CONTROLS LEGEND

- D — DIGITAL INPUT
- D — DIGITAL OUTPUT
- A — ANALOG INPUT
- A — ANALOG OUTPUT
- M — MOTOR OPERATOR / MOTORIZED DAMPER
- DP — DIFFERENTIAL PRESSURE SENSOR
- SP — STATIC PRESSURE SENSOR
- S/S — START/STOP
- NG — NATURAL GAS DETECTOR
- T — SPACE DRY BULB TEMPERATURE SENSOR
- T H — COMBINATION SPACE DRY BULB TEMPERATURE SENSOR WITH RELATIVE HUMIDITY SENSOR INCLUDED
- C — FAN COIL UNIT REMOTE CONTROLLER
- H — RELATIVE HUMIDITY SENSOR
- H — WALL MOUNTED HUMIDITY SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- CO — CARBON MONOXIDE DETECTOR
- M — MOTORIZED DAMPER
- ST — STARTER
- VFD — VARIABLE FREQUENCY DRIVE
- ECM — ELECTRICALLY COMMUTATED MOTOR INTERFACE BOARD
- AMS — AIR MEASURING STATION
- CS — CURRENT SENSOR
- ES — END SWITCH
- OS — OCCUPANCY SENSOR
- PS — PRESSURE SENSOR
- SP — STATIC PRESSURE SENSOR
- H — HUMIDITY
- SD — SMOKE DETECTOR
- R — RELAY
- T — ELECTRIC THERMOSTAT DUCT MOUNTED
- F — AIRFLOW SENSOR
- A — ALARM
- T — TREND
- RT — RUN TIME

- T — TEMPERATURE SENSOR SINGLE POINT
- T — TEMPERATURE SENSOR AVERAGING SENSING ELEMENT
- M — 2-WAY CONTROL VALVE ELECTRIC ACTUATOR
- M — 3-WAY CONTROL VALVE ELECTRIC ACTUATOR

SINGLE LINE SYMBOLS LEGEND

- HWS — HEATING WATER SUPPLY PIPING
- HWR — HEATING WATER RETURN PIPING
- COND — COOLING COIL CONDENSATE PIPING
- RL — REFRIGERANT LIQUID PIPING
- RS — REFRIGERANT SUCTION PIPING
- 90 DEGREE PIPE ELBOW DOWN
- PIPE RISER UP SYMBOL
- MID-PIPE DOWN
- PIPE CAP
- PIPE BREAK
- PIPE GUIDE
- UNION
- FLOW DIRECTION
- PIPING/DUCTWORK/EQUIPMENT REMOVALS
- CHECK VALVE
- SHUTOFF BALL VALVE
- 2-WAY MODULATING CONTROL VALVE
- 2-WAY CONTROL VALVE
- 3-WAY MODULATING CONTROL VALVE
- GATE VALVE CIRCUIT SETTER BALANCING VALVE - 2-1/2" SIZE AND UP
- CALIBRATED BALANCE VALVE CIRCUIT SETTER BALANCING VALVE - 2" SIZE AND BELOW
- PRESSURE REDUCING VALVE
- 3-WAY CONTROL VALVE
- OR — BUTTERFLY VALVE
- RELIEF VALVE
- PRESSURE RELIEF VALVE
- AUTOMATIC AIR VENT
- PUMP
- OR — PRESSURE GAGE
- OR — STRAINER
- OR — THERMOMETER
- POINT OF CONNECTION
- POINT OF DISCONNECTION
- EXPANSION COMPENSATOR

DOUBLE LINE SYMBOLS LEGEND

- SUPPLY DIFFUSER
- RETURN DIFFUSER
- SQUARE-THROATED ELBOW WITH TURNING VANES
- DS-X — ELBOW STYLE DUCT SILENCER
- DS-X — STRAIGHT DUCT STYLE DUCT SILENCER
- R / R — DUCTWORK RADIUS ELBOW
- F/S — COMBINATION FIRE/SMOKE DAMPER
- F — FIRE DAMPER
- S — SMOKE DAMPER
- M — MOTORIZED DAMPER
- FLEXIBLE SUPPLY AIR DUCTWORK MAXIMUM 3-FOOT LENGTH
- VOLUME DAMPER

- RETURN AIR RISE
- EXHAUST AIR RISE
- SUPPLY AIR RISE
- X — KEYED NOTE DESIGNATION TAG
- C — FCU CONTROLLER
- T — SPACE TEMPERATURE SENSOR

ABBREVIATIONS LEGEND

AC	AIR CONDITIONER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AH	AIR HANDLER
AHU	AIR HANDLING UNIT
APD	AIR PRESSURE DROP
AS	AIR SEPARATOR
ATS	AIR TRANSFER SLEEVE
AVG	AVERAGE SPACE TEMPERATURE
BHP	BRAKE HORSEPOWER
BM	BAILEY MIDDLE SCHOOL
BTM	BOTTOM
BTUH	BRITISH THERMAL UNITS/HOUR
BTU/H/LF	BRITISH THERMAL UNIT/HOUR/ LINEAR FOOT
CAP	CAPACITY
CFM	CUBIC FEET PER MINUTE
CI	CAST IRON
CO	CARBON MONOXIDE SENSOR
COND.	CONDENSATE PIPING
CONT.	CONTINUATION
CP	STEAM CONDENSATE PUMP/RECEIVER SET
CUH	CABINET UNIT HEATER
CW	DOMESTIC COLD WATER
CV	CONVECTOR
cV	VALVE COEFFICIENT
D	DIFFUSER
DB	DRY BULB
dBA	A-WEIGHTED DECIBEL LEVEL
DCW	DOMESTIC COLD WATER
DDC	DIRECT DIGITAL CONTROL
DEG. F	DEGREES FAHRENHEIT
DHWR	DOMESTIC HOT WATER RETURN
DIA	DIAMETER
DN	DOWN
DS	DUCT SILENCER
DWDI	DUAL WIDTH, DUAL INLET
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
E.C.	EXPANSION COMPENSATOR
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
E	EXHAUST FAN TAG
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EHC	IN-DUCT ELECTRIC HEATING COIL
EL	EXPANSION LOOP
ER	EXHAUST REGISTER
ERV	STATIC PLATE ENERGY RECOVERY VENTILATOR
ESP	EXTERNAL STATIC PRESSURE
ET	EXPANSION TANK
EWT	ENTERING WATER TEMPERATURE
EX	EXISTING
F	FAN
°F	FAHRENHEIT
FAI	FRESH AIR INTAKE
FC	FORWARD CURVED
FD	FIRE DAMPER
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPS
FLR	FLOOR
FO	FLAT OVAL
FPM	FEET PER MINUTE
FSD	FIRE SMOKE DAMPER
FT	FIN TUBE
FT. OR '	FEET
FTR	FIN TUBE RADIATION
G	GRILLE
gal/GAL	GALLON
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GRAVITY RELIEF VENTILATOR
H	HOOD
HP	HORSEPOWER OR HEAT PUMP
HPSF	HEAT PUMP SEASONAL PERFORMANCE FACTOR
HS	HIGH SCHOOL
H&V	HEATING AND VENTILATION
HW	DOMESTIC HOT WATER
HWP	HOT WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HX	HEAT EXCHANGER
HZ	HERTZ
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
IN OR "	INCHES
INT	INTERNAL
KEF	KITCHEN EXHAUST FAN
KW	KILOWATT
L	LENGTH
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
LDB	LEAVING DRY BULB
LF	LINEAR FOOT
LMTD	LOGARITHMIC MEAN TEMPERATURE DIFFERENCE
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	THOUSAND BTUH
MC	MOTOR CONTROLLER
MCA	MINIMUM CIRCUIT AMPACITY
MER	MECHANICAL EQUIPMENT ROOM
MH	MOUNTING HEIGHT
MD	MOTORIZED DAMPER
MIN	MINIMUM
MOP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
M'F'G	MANUFACTURER
NG	NATURAL GAS DETECTOR
NO	NORMALLY OPEN
NOL	NON OVER LOADING
OA	OUTSIDE AIR
OAD	OUTSIDE AIR DAMPER
OED	OPEN END DUCT
OS&Y	OPEN STEM & YOKE
P	PUMP
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PG	PROPYLENE GLYCOL
PH	PHASE
PPM	PARTS PER MILLION
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
R	HEATING WATER RADIATION UNIT
RA	RETURN AIR
RD	RETURN DIFFUSER
REF	ROOF EXHAUST FAN
RF	RELIEF FAN
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RATED LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RP	HYDRONIC RADIANT HEAT PANEL
RPZ	REDUCED PRESSURE ZONE ASSEMBLY
RR	RETURN REGISTER
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
S	INDOOR AIR HANDLING UNIT TAG
SA	SUPPLY AIR
SF	SQUARE FOOT
SD	SUPPLY DIFFUSER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SP	STATIC PRESSURE
SPS	STATIC PRESSURE SENSOR
SR	SHORT RADIUS
SS	STAINLESS STEEL
SWSI	SINGLE WIDTH SINGLE INLET
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TR	DUCTWORK TRANSITION
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
VRV	VARIABLE REFRIGERANT VOLUME
W	WIDTH
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
WH	WATER HEATER

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NUFSD BOND PROJECT PHASE 5 - MAINTENANCE

- SED#50-01-08-03-0-002-020 (HIGHVIEW ES)
- SED#50-01-08-03-7-007-002 (Maintenance)
- SED#50-01-08-03-7-012-004 (OEC)
- SED#50-01-08-03-0-001-026 (MILLER ES)
- SED#50-01-08-03-0-004-022 (BARR MS)

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Nanuet, NY 10954

OEC Building
135 Convent Rd
Nanuet, NY 10954

Maintenance Building
103 Church St.
Nanuet, NY 10954

Miller Elementary School
50 Blauvelt Rd Unit1
Nanuet, NY 10954

A MacArthur Barr Middle School
143 Church St
Nanuet, NY 10954

KEY PLAN

REVISIONS

No.	Description	Date

ISSUED: BID SET

DATE: 06/21/2024

SCALE: 12" = 1'-0"

SHEET NAME:
HVAC SYMBOLS, LEGENDS AND ABBREVIATIONS

SHEET NUMBER:
MB-M001

ISSUE FOR BID SET

DRAWN BY: Author
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