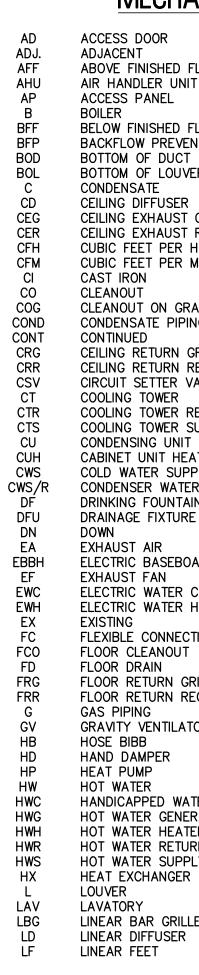
# GENERAL NOTES

- (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 SYSTEM. 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 "HEAT/COOL/AUTO/OFF" SWITCHES. VERIFY OPERATION OF ALL FUNCTIONS. 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 17. FIRE PROTECTION 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, 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 18. ALL EXISTING PLUMBING, HVAC AND ELECTRICAL EQUIPMENT AND MATERIALS THAT ARE EITHER EXPOSED OR
- 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 CUT 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 22 GAUGE OR HEAVIER STEEL, SCHEDULE 40 IN BEARING WALLS. 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 SEMIRIGID OR ADHESIVE PLASTIC INDICATION MARKERS, EXCEPT WITHIN 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 250°F 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.
- I. TEST ALL PIPING IN ACCORDANCE WITH APPLICABLE CODES, STANDARDS, AND INSPECTOR'S REQUIREMENTS PRIOR TO INSULATION OR ENCLOSING. 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. • 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-53GrB 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 90% 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. . 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.
- I. 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

BOILER, ETC.) AS WELL AS ALL TERMINAL 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,

- JURISDICTION.
- BY ELECTRICAL CONTRACTOR.
- ALSO BE INCLUDED IN THIS WORK.



### 16. AUTOMATIC TEMPERATURE AND SAFETY CONTROLS a. PROVIDE ALL WIRING, RELAYS, CONTACTS, TRANSFORMERS, ETC. REQUIRED TO DELIVER A COMPLETE OPERABLE b. THERMOSTATS SHALL BE 24 HOUR/7 DAY PROGRAMMABLE WITH FAN "OFF/ON/AUTO" AND SYSTEM

a. THE QUANTITY AND LOCATION OF SPRINKLERS SHOWN ON THE DRAWINGS ARE APPROXIMATE AND INTENDED FOR SCHEMATIC PURPOSES 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

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

c. ALL SPRINKLER HEADS SHALL BE LOCATED AT THE CENTER POINT OF ALL ACOUSTICAL CEILING TILES. 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

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 WHERE 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 SHALL BE RESPONSIBLE FOR PROVIDING 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, FAN 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

VTR

WCO

WEG

WER

WHA

WHY

WMS

WRG

WRR

WSG

WSR

WALL SUPPLY REGISTER

WSFU

DOOR NT FINISHED FLOOR NDLER UNIT PANEL	LRG LSR MD MH MSB MUA
FINISHED FLOOR	MV
OW PREVENTOR	NC
OF DUCT	NO
OF LOUVER	NTS
ISATE	OA
DIFFUSER	P
EXHAUST GRILLE	RA
EXHAUST REGISTER	RD
EET PER HOUR	RH
EET PER MINUTE	RPBP
CON	RWC
UT	S
UT ON GRADE	S=02'
ISATE PIPING	SA
JED	SD
RETURN GRILLE	SH
RETURN REGISTER	SP
SETTER VALVE	SS
G TOWER	ST
G TOWER RETURN	STM
G TOWER SUPPLY	SV
ISING UNIT	SW
I UNIT HEATER	T
ATER SUPPLY	TAG
ISER WATER SUPPLY/RETURN	TOD
G FOUNTAIN	TP
GE FIXTURE UNITS	TR
T AIR C BASEBOARD HEATER T FAN C WATER COOLER C WATER HEATER	TWR TWS TYP UH UR V

ELECTRIC WATER HEALER FLEXIBLE CONNECTION/FAN COIL FLOOR CLEANOUT FLOOR DRAIN FLOOR RETURN GRILLE

FLOOR RETURN REGISTER GRAVITY VENTILATOR HAND DAMPER

HANDICAPPED WATER CLOSET HOT WATER GENERATOR HOT WATER HEATER HOT WATER RETURN HOT WATER SUPPLY

LINEAR BAR GRILLE LINEAR DIFFUSER

LINEAR RETURN GRILLE
LINEAR SUPPLY REGISTER
MOTORIZED DAMPER
MANHOLE
MOP SERVICE BASIN
MAKE-UP AIR UNIT
MIXING VALVE (THERMOSTATIC)
NORMALLY CLOSED
NORMALLY OPEN
NOT TO SCALE
OUTSIDE AIR
PUMP
RETURN AIR
ROOF DRAIN
RADIANT HEATER
REDUCED PRESSURE BACKFLOW PREVENTOR
RAIN WATER CONDUCTOR
SINK/SANITARY PIPING
SLOPE
SUPPLY AIR
SPLITTER DAMPER
SHOWER
SPRINKLER PIPING
SOIL STACK
STORM PIPING
STEAM PIPING
STACK VENT
SAFEWASTE
TUB
TRANSFER AIR GRILLE
TOP OF DUCT
TRAP PRIMER
TRANSITION
TEMPERED WATER RETURN
TEMPERED WATER SUPPLY
TYPICAL
UNIT HEATER
URINAL
VENT PIPING
VARIABLE AIR VOLUME
VOLUME DAMPER
VERIFY IN FIELD
VENT STACK
VENT THRU ROOF
WATER CLOSET
WALL CLEANOUT
WALL EXHAUST GRILLE
WALL EXHAUST REGISTER
WATER HAMMER ARRESTOR
WALL HYDRANT
WIREMESH SCREEN
WALL RETURN GRILLE
WALL RETURN REGISTER
WALL SUPPLY FIXTURE UNIT
WALL SUPPLY GRILLE

# PROPOSED MECHANICAL SYMBOLS

	PROPOSED MEC
FC 1	EQUIPMENT MARK (TYPE FC, NUMBER 1)
<u>B2</u>	SECTION INDICATOR (SECTION B2 ON DWG)
( <u>B2</u> ) −− (2) (↑)	DETAIL INDICATOR (DETAIL B2 ON DWG) KEY NOTE INDICATOR (REFERS TO NOTES ON SAME SHEET) REVISIONS INDICATOR
	PIPE RISER (RISER HWS–11 ON DWG. ––)
$ \begin{array}{c} \hline E=1\\ \hline =-\\ \hline \hline A/150 S\\ \hline UC \end{array} $	DUCT RISER (RISER E-1 ON DWG) DIFFUSER/REGISTER/GRILLE MARK (TYPE A, 150 CFM, DIRECTION) DOOR UNDERCUT
- <del>1 -</del>	TRANSFER AIR
$\phi$	DIAMETER CONNECTION TO EXISTING
	POINT OF DISCONNECTION
<u>{16x10</u> <del>_</del> } <u>{ 16x10 }</u> <u>{</u> }	FLAT OVAL DUCT DIMENSION INSIDE DUCT DIMENSION (IN INCHES, FIRST DIMENSION IS AS VIEWED) SOUND LINED DUCTWORK
	SUPPLY DUCT TURNED UP
	SUPPLY DUCT TURNED DOWN RETURN/EXHAUST DUCT TURNED UP
	RETURN/EXHAUST DUCT TURNED DOWN SQUARE ELBOW (WITH TURNING VANES) ROUND ELBOW
	SPIN-IN WITH VOLUME DAMPER FOR ROUND DUCT TAKE OFF WITH VOLUME DAMPER FOR RECTANGULAR DUCT
<u> </u>	OPEN END DUCT WITH WMS FLEXIBLE DUCTWORK (SINGLE LINE)
	FLEXIBLE DUCTWORK (DOUBLE LINE)
	SUPPLY DIFFUSER SUPPLY AIR DIFFUSER WITH 3 DIRECT DISCHARGE (BLACK TRIANGLE INDICAT BLANK OFF) RETURN/EXHAUST REGISTER OR
	GRILLE SLOT DIFFUSER WITH PLENUMS
[ <u>]</u> 3	EXHAUST FAN
	ELECTRIC BASEBOARD VOLUME DAMPER (MANUAL)
B	BACKDRAFT DAMPER
	FIRE DAMPER
—	MOTORIZED DAMPER
©)	CARBON MONOXIDE SENSOR
1	THERMOSTAT
H S	HUMIDISTAT SENSOR
	DUCT DETECTOR
-œ-	BALL VALVE
	BUTTERFLY VALVE GATE VALVE
	EMERGENCY BOILER SHUTOFF
SA 	SOUND ATTENUATOR
Ŷ Ø	PRESSURE/TEMPERATURE TEST PLUG PRESSURE GAUGE
<u>t</u>	GAUGECOCK
_Ф_	THERMOMETER
ᠴᠴᢩ ᡔᡘᡃᡭᡅ	PRESSURE TEMPERATURE TAP
	EXISTING HYDRONIC CONTROL VALVE HOSE BIBB DRAIN VALVE
-	INSULATED PIPE
	VERTICAL VALVE
₩ -®-	FLOW METER (MAGNETIC)
E-V	FLOW METER (VENTURI)
	BALL JOINT
SD	SUCTION DIFFUSER PIPE ANCHOR
—	PIPE GUIDE
- ⊢ <u>~</u>	
-1 <u>∧</u> ₽ -1∕₽	VACUUM BREAKER CAP AND VALVED
L L	

 $\rightarrow$ 

—M—

XHAUST DUCT TURNED UP XHAUST DUCT TURNED LBOW (WITH TURNING BOW ITH VOLUME DAMPER FOR WITH VOLUME DAMPER ANGULAR DUCT DUCT WITH WMS DUCTWORK (SINGLE LINE) DUCTWORK (DOUBLE LINE) FFUSER IR DIFFUSER WITH 3 DIRECTION (BLACK TRIANGLE INDICATED XHAUST REGISTER OR USER WITH PLENUMS BASEBOARD AMPER (MANUAL) DAMPER PER DAMPER SMOKE/FIRE DAMPER IONOXIDE SENSOR ECTOR VALVE BOILER SHUTOFF TENUATOR /TEMPERATURE TEST PLUG GAUGE TFR TEMPERATURE TAP HYDRONIC CONTROL VALVE DRAIN VALVE PIPE VALVE ETTER ER (MAGNETIC) ER (VENTURI) DIFFUSER HOR BREAKER CAP AND VALVED CONCENTRIC REDUCER ECCENTRIC REDUCER STRAIGHT INVERT ECCENTRIC REDUCER STRAIGHT CROWN METER (SEE CONNECTED PIPING FOR TYPE OF SERVICE) CHAIN OPERATOR MOTOR OPERATOR FLOAT

### $\frown$ PLIMP

-	PUMP		
co I├── co <b>⊘</b> ──	CLEANOUT		SHEET INDEX
	FLOOR DRAIN WITH P-TRAP		
Y	FUNNEL DRAIN	SHEET #	DESCRIPTION
	TRAP	M-1.0	MECHANICAL COVER SHEET
+ HB	HOSE BIBB	M-1.1	MECHANICAL DEMOLITION BASEMENT FLOOR PLAN
——+ FPHB	FROSTPROOF HOSE BIBB	M-1.2	MECHANICAL DEMOLITION FIRST FLOOR PLAN
<u></u>	WATER HAMMER ARRESTOR	M-1.3	MECHANICAL DEMOLITION SECOND FLOOR PLAN
	PITCH PIPE DOWN IN DIRECTION OF ARROW	M-1.4	MECHANICAL DEMOLITION ROOF PLAN
	TEE TURN UP	M-1.5	MECHANICAL DEMOLITION ENLARGED BOILER ROOM PLANS
<u> </u>	TEE TURNED DOWN	M-2.1	MECHANICAL BASEMENT FLOOR PLAN
0	PIPE TURNED UP	M-2.2	MECHANICAL FIRST FLOOR PLAN
C	PIPE TURNED DOWN	M-2.3	MECHANICAL SECOND FLOOR PLAN
\$к	KEY SWITCH	M-2.4	MECHANICAL ROOF PLAN
	BUSHING	M-2.5	MECHANICAL ENLARGED BOILER ROOM PLAN
	FLEXIBLE PIPE CONNECTION	M-4.1	MECHANICAL DETAILS
	MANUAL AIR VENT	M-4.2	MECHANICAL DETAILS
0	CONCEALED SPRINKLER HEAD	M-4.3	MECHANICAL DETAILS
۲	PENDANT SPRINKLER HEAD	M-4.4	MECHANICAL DETAILS
Ô	UPRIGHT SPRINKLER HEAD	M-4.5	MECHANICAL HEATING HOT WATER PIPING SYSTEM
$\Delta$	SIDEWALL SPRINKLER HEAD		DISTRIBUTION FLOW DIAGRAM
RS	REFRIGERANT SUCTION ROUTE	M-5.1	MECHANICAL SCHEDULES
RL	REFRIGERANT LIQUID ROUTE	M-5.2	MECHANICAL SCHEDULES
	DOMESTIC COLD WATER PIPE	P-1.1	PLUMBING DEMOLITION BASEMENT FLOOR PLAN
	BLIND FLANGE END CONNECTION	P-1.2	PLUMBING DEMOLITION FIRST FLOOR PLAN
-A	LOCK SHIELD GATE VALVE	P-1.3	PLUMBING DEMOLITION SECOND FLOOR PLAN
-54-	GLOBE VALVE	P-1.4	PLUMBING DEMOLITION ROOF PLAN
-5	ANGLE GLOBE VALVE	P-1.5	PLUMBING ENLARGED DEMOLITION BOILER ROOM PLAN
⊣₹⊢	PLUG VALVE	P-2.1	PLUMBING SANITARY PIPING BASEMENT FLOOR PLAN
- 本-	OS & Y GATE VALVE	P-2.2	PLUMBING SANITARY PIPING FIRST FLOOR PLAN
-	2-WAY CONTROL VALVE	P-2.3	PLUMBING SANITARY PIPING SECOND FLOOR PLAN
-₩-	3-WAY CONTROL VALVE	P-2.4	PLUMBING ENLARGED SANITARY PIPING FLOOR PLANS
_ <b>Ž</b> <sup>1</sup> P	PRESSURE RELIEF VALVE	P-3.1	PLUMBING UTILITY PIPING BASEMENT FLOOR PLAN
<b>Ž</b> +	TEMPERATURE & PRESSURE RELIEF VALVE	P-3.2	PLUMBING UTILITY PIPING FIRST FLOOR PLAN
	CALIBRATED BALANCE VALVE	P-3.3	PLUMBING UTILITY PIPING SECOND FLOOR PLAN
-8-	AUTOMATIC FLOW CONTROL VALVE	P-3.4	PLUMBING UTILITY PIPING ROOF PLAN
	SWING CHECK VALVE	P-3.5	PLUMBING ENLARGED UTILITY PIPING FLOOR PLANS
-12-1-	SPRING LOADED CHECK VALVE	P-3.6	PLUMBING ENLARGED UTILITY PIPING BOILER ROOM PLA
-1-2-1-	ALARM CHECK VALVE	P-4.1	PLUMBING SANITARY PIPING RISER DIAGRAM
	COMBINATION CHECK/BALANCE/ SHUT OFF VALVE	P-4.2	PLUMBING UTILITY PIPING RISER DIAGRAM
+	NEEDLE VALVE	P-4.3	PLUMBING NATURAL FUEL GAS PIPING RISER DIAGRAM
-	PRESSURE REGULATOR	P-5.1	PLUMBING DETAILS
	BACK PRESSURE REGULATOR	P-6.1	PLUMBING SCHEDULES
Ŕ	DIAPHRAGM VALVE		
大國	SOLENOID VALVE		
Ţ	FLOW SWITCH		
<u> </u>	PRESSURE SWITCH		
*	VALVE MONITOR SWITCH		
I			

BLOW-OFF STRAINER DOMESTIC HOT WATER PIPE \_\_\_\_ DOMESTIC HOT WATER RETURN PIPE \_\_\_\_ SANITARY SEWER — SAN — SANITARY SEWER BELOW ---- SAN ----GRADE OR SLAB STORM SEWER —— ST —— STORM SEWER BELOW GRADE

STRAINER

OR SLAB

 $+\chi+$ 

---- ST ----

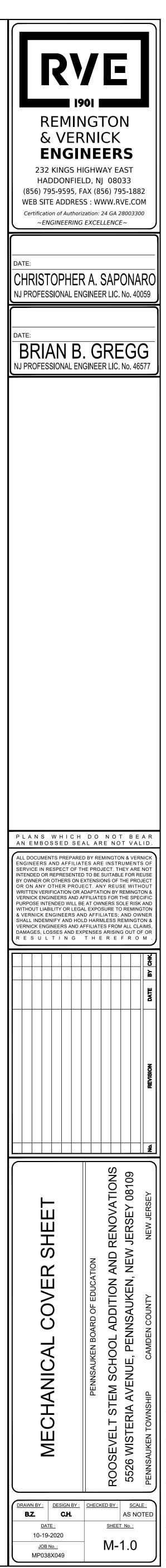
PLUMBING VENT ----V-----\_\_\_\_D\_\_\_\_ DRAIN PIPE FIRE PROTECTION PIPE ——— F ——— —— СН —— CHEMICAL FEED PIPE — EX — EXPANSION TANK PIPE HEATING HOT WATER SUPPLY PIPE HEATING HOT WATER RETURN ——HHWR—— — CHWS — CHILLED WATER SUPPLY PIPE CHILLED WATER RETURN PIPE — CHWR — CONDENSER WATER SUPPLY —— CWS —— CONDENSER WATER RETURN PIPE —— CWR —— CONDENSATE WATER PIPING COMPRESSED AIR PIPE \_\_\_\_\_ A \_\_\_\_\_ VACUUM PIPE —— VAC —— ------ G------ NATURAL GAS PIPING

- DOUBLE CHECK VALVE TYPE BACKFLOW PREVENTER WITH GATE VALVES REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH GATE VALVES Horie REDUCED PRESSURE ZONE BACKFLOW PREVENTER WITH BALL VALVES

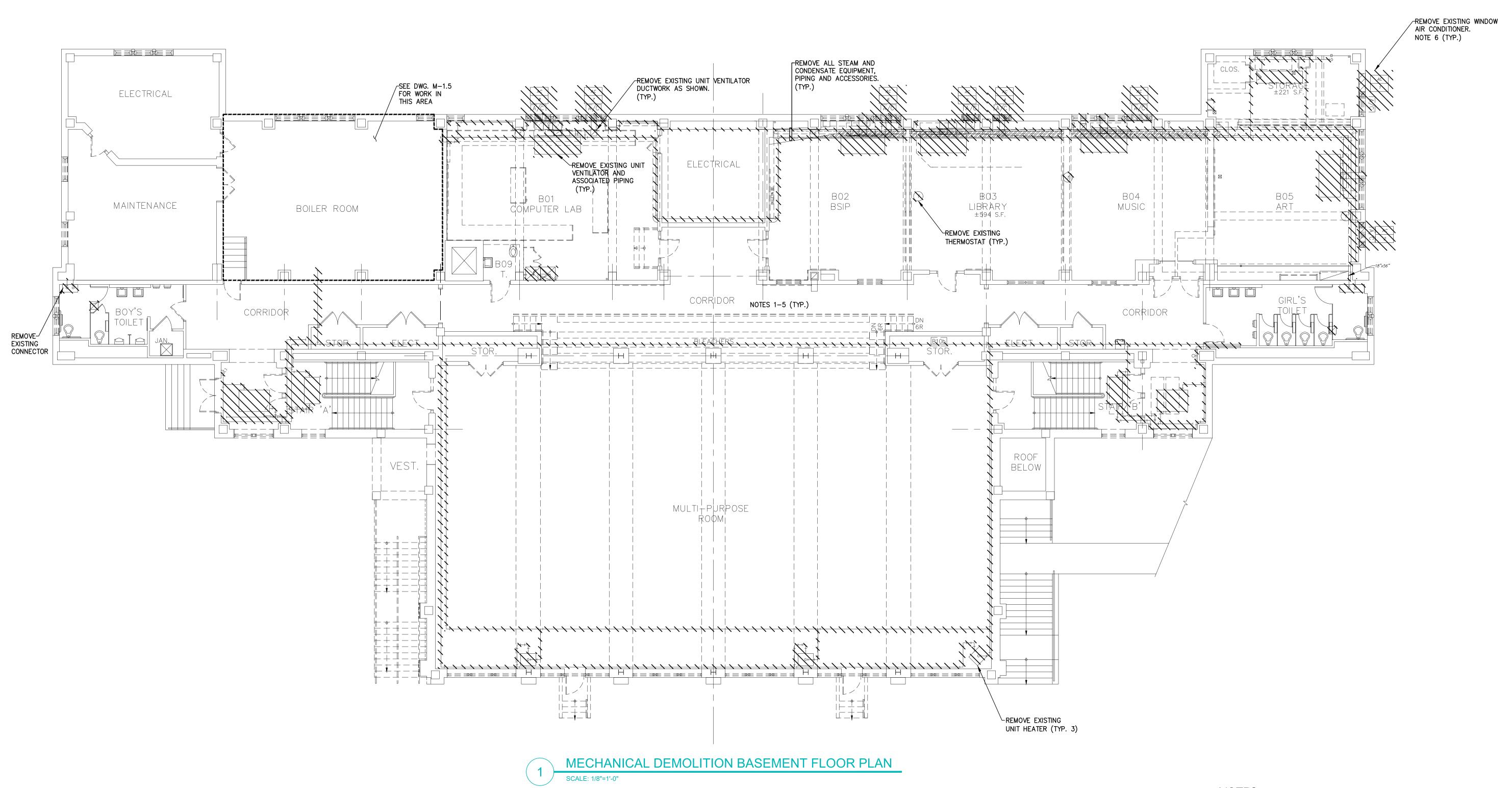
----- AW ---- ACID WASTE PIPING

----- FO ----- FUEL OIL PIPING

-Contract Double Check Valve Type Backflow Preventer WITH BALL VALVES



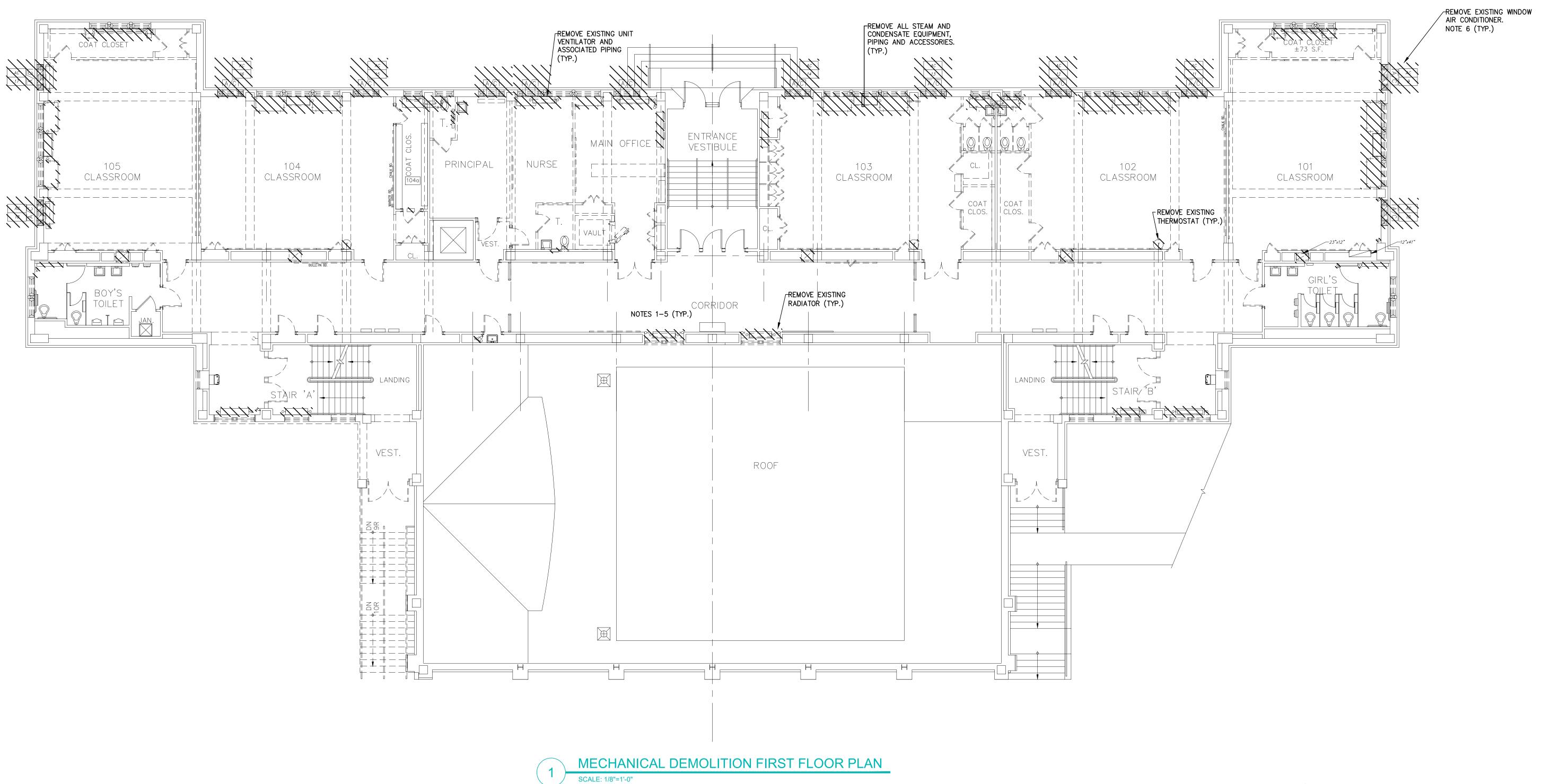
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- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. 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. 6. TURN OVER WINDOW AC UNITS TO THE OWNER.

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~ CHRISTOPHER A. SAPONARC NJ PROFESSIONAL ENGINEER LIC. No. 40059 BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. S 109 TIC 081 DEMOLITION -LOOR PLAN MECHANICAL BASEMENT F  $\Sigma \overset{\mathbb{Z}}{>}$ ШΑ IA ST 55 DRAWN BY : DESIGN BY : CHECKED BY : SCALE : B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-1.1 JOB No. : MP038X049

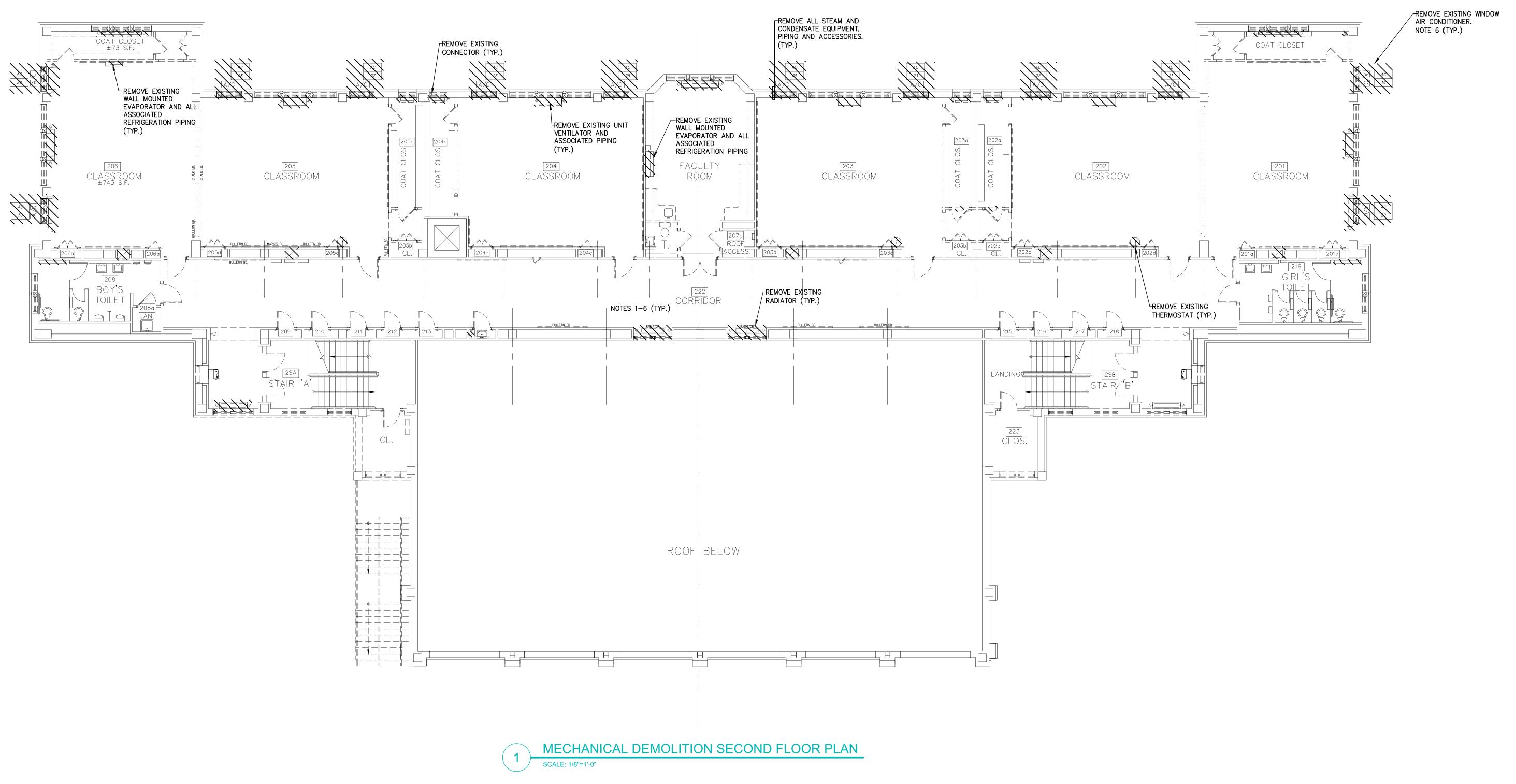
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- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. 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.
- 6. TURN OVER WINDOW AC UNITS TO THE OWNER.

1901 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~ CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059 BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . S TIONS 08109 AL DEMOLITION -OOR PLAN ₹ ≻ AND NEW TION , JKEN, ADDI<sup>-</sup> NSAU ECHANICAL FIRST FLC  $\Sigma >$ ШΑ ST Ш М 55 
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 B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-1.2 JOB No. : MP038X049

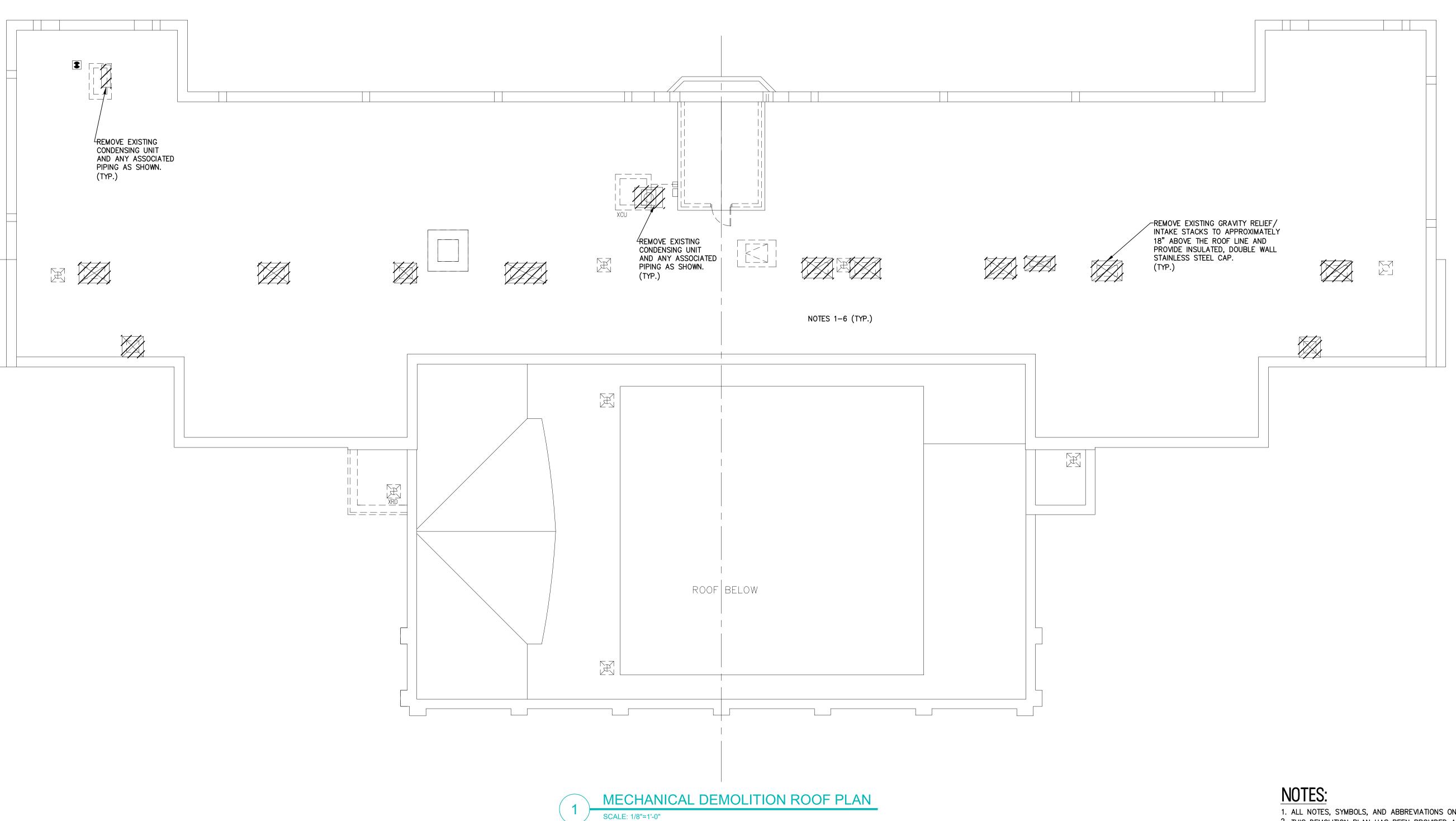
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- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. THIS DEMOLITION PLAN HAS BEEN PROVIDED AS A GUIDE. HOWEVER, ALL DEMOLITION REQUIRED TO SUCCESSFULLY COMPLETE THIS PROJECT SHALL BE INCLUDED IN THE SCOPE OF WORK. 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.
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- 5. COORDINATE THE DEMOLITION OF THE EXISTING MECHANICAL EQUIPMENT WITH THE ELECTRICAL CONTRACTOR. SEE THE ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL DETAILS.
- 6. BASE BID SHALL INCLUDE REINSTALLATION OF WINDOW AIR CONDITIONER. ALTERNATE BID SHALL INCLUDE THE WINDOW AIR CONDITIONER BEING TURNED OVER TO THE OWNER.

RV 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~ CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059 BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . VTIONS 08109 DEMOLITION OOR PLAN X X AND NEW TION JKEN, MECHANICAL SECOND FL Ē ΣŽ ЪЩ ST DRAWN BY : DESIGN BY : CHECKED BY : SCALE : B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-1.3 JOB No. : MP038X049

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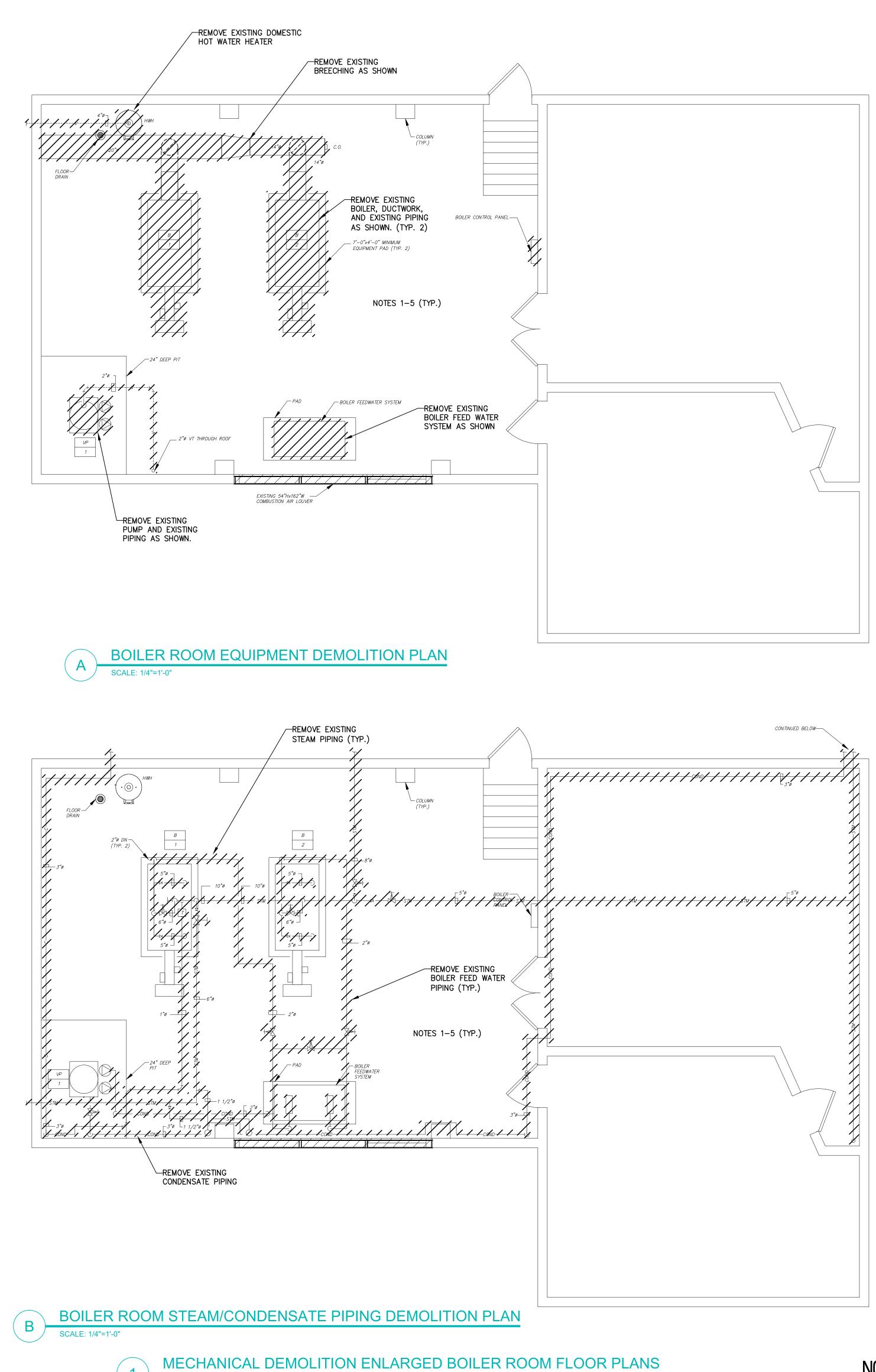


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- OF THE ROOF DAMAGED AS A RESULT OF THE NEW/DEMOLITION WORK. REPAIRED/REPLACED EQUIPMENT AND PORTIONS OF THE ROOF SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THEIR ORIGINAL CONDITION. 6. PRIOR TO ANY ROOF PENETRATIONS WORK. THE CONTRACTOR 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.

| |90| | 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 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . NTIONS 08109 ∢ ≻ Ζ DEMOLITION AND NEW TION , JKEN, **IANICAL ROOF** S Z EM AVE Т T ST RIA  $\mathbf{O}$ Ш М SEVEL WISTI 9 552 
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 B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-1.4 JOB No. : MP038X049

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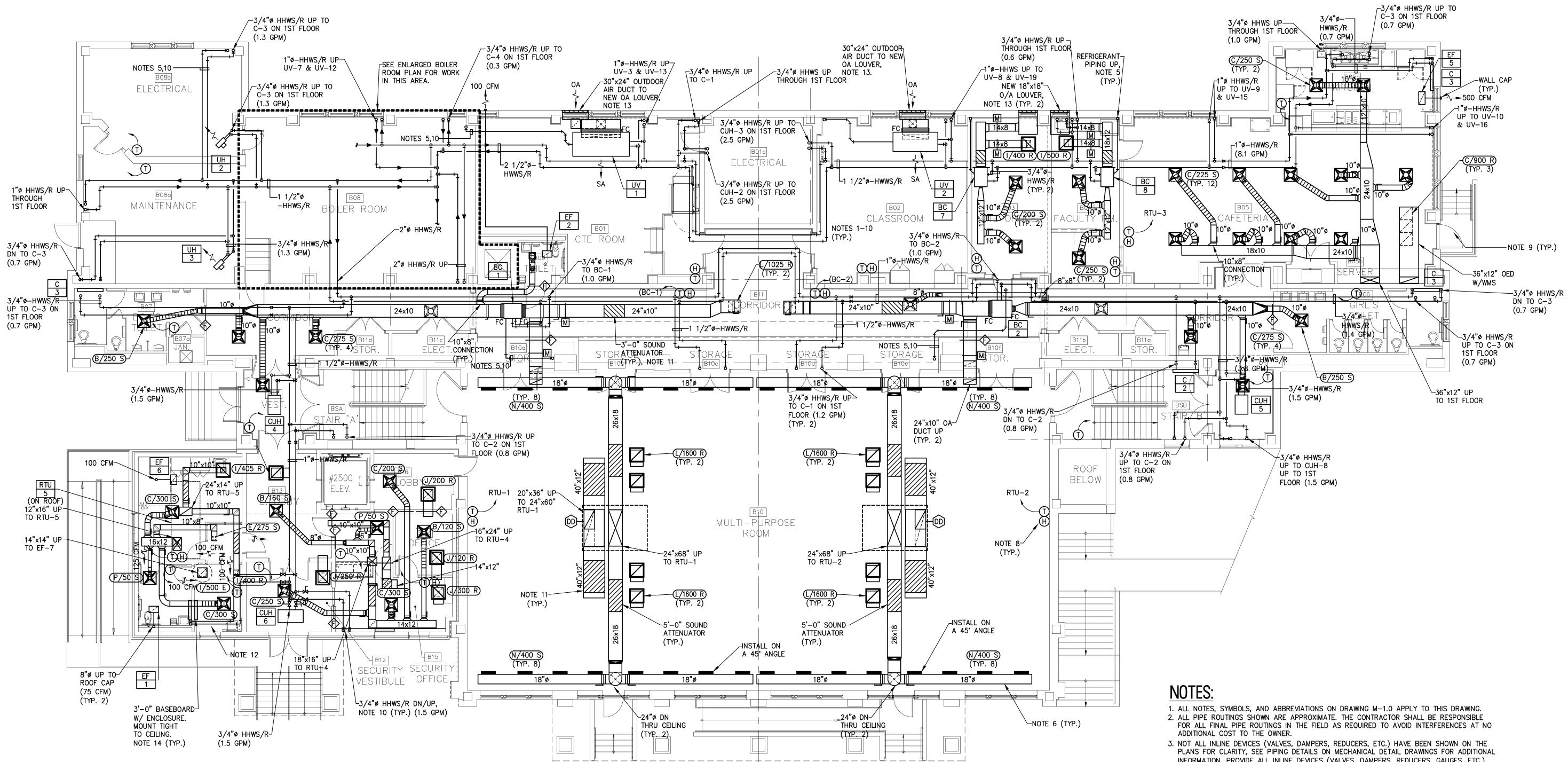


SCALE: 1/4"=1'-0"

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  - **ISSUED FOR BID: 11-13-2020**

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 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . 08109 ER ROOM MECHANICAL ENLARGED BC FLOOR I EM AVE r st RIA SEVEL WISTI 5526 
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 DESIGN BY :
 CHECKED BY :
 SCALE :
 B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-1.5 JOB No. : MP038X049

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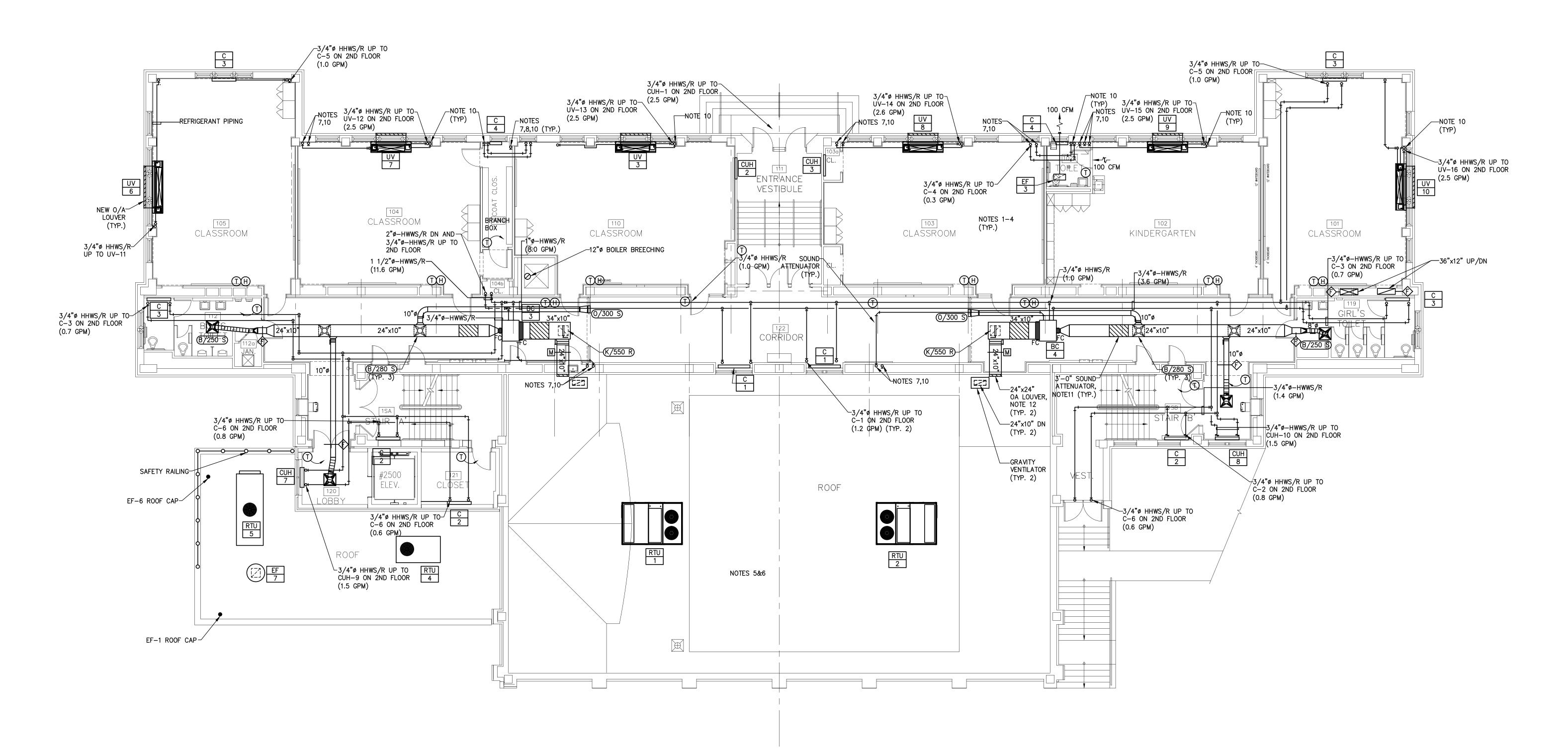


MECHANICAL BASEMENT FLOOR PLAN

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

- 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 DOUBLE WALL INSULATED SPIRAL ROUND/ RECTANGULAR DUCTWORK. PAINT ALL EXPOSED DUCTWORK.
- 7. ALL SUPPLY/ RETURN DUCTWORK, REGISTERS AND PIPING SHALL HAVE A MINIMUM ELEVATION OF 22'-0" ABOVE THE FINISHED FLOOR.
- 8. PROVIDE HEAVY DUTY, METAL, LOCKABLE GUARD FOR THERMOSTAT. BEKO MODEL BTG-UM OR APPROVED EQUAL.
- 9. BASE BID SHALL INCLUDE THE INSTALLATION OF WINDOW AIR CONDITIONERS REMOVED DURING DEMOLITION WORK.
- 10. PROVIDE MANUFACTURER SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL CHASES TO CONCEAL HYDRONIC PIPING.
- 11. PROVIDE INLINE SOUND ATTENUATOR WITH ALUMINUM CONSTRUCTION AND MYLAR LINER. SOUND ATTENUTOR SHALL BE MODEL LLP-36 BY AEROSONICS OR APPROVED EQUAL.
- 12. PROVIDE PORTABLE HEPA FILTRATION UNIT. CAMFIL MODEL CC500 OR APPROVED EQUAL 13. 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.
- 14. 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 FINS, 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.

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~ CHRISTOPHER A. SAPONARC NJ PROFESSIONAL ENGINEER LIC. No. 40059 BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT NTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOU WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTO & VERNICK ENGINEERS AND AFFILIATES; AND OWNE SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . S 109 TIO 081 MEN AN AN  $\triangleleft$ PL PL HANICAL Σ× ШΑ  $\bigcirc$ ST MA Ш Σ 55 DRAWN BY : DESIGN BY : CHECKED BY : SCALE : B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-2.1 JOB No. : MP038X049 P:\Projects\Pennsauken\MP038x049\Sheets\M-2.1 Mechanical Basement Floor Plan.dwg

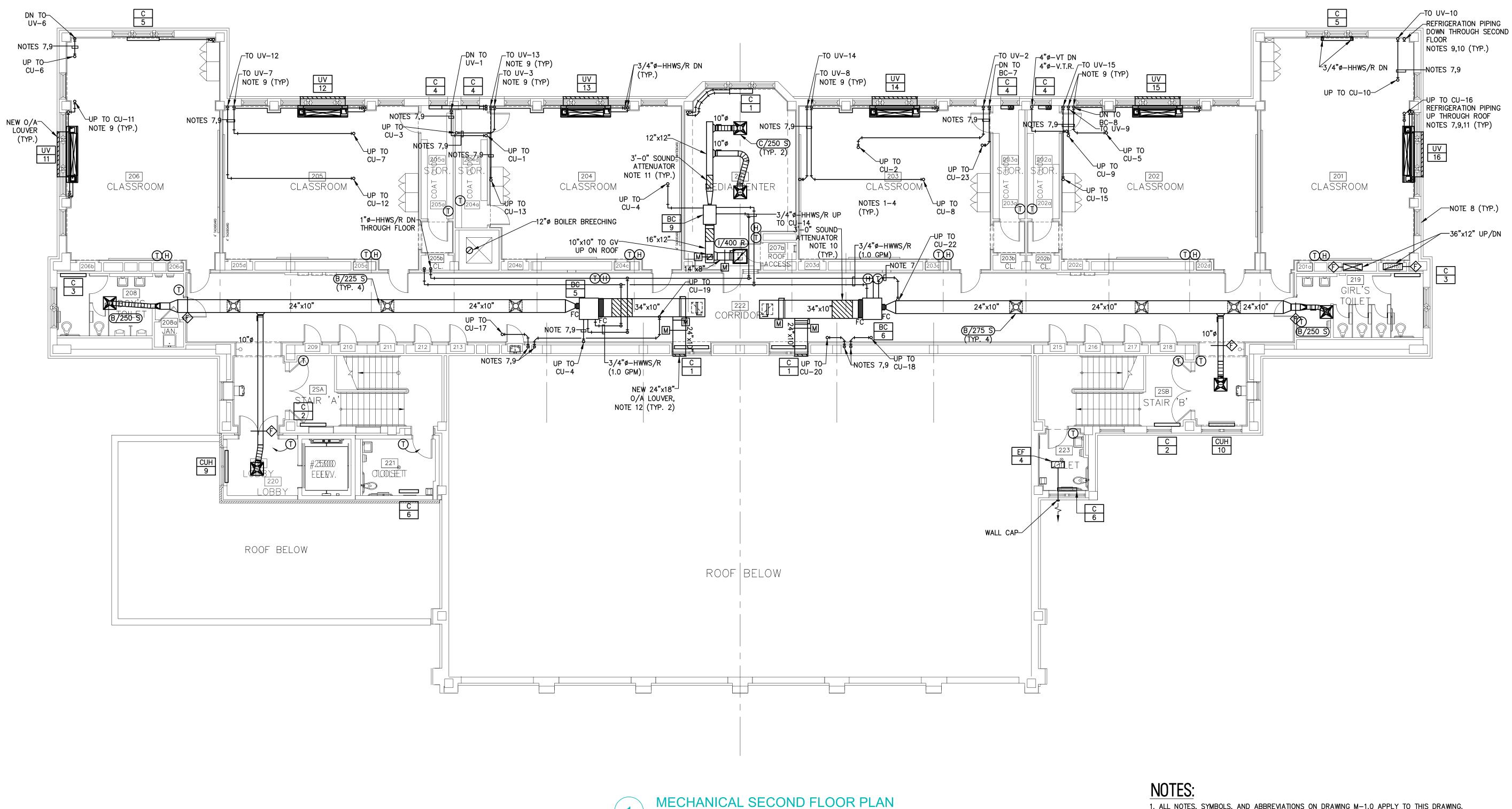




- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. ALL PIPE ROUTINGS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FINAL PIPE ROUTINGS IN THE FIELD AS REQUIRED TO AVOID INTERFERENCES AT NO
- ADDITIONAL COST TO THE OWNER. 3. NOT ALL INLINE DEVICES (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. REFRIGERATION PIPING UP THROUGH ROOF AND DOWN THROUGH THE 1ST FLOOR. 9. BASE BID SHALL INCLUDE THE INSTALLATION OF WINDOW AIR CONDITIONERS REMOVED DURING
- DEMOLITION WORK. 10. PROVIDE MANUFACTURER SUPPLIED PRE-FABRICATED METAL ENCLOSURES AND VERTICAL
- CHASES TO CONCEAL HYDRONIC PIPING. 11. PROVIDE INLINE SOUND ATTENUATOR WITH ALUMINUM CONSTRUCTION AND MYLAR LINER.
- SOUND ATTENUTOR SHALL BE MODEL LLP-36 BY AEROSONICS OR APPROVED EQUAL.
- 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.

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 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . NTIONS 08109 -A − AN Ш Z Ц AL ANIC, OOR CH/ FL( ME( FIRST  $\Sigma \overset{\mathbb{Z}}{>}$ ШΑ ST 55 DRAWN BY : DESIGN BY : CHECKED BY : SCALE : B.Z. C.H. AS NOTED SHEET No.: DATE : 10-19-2020 M-2.2 JOB No. : MP038X049

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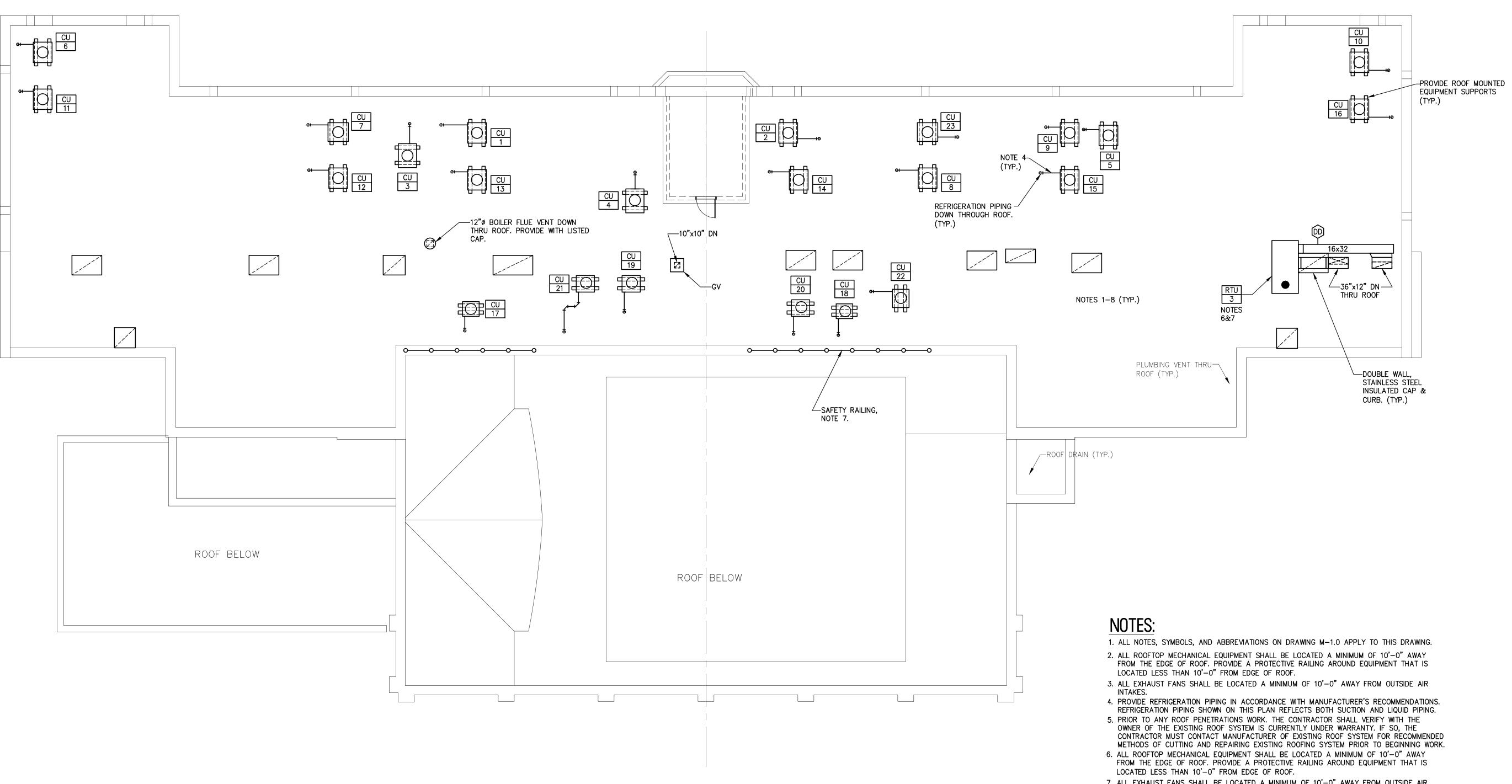


SCALE: 1/8"=1'-0"

- 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 ATTENUTOR 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.

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~ CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059 BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . S 109 081 AN A ANICAL ΗA MECIOND EM AVE Ŭ Ш S r st RIA <u>N</u> <sup>2</sup> 552 
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 B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-2.3 JOB No. : MP038X049

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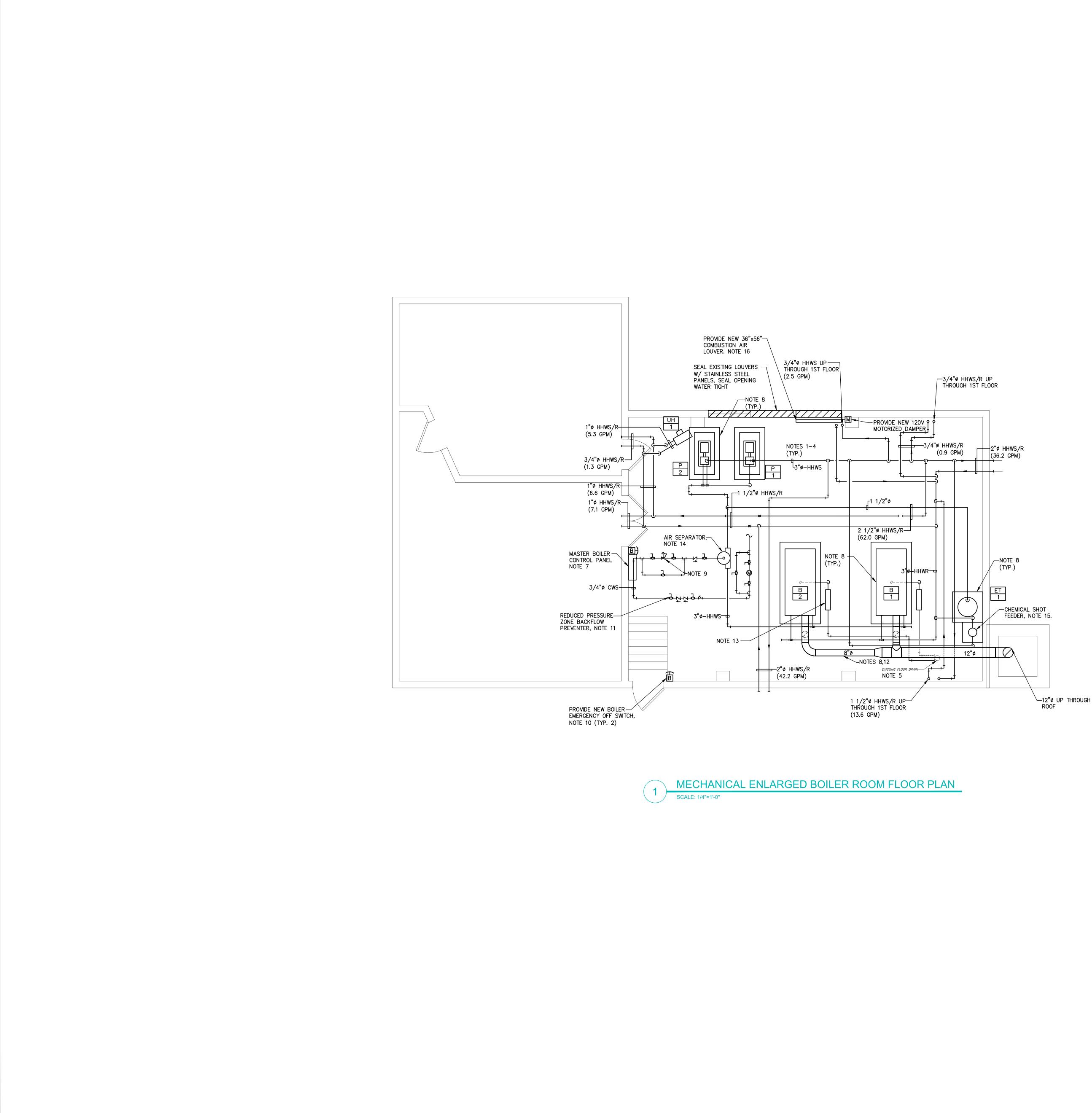


- 7. ALL EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM OUTSIDE AIR INTAKES.
- 8. ALTERNATE: PROVIDE CONDENSING UNITS AND ASSOCIATED REFRIGERANT PIPING FOR THE 2ND FLOOR EQUIPMENT AS AN ALTERNATE BID ITEM. MECHANICAL EQUIPMENT, HEATING HOT WATER PIPING, CONTROL DEVICES, ETC. SHALL BE PROVIDED AS PART OF THE BASE BID.

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 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON & VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR RESULTING THEREFROM. NTIONS 08109 ∢ ≻ AN Ц AND ROOF JKEN, MECHANICA дш ∢ <u>א</u> ע 
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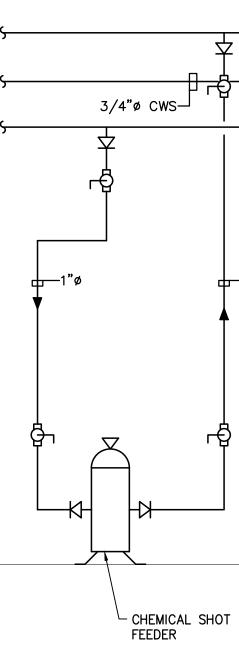
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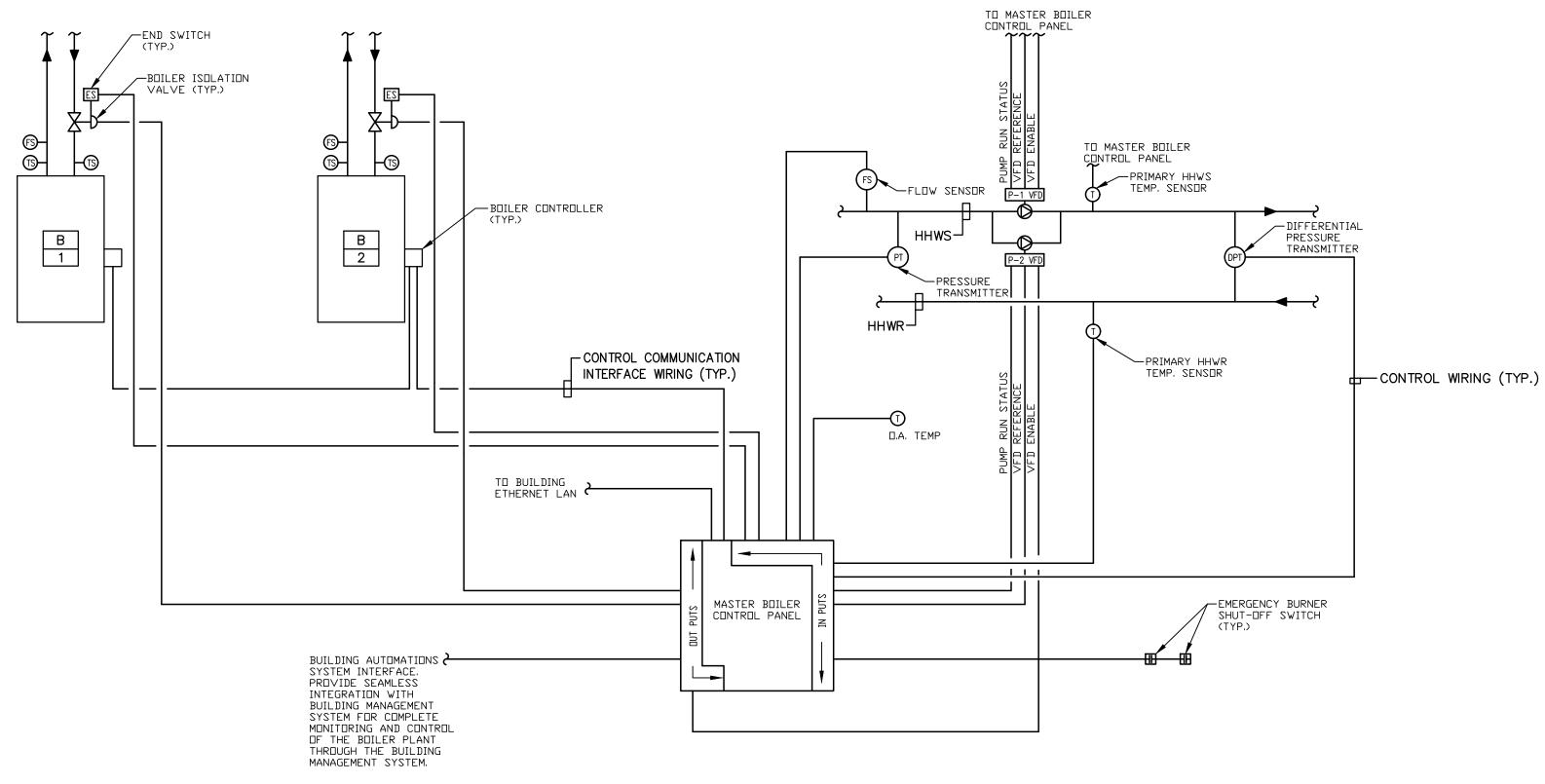


- 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. 2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO
- AVOID INTERFERENCE. 3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY, SEE THE DETAIL SHEET(S) FOR ADDITIONAL 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 WWF 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 & GOSSETT ROLAIRTROL R-3F OR APPROVED EQUAL.
- 15. CHEMICAL SHOT FEEDER SHALL BE NEPTUNE MODEL DPF-5HP OR APPROVED EQUAL. 16. 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.

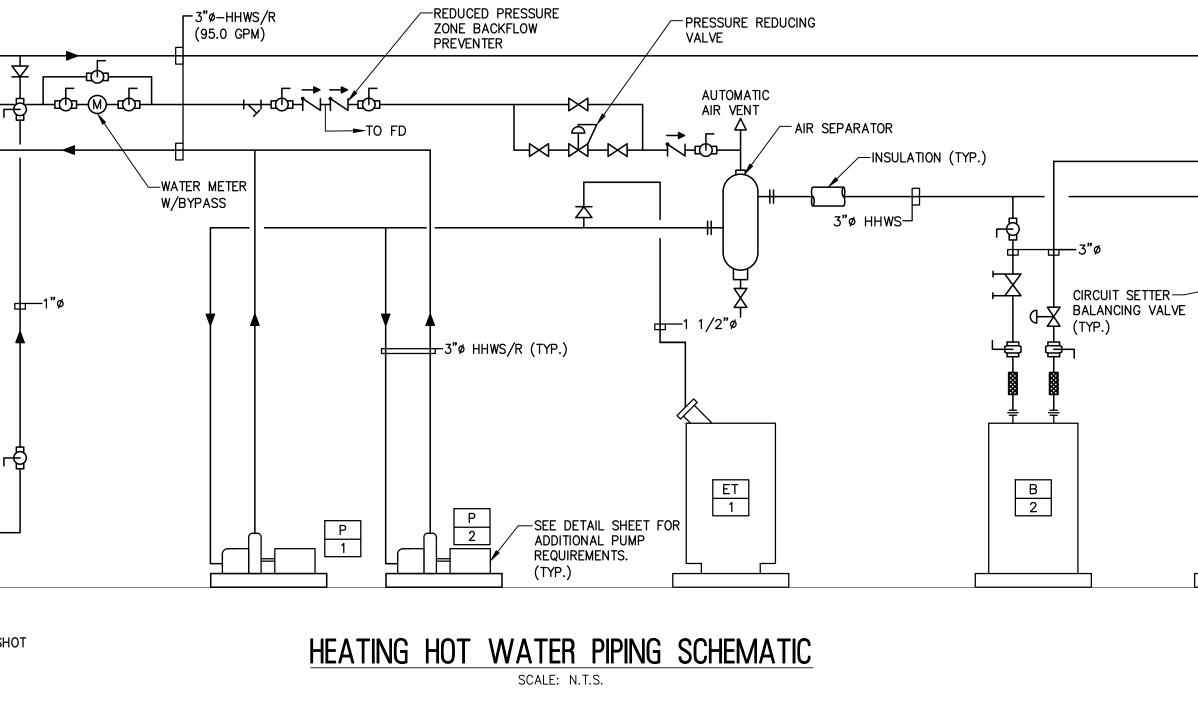
1901 REMINGTON & VERNICK ENGINEERS 232 KINGS HIGHWAY EAST HADDONFIELD, NJ 08033 (856) 795-9595, FAX (856) 795-1882 WEB SITE ADDRESS : WWW.RVE.COM Certification of Authorization: 24 GA 28003300 ~ENGINEERING EXCELLENCE~ DATE CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059 DATE: BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 ERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . VTIONS 08109 GED PLAN ЩШ AND NEW ENLAR( FLOOR TION JKEN, MECHANICAL BOILER ROOM EM AVE T ST RIA SEVEI WIST 5526 
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 SCALE :
 B.Z. C.H. AS NOTED DATE : SHEET No.: 10-19-2020 M-2.5 JOB No. : MP038X049

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



NOTES: 1. ALL NOTES, SYMBOLS, AND ABBREVIATIONS ON DRAWING M-1.0 APPLY TO THIS DRAWING. AVOID INTERFERENCE.

- MAINS.

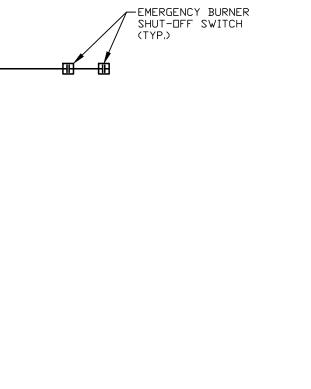
2. COORDINATE PIPING LAYOUTS IN ALL AREAS WITH OTHER TRADES PRIOR TO INSTALLATION TO 3. NOT ALL PIPE SIZES AND IN-LINE DEVICES ARE SHOWN ON THE PLAN FOR CLARITY, SEE THE DETAIL SHEET(S) FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL PROVIDE ALL

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

---Z CONNECTION (TYP.) B 1

VALVE (TYP.) BUTTERFLY VALVE (TYP.) -FLEXIBLE PIPE

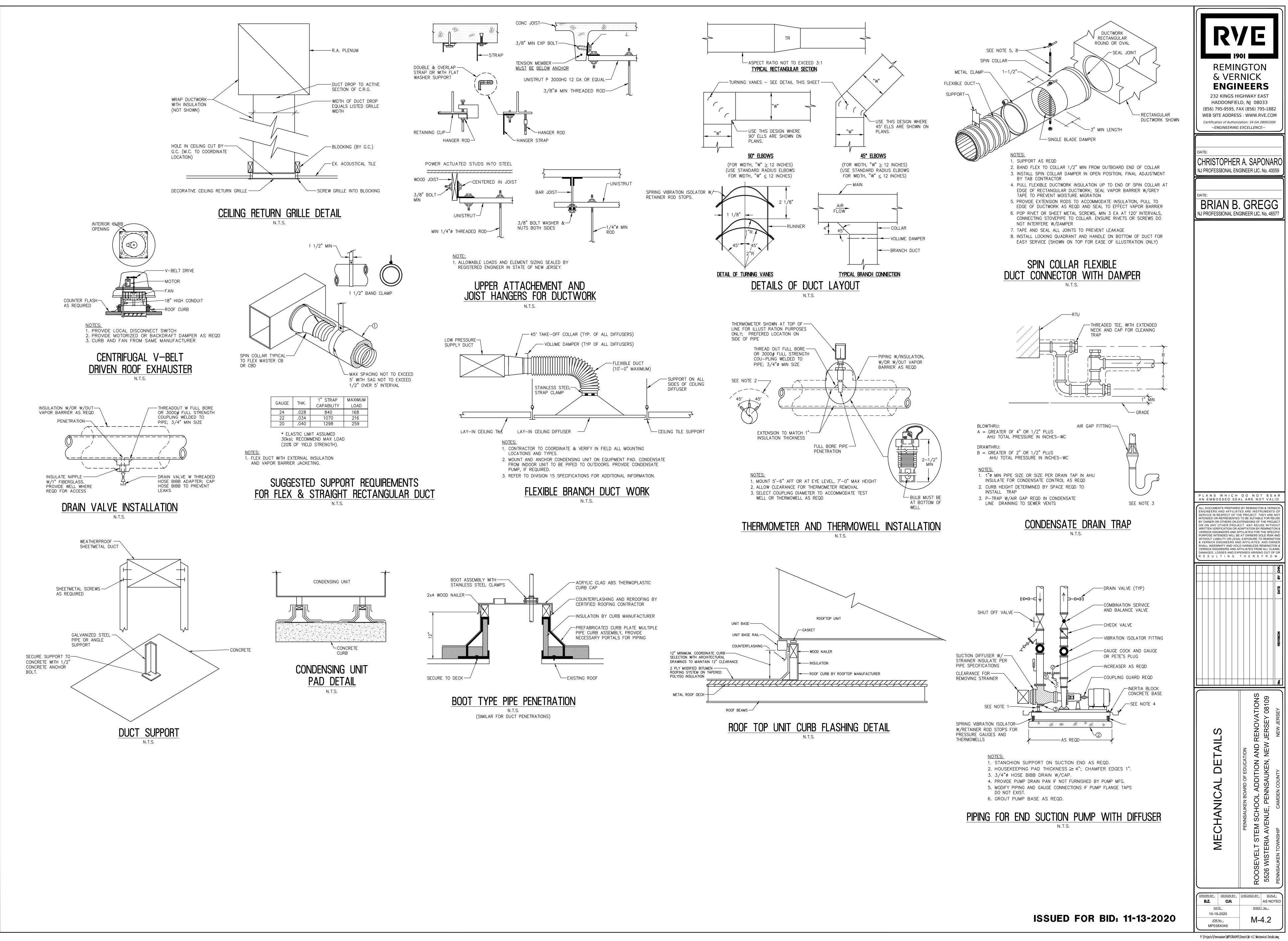
-BOILER ISOLATION

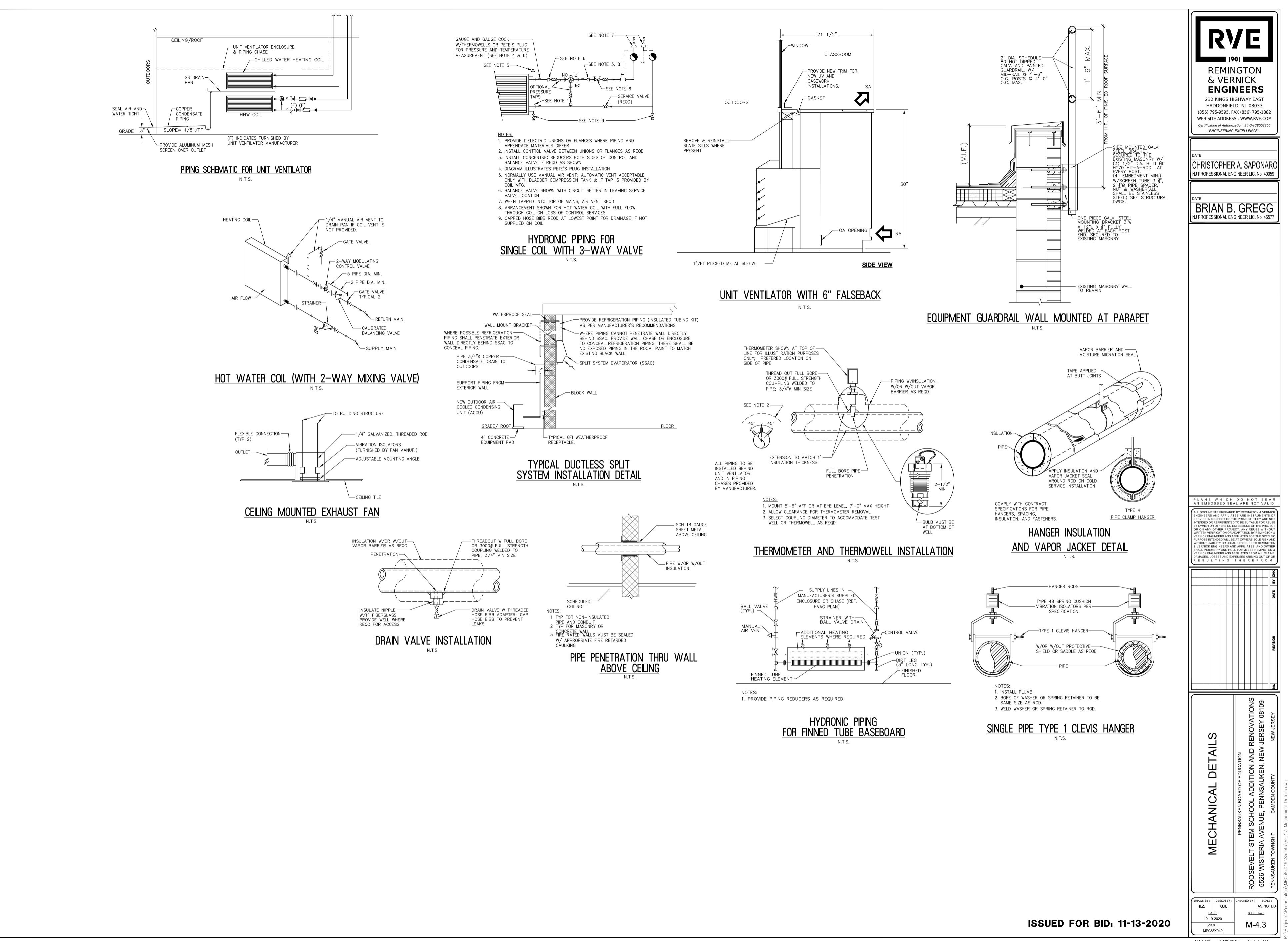


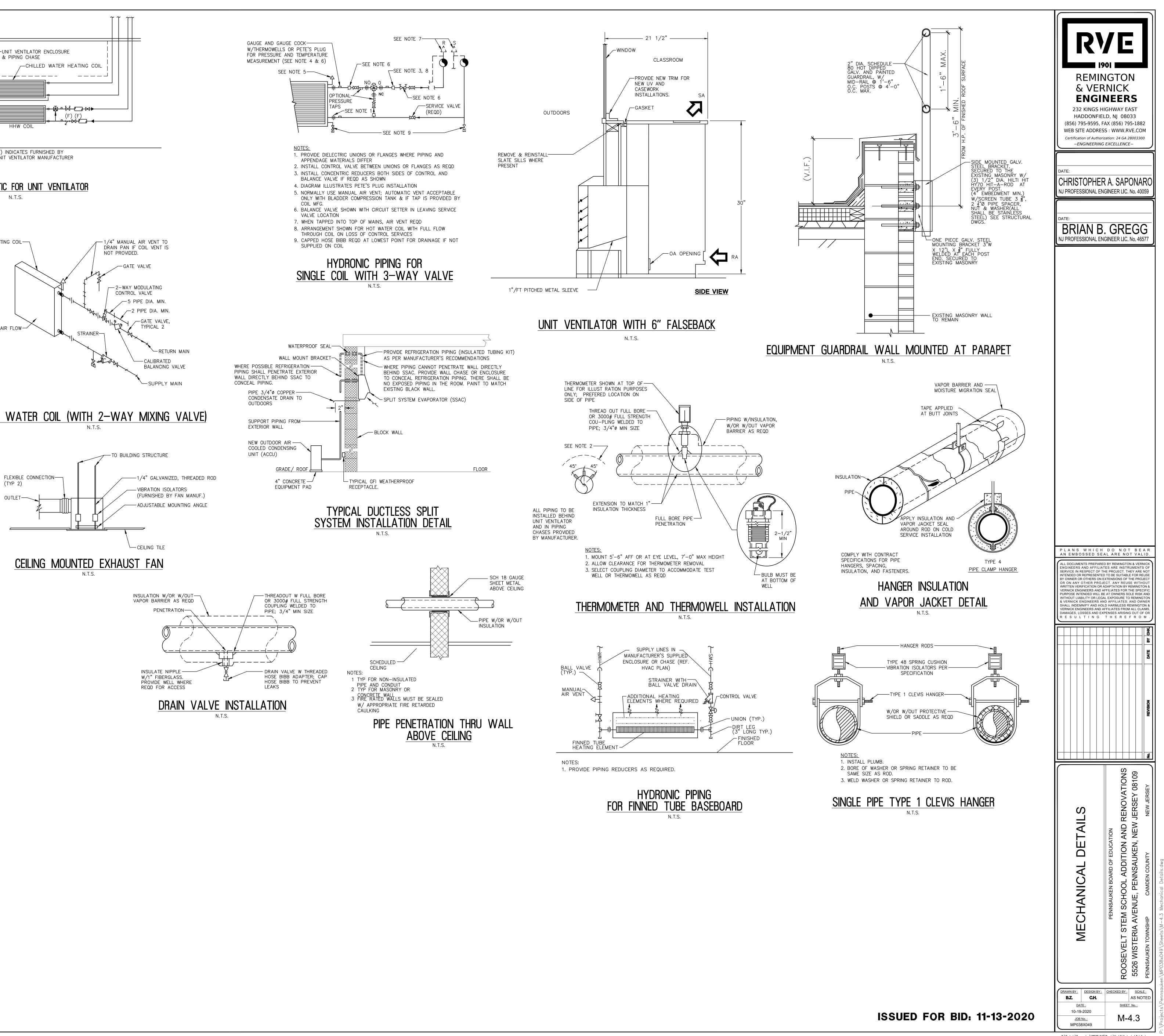
|90| REMINGTON & VERNICK ENGINEERS 232 KINGS HIGHWAY EAST HADDONFIELD, NJ 08033 (856) 795-9595, FAX (856) 795-1882 WEB SITE ADDRESS : WWW.RVE.COM Certification of Authorization: 24 GA 28003300 ~ENGINEERING EXCELLENCE~ DATE CHRISTOPHER A. SAPONARO NJ PROFESSIONAL ENGINEER LIC. No. 40059 DATE: BRIAN B. GREGG NJ PROFESSIONAL ENGINEER LIC. No. 46577 PLANS WHICH DO NOT BEAR AN EMBOSSED SEAL ARE NOT VALID. ALL DOCUMENTS PREPARED BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES ARE INSTRUMENTS OF SERVICE IN RESPECT OF THE PROJECT. THEY ARE NOT INTENDED OR REPRESENTED TO BE SUITABLE FOR REUSE BY OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT. ANY REUSE WITHOUT WRITTEN VERIFICATION OR ADAPTATION BY REMINGTON & VERNICK ENGINEERS AND AFFILIATES FOR THE SPECIFIC PURPOSE INTENDED WILL BE AT OWNERS SOLE BISK AND PURPOSE INTENDED WILL BE AT OWNERS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO REMINGTON & VERNICK ENGINEERS AND AFFILIATES; AND OWNER SHALL INDEMNIFY AND HOLD HARMLESS REMINGTON 8 VERNICK ENGINEERS AND AFFILIATES FROM ALL CLAIMS, DAMAGES, LOSSES AND EXPENSES ARISING OUT OF OR R E S U L T I N G T H E R E F R O M . VTIONS 08109 NVA<sup>−</sup> DETAILS AND TION JKEN, ٦۲ MECHANIC M S( Ъ r st RIA 
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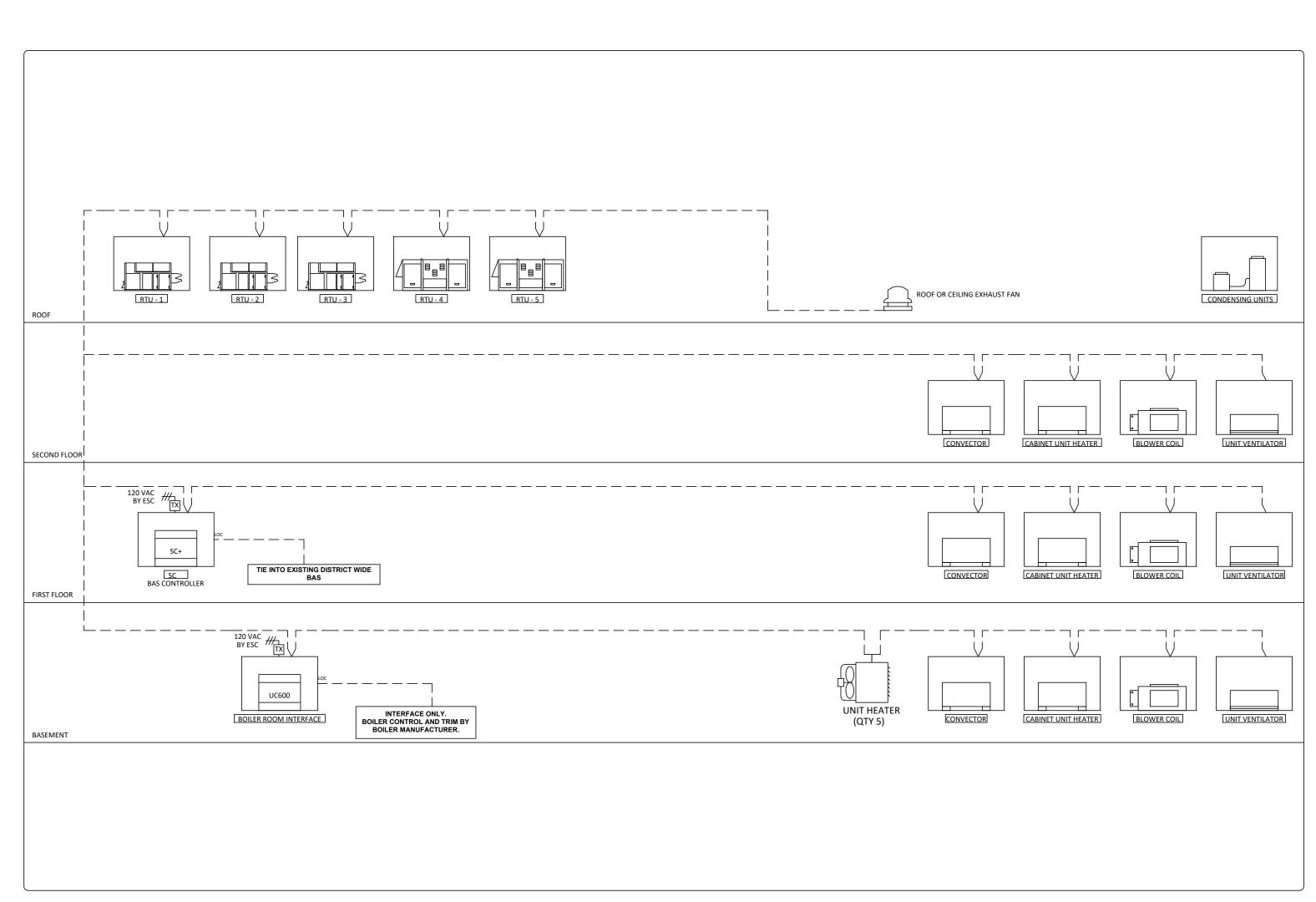
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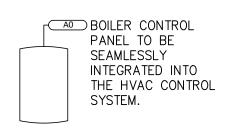




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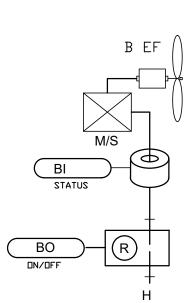
BUILDING AUTOMATION CONTROL SCHEMATIC N.T.S.



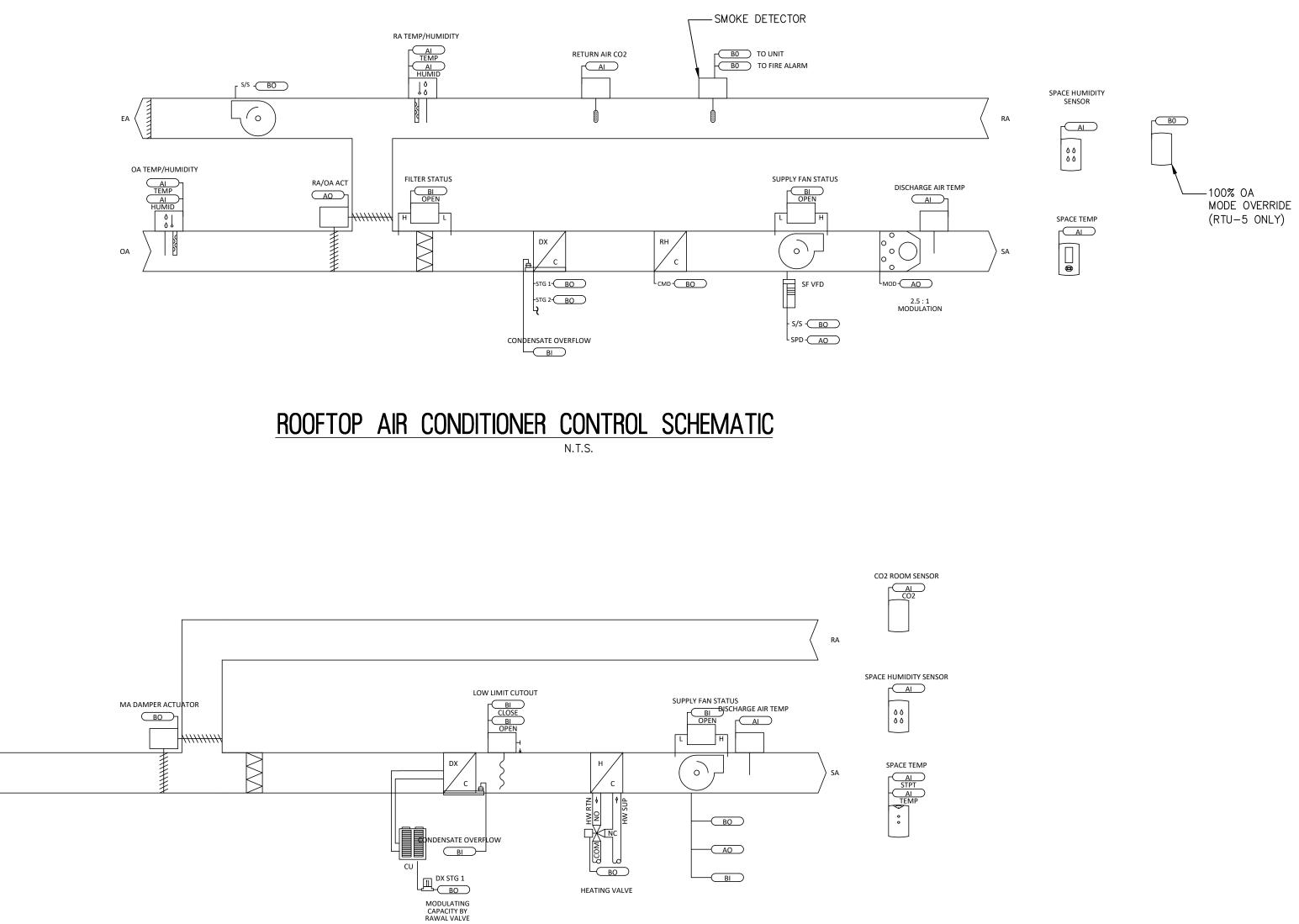
### BOILER CONTROL PANEL N.T.S. SEE DWG. M-4.1 FOR DETAILS

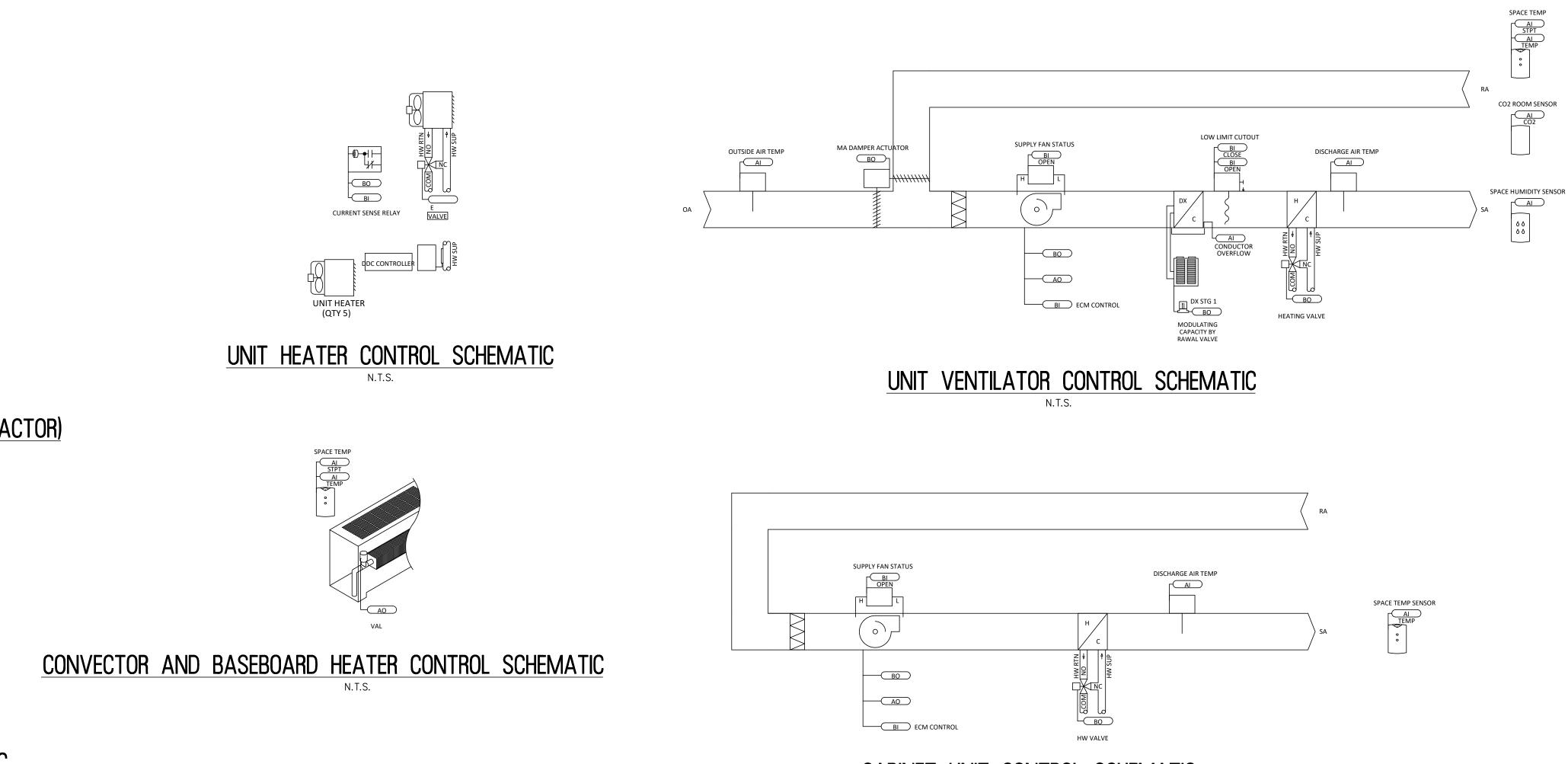
<del>\Fi</del>re Alarm System

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



EXHAUST FAN CONTROL SCHEMATIC N.T.S.



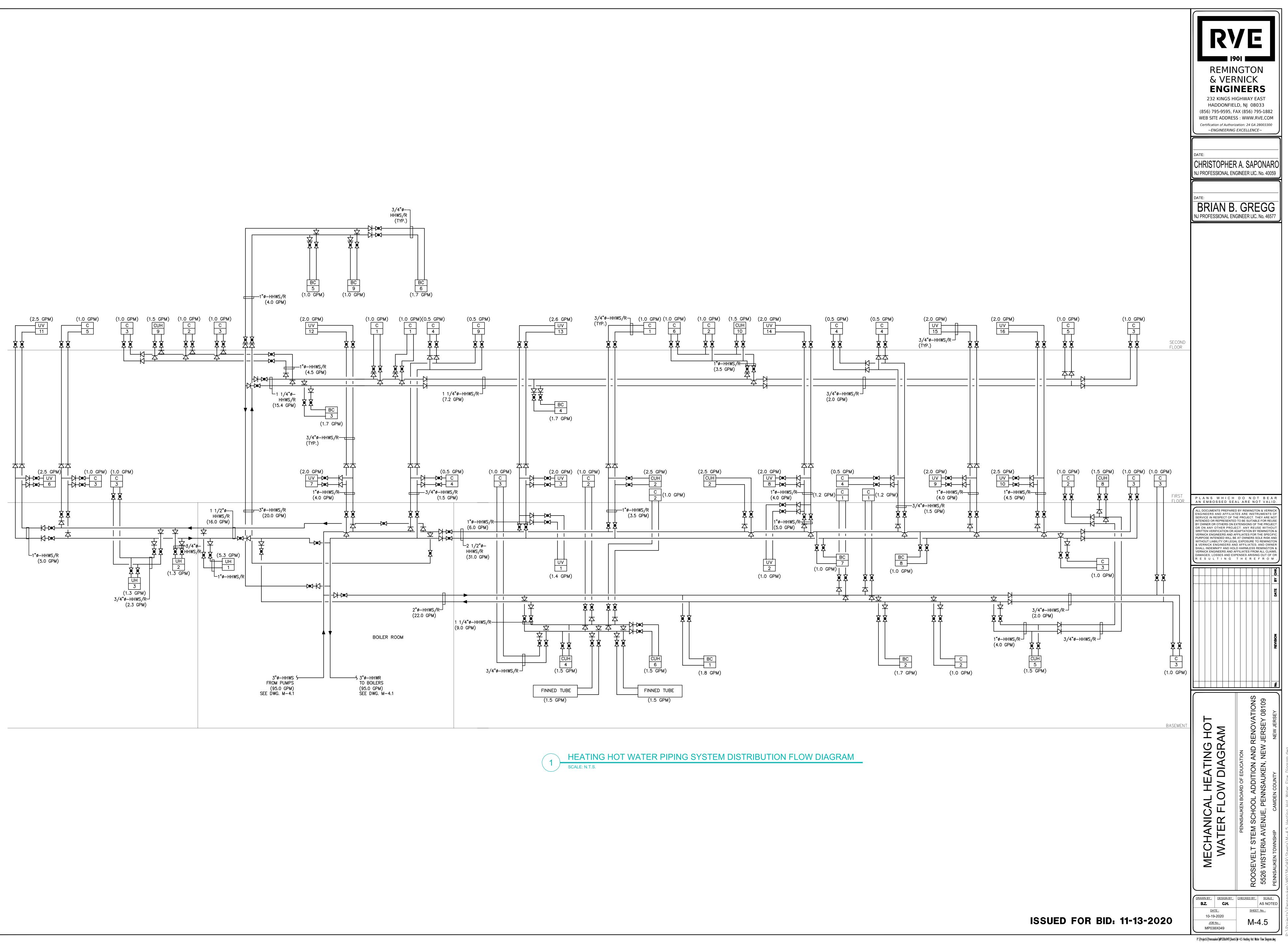


### BLOWER COIL CONTROL SCHEMATIC N.T.S.

CABINET UNIT CONTROL SCHEMATIC N.T.S.



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TAG LOC.	CATION	TYPE	AREAS	APPROX.	APPROX.	SUPPLY FAN		-				DX COOLING (	(R-410A)											НОТ	GAS REHEAT (D	EHUMIDIFICATION	N)				_	INDIRECT GAS	FIRED HEATER	PERFORMANCE			r	LECTRICAL		FILTERS		
			SERVED	UNIT DIM.	UNIT	SUPPLY	RETURN	MIN.	SUPPLY	MIN.	DRIVE	NOMINAL	GROSS	GROSS	NET	NET			COIL	COIL UN	NIT UNI	т		EV	AP COIL EV	AP COIL	DEW	EVAP COIL	REHEAT	REHEAT	MOISTURE	TOTAL	INPUT			,					1	
				(L x W x H)	WEIGHT	AIR	AIR	OUTSIDE	FAN ESP	MOTOR	TYPE	TONNAGE	TOTAL	SENSIBLE	TOTAL	SENSIBLE	E.A.T.	E.A.T.	L.A.T. L	A.T. L.A	А.Т. L.А.	T. COOL	LING EFFIC		A.T.	L.A.T. f	POINT	L.A.T. W/ REHEAT	TEMP. RISE	CAPACITY	REMOVAL	OUTPUT	(MBH)	EAT	LAT	STAGES /	EFF. V	/ PH / HZ MCA	MOP	TYPE	1	
					(LBS)	(CFM)	(CFM)	AIR	(IN. W.C.)	HP			CAPACITY	CAPACITY	CAPACITY	CAPACITY	DB	WB	DB	WB DE	B WB	STAC	GES @	AHRI	DB	WB (D	(DEG F)	DB	(DEG F DB)	(MBH)	(GPH)	CAPACITY		(DEG F ) (	,DEG F)	TURNDOWN	(%)	(AMPS)	S) (AMPS)		BASIS OF DESIGN	NC
								(CFM)					(MBH)	(MBH)	(MBH)	(MBH)							EER	/IEER								(MBH)				'						
RTU-1 RC	00F	SZ VAV	MULTIPURPOSE RM	122" x 85" x 67"	2,900	6400	4575	1825	1.5	5	VFD	20	240.6	157.1	224.3	140.8	80.1	67.0	57.4 5	54.6 60	0.1 55.	7 2.	0 11.0	/ 14.0	57.4	54.6	52.6	80.5	23.1	160.3	9.5	280	350	52.9	93 <u>2.</u> F	.5: 1 MODULATING	80	480/3/60 55.0	70	MERV-13	TRANE YHD240G	1, 2, 3, 4
RTU-2 RC	:00F	SZ VAV	MULTIPURPOSE RM	122" x 85" x 67"	2,900	6400	4575	1825	1.5	5	VFD	20	240.6	157.1	224.3	140.8	80.1	67.0	56.8 5	53.9 60	0.1 55.	7 2.	0 11.0	/ 14.0	57.4	54.6	52.6	80.5	23.1	160.3	9.5	280	350	52.9	93 2. <del>r</del>	.5: 1 MODULATING	80	480/3/60 55.0	70	MERV-13	TRANE YHD240G	1, 2, 3, 4
RTU-3 GR	RADE	SZ VAV	CAFETERIA	100" x 64" x 51"	1,650	3200	2300	900	1.5	2.75	ECM	10.0	110.1	87.0	106.9	87.0	80.1	67.0	54.9 5	54.9 56	6 55.	5 3.	0 12.4	/ 15.2	54.9	54.9	55.8	80.8	25.9	89.8	2.9	160	200	53.2	100	2 STAGE		480/3/60 22.0	25	MERV-13	TRANE YHC120F	1, 2, 3,
RTU-4 OFF	FICES	CV	OFFICES	70" x 45" x 37"	1,000	1100	950	150	1	0.75	ECM	3.0	34.8	24.2	33.0	22.4	77.5	66.0	57.1 5	55.5 59	9.0 56.	3 2.	0 (17.5	SEER)	57.1	55.5	54.5	73.3	16.2	30.5	1.2	48	60	62.9	104	1 STAGE	80	480/3/60 12.0	15	MERV-13	TRANE YHC037E	1, 2, 3,
OTES: 1. P	PROVIDE UN	NT WITH 100%	ENTHALPY CONTROLLED O	UTSIDE AIR ECONOMIZER	, HINGED ACCES	S DOORS, THRO	OW-AWAY FILTE	RS, OVERSIZED	D (HIGH STATIC)	MOTOR, UNIT	MOUNTED DISCO	NNECT SWITCH																													,	
	IN A NEM	A 3R ENCLOSU	RE, AND CONVENTIONAL -	HERMOSTAT INTERFACE.	CONTROLS TO	INCLUDE ZONE	SENSORS WITH	PROGRAMMAE	BLE NIGHT SETBA	CK, DIFFERENT	TIAL PRESSURE	SWITCHES (FOR	FAN STATUS AND	"DIRTY" FILTER IN	DICATION),																											
			THER CONTROLLERS, DEVI									•			•	OR.																										
			GAS REHEAT FOR HUMIDI																																							
7 0			NT COOLING DOWN TO ZEE																																							

3. PROVIDE WITH LOW AMBIENT COOLING DOWN TO ZERO DEGREES.

4. PROVIDE WITH 115V GFI CONVENIENCE OUTLET. 5. PROVIDE MICROPROCESSOR UNIT MOUNTED DDC CONTROLLER, MAIN CONTROL MODULE AND SENSORS.

6. PROVIDE WITH STAINLESS STEEL HEAT EXCHANGER AND BURNERS. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

7. UNIT BASE SHALL BE DESIGNED TO BE INSTALLED ON STRUCTURAL STEEL SUPPORTS.

8. PROVIDE WITH BIPOLAR IONIZATION UNIT, PLASMA AIR MODEL PB-0360R APPROVED EQUAL (UL2998 CERTIFIED). UNIT SHALL BE INTERLOCKED WITH THE RTU SUPPLY FAN, SO THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPLY FAN IS OFF. 9. PROVIDE WITH BIPOLAR IONIZATION UNIT, PLASMA AIR MODEL PB-18 OR APPROVED EQUAL (UL2998 CERTIFIED). UNIT SHALL BE INTERLOCKED WITH THE RTU SUPPLY FAN, SO THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPLY FAN IS OFF. 10. PROVIDE WITH BIPOLAR IONIZATION UNIT, PLASMA AIR MODEL 600 OR APPROVED EQUAL (UL2998 CERTIFIED). UNIT SHALL BE INTERLOCKED WITH THE RTU SUPPLY FAN, SO THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPLY FAN IS OFF.

TAG #		AREA(S) SERVED	
			(L
BC-1		BASEMENT CORRIDOR, BOY'S TOILET B07	66"
BC-2		BASEMENT CORRIDOR, GIRL'S TOILET B06	66"
BC-3		FIRST FLOOR CORRIDOR, BOY'S TOILET 112	66"
BC-4		FIRST FLOOR CORRIDOR, GIRL'S TOILET 119	66"
BC-5		SECOND FLOOR CORRIDOR, BOY'S TOILET 208	66"
BC-6		SECOND FLOOR CORRIDOR, GIRL'S TOILET 219	66"
BC-7		CTE OFFICE B03	54"
BC-8		FACULTY ROOM B04	54"
BC-9		MEDIA CENTER	54"
NOTES:	2.	PROVIDE UNITS WITH MERV 13 FILTERS, 1" FOIL FACED INSULATION, CO INTERFACE (TO INCLUDE FREEZESTAT AND DIRTY FILTER SWITCH). CO THE HOT WATER HEATING COIL SHALL BE LOCATED IN THE REHEAT PO	ORDINATE
	4.	PROVIDE ECM MOTORS. PROVIDE UNIT WITH LITTLE GIANT MODEL 1-ABS CONDENSATE PUMP. PROVIDE WITH BIPOLAR IONIZATION UNIT, PLASMA AIR MODEL 600 OR	APPROVEI

HOT WATER BOILEI         TAG       APPROXIMATE DIMENSIO (H × L × W)         B-1       74 1/32" × 79 3/4" ×         B-2       74 1/32" × 79 3/4" ×         NOTES:       1         1.       PROVIDE WITH CONTROL PANEL, PANEL– ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC         2.       PROVIDE WITH MAIN GAS VALVE, FIRING V			
(H x L x W) B-1 74 1/32" x 79 3/4" x B-2 74 1/32" x 79 3/4" x NOTES: 1. PROVIDE WITH CONTROL PANEL, PANEL– ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC 2. PROVIDE WITH MAIN GAS VALVE, FIRING V	ŀ	HOT	WATER BOILE
B-1       74 1/32" x 79 3/4" x         B-2       74 1/32" x 79 3/4" x         NOTES:       1         I.       PROVIDE WITH CONTROL PANEL, PANEL- ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC         2.       PROVIDE WITH MAIN GAS VALVE, FIRING V		TAG	APPROXIMATE DIMENSI
B-2 74 1/32" x 79 3/4" x NOTES: 1. PROVIDE WITH CONTROL PANEL, PANEL- ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC 2. PROVIDE WITH MAIN GAS VALVE, FIRING V			(H x L x W)
NOTES: 1. PROVIDE WITH CONTROL PANEL, PANEL- ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC 2. PROVIDE WITH MAIN GAS VALVE, FIRING N		B-1	74 1/32" x 79 3/4" x
<ol> <li>PROVIDE WITH CONTROL PANEL, PANEL– ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC</li> <li>PROVIDE WITH MAIN GAS VALVE, FIRING V</li> </ol>		B-2	74 1/32" x 79 3/4" x
<ol> <li>PROVIDE WITH CONTROL PANEL, PANEL– ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC</li> <li>PROVIDE WITH MAIN GAS VALVE, FIRING V</li> </ol>			
ADJUSTABLE AQUASTAT (WITH ADJUSTA FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC 2. PROVIDE WITH MAIN GAS VALVE, FIRING N	NOT	ES:	
FLOW SWITCH, SEQUENTIAL/DIAGNOSTIC 2. PROVIDE WITH MAIN GAS VALVE, FIRING N	1.	PROVID	E WITH CONTROL PANEL, PANEL-
2. PROVIDE WITH MAIN GAS VALVE, FIRING		ADJUS	TABLE AQUASTAT (WITH ADJUSTA
		FLOW	SWITCH, SEQUENTIAL/DIAGNOSTIC
	2.	PROVIDE	WITH MAIN GAS VALVE, FIRING V
3. PROVIDE WITH HEATNET CONTROL MODULI	3.	PROVIDE	WITH HEATNET CONTROL MODUL

### UNIT VENTILA

UNIT TAG	ORIENTATION
UV-1 UV-2 UV-3 UV-6 UV-7 UV-8 UV-9 UV-10 UV-11 UV-12 UV-13	HORIZONTAL HORIZONTAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL VERTICAL
	VERTICAL VERTICAL
UV-16	VERTICAL
NOTES:	<ol> <li>PROVIDE WITH PIPING PACH INSULATED I</li> <li>MODULATING I</li> <li>UNIT COLOR I</li> <li>UNIT SHALL E</li> <li>PROVIDE WITH</li> <li>UNIT SHALL E</li> <li>PROVIDE WITH</li> <li>PROVIDE ECM</li> <li>PROVIDE WITH</li> <li>THE DX COOL</li> <li>THE HOT WAT</li> <li>PROVIDE WITH</li> </ol>
	TAG UV-1 UV-2 UV-3 UV-6 UV-7 UV-8 UV-9 UV-10 UV-11 UV-12 UV-13 UV-14 UV-15 UV-16

		CABINET D	IMENSIONS		HEATIN	G ELEMENT				
TAG	LOCATION	DEPTH	HEIGHT	LENGTH	MBH	EWT / LWT	DESIGN GPM	MAX. WPD (ft)	BASIS OF DESIGN	NOTES
C-1	SEE DRAWINGS	8"	32"	64"	11.1	180 / 160	1.2	0.6	VULCAN FSG-A	1, 2, 3, 4 &
C-2	SEE DRAWINGS	8"	32"	48"	8.2	180 / 160	0.8	0.6	VULCAN FSG-A	1, 2, 3, 4 &
C-3	SEE DRAWINGS	6"	32"	48"	7.0	180 / 160	0.7	0.6	VULCAN FSG-A	1, 2, 3, 4 &
C-4	SEE DRAWINGS	6"	32"	24"	3.1	180 / 160	0.3	0.6	VULCAN FSG-A	1, 2, 3, 4 & 3
C-5	SEE DRAWINGS	6"	32"	60"	9.4	180 / 160	1.0	0.6	VULCAN FSG-A	1, 2, 3, 4 & 3
C-6	SEE DRAWINGS	6"	32"	36"	5.1	180 / 160	0.6	0.6	VULCAN FSG-A	1, 2, 3, 4 & 5
C-7	SEE DRAWINGS	8"	32"	36"	5.9	180 / 160	0.6	0.6	VULCAN FSG-A	1, 2, 3, 4 & 5
NOTES:	<ol> <li>PROVIDE 14 GAUGE 3</li> <li>PROVIDE ACCESS DO FOR INSPECTION A</li> <li>PROVIDE DAMPER WI</li> <li>COORDINATE COLOR</li> <li>FLUID TYPE = 100%</li> </ol>	ORS IN FRON ND OPERATION TH INSTITUTIO WITH OWNER	T PANEL OF ( N OF VALVES. NAL OPERATO	CONVECTOR WI			OCKING DEVICE			

TAG	DESCRIPTION	FACE	NECK	DIRECTION		BASIS OF DESIGN	
					MANUFACTURER	MODEL	NOTES
А	DIFFUSER	24" × 24"	6" DIA,	SUPPLY	TITUS	TMS-AA	1,2,3 & 5
В	DIFFUSER	24" × 24"	8" DIA,	SUPPLY	TITUS	TMS-AA	1,2,3 & 5
С	DIFFUSER	24" × 24"	10" DIA.	SUPPLY	TITUS	TMS-AA	1,2,3 & 5
D	REGISTER	8" × 8"	8" × 8"	SUPPLY	TITUS	300FS	1,2,3,4 & 5
E	REGISTER	10" × 10"	10" x 10"	SUPPLY	TITUS	300FS	1,2,3,4 & 5
F	REGISTER	18" × 12"	18" x 12"	SUPPLY	TITUS	300FS	1,2,3,4 & 5
G	REGISTER	36" × 12"	36" x 12"	SUPPLY	TITUS	300FS	1,2,3,4 & 5
Н	REGISTER	8" × 8"	8" × 8"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
I	REGISTER	10" × 10"	10" x 10"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
J	REGISTER	12" × 12"	12" x 12"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
К	REGISTER	24" × 24"	20" x 20"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
L	REGISTER	24" × 24"	22" x 22"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
М	REGISTER	48" X 24"	48" X 24"	RETURN/EXHAUST	TITUS	350FL	1,2,3,4 & 5
N	REGISTER	18" x 10"	18" x 10"	SUPPLY	TITUS	300FS	1,2,3,4 & 5
0	REGISTER	12"×6"	12"x6"	SUPPLY	TITUS	300FL	1,2,3,4 & 5
Р	DIFFUSER	12" x 12"	6" DIA,	SUPPLY	TITUS	TMS-AA	1,2,3 & 5
	<ol> <li>COORDINATE COLOF</li> <li>NC (NOISE CRITERIA</li> </ol>		ITECT. GREATER THAN 25. DR LAY—IN TYPE CEI	LINGS. SEE PLANS FOR LOCA	TIONS.		

					SUPPLY FAN				_	_	_	_	_		DX COOLING (	COIL	_		_			HOT WATER CO	OIL - 100	% WATER					FILTERS		
APPROX.	APPROX.	TOTAL	MIN.	RETURN																										BASIS OF DESIGN	N
UNIT	UNIT	AIRFLOW	OUTDOOR	AIRFLOW	AIRFLOW	T.S.P.	E.S.P.	MINIMUM	FAN	MOTOR	ELEC.			MAX	NOMINAL	TOTAL	SENSIBLE	E.A.T.	E.A.T.	L.A.T.	L.A.T.	TOTAL	E.A.T.	L.A.T.	EWT L	.WT GPM	MAX.	CONTROL			
DIM.	WEIGHT	(CFM)	AIRFLOW	(CFM)	(CFM)	(in WC)	(in WC)	MOTOR	SPEED	TYPE	V/PH/HZ	FLA	МСА	FUSE	TONS	CAPACITY	CAPACITY	(OF DB)	(OF WB)	(OF DB)	(OF WB)	CAPACITY	(0F)	(0F)	(OF) (	OF)	WPD	VALVE	TYPE		
(L x W x H)	(LBS)		(CFM)					HP	RPM							(MBH)	(MBH)					(MBH)					(FT)	TYPE			
66" x 40" x 22"	330	1,400	375	1,025	1,400	1.5	0.75	1	1,018	ECM	120/1/60	13.3	16.3	25	3.5	49.3	36.8	79.8	67	55.9	55.7	62.3	54	95	180	111 1.8	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
66" x 40" x 22"	330	1,400	300	1,100	1,400	1.5	0.75	1	1,021	ECM	120/1/60	13.3	16.3	25	3.5	49.2	35.4	78.9	67	55.9	55.8	57.7	57	95	180	111 1.7	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
66" x 40" x 22"	330	1,400	300	1,100	1,400	1.5	0.75	1	1,021	ECM	120/1/60	13.3	16.3	25	3.5	49.2	35.4	78.9	67	55.9	55.8	57.7	57	95	180	111 1.7	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
66" x 40" x 22"	330	1,400	300	1,100	1,400	1.5	0.75	1	1,021	ECM	120/1/60	13.3	16.3	25	3.5	49.2	35.4	78.9	67	55.9	55.8	57.7	57	95	180	111 1.7	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
66" x 40" x 22"	330	1,400	300	1,100	1,400	1.5	0.75	1	1,021	ECM	120/1/60	13.3	16.3	25	3.5	49.2	35.4	78.9	67	55.9	55.8	57.7	57	95	180	111 1.7	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
66" x 40" x 22"	330	1,400	300	1,100	1,400	1.5	0.75	1	1,021	ECM	120/1/60	13.3	16.3	25	3.5	49.2	35.4	78.9	67	55.9	55.8	57.7	57	95	180	111 1.7	5	3-WAY	MERV 13	TRANE BCHD054	1, 2,
54" x 24" x 14"	140	400	30	370	400	1.3	0.75	1/2	1,396	ECM	120/1/60	7.46	9.33	15	1.5	15.3	9.6	76.4	66	54.4	53.4	12.6	66	95	180 1	42 0.7	5	3-WAY	MERV 13	TRANE BCHD012	1, 2,
54" x 24" x 14"	140	500	30	470	500	1.6	0.75	1/2	1,559	ECM	120/1/60	7.46	9.33	15	1.5	16.0	10.5	76.1	66	57.0	55.7	15.7	66	95	180 1	50 1.0	5	3-WAY	MERV 13	TRANE BCHD012	1, 2,
54" x 24" x 14"	140	500	30	470	500	1.6	0.75	1/2	1,559	ECM	120/1/60	7.46	9.33	15	1.5	16.0	10.5	76.1	66	57.0	55.7	15.7	66	95	180 1	50 1.0	5	3-WAY	MERV 13	TRANE BCHD012	1. 2.

JLATION, COOLING COIL DRAIN PAN, CONDENSATE OVERFLOW ALARM, DISCONNECT SWITCH/STARTER, AND THERMOSTAT CONTROL WITCH). COORDINATE ALL MANUFACTURER SUPPLIED CONTROL DEVICES WITH THE HVAC CONTROL SYSTEM CONTRACTOR.

### PUMP.

. 600 OR APPROVED EQUAL (UL2998 CERTIFIED). UNIT SHALL BE INTERLOCKED WITH THE BLOWER COIL SUPPLY FAN, SO THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPLY FAN IS OFF.

ER SCH	EDULE																		
ENSIONS	APPROXIMATE WEIGHT	WATER	GAS INPUT	OUTPUT	BOILER	AHRI CERTIFIED	MAX. WORKING	FLOW RATE	MAX. PD	EWT	LWT	COMBUSTION AIR	EXHAUST FLUE	COLD WATER	HOT WATER	GAS	ELECTRICAL	BOILER MANUF. &	N
/)	(LBS)	CONTENTS (GAL.)	(MBH)	(MBH)	HP	EFFICIENCY	PRESSURE (PSI)	(GPM)	(FT/HD)	(DEG. F.)	(DEG. F.)	INTAKE VENT DIA. (IN)	VENT DIA. (IN)	INLET (IN)	OUTLET (IN)	CONN. (IN.)	V/PH/HZ	MODEL NUMBER	
+" x 34"	3120	36.4	2600	2410	72	92.7	100	50	2.0	140	180	8	8	4	4	1-1/2	208/3/60	ADVANCED THERMAL HYDRONICS KN-26	1,
+" x 34"	3120	36.4	2600	2410	72	92.7	100	50	2.0	140	180	8	8	4	4	1-1/2	208/3/60	ADVANCED THERMAL HYDRONICS KN-26	1,

L-MOUNTED TEMPERATURE GAUGES, CAST IRON HEAT EXCHANGER, ADJUSTABLE TEMPERATURE MANUAL RESET HIGH-LIMIT, STABLE DIFFERENTIAL), ASME PRESSURE RELIEF VALVE, LOW GAS PRESSURE SWITCH, BUILT-IN COMBUSTION AIR FAN, WATER

IC CONTROL PANEL, TERMINAL STRIP (FOR REMOTE TEMP. CONTROL).

VALVE, IGNITION CONTROL, OPERATING CONTROL & MAIN GAS PRESSURE REGULATOR.

_AT(	OR SCHEDULE																													
	AREA(S)	SUPPLY	RETURN	MIN.		HOT WAT	ER REHEA	T COIL -	100% WA	TER				DX COOLING CO	OIL						ELECTRICA	L DATA					OUTDOOR	BASIS OF DESIGN		
TION	SERVED	AIRFLOW	AIRFLOW	OUTDOOR	ESP						DESIGN	MAX.	CONTROL	TOTAL	SENSIBLE	TONS					MOTOR	NO. OF	V/PH/HZ	FLA	MCA	MOPD	AIR			
		(CFM)	(CFM)	AIRFLOW	IN WC	MBH	EWT	LWT	EAT	LAT	FLOW	WPD	VALVE	CAPACITY	CAPACITY	NOMINAL	EAT	EAT	LAT	LAT	HP	MOTORS		AMPS	AMPS	AMPS	LOUVER SIZE	MANUFACTURER	MODEL No.	NOTE
				(CFM)							(GPM)	(FT.)	TYPE	(MBH)	(MBH)		DB	WB	DB	WB								1		
TAL	CTE B01	1491	1191	300	0.25	59.9	180	81	56	95	1.4	20	3-WAY	44.3	36.5	4.0	79	65	56.7	55.2	1	1	115/1/60	12	15	15	10-3/8" x 78-1/8"	TRANE	HUVC2000	SEE BELO
TAL	CLASSROOM B02	901	621	280	0.25	44.1	180	92	50	98	1.0	20	3-WAY	27.8	22.2	2.5	81	66.4	58.5	56.5	1	1	115/1/60	12	15	15	10-3/8" x 54-1/8"	TRANE	HUVC1000	SEE BELO
AL	CLASSROOM 110	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 105	1176	826	350	N/A	56.2	180	119	51	95	2.5	20	3-WAY	46.0	32.3	4.0	80.4	65.7	55.4	52.5	0.25	2	115/1/60	7	9	15	10-3/8" x 78-1/8"	TRANE	VUVE1500	SEE BELO
AL	CLASSROOM 104	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 103	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	KINDERGARTEN 102	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 101	1176	826	350	N/A	56.2	180	119	51	95	2.5	20	3-WAY	46.0	32.3	4.0	80.4	65.7	55.4	52.5	0.25	2	115/1/60	7	9	15	10-3/8" x 78-1/8"	TRANE	VUVE1500	SEE BELO
AL	CLASSROOM 206	1176	826	350	N/A	56.2	180	119	51	95	2.5	20	3-WAY	46.0	32.3	4.0	80.4	65.7	55.4	52.5	0.25	2	115/1/60	7	9	15	10-3/8" x 78-1/8"	TRANE	VUVE1500	SEE BELO
AL	CLASSROOM 205	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 204	1020	670	350	N/A	52.0	180	130	48	95	2.6	20	3-WAY	40.8	29.0	3.5	81.2	66.1	55.3	52.7	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 203	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 202	1020	660	360	N/A	52.0	180	130	48	95	2.0	20	3-WAY	40.9	29.0	3.5	81.4	66.2	55.4	52.8	0.25	2	115/1/60	7	9	15	10-3/8" x 66-1/8"	TRANE	VUVE1250	SEE BELO
AL	CLASSROOM 201	1176	826	350	N/A	56.2	180	119	51	95	2.5	20	3-WAY	46.0	32.3	4.0	80.4	65.7	55.4	52.5	0.25	2	115/1/60	7	9	15	10-3/8" x 78-1/8"	TRANE	VUVE1500	SEE BELO
	CONNECT SWITCH DOUBLE DEE			SECTIONS END CAP					FOR LISE			F)																		

H DISCONNECT SWITCH, DOUBLE DEFLECTION DISCHARGE, FALSEBACK SECTIONS, END CAPS, MODULATING OUTSIDE/RETURN AIR DAMPERS (FOR USE WITH ECONOMIZER CYCLE), CKAGE (CONTROL VALVE TO BE PROVIDED BY HVAC CONTROL SYSTEM CONTRACTOR), PIPE ENCLOSURES, OUTDOOR AIR LOUVERS (DRAINABLE W/FLANGE AND INSECT SCREEN, COLOR AND FINISH TO BE AS SELECTED BY THE ARCHITECT), AND MERV 13 FILTERS. D DRAIN PAN, COORDINATE ALL MANUFACTURER SUPPLIED DEVICES WITH THE DIVISION 15 HVAC CONTROL SYSTEM CONTRACTOR. G OUTSIDE/RETURN AIR DAMPERS (FOR USE WITH ECONOMIZER CYCLE)

R TO BE AS APPROVED BY OWNER. BE UL LISTED.

TH 21-1/2 INCH DEEP INSULATED CABINET.

BE 30" HIGH WITH SUB-BASE. M MOTOR AND SINGLE ZONE VAV OPERATION.

TH DEMAND CONTROL VENTILATION AND WALL MOUNTED CARBON DIOXIDE SENSOR.

OLING COIL SHALL BE INCLUDED IN THE BASE BID. THE CONDENSING UNIT SHALL BE AN ALTERNATE BID ITEM. ATER HEATING COIL SHALL BE LOCATED IN THE REHEAT POSITION.

THEN HENNING GOLE SHALE DE EGOLIED IN THE REHEAT FOSTION.	
TH BIPOLAR IONIZATION UNIT, PLASMA AIR MODEL 600 OR APPROVED EQUAL (UL2998 CERTIFIED). UNIT SHALL BE INTERLOCKED WITH THE UV COIL SUPPLY FAN, SO THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPL	_Y F.
	-

EXHA	UST FAN SCHED	JLE
	ROOMS	
TAG	SERVED/SERVICE	
EF-1	TOILET ROOM B14a	
EF-2	TOILET ROOM B09	
EF-3	TOILET ROOM 102a	
EF-4	TOILET ROOM 223	
EF-5	KITCHEN	
EF-6	NURSE' B14	
EF-7	EXAM ROOM B14b	
NOTES:	1. PROVIDE FAN WITH ROOF CURB,	AUTOMATIC
	ENCLOSURE (WITH INTEGRAL ST.	ARTER).
	2. PROVIDE FAN WITH SPEED CONTR	OLLER, EXI
	SWITCH IN A NEMA 3R ENCLOSI	JRE (WITH

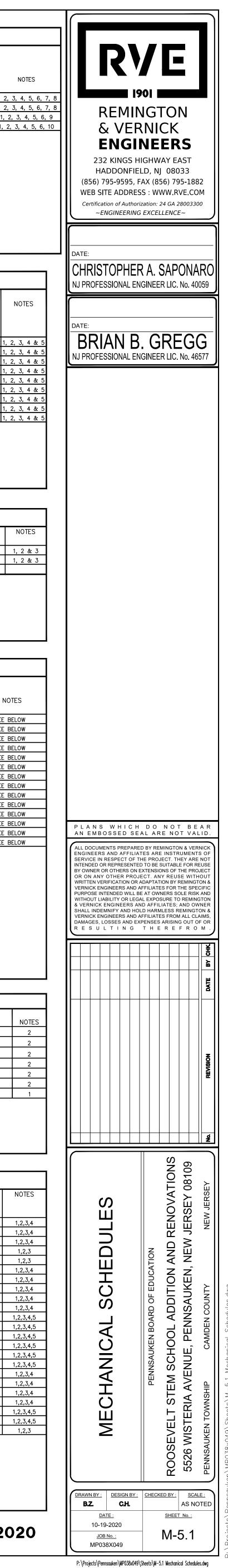
TAG	EQUIPMENT	COOLING				SEER	APPROXIMATE	UNIT	ELECTRICAL	MIN. CIRCUIT	CIR. BR.	BASIS OF DESIGN	
	SERVED	TONAGE	MBH	SAT SUCT	AMBIENT	(MIN.)	WEIGHT	DIMENSIONS (IN.)	V/PH/HZ	AMPACITY	PROT. RTG.		
		NOMINAL	(TOTAL)	TEMP (DEG. F.)		, <i>,</i>	(LBS)	(H × W × D)		(AMPS)	MAX. (AMPS)		
CU-1	UV-1	4.0	44.3	45.0	95	13.0	235	34.4" x 35.1" x 38.7"	460/3/60	8.4	15	TRANE 4TTA3048D	
CU-2	UV-2	2.5	27.8	45.0	95	13.0	160	34" × 27" × 29"	208/1/60	16.0	25	TRANE 4TTR3030H	
CU-3	UV-3	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-4	BC-8	1.5	16.0	44.3	95	13.0	155	30.1" x 26.7" x 30"	208/1/60	12.0	20	TRANE 4TTR3018H	
CU-5	BC-9	1.5	16.0	44.3	95	13.0	155	30.1" x 26.7" x 30"	208/1/60	12.0	20	TRANE 4TTR3018H	
CU-6	UV-6	4.0	46.0	46.4	95	13.0	235	34.4" x 35.1" x 38.7"	460/3/60	8.4	15	TRANE 4TTA3048D	
CU-7	UV-7	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-8	UV-8	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-9	UV-9	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-10	UV-10	4.0	46.0	46.4	95	13.0	235	34.4" x 35.1" x 38.7"	460/3/60	8.4	15	TRANE 4TTA3048D	
CU-11	UV-11	4.0	46.0	46.4	95	13.0	235	34.4" x 35.1" x 38.7"	460/3/60	8.4	15	TRANE 4TTA3048D	
CU-12	UV-12	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-13	UV-13	3.5	40.8	45.8	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-14	UV-14	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-15	UV-15	3.5	40.9	45.9	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-16	UV-16	4.0	46.0	46.4	95	13.0	235	34.4" x 35.1" x 38.7"	460/3/60	8.4	15	TRANE 4TTA3048D	
CU-17	BC-1	3.5	49.3	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-18	BC-2	3.5	49.2	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-19	BC-3	3.5	49.2	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-20	BC-4	3.5	49.2	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-21	BC-5	3.5	49.2	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-22	BC-6	3.5	49.2	52.6	95	13.0	230	34.4" x 35.1" x 38.7"	460/3/60	8.2	15	TRANE 4TTA3042D	
CU-23	BC-7	1.5	15.3	42.5	95	13.0	155	30.1" x 26.7" x 30"	208/1/60	12.0	20	TRANE 4TTR3018H	

### Y FAN IS OFF.

FAN		TOTAL S.P.	MOTOR HP	DRIVE	ELECTRICAL		ROOF / WALL	APPROXIMATE	BASIS
TYPE	CFM	(in. w.c.)	OR WATTS	TYPE	V/PH/HZ	SONES	OPENING SIZE	WEIGHT (LBS)	OF DESIGN
CEILING MOUNTED	75	0.75	97 WATTS	DIRECT	120/1/60	5.5	6" DIA.	16	COOK GC-188
CEILING MOUNTED	100	0.75	97 WATTS	DIRECT	120/1/60	5.5	6" DIA.	16	COOK GC-188
CEILING MOUNTED	100	0.75	97 WATTS	DIRECT	120/1/60	5.5	6" DIA.	16	COOK GC-188
CEILING MOUNTED	100	0.75	97 WATTS	DIRECT	120/1/60	5.5	6" DIA.	16	COOK GC-188
CEILING MOUNTED	500	0.5	212 WATTS	DIRECT	120/1/60	5.0	10"x4"	30	COOK GC-720
CEILING MOUNTED	100	0.75	97 WATTS	DIRECT	120/1/60	5.5	6" DIA.	16	COOK GC-188
ROOF MOUNTED	500	0.5	1/8 HP	DIRECT	120/1/60	8.9	13.5" x 13.5"	35	COOK 101C15D

C BACKDRAFT DAMPER, FAN SPEED CONTROLLER AND UNIT MOUNTED DISCONNECT SWITCH IN A NEMA 3R

EXHAUST REGISTER, WALL/ROOF CAP, VIBRATION HANGERS, AUTOMATIC BACKDRAFT DAMPER, AND UNIT MOUNTED DISCONNECT H INTEGRAL STARTER).



					APPROX.	SUPPLY FAN				
				APPROX.	UNIT	SUPPLY	RETURN	MIN.	MAX.	SUPPLY
				UNIT DIM.	WEIGHT	AIR	AIR	OUTSIDE	OUTSIDE	FAN ESP
TAG	LOCATION	TYPE	AREA(S)	(L x W x H)	(LBS)	(CFM)	(CFM)	AIR	AIR	(IN. W.C.)
			SERVED					(CFM)	(CFM)	
RTU-5	ROOF	CONSTANT VOLUME	NURSE'S SUITE	161" x 52" x 55"	1,900	925	775	150	925	1.5
			AIR MODE. AT FOR HUMIDITY CONTROL _TER DRIER.	(DEHUMIDIFICATION).						

							VEN	ITILATION AIR REQU	JIREMENTS (ASHRAE 62, IN	TERNATIONAL MECH CODE 2	.018)					OUTDOOR AIR	EXHAUST AIR	RETURN AIR	SUPP
ROOM NAME	EQUIPMENT	APPROX.	OCCUPANT	NUMBER OF	PEOPLE OUTDOOR	TOTAL PEOPLE	AREA OUTDOOR	TOTAL AREA	BREATHING ZONE	ZONE AIR	ZONE AIR	ZONE OUTDOOR	PRIMARY	EXHAUST	TOTAL	CORRECTED	DESIGN	DESIGN	DESIG
	TAG	AREA	DENSITY	PEOPLE & /	AIRFLOW RATE	OUTDOOR	AIRFLOW RATE	OUTDOOR	OUTDOOR AIRFLOW	DISTRIBUTION	DISTRIBUTION	AIRFLOW	OUTDOOR	AIRFLOW RATE	EXHAUST	DESIGN TOTAL	TOTAL	TOTAL	TOTAL
	NUMBER	(SF)	# PEOPLE/	OR FIXTURES	Rp	AIRFLOW	Ra	AIRFLOW	(CFM) Vbz	EFFECTIVENESS	EFFECTIVENESS	(CFM) Voz	AIR FRACTION		AIRFLOW	(CFM) Vot	(CFM)	(CFM)	MAX/I
			1000 SF			(CFM)		(CFM)		(COOLING) Ez	(HEATING) Ez		Zp		(CFM)	(NOTE 2)			(CFM)
CTE B01	UV-1	787	35	28 PEOPLE	10 CFM/PERSON	280	0.12 CFM/SQ.FT.	94	374	1.0	1.0	374	1.0	N/A	0	375	0	1,125	
CTE OFFICE B03	BC-7	281	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	17	27	1.0	0.8	34	1.0	N/A	0	30	0	370	
FACULTY ROOM B04	BC-8	282	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	17	27	1.0	0.8	34	1.0	N/A	0	30	0	470	
CLASSROOM B02	UV-2	565	35	20 PEOPLE	10 CFM/PERSON	200	0.06 CFM/SQ.FT.	34	234	1.0	1.0	234	1.0	N/A	0	240	0	660	
BASEMENT CORRIDOR		725	N/A	N/A			0.06 CFM/SQ.FT.	44	44	1.0	0.8	54	1.0		0	55	0	745	
NEW STAIR ENTRANCE		30	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	2	2	1.0	0.8	2	1.0	N/A	0	5	0	145	
EXISTING ENTRANCE	BC-1	75	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	5	5	1.0	0.8	6	1.0	N/A	0	5	0	145	
BOY'S TOILET BO7		182	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	
JAN. B07a		22	N/A	N/A	N/A	N/A	0.12 CFM/SQ.FT.	3	3	1.0	0.8	3	1.0	N/A	0	5	25	-5	
FACULTY TOILET B09		33	N/A	1 FIXTURE	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	70	0	75	0	
																70	400	1,030	
BASEMENT CORRIDOR		725	N/A	N/A	N/A		0.06 CFM/SQ.FT.	44	44	1.0	0.8	54	1.0		0	55	0	745	
GIRL'S TOILET B06	BC-2	260	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	
NEW STAIR ENTRANCE		30	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	2	2	1.0	0.8	2	1.0	N/A	0	5	0	145	
EXISTING ENTRANCE		75	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	5	5	1.0	0.8	6	1.0	N/A	0	5	0	145	
																65	300	1,035	
LOBBY B10c		120	30	4 PEOPLE	7.5 CFM/PERSON		0.06 CFM/SQ.FT.	7	37	1.0	0.8	47	1.0	N/A	0	50	0	190	
SECURITY OFFICE B12		221	5	2 PEOPLE	5 CFM/PERSON	10	0.06 CFM/SQ.FT.	13	23	1.0	0.8	29	1.0	N/A	0	30	0	270	
OFFICE	RTU-4	80	5	1 PEOPLE	5 CFM/PERSON	5	0.06 CFM/SQ.FT.	5	10	1.0	0.8	12	1.0	N/A	0	15	0	105	
SECURITY VESTIBULE B13		154	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	9	9	1.0	0.8	12	1.0	N/A	0	15	0	235	
CORRIDOR		160	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	10	10	1.0	0.8	12	1.0	N/A	0	15	0	160	
																125	0	960	
NURSE B14		100	05			50				10		103	1.0	N/A		105		195	_
		180	25	5 PEOPLE	10 CFM/PERSON	50	0.18 CFM/SQ.FT.		82 N/A	1.0	0.8	N/A	1.0		70	105	75	195	<u> </u>
TOILET B14a EXAM B14b		90 60	N/A 25	1 FIXTURES	10 CFM/PERSON	N/A 20		11	N/A 31	1.0	0.8	N/A 30	1.0	70 CFM/FIXTURE	/0	40	/5	260	
VESTIBULE B14c	R10=5	30	25 N/A	2 PEOPLE N/A	N/A	20 N/A	0.18 CFM/SQ.FT. 0.06 CFM/SQ.FT.			1.0	0.8		1.0	N/A	0	40	0	273	
VESTIBULE BI4C		50					0.00 CFM/ SQ.FT.	2	Ζ	1.0	0.8	2	1.0	N/A	0	147	75	728	
IULTI-PURPOSE ROOM B10	RTU-1 & 2	4498	100	450 PEOPLE	7.5 CFM/PERSON	3375	0.06 CFM/SQ.FT.	270	3645	1.0	0.8	4,556	1.0	N/A	0	3,645	0	9,155	1
CAFETERIA B-5	RTU-3	1163	150	80 PEOPLE	7.5 CFM/PERSON	600	0.18 CFM/SQ.FT.	209	809	1.0	0.8	1,012	1.0	N/A	0	810	0	1,890	
KITCHEN B-5A		287	20	6 PEOPLE	7.5 CFM/PERSON	45	0.12 CFM/SQ.FT.	34	79	1.0	0.8	99	1.0	0.7 CFM/SF	201	80	200	300	
																890		2,190	

NOTES:
1. SPACE IS BEING VENTILATED BY NATURAL VI
1. SPACE IS BEING VENTILATED BY NATURAL VI 2. OCCUPANCY IS BASED UPON ACTI

### VENTILATION

ROOM NAME	EQUIPMENT
	TAG
	NUMBER
	(Combert
CLASSROOM 206	UV-11
CLASSROOM 205	UV-12
CLASSROOM 204	UV–13
MEDIA CENTER 207	BC-9
CLASSROOM 203	UV-14
CLASSROOM 202	UV–15
CLASSROOM 201	UV–16
CORRIDOR	
BOY'S TOILET 208	BC-5
JAN.	
CORRIDOR	BC-6
GIRL'S TOILET 219	

V	ΈI	NT	<u>IL</u>	<b>A</b> 1	

							VE	NTILATION AIR REQUI	REMENTS (ASHRAE 62, INT	ERNATIONAL MECH CODE	2018)					OUTDOOR AIR	EXHAUST AIR	RETURN AIR	SUPPLY
ROOM NAME	EQUIPMENT	APPROX.	OCCUPANT	NUMBER OF	PEOPLE OUTDOOR	TOTAL PEOPLE	AREA OUTDOOR	TOTAL AREA	BREATHING ZONE	ZONE AIR	ZONE AIR	ZONE OUTDOOR	PRIMARY	EXHAUST	TOTAL	CORRECTED	DESIGN	DESIGN	DESIGN
	TAG	AREA	DENSITY	PEOPLE & /	AIRFLOW RATE	OUTDOOR	AIRFLOW RATE	OUTDOOR	OUTDOOR AIRFLOW	DISTRIBUTION	DISTRIBUTION	AIRFLOW	OUTDOOR	AIRFLOW RATE	EXHAUST	DESIGN TOTAL	TOTAL	TOTAL	TOTAL
	NUMBER	(SF)	# PEOPLE/	OR FIXTURES	Rp	AIRFLOW	Ra	AIRFLOW	(CFM) Vbz	EFFECTIVENESS	EFFECTIVENESS	(CFM) Voz	AIR FRACTION		AIRFLOW	(CFM) Vot	(CFM)	(CFM)	MAX/MI
			1000 SF			(CFM)		(CFM)		(COOLING) Ez	(HEATING) Ez		Zp		(CFM)	(NOTE 2)			(CFM)
CLASSROOM 105	UV-6	838	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	101	361	1.0	1.0	361	1.0	N/A	0	350	0	850	1,2
CLASSROOM 104	UV-7	770	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	92	352	1.0	1.0	352	1.0	N/A	0	360	0	640	1,0
CLASSROOM 110	UV-3	822	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	99	359	1.0	1.0	359	1.0	N/A	0	350	0	650	1,0
CLASSROOM 103	UV-8	822	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	99	359	1.0	1.0	359	1.0	N/A	0	350	0	650	1,0
KINDERGARTEN 102	UV-9	803	25	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	96	356	1.0	1.0	356	1.0	N/A	0	350	0	650	1,0
TOILET 102a	EF	53	N/A	1 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	70	0	100	0	/
CLASSROOM 101	UV-10	823	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	99	359	1.0	1.0	359	1.0	N/A	0	350	0	850	1,2
CORRIDOR		1150	N/A		N/A	N/A	0.06 CFM/SQ.FT.	69	69	1.0	0.8	86	1.0		0	85	0	1,150	1,1
BOY'S TOILET 112	BC-3	182	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	25
JAN.		22	N/A	N/A	N/A	N/A	0.12 CFM/SQ.FT.	3	3	1.0	0.8	3	1.0	N/A	0	0	25	0	
																85	325	1,150	1,4
CORRIDOR	BC-4	1150	N/A		N/A	N/A	0.06 CFM/SQ.FT.	69	69	1.0	0.8	86	1.0		0	70	0	1,150	1,1
GIRL'S TOILET 119		260	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	25
																70	300	1150	1,4

PUMP	PUMP SCHEDULE												HEATER SCHED	ULE															
TAG	SERVICE	FLUID	FLOW	TDH (ft)	RPM	MOTOR	ELECTRICAL	BASIS OF DESIGN			NOTES	TAG	TYPE	ROOMS		FAN(S)							HOT WATE	R COIL (NOTE 1)				BASIS	NO
		TYPE	RATE					MANUFACTURER	MODEL	DESCRIPTION				SERVED	APPROX. DIM	AIRFLOW	NO.	MOTOR	V/Ph/Hz	MCA	MOP	DRIVE	TOTAL (ME	H) E.W.T. /	FLOW	MAX. WATER	CONTROL VAVL		
			(GPM)			HP	(V / Hz / ph)								(L x H x D)	(CFM)		HP/WATTS		A	А	TYPE	CAPACIT	L.W.T (OF)	(GPM)	PD (FT)	TYPE		
P-1	HEATING HOT WATER	100% WATER	50	60	1800	5	480/3/60	BELL & GOSSETT	e-1510 2BD-es	BASE MOUNTED	1, 2	UH-1	HORIZONTAL DELIVERY	BOILER ROOM	18-3/8" x 21-3/4" x 11-1/16"	1100	1	1/20	115/1/60	1.8	3.2	DIRECT	- 37.2	180 / 140	2.12	5	2-WAY	TRANE UHSB072	
P-2	HEATING HOT WATER	100% WATER	50	60	1800	5	480/3/60	BELL & GOSSETT	e-1510 2BD-es	BASE MOUNTED	1, 2	UH-2	HORIZONTAL DELIVERY	ELECTRICAL B08b	14-5/8" x 15" x 9-3/8"	395	1	16W	115/1/60	1	1.8	DIRECT	9.3	180 / 140	0.52	5	2-WAY	TRANE UHSB018	
												UH-3	HORIZONTAL DELIVERY	MAINTENANCE B08a	14-5/8" x 15" x 9-3/8"	395	1	16W	115/1/60	1	1.8	DIRECT	9.3	180 / 140	0.52	5	2-WAY	TRANE UHSB018	
NOTES:	1. PROVIDE WITH VARIABLE FREQ 2. PROVIDE WITH INERTIA BASE.	UENCY DRIVE.								_		NOTES:	<ol> <li>1. 100% WATER SOLUTION.</li> <li>2. PROVIDE UNIT HEATERS WITH PLANE</li> </ol>	PE SUSPENSION ADAPTER KITS, R	EMOTE THERMOSTATS, AND ALL OTHER DE	EVICES AND COMF	PONENTS RE	QUIRED TO INSTAL	L AND OPERATE TH	HE UNIT HEATEI	RS.								

		EXHAUST FAN				DX COOLING	G (R-410A)										INDIRECT GA	AS FIRED HEAT	ER PERFORMA	NCE			ELECTRICAL			FILTERS		
MIN.	DRIVE	EXHAUST	EXHAUST	MIN	DRIVE	NOMINAL	TOTAL	SENSIBLE			DX COIL	DX COIL	UNIT	UNIT		AHRI	INPUT	OUTPUT										
MOTOR	TYPE	AIR	FAN ESP	MOTOR	TYPE	TONNAGE	CAPACITY	CAPACITY	E.A.T.	E.A.T.	L.A.T.	L.A.T.	L.A.T.	L.A.T.	COMPRESSOR	EFFICIENCY	CAPACITY	CAPACITY	EAT	LAT	MODULATING	EFFICIENCY	v / PH / HZ	МСА	MFS	TYPE		
HP		(CFM)	(IN. W.C.)	HP			(MBH)	(MBH)	(DEG F DB)	(DEG F WB)	(DEG F DB)	(DEG F WB)	(DEG F DB)	(DEG F WB)	STAGES	EER / MRE / MRC	(MBH)	(MBH)	(DEG F )	(DEG F)	TURN DOWN	(%)		(AMPS)	(AMPS)	PRE FILTER / PRIMARY FILTER	BASIS OF DESIGN	NOTES
6	ECM	925	0.5	6.0	ECM	3	47.8	34.2	95.0	75.0	61.7	60.7	63.3	61.3	Digital Scroll	13.7 / 3.58 / 12.12	75	60	10	70	5:1	80	460/3/60	25.0	30	2" PLEATED MERV-8 & 2" MERV-13	TRANE OABD036A	1, 2, 3, 4, 5, 6

OTOR, UNIT MOUNTED DISCONNECT SWITCH ESSURE SWITCHES (FOR FAN STATUS AND "DIRTY" FILTER INDICATION),

TIONS". COORDINATE CONTROLS WITH DIVISION 15 HVAC CONTROLS CONTRACTOR. IN IN THE ABOVE SCHEDULE. WHEN A LOCAL SWITCH IS ACTIVATED, THE UNIT

THAT IT IS ON WHEN THE SUPPLY FAN IS ON AND OFF WHEN THE SUPPLY FAN IS OFF.

VENTILATION IN ACCORDANCE WITH SECTION 402 OF THE 2015 INTERNATIONAL MECHANICAL CODE. CTUAL AVAILABLE SEATING.

N SCHEDUI	E - SECOND I	<b>LOOR</b>																	
					VENTILATION AIR REQUIREMENTS (ASHRAE 62, INTERNATIONAL MECH CODE 2018)											OUTDOOR AIR	EXHAUST AIR	RETURN AIR	SUPPLY A
I NAME	EQUIPMENT	APPROX.	OCCUPANT	NUMBER OF	PEOPLE OUTDOOR	TOTAL PEOPLE	AREA OUTDOOR	TOTAL AREA	BREATHING ZONE	ZONE AIR	ZONE AIR	ZONE OUTDOOR	PRIMARY	EXHAUST	TOTAL	CORRECTED	DESIGN	DESIGN	DESIGN
	TAG	AREA	DENSITY	PEOPLE & /	AIRFLOW RATE	OUTDOOR	AIRFLOW RATE	OUTDOOR	OUTDOOR AIRFLOW	DISTRIBUTION	DISTRIBUTION	AIRFLOW	OUTDOOR	AIRFLOW RATE	EXHAUST	DESIGN TOTAL	TOTAL	TOTAL	TOTAL
	NUMBER	(SF)	# PEOPLE/ 1000 SF	OR FIXTURES	Rp	AIRFLOW (CFM)	Ra	AIRFLOW (CFM)	(CFM) Vbz	EFFECTIVENESS (COOLING) Ez	EFFECTIVENESS (HEATING) Ez	(CFM) Voz	AIR FRACTION Zp		AIRFLOW (CFM)	(CFM) Vot (NOTE 2)	(CFM)	(CFM)	MAX/MIN (CFM)
ROOM 206	UV-11	743	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	89	349	1.0	1.0	349	1.0	N/A	0	350	0	850	1,20
ROOM 205	UV-12	770	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	92	352	1.0	1.0	352	1.0	N/A	0	360	0	640	1,00
ROOM 204	UV-13	720	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	86	346	1.0	1.0	346	1.0	N/A	0	350	0	650	1,00
ENTER 207	BC-9	447	25	12 PEOPLE	10 CFM/PERSON	120	0.12 CFM/SQ.FT.	54	174	1.0	1.0	174	1.0	N/A	0	175	0	325	500
ROOM 203	UV-14	755	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	91	351	1.0	1.0	351	1.0	N/A	0	350	0	650	1,00
ROOM 202	UV–15	770	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	92	352	1.0	1.0	352	1.0	N/A	0	350	0	650	1,00
ROOM 201	UV-16	823	35	26 PEOPLE	10 CFM/PERSON	260	0.12 CFM/SQ.FT.	99	359	1.0	1.0	359	1.0	N/A	0	360	0	840	1,20
RIDOR		1010	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	61	61	1.0	0.8	76	1.0	N/A	0	80	0	1,160	1,10
TOILET 208	BC-5	182	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	250
JAN.		22	N/A	N/A	N/A	N/A	0.12 CFM/SQ.FT.	3	3	1.0	0.8	3	1.0	N/A	0	0	75	0	0
																80	375	1,160	1,35
RIDOR	BC-6	1010	N/A	N/A	N/A	N/A	0.06 CFM/SQ.FT.	61	61	1.0	0.8	76	1.0	N/A	0	80	0	1,200	1,10
TOILET 219		260	N/A	4 FIXTURES	N/A	N/A	N/A	0	N/A	1.0	0.8	N/A	N/A	70 CFM/FIXTURE	280	0	300	0	300
																80	300	1200	1,40

ED BY NATURAL VENTILATION IN ACCORDANCE WITH SECTION 402 OF THE 2015 INTERNATIONAL MECHANICAL CODE.

### TION SCHEDULE - FIRST FLOOR

### CABINET UNIT HEATER SCHEDULE FAN(S) AIRFLOW MOTOR V/Ph/Hz MAX TYPE LOCATION APPROX. DIM (L x W x H) (CFM — HI/M/LO) HP FUS 234 / 191 / 143 1/8 115/1/60 36" x 30" x 11" CUH-2 CEILING MOUNTED, RECESSED BASEMENT STAIRTOWER A CUH-3 WALL MOUNTED, RECESSED 63" x 10" x 30" MAIN ENTRANCE VESTIBULE 111 11/50 115/1/60 - / 382 / 279 CUH-4 CEILING MOUNTED, RECESSED BASEMENT STAIRTOWER A 36" x 30" x 11" 234 / 191 / 143 1/8 115/1/60 CUH-5 CEILING MOUNTED, RECESSED BASEMENT CORRIDOR B22 36" x 30" x 11" 234 / 191 / 143 1/8 115/1/60 CUH-6 WALL MOUNTED, RECESSED SECURITY VESTIBULE B13 63" x 10" x 30" - / 382 / 279 11/50 115/1/60 CUH-7 33-1/4" x 9-7/8" x 25-3/16" 230 / 197 / 150 1/8 115/1/60 FLOOR MOUNTED LOBBY 120 33-1/4" x 9-7/8" x 25-3/16" 230 / 197 / 150 1/8 115/1/60 1 CUH-8 FLOOR MOUNTED CORRIDOR 122 CUH-9 FLOOR MOUNTED LOBBY 220 33-1/4" x 9-7/8" x 25-3/16" 230 / 197 / 150 1/8 115/1/60 1 33-1/4" x 9-7/8" x 25-3/16" 230 / 197 / 150 1/8 115/1/60 1 CUH-10 FLOOR MOUNTED CORRIDOR 222 NOTES: 1. PROVIDE UNIT WITH LIMITED ACCESS FASTENERS, ALUMINUM GRILLE, LEVELING LEGS, MOTOR STARTER & DISCONNECT SWITCH, LOUVERED INLET GRILLE, DECORATOR COLOR (COLOR AS PE AND MOUNTING ACCESSORIES.

2. PROVIDE HIGH CAPACITY TWO ROW COIL. 3. 100% /WATER SOLUTION.

		HOT WATER CO	OIL (NOTE 3)	BASIS	NOTES			
١X	DRIVE	TOTAL (MBH)	E.W.T. /	FLOW	MAX. WATER	CONTROL VALVE	OF DESIGN	
E (A)	TYPE	CAPACITY	L.W.T (OF)	(GPM)	PD (FT)	TYPE		
5	ECM	11.5	180 / 100	0.3	5	2-WAY	TRANE FFEB030	1&2
5	ECM	24.4	180 / 118	0.8	5	2-WAY	TRANE FFHB060	1&2
5	ECM	11.5	180 / 100	0.3	5	2-WAY	TRANE FFEB030	1&2
5	ECM	11.5	180 / 100	0.3	5	3-WAY	TRANE FFEB030	1&2
5	ECM	24.4	180 / 118	0.8	5	2-WAY	TRANE FFHB060	1&2
5	ECM	11.5	180 / 101	0.3	5	3-WAY	TRANE FFBB030	1
5	ECM	11.5	180 / 101	0.3	5	3-WAY	TRANE FFBB030	1
5	ECM	11.5	180 / 101	0.3	5	3-WAY	TRANE FFBB030	1
5	ECM	11.5	180 / 101	0.3	5	3-WAY	TRANE FFBB030	1

