

GENERAL NOTES

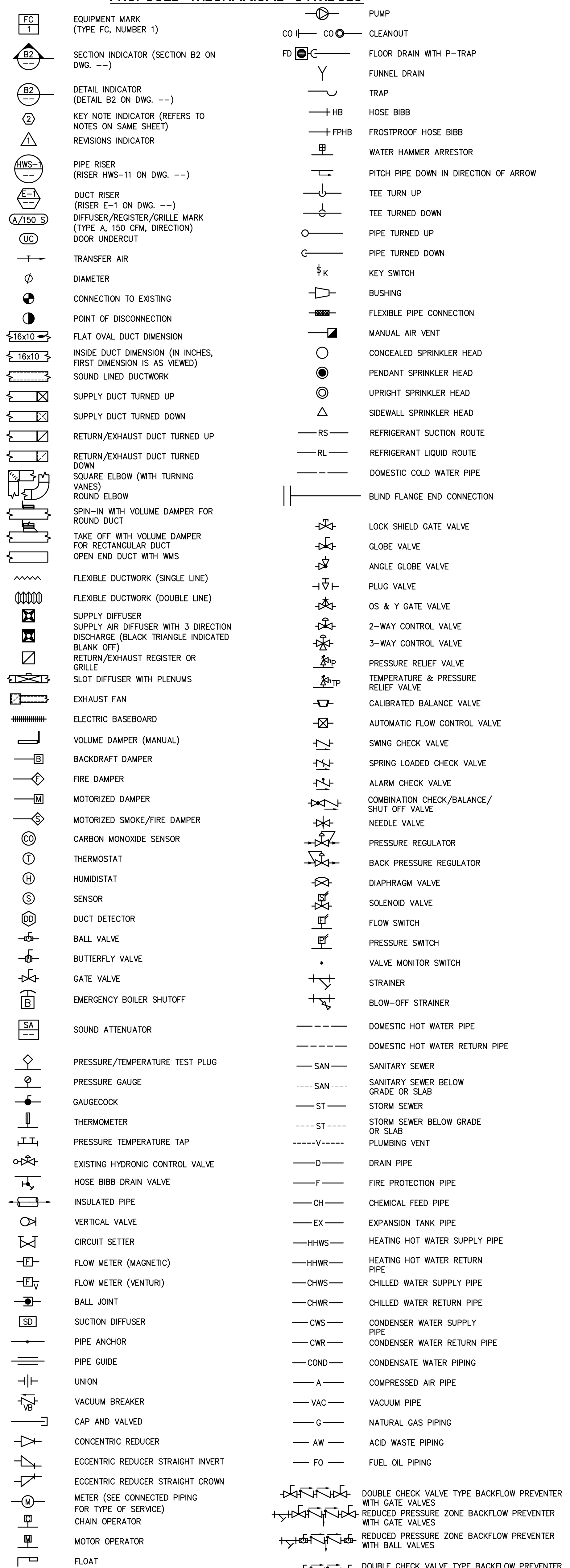
- (ALL GENERAL NOTES, SYMBOLS & ABBREVIATIONS MAY NOT BE USED ON THIS PROJECT)
1. EXAMINE JOB SITE AND VERIFY ALL SITE CONDITIONS PRIOR TO SIGNING CONTRACT. BRING ANY DISCREPANCY BETWEEN THE CONTRACT DOCUMENTS AND THE ACTUAL FIELD CONDITIONS TO THE ATTENTION OF THE ARCHITECT/ENGINEER.
2. THE LOCATION OF EXISTING UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES UNLESS OTHERWISE INDICATED.
3. THE DRAWINGS ARE DIAGRAMMATIC. COORDINATE IN THE FIELD, WITH THE ARCHITECT AND WITH ALL TRADES, THE EXACT LOCATION OF EQUIPMENT, FIXTURES, VALVES, THERMOSTATS, ETC. AND ROUTING OF PIPING, DUCTWORK, CONDUIT, ETC.
4. PERFORM WORK IN ACCORDANCE WITH RULES, REGULATIONS, STANDARDS, CODES, ORDINANCES, AND LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS AND OTHER AUTHORITIES HAVING JURISDICTION AND BE RESPONSIBLE FOR COMPLIANCE THEREWITH.
5. OBTAIN ALL NECESSARY APPROVALS, PERMITS AND INSPECTIONS. PAY ALL ASSOCIATED FEES.
6. GUARANTEE ALL SYSTEMS AND WORK FOR A PERIOD OF ONE (1) YEAR FROM DATE OF FINAL ACCEPTANCE. GUARANTEE REFRIGERATION COMPRESSORS FOR FIVE (5) YEARS.
7. BEFORE STARTING FABRICATION WORK SUBMIT TO ARCHITECT/ENGINEER FOR APPROVAL SIX (6) COMPLETE SETS OF SHOP DRAWINGS AND PRODUCT DATA FROM MANUFACTURERS, SUPPLIERS, ETC.
8. ALL MATERIALS SHALL BE NEW AND OF COMMERCIAL GRADE AND BEAR THE UNDERWRITER'S LABEL WHERE APPLICABLE.
9. LOCATE ALL EXISTING UTILITIES AND MAKE SERVICEABLE CONNECTIONS TO SAME.
10. OBTAIN APPROVAL FROM THE BUILDING OWNER'S REPRESENTATIVE PRIOR TO ANY INTERRUPTION OF BUILDING SYSTEMS. COORDINATE ACCEPTABLE WORKING HOURS WITH SAME.
11. REMOVE ALL ABANDONED EQUIPMENT, FIXTURES, DUCTWORK, PIPING, CONDUIT, ETC. CAP ALL PIPING ABANDONED IN WALLS.
12. ALL CUTTING AND PATCHING IS BY RESPECTIVE CONTRACTORS. CORE DRILL OR SAW OUT ALL MASONRY AND RESTORE ALL SURFACES TO ORIGINAL CONDITION. PAINTING AND FINISHING ARE BY THE GENERAL CONTRACTOR.
13. PIPING AND SPECIALTIES
a. ALL PIPING SHALL CONFORM TO THE REQUIREMENTS OF THE ANSI SAFETY CODE AND BE FREE FROM ALL DEFECTS.
b. PROVIDE SLEEVES FOR PIPING THROUGH MASONRY, FIRE RATED WALLS AND SMOKE PARTITIONS. SLEEVES SHALL BE 2" GAUGE OR HEAVIER STEEL SCHEDULE 40 IN THICKNESS. SIZE SLEEVES TO ACCOMMODATE PIPE INSULATION WHERE APPLICABLE. PROVIDE UL LISTINGS FOR SLEEVE PACKING.
c. PROVIDE PIPE HANGERS TO SUPPORT PIPING FROM BUILDING STRUCTURE TO MAINTAIN REQUIRED SLOPE, PROVIDE FOR EXPANSION AND CONTRACTION, ISOLATE VIBRATION AND RELIEVE EQUIPMENT AND SPECIALTIES FROM STRAIN. SPACE HANGERS ACCORDING TO APPLICABLE CODES AND MANUFACTURER'S RECOMMENDATIONS.
d. IDENTIFY ALL PIPING WITH SEMI-RIGID OR ADHESIVE PLASTIC INDICATION MARKERS, EXCEPT WHEN INACCESSIBLE CHASES. MARKERS SHALL SHOW DIRECTION OF FLOW. MARKERS SHALL BE LOCATED NEXT TO EACH VALVE, AT EACH BRANCH, ON BOTH SIDES OF PIPE PASSAGE THROUGH WALLS AND ON ALL HORIZONTAL PIPING AT 20' MAXIMUM INTERVALS.
e. ROUTE ALL PIPING CONCEALED IN WALLS, ABOVE CEILING AND BELOW FLOOR UNLESS OTHERWISE NOTED. RUN PARALLEL WITH BUILDING LINES.
f. PROVIDE DRAIN VALVES & PLUGS AT ALL LOW POINTS SUCH THAT PIPING SYSTEMS CAN BE DRAINED. PROVIDE MANUAL AIR VENT VALVES AT ALL HIGH POINTS IN THE SYSTEM.
g. PROVIDE BACKFLOW PREVENTION DEVICES AT ALL EQUIPMENT AS REQUIRED BY CODE. UNLESS STATED OTHERWISE PROVIDE CHECK VALVE AND SHUT-OFF VALVE BOTH RATED FOR 2500 DOWN STREAM OF BACKFLOW PREVENTER ON MAKE UP WATER LINE FOR HYDRONIC HEATING HOT WATER SYSTEMS.
h. PROVIDE DIELECTRIC UNIONS AT ALL JUNCTIONS OF DISSIMILAR METALS.
i. ALL SHUTOFF VALVES, CONTROL VALVES, ETC. ARE FULL LINE SIZE UNLESS OTHERWISE NOTED.
j. INSTALL PIPING ON WARM SIDE OF BUILDING INSULATION. DO NOT INSTALL PIPING WHERE SUBJECT TO FREEZING.
k. ALL PIPING INSULATION SHALL BE CONTINUOUS THROUGH WALLS AND CEILING OPENINGS, SLEEVES AND PIPE HANGERS.
l. TEST ALL PIPING IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND INSPECTOR'S REQUIREMENTS PRIOR TO INSULATION OR ENCASEMENT.
m. BALANCE ALL HYDRONIC DEVICES FOR FLOW RATES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO ARCHITECT/ENGINEER.
n. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) ONE AND A HALF (1-1/2") INCH THICK LAYER OF PREFORMED MINERAL FIBER PIPE INSULATION WITH PREFORMED MINERAL FIBER FITTINGS ON ALL DOMESTIC HOT AND COLD WATER PIPING, HYDRONIC HEATING AND CHILLED WATER SUPPLY AND RETURN PIPING, REFRIGERANT PIPING AND CONDENSATE DRAIN PIPING. INCLUDE A FIELD APPLIED FOIL AND PVC JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY.
o. UNLESS STATED OTHERWISE ALL UNDERGROUND PIPING SHALL BE INSTALLED WITH POLYETHYLENE ENCASEMENT (PE) FOR CORROSION RESISTANCE.
p. UNLESS STATED OTHERWISE ALL FUEL GAS VENT PIPING TO BE SA-530B CARBON STEEL. ALL VENT PIPING TO BE PRIMED AND FINISH PAINTED IN A COLOR ACCEPTABLE TO THE OWNER.
14. DUCTWORK AND SPECIALTIES
a. ALL DUCTWORK TO BE IN ACCORDANCE WITH S.M.A.C.N.A. "H.V.A.C. DUCT CONSTRUCTION STANDARDS", LATEST EDITION. PRESSURE CLASS "B".
b. ALL DUCTWORK TO BE CONSTRUCTED OF GALVANIZED SHEETMETAL.
c. PROVIDE 45 DEGREE COLLARS TO ALL BRANCH CONNECTIONS. PROVIDE TURNING VANES AT ALL ELBOWS 12"x6" OR LARGER. PROVIDE STANDARD RADIUS ELBOWS AT ALL ELBOWS SMALLER THAN 12"x6".
d. PROVIDE ALL VOLUME DAMPERS REQUIRED TO BALANCE THE SYSTEMS. INSTALL VOLUME DAMPERS AT BRANCH TAKE-OFFS FROM TRUNK.
e. PROVIDE CURTAIN TYPE FIRE DAMPERS WHEREVER DUCT PENETRATES FIRE RATED PARTITIONS. UNITS SHALL PROVIDE NOT LESS THAN 50% FREE AREA. PROVIDE ACCESS DOORS AT ALL FIRE DAMPERS.
f. TEST DUCT SYSTEMS FOR AIR TIGHTNESS AND ABSENCE OF AUDIBLE LEAKS BEFORE ENCLOSURE.
g. BALANCE ALL AIR DEVICES FOR AIR QUANTITIES NOTED ON DRAWINGS. PROVIDE BALANCING REPORT TO ARCHITECT/ENGINEER.
h. FLEXIBLE DUCTS: ALL FLEXIBLE DUCTS SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE.
i. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
j. PROVIDE FIRE DAMPERS IN THE DUCTWORK IN ACCORDANCE WITH ALL APPLICABLE CODES AND THE CONTRACT DOCUMENTS.
k. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO AND ONE HALF (2-1/2") INCH THICK LAYER OF MINERAL FIBER BLANKET INSULATION ON ALL NEW INDOOR ROUND AND RECTANGULAR SUPPLY AIR, EXHAUST AIR, RETURN AIR AND OUTDOOR AIR DUCTWORK. INCLUDE A FIELD APPLIED PAPER AND FOIL JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY.
l. UNLESS STATED OTHERWISE IN THE CONTRACT SPECIFICATIONS, PROVIDE A MINIMUM OF ONE (1) TWO (2") INCH THICK LAYER OF MINERAL FIBER BOARD INSULATION ON ALL NEW OUTDOOR ROUND AND RECTANGULAR SUPPLY AIR, EXHAUST AIR, RETURN AIR AND OUTDOOR AIR DUCTWORK. INCLUDE A WEATHERPROOF FIELD APPLIED 22 GAUGE ALUMINUM JACKET WITH VAPOR RETARDER AS PART OF THE INSULATION ASSEMBLY. COORDINATE FINISH COLOR OF EXTERIOR JACKET WITH THE OWNER.
m. UNLESS OTHERWISE NOTED ALL EXPOSED SUPPLY, RETURN AND EXHAUST AIR DUCTWORK SHALL BE PRIMED AND PAINTED. COLOR TO BE DETERMINED BY THE ENGINEER/OWNER.
15. EQUIPMENT
a. VERIFY ALL ELECTRICAL CHARACTERISTICS WITH ELECTRICAL CONTRACTOR BEFORE ORDERING EQUIPMENT.
b. ALL MECHANICAL EQUIPMENT AND APPLIANCE INSTALLATIONS SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF THE INTERNATIONAL MECHANICAL CODE, AS WELL AS WITH MANUFACTURER'S RECOMMENDATIONS.
c. ALL ELECTRICAL POWER WIRING IS BY ELECTRICAL CONTRACTOR. ALL CONTROL WIRING IS BY RESPECTIVE CONTRACTOR.
d. PROVIDE OWNER WITH OPERATION AND MAINTENANCE MANUALS FOR INSTALLED EQUIPMENT. INCLUDE CONTRACTOR'S, SUPPLIER'S AND MANUFACTURER'S NAMES, ADDRESS AND TELEPHONE NUMBERS.
e. SUPPLY STARTERS AND DISCONNECTS WITH EQUIPMENT.
f. PROVIDE CONCRETE PADS FOR FLOOR MOUNTED EQUIPMENT. PADS SHALL BE A MINIMUM 4" HIGH AND SHALL EXTEND 6" BEYOND EQUIPMENT ON ALL SIDES.
g. LABELING: ALL MECHANICAL EQUIPMENT AND APPLIANCES SHALL BEAR LABELING IN COMPLIANCE WITH THE LATEST VERSION OF THE INTERNATIONAL MECHANICAL CODE.
h. UNLESS NOTED OTHERWISE, ALL HYDRONIC SYSTEMS BOILER/ CHILLED WATER SHALL BE PROVIDED WITH A NEW BLADDER TYPE EXPANSION TANK AS REQUIRED. TANK TO BE SIZED FOR EACH SYSTEM BASED UPON TANK MANUFACTURER'S RECOMMENDATIONS.
i. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL PROPYLENE GLYCOL ANTI FREEZE FOR ALL HYDRONIC HEATING AND COOLING SYSTEMS. THE CONTRACTOR SHALL SUPPLY A 35% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR CHILLED WATER COOLING SYSTEMS AND A 25% CONCENTRATION OF PROPYLENE GLYCOL IN SOLUTION FOR HOT WATER HEATING SYSTEMS. PROPYLENE GLYCOL ANTI FREEZE SHALL BE COMPATIBLE WITH ALL MATERIALS OF THE HYDRONIC SYSTEM (PIPING, VALVES, PUMPS, CHILLER, BOILER, ETC.) AS WELL AS ALL TERMINAL EQUIPMENT.

- 16. AUTOMATIC TEMPERATURE AND SAFETY CONTROLS
a. PROVIDE ALL WIRING, RELAYS, CONTACTS, TRANSFORMERS, ETC. REQUIRED TO DELIVER A COMPLETE OPERABLE SYSTEM.
b. THERMOSTATS SHALL BE 24 HOUR/7 DAY PROGRAMMABLE WITH FAN "OFF/ON/AUTO" AND SYSTEM "HEAT/COOL/AUTO/OFF" SWITCHES. VERIFY OPERATION OF ALL FUNCTIONS.
17. FIRE PROTECTION
a. THE QUANTITY AND LOCATION OF SPRINKLERS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND INTENDED FOR SCHEMATIC PURPOSE ONLY. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING, INSTALLING AND COMMISSIONING ALL NECESSARY SPRINKLERS, PIPE, EQUIPMENT AND APPURTENANCES NECESSARY, IN FULL ACCORDANCE WITH THE NFPA AND APPROVED BY THE ENGINEER AND ALL AUTHORITIES HAVING JURISDICTION.
b. THE FIRE PROTECTION CONTRACTOR SHALL PROVIDE DETAILED DESIGN DRAWINGS, HYDRAULIC CALCULATIONS, PIPING, FITTINGS, SPRINKLERS, ALARM AND MONITORING DEVICES, SIGNAGE AND APPURTENANCES COMPLETE AND IN FULL ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND NFPA 13 & 14. ALL WIRING OF DEVICES SHALL BE DONE BY ELECTRICAL CONTRACTOR.
c. ALL SPRINKLER HEADS SHALL BE LOCATED AT THE CENTER POINT OF ALL ACoustICAL CEILING TILES.
18. ALL EXISTING PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE EITHER EXPOSED OR CONCEALED AND THAT INTERFERE WITH ALTERED EXISTING BUILDING ARRANGEMENTS AND NEW SYSTEMS SHALL BE REMOVED, RELOCATED, REROUTED, OR ABANDONED. DRAWINGS GENERALLY INDICATE MAJOR ITEMS OF EXISTING MATERIALS AND EQUIPMENT THAT ARE AFFECTED. IT IS NOT POSSIBLE TO INDICATE ALL RELATED ACCESSORIES, SPECIALTIES AND OTHER MINOR ITEMS; HOWEVER, THEIR REMOVAL, RELOCATION, REROUTING AND ABANDONMENT SHALL ALSO BE INCLUDED IN THIS WORK.
19. EXISTING CONCEALED PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE TO REMAIN BUT BECOME EXPOSED DUE TO RENOVATION WORK, SHALL BE RELOCATED AND RECONNECTED AS PART OF THIS WORK.
20. PLUMBING DRAWINGS ARE DIAGRAMMATIC. ALL DEVICES & FITTINGS MAY NOT BE SHOWN ON THE DRAWINGS FOR CLARITY. PROVIDE CLEANOUTS NEAR THE BASE OF ALL VERTICAL WASTE & STORM WATER STACKS IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL STANDARD PLUMBING CODE.
21. GUARDS SHALL BE PROVIDED ON OTHER APPLIANCES, EQUIPMENT, FANS OR OTHER COMPONENTS THAT REQUIRE SERVICE AND ROOF HATCH OPENINGS ARE LOCATED WITHIN 12 FEET OF A ROOF EDGE OR OPEN SIDE OF A WALKING SURFACE AND SUCH EDGE OR OPEN SIDE IS LOCATED MORE THEN 30 INCHES ABOVE THE FLOOR, ROOF OR GRADE BELOW. THE GUARD SHALL EXTEND NOT LESS THEN 30 INCHES BEYOND EACH END OF SUCH APPLIANCES, EQUIPMENT, FANS, COMPONENTS AND ROOF HATCH OPENINGS AND THE TOP OF THE GUARD SHALL BE LOCATED NOT LESS THEN 42 INCHES ABOVE THE ELEVATED SURFACE ADJACENT TO THE GUARD. THE GUARD SHALL BE CONSTRUCTED SO AS TO PREVENT THE PASSAGE OF A 21 INCH-DIAMETER SPHERE AND SHALL COMPLY WITH THE LOADING REQUIREMENTS FOR GUARDS SPECIFIED IN THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE.
22. PROVIDE FOR ALL MECHANICAL EQUIPMENT -- FAN AND MOTOR PULLEYS, SHEAVES, BELTS AND LABOR REQUIRED TO BALANCE THE NEW AND EXISTING MECHANICAL EQUIPMENT TO THE SPECIFIED SUPPLY, RETURN, EXHAUST AND OUTSIDE AIR FLOWS SHOWN ON THE CONTRACT DOCUMENTS AT NO ADDITIONAL COST TO THE OWNER, THE TESTING, ADJUSTING AND BALANCING CONTRACTOR IS ALSO RESPONSIBLE FOR REINFORCING ALL REQUIRED PULLEYS, SHEAVES AND BELTS EVEN IF THEY ARE NOT PROVIDED WITH THE EQUIPMENT BY THE MANUFACTURER.
23. UNLESS OTHERWISE NOTED CONTRACTOR IS RESPONSIBLE TO FURNISH AND INSTALL ALL CONNECTION/ TRANSITION DUCTS BETWEEN NEW HVAC EQUIPMENT (UNIT VENTILATORS, BLOWER COILS, AIR HANDLERS, ETC.) AND NEW OR EXISTING OUTSIDE AIR LOUVERS. CONTRACTOR IS ALSO RESPONSIBLE FOR REINFORCING ANY OUTSIDE AIR LOUVER OPENING THAT IS CREATED OR ENLARGED TO ACCOMMODATE THE NEW INSTALLATION.

MECHANICAL ABBREVIATIONS

Table with 3 columns: Abbreviation, Description, Abbreviation, Description. Includes items like AD ACCESS DOOR, ADJ. ADJACENT, AHU AIR HANDLER UNIT, AP ACCESS PANEL, B BOILER, BFF BELOW FINISHED FLOOR, BFP BACKFLOW PREVENTOR, etc.

PROPOSED MECHANICAL SYMBOLS



SHEET INDEX

Table with 2 columns: SHEET # and DESCRIPTION. Lists sheets from M-1.0 to P-6.1, including Mechanical Cover Sheet, Demolition Plans, Heating System Diagrams, Schedules, and Plumbing Demolition Plans.

RVE 1901 REMINGTON & VERNICK ENGINEERS. 232 KINGS HIGHWAY EAST HADDONFIELD, NJ 08033. (856) 795-9595, FAX (856) 795-1882. WEB SITE ADDRESS : WWW.RVE.COM

DATE: CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER, LIC. No. 40059

DATE: BRIAN B. GREGG NJ PROFESSIONAL ENGINEER, LIC. No. 46577

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Revision table with columns: NO., DATE, REVISION. Contains several rows of revision information.

MECHANICAL COVER SHEET. PENNSAUKEN BOARD OF EDUCATION. ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS. 5626 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109. PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY.

Table with columns: DRAWN BY, DESIGNED BY, CHECKED BY, SCALE. Values: BZ, CH, AS NOTED. Includes date 10-19-2020 and sheet number M-1.0.

ISSUED FOR BID: 11-13-2020

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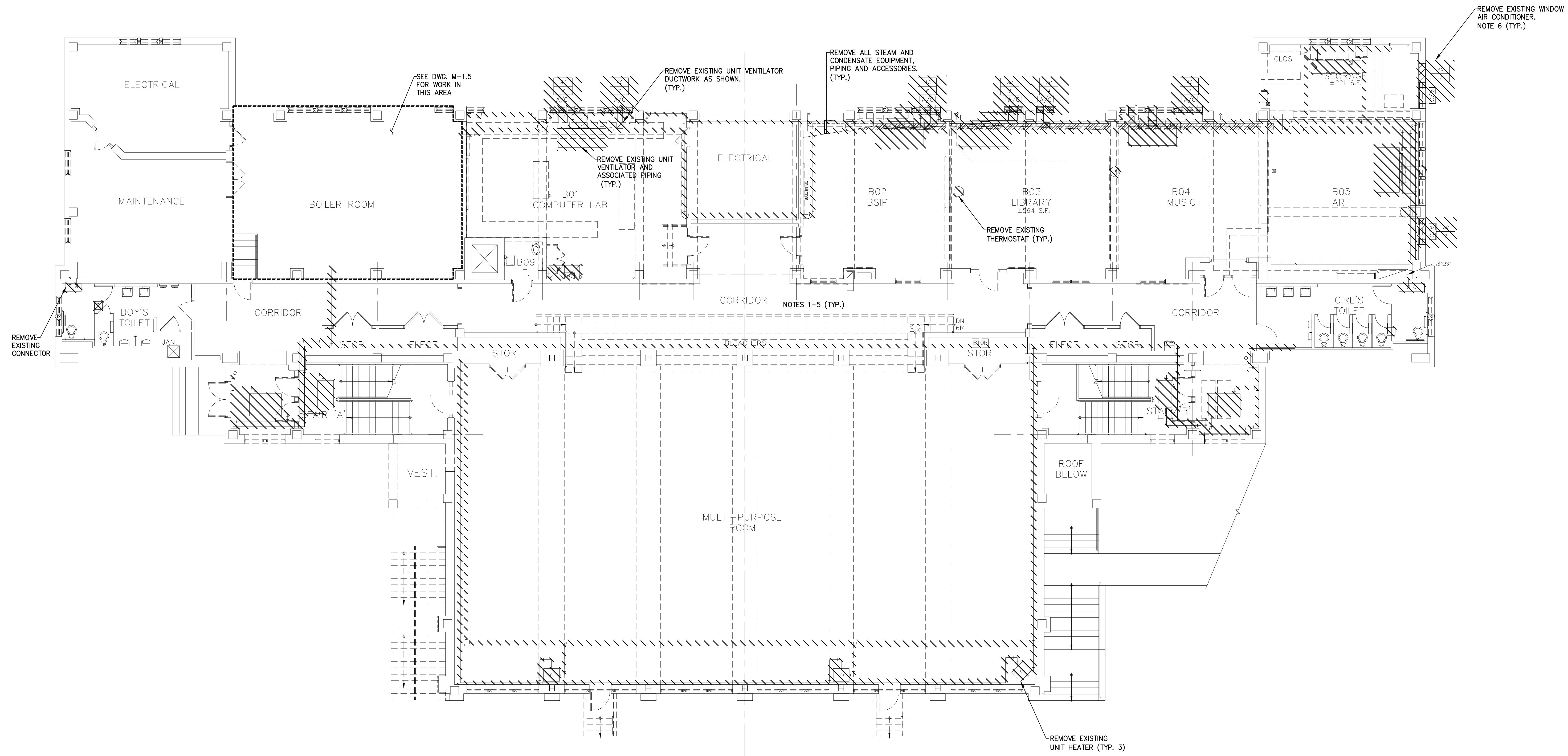


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—ENGINEERING EXCELLENCE—

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DATE: _____
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1 MECHANICAL DEMOLITION BASEMENT FLOOR PLAN
SCALE: 1/8"=1'-0"

NOTES:

- ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
- THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS BE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
- COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH OWNER. OWNER SHALL RESERVE THE RIGHT TO RETAIN SALVAGED EQUIPMENT. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
- THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
- COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR. SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.
- TURN OVER WINDOW AC UNITS TO THE OWNER.

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MECHANICAL DEMOLITION BASEMENT FLOOR PLAN

PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY

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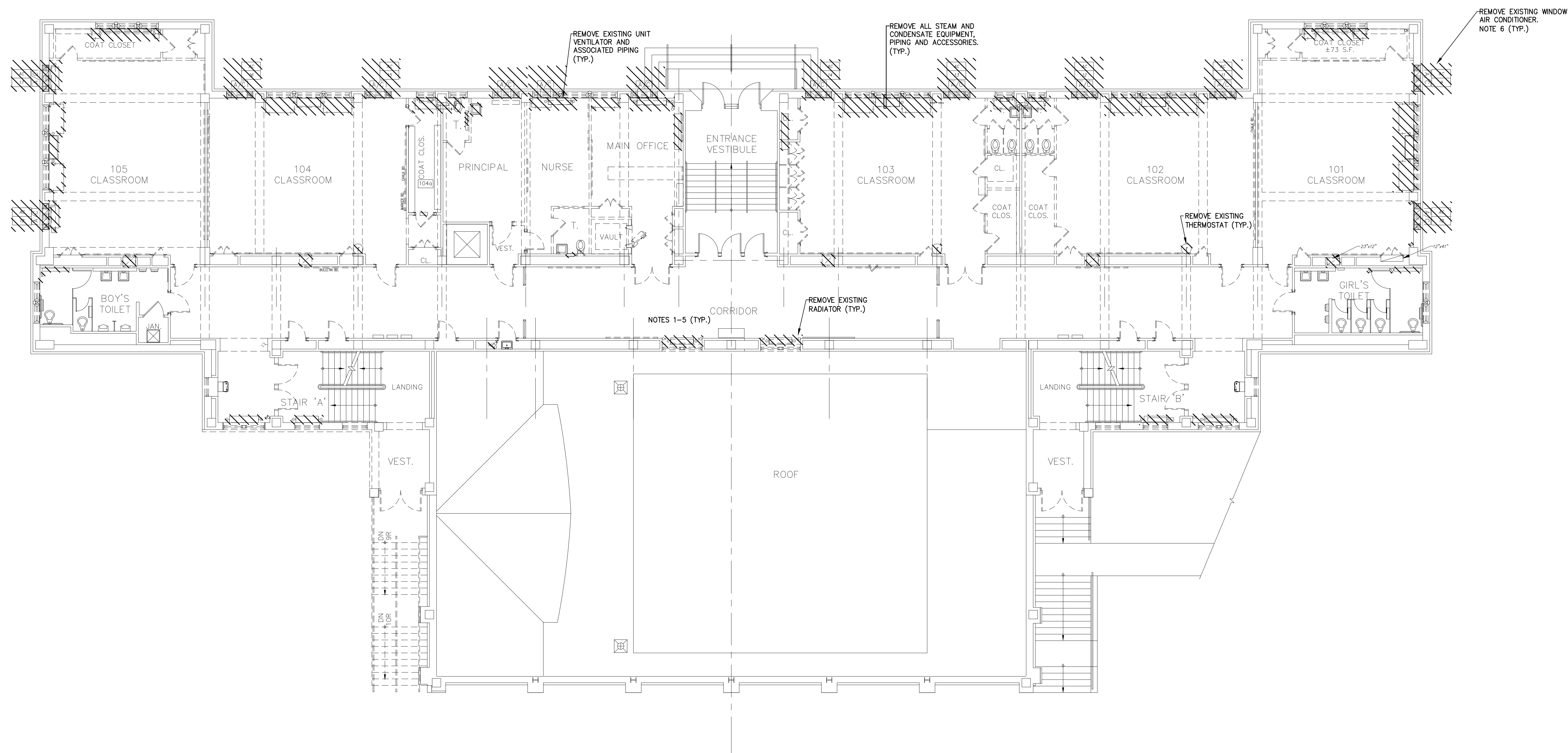
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1 MECHANICAL DEMOLITION FIRST FLOOR PLAN
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MECHANICAL DEMOLITION FIRST FLOOR PLAN

PENNSAUKEN BOARD OF EDUCATION
 ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
 PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

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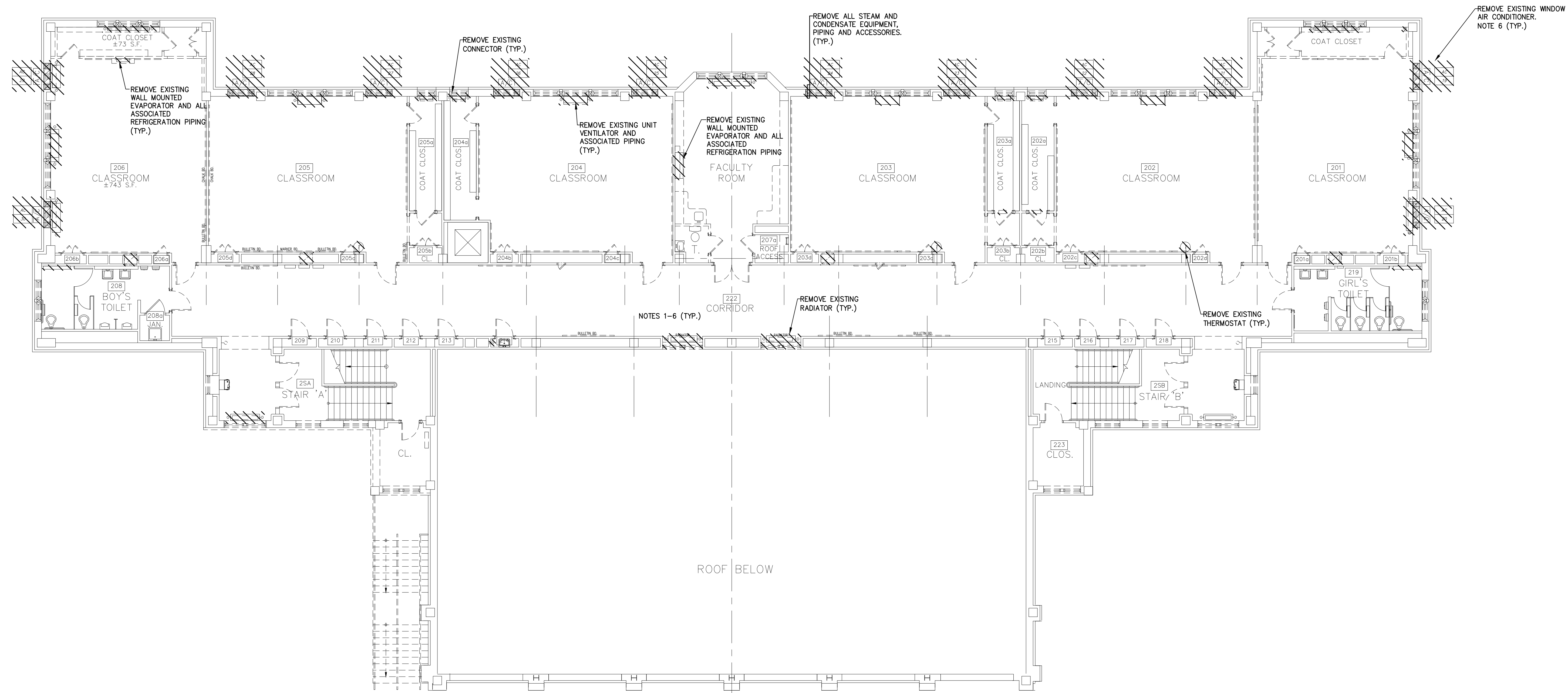


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1 MECHANICAL DEMOLITION SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"

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- NOTES:**
- ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
 - THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS BE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
 - COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH OWNER. OWNER SHALL RESERVE THE RIGHT TO RETAIN SALVAGED EQUIPMENT. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
 - THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
 - COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR. SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - BASE BID SHALL INCLUDE REINSTALLATION OF WINDOW AIR CONDITIONER. ALTERNATE BID SHALL INCLUDE THE WINDOW AIR CONDITIONER BEING TURNED OVER TO THE OWNER.

MECHANICAL DEMOLITION SECOND FLOOR PLAN

PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

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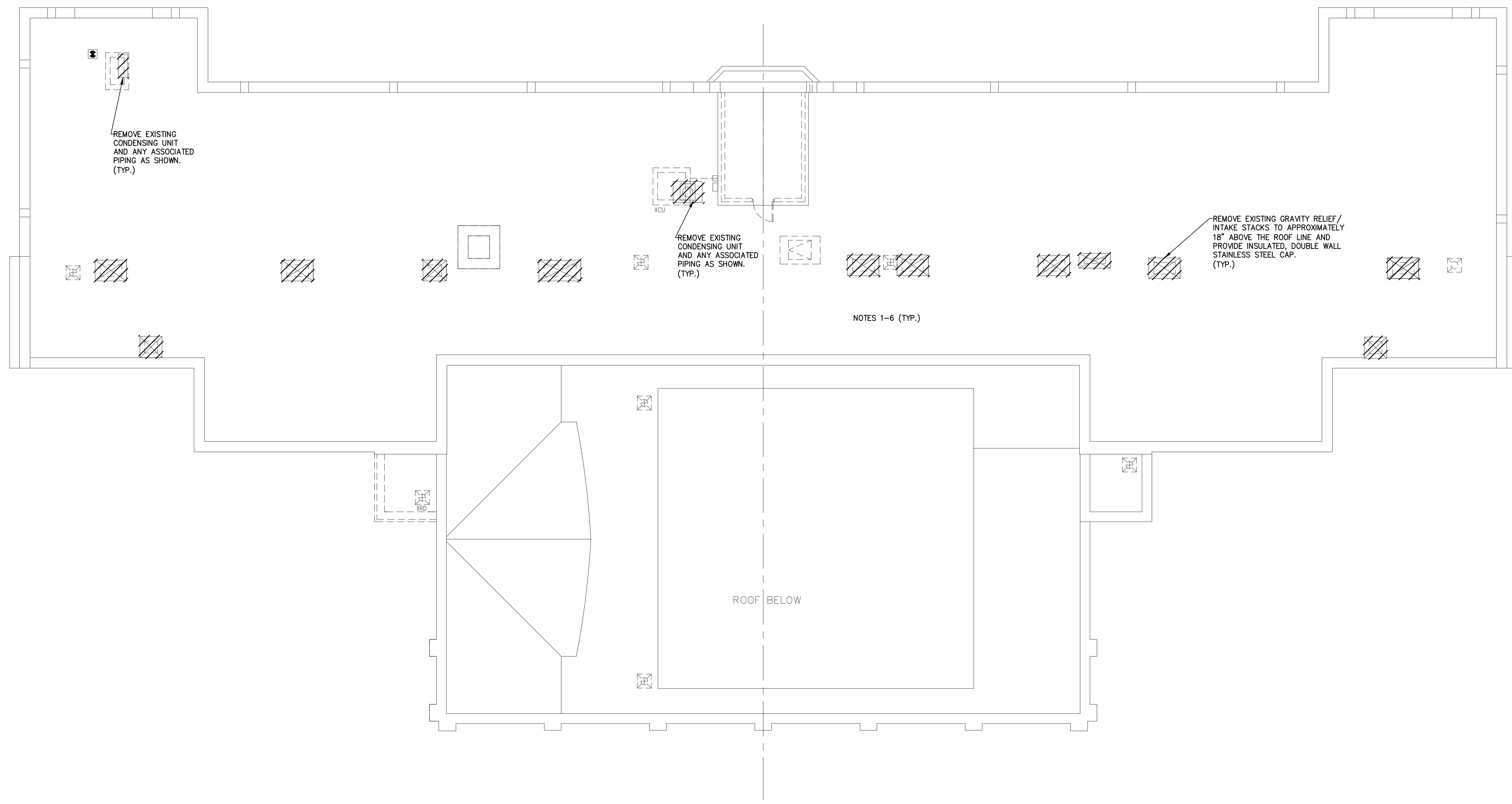


**REMINGTON
& VERNICK
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WEB SITE ADDRESS: WWW.RVE.COM
Certification of Authorization: 24 GA 28003300
—ENGINEERING EXCELLENCE—

DATE:
CHRISTOPHER A. SAPONARO
NJ PROFESSIONAL ENGINEER LIC. No. 40059

DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. No. 46577



1 MECHANICAL DEMOLITION ROOF PLAN
SCALE: 1/8"=1'-0"

NOTES:

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
- 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS BE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
- 3. COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH OWNER. OWNER SHALL RESERVE THE RIGHT TO RETAIN SALVAGED EQUIPMENT. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND REPLACING ANY EQUIPMENT AND/OR AREAS OF THE ROOF DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED/REPLACED EQUIPMENT AND PORTIONS OF THE ROOF SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
- 6. PRIOR TO ANY ROOF PENETRATIONS WORK, THE CONTRACTOR SHALL VERIFY WITH THE OWNER IF THE EXISTING ROOF SYSTEM IS CURRENTLY UNDER WARRANTY. IF SO, THE CONTRACTOR MUST CONTACT THE MANUFACTURER OF THE EXISTING ROOF SYSTEM FOR RECOMMENDED METHODS OF CUTTING AND REPAIRING THE EXISTING ROOFING SYSTEM PRIOR TO BEGINNING WORK.

PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID.

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MECHANICAL DEMOLITION ROOF PLAN

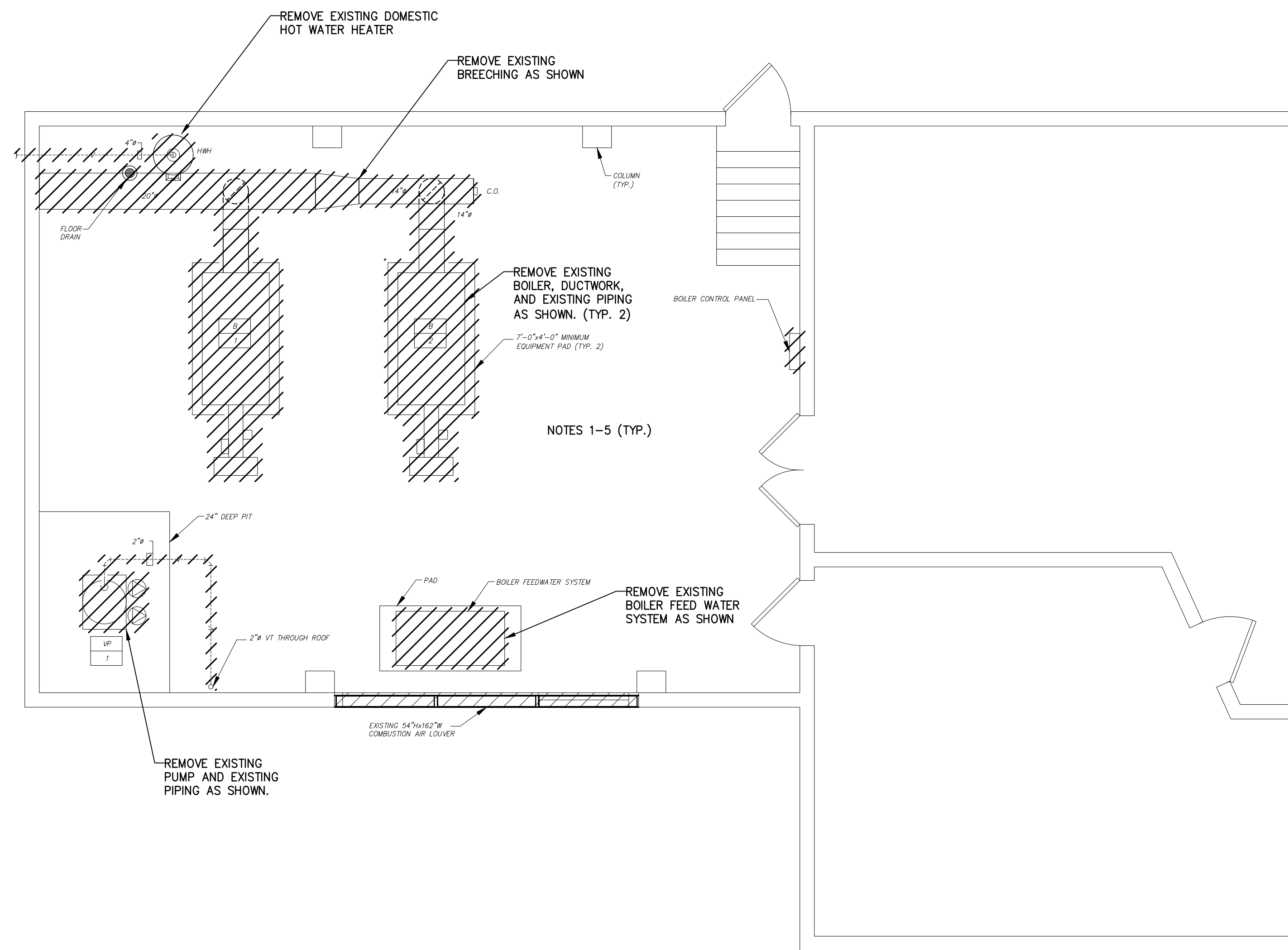
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

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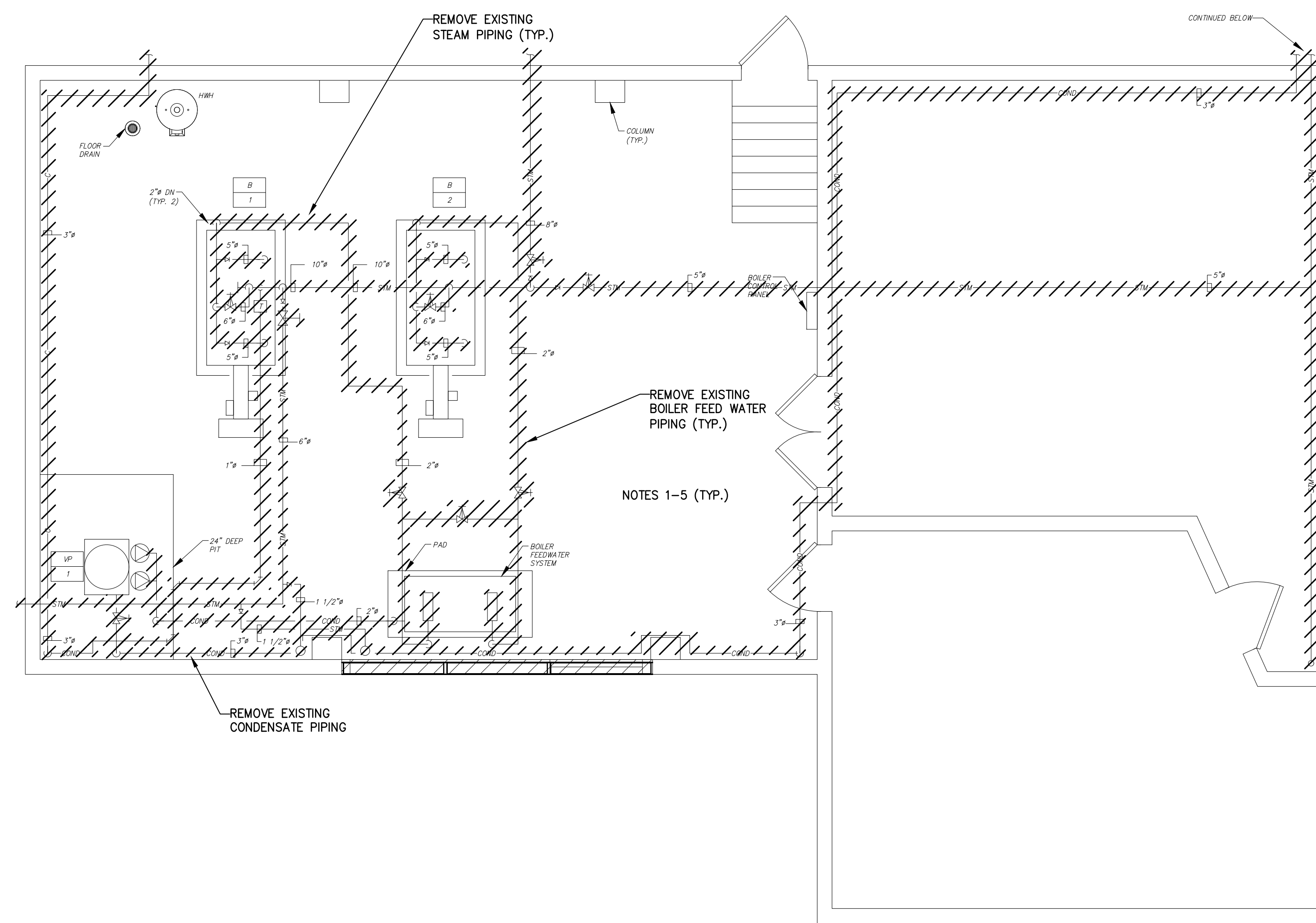
ISSUED FOR BID: 11-13-2020

DATE:
CHRISTOPHER A. SAPONARO
NJ PROFESSIONAL ENGINEER LIC. No. 40059

DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. No. 46577



A BOILER ROOM EQUIPMENT DEMOLITION PLAN
SCALE: 1/4"=1'-0"



B BOILER ROOM STEAM/CONDENSATE PIPING DEMOLITION PLAN
SCALE: 1/4"=1'-0"

1 MECHANICAL DEMOLITION ENLARGED BOILER ROOM FLOOR PLANS
SCALE: 1/4"=1'-0"

- NOTES:**
1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. IT IS THE INTENT OF THE PLANS AND SPECIFICATIONS TO SECURE A COMPLETELY INTERCONNECTED AND FUNCTIONING SYSTEM AND IF ANY WORKMANSHIP OR MATERIALS BE REQUIRED WHICH ARE OBVIOUSLY NECESSARY TO CARRY OUT THE FULL INTENT AND MEANING OF THE PLANS AND SPECIFICATIONS OR TO BE REASONABLY INFERRED THEREFROM, THE COST OF SUCH WORKMANSHIP OR MATERIALS SHALL BE INCLUDED IN THE SCOPE OF WORK.
 3. COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH OWNER. OWNER SHALL RESERVE THE RIGHT TO RETAIN SALVAGED EQUIPMENT. ALL EQUIPMENT NOT RETAINED BY THE OWNER SHALL BE DISPOSED OF BY THE CONTRACTOR.
 4. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING & REPLACING ANY OR ALL FIXTURES AND/OR AREAS OF THE CEILING, FLOOR OR WALL DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED & REPLACED FIXTURES AND PORTIONS OF THE CEILING, FLOOR, OR WALL SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION.
 5. COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR. SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.

PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID.

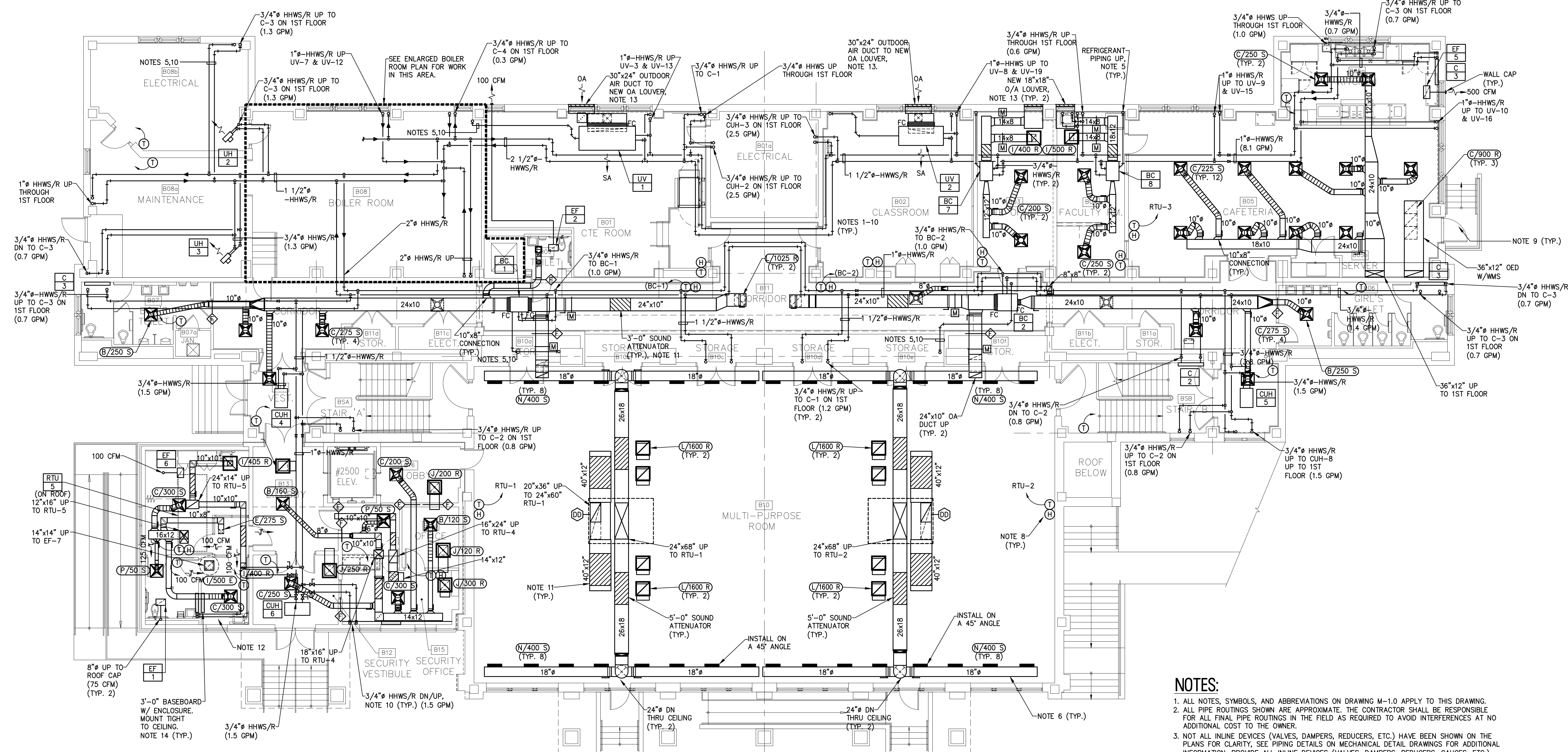
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MECHANICAL DEMOLITION ENLARGED BOILER ROOM FLOOR PLANS
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY

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ISSUED FOR BID: 11-13-2020



- NOTES:**
1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
 2. ALL PIPE ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL PIPE ROUTINGS IN THE FIELD AS REQUIRED TO AVOID INTERFERENCES AT NO ADDITIONAL COST TO THE OWNER.
 3. NOT ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, ETC.) HAVE BEEN SHOWN ON THE PLANS FOR CLARITY. SEE PIPING DETAILS ON MECHANICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, GAUGES, ETC.) AS REQUIRED TO COMPLETE THE INSTALLATION EVEN IF NOT SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING AREAS OF THE EXISTING CEILING OR WALLS DAMAGED OR REMOVED AS A RESULT OF THE NEW WORK. REPAIRED/REPLACED PORTIONS OF THE EXISTING CEILING OR WALLS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
 5. PROVIDE REFRIGERATION PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERATION PIPING SHOWN ON THIS PLAN REFLECTS BOTH SUCTION AND LIQUID PIPING.
 6. PROVIDE HEAVY DUTY, METAL, LOCKABLE GUARD FOR THERMOSTAT. BEKO MODEL BTG-UM OR APPROVED EQUAL.
 7. ALL SUPPLY/ RETURN DUCTWORK, REGISTERS AND PIPING SHALL HAVE A MINIMUM ELEVATION OF 22'-0" ABOVE THE FINISHED FLOOR.
 8. PROVIDE MANUFACTURER SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL CHASES TO CONCEAL HYDRONIC PIPING.
 9. PROVIDE INLINE SOUND ATTENUATOR WITH ALUMINUM CONSTRUCTION AND MYLAR LINER. SOUND ATTENUATOR SHALL BE MODEL LLP-36 BY AEROSONICS OR APPROVED EQUAL.
 10. PROVIDE PORTABLE HEPA FILTRATION UNIT. CAMPIL MODEL CC500 OR APPROVED EQUAL.
 11. NEW OUTDOOR AIR LOUVER. LOUVER SHALL BE A RUSKIN MODEL ELF63750SH OR APPROVED EQUAL. LOUVER SHALL BE DRAINABLE AND BE OF ALUMINUM CONSTRUCTION. PROVIDE LOUVER WITH INTEGRAL FLANGE AND INSECT SCREEN. FINISH AND COLOR SHALL BE AS APPROVED BY THE ARCHITECT.
 12. PROVIDE NEW FINNED TUBE HEATERS, ENCLOSURES, PIPE CHASES, COLUMN ENCLOSURES, MOUNTING BRACKETS, AND ALL ACCESSORIES REQUIRED TO INSTALL NEW HEATERS. FINNED TUBE HEATERS SHALL BE STERLING MODEL JVA OR APPROVED EQUAL. HEATERS AND ENCLOSURES SHALL BE PROVIDED WITH COPPER TUBES, ALUMINUM FINNED DAMPERS, AND BAKED ENAMEL FINISH (COLOR BY ARCHITECT). PROVIDE DOUBLE SLOPE TOP ENCLOSURES FOR ALL HIGH WALL APPLICATIONS FINNED TUBE HEATERS AND ENCLOSURE LOCATIONS, HEIGHTS, AND ROUTINGS SHALL MATCH EXISTING INSTALLATION. CONTRACTOR TO FIELD VERIFY LOCATIONS, HEIGHTS, AND ROUTING IN THE FIELD PRIOR TO INSTALLATION.

MECHANICAL BASEMENT FLOOR PLAN
 SCALE: 1/8"=1'-0"

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MECHANICAL BASEMENT FLOOR PLAN
 PENNSAUKEN BOARD OF EDUCATION
 ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
 PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

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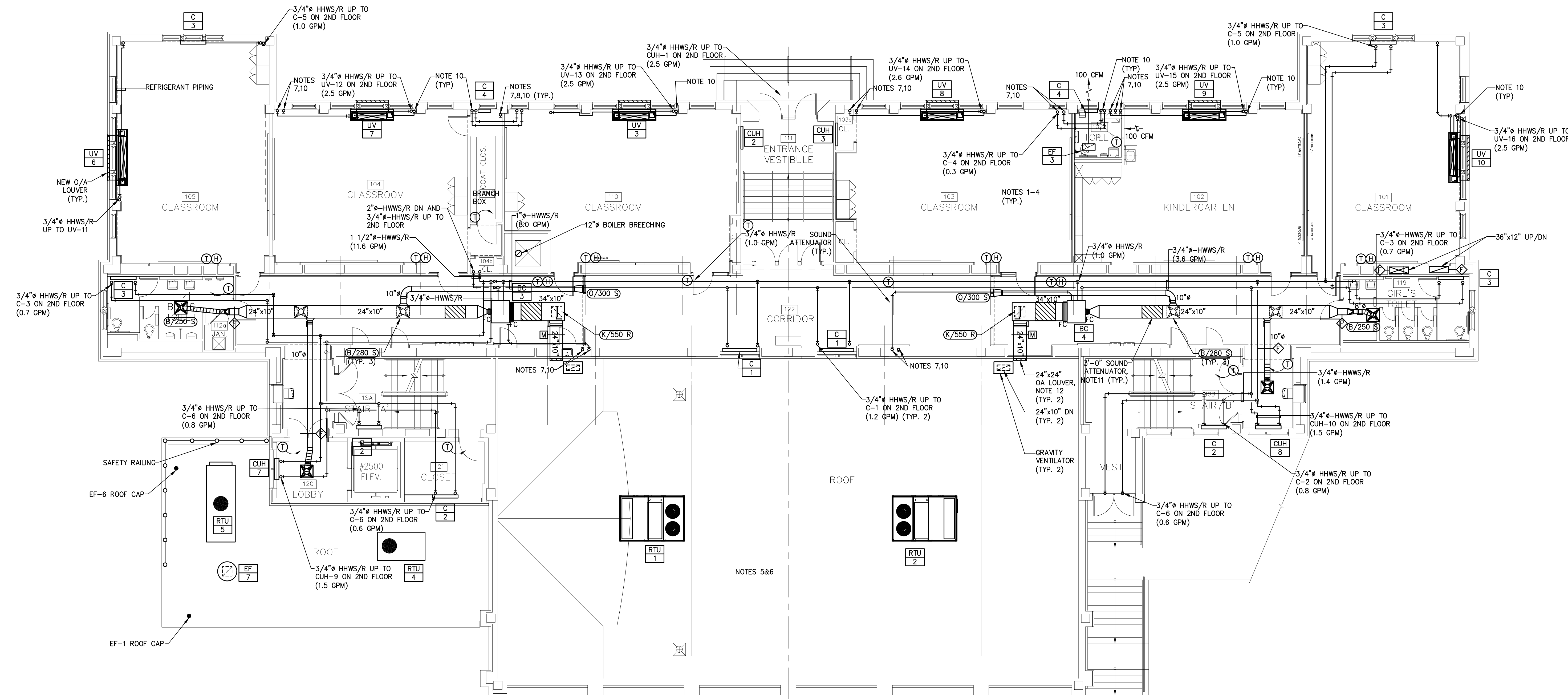


REMINGTON & VERNICK ENGINEERS

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Certification of Authorization: 24 GA 28003300
—ENGINEERING EXCELLENCE—

DATE:
CHRISTOPHER A. SAPONARO
NJ PROFESSIONAL ENGINEER LIC. NO. 40059

DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. NO. 46577



1 MECHANICAL FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

- NOTES:**
- ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
 - ALL PIPE ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL PIPE ROUTINGS IN THE FIELD AS REQUIRED TO AVOID INTERFERENCES AT NO ADDITIONAL COST TO THE OWNER.
 - NOT ALL IN-LINE DEVICES (VALVES, DAMPERS, REDUCERS, ETC.) HAVE BEEN SHOWN ON THE PLANS FOR CLARITY. SEE PIPING DETAILS ON MECHANICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE ALL IN-LINE DEVICES (VALVES, DAMPERS, REDUCERS, GAUGES, ETC.) AS REQUIRED TO COMPLETE THE INSTALLATION EVEN IF NOT SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING AREAS OF THE EXISTING CEILING OR WALLS DAMAGED OR REMOVED AS A RESULT OF THE NEW WORK. REPAIRED/REPLACED PORTIONS OF THE EXISTING CEILING OR WALLS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
 - ALL ROOFTOP MECHANICAL EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM THE EDGE OF ROOF. PROVIDE A PROTECTIVE RAILING AROUND EQUIPMENT THAT IS LOCATED LESS THAN 10'-0" FROM EDGE OF ROOF.
 - ALL EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM OUTSIDE AIR INTAKES.
 - PROVIDE REFRIGERATION PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERATION PIPING SHOWN ON THIS PLAN REFLECTS BOTH SUCTION AND LIQUID PIPING.
 - REFRIGERATION PIPING UP THROUGH ROOF AND DOWN THROUGH THE 1ST FLOOR.
 - BASE BID SHALL INCLUDE THE INSTALLATION OF WINDOW AIR CONDITIONERS DURING DEMOLITION WORK.
 - PROVIDE MANUFACTURER SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL CHASES TO CONCEAL HYDRONIC PIPING.
 - PROVIDE IN-LINE SOUND ATTENUATOR WITH ALUMINUM CONSTRUCTION AND MYLAR LINER. SOUND ATTENUATOR SHALL BE MODEL LLP-56 BY AEROSONICS OR APPROVED EQUAL.
 - NEW OUTDOOR AIR LOUVER. LOUVER SHALL BE A RUSKIN MODEL ELF6375DXH OR APPROVED EQUAL. LOUVER SHALL BE DRAINABLE AND BE OF ALUMINUM CONSTRUCTION. PROVIDE LOUVER WITH INTEGRAL FLANGE AND INSECT SCREEN. FINISH AND COLOR SHALL BE AS APPROVED BY THE ARCHITECT.

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MECHANICAL FIRST FLOOR PLAN
PENNNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY PENNSYLVANIA NEW JERSEY

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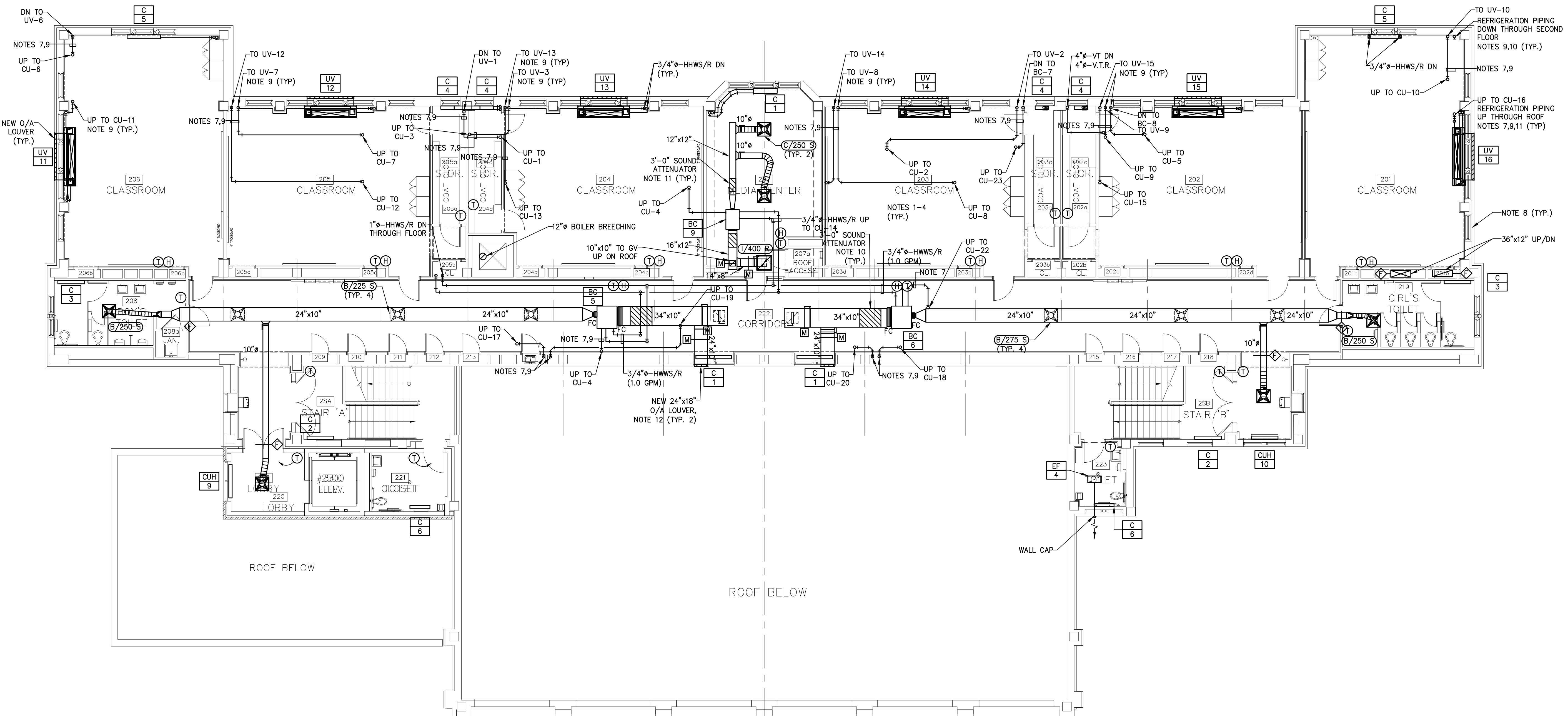


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-ENGINEERING EXCELLENCE-

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CHRISTOPHER A. SAPONARO
NJ PROFESSIONAL ENGINEER LIC. NO. 40059

DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. NO. 46577



1 MECHANICAL SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"

NOTES:

- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
2. ALL PIPE ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL PIPE ROUTINGS IN THE FIELD AS REQUIRED TO AVOID INTERFERENCES AT NO ADDITIONAL COST TO THE OWNER.
3. NOT ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, ETC.) HAVE BEEN SHOWN ON THE PLANS FOR CLARITY. SEE PIPING DETAILS ON MECHANICAL DETAIL DRAWINGS FOR ADDITIONAL INFORMATION. PROVIDE ALL INLINE DEVICES (VALVES, DAMPERS, REDUCERS, GAUGES, ETC.) AS REQUIRED TO COMPLETE THE INSTALLATION EVEN IF NOT SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING/REPLACING AREAS OF THE EXISTING CEILING OR WALLS DAMAGED OR REMOVED AS A RESULT OF THE NEW WORK. REPAIRED/REPLACED PORTIONS OF THE EXISTING CEILING OR WALLS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION.
5. ALL ROOFTOP MECHANICAL EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM THE EDGE OF ROOF. PROVIDE A PROTECTIVE RAILING AROUND EQUIPMENT THAT IS LOCATED LESS THAN 10'-0" FROM EDGE OF ROOF.
6. ALL EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM OUTSIDE AIR INTAKES.
7. PROVIDE REFRIGERATION PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERATION PIPING SHOWN ON THIS PLAN REFLECTS BOTH SUCTION AND LIQUID PIPING.
8. ALTERNATE: REFRIGERATION PIPING & ACCESSORIES.
BASE BID SHALL INCLUDE THE INSTALLATION OF WINDOW AIR CONDITIONERS REMOVED DURING DEMOLITION WORK.
9. PROVIDE MANUFACTURER SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL CHASES TO CONCEAL HYDRONIC PIPING.
10. PROVIDE INLINE SOUND ATTENUATOR WITH ALUMINUM CONSTRUCTION AND MYLAR LINER. SOUND ATTENUATOR SHALL BE MODEL LLP-36 BY AEROSONICS OR APPROVED EQUAL.
11. ALTERNATE: PROVIDE CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING FOR THE 2ND FLOOR EQUIPMENT AS AN ALTERNATE BID ITEM. MECHANICAL EQUIPMENT, HEATING HOT WATER PIPING, CONTROL DEVICES, ETC. SHALL BE PROVIDED AS PART OF THE BASE BID.
12. NEW OUTDOOR AIR LOUVER. LOUVER SHALL BE A RUSKIN MODEL ELF6375DXH OR APPROVED EQUAL. LOUVER SHALL BE DRAINABLE AND BE OF ALUMINUM CONSTRUCTION. PROVIDE LOUVER WITH INTEGRAL FLANGE AND INSECT SCREEN. FINISH AND COLOR SHALL BE AS APPROVED BY THE ARCHITECT.

ISSUED FOR BID: 11-13-2020

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Revision table with columns for NO., DATE, BY, and DESCRIPTION.

MECHANICAL SECOND FLOOR PLAN
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
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PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

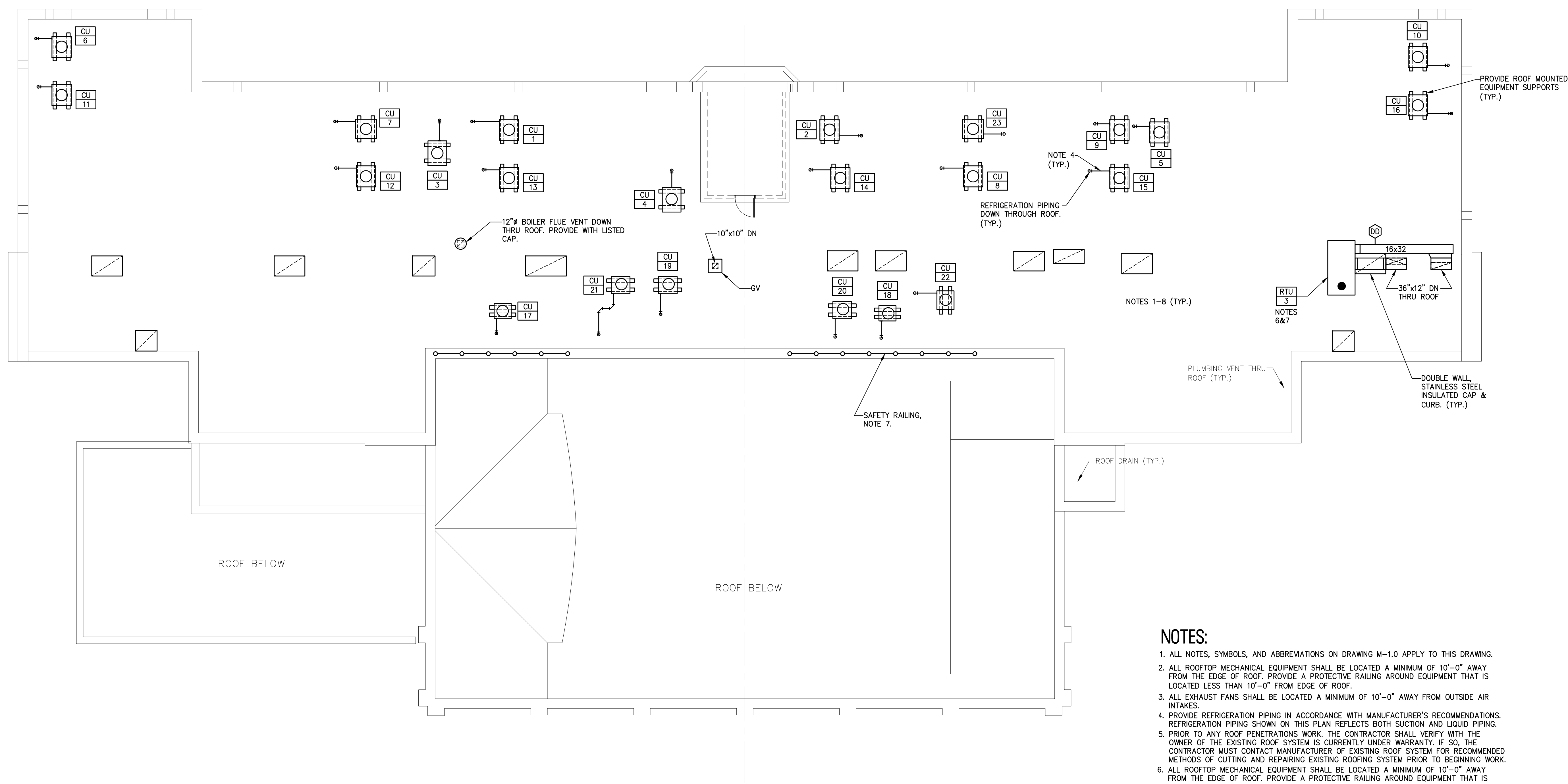
Approval table with columns for B.Z., C.H., CHECKED BY, and SCALE.



REMINGTON & VERNICK ENGINEERS
 232 KINGS HIGHWAY EAST
 HADDONFIELD, NJ 08033
 (856) 795-9595, FAX (856) 795-1882
 WEB SITE ADDRESS : WWW.RVE.COM
 Certification of Authorization: 24 GA 28003300
 ENGINEERING EXCELLENCE

DATE:
CHRISTOPHER A. SAPONARO
 NJ PROFESSIONAL ENGINEER LIC. NO. 40059

DATE:
BRIAN B. GREGG
 NJ PROFESSIONAL ENGINEER LIC. NO. 46577



- NOTES:**
- ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
 - ALL ROOFTOP MECHANICAL EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM THE EDGE OF ROOF. PROVIDE A PROTECTIVE RAILING AROUND EQUIPMENT THAT IS LOCATED LESS THAN 10'-0" FROM EDGE OF ROOF.
 - ALL EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM OUTSIDE AIR INTAKES.
 - PROVIDE REFRIGERATION PIPING IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERATION PIPING SHOWN ON THIS PLAN REFLECTS BOTH SUCTION AND LIQUID PIPING.
 - PRIOR TO ANY ROOF PENETRATIONS WORK, THE CONTRACTOR SHALL VERIFY WITH THE OWNER OF THE EXISTING ROOF SYSTEM IS CURRENTLY UNDER WARRANTY. IF SO, THE CONTRACTOR MUST CONTACT MANUFACTURER OF EXISTING ROOF SYSTEM FOR RECOMMENDED METHODS OF CUTTING AND REPAIRING EXISTING ROOFING SYSTEM PRIOR TO BEGINNING WORK.
 - ALL ROOFTOP MECHANICAL EQUIPMENT SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM THE EDGE OF ROOF. PROVIDE A PROTECTIVE RAILING AROUND EQUIPMENT THAT IS LOCATED LESS THAN 10'-0" FROM EDGE OF ROOF.
 - ALL EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM OUTSIDE AIR INTAKES.
 - ALTERNATE: PROVIDE CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING FOR THE 2ND FLOOR EQUIPMENT AS AN ALTERNATE BID ITEM. MECHANICAL EQUIPMENT, HEATING HOT WATER PIPING, CONTROL DEVICES, ETC. SHALL BE PROVIDED AS PART OF THE BASE BID.

1 MECHANICAL ROOF PLAN
 SCALE: 1/8"=1'-0"

PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID.

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MECHANICAL ROOF PLAN
 PENNSAUKEN BOARD OF EDUCATION
 ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
 PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

| DATE | SHEET NO. |
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| 10-19-2020 | M-2.4 |

ISSUED FOR BID: 11-13-2020

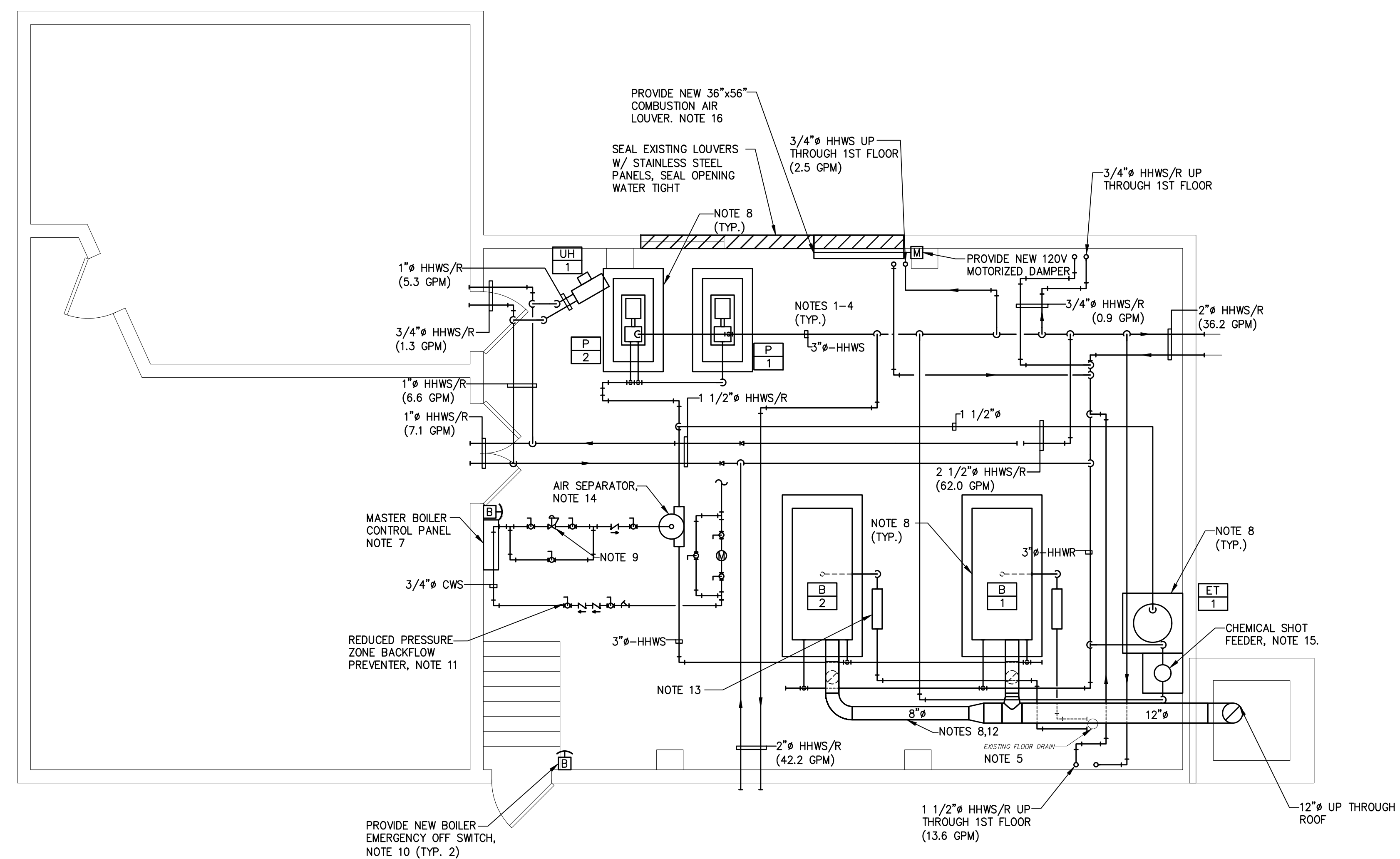


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—ENGINEERING EXCELLENCE—

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NJ PROFESSIONAL ENGINEER LIC. No. 40059

DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. No. 46577



1 MECHANICAL ENLARGED BOILER ROOM FLOOR PLAN
SCALE: 1/4"=1'-0"

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NOTES:

1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING.
2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO AVOID INTERFERENCE.
3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY. SEE THE DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL REDUCERS, VALVES, ETC. AS REQUIRED TO COMPLETE THE NEW WORK EVEN IF NOT SPECIFICALLY SHOWN ON THE PLAN OR DETAIL DRAWINGS.
4. PROVIDE LINE SIZE SHUT-OFF VALVES IN BRANCH LINE WHERE BRANCH LINES CONNECT TO MAINS.
5. CONTRACTOR SHALL CLEAN/ CLEAR EXISTING FLOOR DRAINS AND TRAPS.
6. SUPPORT NEW STEEL POSITIVE PRESSURE DOUBLE WALL BREECHING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE TECHNICAL SPECIFICATIONS.
7. PROVIDE NEW BOILER CONTROL PANEL(S) IN ACCORDANCE WITH DETAIL SHEET M-4.2.
8. PROVIDE NEW 4" THICK CONCRETE PAD, PAD TO EXTEND 6 INCHES PAST BOILER ON ALL SIDES. INCLUDE WW 6X6-W2.9XW2.9 IMBEDDED AT MID-DEPTH. PREPARE EXISTING CONCRETE FLOOR WITH BONDING AGENT TO ENSURE PROPER ADHESION OF NEW CONCRETE PAD. PROVIDE SIX (6) #4 REINFORCING BARS AT A MINIMUM 3" EMBEDMENT AT FOUR (4) CORNERS AND AT MID SPAN ON LONGEST SIDE OF PAD. BARS SHOULD EXTEND 3" ABOVE EXISTING FINISHED FLOOR. GROUT BARS INTO EXISTING FLOOR PRIOR TO POURING NEW EQUIPMENT PAD. CONCRETE PAD SHALL BE IN ACCORDANCE WITH THE DIVISION 15 SPECIFICATIONS.
9. PROVIDE PRESSURE REDUCING VALVE. SEE DETAIL SHEETS FOR ADDITIONAL INFORMATION.
10. PROVIDE EMERGENCY BURNER SHUT-OFF SWITCHES IN ACCORDANCE WITH SPECIFICATION 15512.
11. PROVIDE REDUCED PRESSURE ZONE BACKFLOW PREVENTOR FOR BOILER MAKE-UP WATER. ROUTE DISCHARGE TO FLOOR DRAIN.
12. VENT MATERIAL SHALL BE LISTED AL29-4C STAINLESS DOUBLE WALL.
13. PROVIDE ACID NEUTRALIZATION DEVICE.
14. AIR SEPARATOR SHALL BE BELL & JOSSETT ROLAIRTROL R-3F OR APPROVED EQUAL.
15. CHEMICAL SHOT FEEDER SHALL BE NEPTUNE MODEL DPF-SHP OR APPROVED EQUAL.
16. NEW OUTDOOR AIR LOUVER. LOUVER SHALL BE A RUSKIN MODEL ELF637SDXH OR APPROVED EQUAL. LOUVER SHALL BE DRAINABLE AND BE OF ALUMINUM CONSTRUCTION. PROVIDE LOUVER WITH INTEGRAL FLANGE AND INSECT SCREEN. FINISH AND COLOR SHALL BE AS APPROVED BY THE ARCHITECT.

MECHANICAL ENLARGED BOILER ROOM FLOOR PLAN
 PENNSAUKEN BOARD OF EDUCATION
 ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
 PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY
 F:\Projects\Pennsauken\MP038K049\Sheets\M-2.5 Mechanical Enlarged Boiler Room Floor Plan.dwg

| DATE | SHEET NO. |
|------------|-----------|
| 10-19-2020 | M-2.5 |
| MP038K049 | |

ISSUED FOR BID: 11-13-2020

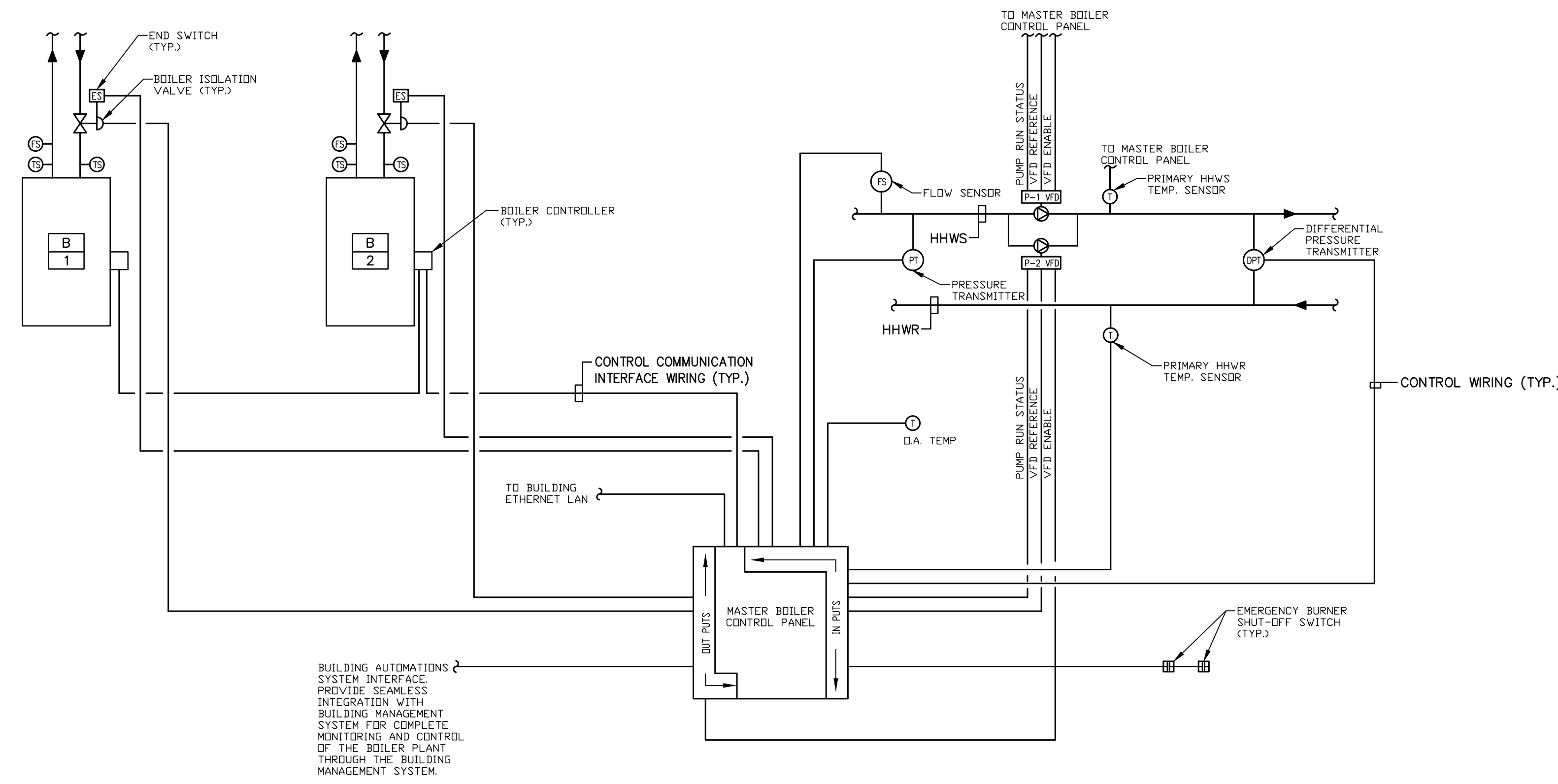


**REMINGTON
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ENGINEERS**

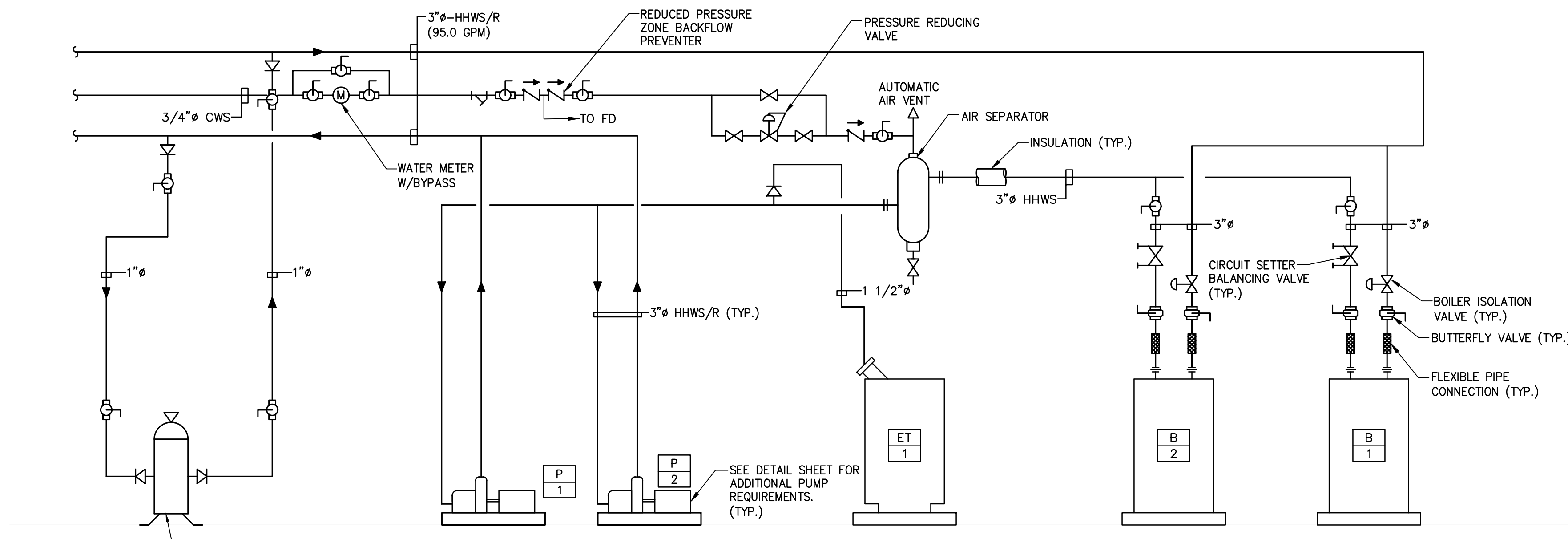
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DATE:
BRIAN B. GREGG
NJ PROFESSIONAL ENGINEER LIC. No. 46577



HEATING HOT WATER CONTROL SCHEMATIC
SCALE: N.T.S.



HEATING HOT WATER PIPING SCHEMATIC
SCALE: N.T.S.

- NOTES:**
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 4. PROVIDE LINE SIZE SHUT-OFF VALVES IN BRANCH LINE WHERE BRANCH LINES CONNECT TO MAINS.

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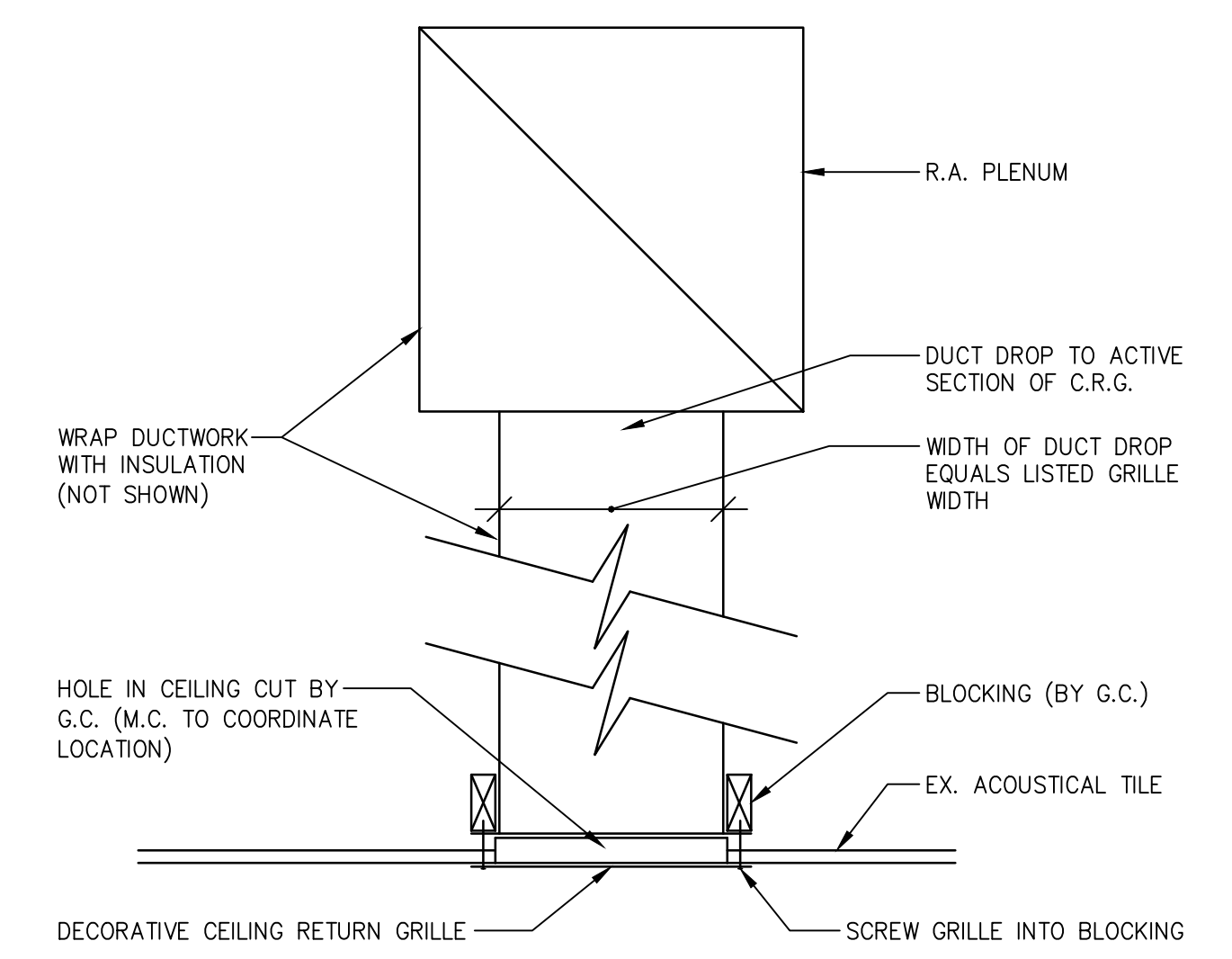
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MECHANICAL DETAILS

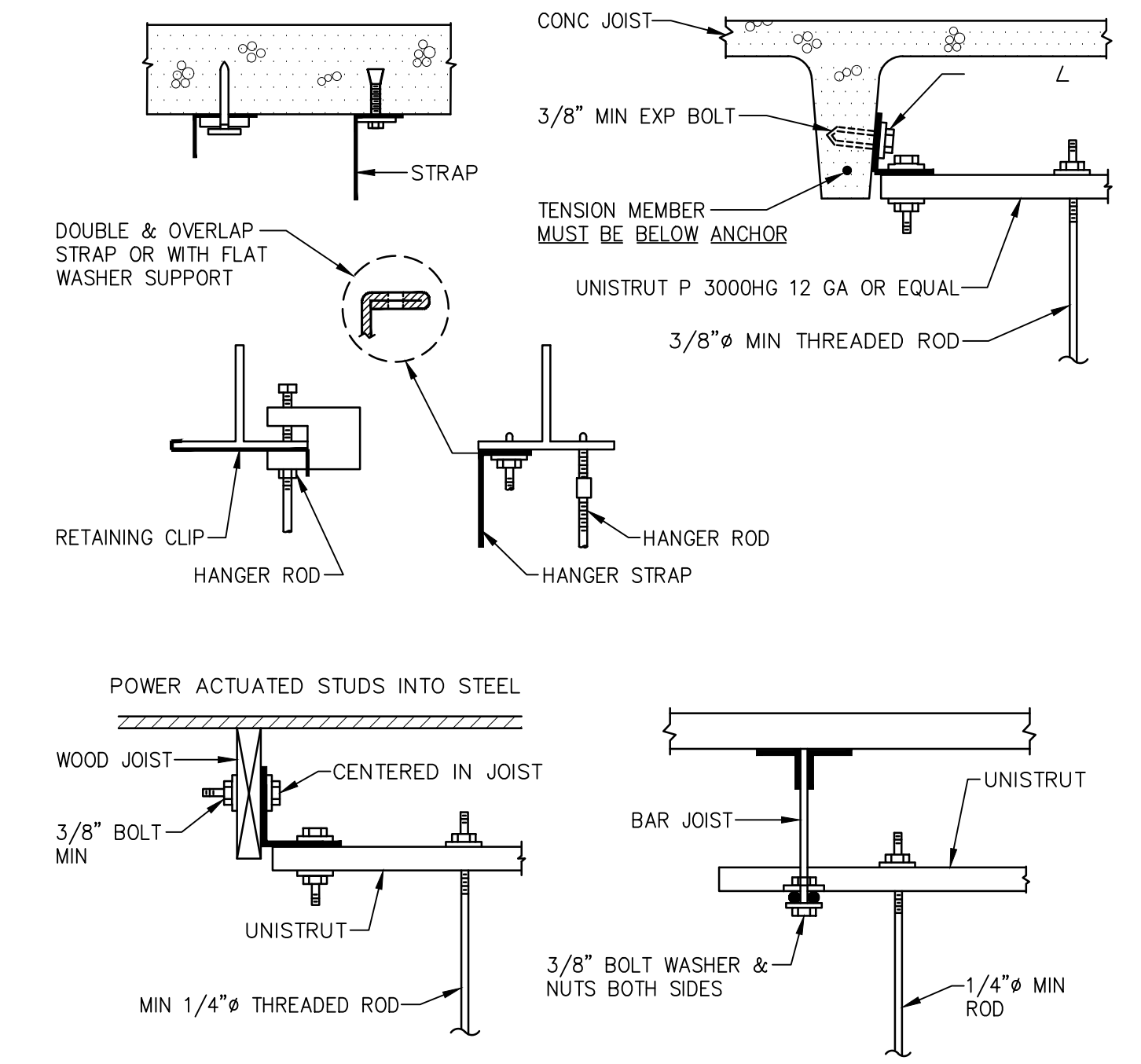
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

| DATE | SHEET NO. | SCALE |
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| 10-19-2020 | M-4.1 | AS NOTED |

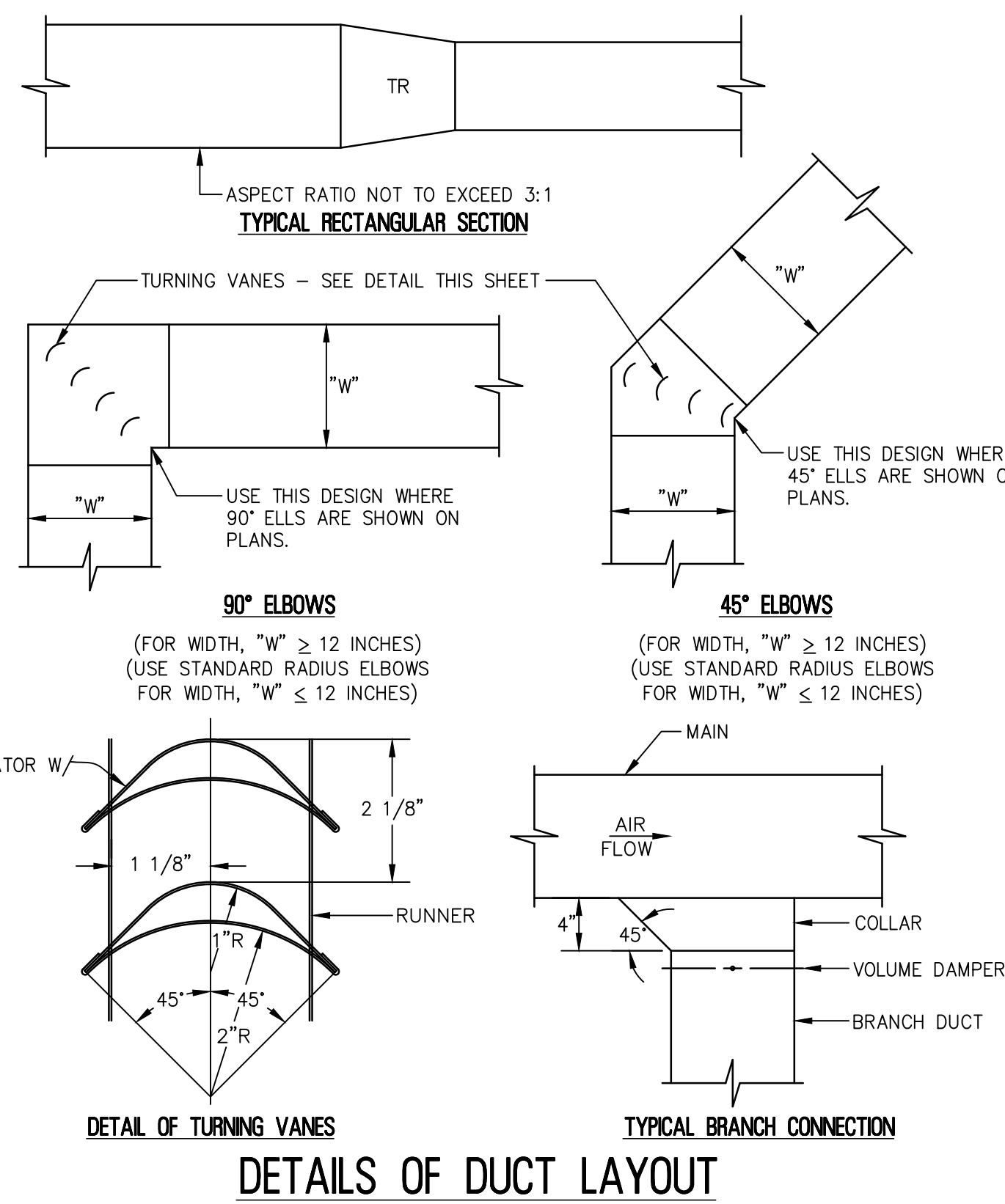
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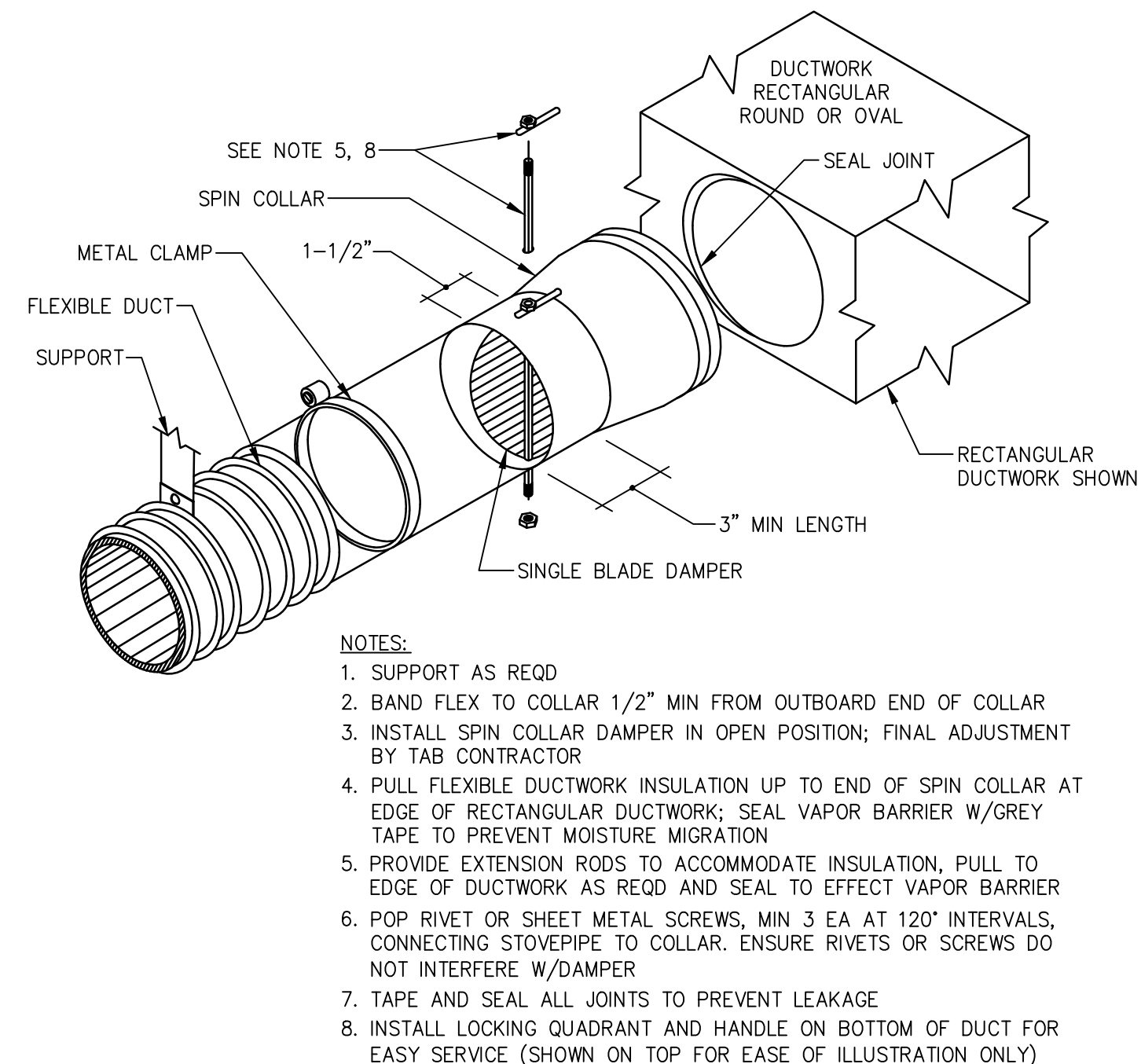
CEILING RETURN GRILLE DETAIL
 N.T.S.



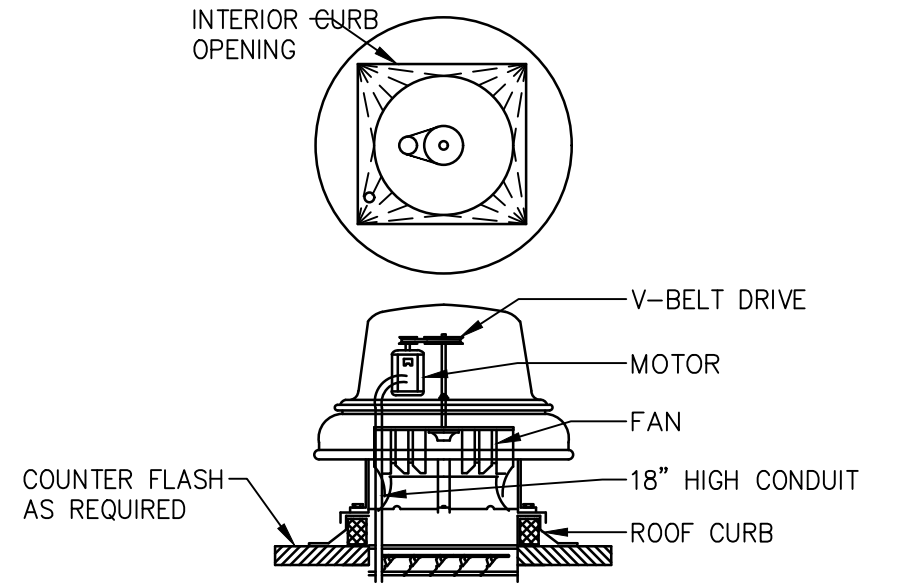
UPPER ATTACHEMENT AND JOIST HANGERS FOR DUCTWORK
 N.T.S.



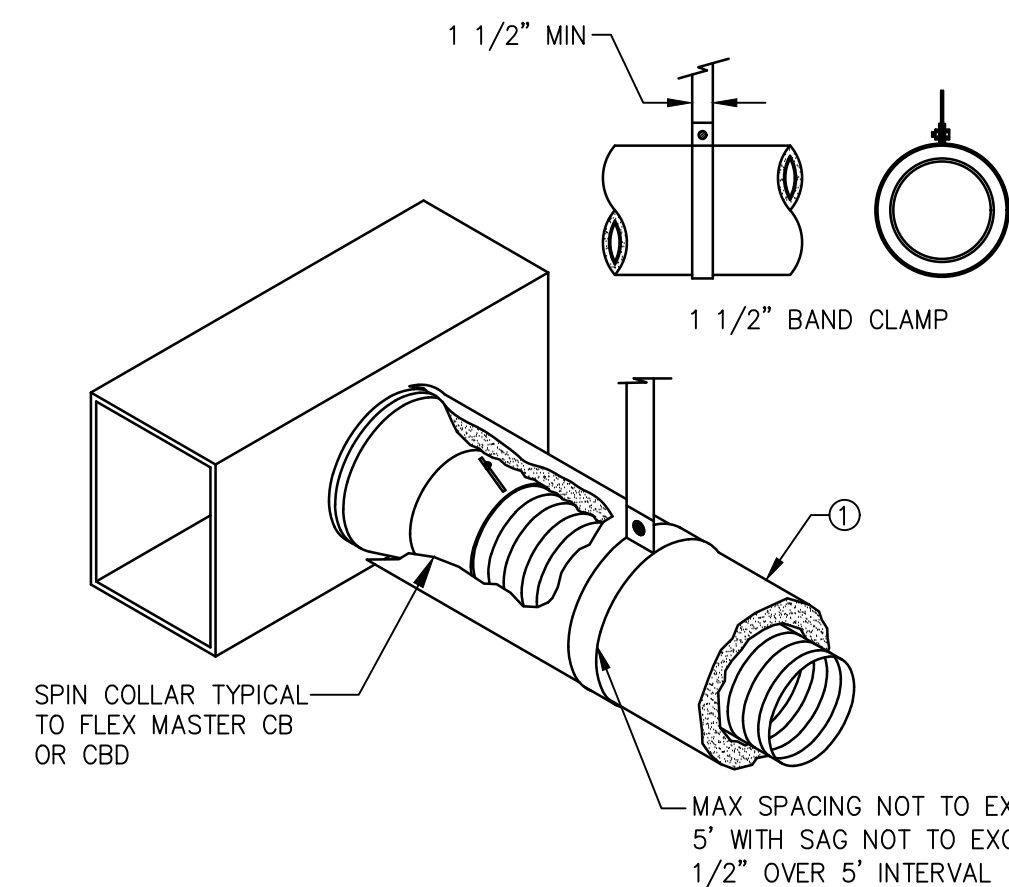
DETAILS OF DUCT LAYOUT
 N.T.S.



SPIN COLLAR FLEXIBLE DUCT CONNECTOR WITH DAMPER
 N.T.S.



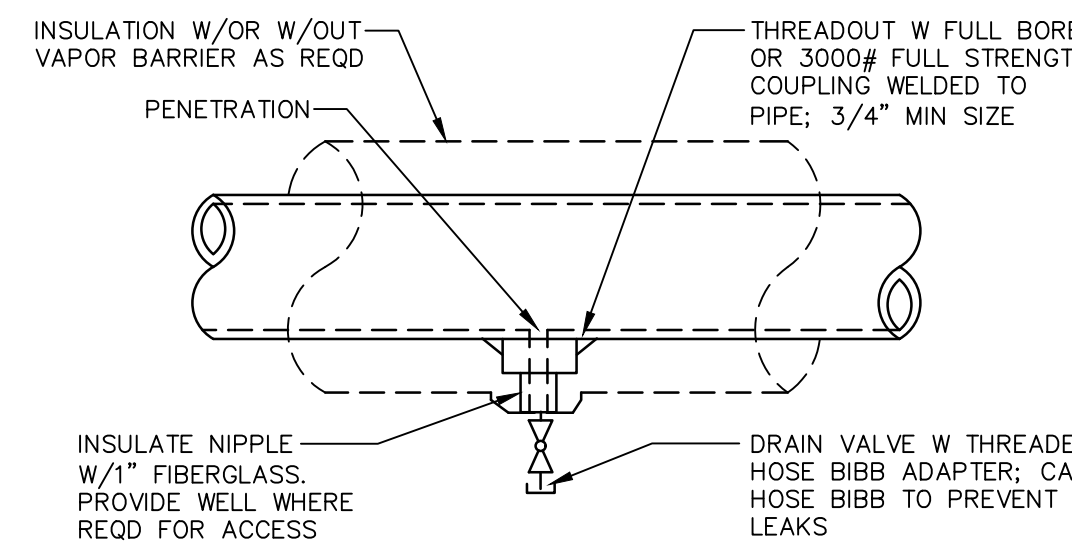
CENTRIFUGAL V-BELT DRIVEN ROOF EXHAUSTER
 N.T.S.



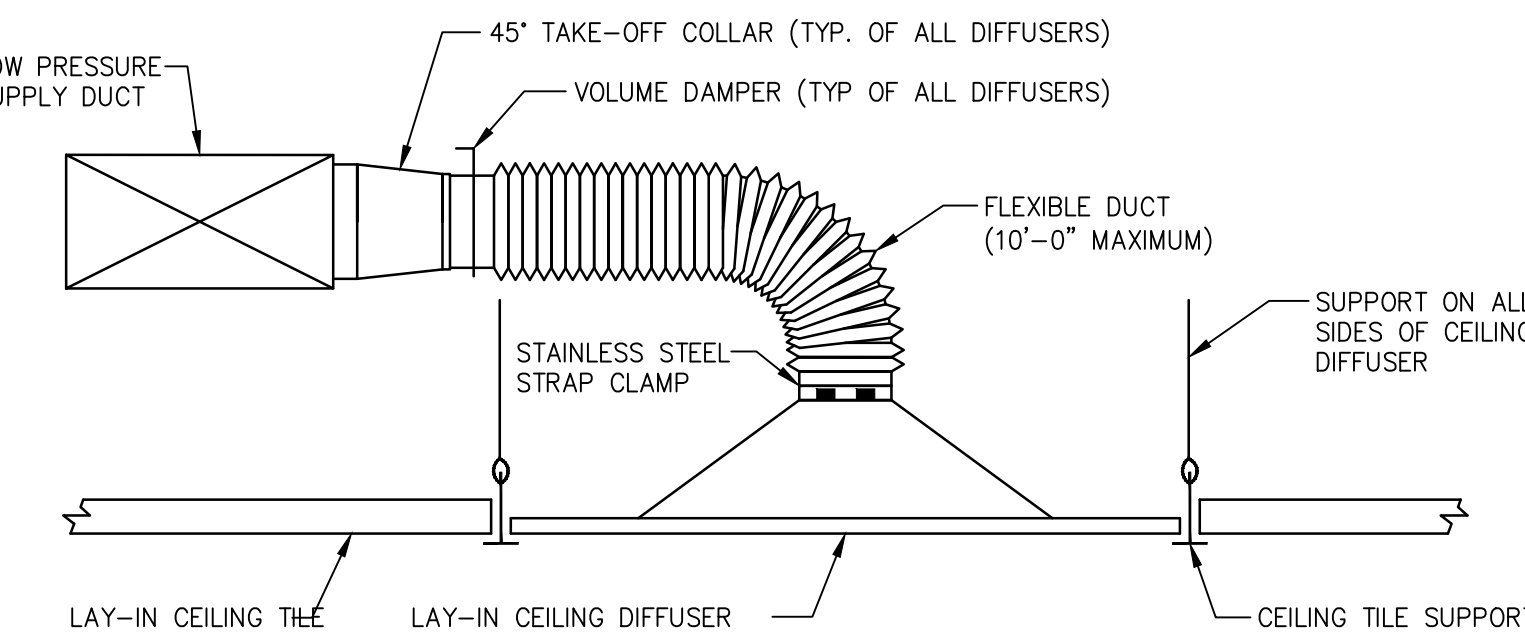
SUGGESTED SUPPORT REQUIREMENTS FOR FLEX & STRAIGHT RECTANGULAR DUCT
 N.T.S.

| GAUGE | THK | 1" STRAP CAPABILITY | MAXIMUM LOAD |
|-------|------|---------------------|--------------|
| 24 | .028 | 840 | 168 |
| 22 | .034 | 1070 | 216 |
| 20 | .040 | 1298 | 259 |

- * ELASTIC LIMIT ASSUMED 30kpsi; RECOMMEND MAX LOAD (20% OF YIELD STRENGTH).
- NOTES:
 1. FLEX DUCT WITH EXTERNAL INSULATION AND VAPOR BARRIER JACKETING.

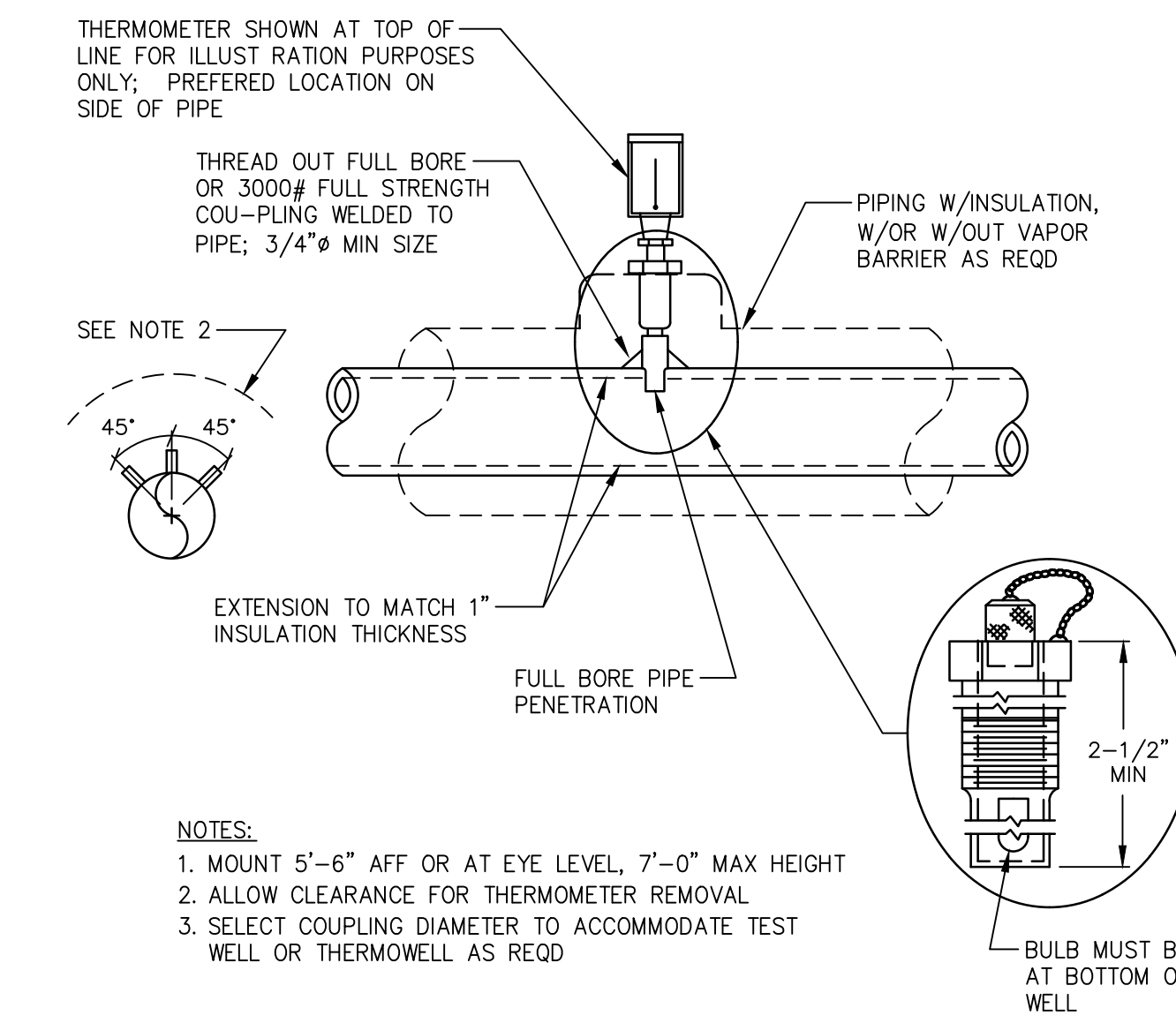


DRAIN VALVE INSTALLATION
 N.T.S.



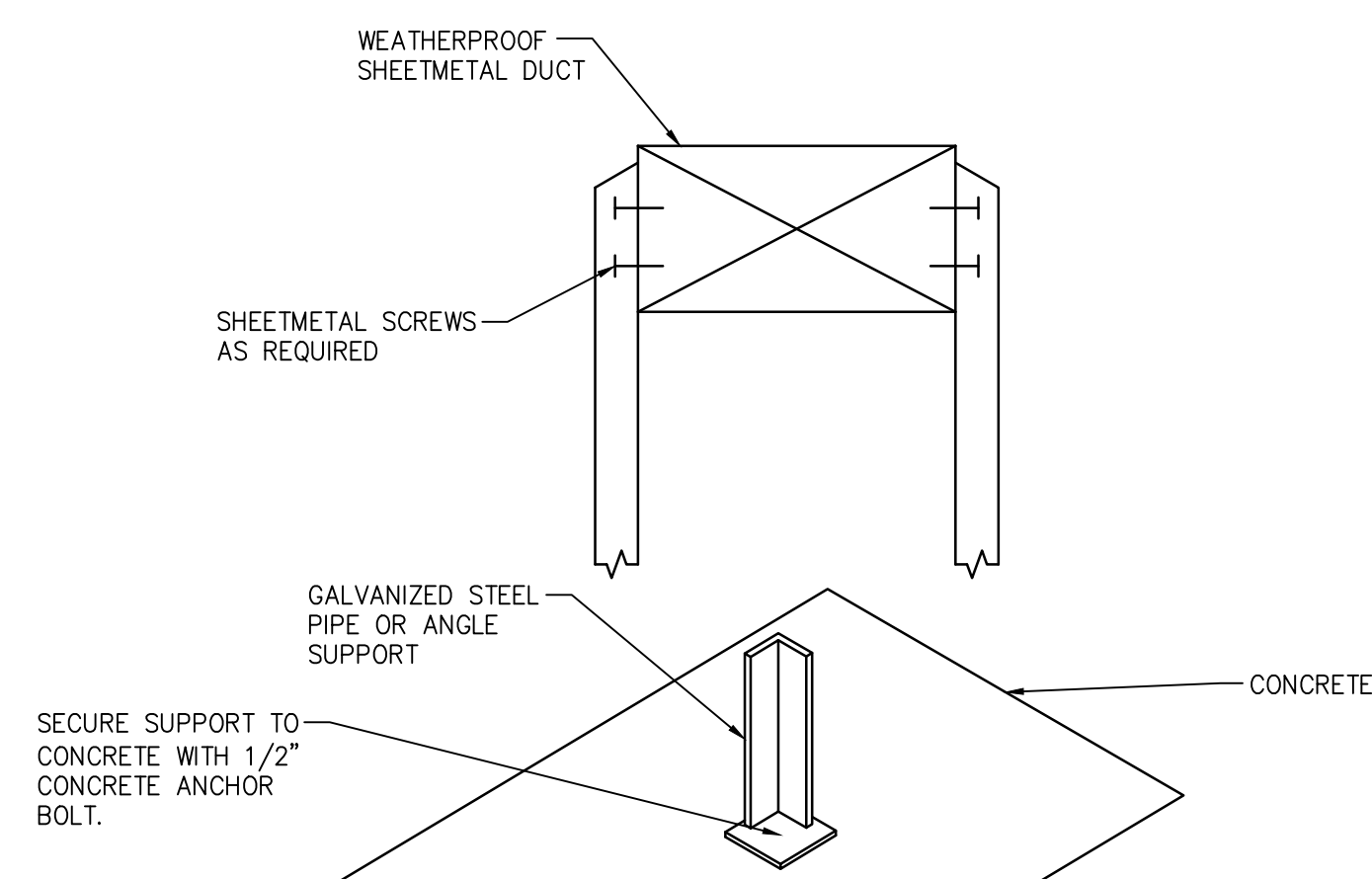
FLEXIBLE BRANCH DUCT WORK
 N.T.S.

- NOTES:
 1. CONTRACTOR TO COORDINATE & VERIFY IN FIELD ALL MOUNTING LOCATIONS AND TYPES.
 2. MOUNT AND ANCHOR CONDENSING UNIT ON EQUIPMENT PAD. CONDENSATE FROM INDOOR UNIT TO BE PIPED TO OUTDOORS. PROVIDE CONDENSATE PUMP, IF REQUIRED.
 3. REFER TO DIVISION 15 SPECIFICATIONS FOR ADDITIONAL INFORMATION.

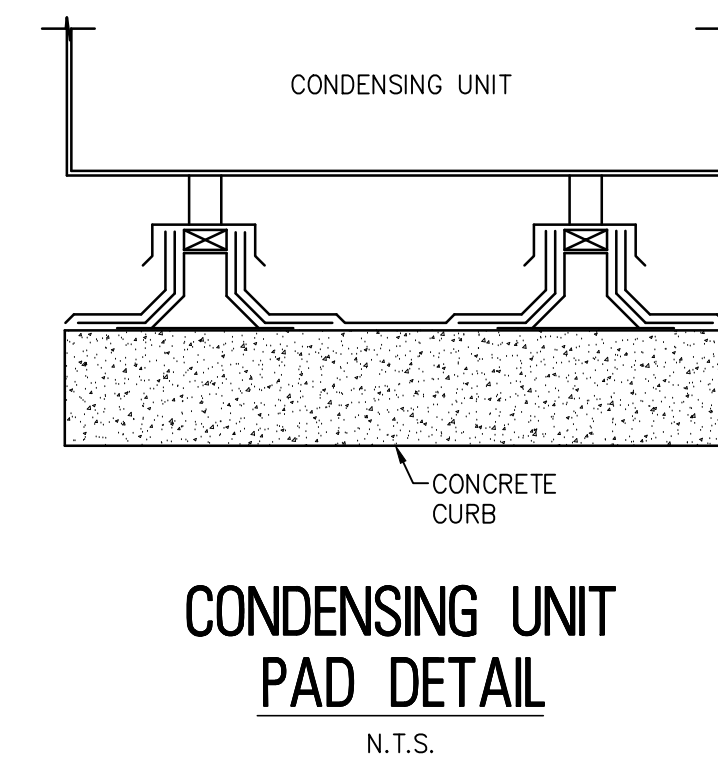


THERMOMETER AND THERMOWELL INSTALLATION
 N.T.S.

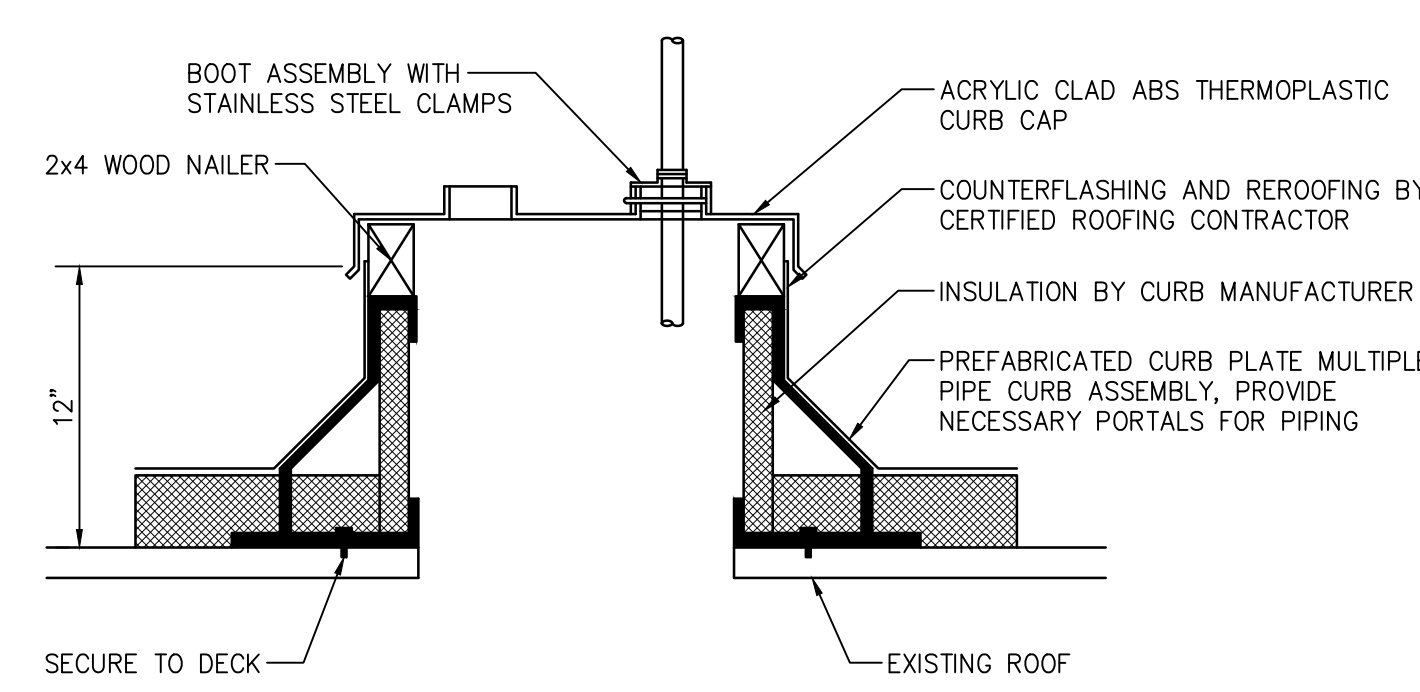
- NOTES:
 1. MOUNT 5'-6" AFF OR AT EYE LEVEL, 7'-0" MAX HEIGHT
 2. ALLOW CLEARANCE FOR THERMOMETER REMOVAL
 3. SELECT COUPLING DIAMETER TO ACCOMMODATE TEST WELL OR THERMOWELL AS REQD



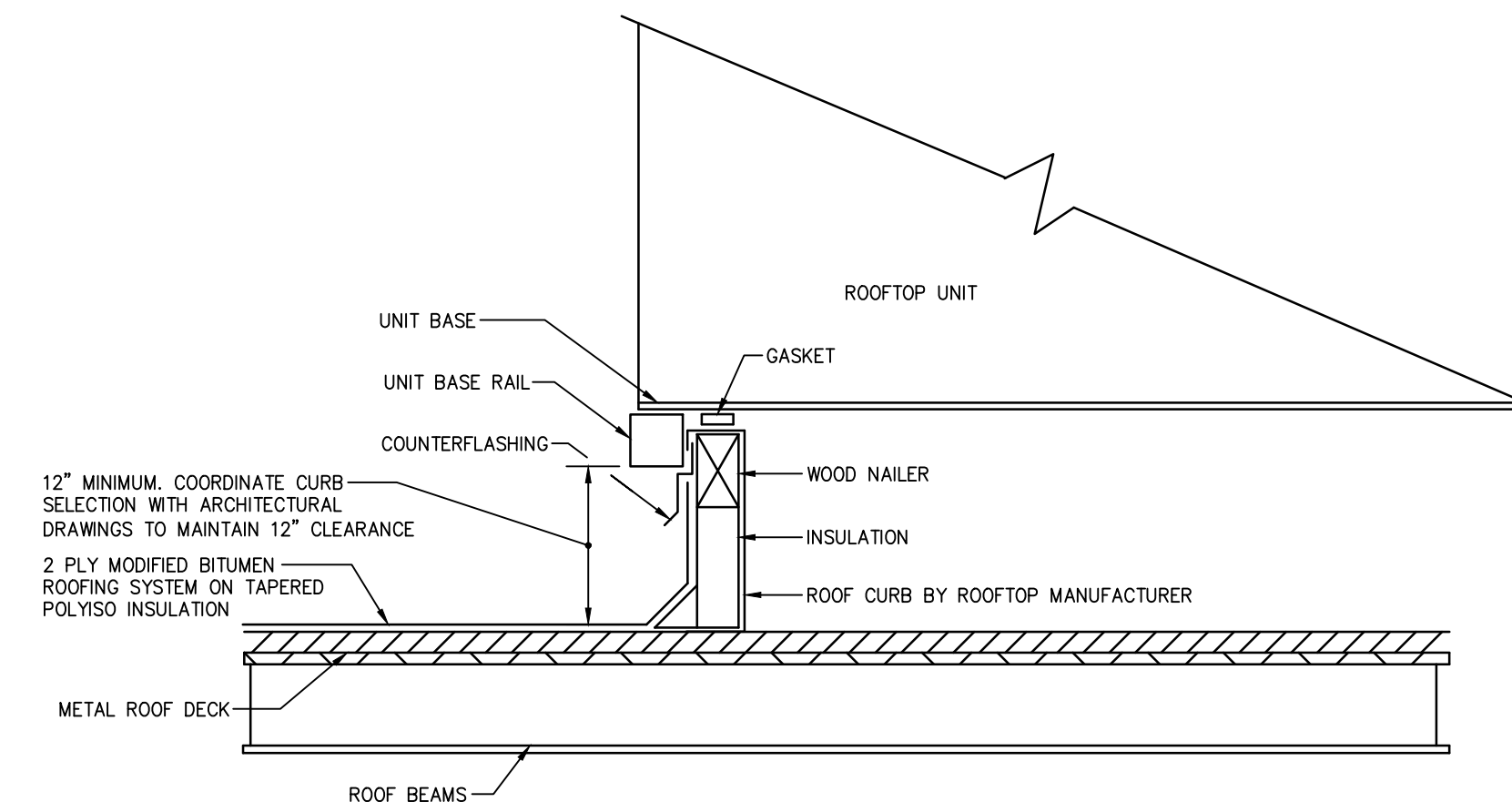
DUCT SUPPORT
 N.T.S.



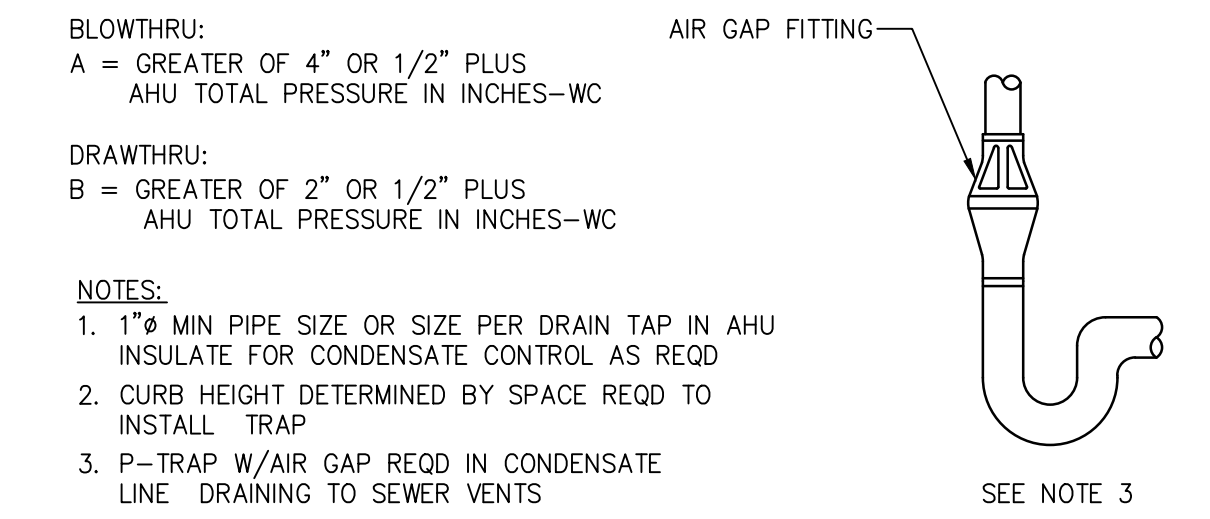
CONDENSING UNIT PAD DETAIL
 N.T.S.



BOOT TYPE PIPE PENETRATION
 N.T.S.
 (SIMILAR FOR DUCT PENETRATIONS)



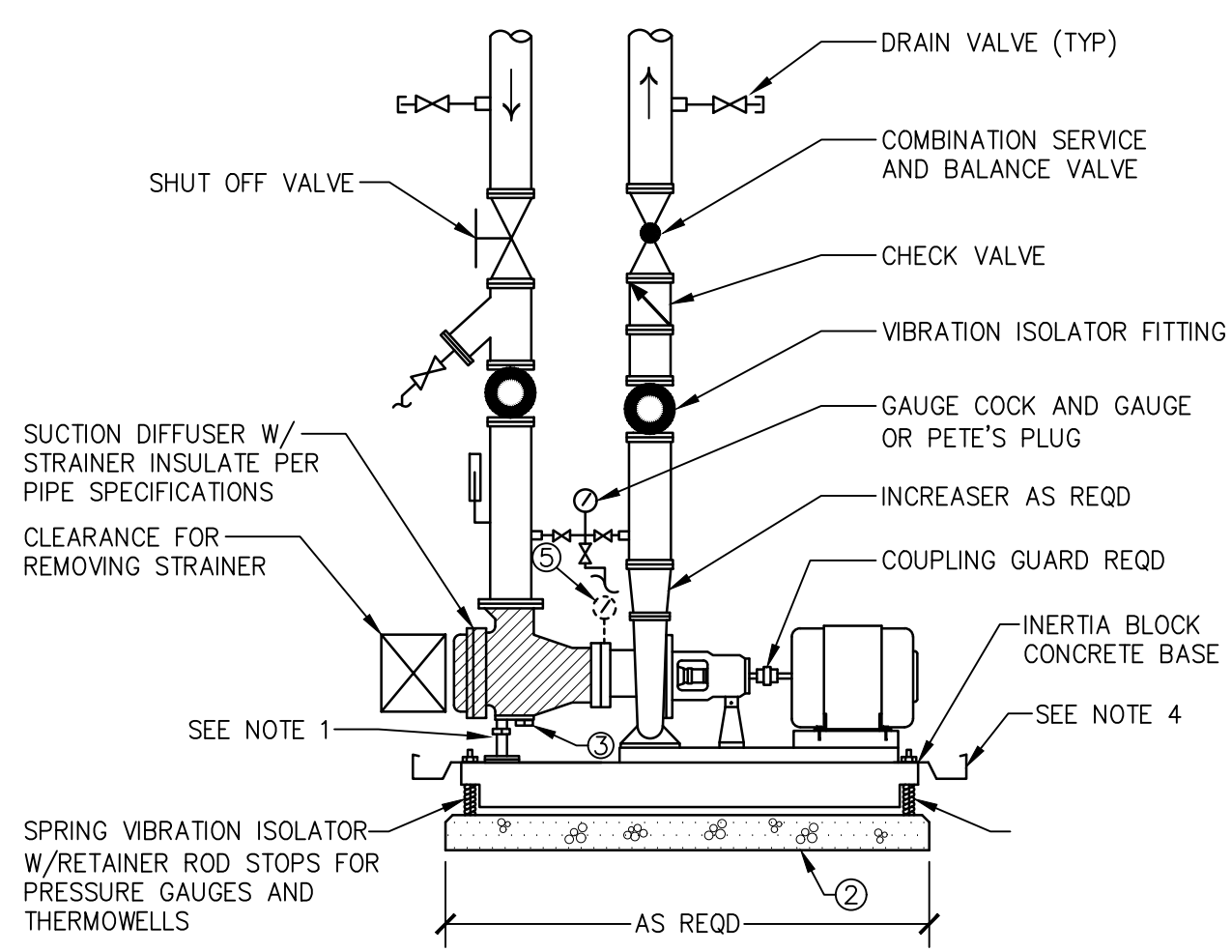
ROOF TOP UNIT CURB FLASHING DETAIL
 N.T.S.



CONDENSATE DRAIN TRAP
 N.T.S.

- BLOWTHRU:
 A = GREATER OF 4" OR 1/2" PLUS AHU TOTAL PRESSURE IN INCHES-WC
- DRAWTHRU:
 B = GREATER OF 2" OR 1/2" PLUS AHU TOTAL PRESSURE IN INCHES-WC

- NOTES:
 1. 1" MIN PIPE SIZE OR SIZE PER DRAIN TAP IN AHU INSULATE FOR CONDENSATE CONTROL AS REQD
 2. CURB HEIGHT DETERMINED BY SPACE REQD TO INSTALL TRAP
 3. P-TRAP W/AIR GAP REQD IN CONDENSATE LINE DRAINING TO SEWER VENTS



- NOTES:
 1. STANCHION SUPPORT ON SUCTION END AS REQD.
 2. HOUSEKEEPING PAD THICKNESS ≥ 4"; CHAMFER EDGES 1".
 3. 3/4" HOSE BIBB DRAIN W/CAP
 4. PROVIDE PUMP DRAIN PAN IF NOT FURNISHED BY PUMP MFG.
 5. MODIFY PIPING AND GAUGE CONNECTIONS IF PUMP FLANGE TAPS DO NOT EXIST.
 6. GROUT PUMP BASE AS REQD.

PIPING FOR END SUCTION PUMP WITH DIFFUSER
 N.T.S.

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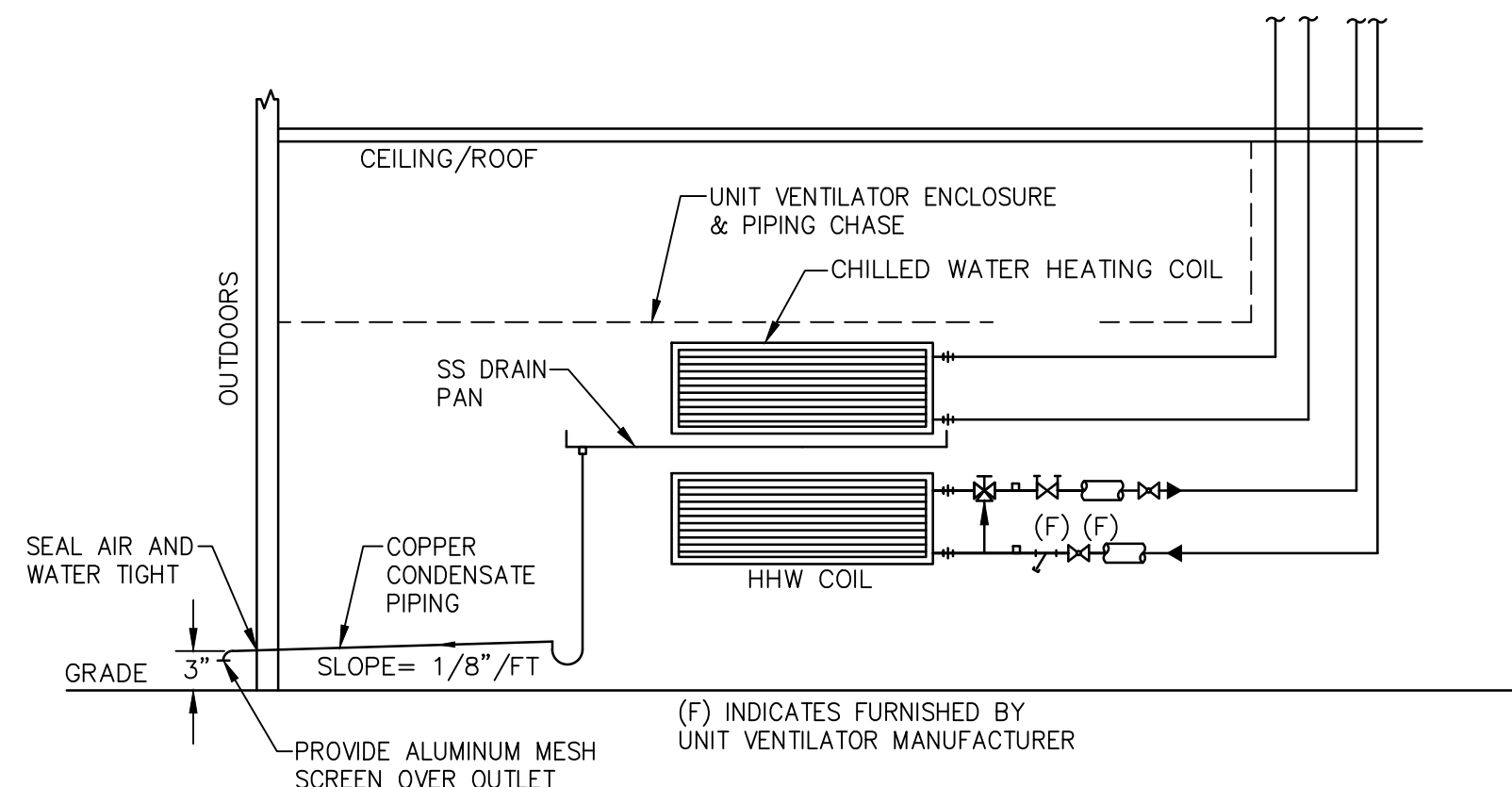
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MECHANICAL DETAILS

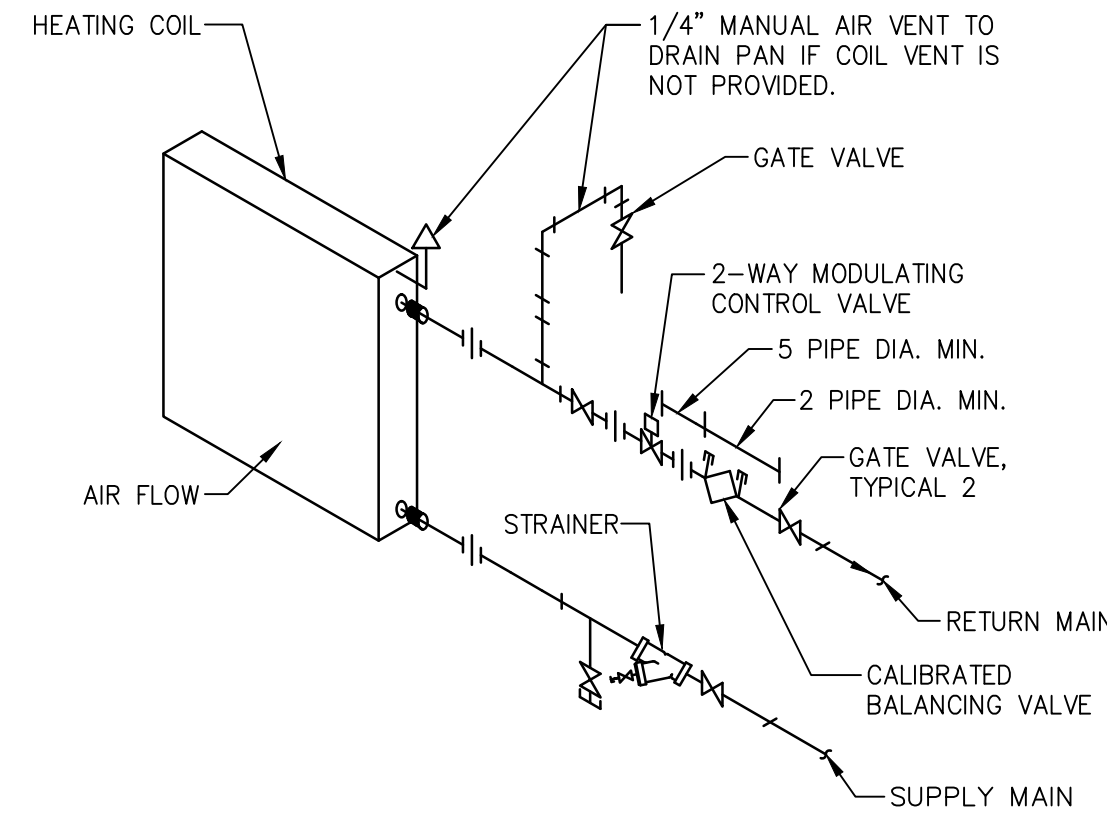
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 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
 PENNSAUKEN TOWNSHIP
 CAMDEN COUNTY, NEW JERSEY

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| B.Z. | C.H. | | AS NOTED |
| DATE: | SHEET NO.: | | |
| 10-19-2020 | 28 of 36 | | |
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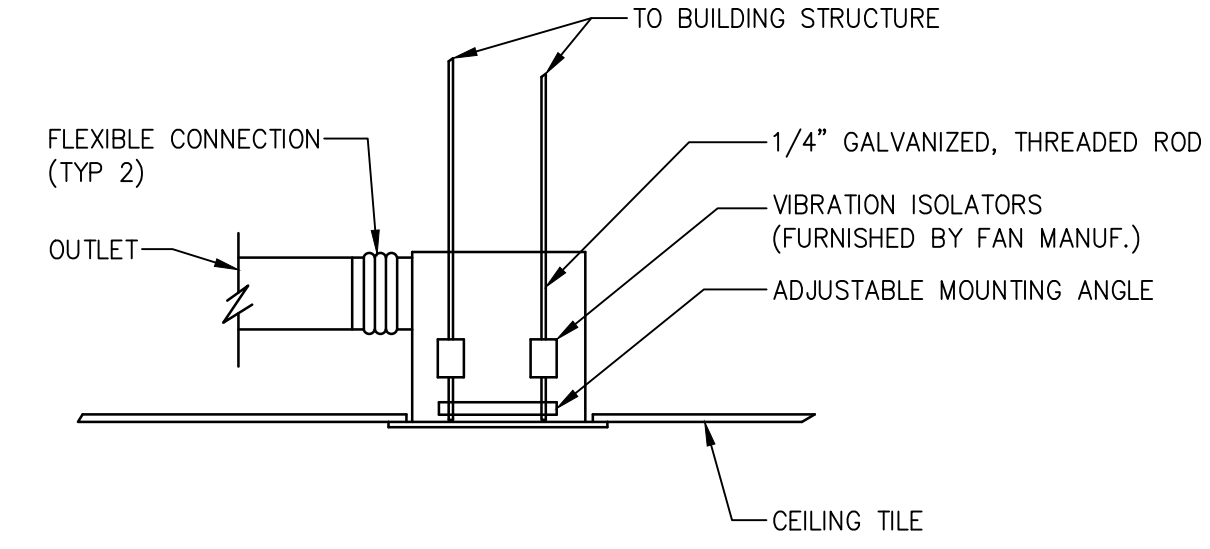
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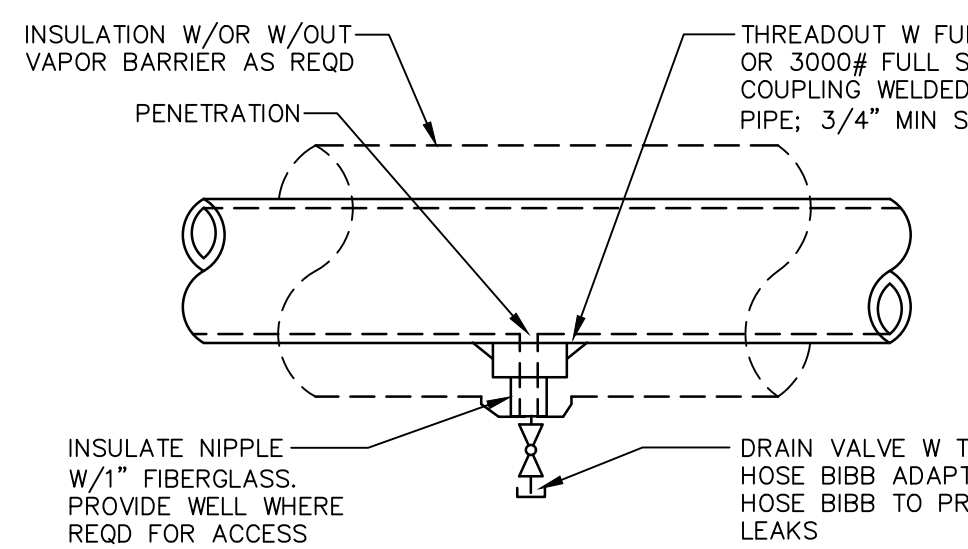
PIPING SCHEMATIC FOR UNIT VENTILATOR
N.T.S.



HOT WATER COIL (WITH 2-WAY MIXING VALVE)
N.T.S.



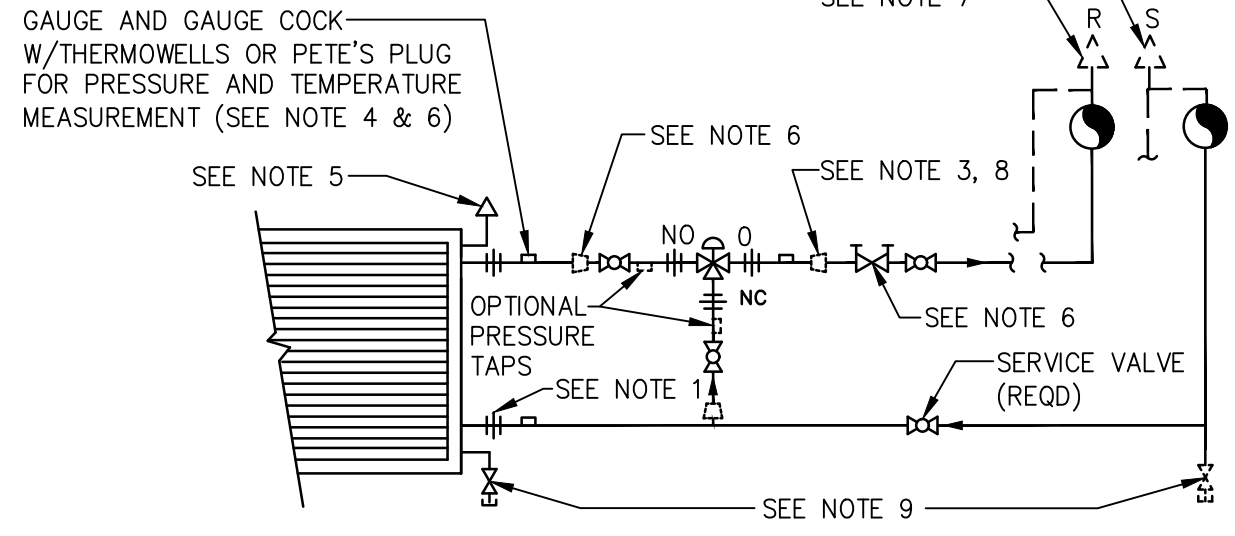
CEILING MOUNTED EXHAUST FAN
N.T.S.



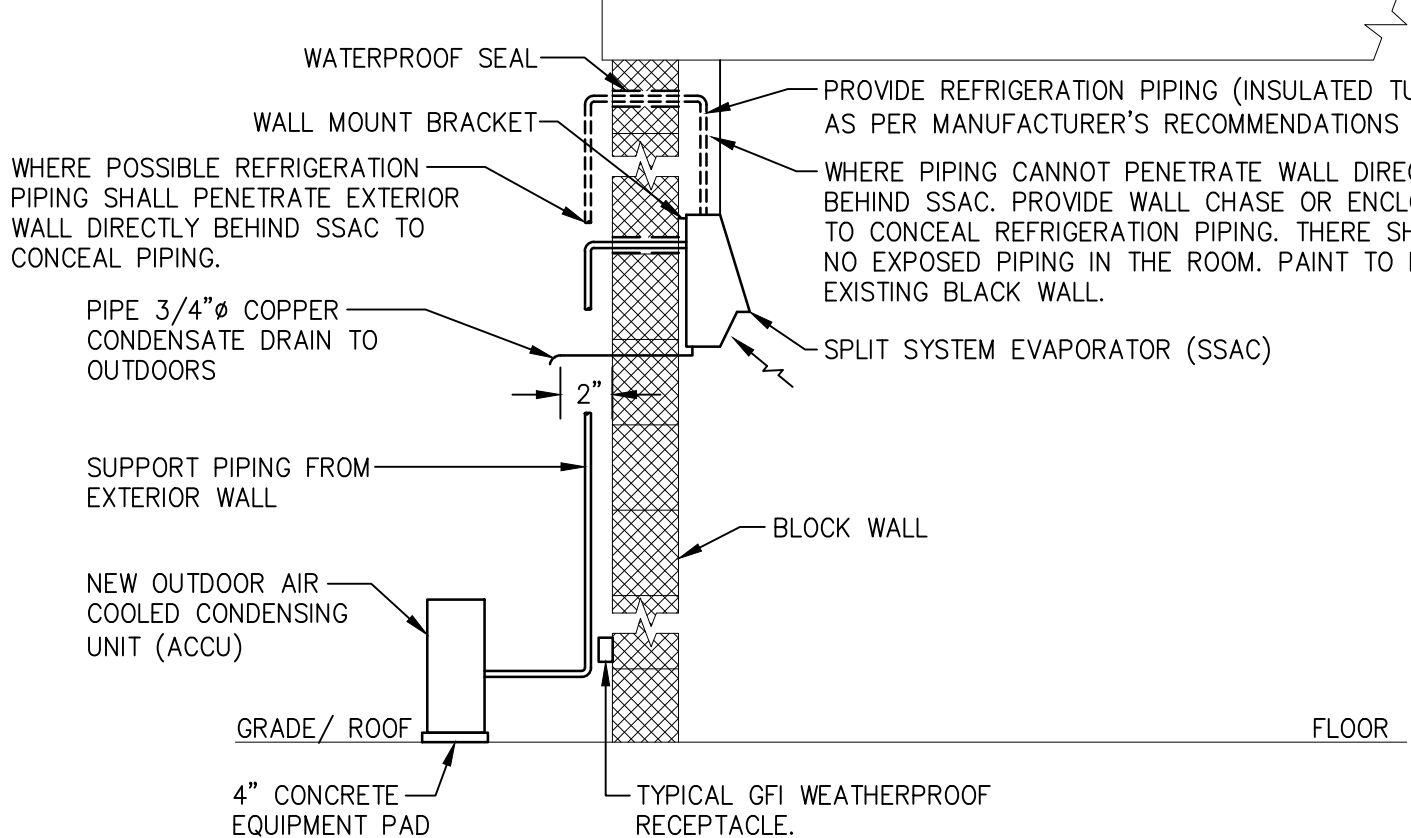
DRAIN VALVE INSTALLATION
N.T.S.



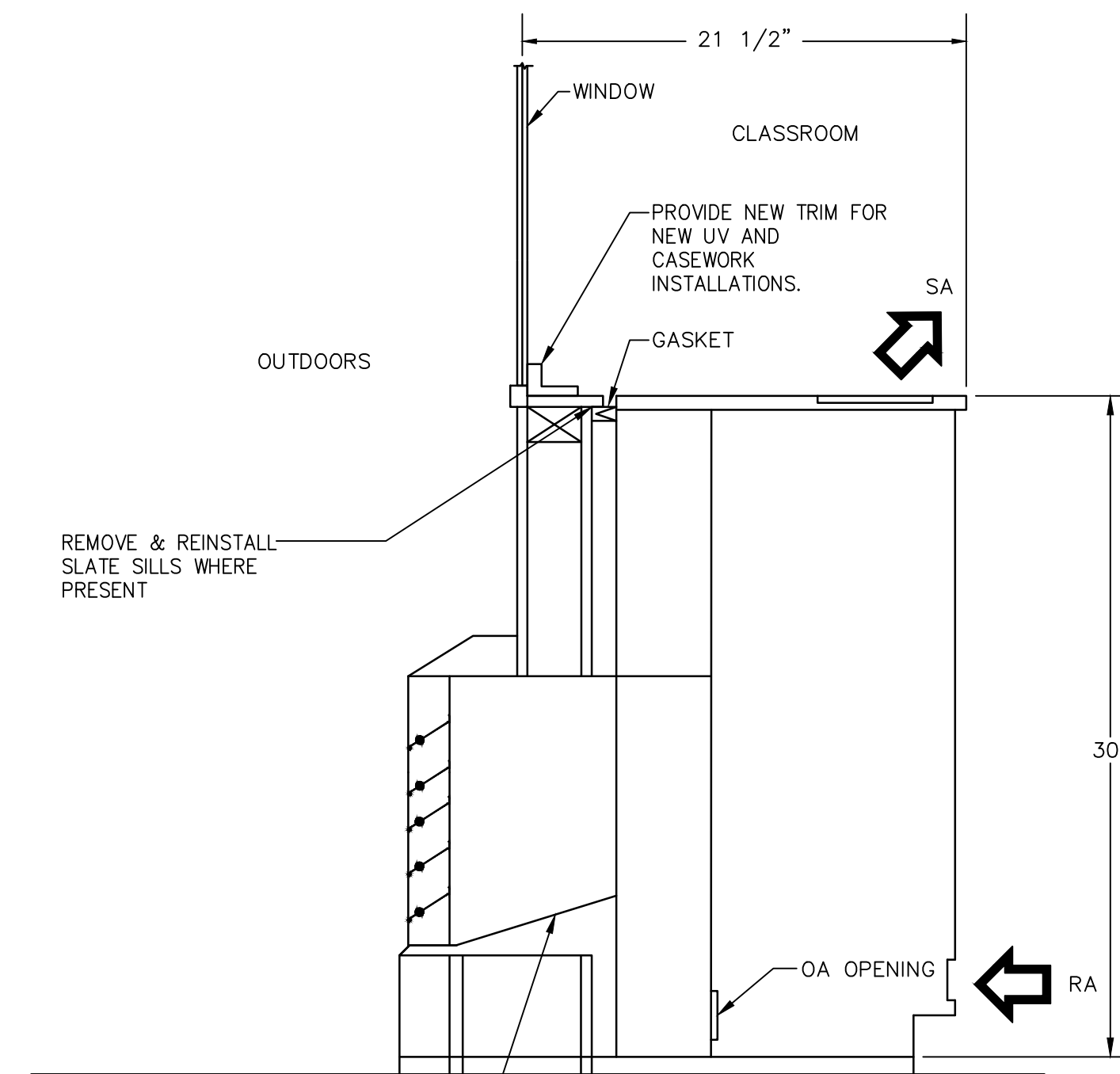
PIPE PENETRATION THRU WALL ABOVE CEILING
N.T.S.



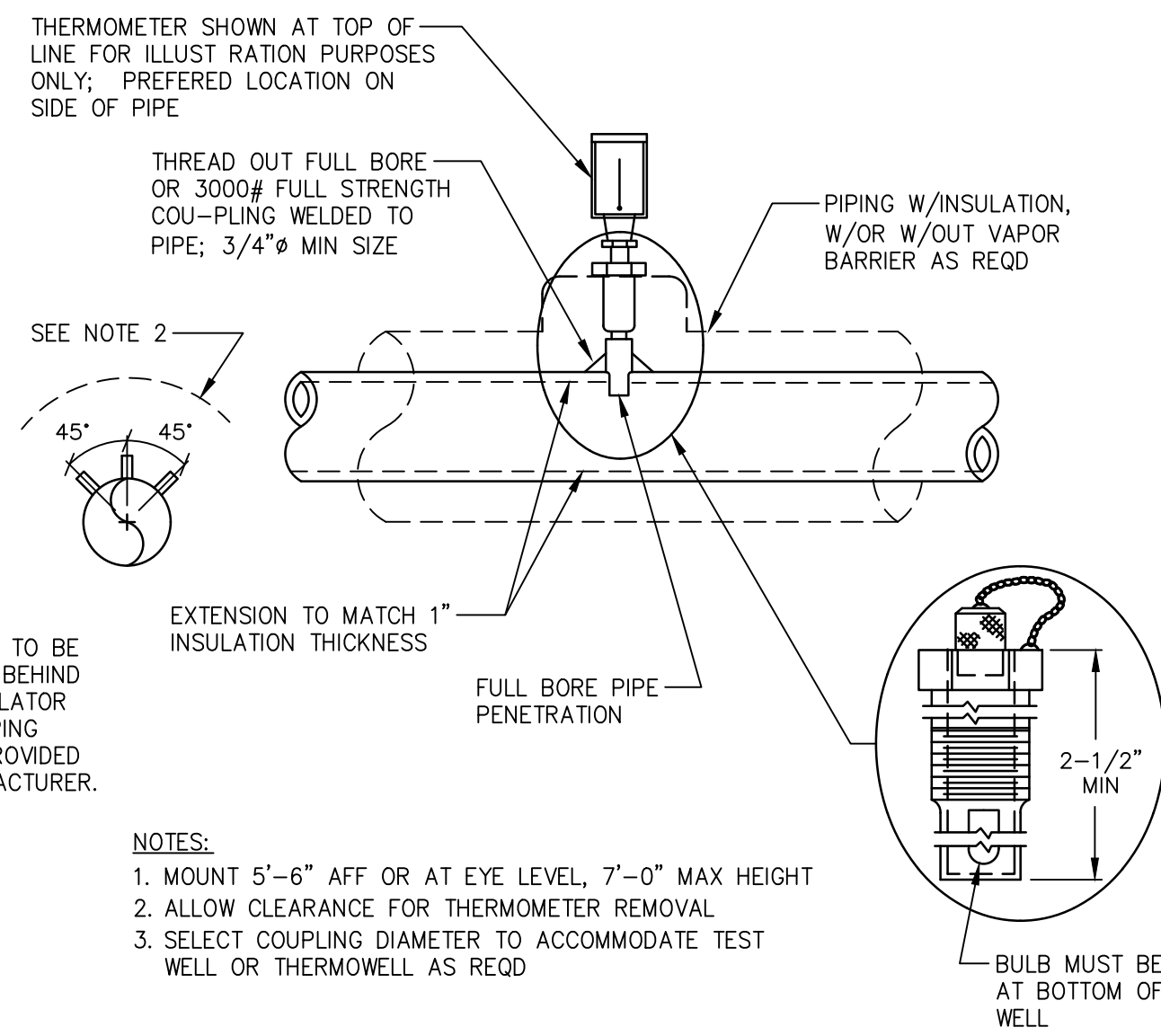
HYDRONIC PIPING FOR SINGLE COIL WITH 3-WAY VALVE
N.T.S.



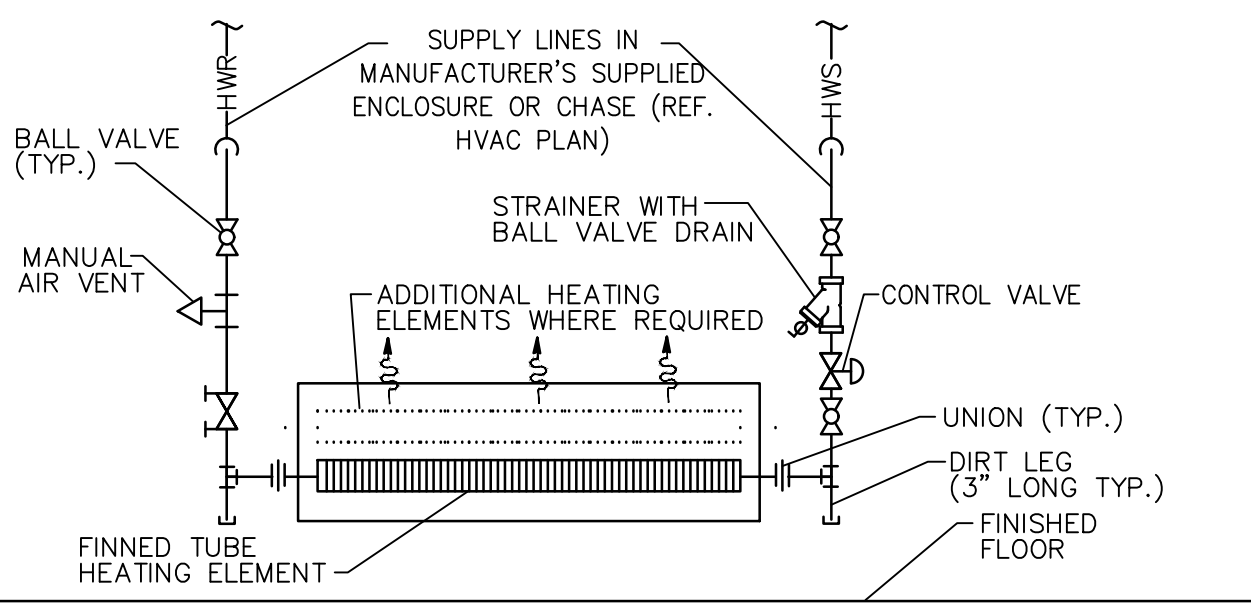
TYPICAL DUCTLESS SPLIT SYSTEM INSTALLATION DETAIL
N.T.S.



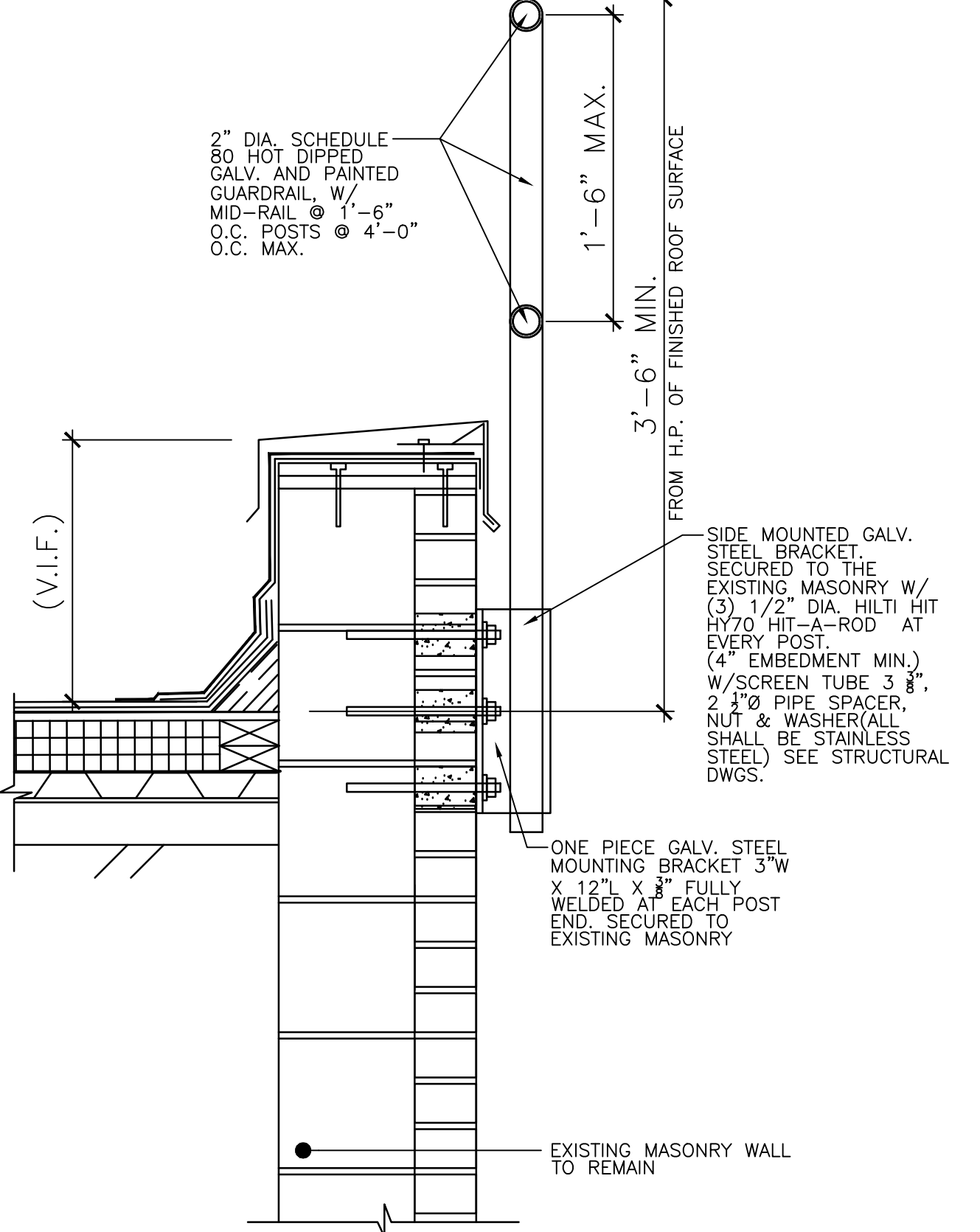
UNIT VENTILATOR WITH 6" FALSEBACK
N.T.S.



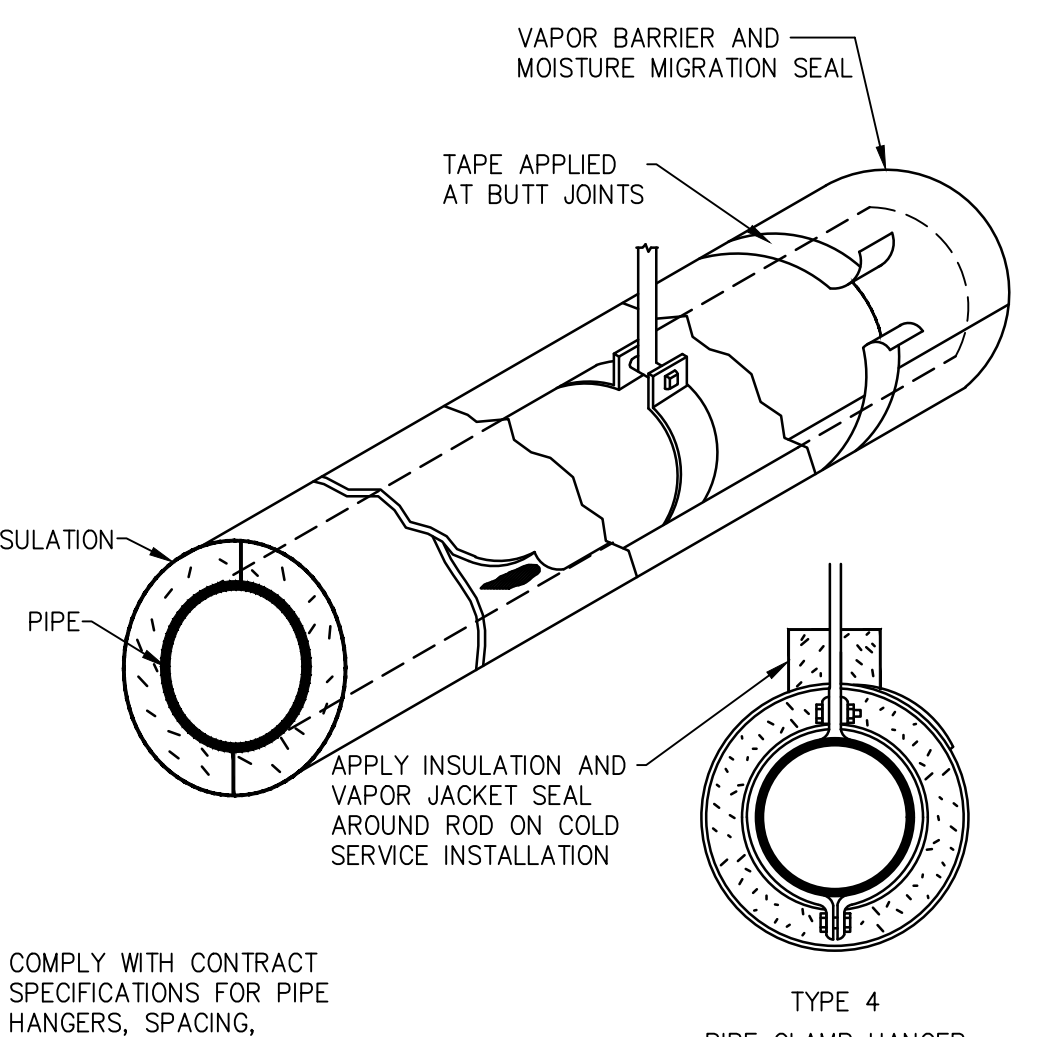
THERMOMETER AND THERMOWELL INSTALLATION
N.T.S.



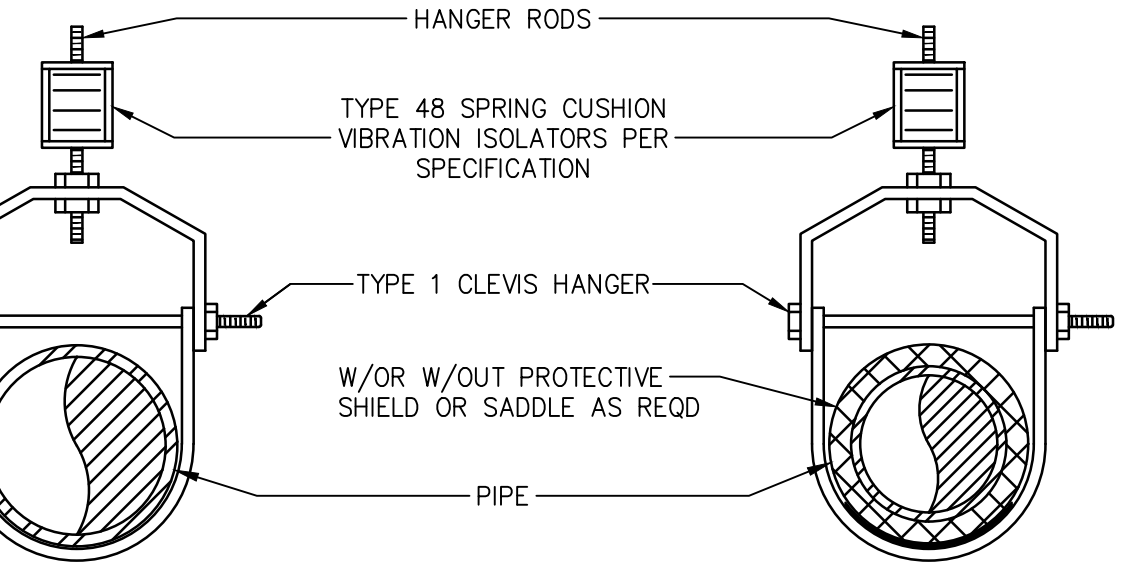
HYDRONIC PIPING FOR FINNED TUBE BASEBOARD
N.T.S.



EQUIPMENT GUARDRAIL WALL MOUNTED AT PARAPET
N.T.S.



HANGER INSULATION AND VAPOR JACKET DETAIL
N.T.S.



SINGLE PIPE TYPE 1 CLEVIS HANGER
N.T.S.

DATE: _____
CHRISTOPHER A. SAPONARO
NJ PROFESSIONAL ENGINEER LIC. NO. 40509

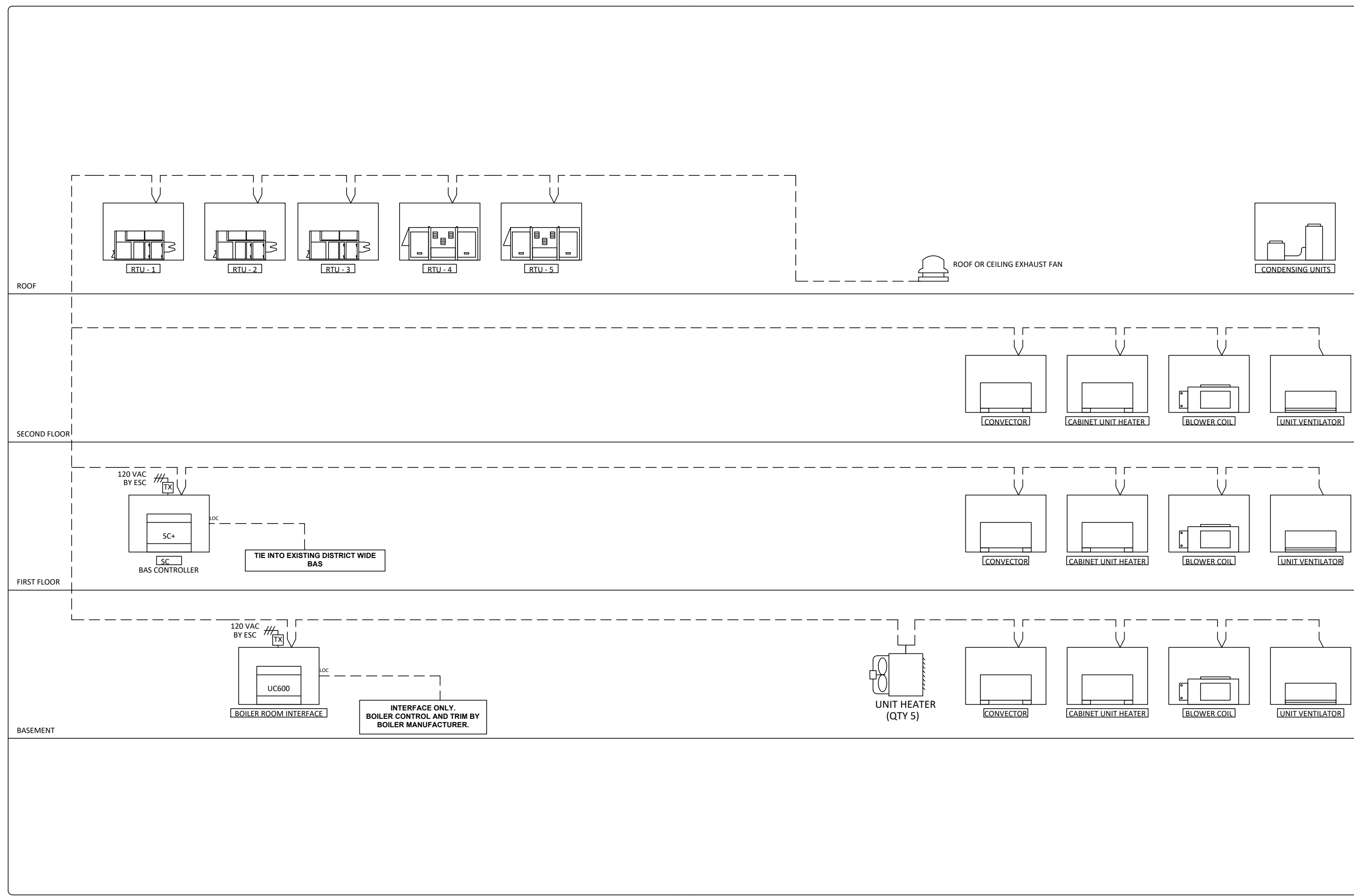
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NJ PROFESSIONAL ENGINEER LIC. NO. 46577

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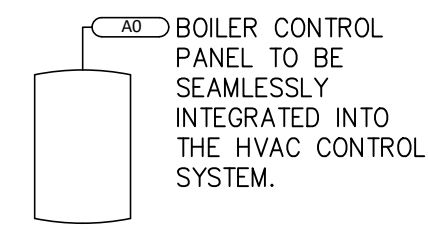
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MECHANICAL DETAILS
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

| DRAWN BY | DESIGNED BY | CHECKED BY | SCALE |
|------------|-------------|------------|----------|
| B.Z. | CH | | AS NOTED |
| DATE | SHEET NO. | | |
| 10-19-2020 | | | |
| MPS336049 | | M-4.3 | |

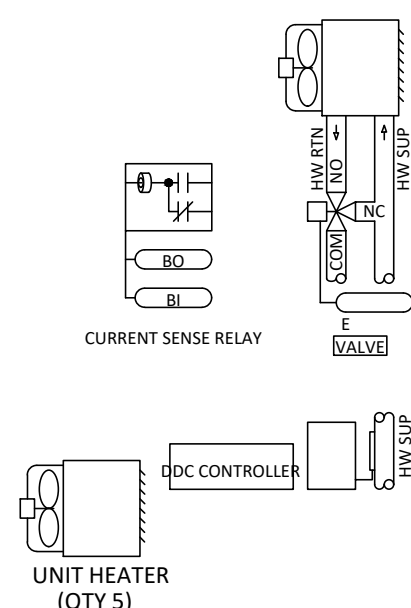


BUILDING AUTOMATION CONTROL SCHEMATIC
N.T.S.



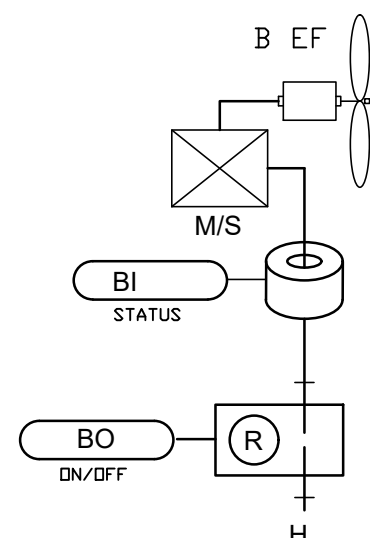
BOILER CONTROL PANEL
N.T.S.

SEE DWG. M-4.1 FOR DETAILS



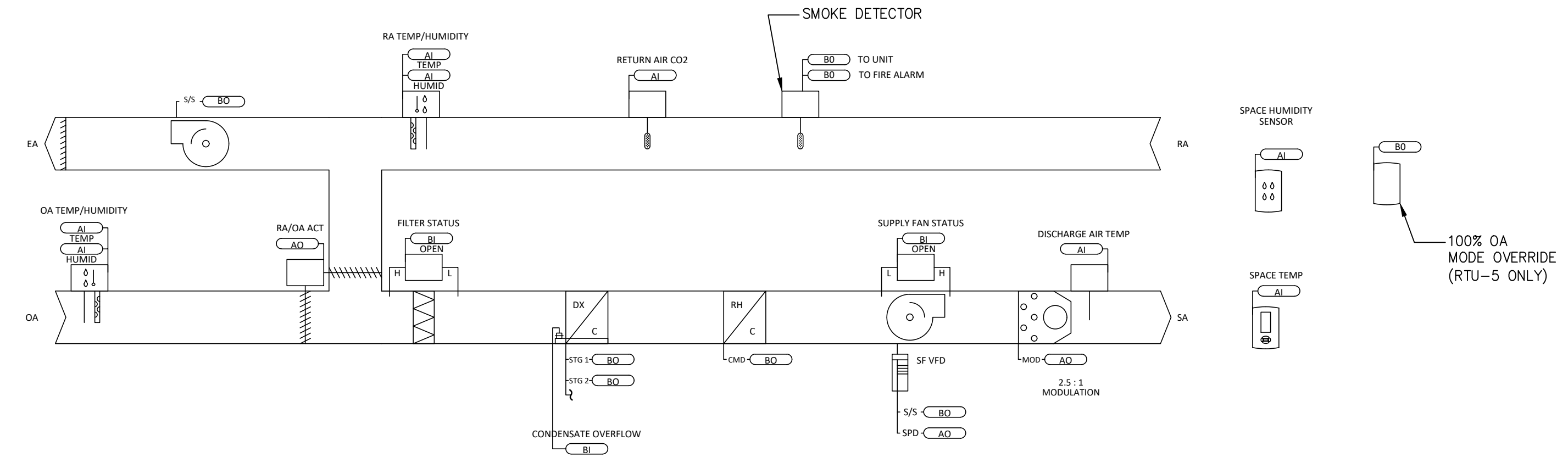
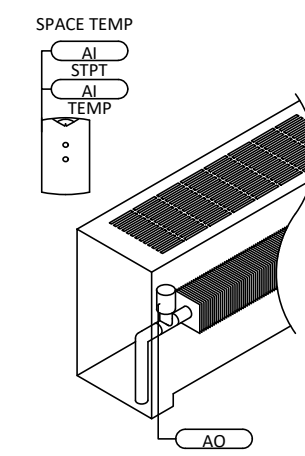
UNIT HEATER CONTROL SCHEMATIC
N.T.S.

BMS/FIRE ALARM SYSTEM INTERFACE (COORDINATE WITH FIRE ALARM SYSTEM CONTRACTOR)
N.T.S.

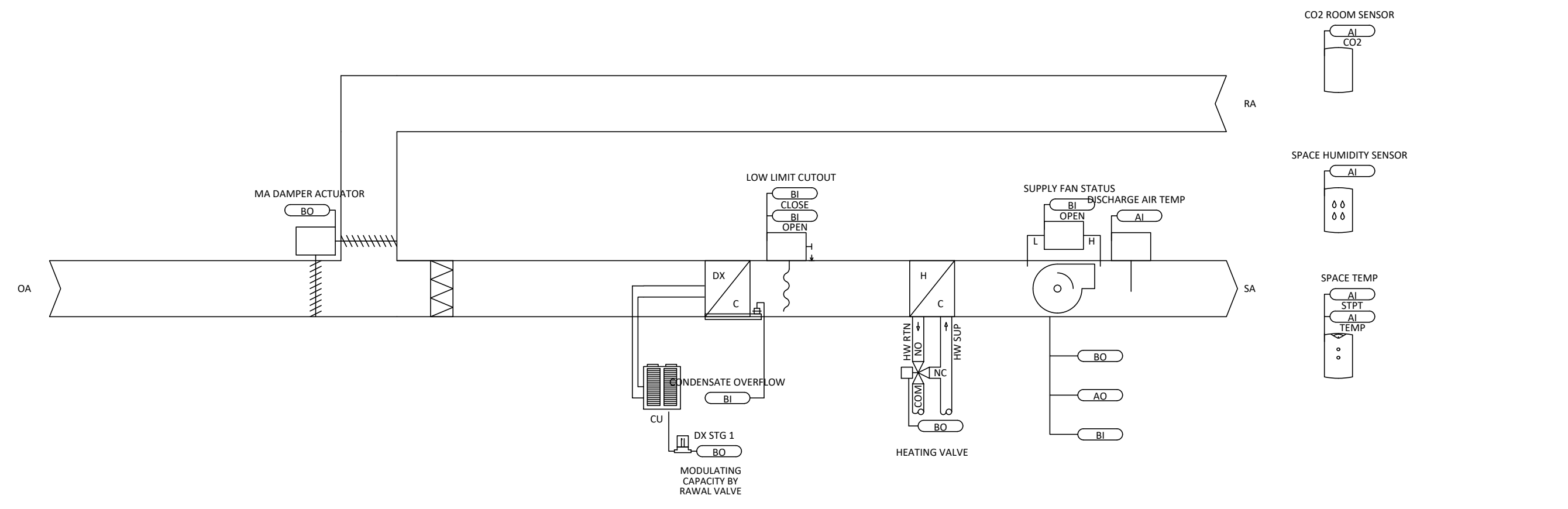


EXHAUST FAN CONTROL SCHEMATIC
N.T.S.

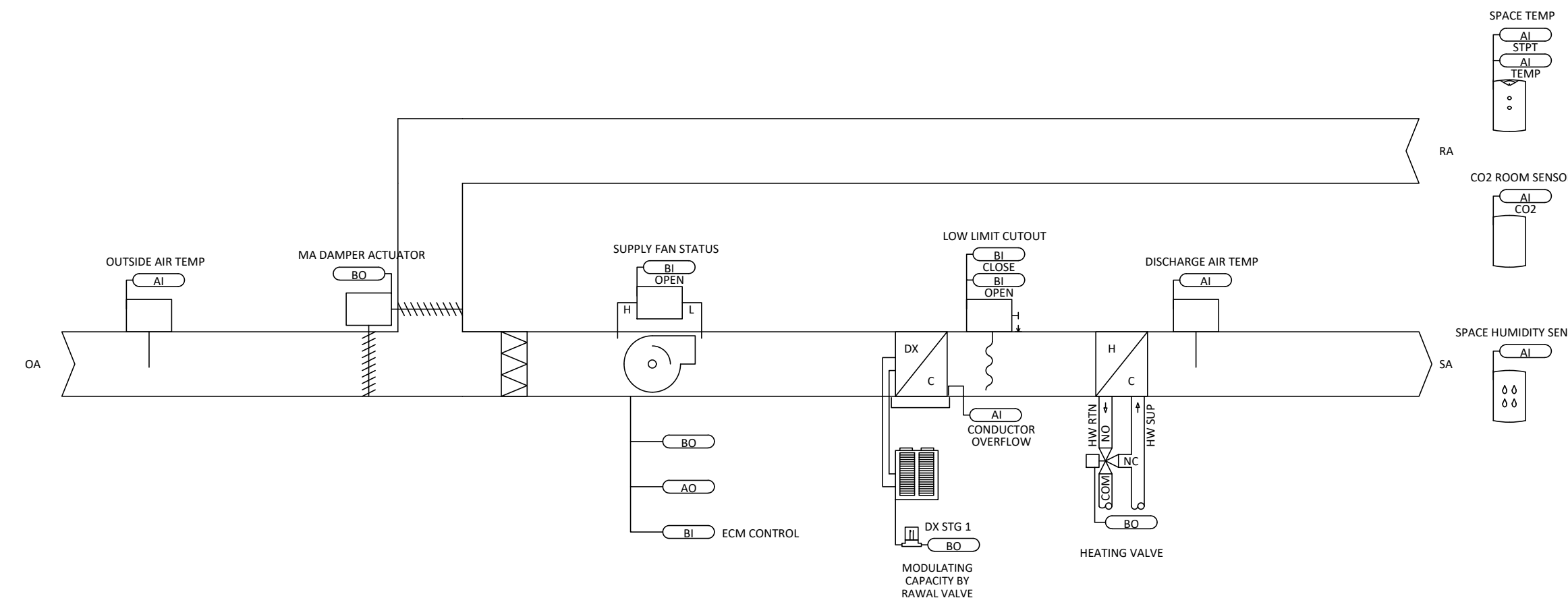
CONVECTOR AND BASEBOARD HEATER CONTROL SCHEMATIC
N.T.S.



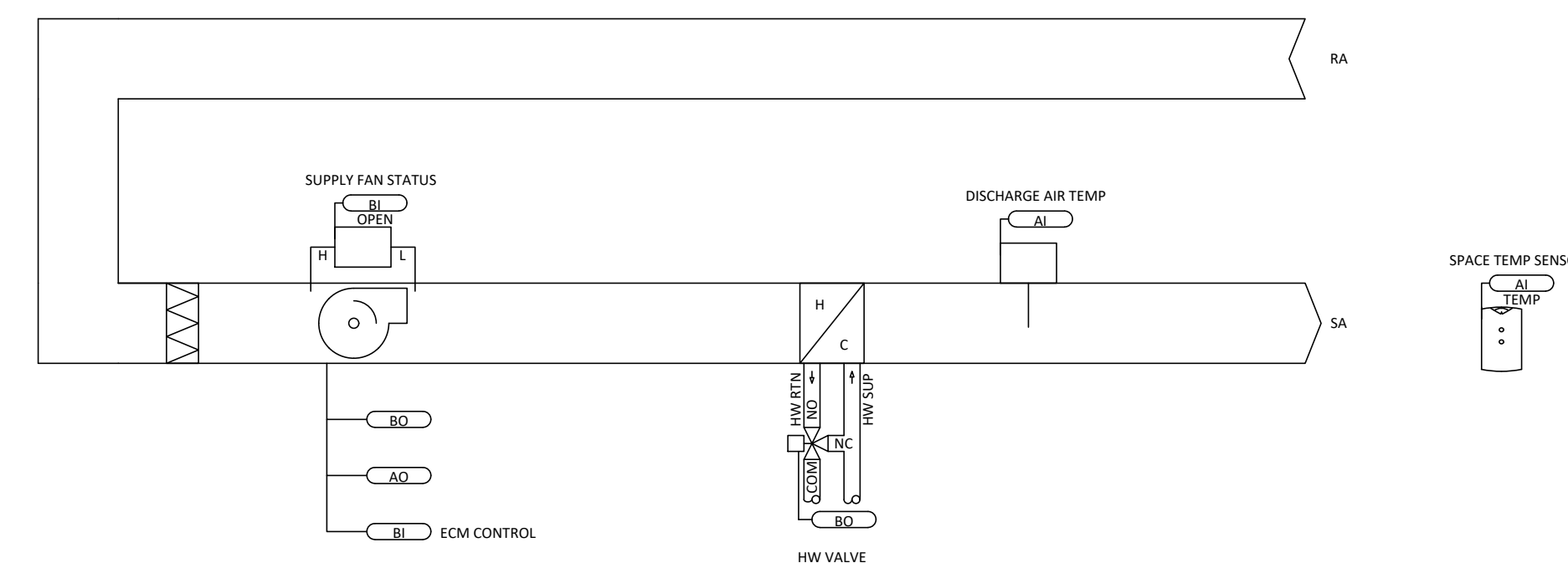
ROOFTOP AIR CONDITIONER CONTROL SCHEMATIC
N.T.S.



BLOWER COIL CONTROL SCHEMATIC
N.T.S.



UNIT VENTILATOR CONTROL SCHEMATIC
N.T.S.



CABINET UNIT CONTROL SCHEMATIC
N.T.S.

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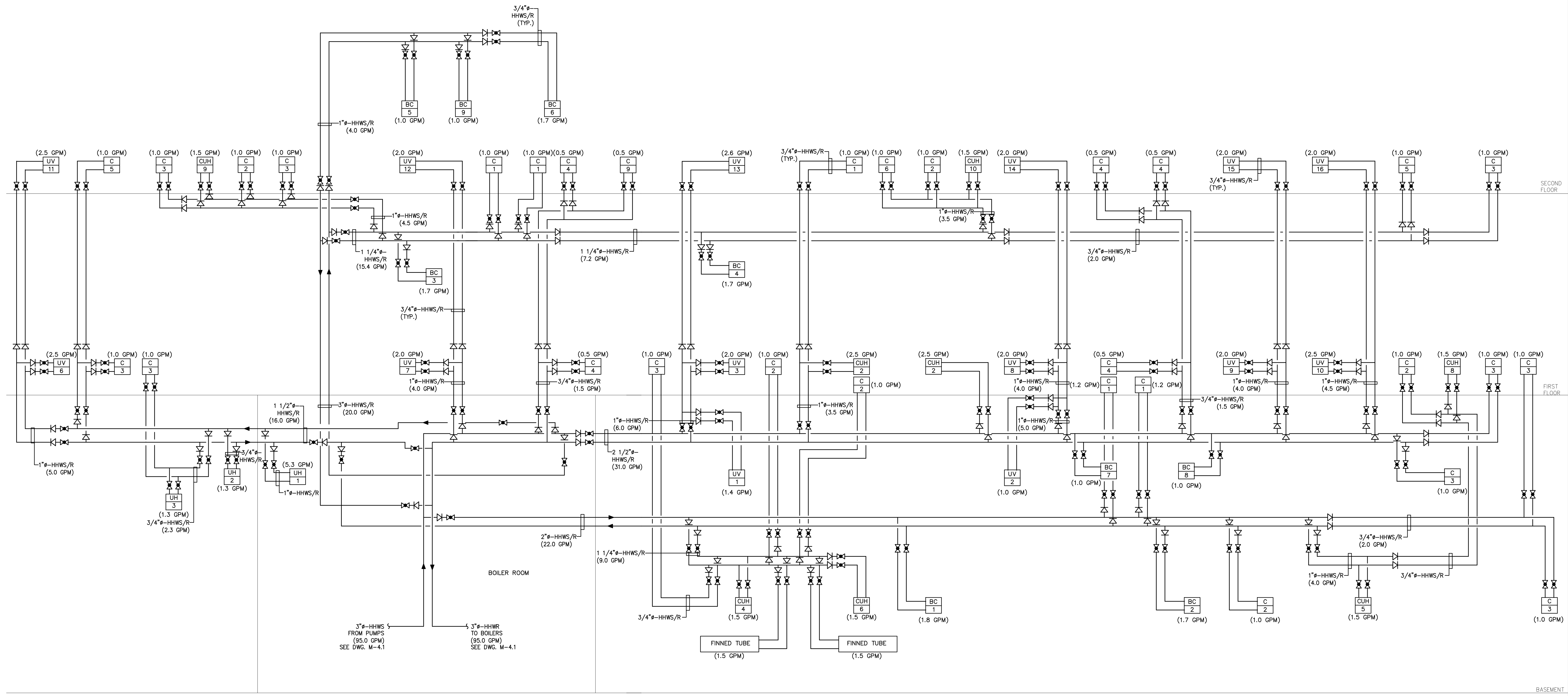
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MECHANICAL DETAILS
PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS
5226 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP CAMDEN COUNTY
NEW JERSEY

| DRAWN BY | DESIGN BY | CHECKED BY | SCALE |
|----------|------------|------------|----------|
| BZ | CH | | AS NOTED |
| DATE: | 10-19-2020 | SHEET NO.: | M-4.4 |
| JOB NO.: | MP038X049 | | |

ISSUED FOR BID: 11-13-2020



1 HEATING HOT WATER PIPING SYSTEM DISTRIBUTION FLOW DIAGRAM
SCALE: N.T.S.

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MECHANICAL HEATING HOT WATER PIPING SYSTEM DISTRIBUTION FLOW DIAGRAM

PENNSAUKEN BOARD OF EDUCATION
ROOSEVELT STEM SCHOOL, ADDITION AND RENOVATIONS
5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109
PENNSAUKEN TOWNSHIP, CAMDEN COUNTY, NEW JERSEY

| | | | |
|-----------------------------|----------------------------|-------------|--------------------|
| DESIGNED BY: B.Z. | DESIGNED BY: CH. | CHECKED BY: | SCALE: AS NOTED |
| DATE: 10-19-2020 | SHEET NO.: | M-4.5 | |

ISSUED FOR BID: 11-13-2020

PACKAGED ROOFTOP AIR CONDITIONER SCHEDULE

Table with columns for TAG, LOCATION, TYPE, AREAS SERVED, APPROX. UNIT DIM., SUPPLY UNIT WEIGHT, RETURN AIR, MIN. OUTSIDE AIR, SUPPLY FAN, MIN. MOTOR HP, DRIVE TYPE, DX COOLING, HOT GAS REHEAT, EVAP. COIL, REHEAT, MOISTURE REMOVAL, INDIRECT GAS FIRED HEATER PERFORMANCE, ELECTRICAL, FILTERS.

NOTES: 1. PROVIDE UNIT WITH 100% ENTHALPY CONTROLLED OUTSIDE AIR ECONOMIZER... 2. PROVIDE WITH LOW AMBIENT COOLING DOWN TO ZERO DEGREE...

BLOWER COIL UNIT SCHEDULE

Table with columns for TAG #, AREA(S) SERVED, APPROX. UNIT DIM., SUPPLY FAN, DX COOLING COIL, HOT WATER COIL - 100% WATER, FILTERS, BASIS OF DESIGN, NOTES.

NOTES: 1. PROVIDE UNITS WITH MERV 13 FILTERS... 2. THE HOT WATER HEATING COIL SHALL BE LOCATED IN THE REHEAT POSITION...

HOT WATER BOILER SCHEDULE

Table with columns for TAG, APPROXIMATE DIMENSIONS, APPROXIMATE WEIGHT, WATER CONTENTS, GAS INPUT, OUTPUT, BOILER HP, AHRF CERTIFIED, MAX. WORKING PRESSURE, FLOW RATE, MAX. PD, EWT, LWT, COMBUSTION AIR, EXHAUST FLUE, COLD WATER, HOT WATER, GAS CONSUMPTION, ELECTRICAL, BOILER MANUF. & MODEL NUMBER, NOTES.

NOTES: 1. PROVIDE WITH CONTROL PANEL, PANEL-MOUNTED TEMPERATURE GAUGES, CAST IRON HEAT EXCHANGER... 2. PROVIDE WITH MAIN GAS VALVE, FURNING VALVE, IGNITION CONTROL...

UNIT VENTILATOR SCHEDULE

Table with columns for UNIT TAG, ORIENTATION, AREA(S) SERVED, SUPPLY AIRFLOW, RETURN AIRFLOW, MIN. OUTDOOR AIRFLOW, ESP IN WC, HOT WATER REHEAT COIL, DX COOLING COIL, ELECTRICAL DATA, OUTDOOR AIR LOUVER SIZE, BASIS OF DESIGN, NOTES.

NOTES: 1. PROVIDE WITH DISCONNECT SWITCH, DOUBLE DEFLECTION DISCHARGE... 2. MODULATE OUTSIDE/RETURN AIR DAMPERS...

CONNECTOR SCHEDULE

Table with columns for TAG, LOCATION, CABINET DIMENSIONS, HEATING ELEMENT, DESIGN GPM, MAX. WPD, BASIS OF DESIGN, NOTES.

NOTES: 1. PROVIDE 14 GAUGE STEEL FREE STANDING CABINET WITH INTEGRAL INLET GRILLE... 2. PROVIDE ACCESS DOORS IN FRONT PANEL...

EXHAUST FAN SCHEDULE

Table with columns for TAG, ROOMS SERVED/SERVICE, FAN TYPE, TOTAL S.P., MOTOR HP, DRIVE TYPE, ELECTRICAL, ROOF/WALL OPENING SIZE, APPROXIMATE WEIGHT, BASIS OF DESIGN, NOTES.

NOTES: 1. PROVIDE FAN WITH ROOF CURB, AUTOMATIC BACKDRAFT DAMPER, FAN SPEED CONTROLLER... 2. PROVIDE FAN WITH SPEED CONTROLLER, EXHAUST REGISTER...

CONDENSING UNIT SCHEDULE

Table with columns for TAG, EQUIPMENT SERVED, COOLING TONNAGE, MBH, SAT SUCTION TEMP, AMBIENT, SEER, APPROXIMATE WEIGHT, UNIT DIMENSIONS, ELECTRICAL, MIN. CIRCUIT AMPACITY, OR. BR. PROT. RTC, BASIS OF DESIGN, NOTES.

NOTES: 1. PROVIDE CONDENSING UNITS WITH REFRIGERANT LINE FILTER-DRIER... 2. PROVIDE WITH LOW AMBIENT COOLING (TO 0 DEG F)...

DIFFUSER, REGISTER & GRILLE SCHEDULE

Table with columns for TAG, DESCRIPTION, FACE, NECK, DIRECTION, MANUFACTURER, MODEL, BASIS OF DESIGN, NOTES.

NOTES: 1. COORDINATE MOUNTING FRAME WITH CEILING/WALL TYPE... 2. COORDINATE COLOR & FINISH WITH ARCHITECT...

RYE 1901 REMINGTON & VERNICK ENGINEERS 232 KINGS HIGHWAY EAST HADDONFIELD, NJ 08033

DATE: CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. NO. 40059

DATE: BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. NO. 46577

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Table with columns for DATE, REVISION.

MECHANICAL SCHEDULES PENNSYLVANIA BOARD OF EDUCATION ROOSEVELT STEEN SCHOOL, ADDITION AND RENOVATIONS 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109

ISSUED FOR BID: 11-13-2020 M-5.1

PACKAGED AIR CONDITIONER SCHEDULE (100% OUTDOOR AIR)

Table with columns: TAG, LOCATION, TYPE, AREA(S) SERVED, APPROX. UNIT DIM., SUPPLY FAN, RETURN AIR, MIN. OUTSIDE AIR, MAX. OUTSIDE AIR, SUPPLY FAN ESP, MIN. MOTOR HP, DRIVE TYPE, EXHAUST FAN, EXHAUST FAN ESP, MIN. MOTOR HP, DRIVE TYPE, DX COOLING, TOTAL CAPACITY, SENSIBLE CAPACITY, E.A.T., DX COIL, DX COIL, UNIT, UNIT, COOLING STAGES, AHRI EFFICIENCY, INPUT CAPACITY, OUTPUT CAPACITY, EAT, LAT, MODULATING, EFFICIENCY, ELECTRICAL, FILTERS, BASIS OF DESIGN, NOTES.

VENTILATION SCHEDULE - BASEMENT

Table with columns: ROOM NAME, EQUIPMENT TAG NUMBER, APPROX. AREA, OCCUPANT DENSITY, NUMBER OF PEOPLE, PEOPLE OUTDOOR AIRFLOW RATE, TOTAL PEOPLE OUTDOOR AIRFLOW, AREA OUTDOOR AIRFLOW RATE, TOTAL AREA OUTDOOR AIRFLOW, BREATHING ZONE OUTDOOR AIRFLOW, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE OUTDOOR AIRFLOW, PRIMARY OUTDOOR AIR FRACTION, EXHAUST AIRFLOW RATE, TOTAL EXHAUST AIRFLOW, OUTDOOR AIR CORRECTED DESIGN TOTAL, EXHAUST AIR DESIGN TOTAL, RETURN AIR DESIGN TOTAL, SUPPLY AIR DESIGN TOTAL.

VENTILATION SCHEDULE - SECOND FLOOR

Table with columns: ROOM NAME, EQUIPMENT TAG NUMBER, APPROX. AREA, OCCUPANT DENSITY, NUMBER OF PEOPLE, PEOPLE OUTDOOR AIRFLOW RATE, TOTAL PEOPLE OUTDOOR AIRFLOW, AREA OUTDOOR AIRFLOW RATE, TOTAL AREA OUTDOOR AIRFLOW, BREATHING ZONE OUTDOOR AIRFLOW, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE OUTDOOR AIRFLOW, PRIMARY OUTDOOR AIR FRACTION, EXHAUST AIRFLOW RATE, TOTAL EXHAUST AIRFLOW, OUTDOOR AIR CORRECTED DESIGN TOTAL, EXHAUST AIR DESIGN TOTAL, RETURN AIR DESIGN TOTAL, SUPPLY AIR DESIGN TOTAL.

VENTILATION SCHEDULE - FIRST FLOOR

Table with columns: ROOM NAME, EQUIPMENT TAG NUMBER, APPROX. AREA, OCCUPANT DENSITY, NUMBER OF PEOPLE, PEOPLE OUTDOOR AIRFLOW RATE, TOTAL PEOPLE OUTDOOR AIRFLOW, AREA OUTDOOR AIRFLOW RATE, TOTAL AREA OUTDOOR AIRFLOW, BREATHING ZONE OUTDOOR AIRFLOW, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE AIR DISTRIBUTION EFFECTIVENESS, ZONE OUTDOOR AIRFLOW, PRIMARY OUTDOOR AIR FRACTION, EXHAUST AIRFLOW RATE, TOTAL EXHAUST AIRFLOW, OUTDOOR AIR CORRECTED DESIGN TOTAL, EXHAUST AIR DESIGN TOTAL, RETURN AIR DESIGN TOTAL, SUPPLY AIR DESIGN TOTAL.

PUMP SCHEDULE

Table with columns: TAG, SERVICE, FLUID TYPE, FLOW RATE, TDH, RPM, MOTOR HP, ELECTRICAL, BASIS OF DESIGN, MANUFACTURER, MODEL, DESCRIPTION, NOTES.

UNIT HEATER SCHEDULE

Table with columns: TAG, TYPE, ROOMS SERVED, APPROX. DIM, FAN(S) AIRFLOW, NO., MOTOR HP/WATTS, V/Ph/Hz, MCA, MOP, DRIVE TYPE, HOT WATER COIL, TOTAL MBH, E.W.T., FLOW, MAX. WATER PD, CONTROL VALVE, BASIS OF DESIGN, NOTES.

CABINET UNIT HEATER SCHEDULE

Table with columns: TAG, TYPE, LOCATION, APPROX. DIM, FAN(S) AIRFLOW, MOTOR HP, V/Ph/Hz, MAX FUSE, DRIVE TYPE, HOT WATER COIL, TOTAL MBH, E.W.T., FLOW, MAX. WATER PD, CONTROL VALVE, BASIS OF DESIGN, NOTES.



DATE: CHRISTOPHER A. SAPONARO N PROFESSIONAL ENGINEER LIC. NO. 40059

DATE: BRIAN B. GREGG N PROFESSIONAL ENGINEER LIC. NO. 46577

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MECHANICAL SCHEDULES PENNSAUKEN BOARD OF EDUCATION ROOSEVELT STEM SCHOOL ADDITION AND RENOVATIONS 5526 WISTERIA AVENUE, PENNSAUKEN, NEW JERSEY 08109 PENNSAUKEN TOWNSHIP CAMDEN COUNTY NEW JERSEY

ISSUED FOR BID: 11-13-2020 M-5.2