

SAWYER

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Wrightsville Beach Elementary **School Addition** & Renovation

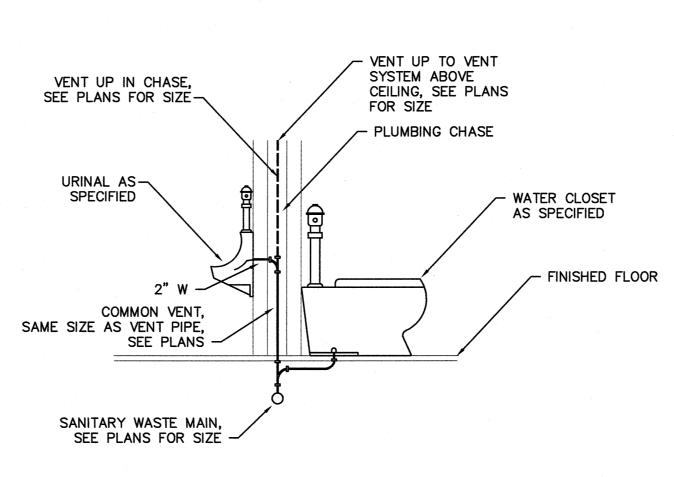
220 Coral Drive Wrightsville Beach, NC

Construction Drawings February 20, 2019

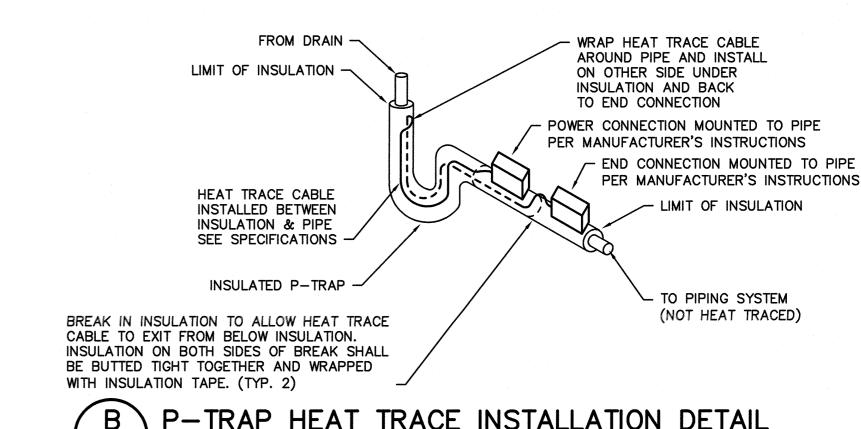
Revisions:

PLUMBING LEGEND, SCHEDULES & DETAILS

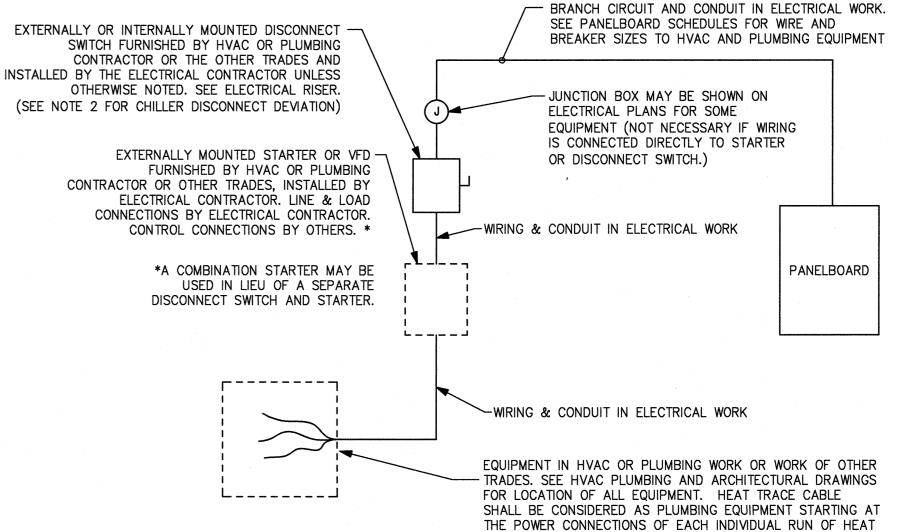
VENT THRU ROOF DETAIL (FLAT ROOF)



BACK TO BACK URINAL & WATER CLOSET VENT DETAIL



P-TRAP HEAT TRACE INSTALLATION DETAIL NO SCALE



1. FINAL CONNECTIONS INSIDE EQUIPMENT TO BE MADE BY HVAC OR PLUMBING CONTRACTOR OR OTHER TRADES.

TRACE CABLE.

 $\left(\frac{E}{P0.2}\right)$ ELECTRICAL CONNECTION TO MECHANICAL EQUIPMENT

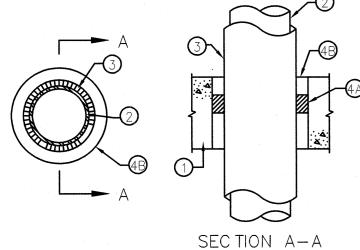
- VENT UP TO VENT SYSTEM ABOVE VENT UP IN CHASE, CEILING, SEE PLANS SEE PLANS FOR SIZE-FOR SIZE PLUMBING CHASE - WATER CLOSET AS SPECIFIED (TYP.) FINISHED FLOOR 4" COMMON VENT PLANS FOR SIZE SANITARY WASTE MAIN, SEE PLANS FOR SIZE



BACK TO BACK WATER CLOSET DETAIL

UL SYSTEM No. CA-J-5002 (FORMERLY SYSTEM NO 91-B) SEPTEMBER 3, 2004

(F RATINGS - 2 AND 3 HR (SEE ITEM 1A AND 4) TRATING - 0, 1/2 AND 1 HR (SEE ITEM 1A AND 4) L RATING AT AMBIENT - 2 CFM/SQ FT L RATING AT 400 F - LESS THAN 1 CFM/SQ FT



HIGHTWEIGHT OR NORMAL WEIGHT (100-150 PCF) CONCRETE, WALL MAY ALSO E CONSTRUCTED OF ANY UL CLASSIFIE**CONCRETE BLOCKS*** . MAX DIAM OF OPENING IS 36 IN.
SEE **CONCRETE BLOCKS** (CAZT) CATEGORY IN THE FIRE RESISTANCE RY FOR NAMES OF MANUFACTURERS. 1A. STEEL SLEEVE (OPTIONAL, NOT SHOWN) - NOM 36 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST INTO MIN 4-1/2 IN. THICK CONCRETE FLOOR OR WALL. SLEEVE TO BE FLUSH WITH OR PROJECT MAX 2 IN. FROM TOP SURFACE OF FLOOR OR FROM BOTH SURFACES OF WAWHEN STEEL SLEEVE IS USED, F RATING IS 2 HR AND T RATING IS 0 2. PIPE - NOM 4 IN. DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER PIPE

CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX 4. FIRESTOP SYSTEM - THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. THICK INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. WIDE BY 24 IN. LONG STRIPS. NOM 2 IN. WIDE STRIPS TIGHTLY-WRAPPED AROUND PIPE COVERING (FOIL SID EXPOSED) TO FILL ANNULAR SPACE. EACH LAYER OF WRAP STRIP IS TO BE INSTALLED WITH A BUTTED SEAM, WITH THE BUTTED SEAMS IN SUCCESSIVE LAYERS STAGGERED. WRAP STRIP LAYERS SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLIDE INTO ANNULAR SPACE SUCH THAT THE TOP EDGES ARE RECESSED MIN 1/2 IN. FORM TOP SURFACE OF FLOOR, IN WALL ASSEMBLIES, THE WRAP STRIP LAYERS SHALL BE INSTALLED IN THE SAME MANNER USED FOR FLOOR ASSEMBLIES BUT SHALL BE INSTALLED SYMMETRICALLY ON BOTH SIDES OF THE WALL. THE MIN NUMBER OF WRAP STRIP LAYERS REQUIRED IS DEPENDENT UPON THE MAX PIPE SIZE AND THE PIPE COVERING THICKNESS, AS SHOWN IN

THE FOLLOWING TABLE:
MIN. FLOOR MAX NOM PIPE
OR WALL PIPE COVERING
THKNS, DIAM, THKNS, OF WRAP STRIP LAYERS SPACE

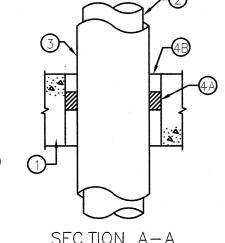
3M COMPANY - FS-195+

B. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - APPLIED TO L THE ANNULAR SPACE (OVER EDGES OF WRAP STRIP LAYERS) TO A MIN DEPTH OF 1/2 IN., FLUSH WITH TOP SURFACE OF FLOOR OR BOTH SURFACES 3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT. *BEARING THE UL CLASSIFICATION MARKING

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.

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1. FLOOR OR WALL ASSEMBLY - MIN 2-1/2 IN. THICK REINFORCED

NOM 15 IN. DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 30 IN. DIAM (OR SMALLER) CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE OR NOM 30 IN. DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE CENTERED IN THE OPENING AND RÍGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR OR WALL ASSEMBLY. 3. PIPE COVERING* - NOM 1, 2 OR 3 IN. THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR ACTORY-APPLIED SELF SEALING LAP TAPE. TRANSVERSE JOINTS SECURED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE

SEE PIPE AND EQUIPMENT COVERING - MATERIALS* (BRGU)

. DUCT WRAP MATERIAL* - NOM. 2 IN. THICK ENCAPSULATED DUCT WRAP TIGHTLY WRAPPED AROUND PENETRANT TO EXTEND 36 IN. ABOVE FLOOR. AN ADDITIONAL LAYER OF NOM. 2 IN. THICK ENCAPSULATED DUCT WRAP TIGHTLY RATING RATING WRAPPED AROUND FIRST LAYER OF DUCT WRAP TO EXTEND 12 IN. ABOVE FLOOR. ALL LONGITUDINAL SEAMS OF BOTH LAYERS OF DUCT WRAP AND JOINTS BETWEEN LAYERS OF DUCT WRAP ARE SEALED WITH FOIL TAPE. ONE OF THE FOLLOWING WRAP MAY BE USED: C1. NOM. 1-1/2 IN. OF 2 IN. THICK ENCAPSULATED DUCT WRAP.

UNIFRAXILLC - FRYEWRAP DUCT INSULATION OR FIREWRAP DUCT 1.5 INSULATION. C2. NOM. 1-1/2 IN. THICK ENCAPSULATED DUCT WRAP. THERMAL CERAMICS INC - FIREMASTER FASTWRAP XL DUCT INSULATION. *BEARING THE ULCLASSIFICATION MARKING

UL SYSTEM No. F-A-1105

JUNE 24, 2016

F RATINGS - 2 HR T RATING - 2 HR L RATING AT AMBIENT - LESS THAN 1 CFM/SQ.FT. L RATING AT 400 F - 4 CFM/SQ FT

W RATING - CLASS 1 (SEE ITEM 3B)

1. FLOOR ASSEMBLY - MIN. 4-1/2 IN. THICK REINFORCED LIGHTWEIGHT OR

NORMAL WEIGHT CONCRETE. AS AN ALTERNATE, ANY MIN. 2 HR. FIRE RATED

NORMAL WEIGHT CONCRETE TOPPING OVER THE STEEL DECK MAY BE USED. MAX. DIAM. OF OPENING IS 12-3/4 IN.

2. THROUGH - PENETRANT - ONE METALLIC PIPE INSTALLED CONCENTRICALLY OR

ECCENTRICALLY WITHIN OPENING. ANNULAR SPACE BETWEEN PENETRANT AND

PERIPHERY OF OPENING SHALL BE MIN. OF O IN. (POINT CONTACT) TO MAX 2

D700, D800 OR D900 SERIES FLOOR—CEILING DESIGN IN THE UL FIRE RESISTANCE DIRECTORY A MIN. 2-1/2 IN. THICKNESS OF LIGHTWEIGHT O

N. PENETRANT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR

ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF PENETRANTS MAY BE USED:
A. STEEL PIPE - NOM. 10 IN. DIAM (OR SMALLER) SCHEDULE 40 (OR HEAVIER)
STEEL PIPE.

B.IRON PIPE - NOM. 10 IN. DIAM. (OR SMALLER) CAST OR DUCTILE IRON PIPE.

3. FIRESTOP SYSTEM - THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:

BATT INSULATION FIRMLY PACKED INTO OPENING AS A PERMANENT FORM

PACKING MATERIAL IS 4 IN. AND MIN. THICKNESS OF FLOOR IS 4-1/2 IN

PACKING MATERIAL TO BE RECESSED FROM TOP SURFACE OF FLOOR TO

HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI, INC - FS-ONE SEALANT OR

CP 604 SELF-LEVELING FIRESTOP SEALANT

W RATING APPLIES ONLY WHEN CP 604 SEALANT IS USED.

WHEN CP 604 SEALANT IS USED (SEE ITEM 3B), MIN. THICKNESS OF

A PACKING MATERIAL - MIN. 2 IN. THICKNESS OF MIN. 4 PCF MINERAL WOOL

B. FILL, VOID OR CAVITY MATERIALS* - SEALANT - MIN. 1/2 IN. THICKNESS OF

SEALANT APPLIEDWITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR

TUBING OR NOM. 6 IN. DIAM. (OR SMALLER) RIGID STEEL CONDUIT.

CONDUIT - NOM. 4 IN. DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC

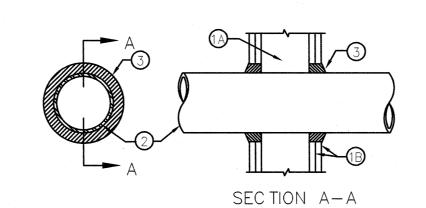
SECTION A-A

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NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION

UL SYSTEM No. W-L-1001 (FORMERLY SYSTEM NO. 147) JUNE 15, 2005

F RATINGS - 1, 2, 3 AND 4 HR (SEE ITEMS 2 AND 3) T RATINGS - 0, 1, 2, 3 AND 4 HR (SEE ITEM 3) L RATINGS AT AMBIENT - LESS THAN 1 CFM/SQFT L RATING AT 400 F - LESS THAN 1 CFM/SQ FT



WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL OR PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

A. STUDS — WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS (MAX 2 HR FIRE RATED ASSEMBLIES) OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP ANNELS SPACED MAX 24 IN. (610 MM) OC CHANNELS SPACED MAX 24 IN. (610 MM) OC.

B. GYPSUM BOARD* - NOM 1/2 OR 5/8 IN. (13 OR 16 MM) THICK, 4 FT. (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS 26 IN. (660 MM). THROUGH PENETRANT - ONE METALLIC PIPE, CONDUIT OR TUBING INSTALLED EITHER CONCENTRICALLY OR ECCENTRIC ALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN PIPE, CONDUIT OR TUBING AND PERIPHERY OF OPENING SHALL BE MIN OF 0 IN. (0 MM) (POINT CONTACT) TO MAX 2 IN. (51 MM). PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUITS OR TUBING MAY BE A. STEEL PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE.

WALL ASSEMBLY - THE 1, 2, 3 OR 4 HR FIRE-RATED GYPSUM WALLBOARD/STUD

B. IRON PIPE - NOM 24 IN. (610 MM) DIAM (OR SMALLER) SERVICE WEIGHT (OR HEAVIER) CAST IRON SOIL PIPE, NOM 12 IN. (305 MM) DIAM (OR SMALLER) OR CLASS 50 (OR HEAVIER) DUCTILE IRON PRESSURE PIPE. C. CONDUIT - NOM 6 IN. (152 MM) DIAM (OR SMALLER) STEEL CONDUIT OR NOM 4 IN. (102 MM) DIAM (OR SMALLER) STEEL ELECTRIC AL METALLIC TUBING D. COPPER TUBING — NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) COPPER TUBING E. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) F. THROUGH PENETRATING PRODUCT* — FLEXIBLE METAL PIPING — THE FOLLOWING TYPES OF STEEL FLEXIBLE METAL GAS PIPING MAY BE USED:

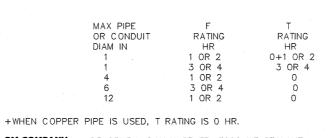
1. NOM 2 IN. (51 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY. OMEGA FLEX INC

 NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

3. NOM 1 IN. (25 MM) DIAM (OR SMALLER) STEEL FLEXIBLE METAL GAS PIPING. PLASTIC COVERING ON PIPING MAY OR MAY NOT BE REMOVED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.

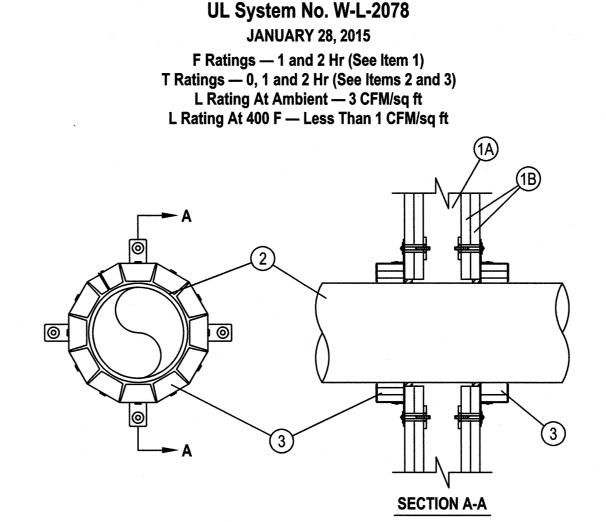
3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN 5/8. 1-1/4,1-7/8 AND $2\!-\!1/2$ In. (16, 32, 48 AND 64 MM) THICKNESS OF CAULK FOR 1, 2, 3 AND 4 HR RATED ASSEMBLIES, RESPECTIVELY, APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. MIN 1/4 IN. (6 MM) DIAM BEAD OF CAULK APPLIED TO GYPSUM BOARD/PENETRANT INTERFACE AT POINT CONTACT LOCATION ON BOTH SIDES OF WALL.

THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS SHOWN IN THE FOLLOWING THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS DEPENDENT UPON THE TYPE OR SIZE OF THE PIPE OR CONDUIT AND THE HOURLY FIRE RATING OF THE WALL ASSEMBLY IN WHICH IT IS INSTALLED, AS TABULATED BELOW:



3M COMPANY - CP 25WB+ CAULK OR FB-3000 WT SEALANT, *BEARING THE UL CLASSIFICATION MARKING REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL. ©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.



1. Wall Assembly — The fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL fire Resistance Directory and shall include the construction features

A. Studs — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced max 16 in. OC. Steel studs to be min 2-1/2 in. wide and spaced max 24 in. OC. B. Gypsum Board* — Nom 5/8 in. thick gypsum board, as specified in the individual Wall and Partition Design. Max diam of opening is 11-1/2 in. The hourly F Rating of the firestop system is equal to the hourly fire rating of the wall assembly in which it is installed. 2. Through-Penetrants — One nonmetallic pipe, conduit or tubing to be installed within the firestop system. The annular space between pipe and periphery of opening shall be min 0 in. (point contact) to max 1/2 in. Pipe or conduit to be rigidly supported on both sides of the wall assembly. The following types and sizes of nonmetallic pipes may be used:

supply) or vented (drain, waste or vent) piping system. B. Chlorinated Polyvinyl Chloride (CPVC) Pipe — Nom 10 in. diam (or smaller) SDR13.5 CPVC pipe for use in closed (process or supply) piping C. Acrylonitrile Butadiene Styrene (ABS) Pipe — Nom 6 in. diam (or smaller) Schedule 40 solid-core or cellular core ABS pipe for use in closed

A. Polyvinyl Chloride (PVC) Pipe — Nom 10 in. diam (or smaller) Schedule 40 solid-core or cellular core PVC pipe for use in closed (process or

(process or supply) or vented (drain, waste or vent) piping systems D. Flame Retardant Polypropylene (FRPP) Pipe — Nom 6 in. diam (or smaller) Schedule 40 FRPP pipe for use in closed (process or supply) or E. Polyvinylidene Fluoride (PVDF) Pipe — Nom 4 in. diam (or smaller) PVDF pipe for use in closed (process or supply) or vented (drain, waste or

When max 6 in. diam pipe is used, T Rating is equal to the hourly fire rating of the wall. When nom 8 in. or 10 in. diam pipe is used, T Rating is 0 hr. 3. Firestop Device* — Firestop Collar — Firestop collar shall be installed in accordance with the accompanying installation instructions. Collar to be installed and latched around the pipe and secured to both sides of the wall using the anchor hooks provided with the collar. (Minimum two anchor hooks for 1-1/2 and 2 in. diam pipes, three anchor hooks for 3 and 4 in. diam pipes, four anchor hooks for 6 in. diam pipes, ten anchor hooks for 8 in. diam pipes and twelve anchor hooks for 10 in. diam pipes). The anchor hooks are to be secured to the surface of wall with 3/16 in. diam by 2-1/2 in. long steel toggle bolts along with washers. As an alternate for pipe sizes of nom 4 in. diam or less, min No. 10 by 1-1/2 in. long drywall or ate screws with min 3/4 in. steel washers may be used. When the drywall or laminate screw is used, T Rating shall not exceed 1 hr. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 643 50/1.5"N, CP 643 63/2"N, CP 643 90/3"N, CP 643 110/4"N, CP 643 160/6"N,

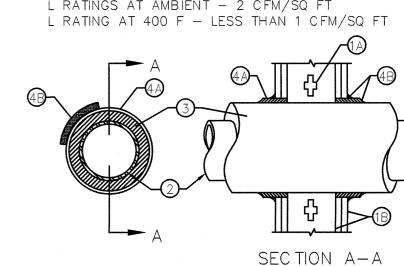
CP 644 200/8" and CP 644 250/10" Firestop Collars 4. Fill, Void or Cavity Material* — Sealant - (Not Shown) — Min 1/2 in. thickness of sealant applied within the annular space for nom 8 in. and 10 in. diam pipes, flush with each side of wall. Sealant in annular space is optional for max 6 in. diam pipes. A min 1/4 in. thickness of sealant is required within the annular space, flush with each side of wall, to attain the L Ratings for max 6 in. diam pipes. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant *Bearing the UL Classification Mark

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NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION

UL SYSTEM No. W-L-5001 (FORMERLY SYSTEM NO. 147) MAY 19, 2005

F RATINGS - 1 AND 2 HR (SEE ITEM 1) T RATINGS - 3/4, 1 AND 1-1/2 HR (SEE ITEM 3) L RATINGS AT AMBIENT - 2 CFM/SQ FT



1. WALL ASSEMBLY - THE 1 OR 2 HR FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300, U400 OR V400 SERIES WALL OR PARTITION DESIGN IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES: A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 IN. BY 4 IN. (25 MM BY 102 MM) LUMBER SPACED 16 IN. (406 MM) OC WITH NOM 2 BY 4 IN. LUMBER END PLATES AND CROSS BRACES. STEEL STUDS TO BE MIN 3-5/8 IN. (92 MM) WIDE BY 1-3/8 IN. (35 MM) DEEP CHANNELS SPACED MAX 24 IN. (610 MM) OC B. GYPSUM BOARD* - NOM 5/8 IN. (16 MM) THICK, 4 FT (122 CM) WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM OF OPENING IS THE HOURLY F RATING OF THE FIRESTOP SYSTEM IS 1 HR WHEN INSTALLED IN A 1 HR FIRE

RATED WALL AND 2 HR WHEN INSTALLED IN A 2 HR FIRE RATED WALL. 2. THROUGH PENETRANTS — ONE METALLIC PIPE OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES OR TUBING MAY BE USED A. STEEL PIPE - NOM 12 IN. (305 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) B. COPPER TUBING - NOM 6 IN. (152 MM) DIAM (OR SMALLER) TYPE L (OR HEAVIER) C. COPPER PIPE - NOM 6 IN. (152 MM) DIAM (OR SMALLER) REGULAR (OR HEAVIER) 3. PIPE COVERING* - NOM 1 IN. OR 2 IN. (25 MM OR 51 MM) THICK HOLLOW CYLINDRICAL HEAVY DENSITY GLASS FIBER UNITS JACKETED ON THE OUTSIDE WITH AN ALL SERVICE JACKET. LONGITUDINAL JOINTS SEALED WITH METAL FASTENERS OR FACTORY—APPLIED ELF-SEALING LAP TAPE. TRANSVERSE JOINTS SEALED WITH METAL FASTENERS OR WITH BUTT STRIP TAPE SUPPLIED WITH THE PRODUCT. WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/4 IN. TO MAX 3/8 IN. (6 MM TO MAX 10 MM). WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING IS USED, THE ANNULAR SPACE BETWEEN THE PIPE COVERING AND THE CIRCULAR CUTOUT IN THE GYPSUM WALLBOARD LAYERS ON EACH SIDE OF THE WALL SHALL BE MIN 1/2 IN. TO SEE PIPE AND EQUIPMENT COVERING - MATERIALS (BRGU) CATEGORY IN BUILDING MATERIALS DIRECTORY FOR NAMES OF MANUFACTURERS. ANY PIPE COVERING MATERIAL MEETING THE ABOVE SPECIFICATIONS AND BEARING THE UL CLASSIFICATION MARKING WITH A FLAME SPREAD INDEX OF 25 OR LESS AND A SMOKE DEVELOPED INDEX OF 50 OR

THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS 3/4 HR WHEN NOM 1 IN. (25 MM) THICK THE HOURLY T RATING OF THE FIRESTOP SYSTEM IS f 1 HR AND f 1-f 1/2 HR WHEN NOM f 2 IN. (51 4M) THICK PIPE COVERING IS USED WITH 1 HR AND 2 HR FIRE RATED WALLS, RESPECTIVELY 4. FIRESTOP SYSTEM — INSTALLED SYMMETRIC ALLY ON BOTH SIDES OF WALL ASSEMBLY. THE DETAILS OF THE FIRESTOP SYSTEM SHALL BE AS FOLLOWS: A. FILL, VOID OR CAVITY MATERIALS* - WRAP STRIP - NOM 1/4 IN. (6 MM) THICK

INTUMESCENT ELASTOMERIC MATERIAL FACED ON ONE SIDE WITH ALUMINUM FOIL, SUPPLIED IN 2 IN. (51 MM) WIDE STRIPS. NOM 2 IN. (51 MM) WIDE STRIP TIGHTLY LAYER SECURELY BOUND WITH STEEL WIRE OR ALUMINUM FOIL TAPE AND SLID INTO ANNULAR SPACE APPROX 1-1/4 IN. (32 MM) SUCH THAT APPROX 3/4 IN. (19 MM) OF THE WRAP STRIP WIDTH PROTRUDES FROM THE WALL SURFACE, ONE LAYER OF WRAP STRIP IS REQUIRED WHEN NOM 1 IN. (25 MM) THICK PIPE COVERING IS USED. TWO LAYERS OF WRAP STRIP ARE REQUIRED WHEN NOM 2 IN. (51 MM) THICK PIPE COVERING

B. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - MIN 1/4 IN. (6 MM) DIAM CONTINUOUS BEAD APPLIED TO THE WRAP STRIP/WALL INTERFACE AND TO THE EXPOSED DGE OF THE WRAP STRIP LAYER APPROX 3/4 IN. (19 MM) FROM THE WALL SURFACE. 3M COMPANY - CP 25WB+, IC 15WB+, FIREDAM 150+ CAULK OR FB-3000 WT SEALANT *BEARING THE UL CLASSIFICATION MARKING REPRINTED FROM THE ONLINE CERTIFICATIONS DIRECTORY WITH PERMISSION FROM UL. ©2017 UL LLC

NOTE: DETAIL FOR REFERENCE ONLY. THE CONTRACTOR SHALL INSTALL FIRE PROOFING IN COMPLETE ACCORDANCE WITH IT'S UL LISTING AND PENETRATION SYSTEM INSTALLATION INSTRUCTIONS.







PHONE: (910) 452-4210 FAX: (910) 452-4211

NC LICENSE# C-1073

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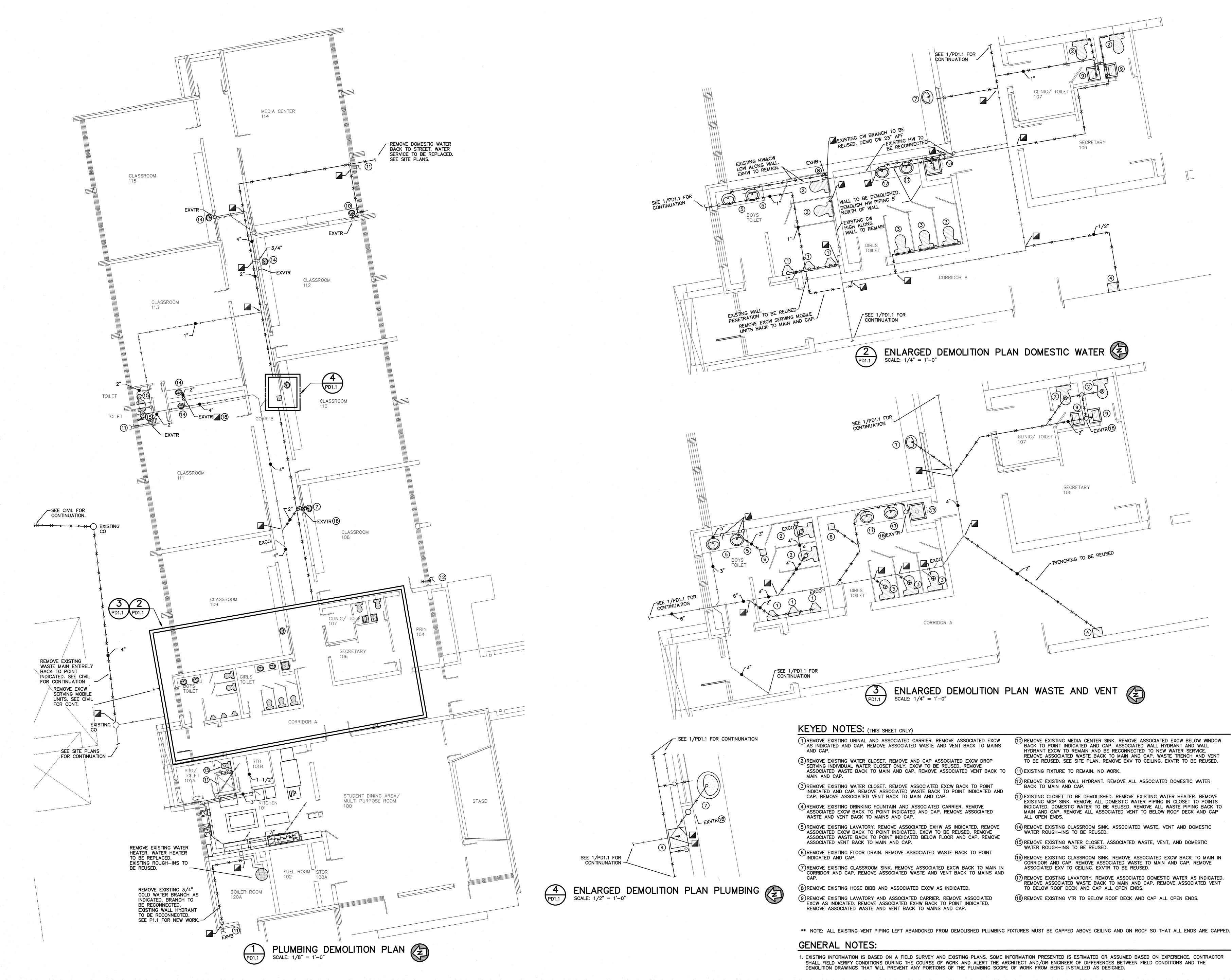
Wrightsville Beach Elementary **School Addition** & Renovation

220 Coral Drive Wrightsville Beach, NC

Construction Drawings February 20, 2019

Revisions:

PLUMBING DETAILS



S A W Y E R
S H E R W O O D
& ASSOCIATE
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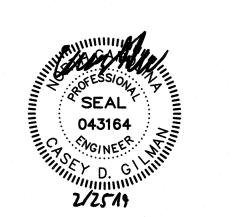
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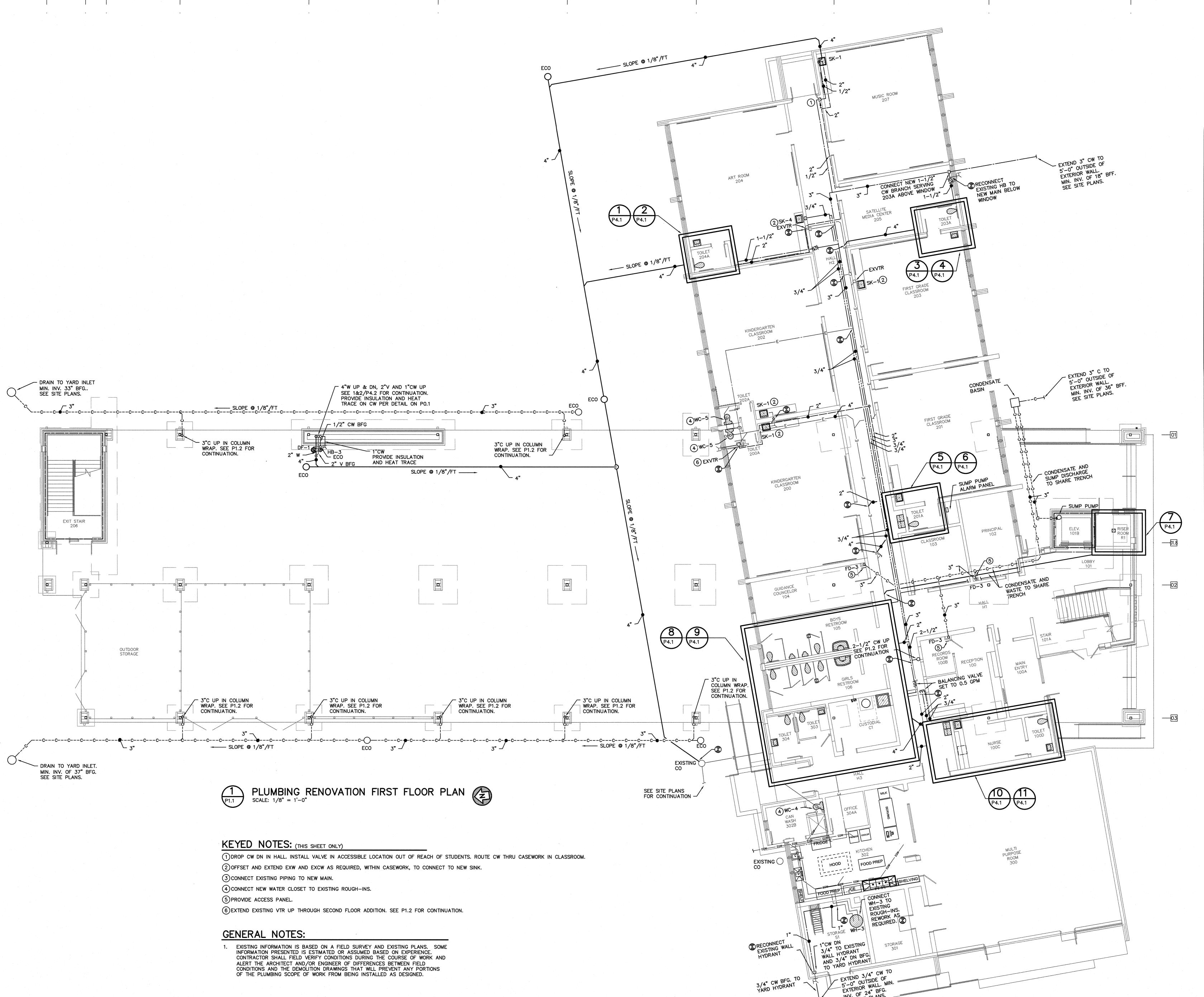
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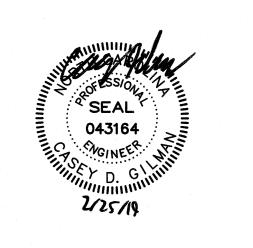
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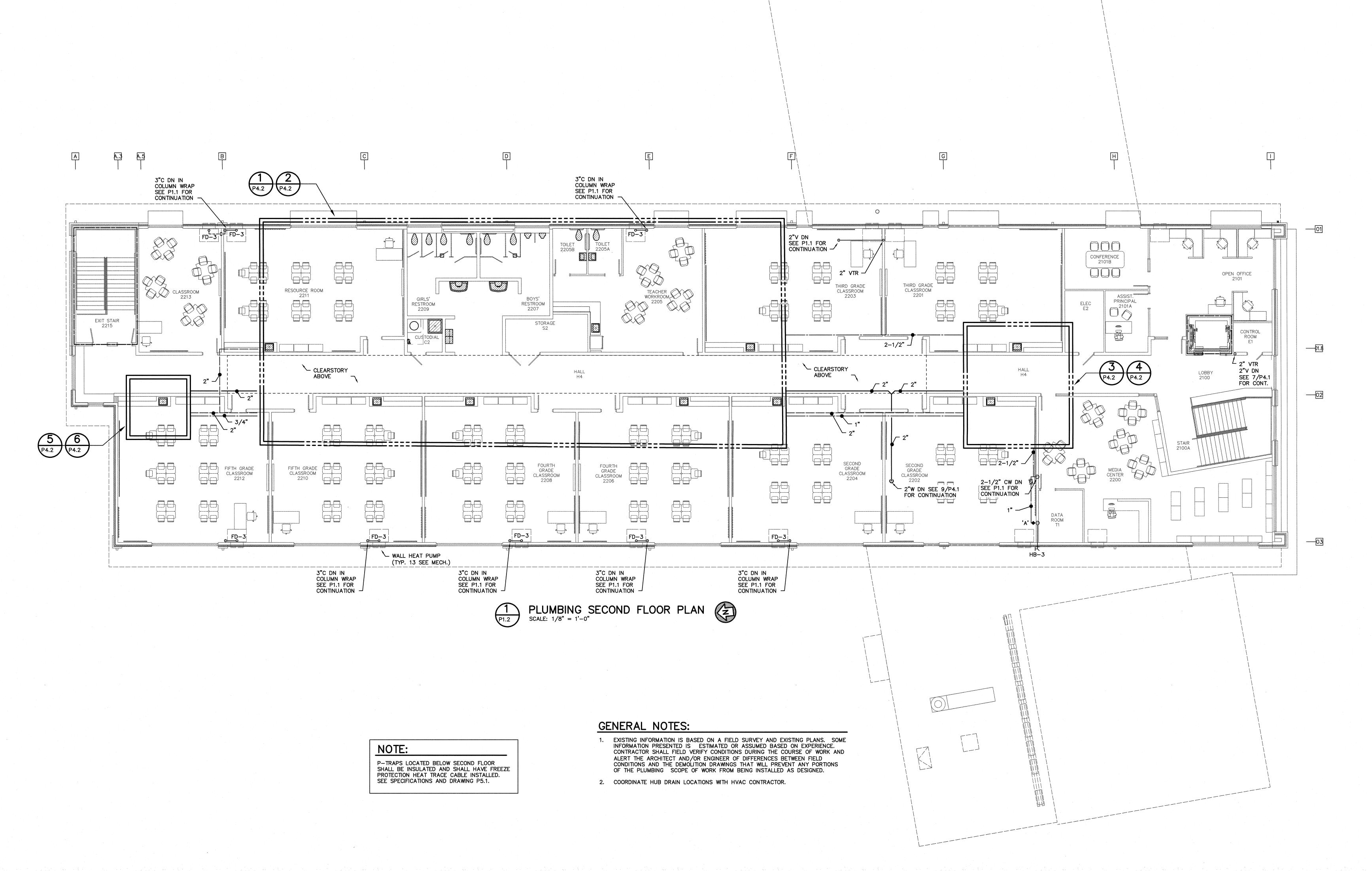
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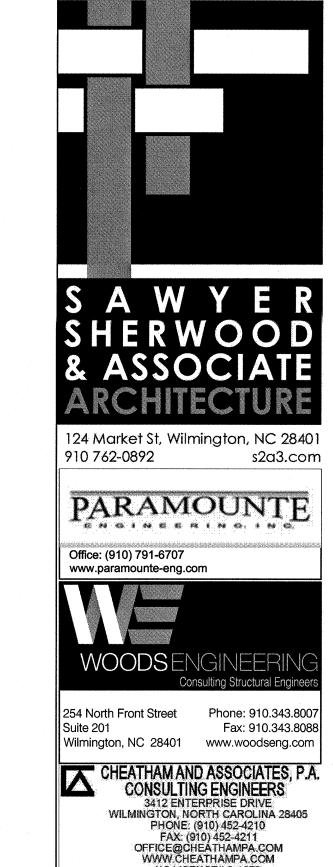
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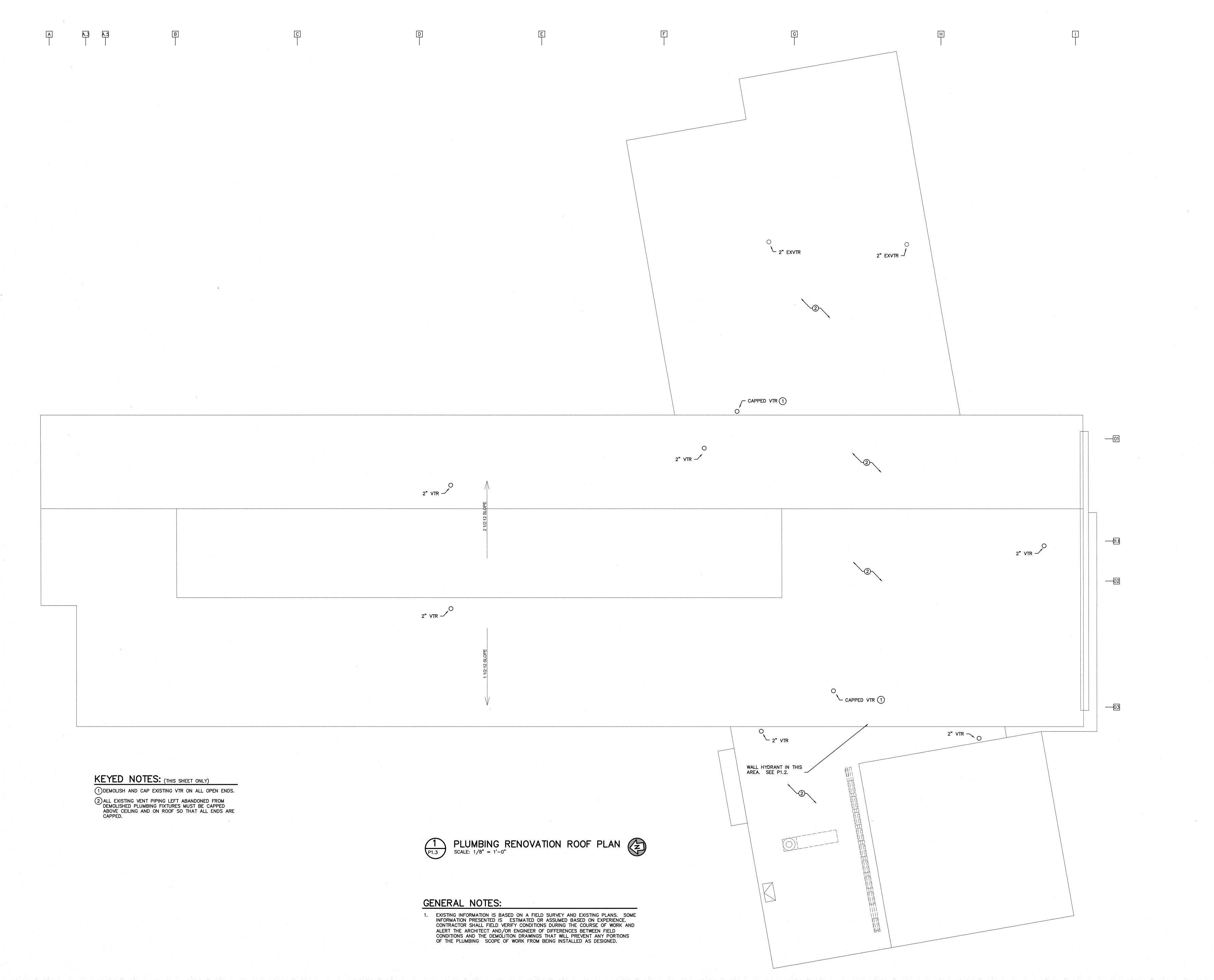
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KEYED NOTES: (THIS SHEET ONLY) 1) INSTALL PIPING AS CLOSE TO CEILING AS POSSIBLE. (2) INSTALL PIPING AS CLOSE TO WALL AND CEILING AS POSSIBLE. (3)2" COMMON VENT. CONNECT WASTE TO EXVTR IN WALL AS INDICATED. 4 MOUNT CP-1 NO HIGHER THAN 8' AFF. TOILET 204A WASTE & VENT SCALE: 1/4" = 1'-0" TOILET 203A DOMESTIC WATER SCALE: 1/4" = 1'-0" TOILET 204A DOMESTIC WATER SCALE: 1/4" = 1'-0" TOILET 203A WASTE & VENT SCALE: 1/4" = 1'-0" RISER ROOM SEE P1.1 FOR CONTINUATION SEE 1/P2.1 FOR CONTINUATION 6 P4.1 TOILET 201A WASTE & VENT SCALE: 1/4" = 1'-0" 7 P4.1 RISER ROOM SCALE: 1/4" = 1'-0" TOILET 201A DOMESTIC WATER SCALE: 1/4" = 1'-0" NURSE DOMESTIC WATER SCALE: 1/4" = 1'-0" NURSE WASTE & VENT SCALE: 1/4" = 1'-0" RESTROOMS DOMESTIC WATER SCALE: 1/4" = 1'-0" RESTROOMS WASTE & VENT SCALE: 1/4" = 1'-0" **GENERAL NOTES:** EXISTING INFORMATION IS BASED ON A FIELD SURVEY AND EXISTING PLANS. SOME INFORMATION PRESENTED IS ESTIMATED OR ASSUMED BASED ON EXPERIENCE.



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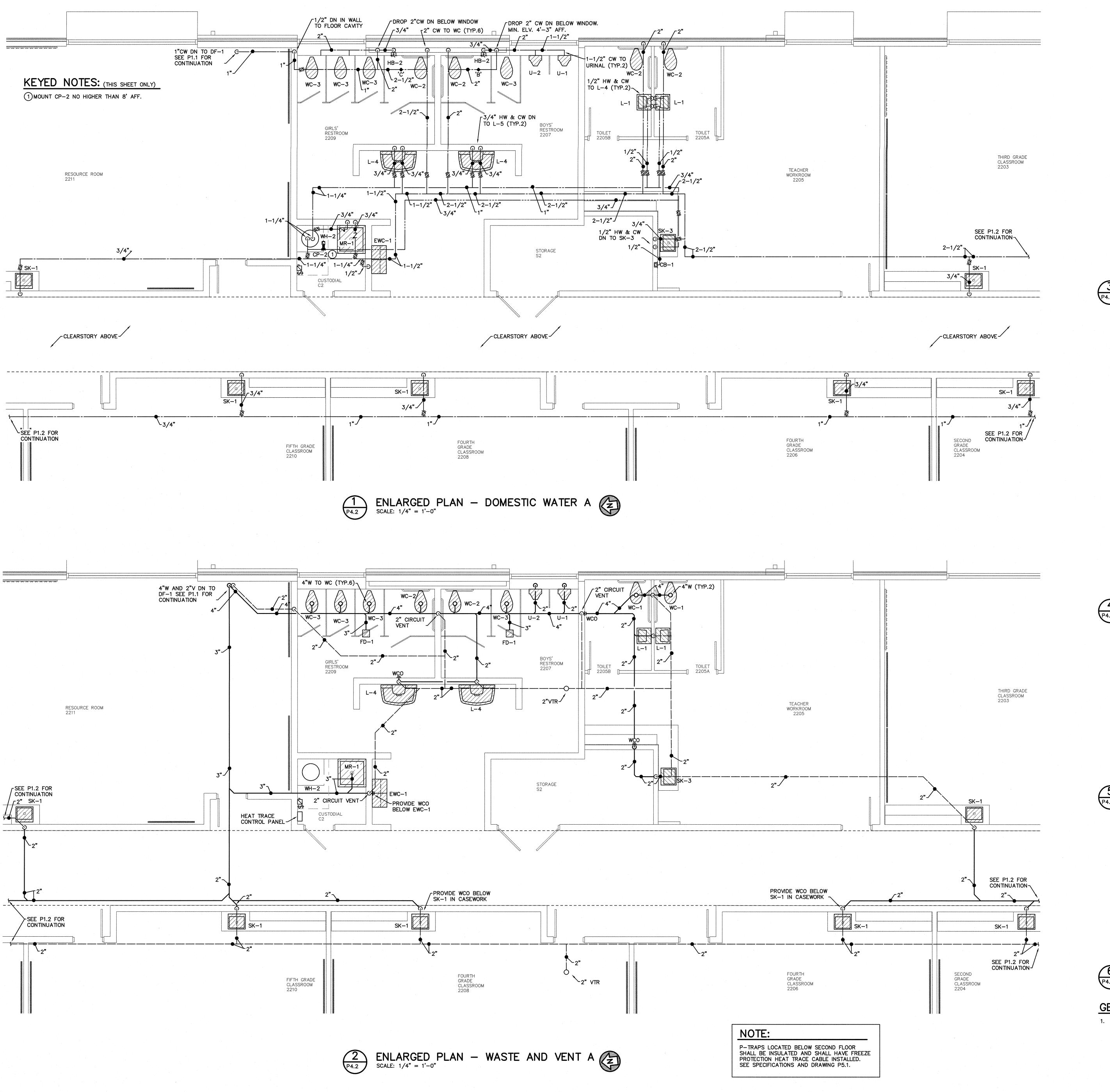
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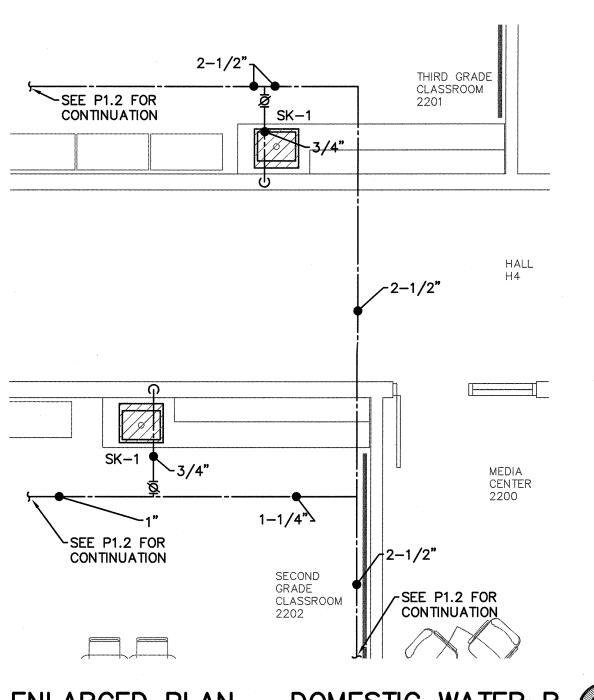
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CONTRACTOR SHALL FIELD VERIFY CONDITIONS DURING THE COURSE OF WORK AND

ALERT THE ARCHITECT AND/OR ENGINEER OF DIFFERENCES BETWEEN FIELD CONDITIONS AND THE DEMOLITION DRAWINGS THAT WILL PREVENT ANY PORTIONS

OF THE PLUMBING SCOPE OF WORK FROM BEING INSTALLED AS DESIGNED.

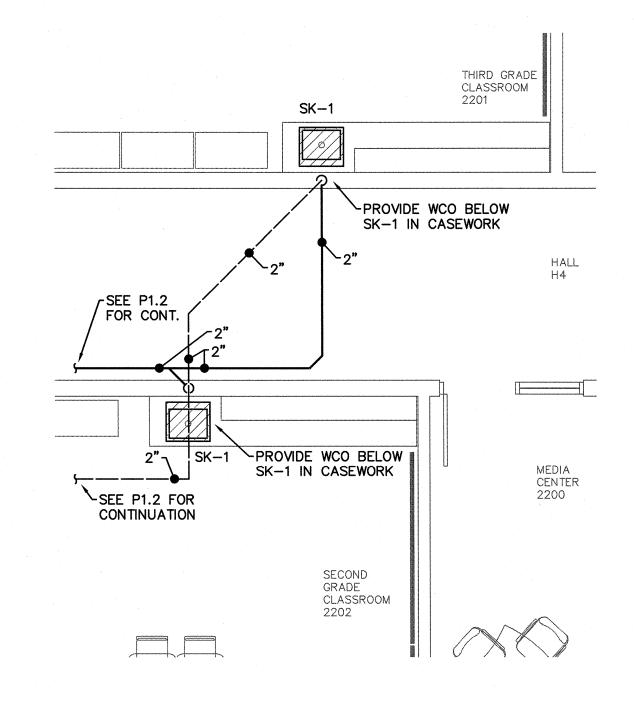




SCALE: 1/4" = 1'-0"

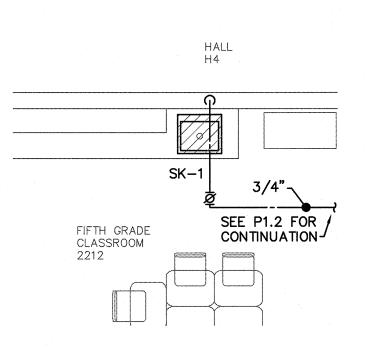
ENLARGED PLAN - DOMESTIC WATER B

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

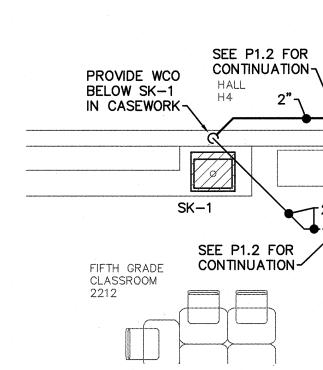


ENLARGED PLAN - WASTE AND VENT B

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



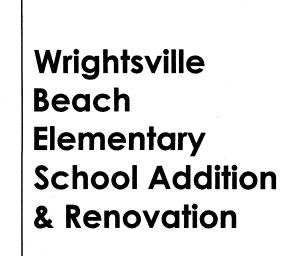
5 ENLARGED PLAN - DOMESTIC WATER - C SCALE: 1/4" = 1'-0"



ENLARGED PLAN - WASTE AND VENT - C SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. EXISTING INFORMATION IS BASED ON A FIELD SURVEY AND EXISTING PLANS. SOME INFORMATION PRESENTED IS ESTIMATED OR ASSUMED BASED ON EXPERIENCE. CONTRACTOR SHALL FIELD VERIFY CONDITIONS DURING THE COURSE OF WORK AND ALERT THE ARCHITECT AND/OR ENGINEER OF DIFFERENCES BETWEEN FIELD CONDITIONS AND THE DEMOLITION DRAWINGS THAT WILL PREVENT ANY PORTIONS OF THE PLUMBING SCOPE OF WORK FROM BEING INSTALLED AS DESIGNED.



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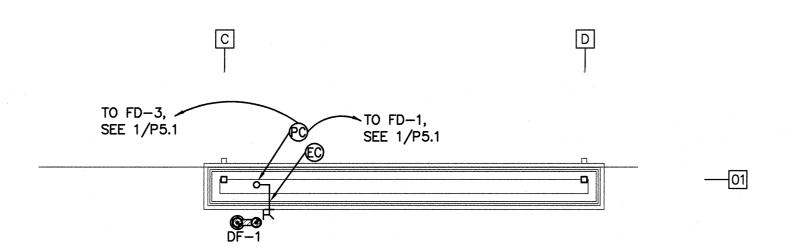
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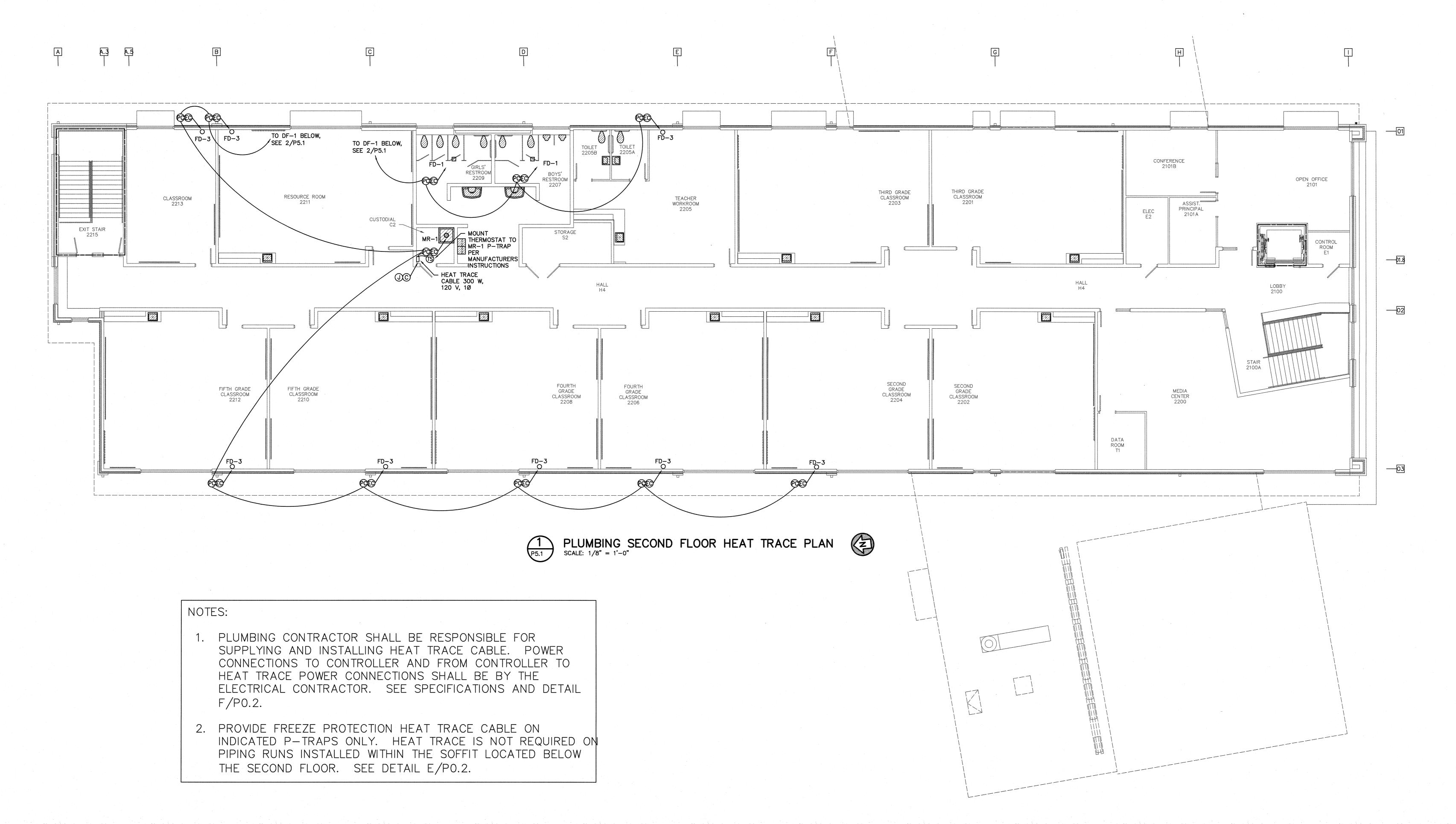
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PLUMBING FIRST FLOOR HEAT TRACE PART PLAN SCALE: 1/8" = 1'-0"







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PLUMBING HEAT TRACE PLAN

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