PIPING SYMBOLS

- D — CONDENSATE DRAIN
- RL — REFRIGERANT LIQUID
- RG — REFRIGERANT GAS
- HGS — HOT GLYCOL SUPPLY
- HGR — HOT GLYCOL RETURN
- CHGS — CHILLED GLYCOL SUPPLY
- CHGR — CHILLED GLYCOL RETURN
- CHWS — CHILLED WATER SUPPLY
- CHWR — CHILLED WATER RETURN
- F — FILTER, IN LINE
- FM — FLOW METER
- A — AUTOMAIC AIR VENT
- MANUAL AIR VENT
- DROP
- RISE
- TEE TAKEOFF
- 90 DEGREEES TOP CONNECTION
- UNION (FLANGED OR SCREWED)
- STRAINER
- SAFETY VALVE
- PLUG COCK
- GATE VALVE WITH NON-RISING STEM
- CHECK VALVE
- AUTOMATIC CONTROL VALVE
- DP — DIFFERENTIAL PRESSURE TRANSMITTER

DUCT SYMBOLS AND ABBREVIATIONS

- NEW GALVANIZED SHEET METAL DUCTWORK
- FD/AD — FIRE DAMPER AND ACCESS DOOR
- VOLUME DAMPER
- AHU-X — AIR HANDLING UNIT
- BELL OPENING WITH WIRE MESH SCREEN
- FOUR WAY BLOW SUPPLY AIR CEILING DIFFUSER
- THREE WAY BLOW SUPPLY AIR CEILING DIFFUSER
- RETURN/EXHAUST AIR CEILING MOUNTED GRILLE
- RETURN EXHAUST GRILLE
- SUPPLY AIR GRILLE
- TRANSFER AIR WALL OPENING
- FLEXIBLE CONNECTION
- GRAVITY DAMPER
- M — MOTORIZED DAMPER
- D — DUCT SMOKE DETECTOR
- F S — FIRE-SMOKE DAMPER AND ACCESS DOOR
- S — SMOKE DAMPER AND ACCESS DOOR
- U — DOOR UNDERCUT
- EUH-X — ELECTRIC UNIT HEATER
- CEILING MOUNTED HOT WATER CABINET UNIT HEATER
- WUH-X — HOT WATER UNIT HEATER
- WCUH-X — WALL OR FLOOR MOUNTED HOT WATER CABINET UNIT HEATER
- FCU-X — FAN COIL-UNIT

AC	AIR CONDITIONING UNIT(S) (INDOOR UNIT)
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AMB	AMBIENT
B	BOILER
BTU	BRITISH THERMAL UNIT
CAV	CONSTANT AIR VOLUME BOX
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CMPR	COMPRESSOR
CO	CLEAN-OUT
COND.	CONDENS(-ER, -ING, -ATION)
DB	DRY-BULB TEMPERATURE
DIA	DIAMETER
DWG/s	DRAWING/S
EAT	ENTERING AIR TEMPERATURE
EF	EXHAUST FAN
EXIST.	EXISTING
F	FAHRENHEIT
FD/AD	FIRE DAMPER & ACCESS DOOR
FM	FLOW MEASURING STATION
FPM	FEET PER MINUTE
FSD	COMBINATION FIRE/SMOKE DAMPER AND ACCESS DOOR
FT	FOOT OR FEET
HC	HEATING COIL
HD	HEAD
HP	HORSEPOWER
HR	HOUR(S)
HRW	HEAT RECOVERY WHEEL
HX	HEAT EXCHANGER
HZ	FREQUENCY
KEF	KITCHEN EXHAUST FAN
KW	KILOWATT
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MIN	MINIMUM
N/A	NOT APPLICABLE
OAI	OUTSIDE AIR INTAKE
PH	PHASE (ELECTRICAL)
POC	PROOF OF CLOSURE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RP	RADIANT PANEL
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
ST	SOUND ATTENUATOR (TRAP)
TEF	TOILET EXHAUST FAN
T'STAT	THERMOSTAT
V	VOLT
VAV	VARIABLE AIR VOLUME BOX
VENT.	VENTILATION
W	WATT
WB	WET BULB
WH	WATT-HOUR

LEGEND FOR AUTOMATIC TEMPERATURE CONTROLS

AI	ANALOG INPUT
AO	ANALOG OUTPUT
BMS	BUILDING MANAGEMENT SYSTEM
C	COMMON
CO_2	CARBON DIOXIDE SENSOR
D	DAMPER
DA	DAMPER ACTUATOR
DCP	DIGITAL CONTROL PANEL
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
D/N	DAY/NIGHT SIGNAL
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
EP	ELECTRIC TO PNEUMATIC SWITCH, EP ENERGIZED SIGNAL
ES	END SWITCH, POSITION SWITCH
FS	FLOW SWITCH
H	HUMIDITY SENSOR
HI	HUMIDITY INDICATOR
HS	HIGH SIGNAL SELECTOR
INWC	INCHES WATER COLUMN
M	MAIN AIR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTDOOR AIR
PT	PRESSURE TRANSMITTER
PSH	PRESSURE SWITCH HIGH
S	SWITCH
SD	SMOKE DETECTOR
SPS	STATIC PRESSURE SENSOR
S/W	SUMMER-WINTER SIGNAL
T	THERMOSTAT
TS	TEMPERATURE SENSOR
TDR	TIME DELAY RELAY
THL	TEMPERATURE HIGH LIMIT THERMOSTAT
TI	TEMPERATURE INDICATOR
TLL	TEMPERATURE LOW LIMIT THERMOSTAT
V	VALVE
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB
WU	WARM-UP SIGNAL
* *	DYNAMIC GRAPHIC VALUE

SYSTEM LEGEND/SYMBOL

- FILTER
- CC — COOLING COIL
- HC — HEATING COIL
- H — HUMIDITY SENSOR
- TS — TEMPERATURE SENSOR BY TCC
- SD — SMOKE DAMPER
- D — DUCT SMOKE DETECTOR
- CONTROL VALVE (ELECTRIC)
- T — SPACE THERMOSTAT
- AD — AUTOMATIC DAMPER
- PUMP

TEMPERATURE CONTROL SYMBOL

- WIRING
- PARALLEL BLADE DAMPER
- OPPOSED BLADE DAMPER

BUILDING CODE COMPLIANCE NOTES

1. PERMITS:

CONTRACTOR SHALL FILE FOR AND OBTAIN PERMITS FOR ALL MECHANICAL SYSTEMS. PERMITS SHALL COMPLY WITH CHAPTER 1 ADMINISTRATION, TITLE 28 SECTION MC 105.

2. LISTED AND LABELED:

ALL APPLIANCES REGULATED BY NYSMC SHALL BE LISTED AND LABELED AS REQUIRED BY MC 301.7. LABEL INFORMATION SHALL COMPLY WITH REQUIREMENTS OF MC 301.8.

3. VIBRATION ISOLATION:

ALL MECHANICAL EQUIPMENT SHALL BE MOUNTED AND SUPPORTED AS REQUIRED BY MC 301.13.

4. WIND RESISTANCE:

ALL MECHANICAL EQUIPMENT, APPLIANCES AND SUPPORTS THAT EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED AS PER BC 1609 "WIND LOADS."

6. FIRE STOPPING COMPLIANCE NOTE:

A. ALL DUCT AND PIPE PENETRATIONS OF RATED CONSTRUCTION SHALL COMPLY WITH SPECS SECTION 078400.

7. DUCT CONSTRUCTION AND INSTALLATION:

AN AIR DISTRIBUTION SYSTEM SHALL BE DESIGNED AND INSTALLED TO SUPPLY THE REQUIRED DISTRIBUTION OF AIR. THE INSTALLATION OF AN AIR DISTRIBUTION SYSTEM SHALL NOT AFFECT THE FIRE PROTECTION REQUIREMENTS SPECIFIED IN THE NEW YORK CITY BUILDING CODE. DUCTS SHALL BE CONSTRUCTED, BRACED, REINFORCED AND INSTALLED TO PROVIDE STRUCTURAL STRENGTH AND DURABILITY PER NYS MC 603. ALL METALIC DUCTS SHALL BE CONSTRUCTED AS SPECIFIED IN THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE PER NYS MC 603.4.

8. DUCT INSULATION:

DUCT INSULATION SHALL CONFORM TO THE REQUIREMENTS OF NYSECC C403.11.1. ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH A MINIMUM OF R-12 INSULATION.

9. HYDRONIC PIPING:

HYDRONIC PIPING SYSTEMS THAT ARE PART OF HVAC SHALL COMPLY WITH MC CHAPTER 12. PIPE INSULATION INSTALLED IN BUILDINGS SHALL CONFORM TO THE REQUIREMENTS OF NYSECC R403.4.

FLUID	PIPE DIA. < 1.5"	PIPE DIA. >= 1.5"
HOT WATER	1-1/2"	2"
CHILLED WATER	1/2"	1"
REFRIGERANT	1" (1/2" FOR RS)	1-1/2"

HYDRONIC PIPING SYSTEMS OTHER THAN GROUND-SOURCE HEAT PUMP LOOP SYSTEMS SHALL BE TESTED HYDROSTATICALLY AT ONE AND ONE HALF TIMES THE SYSTEM DESIGN OPERATING PRESSURE, BUT NOT LESS THAN 100 PSI FOR DURATION OF TEST NOT LESS THAN 2 HOURS. HYDRONIC TESTING SHALL COMPLY WITH MC 1208.

10. REFRIGERATION (SYSTEM USING A1 REFRIGERANT):

N/A

HVAC DRAWINGS LIST

M001.00	HVAC NOTES, SYMBOLS, ABBREVIATIONS, DESIGN PARAMETERS & DRAWING LIST
M002.00	HVAC SCHEDULES SHEET #1
M060.00	HVAC CELLAR DEMO PLAN
M061.00	HVAC FIRST FLOOR DEMO PLAN
M062.00	HVAC SECOND FLOOR DEMO PLAN
M063.00	HVAC ATTIC DEMO PLAN
M100.00	HVAC CELLAR PLAN
M101.00	HVAC FIRST FLOOR PLAN
M102.00	HVAC SECOND FLOOR PLAN
M103.00	HVAC ATTIC PLAN
M200.00	HVAC PIPING CELLAR PLAN
M201.00	HVAC PIPING FIRST FLOOR PLAN
M202.00	HVAC PIPING SECOND FLOOR PLAN
M203.00	HVAC PIPING ATTIC FLOOR PLAN
M401.00	HVAC AIR RISER DIAGRAM
M402.00	HVAC HOT GLYCOL RISER DIAGRAMS
M403.00	HVAC CHILLED GLYCOL RISER DIAGRAMS
M404.00	HVAC HYDRONIC FLOW DIAGRAMS
M405.00	HVAC CONDENSATE RISER DIAGRAMS
M406.00	CONTROL DIAGRAM SHEET#1
M407.00	CONTROL DIAGRAM SHEET#2
M501.00	HVAC DETAILS SHEET#1
M502.00	HVAC DETAILS SHEET #2

GENERAL NOTES

1. COORDINATE ALL MECHANICAL WORK WITH ALL OTHER TRADES TO AVOID CONFLICTS. CONTRACTOR WILL NOT BE ALLOWED TO INSTALL SYSTEMS UNTIL COORDINATION DRAWINGS ARE SIGNED OFF BY ALL TRADES. MECHANICAL CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATION OF ALL ROOF OPENINGS WITH G.C. BASED ON APPROVED EQUIPMENT AND SHEET METAL SHOP DRAWINGS.
2. DUCT DIMENSIONS SHOWN ON THE DRAWINGS ARE CLEAR INSIDE DIMENSIONS. WHERE DUCT REQUIRES INTERNAL LINING, THE DUCT SIZE SHALL BE INCREASED ACCORDINGLY.
3. CONDENSATE DRAIN PIPING FROM COOLING COIL DRAIN PANS SHALL BE PITCHED DOWN IN THE DIRECTION OF FLOW AT A MINIMUM OF 1/8" PER FOOT.
4. MOUNT ALL THERMOSTATS AND SENSORS AS PER SPECIFICATION AND MANUFACTURER REQUIREMENTS.
5. DUCTWORK SHOULD BE INSTALLED AS HIGH AS PRACTICAL.
6. HORIZONTAL WATER PIPING SHALL BE INSTALLED LEVEL OR SLOPE UP IN DIRECTION OF FLOW A MIN. OF 1/4" IN 10'. PIPE FITTINGS (VALVES, BALANCING, FLOW MEASURING, ETC.) INSTALLED ABOVE CEILING SHALL BE LOCATED TO BE ACCESSIBLE.
7. PROVISION SHALL BE MADE FOR ADDITIONAL MANUAL VENTING OF PIPING WHERE TRAPPING OF AIR CANNOT BE AVOIDED. EACH LOW POINT IN A MAIN SHALL BE PROVIDED WITH A 1" BRONZE HOSE GATE VALVE, HAVING A BRONZE CAP TO PERMIT DRAINING OF ENTIRE SYSTEM. INSTALL IN ACCESSIBLE LOCATIONS.
8. MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND RATING OF FIRE AND COMBINATION FIRE SMOKE DAMPERS WITH "FIRE PROTECTION PLANS" DRAWINGS. DAMPERS USED FOR PROTECTION OF OPENINGS IN WALL OR PARTITIONS WITH FIRE RESISTANCE RATING OF LESS THAN 3 HOURS SHALL POSSESS 1 1/2 HOUR FIRE RATING. DAMPERS USED FOR PROTECTION OF OPENINGS IN WALL OR PARTITIONS WITH FIRE RESISTANCE RATING OF 3 HOURS OR MORE, SHALL POSSESS 3 - HOUR FIRE RATING. ALL EXTERIOR WALL OPENINGS SHALL BE PROVIDED WITH FIRE/SMOKE DAMPERS.
9. ALL REFRIGERANT PIPING INSULATION AND SIZING MUST FOLLOW STANDARD REFRIGERANT PIPING INSTALLATION TECHNIQUES. REFRIGERANT PIPING SHOP DRAWINGS SHALL INCLUDE ALL REQUIRED ACCESSORIES (VALVES, TRAPS, STRAINERS, SIGHT GLASS, ETC.). SIZES OF PIPING SHALL BE COORDINATED WITH THE SYSTEM MANUFACTURER BEFORE INSTALLATION.
10. MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR LOCATION OF ACCESS DOORS IN WALLS, CEILINGS, TO PERMIT INSPECTIONS, BALANCING, MAINTENANCE OF ALL CONTROLS, DAMPERS, VALVES, FAN-COIL UNITS, UNIT VENTILATORS, OTHER APPARATUS CONCEALED BEHIND WALLS OR CEILING. ACCESS DOORS FOR FIRE AND SMOKE DAMPERS SHALL BE IDENTIFIED ON EXTERIOR BY LABEL (O.5" HIGH LETTERS) READING "SMOKE DAMPER" OR "FIRE DAMPER" AS PER MC 607.4.
11. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENT.
12. ALL FLOOR-MOUNTED EQUIPMENT SHALL BE INSTALLED ON 4" CONCRETE PADS OR OTHER WISE AS INDICATED ON DRAWINGS.
13. ALL DOOR UNDERCUTS SHALL COMPLY WITH NFPA 80.
14. EXPANSION LOOPS: MECHANICAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH LOCATION OF EXPANSION LOOPS AND FABRICATE EXPANSION LOOPS FOR ADEQUATE EXPANSION OF INSTALLED PIPING SYSTEMS. PROVIDE PIPE ANCHORS AND PIPE ALIGNMENT GUIDES AS DETERMINED TO PROPERLY ANCHOR PIPING IN RELATIONSHIP TO EXPANSION LOOPS. WHERE NOT OTHERWISE INDICATED, INSTALL ANCHORS AT ENDS OF PRINCIPAL PIPE-RUNS, AND AT INTERMEDIATE POINTS IN PIPE-RUNS BETWEEN EXPANSION LOOPS AND BENDS.
15. ALL OUTDOOR AIR DUCTWORK TO BE INSULATED TO R-12 (PER ECC C403.2.9).

HVAC DESIGN PARAMETERS

INSIDE AMBIENT DESIGN PARAMETERS:

SUMMER: 75°F(DB)/50% RH
WINTER: 72°F(DB)

OUTSIDE AMBIENT DESIGN PARAMETERS FOR DOAS UNITS:

SUMMER: 85.6°F(DB)/72.1°F(WB)

OUTSIDE WINTER AMBIENT DESIGN PARAMETERS:

WINTER TEMP.: 15.1°F(DB)

"U-VALUES"

ROOF: 0.026 BTU/HRxFT²x°F
WALLS: 0.47 BTU/HRxFT²x°F
WHOLE WINDOW: 0.38 BTU/HRxFT²x°F
SOLAR HEAT GAIN COEFFICIENT: 0.40

HEATING & COOLING LOAD CALCULATION

DESIGN LOADS ASSOCIATED WITH HEATING, VENTILATING AND AIR CONDITIONING OF THE BUILDING SHALL BE DETERMINED IN ACCORDANCE WITH ANSI/ASHRAE/ACCA STANDARD 183 OR BY AN APPROVED EQUIVALENT COMPUTATIONAL PROCEDURE USING THE DESIGN PARAMETERS SPECIFIED IN CHAPTER C4 OF NYSECC.

REQUIRED OUTDOOR VENTILATION AIR

ROOM NUMBER	ROOM NAME	NET AREA (SQ.FT)	MC 403.3.1.1 OCCUPANCY USE	OCCUPANT LOAD FACTOR	OCCUPANCY LOAD	REQUIRED OUTDOOR AIR QUANTITIES (CFM) NYS MC 2014: 403.3 O.A./PERSON	O.A./SQ.FT.	TOTAL O.A.	DESIGNED O.A. AIR QUANTITIES (CFM)
			DOAS-1						
1ST FLOOR									
101	TRAINING KITCHEN	180	B - BUSINESS	100 GROSS	2	5	0.06	21	50
105	CAFE SEATING	846	B - BUSINESS	100 GROSS	9	5	0.06	96	100
106	CAFÉ STORAGE	103	B - BUSINESS	300 GROSS	1	5	0.06	12	25
108	SUPERVISOR OFFICE	195	B - BUSINESS	100 GROSS	2	5	0.06	22	25
109	STORAGE	108	B - BUSINESS	300 GROSS	1	5	0.06	12	25
110	BREAK ROOM/CHART ROOM	156	B - BUSINESS	100 GROSS	2	5	0.06	20	25
111	EMPLYMENT/COMPUTER ROOM	310	B - BUSINESS	100 GROSS	4	5	0.06	39	50
112	COMMUNITY LIVING	230	B - BUSINESS	100 GROSS	3	5	0.06	29	50
113	COMMUNITY CONNECTION	236	B - BUSINESS	100 GROSS	3	5	0.06	30	50
114	LIVING MUSEUM	2,454	B - BUSINESS	100 GROSS	25	7.5	0.06	335	400
115	GATHERING SPACE	369	B - BUSINESS	100 GROSS	4	5	0.06	43	50
116	OFFICE COBICLES	252	B - BUSINESS	100 GROSS	3	5	0.06	31	50
126	CORRIDOR	380	B - BUSINESS	-	0	0	0.06	23	300
2ND FLOOR									
200	PURGED CHARTING	187	B - BUSINESS	100 GROSS	2	5	0.06	22	25
201	TRATMENT ROOM	170	B - BUSINESS	100 GROSS	2	5	0.06	21	25
204	OFFICE	138	B - BUSINESS	100 GROSS	2	5	0.06	19	25
205	TELE PSECH OFFICE	181	B - BUSINESS	100 GROSS	2	5	0.06	21	25
206	TELE PSECH OFFICE	188	B - BUSINESS	100 GROSS	2	5	0.06	22	25
207	TELE PSECH OFFICE	182	B - BUSINESS	100 GROSS	2	5	0.06	21	25
208	PRESCRIBER OFFICE	178	B - BUSINESS	100 GROSS	2	5	0.06	21	25
209	OFFICE	137	B - BUSINESS	100 GROSS	2	5	0.06	19	25
210	PRESCRIBER OFFICE	137	B - BUSINESS	100 GROSS	2	5	0.06	19	25
211	OFFICE	208	B - BUSINESS	100 GROSS	3	5	0.06	24	25
212	SERVER	121	B - BUSINESS	100 GROSS	2	5	0.06	18	25
213	WAITING ROOM	214	B - BUSINESS	100 GROSS	3	5	0.06	25	25
214	RECEPTION / CHARTS	414	B - BUSINESS	100 GROSS	5	5	0.06	50	50
215	SERVICE DIRECTOR OFFICE	190	B - BUSINESS	100 GROSS	2	5	0.06	22	25
216	OFFICE	152	B - BUSINESS	100 GROSS	2	5	0.06	20	25
217	OFFICE	152	B - BUSINESS	100 GROSS	2	5	0.06	20	25
218	OFFICE	178	B - BUSINESS	100 GROSS	2	5	0.06	21	25
220	STAFF CONF ROOM	295	B - BUSINESS	100 GROSS	3	5	0.06	33	50
221	OFFICE / SWING SPACE	264	B - BUSINESS	100 GROSS	3	5	0.06	31	50
225	OFFICE	178	B - BUSINESS	100 GROSS	2	5	0.06	21	25
226	OFFICE	172	B - BUSINESS	100 GROSS	2	5	0.06	21	25
227	OFFICE	172	B - BUSINESS	100 GROSS	2	5	0.06	21	25
228	OFFICE	161	B - BUSINESS	100 GROSS	2	5	0.06	20	25
231	GROUP ROOM	268	B - BUSINESS	100 GROSS	3	5	0.06	32	50
232	CORRIDOR	1368	B - BUSINESS	0	0	0	0.06	83	200
			TOTAL						2300

NEW YORK STATE OF OPPORTUNITY. | DASNY
515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG
NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health
10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

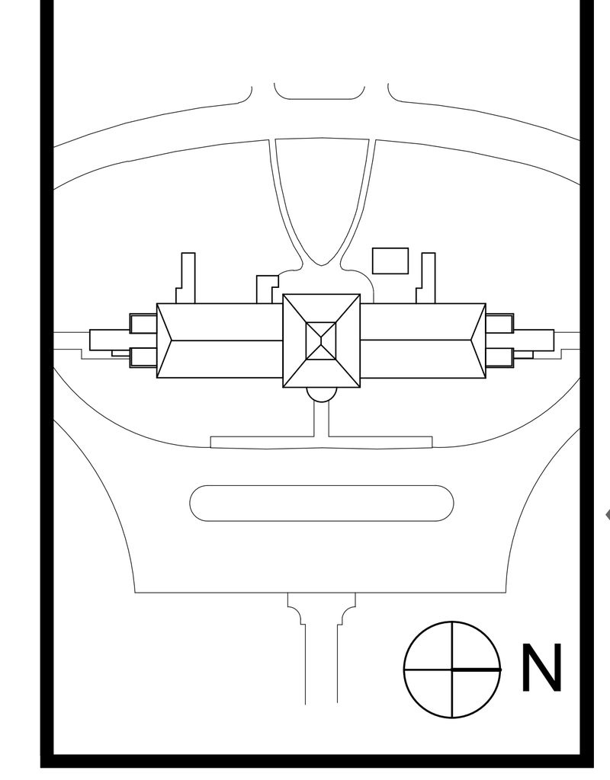
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC NOTES, SYMBOLS, ABBREVIATIONS, DESIGN PARAMETERS & DRAWING LIST

Phase
100 % SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature
STATE OF NEW YORK · ARKADY KATS · No. 075087 · LICENSED PROFESSIONAL ENGINEER

DASNY Project No: 353630
Drawing Number
M001.00
Drawing

DOAS SCHEDULE

UNIT NO.	LOCATION	SERVICE	SUPPLY AIR FAN DATA: TOTAL SUPPLY (CFM)	TOTAL S.P. (IN. W.G.)	EXT. S.P. (IN. W.G.)	FAN QTY.	HP	BHP	RPM	CHILLED WATER COOLING COIL (30% PROPLYENE GLYCOL): EAT (°F) DB	EAT WB	LAT (°F) DB	LAT WB	EWT (°F)	LWT (°F)	CAPACITY (MBH) TOTAL	CAPACITY SENSIBLE	GPM	WATER P.D. (FT. W.G.)	NO. OF ROWS	HOT WATER HEATIIMG COIL (30% PROPLYENE GLYCOL): EAT (DB °F)	LAT (DB °F)	EWT (°F)	LWT (°F)	TOTAL CAPACITY (MBH)	GPM	WATER P.D. (FT. W.G.)	NO. OF ROWS	ELECTRICAL: V	PH	HZ	FLA	MCA	MOP	DIMENSIONS (IN.): L	W	H	WEIGHT (LBS.)	MODEL	MANUFACTURER	REMARKS
DOAS-1	ATTIC	OFFICE SPACES	2200	3.27	2.50	1	3.00	2.68	1800	95.0	75.0	66.4	65.3	45.0	57.1	81990	69160	15	5.42	6	11	73.4	180.0	158.1	148500	15	6.15	2	208	3	60	9	11	15	74.4	48.2	28.0	1200	HHA25BACAAAH2AGDBAAABM	MAGIC AIRE	
DOAS-2	CELLAR	CELLAR	1500	2.36	1.50	1	0.50	0.46	1800	95.0	75.0	66.3	65.4	45.0	56.2	39723	30147	8	4.32	4	11	74.5	180.0	160.0	118469	11	5.83	2	208	3	60	4	5	15	46.0	37.0	18.0	257	BCHD0101	DAIKIN	

NOTES:
1. DOAS-1 UNIT SHALL BE PROVIDED WITH VARIABLE FREQUENCY DRIVE.
2. 100% OA UNIT, PROVIDE UNIT WITH OUTDOOR AIRFLOW MONITORING SENSOR INSTRUMENTATION.
3.DOAS-2 UNIT SHALL BE PROVIDED WITH CONDENSATE OVERFLOW OPTION,EC MOTOR WITH THREE SPEED CONTROLLER.
4.DOAS-2 SHALL HAVE ON-OFF DAMPER CONTROL.

FAN COIL UNIT SCHEDULE

UNIT NO.	SERVICE	VOLTAGE	MCA	MROPD	CFM	MOTOR POWER	CHILLED WATER COOLING COIL: EAT EDB (F)	EAT EWB (F)	LAT LDB (F)	LAT LWB (F)	TOTAL CAPACITY (BTU/HR)	TOTAL SENSIBLE (BTU/HR)	ENTERING WATER TEMP. (F)	LEAVING WATER TEMP (F)	FLUID FLOW RATE GPM	FLUID TYPE	COIL ROWS	HOT WATER HEATING COIL: EDB (F)	LDB (F)	TOTAL CAPACITY (BTU/HR)	ENTERING WATER TEMP. (F)	LEAVING WATER TEMP. (F)	FLUID FLOW RATE GPM	FLUID TYPE	COIL ROWS	DIMENSIONS: DEPTH (IN)	WIDTH (IN)	HEIGHT (IN)	QUANTITY	MODEL	MANUFACTURER	REMARKS
FCU-A	MULTIPLE ROOM	115/60/1	3.1	5.6	244	1/8	72	60	57.4	54.5	8800	6400	45	55	1.8	30% GLYCOL	4	70	89.8	7800	180	160	1.2	30% GLYCOL	1	10.0	48.5	27.6	28	FCVS103	DAIKIN	WALL MOUNTED
FCU-B	MULTIPLE ROOM	115/60/1	5.3	9.6	354	1/4	72	60	55.3	53.6	10100	8100	45	55	2.1	30% GLYCOL	3	70	89.8	11000	180	160	1.8	30% GLYCOL	1	10.0	54.0	27.6	7	FCVS104	DAIKIN	WALL MOUNTED
FCU-C	MULTIPLE ROOM	115/60/1	5.3	9.6	520	1/4	72	60	53.8	52.4	16700	12400	45	55	3.4	30% GLYCOL	3	70	93.2	15000	180	160	2.7	30% GLYCOL	1	10.0	65.0	27.6	10	FCVS106	DAIKIN	WALL MOUNTED
FCU-D	GANG TOILETS	115/60/1	3.1	5.6	300	1/8	72	60	57.4	54.5	5500	5100	45	55	1.1	30% GLYCOL	2	70	89.8	6900	180	160	0.9	30% GLYCOL	1	21.5	30.48	9.88	4	FCHH103	DAIKIN	CEILING RECESSED

NOTES:
1. ALL FAN COIL UNITS TO BE PROVIDED WITH DISCONNECT SWITCH.
2. THE FOLLOWING DEVICES SHALL BE SHIPPED LOOSE FOR FIELD INSTALLATION; DAIKIN MODEL MT-168 WALL MOUNTED SPACE THERMOSTAT. ALL OTHER DEVICES INCLUDING BUT NOT LIMITED TO THE CONTROL VALVES SHALL BE FURNISHED AND INSTALLED AT THE FACTORY.
3. PROVIDE UNITS WITH 4" EXTENDED END POCKET ON COIL CONNECTION SIDE, CONDENSATE OVERFLOW DETECTION, OPEN FRONT INLET, SECONDARY DRAIN PAN.
4. ALL FAN COIL UNITS TO BE PROVIDED WITH LOW VOLTAGE INTERFACE BOARD.

HOT WATER CABINET UNIT HEATER SCHEDULE

UNIT NO.	SERVICE	SERVICE	MAXIMUM AIRFLOW (CFM)	TOTAL CAPACITY (BTU/HR)	WATER TEMP LWT (F)	WATER TEMP EWT (F)	GPM	MAX WATER PRESSURE DROP (FT. W.G.)	AIR TEMP EAT (F)	AIR TEMP LAT (F)	ELECTRICAL DATA VOLTAGE	PHASE	HZ	AMPERES	MODEL NO	MANUFACTURER	REMARKS
WCUH-C.1	STAIR B	STAIR B	230	10169	160	180	1.64	0.15	60	96	115	1	60	0.8	FS-1005-03	VULCAN	Cabinet Unit Heater - Floor
WCUH-C.2	STAIR B	STAIR B	230	10169	160	180	1.64	0.15	60	96	115	1	60	0.8	FS-1005-03	VULCAN	Cabinet Unit Heater - Floor

HOT WATER UNIT HEATER SCHEDULE

UNIT NO.	LOCATION	SERVICE	CFM	TOTAL CAPACITY (BTU/HR)	WATER TEMP EWT (F)	WATER TEMP LWT (F)	GPM	MAX WATER PRESSURE DROP (FT. W.G.)	AIR TEMP EAT (F)	AIR TEMP LAT (F)	ELECTRICAL DATA VOLTAGE	PHASE	HZ	AMPERES	MOTOR HP	MODEL NO	MANUFACTURER	REMARKS
WUH-C.1	CELLAR	MECHANICAL ROOM	450	14912	180	160	1.8	0.014	60	96	115	1	60	0.8	16 WATTS	HA-24	VULCAN	
WUH-A.1	ATTIC	ATTIC	450	14912	180	160	1.8	0.014	60	96	115	1	60	0.8	16 WATTS	HA-24	VULCAN	
WUH-A.2	ATTIC	ATTIC	450	14912	180	160	1.8	0.014	60	96	115	1	60	0.8	16 WATTS	HA-24	VULCAN	

SPLIT-TYPE HEAT PUMP SYSTEMS SCHEDULE *

UNIT NO.	SERVICE	CAPACITY PER INDOOR UNIT (BTU/HR) COOLING	HEATING	EAT (°F) DB	WB	INDOOR EVAPORATOR TYPE	AIR FLOW (CFM) LOW	HIGH	ELECTRICAL MOTOR OUTPUT (W)	V	PH	HZ	MODEL	MANUFACTURER
AC-1	ELEVATOR MACHINE ROOM	24000	28000	80.0	67.0	WALL MOUNTED	635	775	56	208	1	60	PKA-A24KA	MITSUBISHI
AC-2	IT	24000	28000	80.0	67.0	WALL MOUNTED	635	775	56	208	1	60	PKA-A24KA	MITSUBISHI

OUTDOOR CONDENSING UNIT: UNIT NO.	LOCATION	dBA	NO. OF COMP.	ELECTRICAL V	PH	HZ	MCA	REFRIGERANT TYPE	TOTAL CHARGE (LBS.)	EFFICIENCY	MODEL	UNIT WEIGHT (LBS)	MANUFACTURER	REMARKS
ACCU-1	ON GRADE	54	1	208	1	60	19.5	R410A	6	19.3 SEER	PUZ-A24NHA7	179	MITSUBISHI	REFER TO NOTES
ACCU-2	ON GRADE	54	1	208	1	60	19.5	R410A	6	19.3 SEER	PUZ-A24NHA7	179	MITSUBISHI	REFER TO NOTES

NOTES:
1, ALL CONTROL AND POWER WIRING BETWEEN INDOOR AND OUTDOOR UNITS TO BE PROVIDED BY THE MECHANICAL CONTRACTOR.
2. ALL AIR CONDITIONING UNITS TO BE PROVIDED WITH WIRED PROGRAMMABLE THERMOSTAT.
3. ALL UNITS TO BE PROVIDED WITH TIME-DELAY, FILTER-DRIR, COMPRESSOR SHORT CYCLE PROTECTOR, HIGH AND LOW PRESSURE KIT.
4. ALL UNITS TO BE PROVIDED WITH LOW-AMBIENT CONTROLLER (FLOODED CONDENSER), WINTER START CONTROL EVAPORATOR FREEZE THERMOSTAT.
5. PROVIDE FACTORY SUPPLIED WALL MOUNT BRACKET.

FAN SCHEDULE

UNIT NO.	SERVICE	LOCATION	TOTAL AIR CAP. (CFM)	EXT. S.P. (IN. W.G.)	MOTOR HP	FAN TYPE	DRIVE TYPE	INTERLOCK WITH	ELECTRICAL V	PH	HZ	MODEL NO.	MANUFACTURER	REMARKS
EF-1	ELECTRICAL ROOM	ELECTRICAL ROOM	300	0.55	0.17	SQUARE INLINE	DIRECT	TEMPERATURE SENSOR	115	1	60	90SQN15D	LOREN COOK	SEE NOTES
EF-2	CELLAR	CELLAR	360	0.55	0.17	SQUARE INLINE	DIRECT	TEMPERATURE SENSOR	115	1	60	90SQN15D	LOREN COOK	SEE NOTES
EF-3	CELLAR	CELLAR	1000	0.55	0.17	SQUARE INLINE	DIRECT	DOAS-2	115	1	60	100SQN28D	LOREN COOK	SEE NOTES
TEF-1	TOILETS	ATTIC	840	0.50	0.33	SQUARE INLINE	DIRECT	TIME CLOCK	115	1	60	100SQN28D	LOREN COOK	SEE NOTES
TEF-2	TOILET	121-TOILET	70	0.50	0.17	CEILING FAN	DIRECT	LIGHT SWITCH	115	1	60	GC-148	LOREN COOK	SEE NOTES
TEF-3	JANITOR CLOSET	118-JC	70	0.50	0.17	CEILING FAN	DIRECT	LIGHT SWITCH	115	1	60	GC-148	LOREN COOK	SEE NOTES

NOTES:
1. ALL FAN SHALL BE PROVIDED WITH DISCONNECT SWITCH.
2. ALL DIRECT DRIVEN FAN SHALL BE PROVIDED WITH FAN SPEED CONTROLLER.
3. ALL MOTORIZED DAMPERS SHALL MATCH THE MOTOR VOLTAGE OR BE THE TYPE THAT IS CAPABLE OF DIRECT WIRING FROM THE FAN MOTOR NO MATTER WHAT THE VOLTAGE OF THE FAN MOTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE WIRING OF THIS DAMPER MOTOR FROM THE FAN MOTOR. NO SEPERATE CIRCUIT SHALL BE REQUIRED TO WIRE THE MOTORIZED DAMPER. ALL MOTORIZED DAMPERS SHALL BE INTERLOCK WITH DESIGNATED FANS.
4. ALL MOTORIZED DAMPERS TO BE CLASS 1 MOTORIZED DAMPERS (WITH A MAXIMUM LEAKAGE RATE OF 4 CFM/SF AT 1.0" W.C. WHEN TESTED IN ACCORDANCE WITH AMCA 500D) THAT WILL AUTOMATICALLY SHUT OFF WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE AS PER ASHRAE 90.1-2016

PUMP SCHEDULE

UNIT NO.	SERVICE	LOCATION	FLUID TYPE	FLUID FLOW (GPM)	TOTAL HEAD (FT.)	ELECTRICAL HP	RPM	V	PH	HZ	MODEL	MANUFACTURER	REMARKS
P-1 & P-2	SECONDARY HOT GLYCOL LOOP	MECHANCIAL ROOM	30% GLYCOL	103	60	5.0	1475	208	3	60	e-80 2x2x9.5C	BELL & GOSSETT	INLINE MOUNTED PUMP
P-3 & P-4	SECONDARY CHILLED GLYCOL LOOP	MECHANCIAL ROOM	30% GLYCOL	126	60	5.0	1608	208	3	60	e-80 2x2x9.5C	BELL & GOSSETT	INLINE MOUNTED PUMP
P-5 & P-6	PRIMARY CHILLED WATER LOOP	MECHANCIAL ROOM	WATER	119	40	2.0	1725	208	3	60	e-80 2.5x2.5x7B	BELL & GOSSETT	INLINE MOUNTED PUMP

NOTES:
1. ALL PUMPS SHALL BE PROVIDED WITH INTEGRATED VARIABLE FREQUENCY DRIVES (VFD).
2. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

EXPANSION TANK SCHEDULE

UNIT NO.	SERVICE	LOCATION	TANK DIMENSIONS (IN.) HEIGHT	DIAMETER	ACCEPTANCE VOLUME (GAL)	OPERATING WEIGHT (LBS)	CAPACITY (GAL)	MODEL	MANUFACTURER	REMARKS
ET-1	HOT WATER HEATING	MECHANICAL RM	30	16	11.3	271	21.7	D-40V	Bell & Gossett	ASME Rated Pre-Charged Diaphragm Tanks
ET-2	CHILLED WATER COOLING	MECHANICAL RM	30	16	11.3	271	21.7	D-40V	Bell & Gossett	ASME Rated Pre-Charged Diaphragm Tanks

NOTES:
1. Mech / Balancing contractor shall adjust bladder as per manufacturer requirements once the final fill pressure is determined.

ELECTRIC CABINET UNIT HEATER SCHEDULE

UNIT NO.	SERVICE	MAX. AIR FLOW (CFM)	ELECTRICAL RATED INPUT (W)	V	PH	HZ	TOTAL CAPACITY (MBH)	MODEL	MANUFACTURER	REMARKS
ECUH-1.1	STAIR B	300	5000	208	3	60	17.1	CDF-558	QMARK	REFER TO NOTES
ECUH-1.2	VESTIBULE	300	5000	208	3	60	17.1	CDF-558	QMARK	REFER TO NOTES
ECUH-1.3	STAIR A	300	5000	208	3	60	17.1	CDF-558	QMARK	REFER TO NOTES
ECUH-1.4	STAIR C	300	5000	208	3	60	17.1	CDF-558	QMARK	REFER TO NOTES
ECUH-1.5	121-TOILET	100	1500	120	1	60	5.1	LFK-151	QMARK	REFER TO NOTES
ECUH-1.6	118-JANITOR CLOSET	100	1500	120	1	60	5.1	LFK-151	QMARK	REFER TO NOTES
ECUH-2.1	223-TOILET	100	1500	120	1	60	5.1	LFK-151	QMARK	REFER TO NOTES

NOTES:
1. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
2. ALL UNITS TO BE PROVIDED WITH NON FUSED DICONNECT.
3. BUILT IN TEMPERATURE THERMOSTATE SHALL BE PROVIDED INSIDE THE UNITS

ELECTRIC UNIT HEATER SCHEDULE

UNIT NO.	SERVICE	MAX. AIR FLOW (CFM)	ELECTRICAL RATED INPUT (W)	V	PH	HZ	MODEL	MANUFACTURER	REMARKS
EUH-A.1	ATTIC	350	3000	208	1	60	MUH0381	QMARK	REFER TO NOTES
EUH-A.2	ATTIC	350	3000	208	1	60	MUH0381	QMARK	REFER TO NOTES

NOTES:
1. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
2. ALL UNITS TO BE PROVIDED WITH NON FUSED DICONNECT.
3. BUILT IN TEMPERATURE THERMOSTATE SHALL BE PROVIDED INSIDE THE UNITS

GLYCOL WATER MAKE-UP UNIT

UNIT NO.	SERVICE	LOCATION	TANK CAPACITY (GALLONS)	ELECTRICAL DATA V	PH	HZ	DIMENSIONS (IN.) H	D	MODEL	MANUFACTURER	REMARKS
GMU-1	HOT WATER	MECHANCIAL ROOM	55	120	1	60	59	28	GMU-55	TIGERFLOW	
GMU-2	CHILLED WATER	MECHANCIAL ROOM	55	120	1	60	59	28	GMU-55	TIGERFLOW	

AIR SEPARATOR SCHEDULE

UNIT NO.	LOCATION	SERVICE	TYPE	MAXIMUM UNIT CAPACITY (GPM)	OPERATING WEIGHT (LBS)	MODEL	MANUFACTURER	REMARKS
AS-1	MECHANICAL RM	HOT WATER LOOP	FLANGED NO STRAINER	140	63	RL-2N	BELL & GOSSET	REFER TO NOTES
AS-2	MECHANICAL RM	CHILLED WATER LOOP	FLANGED NO STRAINER	140	63	RL-2N	BELL & GOSSET	REFER TO NOTES
AS-3	MECHANICAL RM	CHILLED WATER LOOP	FLANGED NO STRAINER	140	63	RL-2N	BELL & GOSSET	REFER TO NOTES

NOTES:
1. PROVIDE FOLLOWING OPTIONS:
- BLOW DOWN VALVE (SIZED PER MANUFACTURER'S RECOMMENDATION)
- SKIM VALVE (WITH HOSE BIB)
- AIR VENT (INSTALLED & PROVIDED BY MANUFACTURER)
- BASE RING (ONLY REQUIRED ON FLOOR MOUNTED APPLICATION)

DUPLEX STEAM CONDENSATE RETURN PUMP UNIT

UNIT NO.	SERVICE	LOCATION	SYSTEM CAPACITY LBS/HR	TOTAL RECEIVER CAPACITY (GALLONS)	PUMP CAPACITY GPM (EACH)	TOTAL PUMP PSIG. (EACH)	MOTOR RPM (EACH)	MOTOR HP (EACH)	V/PH/HZ	MANUFACTURER	MODEL NO.
CRP-1	STEAM SYSTEM	MECHANICAL ROOM	3491	14	15	25	3500	1/2	208/3/60	BELL & GOSSETT	152CC

NOTES:
1. PUMP TO BE PROVIDED WITH FACTORY MOUNTED CONTROL PANEL, WATER LEVEL GAUGE, DIAL THERMOMETER, INLET STRAINERS, DISCHARGE PRESSURE GAUGES, ELECTRIC ALTERNATOR, MAGNETIC STARTERS, DISCONNECT SWITCHES, CIRCUIT BREAKERS, SELECTOR SWOTCHES, TRANSFORMER AND PILOT LIGHT.

HEAT EXCHANGER SCHEDULE

UNIT NO.	SERVICE	LOCATION	COLD SIDE FLUID TYPE	GPM	EWT (°F)	LWT (°F)	WATER P.D. (PSI)	HOT SIDE FLUID TYPE	GPM OR LB/HR	INLET TEMP (°F)	OUT TEMP (°F)	P.D. (PSI)	MODEL	MANUFACTURER
HX-1	SECONDARY HOT GLYCOL LOOP	MECHANCIAL ROOM	30% GLYCOL	103	160	180	2.86	STEAM	1019	239	239	0.16	SU-66-2	BELL & GOSSETT
HX-2 (STANDBY)	SECONDARY HOT GLYCOL LOOP	MECHANCIAL ROOM	30% GLYCOL	103	160	180	2.86	STEAM	1019	239	239	0.16	SU-66-2	BELL & GOSSETT
HX-3	SECONDARY CHILLED GLYCOL LOOP	MECHANCIAL ROOM	WATER	119	42	52	6.89	30% GLYCOL	127	55	45	9.73	AP64	BELL & GOSSETT

NOTES:
1. CONNECTIONS TO BE 150# ANSI FLANGE, 4" DIA.
2. PROVIDE RELIEF VALVE FOR THE PLATE AND FRAM HEAT EXCHANGER.
3. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
4. INCOMING STEAM PRESSURE=12PSI.

SCHEDULE FOR WALL MOUNTED SUPPLY AIR REGISTER

CFM RANGE	CORE AREA (SQ. FT.)	NOMINAL DUCT SIZE W X H (IN.)	ANGLE OF DEFLECTION (DEGREES)(IN.)	SPACING	MAX. NOISE RATING (NC)	MODEL	MANUFACTURER
50-200	5	10 X 6	22.5	0.75	20	300RL	TITUS
201-360	6	16 X 8	22.5	0.75	20	300RL	TITUS
361-450	7	18 X 8	22.5	0.75	20	300RL	TITUS
451-500	8	24 X 8	22.5	0.75	20	300RL	TITUS
501-600	10	20 X 10	22.5	0.75	20	300RL	TITUS
601-700	12	28 X 8	22.5	0.75	20	300RL	TITUS

NOTES:
1. CONTRACTOR SHALL COORDINATE REGISTER'S BORDER TYPE WITH ARCHITECT.
2. CONTRACTOR SHALL COORDINATE REGISTER'S COLOR WITH ARCHITECT.

SCHEDULE FOR CEILING MOUNTED SUPPLY AIR DIFFUSERS

CFM RANGE	NECK DIA. (IN.)	MAX. DUCT VELOCITY (FPM)	NOMINAL LOUVERED AREA SIZE W X H (IN.)	MAX. NOISE RATING (NC)	MODEL	MANUFACTURER
0-68	5	500	12 X 12	20	TMSA	TITUS
69-100	6	500	12 X 12	20	TMSA	TITUS
101-135	7	500	12 X 12	20	TMSA	TITUS
136-175	8	500	24 X 24	20	TMSA	TITUS
176-270	10	500	24 X 24	20	TMSA	TITUS
271-390	12	500	24 X 24	20	TMSA	TITUS
391-600	14	500	24 X 24	20	TMSA	TITUS

NOTES:
1. KITCHEN DIFFUSERS SHALL BE ALUMINUM WITH CLEAR SATIN ANODIZED FINISH.
2. CONTRACTOR SHALL COORDINATE DIFFUSER'S FRAME TYPE WITH APPROVED CEILING TYPE.

SCHEDULE FOR WALL MOUNTED RETURN AIR GRILLE

CFM RANGE	NECK SIZE W X H (IN.)	MAX. DUCT VELOCITY (FPM)	CORE AREA (SQ. FT.)	MAX. NOISE RATING (NC)	MODEL	MANUFACTURER
0-120	10 X 6	400	0.37	20	355RL	TITUS
121-300	18 X 6	500	0.63	20	355RL	TITUS
301-440	18 X 8	500	0.88	20	355RL	TITUS
441-650	22 X 10	500	1.37	20	355RL	TITUS
651-900	24 X 12	500	1.82	20	355RL	TITUS

NOTES:
1. CONTRACTOR SHALL COORDINATE GRILLE'S COLOR WITH ARCHITECT.

SCHEDULE FOR CEILING MOUNTED RETURN AIR GRILLES

CFM RANGE	NECK SIZE W X H (IN.)	MAX. DUCT VELOCITY (FPM)	CORE AREA (SQ. FT.)	MAX. NOISE RATING (NC)	MODEL	MANUFACTURER
0-160	8 X 8	400	0.37	20	355RL	TITUS
161-340	12 X 12	500	0.88	20	355RL	TITUS
341-540	16 X 16	500	1.62	20	355RL	TITUS
541-1250	24 X 24	400	3.75	20	355RL	TITUS
1250-3000	48 X 24	400	7.63	20	355RL	TITUS

NOTES:
1. ALL NON-DUCTED GRILLES SHALL BE SIZE 24X24.
2. ALL RETURN GRILLES IN CLASSROOM SHALL BE SIZE 24X24 REGARDLESS OF CFM.
3. CONTRACTOR SHALL COORDINATE REGISTER'S BORDER TYPE WITH APPROVED CEILING TYPE.
4. KITCHEN GRILLES SHALL BE ALUMINUM WITH CLEAR SATIN ANODIZED FINISH MODEL 350 ZFS.

NEW YORK STATE OF OPPORTUNITY. | DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

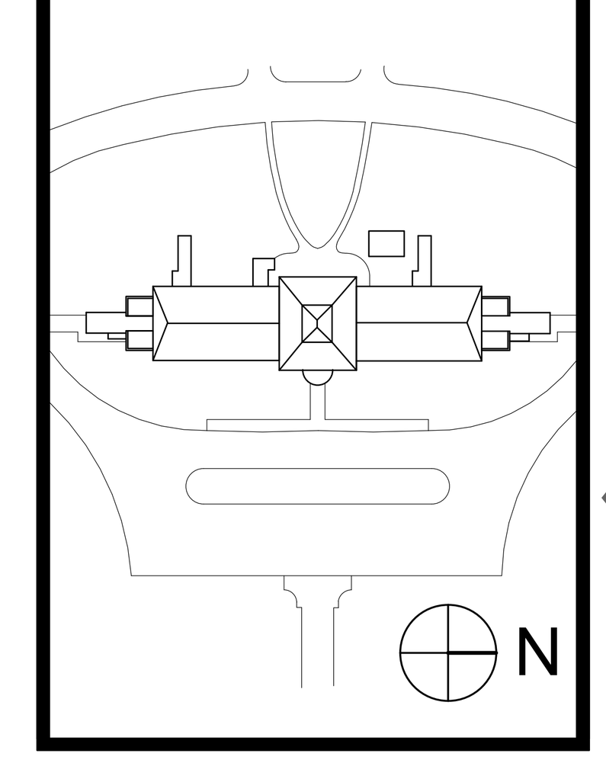
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE
1	Date 1	Revision 1

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC SCHEDULES SHEET #1

Phase
100 % SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature

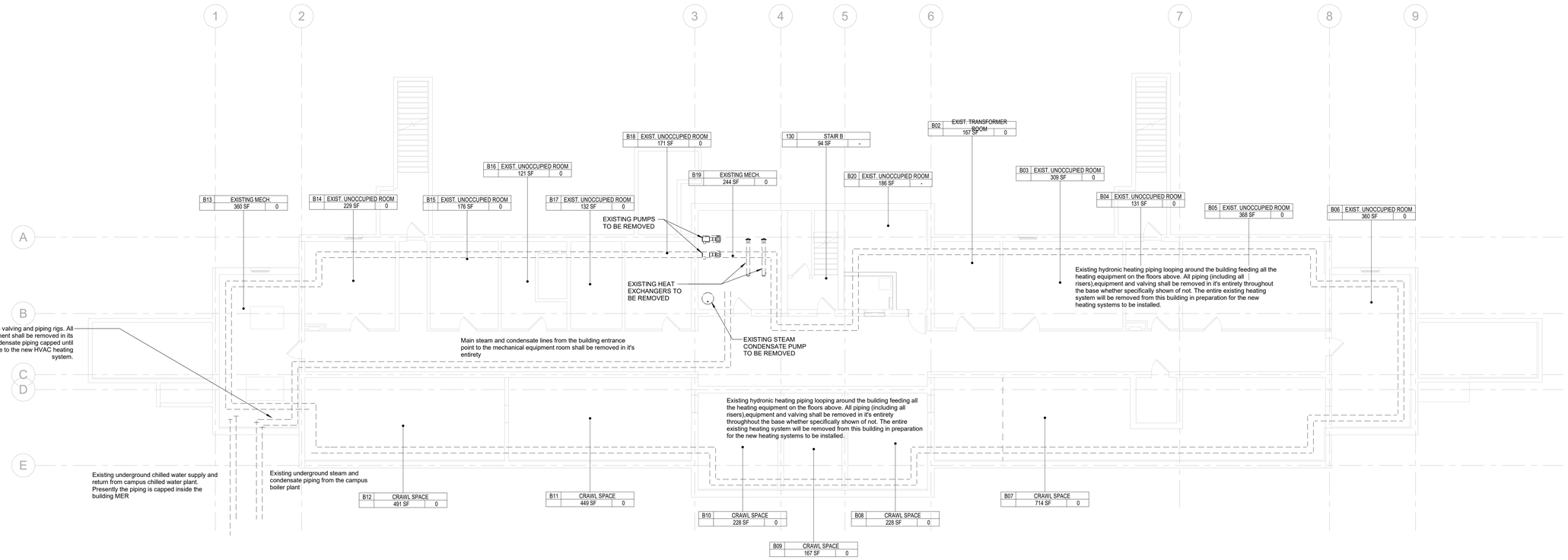
DASNY Project No: 353630

Drawing Number
M002.00

Drawing

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL GOVERNING CONDITIONS AT THE SITE, BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED FOR DEMOLITION OF THE HVAC SYSTEMS AND ADVISE THE CONSTRUCTION MANAGER OF ANY UNFORESEEN CONDITIONS THAT MAY INTERFERE WITH THE NEW CONSTRUCTION BEFORE PROCEEDING WITH THE DEMOLITION WORK.
2. CONTRACTOR IS RESPONSIBLE FOR REPLACING OF REPAIRING ANY DAMAGE TO EXISTING SYSTEMS OR BUILDING STRUCTURE THAT IS REQUIRED TO REMAIN.
3. ALL EXISTING FIN TUBE RADIATOR AND UNIT HEATERS INCLUDING ALL ASSOCIATED PIPING, VALVES, HANGERS, SUPPORTS, AND THERMOSTATS SHALL BE REMOVED.
4. ALL WINDOW MOUNTED AC UNITS AND ASSOCIATED THERMOSTATS SHALL BE REMOVED. CONTRACTOR SHALL RECLAIM THE REFRIGERANT FROM ALL AIR CONDITIONING UNITS USING EPA CERTIFIED TECHNICIANS IN ACCORDANCE WITH EPA GUIDELINES PRIOR TO REMOVING THE UNITS.
5. ALL EXISTING DUCTWORK, DUCT HANGERS, SUPPORTS, AIR TERMINALS, ETC SHALL BE REMOVED.
6. GC TO REFER TO H DRAWINGS FOR POTENTIAL HAZARDOUS MATERIAL WORK THAT MAY BE ENCOUNTERED DURING REMOVAL WORK. IF POTENTIAL ACM UNCOVERED, GC TO AVOID CONTACT AND NOTIFY ENV. CONTRACTOR IMMEDIATELY.



1 M060.00 **00-CELLAR DEMO PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

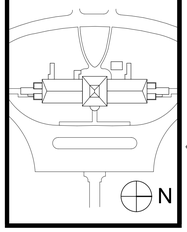
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PULLDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC CELLAR DEMO PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature

STATE OF NEW YORK · ANDREW KARS · No. 102067 · LICENSED PROFESSIONAL ENGINEER

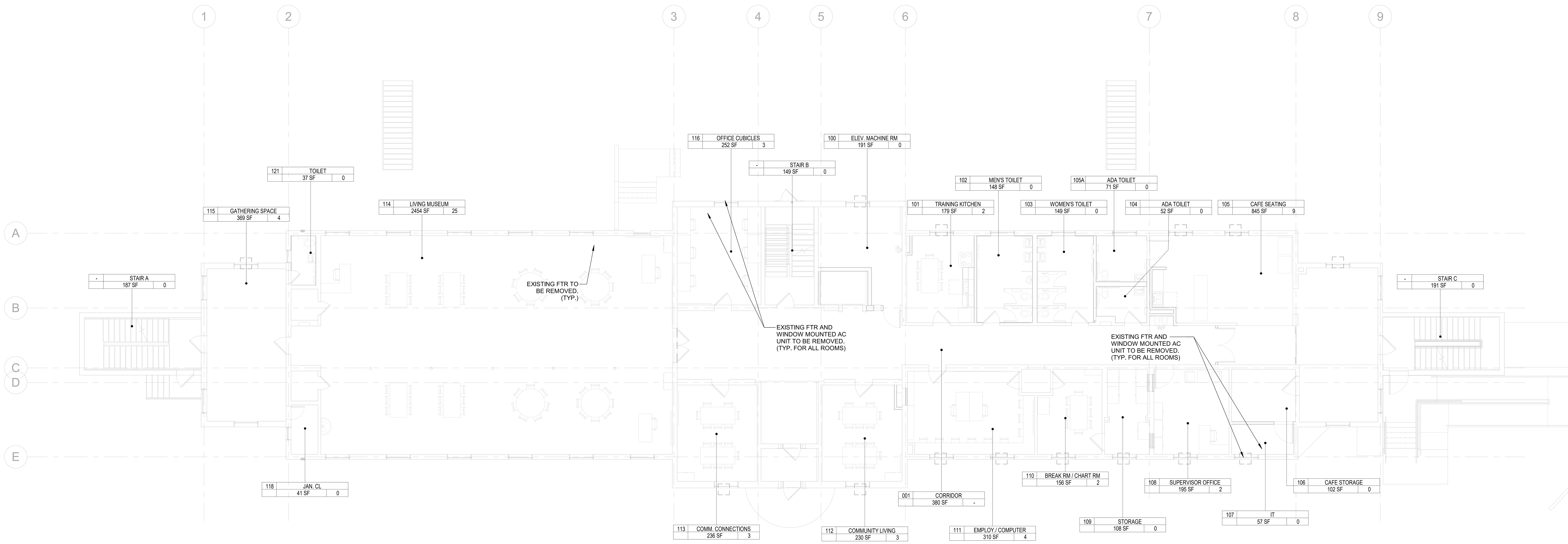
DASNY Project No: 35363

Drawing Number M060.00

Drawing

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL GOVERNING CONDITIONS AT THE SITE. BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED FOR DEMOLITION OF THE HVAC SYSTEMS AND ADVISE THE CONSTRUCTION MANAGER OF ANY UNFORESEEN CONDITIONS THAT MAY INTERFERE WITH THE NEW CONSTRUCTION BEFORE PROCEEDING WITH THE DEMOLITION WORK.
2. CONTRACTOR IS RESPONSIBLE FOR REPLACING OF REPAIRING ANY DAMAGE TO EXISTING SYSTEMS OR BUILDING STRUCTURE THAT IS REQUIRED TO REMAIN.
3. ALL EXISTING FIN TUBE RADIATOR AND UNIT HEATERS INCLUDING ALL ASSOCIATED PIPING, VALVES, HANGERS, SUPPORTS, AND THERMOSTATS SHALL BE REMOVED.
4. ALL WINDOW MOUNTED AC UNITS AND ASSOCIATED THERMOSTATS SHALL BE REMOVED. CONTRACTOR SHALL RECLAIM THE REFRIGERANT FROM ALL AIR CONDITIONING UNITS USING EPA CERTIFIED TECHNICIANS IN ACCORDANCE WITH EPA GUIDELINES PRIOR TO REMOVING THE UNITS.
5. ALL EXISTING DUCTWORK, DUCT HANGERS, SUPPORTS, AIR TERMINALS, ETC SHALL BE REMOVED.
6. GC TO REFER TO H DRAWINGS FOR POTENTIAL HAZARDOUS MATERIAL WORK THAT MAY BE ENCOUNTERED DURING REMOVAL WORK. IF POTENTIAL ACM UNCOVERED, GC TO AVOID CONTACT AND NOTIFY ENV. CONTRACTOR IMMEDIATELY.



1
M061.00

01-FIRST FLOOR DEMO PLAN

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. | DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

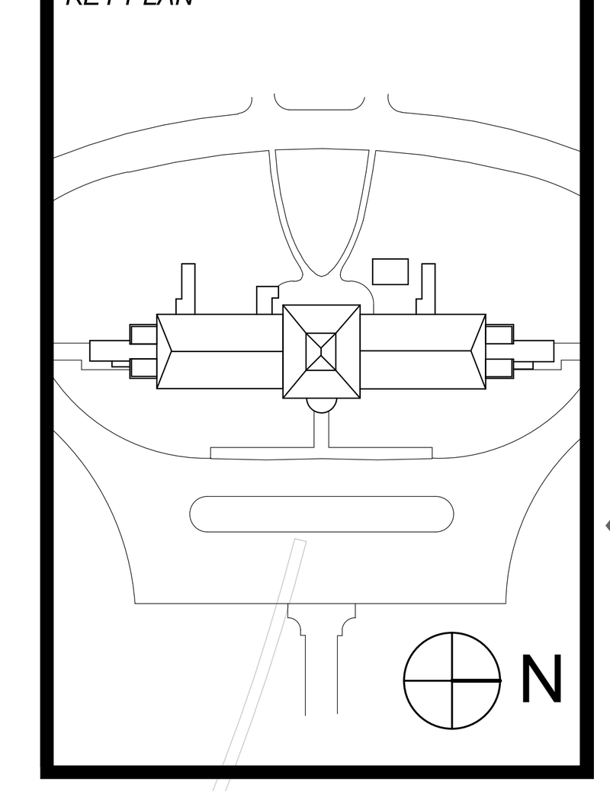
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC FIRST FLOOR DEMO PLAN

Phase
100 % SUBMISSION

Drawn By:	*Checked By:*	*Date:*
JA	AK	05 / 13 / 22

Seal & Signature

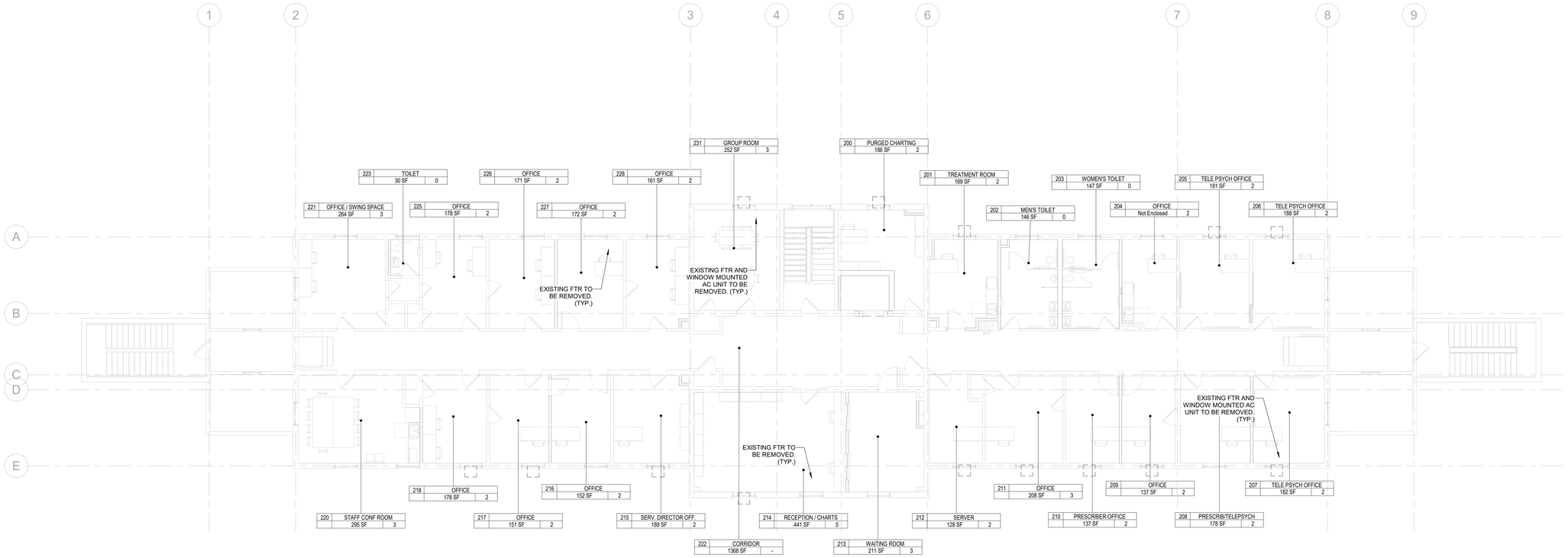
DASNY Project No:
353630

Drawing Number
M061.00

Drawing

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL GOVERNING CONDITIONS AT THE SITE, BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED FOR DEMOLITION OF THE HVAC SYSTEMS AND ADVISE THE CONSTRUCTION MANAGER OF ANY UNFORESEEN CONDITIONS THAT MAY INTERFERE WITH THE NEW CONSTRUCTION BEFORE PROCEEDING WITH THE DEMOLITION WORK.
2. CONTRACTOR IS RESPONSIBLE FOR REPLACING OF REPAIRING ANY DAMAGE TO EXISTING SYSTEMS OR BUILDING STRUCTURE THAT IS REQUIRED TO REMAIN.
3. ALL EXISTING FIN TUBE RADIATOR AND UNIT HEATERS INCLUDING ALL ASSOCIATED PIPING, VALVES, HANGERS, SUPPORTS, AND THERMOSTATS SHALL BE REMOVED.
4. ALL WINDOW MOUNTED AC UNITS AND ASSOCIATED THERMOSTATS SHALL BE REMOVED. CONTRACTOR SHALL RECLAIM THE REFRIGERANT FROM ALL AIR CONDITIONING UNITS USING EPA CERTIFIED TECHNICIANS IN ACCORDANCE WITH EPA GUIDELINES PRIOR TO REMOVING THE UNITS.
5. ALL EXISTING DUCTWORK, DUCT HANGERS, SUPPORTS, AIR TERMINALS, ETC SHALL BE REMOVED.
6. GC TO REFER TO H DRAWINGS FOR POTENTIAL HAZARDOUS MATERIAL WORK THAT MAY BE ENCOUNTERED DURING REMOVAL WORK. IF POTENTIAL ACM UNCOVERED, GC TO AVOID CONTACT AND NOTIFY ENV. CONTRACTOR IMMEDIATELY.



1 / M062.00 **02-SECOND FLOOR DEMO PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

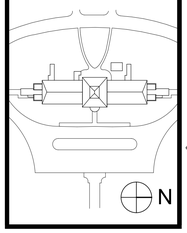
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC SECOND FLOOR DEMO PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

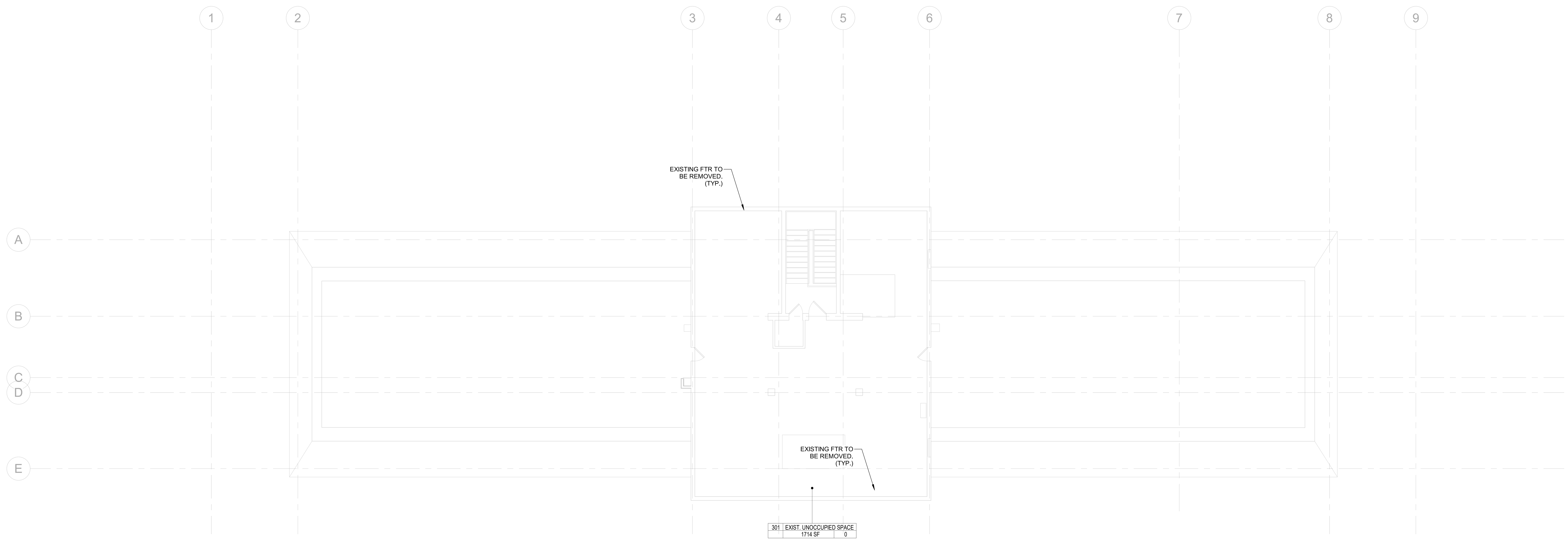
Seal & Signature

STATE OF NEW YORK ANDY KIS No. 027087 LICENSED PROFESSIONAL ENGINEER

DASNY Project No:
35363
Drawing Number
M062.00
Drawing

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL GOVERNING CONDITIONS AT THE SITE, BECOME FULLY INFORMED AS TO THE EXTENT AND CHARACTER OF THE WORK REQUIRED FOR DEMOLITION OF THE HVAC SYSTEMS AND ADVISE THE CONSTRUCTION MANAGER OF ANY UNFORESEEN CONDITIONS THAT MAY INTERFERE WITH THE NEW CONSTRUCTION BEFORE PROCEEDING WITH THE DEMOLITION WORK.
2. CONTRACTOR IS RESPONSIBLE FOR REPLACING OF REPAIRING ANY DAMAGE TO EXISTING SYSTEMS OR BUILDING STRUCTURE THAT IS REQUIRED TO REMAIN.
3. ALL EXISTING FIN TUBE RADIATOR AND UNIT HEATERS INCLUDING ALL ASSOCIATED PIPING, VALVES, HANGERS, SUPPORTS, AND THERMOSTATS SHALL BE REMOVED.
4. ALL WINDOW MOUNTED AC UNITS AND ASSOCIATED THERMOSTATS SHALL BE REMOVED. CONTRACTOR SHALL RECLAIM THE REFRIGERANT FROM ALL AIR CONDITIONING UNITS USING EPA CERTIFIED TECHNICIANS IN ACCORDANCE WITH EPA GUIDELINES PRIOR TO REMOVING THE UNITS.
5. ALL EXISTING DUCTWORK, DUCT HANGERS, SUPPORTS, AIR TERMINALS, ETC SHALL BE REMOVED.
6. GC TO REFER TO H DRAWINGS FOR POTENTIAL HAZARDOUS MATERIAL WORK THAT MAY BE ENCOUNTERED DURING REMOVAL WORK. IF POTENTIAL ACM UNCOVERED, GC TO AVOID CONTACT AND NOTIFY ENV. CONTRACTOR IMMEDIATELY.



1 M063.00 **03-ATTIC FLOOR DEMO PLAN**
1/8" = 1'-0"
0 2' 4' 8' 16'
SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. | DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

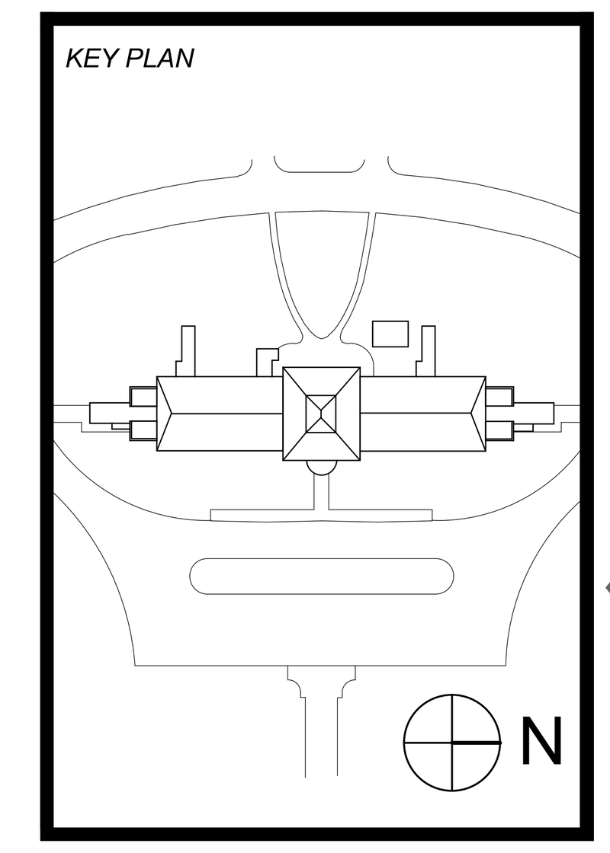
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC ATTIC DEMO PLAN

Phase
100 % SUBMISSION

Drawn By:	*Checked By:*	*Date:*
JA	AK	05 / 13 / 22

Seal & Signature

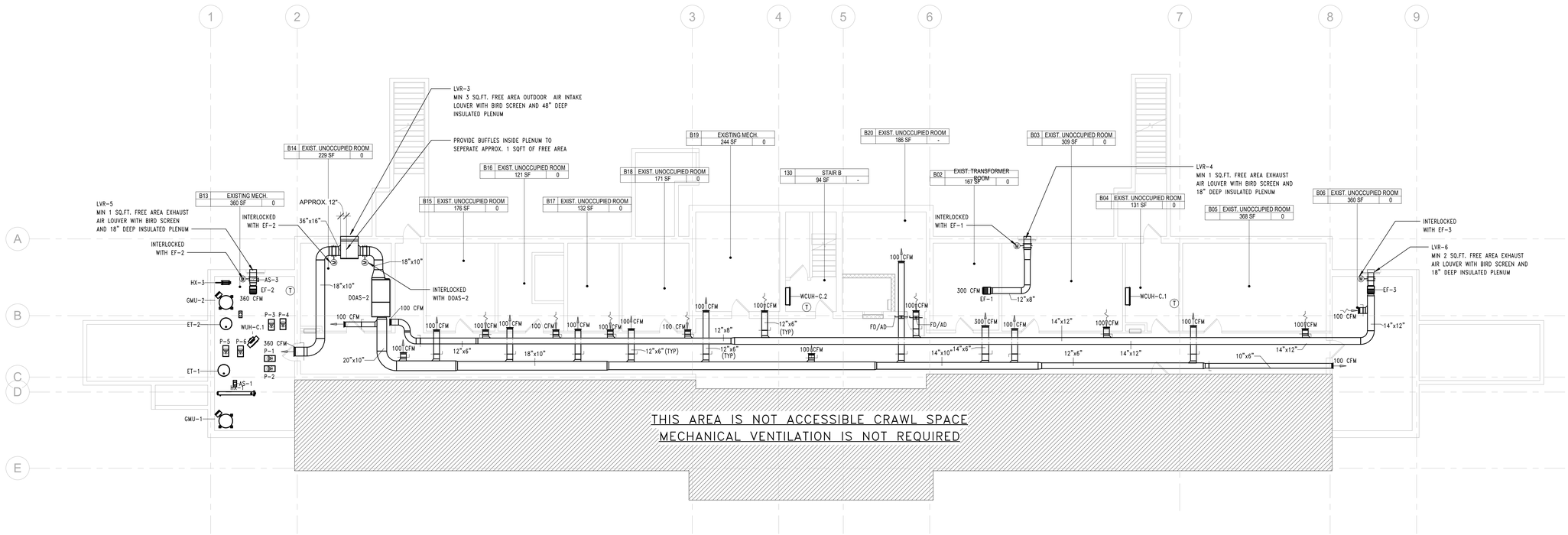
DASNY Project No: 353630

Drawing Number
M063.00

Drawing

GENERAL NOTES:

1. FOR HYDRAULIC HEATING EQUIPMENT REFER TO THE "200" SERIES DRAWINGS. HYDRAULIC HEATING EQUIPMENT SHOWN ON THIS DRAWING IS FOR TEMPERATURE CONTROL COORDINATION ONLY.
2. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
3. COORDINATE FINAL LOCATIONS, TAGS, QUANTITY, ETC. OF FAN COIL UNITS WITH 200" SERIES DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER'S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER'S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS.



1 M100.00 **04-CELLAR DUCTWORK PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
1 PENNSYLVANIA PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

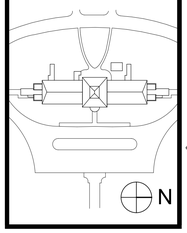
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PALISORIO AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK

515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT

140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC CELLAR PLAN

Phase
100 SUBMISSION

Drawn By: JA | *Checked By:* AK | *Date:* 05 / 13 / 22

Seal & Signature
STATE OF NEW YORK ANDREW KARS No. 102167 LICENSED PROFESSIONAL ENGINEER

DASNY Project No: 35363

Drawing Number M100.00

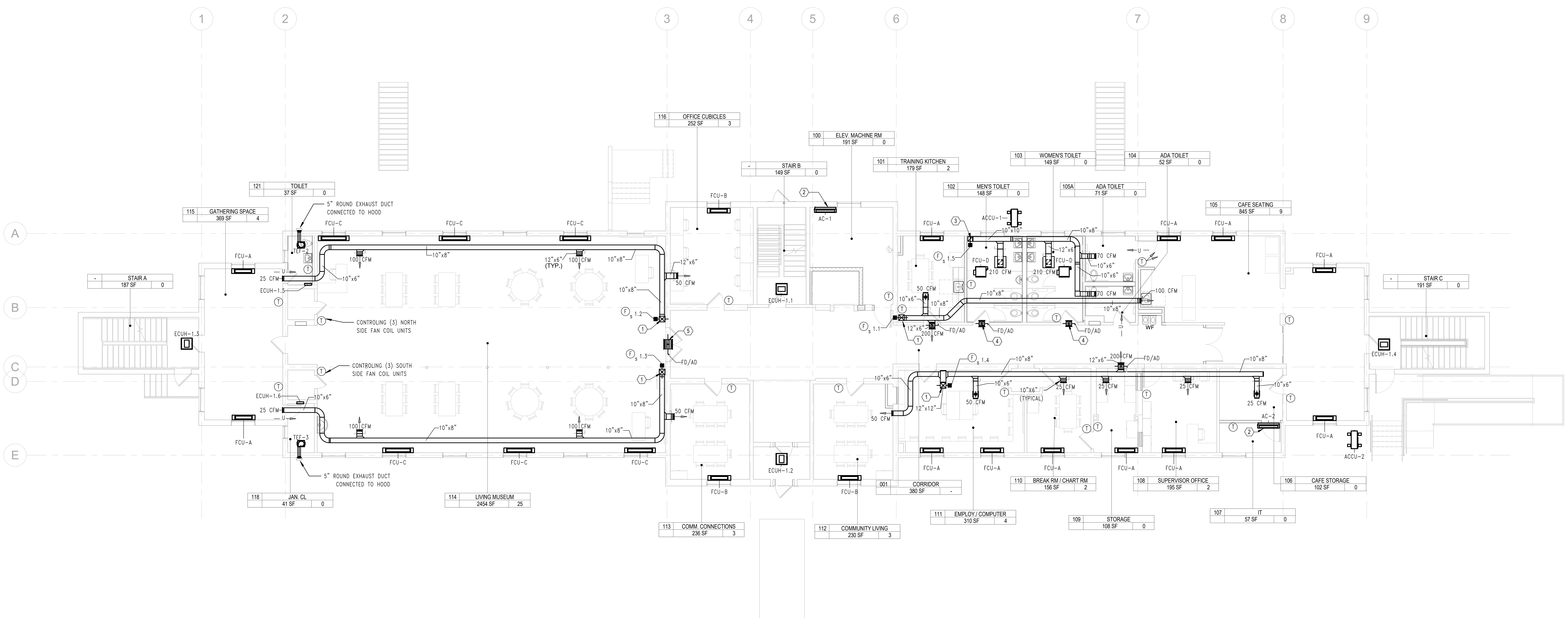
Drawing

GENERAL NOTES:

1. FOR HYDRAULIC HEATING EQUIPMENT REFER TO THE "200" SERIES DRAWINGS. HYDRAULIC HEATING EQUIPMENT SHOWN ON THIS DRAWING IS FOR TEMPERATURE CONTROL COORDINATION ONLY.
2. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
3. COORDINATE FINAL LOCATIONS, TAGS, QUANTITY, ETC. OF FAN COIL UNITS WITH 200" SERIES DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER'S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER'S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS.

DRAWING LEGEND

1. 12X12 SUPPLY UP TO DOAS- 1
2. INSTALL THE INDOOR UNIT AS HIGH AS POSSIBLE TO ROUTE THE CONDENSATE DRAIN FROM THE UNIT WITHOUT CONDENSATE PUMP.
3. 10X10 TOILET EXHAUST UP TO TEF-1
4. 12X6 TRANSFER AIR DUCT LOCATED ABOVE THE DOOR WITH TWO WALL GRILLES.
5. 20X16 TRANSFER AIR DUCT LOCATED ABOVE THE DOOR WITH TWO WALL GRILLES.



1 M101.00 05-FIRST FLOOR DUCTWORK PLAN
1/8" = 1'-0"
0 2' 4' 8' 16'
SCALE IN FEET

DASNY
515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

Office of Mental Health
10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

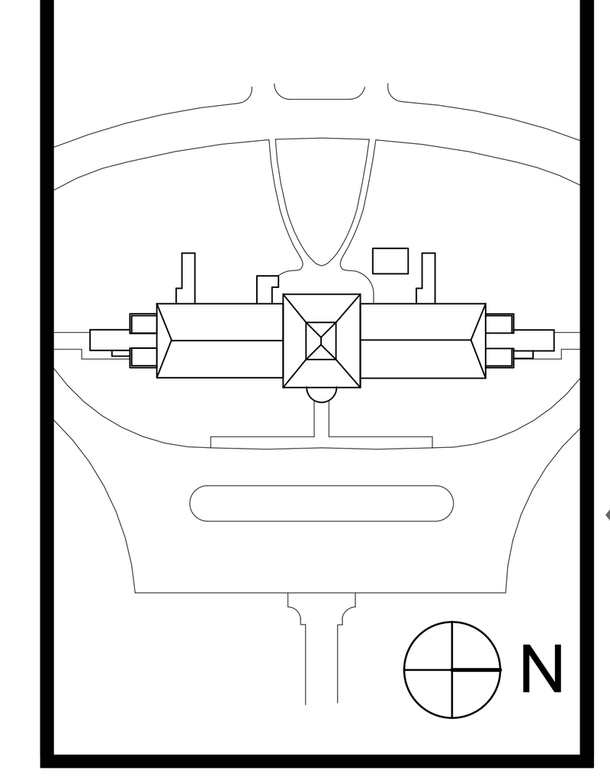
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC FIRST FLOOR PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature

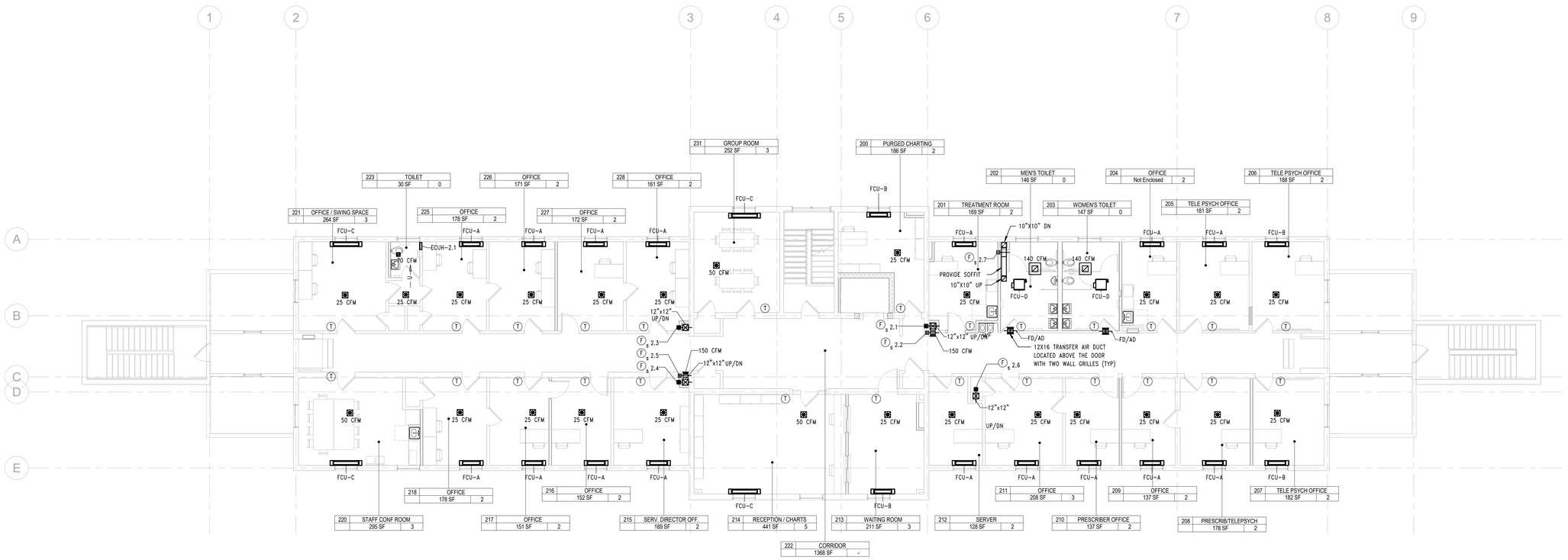
DASNY Project No:
35363

Drawing Number
M101.00

Drawing

GENERAL NOTES:

1. FOR HYDRAULIC HEATING EQUIPMENT REFER TO THE "200" SERIES DRAWINGS. HYDRAULIC HEATING EQUIPMENT SHOWN ON THIS DRAWING IS FOR TEMPERATURE CONTROL COORDINATION ONLY.
2. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
3. COORDINATE FINAL LOCATIONS, TAGS, QUANTITY, ETC. OF FAN COIL UNITS WITH 200" SERIES DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER'S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER'S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS.



1 / M102.00 — 06-SECOND FLOOR DUCTWORK PLAN

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

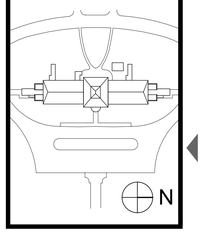
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 LEE (E.) WURMGSERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PULLDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK

515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT

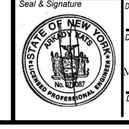
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC SECOND FLOOR PLAN

Phase
100 SUBMISSION

Drawn By: JA | *Checked By:* AK | *Date:* 05 / 13 / 22

Seal & Signature



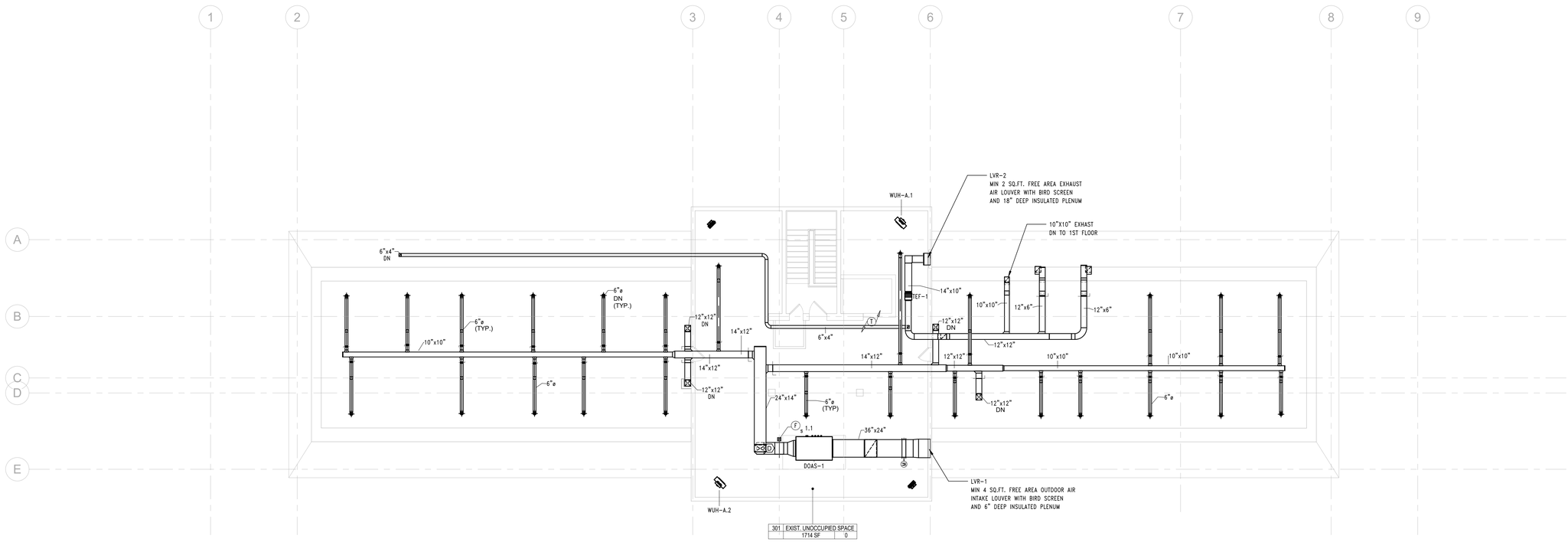
DASNY Project No: 35363

Drawing Number M102.00

Drawing

GENERAL NOTES:

1. FOR HYDRAULIC HEATING EQUIPMENT REFER TO THE "200" SERIES DRAWINGS. HYDRAULIC HEATING EQUIPMENT SHOWN ON THIS DRAWING IS FOR TEMPERATURE CONTROL COORDINATION ONLY.
2. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
3. COORDINATE FINAL LOCATIONS, TAGS, QUANTITY, ETC. OF FAN COIL UNITS WITH 200" SERIES DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER`S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER`S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS.



1 / M103.00 **07-ATTIC FLOOR DUCTWORK PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

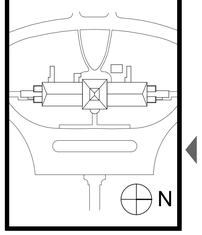
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PASCONG AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK

515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT

140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC ATTIC PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

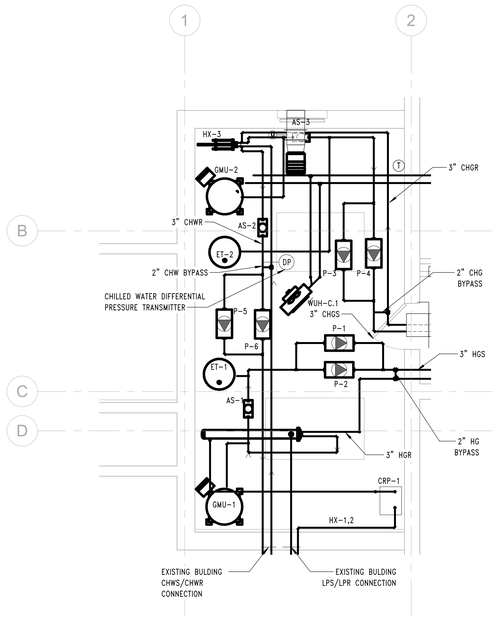
Seal & Signature

STATE OF NEW YORK ANDREW KATS No. 029261 LICENSED PROFESSIONAL ENGINEER

DASNY Project No: 35363

Drawing Number M103.00

Drawing



2 M200.00

MECHANICAL ROOM PART PLAN

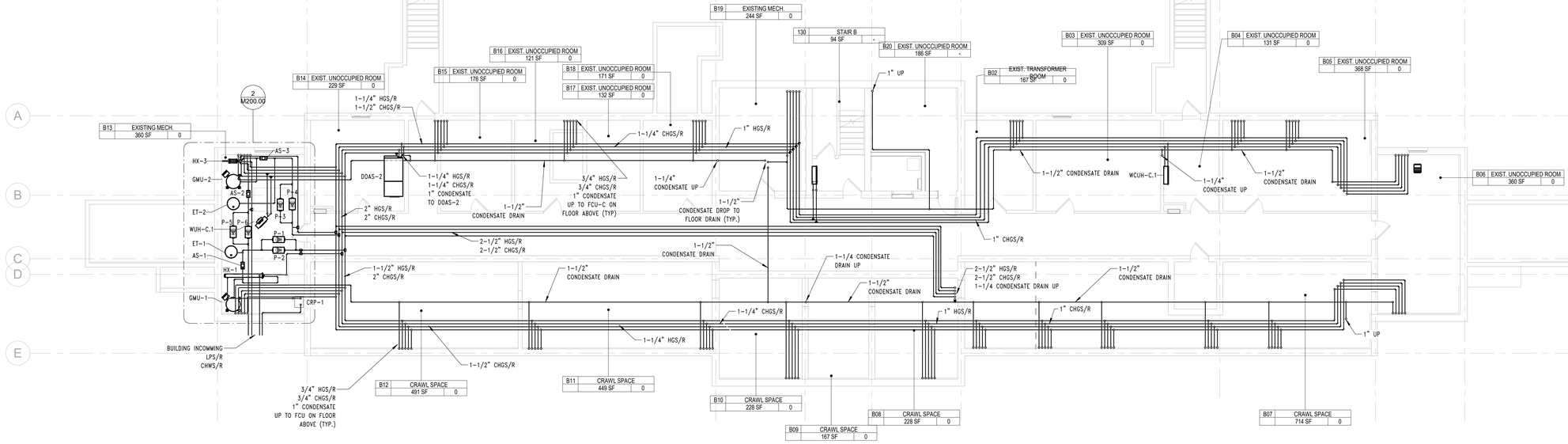
1/4" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

GENERAL NOTES:

1. FOR EQUIPMENT AND RISER HYDRAULIC SPECIALTIES, REFER TO DETAIL DRAWINGS.
2. FOR ALL PIPE SIZES NOT SHOWN ON PLAN REFER TO GLYCOL FLOW DIAGRAMS (DRAWINGS M402 & M403).
3. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
4. PROVIDE ACCESS TO ALL VALVES, VENTS, DRAINS, ETC.
5. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.
6. CONTRACTOR SHALL COORDINATE RISER LAYOUTS WITH STRUCTURAL BEAMS/COLUMNS. EXPOSED PIPING IS NOT ALLOWED. CONTRACTOR SHALL RUN PIPING INSIDE WALLS AND COLUMN ENCLOSURES.



1 M200.00

02-CELLAR PIPING PLAN

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

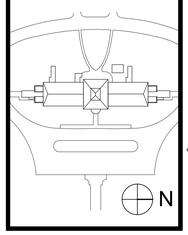
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1375 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PASCONO AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK

515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT

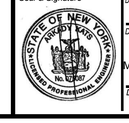
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC PIPING CELLAR PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature



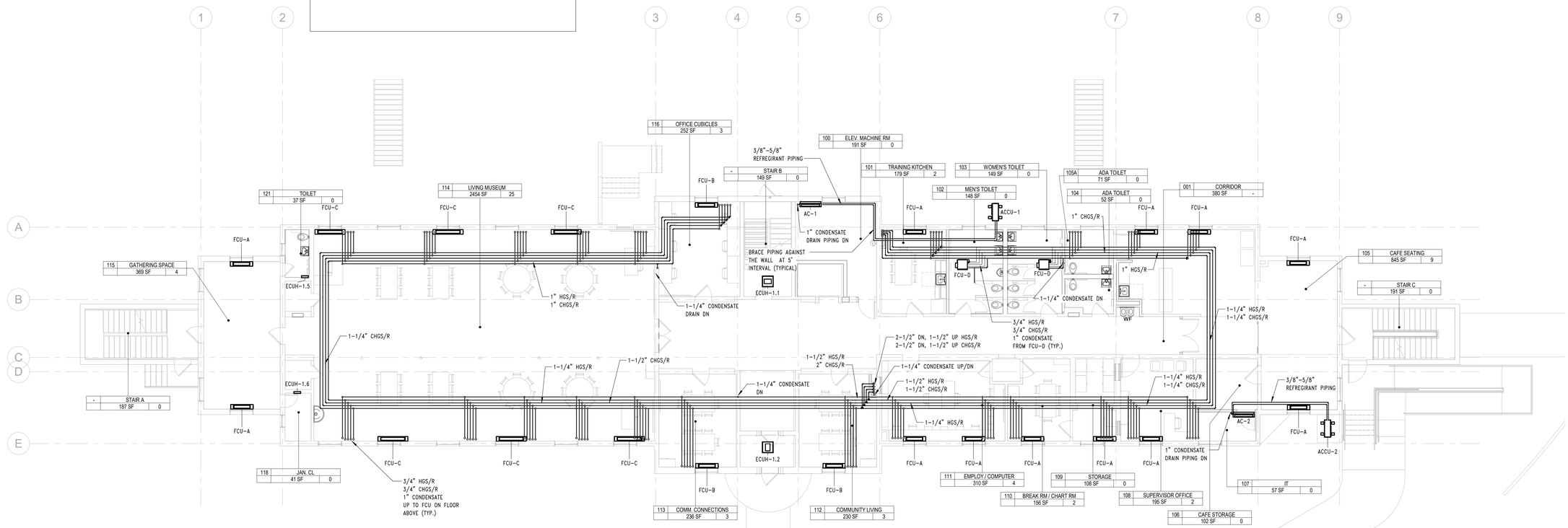
DASNY Project No:
35363

Drawing Number
M200.00

Drawing

GENERAL NOTES:

1. FOR EQUIPMENT AND RISER HYDRAULIC SPECIALTIES, REFER TO DETAIL DRAWINGS.
2. FOR ALL PIPE SIZES NOT SHOWN ON PLAN REFER TO GLYCOL FLOW DIAGRAMS (DRAWINGS M402 & M403).
3. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
4. PROVIDE ACCESS TO ALL VALVES, VENTS, DRAINS, ETC.
5. CONTRACTOR SHALL COORDINATE RISER LAYOUTS WITH STRUCTURAL BEAMS/COLUMNS. EXPOSED PIPING IS NOT ALLOWED. CONTRACTOR SHALL RUN PIPING INSIDE WALLS AND COLUMN ENCLOSURES.



1 M201.00 **03-FIRST FLOOR PIPING PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

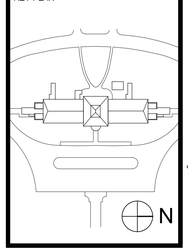
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PULLDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

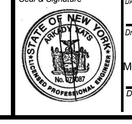
Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC PIPING FIRST FLOOR PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature



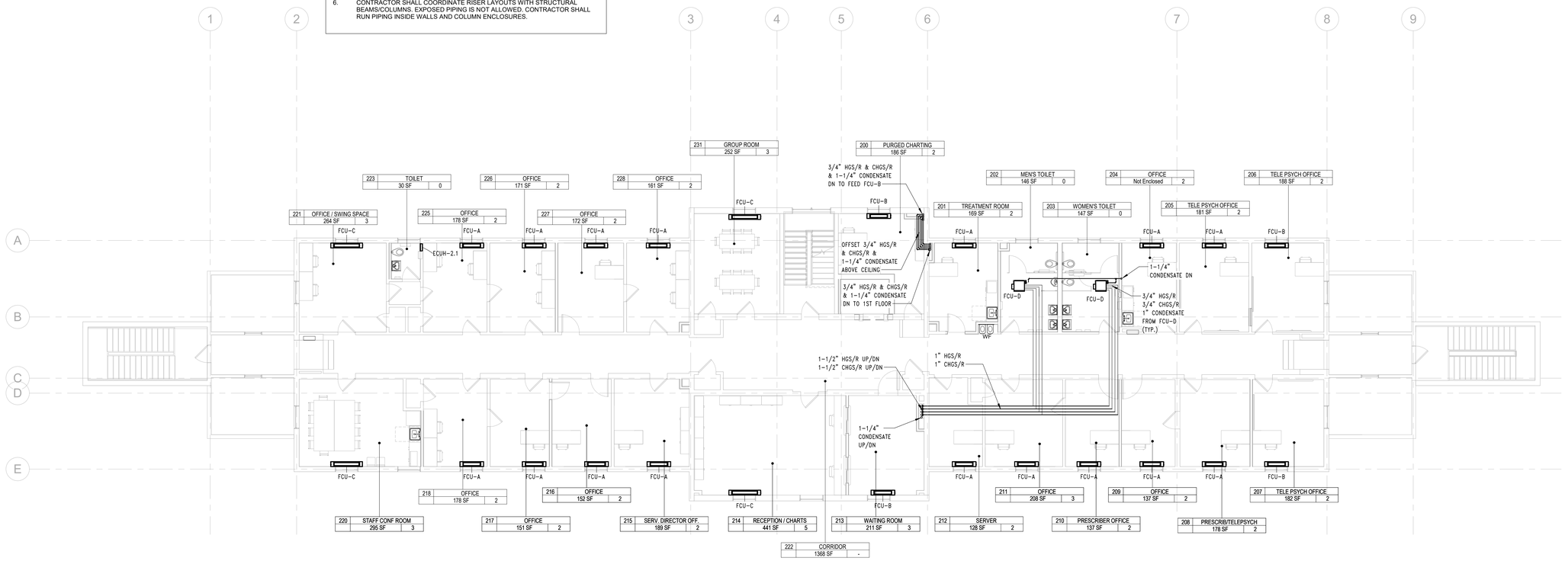
DASNY Project No: 35363

Drawing Number M201.00

Drawing

GENERAL NOTES:

1. FOR EQUIPMENT AND RISER HYDRAULIC SPECIALTIES, REFER TO DETAIL DRAWINGS.
2. FOR ALL PIPE SIZES NOT SHOWN ON PLAN REFER TO GLYCOL FLOW DIAGRAMS (DRAWINGS M402 & M403).
3. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
4. PROVIDE ACCESS TO ALL VALVES, VENTS, DRAINS, ETC.
5. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.
6. CONTRACTOR SHALL COORDINATE RISER LAYOUTS WITH STRUCTURAL BEAMS/COLUMNS. EXPOSED PIPING IS NOT ALLOWED. CONTRACTOR SHALL RUN PIPING INSIDE WALLS AND COLUMN ENCLOSURES.



1 / M202.00 **04-SECOND FLOOR PIPING PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

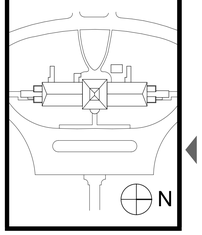
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PASCONO AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC PIPING SECOND FLOOR PLAN

Phase
100 SUBMISSION

Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature

STATE OF NEW YORK ANDREW KIS No. 102901 LICENSED PROFESSIONAL ENGINEER

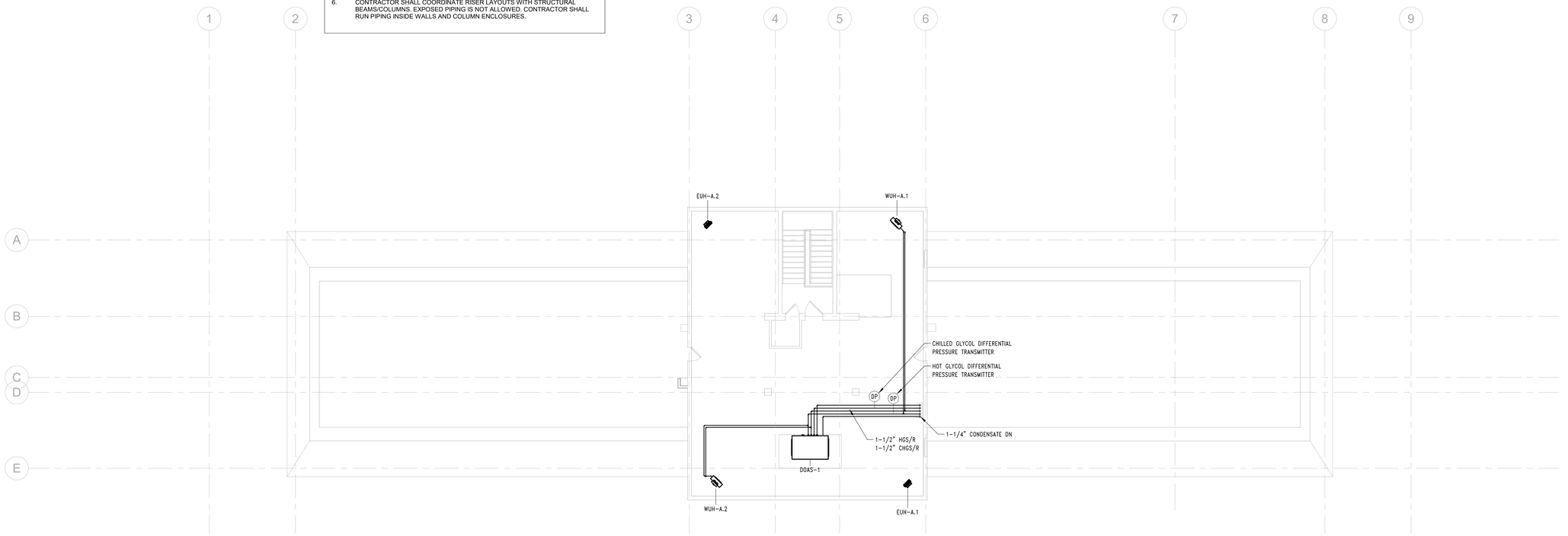
DASNY Project No:
35363

Drawing Number
M202.00

Drawing

GENERAL NOTES:

1. FOR EQUIPMENT AND RISER HYDRAULIC SPECIALTIES, REFER TO DETAIL DRAWINGS.
2. FOR ALL PIPE SIZES NOT SHOWN ON PLAN REFER TO GLYCOL FLOW DIAGRAMS (DRAWINGS M402 & M403).
3. MECHANICAL CONTRACTOR SHALL PROVIDE NECESSARY SUPPLEMENTARY STEEL MEMBERS FOR THE SUPPORT OF SUSPENDED EQUIPMENTS.
4. PROVIDE ACCESS TO ALL VALVES, VENTS, DRAINS, ETC.
5. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.
6. CONTRACTOR SHALL COORDINATE RISER LAYOUTS WITH STRUCTURAL BEAMS/COLUMNS. EXPOSED PIPING IS NOT ALLOWED. CONTRACTOR SHALL RUN PIPING INSIDE WALLS AND COLUMN ENCLOSURES.



1 M203.00 **05-ATTIC FLOOR PIPING PLAN**

1/8" = 1'-0"

0 2' 4' 8' 16'

SCALE IN FEET

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEER / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7742

WSP GROUP
STRUCTURAL ENGINEER
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

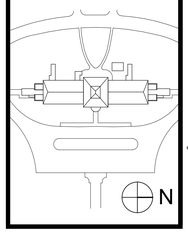
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1370 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC.
ELEVATOR CONSULTANT
400 PULLONG AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST ESTIMATOR
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 718.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET | HICKSVILLE NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK

515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT

140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC PIPING ATTIC FLOOR PLAN

Phase
100 SUBMISSION

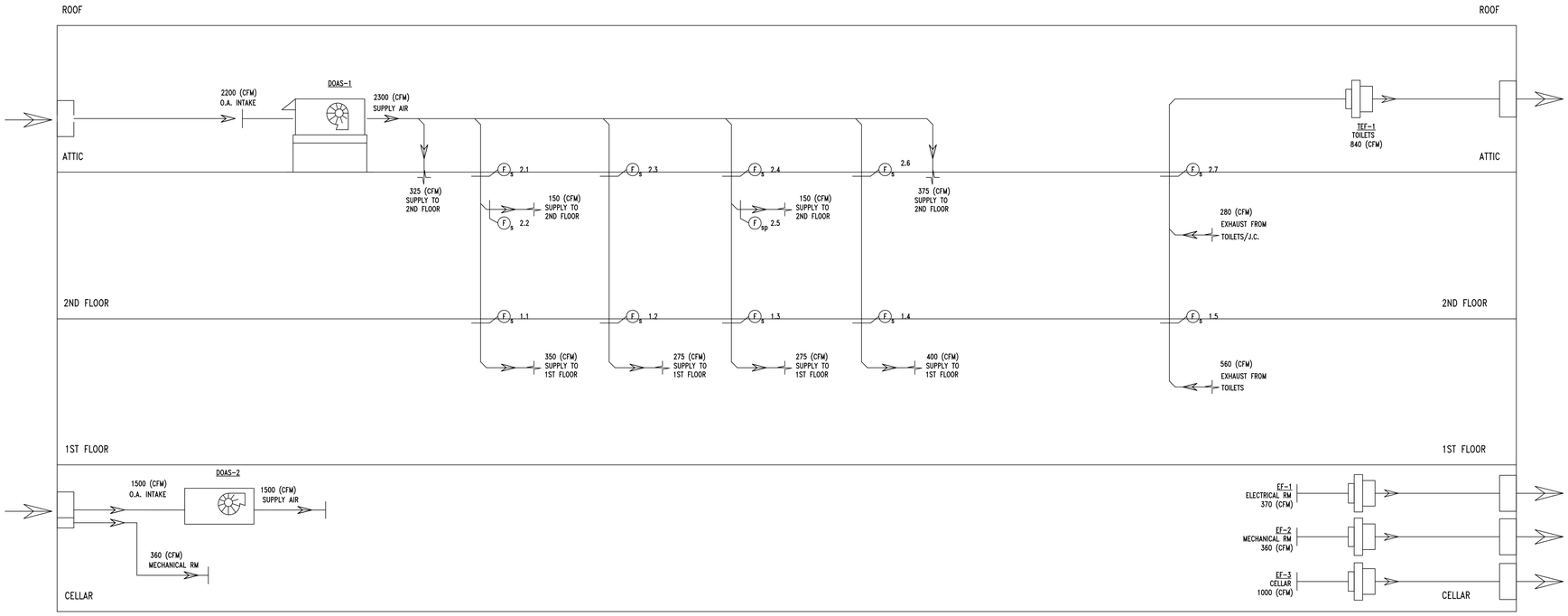
Drawn By:	Checked By:	Date:
JA	AK	05 / 13 / 22

Seal & Signature

DASNY Project No:
35363

Drawing Number
M203.00

Drawing



AIR RISER DIAGRAM

NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.2740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

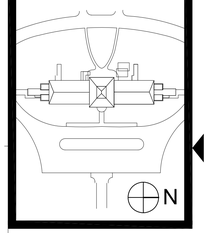
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1170 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.8511

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4088 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC AIR RISER DIAGRAM

Phase
100 % SUBMISSION

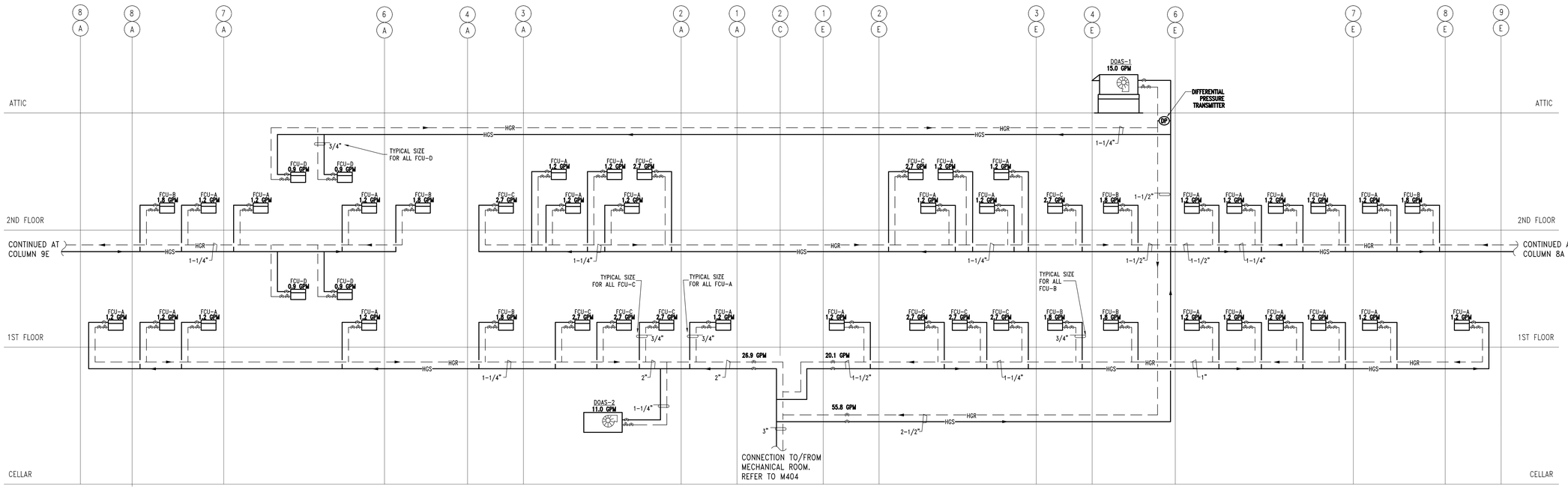
Drawn By:	Checked By:	Date:
JA	A.K.	05 / 13 / 22

Seal & Signature
STATE OF NEW YORK ANTHONY KIS 082780 LICENSED PROFESSIONAL ENGINEER

DASNY Project No:
35363

Drawing Number
M401.00

Drawing



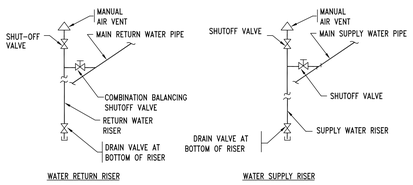
HOT GLYCOL RISER DIAGRAM

NOT TO SCALE

LEGEND

HOT GLYCOL SUPPLY PIPE

HOT GLYCOL RETURN PIPE



WATER RISERS VENT & DRAIN DETAILS

NOT TO SCALE

GENERAL NOTES

1. FOR EQUIPMENT AND RISERS HYDRONIC SPECIALTIES REFER TO DETAIL DRAWINGS.

2. ALL BALANCING VALVES SHALL HAVE READ-OUT CONNECTIONS. DO NOT INSTALL VALVES WITH READ-OUT CONNECTIONS POINTING DOWN.

3. CONTRACTOR MUST PROVIDE VALVES, PRESSURE TAPS, GAUGES, THERMOMETER WELLS AND ANY OTHER ITEMS AND COMPONENTS REQUIRED FOR A PROPER BALANCING OF THE SYSTEM WHETHER OR NOT SHOWN ON THE DRAWINGS.

4. ALL HOT GLYCOL SUPPLY AND RETURN CONNECTIONS TO FAN COIL UNITS SHALL BE MINIMUM 3/4" DIAMETER UNLESS OTHERWISE INDICATED.

5. DIFFERENTIAL PRESSURE CONTROLLER SHALL MODULATE HOT GLYCOL PUMPS TO MAINTAIN A CONSTANT PRESSURE ACROSS TERMINAL UNIT AND OPERATE DIFFERENTIAL PRESSURE CONTROL VALVE TO SATISFY MINIMUM FLOW.

6. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.

7. MECHANICAL CONTRACTOR SHALL FOLLOW THIS DRAWING FOR LOCATION OF CONTROL VALVES FOR THE TEMPERATURE CONTROL OF THE FAN COIL UNITS.

8. REFER TO DETAIL ON THIS DRAWING FOR VALVES ARRANGEMENT OF RISERS CONNECTION TO HORIZONTAL MAIN.

9. FOR FAN COILS AND SMALLER FLOWS, PROVIDE BELIMO PIQCV. THE PIQCV COMBINES A DIFFERENTIAL PRESSURE REGULATOR WITH A 2-WAY CONTROL VALVE TO SUPPLY A SPECIFIC FLOW FOR EACH DEGREE OF BALL OPENING REGARDLESS OF SYSTEM PRESSURE FLUCTUATIONS. THE VALVE PERFORMS THE FUNCTION OF A BALANCING VALVE AND CONTROL VALVE IN ONE UNIT.

10. FOR DOAS UNIT PROVIDE BELIMO EPIV. THE 2-WAY EPIV IS A PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE WITH AN INTEGRATED ELECTRONIC FLOW METER AND A POWERFUL CONTROL ALGORITHM. THE EPIV INTEGRATED CONTROL SIGNAL MAINTAINS FLOW SET POINT REGARDLESS OF SYSTEM PRESSURE VARIATIONS WITH ITS POWERFUL ALGORITHM THAT MODULATES THE VALVE BASED ON ITS MEASURED TRUE FLOW.

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW, DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

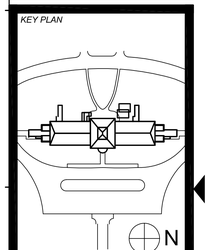
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1170 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845-298-8511

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4088 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC HOT GLYCOL RISER DIAGRAM

Phase
100 % SUBMISSION

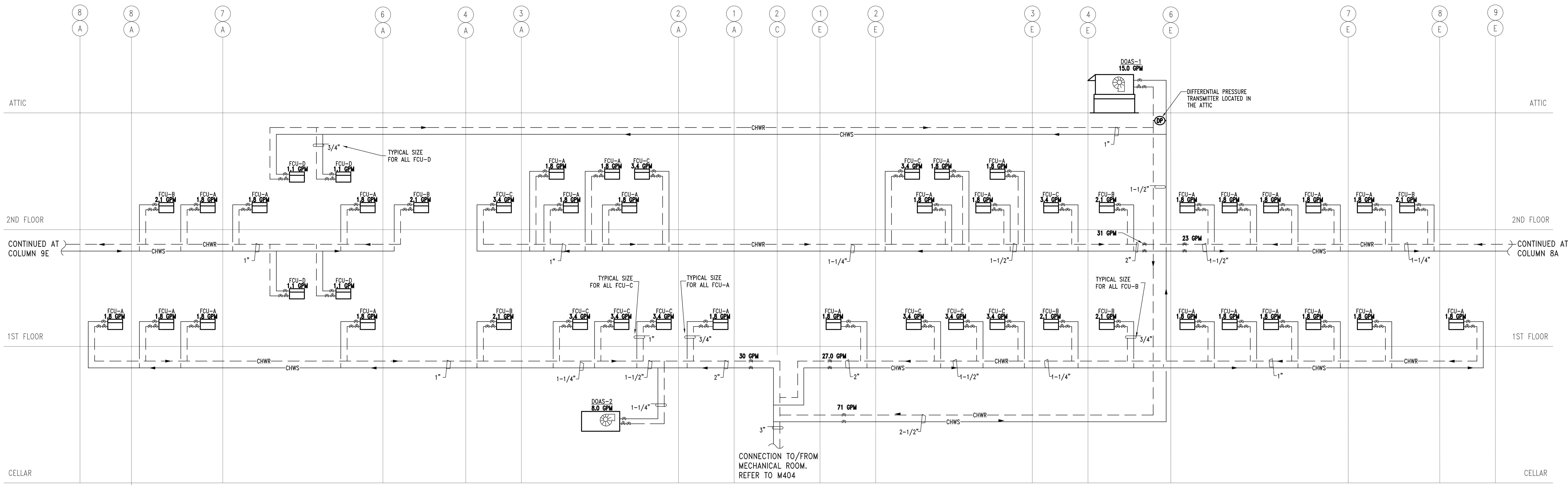
Drawn By:	Checked By:	Date:
JA	A.K.	05 / 13 / 22

Seal & Signature

DASNY Project No: 35363

Drawing Number M402.00

Drawing



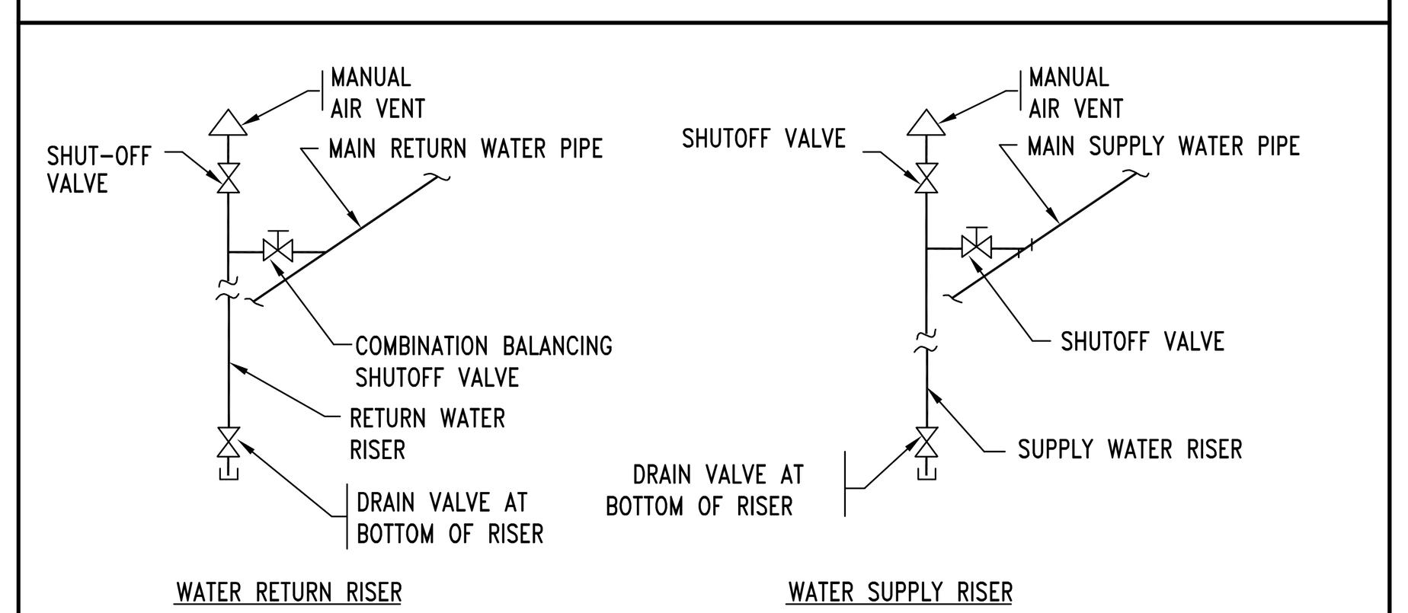
CHILLED GLYCOL RISER DIAGRAM

NOT TO SCALE

LEGEND

CHILLED GLYCOL SUPPLY PIPE

CHILLED GLYCOL RETURN PIPE



WATER RISERS VENT & DRAIN DETAILS

NOT TO SCALE

GENERAL NOTES

1. FOR EQUIPMENT AND RISERS HYDRONIC SPECIALTIES REFER TO DETAIL DRAWINGS.

2. ALL BALANCING VALVES SHALL HAVE READ-OUT CONNECTIONS. DO NOT INSTALL VALVES WITH READ-OUT CONNECTIONS POINTING DOWN.

3. CONTRACTOR MUST PROVIDE VALVES, PRESSURE TAPS, GAUGES, THERMOMETER WELLS AND ANY OTHER ITEMS AND COMPONENTS REQUIRED FOR A PROPER BALANCING OF THE SYSTEM WHETHER OR NOT SHOWN ON THE DRAWINGS.

4. ALL CHILLED GLYCOL SUPPLY AND RETURN CONNECTIONS TO FAN COIL UNITS SHALL BE MINIMUM 3/4" DIAMETER UNLESS OTHERWISE INDICATED.

5. DIFFERENTIAL PRESSURE CONTROLLER SHALL MODULATE CHILLED GLYCOL PUMPS TO MAINTAIN A CONSTANT PRESSURE ACROSS TERMINAL UNIT AND OPERATE DIFFERENTIAL PRESSURE CONTROL VALVE TO SATISFY MINIMUM FLOW.

6. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.

7. MECHANICAL CONTRACTOR SHALL FOLLOW THIS DRAWING FOR LOCATION OF CONTROL VALVES FOR THE TEMPERATURE CONTROL OF THE FAN COIL UNITS.

8. REFER TO DETAIL ON THIS DRAWING FOR VALVES ARRANGEMENT OF RISERS CONNECTION TO HORIZONTAL MAIN.

9. FOR FAN COILS AND SMALLER FLOWS, PROVIDE BELIMO PIQCV. THE PIQCV COMBINES A DIFFERENTIAL PRESSURE REGULATOR WITH A 2-WAY CONTROL VALVE TO SUPPLY A SPECIFIC FLOW FOR EACH DEGREE OF BALL OPENING REGARDLESS OF SYSTEM PRESSURE FLUCTUATIONS. THE VALVE PERFORMS THE FUNCTION OF A BALANCING VALVE AND CONTROL VALVE IN ONE UNIT.

10. FOR DOAS UNIT PROVIDE BELIMO EPIV. THE 2-WAY EPIV IS A PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE WITH AN INTEGRATED ELECTRONIC FLOW METER AND A POWERFUL CONTROL ALGORITHM. THE EPIV INTEGRATED CONTROL SIGNAL MAINTAINS FLOW SET POINT REGARDLESS OF SYSTEM PRESSURE VARIATIONS WITH ITS POWERFUL ALGORITHM THAT MODULATES THE VALVE BASED ON ITS MEASURED TRUE FLOW.

NEW YORK STATE OF OPPORTUNITY. | DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

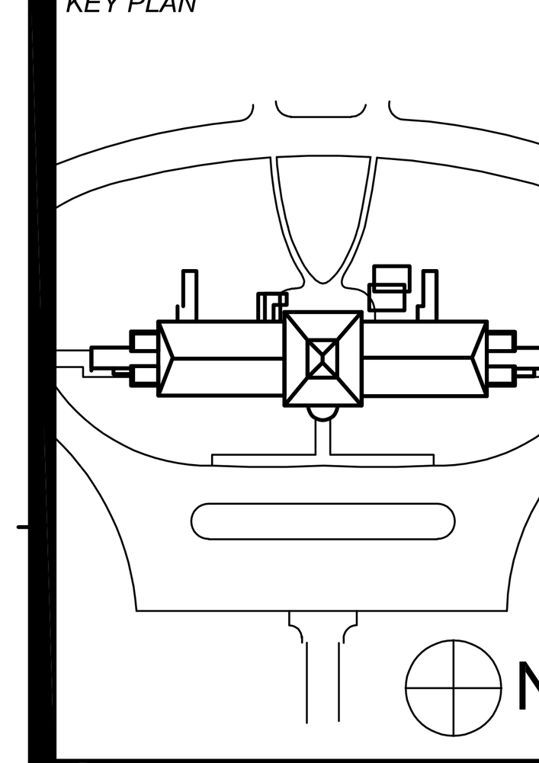
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV. NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC CHILLED GLYCOL RISER DIAGRAM

Phase
100 % SUBMISSION

Drawn By:	Checked By:	Date:
JA	A.K.	05 / 13 / 22

Seal & Signature

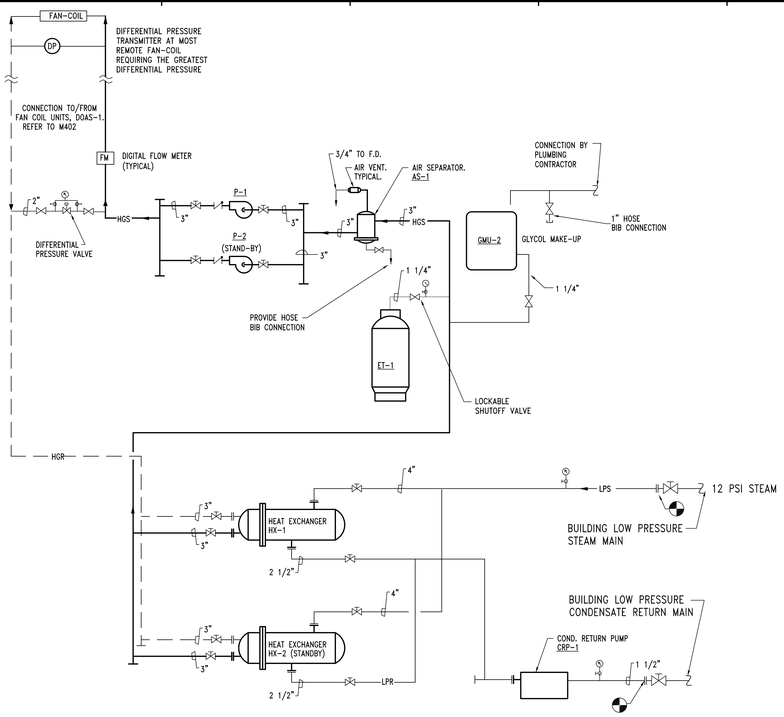
STATE OF NEW YORK · ARKADY KATS · No. 07?087 · LICENSED PROFESSIONAL ENGINEER

DASNY Project No: 35363

Drawing Number

M403.00

Drawing

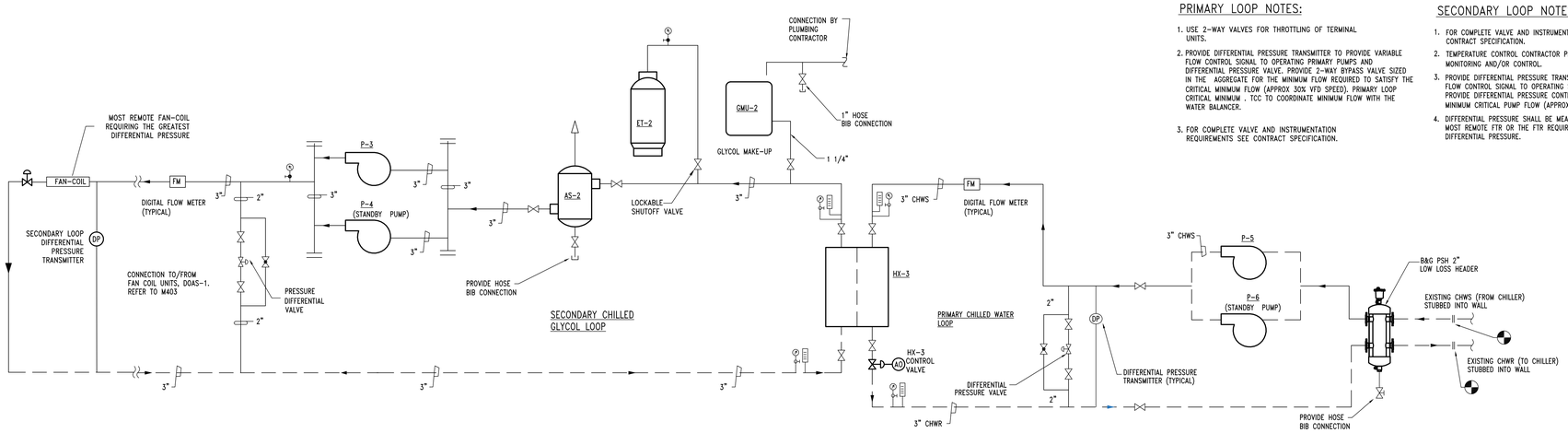


HOT GLYCOL FLOW DIAGRAM

NOT TO SCALE

GENERAL NOTES:

1. FOR THE ACTUAL REQUIREMENTS TO PIPE ALL EQUIPMENT, REFER TO THE APPROPRIATE EQUIPMENT PIPING DETAILS AND CONTROL WIRING DIAGRAMS WHICH WILL SHOW ALL PIPING, VALVING, LOCATIONS IN PIPING THAT CONTROL SENSORS ARE REQUIRED, ETC.
2. ALL BALANCING VALVES SHALL HAVE READ-OUT CONNECTIONS. DO NOT INSTALL VALVES WITH READ-OUT CONNECTIONS POINTING DOWN.
3. CONTRACTOR MUST PROVIDE VALVES, PRESSURE TAPS, GAUGES, THERMOMETER WELLS AND ANY OTHER ITEMS AND COMPONENTS REQUIRED FOR A PROPER BALANCING OF THE SYSTEM WHETHER OR NOT SHOWN ON THE DRAWINGS.
4. ALL HOT GLYCOL SUPPLY AND RETURN CONNECTIONS TO FAN COIL UNITS SHALL BE MINIMUM 3/4" DIAMETER UNLESS OTHERWISE INDICATED.
5. DIFFERENTIAL PRESSURE CONTROLLER SHALL MODULATE HOT GLYCOL PUMPS TO MAINTAIN A CONSTANT PRESSURE ACROSS TERMINAL UNIT AND OPERATE DIFFERENTIAL PRESSURE CONTROL VALVE TO SATISFY MINIMUM FLOW.
6. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY WELLS IN A PIPING REQUIRED FOR THE TEMPERATURE CONTROL DEVICES, PRESSURE SENSORS, FLOW METERS, ETC.
7. FLOW METER SHALL BE INSTALLED WITH A MIN. 15 PIPE DIAMETER OF STRAIGHT PIPE RUN. VERIFY WITH FLOW METER'S MANUFACTURER.
8. PROVIDE 15 GAL ACCUMULATING BUCKETS FOR EACH GLYCOL DRAINAGE.
9. FOR SHEETS INDEX, GENERAL NOTES, ABBREVIATION, AND SYMBOLS, SEE DRAWING M001.00.



CHILLED GLYCOL FLOW DIAGRAM

NOT TO SCALE

PRIMARY LOOP NOTES:

1. USE 2-WAY VALVES FOR THROTTLING OF TERMINAL UNITS.
2. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO PROVIDE VARIABLE FLOW CONTROL SIGNAL TO OPERATING PRIMARY PUMPS AND DIFFERENTIAL PRESSURE VALVE. PROVIDE 2-WAY BYPASS VALVE SIZED IN THE AGGREGATE FOR THE MINIMUM FLOW REQUIRED TO SATISFY THE CRITICAL MINIMUM FLOW (APPROX 30% VFD SPEED). PRIMARY LOOP CRITICAL MINIMUM . TCC TO COORDINATE MINIMUM FLOW WITH THE WATER BALANCER.
3. FOR COMPLETE VALVE AND INSTRUMENTATION REQUIREMENTS SEE CONTRACT SPECIFICATION.

SECONDARY LOOP NOTES:

1. FOR COMPLETE VALVE AND INSTRUMENTATION REQUIREMENTS SEE CONTRACT SPECIFICATION.
2. TEMPERATURE CONTROL CONTRACTOR PROVIDED POINTS USED FOR MONITORING AND/OR CONTROL.
3. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO PROVIDE VARIABLE FLOW CONTROL SIGNAL TO OPERATING SECONDARY WATER PUMPS. PROVIDE DIFFERENTIAL PRESSURE CONTROL VALVE TO SATISFY REQUIRED MINIMUM CRITICAL PUMP FLOW (APPROX. 30% VFD SPEED).
4. DIFFERENTIAL PRESSURE SHALL BE MEASURED AT OR NEAR THE MOST REMOTE FTR OR THE FTR REQUIRING THE GREATEST DIFFERENTIAL PRESSURE.

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE. 7 FL. NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

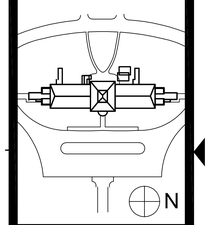
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1170 US 9 S WAPPINGERS FALLS, NY 12590
PHONE 845.298.8511

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4088 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.249.1510

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC HYDRONIC FLOW DIAGRAMS

Phase
100 % SUBMISSION

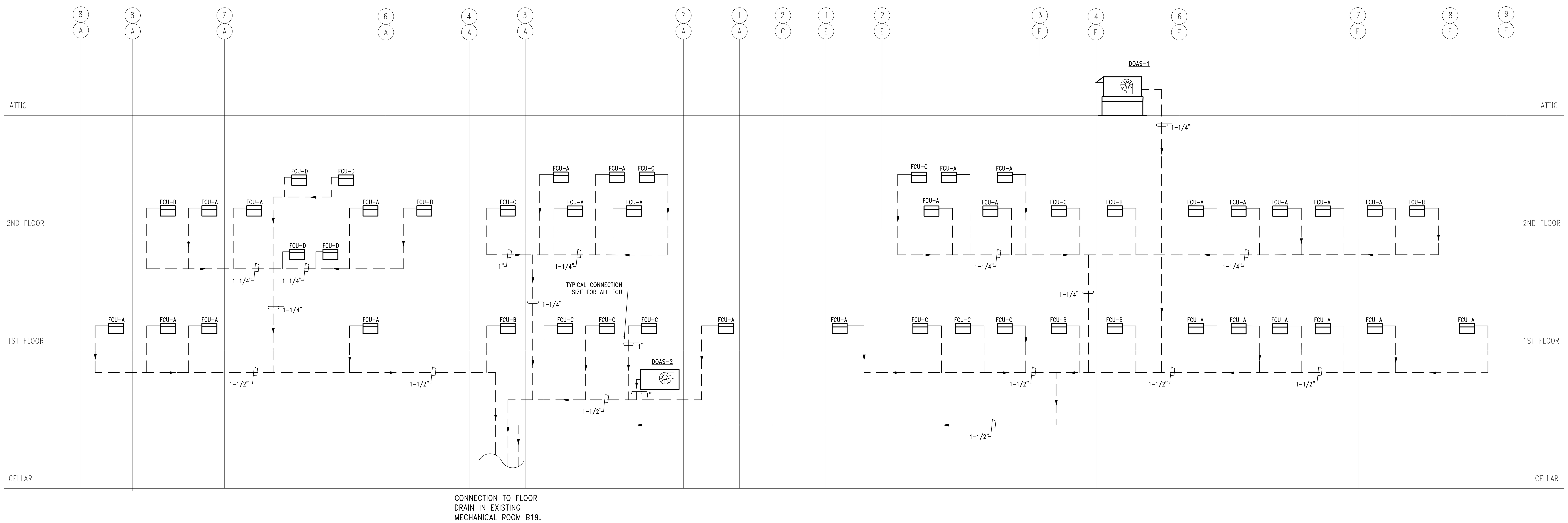
Drawn By: JA | Checked By: A.K. | Date: 05 / 13 / 22

Seal & Signature

DASNY Project No: 35363

Drawing Number: M404.00

Drawing



GENERAL NOTES:

1. REFER TO 200 SERIES DRAWINGS FOR CONDENSATE PIPING MAIN SIZING

CONDENSATE RISER DIAGRAM

NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. | DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects

589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

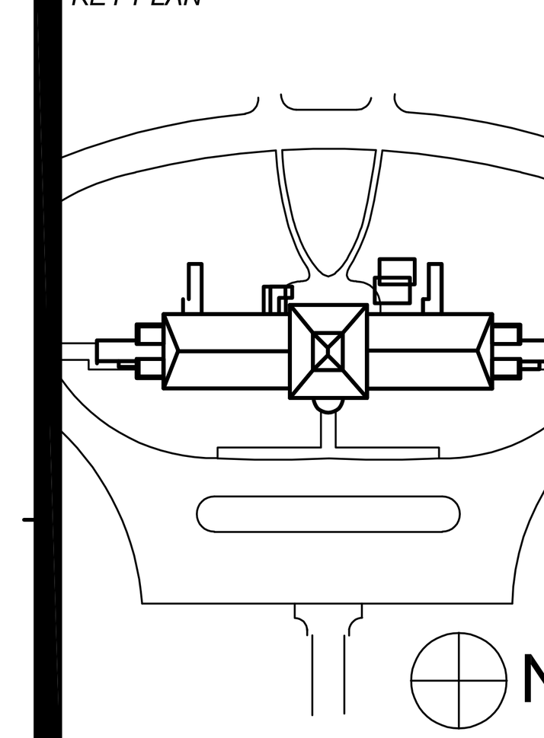
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client

DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title

BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title

HVAC CONDENSATE RISER DIAGRAM

Phase

100 % SUBMISSION

Drawn By:	*Checked By:*	*Date:*
JA	A.K.	05 / 13 / 22

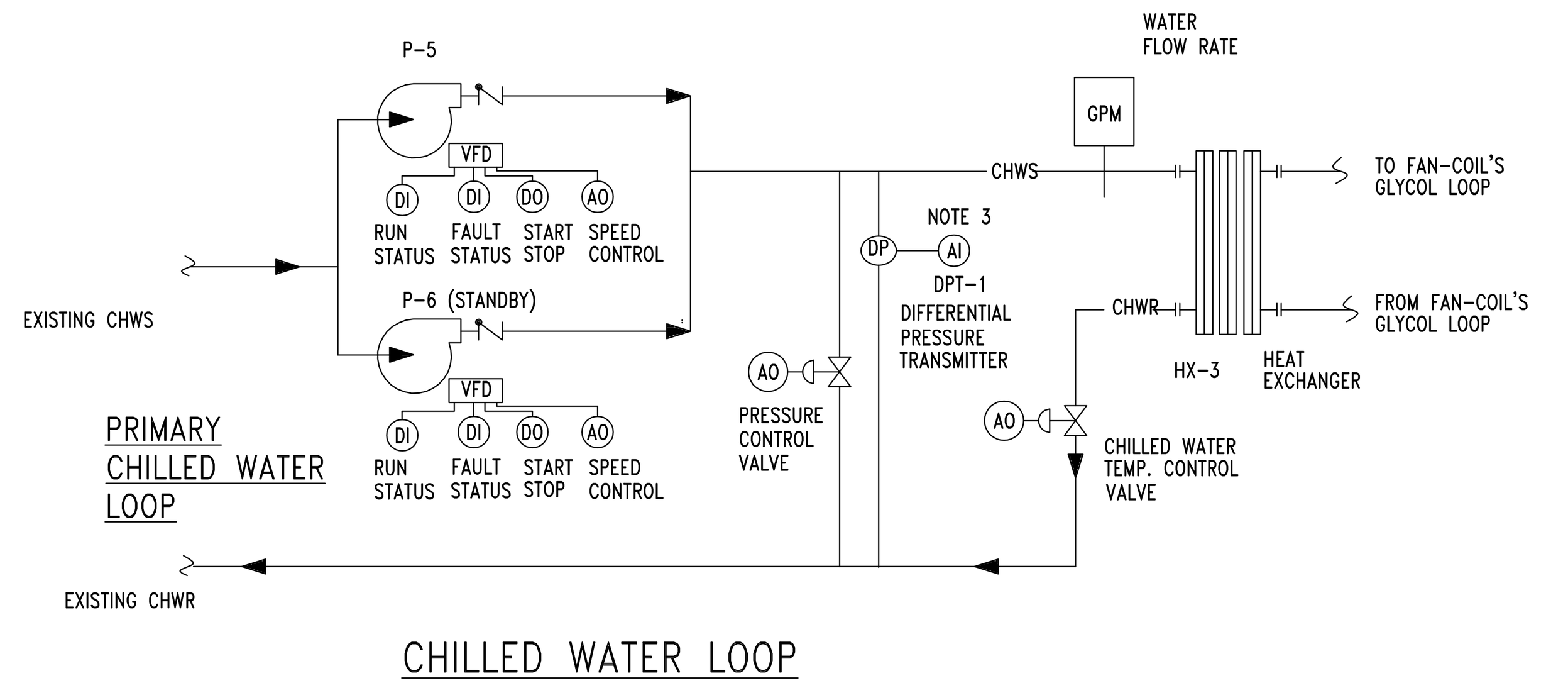
Seal & Signature

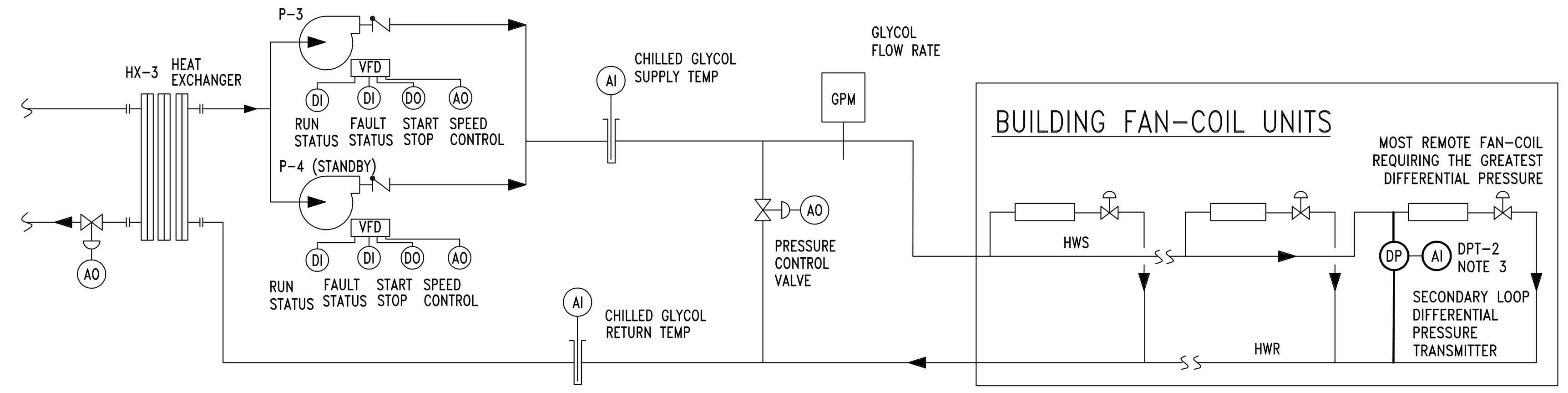
DASNY Project No: 35363

Drawing Number

M405.00

Drawing





PRIMARY LOOP NOTES:

1. USE 2-WAY VALVES FOR THROTTLING OF TERMINAL UNITS.
2. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO PROVIDE VARIABLE FLOW CONTROL SIGNAL TO OPERATING PRIMARY HOT WATER PUMPS AND DIFFERENTIAL PRESSURE VALVE. PROVIDE 2-WAY BYPASS VALVE SIZED IN THE AGGREGATE FOR THE MINIMUM FLOW REQUIRED TO SATISFY THE CRITICAL MINIMUM FLOW (40-45% VFD SPEED). PRIMARY LOOP CRITICAL MINIMUM FLOW SHALL ALSO BE DETERMINED IN CONSIDERATION OF BOILER MINIMUM FLOW. TCC TO COORDINATE WITH THE WATER BALANCER.
3. FOR COMPLETE VALVE AND INSTRUMENTATION REQUIREMENTS SEE CONTRACT SPECIFICATION.
4. AIR SEPARATOR, EXPANSION TANK, MAKEUP WATER LINE NOT SHOWN, REFER TO MECHANICAL PIPING DRAWINGS.

SECONDARY LOOP NOTES:

1. FOR COMPLETE VALVE AND INSTRUMENTATION REQUIREMENTS SEE CONTRACT SPECIFICATION.
2. TEMPERATURE CONTROL CONTRACTOR PROVIDED POINTS USED FOR MONITORING AND/OR CONTROL.
3. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO PROVIDE VARIABLE FLOW CONTROL SIGNAL TO OPERATING SECONDARY WATER PUMPS. PROVIDE DIFFERENTIAL PRESSURE CONTROL VALVE TO SATISFY REQUIRED MINIMUM CRITICAL PUMP FLOW (40-45% VFD SPEED).
4. DIFFERENTIAL PRESSURE SHALL BE MEASURED AT OR NEAR THE MOST REMOTE UNIT REQUIRING THE GREATEST DIFFERENTIAL PRESSURE.

LEGEND:

DI DIGITAL INPUT
DO DIGITAL OUTPUT
AI ANALOG INPUT
AO ANALOG OUTPUT
DPT DIFFERENTIAL PRESSURE TRANSMITTER
CHWP CHILLED WATER PUMP
LHWT LEAVING HOT WATER TEMPERATURE
CHWST CHILLED WATER SUPPLY TEMPERATURE
CHWRT CHILLED WATER RETURN TEMPERATURE
VFD VARIABLE FREQUENCY DRIVE
TS TEMPERATURE SENSOR

TYPICAL SYSTEM CONTROL DIAGRAM
CHILLED GLYCOL PIPING
(GLYCOL LOOP)

TYPICAL HOT WATER CONDENSING BOILER PLANT		INPUT/OUTPUT SENSED			
REFERENCE NO.	POINT NAME	ANALOG INPUT	ANALOG OUTPUT	DIGITAL INPUT	DIGITAL OUTPUT
1	DIFFERENTIAL WATER PRESSURE	X			
2	DIFFERENTIAL GLYCOL PRESSURE	X			
3	CHGS TEMP.	X			
4	CHGR TEMP.	X			
5					
6	PUMP #3 VFD S/S				X
7	PUMP #3 VFD STATUS			X	
8	PUMP #3 VFD SPEED		X		
9	PUMP #3 VFD FAULT			X	
10					
11	PUMP #4 VFD S/S				X
12	PUMP #4 VFD STATUS			X	
13	PUMP #4 VFD SPEED		X		
14	PUMP #4 VFD FAULT			X	
15					
16					
17	PUMP #5 VFD S/S				
18	PUMP #5 VFD STATUS				
19	PUMP #5 VFD SPEED				
20	PUMP #5 VFD FAULT				
21					
22	PUMP #6 VFD S/S				
23	PUMP #6 VFD STATUS				
24	PUMP #6 VFD SPEED				
25	PUMP #6 VFD FAULT				
26	Chilled Water Temp. Control Valve		X		
27					
28					

LEGEND:

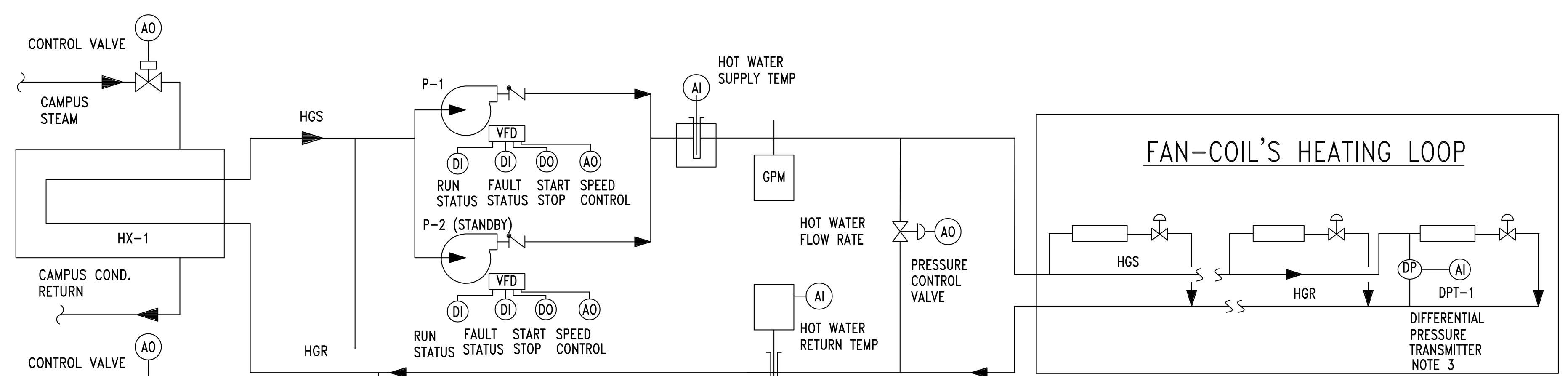
X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.

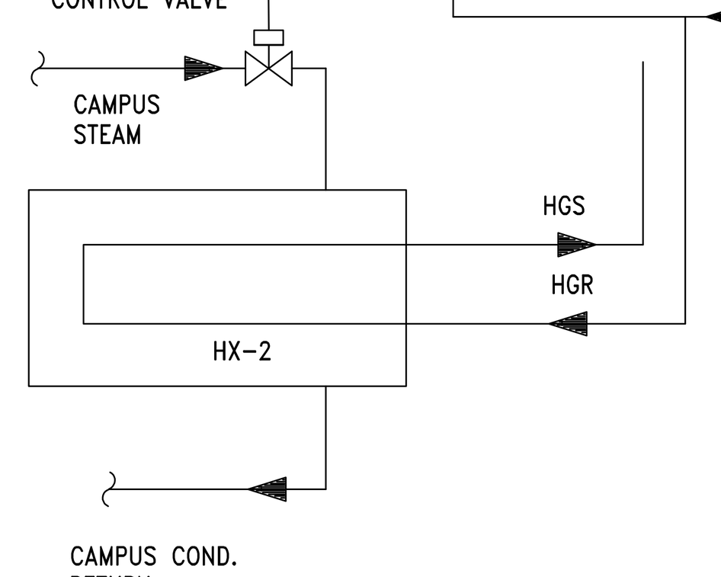
NOTES:

1. THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL . THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.

CHILLED GLYCOL CIRCUIT.

A. THE CHILLED GLYCOL PUMPS SHALL BE ENABLE BY MANUEL SWITCH.
B. THE SEASONAL ON/OFF ENABLING OF THE CHILLED WATER PUMPS DOES NOT NECESSARY MEAN THAT PUMPS SHALL START; RATHER IT HAS BEEN COMMANDED TO BE IN AUTOMATIC MODE.
C. PRIMARY CHILLED WATER SIDE (CAMPUS SIDE) CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE SECONDARY SIDE SUPPLY GLYCOL TEMPERATURE.
D. ONE PUMP OF EACH LOOP SHALL BE OPERATIONAL. THE STAND-BY PUMP SHALL BE OFF AND ONLY OPERATING IF THERE IS A FAILURE OF THE OTHER PUMP. IN THE CASE OF FAILURE OF A LEAD PUMP, THE STAND-BY PUMP SHALL BE STARTED AUTOMATICALLY.
E. EACH PAIR OF PUMPS SHALL OPERATE IN AN AUTOMATIC LEAD/STANDBY FASHION.
   1.THE LEAD PUMP SHALL RUN FIRST.
   2.THE LEAD PUMP SHALL BE ROTATED ON A SCHEDULE BASIS, 1000 HOURS (ADJ.)
F. TO PREVENT SHORT CYCLING, THE HOT WATER PUMP SYSTEM SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH OPERATOR-DEFINABLE).
G. PUMP'S ALARMS SHALL BE PROVIDED AS FOLLOWS:
   (A) FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
   (B)RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
   (C)VFD FAULT.
H. CHILLED GLYCOL FLOW MODULATION:
   1. DOAS UNITS AND FAN-COIS ARE EQUIPPED WITH TWO-WAY MODULATING VALVES.
   2. VARIABLE FREQUENCY DRIVE (VFD) SHALL CONTROL THE PUMP SPEED TO MAINTAIN DIFFERENTIAL PRESSURE DEFINED BY BALANCER MEASURED AT MOST REMOTE FAN-COIL UNIT.
   3. WHEN VARIABLE FREQUENCY DRIVE MEETS ITS LOWEST SETTING, DIFFERENTIAL BYPASS SHALL MODULATE OPEN TO MAINTAIN MINIMUM DIFFERENTIAL PRESSURE WHILE PUMP REMAINS AT ITS LOWEST SETTING.
I. PUMP #5 & 6 FLOW MODULATION:
   1. CHILLED WATER LOOP IS EQUIPPED WITH TWO-WAY MODULATING VALVE.
   2. VARIABLE FREQUENCY DRIVE (VFD) SHALL CONTROL THE PUMP SPEED TO MAINTAIN DIFFERENTIAL PRESSURE DEFINED BY BALANCER MEASURED IN THE SAME MECHANICAL ROOM NEAR PUMPS.
   3. WHEN VARIABLE FREQUENCY DRIVE MEETS ITS LOWEST SETTING, DIFFERENTIAL BYPASS SHALL MODULATE OPEN TO MAINTAIN MINIMUM DIFFERENTIAL PRESSURE WHILE PUMP REMAINS AT ITS LOWEST SETTING.
J. ALARMS ARE TO BE PROVIDED AS FOLLOWS:
   1. HIGH CHILLED WATER DIFFERENTIAL PRESSURE: IF THE CHILLED WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
   2. LOW CHILLED WATER DIFFERENTIAL PRESSURE: IF THE CHILLED WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.
   3. HIGH CHILLED GLYCOL DIFFERENTIAL PRESSURE: IF THE CHILLED WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) GREATER THAN SETPOINT.
   2. LOW CHILLED GLYCOL DIFFERENTIAL PRESSURE: IF THE CHILLED WATER DIFFERENTIAL PRESSURE IS 25% (ADJ.) LESS THAN SETPOINT.
K. CHILLED GLYCOL TEMPERATURE MONITORING:
   (A) CHILLED GLYCOL SUPPLY TEMPERATURE SHALL BE MONITORED.
   (B) CHILLED GLYCOL RETURN TEMPERATURE SHALL BE MONITORED.
L. ALARMS SHALL BE PROVIDED AS FOLLOWS:
   (A) HIGH CHILLED GLYCOL SUPPLY TEMP: IF THE CHILLED GLYCOL SUPPLY TEMPERATURE IS GREATER THAN 55 DEGREES F (ADJ.).
M. GLYCOL WATER MAKE-UP UNIT (GMU)
   1. GLYCOL WATER MAKE-UP UNIT SHALL OPERATE WITH ITS INTEGRAL CONTROLS TO MAINTAIN SYSTEM PRESSURE (ADJUSTABLE).
   2. LOW LEVEL SHALL BE ALARMED.





LEGEND:

DI DIGITAL INPUT
DO DIGITAL OUTPUT
AI ANALOG INPUT
AO ANALOG OUTPUT
DPT DIFFERENTIAL PRESSURE TRANSMITTER
HGS HOT GLYCOL SUPPLY
HGR HOT GLYCOL RETURN
P HOT WATER PUMP
VFD VARIABLE FREQUENCY DRIVE
TS TEMPERATURE SENSOR
ES END SWITCH

NOTES:

1. FOR COMPLETE VALVE AND INSTRUMENTATION REQUIREMENTS SEE CONTRACT SPECIFICATION.
2. TEMPERATURE CONTROL CONTRACTOR PROVIDED POINTS ONLY USED FOR MONITORING AND NOT CONTROL.
   ORIGINAL EQUIPMENT MANUFACTURER CONTROLS SHALL ALWAYS BE PROVIDED.
3. PROVIDE DIFFERENTIAL PRESSURE TRANSMITTER TO PROVIDE VARIABLE FLOW CONTROL SIGNAL TO OPERATING HOT GLYCOL PUMPS AND DIFFERENTIAL PRESSURE VALVE. PROVIDE 2-WAY VALVE BYPASS SIZED IN THE AGGREGATE FOR THE FLOW REQUIRED TO SATISFY THE CRITICAL MINIMUM FLOW (APPROX 30% VFD SPEED). TCC TO COORDINATE WITH WATER BALANCER.

TYPICAL SYSTEM CONTROL DIAGRAM
FOR HOT GLYCOL LOOP

TYPICAL PRIMARY/ SECONDARY LOOPS		Input/Output Sensed			
Reference No.	Point Name	Analog Input	Analog Output	Digital Input	Digital Output
1	Hot Water Supply Temp	X			
2	Hot Water Return Temp	X			
3	Differential Water pressure	X			
4	Pump #1 VFD				
5	Pump #1 VFD S/S				X
6	Pump #1 VFD Status			X	
7	Pump #1 VFD Speed	X			
8	Pump #1 VFD Fault			X	
9	Pump #2 VFD				
10	Pump #2 VFD S/S				X
11	Pump #2 VFD Status			X	
12	Pump #2 VFD Speed	X			
13	Pump #2 VFD Fault			X	
14	HW Bypass Valve		X		
15	Steam HX'S Control Valve		X		
16					

LEGEND:

X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.

NOTES:

1. THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL . THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.
2. THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC.

HEATING HOT GLYCOL LOOP

A. THE HEATING GLYCOL PUMPS SHALL BE ENABLE BY MANUEL SWITCH.
   THE SEASONAL ON/OFF ENABLING OF THE HOT GLYCOL PUMPS DOES NOT NECESSARY MEAN THAT PUMPS SHALL START; RATHER IT HAS BEEN COMMANDED TO BE IN AUTOMATIC MODE.
B. STEAM CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE GLYCOL WATER TEMPERATURE.
C. ONE PUMP SHALL BE OPERATIONAL. THE STAND-BY PUMP SHALL BE OFF AND ONLY OPERATING IF THERE IS A FAILURE OF THE OTHER PUMP. IN THE CASE OF FAILURE OF A LEAD PUMP, THE STAND-BY PUMP SHALL BE STARTED AUTOMATICALLY.
D. THE TWO PUMPS SHALL OPERATE IN AN AUTOMATIC LEAD/STANDBY FASHION.
   1.THE LEAD PUMP SHALL RUN FIRST.
   2.THE LEAD PUMP SHALL BE ROTATED ON A SCHEDULE BASIS, 1000 HOURS (ADJ.)
E. TO PREVENT SHORT CYCLING, THE HOT GLYCOL WATER PUMP SYSTEM SHALL RUN FOR AND BE OFF FOR MINIMUM ADJUSTABLE TIMES (BOTH OPERATOR-DEFINABLE).
F. ALARMS SHALL BE PROVIDED AS FOLLOWS:
   1.HOT GLYCOL PUMP: P-1
      (A) FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
      (B) VFD FAULT.
      (C) RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
   2. HOT GLYCOL PUMP: P-2
      (A) FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.
      (B) VFD FAULT.
      (C) RUNTIME EXCEEDED: STATUS RUNTIME EXCEEDS A USER DEFINABLE LIMIT.
G. HOT GLYCOL SUPPLY TEMPERATURE SETTING SHALL BE 180F
   1. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      (A) LOW SUPPLY TEMP: IF THE SUPPLY TEMPERATURE IS LOWER THAN THE SET PINT BY 10°F (ADJ.) FOR MORE THAN 15 MINUTES.
H. VARIABLE FREQUENCY DRIVE (VFD) SHALL CONTROL THE PUMP SPEED TO MAINTAIN DIFFERENTIAL PRESSURE DEFINED BY BALANCER MEASURED AT MOST REMOTE FAN-COIL UNIT.
I. WHEN VARIABLE FREQUENCY DRIVE IS AT ITS LOWEST RECOMMENDED SETTING, THE DIFFERENTIAL BYPASS SHALL MODULATE OPEN TO MAINTAIN MINIMUM DIFFERENTIAL PRESSURE WHILE PUMP VFD REMAINS AT ITS LOWEST SEETTING.
J. ALARMS SHALL BE PROVIDED AS FOLLOWS:
   (A) HIGH HOT GLYCOL DIFFERENTIAL PRESSURE: IF THE DIFFERENTIAL PRESSURE IS 15% (ADJ.) GREATER THAN SETPOINT.
   (B) LOW HOT GLYCOL DIFFERENTIAL PRESSURE: IF THE DIFFERENTIAL PRESSURE IS 15% (ADJ.) LESS THAN SETPOINT.
K. HEAT EXCHANGERS: HX-1, HX-2 (STANDBY)
   1. ONLY ONE HEAT EXCHANGER IS IN OPERATION AT A TIME. THE OTHER IS AVAILABLE FOR STANDBY USE (MANUALLY SELECTED).
L. GLYCOL WATER MAKE-UP UNIT (GMU)
   1.GLYCOL WATER MAKE-UP UNIT SHALL OPERATE WITH ITS INTEGRAL CONTROLS TO MAINTAIN SYSTEM PRESSURE (ADJUSTABLE).
   2. LOW LEVEL SHALL BE ALARMED

NEW YORK STATE OF OPPORTUNITY. DASNY
515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG
NEW YORK STATE OF OPPORTUNITY. Office of Mental Health
10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:
GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

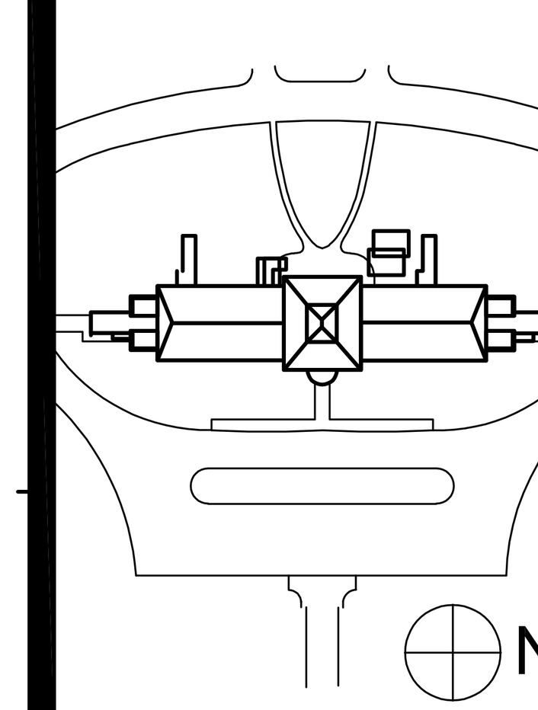
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC CONTROL DIAGRAM SHEET#1

Phase
100 % SUBMISSION

Drawn By:	Checked By:	Date:
JA	A.K.	05 / 13 / 22

Seal & Signature

DASNY Project No:
35363
Drawing Number
M406.00
Drawing

NEW YORK STATE OF OPPORTUNITY. | DASNY
515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG
NEW YORK STATE OF OPPORTUNITY. | Office of Mental Health
10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

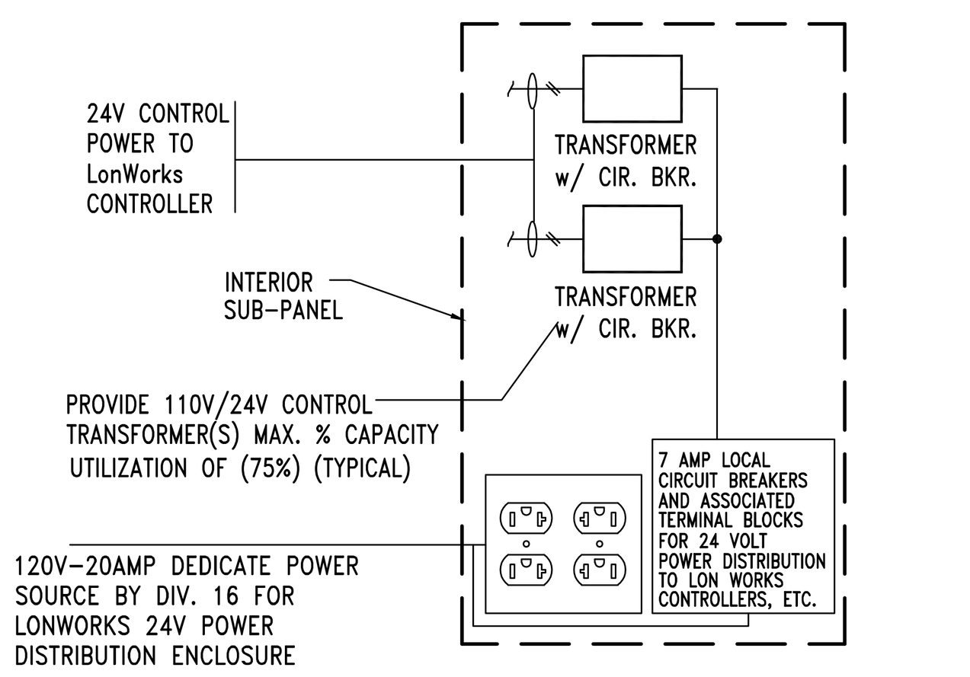
WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.465.5000

QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1376 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.6031

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S
ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4588 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.248.1010

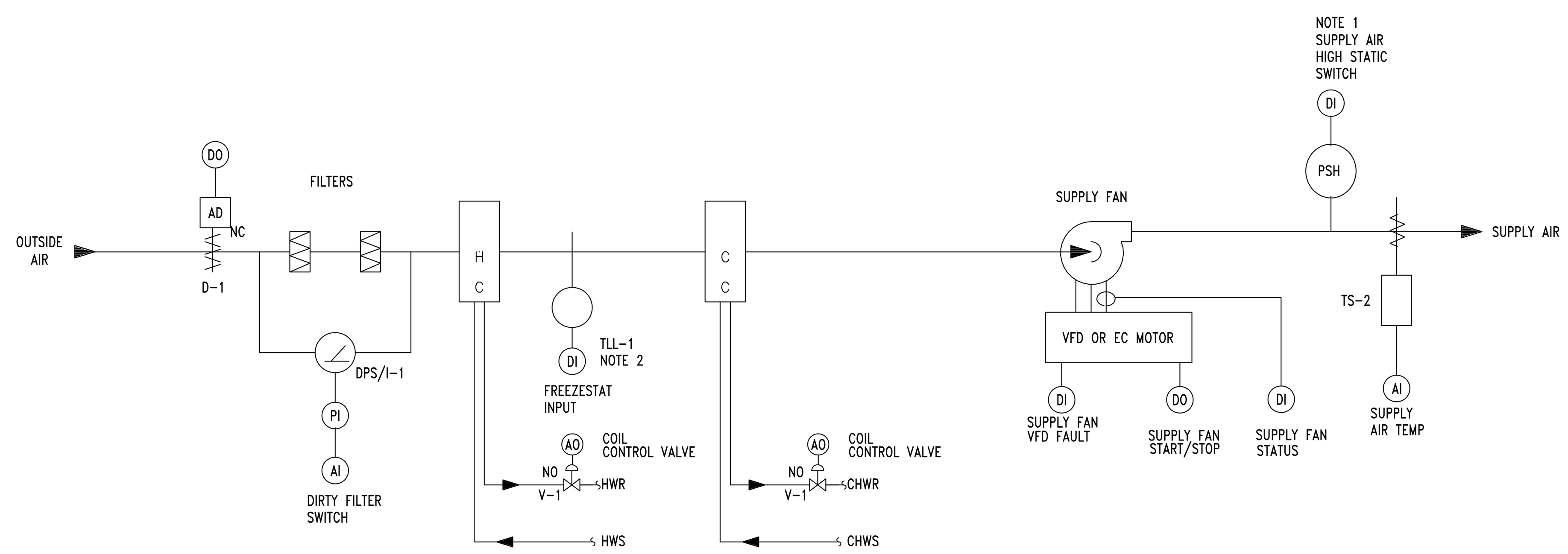


NOTE:

1. THE TCC SHALL PROVIDE 24VAC TO THOSE MISC. CONTROL DEVICES WHICH ARE NOT POWERED DIRECTLY FROM A UNITARY HVAC SYSTEM. TCC TO COORDINATE WITH MECHANICAL CONTRACTOR AND EQUIPMENT VENDORS FOR CONTROL DEVICE POWER.

24 V POWER DISTRIBUTION ENCLOSURE (INSIDE VIEW OF PANEL)

NOT TO SCALE
(LOCATED ABOVE CEILING IN NURSE OFFICE)



LEGEND

TLL-1	TEMPERATURE LOW LIMIT	AO	ANALOG OUTPUT
TS-1	OUTSIDE AIR TEMP	LON	LONWORKS NETWORK CONNECTION
TS-2	SUPPLY AIR TEMP	PSL	PRESSURE SWITCH LOW
TS-3	COIL DISCHARGE AIR TEMP	PSH	PRESSURE SWITCH HIGH
V-1	CONTROL VALVE	PI	PRESSURE INDICATOR
DPS	DIFFERENTIAL PRESSURE SWITCH	AD	DPR ACTUATORS
FE	FLOW ELEMENT	RH	RELATIVE HUMIDITY
FM	FLOW METER	CO2	CARBON DIOXIDE SIGNAL
DI	DIGITAL INPUT		
DO	DIGITAL OUTPUT		
AI	ANALOG INPUT		

NOTES:

1. SAFETY DEVICES SHALL BE HARDWIRED TO THE FAN STARTER CIRCUIT IN ADDITION TO THE DDC SYSTEM. COORDINATE WITH VFD VENDOR ASSURING THAT THE SAFETIES SHUTDOWN THE FAN IN ALL MODES.

DOAS-1& 2 CONTROL DIAGRAM CONSTANT VOLUME AIR HANDLER

CONSTANT VOLUME DOAS UNIT		Input/Output Sensed			
Reference No.	Point Name	Analog Input	Analog Output	Digital Input	Digital Output
1	Supply Air Temp	X			
2	Dirty Filter Alarm			X	
3	Freezestat Alarm			X	
4	SF High Static Pressure			X	
5	Outside Air Damper				X
6	Outside Air Damper Status			X	
7	CHW Coil Valve		X		
8	HW Coil Valve		X		
9					
10	Supply Fan Status			X	
11					
12	Supply Fan VFD S/S				X
13	Supply Fan VFD Fault			X	
14	Operating Status "H" or "A" Mode			X	
15	Override			X	
16					

LEGEND:

X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.

NOTES:

1. THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL . THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.
2. THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC.

DOAS-1 AND DOAS-2

A. RUN CONDITIONS:
   1. THE UNIT SHALL OPERATE WHENEVER THE BUILDING IS OCCUPIED, ON A SCHEDULE BY COMMAND FROM UNIT'S CONTROLLER.
   2. THE DOAS UNIT SHALL RUN TO MAINTAIN A CONSTANT SUPPLY AIR TEMPERATURE OF 65 DEGREES F (ADJUSTABLE).

B. OUTSIDE AIR DAMPERS:
   1. THE OUTSIDE AIR DAMPER SHALL OPEN ANYTIME THE UNIT RUNS AND SHALL CLOSE ANYTIME THE UNIT STOPS. THE SUPPLY FAN SHALL START ONLY AFTER THE DAMPER STATUS HAS PROVEN THE DAMPER IS OPEN. THE OUTSIDE AIR DAMPER SHALL CLOSE FOUR SECONDS (ADJ.) AFTER THE SUPPLY FAN STOPS.
   2. SHOULD THE DAMPER FAIL IN THE CLOSED POSITION, AN ALARM SHALL BE PROVIDED AND THE UNIT SHALL SHUT DOWN.

C. SUPPLY AIR TEMPERATURE:
   1. THE CONTROLLER SHALL MONITOR THE SUPPLY AIR TEMPERATURE
   2. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      (A) HIGH SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMP IS 5 DEGREES ABOVE SUPPLY AIR TEMP. SETPOINT (ADJ.).
      (B) LOW SUPPLY AIR TEMP: IF THE SUPPLY AIR TEMP IS 5 DEGREES BELOW SUPPLY AIR TEMP. SETPOINT (ADJ.).

D. SUPPLY FAN:
   1. THE SUPPLY FAN SHALL RUN ANYTIME THE UNIT IS COMMANDED TO RUN, ALARMS SHALL BE PROVIDED AS FOLLOWS:
      (A) SUPPLY FAN FAILURE: COMMANDED ON, BUT THE STATUS IS OFF.

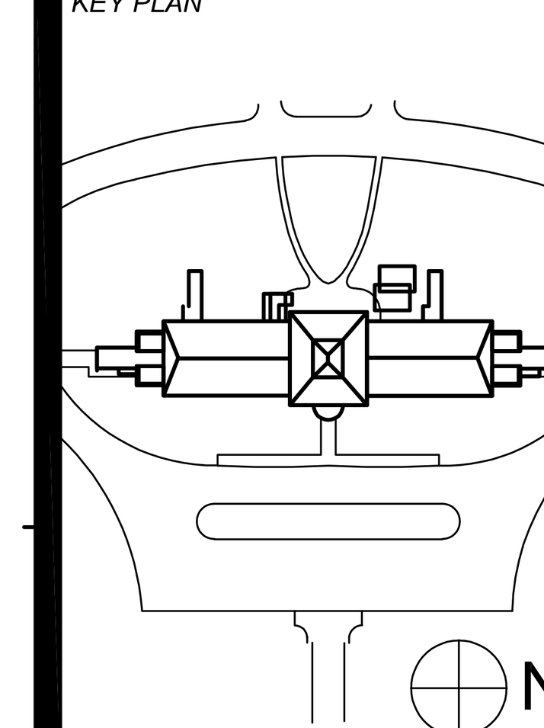
E. STATIC PRESSURE DISCHARGE:
   1. A PRESSURE SENSOR SHALL MEASURE THE STATIC PRESSURE IN THE DISCHARGE PLENUM.
   2. AN ALARM SHALL BE PROVIDED AND THE UNIT SHALL SHUT DOWN WHENEVER A USER-DEFINED HIGH STATIC PRESSURE LIMIT IS EXCEEDED.

F. COOLING:
   1. THE COOLING SHALL BE ENABLED WHENEVER;
      (A) OUTSIDE AIR TEMPERATURE IS GREATER THAN 73 DEGREES F (ADJ.).
      (B) AND CHILLED WATER PROVIDED TO THE BUILDING

G. HEATING:
   1. THE HEATING SHALL BE ENABLED WHENEVER;
      (A) OUTSIDE AIR TEMPERATURE ISLOW THAN 65 DEGREES F (ADJ.).
      (B) AND STEAM IS AVAILABLE.

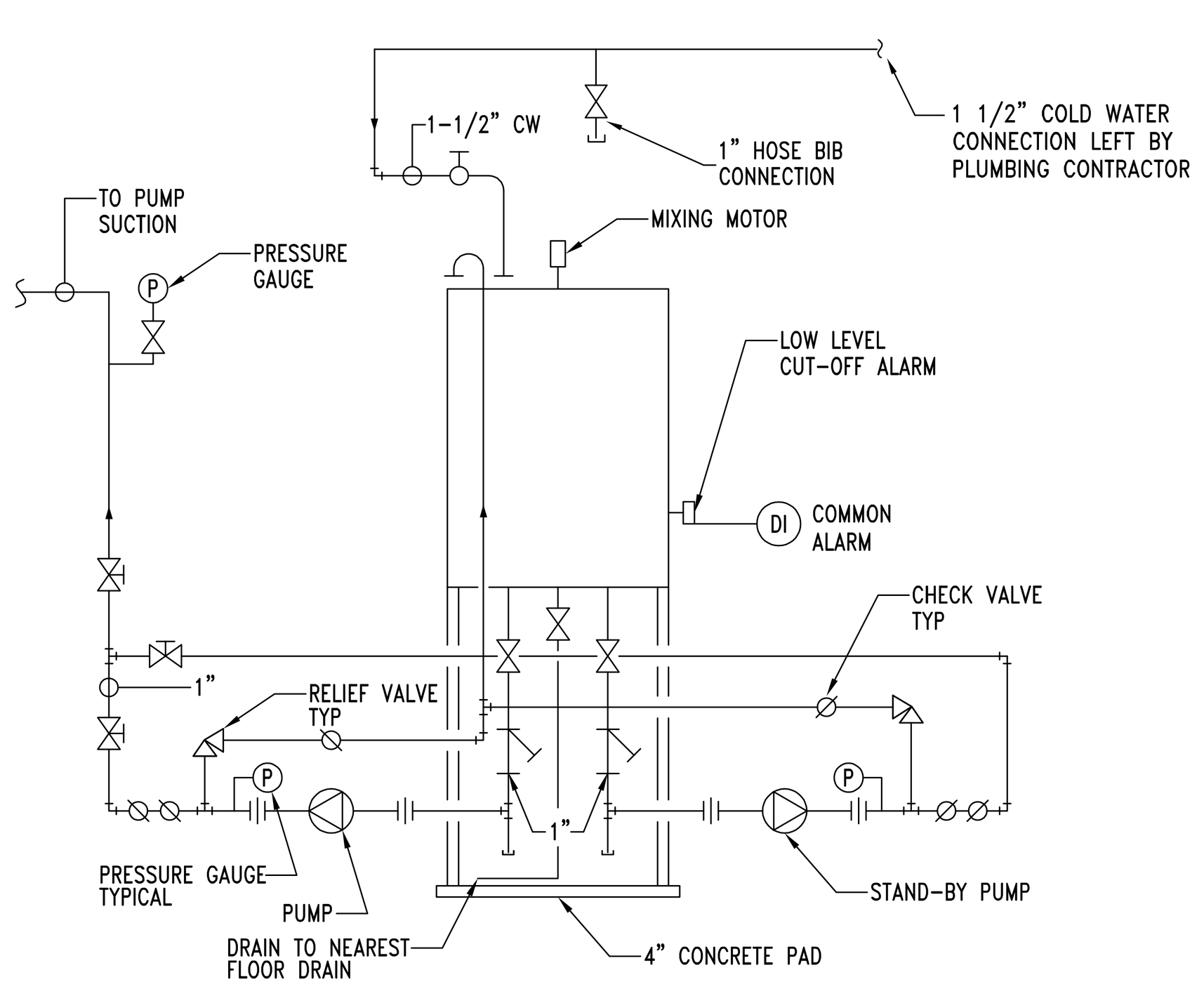
H. FILTER DIFFERENTIAL PRESSURE MONITOR:
   1. THE CONTROLLER SHALL MONITOR THE DIFFERENTIAL PRESSURE ACROSS THE PREFILTER.
   2. ALARMS SHALL BE PROVIDED AS FOLLOWS:
      (A) FILTER CHANGE REQUIRED: FILTER DIFFERENTIAL PRESSURE EXCEEDS A USER DEFINABLE LIMIT (ADJ.).

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE



NOTE:

1. TCC SHALL PROVIDE LOW LEVEL ALARM.

GLYCOL FEED SYSTEM DETAIL

NOT TO SCALE

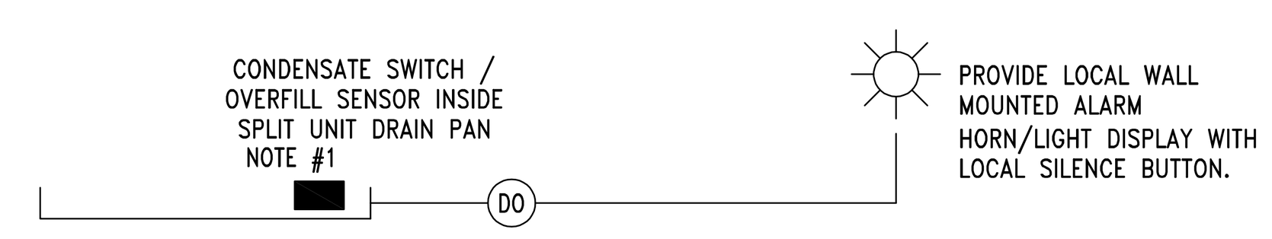
GLYCOL FEEDER SYSTEM		INPUT/OUTPUT SENSED			
REFERENCE NO.	POINT NAME	ANALOG INPUT	ANALOG OUTPUT	DIGITAL INPUT	DIGITAL OUTPUT
1	GLYCOL LOW CUT-OFF ALARM			X	
2					

LEGEND:

X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.

NOTES:

1. THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC.



LON BUS FROM PRECEDING CONTROLLER

NOTE

1. ALARM SHALL AUTOMATICALLY RESET IF THERE IS NO OVERFLOW CONDITION.

LEGEND:

TS	TEMP. SENSOR
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
RH	RELATIVE HUMIDITY SENSOR

SPLIT AC UNITS CONTROL		INPUT/OUTPUT SENSED			
REFERENCE NO.	POINT NAME	ANALOG INPUT	ANALOG OUTPUT	DIGITAL INPUT	DIGITAL OUTPUT
1					
2					
3	CONDENSATE SWITCH			X	
4	LOCAL ALARM				X

LEGEND:

X = PROVIDE QUANTITY AS REQUIRED TO INCLUDE ALL INSTANCES OF THE INDICATED FEATURE. INCLUDE MULTIPLE POINTS WITHIN EACH MECHANICAL SYSTEM AS NECESSARY. COORDINATE WITH EQUIPMENT VENDOR.

NOTES:

1. THE POINT LISTED HEREIN ARE THE MINIMUM POINTS REQUIRED FOR THE CONTROL . THIS POINT LIST IS TYPICAL FOR EACH MECHANICAL/ELECTRICAL SYSTEM OF THIS TYPE. IF THE SEQUENCE OF OPERATION REQUIRES ADDITIONAL OR DIFFERING INFORMATION IT MUST BE PROVIDED BY THE RESPECTIVE PROVIDER OF THE CONTROLS FOR THIS TYPE OF EQUIPMENT AS COORDINATED BY THE GENERAL AND MECHANICAL CONTRACTORS.
2. THE TCC SHALL PROVIDE ALL DIGITAL ALARM LOGIC.

TYPICAL CONTROL DIAGRAM FOR SPLIT AC UNITS WITH OVERFLOW ALARM

FAN COIL UNIT

FAN-COIL UNITS SHALL BE CONTROLLED BY OEM PROGRAMMABLE THERMOSTAT

BEDROOM, LIVING ROOM, AND LAUNDRY ROOM FAN COIL UNITS

A. RUN CONDITIONS:
   1. THE FAN COIL UNIT SHALL OPERATE WHENEVER ENABLED BY PROGRAMMABLE THERMOSTAT.
   2. THE FAN COIL UNIT SHALL MAINTAIN:
      (A) 75 DEGREES F (ADJ.) COOLING SETPOINT.
      (B) 70 DEGREES F (ADJ.) HEATING SETPOINT.
   3. HEATING COIL VALVE OPERATION SHALL BE DISABLED HEATING IN THE BUILDING IS NOT OPERATING.
   4. COOLING COIL VALVE OPERATION SHALL BE DISABLED WHENEVER THERE IS NO THE CHILLED WATER SUPPLY.

B. UNOCCUPIED CYCLE:
   1. WHEN THE ROOM IS UNOCCUPIED AS DETERMINED BY THE PROGRAMMABLE THERMOSTAT , THE FAN COIL UNIT SHALL CYCLE TO MAINTAIN:
      (A) 80 DEGREES F (ADJ.) COOLING SETPOINT.
      (B) 65 DEGREES F (ADJ.) HEATING SETPOINT
   2. WHEN THE FAN COIL UNIT IS SHUTDOWN HEATING AND COOLING COIL VALVE SHALL BE
   1. THE HEATING COIL VALVE SHALL BE ENABLED WHENEVER THE FAN IS OPERATING AND THE HEATING SYSTEM IS ON. THE HEATING VALVE SHALL MODULATE TO MAINTAIN THE SETPOINT.
   2. THE COOLING COIL VALVE SHALL BE ENABLED WHENEVER THE FAN IS OPERATING AND THE COOLING SYSTEM IS ON. THE COOLING COIL VALVE SHALL MODULATE TO MAINTAIN THE SETPOINT.
   3. HEATING AND COOLING SETPOINTS SHALL BE SET BY OEM ROOM THERMOSTATS.

C. DEADBAND CONTROL:
   1. THERE SHALL BE A 3 DEGREE F (ADJ) DEADBANS SUCH THAT THE HEATING COIL WILL NOT OPERATE WHENEVER THE ROOM SETPOINT MEASURES A TEMPERATURE LESS THAN 3 DEGREES F BELOW THE COOLING TEMPERATURE SETPOINT, AND THE COOLING COIL WILL NOT OPERATE WHENEVER THE ROOM SENSOR MEASURES A TEMPERATURE LESS THAN 3 DEGREES ABOVE THE HEATING TEMPERATURE SETPOINT RUN CONDITIONS.

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC CONTROL DIAGRAM SHEET#2

Phase
100 % SUBMISSION

Drawn By:	*Checked By:*	*Date:*
JA	A.K.	05 / 13 / 22

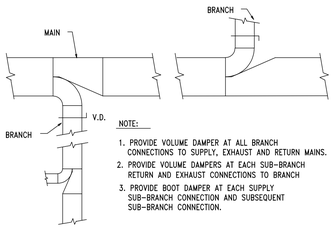
Seal & Signature

STATE OF NEW YORK · ARKADY KATS · No. 073087 · LICENSED PROFESSIONAL ENGINEER

DASNY Project No: 35363

Drawing Number
M407.00

Drawing

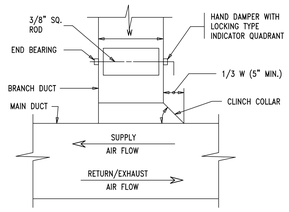


NOTE:

1. PROVIDE VOLUME DAMPER AT ALL BRANCH CONNECTIONS TO SUPPLY, EXHAUST AND RETURN MAINS.
2. PROVIDE VOLUME DAMPERS AT EACH SUB-BRANCH RETURN AND EXHAUST CONNECTIONS TO BRANCH
3. PROVIDE BOOT DAMPER AT EACH SUPPLY SUB-BRANCH CONNECTION AND SUBSEQUENT SUB-BRANCH CONNECTION.

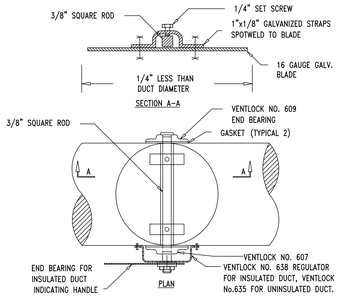
DUCT CONNECTIONS: BRANCH + SUB-BRANCH

NOT TO SCALE



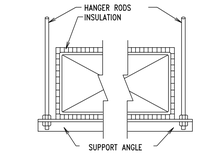
RECTANGULAR DUCT TAP WITH VOLUME DAMPER

NOT TO SCALE:



ROUND VOLUME DAMPER UP TO 14" DIAMETER.

NOT TO SCALE

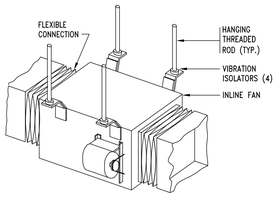


TYPE B

DUCT WIDTH	ROD DIA.	TYPE	SUPPORT ANGLE	MAX SPACING
UP TO 36"	3/8"	B	1-1/2"x1-1/2"x1/8"	8'-0" O.C.
37" TO 48"	3/8"	B	2"x2"x1/8"	8'-0" O.C.
49" TO 60"	3/8"	B	2"x2"x3/16"	6'-0" O.C.
61" TO 84"	3/8"	B	2"x2"x1/4"	6'-0" O.C.
ABOVE	3/8"	B	SELECT FOR 1/2" MAX. DEFLECTION AT DES LD	6'-0" O.C.

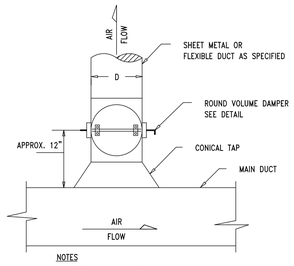
DUCTWORK HANGER DETAIL

NOT TO SCALE



INLINE FAN DETAIL

NOT TO SCALE

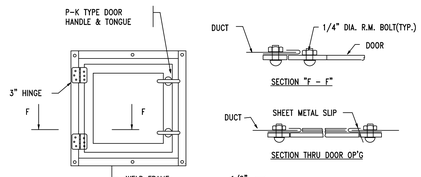


NOTES

1. DEPTH OF MAIN DUCT MUST BE 2" LARGER THAN CONICAL DIAMETER

CIRCULAR DUCT CONICAL TAP WITH VOLUME DAMPER

NOT TO SCALE

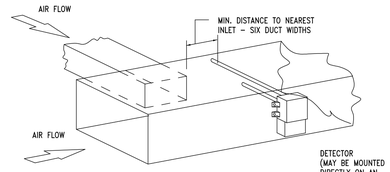


NOTE:

USE 1/4" DIA. R.M. BOLTS THROUGHOUT.

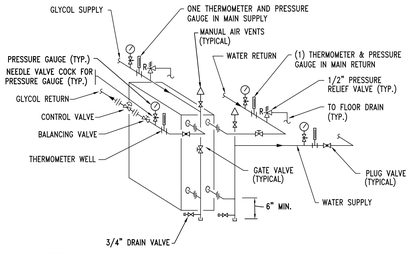
DETAIL OF HINGED TYPE ACCESS DOOR FOR SIZES 24"X24"

NOT TO SCALE



DUCT MOUNTED SMOKE DETECTOR INSTALLATION DETAIL

NOT TO SCALE

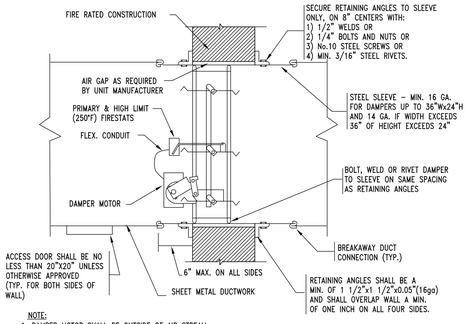


NOTES:

1. LOCATE PIPE UNIONS AND ARRANGE PIPING TO ALLOW REMOVAL OF PLATE SECTIONS.
2. PRESSURE RELIEF VALVE SHALL BE SET 20% OVER WORKING PRESSURE.
3. HEAT EXCHANGER SHALL BE MOUNTED ON 6" CONCRETE PAD.

CHILLED WATER -TO-CHILLED GLYCOL PLATE TYPE HEAT EXCHANGER PIPING DETAIL.

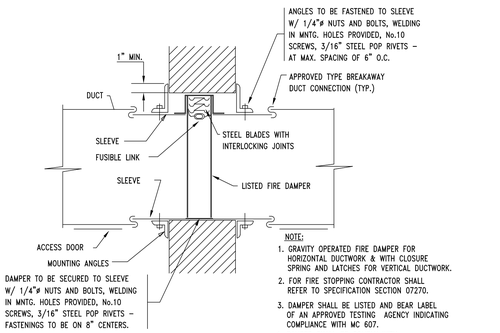
NOT TO SCALE



NOTE:

1. DAMPER MOTOR SHALL BE OUTSIDE OF AIR STREAM.
2. DAMPER SHALL BE LISTED AND BEAR LABEL OF AN APPROVED TESTING AGENCY INDICATING COMPLIANCE WITH MC 607.
3. DAMPER SHALL BE COMPLY WITH REQUIREMENTS OF UL 555S.
4. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER'S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER'S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS

COMBINATION FIRE AND SMOKE DAMPER

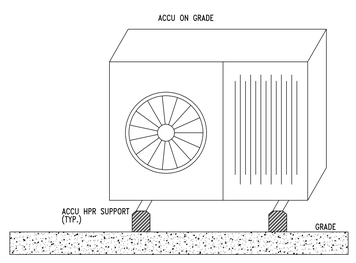


NOTE:

1. GRAVITY OPERATED FIRE DAMPER FOR HORIZONTAL DUCTWORK & WITH CLOSURE SPRING AND LATCHES FOR VERTICAL DUCTWORK.
2. FOR FIRE STOPPING CONTRACTOR SHALL REFER TO SPECIFICATION SECTION 07270.
3. DAMPER SHALL BE LISTED AND BEAR LABEL OF AN APPROVED TESTING AGENCY INDICATING COMPLIANCE WITH MC 607.
4. DAMPER SHALL BE COMPLY WITH REQUIREMENTS OF UL 555.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONSTRUCT A FULL SCALE MOCK-UP, UTILIZING A MINIMUM DAMPER SIZE OF 24"X12", OF ALL FIRE AND/OR FIRE-SMOKE DAMPER INSTALLATIONS. THERE SHALL BE SEPARATE MOCK-UP FOR EACH WALL AND/OR FLOOR PENETRATION SHOWING THE ACTUAL SIZE MATERIAL AND CONSTRUCTION OF THE WALL/ FLOOR AS WELL AS ALL REQUIRED INSTALLATION MATERIALS REQUIRED TO COMPLY WITH THE DAMPER MANUFACTURER'S UL LISTED REQUIREMENTS. WITH EACH DAMPER, PROVIDE A HARD COPY OF THE SPECIFIC MANUFACTURER'S INSTALLATION REQUIREMENTS WHICH MATCH THE ACTUAL INSTALLATIONS

SHUTTER FIRE DAMPER

NOT TO SCALE

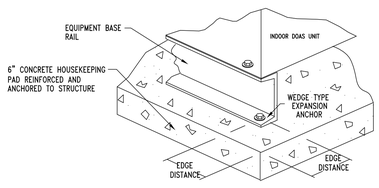


NOTES:

1. G.C. TO PROVIDE BASE MATERIAL FOR MECH. CONT. ACCU SUPPORT
2. DIVERSITECH HPR-6 SUPPORT RISER MIN 6" HIGH (TYPICAL FOR EACH UNIT)

ACCU SUPPORT

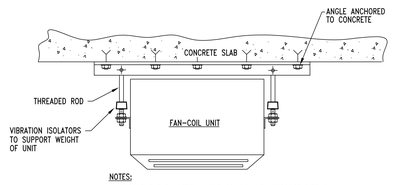
NOT TO SCALE:



ANCHOR DIAMETER	MIN. EDGE DISTANCE REQUIREMENTS TO C_L OF ANCHOR BOLT
3/8"	10"
1/2"	10"
5/8"	10"
3/4"	10"
1"	13 1/2"

INSTALLATION OF INDOOR DOAS-2

NOT TO SCALE

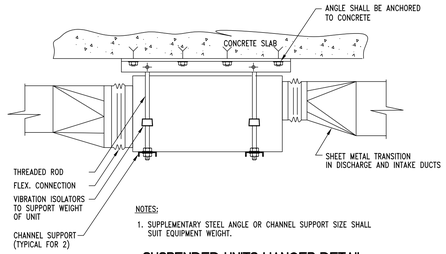


NOTES:

1. SUPPLEMENTARY STEEL ANGLE OR CHANNEL SUPPORT SIZE SHALL SUIT EQUIPMENT WEIGHT.
2. ANCHOR'S SIZE AND NUMBER OF ANCHORS, ROD'S SIZE SHALL BE ADEQUATE TO SUPPORT WEIGHT OF UNIT.

FAN-COIL UNIT HANGER DETAIL

NOT TO SCALE



NOTES:

1. SUPPLEMENTARY STEEL ANGLE OR CHANNEL SUPPORT SIZE SHALL SUIT EQUIPMENT WEIGHT.

SUSPENDED UNITS HANGER DETAIL

NOT TO SCALE:

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
559 8TH AVE, 7 FL, NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION
276 5TH AVENUE, SUITE 704 | NEW YORK, NY 10001
PHONE 212.947.7740

WSP GROUP
STRUCTURAL ENGINEERING
ONE PENN PLAZA, 2ND FL | NEW YORK, NY 10119
PHONE 212.483.5000

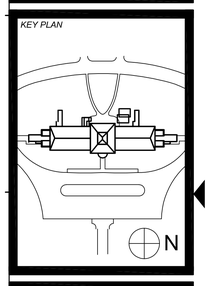
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT
1170 US 9 | WAPPINGERS FALLS, NY 12590
PHONE 845.298.8511

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S ELEVATOR CONSULTANT
420 PAULDING AVENUE | NORTHVALE NJ 07647
PHONE 201.768.7331

TROPHY POINT
COST CONSULTANT
4088 SOUTH PARK AVENUE | NEW YORK NY 10001
PHONE 716.823.0006

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT
120 WEST JOHN STREET HICKSVILLE, NY 11801
PHONE 516.249.1510

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC DETAILS SHEET #1

Phase
100 % SUBMISSION

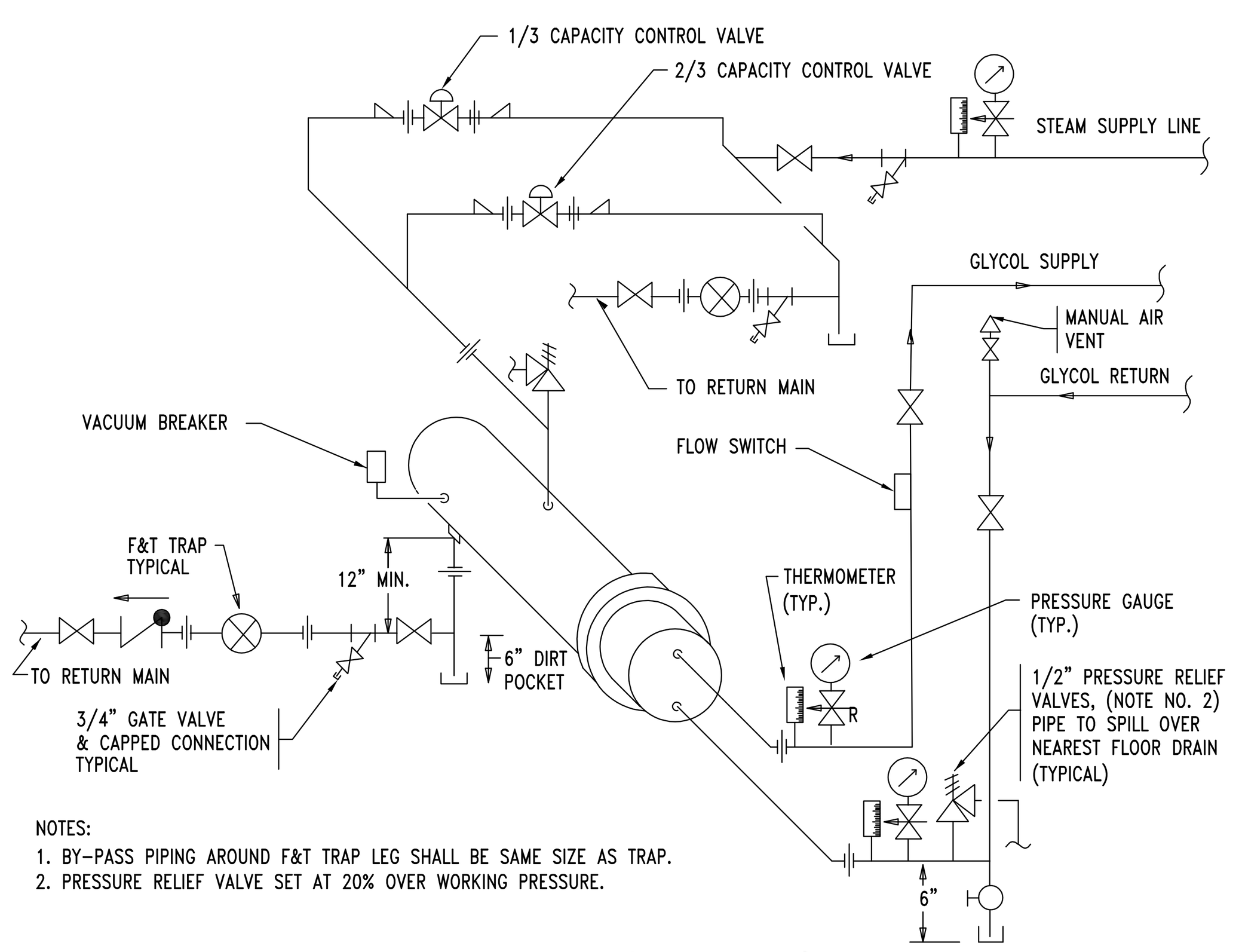
Drawn By: JA | Checked By: A.K. | Date: 05 / 13 / 22

Seal & Signature

DASNY Project No: 35363

Drawing Number: M501.00

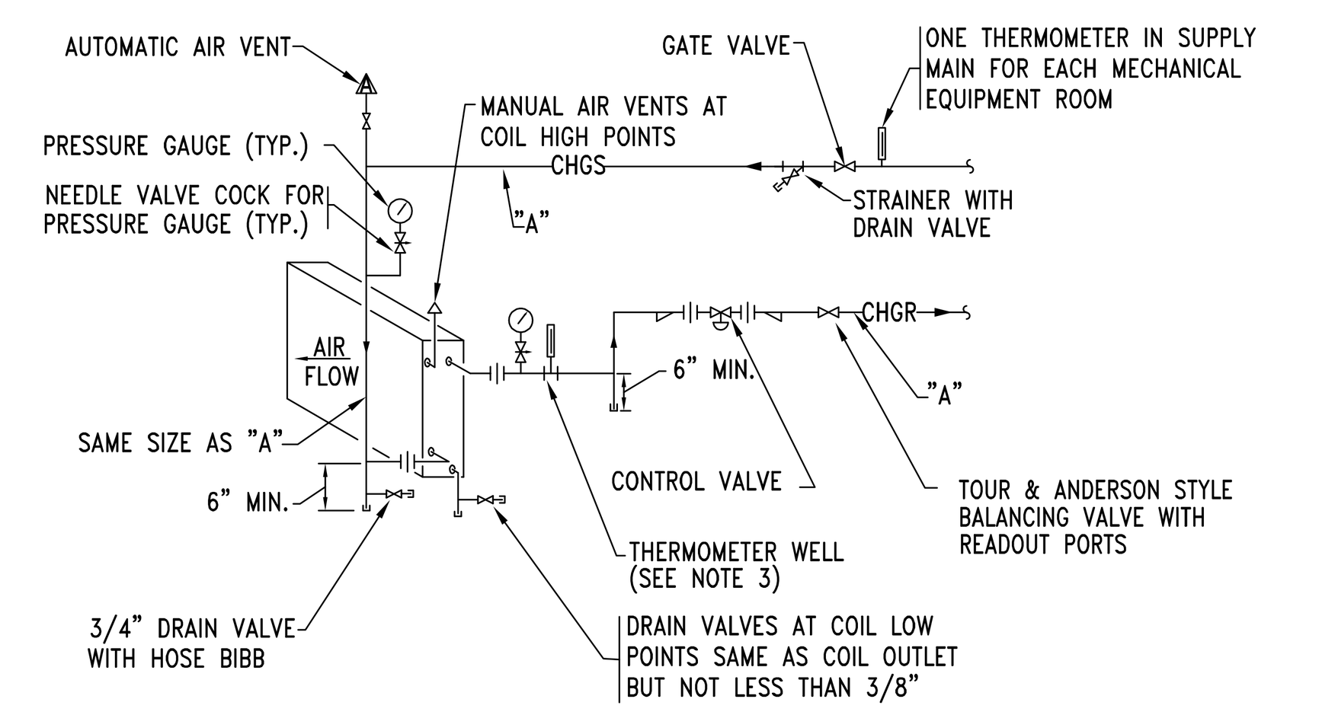
Drawing



NOTES:
1. BY-PASS PIPING AROUND F&T TRAP LEG SHALL BE SAME SIZE AS TRAP.
2. PRESSURE RELIEF VALVE SET AT 20% OVER WORKING PRESSURE.

TYPICAL HEAT EXCHANGER PIPING (TYP. FOR 2)

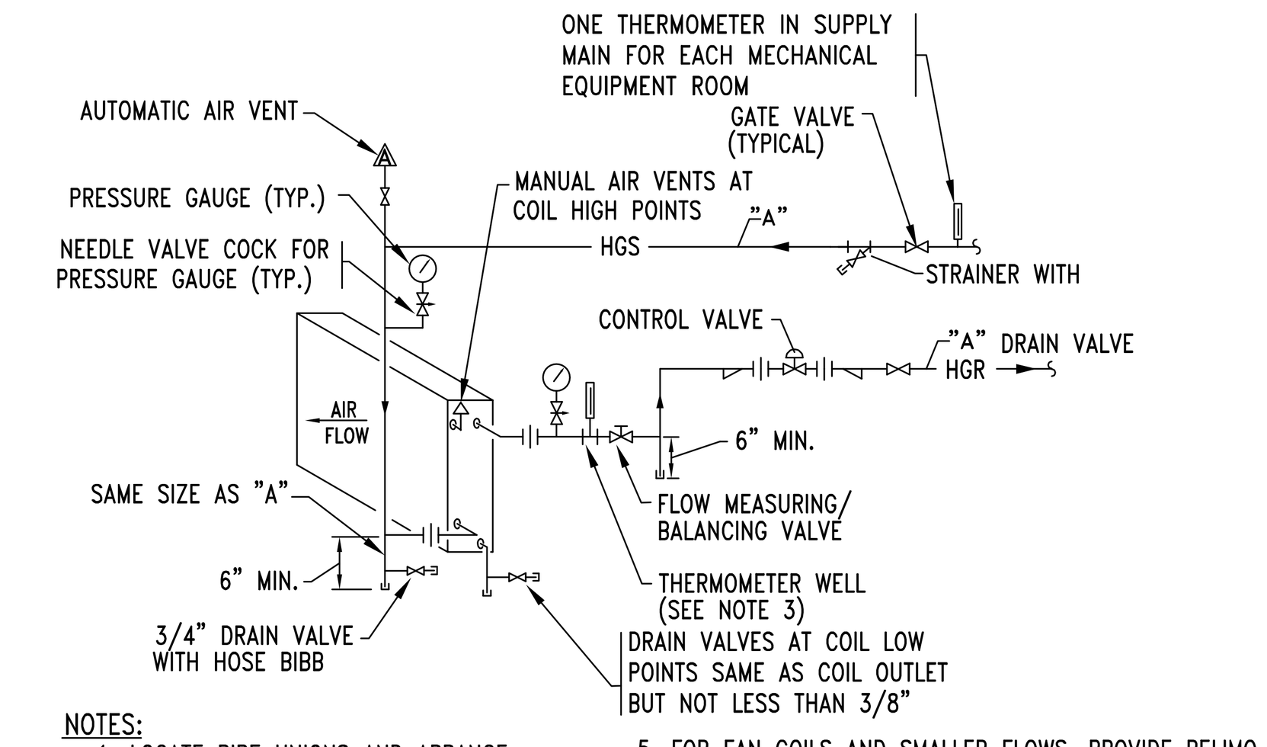
NOT TO SCALE



NOTES:
1. LOCATE PIPE UNIONS AND ARRANGE PIPING TO FACILITATE COIL REMOVAL
2. PROVIDE SIMILAR PIPING ARRANGEMENT ON EACH SIDE FOR TWO SECTION WIDE ASSEMBLY
3. ON LINES 2" AND SMALLER, LOCATE THERMOMETER WELLS IN PIPE ELBOW
4. FOR PIPE SIZES "A" SEE PLANS
5. FOR FAN COILS AND SMALLER FLOWS, PROVIDE BELIMO PIQCV. THE PIQCV COMBINES A DIFFERENTIAL PRESSURE REGULATOR WITH A 2-WAY CONTROL VALVE TO SUPPLY A SPECIFIC FLOW FOR EACH DEGREE OF BALL OPENING REGARDLESS OF SYSTEM PRESSURE FLUCTUATIONS. THE VALVE PERFORMS THE FUNCTION OF A BALANCING VALVE AND CONTROL VALVE IN ONE UNIT.
6. FOR DOAS UNIT PROVIDE BELIMO EPIV. THE 2-WAY EPIV IS A PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE WITH AN INTEGRATED ELECTRONIC FLOW METER AND A POWERFUL CONTROL ALGORITHM. THE EPIV INTEGRATED CONTROL SIGNAL MAINTAINS FLOW SET POINT REGARDLESS OF SYSTEM PRESSURE VARIATIONS WITH ITS POWERFUL ALGORITHM THAT MODULATES THE VALVE BASED ON ITS MEASURED TRUE FLOW.

DOAS UNIT COOLING COIL PIPING CONNECTION DETAIL

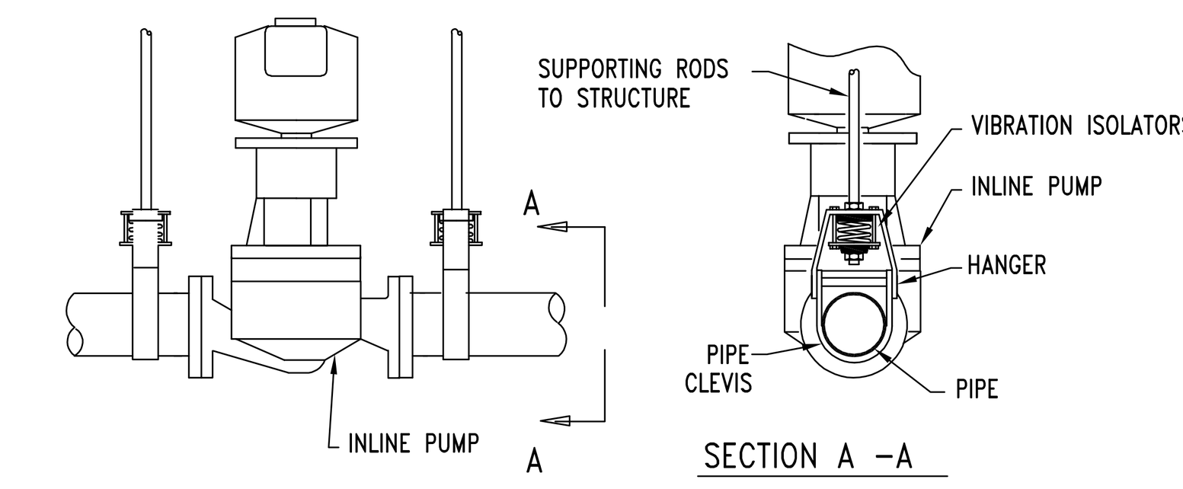
NOT TO SCALE



NOTES:
1. LOCATE PIPE UNIONS AND ARRANGE PIPING TO FACILITATE COIL REMOVAL
2. PROVIDE SIMILAR PIPING ARRANGEMENT ON EACH SIDE FOR TWO SECTION WIDE ASSEMBLY
3. ON LINES 2" AND SMALLER, LOCATE THERMOMETER WELLS IN PIPE ELBOW
4. FOR PIPE SIZES "A" SEE PLANS
5. FOR FAN COILS AND SMALLER FLOWS, PROVIDE BELIMO PIQCV. THE PIQCV COMBINES A DIFFERENTIAL PRESSURE REGULATOR WITH A 2-WAY CONTROL VALVE TO SUPPLY A SPECIFIC FLOW FOR EACH DEGREE OF BALL OPENING REGARDLESS OF SYSTEM PRESSURE FLUCTUATIONS. THE VALVE PERFORMS THE FUNCTION OF A BALANCING VALVE AND CONTROL VALVE IN ONE UNIT.
6. FOR DOAS UNIT PROVIDE BELIMO EPIV. THE 2-WAY EPIV IS A PRESSURE INDEPENDENT CHARACTERIZED CONTROL VALVE WITH AN INTEGRATED ELECTRONIC FLOW METER AND A POWERFUL CONTROL ALGORITHM. THE EPIV INTEGRATED CONTROL SIGNAL MAINTAINS FLOW SET POINT REGARDLESS OF SYSTEM PRESSURE VARIATIONS WITH ITS POWERFUL ALGORITHM THAT MODULATES THE VALVE BASED ON ITS MEASURED TRUE FLOW.

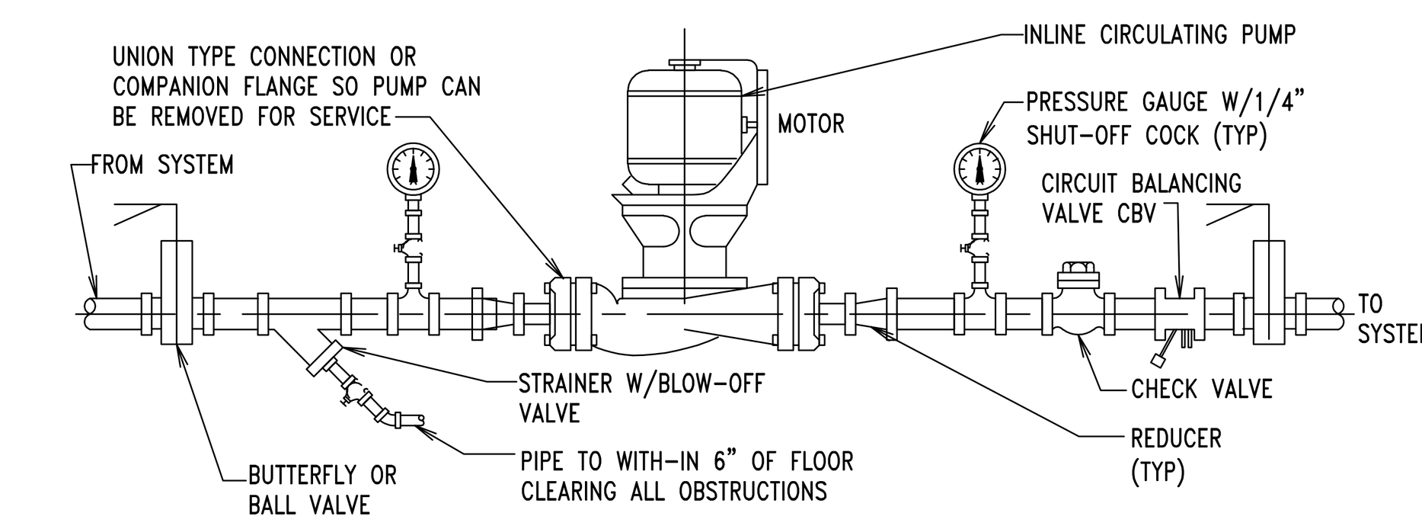
DOAS UNIT HEATING COIL PIPING CONNECTION DETAIL

NOT TO SCALE



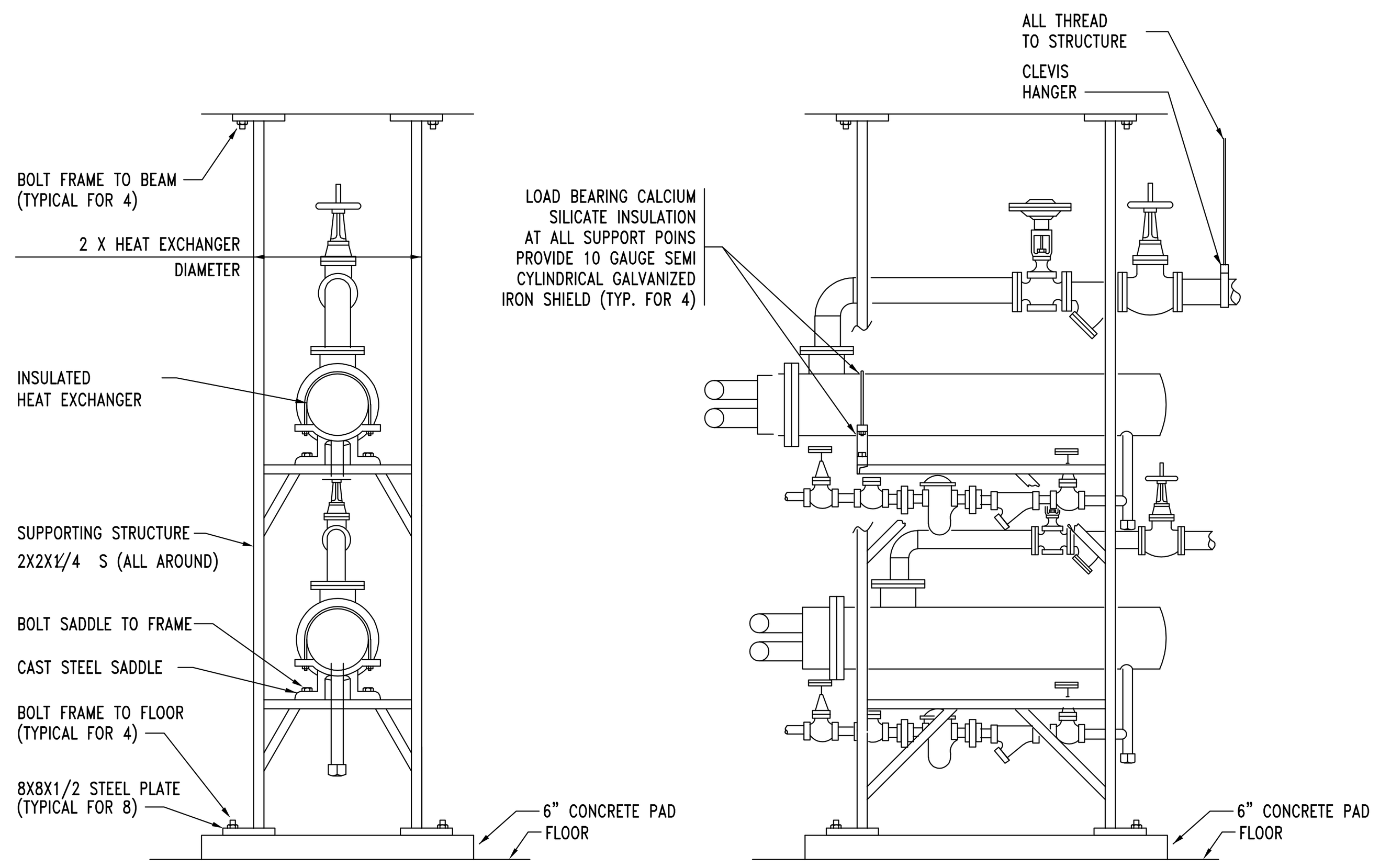
TYPICAL INSTALLATION OF INLINE PUMP

NOT TO SCALE



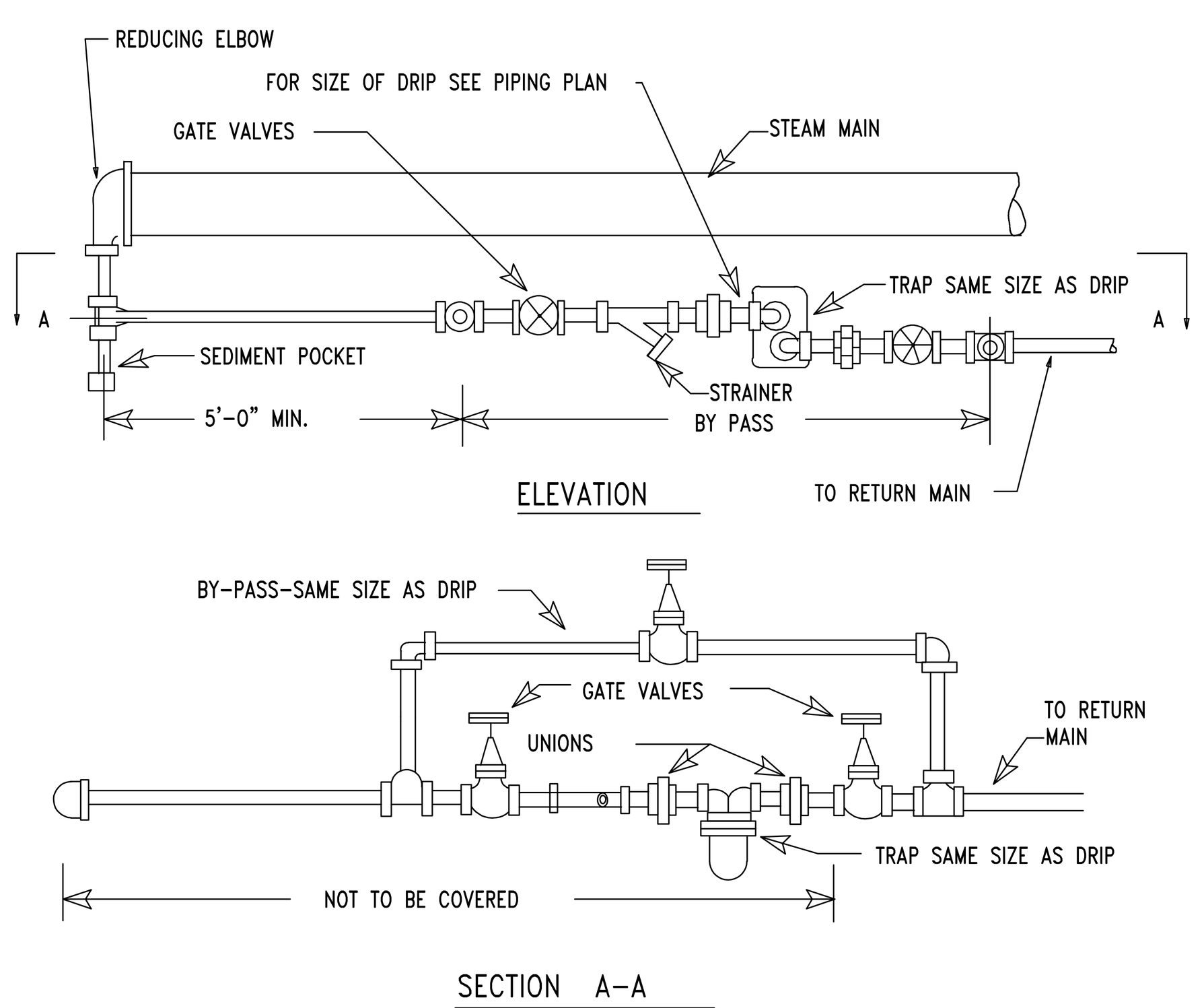
INLINE PUMP PIPING CONNECTIONS DETAIL

NOT TO SCALE



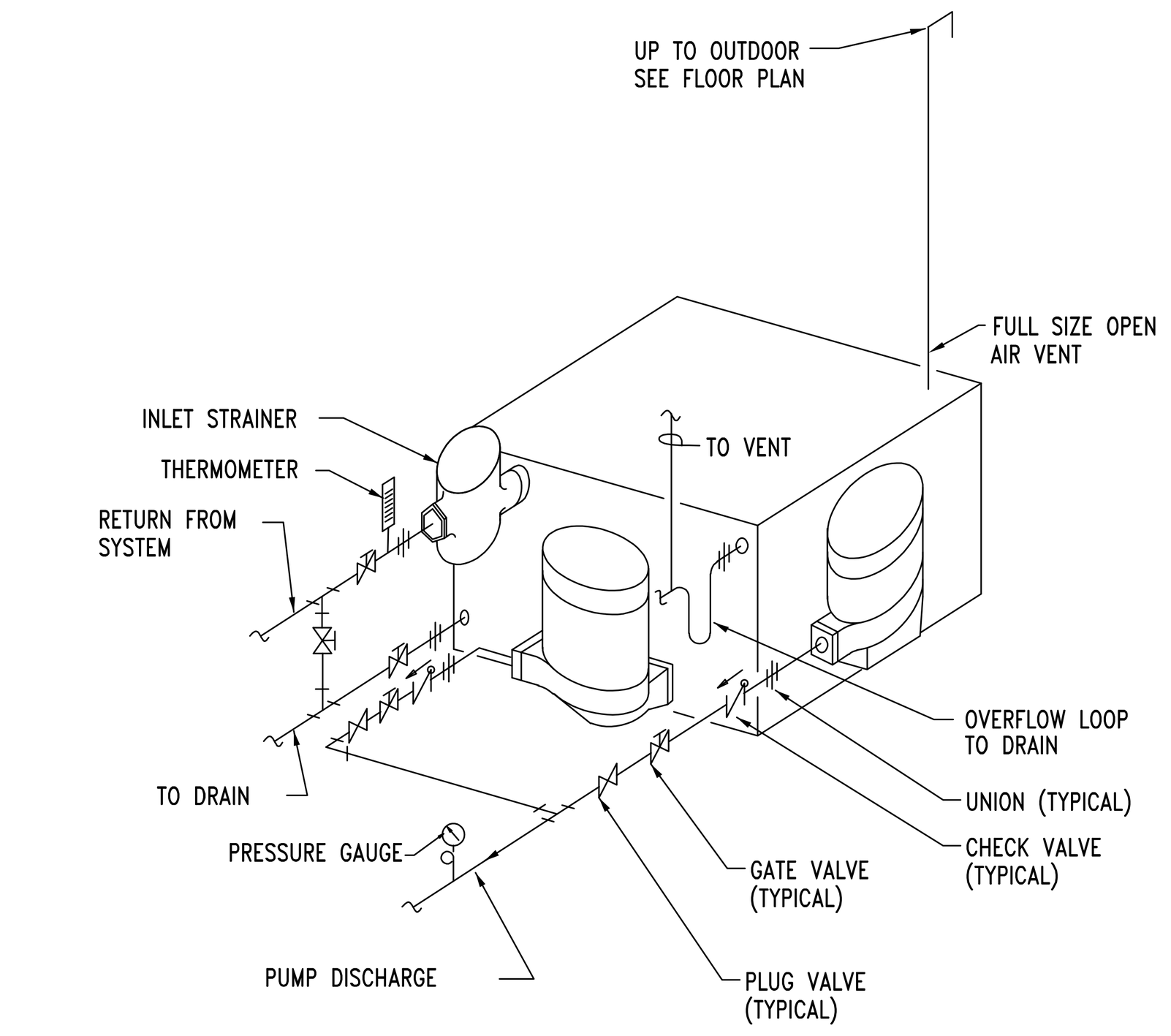
DETAIL OF THE INSTALLATION OF HEAT EXCHANGERS

NOT TO SCALE



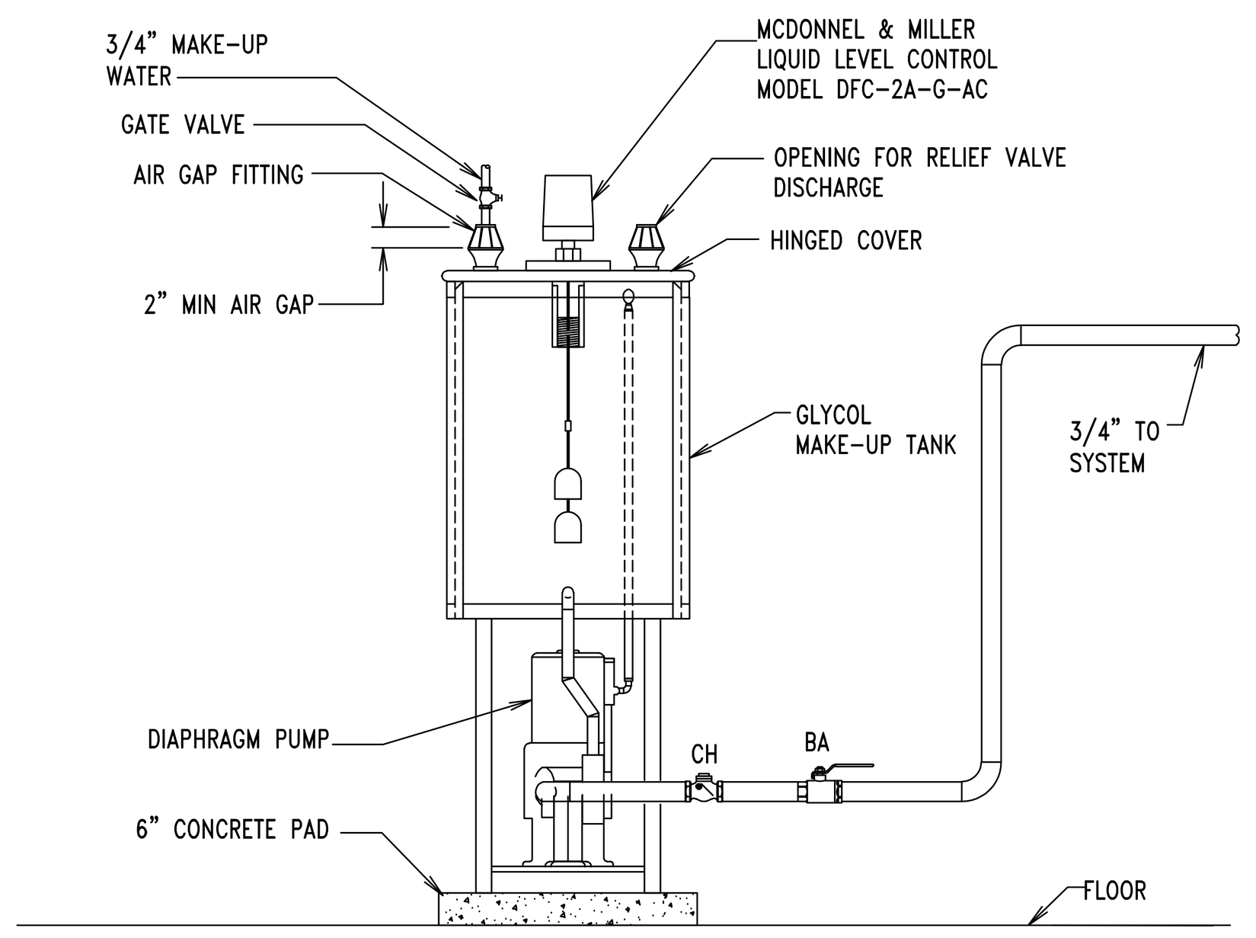
DETAIL OF TYPICAL STEAM DRIP CONNECTION

NOT TO SCALE



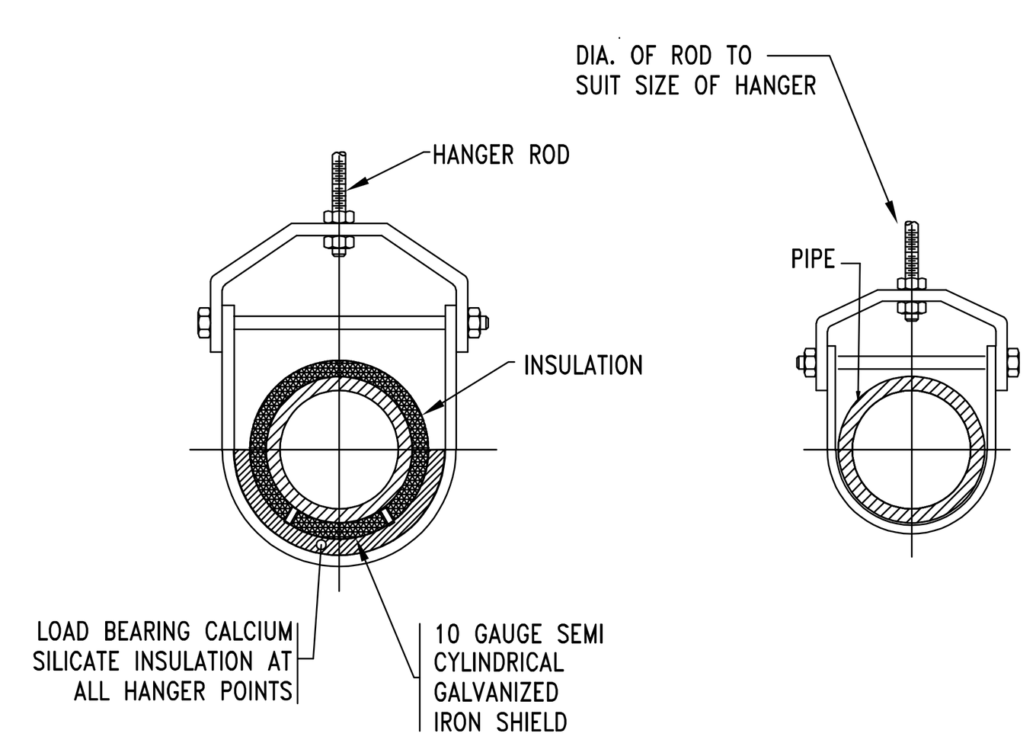
DUPLEX CONDENSATE RETURN PUMP (CRP) PIPING

NOT TO SCALE



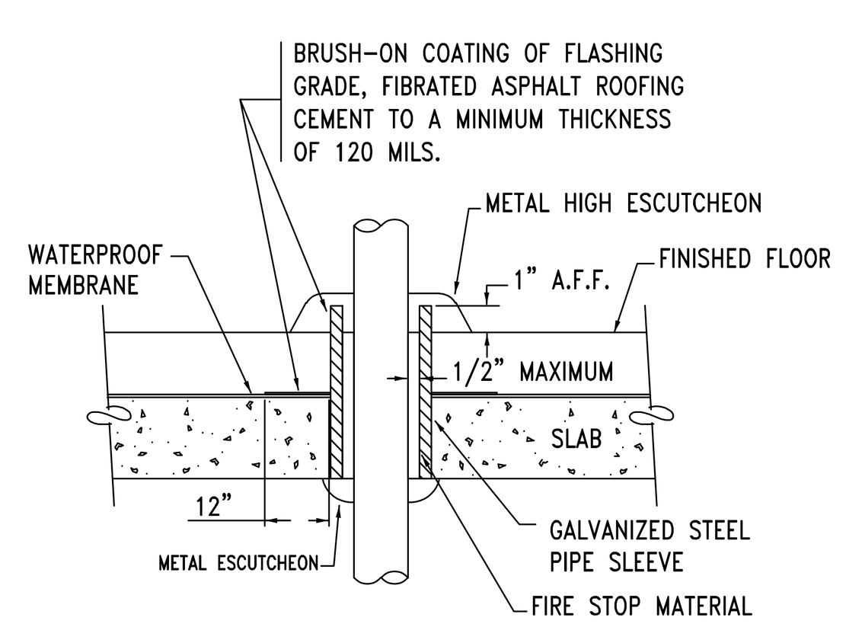
GLYCOL MAKE-UP TANK CONNECTIONS DETAIL

NOT TO SCALE



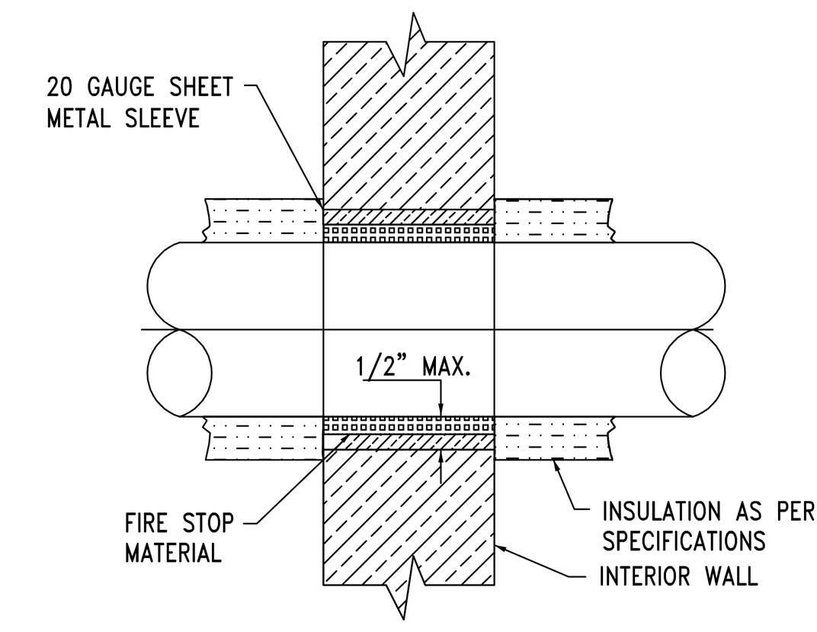
METHOD OF SUPPORTING PIPING (PIPE 4"ϕ AND SMALLER)

NOT TO SCALE



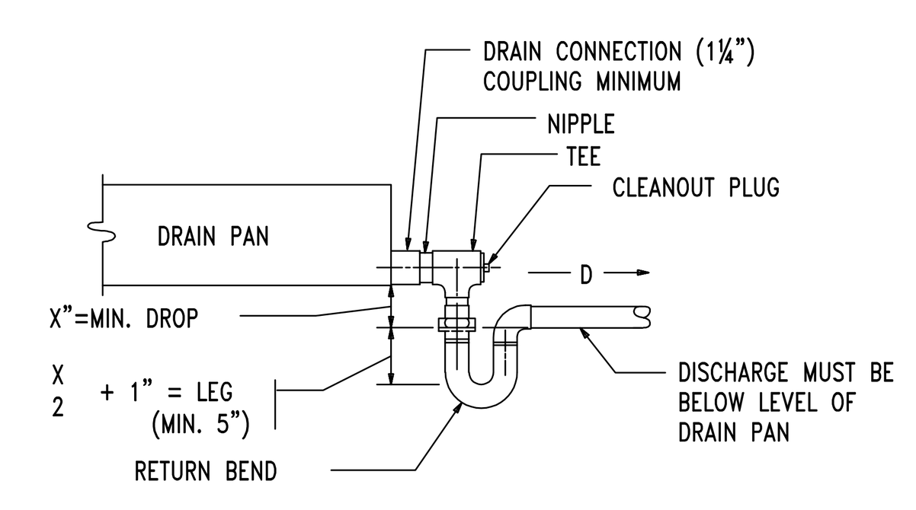
PIPE PENETRATION IN WATERPROOF SLAB

NOT TO SCALE



PIPE PENETRATION - INTERIOR WALL

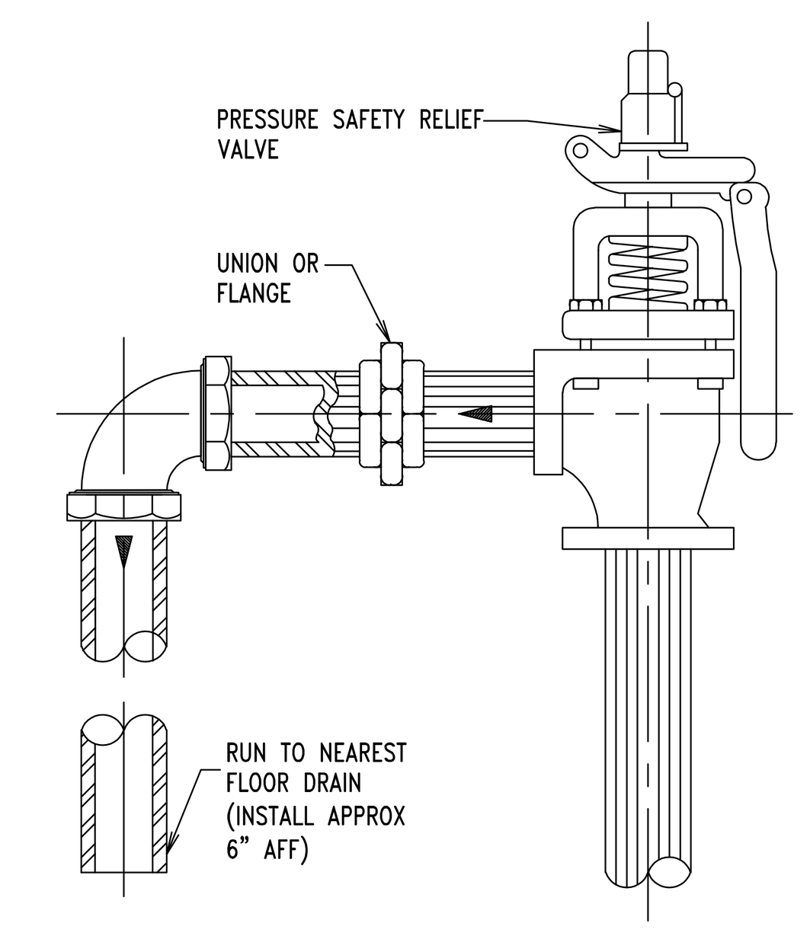
NOT TO SCALE



NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP
2. PITCH DRAIN FOR PROPER RUN - OFF.
3. MANUALLY, PRIME FILL TRAP BEFORE START -UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGHTY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.

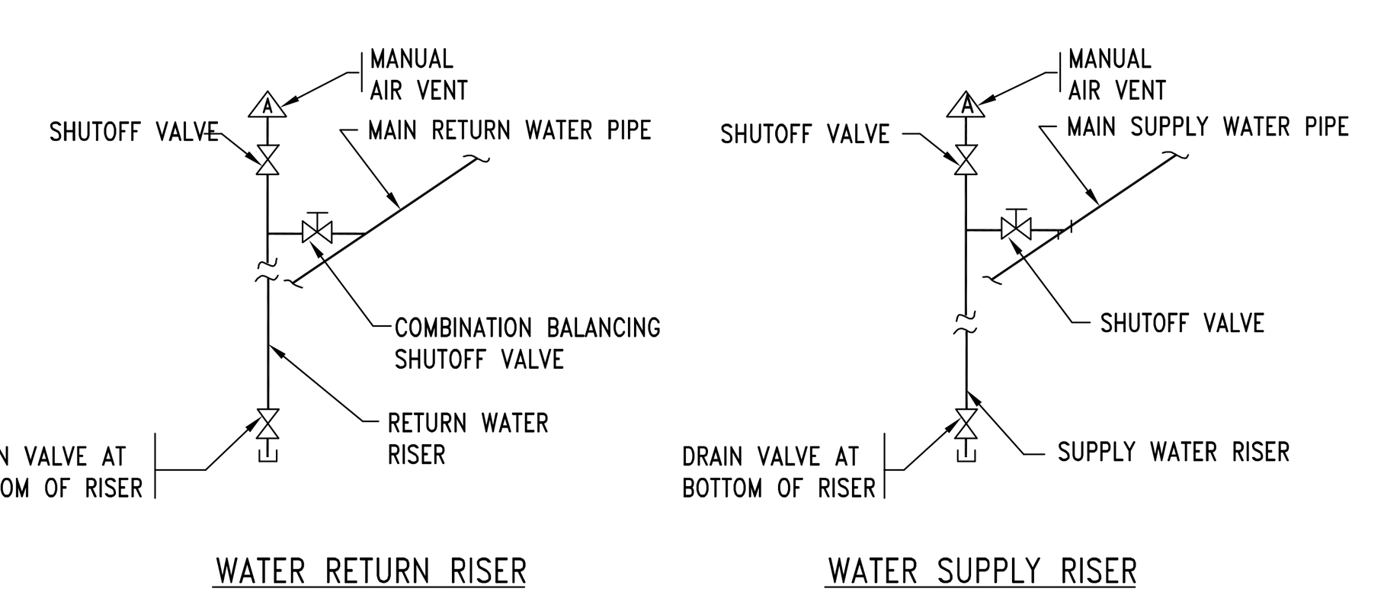
DRAIN PAN WATER SEAL PIPING DRAW THRU UNIT (ALL DOAS)

NOT TO SCALE:



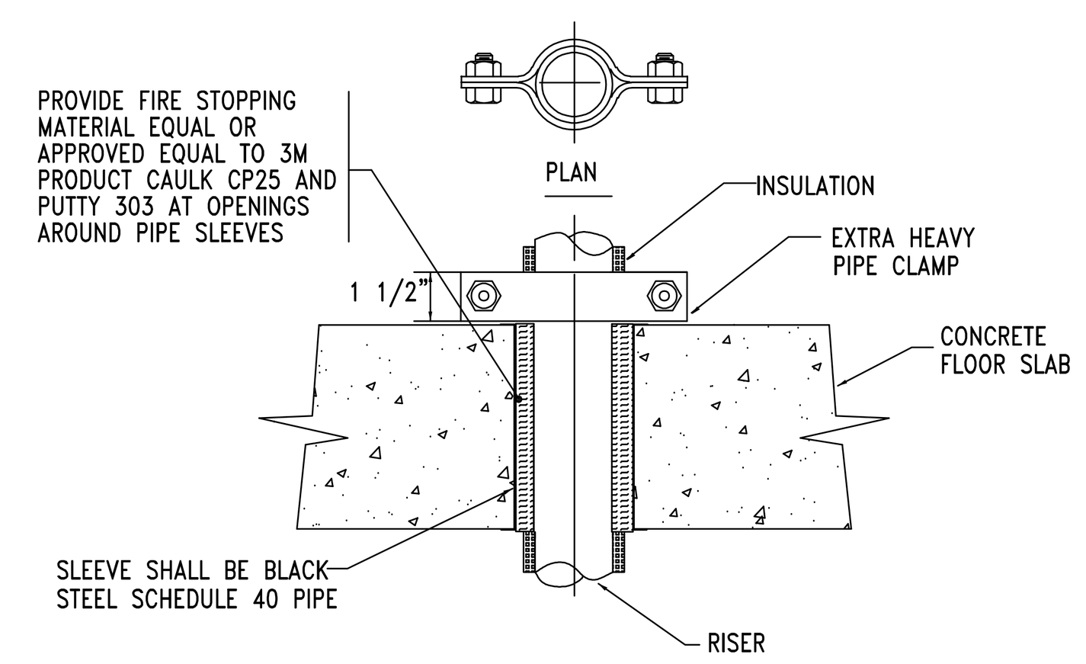
DISCHARGE PIPING AT WATER PRESSURE RELIEF VALVE DETAIL

NOT TO SCALE



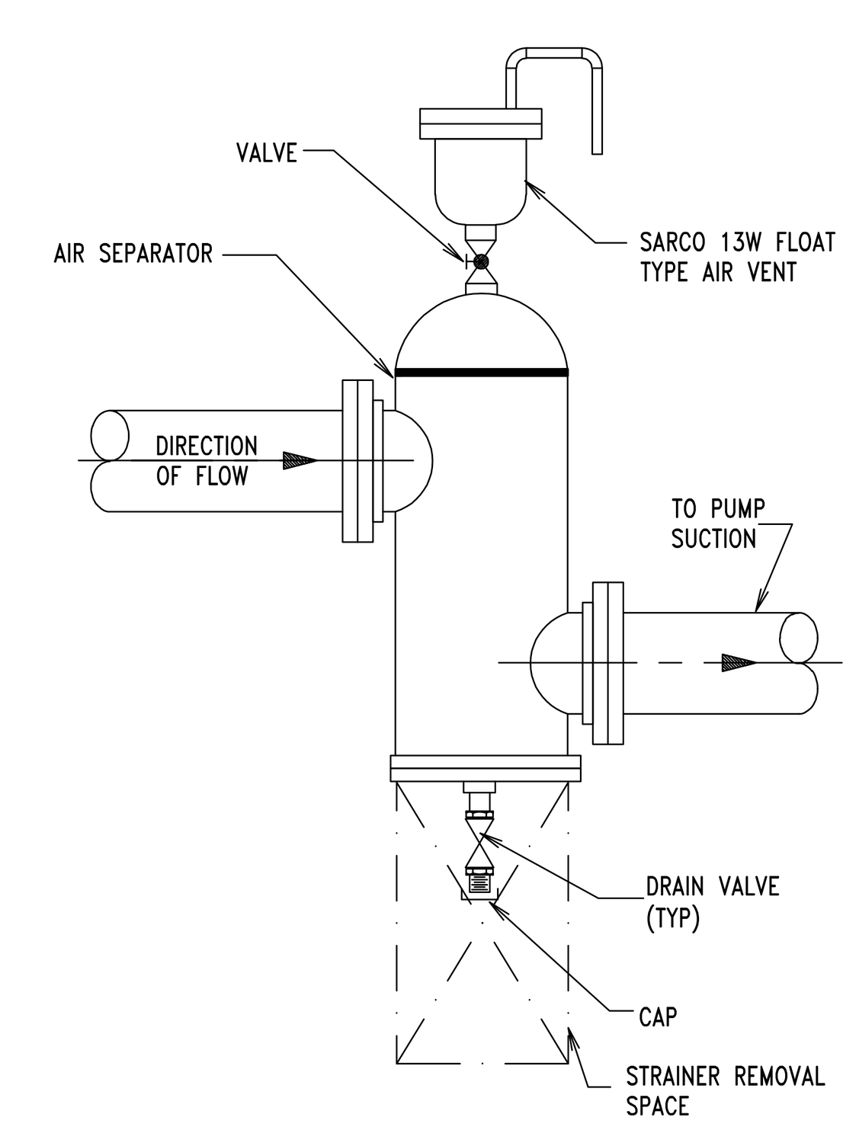
WATER RISERS VENT + DRAIN DETAILS

NOT TO SCALE



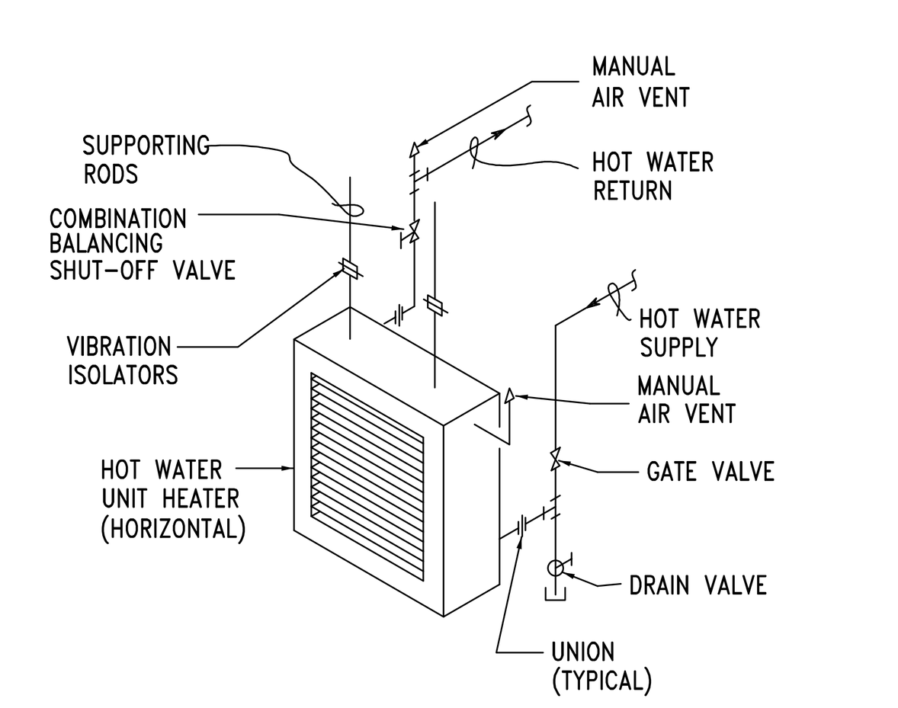
PIPE RISER ANCHOR

NOT TO SCALE



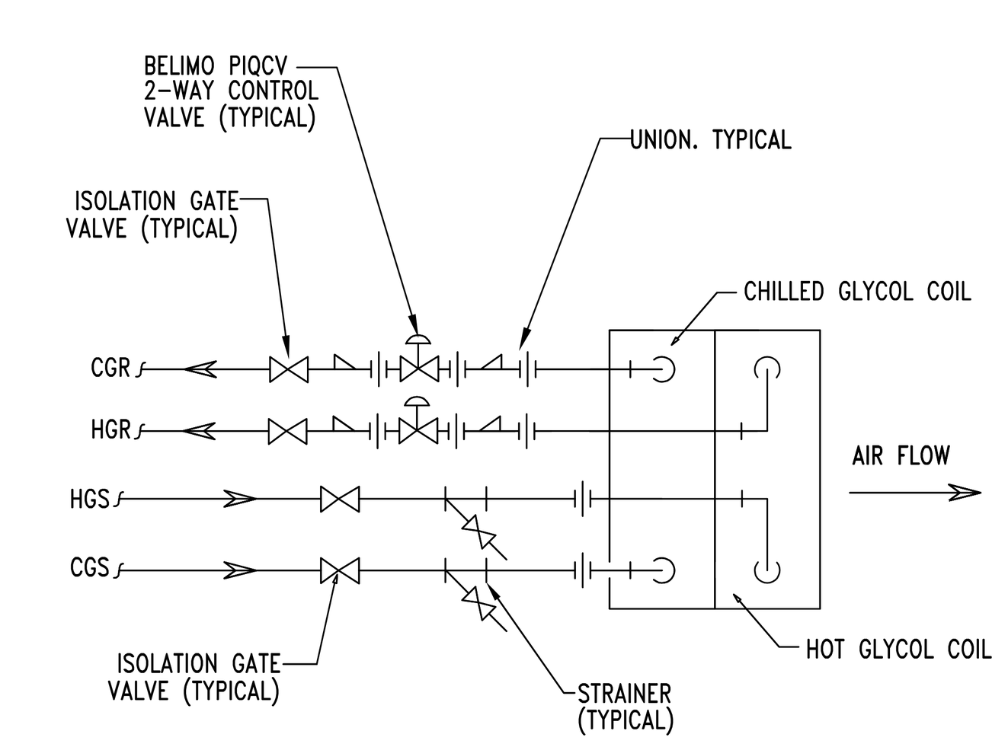
AIR-SEPARATOR CONNECTIONS DETAIL

NOT TO SCALE



HOT WATER UNIT HEATER DETAIL

NOT TO SCALE



4-PIPE FAN COIL UNIT PIPING DETAIL

NOT TO SCALE

NEW YORK STATE OF OPPORTUNITY. DASNY

515 Broadway, Albany, NY 12207-2964
WWW. DASNY.ORG

NEW YORK STATE OF OPPORTUNITY. Office of Mental Health

10 Ross Circle, Suite 5N, Poughkeepsie, NY 12601
WWW.OMH.NY.GOV

Consultants:

GoshowArchitects
589 8TH AVE. 7 FL. NEW YORK, NY 10018
PHONE 212-242-3735 / FAX 212-242-7460

DVL CONSULTING ENGINEERS, INC.
MEP ENGINEERS / FIRE ALARM / FIRE PROTECTION

WSP GROUP
STRUCTURAL ENGINEERING

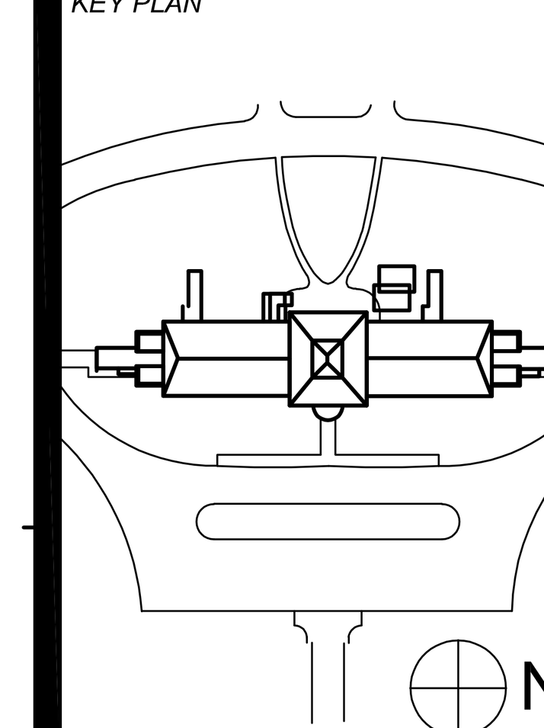
QUALITY ENVIRONMENTAL SOLUTIONS & TECHNOLOGIES
HAZMAT CONSULTANT

GEORGE D. CATTABIANI & ASSOCIATES INC. VERTICAL TRANSPORTATION CONSULTANT'S
ELEVATOR CONSULTANT

TROPHY POINT
COST CONSULTANT

HIRANI ENGINEERING & LAND SURVEYING, P.C.
LAND SURVEY CONSULTANT

KEY PLAN



REVISIONS

REV NO	DESCRIPTION	DATE

Client
DORMITORY AUTHORITY STATE OF NEW YORK
515 BROADWAY
ALBANY, NY 12207

Project Title
BUILDING 1 RENOVATION AND HAZARDOUS MATERIALS ABATEMENT
140 OLD ORANGEBURG RD
ORANGETOWN, NY 10962

Drawing Title
HVAC DETAILS SHEET #2

Phase
100 % SUBMISSION

Drawn By:	Checked By:	Date:
JA	A.K.	05 / 13 / 22

Seal & Signature

DASNY Project No: 35363

Drawing Number
M502.00

Drawing