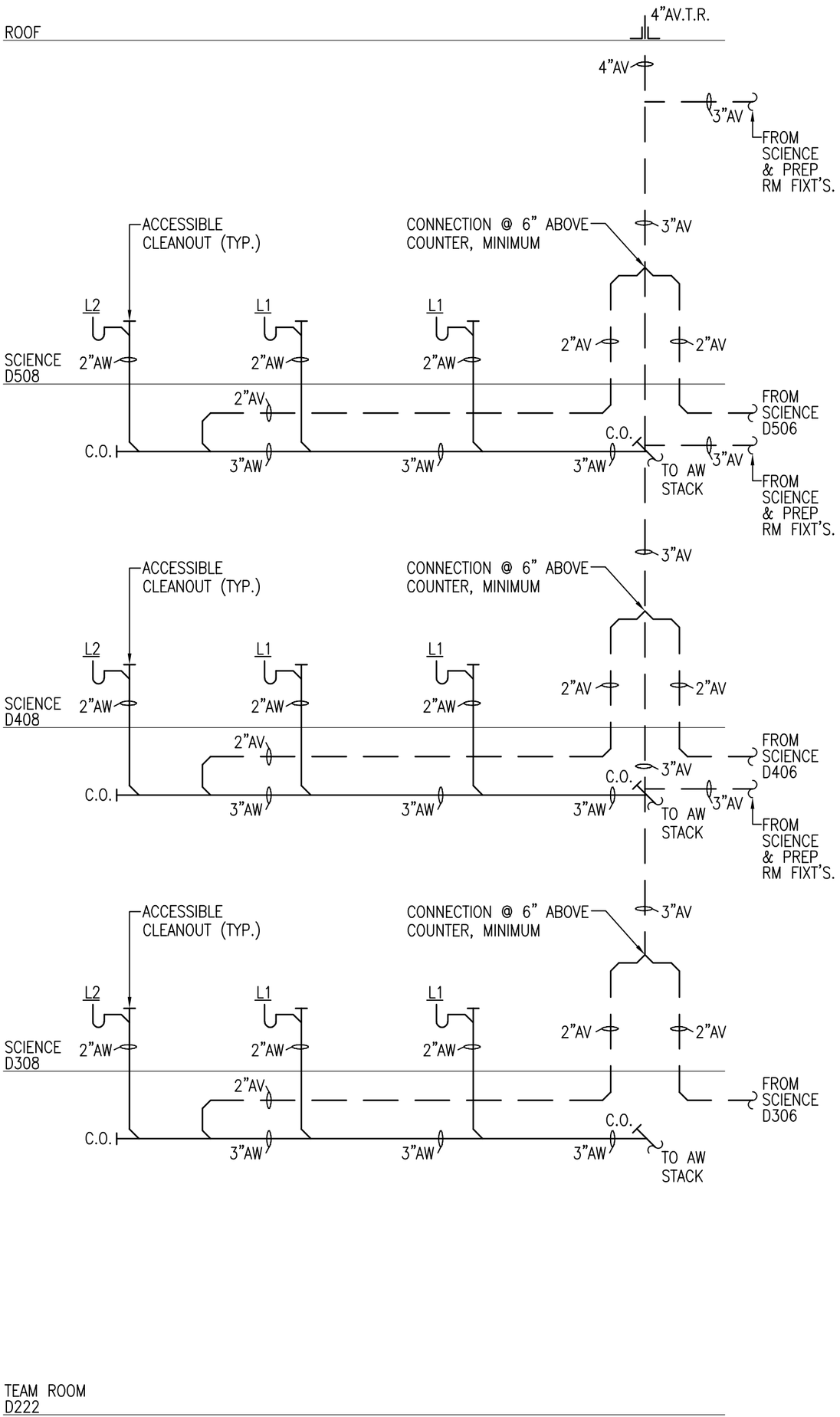


ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 2/P4.3	DATE: 02/03/22
		DRAWING TITLE: PARTIAL GROUND LEVEL PLUMBING PLAN – SECTION A	DRAWING NUMBER: ADD-3 P-003



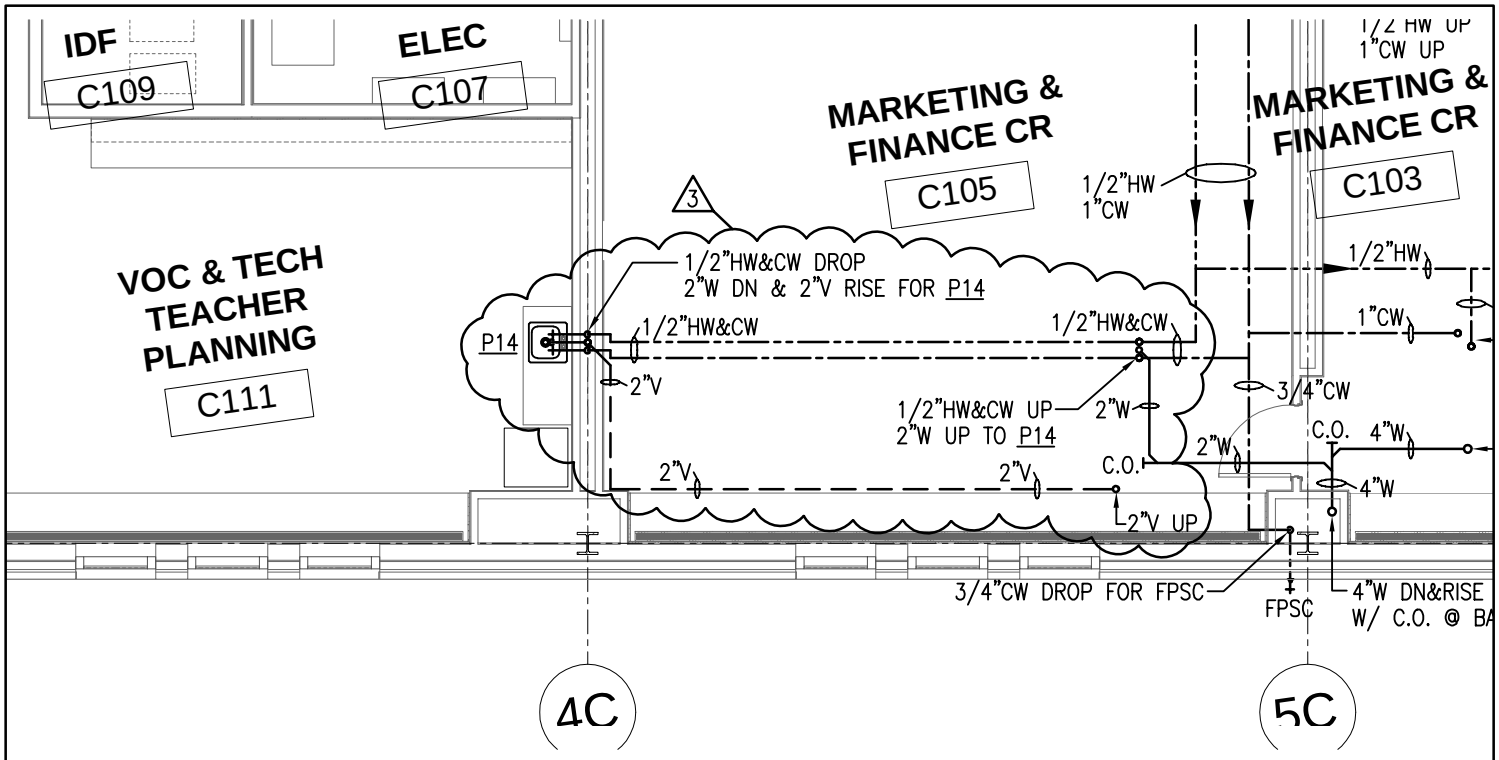
TEACHER PLANNING WASTE AND VENT RISER DIAGRAM
SECTION D NO SCALE

ARCHITECT: LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School, 299 Highland Street, Worcester, MA 01602	REFERENCE:	DATE: 02/03/22
		DRAWING TITLE: TEACHER PLANNING WASTE AND VENT RISER DIAGRAM SECTION D	DRAWING NUMBER: ADD-3 P-004

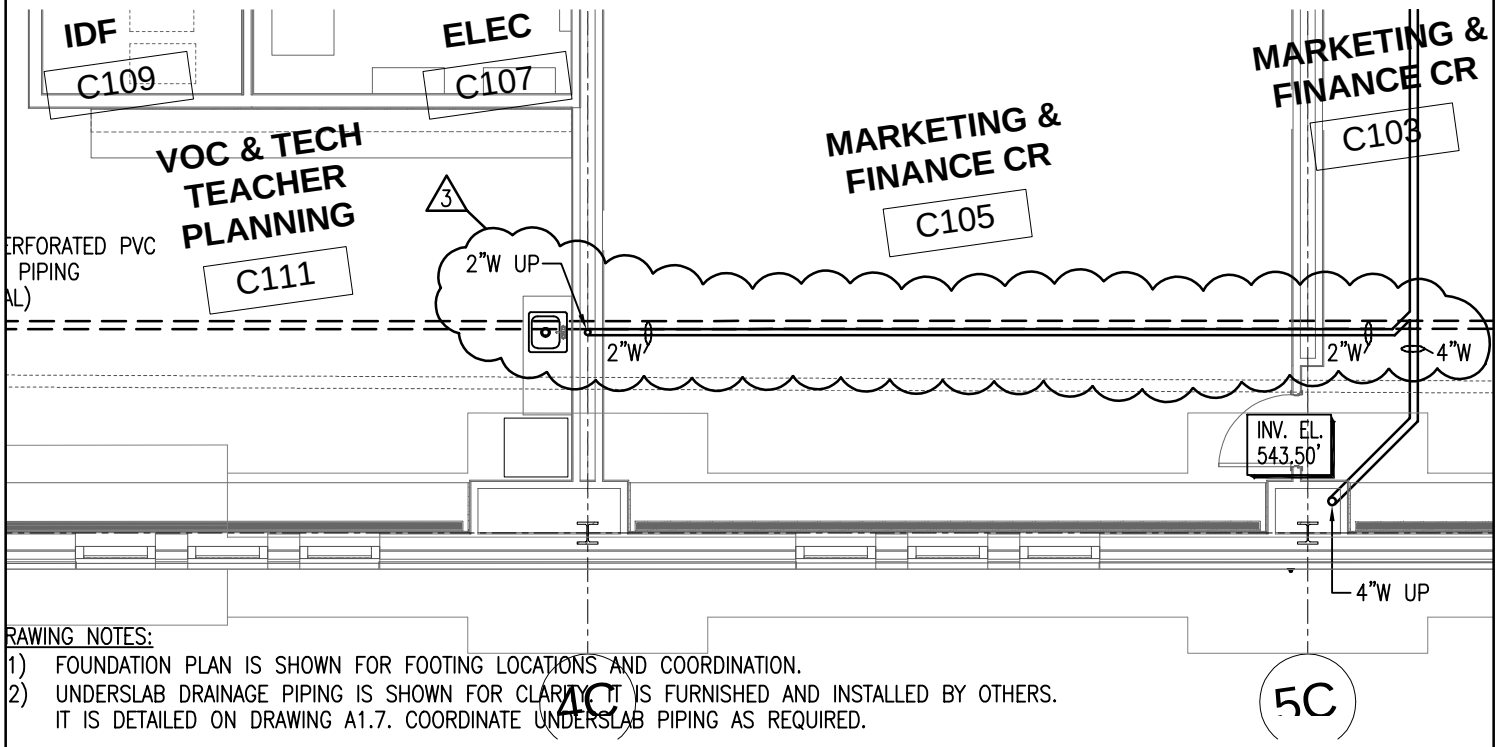


SCIENCE RM ACID WASTE AND VENT RISER DIAGRAM
SECTION D, ALONG EXTERIOR WALL NO SCALE

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE:	DATE: 02/03/22
		DRAWING TITLE: SCIENCE RM ACID WASTE AND VENT RISER DIAGRAM, SECTION D, ALONG EXTERIOR WALL	DRAWING NUMBER: ADD-3 P-005



PARTIAL MAIN FLOOR ABOVE GRADE PLUMBING PLAN – SECTION CD

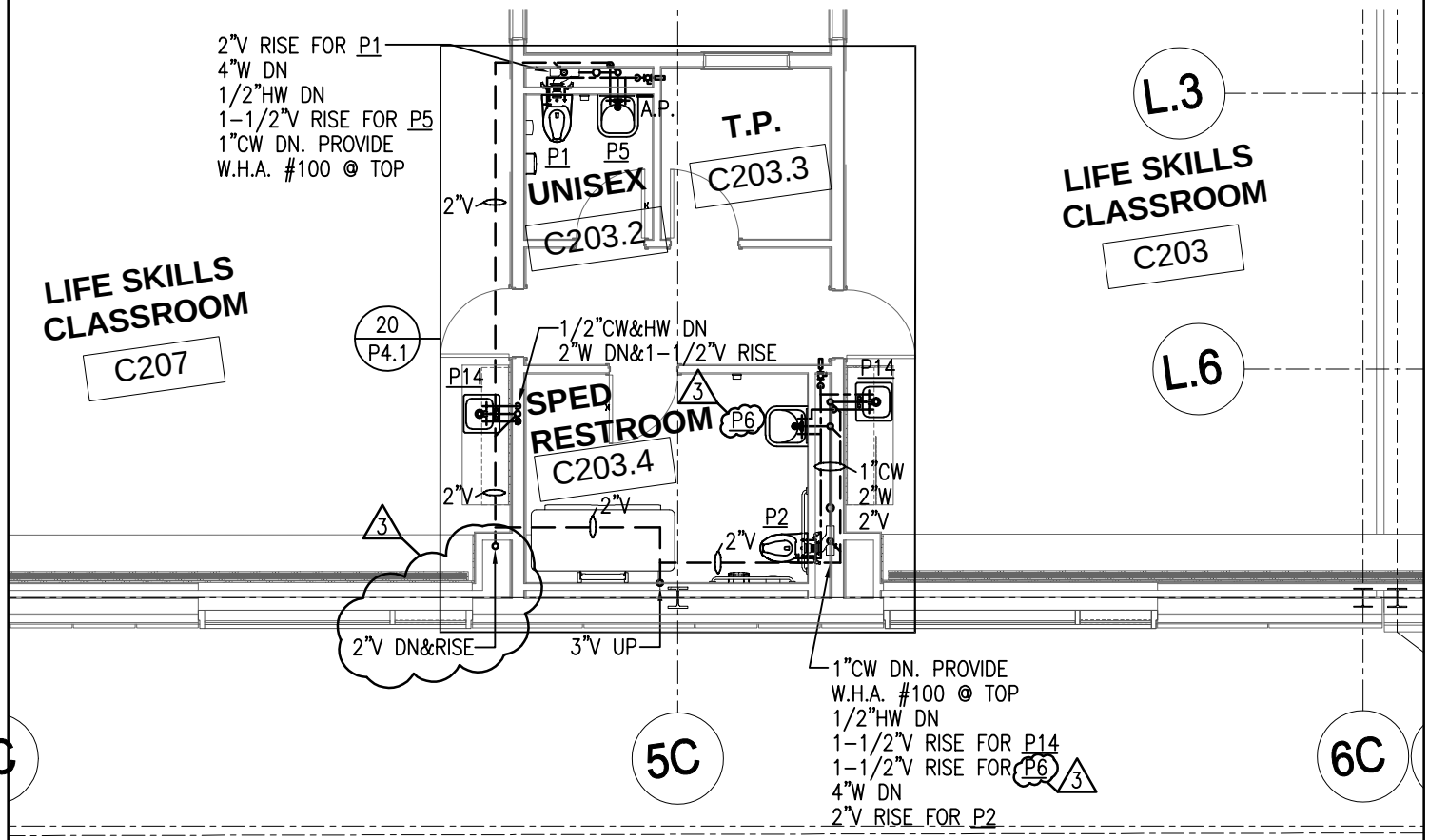


RAWING NOTES:

1) FOUNDATION PLAN IS SHOWN FOR FOOTING LOCATIONS AND COORDINATION.
2) UNDERSLAB DRAINAGE PIPING IS SHOWN FOR CLARITY. IT IS FURNISHED AND INSTALLED BY OTHERS. IT IS DETAILED ON DRAWING A1.7. COORDINATE UNDERSLAB PIPING AS REQUIRED.

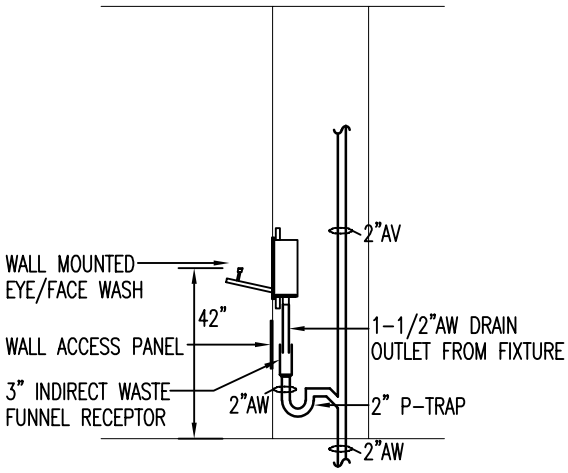
PARTIAL MAIN FLOOR BELOW GRADE PLUMBING PLAN – SECTION CD

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 1/P2.3 1/P3.5	DATE: 02/03/22
		DRAWING TITLE: PARTIAL MAIN FLOOR ABOVE AND BELOW GRADE PLUMBING PLANS – SECTION CD	DRAWING NUMBER: ADD-3 P-006



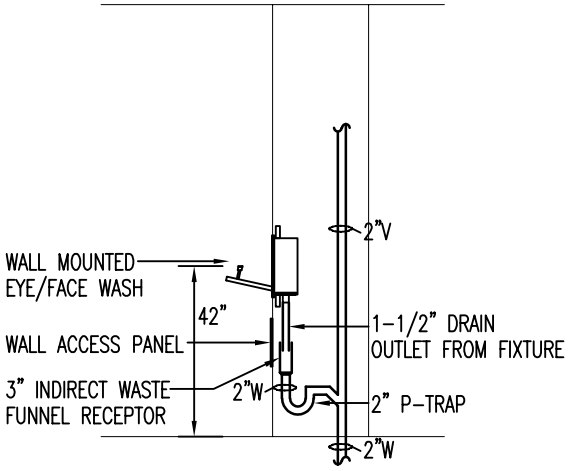
PARTIAL SECOND FLOOR PLUMBING PLAN – SECTION CD

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: 1/P3.9	DATE: 02/03/22
		DRAWING TITLE: PARTIAL SECOND FLOOR PLUMBING PLAN – SECTION CD	DRAWING NUMBER: ADD-3 P-007



DETAIL OF RECESSED EYEWASH UNIT PIPING

NO SCALE — TYPICAL FOR FIXTURE L5

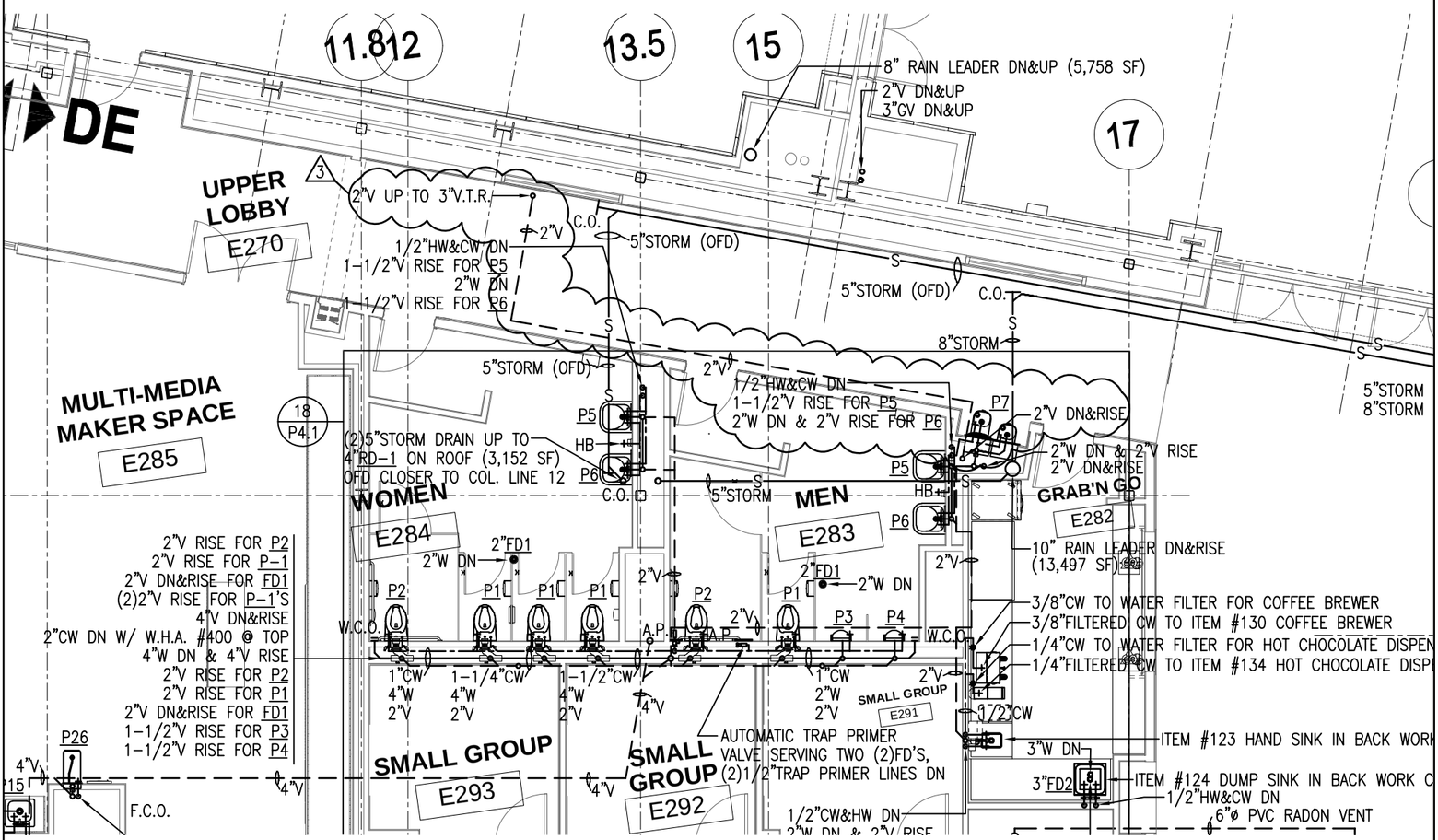


DETAIL OF RECESSED EYEWASH UNITS PIPING

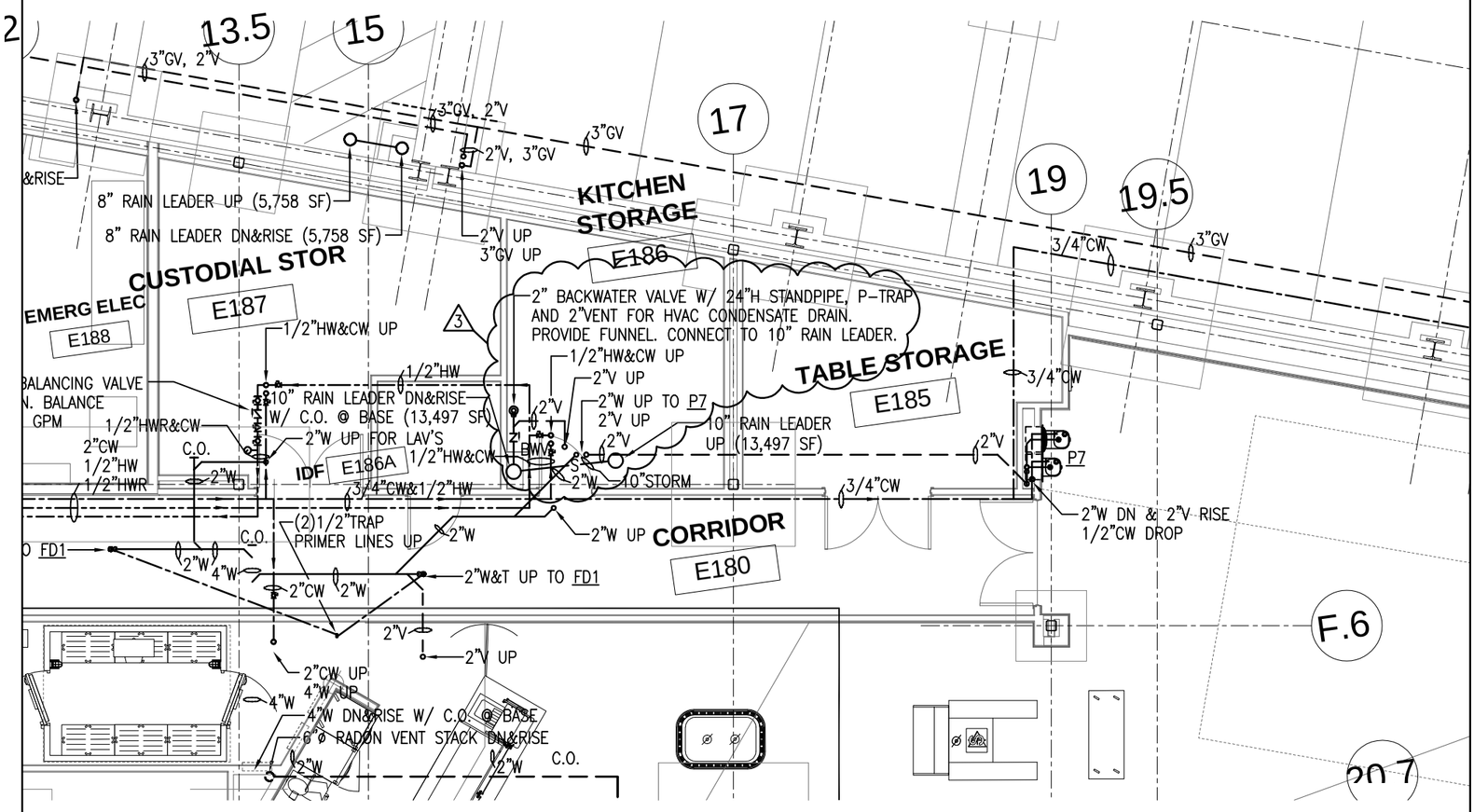
NO SCALE — TYPICAL FOR FIXTURES P10 AND P26

NOTE:
THE INTENT IS TO NOT DAYLIGHT THE DRAIN FROM THESE FIXTURES.
THESE ARE TESTED REGULARLY AND SOME DO NOT HAVE FLOOR DRAINS.
THE ACCESS PANEL WILL PROVIDE PROPER ACCESS TO STANDPIPE FOR VIEWING.

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE:	DATE: 02/03/22
		DRAWING TITLE: DETAIL OF RECESSED EYEWASH UNITS PIPING	DRAWING NUMBER: ADD-3 P-008



PARTIAL SECOND FLOOR PLUMBING PLAN – SECTION DE



PARTIAL MAIN FLOOR ABOVE GRADE PLUMBING PLAN – SECTION DE

ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: 1/P3.6 1/P3.10

DATE: 02/03/22

DRAWING TITLE:
PARTIAL MAIN FLOOR ABOVE GRADE AND SECOND FLOOR PLUMBING PLANS, SECTION DE

DRAWING NUMBER:
ADD-3
P-009

D8

3/4" 2GPM

3/4" 2GPM

3/4" 2GPM

12GPM

D7,D9

ROOF

12GPM 1-1/2" CWS 3/4" 3/4" 2GPM

3/4" 3/4" 2GPM

12GPM 1-1/4" CWR 3/4" 3/4" 2GPM

1/2" HWR 3/4" 2GPM 3/4" 2GPM

5TH LEVEL

1-1/4" CWR 3/4" 3/4" 2GPM

3/4" 3/4" 2GPM

1" HWR 3/4" 2GPM 3/4" 2GPM

4TH LEVEL

3/4" CWS 1" CWR 3/4" 3/4" 2GPM

3/4" 3/4" 2GPM

1-1/4" HWR 3/4" 2GPM 3/4" 2GPM

3/4" BALL VALVE W/ HOSE BIB IN UTILITY CAB OR ENCLOSURE. TYP.

3RD LEVEL

1-1/4" HWR 12GPM

2ND LEVEL

3

DATE: 02/03/22

DRAWING NUMBER: ADD-3 / H-001

REFERENCE: H5.6

DRAWING TITLE: HVAC PIPING RISER DIAGRAM

PROJECT TITLE: Doherty Memorial High School

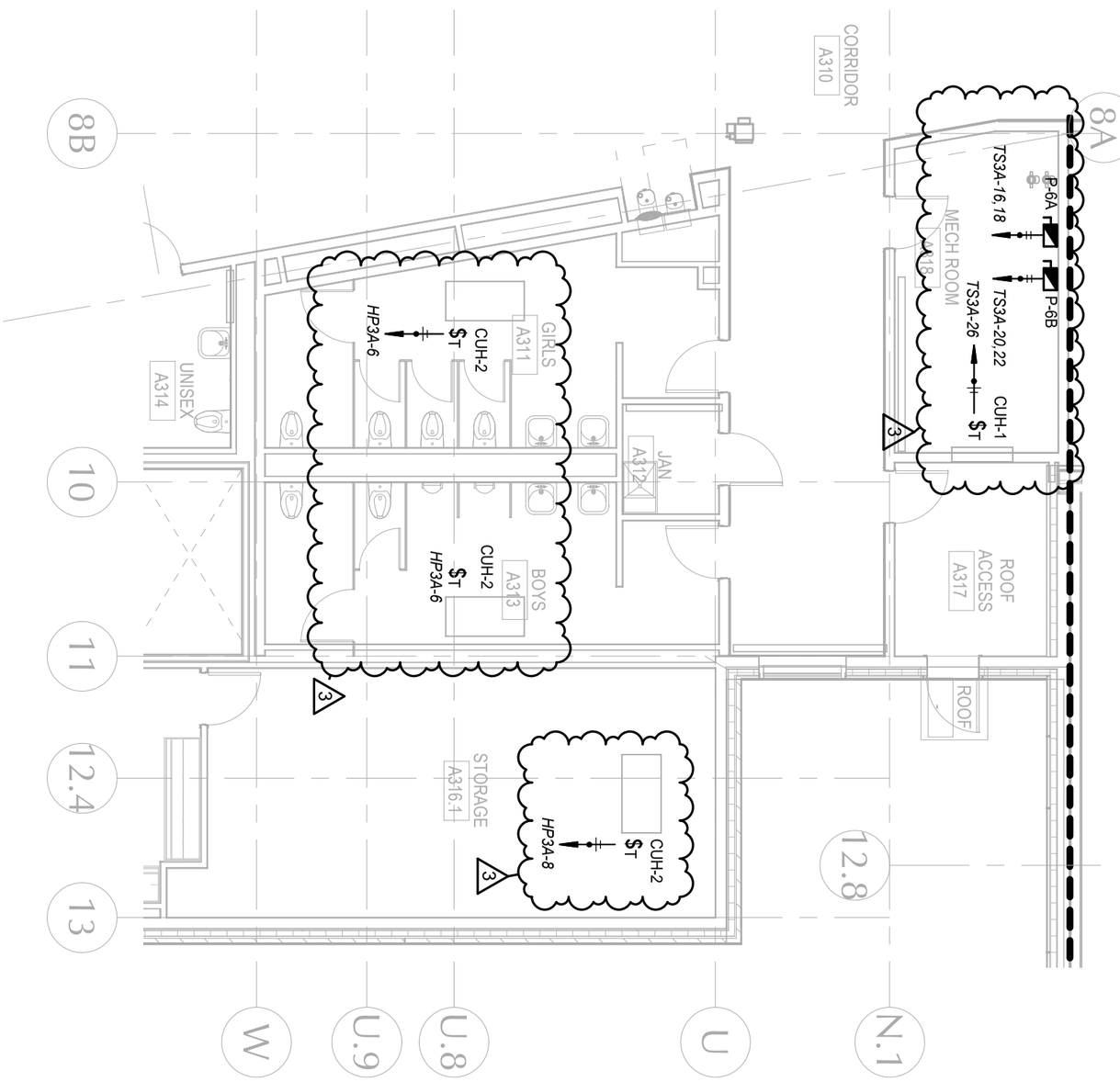
299 Highland Street, Worcester, MA 01602

ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS

lpaa.com



ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.11

DRAWING TITLE:

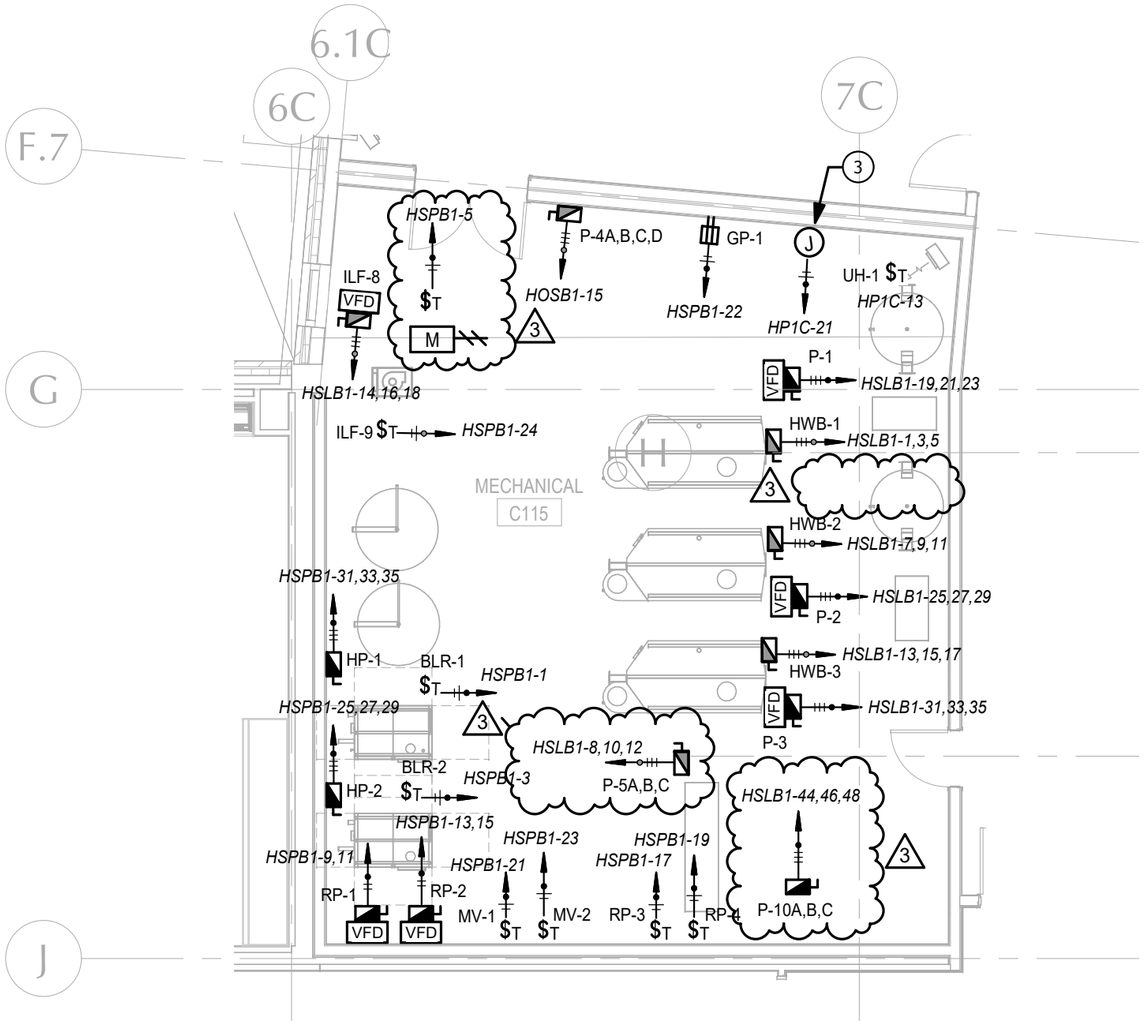
HVAC Power – Level 3 Plan Section AB

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-001



3

ELECTRICAL EQUIPMENT SCHEDULE

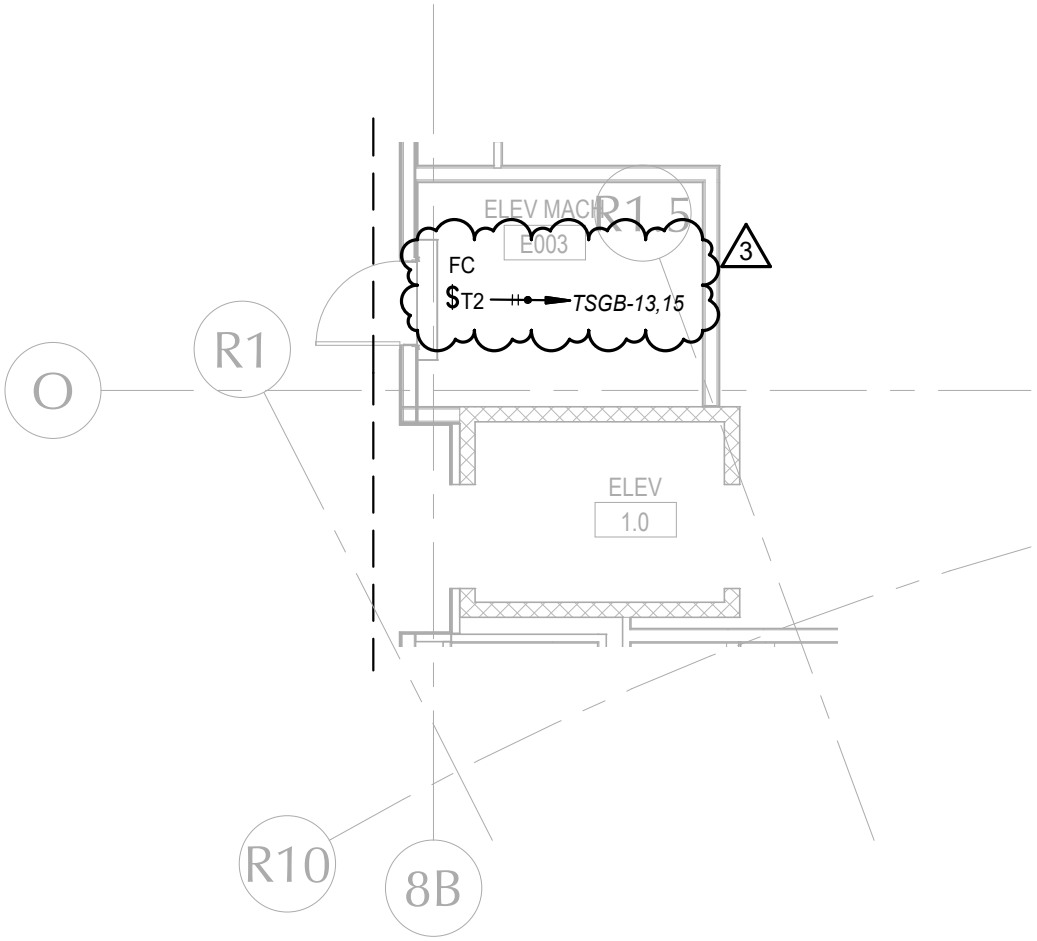
TAG	DESCRIPTION	FLA	MCA	MOCP	VOLTAGE	POLES	DISC./FUSE	PANEL	CKT #	FEEDER	TAG
P-10A,B,C	RTU HOT WATER GLYCOL PUMPS (15HP/15HP/15HP)	27	38 A	60 A	480 V	3	60AS/50AF	HSLB1	44,46,48	1"C, 3#6, #10G	P-10A,B,C

DATE: 02/03/22
DRAWING NUMBER: ADD–3 E–002

REFERENCE: E3.5
DRAWING TITLE: HVAC Power – Mechanical C115

PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

ARCHITECT:
LPA|A
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com



ARCHITECT:

LPA|A

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ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.2

DRAWING TITLE:

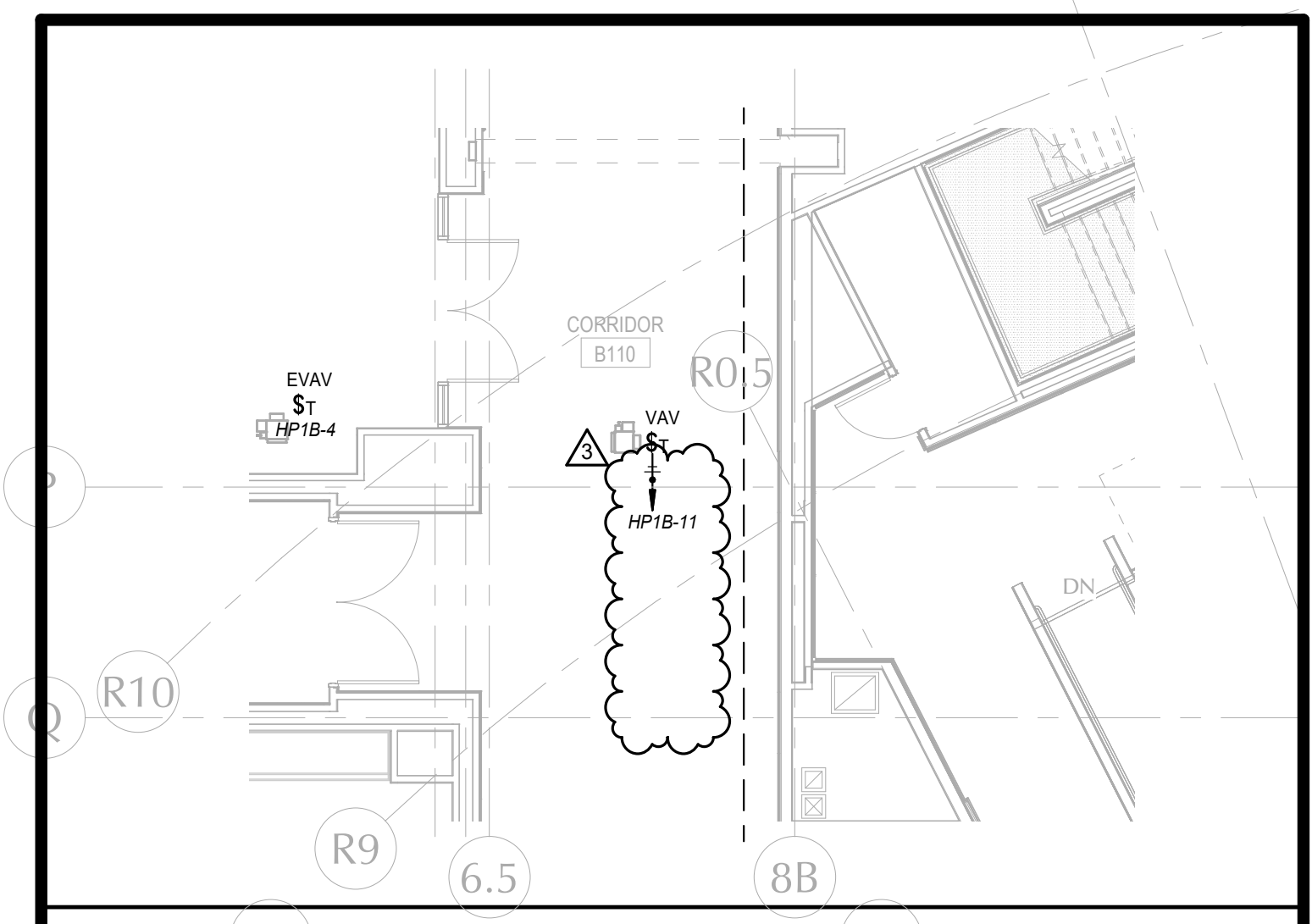
HVAC Power – Elev Mach E003

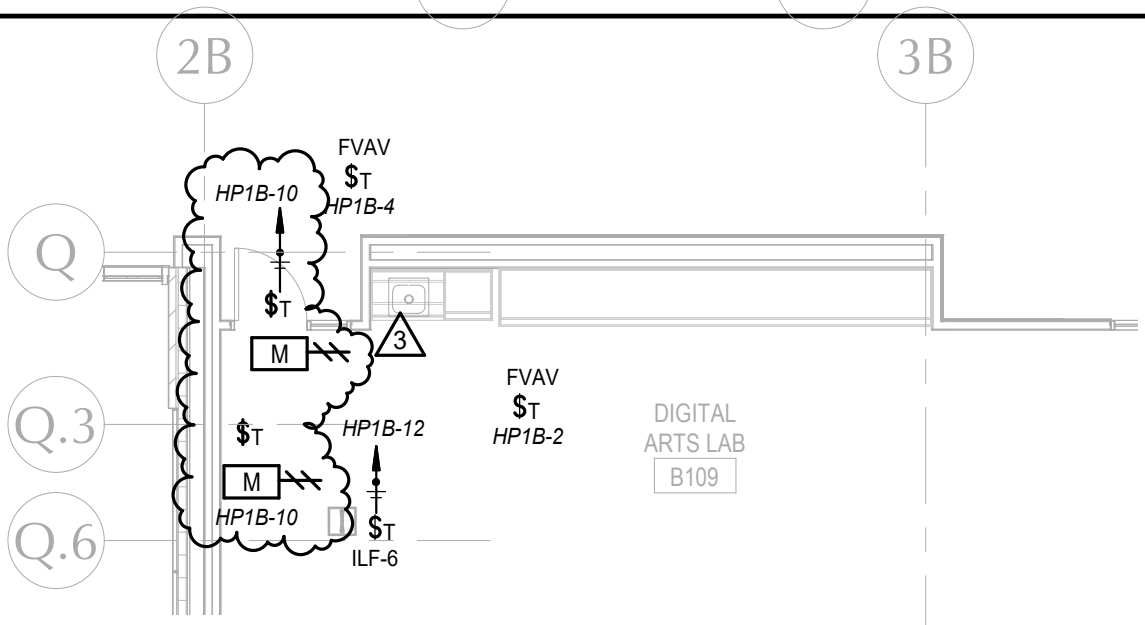
DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-003





ARCHITECT:

LPA|A

LAMOUREUX PAGANO
ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.3

DRAWING TITLE:

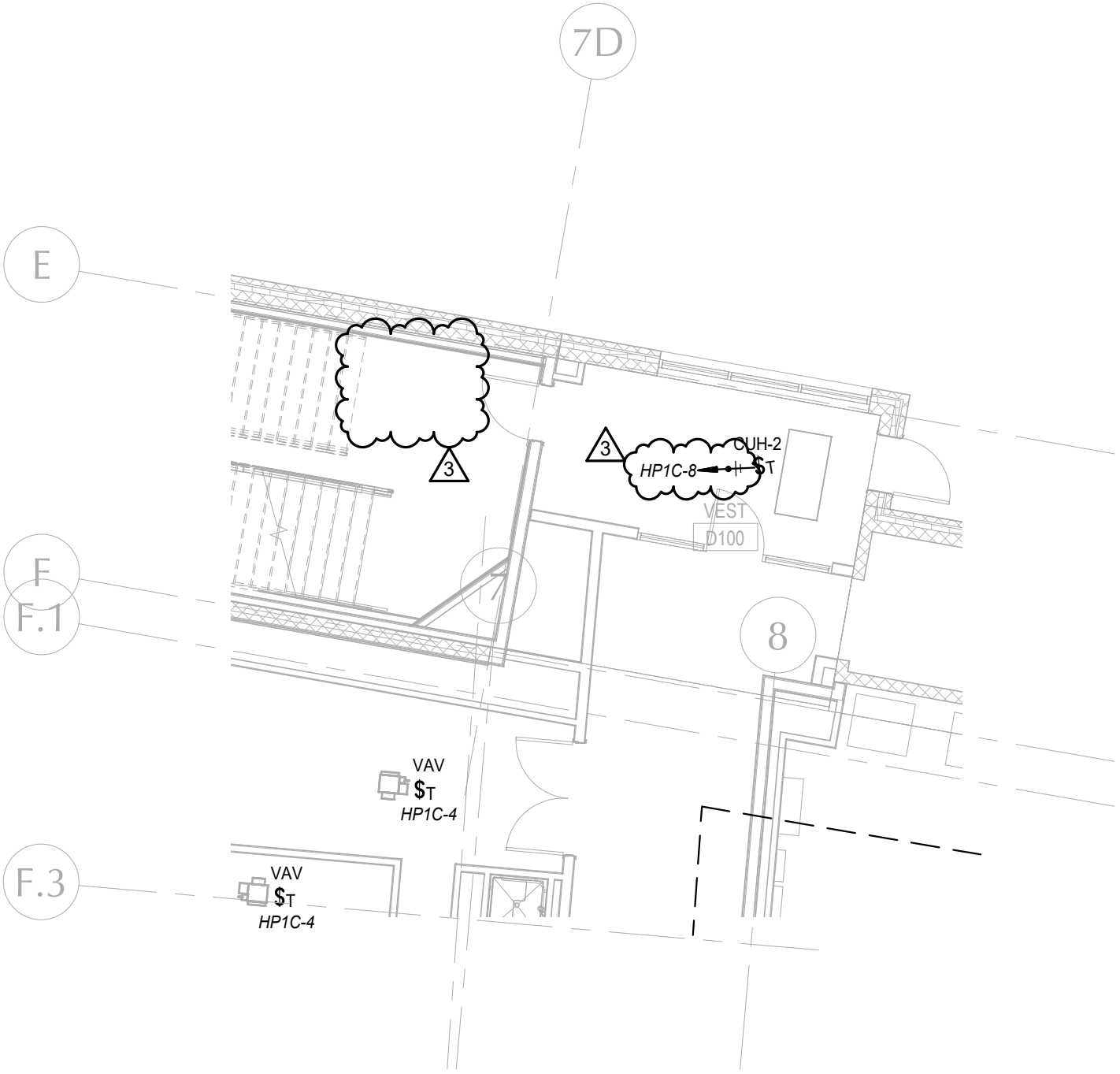
HVAC Power – VAV and Motorized Dampers

DATE: 02/03/22

DRAWING NUMBER:

ADD–3

E–004



ARCHITECT:

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ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: AC

DRAWING TITLE:

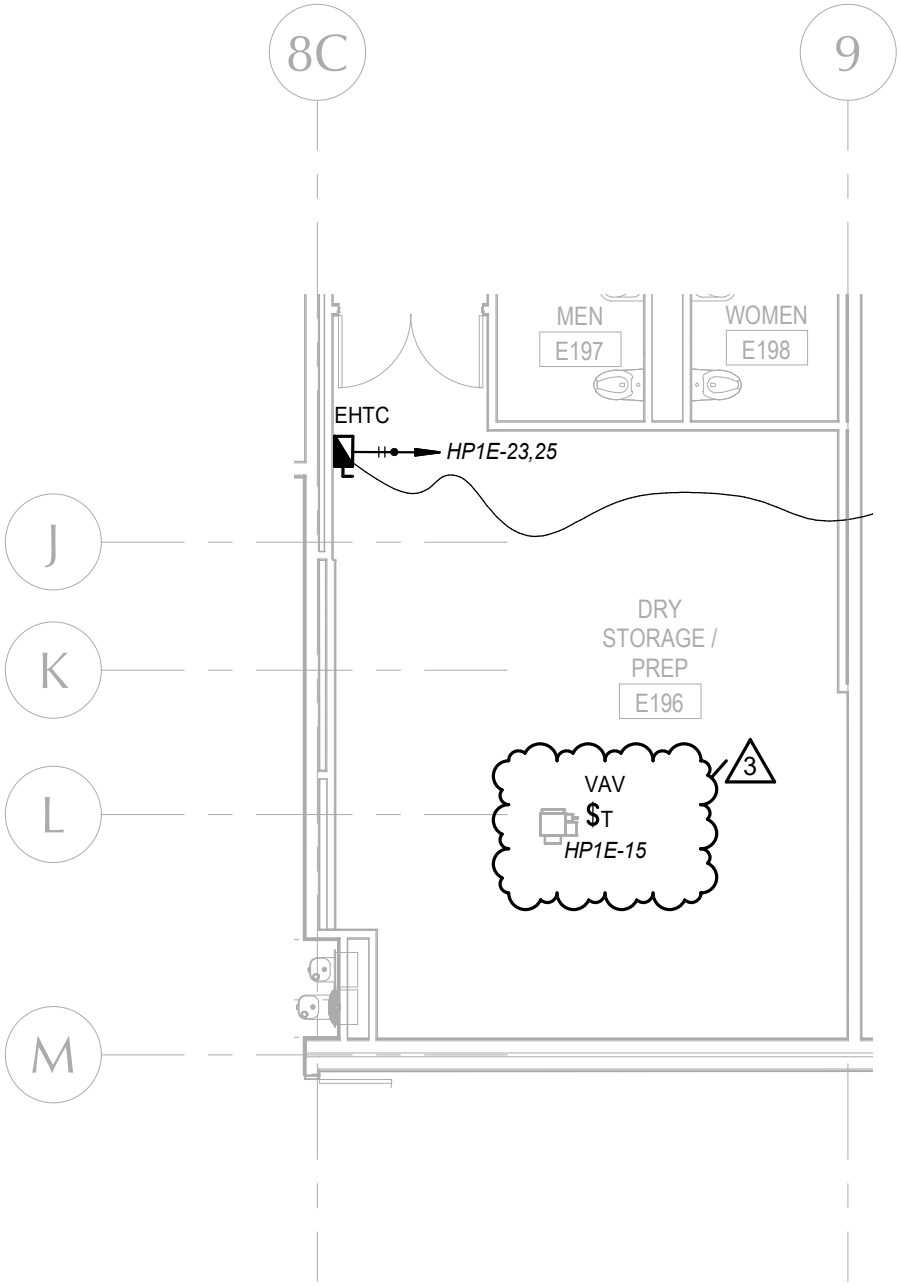
HVAC Power – Stair D2.1 CUH

DATE: 02/03/22

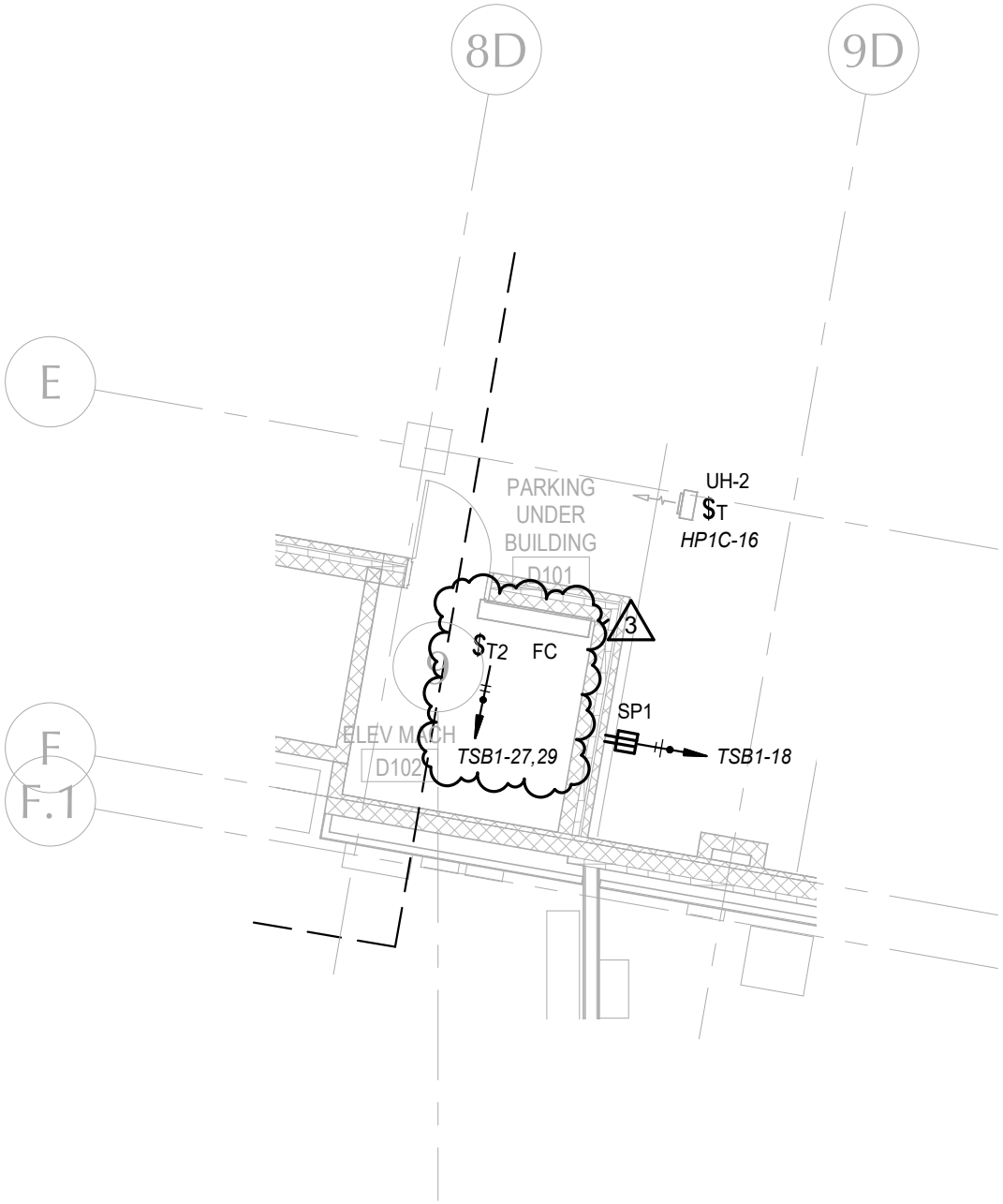
DRAWING NUMBER:

ADD-3

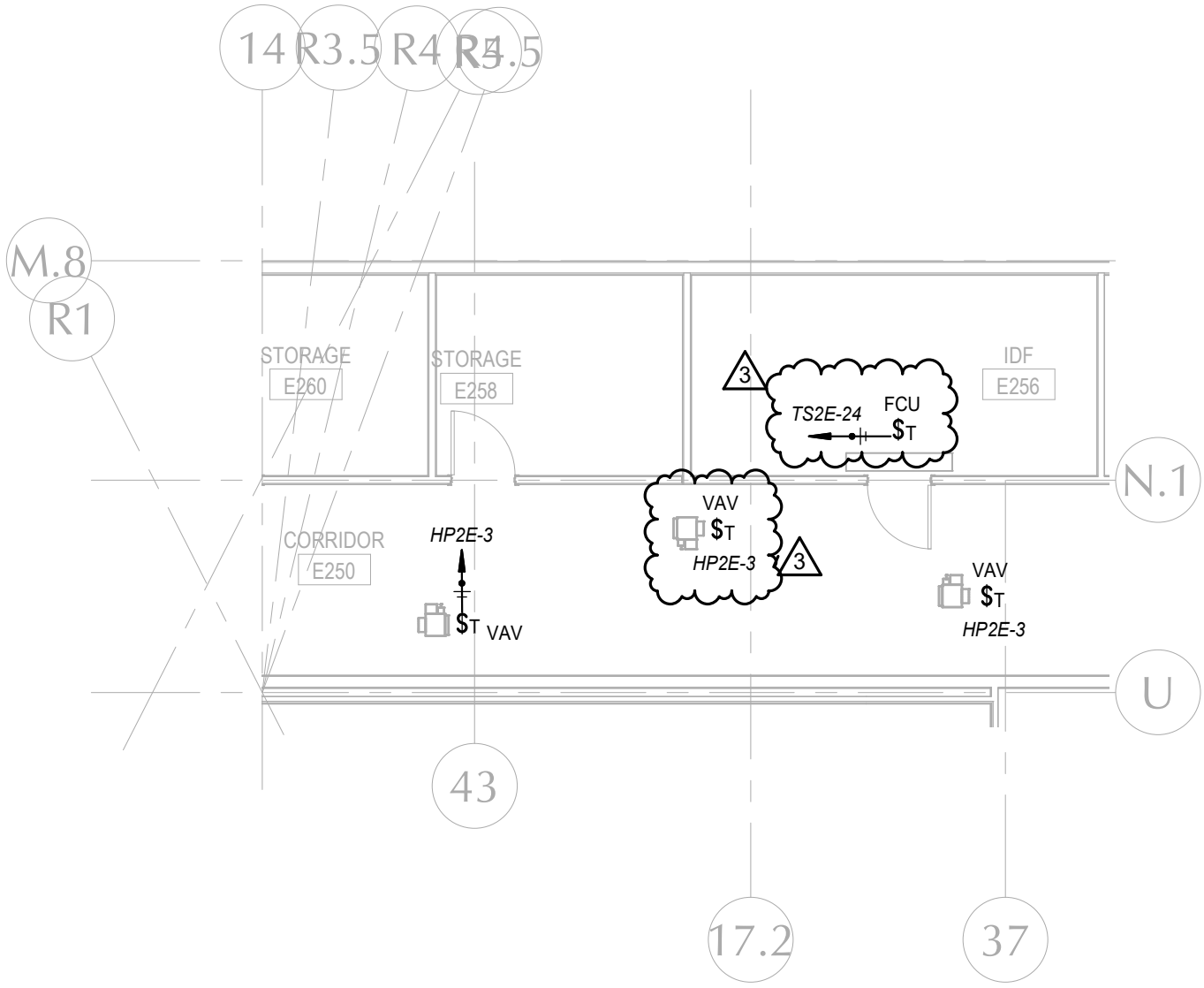
E-005



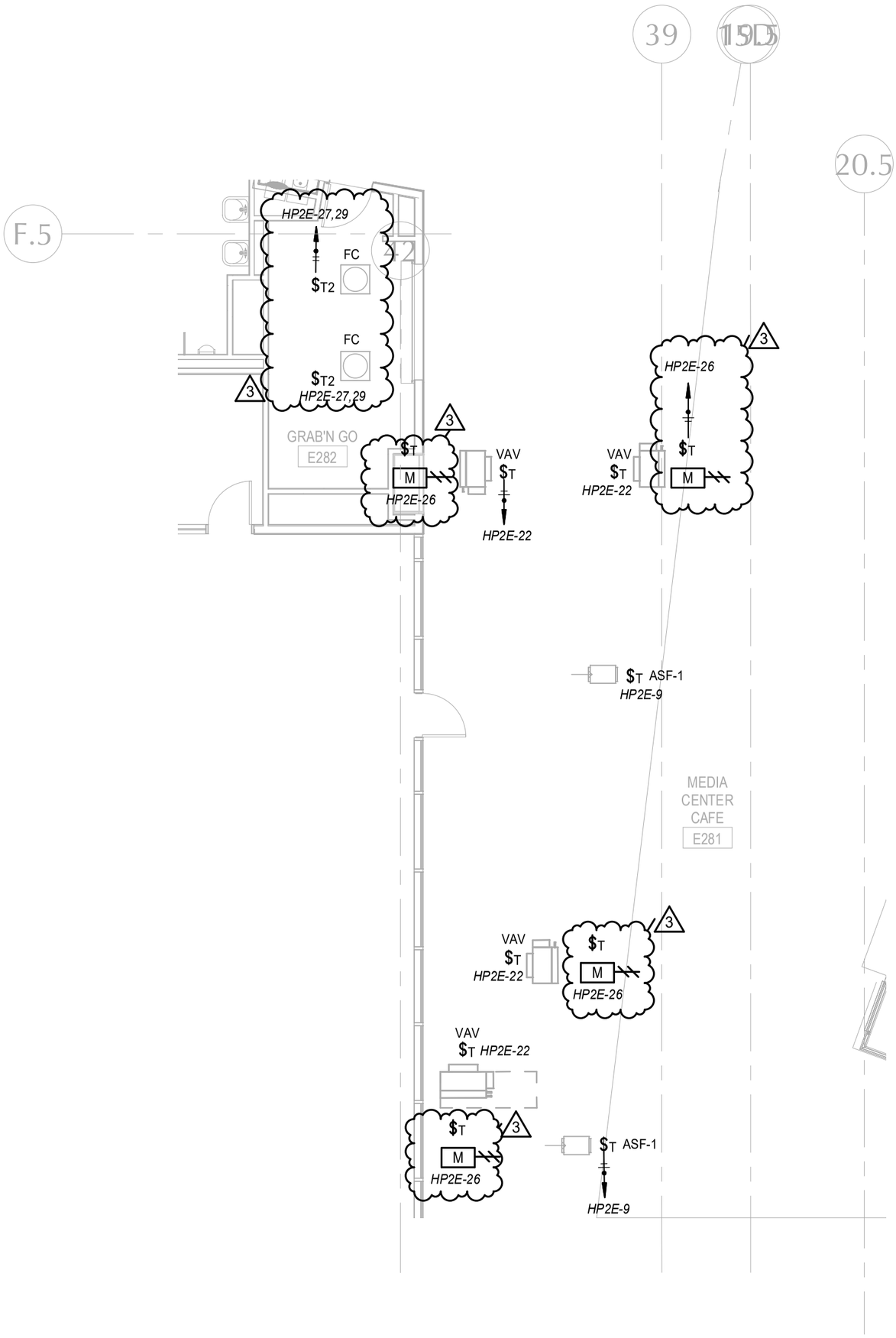
ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E1.7 DRAWING TITLE: HVAC Power – Dry Storage/Prep E196 VAV	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–006



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E3.5 DRAWING TITLE: HVAC Power – Elev Mach D102	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–007



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E3.8 DRAWING TITLE: HVAC Power – VAV and FCU	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–008



ARCHITECT:

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lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.10

DRAWING TITLE:

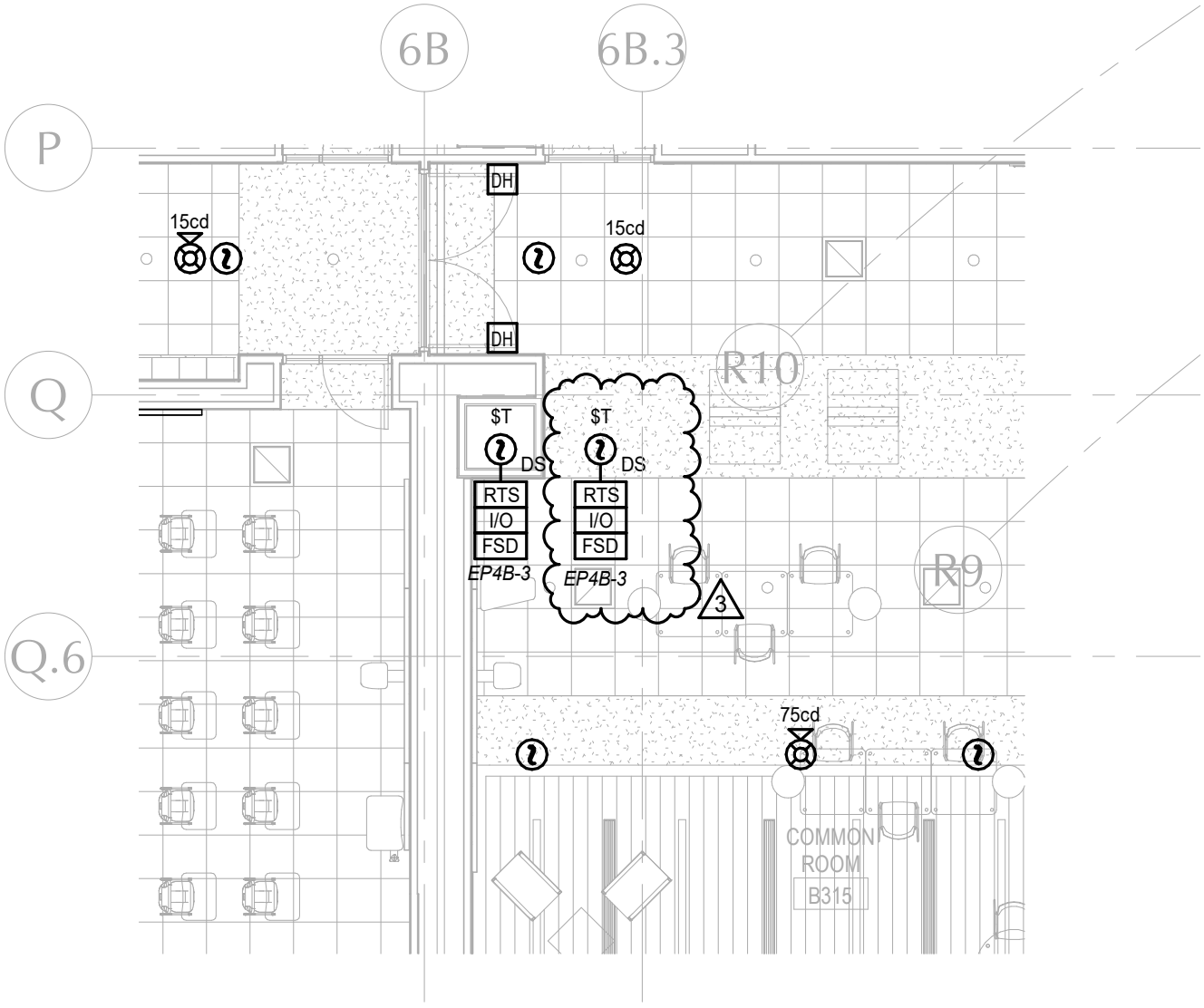
HVAC Power – Level 2 Plan Section DE

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-009



ARCHITECT:

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ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.11

DRAWING TITLE:

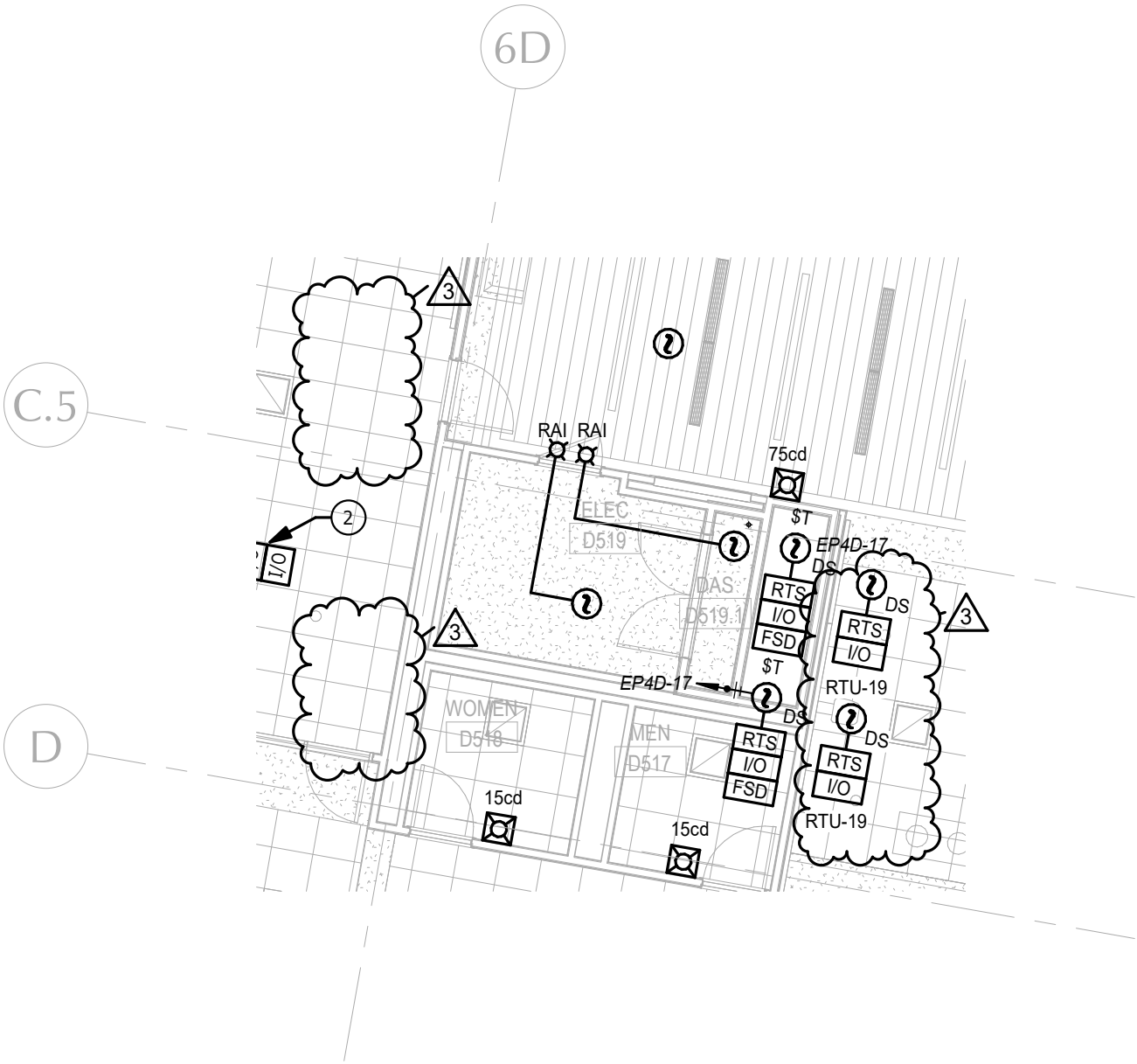
Fire Alarm – Common Room B315 Duct Smoke

DATE: 02/03/22

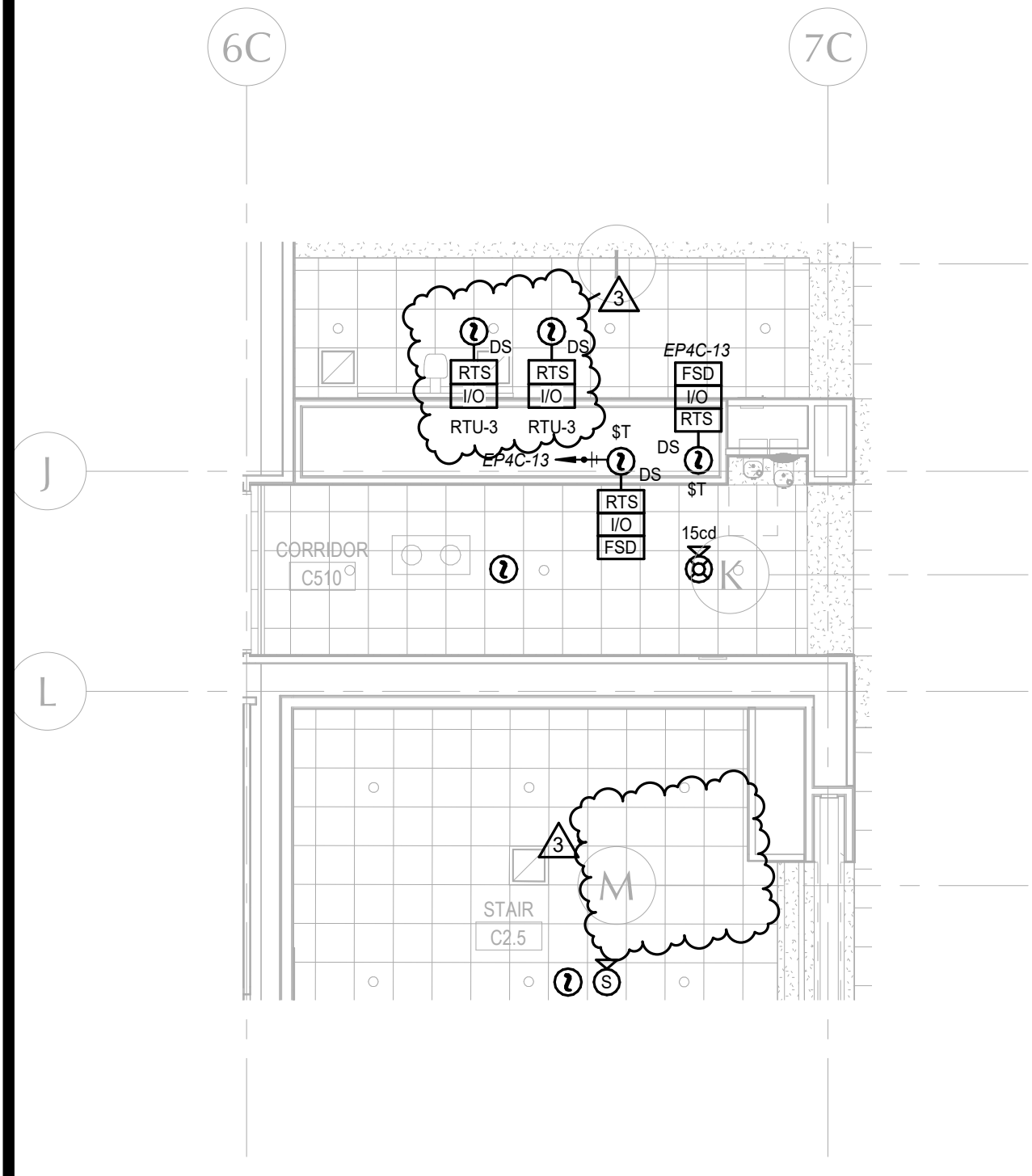
DRAWING NUMBER:

ADD–3

E–010



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: AC DRAWING TITLE: Fire Alarm – Science D502 Duct Smoke Relocation	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–011



ARCHITECT:

LPA|A

LAMOUREUX PAGANO
ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.5

DRAWING TITLE:

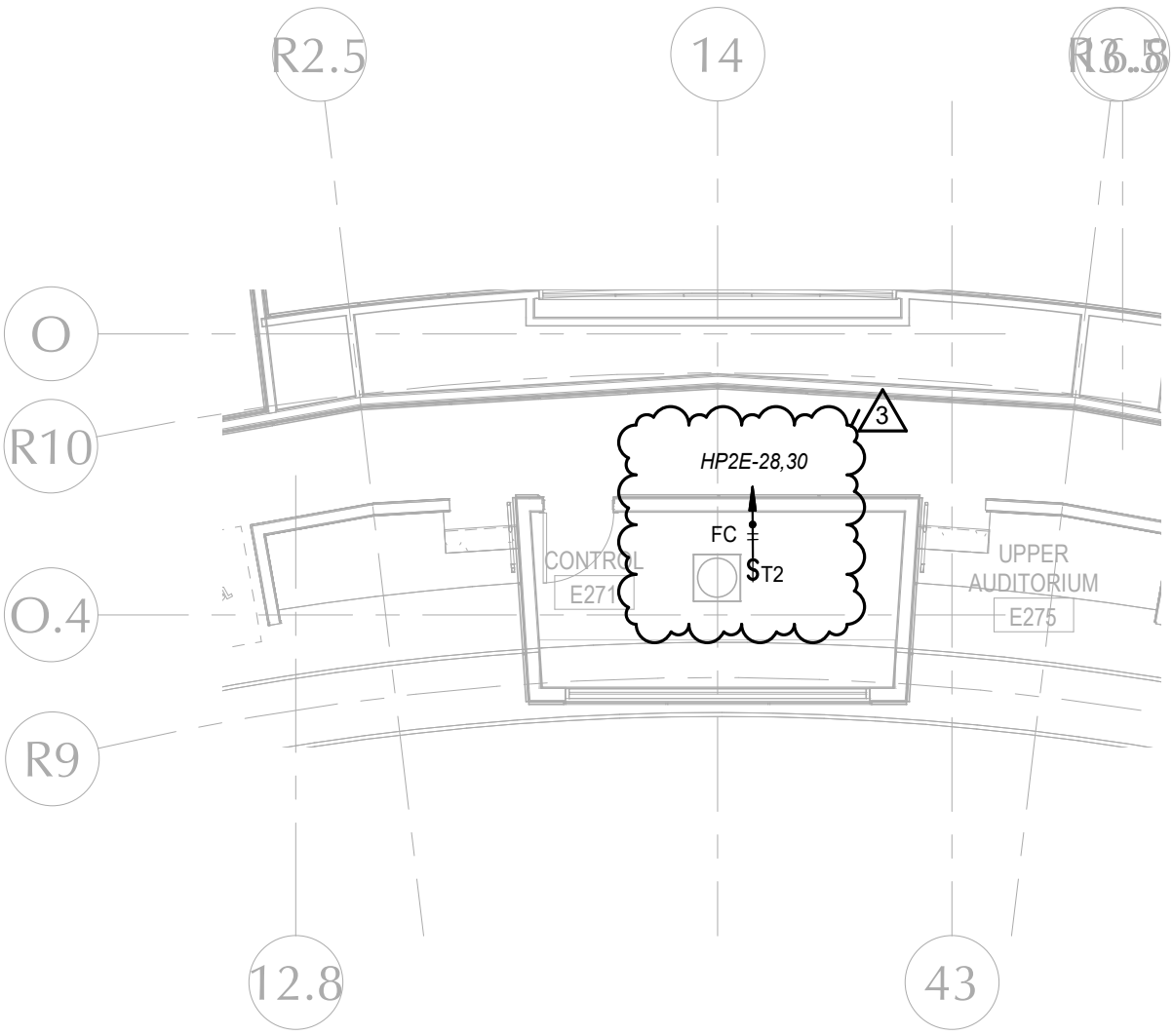
Fire Alarm – Stair C2.5 Duct Smoke Relocation

DATE: 02/03/22

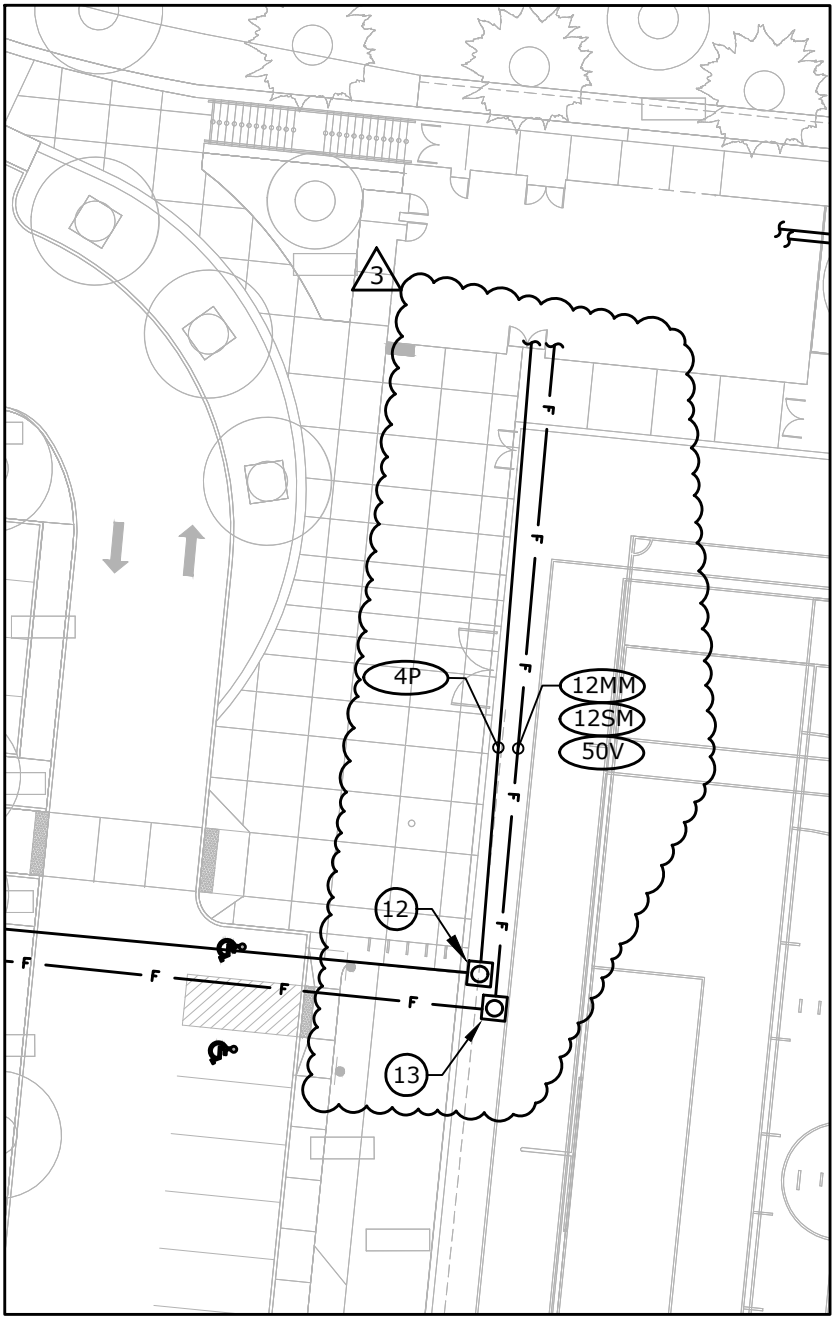
DRAWING NUMBER:

ADD-3

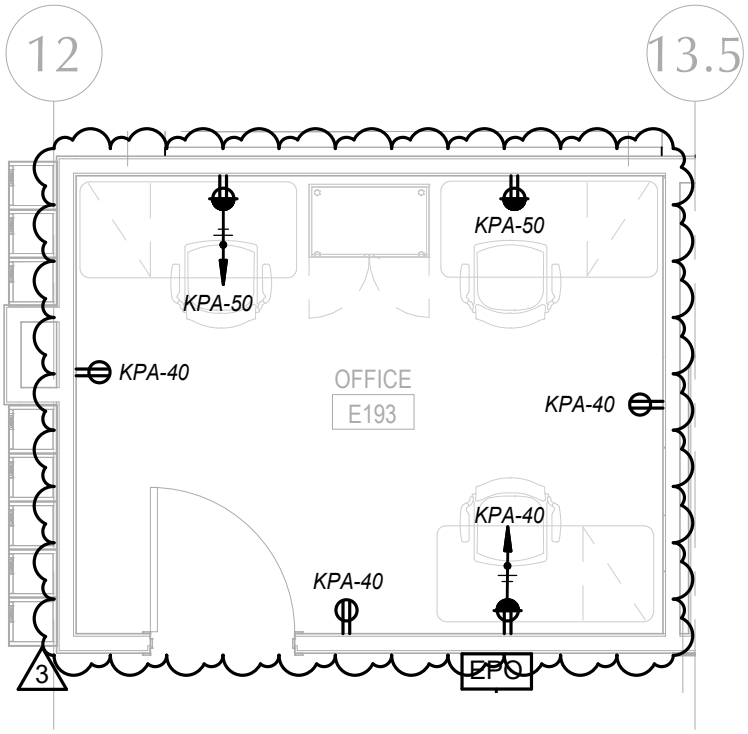
E-012

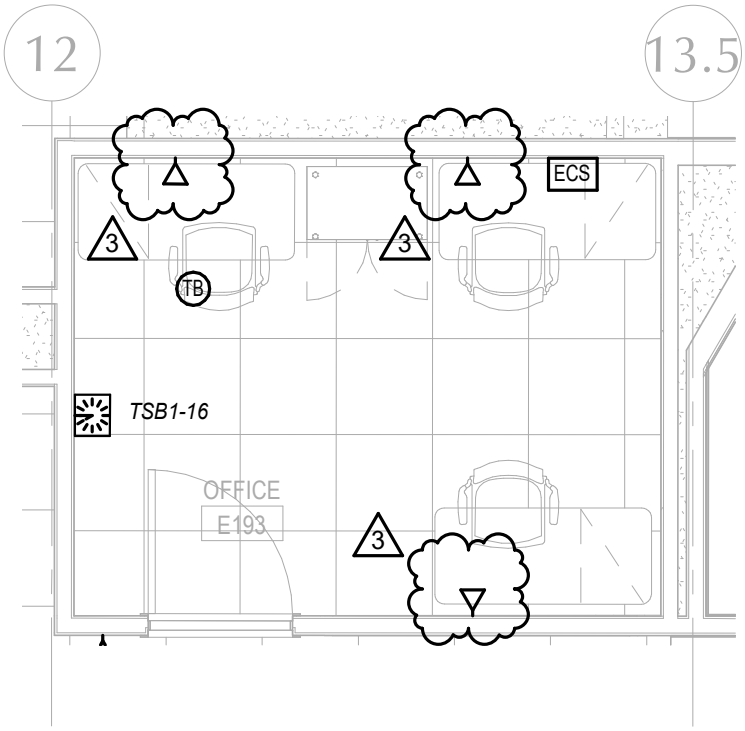


ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E3.8 DRAWING TITLE: HVAC Power – Control E271 FC	DATE: 02/03/22 DRAWING NUMBER: ADD-3 E-013



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E0.4 DRAWING TITLE: Site Po er – Handhole Relocation	DATE: 2/3/2022 DRAWING NUMBER: ADD–3 E–014





ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E2.4, TC1.6 DRAWING TITLE: Power & Data – Office E193	DATE: 02/03/22 DRAWING NUMBER: ADD-3 E-015

KEYED NOTE FOR FA1.6

3

8 NOT USED.

9 NOT USED.

DATE: 02/03/22

DRAWING NUMBER: ADD-3 E-016

REFERENCE: FA1.6

DRAWING TITLE: Kitchen Fire Alarm NG Detector Removal

PROJECT TITLE: Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

ARCHITECT:

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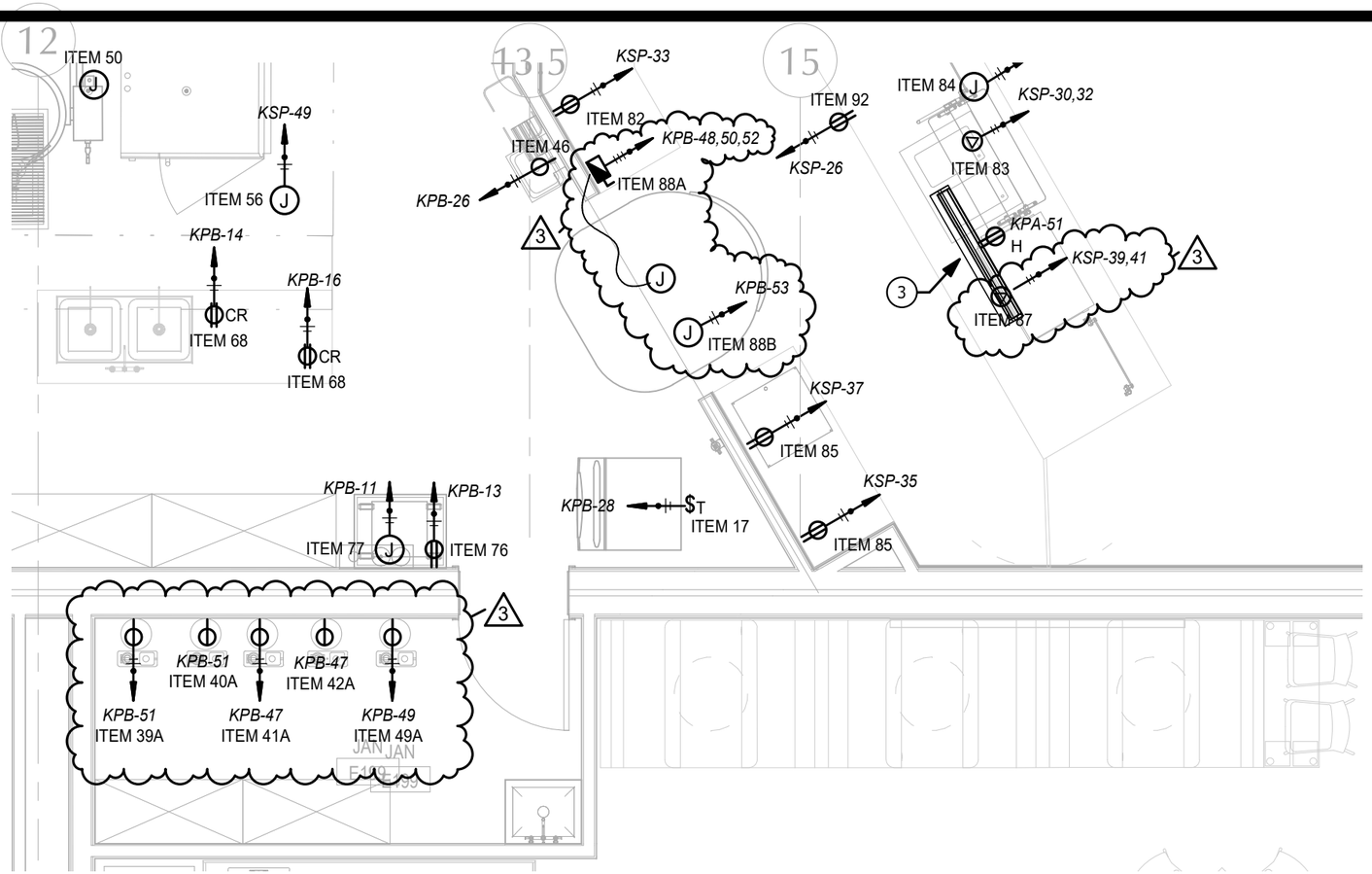

3

FOOD SERVICE EQUIPMENT SCHEDULE

ITEM #	DESCRIPTION	FLA	MCA	MOCP	VOLTAGE	POLES	DISC./FUSE	PANEL	FEEDER	ITEM #
ITEM 39A	REVERSE OSMOSIS SYSTEM	5 A	7 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 39A
ITEM 40A	REVERSE OSMOSIS SYSTEM	5 A	7 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 40A
ITEM 41A	REVERSE OSMOSIS SYSTEM	5 A	7 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 41A
ITEM 42A	REVERSE OSMOSIS SYSTEM	5 A	7 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 42A
ITEM 49A	REVERSE OSMOSIS SYSTEM	5 A	7 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 49A
ITEM 87	HEATED SLIDE DISPLAY	15 A	20 A	20 A	208 V	2		KSP	3/4"C, 3#12, #12G	ITEM 87
ITEM 88A	PIZZA OVEN	50 A	63 A	70 A	208 V	3	100AS/70AF	KPB	1"C, 3#4, #8G	ITEM 88A
ITEM 88B	EXHAUST HOOD FOR PIZZA OVEN	12 A	15 A	20 A	120 V	1		KPB	3/4"C, 2#12, #12G	ITEM 88B

DATE: 02/03/22

DRAWING NUMBER: ADD–3 E–017

REFERENCE: E2.6A

DRAWING TITLE: Power – Foodservice

PROJECT TITLE: Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

ARCHITECT:

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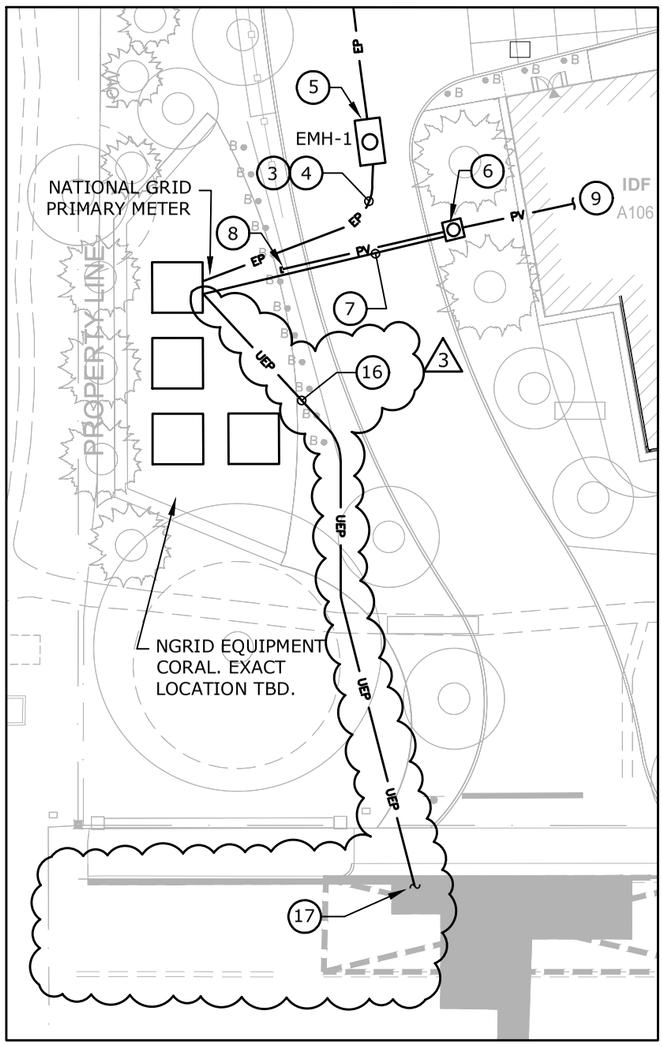


LEGEND

3

UEP — UTILITY ELECTRICAL PRIMARY DUCT BANK

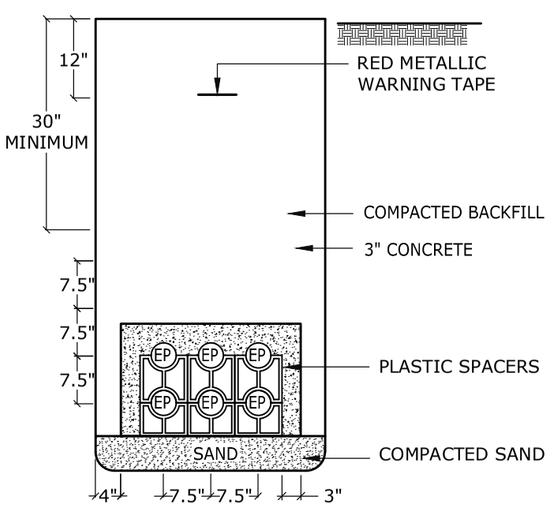
KEYED NOTES FOR E0.4

3

16 INSTALL CONDUITS PER NGRID REQUIREMENTS AT NGRID CORRAL. EXTEND CONDUITS TO NGRID MANHOLES.

17 INTERCEPT AND EXTEND UTILITY CONDUITS AT THE PROPERTY LINE.

3



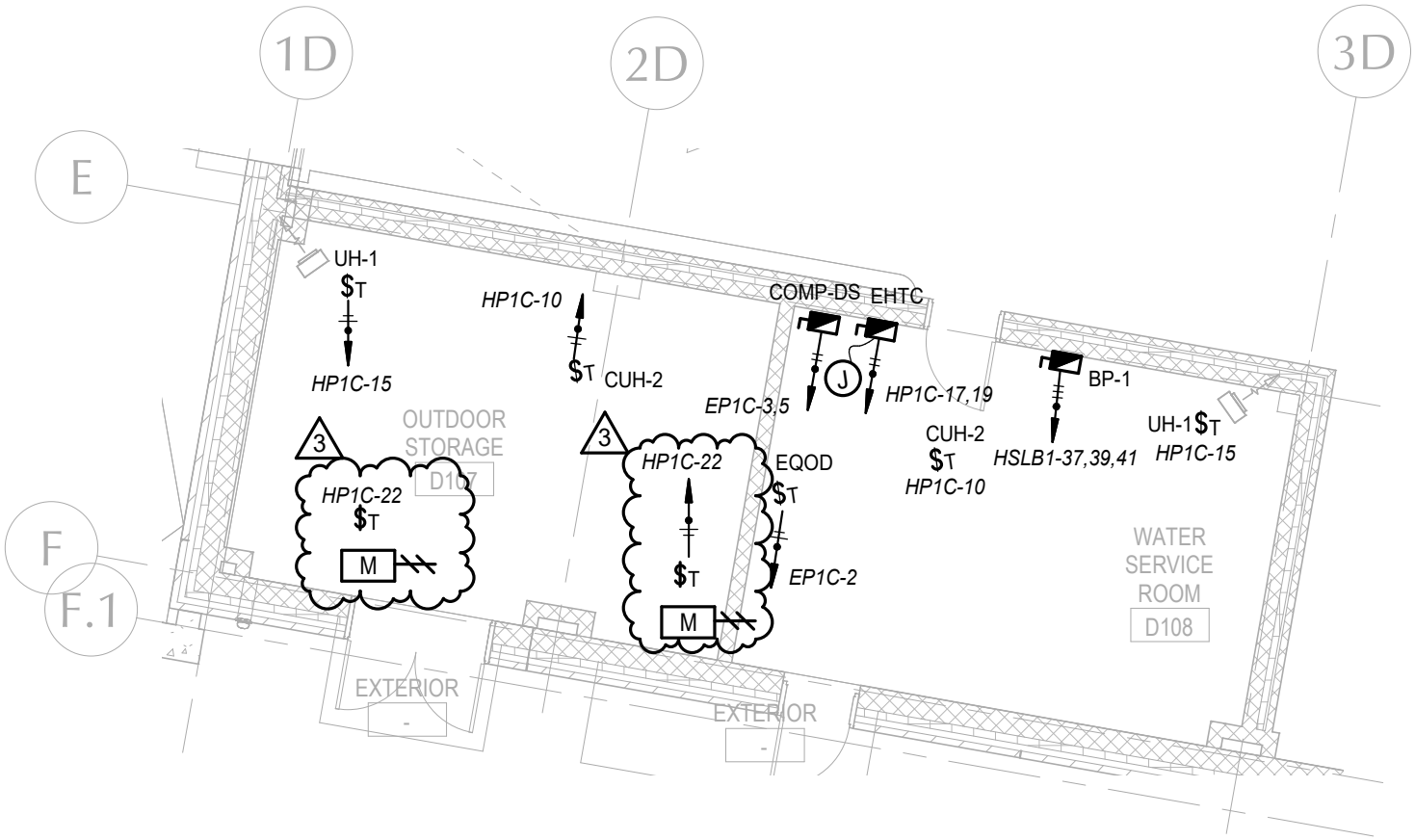
LEGEND:

EP - 5" ELECTRICAL PRIMARY

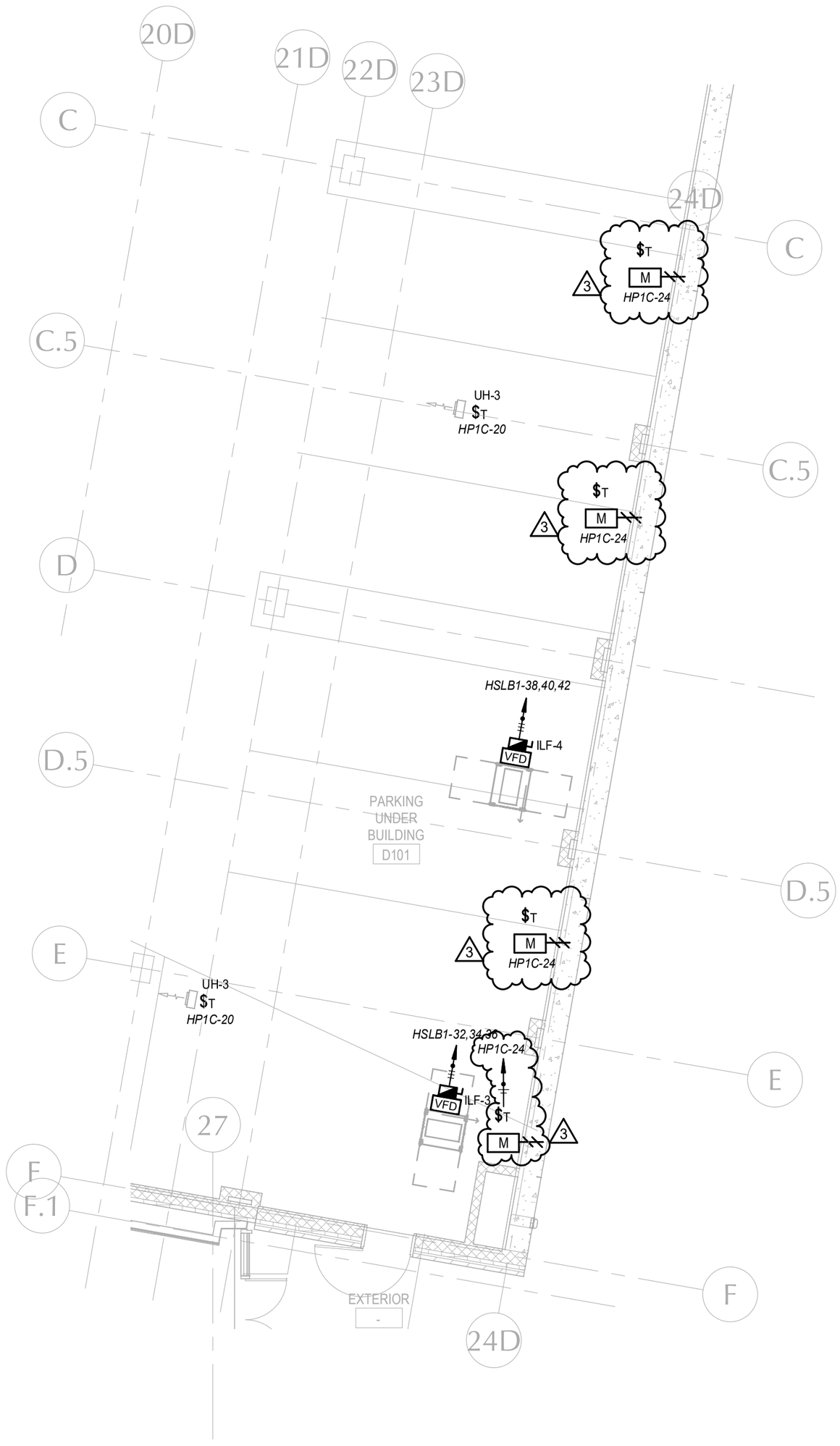
SCALE: N.T.S.

DUCT BANK SECTION - UEP

ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E0.4 DRAWING TITLE: UTILITY – UNDERGROUND CONDUITS	DATE: 2/3/2022 DRAWING NUMBER: ADD–3 E–018



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E3.5 DRAWING TITLE: HVAC Power – Motorized Dampers D107	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–019



ARCHITECT:

LPA|A

LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E3.5

DRAWING TITLE:

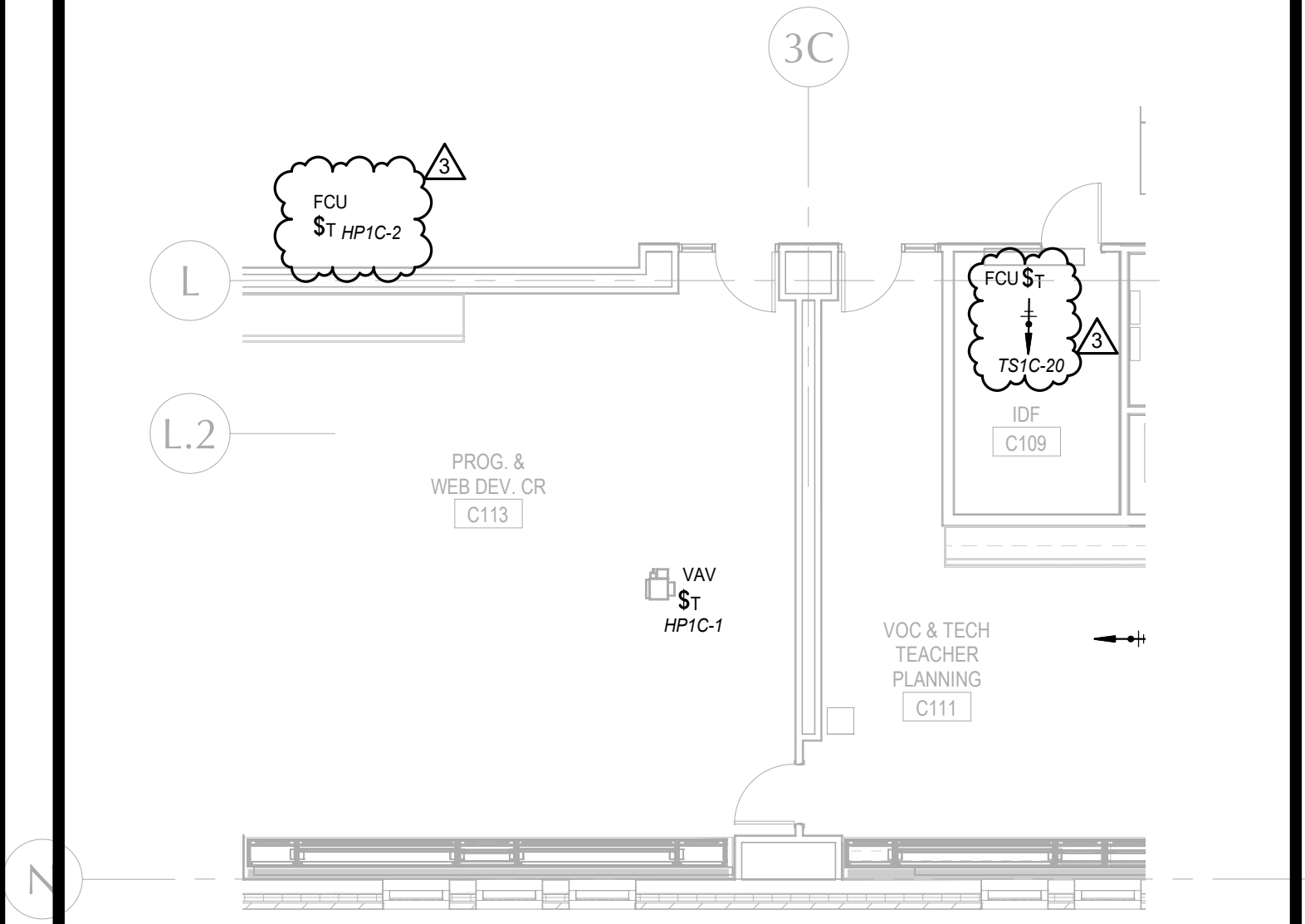
HVAC Power – Motorized Dampers Garage

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-020



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: E3.5 DRAWING TITLE: HVAC Power – Section C FCUs	DATE: 02/03/22 DRAWING NUMBER: ADD-3 E-021

ELECTRICAL EQUIPMENT SCHEDULE

TAG	DESCRIPTION	FLA	MCA	MOCP	VOLTAGE	POLES	DISC./FUSE	PANEL	CKT #	FEEDER	TAG
ACCU-1	CONDENSING UNIT	10	15 A	20 A	208 V	3	30AS/20AF	HP2E	31,33,35	3/4"C, 3#12, #12G	ACCU-1
ACCU-2	CONDENSING UNIT	4	5.3 A	20 A	480 V	3	30AS/20AF	HM2E	25,27,29	3/4"C, 3#12, #12G	ACCU-2
ACCU-3	CONDENSING UNIT	4	5.3 A	20 A	480 V	3	30AS/20AF	HM2E	31,33,35	3/4"C, 3#12, #12G	ACCU-3
ACCU-4	CONDENSING UNIT	10	15 A	20 A	208 V	3	30AS/20AF	HP2D	15,17,19	3/4"C, 3#12, #12G	ACCU-4
ACHP-1A	AIR COOLED HEAT PUMP	20.72	25.9 A	45 A	480 V	3	30AS/30AF	HM2E	1,3,5	3/4"C, 3#10, #10G	ACHP-1A
ACHP-1A	AIR COOLED HEAT PUMP	20.72	25.9 A	45 A	480 V	3	30AS/30AF	HM2E	7,9,11	3/4"C, 3#10, #10G	ACHP-1A
ACHP-1B	AIR COOLED HEAT PUMP	20.72	25.9 A	45 A	480 V	3	30AS/30AF	HM2E	13,15,17	3/4"C, 3#10, #10G	ACHP-1B
ACHP-1B	AIR COOLED HEAT PUMP	20.72	25.9 A	45 A	480 V	3	30AS/30AF	HM2E	19,21,23	3/4"C, 3#10, #10G	ACHP-1B
ACHP-2A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM4B	1,3,5	3/4"C, 3#10, #10G	ACHP-2A
ACHP-2A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM4B	7,9,11	3/4"C, 3#10, #10G	ACHP-2A
ACHP-2B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM4B	2,4,6	3/4"C, 3#10, #10G	ACHP-2B
ACHP-2B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM4B	8,10,12	3/4"C, 3#10, #10G	ACHP-2B
ACHP-3A	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM5C	1,3,5	3/4"C, 3#12, #12G	ACHP-3A
ACHP-3A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM5C	7,9,11	3/4"C, 3#10, #10G	ACHP-3A
ACHP-3B	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM5C	13,15,17	3/4"C, 3#12, #12G	ACHP-3B
ACHP-3B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM5C	19,21,23	3/4"C, 3#10, #10G	ACHP-3B
ACHP-3C	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM5C	2,4,6	3/4"C, 3#12, #12G	ACHP-3C
ACHP-3C	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM5C	8,10,12	3/4"C, 3#10, #10G	ACHP-3C
ACHP-4A	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM5D	8,10,12	3/4"C, 3#12, #12G	ACHP-4A
ACHP-4A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM5D	2,4,6	3/4"C, 3#10, #10G	ACHP-4A
ACHP-4B	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM5D	14,16,18	3/4"C, 3#12, #12G	ACHP-4B
ACHP-4B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM5D	20,22,24	3/4"C, 3#10, #10G	ACHP-4B
ACHP-5	AIR COOLED HEAT PUMP	10	12.5 A	20 A	480 V	3	30AS/20AF	HM2E	2,4,6	3/4"C, 3#12, #12G	ACHP-5
ACHP-6	AIR COOLED HEAT PUMP	10	12.5 A	20 A	480 V	3	30AS/20AF	HM2E	8,10,12	3/4"C, 3#12, #12G	ACHP-6
ACHP-7	AIR COOLED HEAT PUMP	10	12.5 A	20 A	480 V	3	30AS/20AF	HM4B	13,15,17	3/4"C, 3#12, #12G	ACHP-7
ACHP-8	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM2E	14,16,18	1"C, 3#6, #10G	ACHP-8
ACHP-9A	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM2E	20,22,24	3/4"C, 3#12, #12G	ACHP-9A
ACHP-9A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM2E	26,28,30	3/4"C, 3#10, #10G	ACHP-9A
ACHP-9B	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM2E	32,34,36	3/4"C, 3#12, #12G	ACHP-9B
ACHP-9B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM2E	38,40,42	3/4"C, 3#10, #10G	ACHP-9B
ACHP-10	AIR COOLED HEAT PUMP	10	12.5 A	20 A	480 V	3	30AS/20AF	HM2C	13,15,17	3/4"C, 3#12, #12G	ACHP-10
ACHP-11A	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM2C	1,3,5	3/4"C, 3#12, #12G	ACHP-11A
ACHP-11A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM2C	7,9,11	3/4"C, 3#10, #10G	ACHP-11A
ACHP-11B	AIR COOLED HEAT PUMP	9.84	12.3 A	20 A	480 V	3	30AS/20AF	HM2C	2,4,6	3/4"C, 3#12, #12G	ACHP-11B
ACHP-11B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/20AF	HM2C	8,10,12	3/4"C, 3#10, #10G	ACHP-11B
ACHP-12A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	19,21,23	3/4"C, 3#10, #10G	ACHP-12A
ACHP-12A	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	13,15,17	3/4"C, 3#10, #10G	ACHP-12A
ACHP-12B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	31,33,35	3/4"C, 3#10, #10G	ACHP-12B
ACHP-12B	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	25,27,29	3/4"C, 3#10, #10G	ACHP-12B
ACHP-12C	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	32,34,36	3/4"C, 3#10, #10G	ACHP-12C
ACHP-12C	AIR COOLED HEAT PUMP	16.48	20.6 A	35 A	480 V	3	30AS/25AF	HM5D	26,28,30	3/4"C, 3#10, #10G	ACHP-12C
ACHP-13	AIR COOLED HEAT PUMP	20.6	25 A	30 A	480 V	3	30AS/30AF	DHGB	26,28,30	3/4"C, 3#10, #10G	ACHP-13
AHU-1	AIR HANDLING UNIT	34.4	43 A	60 A	480 V	3	60AS/50AF	MDP2	15	1"C, 3#6, #10G	AHU-1
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	1	3/4"C, 2#12, #12G	ASF
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	1	3/4"C, 2#12, #12G	ASF
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	1	3/4"C, 2#12, #12G	ASF
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	3	3/4"C, 2#12, #12G	ASF
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	3	3/4"C, 2#12, #12G	ASF
ASF	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2D	3	3/4"C, 2#12, #12G	ASF
ASF-1	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2E	9	3/4"C, 2#12, #12G	ASF-1
ASF-1	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2E	9	3/4"C, 2#12, #12G	ASF-1
ASF-1	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2E	5	3/4"C, 2#12, #12G	ASF-1
ASF-1	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2E	5	3/4"C, 2#12, #12G	ASF-1
ASF-1	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP2E	20	3/4"C, 2#12, #12G	ASF-1
ASF-2	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP3C	19	3/4"C, 2#12, #12G	ASF-2
ASF-2	THERMAL EQUALIZER FAN	1	1.25 A	20 A	120 V	1		HP3C	19	3/4"C, 2#12, #12G	ASF-2
ASF-2	THERMAL EQUALIZER FAN	0.92	1.14 A	20 A	120 V	1		HP2E	25	3/4"C, 2#12, #12G	ASF-2
BLR-1	DOMESTIC HOT WATER BOILERS	9.9	12.38 A	20 A	120 V	1		HSPB1	1	3/4"C, 2#12, #12G	BLR-1
BLR-2	DOMESTIC HOT WATER BOILERS	9.9	12.38 A	20 A	120 V	1		HSPB1	3	3/4"C, 2#12, #12G	BLR-2
BP-1	TRIPLEX BOOSTER PUMPS (7.5HP)	33	37 A	50 A	480 V	3	60AS/40AF	HSLB1	37,39,41	1"C, 3#6, #10G	BP-1
CH-1	CHILLER - NORMAL POWER	287.2	359 A	400 A	480 V	3	400AS/400AF	MDP1	9	(2)3"C, 3-250kcmil AL, #1 AL G	CH-1
CH-1-PP	CHILLER - PUMP PACKAGE	16	20 A	20 A	480 V	3	30AS/20AF	HOSB1	12	3/4"C, 3#12, #12G	CH-1-PP
CH-1-SB	CHILLER - STANDBY POWER	62.4	78 A	110 A	480 V	3	200AS/110AF	HOSB1	13	1-1/2"C, 3-1/0 AL, #4 AL G	CH-1-SB
COMP-DS	COMPRESSOR FOR DRY SYSTEM - 2HP	13.2	16.5 A	25 A	208 V	2	30AS/20AF	EP1C	3,5	3/4"C, 2#12, #12G	COMP-DS
CRAC-1	IT ROOM COOLING UNITS	35.2	44.1 A	60 A	480 V	3	60AS/60AF	HOSBB	16	1"C, 3#4, #10G	CRAC-1
CRAC-2	IT ROOM COOLING UNITS	35.2	44.1 A	60 A	480 V	3	60AS/60AF	HOSBB	17	1"C, 3#4, #10G	CRAC-2
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2A	8	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HPGA	10	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	5	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3B	7	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1B	8	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1E	12	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2D	14	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2E	24	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HPGE1	23	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		TS3A	26	3/4"C, 2#12, #12G	CUH-1
CUH-1	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	18	3/4"C, 2#12, #12G	CUH-1
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	10	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	6	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2D	14	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	8	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1C	6	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HPGA	11	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HPGA	11	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3D	17	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP4D	11	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP4D	11	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5D	15	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5D	15	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5D	19	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5D	17	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2A	9	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP1A	9	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3A	11	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3A	6	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3A	6	3/4"C, 2#12, #12G	CUH-2
CUH-2	CABINET UNIT HEATER (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP3A	8	3/4"C, 2#12, #12G	CUH-2
DS-1	DISH WASH EXHAUST FAN	2.5	2.9 A	20 A	120 V	1		HP2E	21	3/4"C, 2#12, #12G	DS-1
EF-1	HOOD EXHAUST FAN (5HP) WIRED VIA VFD	7.6	9.5 A	20 A	480 V	3	30AS/15AF	DHGA	14,16,18	3/4"C, 3#12, #12G	EF-1
EF-2	EXHAUST FAN (2HP)	13.2	16.5 A	25 A	208 V	2	30AS/20AF	HP3A	2,4	3/4"C, 2#12, #12G	EF-2
EF-3	EXHAUST FAN (2HP)	13.2	16.5 A	25 A	208 V	2	30AS/20AF	HP2E	11,13	3/4"C, 2#12, #12G	EF-3
EF-4	EXHAUST FAN (2HP)	13.2	16.5 A	25 A	208 V	2	30AS/20AF	HP2E	14,16	3/4"C, 2#12, #12G	EF-4
EF-5	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP4B	6	3/4"C, 2#12, #12G	EF-5
EF-6	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP4B	8	3/4"C, 2#12, #12G	EF-6
EF-7	EXHAUST FAN (2HP)	13.2	16.5 A	25 A	208 V	2	30AS/20AF	HP2E	15,17	3/4"C, 2#12, #12G	EF-7
EF-8	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5C	9	3/4"C, 2#12, #12G	EF-8
EF-9	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2E	19	3/4"C, 2#12, #12G	EF-9
EF-10	HOOD EXHAUST FAN (5HP) WIRED VIA VFD	7.6	9.5 A	20 A	480 V	3	30AS/15AF	HM5D	1,3,5	3/4"C, 3#12, #12G	EF-10
EF-11	HOOD EXHAUST FAN (5HP) WIRED VIA VFD	7.6	9.5 A	20 A	480 V	3	30AS/15AF	HM5D	7,9,11	3/4"C, 3#12, #12G	EF-11
EF-12	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP5D	10	3/4"C, 2#12, #12G	EF-12
EF-13	EXHAUST FAN (1/4HP)	5.8	7.25 A	20 A	120 V	1		HP2E	18	3/4"C, 2#12, #12G	EF-13
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HPGA	3,5	3/4"C, 2#10, #10G	EHTC
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HPGE1	2,4	3/4"C, 2#10, #10G	EHTC
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HP1C	17,19	3/4"C, 2#10, #10G	EHTC
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HP5D	1,3	3/4"C, 2#10, #10G	EHTC
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HP5D	2,4	3/4"C, 2#10, #10G	EHTC
EHTC	ELECTRIC HEAT TRACE	20	25 A	30 A	208 V	2	30AS/30AF	HP1E	23,25	3/4"C, 2#10, #10G	EHTC
EQOD	ELECTRONIC OPENING DEVICE (FIRE PROTECTION)	5.8	7.25 A	20 A	120 V	1		EP1C	2	3/4"C, 2#12, #12G	EQOD
EWH-1	ELECTRIC WATER HEATER	12	15 A	20 A	120 V	1		HP2E	1	3/4"C, 2#10, #10G	EWH-1
EWH-1	ELECTRIC WATER HEATER	12	15 A	20 A	120 V	1		HP5C	7	3/4"C, 2#12, #12G	EWH-1
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	6,8	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	4,6	3/4"C, 2#12, #12G	FC

ELECTRICAL EQUIPMENT SCHEDULE

TAG	DESCRIPTION	FLA	MCA	MOCP	VOLTAGE	POLES	DISC./FUSE	PANEL	CKT #	FEEDER	TAG
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	8,10	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	11,13	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	11,13	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	11,13	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	14,16	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	18,20	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	18,20	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1B	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	6,8	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	6,8	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	6,8	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	10,12	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2B	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP3B	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP4B	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1C	9,11	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1C	9,11	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1C	9,11	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP3D	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP3C	4,6	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP4D	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP5D	6,8	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2C	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP1E	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGB	7,9	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	19,21	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	19,21	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HPGE1	19,21	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	TSGB	13,15	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	2,4	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	27,29	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	27,29	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	TSB1	27,29	3/4"C, 2#12, #12G	FC
FC	FAN COIL UNIT	1	1.25 A	20 A	208 V	2	30AS/20AF	HP2E	28,30	3/4"C, 2#12, #12G	FC
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HPGE1	12	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP1E	21	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP1A	7	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP2A	7	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP2A	7	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP3A	9	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP3D	15	3/4"C, 2#12, #12G	FCU
FCU	VARIABLE AIR VOLUME TERMINAL	1.6	2 A	20 A	120 V	1		HP3B	9	3/4"C,

WP, WIC

MS
MS
MS
MS
TSB1-3

AV
DF
TSB1-1
AV

3

20.5

24

26

27

RD
P1DE-4

4 RD

4 RD

P1DE-2
AV

P1DE-6
RD

TSB1-11

3
11
11

6 RD

P1DE-8
RD

8 RD

8 RD

1
9
8 RD

P1DE-10
RD

15

CAFETERIA
E181

23.2

22.8

3
17

TSB1-17

17

3
J
P1DE-47

3

39

19.5

20.5

40

23.2

26

27

DATE: 02/03/22

DRAWING NUMBER: ADD–3 E–023

REFERENCE: Author

DRAWING TITLE: Power – Cafeteria E181

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

ARCHITECT:

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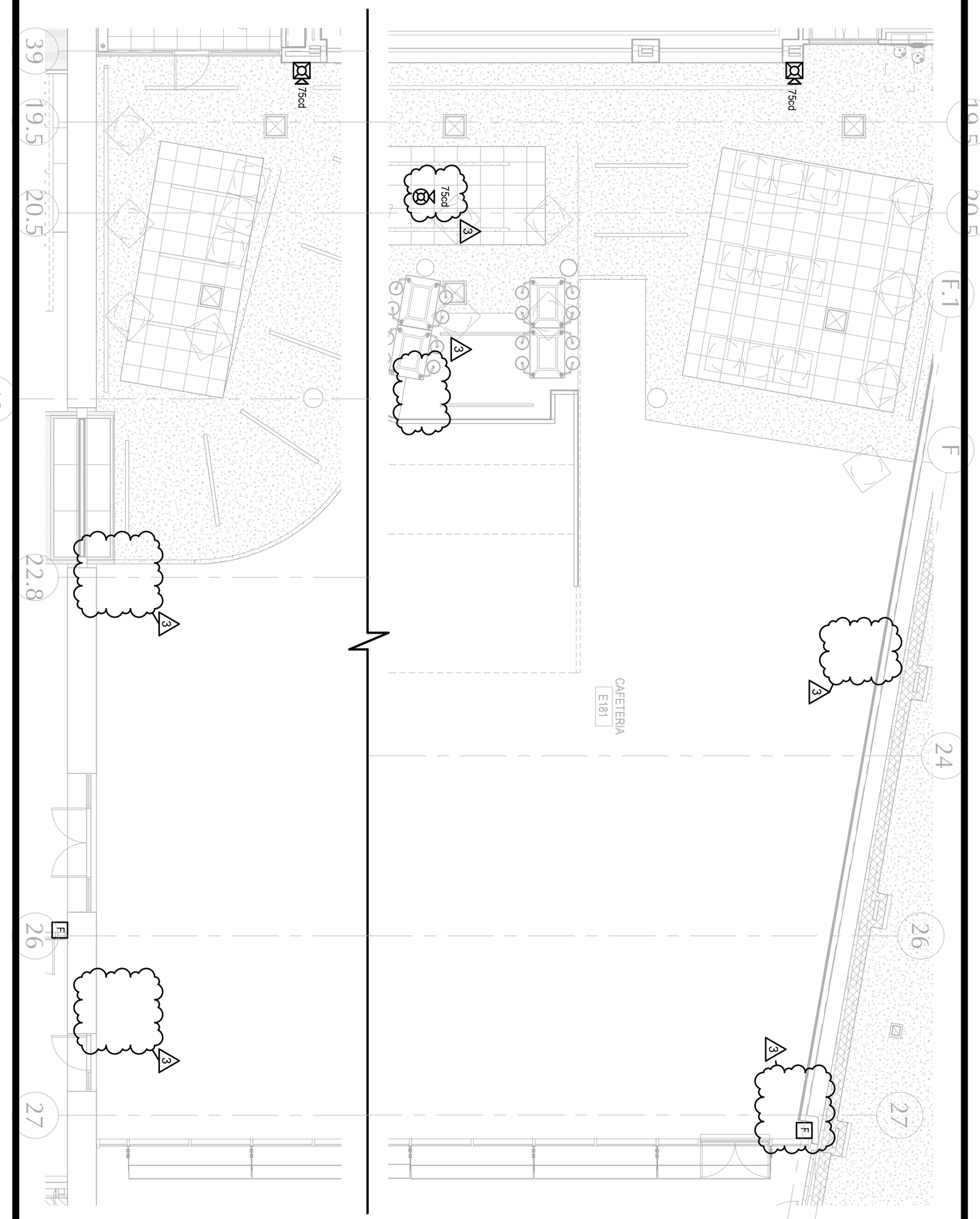

ARCHITECT:

LPA|A

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lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: FA1.6

DRAWING TITLE:

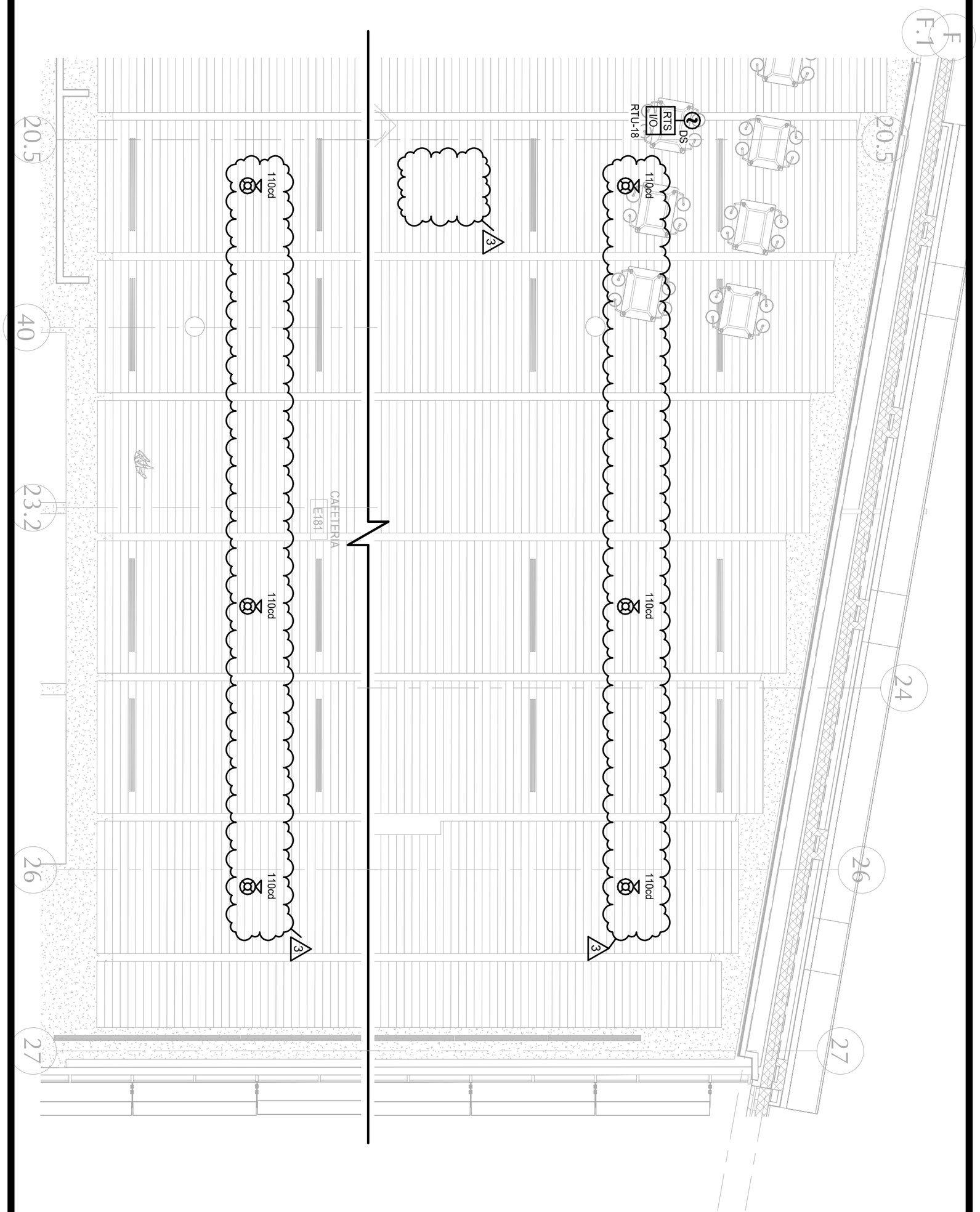
Fire Alarm – Cafeteria E181

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-024



ARCHITECT:

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lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: Author

DRAWING TITLE:

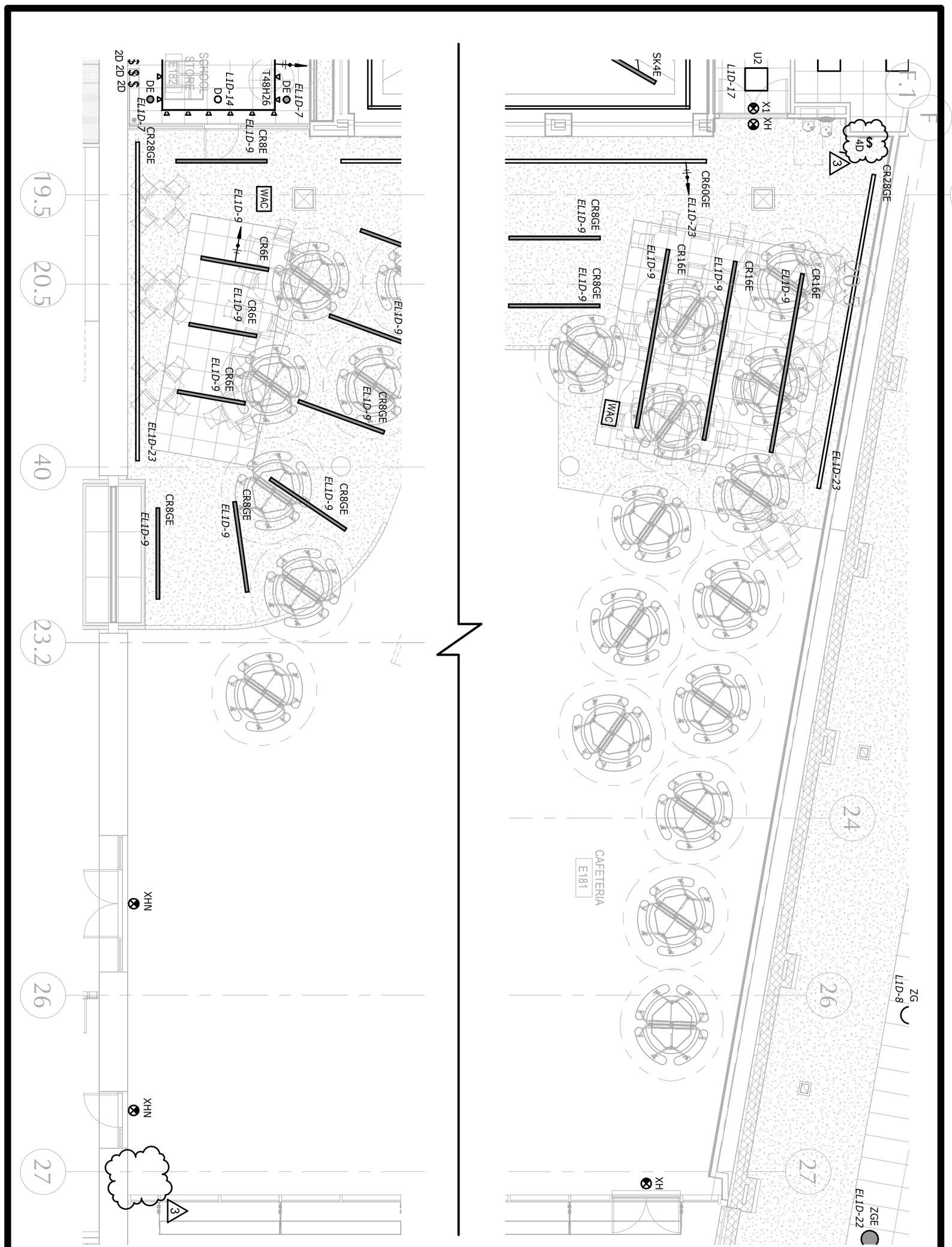
Fire Alarm – Cafeteria E181

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-025



ARCHITECT:

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PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E1.6

DRAWING TITLE:

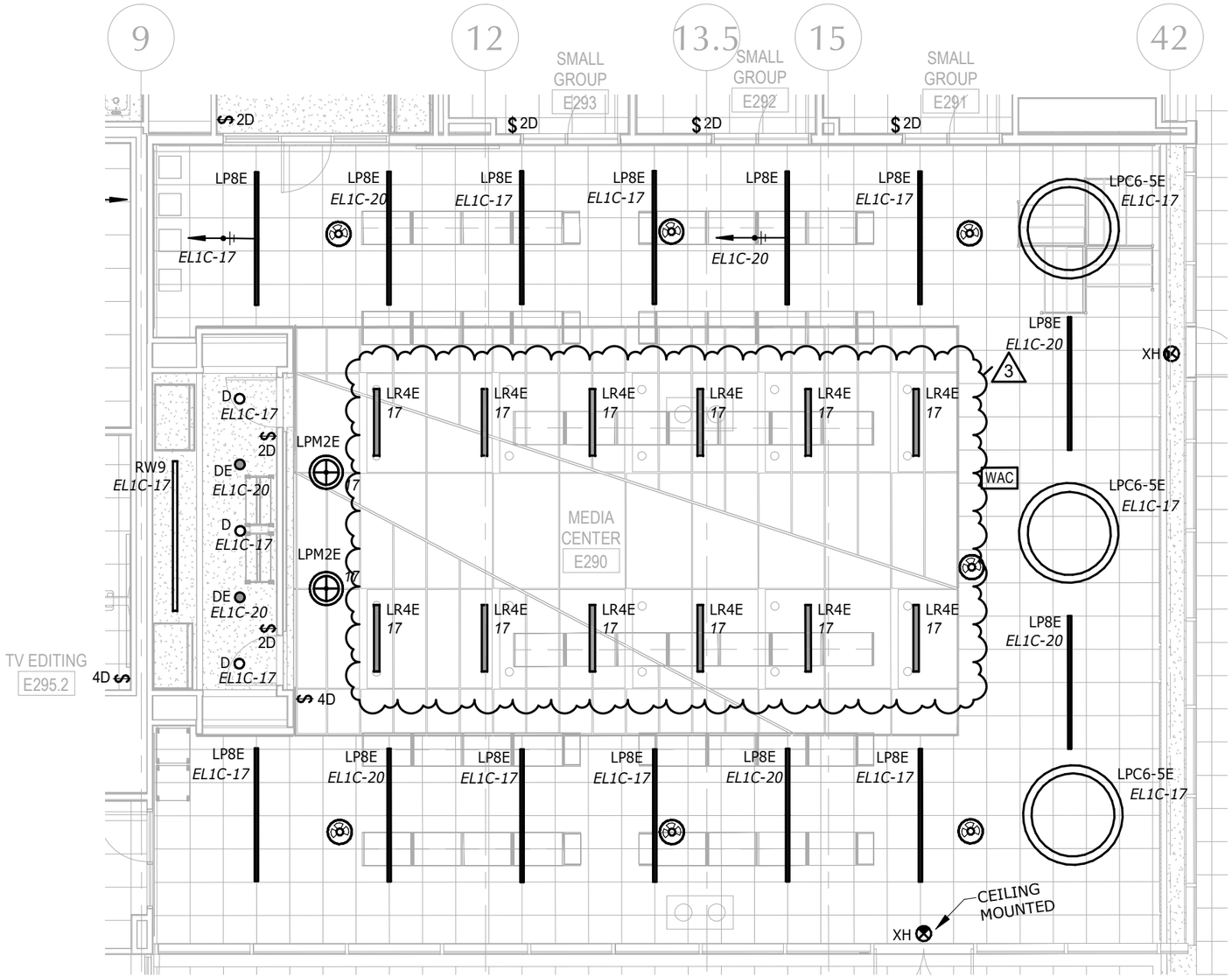
Lighting – Cafeteria E181

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-026



3

LIGHTING FIXTURE SCHEDULE

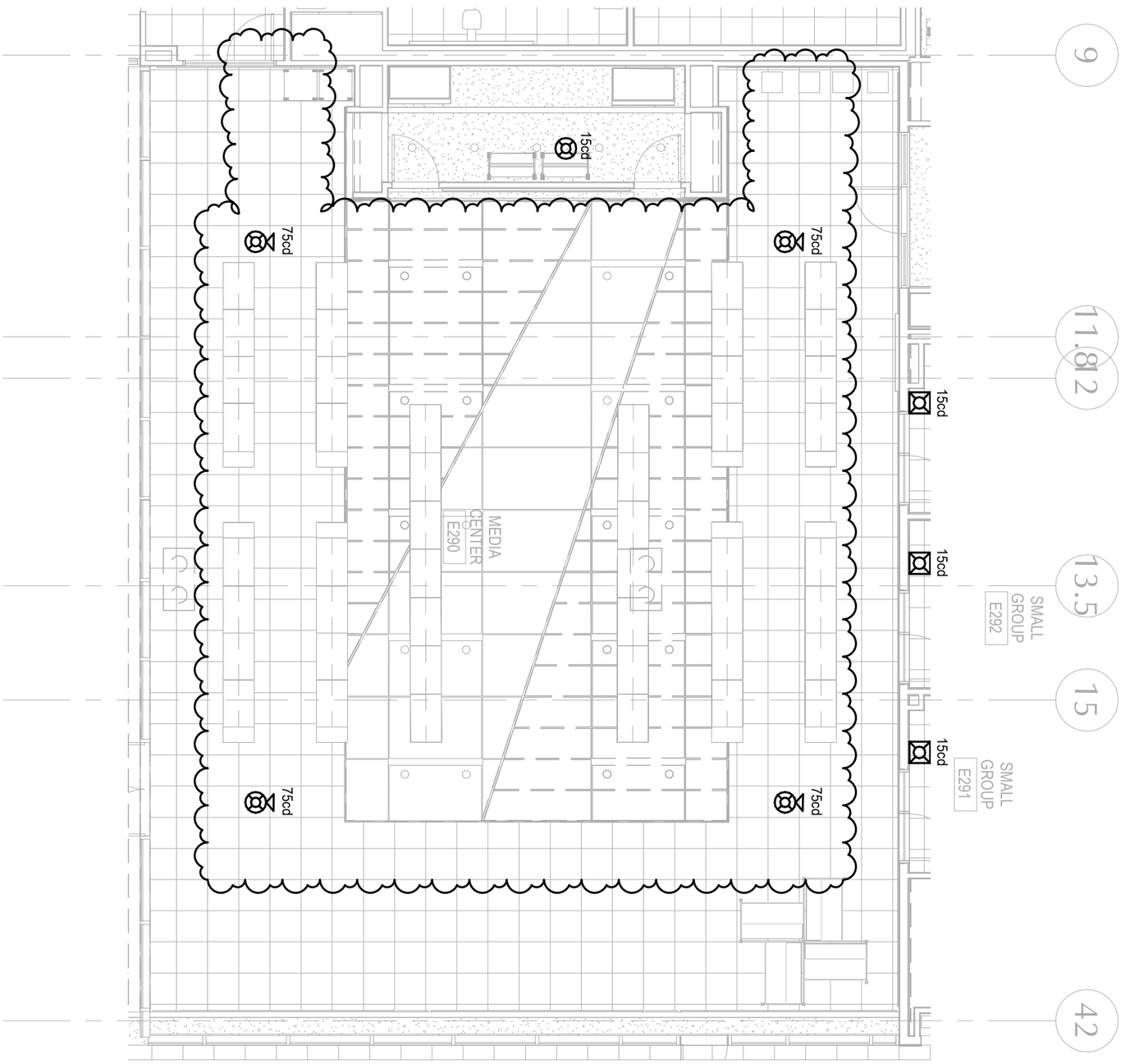
TAG	DESCRIPTION	MANUF.	MODEL	VOLTAGE	DRIVER	NOTES	TAG
LR4E	LINEAR FIXTURE	ALW	LP3.5SD-RT-RTDL-S4'-HI-80-3500K-0/10V/0%-EXT/F-N-FINISH-UNV-RAL-CUSTOM COLOR-PROVIDE CONTINUOUS LENS-PERIMETER FLANGE SET 3/4" UP FROM BOTTOM OF FIXTURE	277 V	0-10V	FURNISH AND INSTALL WSP-EM FOR EACH LIGHT FIXTURE.	LR4E

DATE: 02/03/22
DRAWING NUMBER: ADD–3 E–027

REFERENCE: E1.10
DRAWING TITLE: Lighting – Media Center E290

PROJECT TITLE: Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

ARCHITECT: LPA
LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS
lpaa.com



ARCHITECT:

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PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: FA1.10

DRAWING TITLE:

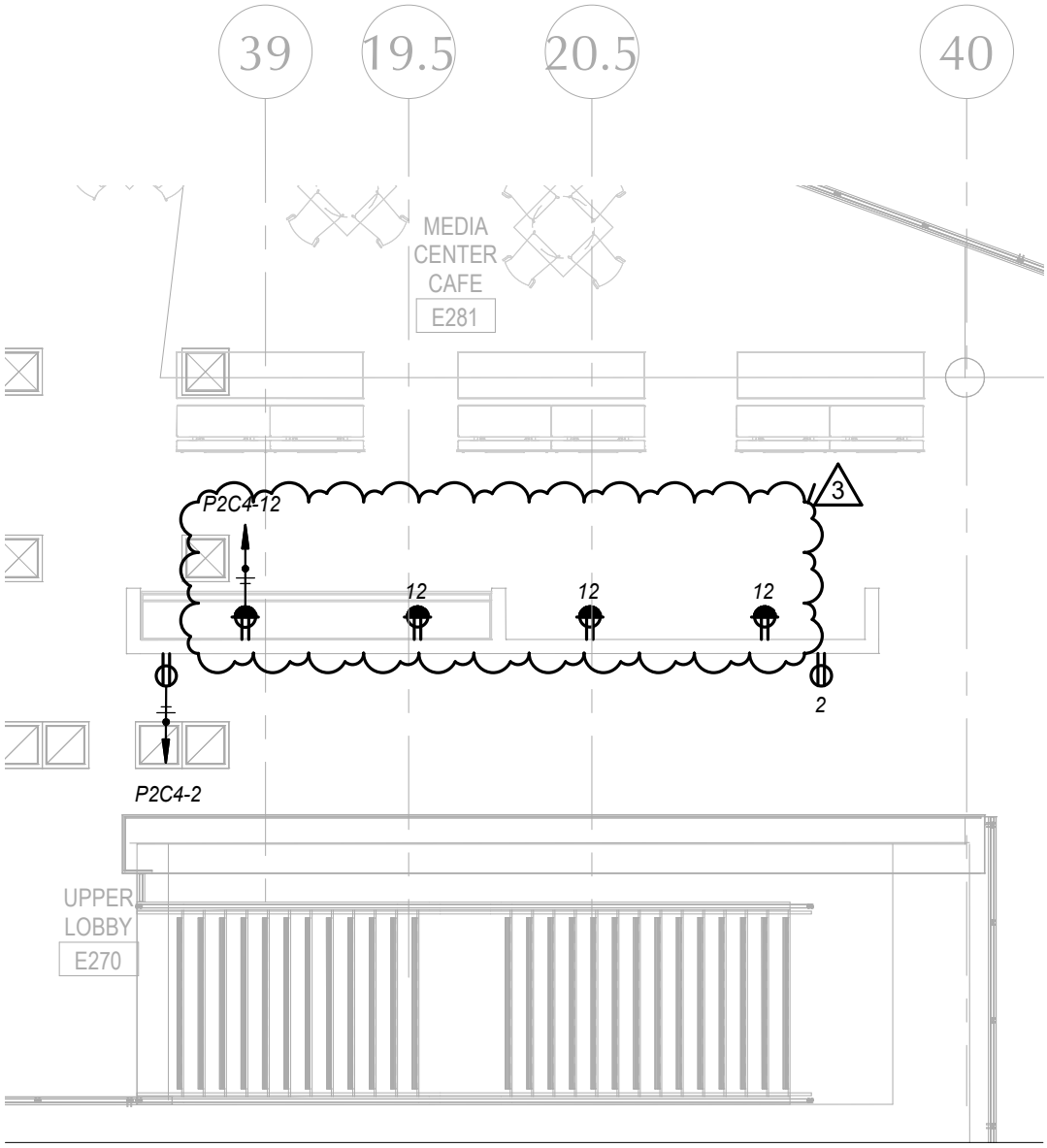
Fire Alarm – Media Center E290

DATE: 02/03/22

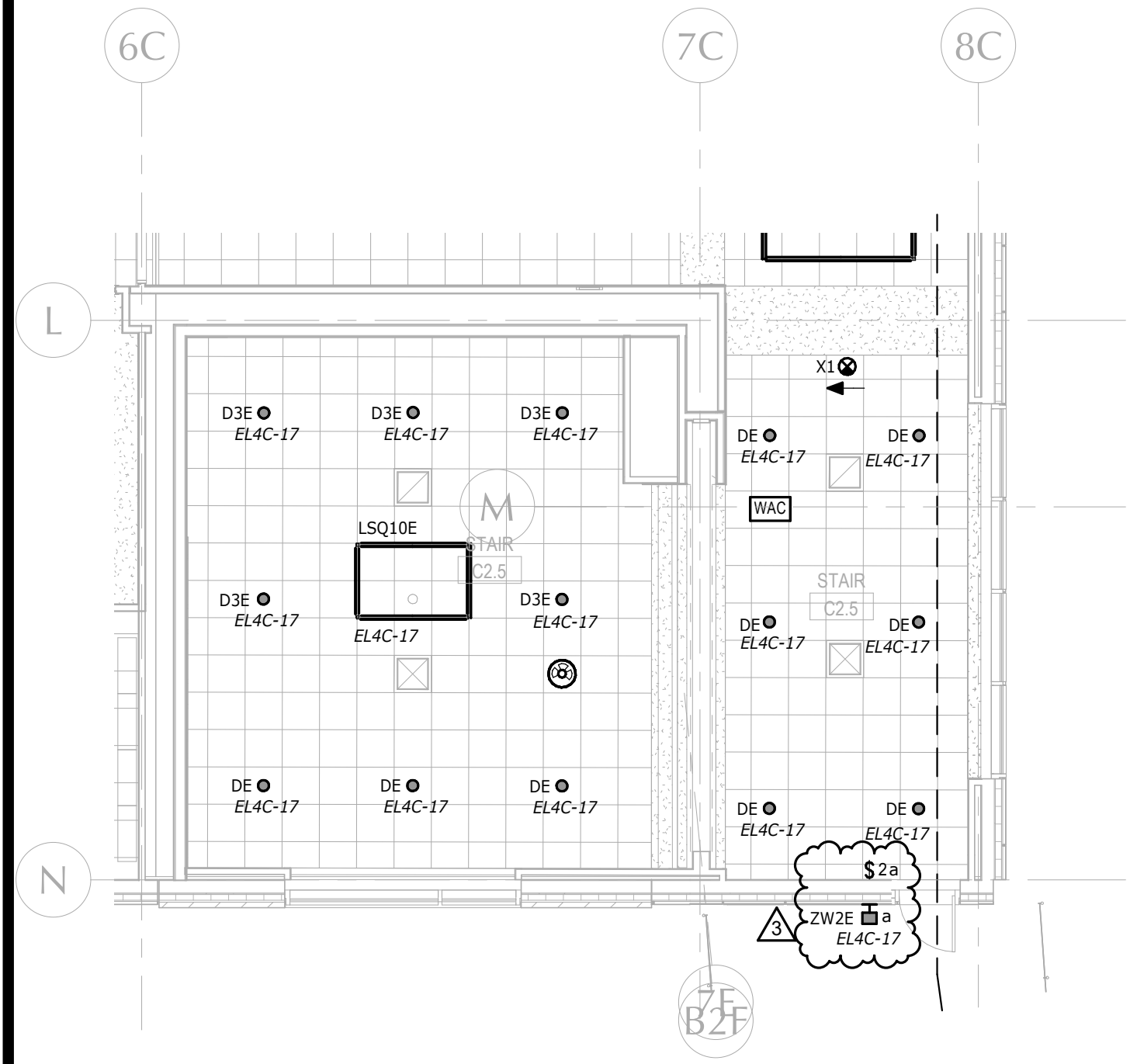
DRAWING NUMBER:

ADD-3

E-028



ARCHITECT: LPA|A LAMOUREUX PAGANO ASSOCIATES | ARCHITECTS lpaa.com	PROJECT TITLE: Doherty Memorial High School 299 Highland Street, Worcester, MA 01602	REFERENCE: Author DRAWING TITLE: Power – Media Center Cafe	DATE: 02/03/22 DRAWING NUMBER: ADD–3 E–029



ARCHITECT:

LPA|A

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lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E1.17

DRAWING TITLE:

Lighting – Level 5 Plan Section
CD

DATE: 02/03/22

DRAWING NUMBER:

ADD-3

E-030

Switchboard: MDP1

Location: MAIN ELECTRIC ROOM E189
Supply From:
Mounting:
Enclosure:

Volts: 480/277 3PH
Phases: 3
Wires: 4

A.I.C. Rating: 100,000
Mains Type: MCB
Mains Rating: 5,000
MCB Rating: 5000

Notes:

#	Circuit Description	DMET_Circuit_WireCallout	Poles	Frame Size	Trip Rating	Load
1	MDP2	(8)4"C, 4-600kcmil, 400kcmil G	3	3200 A	2500 A	1768821 VA
2	L1D	4"C, 4-350kcmil AL, #2 AL G	3	250 A	250 A	7953 VA
3	T-DPB (150KVA)	3"C, 4-500kcmil AL, #2 AL G	3	300 A	300 A	160258 VA
4	DH1C	(4)4"C, 4-500kcmil AL, 250kcmil AL G	3	1200 A	1200 A	585478 VA
5	DH2D	(4)4"C, 4-500kcmil AL, 250kcmil AL G	3	1200 A	1200 A	658186 VA
6	ATS-LSB	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	72438 VA
7	ATS-ELS	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	108521 VA
8	ATS-OSB	(5)4"C, 4-600kcmil AL, 350kcmil AL G	3	1600 A	1600 A	1523599 VA
9	DH1A	(2)4"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	230577 VA
10	RTU-4	1"C, 3#4, #10G	3	60 A	60 A	36554 VA
11	RTU-16-C	1"C, 3#6, #10G	3	50 A	50 A	24724 VA
12	RTU-17	1"C, 3#6, #10G	3	50 A	50 A	18048 VA
13						
14	RTU-20-C	1"C, 3#6, #10G	3	50 A	50 A	14323 VA
15	RTU-21-C	1"C, 3#6, #10G	3	35 A	35 A	17878 VA
16	RTU-22-C	1"C, 3#6, #10G	3	35 A	35 A	17878 VA
17	RTU-23-C	1"C, 3#6, #10G	3	35 A	35 A	17654 VA
18	RTU-24-C	1"C, 3#4, #10G	3	60 A	60 A	18125 VA
19	ITEM 45A (SHUNT TRIP)	(3)3"C, 3-350kcmil AL, 3/0 AL G	3	800 A	700 A	465231 VA
20	ITEM 64 (SHUNT TRIP)	1"C, 3#4, #10G	3	60 A	60 A	39046 VA
21	Spare	--	1	200 A	200 A	0 VA
22	Spare	--	1	200 A	200 A	0 VA
23	Spare	--	1	200 A	200 A	0 VA
24	Spare	--	1	200 A	200 A	0 VA
25						
26						
27						
28						
29						
30						
					Total Est. Demand:	4621 A

Notes:

Switchboard: MDP2

Location: SECONDARY MAIN ELEC RM E014
Supply From: MDP1
Mounting:
Enclosure:

Volts: 480/277 3PH
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 2,500
MCB Rating: 2500

Notes:

#	Circuit Description	DMET_Circuit_WireCallout	Poles	Frame Size	Trip Rating	Load
1	LGE1	4"C, 4-350kcmil AL, #2 AL G	3	250 A	250 A	20973 VA
2	T-DPGE1 (150KVA)	3"C, 4-500kcmil AL, #2 AL G	3	300 A	300 A	182426 VA
3	T-DP1E (75KVA)	2"C, 4-2/0 AL, #4 AL G	3	125 A	125 A	66956 VA
4	T-DP2E (75KVA)	2"C, 4-2/0 AL, #4 AL G	3	125 A	125 A	85751 VA
5	T-DPAV (112.5KVA)	3"C, 4-250kcmil AL, #4 AL G	3	200 A	200 A	6548 VA
6	T-DPGE2 (112.5KVA)	3"C, 4-250kcmil AL, #4 AL G	3	200 A	200 A	135012 VA
7	DHGA	(4)4"C, 4-500kcmil AL, 250kcmil AL G	3	1200 A	1200 A	363623 VA
8	DHGC	(4)4"C, 4-500kcmil AL, 250kcmil AL G	3	1200 A	1200 A	432470 VA
9	RTU-1	1"C, 3#4, #8G	3	70 A	70 A	45194 VA
10	RTU-6-C	1"C, 3#6, #10G	3	50 A	50 A	14323 VA
11	RTU-5	2"C, 3-3/0 AL, #4 AL G	3	150 A	150 A	82412 VA
12	RTU-7	1"C, 3#4, #10G	3	60 A	60 A	33364 VA
13	RTU-8	1"C, 3#6, #10G	3	45 A	45 A	15091 VA
14	RTU-9	1-1/2"C, 3-2/0 AL, #4 AL G	3	125 A	125 A	74969 VA
15	AHU-1	1"C, 3#6, #10G	3	50 A	50 A	28578 VA
16						
17	RTU-12-C	1"C, 3#6, #10G	3	50 A	50 A	14285 VA
18	RTU-13-C	1"C, 3#6, #10G	3	50 A	50 A	14280 VA
19	RTU-14-C	1"C, 3#6, #10G	3	50 A	50 A	14285 VA
20	RTU-15	1"C, 3#4, #10G	3	60 A	60 A	36288 VA
21						
22	HM2E	3"C, 4-250kcmil AL, #4 AL G	3	200 A	200 A	94987 VA
23	Spare	--	3	200 A	200 A	0 VA
24	Spare	--	3	200 A	200 A	0 VA
25	Spare	--	3	200 A	200 A	0 VA
26	Spare	--	3	200 A	200 A	0 VA
27						
28						
29						
30						
					Total Est. Demand:	1446 A

Notes:

Switchboard: EMSB

Location: EMERG ELEC E188
Supply From:
Mounting:
Enclosure:

Volts: 480/277 3PH
Phases: 3
Wires: 4

A.I.C. Rating: 100,000
Mains Type: MLO
Mains Rating: 2,000
MCB Rating: MLO

Notes:

#	Circuit Description	DMET_Circuit_WireCallout	Poles	Frame Size	Trip Rating	Load
1	ATS-LSB	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	72438 VA
2	ATS-ELS	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	108521 VA
3	ATS-OSB	(5)4"C, 4-600kcmil AL, 350kcmil AL G	3	1600 A	1600 A	1523599 VA
4	Space	--	3	--	--	--
5	Space	--	3	--	--	--
6	Space	--	3	--	--	--
7	Space	--	3	--	--	--
8	Space	--	3	--	--	--
9	Space	--	3	--	--	--
10	Space	--	3	--	--	--
11	Space	--	3	--	--	--
12	Space	--	3	--	--	--
13	Space	--	3	--	--	--
14	Space	--	3	--	--	--
15	Space	--	3	--	--	--
16	Space	--	3	--	--	--
17	Space	--	3	--	--	--
18	Space	--	3	--	--	--
19	Space	--	3	--	--	--
20						
21						
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23						
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26						
27						
28						
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30						
					Total Est. Demand:	1451 A

Notes:

Switchboard: HOSB1

Location: MAIN ELECTRIC ROOM E189
Supply From: ATS-OSB
Mounting:
Enclosure:

Volts: 480/277 3PH
Phases: 3
Wires: 4

A.I.C. Rating: 100,000
Mains Type: MLO
Mains Rating: 1,600
MCB Rating: MLO

Notes:

#	Circuit Description	DMET_Circuit_WireCallout	Poles	Frame Size	Trip Rating	Load
1	LSB1	2"C, 4-2/0 AL, #4 AL G	3	125 A	125 A	2584 VA
2	T-SDP1	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	323756 VA
3	HOSBB	(4)4"C, 4-500kcmil AL, 250kcmil AL G	3	1200 A	1200 A	855384 VA
4	RTU-16	1"C, 3#4, #8G	3	70 A	70 A	42004 VA
5						
6	RTU-20	1"C, 3#4, #8G	3	100 A	70 A	23270 VA
7	RTU-21	1"C, 3#6, #10G	3	50 A	50 A	31569 VA
8	RTU-22	1"C, 3#6, #10G	3	50 A	50 A	31569 VA
9	RTU-23	1"C, 3#6, #10G	3	50 A	50 A	17011 VA
10	RTU-24	1"C, 3#6, #10G	3	40 A	40 A	21185 VA
11	MAU-1	3/4"C, 3#10, #10G	3	30 A	30 A	15785 VA
12	CH-1-PP	3/4"C, 3#12, #12G	3	20 A	20 A	13292 VA
13	CH-1-SB	1-1/2"C, 3-1/0 AL, #4 AL G	3	125 A	110 A	51840 VA
14	HSLB1	4"C, 4-350kcmil AL, #2 AL G	3	250 A	250 A	145466 VA
15	P-4A,B,C,D	2-1/2"C, 3-250kcmil AL, #4 AL G	3	200 A	200 A	112985 VA
16	RTU-18	1"C, 3#4, #10G	3	60 A	60 A	35889 VA
17	Spare	--	3	100 A	50 A	0 VA
18	Spare	--	3	100 A	50 A	0 VA
19						
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					Total Est. Demand:	1271 A

Notes:

Switchboard: HOSBB

Location: SECONDARY MAIN ELEC RM E014
Supply From: HOSB1
Mounting:
Enclosure:

Volts: 480/277 3PH
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 1,200
MCB Rating: 1200

Notes:

#	Circuit Description	DMET_Circuit_WireCallout	Poles	Frame Size	Trip Rating	Load
1	UPS (SHUNT TRIP)	3"C, 4-250kcmil AL, #4 AL G	3	200 A	200 A	124200 VA
2	LSGE	2"C, 4-1/0 AL, #6 AL G	3	100 A	100 A	10818 VA
3	SLP	4"C, 4-350kcmil AL, #2 AL G	3	250 A	250 A	46188 VA
4	T-SDP2	(2)3"C, 4-250kcmil AL, #1 AL G	3	400 A	400 A	271280 VA
5						
6						
7	RTU-6	1"C, 3#4, #8G	3	100 A	70 A	23270 VA
8	RTU-11	1"C, 3#4, #10G	3	60 A	60 A	39212 VA
9						
10						
11	RTU-10	1"C, 3#6, #10G	3	50 A	50 A	29376 VA
12	RTU-12	1"C, 3#6, #10G	3	35 A	35 A	17546 VA
13	RTU-13	1"C, 3#6, #10G	3	35 A	35 A	17546 VA
14	RTU-14	1"C, 3#6, #10G	3	35 A	35 A	17546 VA
15						
16	CRAC-1 (SHUNT TRIP)	1"C, 3#4, #10G	3	100 A	60 A	29243 VA
17	CRAC-2 (SHUNT TRIP)	1"C, 3#4, #10G	3	100 A	60 A	29243 VA
18	Spare	--	3	100 A	50 A	0 VA
19	Spare	--	3	35 A	35 A	0 VA
20	Spare	--	3	100 A	60 A	0 VA
21						
22						
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27						
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30						
					Total Est. Demand:	533 A

Notes:

ARCHITECT:
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lpaa.com

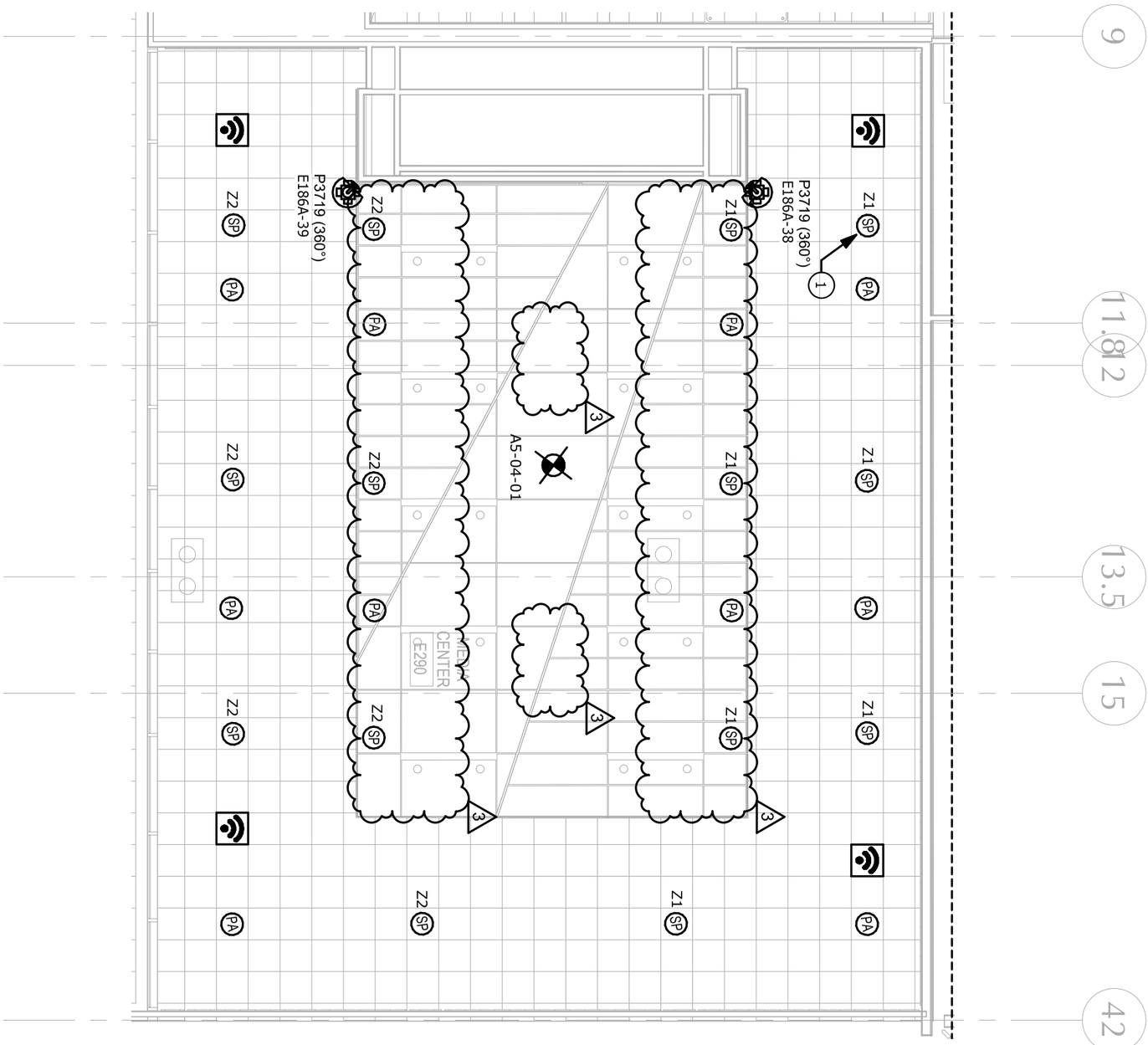
PROJECT TITLE:
Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

REFERENCE: Author

DRAWING TITLE:
Panel Schedules

DATE: 02/03/22

DRAWING NUMBER:
ADD-3
E-031



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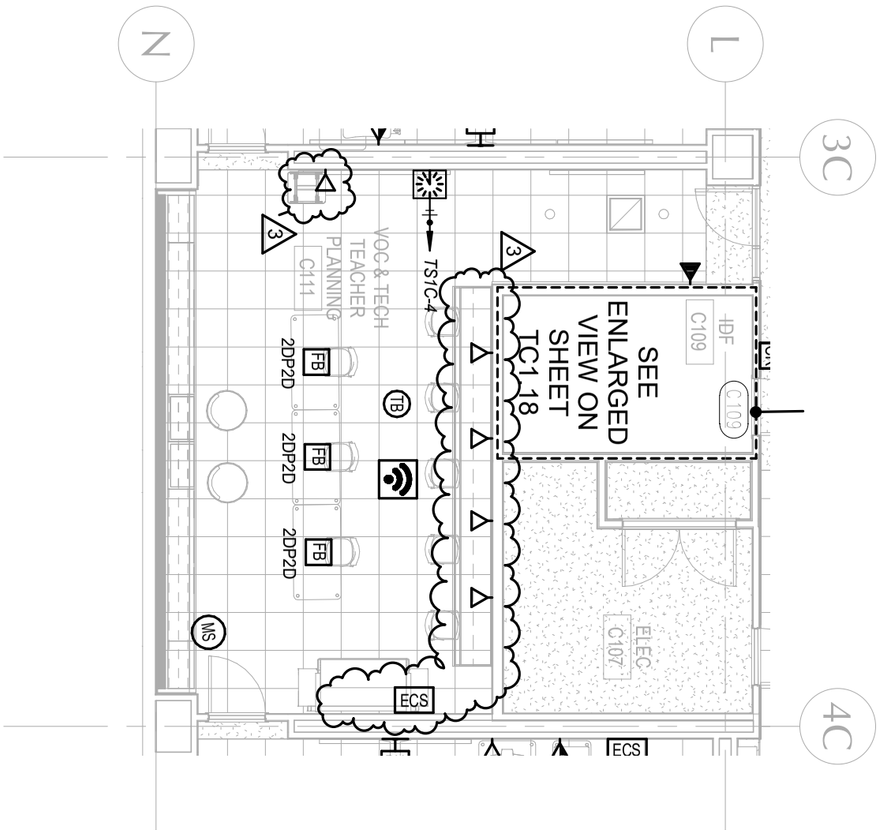

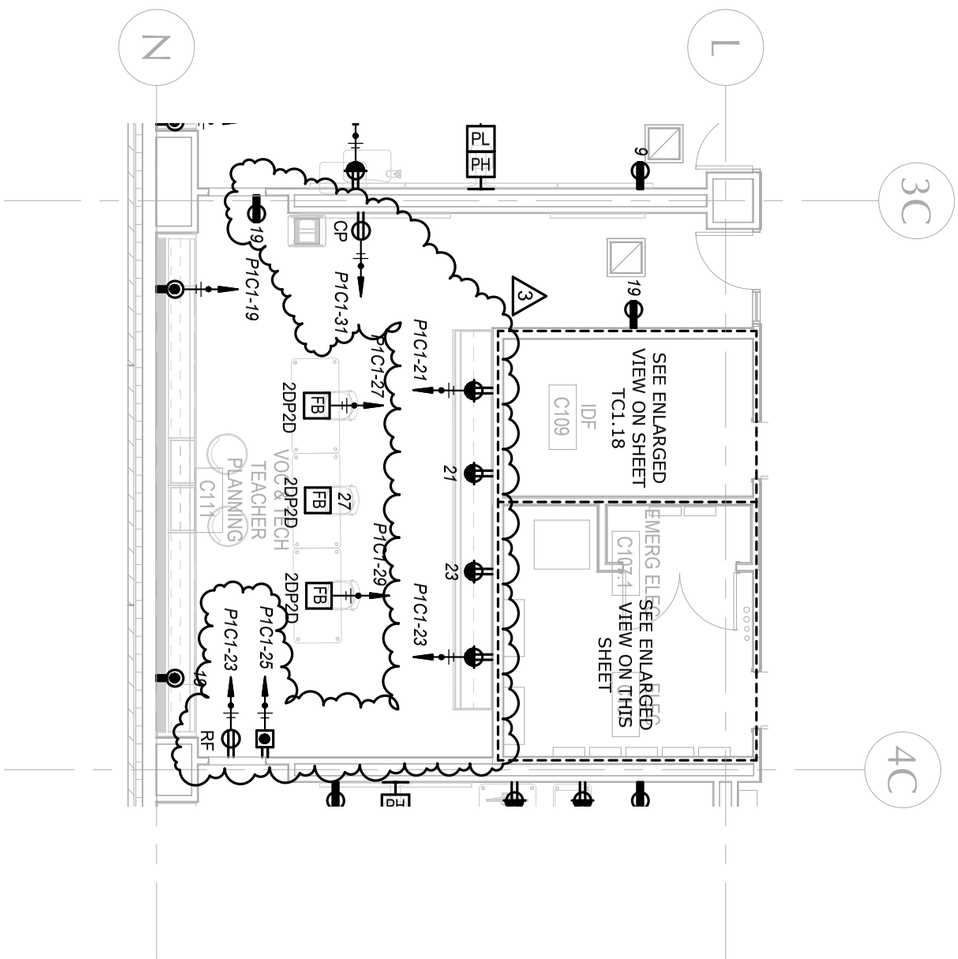

ARCHITECT:

LPA|A

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lpaa.com

PROJECT TITLE:

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

REFERENCE: E2.5, TC1.5

DRAWING TITLE:

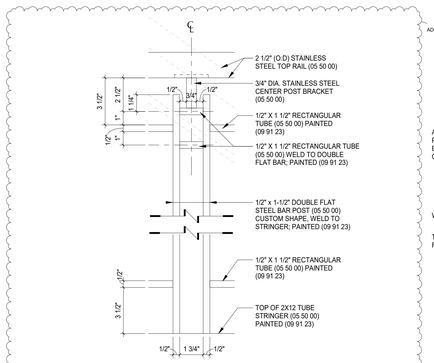
ELECTRICAL – VOC & TECH TEACHER PLANNING C111

DATE: 02/03/22

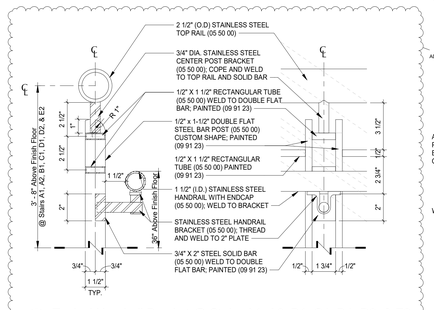
DRAWING NUMBER:

ADD-3

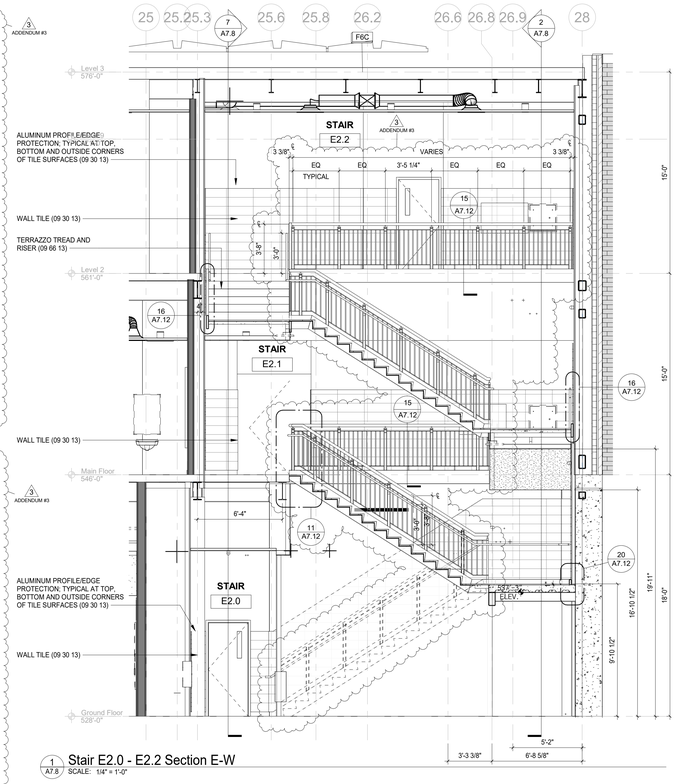
E-033



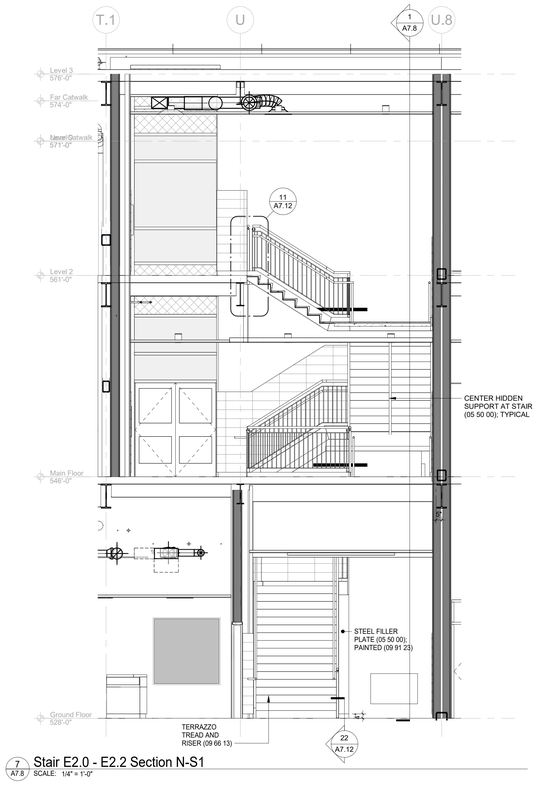
8 A7.8 Typical Post Detail @ Stairs A1, A2, B1, C1, D1, D2, & E2
SCALE: 3" = 1'-0"



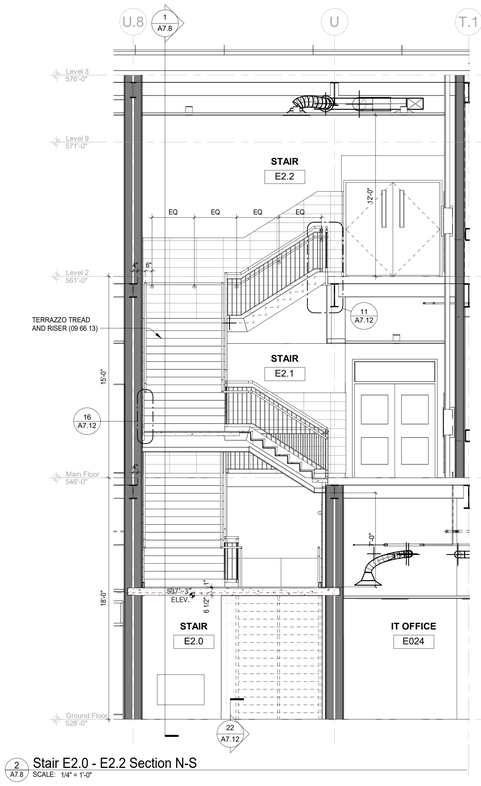
9 A7.8 Typical Handrail Bracket @ Stairs A1, A2, B1, C1, D1, D2, & E2
SCALE: 3" = 1'-0"



1 A7.8 Stair E2.0 - E2.2 Section E-W
SCALE: 1/4" = 1'-0"



7 A7.8 Stair E2.0 - E2.2 Section N-S1
SCALE: 1/4" = 1'-0"



2 A7.8 Stair E2.0 - E2.2 Section N-S
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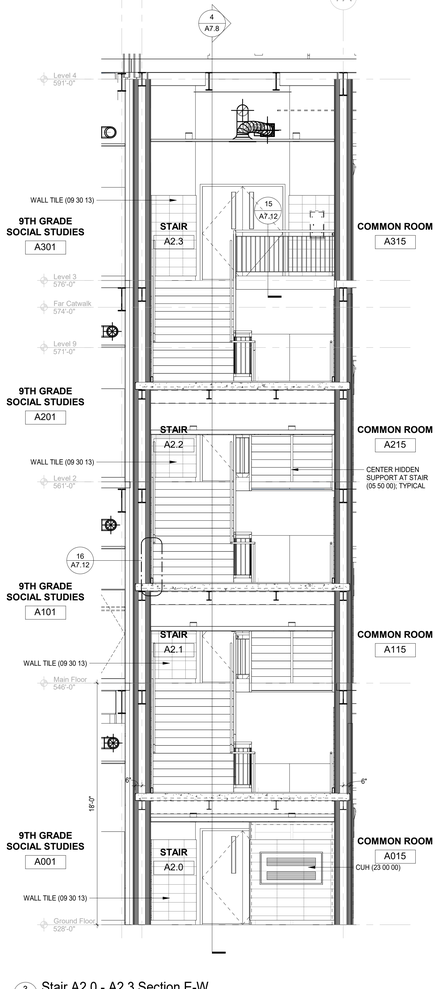

3 A7.8 Stair A2.0 - A2.3 Section E-W
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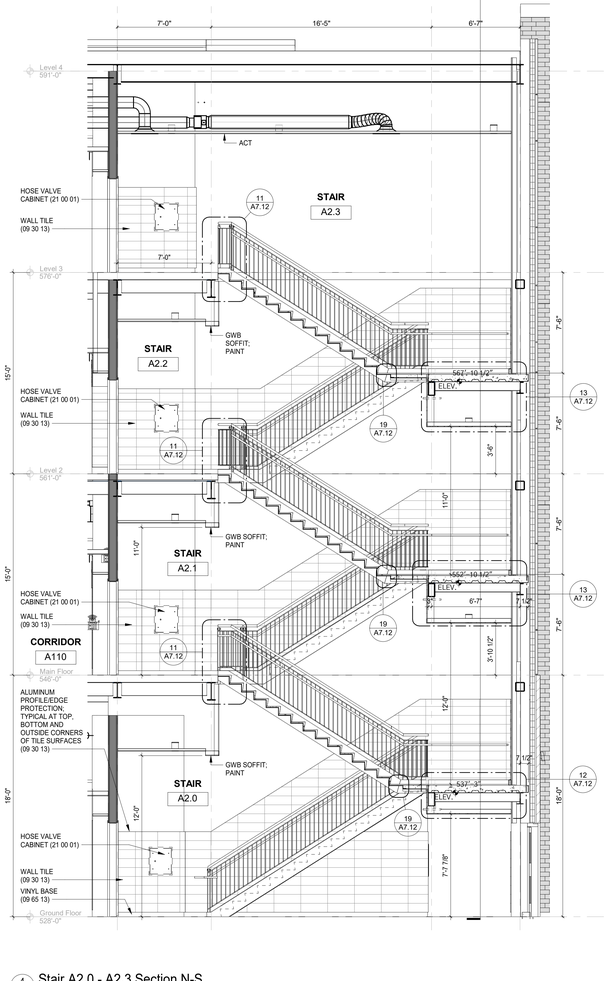

4 A7.8 Stair A2.0 - A2.3 Section N-S
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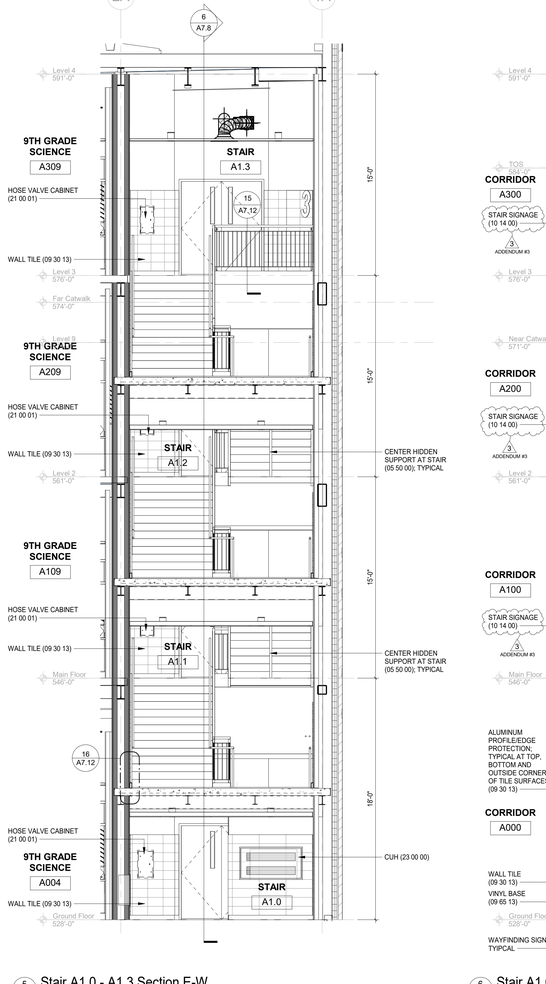
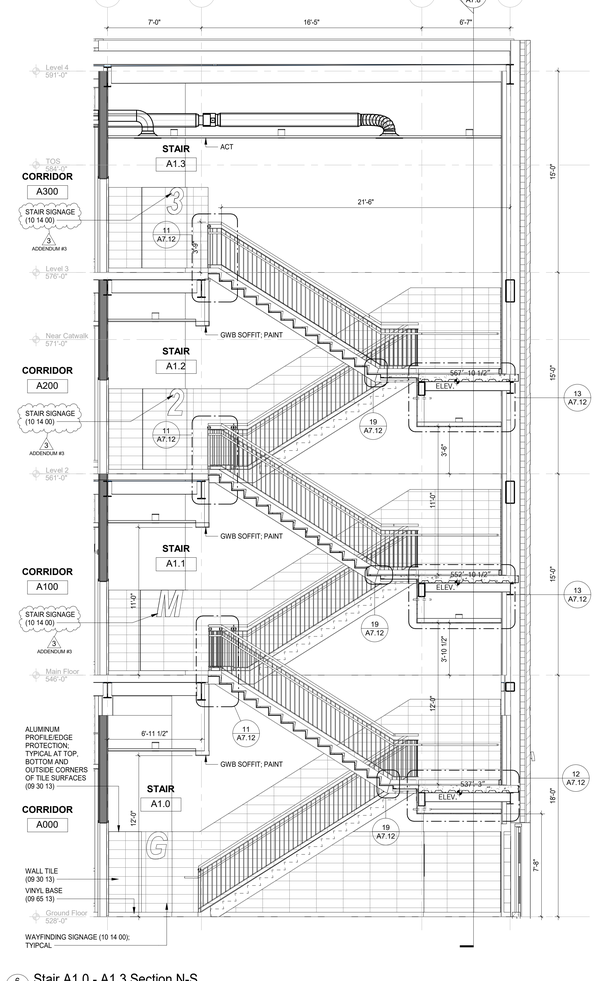


5 A7.8 Stair A1.0 - A1.3 Section E-W
SCALE: 1/4" = 1'-0"



6 A7.8 Stair A1.0 - A1.3 Section N-S
SCALE: 1/4" = 1'-0"

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Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

DRAWING TITLE

Stair Sections

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:

JOB NO: #1904

SCALE: As indicated

DWN. BY: A.J.

CKD. BY: Checker

DATE: JANUARY 20 2022

A7.8

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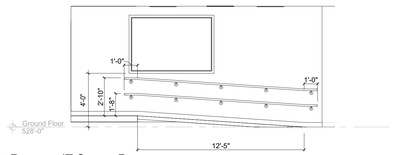
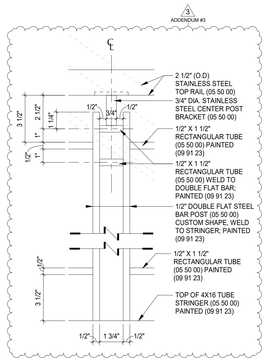
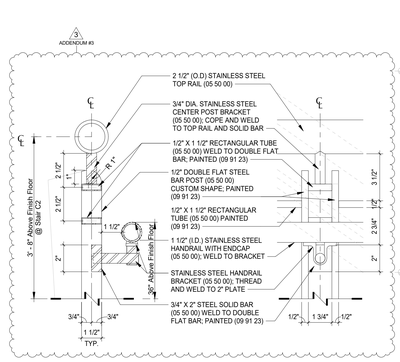


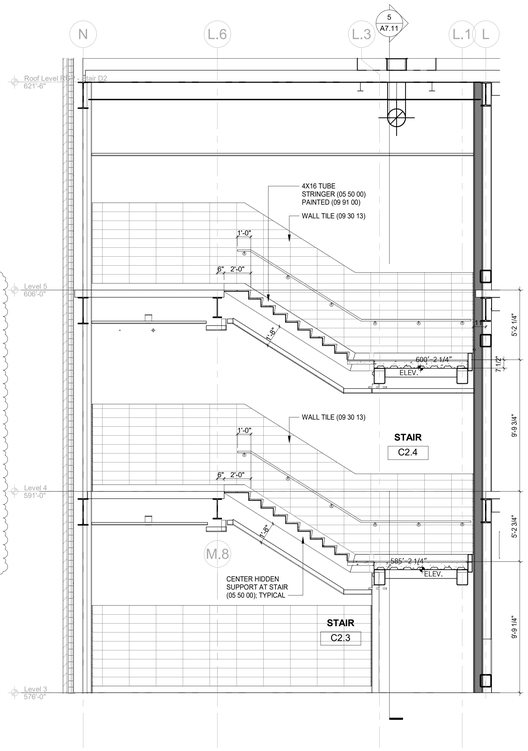
1 A7.11 Ramp at IT Server Room
SCALE: 1/4" = 1'-0"



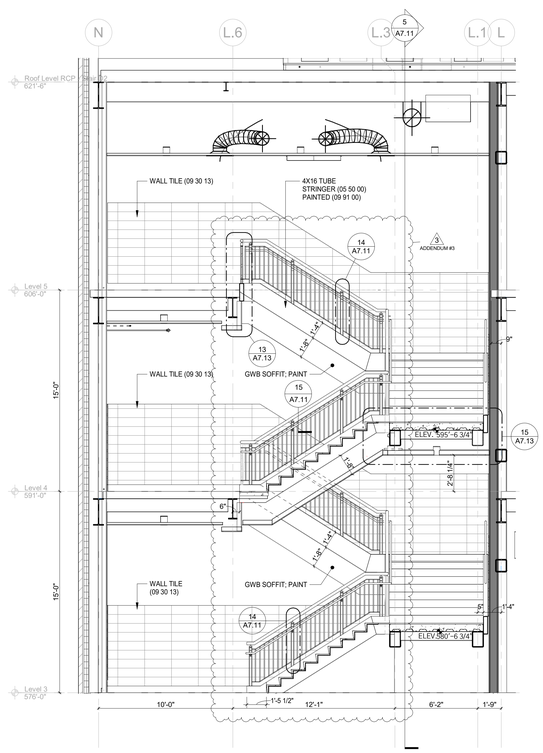
14 A7.11 Typical Post Detail @ Stair C2
SCALE: 3" = 1'-0"



15 A7.11 Typical Handrail Bracket @ Stair C2
SCALE: 3" = 1'-0"



3 A7.11 Stair C2.3 - C2.5 Section N-S
SCALE: 1/4" = 1'-0"



4 A7.11 Stair C2.3 - C2.5 Section N-S1
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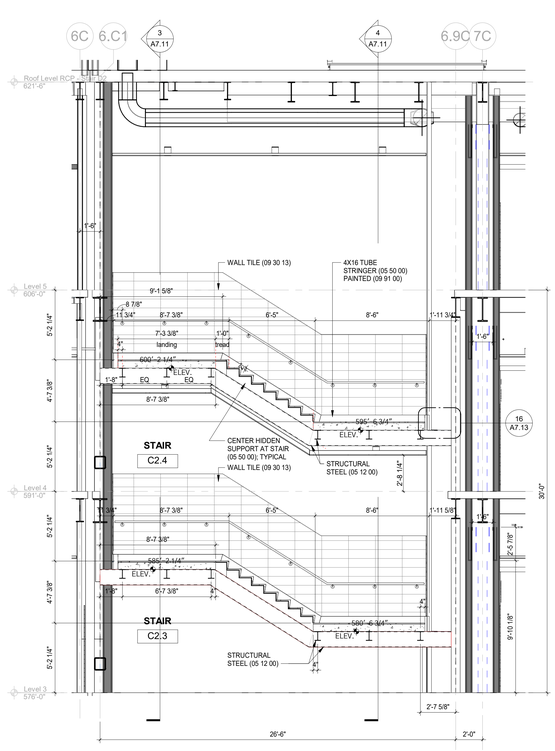
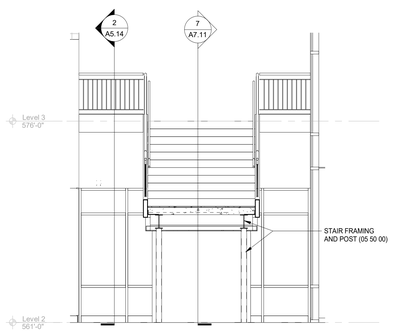
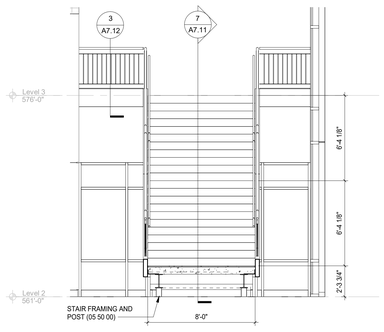


5 A7.11 Stair C2.3 - C2.5 Section E-W
SCALE: 1/4" = 1'-0"



2 A7.11 Lobby Stair 3 Section N-S1
SCALE: 1/4" = 1'-0"



6 A7.11 Lobby Stair 3 Section N-S
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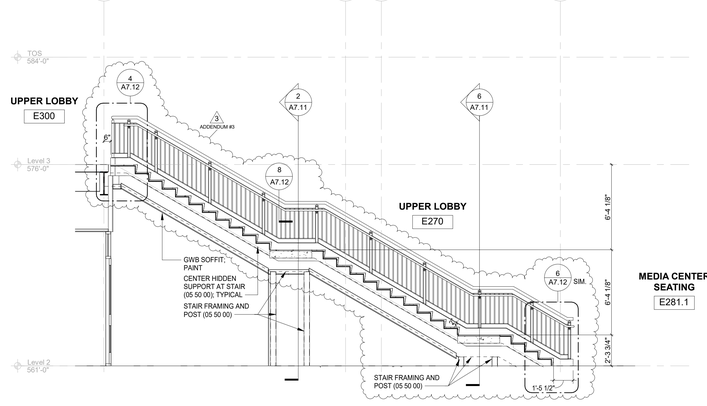
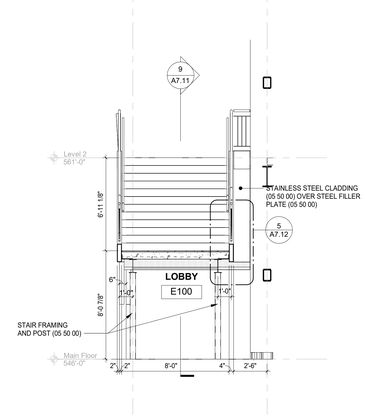
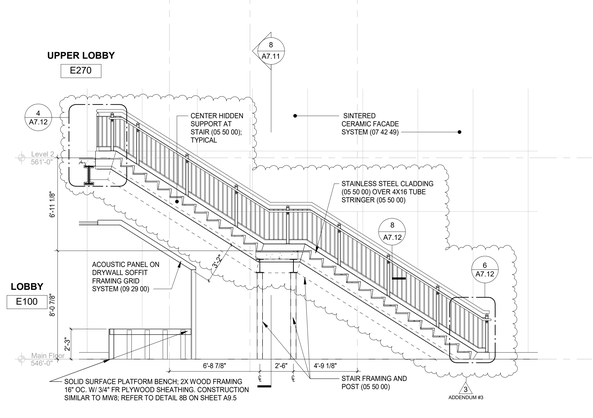


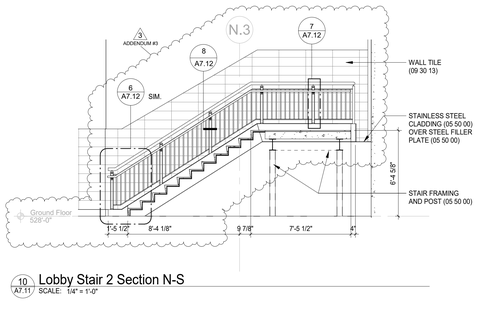
7 A7.11 Lobby Stair 3 Section E-W
SCALE: 1/4" = 1'-0"



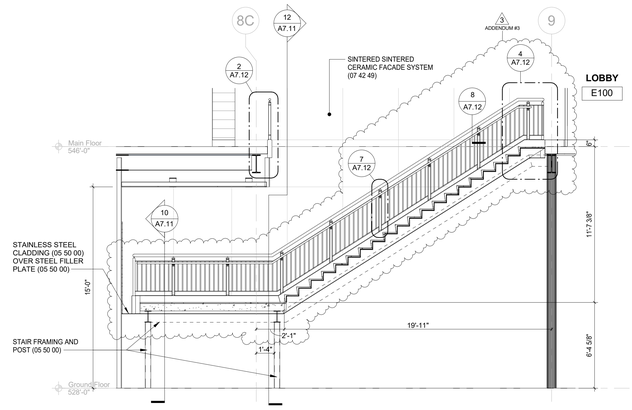
8 A7.11 Lobby Stair 1 Section N-S
SCALE: 1/4" = 1'-0"



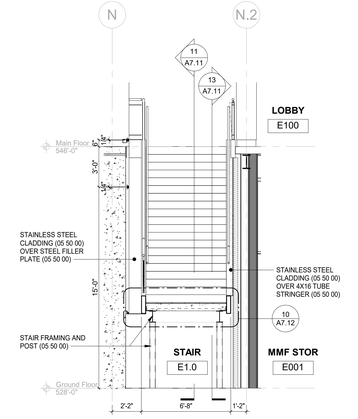
9 A7.11 Lobby Stair 1 Section E-W
SCALE: 1/4" = 1'-0"



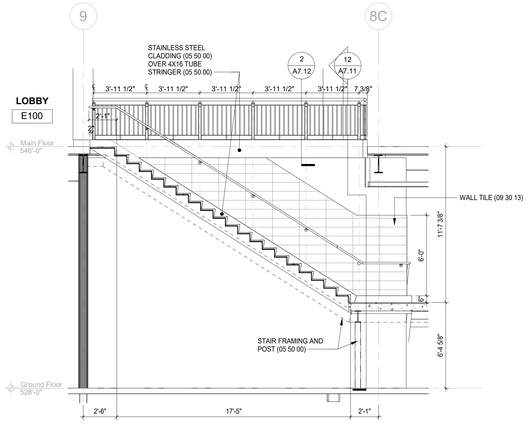
10 A7.11 Lobby Stair 2 Section N-S
SCALE: 1/4" = 1'-0"



11 A7.11 Lobby Stair 2 Section E-W
SCALE: 1/4" = 1'-0"



12 A7.11 Lobby Stair 2 Section N-S
SCALE: 1/4" = 1'-0"



13 A7.11 Lobby Stair 2 Section E-W1
SCALE: 1/4" = 1'-0"

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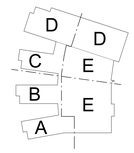

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	As indicated
DWN. BY:	A.J.
CKD. BY:	Checker
DATE:	JANUARY 20 2022

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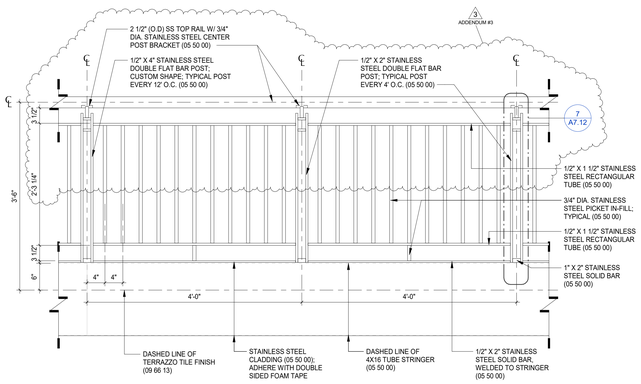
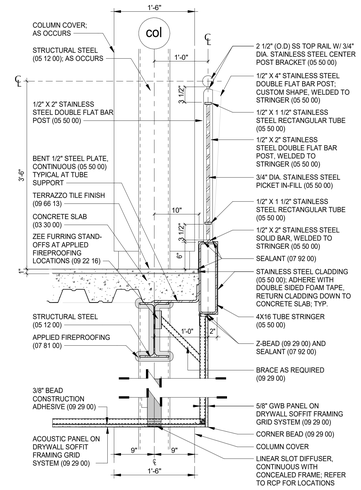
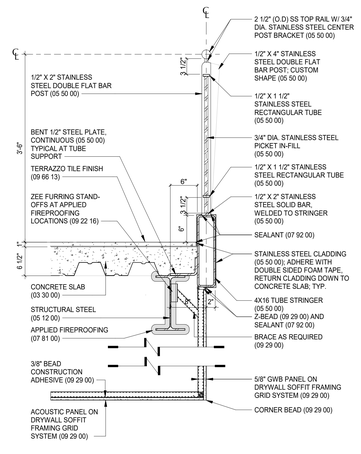


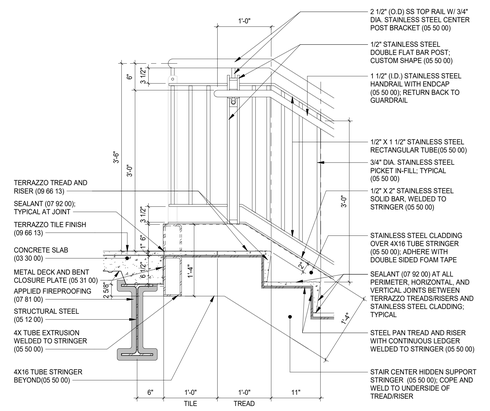
1 A7.12 **Lobby Guardrail - Elevation Detail**
SCALE: 1" = 1'-0"



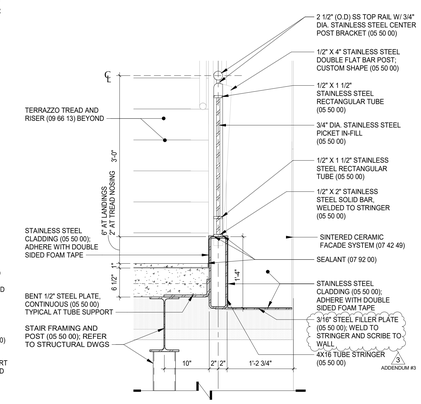
2 A7.12 **Lobby Guardrail - Typical Section Detail**
SCALE: 1" = 1'-0"



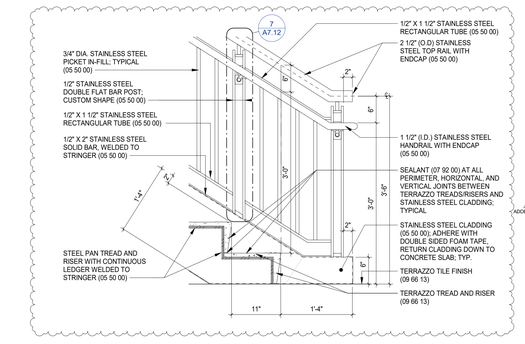
3 A7.12 **Lobby Guardrail - Section Detail**
SCALE: 1" = 1'-0"



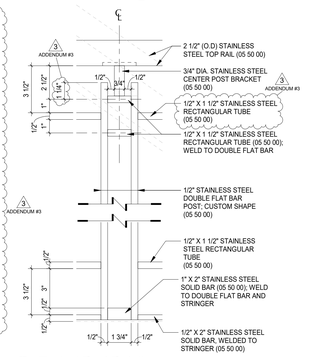
4 A7.12 **Lobby Stair - Section Detail**
SCALE: 1" = 1'-0"



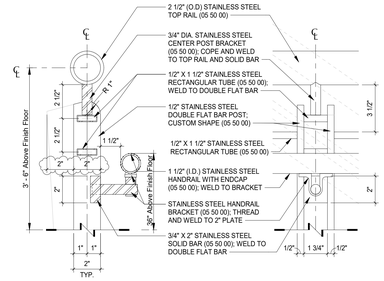
5 A7.12 **Main Stair Section Detail**
SCALE: 1" = 1'-0"



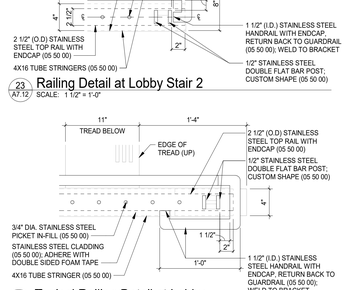
6 A7.12 **Lobby Stair - Section Detail**
SCALE: 1" = 1'-0"



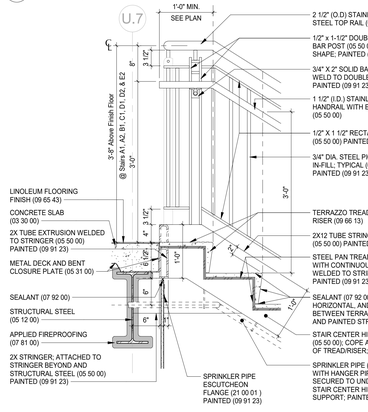
7 A7.12 **Typical Post Detail**
SCALE: 3" = 1'-0"



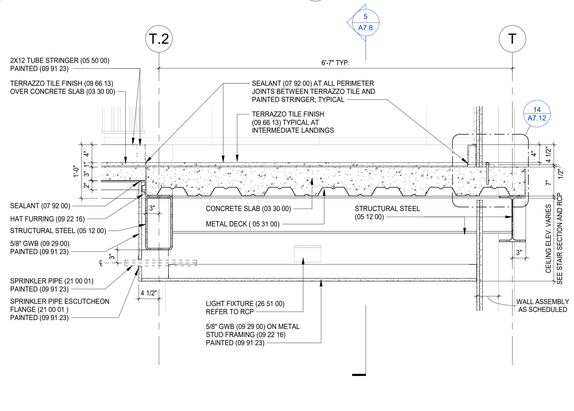
8 A7.12 **Typical Handrail Bracket Detail**
SCALE: 3" = 1'-0"



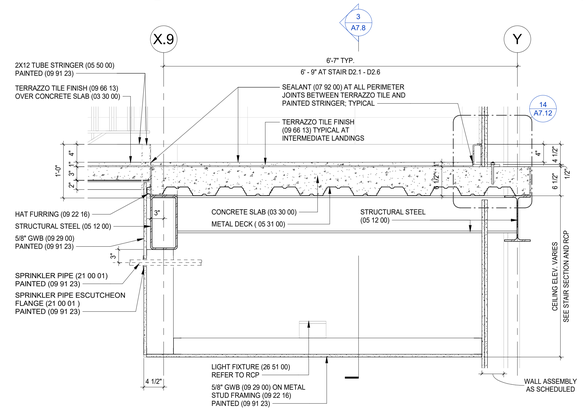
10 A7.12 **Lobby Stair 2 Section N-S. - Callout 1**
SCALE: 1 1/2" = 1'-0"



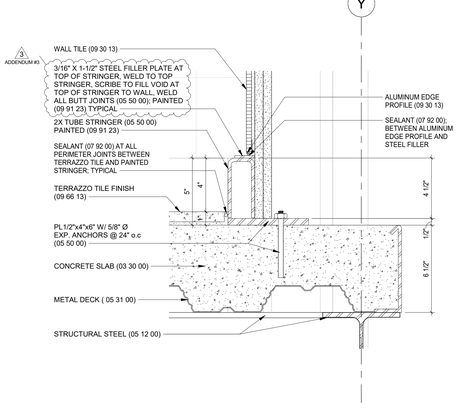
11 A7.12 **Stairs A1, A2, B1, C1, D1, D2, & E2 - Section Detail**
SCALE: 1" = 1'-0"



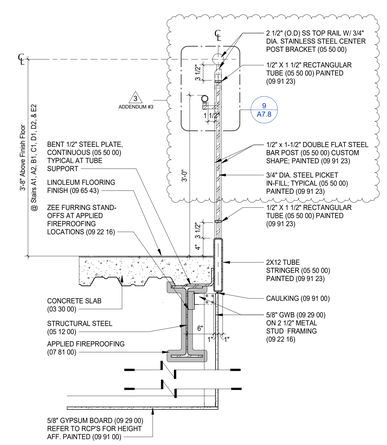
12 A7.12 **Typical Stair Intermediate Landing Detail**
SCALE: 1" = 1'-0"



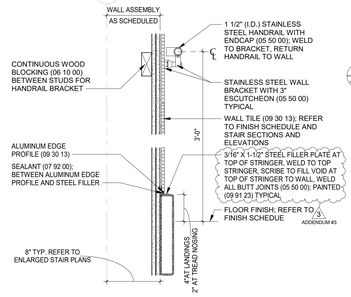
13 A7.12 **Typical Detail at Stair Intermediate Landing**
SCALE: 1" = 1'-0"



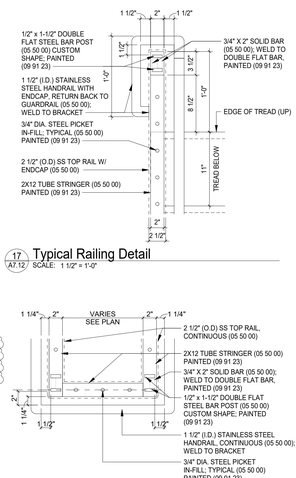
14 A7.12 **Typical Detail at Stair Intermediate Landing**
SCALE: 3" = 1'-0"



15 A7.12 **Typical Guardrail @ Stairs A1, A2, B1, C1, D1, D2, & E2**
SCALE: 1" = 1'-0"

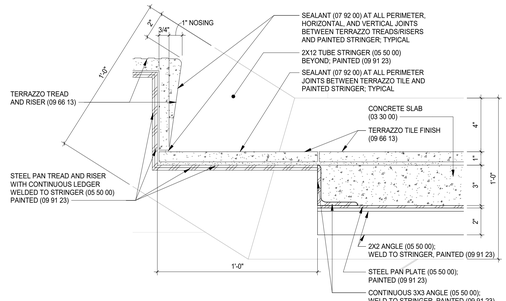


16 A7.12 **Stairs A1, A2, B1, C1, D1, D2, & E2 - Section Detail**
SCALE: 1 1/2" = 1'-0"

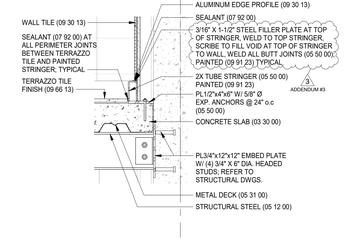


17 A7.12 **Typical Railing Detail**
SCALE: 1 1/2" = 1'-0"

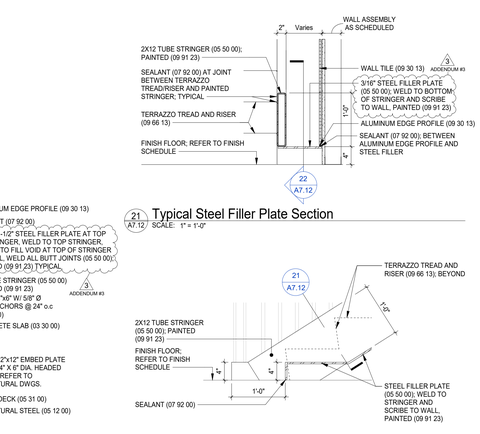
18 A7.12 **Typical Railing Detail**
SCALE: 1 1/2" = 1'-0"



19 A7.12 **Typical Detail @ Stairs A1, A2, B1, C1, D1, D2, & E2**
SCALE: 3" = 1'-0"



20 A7.12 **Detail @ Stair E2**
SCALE: 1" = 1'-0"



21 A7.12 **Typical Steel Filler Plate Section**
SCALE: 1" = 1'-0"

22 A7.12 **Typical Steel Filler Plate Detail**
SCALE: 1" = 1'-0"

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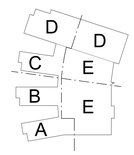

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:

JOB NO: #1904

SCALE: As indicated

DWN. BY: A.J.

CKD. BY: Checker

DATE: JANUARY 20 2022

A7.12

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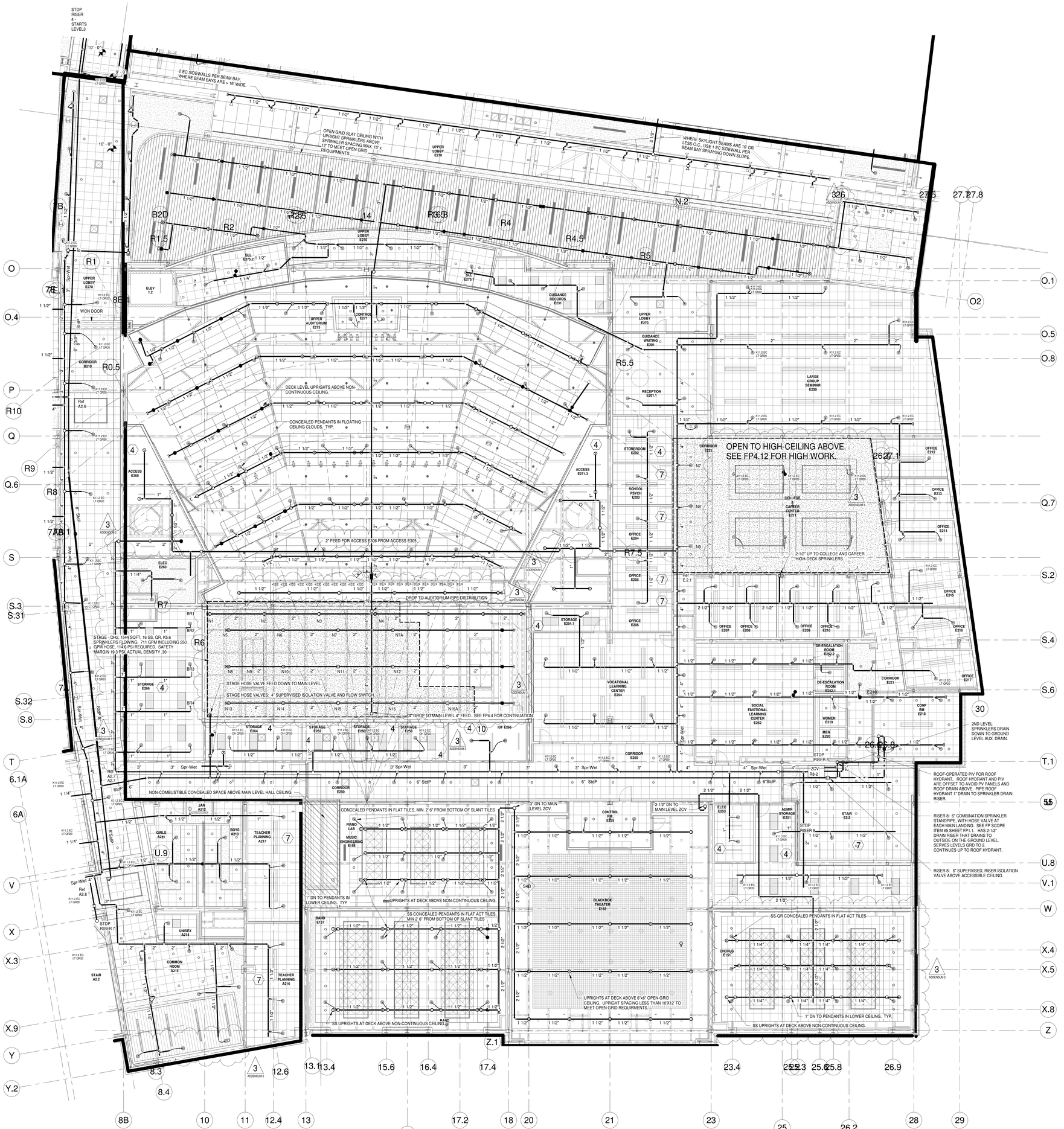

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PROJECT

ADDENDUM 3

Doherty Memorial High School

Highland Street, Worcester, MA. 01600

DRAWING TITLE

Fire Protection Level 2 Reflected Ceiling Plan Section E

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	DoHS FP 100% CD 2-2-22
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	Author
CKD. BY:	Checker
DATE:	February 3, 2022

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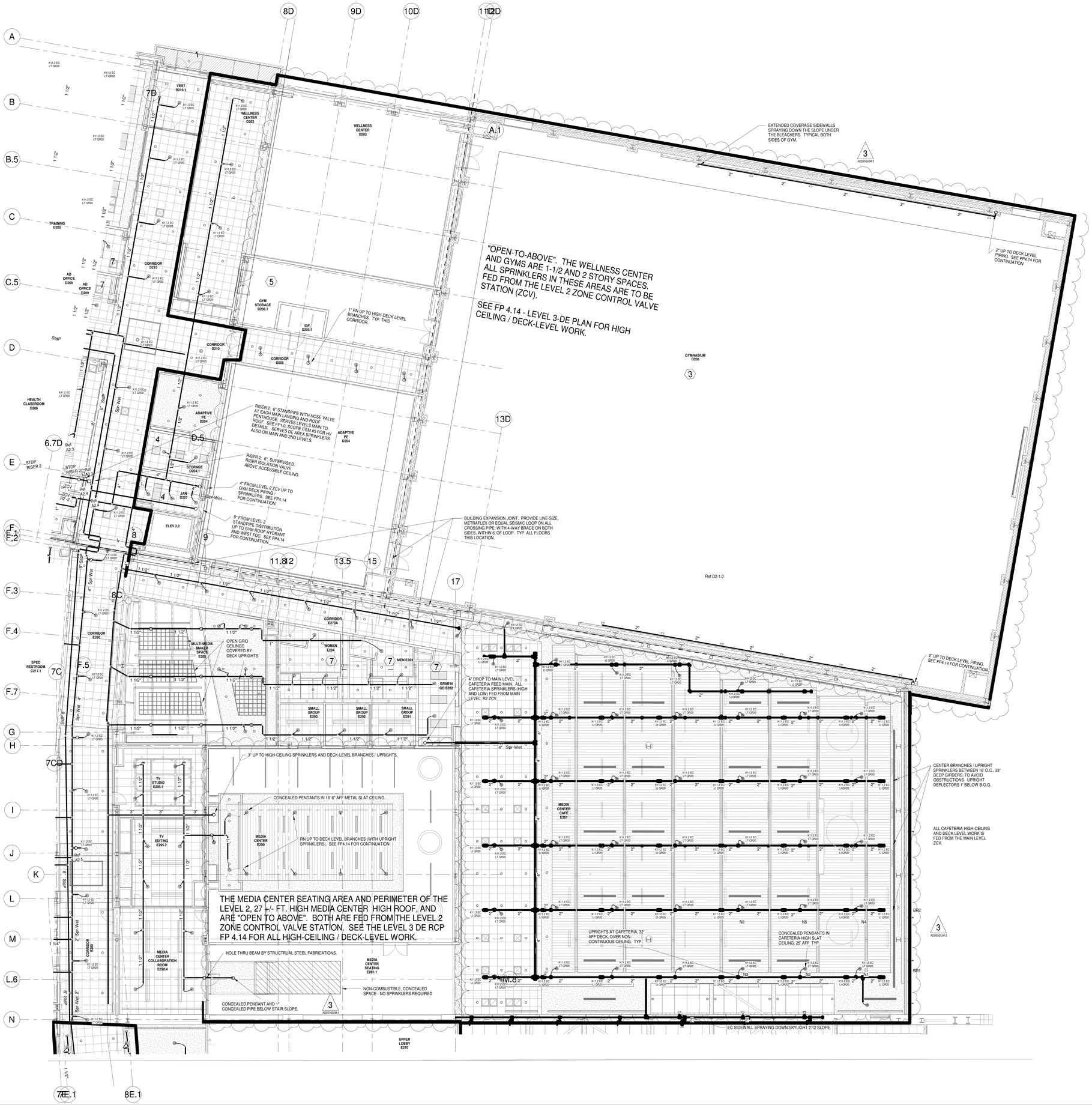

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ADDENDUM 3

Doherty Memorial High School

Highland Street, Worcester, MA. 01600

DRAWING TITLE

Fire Protection Level 2 Reflected Ceiling Plan Section DE

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	DoHS FP 100% CD 2-2-22
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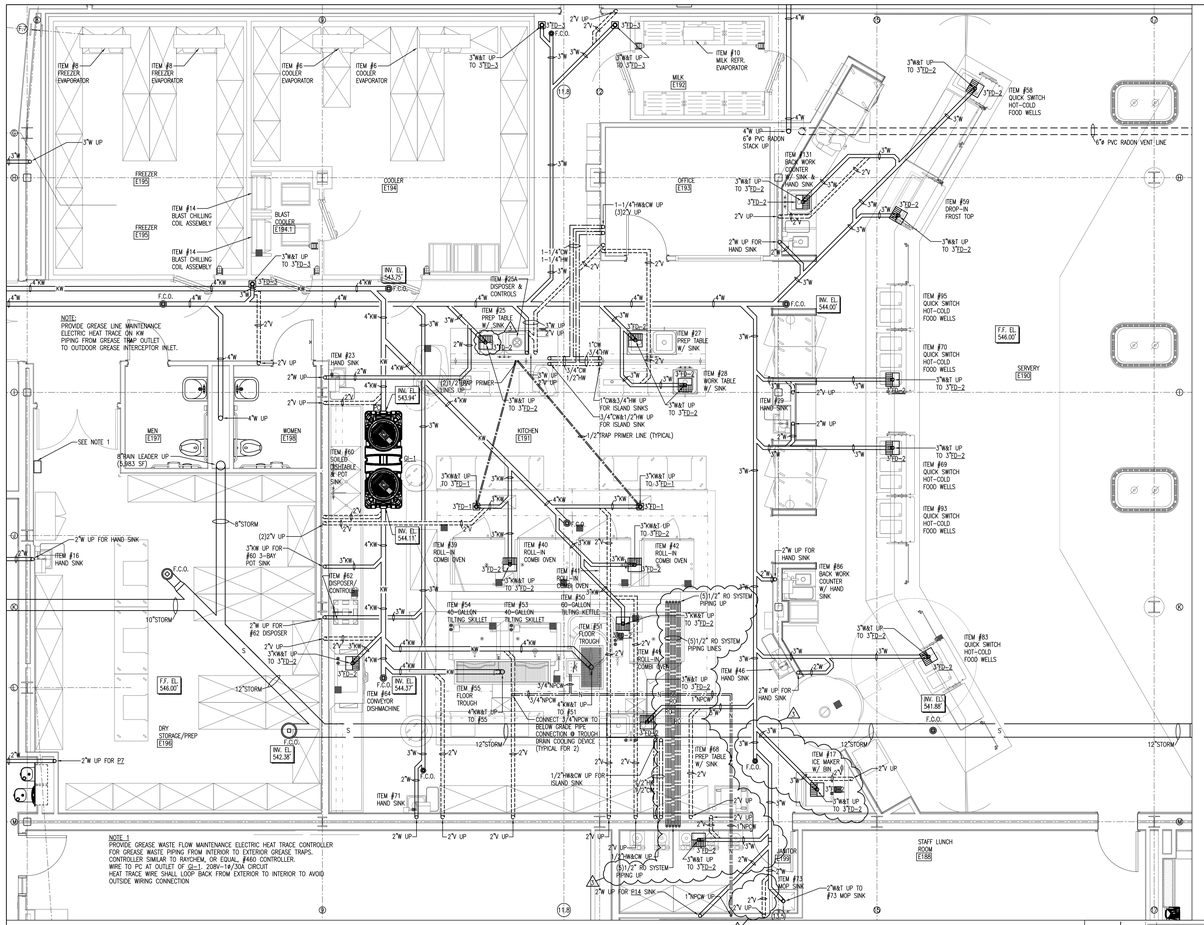
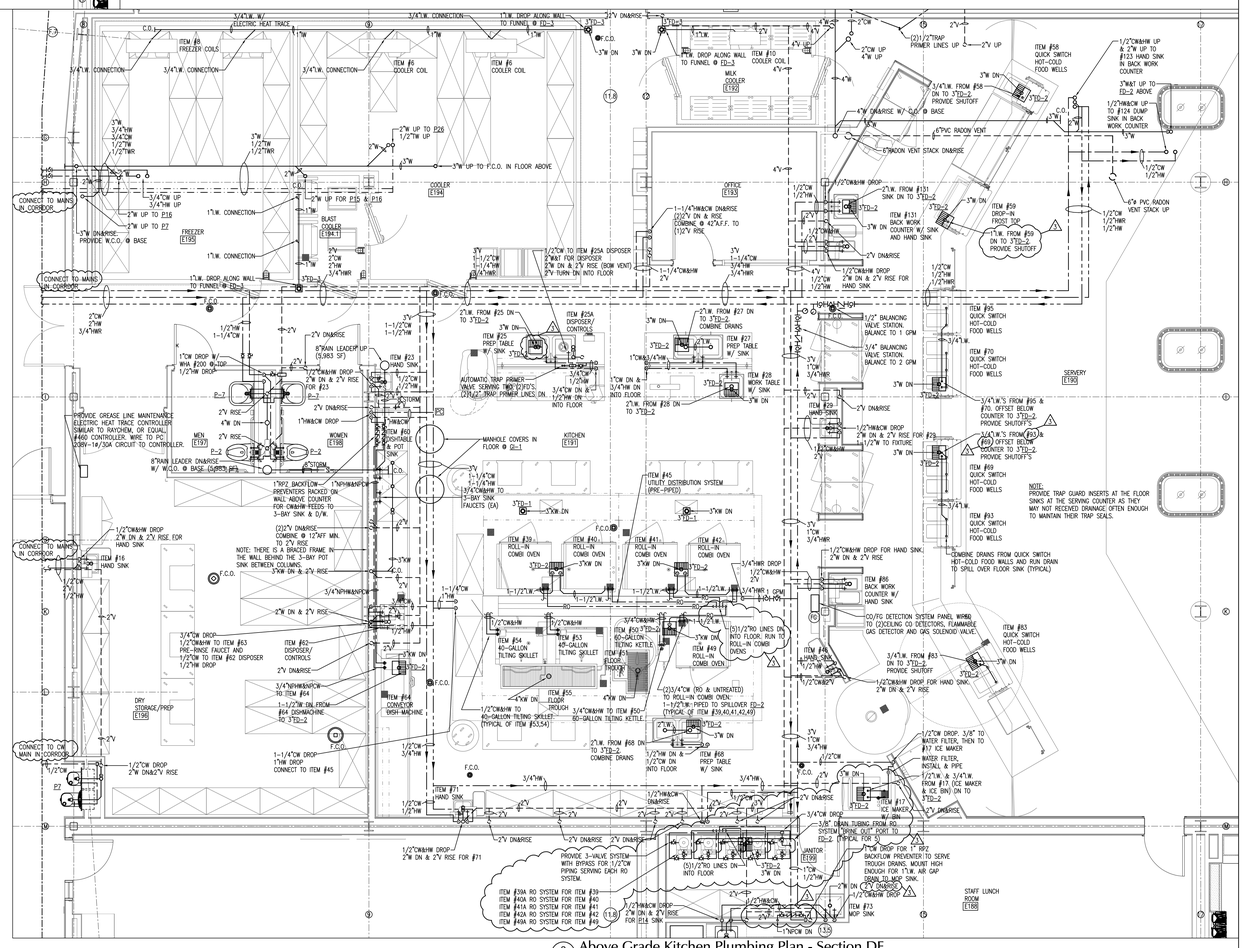
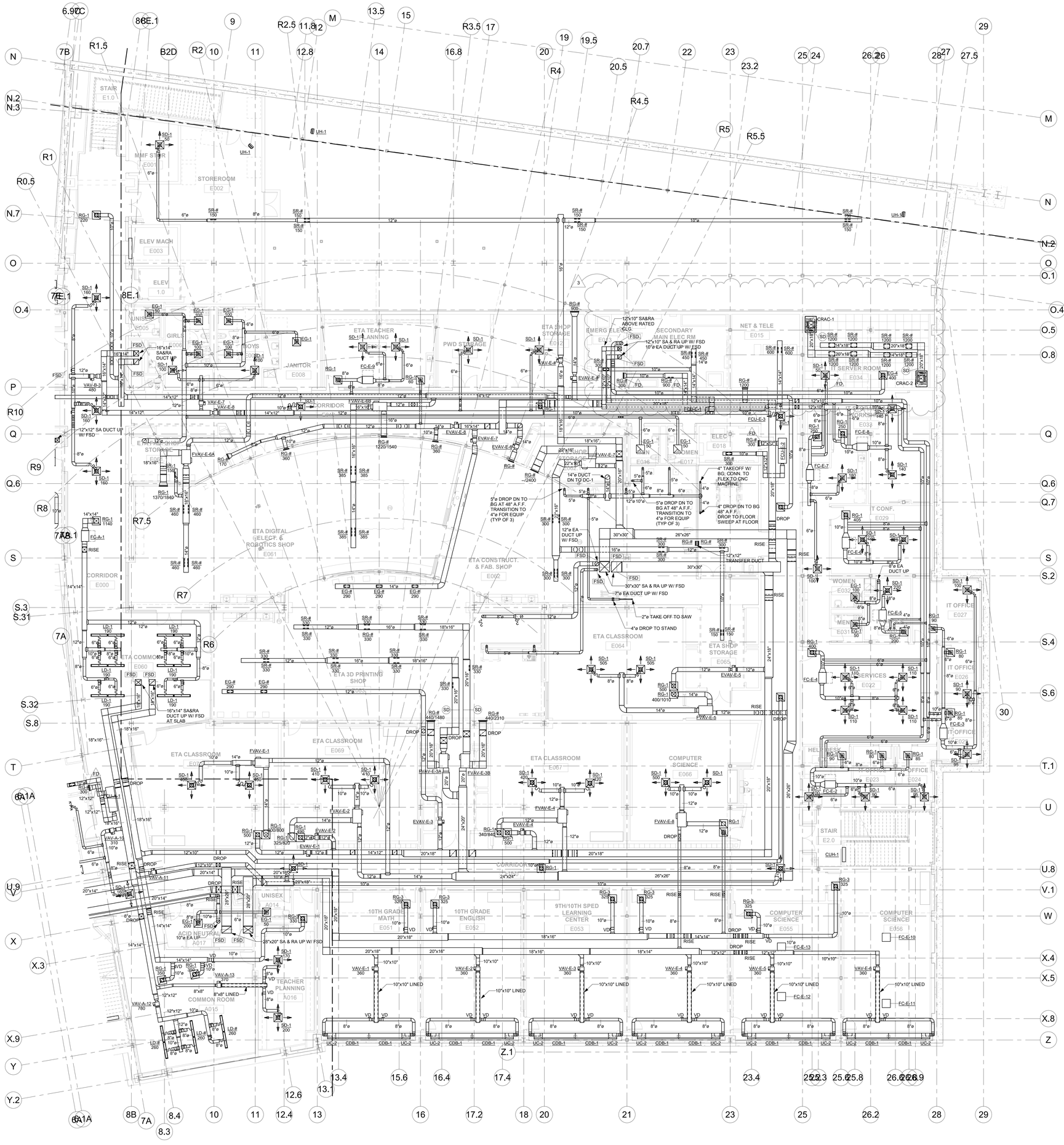


1 Below Grade Kitchen Plumbing Plan - Section DE
P4.6 Scale: 1/4" = 1'-0"


CONNECT TO MAINS IN CORRIDOR
CONNECT TO CW MAIN IN CORRIDOR
PROVIDE GREASE LINE MAINTENANCE ELECTRIC HEAT TRACE CONTROLLER SIMILAR TO RAYCHEM, OR EQUAL, #460 CONTROLLER. WIRE TO PC AT OUTLET OF G-1. 208V-1Ø/30A CIRCUIT TO CONTROLLER.
MEN E197
WOMEN E198
KITCHEN E191
OFFICE E193
COOLER E194
BLAST COOLER E194.1
FREEZER E195
SERVERY E190
STAFF LUNCH ROOM E188
JANITOR E159
DRY STORAGE/PREP E196
ITEM #8 FREEZER COILS
ITEM #6 COOLER COIL
ITEM #10 MILK COOLER E192
ITEM #58 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #59 DROP-IN FROST TOP
ITEM #95 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #70 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #69 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #93 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #131 BACK WORK COUNTER W/ SINK AND HAND SINK
ITEM #23 HAND SINK
ITEM #25 PREP TABLE W/ SINK
ITEM #25A DISPOSER/ CONTROLS
ITEM #27 PREP TABLE W/ SINK
ITEM #28 WORK TABLE W/ SINK
ITEM #29 HAND SINK
ITEM #16 HAND SINK
ITEM #62 DISPOSER/ CONTROLS
ITEM #64 CONVEYOR DISHMACHINE
ITEM #71 HAND SINK
ITEM #39 ROLL-IN COMBI OVEN
ITEM #40 ROLL-IN COMBI OVEN
ITEM #41 ROLL-IN COMBI OVEN
ITEM #42 ROLL-IN COMBI OVEN
ITEM #50 60-GALLON TILTING KETTLE
ITEM #54 60-GALLON TILTING SKILLET
ITEM #53 40-GALLON TILTING SKILLET
ITEM #55 FLOOR TROUGH
ITEM #49 ROLL-IN COMBI OVEN
ITEM #46 HAND SINK
ITEM #68 PREP TABLE W/ SINK
ITEM #73 MOP SINK
ITEM #77 ICE MAKER W/ BIN
ITEM #86 BACK WORK COUNTER W/ HAND SINK
ITEM #63 QUICK SWITCH HOT-COLD FOOD WELLS
ITEM #45 UTILITY DISTRIBUTION SYSTEM (PRE-PIPED)
ITEM #30 ROLL-IN COMBI OVEN
ITEM #31 ROLL-IN COMBI OVEN
ITEM #32 ROLL-IN COMBI OVEN
ITEM #33 ROLL-IN COMBI OVEN
ITEM #34 ROLL-IN COMBI OVEN
ITEM #35 ROLL-IN COMBI OVEN
ITEM #36 ROLL-IN COMBI OVEN
ITEM #37 ROLL-IN COMBI OVEN
ITEM #38 ROLL-IN COMBI OVEN
ITEM #48 HAND SINK
ITEM #67 HAND SINK
ITEM #85 HAND SINK
ITEM #50A RO SYSTEM FOR ITEM #30
ITEM #40A RO SYSTEM FOR ITEM #40
ITEM #41A RO SYSTEM FOR ITEM #41
ITEM #42A RO SYSTEM FOR ITEM #42
ITEM #49A RO SYSTEM FOR ITEM #49
8"RAIN LEADER UP (5,983 SF)
8"RAIN LEADER DN@RISE W/ W.C.O. @ BASE (5,983 SF)
(2)1/2"RO SYSTEM PIPING LINES
(5)1/2"RO SYSTEM PIPING LINES
(2)3/4"CW (RO & UNTREATED) TO ROLL-IN COMBI OVEN (TYPICAL OF ITEM #39,40,41,42,49)
(5)1/2"HW-PIPED TO SPILLOVER FD-2 (TYPICAL OF ITEM #39,40,41,42,49)
(5)1/2"RO LINES DN INTO FLOOR, RUN TO ROLL-IN COMBI OVENS
1/2"CW DROP ALONG WALL TO FUNNEL @ FD-3
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR HAND SINK
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR #71
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR #14 SINK
1/2"CW DROP 2"W DN&2"V RISE
1/2"CW DROP, 3/8" TO WATER FILTER, THEN TO #17 ICE MAKER
1/2"W & 3/4"W FROM #17 ICE MAKER & ICE BIN) DN TO
3/8" DRAIN TUBING FROM RO SYSTEM SINK OUT PORT TO FD-2 (TYPICAL FOR 5)
1"CW DROP FOR 1" RPZ BACKFLOW PREVENTER TO SERVE TROUGH DRAINS, MOUNT HIGH ENOUGH FOR 1"IN. AIR GAP DRAIN TO MOP SINK.
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR HAND SINK
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR #71
1/2"CW&HW DROP 2"W DN & 2"V RISE FOR #14 SINK
1/2"CW&HW UP & 2"W UP TO #123 HAND SINK IN BACK WORK COUNTER
1/2"CW&HW UP TO #124 DUMP SINK IN BACK WORK COUNTER
3"W&T UP TO FD-2 ABOVE
4"W DN&RISE W/ C.O. @ BASE
6"PVC RADON VENT
6"RADON VENT STACK DN&RISE
4"Ø PVC RADON VENT STACK UP
1/2" BALANCING VALVE STATION, BALANCE TO 1 GPM
3/4" BALANCING VALVE STATION, BALANCE TO 2 GPM
3/4"W FROM #95 & #70, OFFSET BELOW COUNTER TO 3TD-2 PROVIDE SHUTOFF'S
3/4"W'S FROM #93 & #69 OFFSET BELOW COUNTER TO 3TD-2 PROVIDE SHUTOFF'S
3/4"W FROM #63 PROVIDE SHUTOFF
3/4"W FROM #58 DN TO 3TD-2 PROVIDE SHUTOFF
3/4"W FROM #59 DN TO 3TD-2 PROVIDE SHUTOFF
NOTE: PROVIDE TRAP GUARD INSERTS AT THE FLOOR SINKS AT THE SERVING COUNTER AS THEY MAY NOT RECEIVED DRAINAGE OFTEN ENOUGH TO MAINTAIN THEIR TRAP SEALS.
COMBINE DRAINS FROM QUICK SWITCH HOT-COLD FOOD WELLS AND RUN DRAIN TO SPILL OVER FLOOR SINK (TYPICAL)
CO/TG DETECTION SYSTEM PANEL W/RBG TO (2)CEILING CO DETECTORS, FLAMMABLE GAS DETECTOR AND GAS SOLENOID VALVE.
PROVIDE 3-VALVE SYSTEM WITH BYPASS FOR 1/2"CW PIPING SERVING EACH RO SYSTEM.
1"RPCW UP
1"RPCW DN
1"W DROP ALONG WALL TO FUNNEL @ FD-3
1"W. DROP ALONG WALL TO FUNNEL @ FD-3
1"W. CONNECTION
3/4"W. CONNECTION
3/4"W. W/ ELECTRIC HEAT TRACE
3/4"W. FROM #25 DN TO 3TD-2
3/4"W. FROM #27 DN TO 3TD-2 COMBINE DRAINS
3/4"W. FROM #28 DN TO 3TD-2
1/2"CW TO ITEM #25A DISPOSER
1/2"HWT FOR DISPOSER
2"W DN & 2"V RISE (BOW VENT)
2"V TURN DN INTO FLOOR
1"CW DROP W/ WVA #200 @ TOP
1/2"HW DROP
1"CW DN & 3/4"HW DN INTO FLOOR
1"CW DN & 3/4"HW DN INTO FLOOR
1-1/4"W DROP ALONG WALL TO FUNNEL @ FD-3
1-1/4"W&3/4"HW UP FOR ISLAND SINKS
1-1/4"W&3/4"HW DN@RISE (32)"V UP
1-1/4"W&HW DROP
1-1/4"W&HW DN@RISE (22)"V DN & 8" RISE COMBINE @ 42"A.F.F. TO 1/2" RISE
1-1/4"W DROP
1-1/4"W DROP
1-1/2"W DROP
1-1/2"W DROP
1/2"TRAP PRIMER LINES UP
1/2"TRAP PRIMER LINE (TYPICAL)
1/2"W UP TO F26 1/2"W UP
2"W UP TO F10 & F18
2"W UP TO F10
2"W UP TO F7
3"W UP TO F.C.O. IN FLOOR ABOVE
3"W DN&RISE PROVIDE W.C.O. @ BASE
3/4"CW UP 3/4"HW UP
3/4"W DN FROM #64 DISHMACHINE TO 3TD-2
3/4"W&HW DROP TO ITEM #50
3/4"W&HW UP TO #51
3/4"W&HW UP TO #55
3/4"W&HW UP TO 3TD-2
3/4"W&HW UP TO 3TD-1
3/4"W&HW UP TO 3TD-2
3/4"W&T UP TO 3TD-2
3/4"W&T UP TO 3TD-2
3/4"W&T



1 Ground Level HVAC Plan Section E
1/8" = 1'-0"

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PROJECT

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Doherty Memorial High School
299 Highland St
Worcester, MA 01602

DRAWING TITLE

Ground Level HVAC Plan Section E

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: 1/8" = 1'-0"
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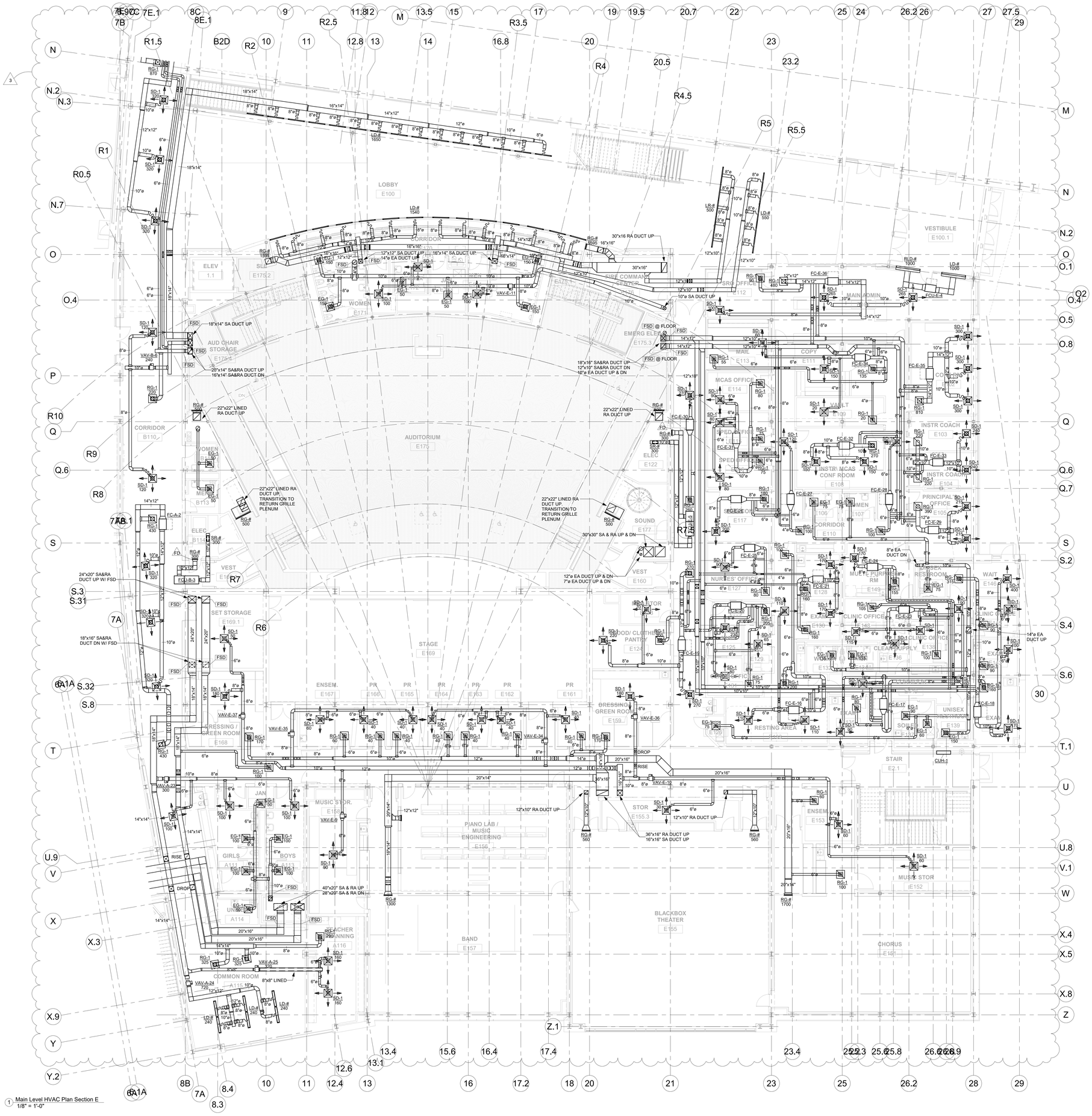

1 Main Level HVAC Plan Section E
1/8" = 1'-0"

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DRAWING TITLE

Main Level HVAC Plan Section E

Locus Map

True North

Key Plan

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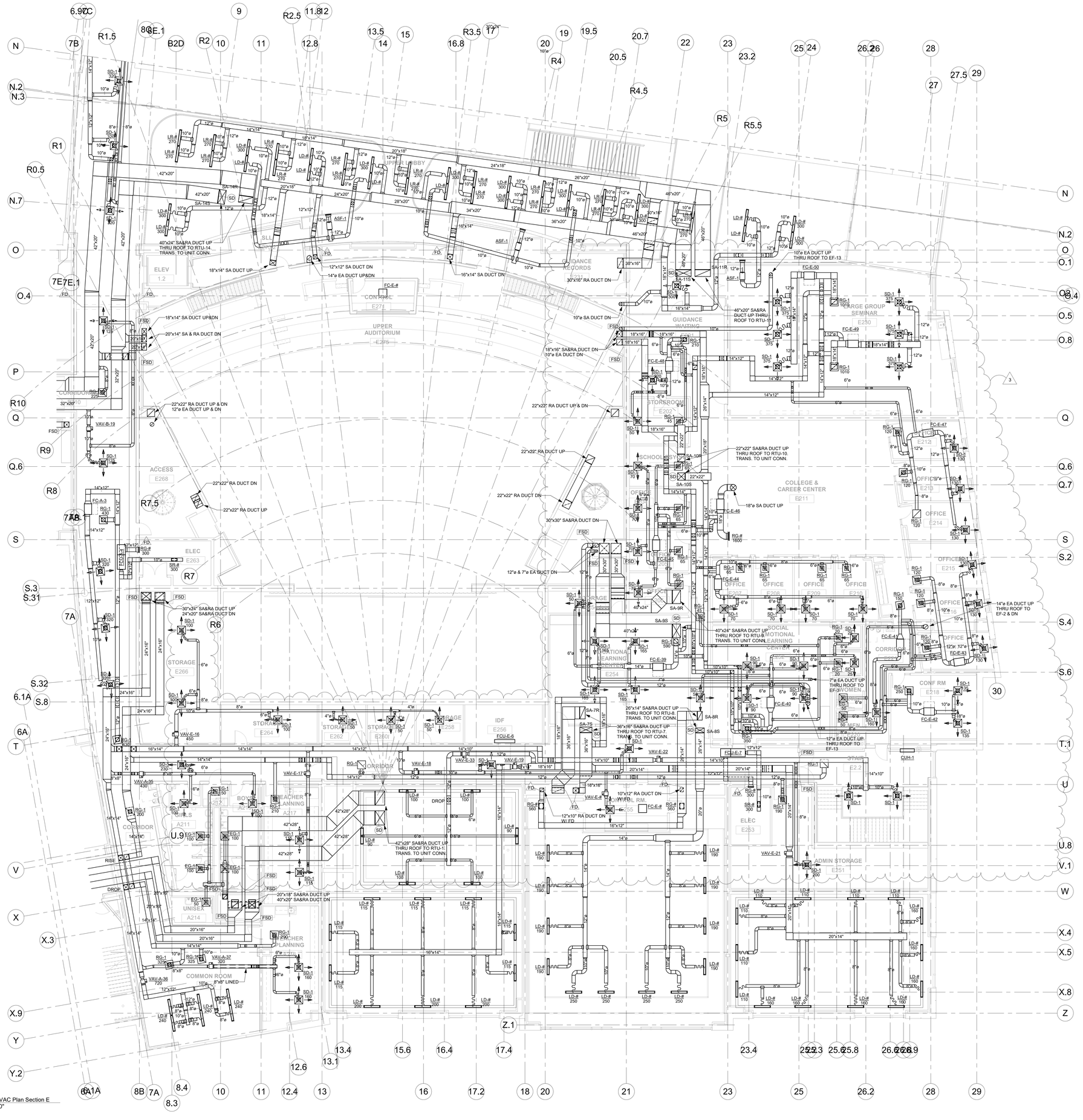

1 Level 2 HVAC Plan Section E
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Doherty Memorial High School

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Worcester, MA 01602

DRAWING TITLE

Level 2 HVAC Plan Section E

Locus Map

True North

Key Plan

REVISIONS

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3	ADDENDUM #3	02/03/22

FILE:	
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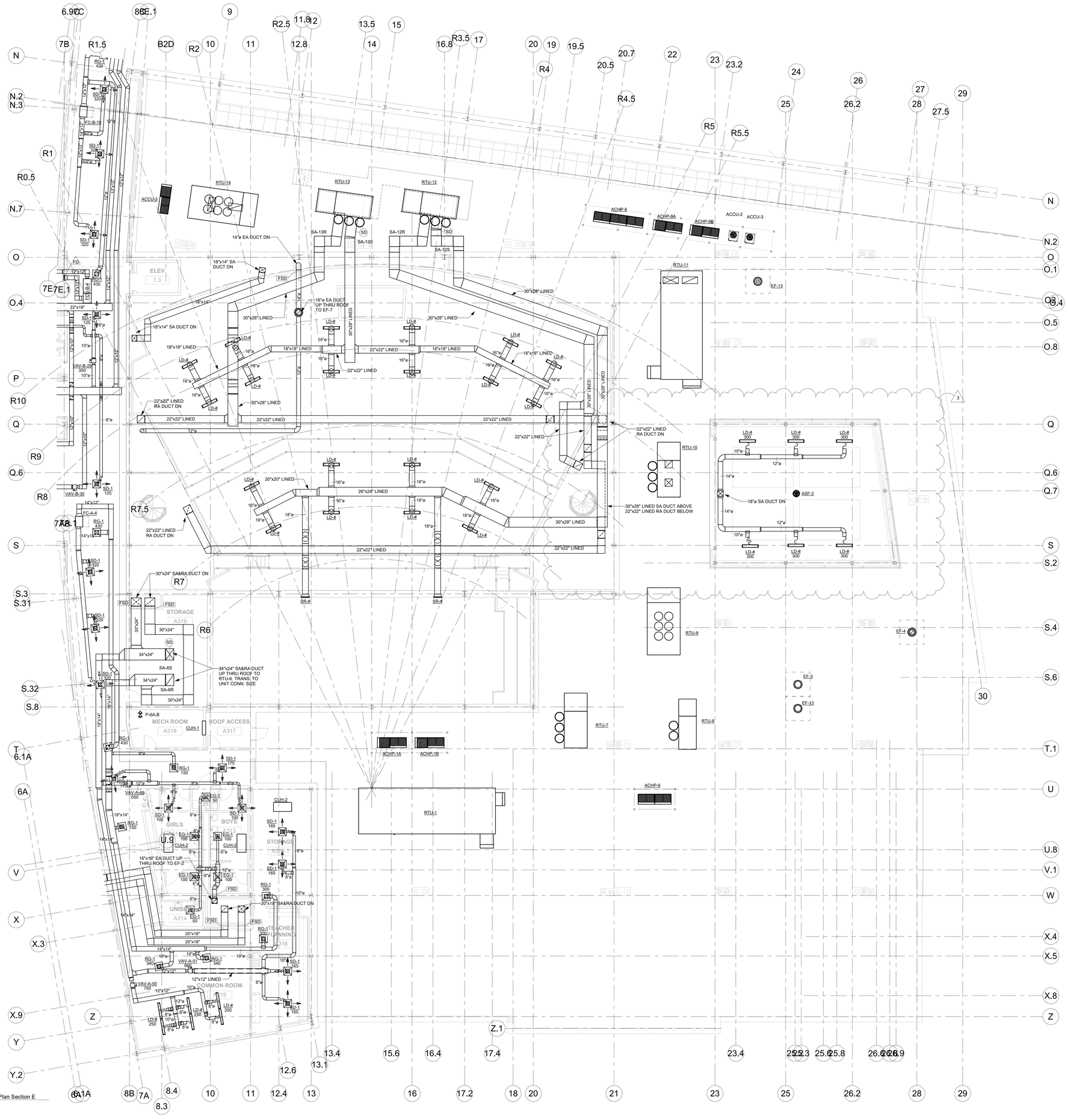

1 Level 3 HVAC Plan Section E
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Doherty Memorial High School
299 Highland St
Worcester, MA 01602

DRAWING TITLE

Level 3 HVAC Plan Section E

Locus Map

True North

Key Plan

REVISIONS

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1 Level 3 HVAC Plan Section CD
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Doherty Memorial High School

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Level 3 HVAC Plan Section CD

Locus Map

True North

Key Plan

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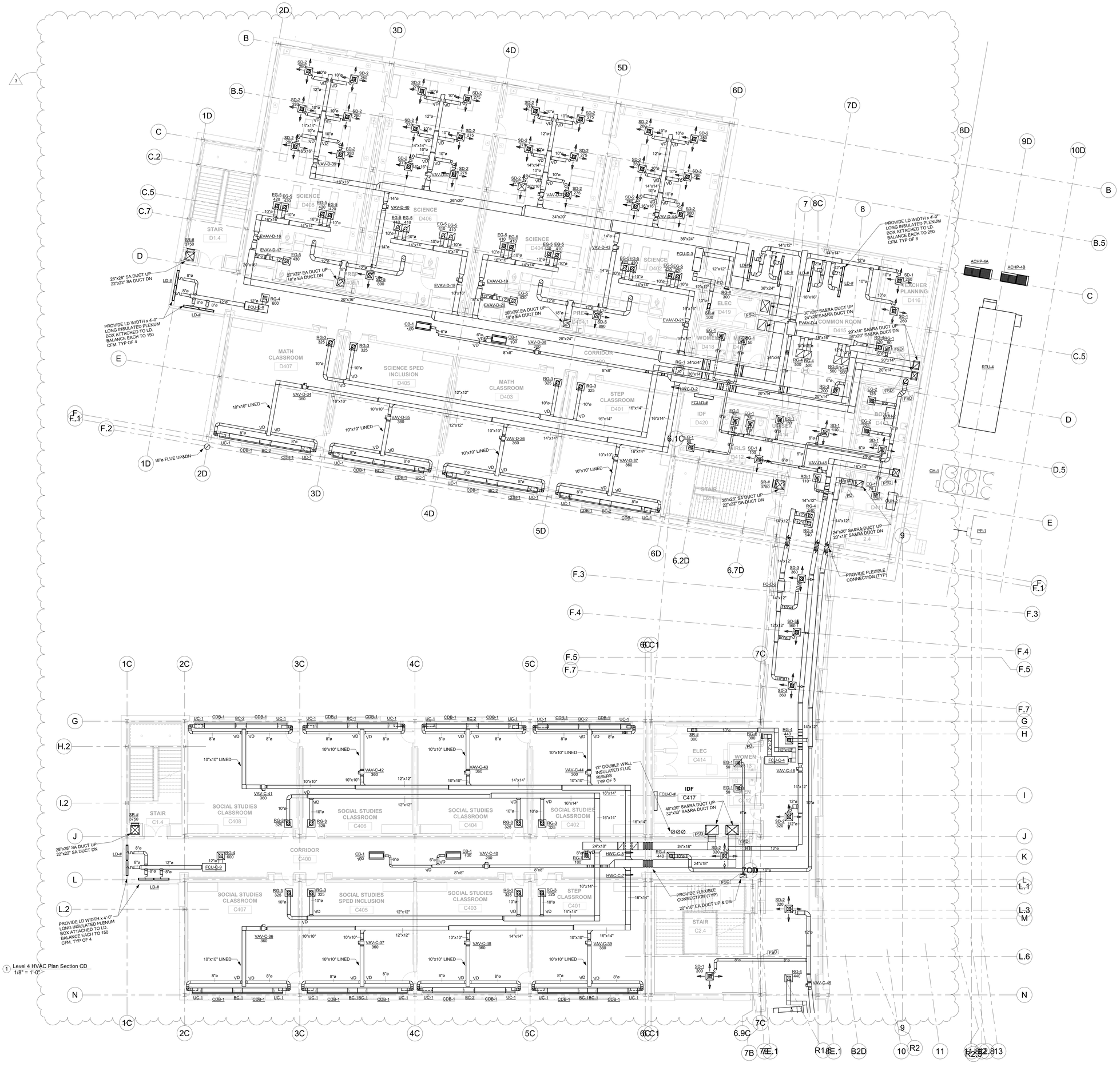

1 Level 4 HVAC Plan Section CD
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DRAWING TITLE

Level 4 HVAC Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

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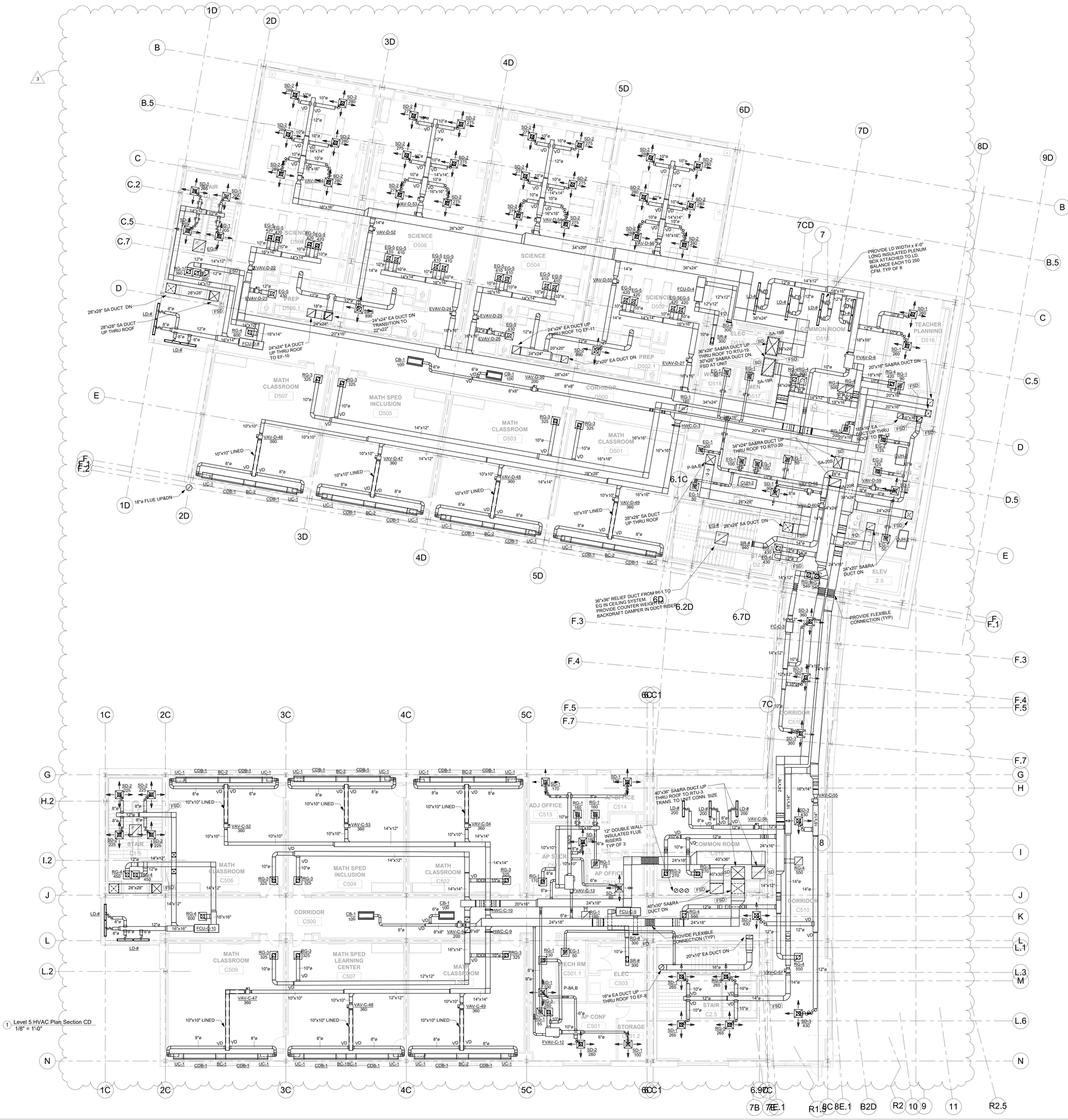

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Doherty Memorial High School

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DRAWING TITLE

Level 5 HVAC Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
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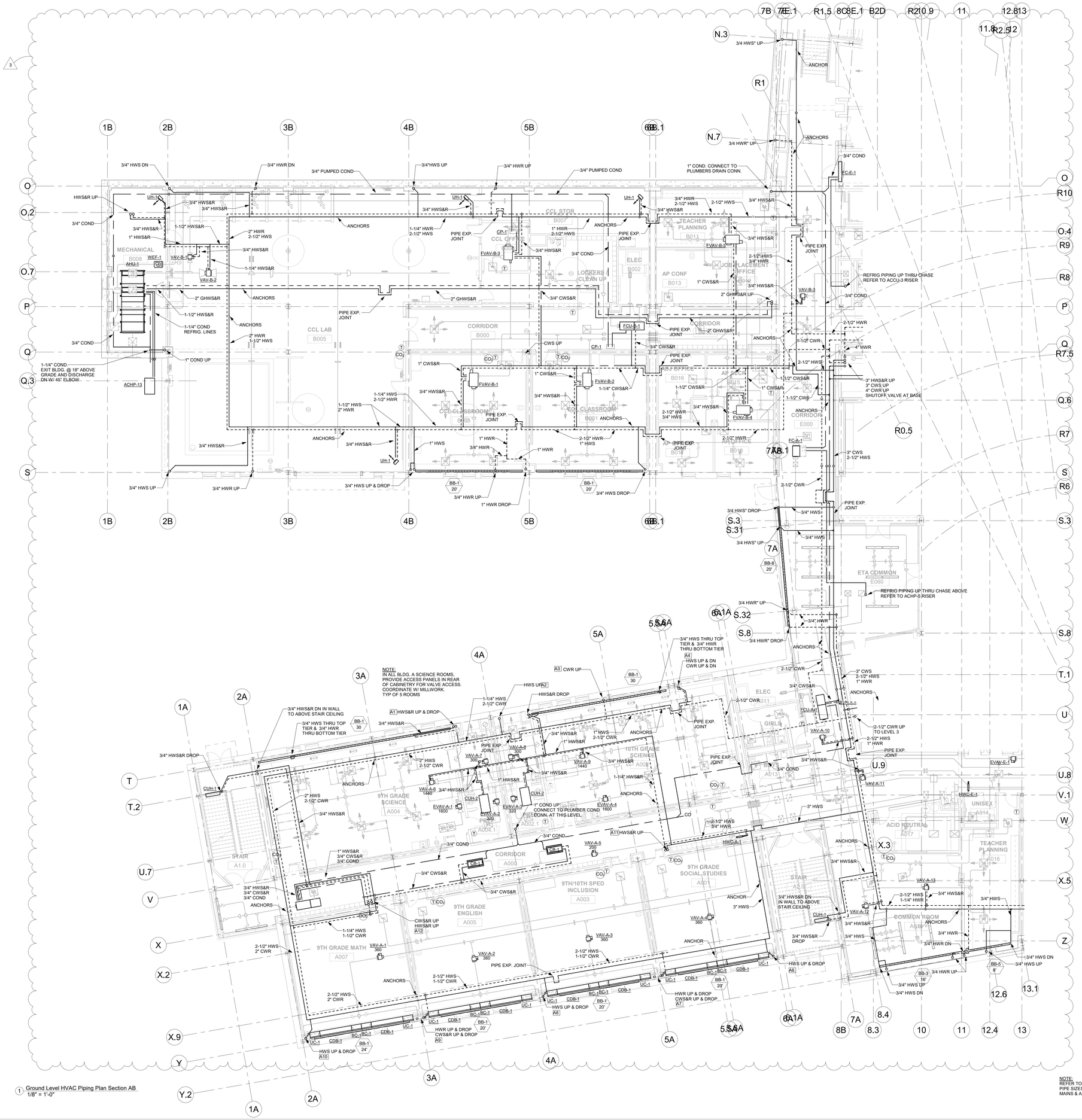

1 Ground Level HVAC Piping Plan Section AB
1/8" = 1'-0"

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DRAWING TITLE

Ground Level HVAC Piping Plan Section AB

Locus Map

True North

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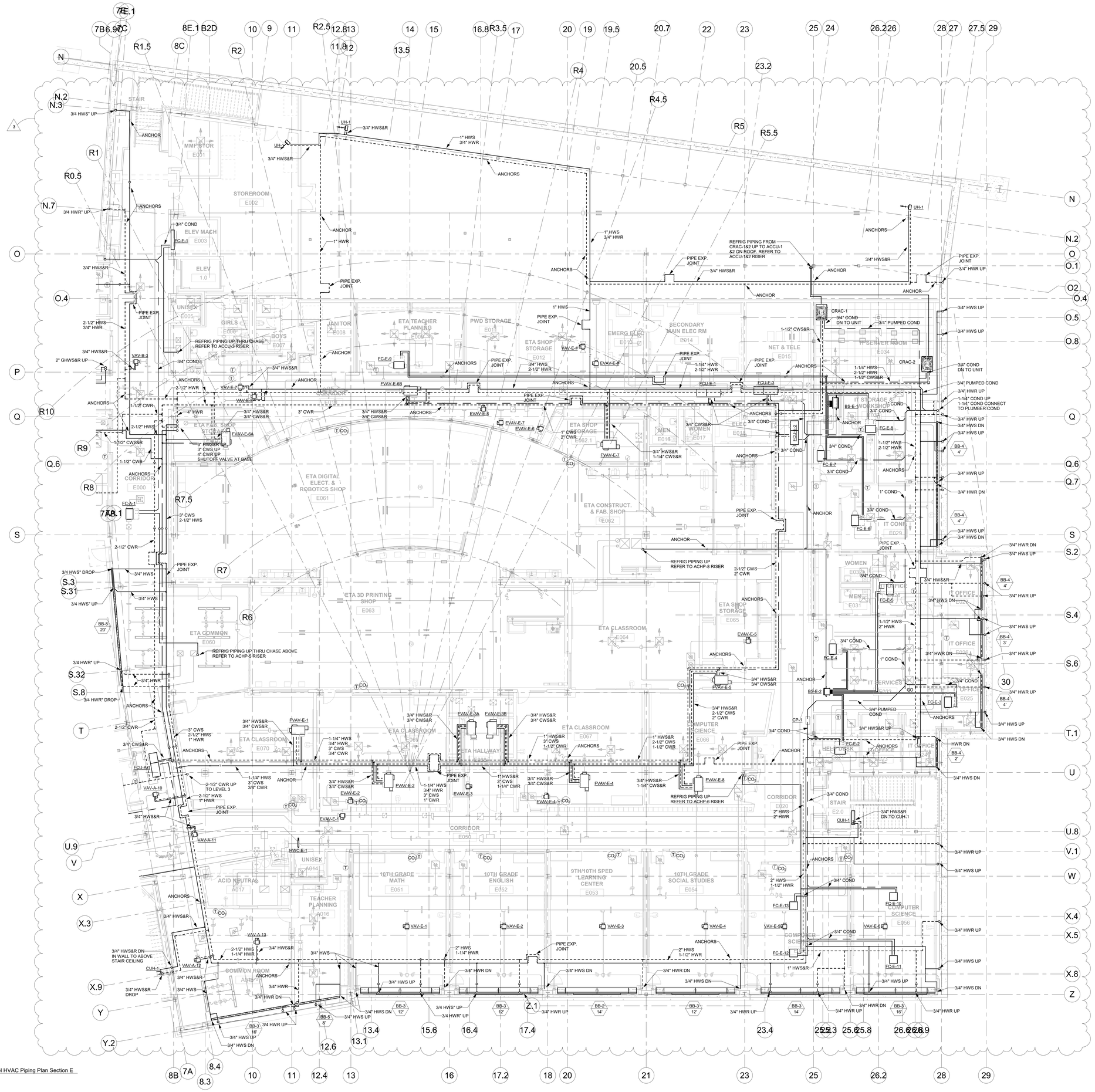
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MMP STOR E001
STOREROOM E002
ELEV MACH E003
ELEV 1.0
UNISEX E005
GIRLS E006
BOYS E007
JANITOR E008
ETA TEACHER PLANNING E002
PWD STORAGE E011
ETA SHOP STORAGE E012
EMERG ELEC E013
SECONDARY MAIN ELEC RM E014
NET & TELE E015
IT SERVER ROOM E034
CRAC-1
CRAC-2
IT STORAGE & WORKSHOP E035
WORKROOM E018
ETA FAB. SHOP STORAGE E062
MEN E016
WOMEN E017
ELEC E019
IT CONF E029
IT OFFICE E026
IT OFFICE E027
IT OFFICE E028
IT SERVICES E023
OFFICE E025
WOMEN E030
MEN E031
IT OFFICE E032
IT OFFICE E033
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ETA CONSTRUCT. & FAB. SHOP E062
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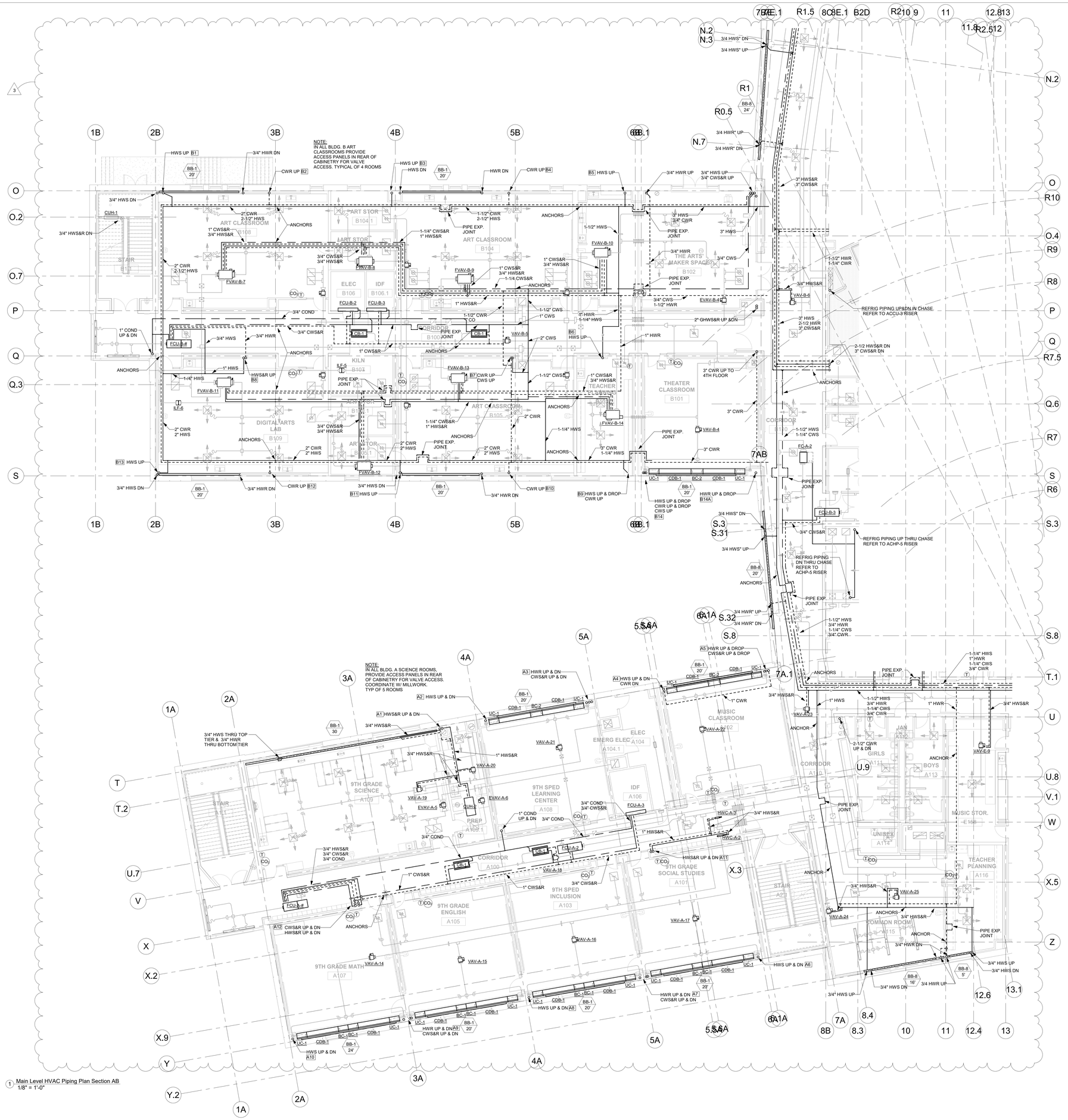
ETA SHOP STORAGE E065
ETA CLASSROOM E066
ETA CLASSROOM E067
ETA HALLWAY E068
ETA CLASSROOM E070
COMPUTER SCIENCE E066
HELP DESK E021
IT OFFICE E022
CORRIDOR E020
STAIR E2.0
CORRIDOR E050
UNISEX A014
ACID NEUTRAL A017
TEACHER PLANNING A016
COMMON ROOM A015
10TH GRADE MATH E051
10TH GRADE ENGLISH E052
9TH/10TH SPED LEARNING CENTER E053
10TH GRADE SOCIAL STUDIES E054
COMPUTER SCIENCE E056
CORRIDOR E000
ANCHOR
ANCHORS
PIPE EXP. JOINT
3/4" HWS UP
3/4" HWS DN
3/4" HWS&R
3/4" HWR UP
3/4" HWR DN
3/4" HWS" UP
3/4" HWR" UP
3/4" HWS" DROP
3/4" HWR" DROP
1" HWS 3/4" HWR
1-1/2" HWS 2-1/2" HWR
1-1/2" HWS&R
2-1/2" HWS&R
3/4" COND
3/4" COND DN TO UNIT
3/4" PUMPED COND
1-1/4" COND UP
1-1/4" COND CONNECT TO PLUMBER COND
1-1/2" COND
REFRIG PIPING FROM CRAC-1&2 UP TO ACCU-1 &2 ON ROOF. REFER TO ACCU-1&2 RISER
REFRIG PIPING UP THRU CHASE REFER TO ACCU-3 RISER
REFRIG PIPING UP THRU CHASE ABOVE REFER TO ACHP-5 RISER
REFRIG PIPING UP REFER TO ACHP-6 RISER
REFRIG PIPING UP REFER TO ACHP-8 RISER
3" CWS 2-1/2" HWS
3" CWS UP 4" CWR UP SHUTOFF VALVE AT BASE
2-1/2" CWR
2-1/2" CWS&R
1-1/2" CWS
1-1/2" CWR
3" CWR
4" HWR
2" HWS
2" HWR
2" GHWS&R UP
1" CWS 2" CWR
3/4" HWS&R 1-1/4" CWS&R
3/4" HWS&R 3/4" CWS&R
1" HWS&R 3" CWS 1-1/4" CWR
1" HWS&R 2-1/2" CWS 1-1/2" CWR
1-1/4" HWS 3/4" HWR 3" CWS 3/4" CWR
1-1/4" HWS 3/4" HWR 3" CWS 1" CWR
1-1/4" HWS 3" CWS 3/4" CWR
3/4" HWS&R 2-1/2" CWS 2" CWR
2-1/2" CWR UP TO LEVEL 3
3/4" HWS&R DN IN WALL TO ABOVE STAIR CEILING
3/4" HWS&R DN TO CUH-1
3/4" PUMPED COND
3/4" HWS&R UP
1" HWS&R
2" HWS 1-1/4" HWR
2" HWS 1-1/2" HWR
UH-1
CUH-1
CUH-2
CP-1
FC-A-1
FC-E-1
FC-E-2
FC-E-3
FC-E-4
FC-E-5
FC-E-6
FC-E-7
FC-E-8
FC-E-9
FC-E-10
FC-E-11
FC-E-12
FC-E-13
FCU-A1
FCU-E-1
FCU-E-2
FCU-E-3
VAV-A-10
VAV-A-11
VAV-A-12
VAV-A-13
VAV-B-3
VAV-E-1
VAV-E-2
VAV-E-3
VAV-E-4
VAV-E-5A
VAV-E-5B
VAV-E-6
FVAV-E-1
FVAV-E-2
FVAV-E-3A
FVAV-E-3B
FVAV-E-4
FVAV-E-5
FVAV-E-6A
FVAV-E-6B
FVAV-E-7
FVAV-E-8
EVAV-E-2
EVAV-E-3
EVAV-E-4
EVAV-E-5
EVAV-E-6
EVAV-E-7
EVAV-E-8
EVAV-E-9
HWC-E-1
BS-E-1
BS-E-2
BB-2 14'
BB-3 12'
BB-3 16'
BB-4 4'
BB-4 3'
BB-5 8'
BB-8 20'
HWR DN 2'
3" FWS&R UP
1" HWS&R
1" CWS
1" COND
1-1/2" HWS 2-1/2" HWR
3/4" HWS&R 1-1/4" CWS&R
3/4" HWS&R 3/4" CWS&R
3/4" HWS&R 2-1/2" CWS 2" CWR
3/4" HWS&R UP
3/4" HWS&R DN
3/4" HWR&R
3/4" HWR DN
3/4" HWS DN
3/4" HWS UP
3/4" HWR UP
1" HWS&R
1" HWS
1" HWR
1" HWR&R
1" HWR DN
1" HWS DN
1" HWS UP
1" HWR UP
1-1/4" HWS
1-1/4" HWR
1-1/4" HWS&R
1-1/4" HWR&R
1-1/4" HWR DN
1-1/4" HWS DN
1-1/4" HWS UP
1-1/4" HWR UP
2" HWS
2" HWR
2" HWS&R
2" HWR DN
2" HWS DN
2" HWS UP
2" HWR UP
2-1/2" HWS
2-1/2" HWR
2-1/2" HWS&R
2-1/2" HWR&R
2-1/2" HWR DN
2-1/2" HWS DN
2-1/2" HWS UP
2-1/2" HWR UP
3" HWS
3" HWR
3" HWS&R
3" HWR DN
3" HWS DN
3" HWS UP
3" HWR UP
3" CWS
3" CWR
3" CWS&R
4" HWR
4" HWS
4" HWS&R
4" HWR DN
4" HWS DN
4" HWS UP
4" HWR UP
4" CWR
4" CWS
4" CWS&R
4" CWR UP
4" CWS UP
1" HWS 3/4" HWR
1" HWS&R 3/4" CWS&R
1" HWS&R 3" CWS 1-1/4" CWR
1" HWS&R 2-1/2" CWS 1-1/2" CWR
1-1/4" HWS 3/4" HWR 3" CWS 3/4" CWR
1-1/4" HWS 3/4" HWR 3" CWS 1" CWR
1-1/4" HWS 3" CWS 3/4" CWR
3/4" HWS&R 2-1/2" CWS 2" CWR
3/4" HWS&R 1-1/4" CWS&R
3/4" HWS&R 3/4" CWS&R
1-1/2" HWS 2-1/2" HWR
1-1/2" HWS&R 2-1/2" HWR&R
1-1/2" COND
1-1/2" COND UP
1-1/2" COND DN
1-1/2" COND CONNECT TO PLUMBER COND
1-1/2" HWS&R
1-1/2" HWR&R
1-1/2" HWR DN
1-1/2" HWS DN
1-1/2" HWS UP
1-1/2" HWR UP
1-1/2" CWS&R
1-1/2" CWR
1-1/2" CWS
1-1/2" HWR
1-1/2" HWS
1-1/2" HWR



1 Main Level HVAC Piping Plan Section AB
1/8" = 1'-0"

NOTE:
REFER TO HVAC PIPING RISER DIAGRAMS FOR PIPE SIZES CONNECTING FROM RISERS TO MAINS & ASSOC. TERMINALS FED FROM RISERS

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Doherty Memorial High School
299 Highland St
Worcester, MA 01602

DRAWING TITLE

Main Level HVAC Piping Plan Section AB

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: 1/8" = 1'-0"
DWN. BY: FJG
CKD. BY: KRS
DATE: JANUARY 20, 2021

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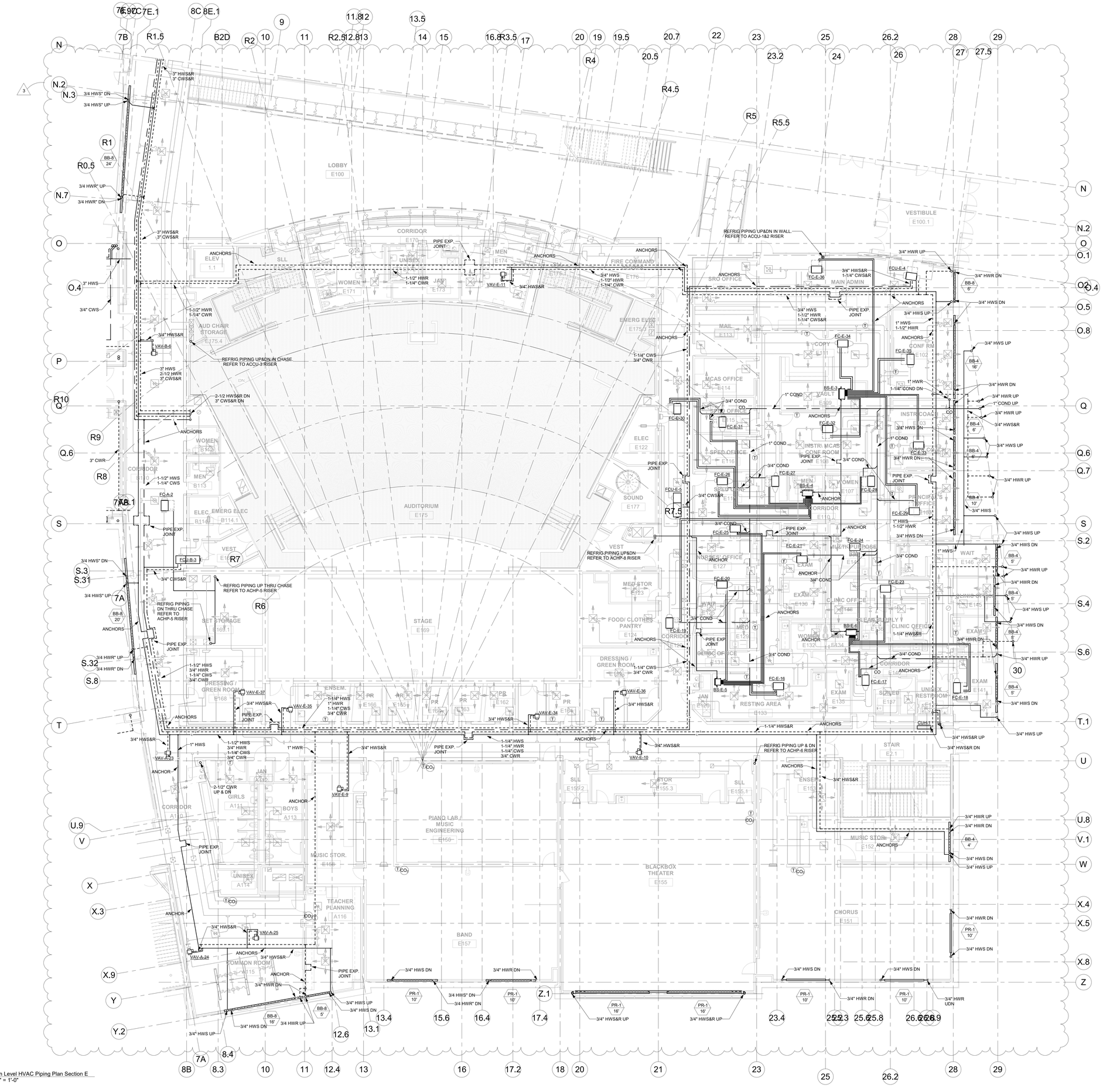

1 Main Level HVAC Piping Plan Section E
1/8" = 1'-0"

NOTE:
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Doherty Memorial High School
299 Highland St
Worcester, MA 01602

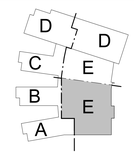
DRAWING TITLE

Main Level HVAC Piping Plan Section E

Locus Map

True North

Key Plan



REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
DATE:	JANUARY 20, 2021

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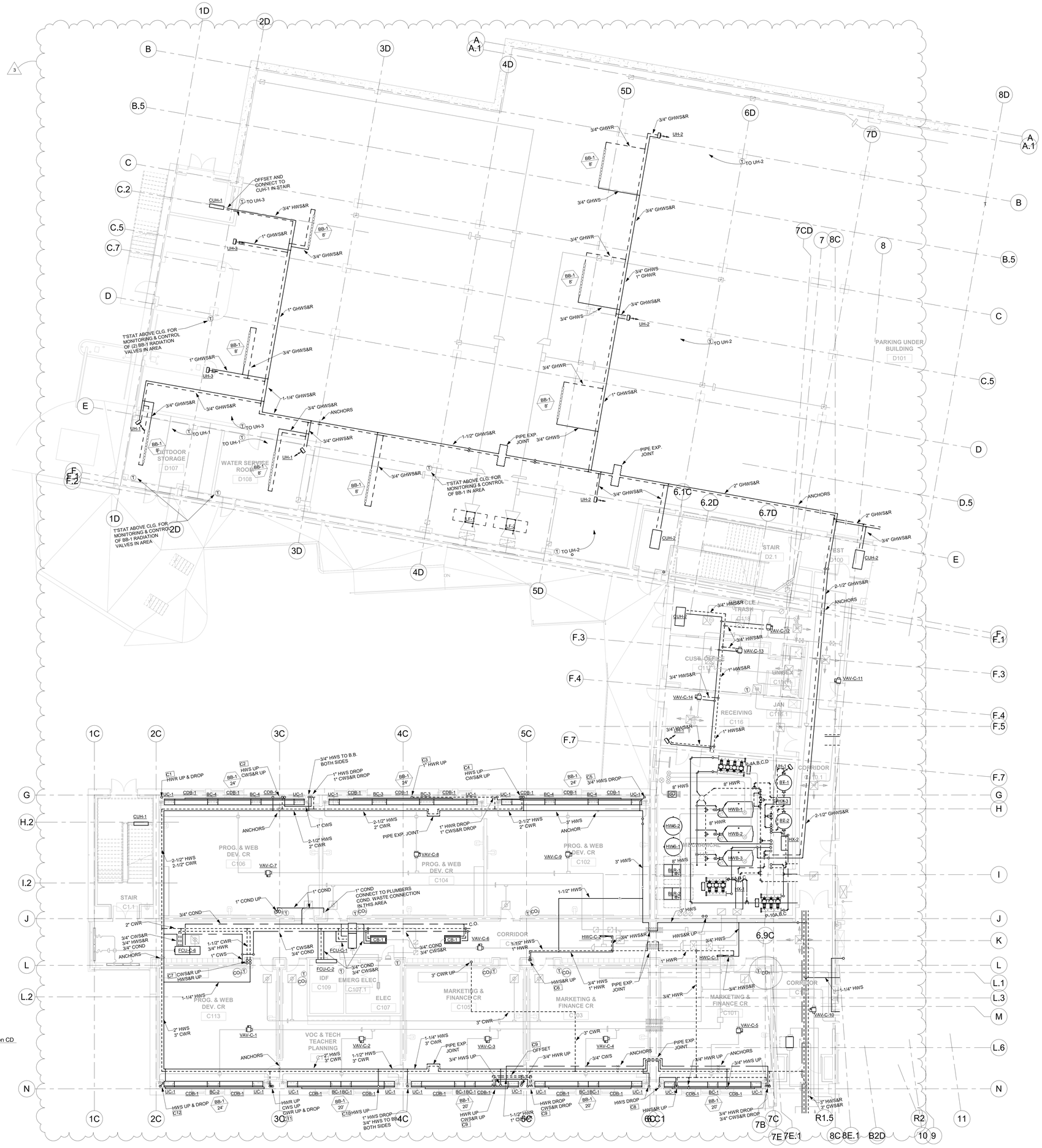
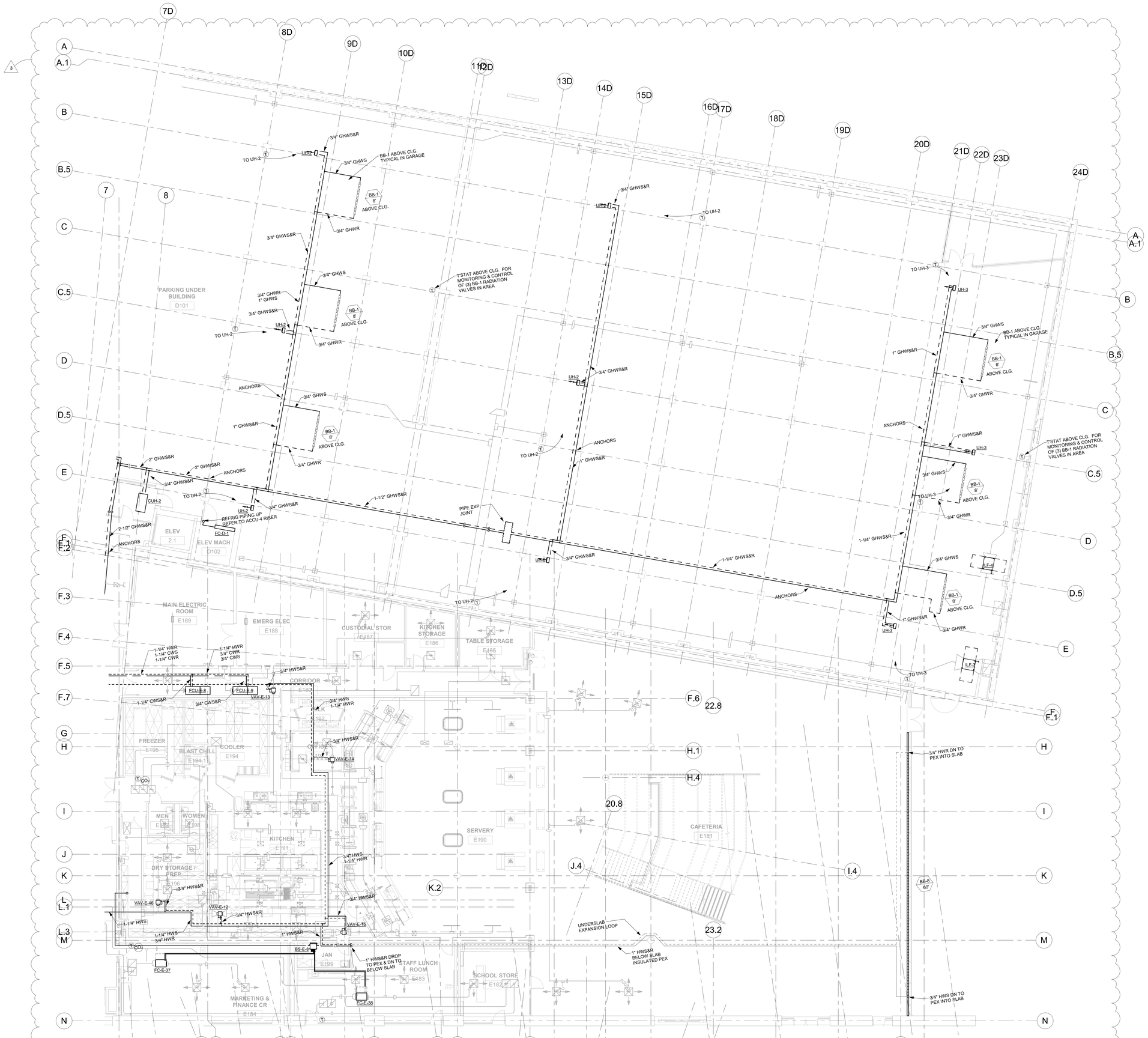

1D
2D
3D
4D
5D
6D
7D
8D
A
A.1
B
B.5
C
C.2
C.5
C.7
D
D.5
E
F
F.1
F.2
F.3
F.4
F.5
F.7
G
H
H.2
I
I.2
J
K
L
L.1
L.2
L.3
L.6
M
N
7CD
7
8C
8
6.1C
6.2D
6.7D
6.9C
OFFSET AND CONNECT TO CUH-1 IN STAIR
CUH-1
TO UH-3
3/4" HWS&R
1" GHWS&R
UH-3
BB-1 8'
3/4" GHWS&R
T'STAT ABOVE CLG. FOR MONITORING & CONTROL OF (2) BB-1 RADIATION VALVES IN AREA
1" GHWS&R
3/4" GHWS&R
1-1/4" GHWS&R
ANCHORS
UH-1
TO UH-1
OUTDOOR STORAGE
D107
WATER SERVICE ROOM
D108
T'STAT ABOVE CLG. FOR MONITORING & CONTROL OF BB-1 IN AREA
1-1/2" GHWS&R
PIPE EXP. JOINT
3/4" GHWS
3/4" GHWR
UH-2
TO UH-2
PARKING UNDER BUILDING
D101
2" GHWS&R
CUH-2
STAIR
D2.1
VEST
C100
2-1/2" GHWS&R
3/4" HWS&R
CLE
TRASH
C119
VAV-C-12
VAV-C-13
CUST. OFF.
C117
UNISEX
C118
VAV-C-11
VAV-C-14
JAN
C116.1
RECEIVING
C116
P-5A,B,C,D
CORRIDOR
C115
8" HWR
8" HWS
BX-1
HWB-1
HWB-2
HWB-3
HX-3
HX-2
HX-1
HWC-1
HWC-2
P-10A,B,C
3" HWS
1-1/2" HWS
CORRIDOR
C114
VAV-C-10
1-1/4" HWS
VAV-C-5
PROG. & WEB DEV. CR
C106
VAV-C-7
C102
VAV-C-9
C104
VAV-C-8
STAIR
C1.1
1" COND UP
1" COND
3/4" COND
2" CWR
3/4" CWS&R
3/4" HWS&R
ANCHORS
FCU-C-6
1-1/2" CWR
3/4" HWR
1" CWS
1" CWS&R
3/4" COND
FCU-C-1
CB-1
C.O.
VAV-C-6
FCU-C-2
IDF
C109
EMERG ELEC
C107.1
ELEC
C107
MARKETING & FINANCE CR
C105
C103
C101
3" CWR UP
HWS&R UP
3/4" HWR
PIPE EXP. JOINT
3" CWR
VAV-C-1
VAV-C-2
VAV-C-3
VAV-C-4
VOC & TECH TEACHER PLANNING
C113
1-1/4" HWS
3" CWR
1-1/2" HWS
3" CWR
3/4" HWS UP
3/4" CWS
3/4" HWR UP
3/4" HWS TO B.B. BOTH SIDES
1" HWS DROP
1" CWS&R DROP
1" HWR UP
HWS UP
CWS&R UP
3/4" HWS DROP
2-1/2" HWS
2" CWR
1" HWR DROP
1" CWS&R DROP
3" HWS
ANCHOR
1" HWR
3/4" HWS&R
3/4" HWR DROP
3/4" CWS&R DROP
HWS DROP
HWS&R UP
HWR UP
CWS UP
CWR UP & DROP
HWS UP & DROP
HWR UP & DROP
1" HWS TO BB BOTH SIDES
1-1/2" HWR
1" CWS&R
C1
C2
C3
C4
C5
C6
C7
C8
C9
C10
C11
C12
BB-1 24'
BB-1 20'
UC-1
CDB-1
BC-1
BC-2
BC-3
BC-4
1" HWR
1" HWS&R
3/4" GHWS
1" GHWR
3/4" GHWR
3/4" GHWS&R
1" GHWS
1" HWS&R
3/4" HWS
1" HWS
1" CWS
1" CWR
1" CWR
1" HWR
1" HWS
1" CWS&R
1" CWR
1" HWR
1" HWS
1" CWS&R
1" CWR
1" HWR
1" HWS
1" CWS&R



1 Main Level HVAC Piping Plan Section DE
1/8" = 1'-0"

NOTE:
REFER TO HVAC PIPING RISER DIAGRAMS FOR PIPE SIZES CONNECTING FROM RISERS TO MAINS & ASSOC. TERMINALS FED FROM RISERS

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Worcester, MA 01602

PROJECT

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Doherty Memorial High School
299 Highland St
Worcester, MA 01602

DRAWING TITLE

Main Level HVAC Piping Plan Section DE

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
DATE:	JANUARY 20, 2021

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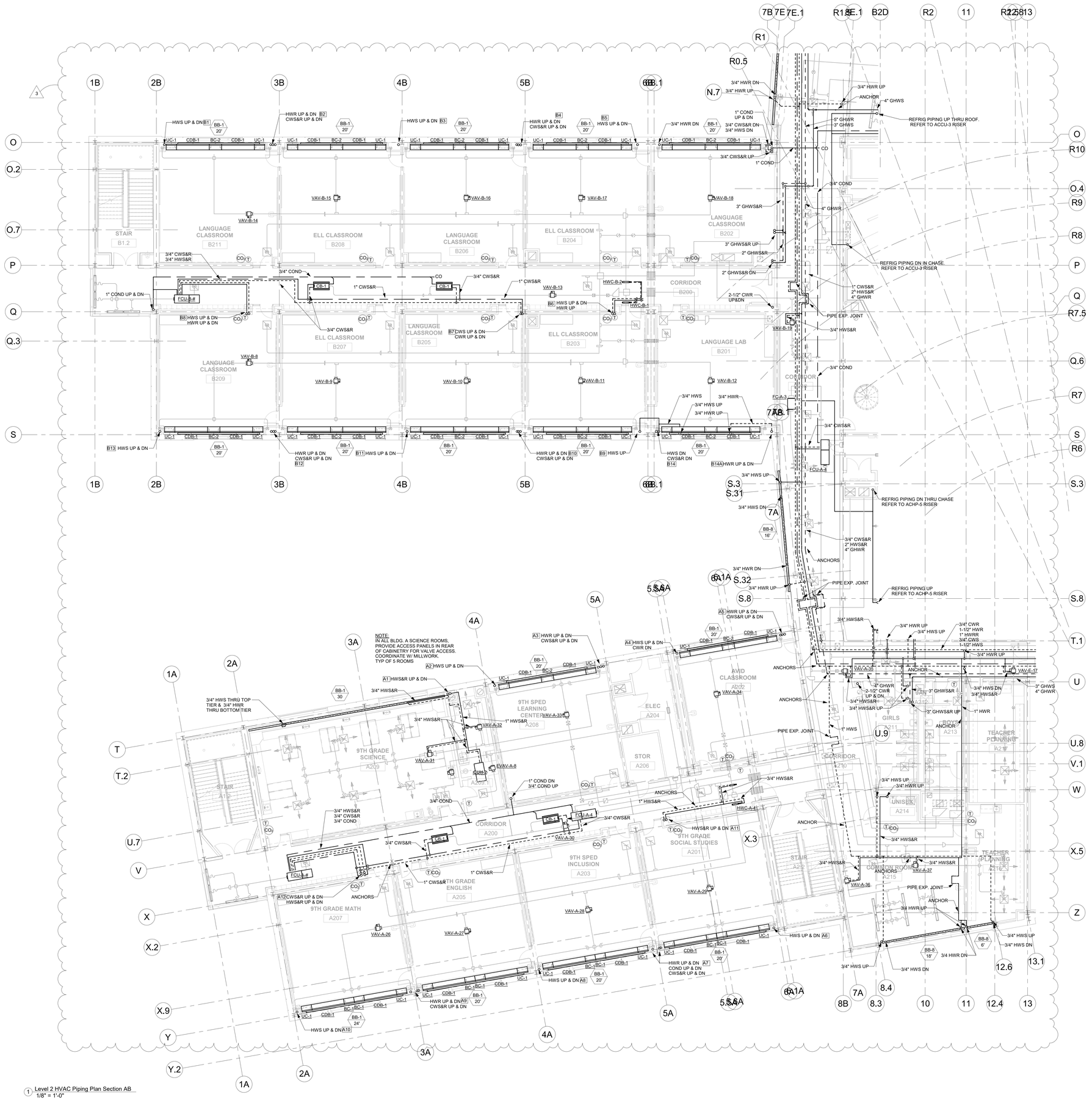
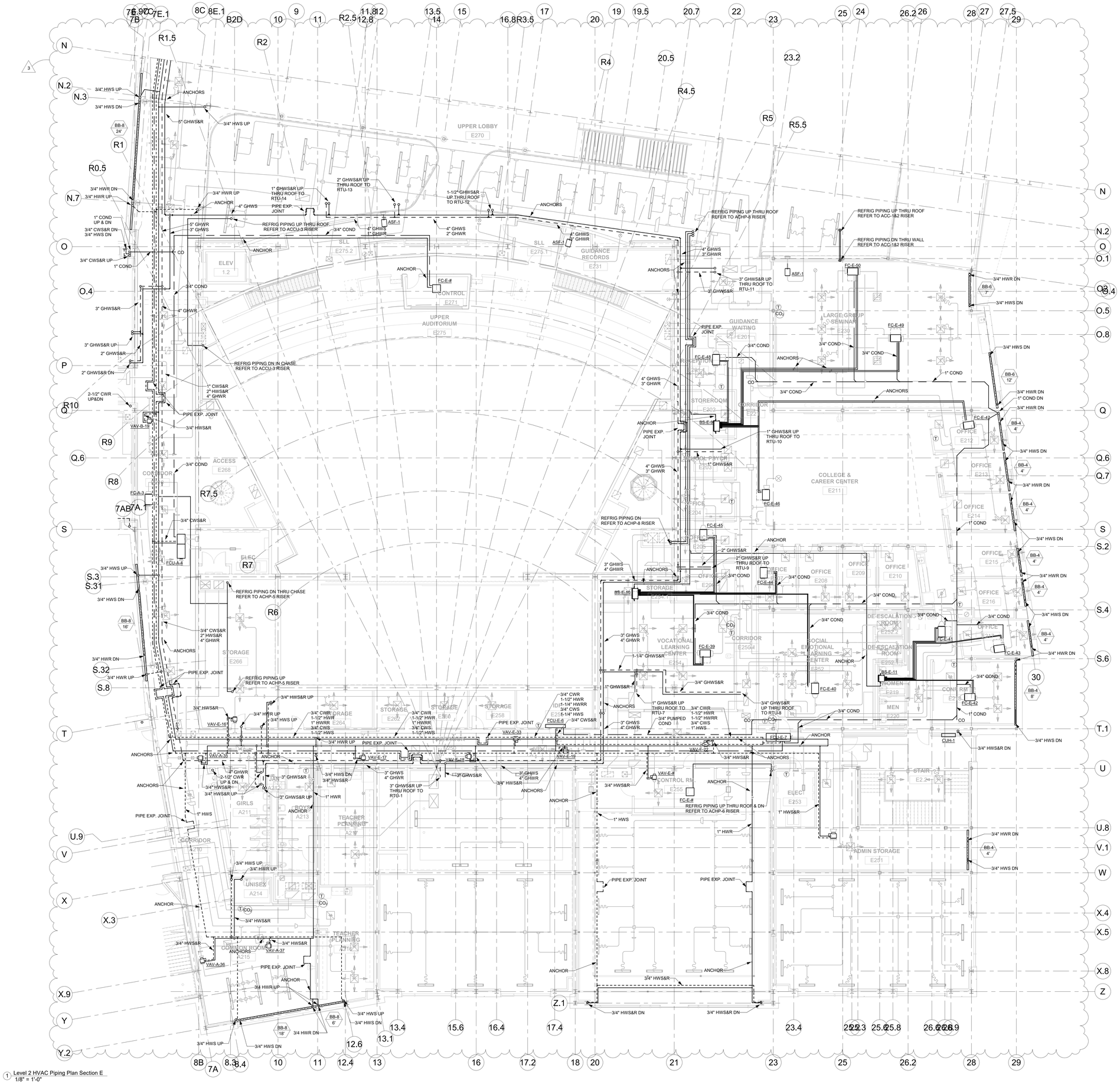

NOTE:
IN ALL BLDG. A SCIENCE ROOMS, PROVIDE ACCESS PANELS IN REAR OF CABINETRY FOR VALVE ACCESS. COORDINATE W/ MILLWORK. TYP OF 5 ROOMS
STAIR B1.2
LANGUAGE CLASSROOM B211
ELL CLASSROOM B208
LANGUAGE CLASSROOM B206
ELL CLASSROOM B204
LANGUAGE CLASSROOM B202
CORRIDOR B200
ELL CLASSROOM B207
LANGUAGE CLASSROOM B205
ELL CLASSROOM B203
LANGUAGE LAB B201
LANGUAGE CLASSROOM B209
CORRIDOR
STAIR A12
9TH GRADE SCIENCE A209
9TH SPED LEARNING CENTER A208
AVID CLASSROOM A202
ELEC A204
STOR A206
CORRIDOR A200
9TH SPED INCLUSION A203
9TH GRADE ENGLISH A205
9TH GRADE MATH A207
9TH GRADE SOCIAL STUDIES A201
CORRIDOR A210
UNISEX A214
GIRLS A211
BOYS A213
TEACHER PLANNING A212
TEACHER PLANNING A216
COMMON ROOM A215
STAIR A217
3/4" HWR DN
3/4" HWR UP
ANCHOR
4" GHWS
5" GHWR
3" GHWS
REFRIG PIPING UP THRU ROOF. REFER TO ACCU-3 RISER
1" COND UP & DN
3/4" CWS&R DN
3/4" HWS DN
3/4" CWS&R UP
1" COND
3/4" COND
3" GHWS&R
4" GHWR
3" GHWS&R UP
2" GHWS&R
REFRIG PIPING DN IN CHASE. REFER TO ACCU-3 RISER
2" GHWS&R DN
1" CWS&R
2" HWS&R
4" GHWR
2-1/2" CWR UP&DN
PIPE EXP. JOINT
3/4" HWS&R
3/4" HWS
3/4" HWS UP
3/4" HWR UP
3/4" CWS&R
REFRIG PIPING DN THRU CHASE REFER TO ACHP-5 RISER
3/4" HWS DN
3/4" CWS&R 2" HWS&R 4" GHWR
REFRIG PIPING UP REFER TO ACHP-2 RISER
3/4" CWR 1-1/2" HWR 1" HWRR 3/4" CWS 1-1/2" HWS
1-1/2" CWR UP & DN
1" HWS
3/4" HWS DN
3/4" HWS&R
3" GHWS 4" GHWR
1" HWR
3/4" HWS THRU TOP TIER & 3/4" HWR THRU BOTTOM TIER
1" HWS&R
1" COND DN 3/4" COND UP
3/4" HWS&R 3/4" CWS&R 3/4" COND
1" CWS&R
3/4" CWS&R 3/4" HWS&R
1" COND UP & DN
3/4" COND
3/4" CWS&R
1" CWS&R
3/4" CWS&R
3/4" COND
1" CWS&R
3/4" CWS&R
3/4" HWS&R
1" CWS&R
2" HWS&R
4" GHWR
PIPE EXP. JOINT
3/4" HWS&R
3/4" HWS UP
3/4" HWR UP
3/4" HWS&R
3/4" HWS&R
3/4" HWS&R


UPPER LOBBY
E270
UPPER AUDITORIUM
E275
GUIDANCE RECORDS
E231
GUIDANCE WAITING
E201
CONTROL
E271
ELEV
1.2
SLL
E275.2
SLL
E275.1
RECEPTION
E200
STOREROOM
E202
CORRIDOR
E203
SCHOOL PSYCH
E204
COLLEGE & CAREER CENTER
E211
LARGE GROUP SEMINAR
E230
OFFICE
E212
OFFICE
E213
OFFICE
E214
OFFICE
E215
OFFICE
E216
OFFICE
E217
OFFICE
E218
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E206
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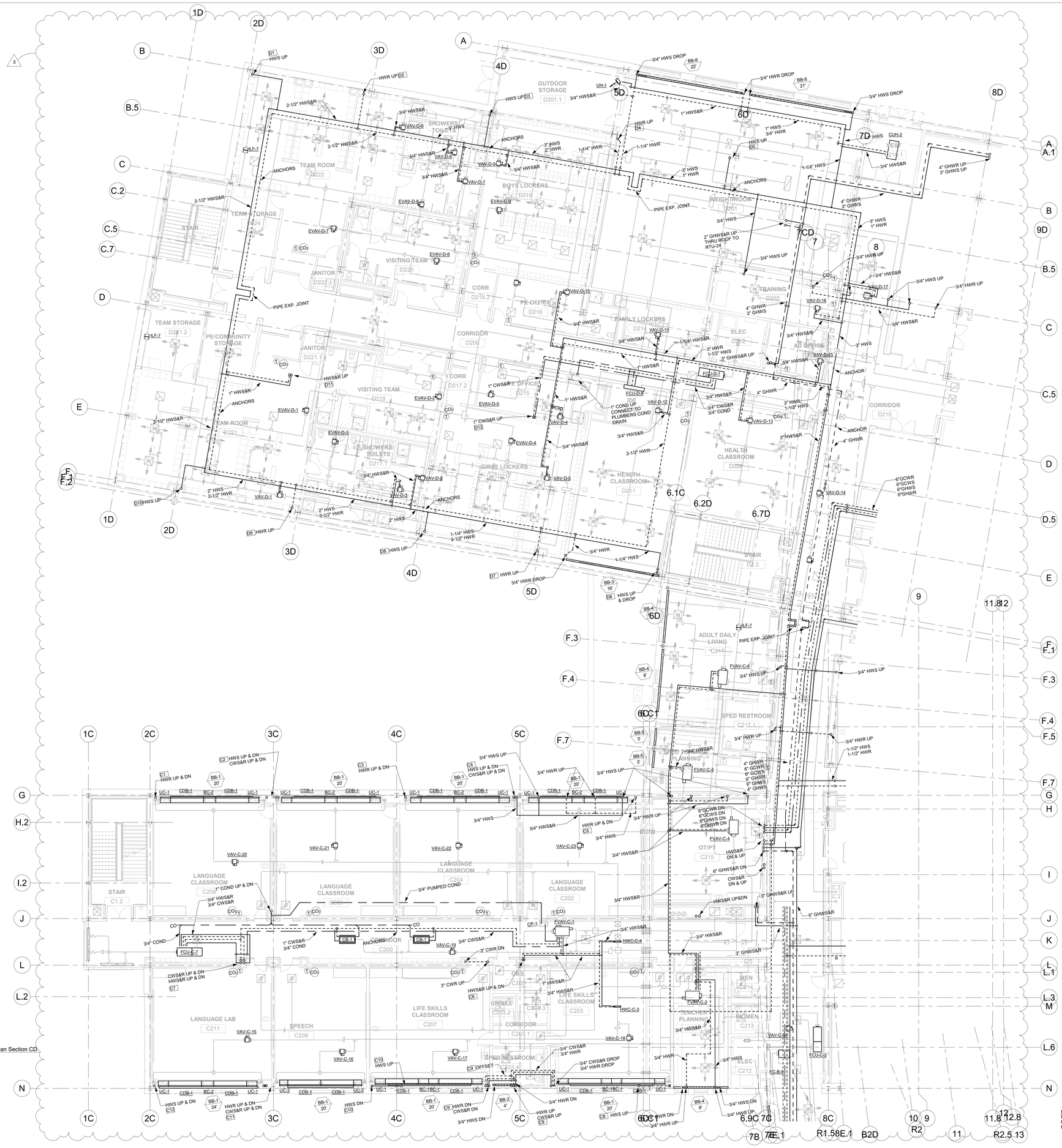
E207
OFFICE
E208
OFFICE
E209
OFFICE
E210
ACCESS
E268
CORRIDOR
E269
ELEC
R7
STORAGE
E266
STORAGE
E262
STORAGE
E263
STORAGE
E264
STORAGE
E265
STORAGE
E256
STORAGE
E258
STORAGE
E254
VOCATIONAL LEARNING CENTER
E254
SOCIAL EMOTIONAL LEARNING CENTER
E252
DE-ESCALATION ROOM
E252.2
DE-ESCALATION ROOM
E252.1
WOMEN
E219
MEN
E220
CONF RM
E218
CONTROL RM
E255
ELEC
E253
STAIR
E2.2
ADMIN STORAGE
E231
CORRIDOR
E210
GIRLS
A211
BOYS
A213
UNISEX
A214
TEACHER PLANNING
A216
TEACHER PLANNING
A212
COMMON ROOM
A215
CORRIDOR
A217
STAIR
A218
ANCHORS
ANCHOR
PIPE EXP. JOINT
REFRIG PIPING UP THRU ROOF REFER TO ACCU-3 RISER
REFRIG PIPING DN IN CHASE REFER TO ACCU-3 RISER
REFRIG PIPING DN THRU CHASE REFER TO ACHP-5 RISER
REFRIG PIPING UP REFER TO ACHP-5 RISER
REFRIG PIPING UP THRU ROOF REFER TO ACHP-8 RISER
REFRIG PIPING DN REFER TO ACHP-8 RISER
REFRIG PIPING UP THRU ROOF REFER TO ACC-1&2 RISER
REFRIG PIPING DN THRU WALL REFER TO ACC-1&2 RISER
REFRIG PIPING UP THRU ROOF & DN REFER TO ACHP-6 RISER
3/4" HWS UP
3/4" HWS DN
3/4" HWR DN
3/4" HWR UP
3/4" CWS&R UP
3/4" CWS&R DN
3/4" HWS&R
3/4" HWS&R UP
3/4" HWS&R DN
3/4" COND
1" COND
1" COND UP & DN
3" GHWS&R
3" GHWS&R UP
3" GHWS&R DN
2" GHWS&R
2" GHWS&R DN
2" GHWS&R UP THRU ROOF TO RTU-13
1" GHWS&R UP THRU ROOF TO RTU-14
1-1/2" GHWS&R UP THRU ROOF TO RTU-12
3" GHWS&R UP THRU ROOF TO RTU-11
2" GHWS&R UP THRU ROOF TO RTU-9
1" GHW/S&R UP THRU ROOF TO RTU-10
1" GHWS&R UP THRU ROOF TO RTU-7
3/4" GHWS&R UP THRU ROOF TO RTU-8
3" GHWS&R UP THRU ROOF TO RTU-1
1" GHWS&R
1-1/4" GHWS&R
3/4" GHWS&R
4" GHWS 2" GHWR
4" GHWS 3" GHWR
4" GHWS 4" GHWR
4" GHWS 1" GHWR
4" GHWR
5" GHWS 3" GHWS
5" GHWS&R
1" CWS&R 2" HWS&R 4" GHWR
3/4" CWS&R 2" HWS&R 4" GHWR
2" GHWR 2-1/2" CWR UP & DN
2-1/2" CWR UP&DN
3/4" CWR 1-1/2" HWR 1" HWRR 3/4" CWS 1-1/2" HWS
3/4" CWR 1-1/2" HWR 1" HWRR 3/4" CWS 1-1/4" HWS
3/4" CWR 1-1/2" HWR 1" HWRR 3/4" CWS 1-1/2" HWS
3/4" CWR 1-1/2" HWR 3/4" CWS 1" HWS
1" HWR
1" HWS
CO
CO2
ASF-1
FC-E-50
FC-E-49
FC-E-48
FC-E-47
FC-E-46
FC-E-45
FC-E-44
FC-E-43
FC-E-42
FC-E-41
FC-E-40
FC-E-39
FC-E-8
FC-E-7
FC-E-6
FC-E-5
FC-E-4
FC-E-3
FC-E-2
FC-E-1
BB-E-11
BB-E-10
BB-8 24'
BB-8 16'
BB-8 18'
BB-8 6'
BB-6 7'
BB-6 12'
BB-4 4'
BB-4 8'
VAV-B-19
VAV-E-33
VAV-E-22
VAV-E-19
VAV-E-18
VAV-E-17
VAV-E-16
VAV-A-37
VAV-A-36
VAV-A-35
FCU-A-4
FCU-E-7
FCU-E-6
CUH-1
ELEC
E253
ELEC
R7
ELEC
E253
ELEC
E253
ELEC
E253



NOTE:
REFER TO HVAC PIPING RISER DIAGRAMS FOR PIPE SIZES CONNECTING FROM RISERS TO MAINS & ASSOC. TERMINALS FED FROM RISERS

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PROJECT

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Doherty Memorial High School

299 Highland St
Worcester, MA 01602

DRAWING TITLE

Level 2 HVAC Piping Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
DATE:	JANUARY 20, 2021

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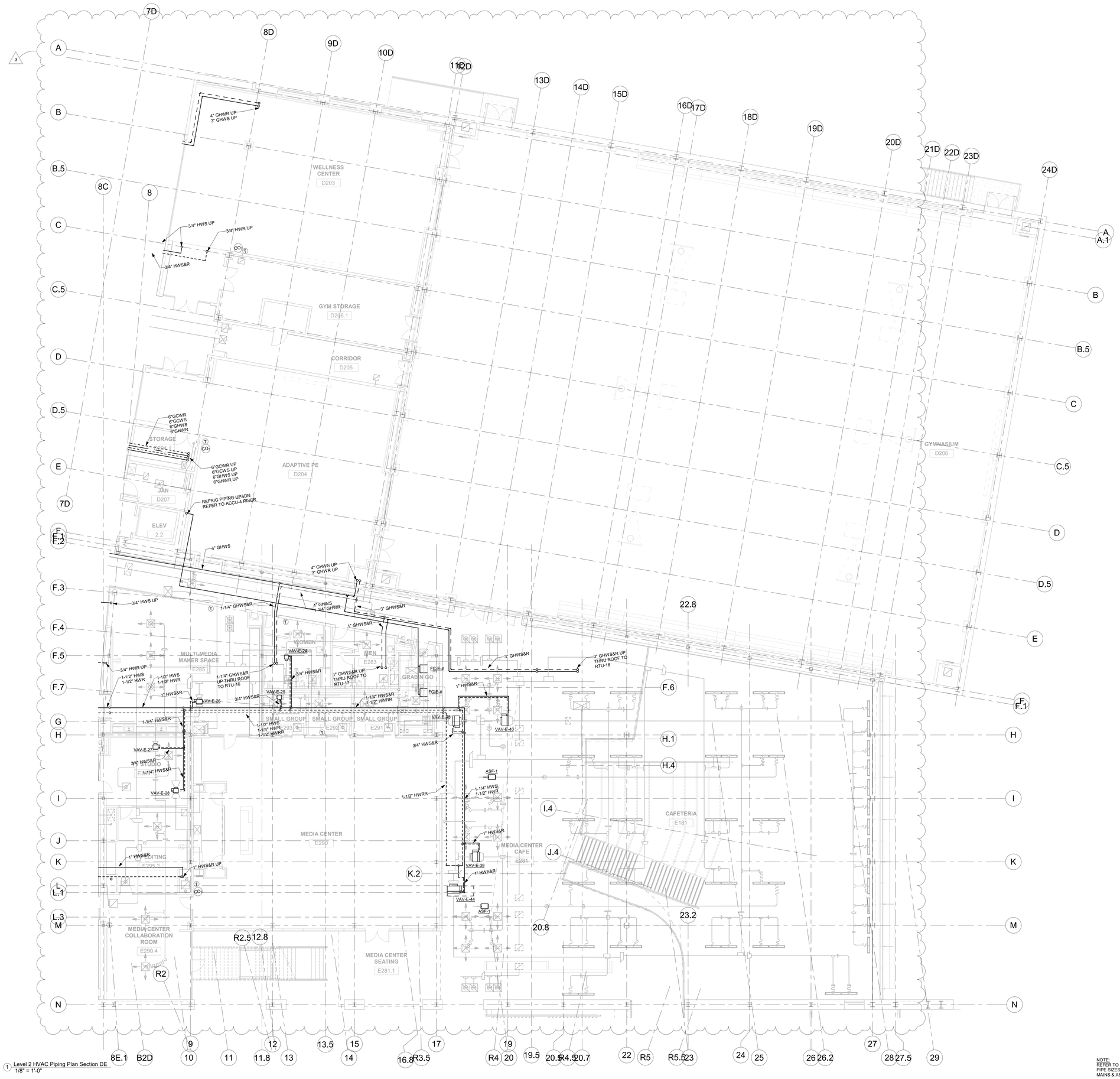

1 Level 2 HVAC Piping Plan Section DE
1/8" = 1'-0"

NOTE:
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DRAWING TITLE

Level 2 HVAC Piping Plan Section DE

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
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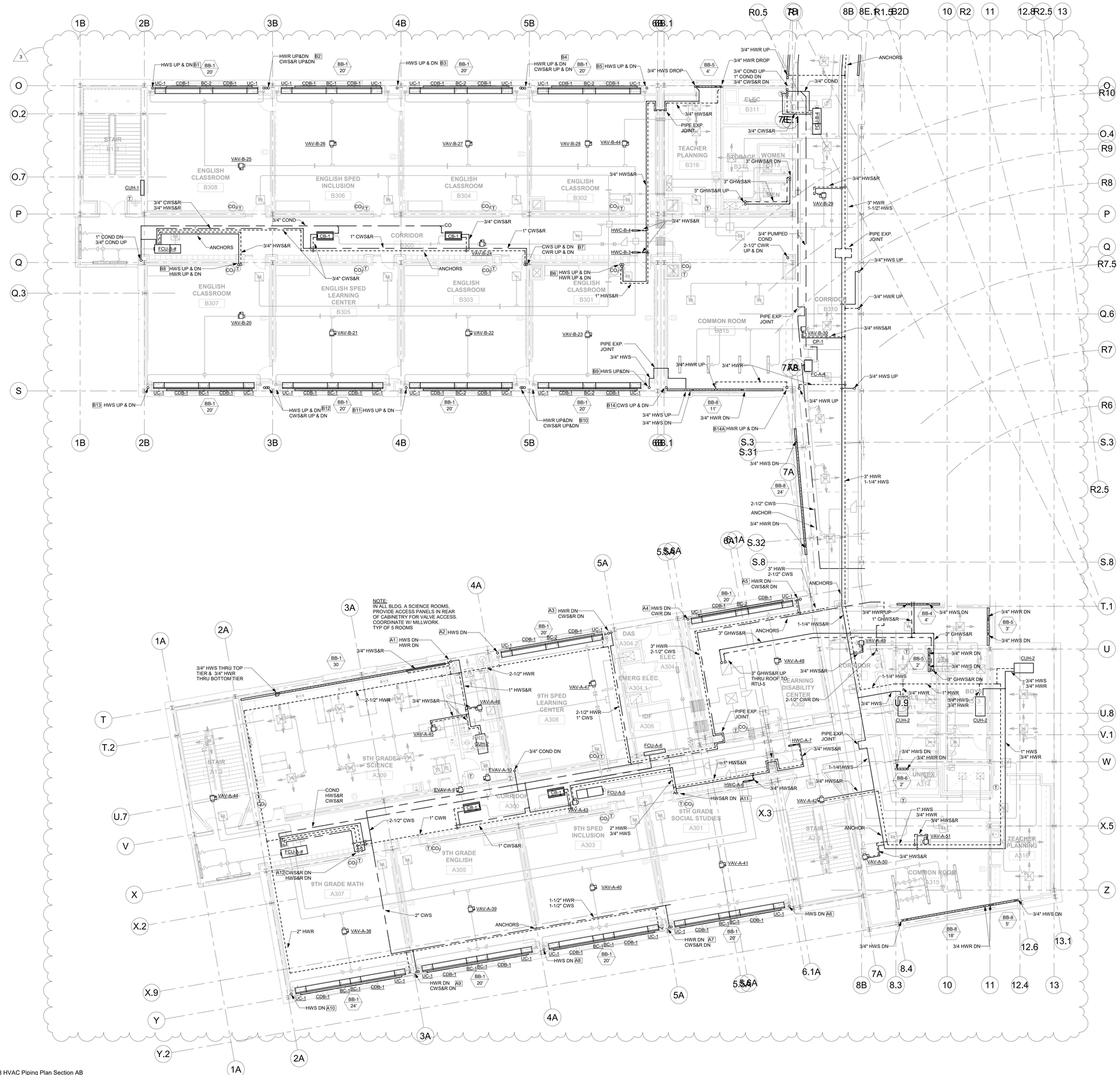
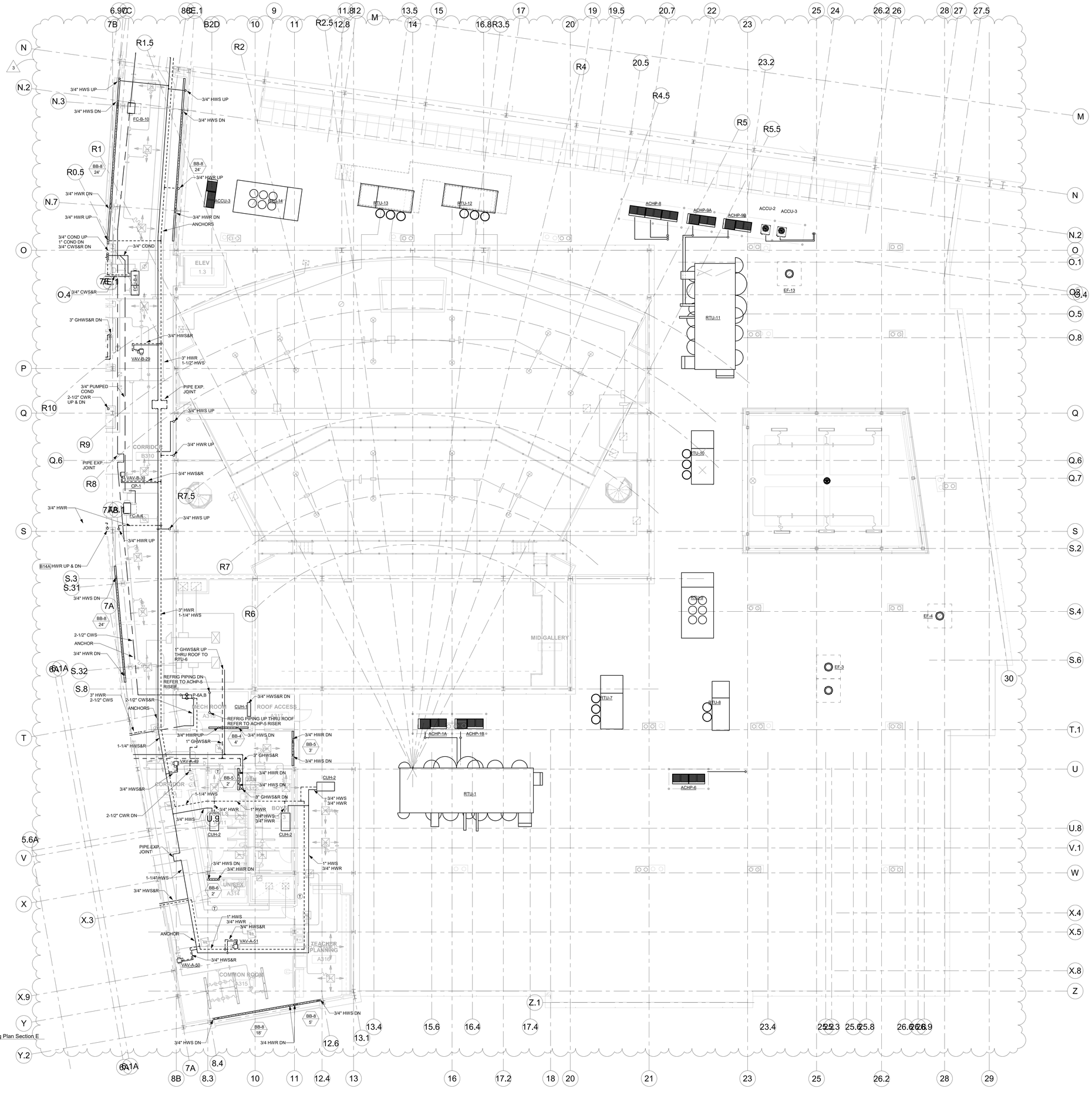

NOTE:
IN ALL BLDG. A SCIENCE ROOMS, PROVIDE ACCESS PANELS IN REAR OF CABINETRY FOR VALVE ACCESS. COORDINATE W/ MILLWORK. TYP OF 5 ROOMS
3/4" HWS THRU TOP TIER & 3/4" HWR THRU BOTTOM TIER
STAIR B113
ENGLISH CLASSROOM B308
ENGLISH SPED INCLUSION B306
ENGLISH CLASSROOM B304
ENGLISH CLASSROOM B302
ENGLISH CLASSROOM B307
ENGLISH SPED LEARNING CENTER B305
ENGLISH CLASSROOM B303
ENGLISH CLASSROOM B301
CORRIDOR B300
TEACHER PLANNING B316
STORAGE B312
WOMEN B313
MEN B314
ELEC B311
CORRIDOR B310
COMMON ROOM B315
STAIR A113
9TH GRADE SCIENCE A309
9TH SPED LEARNING CENTER A308
DAS A304.2
ELEC A304
EMERG ELEC A304.1
IDF A306
CORRIDOR A300
9TH SPED INCLUSION A303
9TH GRADE ENGLISH A305
9TH GRADE MATH A307
9TH GRADE SOCIAL STUDIES A301
LEARNING DISABILITY CENTER A302
CORRIDOR A310
STAIR A23
TEACHER PLANNING A316
COMMON ROOM A315
UNISEX A314
BOYS A312
GIRLS A313
ANCHORS
PIPE EXP. JOINT
3/4" HWS DROP
3/4" HWR UP
3/4" HWR DROP
3/4" COND UP
1" COND DN
3/4" CWS&R DN
3/4" COND
3/4" HWS&R
3/4" CWS&R
3" GHWS&R DN
3" GHWS&R UP
3" HWR 1-1/2" HWS
3/4" PUMPED COND
2-1/2" CWR UP & DN
3/4" HWS UP
3/4" HWR UP
3/4" HWR
3/4" HWS
3/4" HWS DN
3/4" HWR DN
3" HWR 1-1/4" HWS
2-1/2" CWS
ANCHOR
1-1/4" HWS&R
3" GHWS&R
3" HWR 2-1/2" CWS
3" GHWS&R UP THRU ROOF TO RTU-5
2-1/2" CWR DN
1-1/4" HWS
1" HWR 3/4" HWS
1" HWS 3/4" HWR
1-1/4" HWS
2-1/2" HWR
1" HWS&R
2-1/2" HWR 1" CWS
3/4" COND DN
1" HWS&R
2" HWR 3/4" HWS
1" HWR 3/4" HWS
1-1/2" HWR 1-1/2" CWS
2" CWS
2" HWR
1" COND DN 3/4" COND UP
1" CWS&R
CWS UP & DN CWR UP & DN
HWS UP & DN HWR UP & DN
HWR UP&DN CWS&R UP&DN
HWS UP & DN CWS&R UP & DN
HWR UP & DN CWS&R UP & DN
HWR DN CWS&R DN
HWS DN CWR DN
HWS UP & DN
HWS DN
HWR DN CWS&R UP&DN
CWS UP & DN
CWS&R DN HWS&R DN
HWR DN CWS&R
HWS DN A6
HWS DN A8
HWS DN A10
HWR DN A9
HWS DN A11
HWR DN A7
HWS UP&DN
CWS UP & DN
HWR UP & DN
CWS&R UP & DN
HWS UP & DN
HWR UP&DN
HWS UP&DN
HWS UP & DN
HWS UP & DN
HWS UP &



1 Level 3 HVAC Piping Plan Section E
1/8" = 1'-0"

NOTE:
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DRAWING TITLE

Level 3 HVAC Piping Plan Section E

Locus Map
True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
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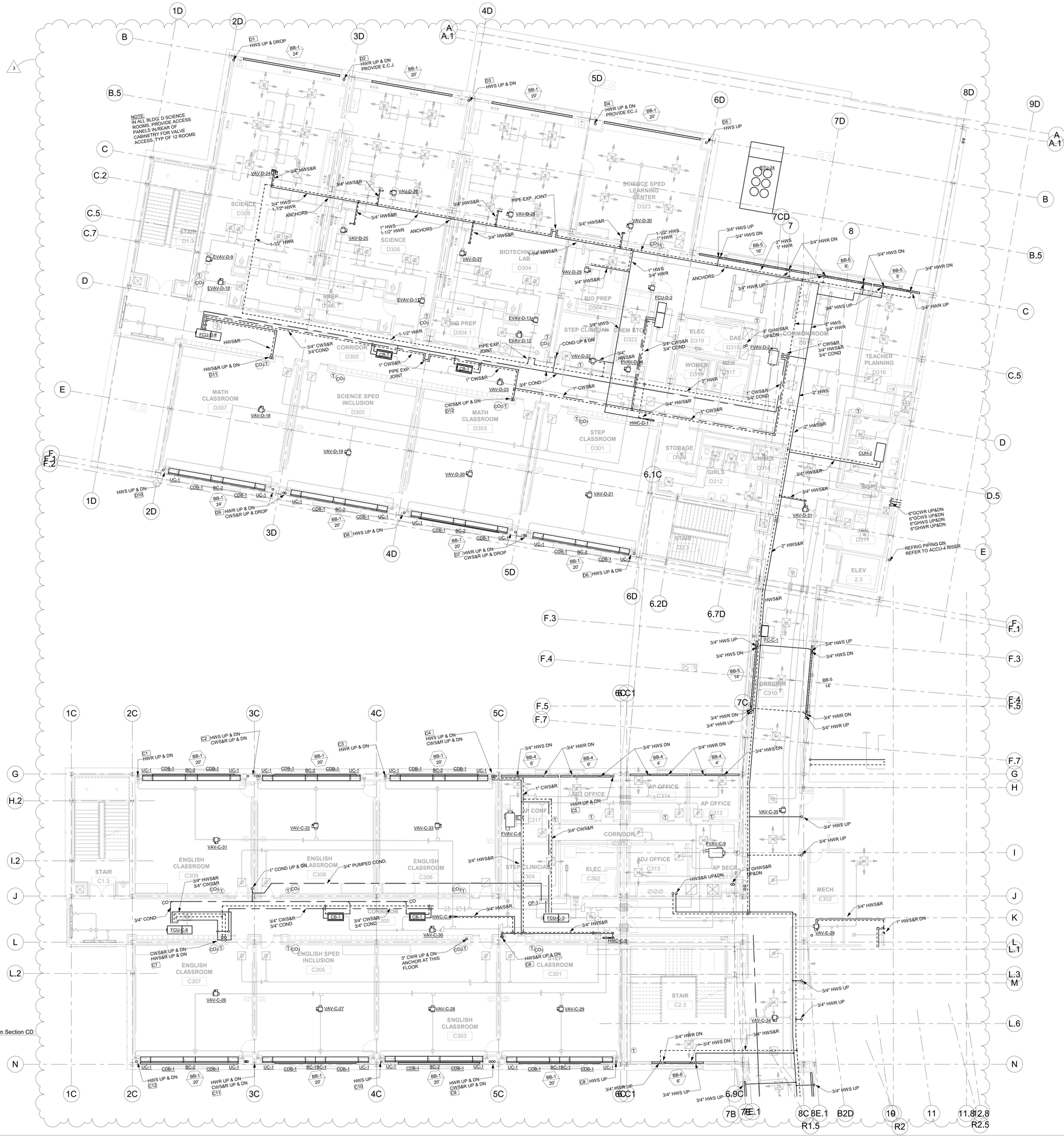

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DRAWING TITLE

Level 3 HVAC Piping Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: 1/8" = 1'-0"
DWN. BY: FJG
CKD. BY: KRS
DATE: JANUARY 20, 2021

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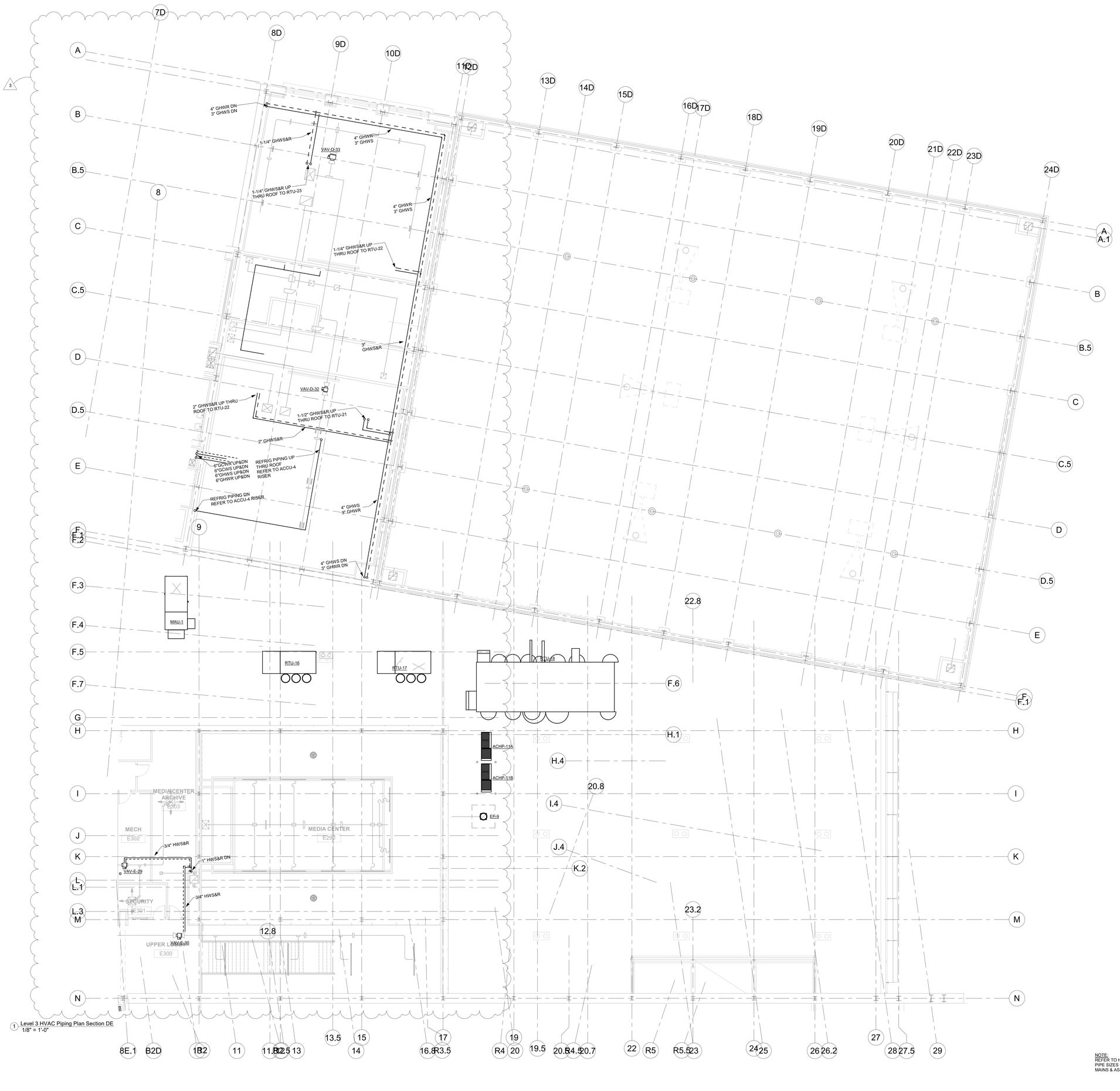

1 Level 3 HVAC Piping Plan Section DE
1/8" = 1'-0"

NOTE:
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DRAWING TITLE

Level 3 HVAC Piping Plan Section DE

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
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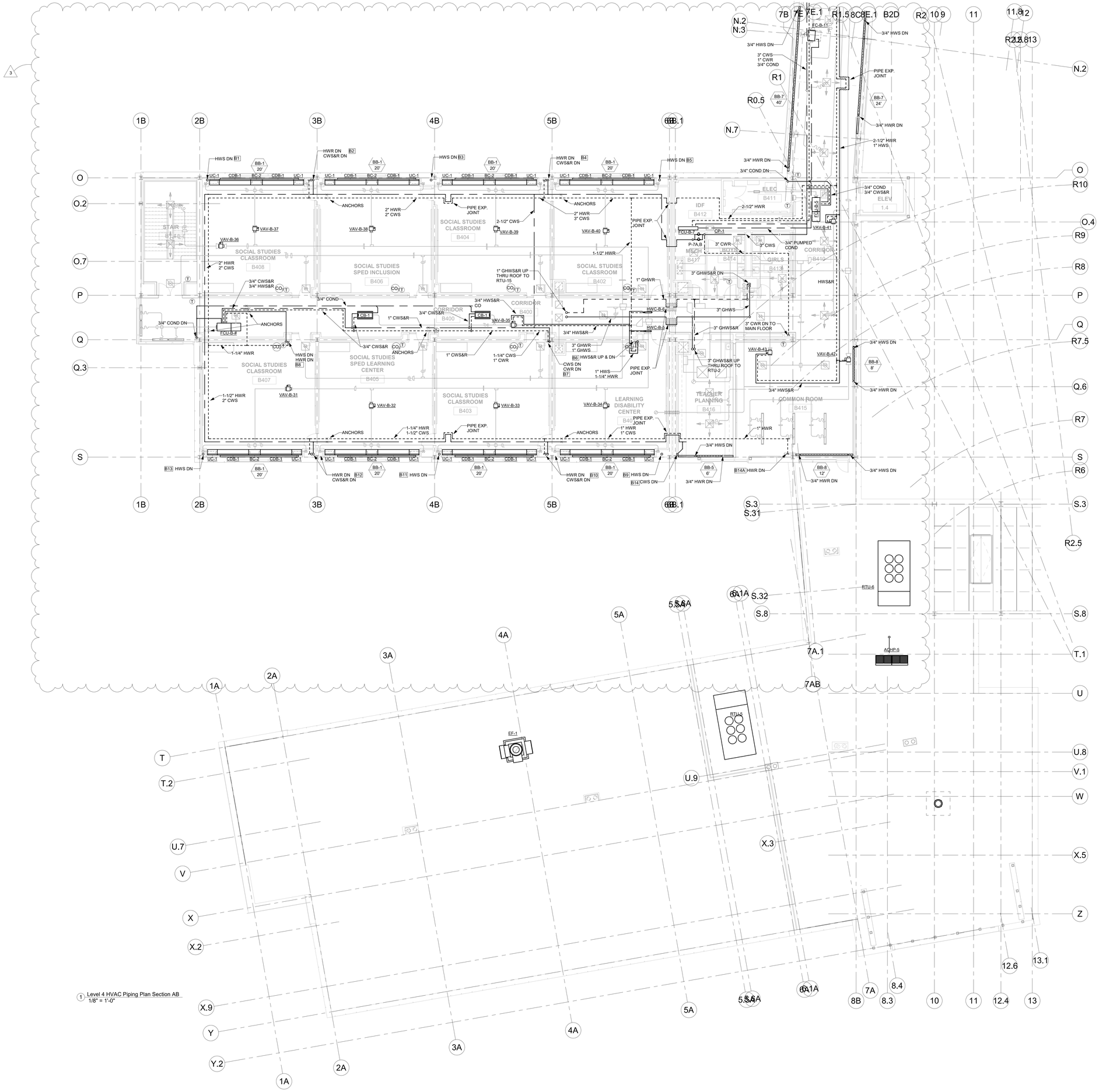
STAIR B411
ELEC B411
IDF B412
MECH B417
BOYS B414
GIRLS B413
CORRIDOR B410
SOCIAL STUDIES CLASSROOM B408
SOCIAL STUDIES SPED INCLUSION B406
SOCIAL STUDIES CLASSROOM B402
CORRIDOR B400
SOCIAL STUDIES CLASSROOM B407
SOCIAL STUDIES SPED LEARNING CENTER B405
SOCIAL STUDIES CLASSROOM B403
LEARNING DISABILITY CENTER B404
TEACHER PLANNING B416
COMMON ROOM B415
HWS DN B1
HWR DN CWS&R DN B2
HWS DN B3
HWR DN CWS&R DN B4
HWS DN B5
HWS DN B13
HWR DN CWS&R DN B12
HWS DN B11
HWR DN CWS&R DN B10
HWS DN B9
CWS DN B14
HWR DN B14A
VAV-B-36
VAV-B-37
VAV-B-38
VAV-B-39
VAV-B-40
VAV-B-41
VAV-B-42
VAV-B-43
VAV-B-31
VAV-B-32
VAV-B-33
VAV-B-34
VAV-B-35
FCU-B-7
FCU-B-8
CP-1
P-7A,B
CB-1
HWC-B-1
HWC-B-2
BB-1 20'
BB-5 6'
BB-7 24'
BB-8 8'
BB-8 12'
RTU-5
RTU-6
EF-1
ACHP-5
ANCHORS
PIPE EXP. JOINT
3/4" HWS DN
3" CWS 1" CWR 3/4" COND
3/4" HWR DN
3/4" COND DN
2-1/2" HWR 1" HWS
3/4" COND 3/4" CWS&R
2-1/2" HWR
3" CWR
3" CWS
3/4" PUMPED COND
3" GHWS&R DN
HWS&R
1" GHWR
3" GHWS
3" GHWS&R
3" CWR DN TO MAIN FLOOR
3/4" GHWS&R
3/4" HWR DN
3" GHWS&R UP THRU ROOF TO RTU-2
3/4" HWS&R
1" HWR
3/4" HWS DN
3/4" HWR DN
3/4" COND
3/4" CWS&R
3/4" HWS&R
3/4" HWS&R CO
1" CWS&R
1" GHWS&R UP THRU ROOF TO RTU-15
3/4" HWS&R
3" GHWR 1" GHWS
HWS&R UP & DN
CWS DN CWR DN B7
1" HWS 1-1/4" HWR
1-1/4" HWR
2" HWR 2" CWS
1-1/4" CWS 1" CWR
1-1/4" HWR 2" CWS
1-1/4" HWR 1-1/2" CWS
1" HWR 1" CWS
1" CWS&R
1-1/2" HWR
HWS DN HWR DN B8
3/4" COND DN
3/4" CWS&R
CO
1" HWR
2" HWR 2" CWS
2-1/2" CWS
1-1/2" HWR
3/4" HWR DN
3/4" HWS DN
3/4" HWR DN
3/4" HWR DN
3/4" HWR

NOTE:
IN ALL BLDG' D SCIENCE ROOMS, PROVIDE ACCESS PANELS IN REAR OF CABINETRY FOR VALVE ACCESS, TYP OF 12 ROOMS

NOTE:
REFER TO HVAC PIPING RISER DIAGRAMS FOR PIPE SIZES CONNECTING FROM RISERS TO MAINS & ASSOC. TERMINALS FED FROM RISERS

1 Level 4 HVAC Piping Plan Section CD
1/8" = 1'-0"

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DRAWING TITLE

Level 4 HVAC Piping Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: 1/8" = 1'-0"
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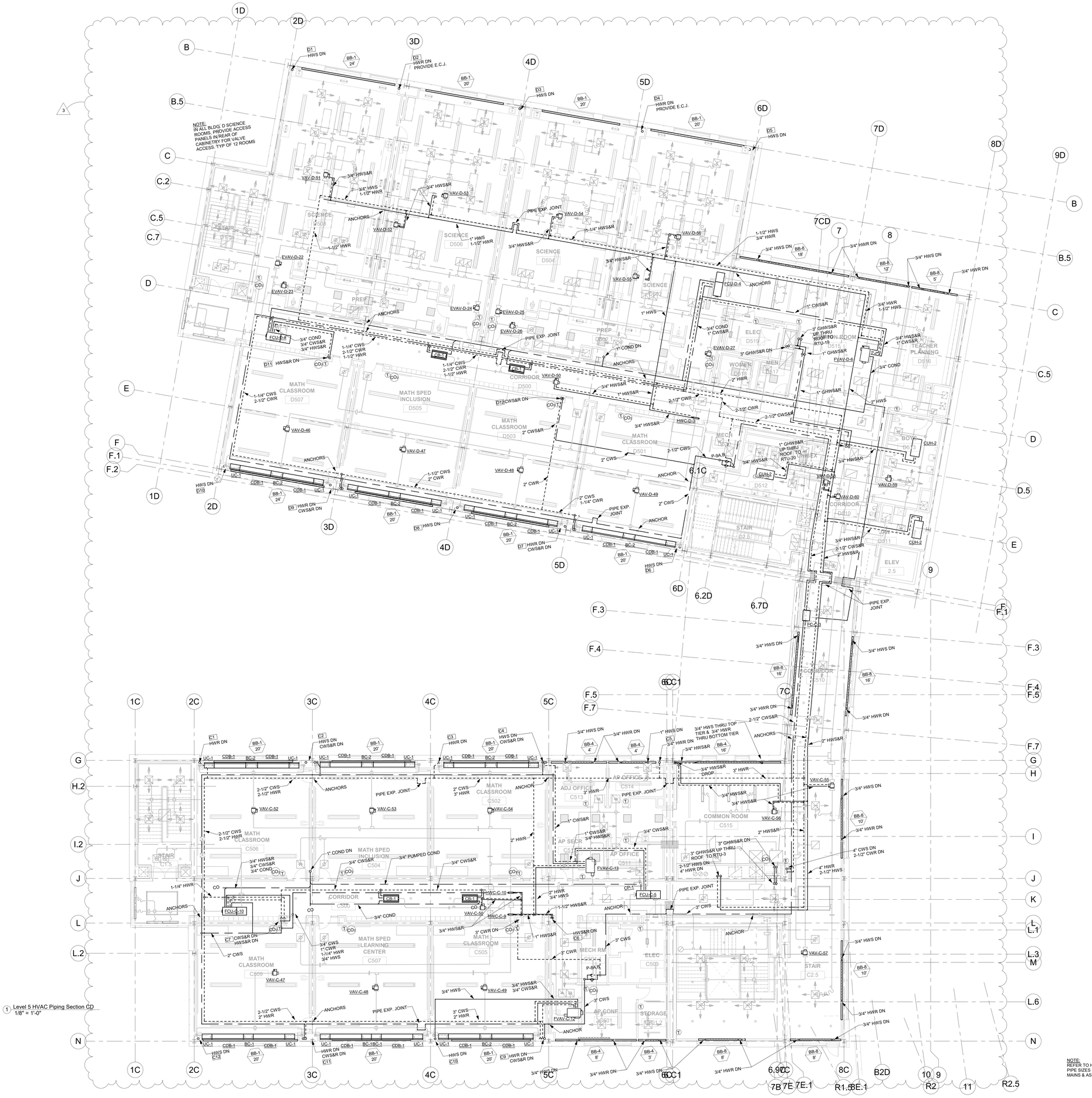

NOTE:
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Doherty Memorial High School
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DRAWING TITLE

Level 5 HVAC Piping Plan Section CD

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:	
JOB NO:	#1904
SCALE:	1/8" = 1'-0"
DWN. BY:	FJG
CKD. BY:	KRS
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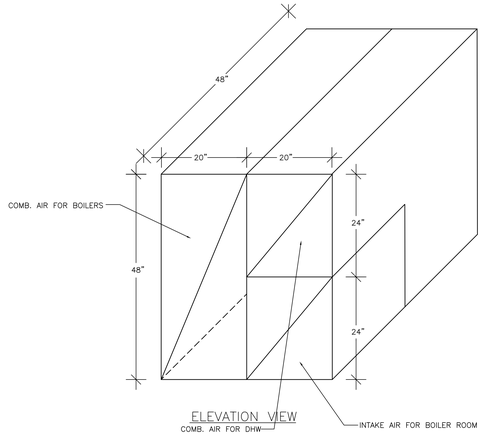
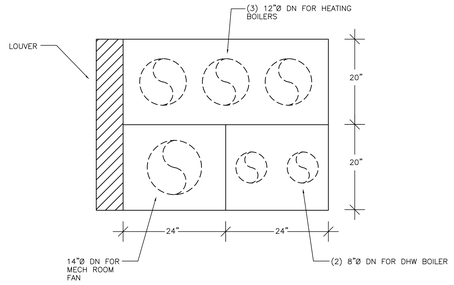
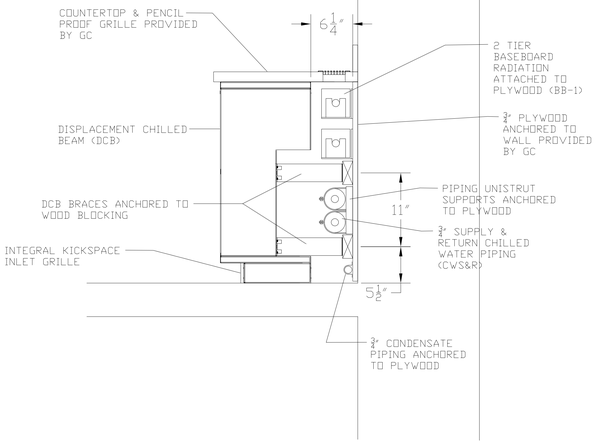




NOTE:
LOUVER LOCATED ON
2ND FLOOR BUILDING C

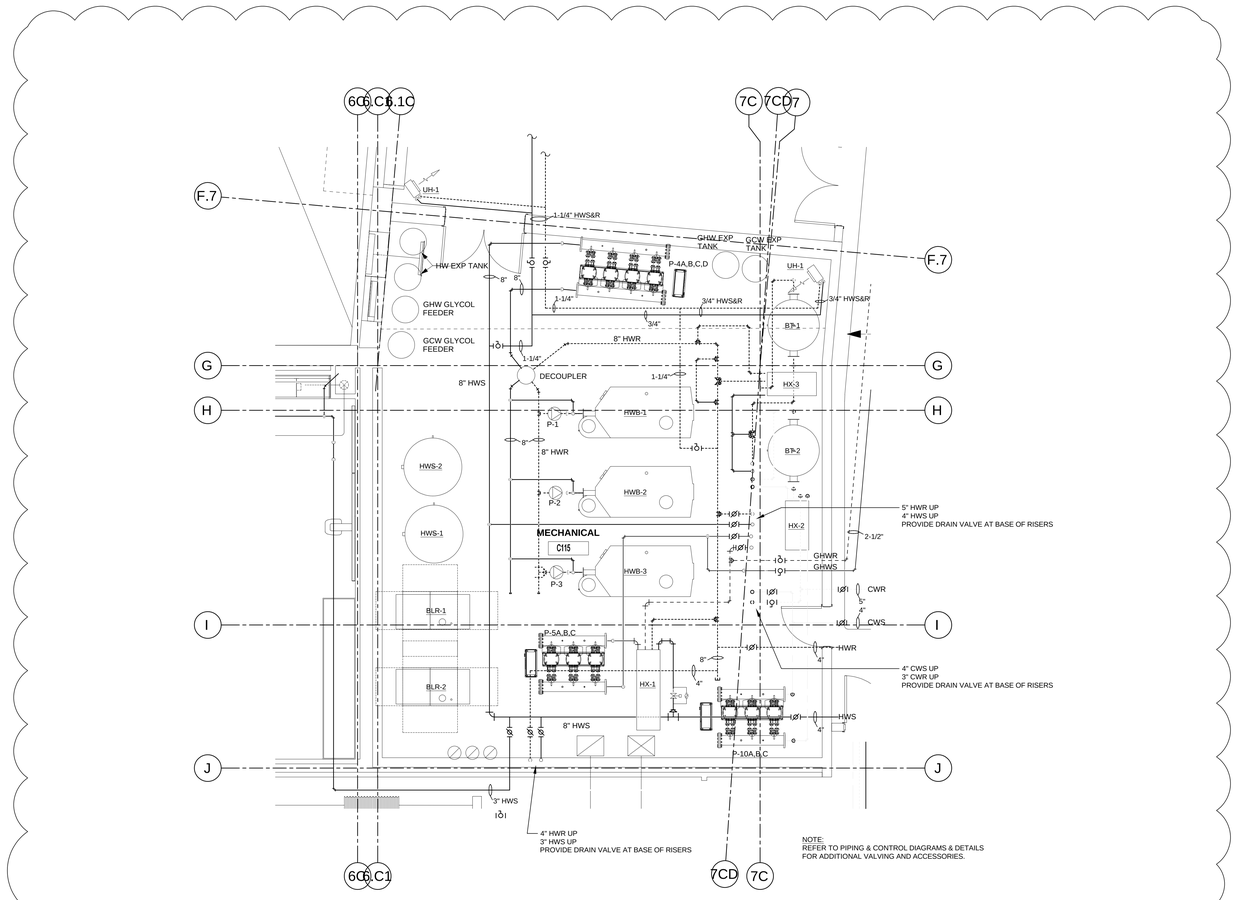
BOILER ROOM INTAKE LOUVER PLENUM DETAIL

NOT TO SCALE



CLASSROOM DISPLACEMENT CHILLED BEAM DETAIL

NOT TO SCALE



NOTE:
REFER TO PIPING & CONTROL DIAGRAMS & DETAILS
FOR ADDITIONAL VALVING AND ACCESSORIES.

ENLARGED MECHANICAL ROOM PLAN

1/4"=1'-0"

3

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Final Bid Package #4

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299 Highland Street, Worcester, MA 01602

DRAWING TITLE

HVAC Details & Enlarged Mechanical Room Plan

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: NO SCALE
DWN. BY: FJG
CKD. BY: KRS
DATE: JANUARY 20, 2022

H5.3

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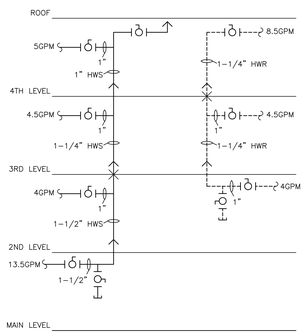
B6



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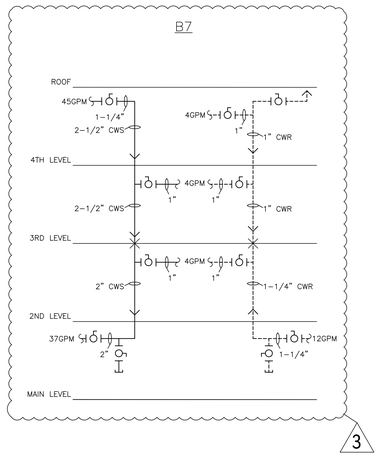

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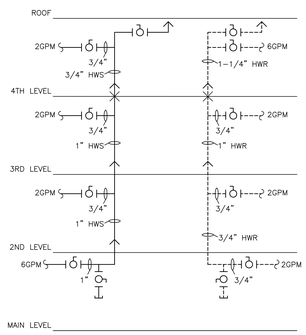

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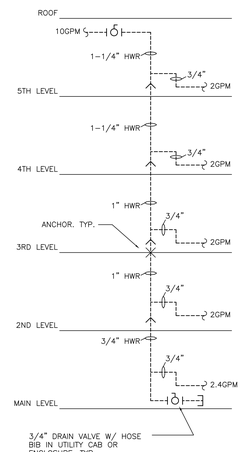

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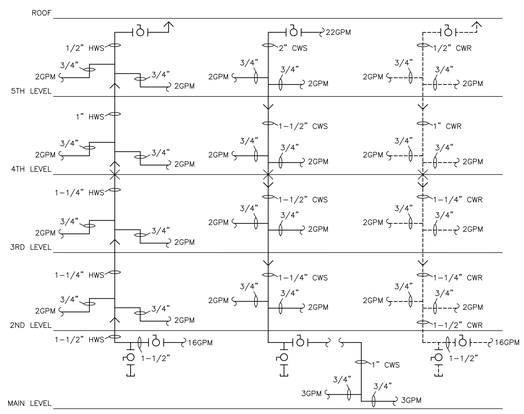

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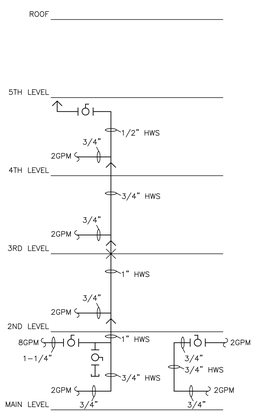

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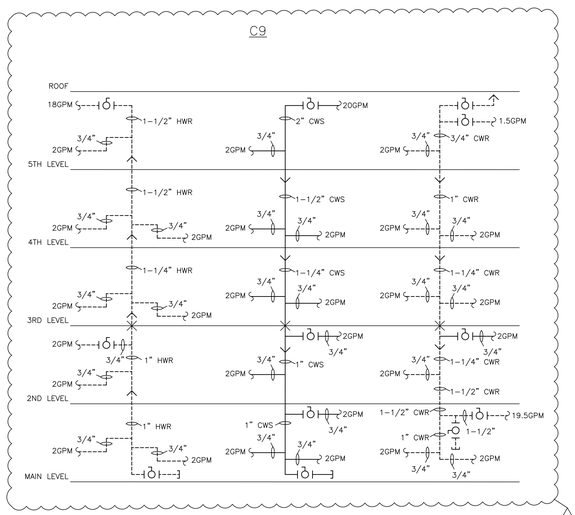

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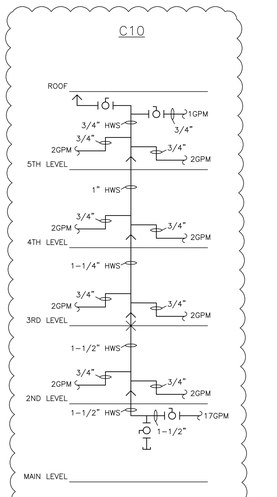

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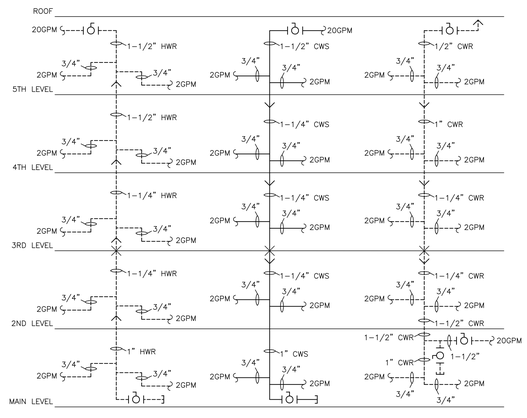

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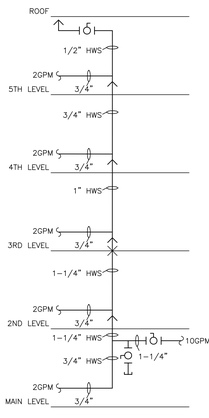

PIPING RISER DIAGRAMS – B & C BUILDING

NOT TO SCALE

RISER DIAGRAM NOTES:

1. PIPING SHOWN SHALL CONTINUE TO RUN OUT TO BRANCH MAIN, TERMINAL UNIT, OR RADIATION AS APPLICABLE.
2. REFER TO HVAC DETAILS FOR ADDITIONAL VALVING & ACCESSORIES.
3. ALL VALVING, VENTS, AND DRAINS SHALL BE LOCATED OUTSIDE OF RATED ENCLOSURES ACCESSIBLE ABOVE CEILING, IN UTILITY CABINETS, RADIATION ENCLOSURES, OR MILLWORK AS APPLICABLE.
4. GPM'S LISTED ARE APPROXIMATE. REFER TO SCHEDULES & CONNECTED LOAD FOR FINAL VALUES.

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CONSULTANT'S STAMP

OWNER

Worcester Public Schools
299 Highland St
Worcester MA 01602

PROJECT

100% Construction Documents
Final Bid Package #4

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

DRAWING TITLE

HVAC Piping Riser Diagrams

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:

JOB NO: #1904

SCALE: NO SCALE

DWN. BY: FJG

CKD. BY: KRS

DATE: JANUARY 20, 2022

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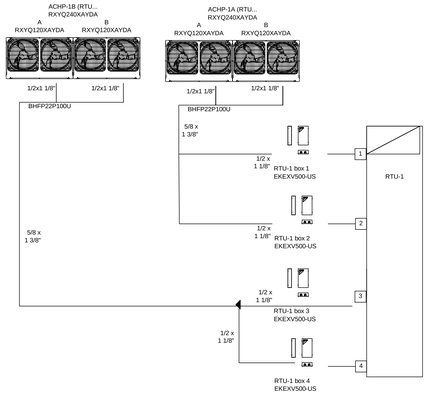
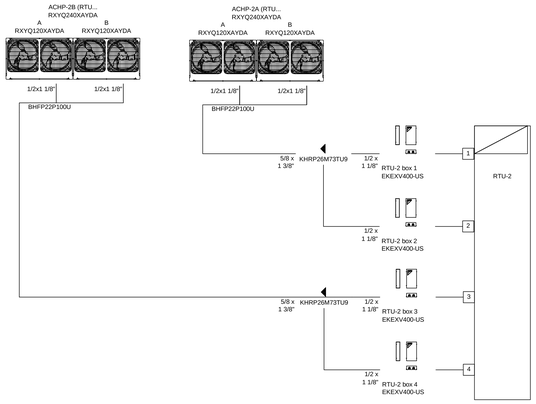
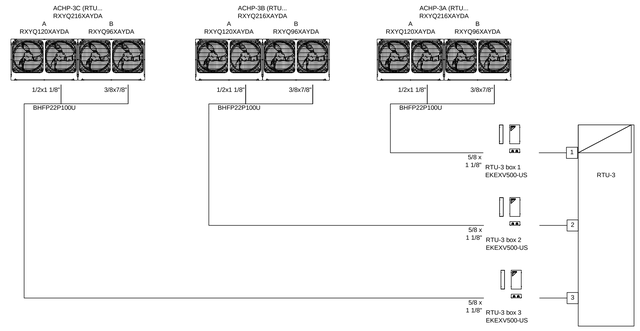


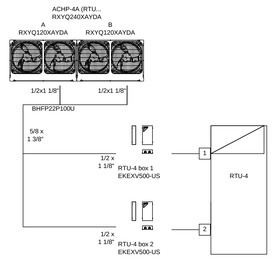
RTU–1 REFRIGERANT PIPE DIAGRAM



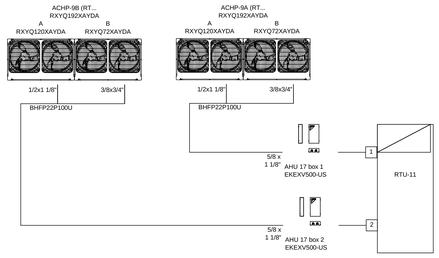
RTU–2 REFRIGERANT PIPE DIAGRAM



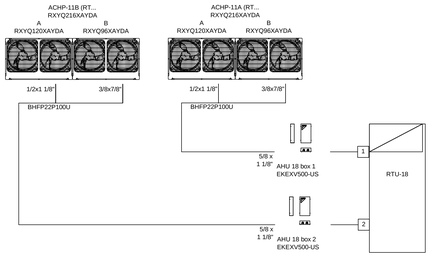
RTU–3 REFRIGERANT PIPE DIAGRAM



RTU–4 REFRIGERANT PIPE DIAGRAM

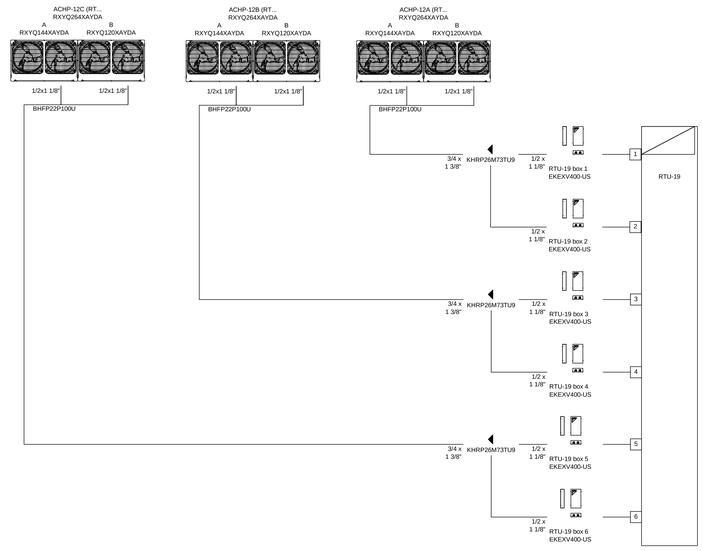


RTU–11 REFRIGERANT PIPE DIAGRAM

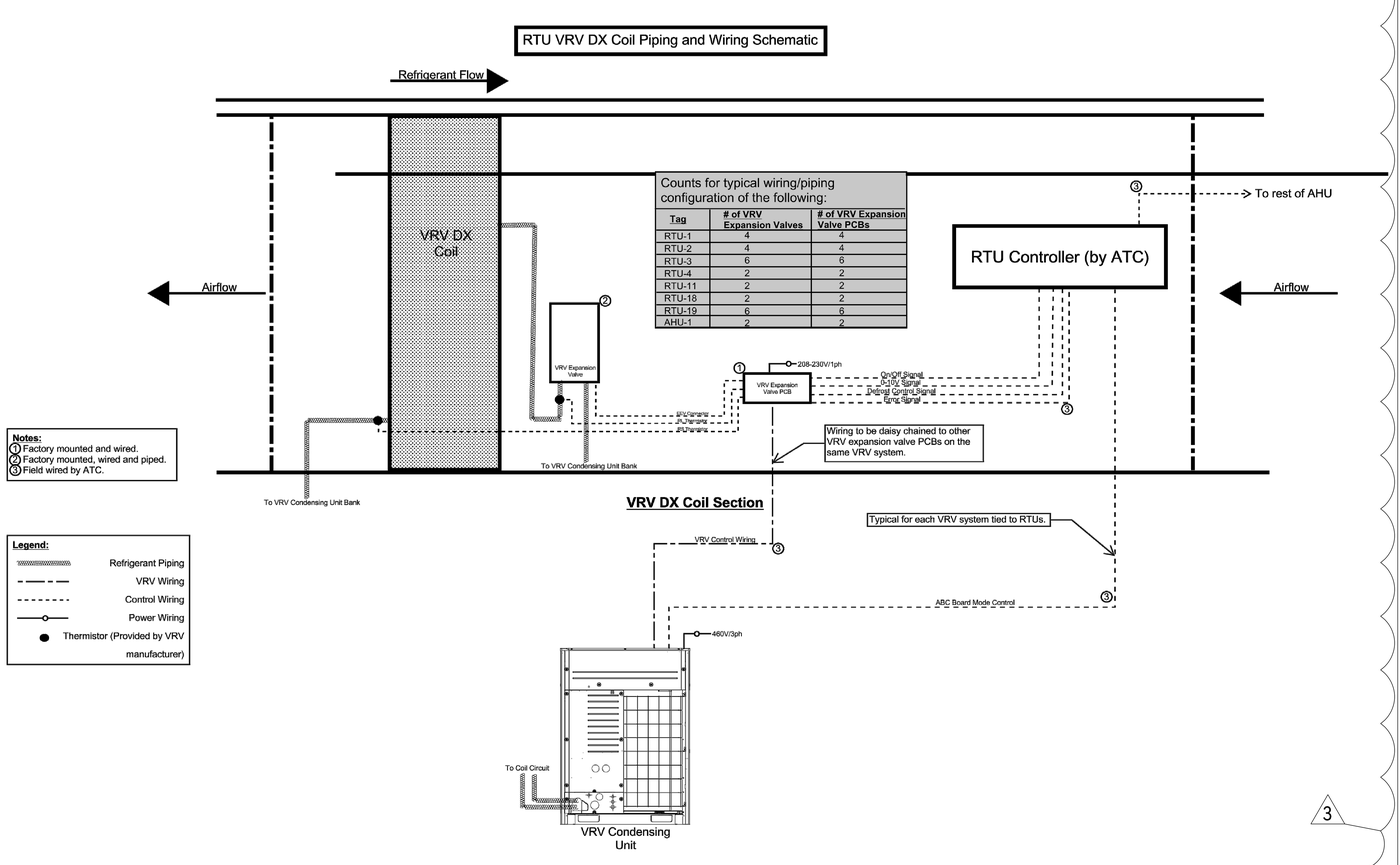


RTU–18 REFRIGERANT PIPE DIAGRAM

NOTE:
1. REFER TO PLANS FOR FINAL REQUIRED PIPE LENGTHS AND COORDINATE PIPE SIZES WITH EQUIPMENT MANUFACTURE.
2. REFER TO HVAC CONTROL DRAWINGS FOR ADDITIONAL INFORMATION.



RTU–19 REFRIGERANT PIPE DIAGRAM



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OWNER

Worcester Public Schools
299 Highland St
Worcester MA 01602

PROJECT

FINAL BID PACKAGE

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

DRAWING TITLE

HVAC VRF SCHEMATICS & CONTROLS

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM #3	02/03/22

FILE:
JOB NO: #1904
SCALE: NO SCALE
DWN. BY: FJG
CKD. BY: KRS
DATE: JANUARY 20, 2022

H6.3

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CUSTOM FABRICATED ROOFTOP UNIT SCHEDULE

Unit Tag	Manufacturer	Model	Airflow			Supply Fan					Exhaust/Return Fan					Filters			OA Energy Recovery Wheel									
																OA Pre-Filter	SA Main Filter	RA Filter		Total Recovered Capacity		Cooling SA LAT		Heating SA LAT		SAPD ($in H_2O$)	Effectiveness			
			Design Ventilation OA (CFM)	SA (CFM)	RA (CFM)	Fan Airflow (CFM)	ESP ($in H_2O$)	TSP ($in H_2O$)	Motor Size (Qty @ HP)	Motor BHP (HP)	Fan Airflow (CFM)	ESP (inH_2O)	TSP ($in H_2O$)	Motor Size (HP)	Motor BHP (HP)	Depth & MERV Rating	Depth & MERV Rating	Depth & MERV Rating	Wheel Model Number	Cooling (Btu/hr)	Heating (Btu/hr)	LDB (°F)	LWB (°F)	LDB (°F)	LWB (°F)		Total Cooling	Sensible Cooling	Total Heating	Sensible Heating
RTU-1	Haakon	Custom	11,650	11,650	0	11,650	3.00	5.8	2 @ 10	7.6	0	1.00	3.5	2 @ 7.5	6.2	2" MERV 8	12" MERV 13	2" MERV 8	HPC-2000-T20	225,205	945,178	79.8	65.3	49.5	42.4	0.78	68.9	69.4	69.1	70.8
RTU-2	Haakon	Custom	12,150	12,150	0	12,150	3.00	5.8	2 @ 10	8.1	0	1.00	3.5	2 @ 7.5	6.4	2" MERV 8	12" MERV 13	2" MERV 8	HPC-2000-T20	230,939	975,081	80	65.4	49	42.1	0.81	67.8	68.3	68.3	70.1
RTU-3	Haakon	Custom	16,250	16,250	0	16,250	3.00	5.8	2 @ 15	12.2	0	1.75	3.5	2 @ 10	8.1	2" MERV 8	12" MERV 13	2" MERV 8	HPC-2150-T20	289,070	1,253,876	80.7	65.8	47.2	40.8	0.94	63.4	63.9	65.4	67.5
RTU-4	Haakon	Custom	6,450	6,450	0	6,450	3.00	5.8	2 @ 7.5	6.1	0	1.50	3.5	2 @ 5	3.2	2" MERV 8	12" MERV 13	2" MERV 8	HPC-1500-T20	125,524	525,626	79.8	65.2	49.7	42.5	0.77	69.4	69.9	69.4	71.1
RTU-11	Haakon	Custom	2,500	10,205	7,705	10,205	3.00	5.8	2 @ 10	7.6	7,705	1.00	3.5	2 @ 7.5	6.2	2" MERV 8	12" MERV 13	2" MERV 8	HPC-1500-T20	65,982	7,371	76.8	64.2	63.4	51.9	1.21	54.0	54.6	59.4	61.4
RTU-18	Haakon	Custom	5,000	10,700	5,700	10,700	3.00	5.8	2 @ 10	7.6	5,700	1.00	3.5	2 @ 7.5	6.2	2" MERV 8	12" MERV 13	2" MERV 8	HPC-1700-T20	78,538	7,603	76.5	63.9	64.2	51.9	1	61.3	61.8	64.0	66.2
RTU-19	Haakon	Custom	22,000	22,000	13,500	22,000	3.00	5.8	2 @ 20	12.1	13,500	1.50	3.5	2 @ 15	12.2	2" MERV 8	12" MERV 13	2" MERV 8	HPC-2900-T20	341,477	1,398,208	82	73.3	38.6	34.9	0.76	90.2	90.7	88.8	89.9

CUSTOM FABRICATED ROOFTOP UNIT SCHEDULE continued

Unit Tag	HPT Pre-Cool Coil								VRV DX Coil													HPT Re-Heat Coil				HW Re-Heat Coil								Electrical High Voltage			Electrical Low Voltage			Shipping Weight (LBS)
				EAT		LAT		APD						Cooling				Heating				EAT		LAT				EAT		LAT										
	Max Face Velocity (FPM)	FPI	Rows	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	in. H20	Heat Transferred (Btu/hr)	Max Face Velocity (FPM)	Coil Airflow (CFM)	Number of Coils	Coil Type	Expansion Valves	Associated Condensing Units	EAT		LAT		Total Capacity (Btu/hr)	Sensible Capacity (Btu/hr)	EAT		Total Capacity at 0F from VRV CU (Btu/hr)		EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	FPI	Rows	Number of Coils	Max Face Velocity (FPM)	EAT		Total Capacity (Btu/hr)	% Propylene Glycol	GPM	APD	Voltage	MCA (A)	MOP	Voltage	MCA (A)	MOP	
																EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)			Max LDB at 0F for VRV CU (°F)										EDB (°F)	LDB (°F)				in. H20							
RTU-1	451	12	2	79.8	65.3	70.95	62.31	0.21	113,394	448	11,650	2	Double Stacked & Interlaced	4	ACCU-1A, 1B	79.8	65.3	50	49.3	531,060	377,659	51.3	78.4	341,172		50	49.3	57.45	51.83	13	2	2	529.5	51.3	75.5	308775	35	32.1	0.26	460/60/3	68	70	120/60/1	15	15	23,340
RTU-2	432.9	12	2	80	65.4	70.96	62.35	0.2	115,856	449	12,150	2	Double Stacked & Interlaced	4	ACCU-2A, 2B	80	65.4	50	49.6	548,512	395,744	50.8	76.8	341,172		50	49.6	57.42	52.32	10	2	2	448.6	50.8	74.3	312642	35	34.2	0.16	460/60/3	70	70	120/60/1	15	15	23,570
RTU-3	444.2	12	2	80.7	65.8	71.55	62.74	0.21	163,566	442	16,250	3	Triple Stacked & Interlaced	6	ACCU-3A, 3B, 3C	80.7	65.8	50.2	49.5	763,334	540,568	52.5	79.9	481,368		50.2	49.5	57.55	52.45	10	2	3	446	52.5	75.1	401024	35	42.5	0.16	460/60/3	92	100	120/60/1	15	15	28,700
RTU-4	442.3	12	2	79.8	65.2	70.85	62.17	0.21	63,501	442	6,450	2	Double Stacked	2	ACCU-4	79.8	65.2	50	49.4	290,692	208,540	52.6	78.5	180,553		50	49.4	57.46	52.68	14	2	2	442.3	52.6	73.2	145383	35	16.8	0.20	460/60/3	55	60	120/60/1	15	15	17,540
RTU-11	395	12	2	76.8	64.2	68.38	61.29	0.17	94,527	444	10,205	2	Double Stacked	2	ACCU-11A, 11B	76.8	64.2	52.1	50.9	386,943	273,822	63.4	87.7	268,076		52.1	50.9	56.47	50.82	12	2	2	463.9	63.4	75	129458	35	13.8	0.19	460/60/3	59	60	120/60/1	15	15	23,340
RTU-18	414.2	12	2	76.5	63.9	68.31	61.06	0.18	96,363	446	10,700	2	Double Stacked	2	ACCU-18A, 18C	76.5	63.9	52.1	50.9	395,952	283,397	64.2	90.3	301,624		52.1	50.9	56.24	50.72	12	2	2	486.4	64.2	75.1	127815	35	13.4	0.21	460/60/3	54	60	120/60/1	15	15	20,840
RTU-19	445.6	12	2	82	73.3	72.59	70.62	0.2	229,999	444	22,000	3	Triple Stacked & Interlaced	6	ACCU-19A, 19B, 19C	82	65.2	52.7	51.2	986,983	701,298	38.6	62.6	570,591		52.7	51.2	57.56	51.29	8	1	3	444	68.0	75.1	171741	35	17.9	0.07	460/60/3	119	125	120/60/1	15	15	20,840

① PROVIDE MERV 8 PRE-FILTERS & MERV 13 FINAL FILTERS. REFER TO SPEC FOR SPARE FILTERS.
② PROVIDE PREMIUM EFFICIENCY O.D.P. MOTORS, PROVIDE V-F-D ON SUPPLY AND EXHAUST FAN
③ PROVIDE ROOF CURB, DOUBLE WALL CONSTRUCTION & IAQ DRAIN PAN.
④ HOT WATER COILS SIZED FOR 125F ENTERING AND 105'F LEAVING WATER TEMPERATURES 35% PROPYLENE GLYCOL.
⑤ MANUFACTURER TO PROVIDE FLOW STATIONS ON OUTDOOR, EXHAUST AND SUPPLY AIR.
⑥ REFER TO SPECIFICATIONS FOR CONTROL REQUIREMENTS
⑦ PROVIDE NEMA 3R DISCONNECT SWITCH. SINGLE POINT POWER; PROVIDE (1)120 VOLT CIRCUIT TO EACH UNIT; REFER TO SCHEDULE
⑧ REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
⑨ ALL UNITS SHALL HAVE HEAT RECOVERY SYSTEM
⑩ RTUs BASED ON HAAKON, ACCEPTABLE MANUFACTURERS INNOVENT OR ENERGY LABS INC.
⑪ ALL UNITS SHALL HAVE INTEGRAL SOUND ATTENUATORS; REFER TO SA SCHEDULE FOR REQUIREMENTS
⑫ ACHP SHALL BE REMOTE MOUNTED ADJACENT TO RTU. REFER TO CUSTOM ACHP SCHEDULE AND SPECIFICATIONS.

MAKE-UP AIR UNIT SCHEDULE

Tag	Manuf.	Model	Unit			Supply Fan									Motor				Hot Water Coil								Mixing Box						Combination Filter											
			Length (in)	Weight (lb)	External Dimensions* Supply		Fan												Total Capacity (Btu/hr)	EAT-DB °F	LAT-DB °F	F.V. (ft/min)	A.P.D. (inH2O)	EWT °F	LWT °F	Flow Rate (GPM)	W.P.D. (ftH2O)	Rows	FPI	Filter	Type	Depth	Efficiency	Clean PD (inH2O)	Dirty PD (inH2O)	Mean PD (inH2O)	Panel Filter						Bag Filter					
					Height (in)	Width (in)	Type	Qty	Class	Total Airflow (CFM)	RPM	BHP	E.S.P. (inH2O)	T.S.P. (inH2O)	Voltage	Power (HP)	RPM	Control																		Type	Filter Qty - Sizes	Depth	Efficiency	Clean PD (inH2O)	Dirty PD (inH2O)	Mean PD (inH2O)	Type	Filter Qty - Sizes	Depth	Efficiency	Clean PD (inH2O)	Dirty PD (inH2O)	Mean PD (inH2O)
MAU-1	Daikin	Skyline OAH014GHCM	128	2012.92	46	64	DEL355	2	N/A	6000	2819	1.75	1.5	3.21	460/60/3	4.42	3300	Integrated Drive	502188	0	76.5	471	0.4	125	104.6	52.3	15.2	3	9	None	NA	NA	NA	0	0	0	Pleated (MERV 8)	6 - 20.00 x 20.00	2	MERV 8	0.16	1	0.58	Pre Pleat (MERV 13)	6 - 20.00 x 20.00	4	MERV 13	0.16	1	0.58
NOTES																																											①②③④

① PROVIDE FOUR (4) SPARE SETS OF FILTERS, IN ADDITION TO THOSE SUPPLIED IN THE UNIT. FILTER EFFICIENCY SHOULD BE MERV 13
② PROVIDE PREMIUM EFFICIENCY O.D.P. MOTOR WITH VARIABLE FREQUENCY DRIVES
③ PROVIDE INTERNAL SPRING VIBRATION ISOLATION, PERFORATED DOUBLE WALL CONSTRUCTION & IAQ DRAIN PAN.
④ HOT WATER COIL SIZED FOR 125'F ENTERING AND 105'F LEAVING WATER TEMPERATURES, 35% PROPYLENE GLYCOL.

AIR HANDLER SCHEDULE

Unit Tag	Manufacturer	Model	Airflow			Supply Fan					Exhaust/Return Fan					Filters			OA Energy Recovery Wheel									
																OA Pre-Filter	SA Main Filter	RA Filter		Total Recovered Capacity		Cooling SA LAT		Heating SA LAT		SAPD ($in H_2O$)	Effectiveness			
			Design Ventilation OA (CFM)	SA (CFM)	RA (CFM)	Fan Airflow (CFM)	ESP ($in H_2O$)	TSP ($in H_2O$)	Motor Size (Qty @ HP)	Motor BHP (HP)	Fan Airflow (CFM)	ESP (inH_2O)	TSP ($in H_2O$)	Motor Size (HP)	Motor BHP (HP)	Depth & MERV Rating	Depth & MERV Rating	Depth & MERV Rating	Wheel Model Number	Cooling (Btu/hr)	Heating (Btu/hr)	LDB (°F)	LWB (°F)	LDB (°F)	LWB (°F)		Total Cooling	Sensible Cooling	Total Heating	Sensible Heating
AHU-1	Daikin	Vision	5,000	5,000	2,000	5,000	1.50	5.06	2 @ 3.5	2.9	2,000	1.50	3.5	2 @ 3.5	2.9	2" MERV 8	12" MERV 13	2" MERV 8	ECW 546	101,439	322,882	80	65.2	47.3	38.2	0.69	69.4	71.3	72.6	73.4
NOTES																															①②③④⑤

AIR HANDLER SCHEDULE continued

Unit Tag	HPT Pre-Cool Coil								VRV DX Coil													HPT Re-Heat Coil				HW Re-Heat Coil								Electrical High Voltage			Electrical Low Voltage			Shipping Weight (LBS)
				EAT		LAT		APD						Cooling				Heating				EAT		LAT				EAT		LAT										
	Max Face Velocity (FPM)	FPI	Rows	EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	in. H20	Heat Transferred (Btu/hr)	Max Face Velocity (FPM)	Coil Airflow (CFM)	Number of Coils	Coil Type	Expansion Valves	Associated Condensing Units	EAT		LAT		Total Capacity (Btu/hr)	Sensible Capacity (Btu/hr)	EAT		Total Capacity at 0F from VRV CU (Btu/hr)		EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)	FPI	Rows	Number of Coils	Max Face Velocity (FPM)	EAT		Total Capacity (Btu/hr)	% Propylene Glycol	GPM	APD	Voltage	MCA (A)	MOP	Voltage	MCA (A)	MOP	
																EDB (°F)	EWB (°F)	LDB (°F)	LWB (°F)			Max LDB at 0F for VRV CU (°F)										EDB (°F)	LDB (°F)				in. H20							
AHU-1	400	12	2	85.1	67.9	73.04	64	0.24	66,440	503	5,000	1	Interlaced	2	ACHP-13	85.1	67.9	51.3	50.6	255,439	183,355	43	74.6	170,586		51.3	50.6	65.12	56.93	12	2	1	533	43	77	291571	35	30.1	0.39	460/60/3	43	60	120/60/1	15	15	3,692
NOTES																																											①②③④⑤

① PROVIDE FOUR (4) SPARE SETS OF FILTERS, IN ADDITION TO THOSE SUPPLIED IN THE UNIT. FILTER EFFICIENCY SHOULD BE MERV 13
② PROVIDE PREMIUM EFFICIENCY O.D.P. MOTOR
③ PROVIDE INTERNAL SPRING VIBRATION ISOLATION, PERFORATED DOUBLE WALL CONSTRUCTION & IAQ DRAIN PAN.
④ HOT WATER COIL SIZED FOR 125'F ENTERING AND 105'F LEAVING WATER TEMPERATURES, 30% PROPYLENE GLYCOL.
⑤ MINIMUM OA & EA CFM'S ARE DESIGN AIRFLOWS. THE ACTUAL MINIMUM OA & EA MAY BE AS LOW AS 25% OF MINIMUM SCHEDULED DURING CO2 RESET. EA FANS MUST BE ABLE TO TURN DOWN TO THIS REDUCED AIRFLOW. MAXIMUM OA IS DESIGN SUPPLY CFM.

PACKAGED ROOFTOP UNIT SCHEDULE

Tag	Area Served	Manufacturer	Model	Mounting	Weight (lb)	Supply Air Volume (CFM)	Outdoor Air Volume (CFM)	Supply SP (in. wg)	Supply Motor (hp)	Exhaust Air Volume (CFM)	Exhaust SP (in. wg)	Exhaust Motor (hp)	Recirc Air Volume (CFM)	Voltage (V)	Frequency (Hz)	Phase	One Point MCA	One Point MOP	Two Point MCA	Two Point MOP
RTU-5	Science Classrooms Pod D	Valent	VXE-312-40	Outdoor	7,613	13,300	13,300	3	10	13,300	1.5	7-1/2	0	460	60	3	124.4	150		
RTU-6	Corridor A	Valent	VXE-212-17.5	Outdoor	4,738	8,450	1,500	2.25	10	1,500	1.25	7-1/2	6950	460	60	3	60.6	70	37.3	50
RTU-7	Chorus & Band	Valent	VXE-212-15	Outdoor	4,651	7,060	2,500	3.5	10	2,500	1.5	7-1/2	4560	460	60	3	50.2	60		
RTU-8	BlackBox Theater	Valent	VXE-112-10	Outdoor	3,375	5,100	1,400	2.5	7-1/2	1,400	1	5	3700	460	60	3	39.3	45		
RTU-9	ETA Shops	Valent	VXE-352-40	Outdoor	9,477	9,305	9,305	3	7-1/2	9,305	1	3	0	460	60	3	112.8	125		
RTU-10	Office, Nurse, IT, & Guidance	Valent	VXE-212-15	Outdoor	4,399	5,000	5,000	2	7-1/2	5,000	0.5	5	0	460	60	3	44.2	50		
RTU-12	Auditorium A	Valent	VXE-212-17.5	Outdoor	4,454	7,300	3,500	2.75	10	3,500	1.5	5	3800	460	60	3	23.2	35	37.2	50
RTU-13	Auditorium B	Valent	VXE-212-17.5	Outdoor	4,501	7,400	3,500	2.5	10	3,500	1.5	7-1/2	3900	460	60	3	26.4	35	37.2	50
RTU-14	Corridor B	Valent	VXE-212-17.5	Outdoor	4,501	8,450	1,500	2	10	1,500	0.5	7-1/2	6950	460	60	3	26.4	35	37.2	50
RTU-15	Art Rooms	Valent	VXE-212-17.5	Outdoor	4,486	5,000	5,000	2	7-1/2	5,000	0.5	5	0	460	60	3	54.6	70		
RTU-16	Media Center	Valent	VXE-212-15	Outdoor	4,739	9,100	3,210	1.5	10	3,210	0.75	10	3210	460	60	3	63.2	70	37.2	50
RTU-17	Kitchen & Servery	Valent	VXE-212-15	Outdoor	4,604	7,075	2,500	2	10	2,500	1	5	4575	460	60	3	47	50		
RTU-20	Corridor CD	Valent	VXE-212-17.5	Outdoor	4,738	7,700	2,600	2.5	10	2,600	1	7-1/2	5100	460	60	3	60.6	70	37.3	50
RTU-21	Gymnasium A	Valent	VXE-212-15	Outdoor	4,683	7,000	4,100	2	7-1/2	4,100	1	7-1/2	2900	460	60	3	47.5	50	26.9	35
RTU-22	Gymnasium B	Valent	VXE-212-15	Outdoor	4,683	7,000	4,100	2	7-1/2	4,100	1	7-1/2	2900	460	60	3	47.5	50	26.9	35
RTU-23	Wellness Center Adapative PE	Valent	VXE-212-15	Outdoor	4,604	6,100	2,300	3	7-1/2	2,300	1	5	3800	460	60	3	44.3	50	26.9	35
RTU-24	Locker Rooms	Valent	VXE-312-25	Outdoor	6,796	9,100	9,100	3	7-1/2	9,100	1	3	0	460	60	3	31.5	40	47.2	60

PACKAGED ROOFTOP UNIT SCHEDULE continued

Cont. Tag	Energy Recovery Performance												ASHRAE 90.1 Summer Enthalpy Recovery Ratio (%)	ASHRAE 90.1 Winter Enthalpy Recovery Ratio (%)	Cooling Load Reduction (Tons)	Heating Load Reduction (BTU)	Cooling Specification DX					Heating Specification DX				Heating Specification (Hot Water)					Calculated Efficiency		
	Summer OA		Summer RA		Summer SA		Winter OA		Winter RA		Winter SA						Total Capacity (MBH)	Sensible Capacity (MBH)	Coil (DB/WB)		Reheat Capacity		Total Capacity (MBH)	Coil (DB/WB)		Ambient Air (F)	Flow Rate GPM	Fluid PD (ft wg)	Capacity (MBH)	Coil (DB)		EER/IEER	COP At 17F	COP At 47F
	DB (F)	WB (F)	DB (F)	WB (F)	DB (F)	WB (F)	DB (F)	WB (F)	DB (F)	WB (F)	DB (F)	WB (F)							EAT (F)	LAT (F)	(MBH)	LAT (F)		EAT (F)	LAT (F)					EAT (F)	LAT (F)			
RTU-5	91	71	75	62.5	80.8	65.9	0	-1.5	72	62.5	43.8	43.2	62.9	58.8	20.95	629143	538.2	408.4	80.8/65.9	52.3/52.3	274.5	71					49.5	6.9	470.5	43.8	76.5			
RTU-6	91	71	75	62.5	77.3	64.1	0	-1.5	72	62.5	60.2	54.2	82.9	80.3	3.09	97524	225.5	196.7	75.4/62.8	54.1/53.7	116.1	71	92.8	70.2	80.4	10	5.5	0.1	52.1	69.9	75.6	10.6/14	2.16	3.25
RTU-7	91	71	75	62.5	78.2	64.6	0	-1.5	72	62.5	55.9	51.4	77.4	74.4	4.88	150930	195	167.1	76.1/63.3	54.5/53.9	103.2	72	79.8	67.2	77.6	10	6	0.1	55.2	66.3	73.5	10.7/14.3	2.24	3.32
RTU-8	91	71	75	62.5	77.8	64.3	0	-1.5	72	62.5	57.9	53.3	81.2	78.5	2.84	87545	128.7	116.5	75.8/63	54.9/54.4	68.4	70.5	52.4	68.7	78.2	10	3.75	0.1	35.3	68.1	74.5	11.1/15.6	2.26	3.49
RTU-9	91	71	75	62.5	79	64.9	0	-1.5	72	62.5	52	49.3	73.9	70.3	18.14	553722	437.7	302.5	79/64.9	49.3/48.4	177.8	67					23.5	1.7	223.9	52	74.2			
RTU-10	91	71	75	62.5	79.8	65.3	0	-1.5	72	62.5	48.4	46.8	69.3	65.4	8.63	261360	193.5	148.1	79.8/65.3	52.8/52.3	112.3	73.6					17.25	0.8	164.1	48.4	78.7			
RTU-12	91	71	75	62.5	79	65.1	0	-1.5	72	62.5	51.9	48.6	72.3	68.8	6.3	196182	222.1	182.6	76.9/63.7	54.1/53.4	137.1	71.5					24.25	1.4	229.7	62.4	91.4	11/13.8		
RTU-13	91	71	75	62.5	79	65.1	0	-1.5	72	62.5	51.9	48.6	72.3	68.8	6.3	196182	222.1	183.7	76.9/63.7	54.2/53.5	138.1	71.5					15.25	0.6	143.2	62.5	80.4	11/13.8		
RTU-14	91	71	75	62.5	77.3	64.1	0	-1.5	72	62.5	60.2	54.2	82.9	80.3	3.09	97524	217.5	190.4	75.4/62.8	54.8/54	148.5	71.1					9	0.2	84.8	69.9	79.2	11/13.8		
RTU-15	91	71	75	62.5	79.1	65	0	-1.5	72	62.5	51.8	49.2	73.3	70	9.19	279720	218.6	158.1	79.1/65	50.3/49.9	109.9	70.7					16	0.6	151	51.8	79.7			
RTU-16	91	71	75	62.5	78.4	64.9	0	-1.5	72	62.5	53	49.4	73.8	70.4	5.9	183741	230.3	208.6	76.3/63.4	55.4/54.8	120.3	70.8	96.1	66.3	76.1	10	6.5	0.1	59.7	65.3	71.4	10.6/14	2.16	3.25
RTU-17	91	71	75	62.5	78.2	64.6	0	-1.5	72	62.5	55.9	51.4	77.4	74.4	4.88	150930	195.1	167.3	76.1/63.3	54.5/53.9	103.3	72	79.8	67.2	77.6	10	6	0.1	55.2	66.3	73.5	10.7/14.3	2.24	3.32
RTU-20	91	71	75	62.5	78.3	64.7	0	-1.5	72	62.5	55.5	51.1	76.9	73.8	4.97	155844	227.4	190.3	76.1/63.2	53.5/53.1	111.3	71.5	94.2	67.3	78.6	10	6	0.1	56.1	66.4	73.2	10.6/14	2.16	3.25
RTU-21	91	71	75	62.5	78.6	64.7	0	-1.5	72	62.5	54.4	51	76.9	73.7	7.84	240883	194.4	169.8	77.1/63.8	54.9/54.3	102.8	72.2	82	63.2	74.1	10	6.5	0.1	61.6	61.7	69.8	10.7/14.3	2.24	3.32
RTU-22	91	71	75	62.5	78.6	64.7	0	-1.5	72	62.5	54.4	51	76.9	73.7	7.84	240883	197.4	169.8	77.1/63.8	54.9/54.3	102.8	72.2	82	63.2	74.1	10	6.5	0.1	61.6	61.7	69.8	10.7/14.3	2.24	3.32
RTU-23	91	71	75	62.5	78	64.5	0	-1.5	72	62.5	56.7	51.9	78.5	75.5	4.49	140843	192.5	155.1	76.1/63.3	52.9/52.4	96.6	72.7	79	67.1	79.1	10	5.75	0.1	53.4	66.2	74.3	10.7/14.3	2.24	3.32
RTU-24	91	71	75	62.5	78.9	64.8	0	-1.5	72	62.5	53	50	75	71.7	17.06	520884	298.2	245.6	78.9/64.8	53.9/53.9	185.4	73.1					33.5	3.3	318.4	53	85.3			

① PROVIDE MERV 8 PRE-FILTERS & MERV 13 FINAL FILTERS. REFER TO SPEC FOR SPARE FILTERS.
② PROVIDE PREMIUM EFFICIENCY O.D.P. MOTORS, PROVIDE V-F-D ON SUPPLY AND EXHAUST FAN
③ PROVIDE SPRING CURB VIBRATION ISOLATION, DOUBLE WALL CONSTRUCTION & IAQ DRAIN PAN.
④ HOT WATER COILS SIZED FOR 125F ENTERING AND 105'F LEAVING WATER TEMPERATURES WITH 35% GLYCOL.
⑤ MANUFACTURER TO PROVIDE FLOW STATIONS ON OUTDOOR, RETURN AND SUPPLY AIR.
⑥ REFER TO SPECIFICATION FOR CONTROL REQUIREMENTS
⑦ PROVIDE NEMA 3R DISCONNECT SWITCHES. REFER TO SCHEDULE FOR UNITS REQUIRING DUAL POINT POWER. UNITS SPECIFIED WITH DUAL POINT POWER WILL HAVE AIR SIDE POINT ON EMERGENCY POWER
⑧ REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
⑨ ALL UNITS SHALL HAVE TOTAL ENERGY RECOVERY SYSTEMS UNLESS NOTED OTHERWISE
⑩ RTUs BASED ON VALANT, ACCEPTABLE MFR'S INCLUDE DAIKIN OR AAON

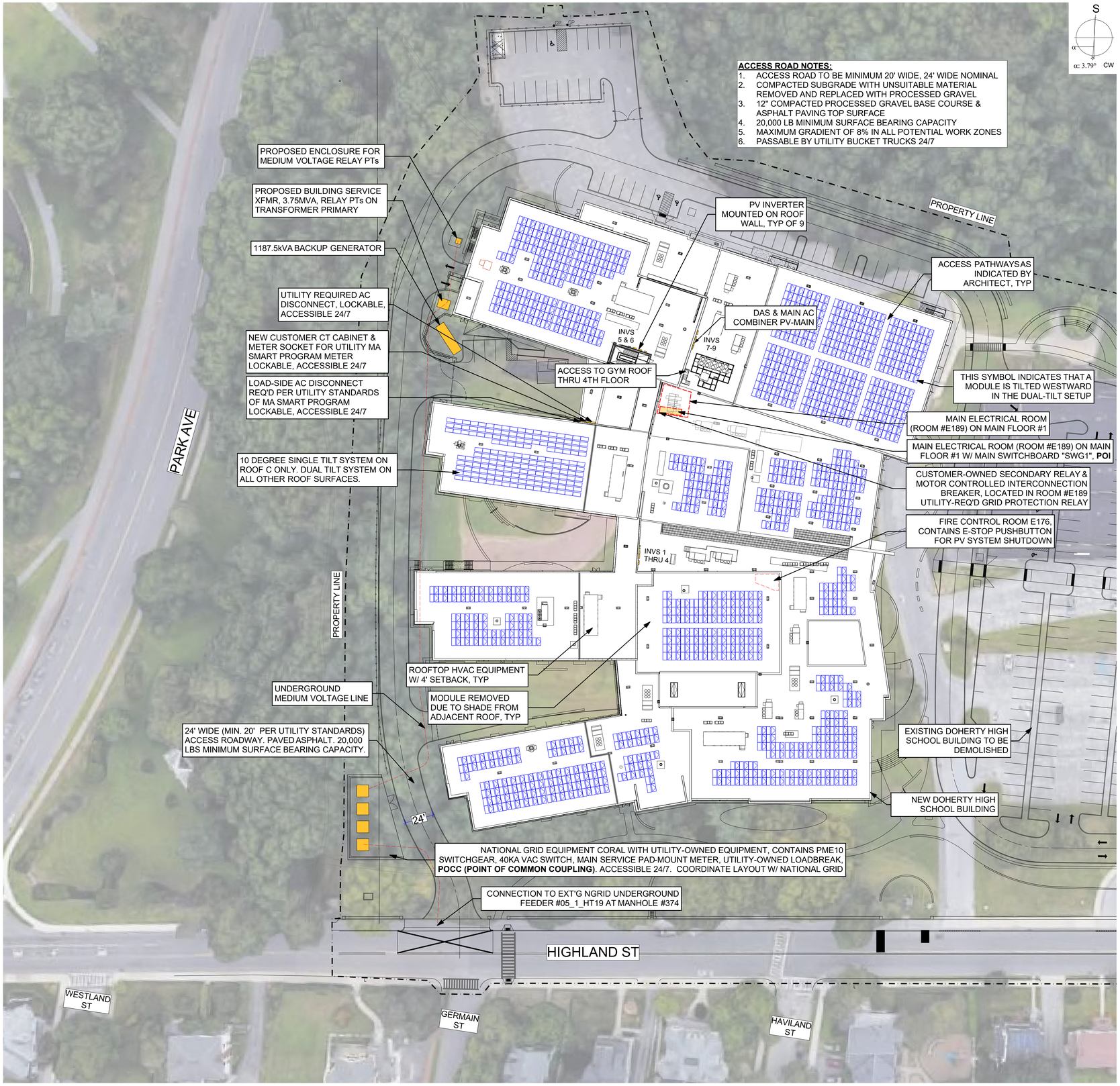
CHILLED BEAM SCHEDULE

UNIT NUMBER/CALLOUT		CB-1
MANUFACTURER		PRICE
MODEL #		ACBL24_2W
COIL TYPE		2P1C
COIL LENGTH (FT)		4
AIR INLET SIZE (INCHES)		5
CHILLED WATER DATA	FLUID	WATER
	FLOW RATE (GPM)	1.5
	TEMP. ENTERING (F)	57
	TEMP. LEAVING (F)	61.6
	PRESS. DROP (FT. HD.)	5.2
HOT WATER HEATING DATA	FLUID	--
	FLOW RATE (GPM)	--
	TEMP. ENTERING (F)	--
	TEMP. LEAVING (F)	--
	PRESS. DROP (FT. HD.)

ALTERNATE #1 (U.N.O.)

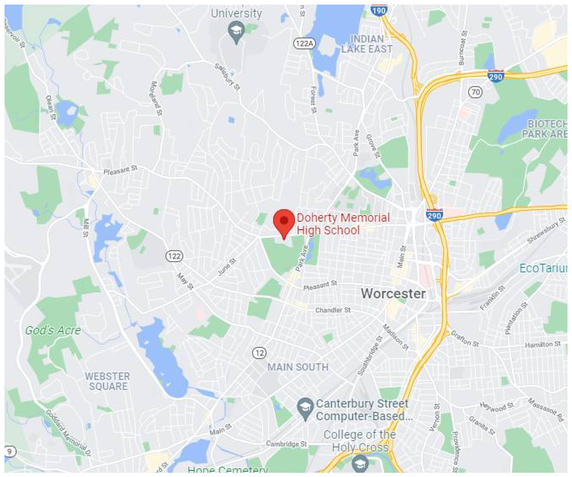
PHOTOVOLTAIC SYSTEM FOR DOHERTY HIGH SCHOOL DOHERTY HIGH SCHOOL

299 HIGHLAND ST, WORCESTER MA 01602



1 801.9 kWdc (726.60 kWac, 726.6 kVA) PV ARRAY WITH 1,782QTY 450W MODULES AT 10° TILTS

0 30' 60'



2 LOCUS MAP 0 2500' 5000'

3 SIMILAR PV ARRAY

10° FIXED TILT PV ARRAY MULTIPLE AZIMUTHS				
RACKING SYSTEM	MODULES	DC POWER	AC POWER	ANNUAL AC ENERGY
SINGLE TILT ROOF C	172/ 450W	77.4 kWdc	80.0 kWac	945,254 kWhr/yr
DUAL TILT OTHERS	1,610/ 450W	724.50 kWdc	646.6 kWac	
TOTAL	**1,782/ 450W**	**801.9 kWdc**	**726.6 kWac**	**945,254 kWhr/yr**

ESTIMATED ANNUAL ENERGY PRODUCTION BASED ON:
PVSyst Model

APPLICABLE STANDARDS
- 2020 NATIONAL ELECTRIC CODE
- MASSACHUSETTS AMENDMENTS TO 2020 NEC
- 9TH EDITION MASSACHUSETTS BUILDING CODE
- 2017 NATIONAL ELECTRICAL SAFETY CODE
- NATIONAL GRID CONSTRUCTION STANDARDS
- WORCESTER, MA BUILDING & ELECTRICAL INSPECTORS (AHJs)
- INSTALLING CONTRACTOR AND ALL PERSONNEL ON SITE SHALL FOLLOW APPROPRIATE LOTO PROCEDURES BEFORE SERVICING EQUIPMENT AND SHALL BE EQUIPPED WITH THE APPROPRIATE PPE.

SHEET INDEX

ID	Name	Published
PV001	PV SITE PLAN	⊠
PV002	PV SYSTEM NOTES	⊠
PV101	PV LAYOUT - A & B	⊠
PV102	PV LAYOUT - C & D1	⊠
PV103	PV LAYOUT - D2, E1 & E3	⊠
PV104	PV LAYOUT - E2, E4 & E5	⊠
PV201	INVERTER SOURCE LAYOUT	⊠
PV202	SOURCE CIRCUITS - ROOFS A, B, E4 & E5	⊠
PV203	SOURCE CIRCUITS - ROOFS C, D1, D2, E1, E2 & E3	⊠
PV204	OPTIMIZER LAYOUT - A & B	⊠
PV205	OPTIMIZER LAYOUT - C & D	⊠
PV206	OPTIMIZER LAYOUT - D2, E1 & E3	⊠
PV207	OPTIMIZER LAYOUT - E2, E4 & E5	⊠
PV208	WIRING DETAILS - DUAL TILT	⊠
PV209	WIRING DETAILS - SOLARDOCK ROOF C	⊠
PV301	IN-BLDG AC OUTPUT, DATA & CTRL CONDUIT LAYOUT	⊠
PV302	IN-BLDG AC, DC & DATA CONDUIT	⊠
PV303	AC, DATA & CONTROL CONDUIT LAYOUT	⊠
PV304	DC CONDUIT LAYOUT	⊠
PV305	GROUNDING PLAN	⊠
PV306	WIRE MANAGEMENT LAYOUT	⊠
PV307	CONDUIT & GROUNDING DETAILS	⊠
PV401	STRUCTURAL CRITERIA & ROOF C RACKING	⊠
PV501	INVERTER STATION 1: WALL LAYOUT	⊠
PV502	INVERTER STATION 2: WALL LAYOUT	⊠
PV503	INVERTER STATION 3: WALL LAYOUT	⊠
PV504	C-CHANNEL (INV STATION 1) & INV DETAILS	⊠
PV505	GRADE-LEVEL ELECTRICAL EQPT	⊠
PV601	SINGLE LINE	⊠
PV602	SEL RELAY WIRING	⊠
PV603	INVERTER & WIRING SCHEDULES	⊠
PV604	DAS DRAWINGS	⊠
PV605	LABELS	⊠
PV606	SYSTEM MAP	⊠
PV607	DATASHEETS I	⊠

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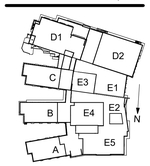
OWNER
Worcester Public Schools
Worcester, MA

PROJECT
100% CONSTRUCTION DOCUMENTS, FINAL BID PACKAGE #4

Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

DRAWING TITLE
PV SITE PLAN

Locus Map
True North

Key Plan


REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. CERTIFICATION OR VALIDATION IS TO BE DONE BY A PROFESSIONAL WITH EXPERTISE IN THE REQUIRED FIELD AND A LICENSE IN THE STATE THAT THE INSTALLATION WILL RESIDE. CERTIFICATION OR VALIDATION TO BE INCLUDED AS PART OF THE SUBMITTALS FOR PERMITTING OF THE OVERALL PROJECT.

FILE:
JOB NO: #1904
SCALE: As indicated
DWN. BY: CW, MJ, CH
CKD. BY: RE
DATE: Thursday, January 27, 2022

PV001

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STRING ID KEY

"SC" = SOURCE CIRCUIT

SC2-B-13 (34)

INVERTER ID NUMBER

QTY OF MODULES IN STRING

POWER STAGE ID (OMITTED WHERE NOT APPLICABLE)

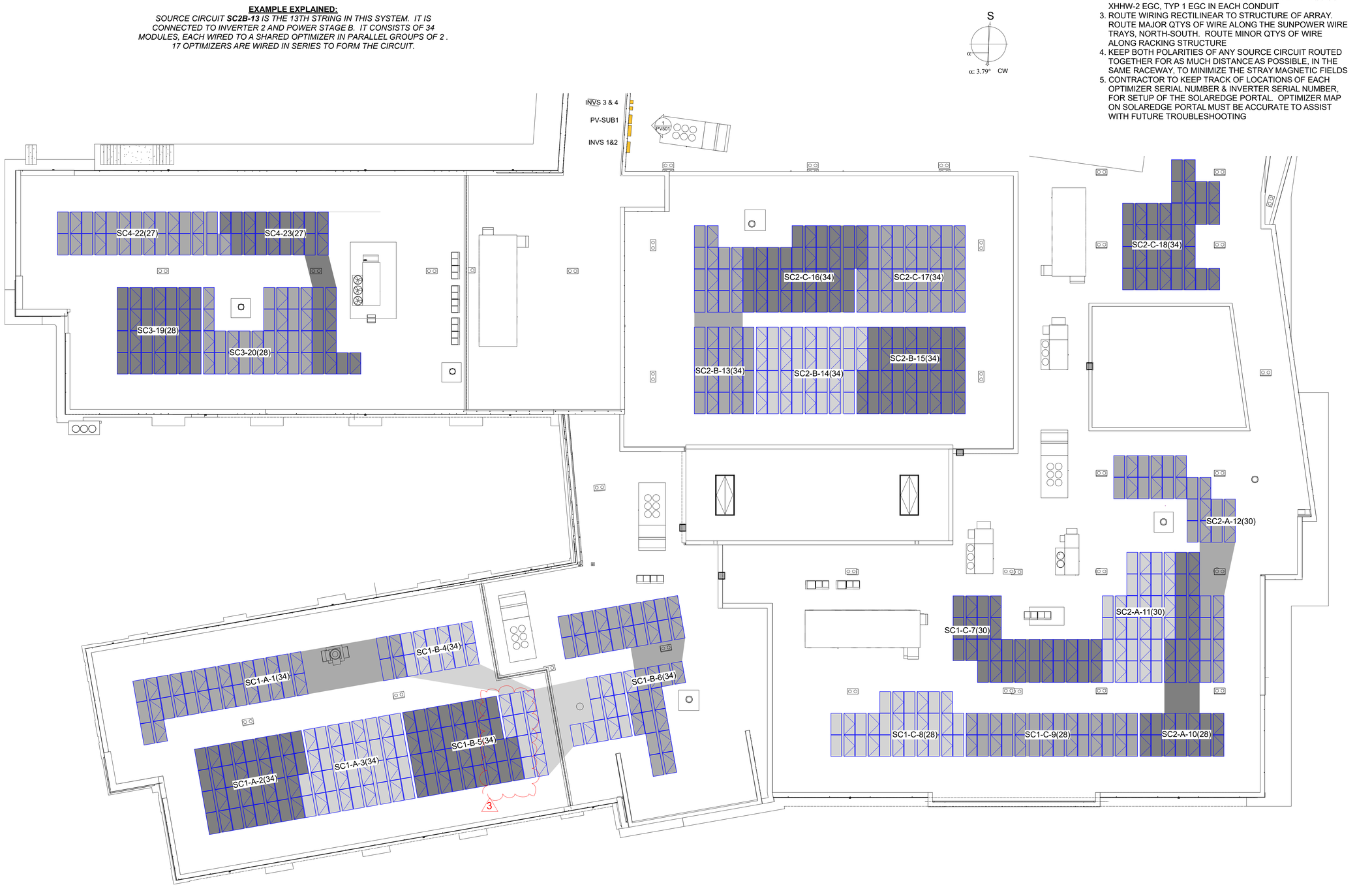
STRING ID, UNIQUE NUMBER FROM 1 THRU 56

EXAMPLE EXPLAINED:

*SOURCE CIRCUIT **SC2B-13** IS THE 13TH STRING IN THIS SYSTEM. IT IS CONNECTED TO INVERTER 2 AND POWER STAGE B. IT CONSISTS OF 34 MODULES, EACH WIRED TO A SHARED OPTIMIZER IN PARALLEL GROUPS OF 2 . 17 OPTIMIZERS ARE WIRED IN SERIES TO FORM THE CIRCUIT.*

SOURCE CIRCUIT & WIRING NOTES:

1. DO NOT LEAVE CONNECTORS UNCONNECTED. CAP OR COVER OPENING WITH ELECTRICAL TAPE DURING ALL UNATTENDED HOURS. OR CONNECT TO OTHER CONNECTORS TO CLOSE THEM, PROVIDED THAT THE CIRCUITS ARE NOT ENERGIZED. IN OTHER WORDS, IT IS OK TO PLUG CONNECTORS OF DE-ENERGIZED CIRCUITS TOGETHER, BUT **DO NOT SHORT CIRCUIT ANYTHING THAT IS ENERGIZED BY THE MODULES**.
2. WIRE TYPE OF HOME RUN & JUMPER WIRES TO BE MIN 1000V PV WIRE, #10 CU. SOME STRINGS UPSIZED TO #8 CU, SEE DC SCHEDULE ON **SHEET PV603**. ROUTE WITH #6 CU XHHW-2 EGC, TYP 1 EGC IN EACH CONDUIT
3. ROUTE WIRING RECTILINEAR TO STRUCTURE OF ARRAY. ROUTE MAJOR QTYS OF WIRE ALONG THE SUNPOWER WIRE TRAYS, NORTH-SOUTH. ROUTE MINOR QTYS OF WIRE ALONG RACKING STRUCTURE
4. KEEP BOTH POLARITIES OF ANY SOURCE CIRCUIT ROUTED TOGETHER FOR AS MUCH DISTANCE AS POSSIBLE, IN THE SAME RACEWAY, TO MINIMIZE THE STRAY MAGNETIC FIELDS
5. CONTRACTOR TO KEEP TRACK OF LOCATIONS OF EACH OPTIMIZER SERIAL NUMBER & INVERTER SERIAL NUMBER, FOR SETUP OF THE SOLAREDGE PORTAL. OPTIMIZER MAP ON SOLAREDGE PORTAL MUST BE ACCURATE TO ASSIST WITH FUTURE TROUBLESHOOTING



1 SOURCE CIRCUIT WIRING - ROOF SECTIONS A, B, E4 & E5

3

0 8' 16' 24'

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PROJECT

100% COSTRUCTION DOCUMENTS, FINAL BID PACKAGE #4

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

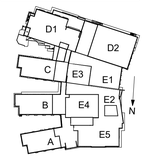
DRAWING TITLE

SOURCE CIRCUITS - ROOFS A, B, E4 & E5

Locus Map

True North

Key Plan



REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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FILE:	
JOB NO:	#1904
SCALE:	As indicated
DWN. BY:	CW, MJ, CH
CKD. BY:	RE
DATE:	Thursday, January 27, 2022

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SOURCE CIRCUIT & WIRING NOTES:

1. DO NOT LEAVE CONNECTORS UNCONNECTED. CAP OR COVER OPENING WITH ELECTRICAL TAPE DURING ALL UNATTENDED HOURS. OR CONNECT TO OTHER CONNECTORS TO CLOSE THEM, PROVIDED THAT THE CIRCUITS ARE NOT ENERGIZED. IN OTHER WORDS, IT IS OK TO PLUG CONNECTORS OF DE-ENERGIZED CIRCUITS TOGETHER, BUT **DO NOT SHORT CIRCUIT ANYTHING THAT IS ENERGIZED BY THE MODULES**.
2. WIRE TYPE OF HOME RUN & JUMPER WIRES TO BE MIN 1000V PV WIRE, #10 CU. SOME STRINGS UPSIZED TO #8 CU, SEE DC SCHEDULE ON **SHEET PV603**. ROUTE WITH #6 CU XHHW-2 EGC, TYP 1 EGC IN EACH CONDUIT
3. ROUTE WIRING RECTILINEAR TO STRUCTURE OF ARRAY. ROUTE MAJOR QTYS OF WIRE ALONG THE SUNPOWER WIRE TRAYS, NORTH-SOUTH. ROUTE MINOR QTYS OF WIRE ALONG RACKING STRUCTURE
4. KEEP BOTH POLARITIES OF ANY SOURCE CIRCUIT ROUTED TOGETHER FOR AS MUCH DISTANCE AS POSSIBLE, IN THE SAME RACEWAY, TO MINIMIZE THE STRAY MAGNETIC FIELDS
5. CONTRACTOR TO KEEP TRACK OF LOCATIONS OF EACH OPTIMIZER SERIAL NUMBER & INVERTER SERIAL NUMBER, FOR SETUP OF THE SOLAREDGE PORTAL. OPTIMIZER MAP ON SOLAREDGE PORTAL MUST BE ACCURATE TO ASSIST WITH FUTURE TROUBLESHOOTING

3 1 SOURCE CIRCUIT WIRING - ROOF SECTIONS C, D1, D2, E1, E2 & E3

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Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

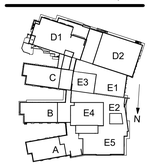
DRAWING TITLE

SOURCE CIRCUITS - ROOFS C, D1, D2. E1, E2 & E3

Locus Map

True North

Key Plan



REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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FILE:	
JOB NO:	#1904
SCALE:	As indicated
DWN. BY:	CW, MJ, CH
CKD. BY:	RE
DATE:	Thursday, January 27, 2022

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OPTIMIZER LEGEND

- POSITIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- NEGATIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- GENERAL CASE INDICATES WHICH MODULE HOSTS THE OPTIMIZER
- SPECIAL CASE INDICATES WHICH MODULE HOSTS THE OPTIMIZER ON RIGHT SIDE OF MODULE

INSTRUCTIONS:

1. PLACE SERIAL NUMBER STICKER FROM EACH OPTIMIZER ON ITS CORRESPONDING POISITION ON THIS PLAN.
2. ALTERNATIVELY:
   A. CONTRACTOR TO DETERMINE A PATTERN OF OPTIMIZER ID NUMBERS TO ASSIGN TO EACH OPTIMZIER, AND NOTE THE PATTERN OF ID NUMBERS ON THE AS-BUILT DRAWINGS IN THE FIELD. HANDWRITE THE ID NUMBER ON EACH OPTIMIZER & PHOTOGRAPH EACH OPTIMIZER SERIAL NUMBER WITH ITS ID NUMBER.
   B. USE A MOBILE DEVICE AND SOLAREDGE APP TO SCAN EACH OPTIMIZER AND ASSIGN IT TO ITS POSITION WITHIN LAYOUT.
3. PRODUCE LAYOUT ON SOLAREDGE'S MONITORING PORTAL, CORRESPONDING TO AS-BUILT SYSTEM. THIS WILL PROVIDE OPTIMIZER-LEVEL MONITORING OF SYSTEM PERFORMANCE. COORDINATE WITH END-USER TO PROVIDE WEBSITE ACCESS.

1 OPTIMIZER LAYOUT & OPTIMIZER SOURCE - ROOF SECTIONS A & B

0 4' 8' 16'

3

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PROJECT

100% COSTRUCTION DOCUMENTS, FINAL BID PACKAGE #4

Doherty Memorial High School

299 Highland Street, Worcester, MA 01602

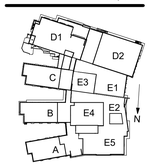
DRAWING TITLE

OPTIMIZER LAYOUT - A & B

Locus Map

True North

Key Plan



REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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FILE:
JOB NO: #1904
SCALE: As indicated
DWN. BY: CW, MJ, CH
CKD. BY: RE
DATE: Thursday, January 27, 2022

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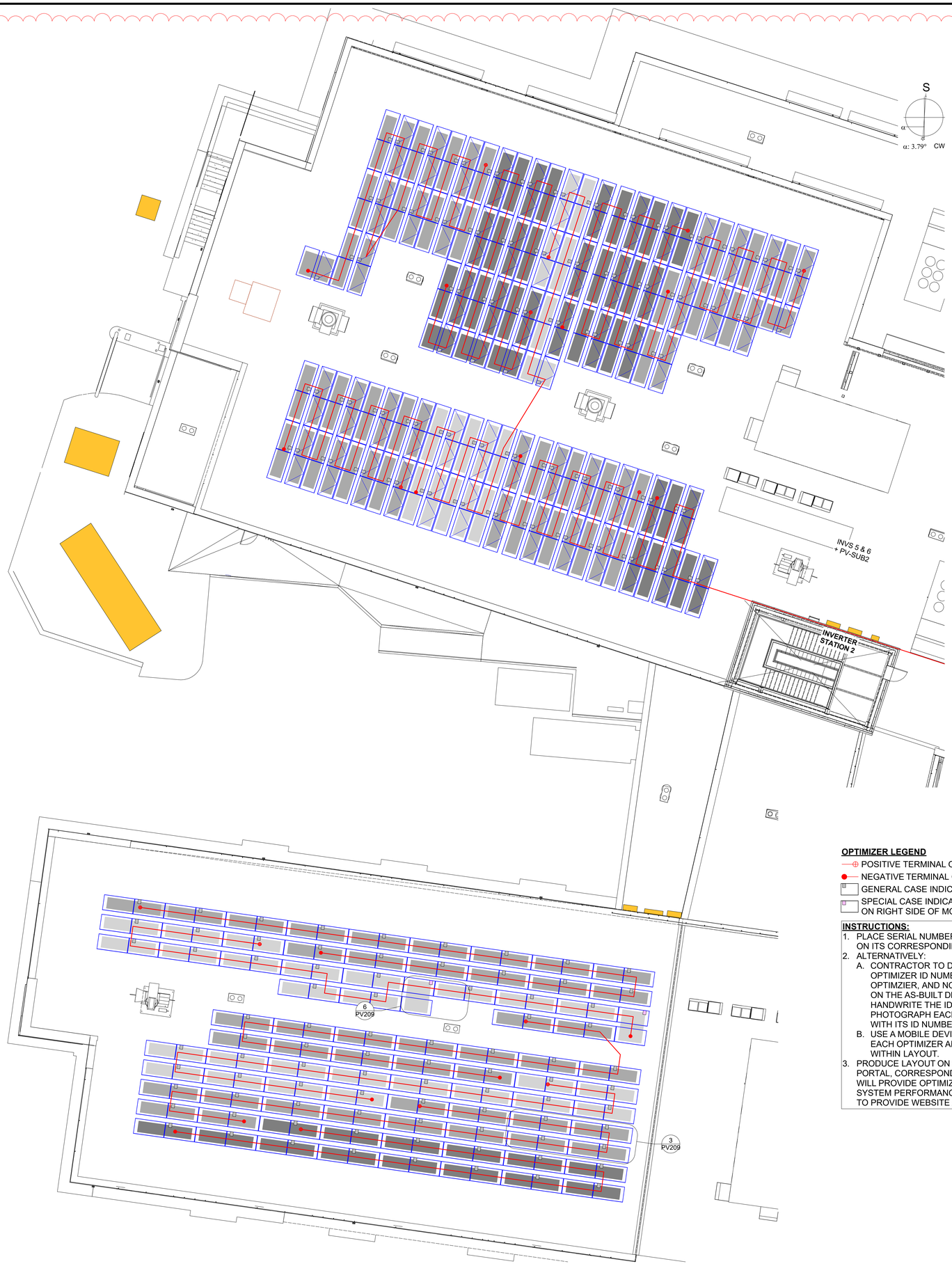

OPTIMIZER LEGEND

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3. PRODUCE LAYOUT ON SOLAREDGE'S MONITORING PORTAL, CORRESPONDING TO AS-BUILT SYSTEM. THIS WILL PROVIDE OPTIMIZER-LEVEL MONITORING OF SYSTEM PERFORMANCE. COORDINATE WITH END-USER TO PROVIDE WEBSITE ACCESS.

1 OPTIMIZER LAYOUT & OPTIMIZER SOURCE - ROOF SECTIONS C & D

0 4' 8' 16'

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Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

DRAWING TITLE

OPTIMIZER LAYOUT - C & D

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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DWN. BY: CW, MJ, CH
CKD. BY: RE
DATE: Thursday, January 27, 2022

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OPTIMIZER LEGEND

- POSITIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- NEGATIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- GENERAL CASE INDICATES WHICH MODULE HOSTS THE OPTIMIZER
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1 OPTIMIZER LAYOUT & OPTIMIZER SOURCE - ROOF SECTIONS D2, E1 & E3

0 4' 8' 16'

3

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Doherty Memorial High School

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DRAWING TITLE

OPTIMIZER LAYOUT - D2, E1 & E3

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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OPTIMIZER LEGEND

- POSITIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- NEGATIVE TERMINAL OF OPTMIZER SOURCE CIRCUIT
- GENERAL CASE INDICATES WHICH MODULE HOSTS THE OP
- SPECIAL CASE INDICATES WHICH MODULE HOSTS THE OPT ON RIGHT SIDE OF MODULE

INSTRUCTIONS:

1. PLACE SERIAL NUMBER STICKER FROM EACH OPTIMIZER ON ITS CORRESPONDING POISITION ON THIS PLAN.
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1 OPTIMIZER LAYOUT & OPTIMIZER SOURCE - ROOF SECTIONS E2, E4 & E5

0 4' 8' 16'

3

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Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

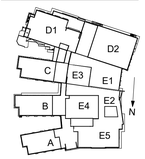
DRAWING TITLE

OPTIMIZER LAYOUT - E2, E4 & E5

Locus Map

True North

Key Plan



REVISIONS

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3	ADDENDUM 3	02/03/2022

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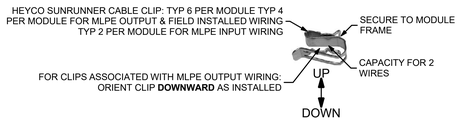
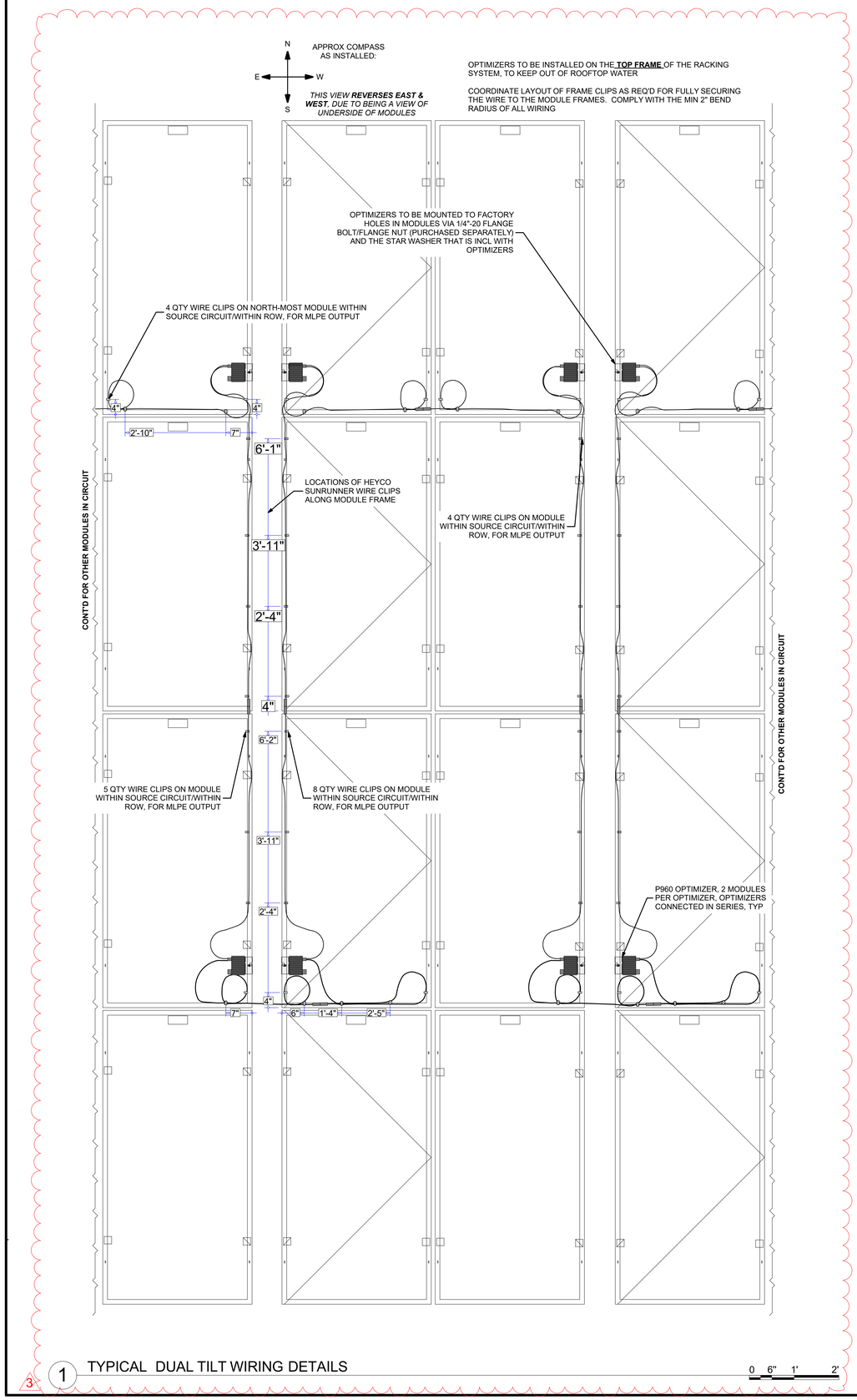


CABLE CLIP LEGEND

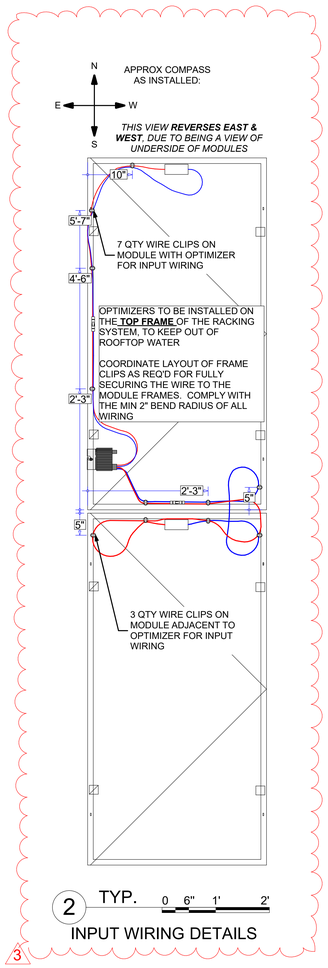
ORIENTED **DOWNWARD** AS-INSTALLED.
I.E. **AWAY FROM** MODULE GLASS

HEYCO SUNRUNNER 4 ORIENTED **DOWNWARD** AS-INSTALLED. I.E. **AWAY FROM** MODULE GLASS

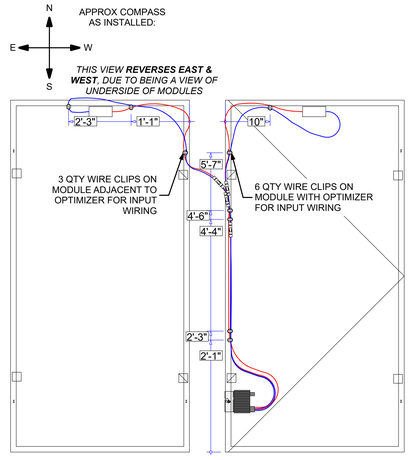
CONTRACTOR TO ADAPT TO SPECIFIC MODULE LAYOUT IN FIELD



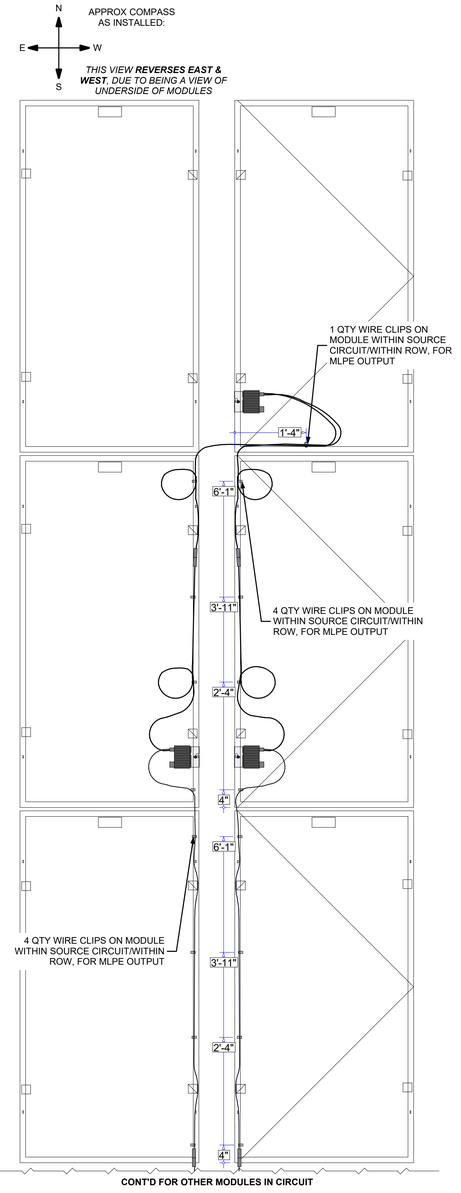
1 TYPICAL DUAL TILT WIRING DETAILS
0 6" 1' 2'



2 TYP. INPUT WIRING DETAILS
0 6" 1' 2'



3 SPECIAL CASE INPUT WIRING DETAILS
0 6" 1' 2'



4 SPECIAL CASE OUTPUT WIRING DETAILS
0 6" 1' 2'

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299 Highland Street, Worcester, MA 01602

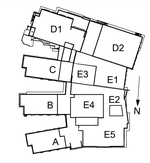
DRAWING TITLE

WIRING DETAILS - DUAL TILT

Locus Map

True North

Key Plan



REVISIONS

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3	ADDENDUM 3	02/03/2022

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FILE:	
JOB NO:	#1904
SCALE:	As indicated
DWN. BY:	CW, MJ, CH
CKD. BY:	RE
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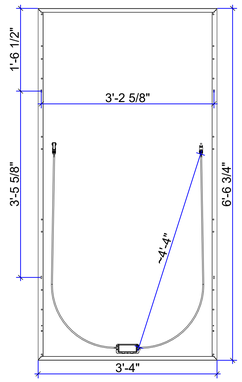


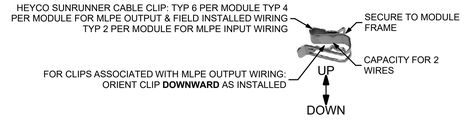
1 MODULE DETAILS 0 6" 1' 2'

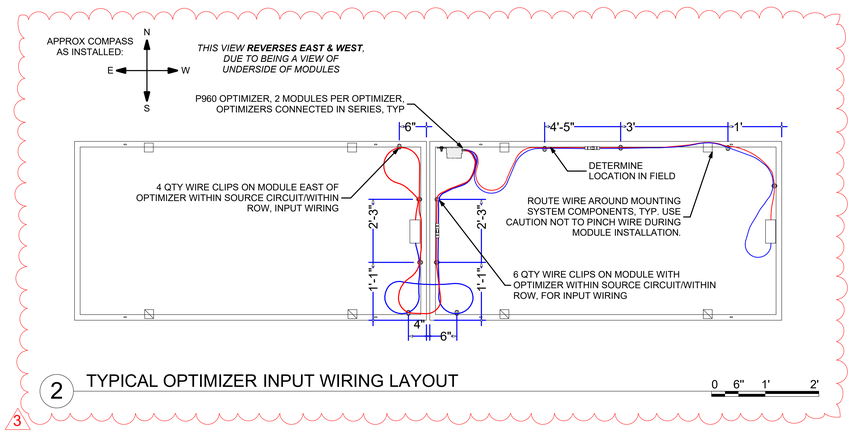
CABLE CLIP LEGEND

ORIENTED **DOWNWARD** AS-INSTALLED.
I.E. **AWAY FROM** MODULE GLASS

HEYCO SUNRUNNER 4 ORIENTED **DOWNWARD** AS-INSTALLED. I.E. **AWAY FROM** MODULE GLASS

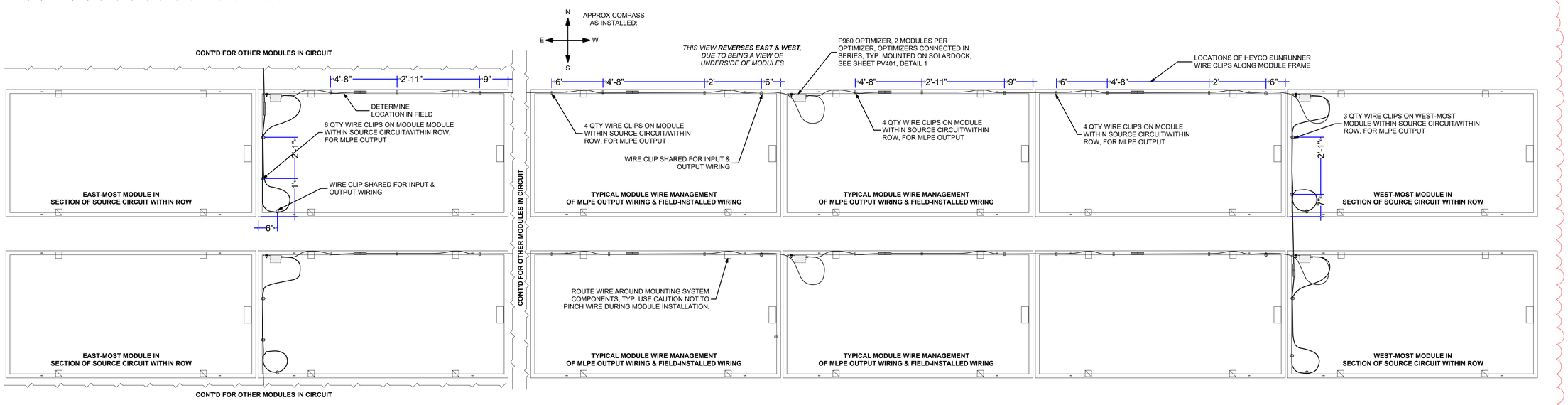
CONTRACTOR TO ADAPT TO SPECIFIC MODULE LAYOUT IN FIELD





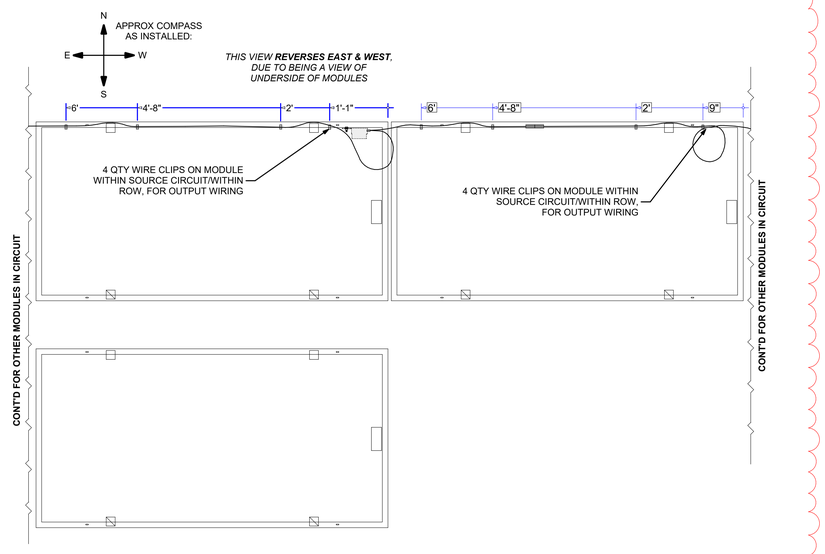
2 TYPICAL OPTIMIZER INPUT WIRING LAYOUT 0 6" 1' 2'

3



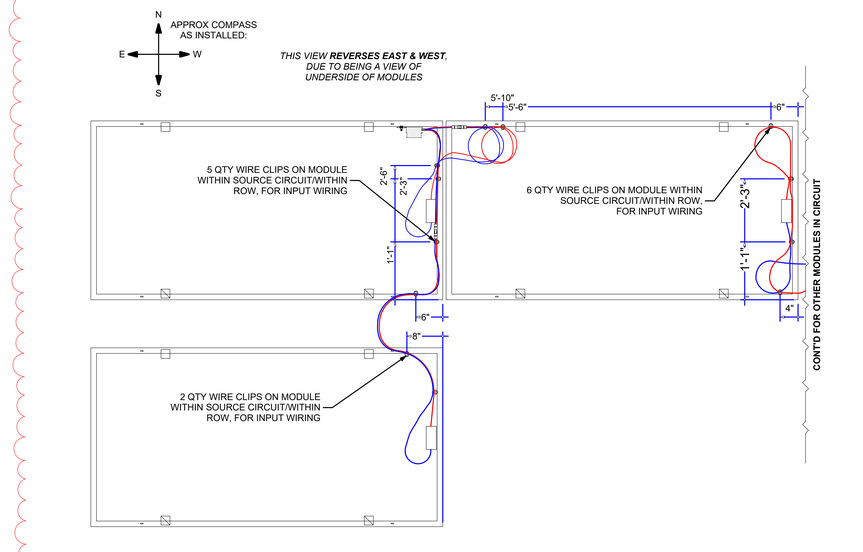
3 TYPICAL OPTIMIZER OUTPUT WIRING LAYOUT 0 6" 1' 2'

3



6 SPECIAL CASE OPTIMIZER OUTPUT WIRING LAYOUT 0 6" 1' 2'

3



7 SPECIAL CASE OPTIMIZER INPUT WIRING LAYOUT 0 6" 1' 2'

3

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Worcester Public Schools
Worcester, MA

PROJECT

100% CONSTRUCTION DOCUMENTS, FINAL BID PACKAGE #4

Doherty Memorial High School
299 Highland Street, Worcester, MA 01602

DRAWING TITLE

WIRING DETAILS - SOLARDOCK ROOF C

Locus Map

True North

Key Plan

REVISIONS

No.	Description	Date
3	ADDENDUM 3	02/03/2022

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FILE:	
JOB NO:	#1904
SCALE:	As indicated
DWN. BY:	CW, MJ, CH
CKD. BY:	RE
DATE:	Thursday, January 27, 2022

PV209

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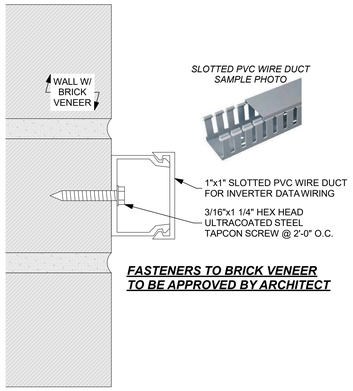
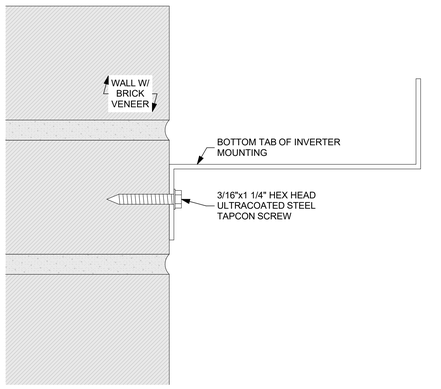
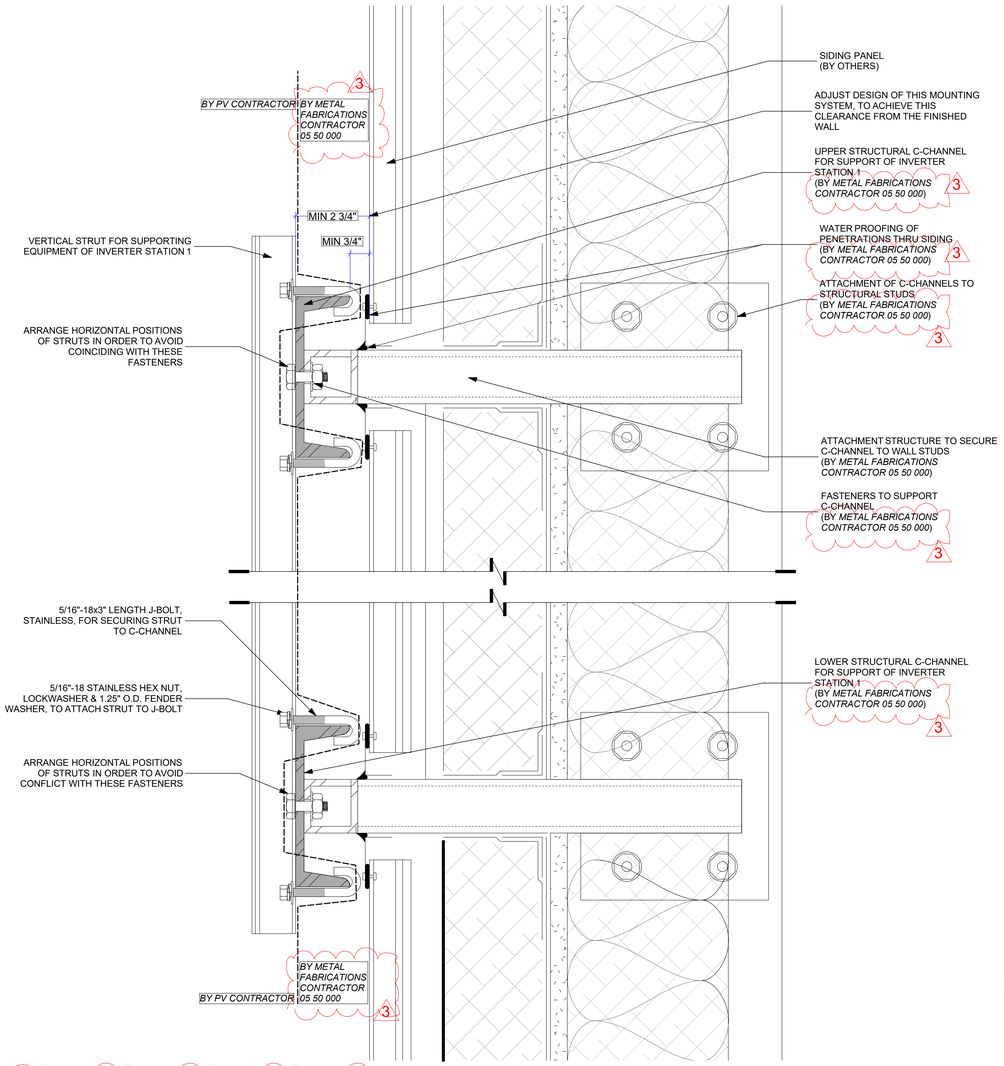
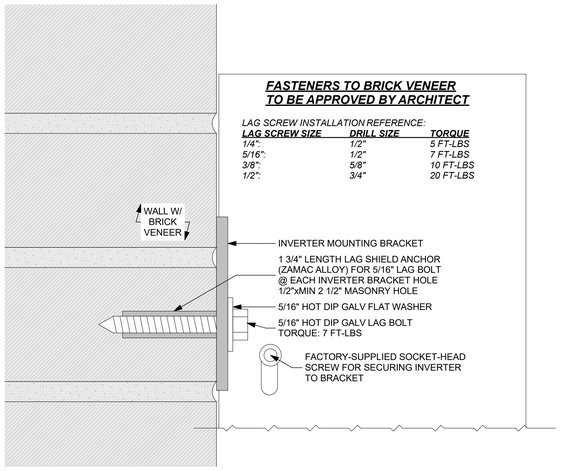


1 SLOTTED WIRE DUCT DETAIL 0 1/2" 1" 2"

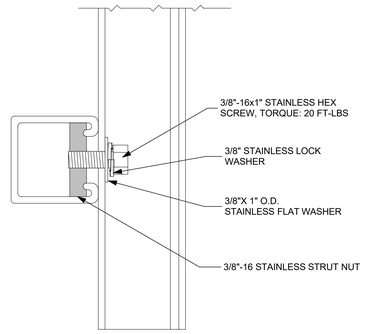


2 INVERTER BOTTOM TAB DETAIL 0 1/2" 1" 2"

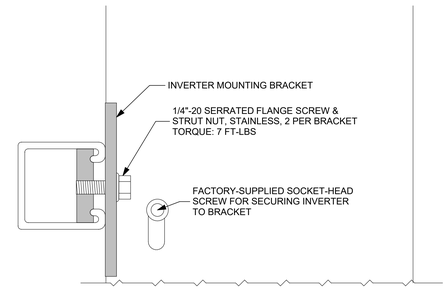




4 INVERTER BRACKET DETAIL ON BRICK 0 1/2" 1" 2"

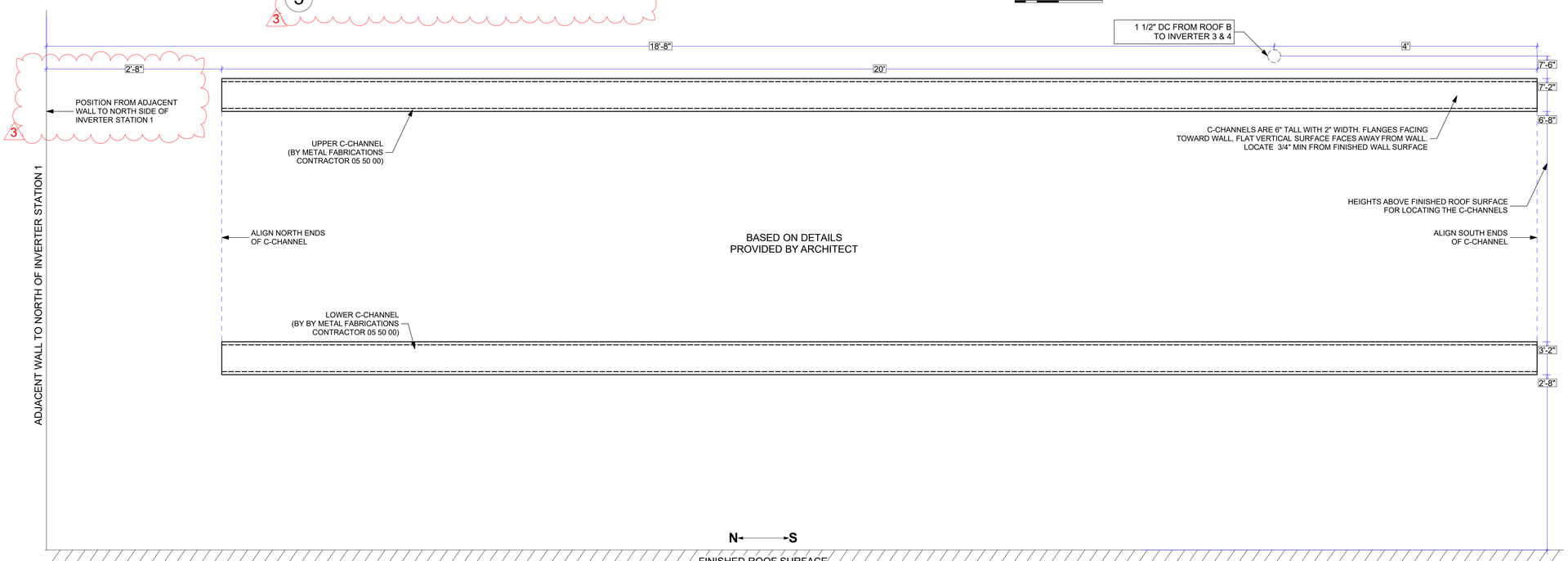


5 STRUT MOUNTING DETAIL 0 1/2" 1" 2"



7 INVERTER TO STRUT CONNECTION 0 1/2" 1" 2"

3 INVERTER STATION 1: ATTACHMENT TO WALL 0 1" 2" 4"



6 C-CHANNEL LAYOUT - FOR STRUCTURAL CONTRACTOR TO INSTALL AT INVERTER STATION 1
BASE BID - BY METAL FABRICATIONS CONTRACTOR 05 50 00
0 6" 12" 18"

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C-CHANNEL (INV STATION 1) & INV DETAILS

Locus Map

True North

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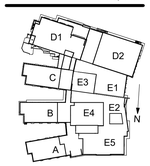

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