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Regional Map



Location Map

SUNY CORTLAND

RENOVATE COREY UNION SUCF Project No. 041046-00

BID DOCUMENTS

NOVEMBER 16, 2026

VOLUME II

103 PROSPECT TERRACE
CORTLAND, NY 13045

Project Number # 23132.00

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SWBR PROJECT No. 23132.00

RENOVATE COREY UNION
SUCF PROJECT No. 041046-00

G-001
COVER SHEET
VOLUME II

NOVEMBER 16, 2026
BID DOCUMENTS

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GENERAL NOTES

1. DO NOT SHUT DOWN ANY FIRE PROTECTION OR RELATED SYSTEMS WITHOUT BUILDING OWNER'S PRIOR WRITTEN APPROVAL. FOLLOW ALL OWNER REQUIREMENTS AND SHUT DOWN PROCEDURES AS WELL AS ALL REQUIREMENTS OF THIS PROJECT.
2. IF REQUIRED, PROVIDE SHUT DOWNS AND TIE-INS DURING OFF HOURS TO AVOID DISRUPTION OF BUILDING SYSTEMS. COORDINATE ALL SHUT DOWN REQUIREMENTS PRIOR TO SUBMITTING BID (INCLUDE ALL REQUIRED DURING OFF HOURS IN BID).
3. PROVIDE ALL WORK IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL CODES. OBTAIN ALL REQUIRED PERMITS.
4. PROVIDE ALL REQUIRED EXCAVATION, BACKFILL AND COMPACTION FOR ALL UNDERGROUND WORK.
5. FIELD VERIFY EXACT LOCATION, DEPTH, COMPOSITION AND CONDITION OF ALL PIPING, VALVES AND SYSTEMS AS REQUIRED FOR WORK OF THE CONTRACT.
6. PROVIDE CUTTING, CORING AND PATCHING OF ALL WALLS, SLABS AND DECKS AS REQUIRED FOR WORK SHOWN. COORDINATE ALL WORK WITH OWNER AND GENERAL CONTRACTOR AND ALL TRADES.
7. PROVIDE SCHEDULE 40 GALVANIZED STEEL PIPE SLEEVES FOR ALL UNDERGROUND PIPING PASSING THROUGH OR UNDER FOOTINGS, WALLS, FOUNDATION WALLS, SLABS FLOORS AND/OR UNDERGROUND STRUCTURES. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
8. WHERE PIPING IS LOCATED OVER FOOTINGS AND/OR OTHER UNDERGROUND STRUCTURES, ROLL DOWN AS REQUIRED TO CONNECT TO SYSTEMS NOTED. PROVIDE ALL REQUIRED OFFSETS, FITTINGS AND CONNECTIONS.
9. CONNECT TO SITE PIPING OUTSIDE BUILDING AS SHOWN. PROVIDE ALL REQUIRED OFFSETS, FITTINGS AND CONNECTIONS. FIELD VERIFY EXACT LOCATION, DEPTH AND COMPOSITION OF SITE SERVICES AND COORDINATE ALL WORK WITH SITE CONTRACTOR.
10. REFER TO ARCHITECTURAL DRAWINGS AND THE PROJECT SPECIFICATIONS FOR ANY PROJECT PHASING REQUIREMENTS.
11. SPRINKLER SYSTEMS SHALL BE HYDRAULICALLY CALCULATED PER NFPA 13 CHAPTER "PLANS AND CALCULATIONS".
12. A HYDRANT FLOW TEST, CONDUCTED ON **2025/10/07**, PRODUCED THE FOLLOWING RESULTS:
    a. STATIC PRESSURE: **50** PSIG
    b. RESIDUAL PRESSURE: **47** PSIG
    c. FLOW: **875** GPM
13. CONTRACTOR TO PROVIDE UPDATED HYDRANT FLOW DATA AS PART OF SCOPE OF WORK. HYDRANT DATA TO BE CONDUCTED WITH 12 MONTH PERIOD OF HYDRAULIC CALCULATIONS.
14. PIPING SIZES AND SPRINKLER HEAD LOCATIONS SHOWN ON DRAWINGS ARE FOR ESTIMATING PURPOSES ONLY. FINAL SIZES AND LOCATIONS SHALL BE PROVIDED VIA APPROVED, STAMPED SHOP DRAWINGS AS PER SPECIFICATIONS.
15. SPRINKLER SYSTEM BASIS OF DESIGN:
    A. OCCUPANCY DESIGNATION: GROUP **B**
    B. CLASSIFICATION: **LIGHT** HAZARD
    C. FIRE PROTECTION DENSITY: **0.10** GPM / SQFT
    D. HYDRAULICALLY REMOTE AREA: **1500** SQFT

FIRE PROTECTION LINETYPE LEGEND

	ARCHITECTURAL BACKGROUND
(E) / (ETR)	EXISTING PIPING TO REMAIN
	EXISTING PIPING TO BE REMOVED
	PIPING TO BE PROVIDED
DR	FIRE PROTECTION DRAIN
SP (D)	FIRE PROTECTION DRY STANDPIPE
DR	FIRE PROTECTION DRAIN
FP	FIRE PROTECTION WET
FP(D)	FIRE PROTECTION DRY
SP	FIRE PROTECTION STANDPIPE

FIRE PROTECTION SYMBOLS

- POINT OF DISCONNECTION
- POINT OF CONNECTION
- PIPE TURNED UP
- PIPE TURNED DOWN
- BRANCH OFF BOTTOM OF PIPE
- BRANCH OFF TOP OF PIPE
- GENERIC VALVE (REFER TO SPECIFICATIONS FOR SPECIFIC TYPE OF VALVE)
- ZCV — ZONE CONTROL VALVE ASSEMBLY
- OUTSIDE SCREW AND YOKE (OS&Y) VALVE
- ALARM CHECK VALVE ASSEMBLY
- DRY PIPE VALVE ASSEMBLY
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- FDC — FIRE DEPARTMENT CONNECTION (SIAMESE)
- FDC — FIRE DEPARTMENT CONNECTION (STORZ)
- FIRE HYDRANT
- PIV — POST INDICATOR VALVE
- FIRE PUMP
- BUTTERFLY VALVE
- DDCA (WITH INTERGRATED BUTTERFLY VALVES)
- PRESSURE GAUGE
- DRY ALARM VALVE
- 2 1/2" STANDPIPE
- GROOVED PIPING JOINT

FIRE PROTECTION ABBREVIATIONS

%	PERCENT
AC	ALTERNATING CURRENT
ACV	ALARM CHECK VALVE
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ALT	ALTERNATE
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APPROX	APPROXIMATE
AVG	AVERAGE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BSMT	BASEMENT
C TO C	CENTER TO CENTER
CA	COMPRESSED AIR
CFH	CUBIC FEET PER HOUR
CO	CLEANOUT
COND	CONDENSATE
CONT	CONTINU (-ED), (-OUS), (-ING)
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CV	COEFFICIENT, VALVE FLOW
DC	DIRECT CURRENT
DCDA	DOUBLE CHECK VALVE DETECTOR ASSEMBLY
DEG	DEGREE
DIA	DIAMETER
DN	DOWN
DR	DRAIN
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
EFF	EFFICIENCY
ELEV	ELEVATION
EQIV FT	EQUIVALENT FOOT
EQIV IN	EQUIVALENT INCH
EST	ESTIMATED
ETR	EXISTING TO REMAIN
EXIST, (E)	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FLA	FULL LOAD AMPS
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FOOT
FT LB	FOOT POUND
GAL	GALLON
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HGT	HEIGHT
HP	HORSEPOWER
HR	HOUR
HZ	HERTZ / FREQUENCY
ID	DIAMETER, INSIDE
IN	INCH
IPS	IRON PIPE SIZE
kW	KILOWATT
LB	POUND
LF	LINEAR FOOT
LG	LENGTH
MATL	MATERIAL
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MER	MECHANICAL ROOM
MIN	MINIMUM
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NO	NUMBER
NTS	NOT TO SCALE
OD	DIAMETER, OUTSIDE
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP OR DIFFERENCE
PH	PHASE (ELECTRICAL)
PIV	POST INDICATOR VALVE
PS	PRESSURE SWITCH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
RD	ROOF DRAIN
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
SF	SQUARE FOOT
SP	SPRINKLER PIPE
SPEC	SPECIFICATION
SQ IN	SQUARE INCH
STD	STANDARD
TBD	TO BE DETERMINED
TC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE
TS	TAMPER SWITCH
TYP	TYPICAL
UR	URINAL
V	VOLT
VAR	VARIABLE
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
W	WATT
W/	WITH
W/O	WITHOUT

FIRE PROTECTION VALVES - BASIS OF DESIGN

Type Mark	TYPE	SIZE (INCH)	MANUFACTURER	MODEL	Comments
AAV-1	AUTOMATIC AIR VENT	1	AGF Manufacturing Inc.	7500AAV	1
SP-1	STANDPIPE	2-1/2	Zurn Wilkins	F100	2
ZCV	ZONE CONTOL VALVE	4	VICTAULIC	SERIES UMC	3

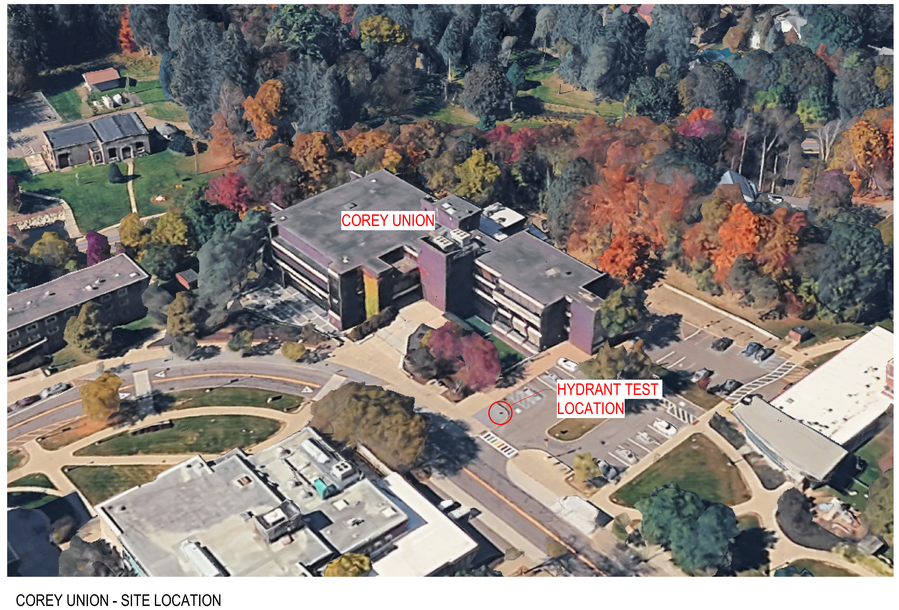
*** REFER TO THE FIRE PROTECTION SPECIFICATION FOR ALL OTHER ALLOWABLE MANUFACTURERS.**

COMMENTS:
1. PROVIDE UL LIST AIR ADMITTANCE VALVE (AAV) FOR FIRE PROTECTION SYSTEM. INSTALL AAV AT HIGH ELEVATION.
2. CLASS 1 STANDPIPE VALVE WITH 2-1/2" HOSE CONNECTION FOR FIRE DEPARTMENT USE. INSTALL STANDPIPE 3'-0" - 5'-0" ABOVE FINISH FLOOR LEVEL. PROVIDE CAPS ON HANDLE AND OUTLET TO PREVENT UNAUTHORIZED USE.
3. PROVIDE ZONE CONTROL VALVE ASSEMBLY FOR OPERATION AND MAINTENANCE OF SPRINKLERS ON FLOOR LEVEL. PROVIDE INTERGRATED BUTTERFLY VALVE WITH TAMPER SWITCH, FLOW SWITCH, DRAIN VALVE WITH 3-WAY VALVE. PROVIDE INSPECTORS TEST SIGHT GLASS WITH K5.6 ORIFIC AND PRESSURE RELIEF VALVE COMMISSIONED TO 175PSI.

SPRINKLER HEAD SCHEDULE - BASIS OF DESIGN

SYMBOL	TYPE	DESCRIPTION	LOCATION	MANUFACTURER	MODEL
	PENDANT	CONCEALED SPRINKLER HEAD WITH QUICK REPONSE K5.6 - BULB TEMPERATURE 155F. INSTALL ALL PENDANT SPRINKLER HEADS ON FLEXIBLE HOSE CONNECTION (BASIS OF DESIGN: VICTAULIC AH2 - 3/4" HOSE DIAMETER - 36" HOSE LENGTH WITH MAXIMUM 5 BENDS) REFER TO ARCHITECTUAL PLANS A-152 & A-154 FOR CUSTOM CONCEALED HEAD COLOR. CONTRACTOR TO PROVIDE A MINIMUM OF 6 SPARE COVERS. NO CONCEALED COVERS MAY BE PAINTED ON SITE. INSTALL ALL SPRINKLERS WITHIN CENTER OF CEILING TILE. REFER TO DETAIL FOR CONCEALED SPRINKLERS IN WOOD CEILINGS.	ALL LOCATIONS WITH CEILINGS	TYCO	TY3531
	UPRIGHT	BRASS FINISHED UPRIGHT HEADS WITH QUICK RESPONSE K5.6 - BULB TEMPERATURE 155F	ALL LOCATIONS WITHOUT CEILINGS, MECHANICAL ROOMS AND ABOVE WOODEN ARCHITECTUAL. UPRIGHT SPRINKLERS IN CONCEALED SPACES NOTED ON DRAWINGS.	TYCO	TY3131
D	PENDANT (DRY)	EXPOSED BRASS PENDANT HEAD WITH QUICK RESPONSE K5.6 - BULB TEMPERATURE 200F. COOLERS AND FREEZER UNITS FITTED WITH DE-FROST FUNCTION.	ALL COOLERS AND FREEZER LOCATIONS	TYCO	DS-1 TY3235
D	PENDANT (DRY)	CONCEALED DRY PENDANT HEAD WITH QUICK RESPONSE K5.6 - 155 DEG BULB TEMPERATURE. MINIMUM 1-0" DRY BARREL LENGTH	ALL VESTIBULES	TYCO	DS-C 3535
	SIDEWALL	EXPOSED DRY SIDE WALL SPRINKLER HEAD WITH K11.2 - 155 DEG BULB. STANDARD RESPONSE. MINIMUM 2'0" DRY BARREL LENGTH.	GENERATOR ROOM	TYCO	DS-3

*** REFER TO THE FIRE PROTECTION SPECIFICATION FOR ALL OTHER ALLOWABLE MANUFACTURERS.**



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FIRE PROTECTION NOTES, LEGENDS, DETAILS, SCHEDULES

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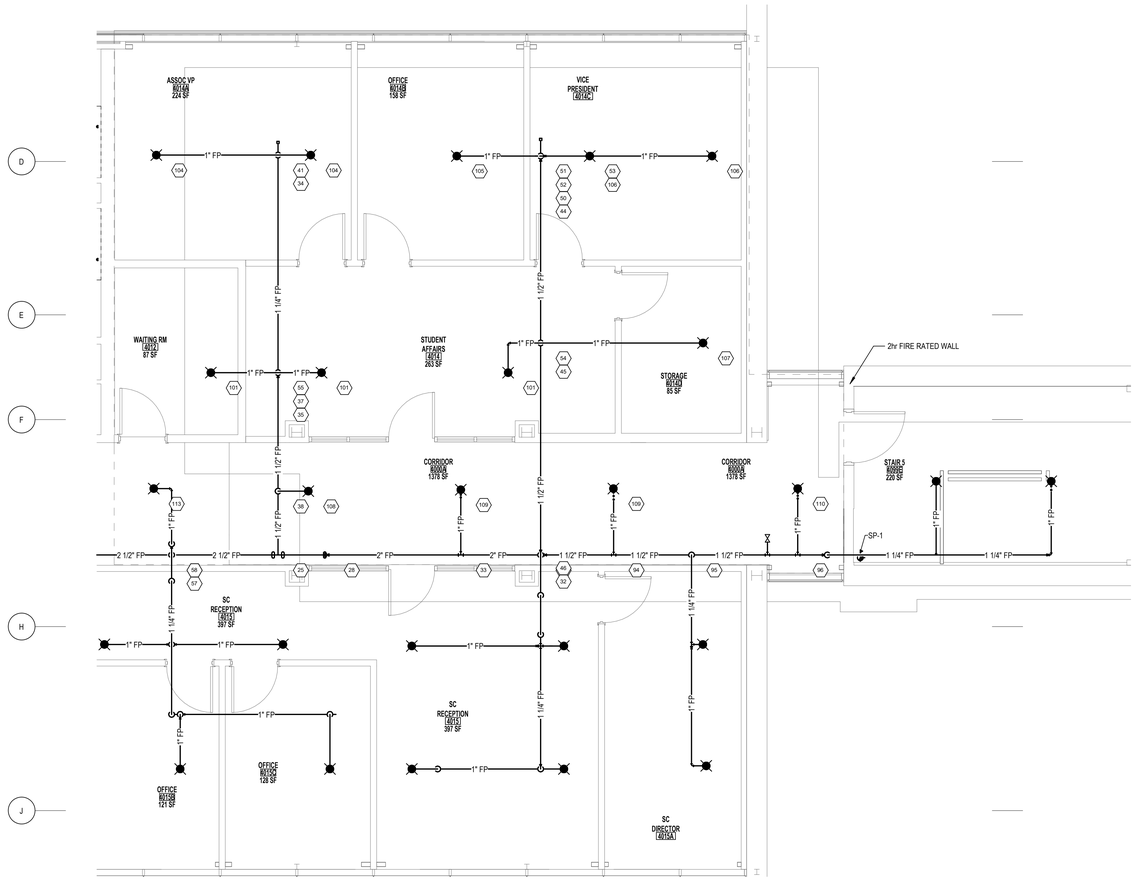
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HYDRAULIC CALCULATIONS:

HYDRANT FLOW TEST WAS CONDUCTED ON 10/07/2025. THE TEST PROVIDED THE FOLLOWING RESULTS:

STATIC PRESSURE - **50 PSI**
RESIDUAL PRSSURE - **47 PSI**
FLOW - **875 GPM**

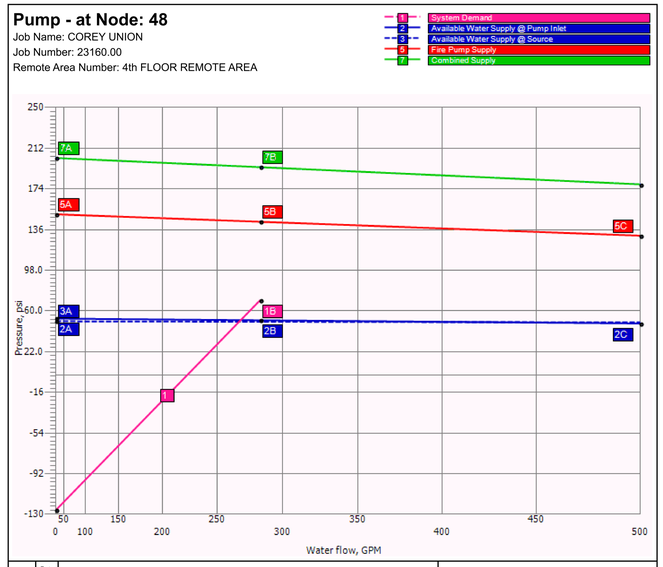
21'-0" OF EQUIVILANT LENGTH LOSS HAS BEEN PROVIDED TO ALL FLEX HOSES WITHIN THE REMOTE AREA
36" - 1" DIAMETER HOSE WITH A MAXIMUM OF 5 BENDS.



1 F002 FOURTH FLOOR - REMOTE AREA PLAN
1/4" = 1'-0"

N

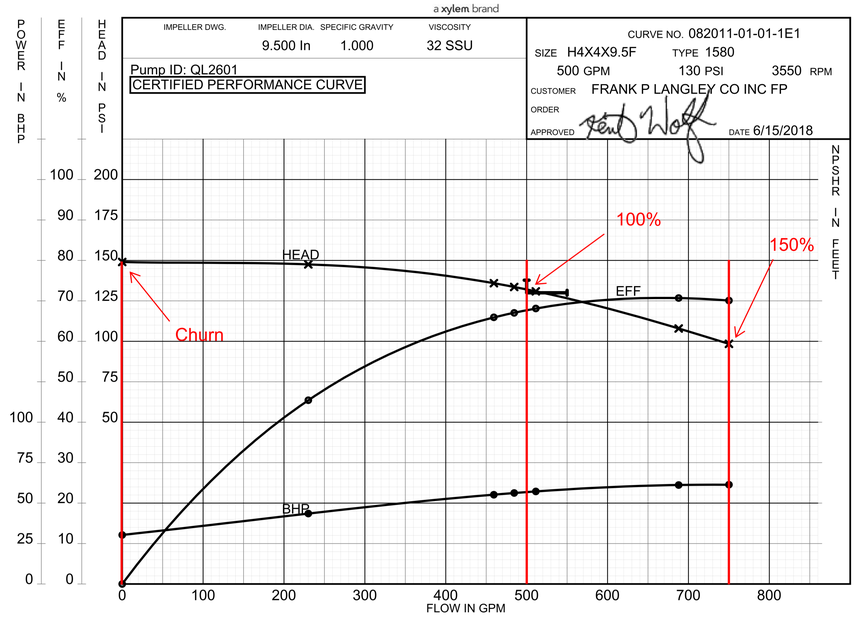
Hydraulic Graph



Curve	Data Point	Hydraulic Calculation Results	Additional Data
1	1B	Required Pressure at System Demand: 69.88 psi @ 283.38 GPM	
2	2A	Available Static Pressure at Pump Inlet: 52.60 psi	Fire Pump Rating: 130.00 psi @ 500.00 GPM
	2B	Available Residual Pressure at System Demand at Pump Inlet: 50.98 psi @ 283.38 GPM	
	2C	Available Residual Pressure at Pump Rated Flow at Pump Inlet 47.98 psi @ 500.00 GPM	
	2D	Available Residual Pressure at 150% of Rated Pump Capacity at Pump Inlet: 42.81 psi @ 750.00 GPM	
3	3A	Available Static Pressure at Supply (Node 1): 50.00 psi	
	3C	Available Residual Pressure at Supply (Node 1): 47.00 psi @ 876.00 GPM	
5	5A	Fire Pump Churn Pressure: 150.00 psi	
	5B	Available Residual Pressure at System Demand: 143.00 psi @ 283.38 GPM	
	5C	Fire Pump Rating: 130.00 psi @ 500.00 GPM	
7	7A	Available Static Pressure: 202.60 psi	
	7B	Available Pressure at System Demand 193.99 psi @ 283.38 GPM	

@ MEPCAD AutoSPRINK RVT v9.1.21.0 5/11/2026 10:29:33AM Page 3

AC FIRE PUMP
a xylem brand



*EXISTING TO REMAIN FIRE PUMP PERFORMANCE CURVE (FROM FACTORY)

0' 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"

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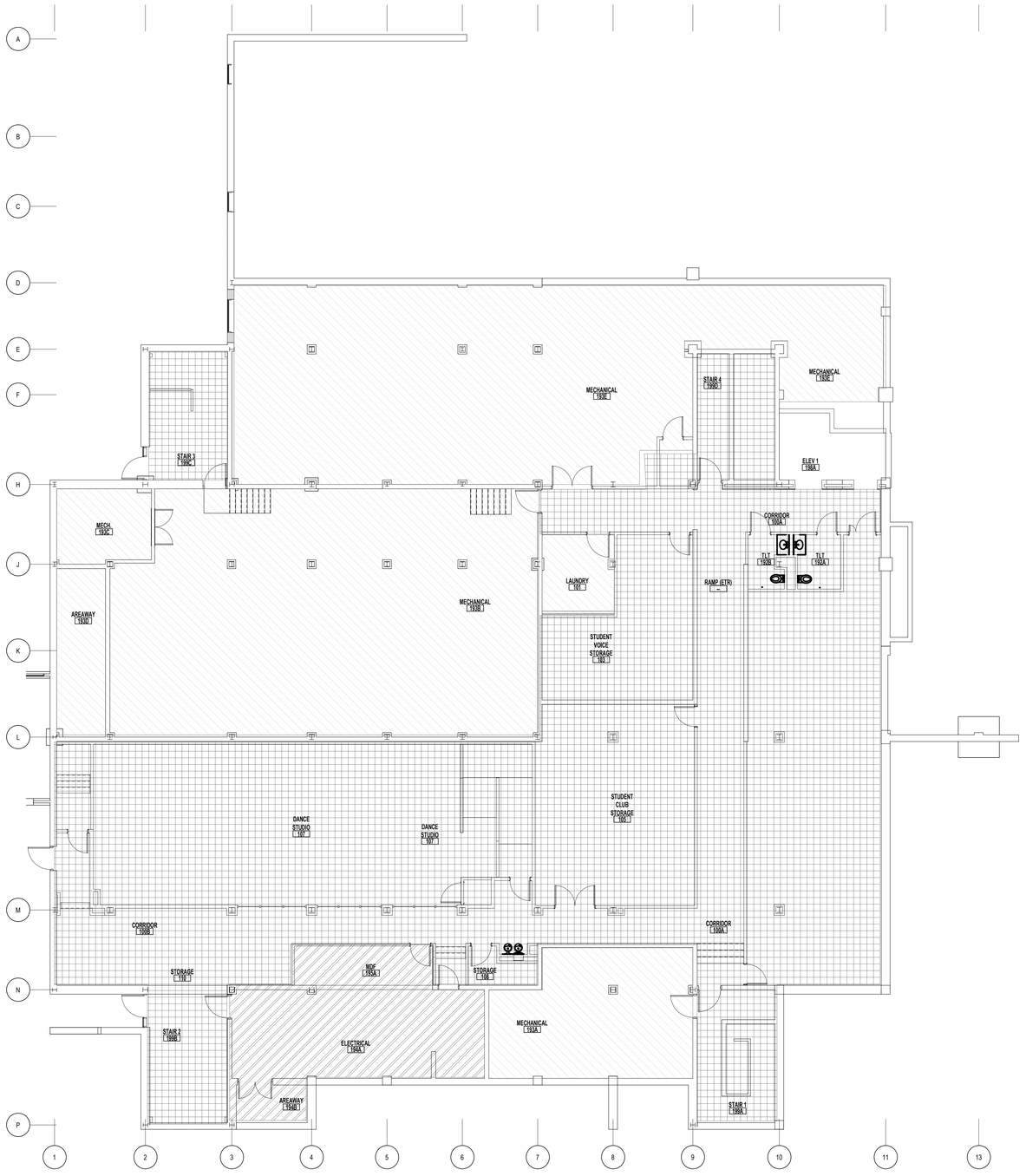
F002

FIRE PROTECTION - HYDRAULIC CALCULATIONS

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1 F003 BASEMENT - FIRE HAZARD PLAN
1/8" = 1'-0"

LIGHT HAZARD
SYSTEM PERFORMANCE - 0.10 /1500 FT²
SPACING PER SPRINKLER - 225FT²
TOTAL AREA = 7070 FT²

ORDINARY HAZARD 1
SYSTEM PERFORMANCE - 0.15 /1500 FT²
SPACING PER SPRINKLER - 130 FT²
TOTAL AREA = 5654 FT²

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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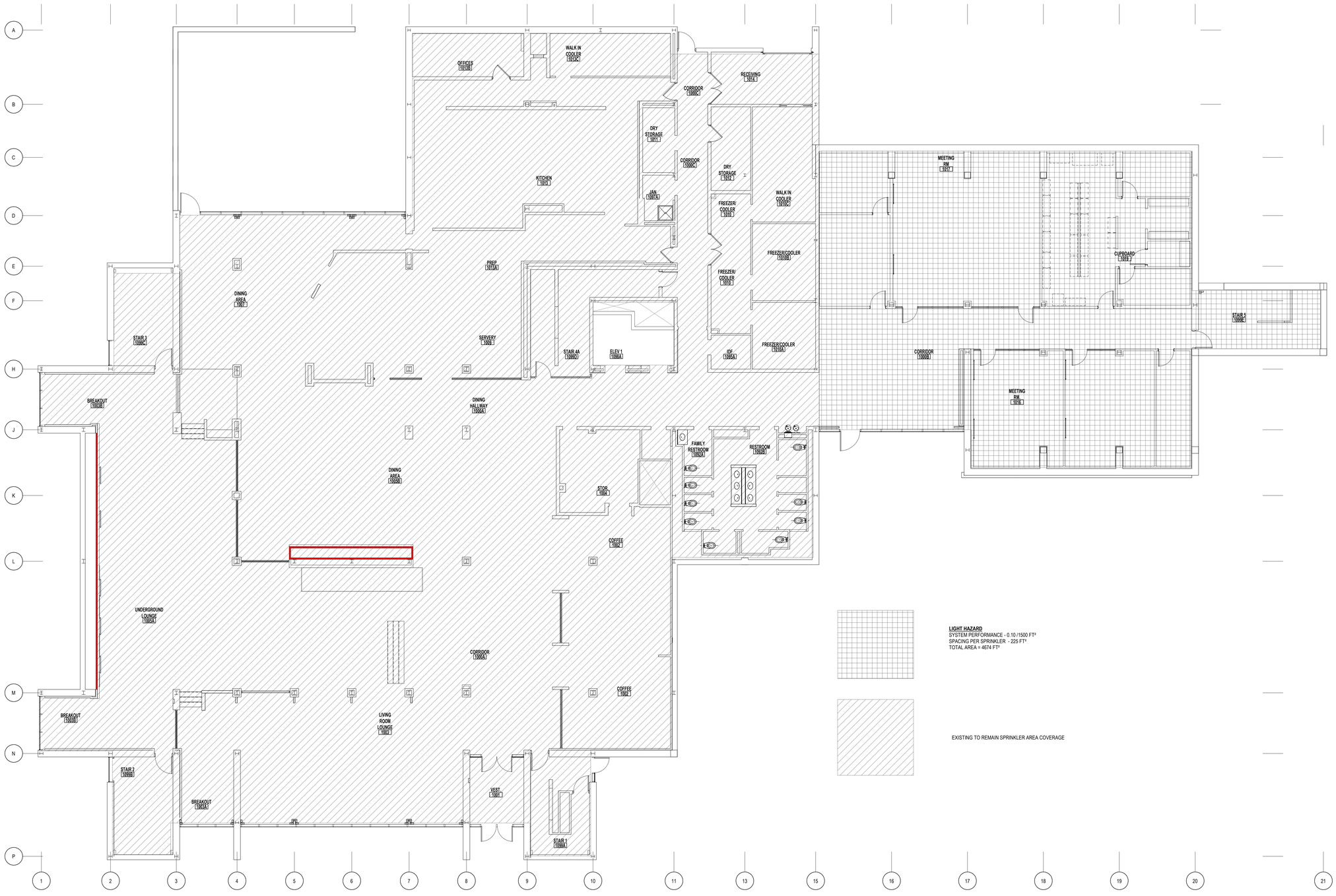
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F003

FIRE PROTECTION HAZARD PLAN - BASEMENT

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LIGHT HAZARD
SYSTEM PERFORMANCE - 0.10 /1500 FT²
SPACING PER SPRINKLER - 225 FT²
TOTAL AREA = 4674 FT²

EXISTING TO REMAIN SPRINKLER AREA COVERAGE

1 / F004 FIRST FLOOR - FIRE HAZARD PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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F004

FIRE PROTECTION HAZARD PLAN - FIRST FLOOR

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LIGHT HAZARD
SYSTEM PERFORMANCE - 0.10 /1500 FT²
SPACING PER SPRINKLER - 225 FT²
TOTAL AREA = 22438 FT²

1 F005 SECOND FLOOR - FIRE HAZARD PLAN
1/8" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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FIRE PROTECTION HAZARD PLAN - SECOND FLOOR

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LIGHT HAZARD
SYSTEM PERFORMANCE - 0.10 /1500 FT²
SPACING PER SPRINKLER - 225FT²
TOTAL AREA = 20464 FT²

ORDINARY HAZARD
SYSTEM PERFORMANCE - 0.15 /1500 FT²
SPACING PER SPRINKLER - 130T²
TOTAL AREA = 1826 FT²

1 / F006 THIRD FLOOR - FIRE HAZARD PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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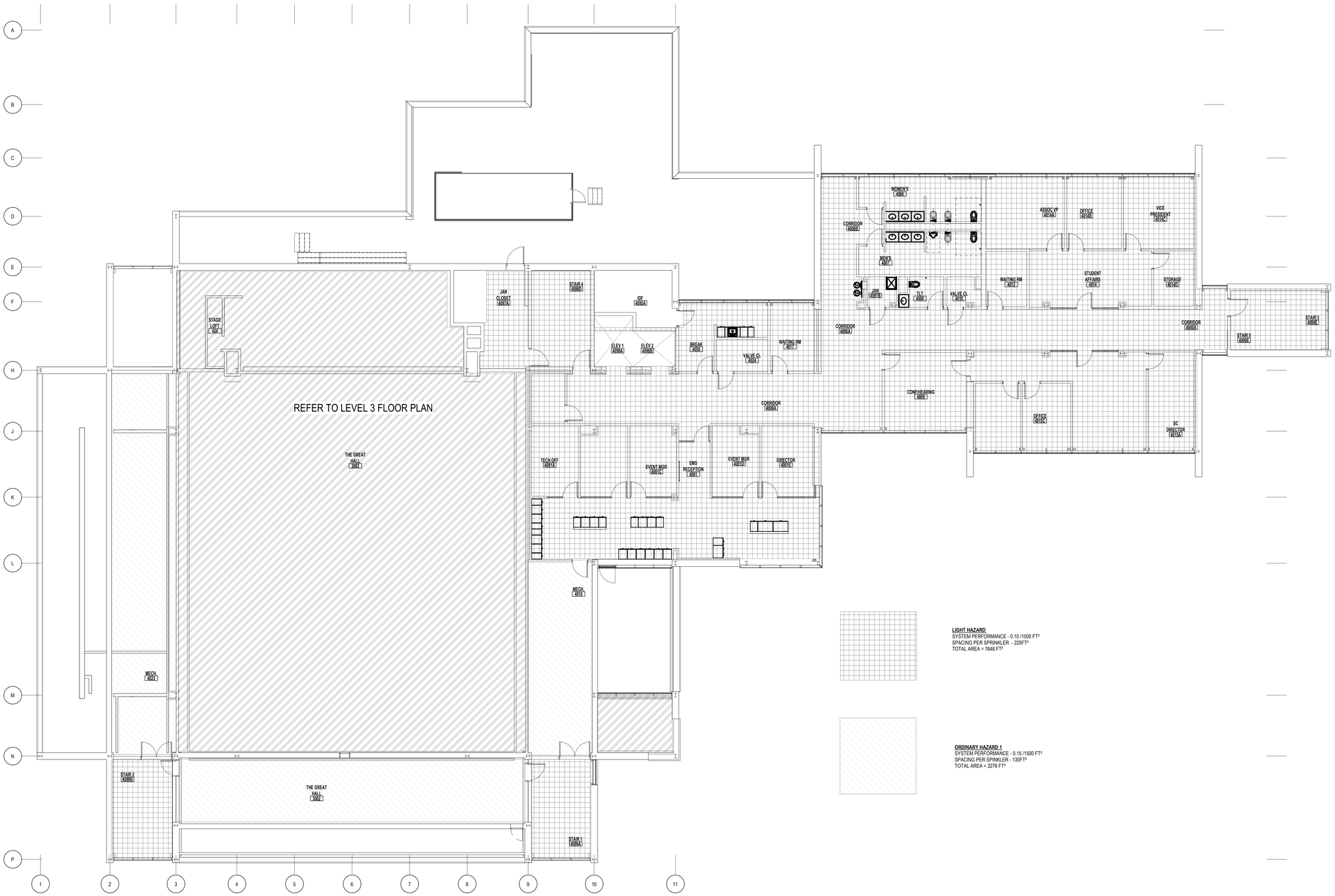
F006

FIRE PROTECTION HAZARD PLAN - THIRD FLOOR

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LIGHT HAZARD
SYSTEM PERFORMANCE - 0.10 /1500 FT²
SPACING PER SPRINKLER - 225FT²
TOTAL AREA = 7648 FT²

ORDINARY HAZARD 1
SYSTEM PERFORMANCE - 0.15 /1500 FT²
SPACING PER SPRINKLER - 130FT²
TOTAL AREA = 2276 FT²

1 F007 FOURTH FLOOR - FIRE HAZARD PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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FIRE PROTECTION HAZARD PLAN - FOURTH FLOOR

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KEYED NOTES

1. EXISTING 6" FIRE SPRINKLER RISER TO REMAIN. PIPEWORK RISES UP FOR FIRE DEPARTMENT CONNECTION.
2. REMOVE AND DISCONNECTION 6" FIRE PROTECTION LINE AT ROLL GROOVE JOINT WITHIN BASEMENT. CLEAN AND PREPARE ENDS FOR RECONNECTION. COORDINATE WATER SHUTDOWN.
3. DISCONNECT AND REMOVE FIRE PROTECTION PIPEWORK UP TO DDCV FLANGE. CLEAN AND PREPARE FLANGE END AND PROVIDE GASKET.
4. 4" FIRE PROTECTION RISE UP TO FIRST FLOOR.
5. 6" FIRE PROTECTION RISER FOR FIRE PUMP TEST HEADER.
6. 6" DOUBLE DETECTOR CHECK VALVE (DDCV) TO REMAIN. PERFORM ANNUAL BACKFLOW TEST ON VALVE AND PROVIDE RESULTS AS PART OF FINAL COMMISSIONING.
7. EXISTING FIRE PUMP TO REMAIN. PERFORM ANNUAL FLOW TEST ON FIRE PUMP THROUGH EXTERNAL FIRE PUMP TEST HEADER. INCLUDE FORWARD FLOW TEST TO ENSURE DDCV VALVE OPENS PER DESIGN SPECIFICATION. CONDUCT ALL WORKS PER NFPA 25 GUIDELINES. SUBMIT RESULTS AS PART OF FINAL COMMISSIONING.

1 / F101 BASEMENT FIRE PROTECTION REMOVAL PLAN
3/16" = 1'-0"

N

0' 2'-8" 5'-4" 10'-8"
SCALE: 3/16" = 1'-0"

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F101
FIRE PROTECTION REMOVAL PLAN - BASEMENT

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KEYED NOTES

1. DISCONNECT AND REMOVED FIRE PROTECTION PIPEWORK AND SPRINKLERS BACK TO EXISTING 4" MAIN. PIPEWORK TO BE USED FOR CONTINUATION INTO EASTERN PORTION OF LEVEL 1.
2. FIRE PUMP TEST HEADER ON EXTERNAL WALL TO REMAIN.
3. EXISTING FIRE DEPARTMENT CONNECTION TO REMAIN.
4. FIRE PROTECTION RISE FROM BASEMENT.
5. REMOVE SPRINKLER HEAD, HANGERS FROM STRUCTURE ABOVE. REMOVE PIPEWORK BACK TO NEAREST JOINT WITHIN CEILING SPACE AND PROVIDE TEMPORARY CAP.
6. REMOVE SECTION OF PIPE FOR THE INSTALLATION OF FIRE PROTECTION TEE.
7. REMOVE SPRINKLER HEAD AND ASSOCIATED BRANCH PIPE AS REQUIRED FOR CEILING REMOVAL. PREPARE EXISTING TO REMAIN BRANCH PIPE FOR NEW HEAD CONNECTION AT SAME LOCATION.

1 / F102 FIRST FLOOR FIRE PROTECTION REMOVAL CEILING PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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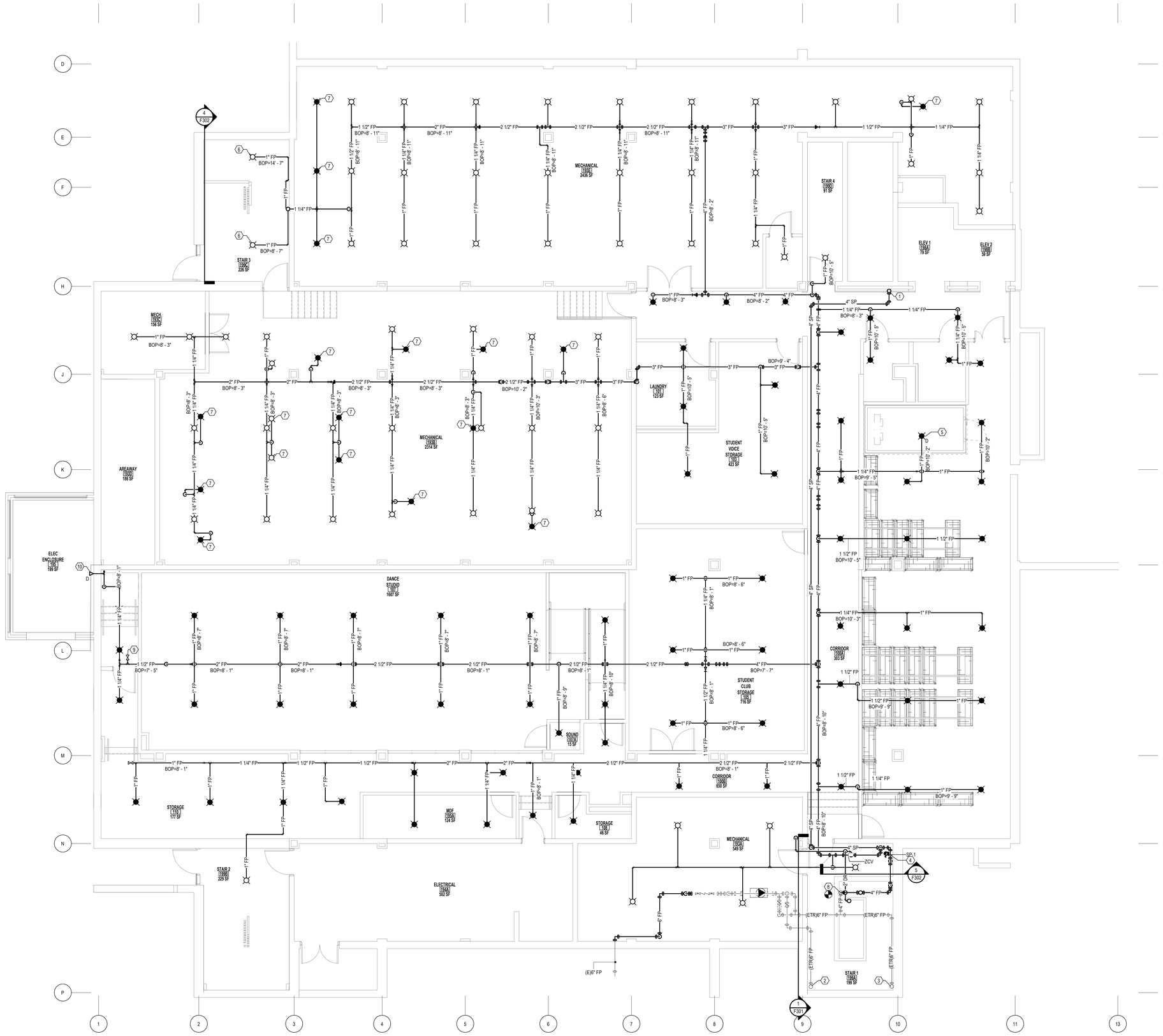
F102

FIRE PROTECTION REMOVAL PLAN - FIRST FLOOR

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GENERAL NOTES

1. ALL FIRE SPRINKLERS TO BE QUICK RESPONSE.
2. INSTALL FIRE SPRINKLER CONTROL VALVES ON EACH FLOOR LANDING WITH STAIR #1
3. MONITOR ALL VALVES DIRECTLY RELATED TO FIRE PROTECTION SYSTEM
4. INSTALL CAPS AND LOCKS ON ALL STANDPIPE VALVES WITHIN STAIR TO PREVENT UNAUTHORIZED USE.
5. CORE HOLES THROUGH FLOORS AND FIRE RATED WALLS TO BE SEALED WITH 2HR FIRE PROOF CAULK. ESCUTCHEONS TO BE PROVIDED OVER PENETRATION.
6. PROVIDE FLEXIBLE HOSE CONNECTIONS ON ALL CONCEALED PENDANT HEADS. INSTALL SPRINKLERS WITHIN CENTER OF CEILING TILES. PROVIDE SUSPENDED CEILING BRACKETS FOR CONCEALED HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING COORDINATION.
7. REFER TO THE ARCHITECTS PLANS FOR CUSTOM PENDANT HEAD COLORS.
8. PIPE SIZES FOR SINGLE SPRINKLERS WILL BE 1"

KEYED NOTES

1. 4" STANDPIPE RISE TO LEVEL 1.
2. EXISTING FIRE PROTECTION PUMP HEADER TEST CONNECTION AND PIPEWORK TO REMAIN.
3. EXISTING 4" SPRINKLER RISERS TO REMAIN.
4. PROVIDE 4" SPRINKLER ZONE CONTROL VALVE AND 2 1/2" STANDPIPE IN STAIRWALL.
5. PROVIDE DRY PENDANT SPRINKLERS HEADS FOR FREEZER AND COOL ROOMS.
6. PROVIDE FIRE SPRINKLERS UNDER STAIRS. REFER TO SECTION FOR ADDITIONAL DETAILS.
7. PROVIDE FIRE SPRINKLER UNDER DUCT WITH GUARD.
8. CUT AND INSTALL TEE ON VERTICAL RISER SERVING EXISTING TO REMAIN LEVEL 1 FIRE PROTECTION SYSTEM UNDER STAIRS. ACCESS TO AREA UNDER STAIRS VIA ACCESS HATCH.
9. PROVIDE 1" AUXILLARY DRAIN WITHIN CEILING SPACE. CAP VALVE OUTLET.
10. PROVIDE EXTENDED COVERAGE DRY SIDEWALL SRPINKLER FOR GENERATOR ROOM. PROVIDE MINIMUM DRY BARREL LENGTH OF 2'-0". PROVIDE CORE HOLE THROUGH EXTERIOR WALL AND SEAL. PROVIDE CONNECTION TO SPRINKLER VIA TEE PER MANUFACTURERS INSTALLATION REQUIREMENTS.

ELEVATOR MAKE / MODEL

MODEL: SCHINDLER 3300XL
BELT TYPE: STM-PV30 (FIRE RATED)
HYDRAULIC OIL: NO
PURPOSE: OCCUPANCY AND FREIGHT
FIRE FIGHTERS OPERATION KEY: YES

1 F111 BASEMENT FIRE PROTECTION PLAN
3/16" = 1'-0"

N

0' 2'-8" 5'-4" 10'-8"
SCALE: 3/16" = 1'-0"

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F111
FIRE PROTECTION PLAN - BASEMENT

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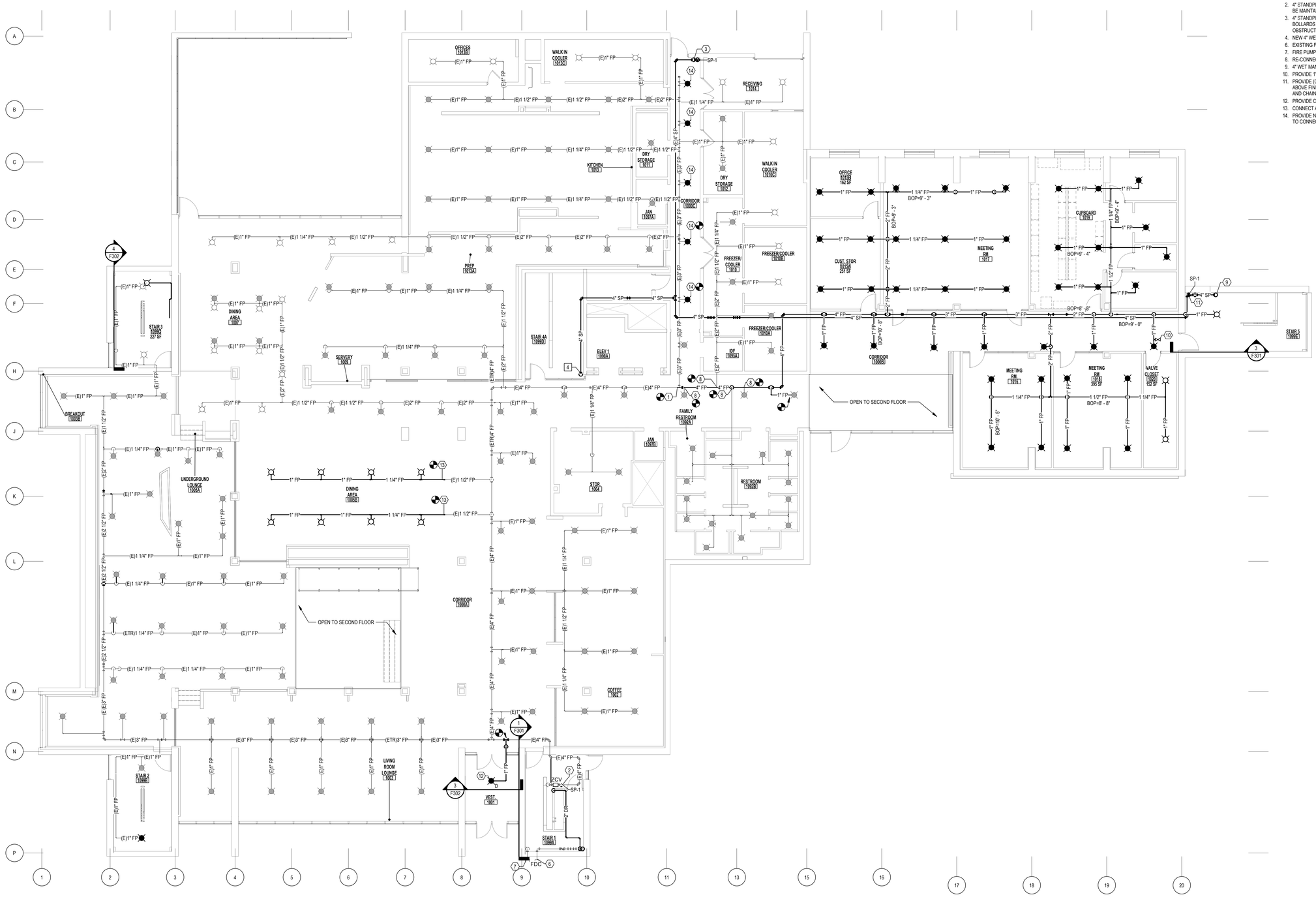
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GENERAL NOTES

1. ALL FIRE SPRINKLERS TO BE QUICK RESPONSE.
2. INSTALL FIRE SPRINKLER CONTROL VALVES ON EACH FLOOR LANDING WITH STAIR #1
3. MONITOR ALL VALVES DIRECTLY RELATED TO FIRE PROTECTION SYSTEM
4. INSTALL CAPS AND LOCKS ON ALL STANDPIPE VALVES WITHIN STAIR TO PREVENT UNAUTHORIZED USE.
5. CORE HOLES THROUGH FLOORS AND FIRE RATED WALLS TO BE SEALED WITH 2HR FIRE PROOF CAULK. ESCUTCHEONS TO BE PROVIDED OVER PENETRATION.
6. PROVIDE FLEXIBLE HOSE CONNECTIONS ON ALL CONCEALED PENDANT HEADS. INSTALL SPRINKLERS WITHIN CENTER OF CEILING TILES. PROVIDE SUSPENDED CEILING BRACKETS FOR CONCEALED HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING COORDINATION.
7. REFER TO THE ARCHITECTS PLANS FOR CUSTOM PENDANT HEAD COLORS.
8. PIPE SIZES FOR SINGLE SPRINKLERS WILL BE 1"

KEYED NOTES

1. EXTEND 4" FIRE PROTECTION PIPEWORK AT CLOSEST ROLL GROOVE JOINT WITHIN CEILING SPACE.
2. 4" STANDPIPE TO BE INSTALLED IN STAIRWELL. MINIMUM EGRESS PATHS TO BE MAINTAINED. (typ.)
3. 4" STANDPIPE TO BE INSTALLED ADJACENT TO KITCHEN ENTRANCE. BOLLARDS TO BE PLACED IN FRONT OF VALVE TO PREVENT DAMAGE AND OBSTRUCTIONS.
4. NEW 4" WET MANUAL STANDPIPE LINE UP FROM BASEMENT.
5. EXISTING FIRE DEPARTMENT CONNECTION TO REMAIN.
6. FIRE PUMP TEST HEADER ON EXTERNAL WALL TO REMAIN.
7. RE-CONNECT ONTO EXISTING SPRINKLER PIPEWORK WITHIN CEILING SPACE.
8. 4" WET MANUAL STANDPIPE RISE IN STAIR #5
9. PROVIDE 1" AUXILLARY DRAIN WITHIN CEILING SPACE. CAP VALVE OUTLET.
10. PROVIDE (CLASS 1) 2-1/2" STANDPIPE IN STAIRWELL. INSTALL STANDPIPE 3-5' ABOVE FINISH FLOOR LEVEL TO CENTER OF STANDPIPE VALVE. PROVIDE CAP AND CHAIN ON OUTLET TO PREVENT UNATHORIZED USE.
11. PROVIDE CONCEALED DRY PENDANT HEAD FOR VESTIBULE.
12. CONNECT AND EXTEND ONTO FIRE PROTECTION PIPEWORK IN CEILING.
13. PROVIDE NEW SPRINKLER HEAD. PROVIDE NEW BRANCH PIPE AS REQUIRED TO CONNECT TO EXISTING PIPE.



1 / F112 FIRST FLOOR FIRE PROTECTION PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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F112
FIRE PROTECTION PLAN - FIRST FLOOR

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GENERAL NOTES

1. ALL FIRE SPRINKLERS TO BE QUICK RESPONSE.
2. INSTALL FIRE SPRINKLER CONTROL VALVES ON EACH FLOOR LANDING WITH STAIR #1
3. MONITOR ALL VALVES DIRECTLY RELATED TO FIRE PROTECTION SYSTEM
4. INSTALL CAPS AND LOCKS ON ALL STANDPIPE VALVES WITHIN STAIR TO PREVENT UNAUTHORIZED USE.
5. CORE HOLES THROUGH FLOORS AND FIRE RATED WALLS TO BE SEALED WITH 2HR FIRE PROOF CAULK. ESCUTCHEONS TO BE PROVIDED OVER PENETRATION.
6. PROVIDE FLEXIBLE HOSE CONNECTIONS ON ALL CONCEALED PENDANT HEADS. INSTALL SPRINKLERS WITHIN CENTER OF CEILING TILES. PROVIDE SUSPENDED CEILING BRACKETS FOR CONCEALED HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING COORDINATION.
7. REFER TO THE ARCHITECTS PLANS FOR CUSTOM PENDANT HEAD COLORS.
8. PIPE SIZES FOR SINGLE SPRINKLERS WILL BE 1"

KEYED NOTES

1. PROVIDE 4" SPRINKLER ZONE CONTROL VALVE AND 2 1/2" STANDPIPE IN STAIRWALL.
2. 4" STANDPIPE TO BE INSTALLED IN STAIRWELL. MINIMUM EGRESS PATHS TO BE MAINTAINED. (typ.)
3. PROVIDE 4" STANDPIPE UP THROUGH STAIRWELL
4. FIRE SPRINKLERS TO PROVIDE COVERAGE TO FLOOR BELOW.
5. PROVIDE UPRIGHT AND CONCEALED PENDANT SPRINKLER FOR ARCHITECTUAL WOOD CEILING.
6. PROVIDE 1" AUXILLARY DRAIN WITHIN CEILING SPACE. CAP VALVE OUTLET.
8. PROVIDE AIR ADMITTANCE VALVE (AAV-1) FOR FIRE SPRINKLER PIPEWORK AT HIGH LEVEL. LOCK AAV IN OPEN POSITION AND CAP OUTLET END.
9. PROVIDE CONCEALED DRY PENDANT HEAD FOR VESTIBULE.
10. DECORATIVE FELT CEILING. PROVIDE CONCEALED SPRINKLER IN CENTER OF FLAT CEILING TILES.
11. PROVIDE SPRINKLER OFFSET TO COORDINATE WITH MECHANICAL EQUIPMENT.

1 F113 SECOND FLOOR FIRE PROTECTION PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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FIRE PROTECTION PLAN - SECOND FLOOR

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GENERAL NOTES

1. ALL FIRE SPRINKLERS TO BE QUICK RESPONSE.
2. INSTALL FIRE SPRINKLER CONTROL VALVES ON EACH FLOOR LANDING WITH STAIR #1.
3. MONITOR ALL VALVES DIRECTLY RELATED TO FIRE PROTECTION SYSTEM.
4. INSTALL CAPS AND LOCKS ON ALL STANDPIPE VALVES WITHIN STAIR TO PREVENT UNAUTHORIZED USE.
5. CORE HOLES THROUGH FLOORS AND FIRE RATED WALLS TO BE SEALED WITH 2HR FIRE PROOF CAULK. ESCUTCHEONS TO BE PROVIDED OVER PENETRATION.
6. PROVIDE FLEXIBLE HOSE CONNECTIONS ON ALL CONCEALED PENDANT HEADS. INSTALL SPRINKLERS WITHIN CENTER OF CEILING TILES. PROVIDE SUSPENDED CEILING BRACKETS FOR CONCEALED HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING COORDINATION.
7. REFER TO THE ARCHITECTS PLANS FOR CUSTOM PENDANT HEAD COLORS.
8. PIPE SIZES FOR SINGLE SPRINKLERS WILL BE 1".

KEYED NOTES

1. 4" WET MANUAL STANDPIPE RISE IN STAIR #5
2. PROVIDE 4" SPRINKLER ZONE CONTROL VALVE AND 2 1/2" STANDPIPE IN STAIRWALL.
3. 4" STANDPIPE TO BE INSTALLED IN STAIRWELL. MINIMUM EGRESS PATHS TO BE MAINTAINED. (typ.)
4. PROVIDE OFFSET OF FIRE PROTECTION PIPEWORK UNDER STAIR LANDING.
5. PROVIDE DRY PENDANT SPRINKLERS HEADS FOR FREEZER AND COOL ROOMS.
6. PROVIDE 6" FIRE PROTECTION RISE AND 2" FIRE PROTECTION DRAIN DROP.
7. PROVIDE 2-1/2" PIPE RISE FOR STANDPIPE ON 4TH FLOOR LANDING.
8. PROVIDE AIR ADMITTANCE VALVE (AAV-1) FOR FIRE SPRINKLER PIPEWORK AT HIGH LEVEL. LOCK AAV IN OPEN POSITION AND CAP OUTLET END.
9. PROVIDE 1" AUXILLARY DRAIN WITHIN CEILING SPACE. CAP VALVE OUTLET.
10. PROVIDE UPRIGHT AND CONCEALED PENDANT SPRINKLER FOR ARCHITECTUAL WOOD CEILING.
11. PROVIDE (CLASS 1) 2-1/2" STANDPIPE IN STAIRWELL. INSTALL STANDPIPE 3-5" ABOVE FINISH FLOOR LEVEL TO CENTER OF STANDPIPE VALVE. PROVIDE CAP AND CHAIN ON OUTLET TO PREVENT UNATHORIZED USE.
12. COORDINATION WITH MECHANICAL DUCT WORK. HARD PIPE SPRINKLER CONNECTION DUE TO LIMITED CEILING SPACE.

EXTENT OF KITCHEN HOOD. PROTECTION PROVIDED BY INTERGRATED ANSUL SYSTEM.

OPEN BALCONY WITH MORE THAN 50% FREE OPEN FREE AREA AND NON-COMBUSTIBLE CONSTRUCTION. NO SPRINKLERS REQUIRED.

OPEN TO FOURTH FLOOR. REFER TO SHEET F114 FOR FIRE PROTECTION LAYOUT

OPEN TO 4TH FLOOR. REFER TO SHEET F114 FOR FIRE PROTECTION LAYOUT

1 F114 THIRD FLOOR FIRE PROTECTION PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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FIRE PROTECTION PLAN - THIRD FLOOR

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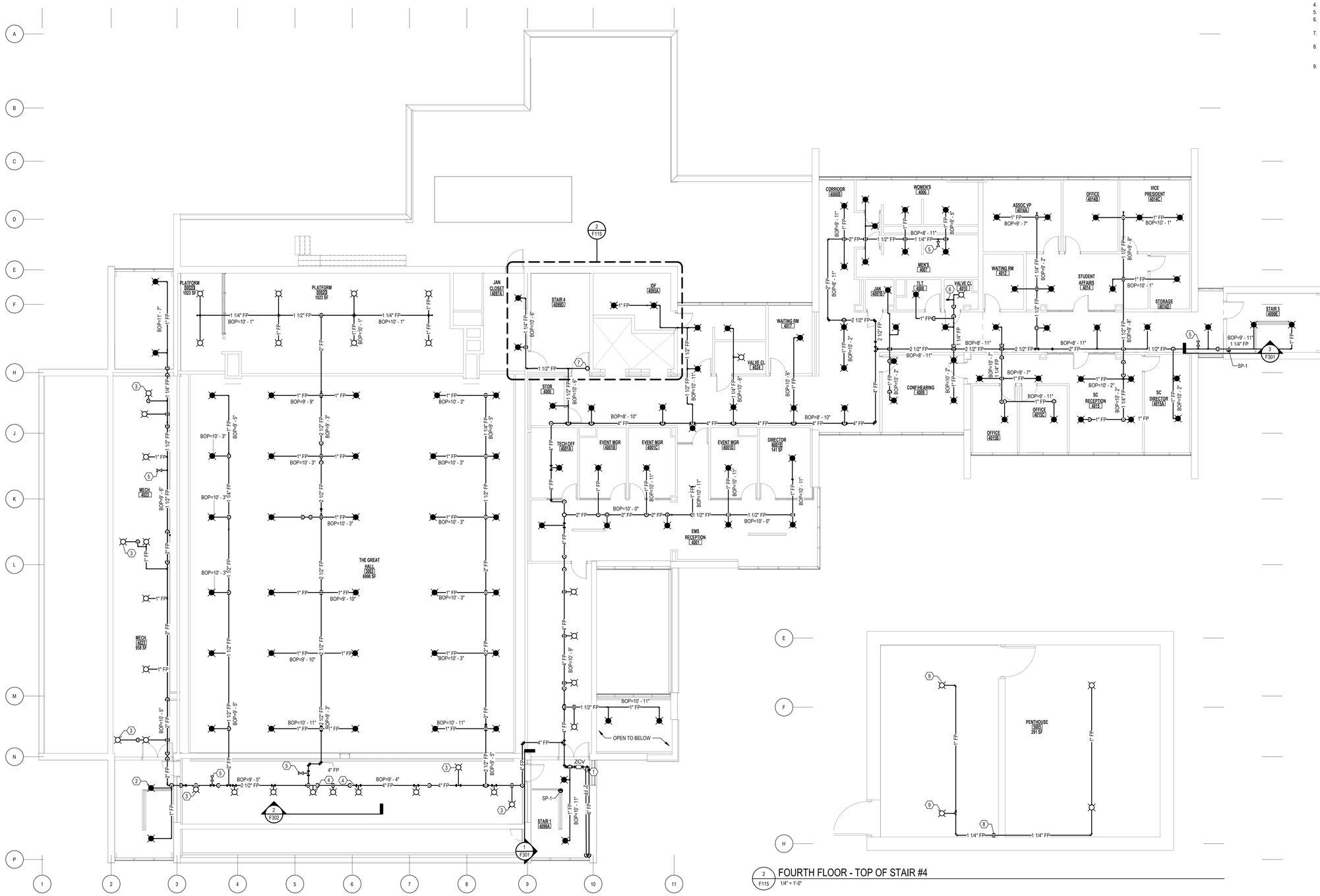
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GENERAL NOTES

1. ALL FIRE SPRINKLERS TO BE QUICK RESPONSE.
2. INSTALL FIRE SPRINKLER CONTROL VALVES ON EACH FLOOR LANDING WITH STAIR #1
3. MONITOR ALL VALVES DIRECTLY RELATED TO FIRE PROTECTION SYSTEM
4. INSTALL CAPS AND LOCKS ON ALL STANDPIPE VALVES WITHIN STAIR TO PREVENT UNAUTHORIZED USE.
5. CORE HOLES THROUGH FLOORS AND FIRE RATED WALLS TO BE SEALED WITH 2HR FIRE PROOF CAULK. ESCUTCHEONS TO BE PROVIDED OVER PENETRATION.
6. PROVIDE FLEXIBLE HOSE CONNECTIONS ON ALL CONCEALED PENDANT HEADS. INSTALL SPRINKLERS WITHIN CENTER OF CEILING TILES. PROVIDE SUSPENDED CEILING BRACKETS FOR CONCEALED HEADS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING COORDINATION.
7. REFER TO THE ARCHITECTS PLANS FOR CUSTOM PENDANT HEAD COLORS.
8. PIPE SIZES FOR SINGLE SPRINKLERS WILL BE 1"

KEYED NOTES

1. PROVIDE 4" SPRINKLER ZONE CONTROL VALVE AND 2 1/2" STANDPIPE IN STAIRWALL.
2. PROVIDE FIRE SPRINKLERS AT THE TOP OF EACH STAIR SHAFT.
3. PROVIDE FIRE SPRINKLER UNDER DUCT WITH GUARD.
4. MECHANICAL DUCT OBSTRUCTION INBETWEEN UPRIGHT HEADS.
5. PROVIDE 1" AUXILLARY DRAIN WITHIN CEILING SPACE. CAP VALVE OUTLET.
6. PROVIDE AIR ADMITTANCE VALVE (AAV-1) FOR FIRE SPRINKLER PIPEWORK AT HIGH LEVEL. LOCK AAV IN OPEN POSITION AND CAP OUTLET END.
7. PROVIDE 1-1/2" PIPE RISER UP TO TOP OF STAIR RISER AND ELEVATOR MACHINE ROOM.
8. 1-1/4" FIRE PROTECTION RISER FROM FOURTH FLOOR. PROVIDE CORE HOLE THROUGH EXISTING STAIRS IN CORNER OF STAIRS TO MAINTAIN MINIMUM EGRESS WIDTHS.
9. PROVIDE FIRE SPRINKLERS AT TOP OF STAIR SHAFT.



1 FOURTH FLOOR FIRE PROTECTION PLAN
F115 1/8" = 1'-0"

2 FOURTH FLOOR - TOP OF STAIR #4
F115 1/4" = 1'-0"

N

0' 2' 4' 8' 16'

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

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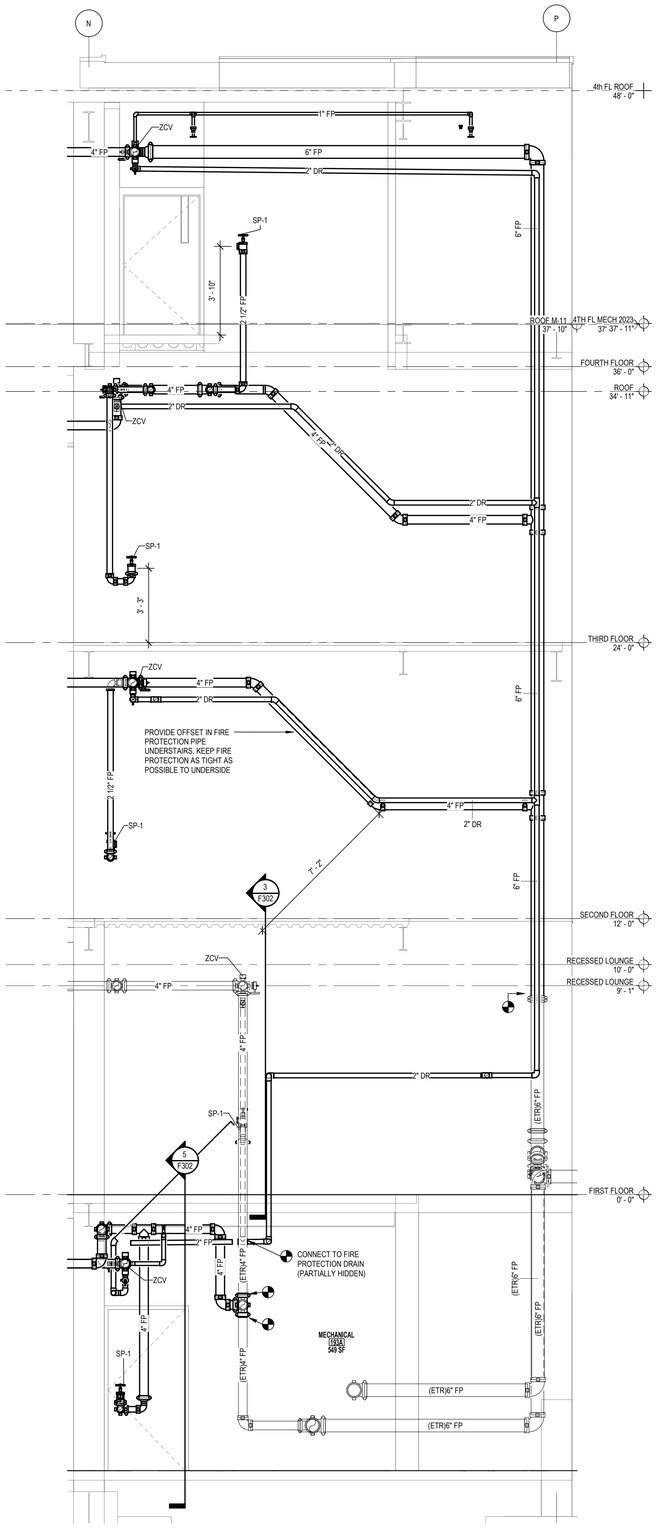
FIRE PROTECTION PLAN - FOURTH FLOOR

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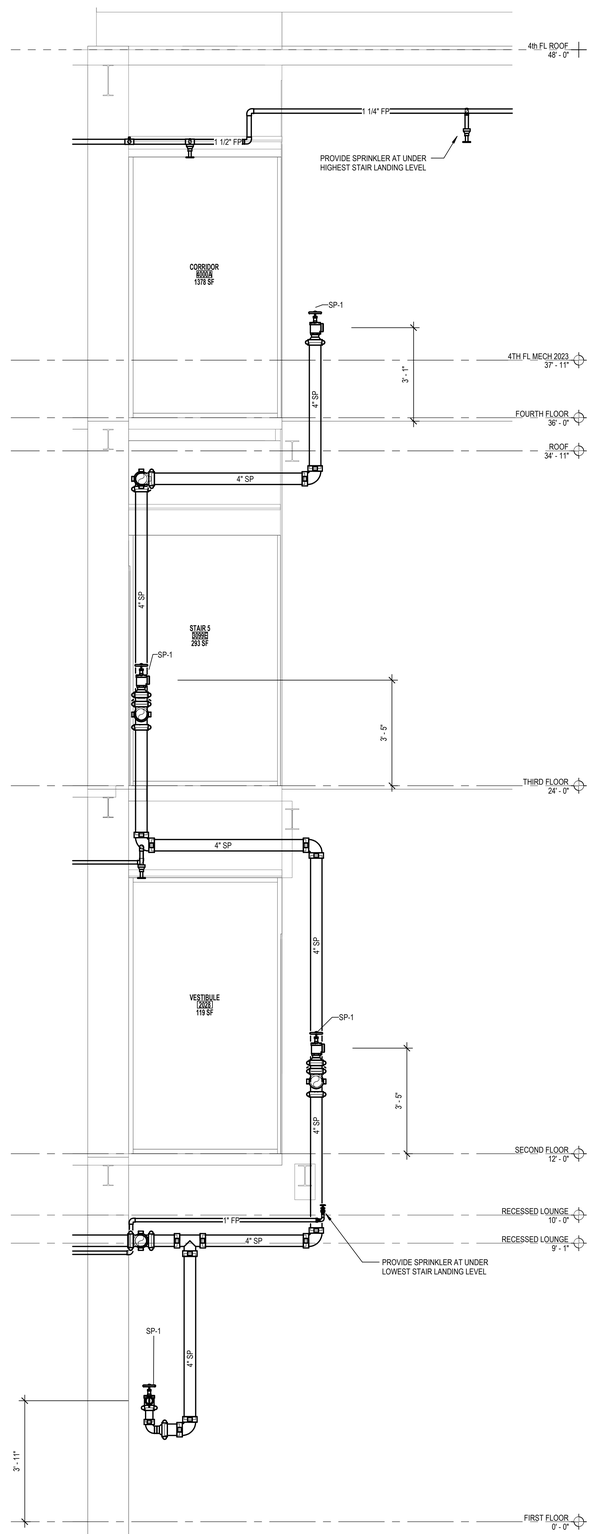
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1 F301 STAIR #1 ELEVATION
3/8" = 1'-0"



3 F301 STAIR #5 - STANDPIPE RISER SECTION
1/2" = 1'-0"

0' 6" 1' 2' 4'
SCALE: 1/2" = 1'-0"

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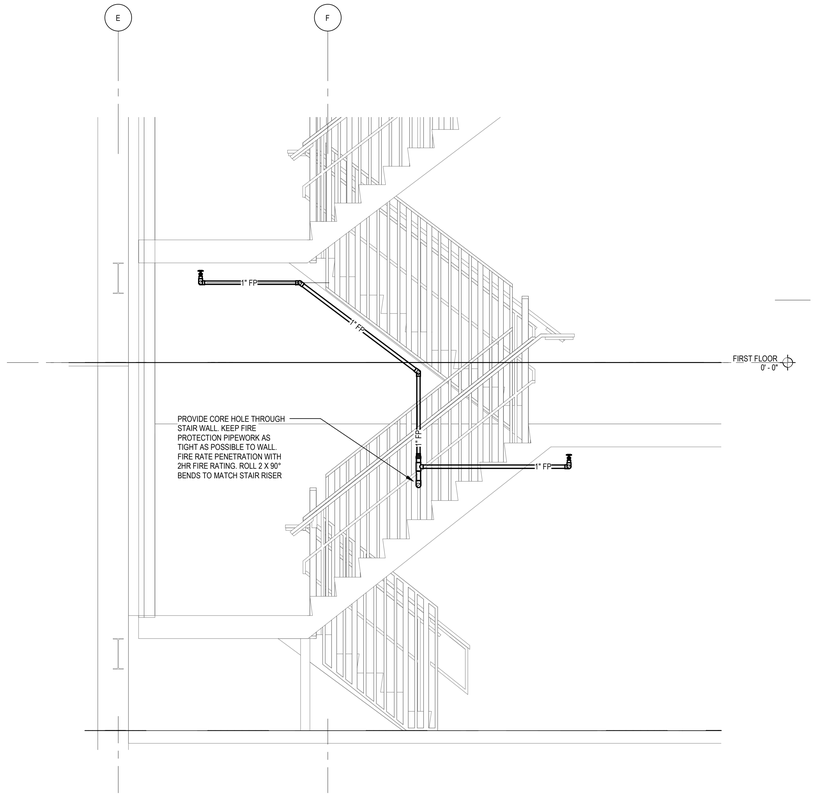
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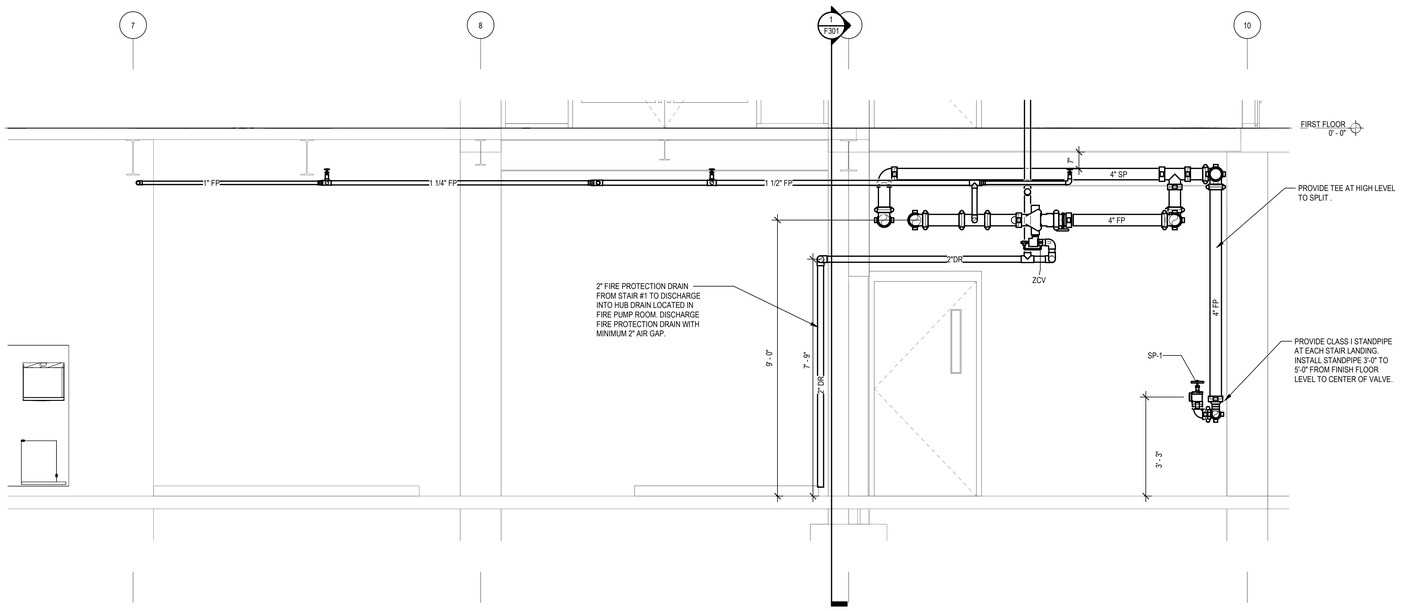
F301
FIRE PROTECTION SECTIONS

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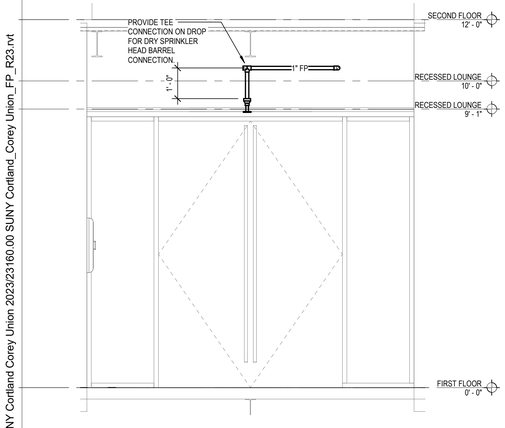
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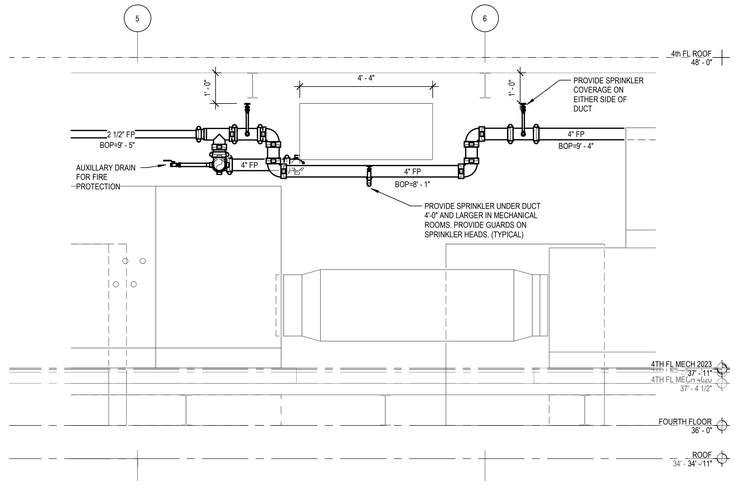
4 F302 SPRINKLERS IN STAIRS - SECTION
1/2" = 1'-0"



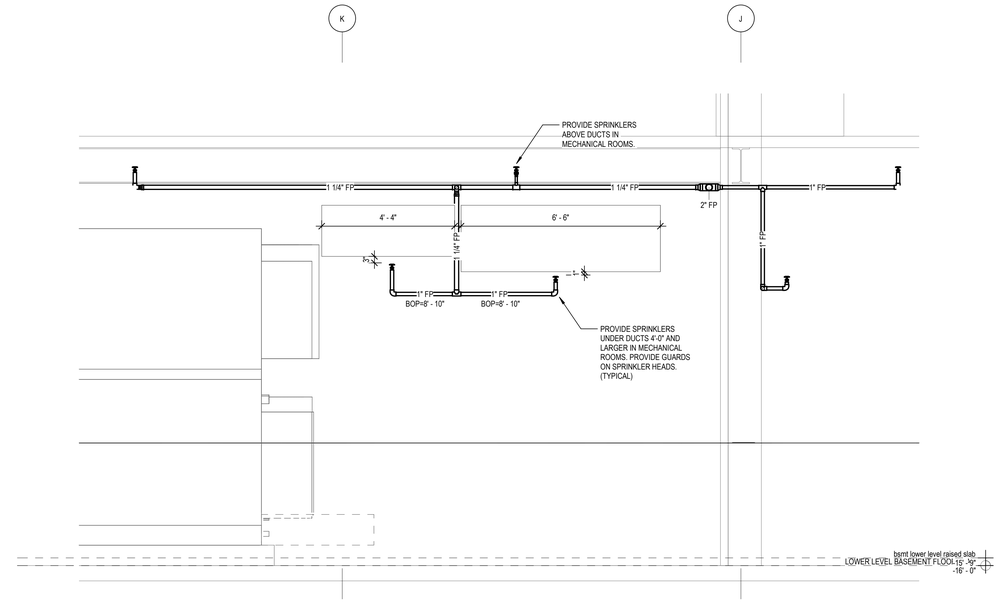
5 F302 STAIR #1 - BASEMENT FIRE PROTECTION DETAIL
1/2" = 1'-0"



3 F302 VESTIBULE DRY SPRINKLER DETAIL
1/2" = 1'-0"



2 F302 FOURTH FLOOR MECHANICAL ROOM DUCTWORK COORDINATION - SECTION
1/2" = 1'-0"



1 F302 BASEMENT MECHANICAL ROOM DUCTWORK COORDINATION - SECTION
1/2" = 1'-0"

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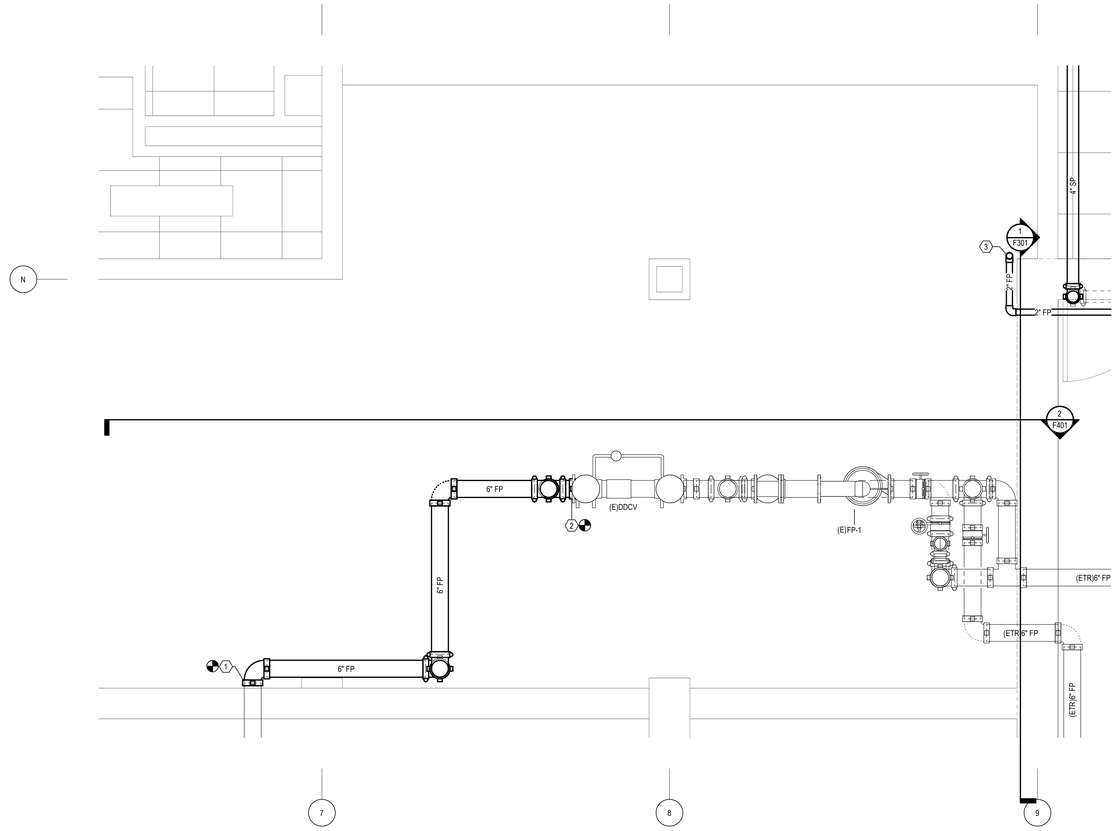
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F302
FIRE PROTECTION SECTIONS

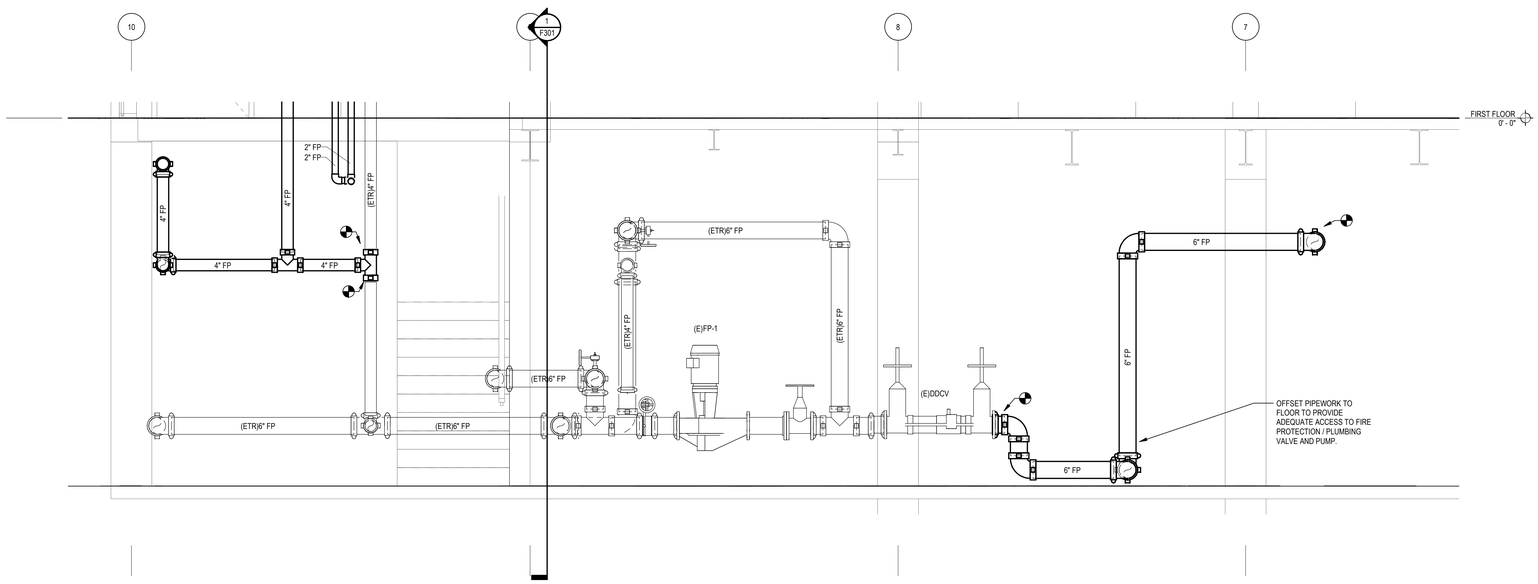
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1 F401 FIRE PROTECTION - ENGLARGED FIRE PUMP ROOM PLAN
1/2" = 1'-0"



2 F401 FIRE PROTECTION - INCOMING WATER SUPPLY SECTION
1/2" = 1'-0"

KEYED NOTES

1. CONNECT ONTO ROLL GROOVE JOINT WITHIN BASEMENT. EXTEND PIPEWORK TO DOUBLE DETECTOR CHECK VALVE (DDCV)
2. PROVIDE NEW GASKET, NUTS AND BOLTS FOR CONNECTION ONTO DDCV.
3. DISCHARGE 2" FIRE PROTECTION DRAIN FROM STAIR #1 INTO FLOOR DRAIN LOCATED IN FIRE PUMP ROOM. PROVIDE SPLASH GUARD FUNNEL ON FLOOR DRAIN. MAINTAIN MINIMM 2" AIR GAP BETWEEN SANITARY AND FIRE PROTECTION PIPEWORK. 50GPM DISCHARGE RATE CALCULATED BASED ON 100PSI PRESSURE THROUGH K5.6 ORIFICE LOCATED IN INSPECTORS TEST VALVE.

KEY PLAN



0' 6" 1' 2' 4'
SCALE: 1/2" = 1'-0"

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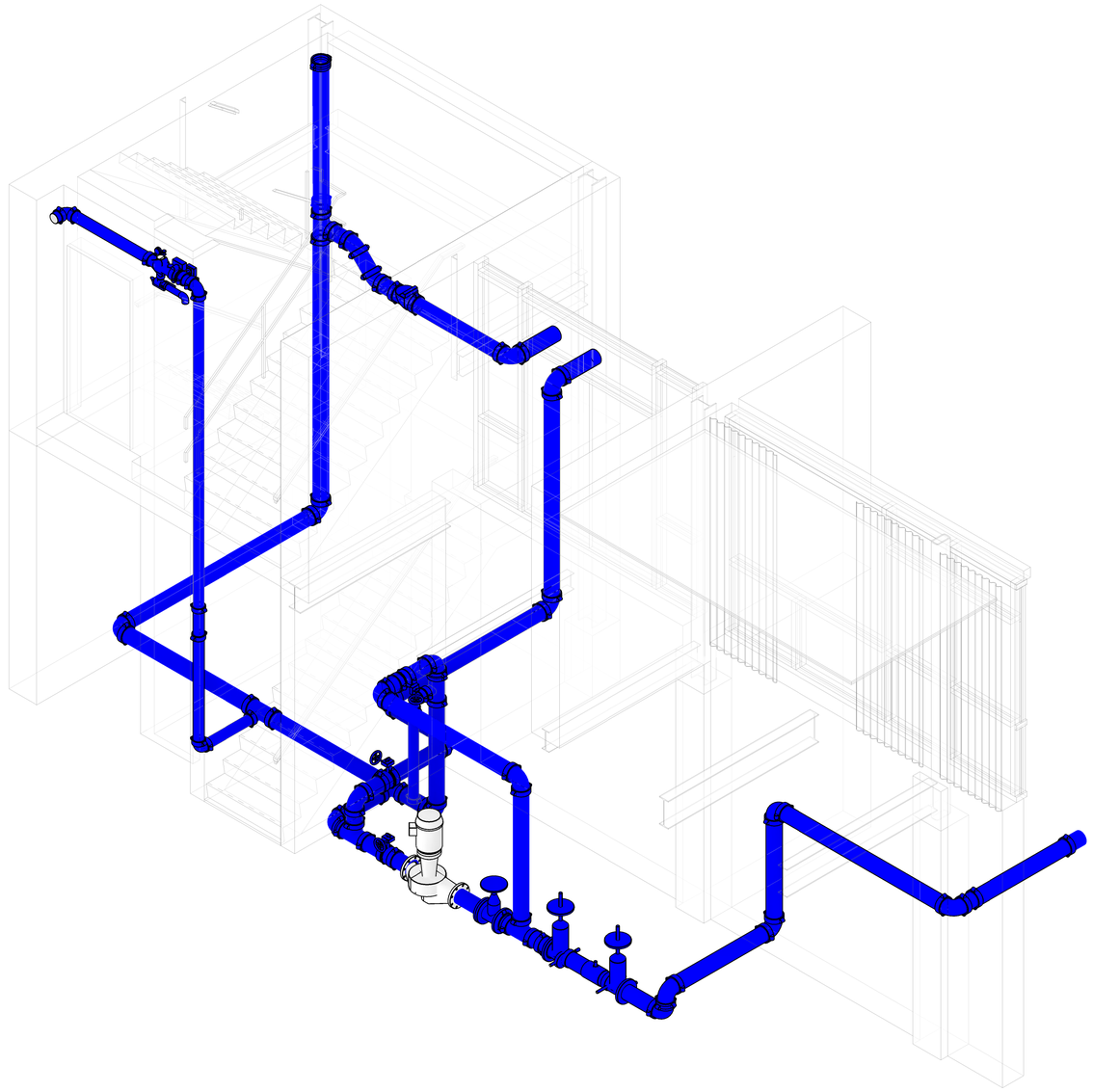
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FIRE PROTECTION ENLARGED FIRE PUMP ROOM PLAN

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1 F402 FIRE PUMP ROOM - 3D ISOMETRIC

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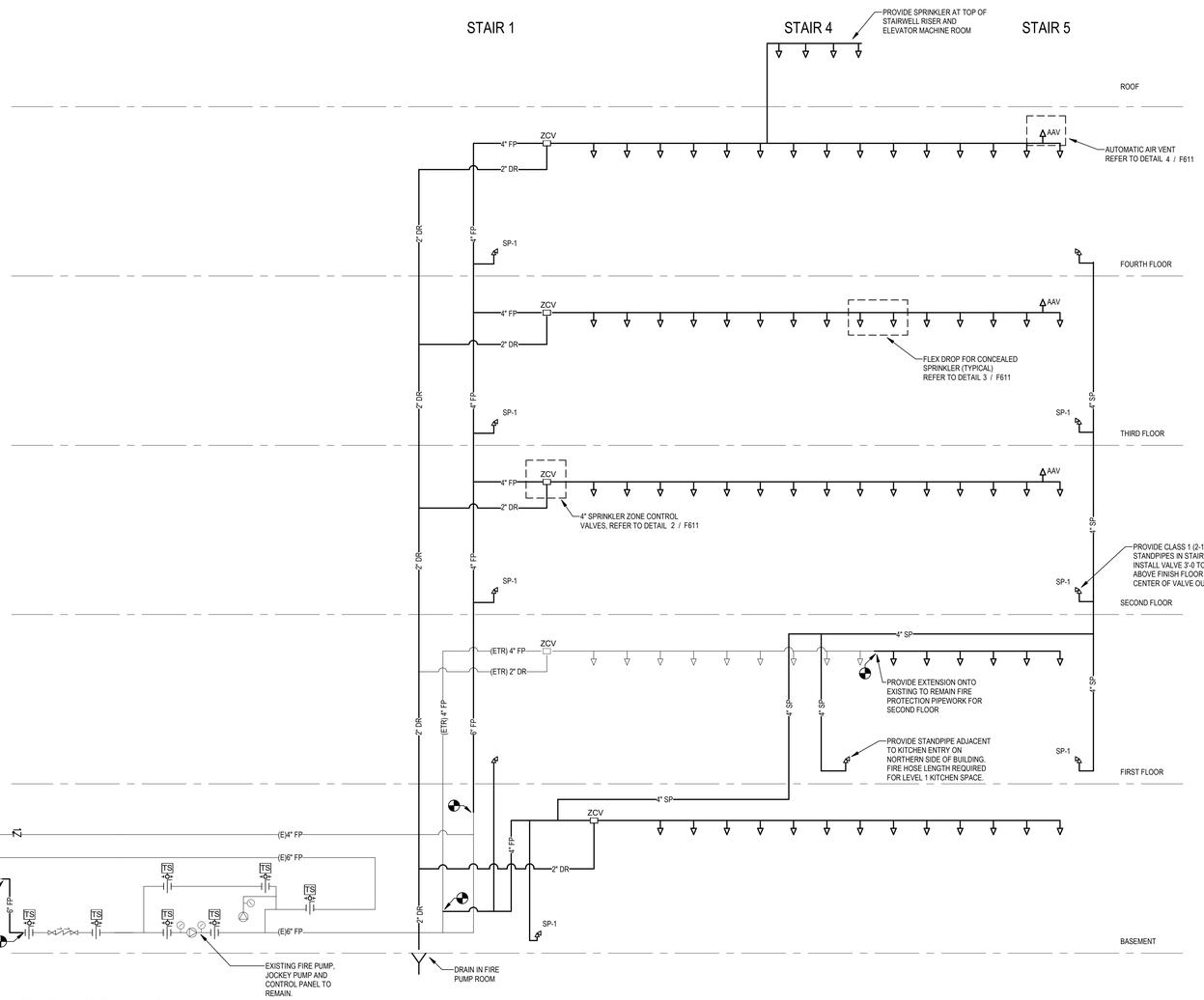
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F402

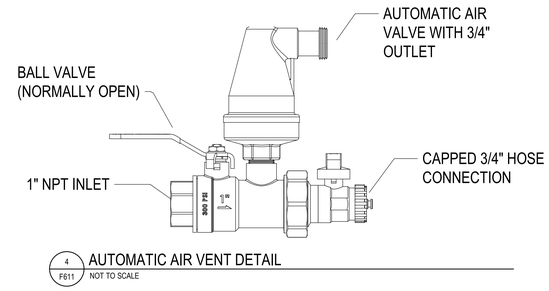
FIRE PROTECTION
FIRE PUMP ROOM
3D ISOMETRIC

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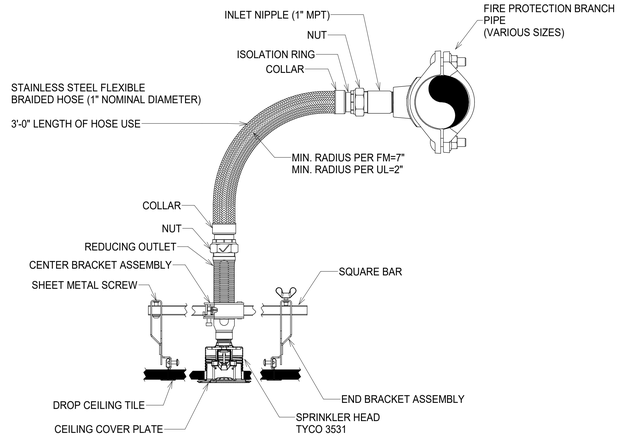
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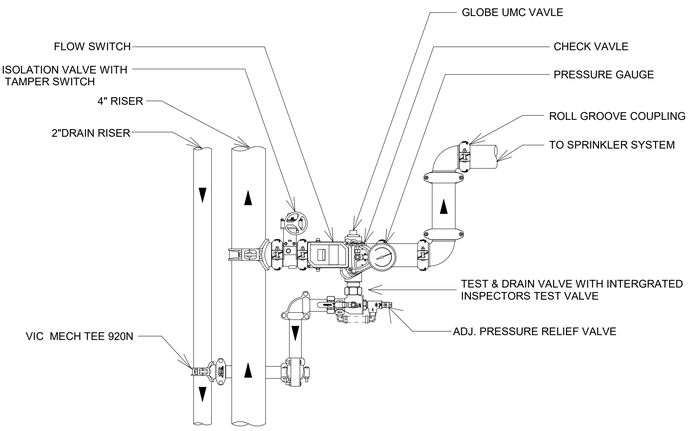
1 F611 FIRE PROTECTION SCHEMATIC
NOT TO SCALE



4 F611 AUTOMATIC AIR VENT DETAIL
NOT TO SCALE



3 F611 FIRE PROTECTION FLEX DROP DETAIL
NOT TO SCALE



*CAN BE MOUNTED IN THE HORIZONTAL OR VERTICAL UPFLOW POSITION

2 F611 ZONE CONTROL RISER ASSEMBLIES
NOT TO SCALE

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EXPIRATION: 02/28/2027

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Revisions

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SWBR Project Number 23160.00

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F611
FIRE PROTECTION RISER DIAGRAMS

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PLUMBING GENERAL NOTES

1. GENERAL NOTES PERTAIN TO ALL SHEETS CONTAINED IN THE DRAWING SET. EACH INDIVIDUAL SHEET MAY CONTAIN SUPPLEMENTARY GENERAL NOTES THAT PERTAIN TO THAT SPECIFIC DRAWING OR DRAWING SERIES. ALL SYMBOLS AND / OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. ANY ADDITIONS OR OMISSIONS FROM THIS SHEET DOES NOT IMPLY INCLUSION AND / OR EXCLUSION OF ANY PARTICULAR ITEMS FROM THE PROJECT. GENERAL NOTES AS FOLLOWS:
2. THE ENTIRE PLUMBING SYSTEM SHALL BE IN ACCORDANCE WITH THE 2025 BUILDING CODE OF NEW YORK STATE, 2025 PLUMBING CODE OF NEW YORK STATE, 2025 ENERGY CONSERVATION CODE OF NEW YORK STATE AND REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
3. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PLUMBING SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY LOCAL, STATE AND FEDERAL CODES.
4. THE CONTRACTOR. SHALL COORDINATE ALL FEES RELATED TO PERMITTING, INSPECTIONS, TAP-ON FEES, ETC., WITH THE PRIME CONTRACTOR.
5. PLUMBER TO MAKE ALL BUILDING SITE PIPING AND BUILDING ENVELOPE PENETRATIONS AT 5'-0" FROM INTERIOR FACE OF BUILDING TO SITE UTILITY PIPING/CONDUIT INCLUSIVE OF THE FOLLOWING:
   A. BUILDING SANITARY, STORM, BUILDING WATER SUPPLY/FIRE PROTECTION PIPING
   B. EXCAVATION, BACKFILL AND COMPACTION TO ACCOMMODATE ALL UNDERGROUND WORK
   C. FIELD VERIFY EXACT LOCATION, DEPTH AND COMPOSITION OF SITE SERVICES. COORDINATE ALL WORK WITH SITE CONTRACTOR AND PRIME CONTRACTOR.
6. THE PIPING ON THESE PLANS ARE DIAGRAMATIC. COORDINATE ALL PLUMBING EQUIPMENT, ACCESSORY AND DISTRIBUTION NETWORKS INSTALLATION WITH FACILITY, STRUCTURE, CEILINGS, LIGHTING, CONDUIT, DUCTWORK, MECHANICAL PIPEWORK, EQUIPMENT AND CONDENSATE DRAIN PIPING. PREPARE AND SUBMIT FULL COORDINATION DRAWINGS OF SYSTEMS TO ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS.
7. PLUMBING EQUIPMENT AND VALVES DENOTED ON SCHEDULES IS BASIS OF DESIGN. IF LISTED IN SPECIFICATIONS OTHER MANUFACTURERS MAY BE ACCEPTABLE IF THEY CAN PROVIDE EQUIPMENT THAT MEETS CHARACTERISTICS/ CONFIGURATIONS SHOWN ON DRAWINGS AND CAPACITIES/PERFORMANCE LISTED ON EQUIPMENT SCHEDULES AND SPECIFCATIONS AND IF EQUIPMENT WILL FIT AND FUNCTION PROPERLY IN AVAILABLE MECHANICAL ROOM SPACE.
8. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTRUCTIONS.
9. DO NOT SHUT DOWN ANY MECHANICAL, PLUMBING, FIRE PROTECTION, NATURAL GAS,. OR RELATED SYSTEMS WITHOUT CAMPUS PRIOR WRITTEN APPROVAL. FOLLOW ALL CAMPUS REQUIREMENTS AND SHUT DOWN PROCEDURES AS WELL AS ALL REQUIREMENTS OF THIS PROJECT.
10. IF REQUIRED, PROVIDE SHUT DOWNS AND TIE-INS DURING OFF HOURS TO AVOID DISRUPTION OF BUILDING SYSTEMS. PROVIDE TEMPORARY DOMESTIC WATER AND SANITARY CONNECTIONS FOR CONSTUCTION PERSONEL
11. ALL PIPEWORK ABOVE THE FIRST FLOOR SLAB IS NOT ACCESSIBLE DUE TO ACM LADEN CEILINGS AND ROOF STRUCTURE COMPONENTS. REMOVAL DRAWINGS ARE BASED ON INFORMATION FROM RECORD DRAWINGS. EXACT LOCATIONS OF PIPING MAY VARY FROM THAT SHOW ON REMOVAL DRAWINGS AND SHOULD BE CONSIDERED IN BID TABULATION AND DOCUMENTED IN CONFORMED DRAWING SET. ALL EFFORTS HAVE BEEN MADE TO SURVEY EXISTING SITE CONDITIONS AND ROUTING OF PIPEWORK.
12. FIELD VERIFY EXACT LOCATION, DEPTH, COMPOSITION AND CONDITION OF ALL PIPING, VALVES AND SYSTEMS AS REQUIRED FOR WORK OF THE CONTRACT.
13. PROVIDE SCHEDULE 40 BLACK STEEL PIPE SLEEVES FOR ALL WALLS, FOUNDATION WALLS, SLABS FLOORS AND/OR UNDERGROUND STRUCTURES. REFER TO THE PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS. COORDINATE COMPOSITION OF MATERIALS WITH INSTALLATION BY PRIME CONTRACTOR.
14. PROVIDE ALL NECESSARY PIPING OFFSETS, FITTINGS AND TRANSITIONS, PIPING REDUCERS AS REQUIRED FOR EQUIPMENT CONNECTIONS. CONTRACTOR SHALL MAKE SUCH CHANGES IN PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK, OBSTACLES AND WORK OF OTHER CONTRACTORS. CONSULT EQUIPMENT MANUFACTURERS DATA FOR ACTUAL PIPIING CONNECTIONS SIZES, INCLUDING, BUT NOT LIMITED TO THOSE SHOWN ON CONTRACT DRAWINGS. INSTALL PIPING
15. PLUMBING SYSTEMS SHALL OPERATE UNDER CONDITIONS OF LOAD WITHOUT UNUSUAL OR EXCESSIVE NOISE OR VIBRATION. UNUSUAL OR EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED.
16. EQUIPMENT, MATERIALS AND LABOR REQUIRED TO COMPLETE THE WORK INCLUDED ON THESE DRAWINGS SHALL BE GUARANTEED TO BE FREE FROM DEFECTIVE MATERIALS AND/OR WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE OF THE PROJECT, UNLESS SPECIFIED OTHERWISE. DEFECTIVE MATERIALS OR WORKMANSHIP OCCURING DURING THIS PERIOD SHALL BE CORRECTED AT NO ADDITIONAL COST.
17. ENSURE ALL SANITARY PIPEWORKS FOR FREE OF DEBRIS DURING COMMISSIONING.
18. CLEAN AND WASH WATER SOFTERN FILTERS AS PART OF COMMISSIONING.

REMOVAL - GENERAL NOTES

1. ALL ASBESTOS ABATEMENT WORK WILL BE EXECUTED BY A LICENSED ASBESTOS ABATEMENT IN ACCORDANCE WITH NEW YORK STATE INDUSTRIAL 56 (1CR56) AND APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. COORDINATE EXTENT OF CONTRACTOR INCIDENTAL ABATEMENT SCOPE WITH PRIME CONTRACTOR AND HAZARDOUS MATERIALS CONTRACTOR
2. FILL IN ALL VACANT PENETRATIONS. REFER TO ASBESTOS ABATEMENT – GENERAL NOTES.
3. BEFORE DEMOLITION WORK IS BEGUN, REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK.
4. CONTRACTOR TO REMOVE THE INDICATED PLUMBING ITEMS AS SHOWN ON THE PLANS. THIS INCLUDES ALL HANGERS, STRAPS AND RELATED MATERIALS AS DIRECTED, THIS MATERIAL SHALL BE REMOVED FROM THE SITE OR TURNED OVER TO SUNY CORTLAND FACILITITES
5. CAP AND SEAL WATER TIGHT ALL POINTS AT WHICH PIPING IS REMOVED FROM PIPING THAT WILL REMAIN. PROVIDE TEMPORARY WATER TIGHT SEALS FOR ALL EXISTING TO REMAIN ROOF PENETRATIONS
6. ALL REMOVAL WORK SHALL COMPLY WITH NFPA 241 AND THE REQUIREMENTS OF SUCF AND SUNY CORTLAND.

ASBESTOS ABATEMENT – GENERAL NOTES

1. INFILLING/FIRE STOPPING OF VACANT PENETRATIONS AS A RESULT OF REMOVALS, ABANDONED PENETRATIONS AND NEW PENETRATIONS TO ACCOMMODATE NEW DISTRIBUTION PIPING. REFER TO SPECIFICATION SECTION 078413 – PENETRATION FIRESTOPPING, SPECIFICATION SECTION 02 82 13 - ASBESTOS ABATEMENT AND HM SERIES DRAWINGS.
2. ALL EQUIPMENT SHOWN ON REMOVAL PLANS IS TO BE DISCONNECTED BY ABATEMENT, UNLESS NOTED OTHERWISE. COORDINATE WITH ABATEMENT FOR REMOVAL AND DISPOSAL OF EQUIPMENT AND ASSOCIATED DISTRIBUTION NETWORKS.
3. ASBESTOS-CONTAINING SPRAY ON FIREPROOFING, ASSOCIATED OVERSPRAY AND DEBRIS IS LOCATED THROUGHOUT THE BUILDING, INCLUDING ABOVE CEILING SYSTEMS, WITHIN CAVITIES AND EQUIPMENT. THIS MATERIAL IS LOCATED ON STRUCTURAL STEEL BEAMS AND COLUMNS AND ASSOCIATED OVER-SPRAY EXISTS ON ADJACENT ARCHITECTURAL AND MECHANICAL ITEMS ALL CONSTRUCTION PERSONEL ACKNOWLEDGE THAT THE FOLLOWING CONDITIONS EXIST AND MUST CONDUCT WORK ACCORDINGLY AS IT RELATES TO THESE ITEMS/MATERIALS:
   - ALL EXISTING CEILING SYSTEMS, INCLUDING SUSPENDED CEILING TILES, T-GRID COMPONENTS, HANGERS, ETC. ARE CONSIDERED ASBESTOS.CONTAMINATED.
   - ALL BUILDING COMPONENTS LOCATED ABOVE OR MOUNTED INTO THE EXISTING CEILING SYSTEMS, INCLUDING DUCTWORK, PIPING, CONDUITS, CABLING, SPEAKERS, SMOKE DETECTORS, ETC. ARE CONSIDERED ASBESTOS.CONTAMINATED.
   - ALL WALL CAVITIES, INCLUDING PIPE CHASES, PLENUMS, ETC. ARE CONSIDERED ASBESTOS.CONTAMINATED.
   - ALL BUILDING COMPONENTS LOCATED WITHIN OR MOUNTED INSIDE THE EXISTING WALL SYSTEMS, INCLUDING DUCTWORK, PIPING, CONDUITS, CABLING, SPEAKERS, SMOKE DETECTORS, ETC., ARE CONSIDERED ASBESTOS CONTAMINATED.
4. ALL WORK INVOLVING THE DISURBANCE OR POTENTIAL DISTURBANCE OF ANY OF THE AFOREMENTIONED ITEMS (C) IN ANY WAY, SHALL BE CONSIDERED TO BE AN ASBESTOS PROJECT. ALL SUCH WORK SHALL ONLY BE UNDERTAKEN BY A LICENSED ASBESTOS ABATEMENT UNDER ABATEMENT CONDITIONS. IF AN UNLICENSED CONTRACTOR'S WORK WOULD DISTURB AN ACM, STOP AND IMMEDIATELY NOTIFY THE CONTRACTOR. DISTURBANCE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL, SANDING/ABRADING, CUTTING, PENETRATING, AND SYSTEMS FASTENING TO.
5. COORDINATE ALL WORK WITH CONTRACTOR AND ABATEMENT REMOVAL.

PLUMBING ELECTRICAL COORDINATION NOTES

1. COORDINATE WITH ELECTRICIAN TO ENGERGIZE PLUMBING EQUIPMENTS AND FIXTURES FOR TESTING AND COMISSIONING.
2. COORDINATE WITH ELECTRICIAN TO DE-ENERGIZE AND MAKE SAFE ALL PLUMBING EQUIPMENT DURING DEMOLITION PHASE OF PROJECT.
3. PLUMBER RESPONSIBLE FOR INSTALLATION OF:
   - SUBMERSIBLE PUMP IN ELEVATOR SHAFT AND ASSOCIATED CONTROL BOX
   - DOMESTIC HOT WATER TEMPERATURE GAUGES, ELECTRONIC PRESSURE GAUGES, MIXING VALVE AND CONTROL BOXES.

PLUMBING LINETYPE LEGEND

	ARCHITECTURAL BACKGROUND
(E) / (ETR)	EXISTING / EXISTING TO REMAIN
	EXISTING TO BE REMOVED
	NEW WORK
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHW	DOMESTIC HOT WATER
140	
DHWR	DOMESTIC HOT WATER RETURN
FW	FILTERED WATER
NG	NATURAL GAS
GW	GREASE WASTE
SAN	SANITARY WASTE
ST	STORM PRIMARY DRAIN
STO	STORM OVERFLOW DRAIN
V	VENT

PLUMBING SYMBOLS LEGEND

	POINT OF DISCONNECTION
	POINT OF CONNECTION
	PIPE TURNED UP
	PIPE TURNED DOWN
	BRANCH OFF BOTTOM OF PIPE
	BRANCH OFF TOP OF PIPE
	GENERIC SHUTOFF VALVE (REFER TO SPECS FOR SPECIFIC TYPE OF VALVE)
	UNION
	FLANGE
	PIPE BREAK
	P-TRAP
FCO	FLOOR CLEANOUT
	FLOOR DRAIN (ROUND OR SQUARE)
CO	CLEANOUT
GA	GREASE ARRESTOR
1	EQUIPMENT ID
	RPZD / DDCV (REFER TO SPEC. FOR DETAILS)
	PRESSURE GAUGE
	CHECK VALVE
	BALANCE VALVE
WHA (A)	WATER HAMMER ARRESTOR (A) = SIZE DESIGNATION
	PRESSURE REDUCTION VALVE

PLUMBING ABBREVIATIONS

%	PERCENT
AC	ALTERNATING CURRENT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AMP	AMPERE
APPROX	APPROXIMATE
AVG	AVERAGE
BHP	BRAKE HORSEPOWER
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
C TO C	CENTER TO CENTER
CA	COMPRESSED AIR
CFH	CUBIC FEET PER HOUR
CO	CLEAN OUT
COND	CONDENSATE
CONT	CONTINU (-ED), (-OUS), (-ING)
CU FT	CUBIC FOOT
CU IN	CUBIC INCH
CV	COEFFICIENT, VALVE FLOW
CWS	COLD WATER SUPPLY
DC	DIRECT CURRENT
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DEG	DEGREE
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DN	DOWN
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
EC	ELECTRICAL CONTRACTOR
EF	EXHAUST FAN
EFF	EFFICIENCY
ELEV	ELEVATION
EQIV FT	EQUIVALENT FOOT
EQIV IN	EQUIVALENT INCHES
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EXIST, (E)	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FLA	FULL LOAD AMPS
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FOOT
FU	FIXTURE UNIT
GAL	GALLON
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
HD	HEAD
HGT	HEIGHT
HP	HORSEPOWER
HPS	HIGH PRESSURE STEAM
HR	HOUR
HTHW	HIGH TEMPERATURE HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ / FREQUENCY
ID	DIAMETER, INSIDE
IN	INCH
IPS	IRON PIPE SIZE
kW	KILOWATT
LAV	LAVATORY
LB	POUND
LF	LINEAR FOOT
LG	LENGTH
LPS	LOW PRESSURE STEAM
MATL	MATERIAL
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPS
MER	MECHANICAL ROOM
MIN	MINIMUM
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NG	NATURAL GAS
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OD	DIAMETER, OUTSIDE
ODWH	ON DEMAND WATER HEATER
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP OR DIFFERENCE
PH	PHASE (ELECTRICAL)
PS	PRESSURE SWITCH
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
RD	ROOF DRAIN
RECIRC	RECIRCULATION
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE
SAN	SANITARY
SF	SQUARE FOOT
SPEC	SPECIFICATION
SQ IN	SQUARE INCH
SST	SECONDARY STORM
ST	STORM
STD	STANDARD
TBD	TO BE DETERMINED
TC	TEMPERATURE CONTROL CONTRACTOR
TEMP	TEMPERATURE
TS	TAMPER SWITCH
TYP	TYPICAL
UIS	UNDERSLAB
UR	URINAL
V	VOLT
V	VENT
VAR	VARIABLE
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
VTR	VENT THROUGH ROOF
W	WATT
W	WITH
W/O	WITHOUT
WC	WATER CLOSET

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Project Manager:	M.R.

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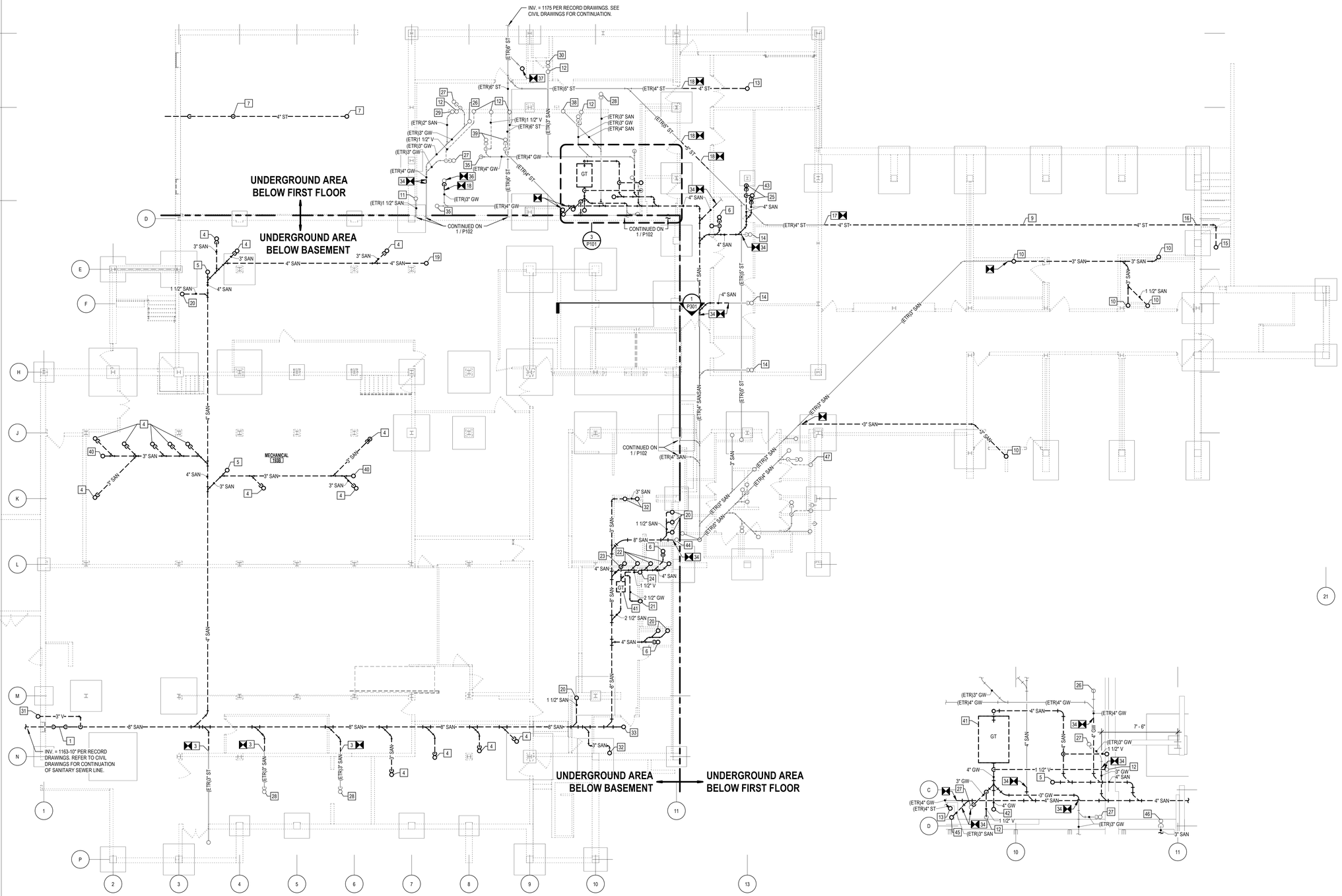
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P001
PLUMBING NOTES AND LEGENDS

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1 P101 UNDERGROUND PLUMBING WASTE REMOVAL PLAN
1/8" = 1'-0"

3 P101 ENLARGED PLUMBING WASTE REMOVAL PLAN - GREASE TRAP
1/4" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. CONTRACTOR TO SAW CUT, DEMOLISH AND DISPOSE OF ALL CONCRETE. REMOVE ALL UNDERSLAB SANITARY/WASTE DRAINAGE AND FLOOR DRAINS UNLESS NOTED OTHERWISE ON DRAWINGS.
2. TRENCHES TO REMAIN OPEN FOR INSTALLATION OF NEW PIPEWORK. PROVIDE TEMPORARY COVERS OVER TRENCHES AND MAKE SAFE.
3. PROVIDE TEMPORARY EXHAUST AND DUST MITGATION WHEN USING GAS POWERED EQUIPMENT AND JACKHAMMERS IN BASEMENT.
4. PROVIDE TRENCH SUPPORT FOR ALL TRENCHES AND EXCAVATIONS DEEPER THAN 4'-0" PER OSHA GUIDELINES.

KEYED NOTES

1. SAW CUT CONCRETE SLAB, EXCAVATE AND REMOVE HOUSE TRAP.
3. REMOVE UNDERSLAB SANITARY PIPEWORK UP TO ELECTRICAL ROOM WALL. UNDERSLAB SANITARY PIPEWORK BENEATH EXISTING ELECTRICAL EQUIPMENT TO REMAIN. AS PER CLIENT REQUEST, CONTRACTOR TO ENGAGE 3RD PARTY ENTITIY TO SCOPE REMAINING LINES DURING DEMOLITION PHASE AND SUBMIT FINDINGS TO COREY UNION FACILITIES. ANY WORK THAT RESULTS FROM THESE FINDINGS IS NOT WITHIN THE SCOPE OF THIS PROJECT.
4. REMOVE 3" SAN UP TO FLOOR DRAIN ABOVE.
5. REMOVE 4" SAN UP TO FLOOR CLEANOUT ABOVE.
6. REMOVE 4" SAN UP TO FLOOR DRAIN ABOVE.
7. REMOVE DRAINS IN PATIO AND ASSOCIATED 4" ST PIPING. PIPES LOCATED IN CRAWL SPACE. PIPEWORK DISCHARGES TO DAYLIGHT AT LOW LEVEL. ACCESS TO CRAWL SPACE VIA LOUVERS ON WESTERN WALL.
9. REMOVE UNDER SLAB STORMWATER PIPEWORK. SAW CUT, DEMOLISH AND DISPOSAL OF CONCRETE SLAB.
10. REMOVE 3" UNDERSLAB SANITARY RISER.
11. EXISTING 1 1/2" SAN UP TO FLOOR ABOVE..
12. EXISTING 1 1/2" V UP TO FLOOR ABOVE TO REMAIN.
13. EXISTING 4" ST UP TO FLOOR ABOVE TO REMAIN.
14. EXISTING CONDENSATION PIPEWORK FOR FREEZERS/COOLERS TO REMAIN.
15. 4" RISER FOR RAINWATER DRAIN AT BASE OF STAIRS. DRAIN SHOWN FOR CLARITY - REFER TO CIVIL ENGINEERS DOCUMENTATION FOR DETAILS OF REMOVAL.
16. FILL IN AND MAKE WATER TIGHT PENETRATION THROUGH STRUCTURAL SLAB.
17. REMOVE UNDERSLAB STORMWATER LINE UP TO EXISTING TO REMAIN FREEZER/COOLERS. CLEAN AND PREPARE END FOR INSTALLATION OF CAP.
18. REMOVE TO POINT SHOWN AND CAP REMAINING.
19. REMOVE 4" SAN UP TO FLOOR ABOVE.
20. REMOVE 1 1/2" SAN UP TO FLOOR ABOVE.
21. REMOVE 2 1/2" GW UP TO FLOOR ABOVE.
22. REMOVE 4" SAN UP TO WATER CLOSET ABOVE.
23. REMOVE 3" GW UP TO ABOVE.
24. REMOVE 1 1/2" V UP TO FLOOR ABOVE.
25. REMOVE 4" SAN AND P-TRAP UP TO CONDENSATE FUNNEL ABOVE.
26. EXISTING 4" SAN UP TO FCO TO REMAIN.
27. EXISTING 3" GW UP TO FLOOR SINK TO REMAIN.
28. EXISTING 3" SAN UP TO FLOOR DRAIN TO REMAIN.
29. EXISTING 2" SAN UP TO FLOOR ABOVE TO REMAIN.
30. EXISTING 3" SAN UP TO FUNNEL TO REMAIN.
31. REMOVE EXISTING 3" VENT TO ABOVE.
32. REMOVE 3" SAN UP TO FLOOR ABOVE.
33. REMOVE 6" SAN UP TO FCO.
34. REMOVE TO POINT SHOWN AND PREPARE FOR NEW CONNECTION.
35. EXISTING 4" GW UP TO FCO TO REMAIN.
36. EXISTING 3" GW UP TO FLOOR DRAIN TO REMAIN.
37. REMOVE EXISTING 4" ST UP TO ABOVE.
38. EXISTING 4" SAN UP TO FLOOR ABOVE TO REMAIN.
39. EXISTING 3" GW UP TO TROUGH TO REMAIN.
40. REMOVE 3" SAN UP TO FCO ABOVE.
41. REMOVE IN GROUND GREASE TRAP AND ASSOCIATED PIPEWORK. SAW CUT AND DEMOLISH COMMERCIAL KITCHEN FLOOR. ALLOW PUMPING OF GREASE TRAP CONTENTS BY SPECIALIST BEFORE WORKS ARE CONDUCTED.
42. REMOVE EXISTING 4" GW UP TO FCO.
43. REMOVE 2"V UP TO FLOOR ABOVE.
44. EXISTING 3" VENT UP TO ABOVE TO REMAIN.
45. EXISTING 3" SAN UP TO ABOVE TO REMAIN.
46. REMOVE EXISTING 3" SAN UP TO MOP SINK ABOVE.
47. EXISTING 2" V UP TO FLOOR ABOVE TO REMAIN.

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P101

PLUMBING WASTE REMOVAL PLAN - UNDERGROUND

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1 BASEMENT PLUMBING REMOVAL PLAN
P102 1/8" = 1'-0"

GENERAL NOTES

1. EXISTING STORMWATER PIPEWORK UNDER WALK IN COOLERS AND KITCHEN AREAS TO BE ABANDONED IN PLACE.
2. BATHROOM (1092B) AND DUNKIN DONUTS (COFFEE 1002) TO REMAIN

KEYED NOTES

1. REMOVE GREASE WASTE DRAINS AND VENTS UNDER DUNKIN DONUTS. FLOOR DRAINS TO REMAIN IN POSITION AND REUSED FOR NEW WORK.
2. REMOVE 6" STORMWATER DRAIN AND HANGERS BACK TO BASEMENT PERIMETER WALL.
4. EXISTING 1 1/2" V UP TO FLOOR ABOVE TO REMAIN.
6. EXISTING FLOOR DRAINS TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
7. REMOVE EXISTING 1 1/2" SAN UP TO ABOVE AND DN TO BELOW.
8. REMOVE 6" ST UP TO ABOVE.
9. REMOVE 3" V DN TO BELOW.
10. EXISTING FLOOR CLEANOUT TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
11. REMOVE 3" SAN UP TO FLOOR ABOVE.
12. REMOVE 3" SAN DN TO BELOW.
13. EXISTING 2 1/2" GW UP TO FLOOR DRAIN TO REMAIN.
14. REMOVE EXISTING 2 1/2" GW DN TO BELOW.
15. REMOVE 2" V DN TO WATER CLOSET, REMOVE 4" SAN DN TO BELOW.
16. REMOVE EXISTING WATER CLOSEST, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK BACK TO MAIN. REMOVE 4" SAN THROUGH FLOOR SLAB AND FILL PENETRATION.
17. DISCONNECT AND REMOVE EXISTING URINAL, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK.
18. DISCONNECT AND REMOVE EXISTING LAVATORY, FIXTURE CARRIER, PIPEWORK, AND ASSOCIATED APPURTANCES.
19. EXISTING 1 1/2" SAN UP TO ABOVE TO REMAIN.
20. REMOVE EXISTING 4" SAN DN TO BELOW.
21. REMOVE TO POINT SHOWN AND PREPARE FOR NEW CONNECTION.
22. EXISTING 3" SAN UP TO FLOOR DRAIN TO REMAIN.
23. EXISTING 3" GW UP TO FLOOR DRAIN TO REMAIN.
24. REMOVE EXISTING 3" SAN UP TO MOP SINK ABOVE.
25. REMOVE 1 1/2" V UP TO FLOOR ABOVE.
26. EXISTING 4" SAN UP TO MOP SINK TO REMAIN.

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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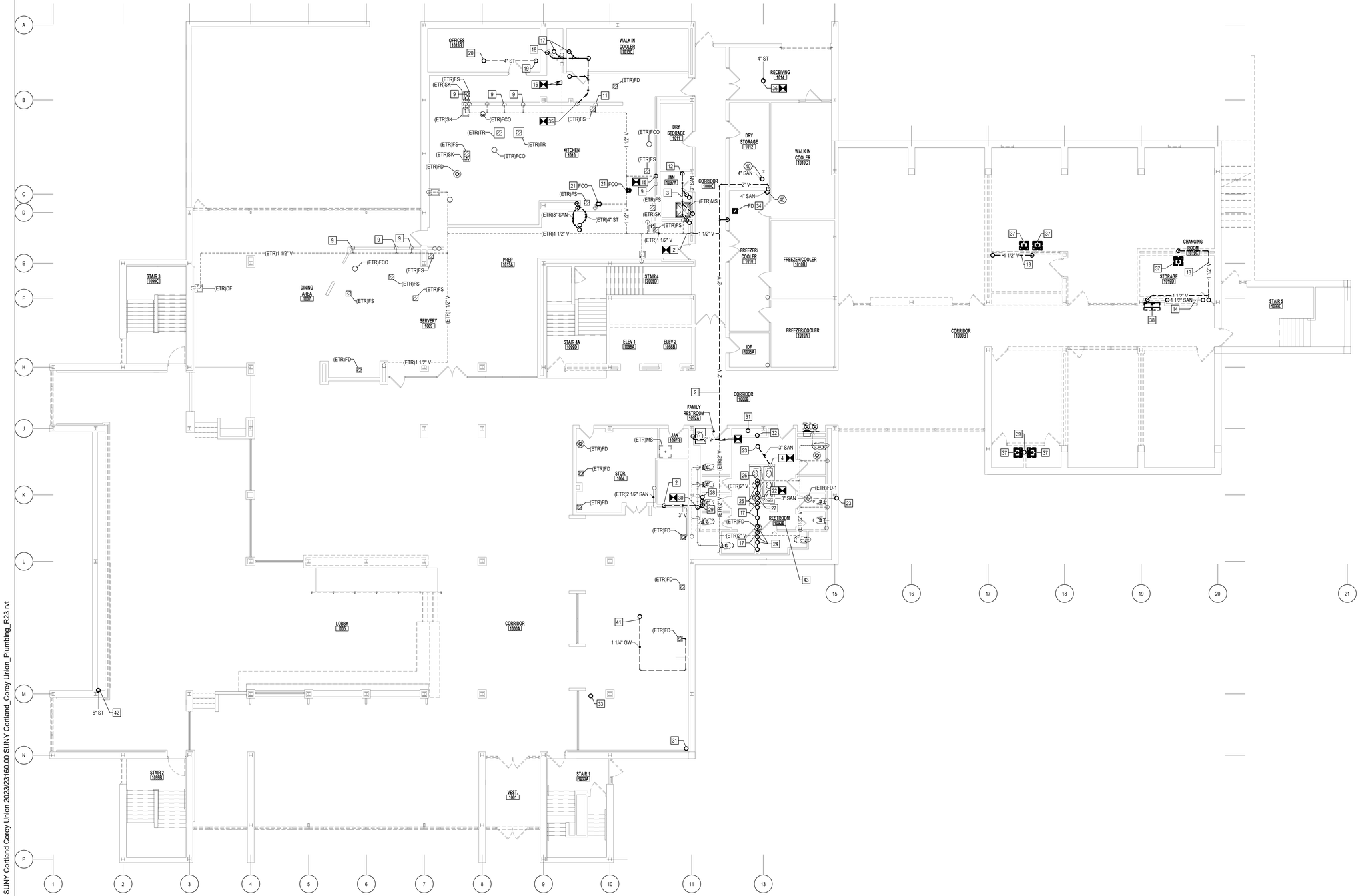
P102

PLUMBING WASTE REMOVAL PLAN - BASEMENT

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1 P103 FIRST FLOOR PLUMBING SANITARY REMOVAL PLAN

1/8" = 1'-0"

KEYED NOTES

2. EXISTING VENTS TO BE DISCONNECTED. NEW VENT LINES TO BE INSTALLED TO SUIT NEW ARCHITECTUAL LAYOUT.
3. EXISTING SANITARY WASTE TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
4. EXISTING SANITARY PENETRATIONS TO FLOOR BELOW TO BE CAPPED OFF BELOW SLAB SOFFIT. PENETRATIONS TO BE FILLED IN.
9. 1 1/2" VENT DOWN TO FLOOR BELOW.
11. EXISTING 1 1/2" V DN TO BELOW TO REMAIN.
12. REMOVE 3" UNDERSLAB SANITARY RISER.
13. EXISTING 1 1/2" VENT LINE AND RISERS TO BE REMOVED.
14. EXISTING 1 1/2" SANITARY LINE AND RISERS TO BE REMOVED
15. CAP EXISTING 1 1/2" V AT FLOOR. RISE TO REMAIN.
16. REMOVE TO POINT SHOWN AND PREPARE FOR NEW CONNECTION.
17. REMOVE 4" SAN UP TO WATER CLOSET ABOVE.
18. REMOVE EXISTING 2" SAN UP TO ABOVE.
19. REMOVE 4" ST DN TO BELOW.
20. REMOVE EXISTING 4" ST UP TO ABOVE.
21. EXISTING FLOOR CLEANOUT TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
22. REMOVE EXISTING 4" SAN DN TO FLOOR AND CAP.
23. REMOVE 3" SAN UP TO FLOOR ABOVE.
24. REMOVE 3" SAN UP TO URINAL ABOVE.
25. REMOVE 1 1/2" SAN UP TO FLOOR ABOVE.
26. REMOVE EXISTING 3" VENT TO ABOVE.
27. REMOVE 4" SAN UP TO FLOOR ABOVE.
28. REMOVE EXISTING 3" SAN UP TO MOP SINK ABOVE.
29. REMOVE 1 1/2" V UP TO FLOOR ABOVE.
30. REMOVE 4" SAN TO ABOVE, 4" SAN DN TO BELOW TO REMAIN.
31. REMOVE EXISTING 3" SAN UP TO ABOVE AND DN TO BELOW.
32. REMOVE 3" ST DN TO FLOOR AND CAP
33. REMOVE EXISTING 1 1/2" SAN UP TO ABOVE AND DN TO BELOW.
34. EXISTING FLOOR DRAINS TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
35. 4" SANITARY DROP TO REMAIN.
36. REMOVE ST DROP FROM ROOF. ROOF DRAIN FIXTURE TO REMAIN.
37. ASBESTOS CONTAINING SINK MASTIC, REMOVAL BY ABATEMENT.
38. DISCONNECT AND REMOVE DRINKING FOUNTAIN. ALL DOMESTIC PIPEWORK IN WALLS TO BE REMOVED.
39. REMOVE LAVATORY SANITARY AND VENT PIPING.
40. REMOVE FUNNEL DRAIN & ASSOCIATED PIPEWORK.
41. REMOVE ABOVE-FLOOR GREASE WASTE PIPING TO FLOOR DRAIN.
42. EXISTING 6" STORM DROP TO BE REMOVED
43. PLUMBING FIXTURES IN THIS BATHROOM TO REMAIN UNLESS SPECIFIED.

0' 2' 4' 8' 16'

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

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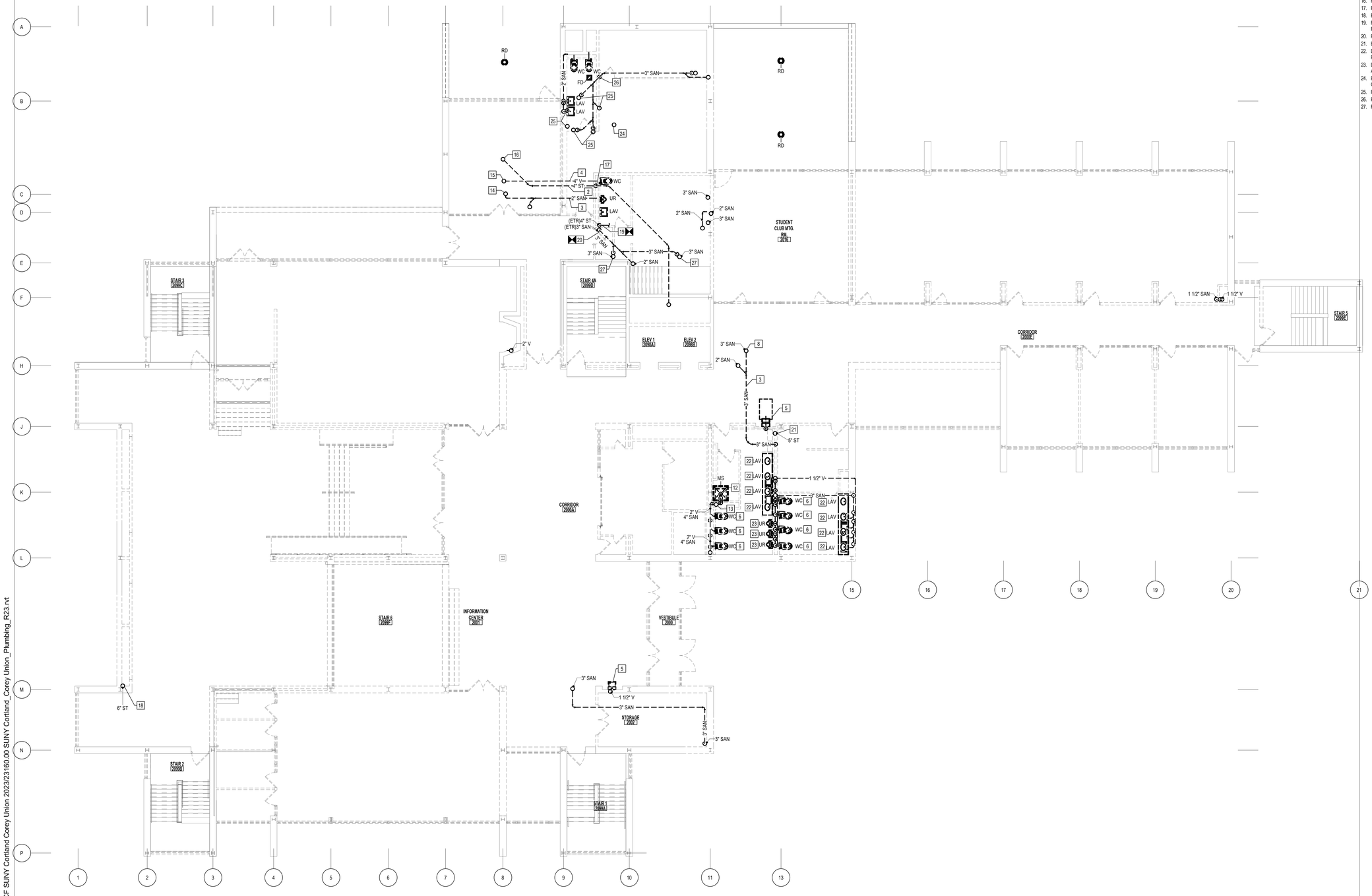
P103

PLUMBING WASTE REMOVAL PLAN - FIRST FLOOR

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1 P104 SECOND FLOOR PLUMBING SANITARY REMOVAL PLAN
1/8" = 1'-0"

KEYED NOTES

2. EXISTING STORMWATER DRAINAGE TO BE DISCONNECTED AND REMOVED.
3. EXISTING SANITARY WASTE TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
4. EXISTING VENTS TO BE DISCONNECTED AND REMOVED.
5. DISCONNECT AND REMOVE DRINKING FOUNTAIN. ALL SANITARY PIPEWORK IN WALLS TO BE REMOVED.
6. REMOVE EXISTING WATER CLOSEST, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK BACK TO MAIN. REMOVE 4" SAN THROUGH FLOOR SLAB AND FILL PENETRATION.
8. EXISTING FLOOR DRAINS TO BE DISCONNECTED AND REMOVED. PENETRATIONS THROUGH SLAB TO BE FILLED IN.
12. REMOVE EXISTING 3" SAN UP TO MOP SINK ABOVE.
13. REMOVE 1 1/2" V UP TO FLOOR ABOVE.
14. REMOVE 1 1/2" SAN UP TO FLOOR ABOVE.
15. REMOVE 4" V UP TO ABOVE.
16. REMOVE EXISTING 4" ST UP TO ABOVE.
17. REMOVE 4" ST DN TO BELOW.
18. EXISTING 6" STORM DROP TO BE REMOVED
19. REMOVE STORM PIPE FROM RD TO RISER . FIELD VERIFY PIPING PATH. 4" RISER TO REMAIN.
20. REMOVE UPSTEAM SANITARY PIPING. SANITARY RISER TO REMAIN.
21. EXISTING 5" STORM DROP TO BE REMOVED
22. DISCONNECT AND REMOVE EXISTING LAVATORY, FIXTURE CARRIER, PIPEWORK, AND ASSOCIATED APPURTANCES.
23. DISCONNECT AND REMOVE EXISTING URINAL, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK.
24. REMOVE 3" SANITARY DROP AND DOWNSTREAM PIPE FROM GARBAGE DISPOSAL ON FLOOR ABOVE. FIELD VERIFY PIPE PATH.
25. REMOVE SANITARY DROP FROM FLOOR ABOVE.
26. REMOVE SANITARY DROP TO FLOOR BELOW.
27. REMOVE 3" SAN UP TO FLOOR DRAIN ABOVE.

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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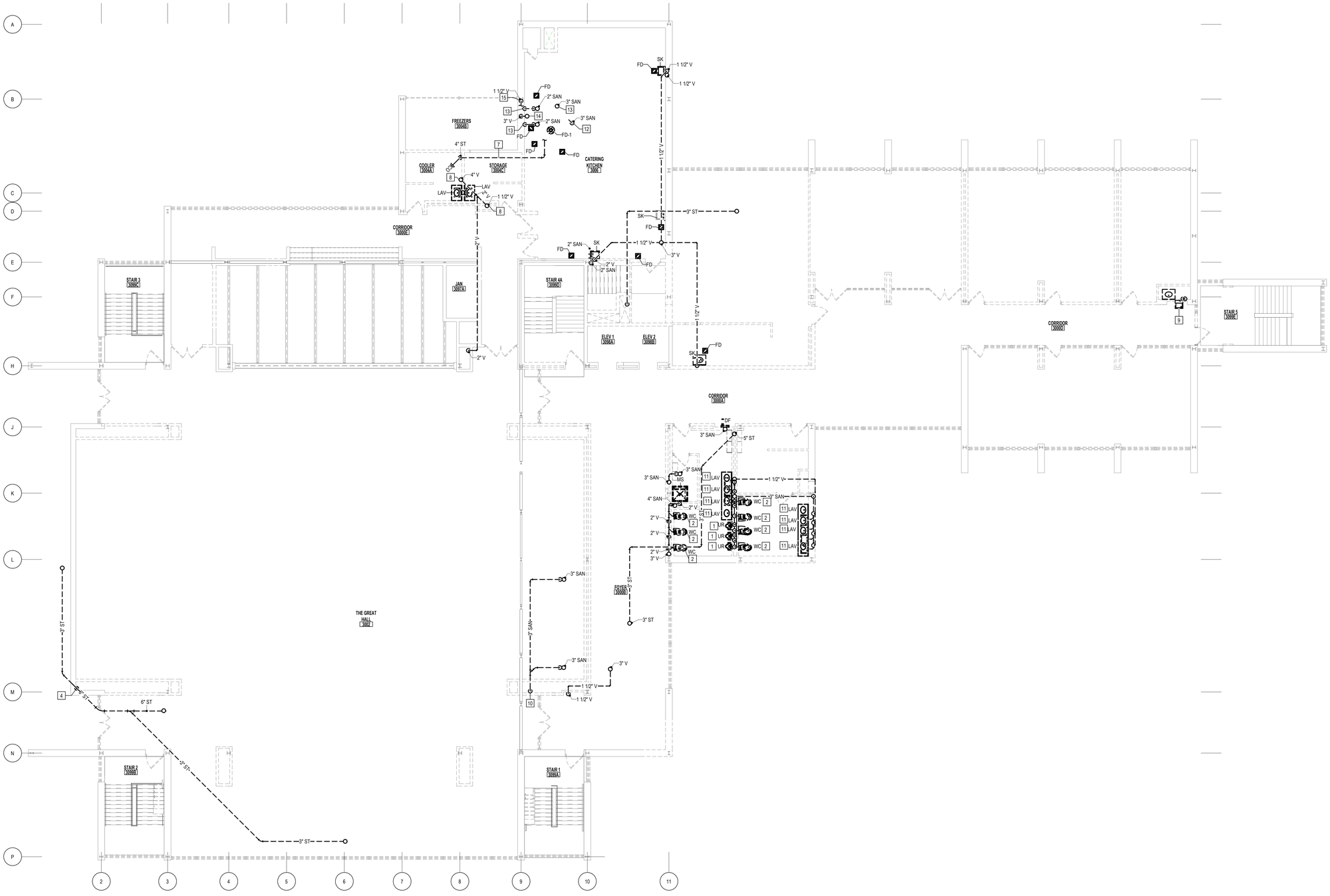
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P104
PLUMBING WASTE REMOVAL PLAN - SECOND FLOOR

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1 P105 THIRD FLOOR PLUMBING SANITARY REMOVAL PLAN

1/8" = 1'-0"

KEYED NOTES

1. DISCONNECT AND REMOVE EXISTING URINAL, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK.
2. REMOVE EXISTING WATER CLOSEST, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK BACK TO MAIN. REMOVE 4" SAN THROUGH FLOOR SLAB AND FILL PENETRATION.
4. EXISTING STORMWATER DRAINAGE TO BE DISCONNECTED AND REMOVED.
7. REMOVE STORM PIPE BACK TO ROOF DRAIN. FIELD VERIFY PIPING PATH.
8. REMOVE EXISTING VENT RISER FROM FLOOR BELOW TO FLOOR ABOVE.
9. DISCONNECT AND REMOVE DRINKING FOUNTAIN. ALL SANITARY PIPEWORK IN WALLS TO BE REMOVED.
10. REMOVE 3" SAN DN TO BELOW.
11. DISCONNECT AND REMOVE EXISTING LAVATORY, FIXTURE CARRIER, PIPEWORK, AND ASSOCIATED APPURTANCES.
12. REMOVE ALL 3" SANITARY PIPE DOWNSTREAM OF GARBAGE DISPOSAL.
13. REMOVE SANITARY DROP TO FLOOR BELOW.
14. REMOVE VENT RISER TO FLOOR ABOVE.
15. REMOVE VENT RISER FROM FLOOR BELOW. FIELD VERIFY PIPE PATH.

0' 2' 4' 8' 16'

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

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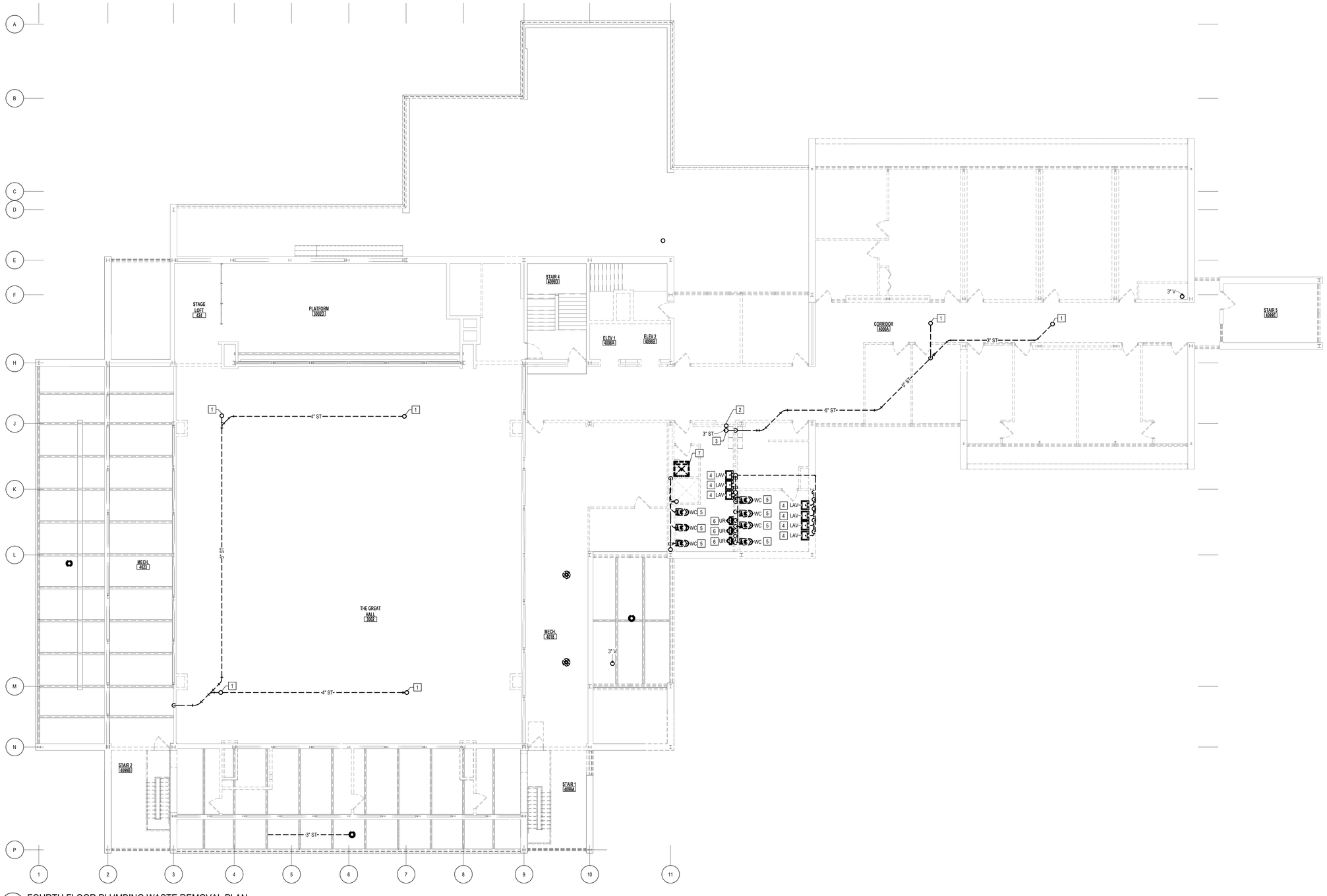
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PLUMBING WASTE REMOVAL PLAN - THIRD FLOOR

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1 P106 FOURTH FLOOR PLUMBING WASTE REMOVAL PLAN

1/8" = 1'-0"

KEYED NOTES

1. REMOVE STORM PIPE BACK TO ROOF DRAIN. FIELD VERIFY PIPING PATH.
2. REMOVE VENT UP TO ROOF AND REMOVE SANITARY DROP TO FLOOR BELOW. REPAIR AND SEAL ROOF PENETRATION.
3. STORMWATER RISE UP TO ROOF DRAIN.
4. DISCONNECT AND REMOVE EXISTING LAVATORY, FIXTURE CARRIER, PIPEWORK, AND ASSOCIATED APPURTANCES.
5. REMOVE EXISTING WATER CLOSEST, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK BACK TO MAIN. REMOVE 4" SAN THROUGH FLOOR SLAB AND FILL PENETRATION.
6. DISCONNECT AND REMOVE EXISTING URINAL, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK.
7. EXISTING JANITORS SINK AND ASSOCIATED PIPEWORK TO BE DISCONNECTED AND REMOVED. EXISTING PENETRATION THROUGH SLAB TO BE FILLED IN.

0' 2' 4' 8' 16'

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

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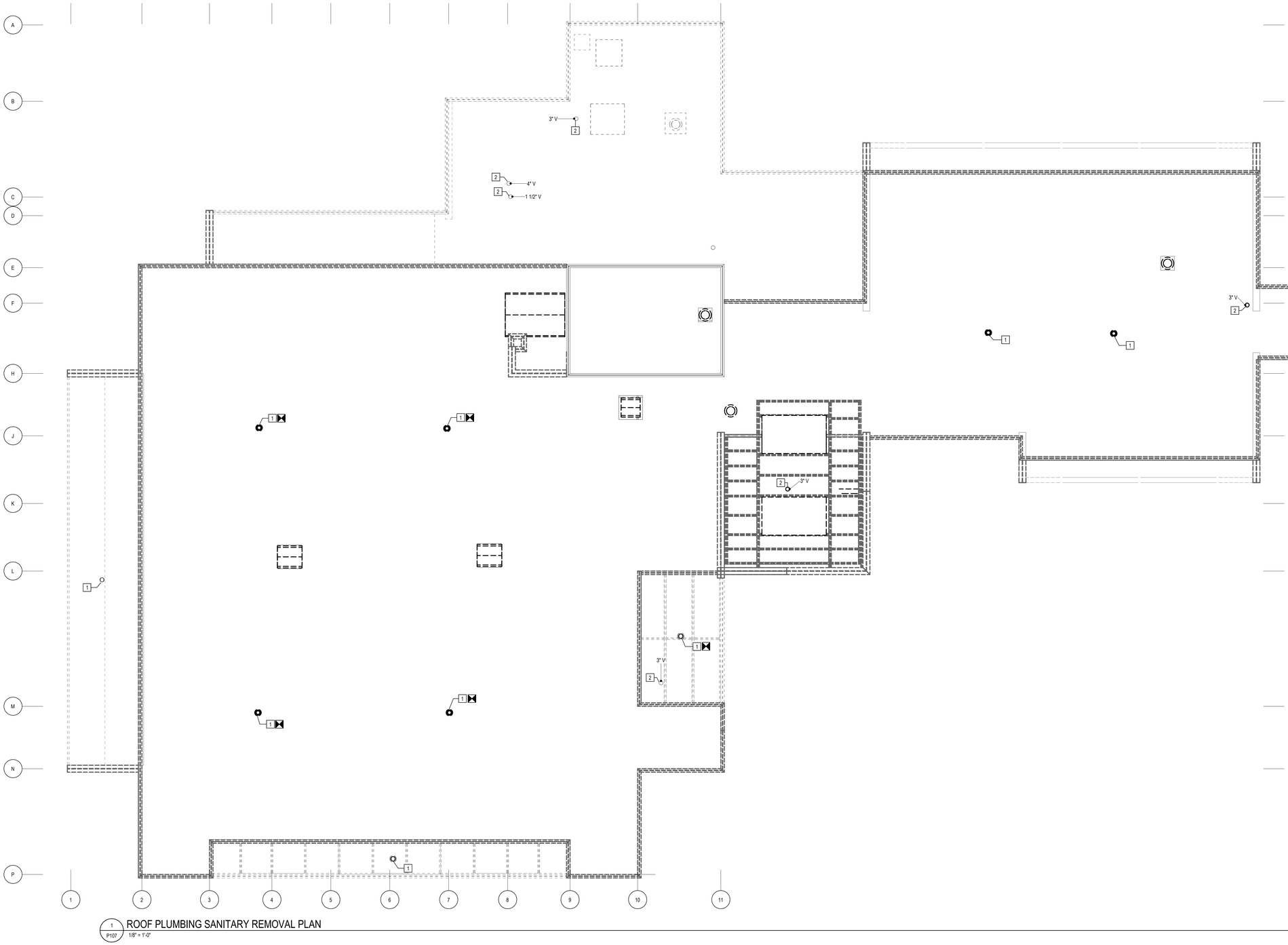
P106

PLUMBING WASTE REMOVAL PLAN - FOURTH FLOOR

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1 P107 ROOF PLUMBING SANITARY REMOVAL PLAN
1/8" = 1'-0"

KEYED NOTES

DISCONNECT AND REMOVE FLOOR DRAIN THROUGH ROOF. EXISTING PENETRATION TO BE REUSED. PROVIDE TEMPORARY COVERINGS AND MAKE WATER TIGHT.

1. DISCONNECT AND REMOVE FLOOR DRAIN THROUGH ROOF. EXISTING PENETRATION TO BE REUSED. PROVIDE TEMPORARY COVERINGS AND MAKE WATER TIGHT.
2. REMOVE SANITARY VENTS THROUGH ROOF. REMOVE FLASHINGS AND BOOT. TEMPORARY SEAL PENETRATION THROUGH ROOF AND MAKE WATER TIGHT.

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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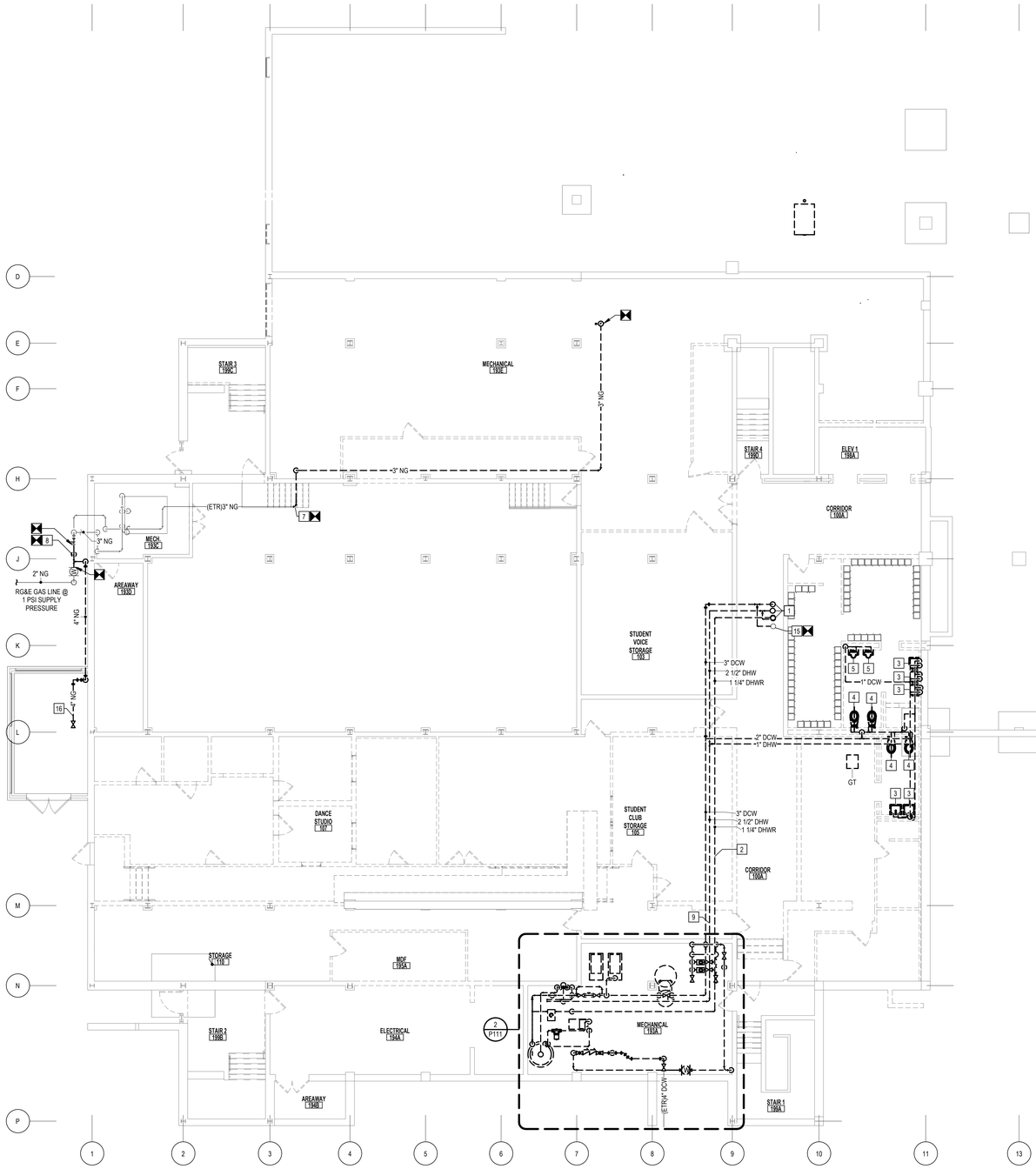
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PLUMBING WASTE REMOVAL PLAN - ROOF

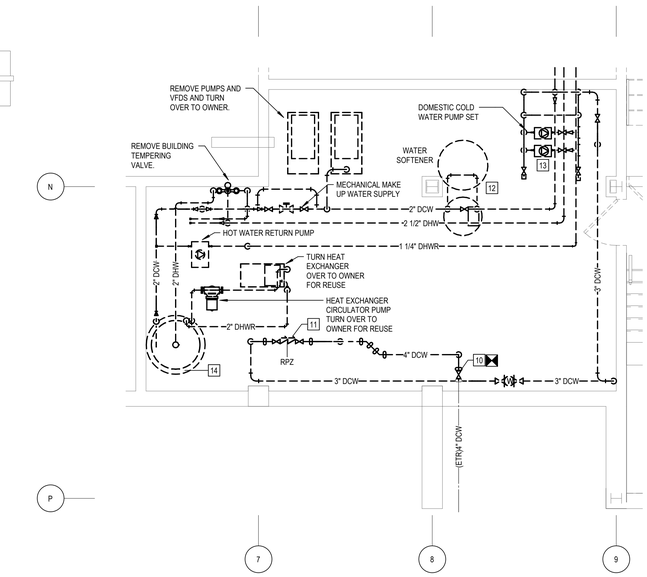
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1 P111 BASEMENT PLUMBING DOMESTIC REMOVAL PLAN
1/8" = 1'-0"



2 P111 BASEMENT PLUMBING DOMESTIC REMOVAL PLAN - ENLARGED FLOOR PLAN
1/4" = 1'-0"

N

0' 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. COORDINATE FINAL SHUT DOWN OF COREY UNION BUILDING WITH BUILDING PERSONEL.
2. COORDINATE TEMPORARY DOMESTIC AND SANITARY CONNECTIONS FOR CONSTRUCTION STAFF. TEMPORARY WATER TO BE USED FOR GENERAL WASHDOWN, MIXING AND TEMPORARY BATHROOMS
3. COORDINATE WITH CONTRACTOR FOR THE DISCONNECTION OF ELECTRICAL SERVICES TO ALL PLUMBING MECHANICAL EQUIPMENT BEFORE REMOVAL.
4. PIPE INSULATION PRESSUMED TO CONTAIN ASBESTOS CONTAINING MATERIAL. REMOVAL OF PIPEWORK INSULATION BY ABATEMENT. REFER TO DRAWING HM-101 FOR DETAILS.

KEYED NOTES

1. DISCONNECT AND REMOVE EXISTING 3" DCW, 2 1/2" DHW, AND 1 1/4" DHWR UP TO FLOOR ABOVE.
2. REMOVE DOMESTIC SERVICES AND HANGERS.
3. DISCONNECT AND REMOVE EXISTING LAVATORY, FIXTURE CARRIER, PIPEWORK, AND ASSOCIATED APPURTANCES.
4. REMOVE EXISTING WATER CLOSEST, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK BACK TO MAIN. REMOVE 4" SAN THROUGH FLOOR SLAB AND FILL PENETRATION.
5. DISCONNECT AND REMOVE EXISTING URINAL, FIXTURE CARRIER, AND ASSOCIATED PIPEWORK.
7. CUT AND REMOVE 3" GAS PIPE AT HIGH LEVEL WITHIN BASEMENT. CLEAN AND PREPARE ENDS OF GAS PIPE FOR RECONNECTION.
8. REMOVE 2" AND 4" GAS LINES AND PIPE HANGERS SERVING EMERGENCY GENERATOR. DISCONNECT GAS PIPE FROM FLANGE ON EXISTING TO REMAIN GAS METER AND UNIONS ON GAS REGULATORS SERVING MECHANICAL BOILERS AND KITCHENS. PURGE COREY UNION GAS LINES AND MAKE SAFE WITH INERT GAS. PROVIDE TEMPORARY LOCK ON GAS MASTER METER TO PREVENT UNAUTHORIZED TAMPERING DURING CONSTRUCTION.
9. PIPEWORK REMOVAL BY ABATEMENT. PRESUMED ASBESTOS CONTAINING MATERIAL FROM FIRE PROOFING OVERSPRAY. REFER TO DRAWINGS HM-101 FOR DETAILS.
10. REMOVE MASTER 4" BUTTERFLY VALVE SERVING DOMESTIC COLD WATER FOR COREY UNION. CLEAN AND PREPARE FLANGE CONNECTION FOR RE-CONNECTION.
11. DISCONNECT AND REMOVE EXISTING DUAL RPZ VALVES. REMOVE DRAINAGE UNDER VALVES.
12. EXISTING WATER SOFTENER TO BE DISCONNECTED AND REMOVED.
13. DISCONNECT AND REMOVE DUPLEX COLD WATER BOOSTER PUMP. COORDINATE WITH CONTRACTOR FOR DISCONNECTION OF ELECTRICAL SERVICES AND MAKE SAFE. TURN DUPLEX PUMP, VALVES AND ACCESSORIES OVER TO SUNY CORTLAND CAMPUS.
14. DISCONNECT AND REMOVE EXISTING HOT WATER STORAGE TANK AND ASSOCIATED CIRCULATING VALVES.
15. CUT DOMESTIC SERVICES SERVING DUNKIN DONUTS AT HIGH LEVEL. CLEAN AND PREPARE PIPEWORK FOR RECONNECTION.
16. DISCONNECT AND REMOVE NATURAL GAS CONNECTION TO EMERGENCY GENERATOR.

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PLUMBING DOMESTIC REMOVAL PLAN - BASEMENT

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GENERAL NOTES

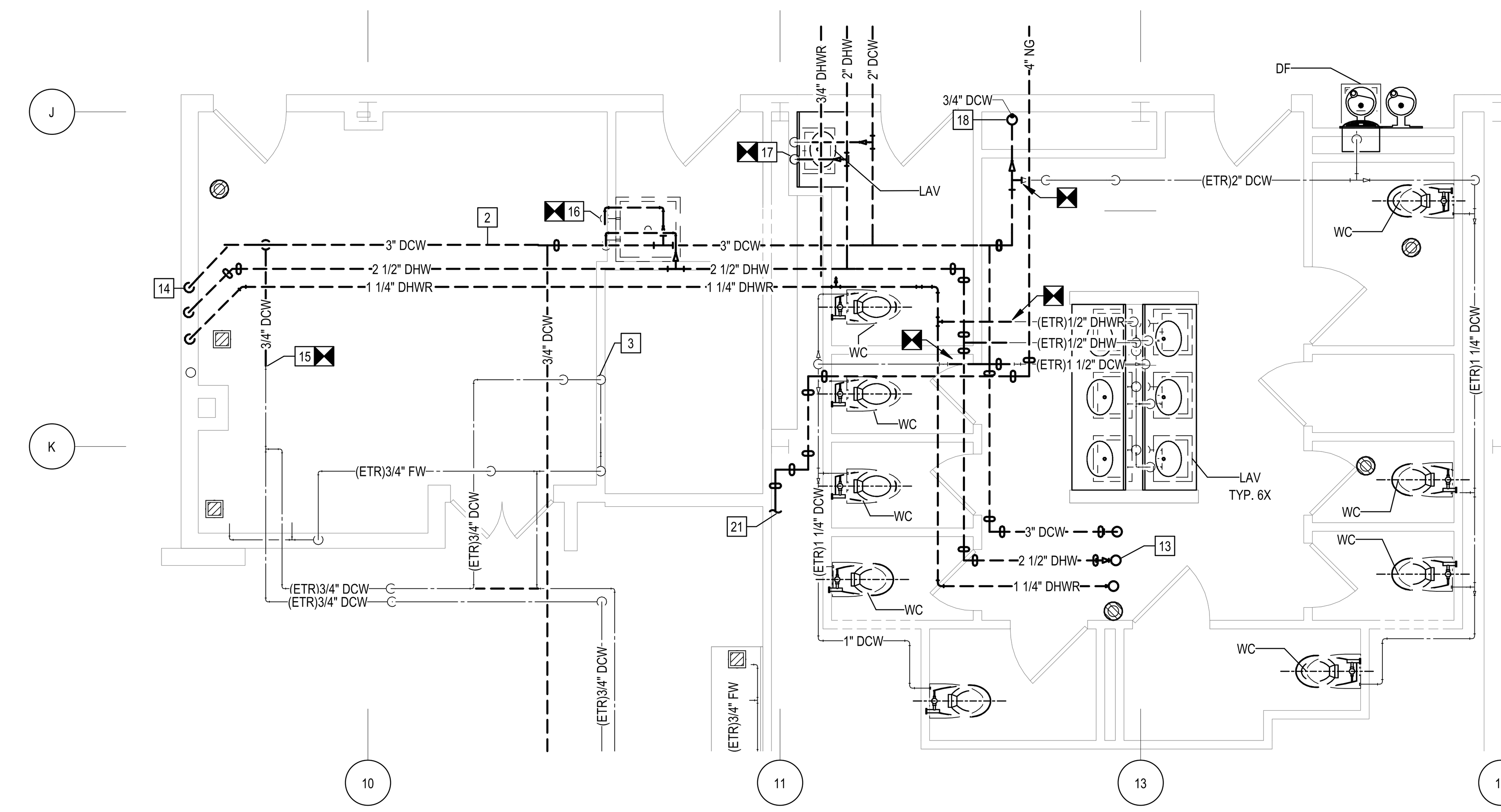
1. PIPE INSULATION PRESSUMED TO CONTAIN ASBESTOS CONTAINING MATERIAL. REMOVAL OF PIPEWORK INSULATION BY HAZARDOUS CONTRACTOR. REFER TO DRAWING HM-102 FOR DETAILS.

KEYED NOTES

1. REMOVE 3/4" DCW UP.
2. REMOVE DOMESTIC SERVICES AND HANGERS.
3. DUNKIN DONUTS COLD WATER AND FILTERED COLD WATER TO REMAIN.
4. EXISTING 3/4" DOMESTIC COLD WATER DROP TO REMAIN.
5. EXISTING 3/4" DCW & 3/4" DHW DOWN TO LEVEL 1 KITCHEN EQUIPMENT.
6. ASBESTOS CONTAINING SINK MASTIC, REMOVAL BY ABATEMENT.
7. 3" NATURAL GAS LINE UP FROM BASEMENT. DOMESTIC SERVICES DROP FROM FIRST FLOOR CEILING DOWN TO KITCHEN UNITS.
8. 3/4" COLD WATER DROP FROM CEILING DOWN TO KITCHEN SODA DISPENSING UNIT.
9. DOMESTIC SERVICES DROP FROM CEILING DOWN TO KITCHEN EQUIPMENT.
10. CUT NATURAL GAS ELBOW, CLEAN AND PREPARE NATURAL GAS LINE FOR RECONNECTION. PURGE AND MAKE SAFE BEFORE CUTTING.
11. ABANDONED IN PLACE NATURAL GAS LINE IN CEILING. REMOVE PIPEWORK AND HANGERS.
12. CAPPED NATURAL GAS STUB ON EXTERIOR OF BUILDING. EXCAVATE AND REMOVE GAS PIPEWORK. SEAL AND MAKE WATER TIGHT CORE HOLE THROUGH BUILDING EXTERIOR.
13. REMOVE 2 1/2" DCW, 1 1/2" DHW, AND 3/4" DHWR UP TO FLOOR ABOVE. PENETRATIONS TO FLOOR ABOVE TO BE FILLED IN.
14. EXISTING 3", 2 1/2" & 1 1/4" DOMESTIC SERVICES DROP TO BASEMENT. DISCONNECT AND REMOVE PIPEWORK. EXISTING PENETRATIONS THROUGH SLAB TO REMAIN. ENLARGEMENT OF CORE HOLES REQUIRED FOR INSTALLATION OF NEW DOMESTIC PIPEWORK.
15. CUT AND REMOVE COLD WATER LINE SERVING DUNKIN DONUTS WITHIN CEILING SPACE. CLEAN AND PREPARE PIPEWORK FOR RECONNECTION. DOMESTIC PIPEWORK SERVING DUNKIN DONUTS OUT OF SCOPE.
16. REMOVE DOMESTIC PIPEWORK SERVING MOP SINK WITHIN CEILING SPACE. PREPARE VERTICAL DOMESTIC PIPES WITHIN WALL FOR RECONECTION. PIPES ACCESSIBLE WITHIN CEILING SPACE.
17. REMOVE DOMESTIC PIPEWORK SERVING EXISTING TO REMAIN LAVATORY WITHIN CEILING SPACE. PREPARE VERTICAL DOMESTIC PIPES WITHIN WALL FOR RECONECTION. PIPES ACCESSIBLE WITHIN CEILING SPACE.
18. REMOVE DOMESTIC COLD WATER PIPE. PIPE RISES TO DRINKING FOUNTAIN ON SECOND FLOOR.
19. REMOVE DOMESTIC SERVICES SERVING LEVEL 1 KITCHEN WITHIN CEILING. CLEAN AND PREPARE ENDS FOR RECONNECTION.
20. 2" NG PIPING RISER SERVING PREP 1013A.
21. FIELD VERIFY AND REMOVE NG PIPING CONTINUED FROM THIS BRANCH.



1 P112 FIRST FLOOR PLUMBING DOMESTIC REMOVAL PLAN
1/8" = 1'-0"



2 P112 FIRST FLOOR PLUMBING DOMESTIC REMOVAL PLAN - ENLARGED PLAN
1/4" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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EXPIRATION: 02/28/2027

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PLUMBING DOMESTIC REMOVAL PLAN - FIRST FLOOR

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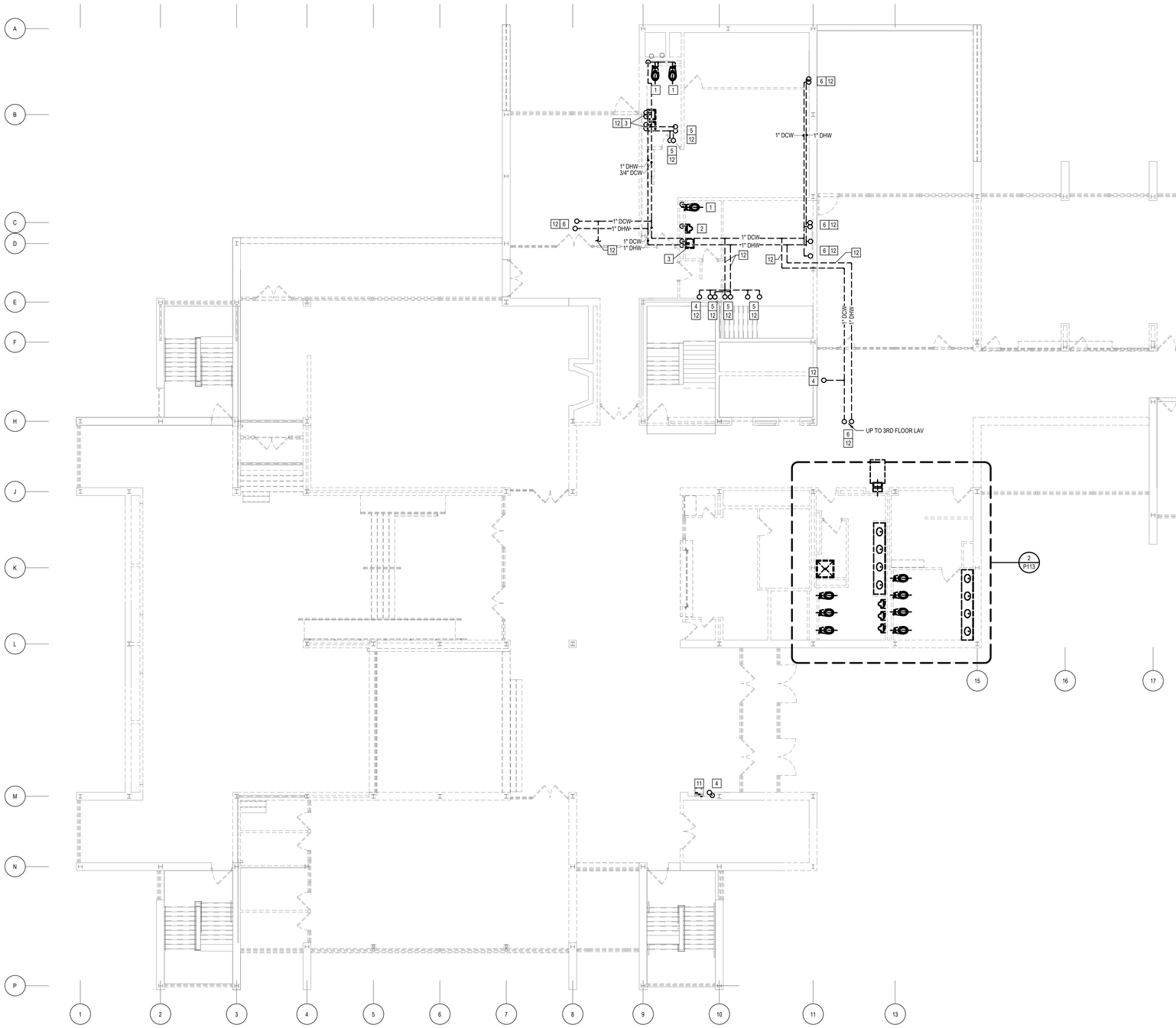
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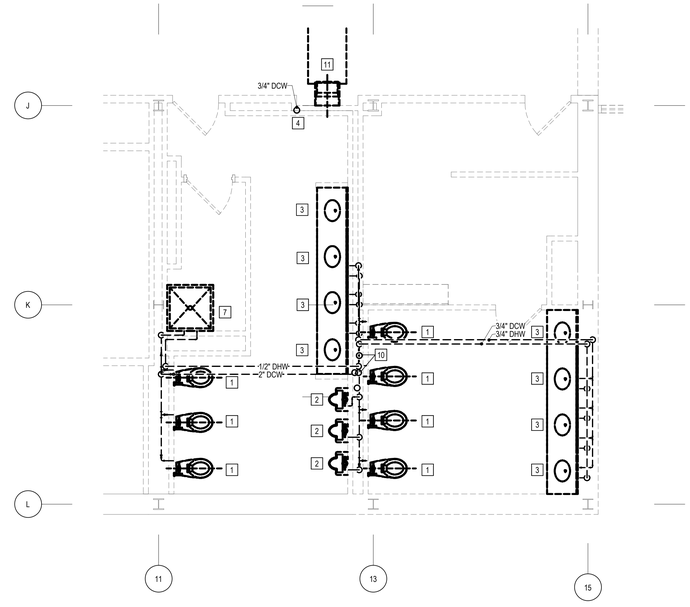
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KEYED NOTES

1. REMOVE WATER CLOSET, ASSOCIATED VALVES AND CARRIERS, AND ASSOCIATED 1" DCW PIPING.
2. REMOVE URINAL, ASSOCIATED VALVES AND CARRIER, AND ASSOCIATED 3/4" DCW PIPING.
3. REMOVE 1/2" DCW AND 1/2" DHW PIPING, LAVATORY, AND ASSOCIATED APPURTENANCES.
4. REMOVE 1/2" DCW UP TO FLOOR ABOVE.
5. REMOVE 1/2" DCW AND 1/2" DHW UP TO FLOOR ABOVE.
6. REMOVE 3/4" DCW AND 3/4" DHW UP TO FLOOR ABOVE.
7. REMOVE MOP SINK, ASSOCIATED VALVES, 1/2" DCW AND 1/2" DHW PIPING.
8. REMOVE 3/4" DCW DOWN TO BELOW.
9. REMOVE 1/2" DCW DOWN TO BELOW.
10. REMOVE 2-1/2" DCW, 1-1/2" DHW, AND 3/4" DHWR UP TO FLOOR ABOVE AND DOWN TO FLOOR BELOW.
11. REMOVE EXISTING DRINKING FOUNTAIN AND ASSOCIATED VALVES AND PIPING.
12. FIELD VERIFY AND REMOVE DCW AND DHW PIPING CONTINUED FROM THIS BRANCH AND ASSOCIATED FIXTURES.



1 P113 SECOND FLOOR PLUMBING DOMESTIC REMOVAL PLAN
1/8" = 1'-0"



2 P113 SECOND FLOOR PLUMBING DOMESTIC REMOVAL PLAN - TOILETS
1/4" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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P113

PLUMBING DOMESTIC REMOVAL PLAN - SECOND FLOOR

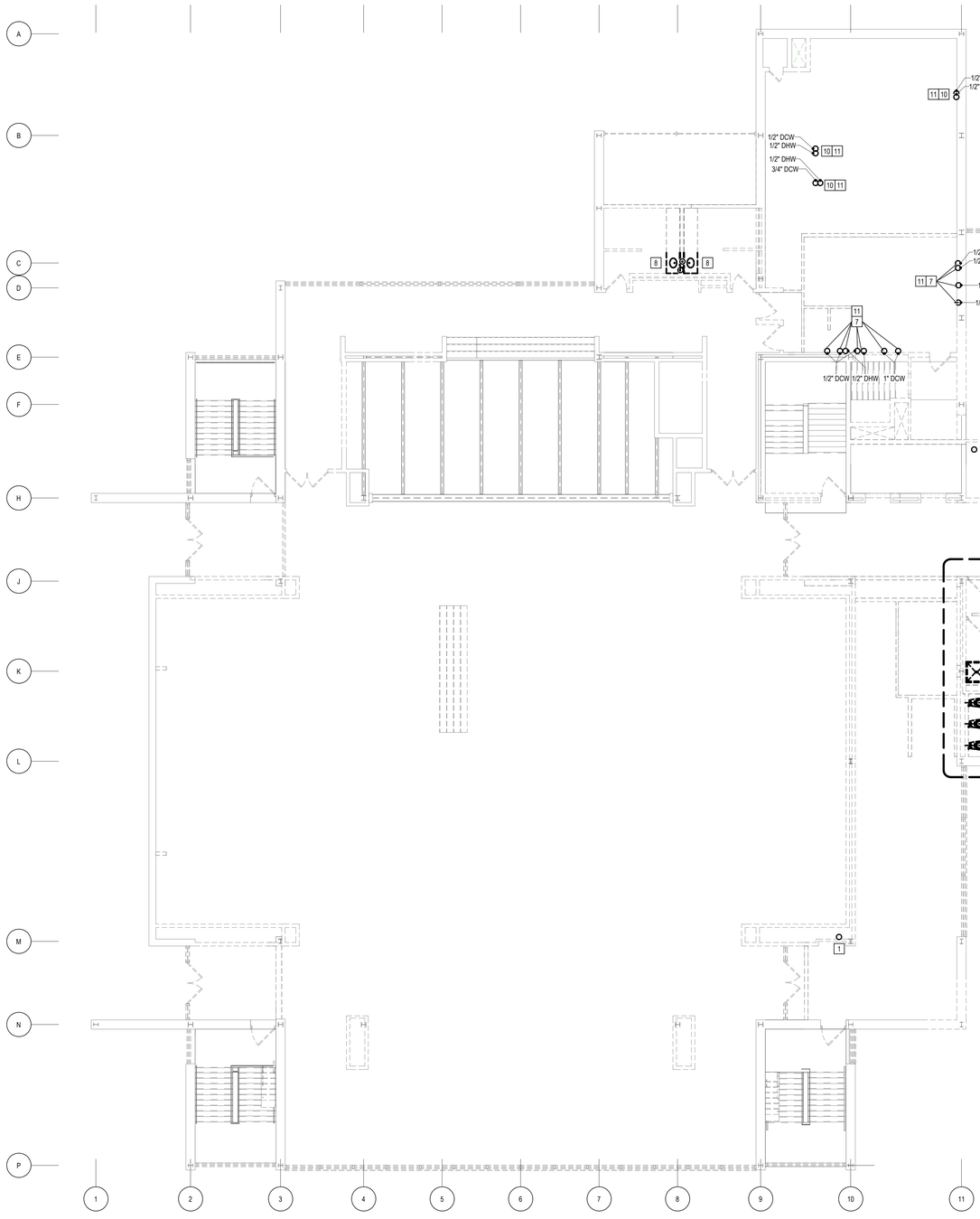
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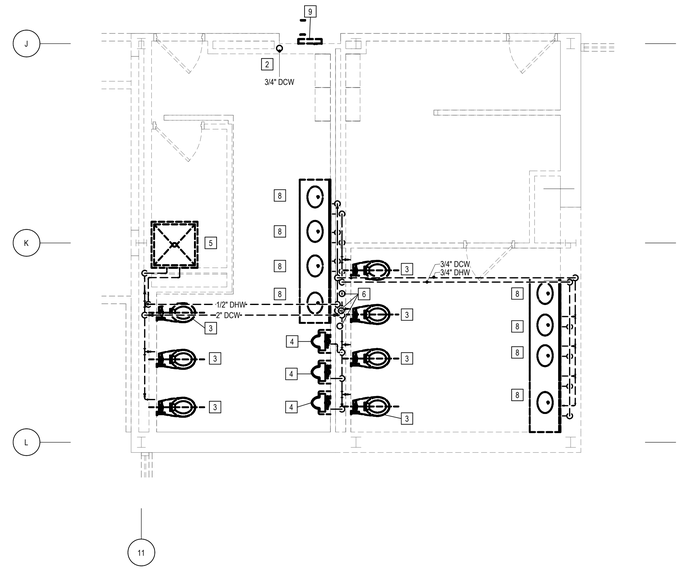
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KEYED NOTES

1. REMOVE 1/2" DCW DOWN TO FLOOR BELOW.
2. REMOVE 3/4" DCW DOWN TO FLOOR BELOW.
3. REMOVE WATER CLOSET AND ASSOCIATED VALVES AND 1" DCW PIPING.
4. REMOVE URINAL, ASSOCIATED VALVES, AND 3/4" DCW PIPING.
5. REMOVE MOP SINK, ASSOCIATED VALVES, 1/2" DCW AND 1/2" DHW PIPING.
6. REMOVE 2" DCW, 1" DHW, AND 3/4" DHWR UP TO FLOOR ABOVE. REMOVE 2-1/2" DCW, 1-1/2" DHW, AND 3/4" DHWR DN TO FLOOR BELOW.
7. EXISTING HOT AND COLD DOMESTIC PIPES FOR KITCHEN TO BE DISCONNECTED AND REMOVED.
8. EXISTING LAVATORY, PIPING AND ASSOCIATED APPURTENANCES TO BE DISCONNECTED AND REMOVED.
9. DISCONNECT AND REMOVE DRINKING FOUNTAIN. ALL SANITARY PIPEWORK IN WALLS TO BE REMOVED.
10. REMOVE 1/2" DCW AND 1/2" DHW DOWN TO FLOOR BELOW. DOMESTIC SERVICE SERVE 3RD FLOOR KITCHEN
11. FIELD VERIFY AND REMOVE DCW AND DHW PIPING RISERS AND ASSOCIATED FIXTURES AND ACCESSORIES.



1 P114 THIRD FLOOR PLUMBING DOMESTIC REMOVAL PLAN
1/8" = 1'-0"



2 P114 THIRD FLOOR PLUMBING DOMESTIC REMOVAL PLAN - ENLARGED VIEW
1/4" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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PLUMBING DOMESTIC REMOVAL PLAN - THIRD FLOOR

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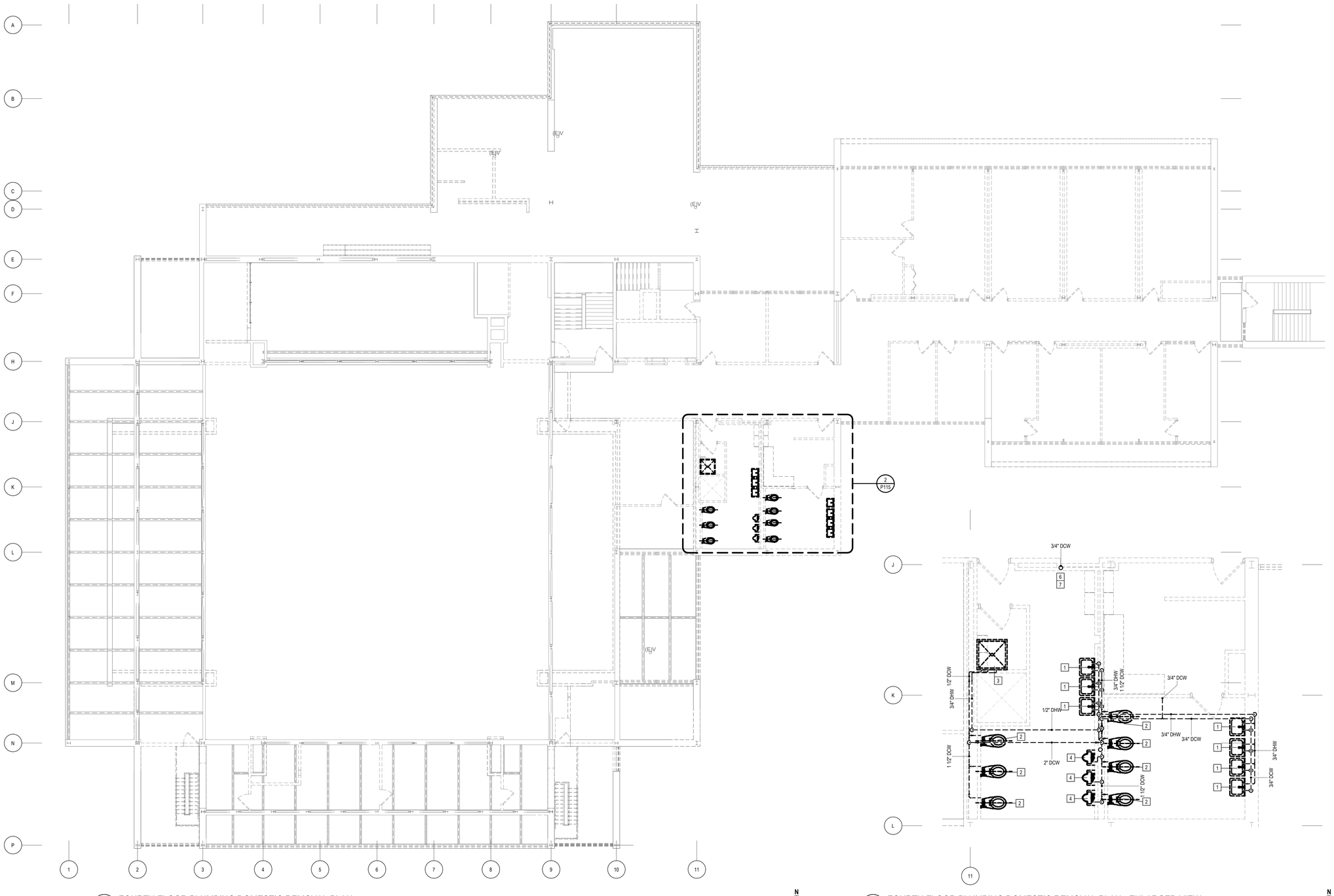
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KEYED NOTES

1. REMOVE 1/2" DCW AND 1/2" DHW PIPING, LAVATORY, AND ASSOCIATED CARRIERS AND VALVES.
2. REMOVE WATER CLOSET, ASSOCIATED VALVES AND CARRIERS, AND 1" DCW PIPING.
3. REMOVE MOP SINK, ASSOCIATED VALVES, 1/2" DCW AND 1/2" DHW PIPING.
4. REMOVE URINAL, ASSOCIATED VALVES, AND 3/4" DCW PIPING.
5. REMOVE 3/4" DCW DOWN TO BELOW.
6. REMOVE 3/4" DOMESTIC COLD WATER RISER
7. FIELD VERIFY AND REMOVE DCW PIPING RISERS AND ASSOCIATED FIXTURES AND ACCESSORIES.



1 P115 FOURTH FLOOR PLUMBING DOMESTIC REMOVAL PLAN
1/8" = 1'-0"

2 P115 FOURTH FLOOR PLUMBING DOMESTIC REMOVAL PLAN - ENLARGED VIEW
1/4" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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PLUMBING DOMESTIC REMOVAL PLAN - FOURTH FLOOR

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GREASE WASTE SIZING

FLOW RATE:
1 X 2 COMPARTMENT SINK (18" X 24" X 14"(2) -1 9.6GPM
3 X 3 COMPARTMENT SINK (24"X24"X14"(3) - 117.8GPM
=137GPM

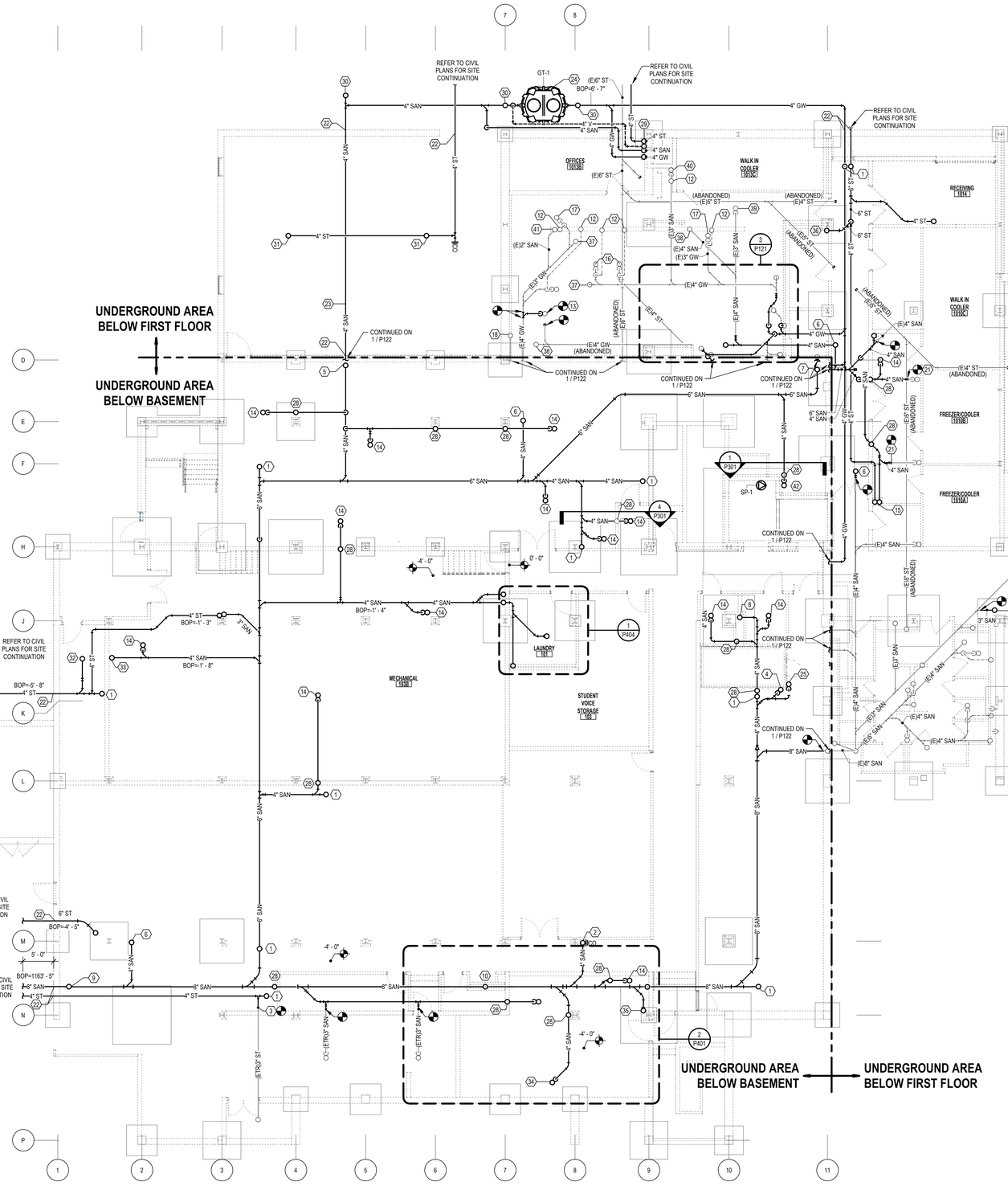
GREASE PRODUCTION:
ASSUMED MEALS PER DAY - 1000
ESTIMATED GREASE PER SERVING - 0.045 LB
DAYS BETWEEN PUMP OUT - 90
=4,095LB GREASE ACCUMULATION

GENERAL NOTES

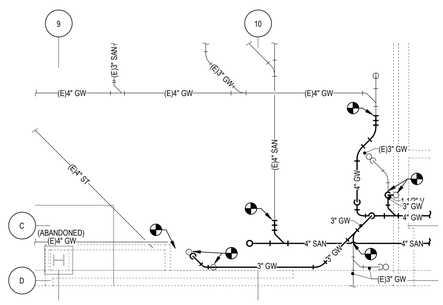
1. ALL SANITARY PIPEWORK TO BE REPLACED UNDERSLAB UNLESS NOTED OTHERWISE.
2. HYDROSTATICALLY TEST ALL PIPEWORK BEFORE BACKFILL OF TRENCHES AND RE-INSTATEMENT OF CONCRETE SLAB.

(#) KEYED NOTES

1. PROVIDE 4" CLEANOUT. INSTALL RISER UP TO FINISHED FLOOR LEVEL.
2. 4" SANITARY RISER. PROVIDE 4" WALL CLEANOUT 1'-0" ABOVE FINISHED FLOOR LEVEL.
3. PROVIDE NEW 4" STORMWATER PIPEWORK FOR LIGHT WELL.
4. PROVIDE 4" RISE FOR COOLER CONDENSATION. LOCATE RISE ON SOUTHERN SIDE OF COOLER TO PREVENT DAMAGE FROM PALLET JACKS.
5. PROVIDE 4" SANITARY RISE FOR GREASE TRAP DISCHARGE.
6. 4" SANITARY RISER.
7. 6" SANITARY RISER.
8. PROVIDE 4" SANITARY WASTE TO CHASE ABOVE.
9. PROVIDE 4" 2-WAY CLEANOUT. INSTALL RISER UP TO FINISHED FLOOR LEVEL.
10. 2" SANITARY UP TO DRINKING FOUNTAIN ABOVE.
11. 3" SANITARY PIPING TO BE EXTENDED FOR NEW FIXTURES.
12. EXISTING 1-1/2" V UP TO FLOOR ABOVE.
13. 3" GW UP TO ABOVE. CONNECT TO EXISTING FLOOR DRAIN ABOVE.
14. 4" SANITARY WITH P TRAP UP TO FLOOR DRAIN.
15. 4" STORM DROP TO BELOW. 4" SANITARY DROP TO BELOW.
16. EXISTING 4" GW UP TO TROUGH ABOVE.
17. EXISTING 3" GW UP TO FLOOR SINK ABOVE.
18. EXISTING 1-1/2" SAN UP TO FLOOR ABOVE.
19. 3" SANITARY RISER.
20. 3" SANITARY UP TO FLOOR DRAIN.
21. RECONNECT ONTO INGROUND SANITARY PIPEWORK FOR COOLER CONDENSATION PIPEWORK.
22. PROVIDE NEW CORE HOLE THROUGH FOUNDATION WALL. ALLOW TO SEAL PENETRATION AND MAKE WATER TIGHT.
23. PROVIDE INSULATION WITH MINIMUM 1" CLOSED CELL THICKNESS. PROVIDE PLASTIC PROTECTIVE JACKET AROUND INSULATION. AREA UNDER TERRACE HEATED BY MECHANICAL DISCHARGE AIR AND UNIT HEATER.
24. INSTALL UNDERGROUND GREASE INTERCEPTOR IN THE CENTER OF GRIDS 7 & 8. STRUCTURAL SHORING REQUIRED AGAINST BUILDING FOOTINGS AND FOUNDATIONS BEFORE EXCAVATION CAN COMMENCE. REFER TO STRUCTURAL ENGINEERS DOCUMENTATION FOR DETAILS. REFER TO SHEET P301 FOR GREASE INTERCEPTOR DETAILS AND EXCAVATION REQUIREMENTS.
25. 4" SANITARY PIPING UP TO TRENCH DRAIN WITH P-TRAP.
26. PROVIDE 3" RISER UP TO FINISHED FLOOR LEVEL FOR FLOOR CLEANOUT.
27. PROVIDE 3" RISER FOR VALVE CONDENSATE DRAIN AND VENT.
28. 2" VENT RISER TO ABOVE.
29. PROVIDE STORMWATER, GREASE TRAP VENT, SANITARY AND GREASE WATER RISER WITHIN CHASE. PROVIDE SAW CUTTING OF FLOOR AND CORE HOLES WITHIN STRUCTURAL FOUNDATION.
30. 4" SANITARY RISER UP TO FINISH GROUND LEVEL. PROVIDE CLEANOUT FLUSH WITH FINISH GROUND LEVEL.
31. PROVIDE 4" STORMWATER RISER UP TO TERRACE DRAIN ABOVE.
32. PROVIDE 4" STORMWATER RISER UP TO DRAIN WITHIN AREAWAY.
33. PROVIDE 4" RISER UP TO TRAPPED WASTE FOR DOMESTIC HOT WATER SYSTEM DRAINS.
34. PROVIDE 6" TRAPPED WASTE FOR RPZ VALVES.
35. PROVIDE 4" HUB DRAIN FOR FIRE PROTECTION DRAIN.
36. 6" STORM DRAIN FROM ABOVE.
37. EXISTING GW UP TO FLOOR CLEAN OUT ABOVE.
38. EXISTING 4" SAN UP TO FLOOR ABOVE.
39. EXISTING 3" GW UP TO FLOOR DRAIN ABOVE.
40. EXISTING 3" SAN UP TO FUNNEL ABOVE.
41. EXISTING 2" SAN UP TO SINK ABOVE.
42. 4" UP TO DRAIN SERVING ELEVATOR SUMP DISCHARGE.



1 P121 — UNDERGROUND PLUMBING WASTE PLAN
1/8" = 1'-0"



3 P121 — ENLARGED UNDERGROUND PLAN - KITCHEN CONN.
1/4" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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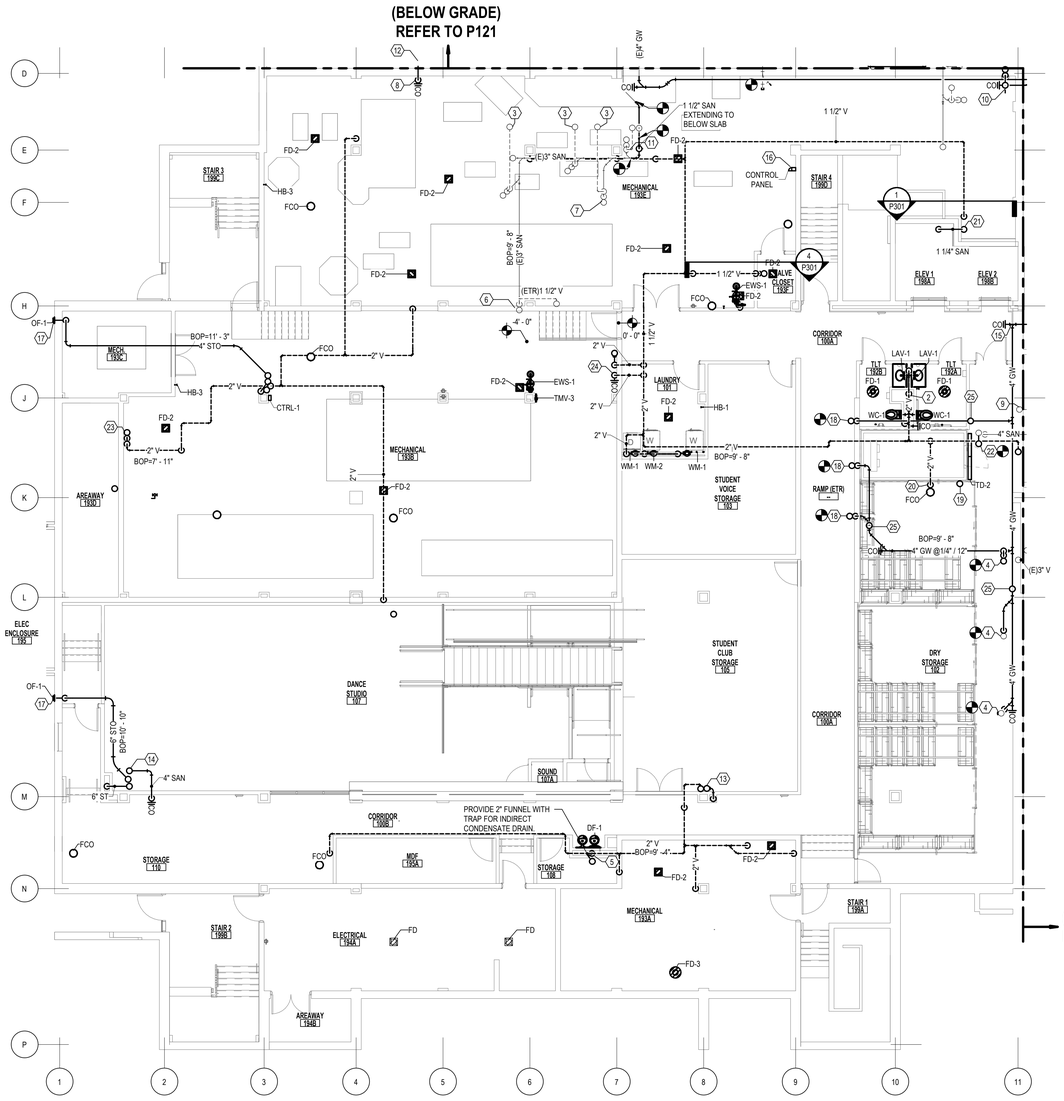
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P121
PLUMBING WASTE PLAN - UNDERGROUND

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1 P122 BASEMENT PLUMBING WASTE PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

KEYED NOTES

2. 2" VENT UP FROM BASEMENT.
3. 1 1/2" VENT UP TO CEILING.
4. EXISTING DUNKIN DONUTS FLOOR DRAINS TO REMAIN. NEW GREASE WASTE LINE TO BE CONNECTED.
5. 2" VENT FROM DRINKING FOUNTAIN BELOW.
6. 3" SANITARY DROP.
7. 3" SANITARY UP TO FLOOR DRAIN.
8. 4" SANITARY DROP TO FLOOR BELOW.
9. 2" SANITARY RISE UP.
10. PROVIDE 6" SANITARY DROP INTO BASEMENT MECHANICAL ROOM. PROVIDE 4" CLEAN OUT 1'-0" ABOVE FINISH FLOOR LEVEL.
11. PROVIDE 4" SANITARY RISER. CONNECT ONTO EXISTING TO REMAIN SANITARY PIPEWORK FOR LEVEL 1 KITCHEN IN CEILING SPACE.
12. PROVIDE NEW CORE HOLE THROUGH FOUNDATION WALL. ALLOW TO SEAL PENETRATION AND MAKE WATER TIGHT.
13. 4" SANITARY AND VENT RISE.
14. 4" SANITARY RISE.
15. PROVIDE CORE HOLE THROUGH BASEMENT FOUNDATION WALL. SAW CUT AND DEMOLISH LEVEL 1 KITCHEN CORRIDOR (SHEET P123) FOR INSTALLATION OF GREASE PIPEWORK. PROVIDE CLEANOUT THROUGH FOUNDATION WALL.
16. PROVIDE CONTROL BOX FOR SUBMERSIBLE PUMP AT BASE OF ELEVATOR SHAFT. REFER TO SHEET P301 FOR DETAILS.
17. PROVIDE 4" STORMWATER OVERFLOW PIPE THROUGH MASONRY WALL. PROVIDE NEW CORE HOLE AND MAKE PENETRATION WATER TIGHT. MECHANICALLY FIX WATER SPOUT TO EXTERIOR WALL.
18. PROVIDE 2" X 4" REDUCER AND CONNECT ONTO EXISTING TO REMAIN FLOOR DRAINS SERVING DUNKIN DONUTS ABOVE.
19. PROVIDE 4" RISE FOR COOLER CONDENSATION. TERMINATE DRAIN AT LOW LEVEL. INSTALL TRAP BELOW SLAB.
20. PROVIDE VENT AND SURFACE MOUNT TO OUTSIDE OF COOLER.
21. 1-1/4" RISING MAIN FROM ELEVATOR SUMP PUMP. REFER TO SHEET P301 FOR DETAILS.
22. PROVIDE NEW TRAP FOR EXISTING TO REMAIN MOP SINK ON 1ST FLOOR. CONNECT ONTO EXISTING TO REMAIN SANITARY PIPEWORK WITHIN THE CEILING SPACE.
23. PROVIDE ABOVE SLAB TRAP FOR DOMESTIC HOT WATER TEMPERATURE PRESSURE RELIEF VALVES (TPR). RISE VENT UP TO HIGH LEVEL WITHIN MECHANICAL ROOM.
24. PROVIDE 4" SANITARY RISE WITH CLEAN OUT 1'-0" ABOVE FINISH FLOOR LEVEL TO SERVE LAUNDRY. PROVIDE 4" SANITARY RISE WITH 4" TRAP FOR RPZ VALVE. EXTEND VENTS UP TO WITHIN CEILING SPACE.
25. PROVIDE 1-1/2" VENT UP

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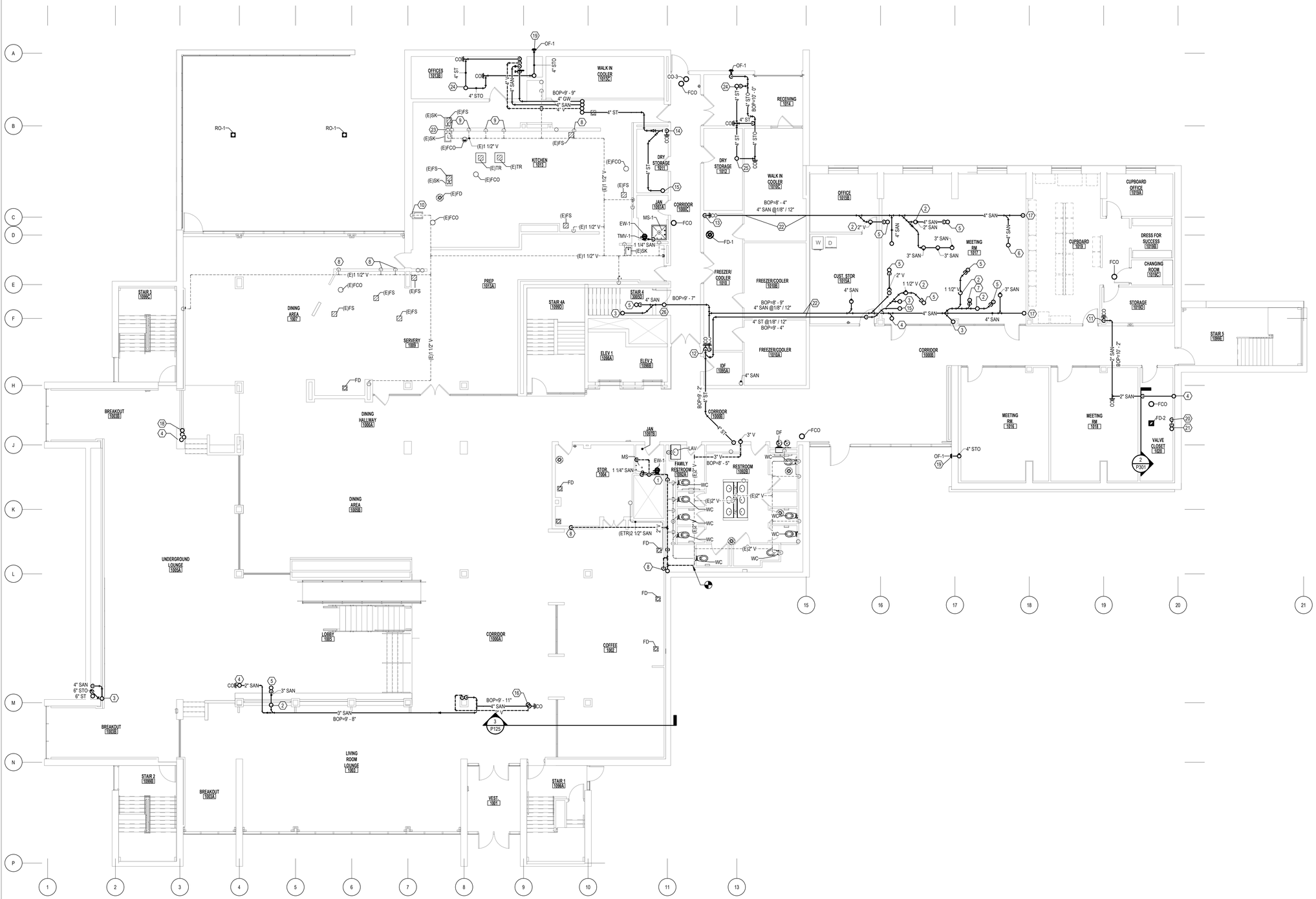
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P122
PLUMBING WASTE PLAN - BASEMENT

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1 P123 FIRST FLOOR PLUMBING SANITARY PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

KEYED NOTES

1. 2" VENT UP FROM BASEMENT.
2. VENT RISER UP TO FLOOR ABOVE.
3. 4" SANITARY RISE.
4. 2" SANITARY RISE UP.
5. PROVIDE 4" FLOOR DRAIN TO BATHROOM ABOVE.
6. PROVIDE 4" SANITARY WASTE TO CHASE ABOVE.
7. 3" SANITARY UP TO MOP SINK.
8. 1 1/2" VENT DOWN TO FLOOR BELOW.
9. EXISTING 1 1/2" V DN TO FLOOR BELOW.
10. EXISTING 1 1/2" V DN TO SINK, 1 1/2" SAN DN TO BELOW.
11. 2" SANITARY DOWN.
12. 4" STORM DROP. 4" SANITARY DROP WITHIN CHASE. PROVIDE WALL CLEAN OUT'S AT 1'-0" OFF FINISH FLOOR LEVEL.
13. 4" SANITARY DROP. PROVIDE 4" WALL CLEAN OUT 1'-0" ABOVE FINISH FLOOR LEVEL.
14. PROVIDE 6" STORMWATER DROP IN STORAGE ROOM. PROVIDE 4" CLEAN OUT 1'-0" ABOVE FINISH FLOOR LEVEL.
15. 4" STORM DRAIN RISE.
16. 4" SANITARY AND VENT RISE.
17. PROVIDE 4" CLEAN OUT TO BE INSTALLED FLUSH WITH FINISH FLOOR LEVEL WITHIN BATHROOM.
18. PROVIDE 4" STORMWATER PIPE DROP AGAINST COLUMN
19. PROVIDE 4" STORMWATER OVERFLOW PIPE THROUGH MASONRY WALL. PROVIDE NEW CORE HOLE AND MAKE PENETRATION WATER TIGHT. MECHANICALLY FIX WATER SPOUT TO EXTERIOR WALL.
20. UP: 2" VENT, DOWN: 3" SAN
21. 3" SANITARY DRAIN FOR VALVE CLOSET DRAIN. LOW LEVEL TRAP AND FUNNEL TO BE INSTALLED.
22. INSTALL SANITARY AND STORMWATER PIPES ABOVE EXISTING TO REMAIN FREEZERS AND COOLERS. PROVIDE TEMPORARY SCAFFOLDING / SUPPORTS TO SPAN ACROSS FREEZER AND COOLERS CEILINGS.
23. EXISTING 1 1/2" V DN TO SINK, 2" SAN DN TO BELOW.
24. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. UTILIZE EXISTING ROOF PENETRATION. PROVIDE WATER PROOF FLASHING.
25. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. PROVIDE WATER PROOF FLASHING.
26. 2" SANITARY UP TO FLOOR ABOVE SERVING HUB DRAIN WITH VENT CONNECTION.

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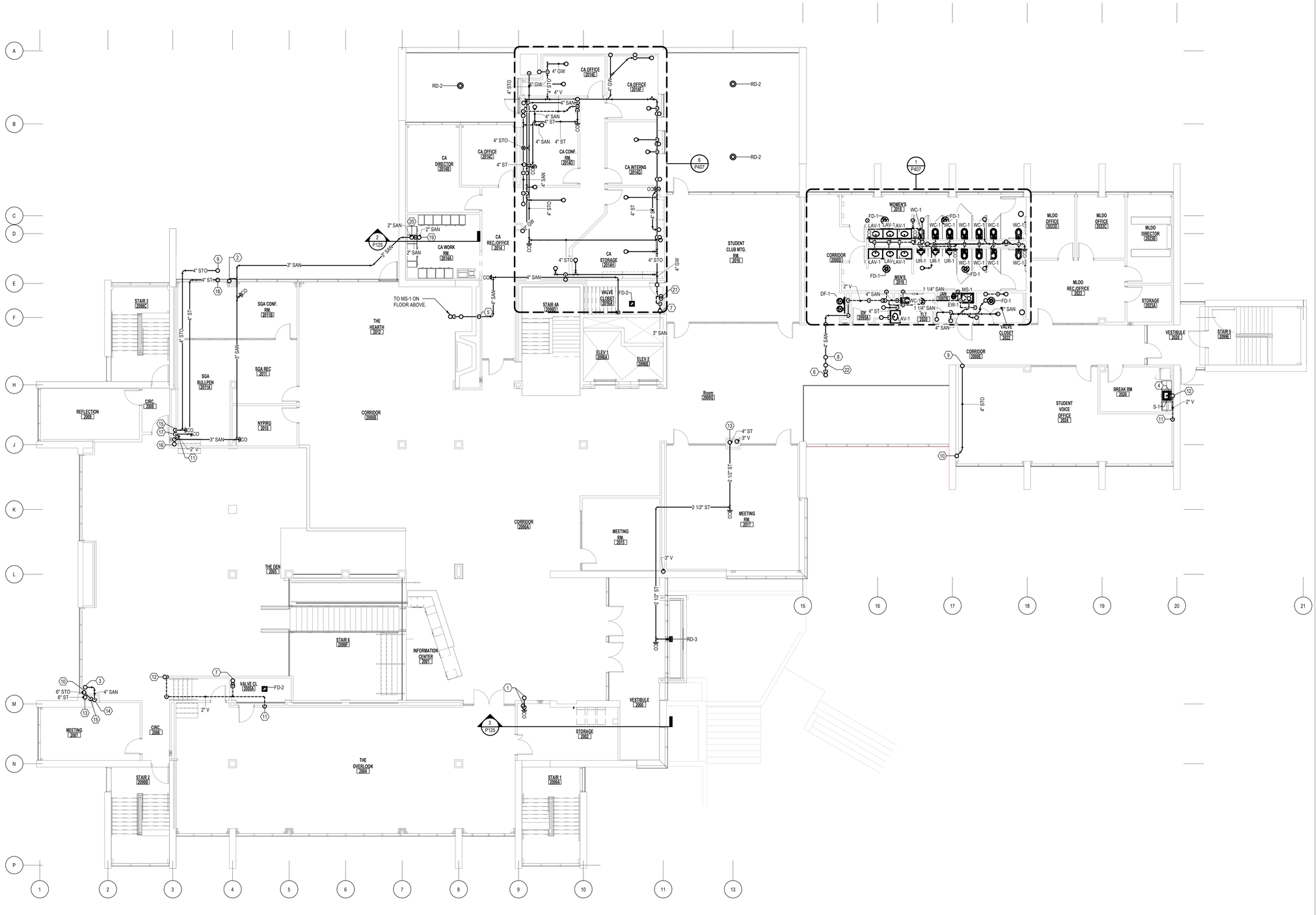
P123

PLUMBING WASTE PLAN - FIRST FLOOR

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1 P124 SECOND FLOOR PLUMBING SANITARY PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

GENERAL NOTES

1. REFER TO ENLARGED VIEWS FOR ADDITIONAL PIPING ROUTING AND SIZING INFORMATION.

KEYED NOTES

1. PROVIDE 2" SANITARY VENT, 4" SANITARY WASTE UP TO FLOOR ABOVE.
2. 2" SANITARY RISE TO GREEN ROOM SINK.
3. 4" SANITARY RISE.
4. INSTALL AND CONNECT SINK WITHIN BREAKOUT ROOM. 1-1/2" VENT TO RISE UPTO THE ROOF.
5. PROVIDE 4" X 2" VENT RISE.
6. 4" SANITARY UP TO FLOOR DRAIN.
7. PROVIDE 3" FUNNEL WITH TRAP FOR INDIRECT CONDENSATE DRAIN
8. 4" SANITARY RISE.
9. STORM DRAIN RISE.
10. STORM OVERFLOW PIPE RISE AND DROP.
11. VENT DROP.
12. VENT RISE.
13. STORM PIPE RISE AND DROP.
14. SAN DROP.
15. STORM OVER FLOW PIPE DROP.
16. 2" SAN DROP AND 2" VENT RISE TO FLOOR ABOVE.
17. STORM PIPE DROP.
18. STORM OVER FLOW RISE.
19. SAN PIPE WITH P-TRAP UP TO TRENCH DRAIN.
20. SAN PIPE UP TO INDIRECT FUNNEL DRAIN. PROVIDE WITH P-TRAP.
21. GREASE WASTE RISE.
22. 4" SANITARY UP TO FLOOR CLEANOUT.

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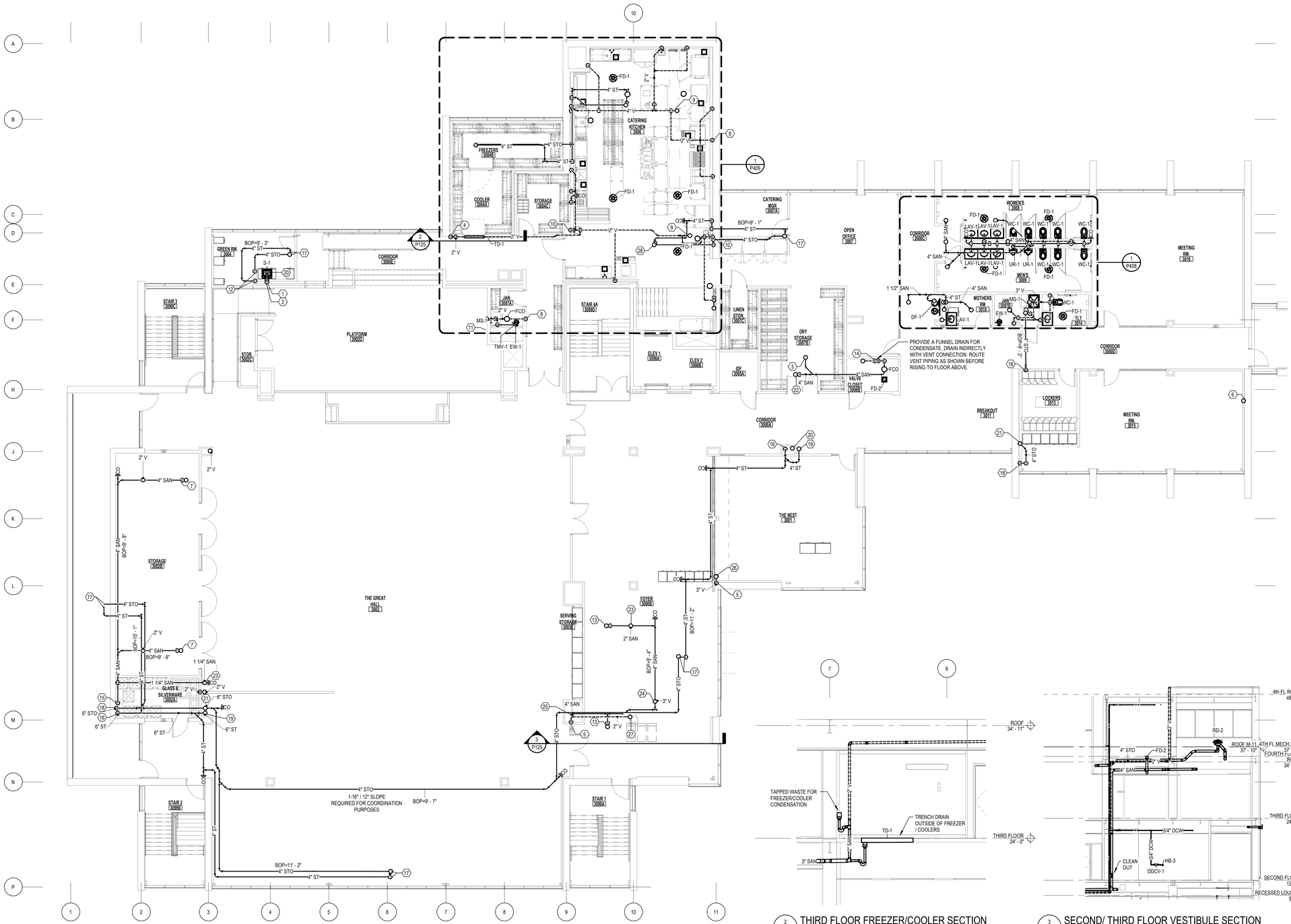
P124

PLUMBING WASTE PLAN - SECOND FLOOR

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1 THIRD FLOOR PLUMBING SANITARY PLAN
P125 1/8" = 1'-0"

2 THIRD FLOOR FREEZER/COOLER SECTION
P125 1/4" = 1'-0"

3 SECOND/ THIRD FLOOR VESTIBULE SECTION
P125 1/8" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. REFER TO KITCHEN CONSULTANTS PLANS FOR KITCHEN LAYOUT AND DETAILS.

KEYED NOTES

1. 2" SANITARY RISE TO GREEN ROOM SINK.
2. 1 1/2" VENT UP TO CEILING.
3. 1-1/2" SANITARY TO RISE UP WITHIN STUD WALL ABOVE AND CONNECT TO SINK IN BREAK OUT ROOM.
4. PROVIDE 2" SANITARY RISE AND TRAP FOR KITCHEN COOLER CONDENSATION. PROVIDE 2" VENT UP TO CEILING.
5. VENT DROP.
6. PROVIDE 1-1/2" VENT UP
7. FLOOR DRAIN TO MECHANICAL ROOM ON LEVEL 4.
8. 2" VENT DOWN.
9. 4" VENT RISE.
10. 2" VENT FROM SINK.
11. 2" VENT RISE.
12. 4" STORM DROP. 4" STORM OVER FLOW DROP.
13. 4" SANITARY UP TO FLOOR DRAIN.
14. PROVIDE 3" FUNNEL WITH TRAP FOR INDIRECT CONDENSATE DRAIN.
15. 4" SANITARY DROP TO FLOOR BELOW.
16. STORM PIPE DROP.
17. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. UTILIZE EXISTING ROOF PENETRATION. PROVIDE WATER PROOF FLASHING.
18. STORM OVER FLOW PIPE DROP.
19. STORM DRAIN RISE.
20. PROVIDE 3" SANITARY VENT THROUGH ROOF. ALLOW FOR WEATHERING BOOT AND SEALING OF PENETRATION.
21. STORM OVER FLOW RISE.
22. SAN PIPE WITH P-TRAP UP TO FLOOR DRAIN.
23. SAN RISE TO EYE WASH.
24. VENT THROUGH ROOF.
25. SAN DROP.
26. VENT RISE.
27. 2" VENT UP TO 3" VTR.
28. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. PROVIDE WATER PROOF FLASHING.

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P125

PLUMBING WASTE PLAN - THIRD FLOOR

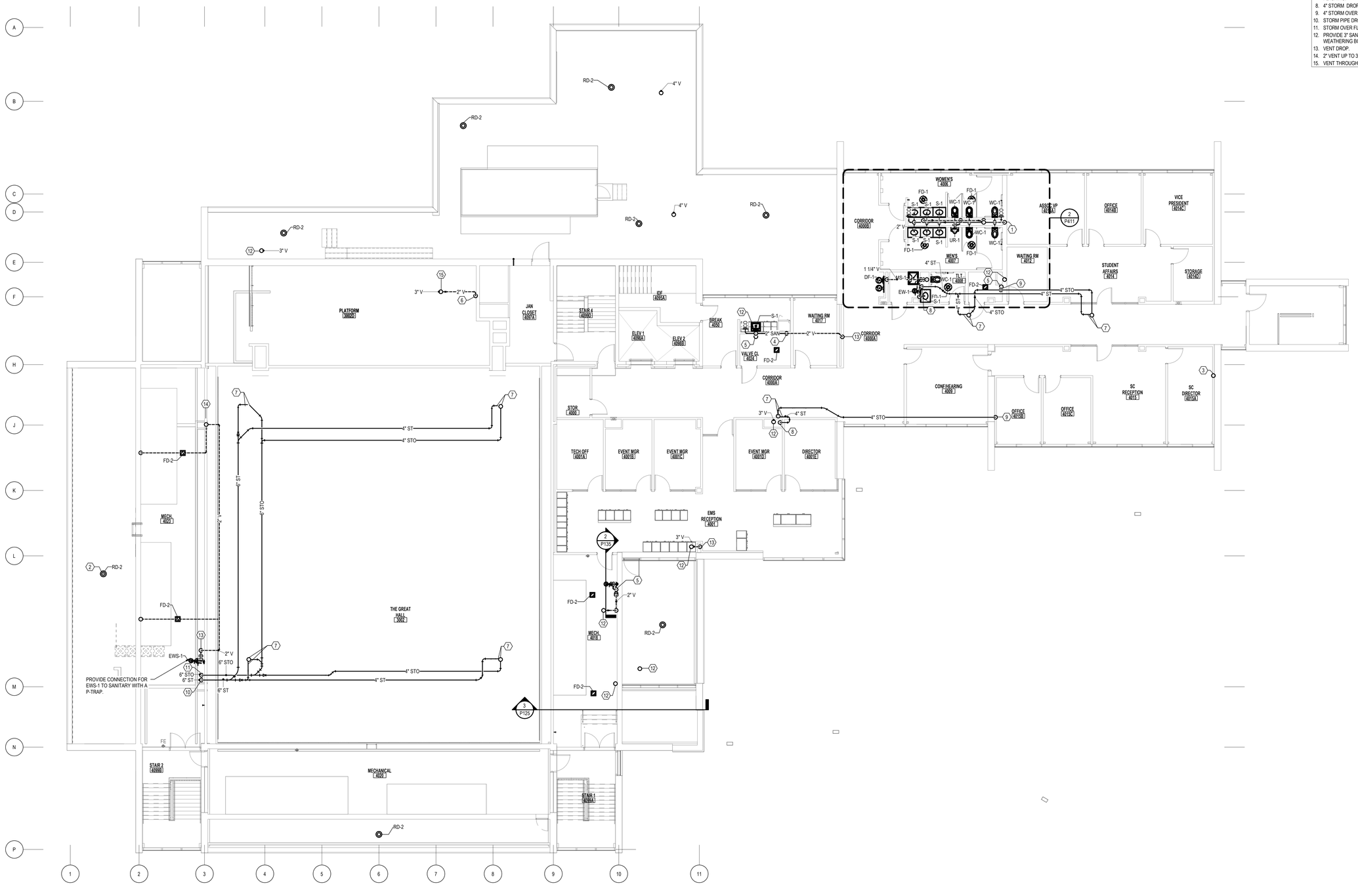
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KEYED NOTES

1. VENTS TO CONNECT WITHIN CEILING SPACE. SINGLE 3" VENT TO PENETRATE THROUGH ROOF.
2. PROVIDE 4" ST UP TO ROOF. EXISTING PENETRATION TO BE UTILIZED.
3. 1-1/2" SANITARY VENT FROM LEVEL 3 BREAK OUT ROOM SINK AND 3" VENT UP.
4. PROVIDE 1-1/2" SANITARY WASTE UP THROUGH FLOOR. SANITARY PIPE TO RUN WITHIN STUD WALL TO SERVE SINK IN BREAK OUT ROOOM. PROVIDE 1-1/2" WALL CLEAN OUT.
5. PROVIDE 3" FUNNEL WITH TRAP FOR INDIRECT CONDENSATE DRAIN
6. 2" VENT DOWN.
7. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. UTILIZE EXISTING ROOF PENETRATION. PROVIDE WATER PROOF FLASHING.
8. 4" STORM DROP.
9. 4" STORM OVER FLOW DROP.
10. STORM PIPE DROP.
11. STORM OVER FLOW PIPE DROP.
12. PROVIDE 3" SANITARY VENT THROUGH ROOF. ALLOW FOR WEATHERING BOOT AND SEALING OF PENETRATION.
13. VENT DROP.
14. 2" VENT UP TO 3" VTR.
15. VENT THROUGH ROOF.



1 P126 FOURTH FLOOR PLUMBING SANITARY PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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Project Manager:	M.R.

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P126
PLUMBING WASTE PLAN - FOURTH FLOOR

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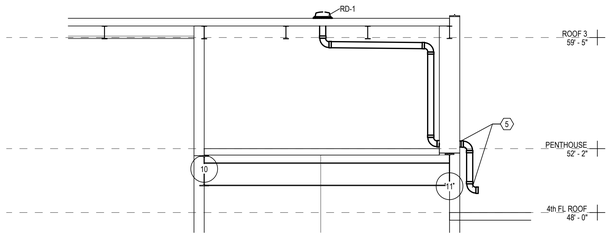
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GENERAL NOTES

1. PROVIDE A MINIMUM STORMWATER PIPE SIZE OF 4" PVC.
2. RE-USE EXISTING ROOF PENETRATIONS DUE TO EXISTING INSULATION AND ROOF SLOPES.
3. TERMINATE ALL SANITARY VENTING THROUGH ROOF WITH A MINIMUM PIPE SIZE OF 3". FINISH VENT 18" ABOVE FINISH FLOOR LEVEL.
4. REFER TO ARCHITECTUAL DRAWING A-115 FOR ROOF SLOPE DETAILS AND NOTES.

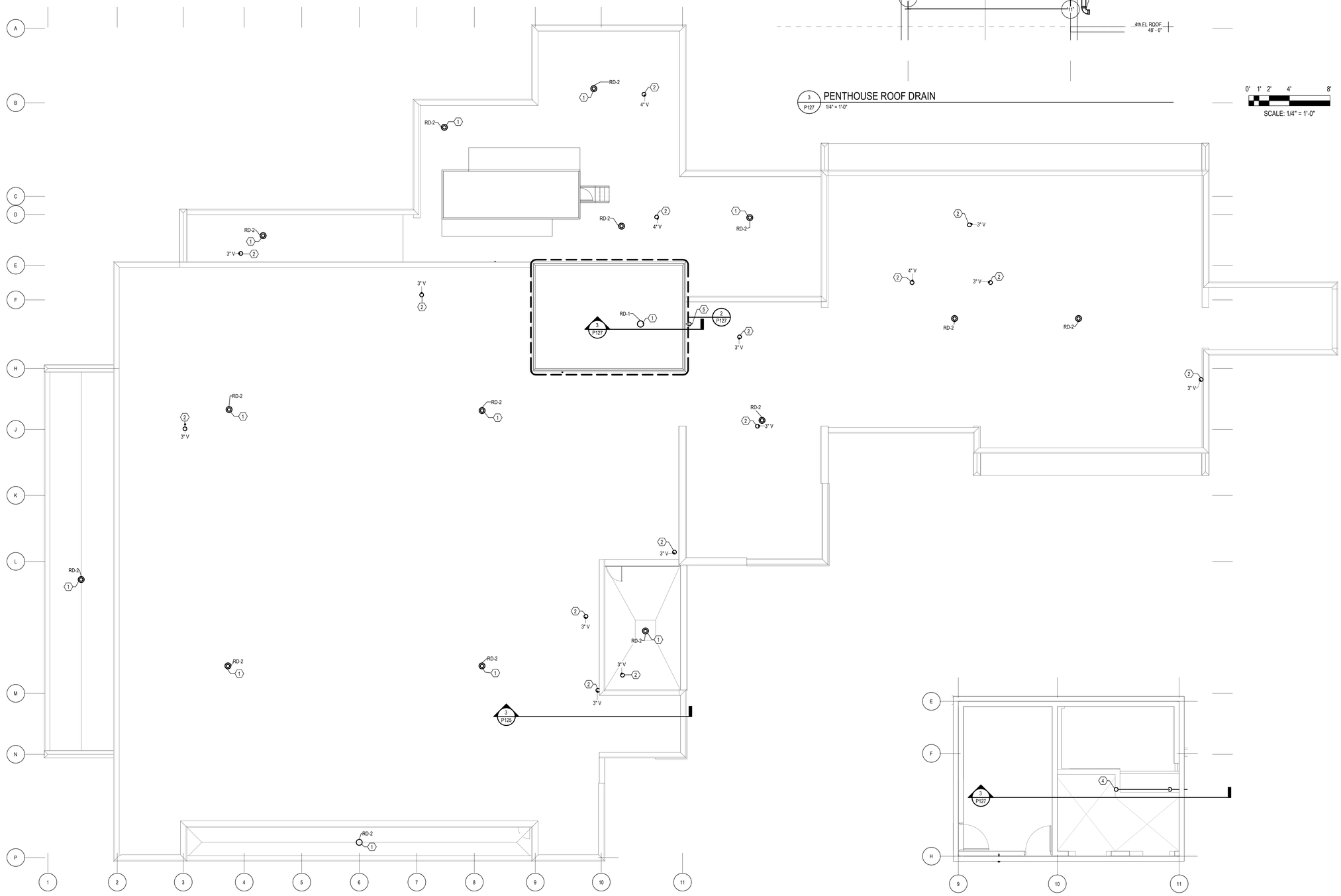
#KEYED NOTES

1. PROVIDE 4" STORMWATER. UTILIZE EXISTING PENETRATION.
2. VENT THROUGH ROOF.
4. ST PIPE UP TO RD.
5. ST TO DOWNSPOUT LOCATED 2' ABOVE GROUND LEVEL. PROVIDE SPLASH BLOCK UNDERNEATH DOWNSPOUT. PROVIDE WATER PROOF SEALING AROUND PIPE WALL PENETRATION AND SPLASH BLOCK.



3 / P127 PENTHOUSE ROOF DRAIN
1/4" = 1'-0"

0' 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"



1 / P127 ROOF PLUMBING SANITARY PLAN
1/8" = 1'-0"

2 / P127 ROOF PLUMBING SANITARY PLAN - Callout 1
3/16" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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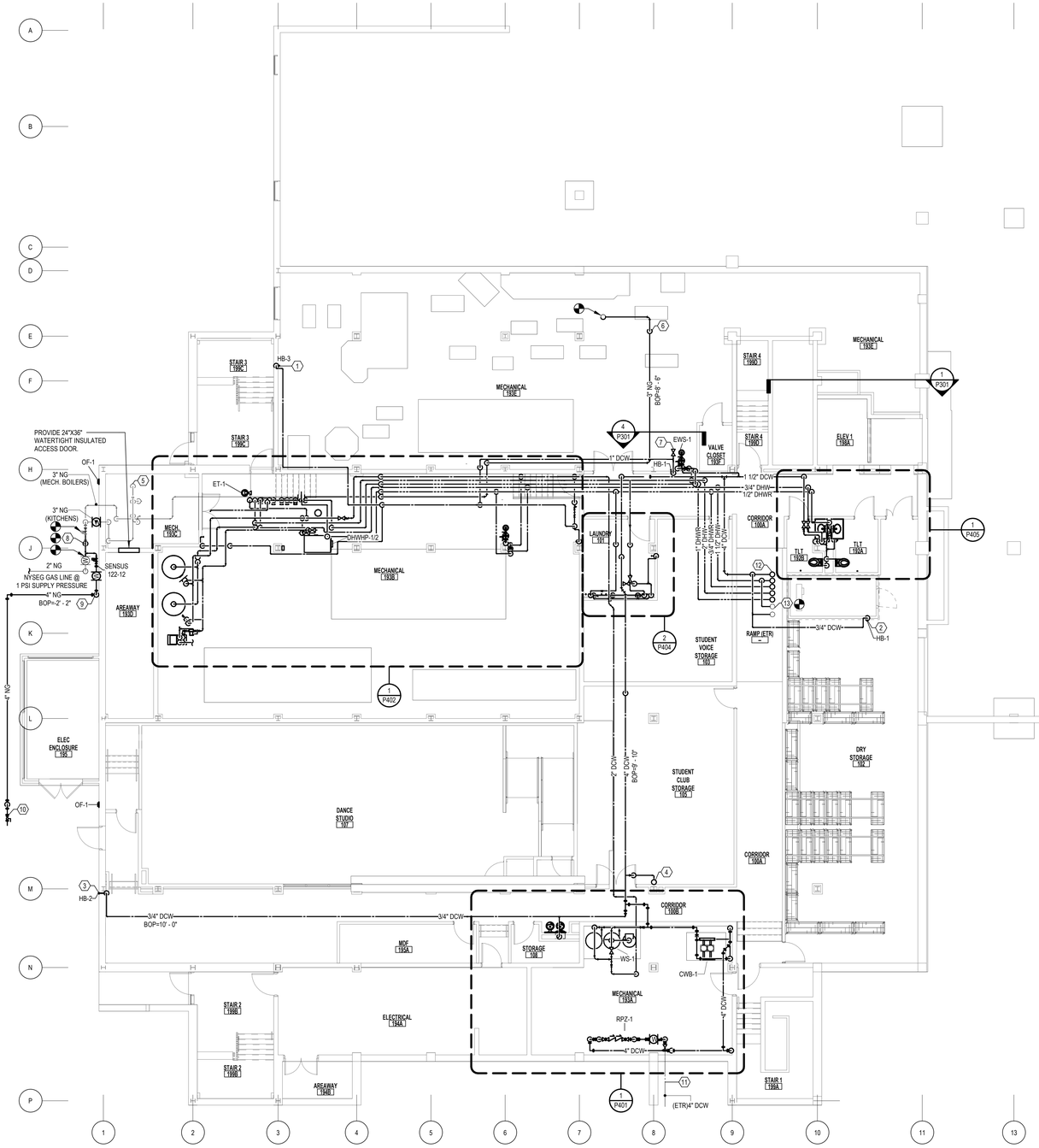
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P127
PLUMBING WASTE PLAN - ROOF

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1 P131 BASEMENT PLUMBING DOMESTIC PLAN
1/8" = 1'-0"

GENERAL NOTES

1. ALL ISOLATION VALVES UPSTREAM OF EMERGENCY GENERATOR TO HAVE SIGNAGE INSTALLED SIGNIFYING IT SERVES THE EMERGENCY GENERATOR.
2. WRAP STEEL PIPEWORK PENETRATING CONCRETE SLABS AND INSTALLED UNDERGROUND WITH CORROSIVE RESISTANT TAPE.
3. APPLY A RUST-PROOF YELLOW PAINT FOR ALL EXPOSED ABOVE GROUND STEEL GAS PIPEWORK. CLEAN AND PREPAIRE EXISTING PIPEWORK PRIOR TO PAINTING. PROVIDE SERVICE IDENTIFICATION LABELS.
4. ALL GAS PIPING TO BE INSTALLED MINIMUM 2'-0" AWAY FROM ELECTRICAL CONDUITS AND ALL OTHER SERVICES.
5. CONTRACTOR TO PURGE ALL PIPEWORK WITH INERT GAS. COORDINATE WITH CONTRACTORS FOR COMMISIONING OF ELECTRICAL, MECHANICAL AND KITCHEN EQUIPMENT.

(#) KEYED NOTES

1. PROVIDE 3/4" BRASS HOSE BIB 2'-0" ABOVE FINISH FLOOR LEVEL. SURFACE MOUNT PIPE DROPS FROM CEILING. HOSE BIB PROTECTED BY RPZ.
2. PROVIDE 3/4" BRASS HOSE BIB 2' ABOVE FINISH FLOOR LEVEL. SURFACE MOUNT PIPE DROP FROM CEILING.
3. PROVIDE 3/4" FROST PROTECTED HOSE BIB ON EXTERIOR WALL. INSTALLED 2'-0" ABOVE FINISH GROUND LEVEL. ALLOW TO CORE HOLE, SEAL AND MECHANICALLY FASTEN FACEPLATE TO WALL.
4. PROVIDE 1-1/2" COLD WATER LINE UP.
5. EXISTING GAS PIPEWORK AND VALVES TO REMAIN IN MECHANICAL ROOM BOILERS. PURGE GAS LINES BEFORE RE-IGNITION AND RE-COMMISSIONING OF BOILERS.
6. OFFSET GAS PIPEWORK ABOVE MECHANICAL PIPEWORK AND INTO STRUCTUAL BEAM POCKET. CONNECT ONTO EXISTING GAS PIPE CONNECTION THROUGH SLAB.
7. PROVIDE 1" DOMESTIC COLD WATER CONNECTION FOR MECHANICAL SERVICES. DOMESTIC PIPEWORK PROTECTED BY RPZ (LOCATED IN MECHANICAL ROOM 193B) PROVIDE FEMALE THREADED CONNECTION ON OUTLET OF BALL VALVE FOR EXTENSION.
8. PROVIDE NEW 2" GAS PIPEWORK WITH NEW GAS TEE AND REGULATOR FOR EMERGENCY GENERATOR. RECONNECT ONTO EXISTING UNIONS NEXT TO EXISTING TO REMAIN GAS REGULATORS AND FLANGE.
9. PROVIDE OFFSET ALONG EXTERIOR WALL WITH NEW GAS REGULATOR (SENSUS MODEL 122-12). DROP PIPEWORK TO BELOW GRADE AND TRENCH TO EMERGENCY GENERATOR. PROVIDE GAS WARNING TAPE ONTOP OF PIPE IN TRENCH. PRESSURE TEST GAS LINE BEFORE BACKFILL.
10. PROVIDE 4" - 2-1/2" REDUCER, WITH 2-1/2" GAS APPROVED BALL VALVE ABOVE GROUND. PROVIDE 2-1/2" FLEXIBLE STAINLESS STEEL BRAIDED HOSE FOR PIPE CONNECTION TO GENERATOR. GENERATOR CONNECTION 2-1/2" NPT FEMALE CONNECTION.
11. EXISTING INCOMING 4" DOMESITC COLD WATER LINE TO REMAIN. COORDINATE WITH SUNY CORTLAND FOR THE TEMPORARY SHUTDOWN OF COLD WATER SERVICES IN THE STREET.
12. PROVIDE DOMESTIC RISERS FROM BASEMENT UP TO FIRST FLOOR CEILING. UTILIZE EXISTING CORE HOLES WHERE POSSIBLE AND PROVIDE ADDITIONAL CORE HOLES FOR NEW DOMESTIC SERVICES.
13. PROVIDE NEW 1" COLD WATER TEE AND 3/4" HOT WATER CONNECTION WITHIN CEILING SPACE. CONNECT ONTO DOMESTIC PIPEWORK WITHIN CEILING SPACE THAT SERVES DUNKIN DONUTS ABOVE.

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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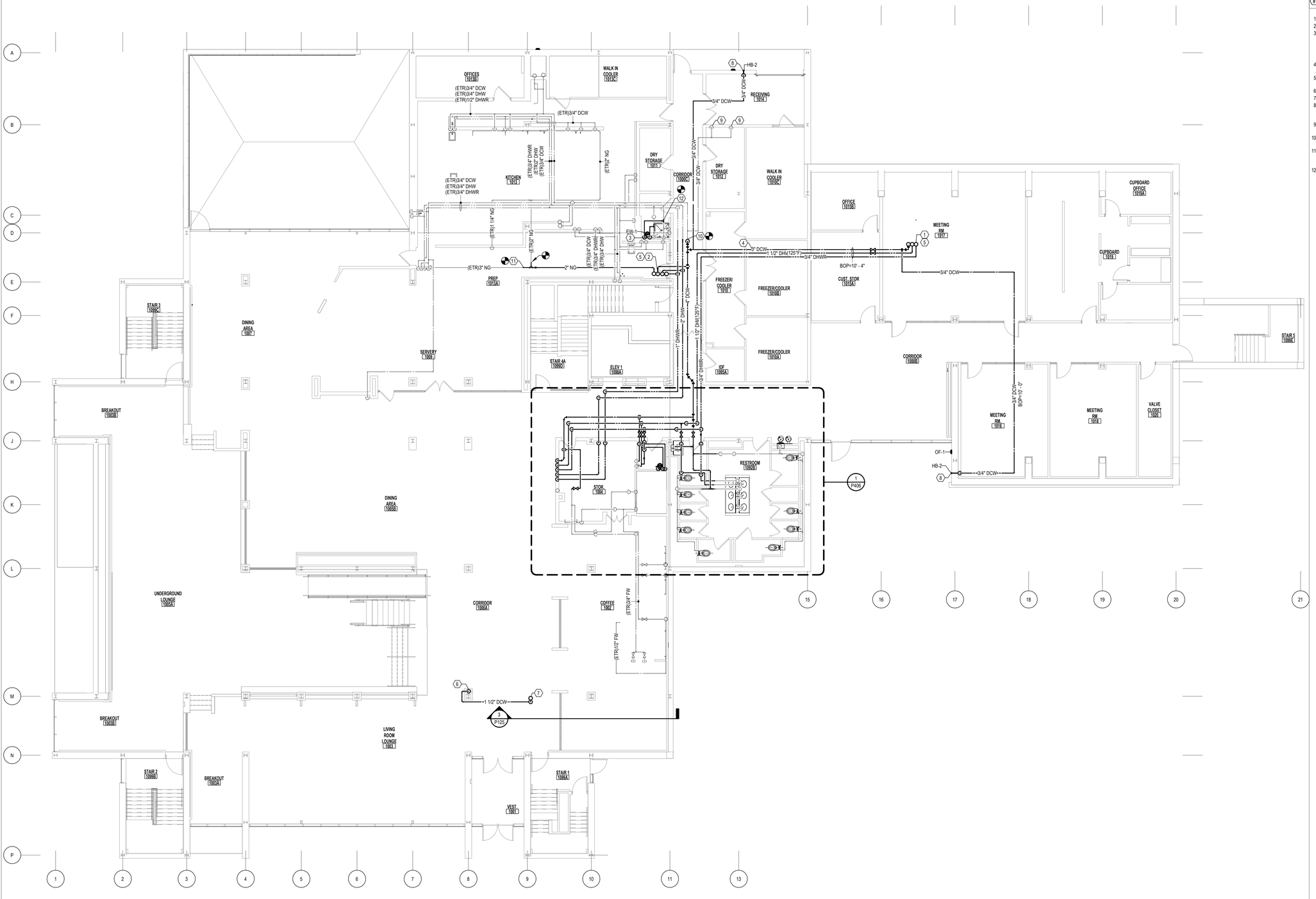
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P131
PLUMBING DOMESTIC PLAN - BASEMENT

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1 P132 FIRST FLOOR PLUMBING DOMESTIC PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

GENERAL NOTES

1. PIPEWORK WITHIN DUNKIN DONUTS [COFFEE 1002] TO REMAIN.
2. BATHROOM 1092B TO REMAIN. MODIFICATIONS TO PIPEWORK WITHIN CEILING SPACE REQUIRED. PIPEWORK BEHIND CHASES AND FIXTURES TO REMAIN.

KEYED NOTES

1. 3" DCW, 1-1/2" DHW, 3/4" DHWR UP TO LEVEL 2
2. 2" DCW, 1 1/2" DHW & 1/2" DHWR AND 2" NG TO LEVEL 3 KITCHEN.
3. PROVIDE WALL MOUNTED EMERGENCY EYEWASH 3'-0" ABOVE FINISH FLOOR LEVEL. EYEWASH TO BE FITTED WITH THERMOSTATIC MIXING VALVE AND COMMISSIONED TO 80°F DISCHARGE TEMPERATURE. DRAINAGE TO BE SURFACE MOUNTED AND INDIRECTLY DISCHARGE INTO MOP SINK.
4. DOMESTIC SERVICES TO RUN OVER EXISTING TO REMAIN FREEZER.
5. PROVIDE NEW CORE HOLE THROUGH FLOOR. ALLOW TO FIRE SEAL PENETRATION WITH 2HR CAULK.
6. PROVIDE 1-1/2" COLD WATER LINE UP FROM BASEMENT FLOOR.
7. PROVIDE 1-1/2" COLD WATER LINE UP.
8. PROVIDE 3/4" FROST PROTECTED HOSE BIB ON EXTERIOR WALL. INSTALLED 2'-0" ABOVE FINISH GROUND LEVEL. ALLOW TO CORE HOLE, SEAL AND MECHANICALLY FASTEN FACEPLATE TO WALL.
9. 3/4" COLD WATER DROP FROM CEILING DOWN TO KITCHEN SODA DISPENSING UNIT.
10. CONNECT ONTO 3/4" HOT WATER RETURN, 2" HOT WATER AND 2" COLD WATER IN CORRIDOR CEILING SPACE FOR LEVEL 1 KITCHEN.
11. CONNECT ONTO NATURAL GAS LINE WITHIN CEILING SPACE. PROVIDE TEE FOR LEVEL 1 KITCHEN AND EXTEND LINE ACROSS CEILING TO RISER FOR LEVEL 3 KITCHEN.
12. CONNECT ONTO DOMESTIC SERVICES WITHIN CEILING LEVEL. CUT AND EXTEND 1/2" COLD WATER AND 1/2" HOT WATER LINES FOR EMERGENCY EYEWASH IN JANITORS CLOSET.

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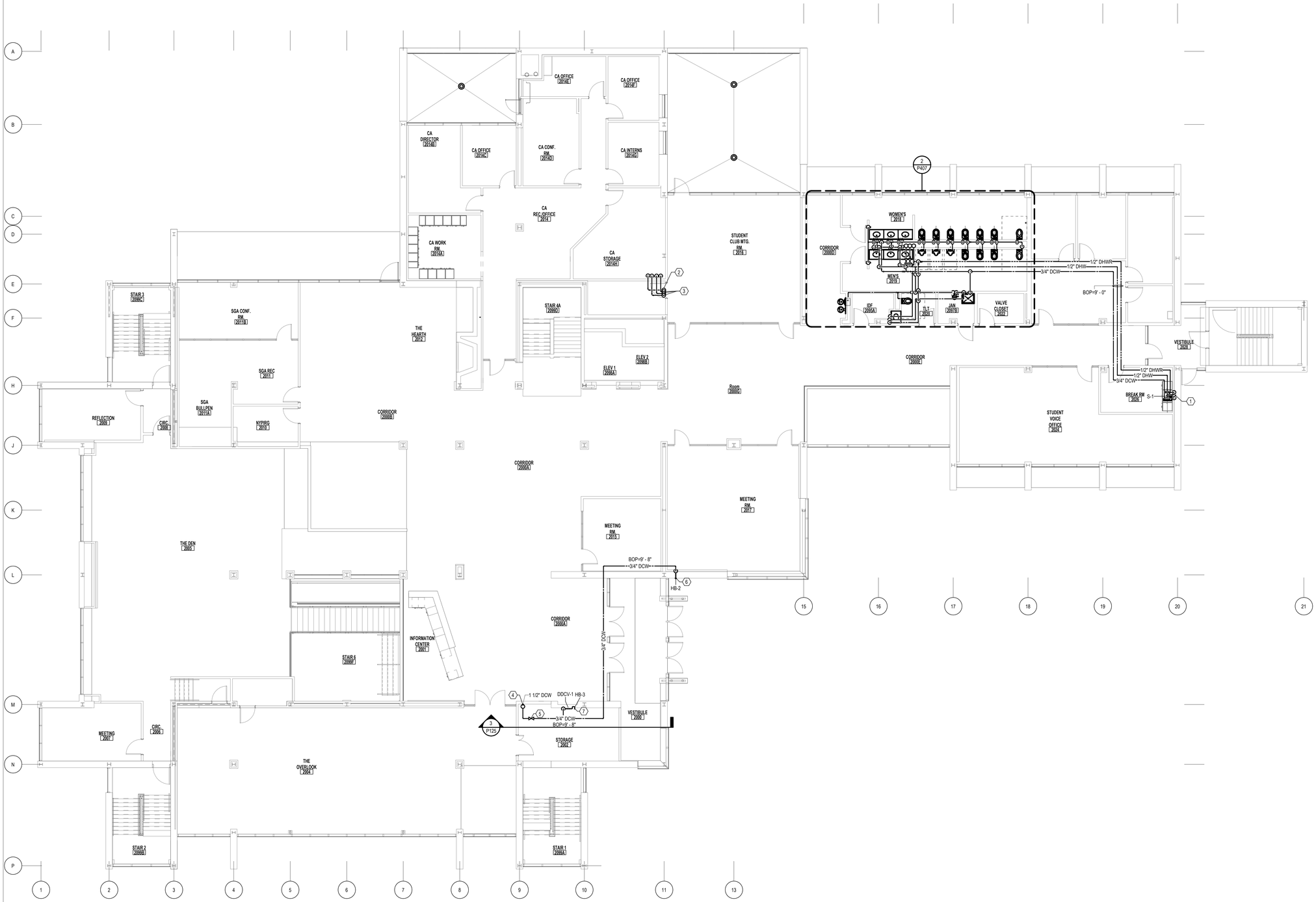
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PLUMBING DOMESTIC PLAN - FIRST FLOOR

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1 P133 SECOND FLOOR PLUMBING DOMESTIC PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

KEYED NOTES

1. PROVIDE 3/4" COLD WATER, 1/2" HOT WATER AND 1/2" HOT WATER RETURN FOR SINK. BALANCING VALVE FOR HOT WATER RETURN LOCATED WITHIN MEN'S BATHROOM (2019) CEILING.
2. PROVIDE 3" GAS RISER UP TO KITCHEN ABOVE.
3. 2" DCW, 1 1/2" DHW & 1/2" DHWR AND 2" NG TO LEVEL 3 KITCHEN.
4. PROVIDE 1-1/2" COLD WATER RISER FROM 1ST FLOOR. PIPE TO CONTINUE VERTICALLY UP TO 3RD FLOOR MECHANICAL ROOM.
5. PROVIDE BRANCH CONNECTION WITHIN CEILING SPACE. PROVIDE ISOLATION VALVE WITH CEILING SPACE.
6. PROVIDE 3/4" FROST PROTECTED HOSE BIB ON EXTERIOR WALL. INSTALLED 2'-0" ABOVE FINISH GROUND LEVEL. ALLOW TO CORE HOLE, SEAL AND MECHANICALLY FASTEN FACEPLATE TO WALL.
7. PROVIDE 3/4" DOUBLE DETECTOR CHECK VALVE AND 3/4" BRASS HOSE BIBB USED FOR MECHANICAL MAKE UP WATER.

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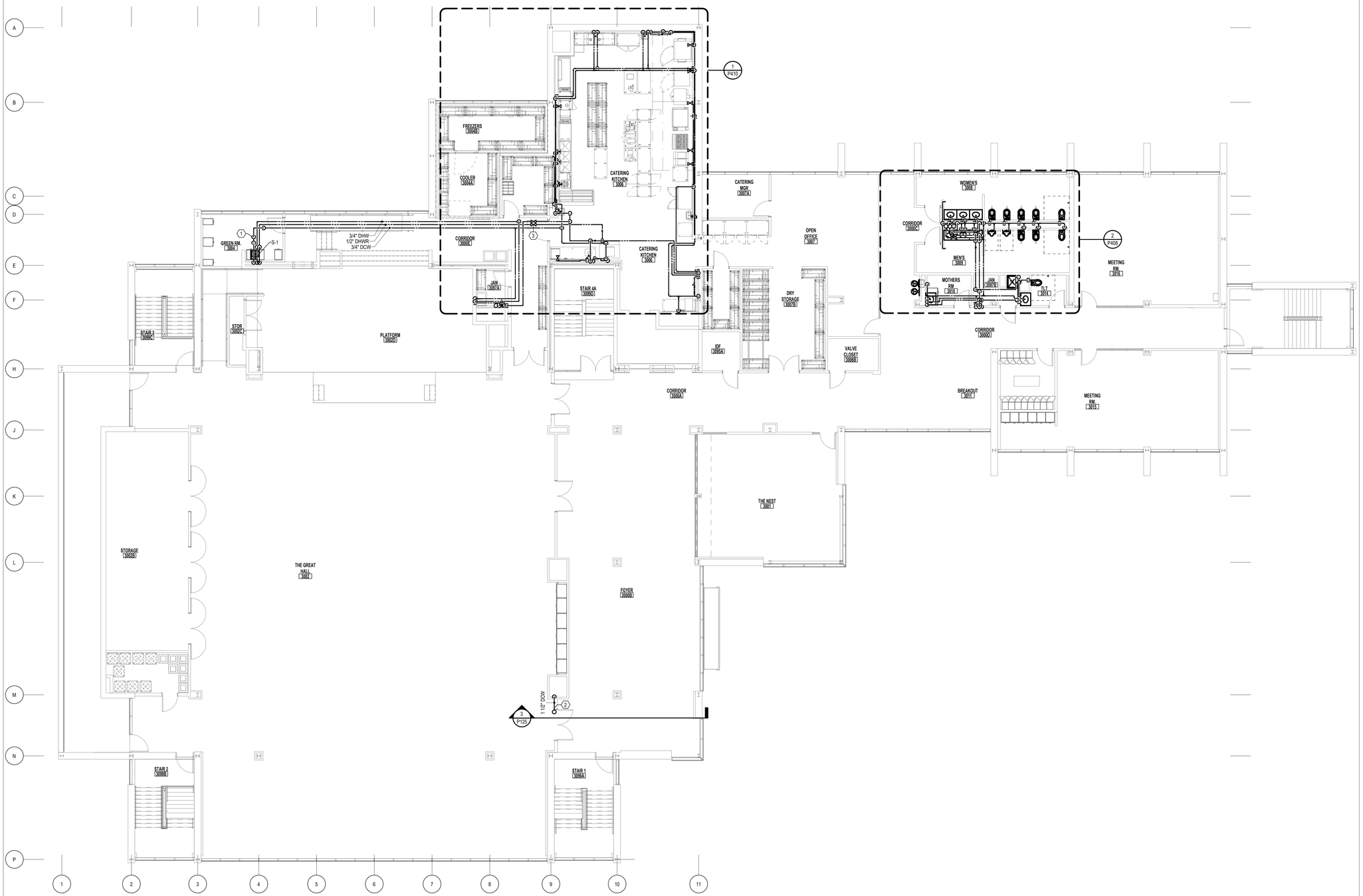
P133

PLUMBING DOMESTIC PLAN - SECOND FLOOR

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1 P134 THIRD FLOOR PLUMBING DOMESTIC PLAN
1/8" = 1'-0"

N

KEYED NOTES

1. PROVIDE OFFSETS WITHIN DOMESTIC PIPEWORK FOR COORDINATION WITH STORMWATER AND STRUCTURAL BEAM WITHIN CEILING SPACE.
2. PROVIDE 1-1/2" DOMESTIC COLD WATER PIPE UP TO MECHANICAL ROOM ABOVE.
3. PROVIDE ISOLATION VALVES WITHIN CEILING FOR JANITORS CLOSET AND GREEN ROOM SINK. VALVES ACCESSIBLE VIA ACT CEILING.

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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EXPIRATION: 02/28/2027

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Project Manager:	M.R.

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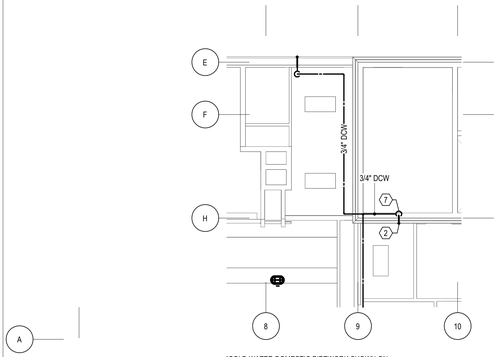
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P134
PLUMBING DOMESTIC PLAN - THIRD FLOOR

NOV 16, 2026
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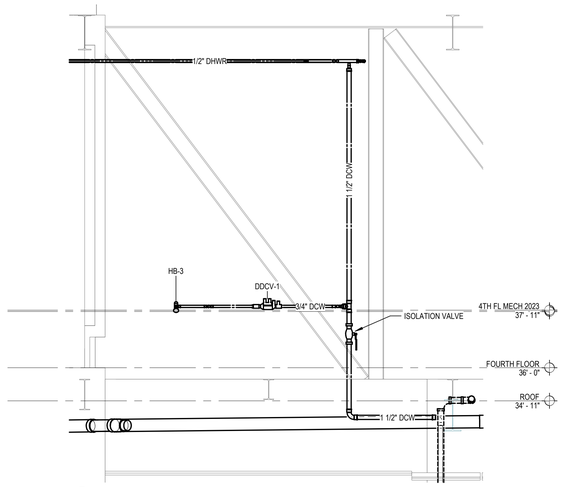
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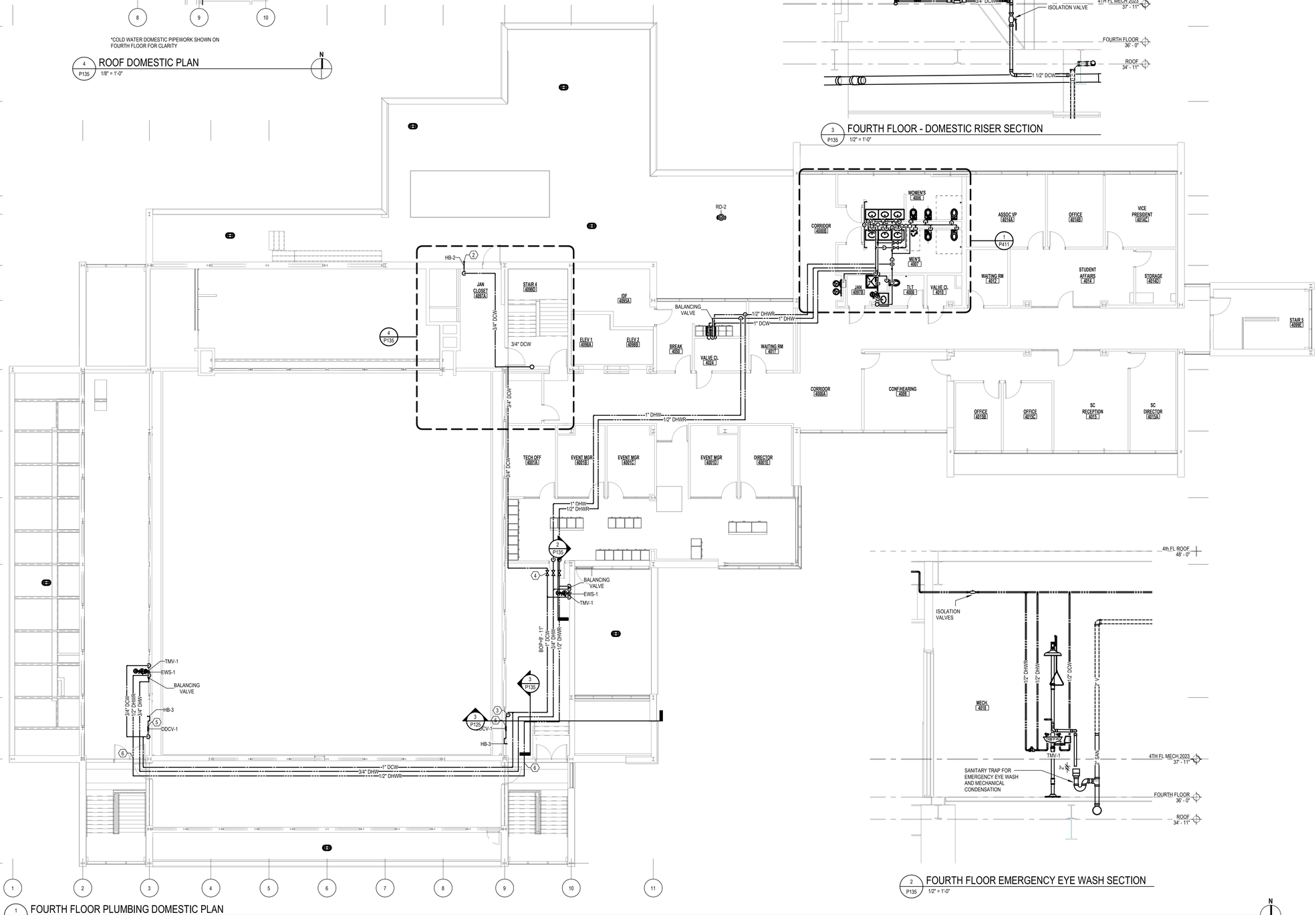


*COLD WATER DOMESTIC PIPEWORK SHOWN ON FOURTH FLOOR FOR CLARITY

4 P135 ROOF DOMESTIC PLAN
1/8" = 1'-0"



3 P135 FOURTH FLOOR - DOMESTIC RISER SECTION
1/2" = 1'-0"



1 P135 FOURTH FLOOR PLUMBING DOMESTIC PLAN
1/8" = 1'-0"

2 P135 FOURTH FLOOR EMERGENCY EYE WASH SECTION
1/2" = 1'-0"

0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. DEADLEGS OFF HOT WATER SUPPLY AND RETURN TO HAVE A MAXIMUM DISTANCE OF 2'-0" TO ALL PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE.
3. ALL LAVATORIES, SINKS AND DRINKING FOUNTAINS TO BE INSTALLED WITH 1/2" CHROME ISOLATION VALVES.

KEYED NOTES

2. PROVIDE 3/4" FROST PROTECTED HOSE BIB ON EXTERIOR WALL. INSTALLED 2'-0" ABOVE FINISH ROOF LEVEL. ALLOW TO CORE HOLE, SEAL AND MECHANICALLY FASTEN FACEPLATE TO WALL.
3. PROVIDE 1-1/2" COLD WATER RISER FROM FLOOR BELOW. PROVIDE 1-1/2" ISOLATION VALVE AT LOW LEVEL TO ISOLATE COLD WATER SUPPLY FOR 4TH FLOOR MECHANICAL ROOMS. PROVIDE BRANCH LINE AT 2'-0" FOR RPZ CONNECTION.
4. PROVIDE ISOLATION VALVES FOR HOT WATER SERVICING EMERGENCY EYE WASHES AND EXTERNAL HOSE BIB.
5. PROVIDE 3/4" BRASS HOSE BIB 2'-0" ABOVE FINISH FLOOR LEVEL FOR MECHANICAL ROOM. PROTECT HOSE BIB WITH DDCV VALVE
6. PROVIDE NEW CORE HOLE THROUGH WALL. ALLOW TO FIRE SEAL PENETRATION WITH 2HR CAULK.
7. PROVIDE 3/4" COLD WATER PIPE FROM FOURTH FLOOR UP TO FROST PROOF HOSE BIB ON ROOF. ROUTE PIPING WITHIN WALL CONSTRUCTION. DO NOT ROUTE EXPOSED PIPING WITHIN STAIRWELL

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Project Manager:	M.R.

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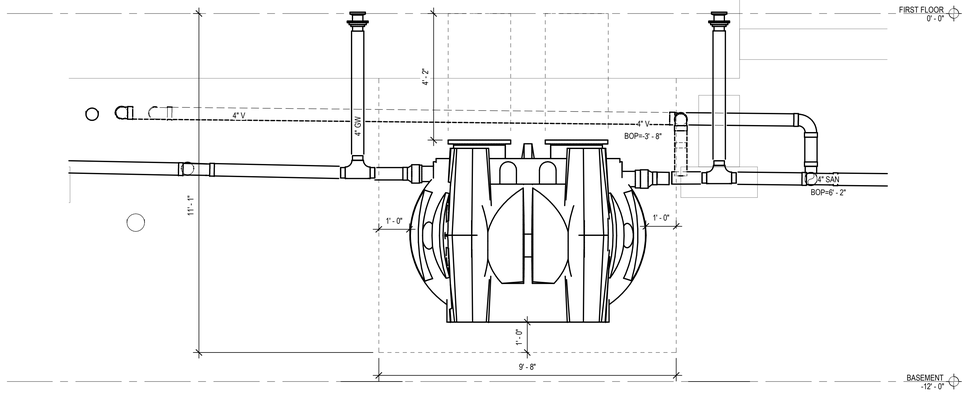
P135

PLUMBING DOMESTIC PLAN - FOURTH FLOOR

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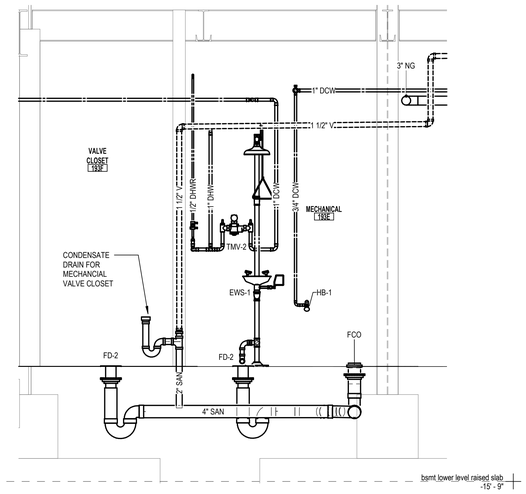
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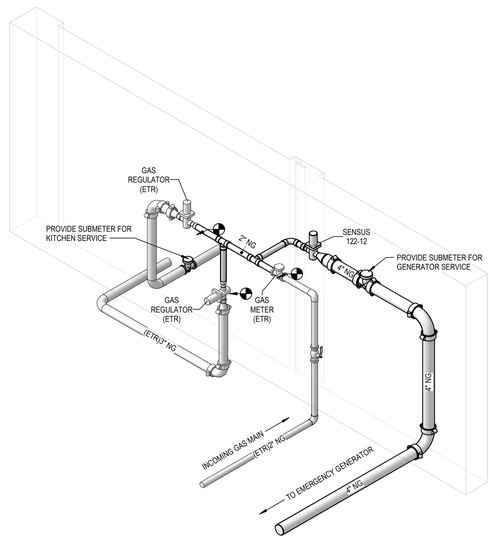


NOTES:
1. EXCAVATE MINIMUM HOLE SIZE OF 10'-9" (LONG) X 8'-1" (WIDE) X 11'-1" (DEEP) HOLE FOR IN GROUND GREASE TRAP.
2. PROVIDE MINIMUM 12" OF COMPACTED 1" CLEAN CRUSHED GRAVEL FOR BASE. PROVIDE TRENCH BOXES AND MAKE SAFE BEFORE ENTERING BASE OF PIT.
3. FILL GREASE TRAP WITH WATER ONCE PLUMBED AND INSTALLED.
4. BACKFILL GREASE TRAP WITH MINIMUM 1" CLEAN CRUSHED GRAVEL. NATIVE SOIL AND SAND IS NOT PERMITTED PER INSTALLATION GUIDELINES.
5. PROVIDE SCHIER FRP24 RISERS FOR BOTH MANHOLE ACCESS. EXTEND TO FINISH GROUND LEVEL. 3'-10" RISER HEIGHT REQUIRED.
6. PROVIDE 2 X T24-GI TRAFFIC RATED (H-20 / 16,000LB) MAN HOLE COVERS.

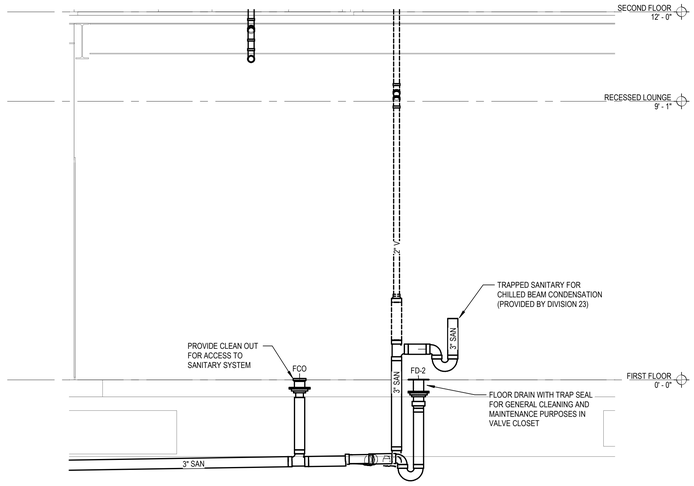
5 / P301 GREASE TRAP SECTION
1/2" = 1'-0"



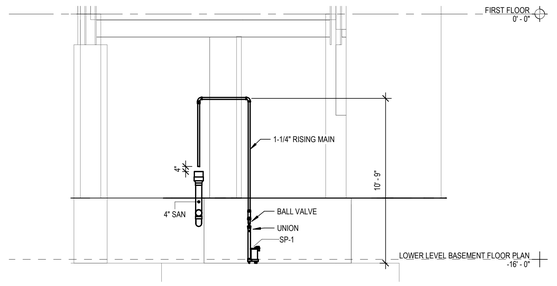
4 / P301 BASEMENT MECHANICAL ROOM - EYEWASH AND VALVE CLOSET
1/2" = 1'-0"



3 / P301 GAS METER - 3D ISOMETRIC



2 / P301 TYPICAL VALVE CLOSET DETAIL
1/2" = 1'-0"



NOTES:
1. COORDINATE WITH ELEVATOR CONTRACTOR / COMPANY FOR AUTHORIZED ACCESS TO SHAFT. INSTALL PUMP IN ELEVATOR SUMP.
2. INSTALL PIPEWORK, PUMP AND CABLING SO IT WILL NOT INTERFERE WITH HOISTWAY EQUIPMENT AND OPERATION.
3. PROVIDE 2HR FIRE RATING FOR ALL PENETRATION THROUGH ELEVATOR WALLS.
4. PROVIDE 4"X 6" SANITARY REDUCER TO ACT AS FUNNEL.
5. PROVIDE CONTROL BOX WITH VISUAL LIGHT AND AUDIABLE ALARM. DIVISION 22 TO PROVIDE CONDUIT AND CABLING FROM CONTROL BOX TO PUMP.

1 / P301 ELEVATOR LIFT SHAFT DETAIL
1/4" = 1'-0"

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Checked By:	T.A
Project Manager:	M.R.

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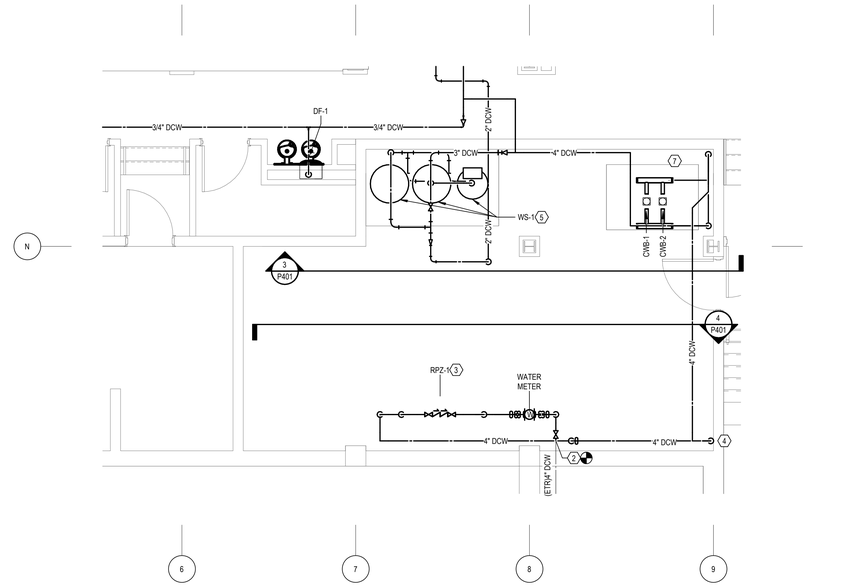
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P301
PLUMBING SECTIONS

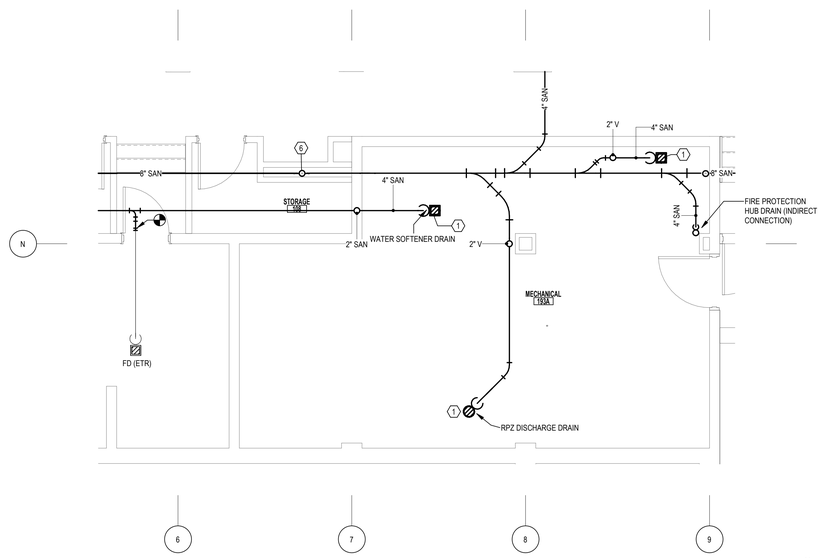
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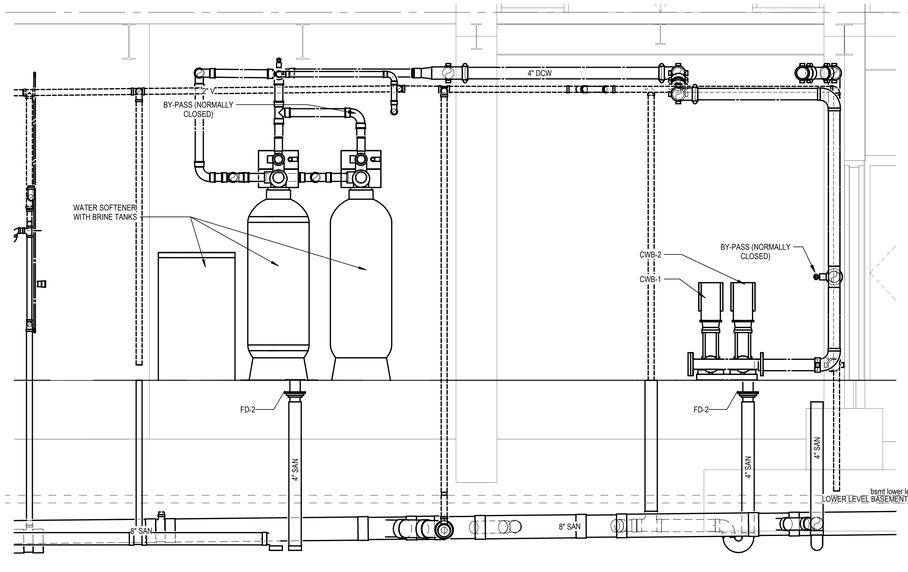
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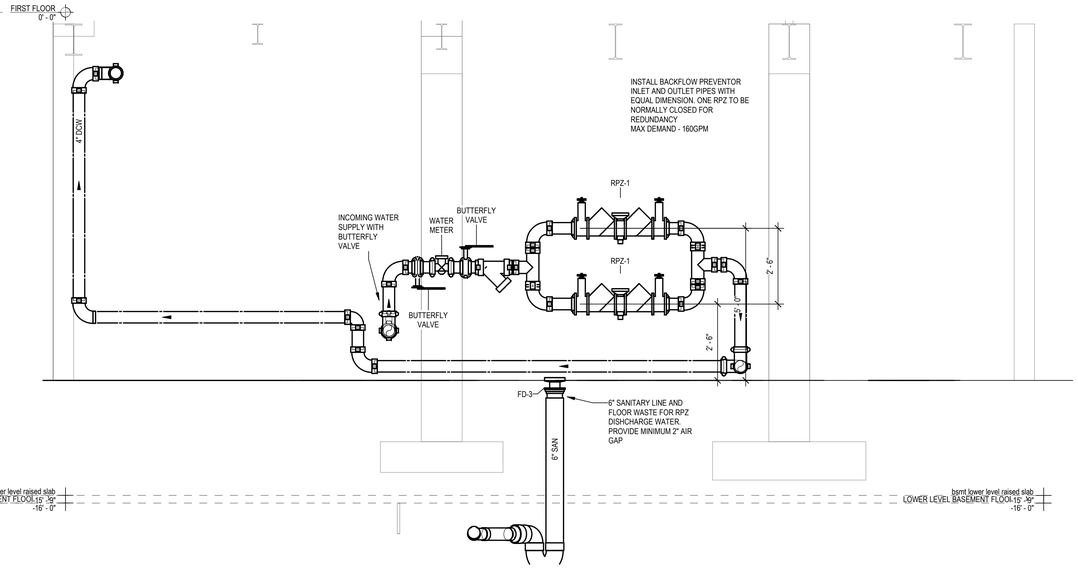
1 P401 FIRST FLOOR DOMESTIC PLAN
1/4" = 1'-0"



2 P401 FIRST FLOOR WASTE PLAN
1/4" = 1'-0"



3 P401 FIRE PUMP ROOM - DOMESTIC BOOSTER SET AND WATER SOFTENER
1/2" = 1'-0"

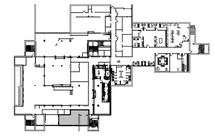


4 P401 FIRE PUMP ROOM - INCOMING WATER SUPPLY
1/2" = 1'-0"

KEYED NOTES

1. PROVIDE 4" FLOOR DRAINS WITH P-TRAP. PROVIDE VENT CONNECTION SERVING FLOOR DRAIN AS SHOWN
2. RE-CONNECT ONTO EXISTING TO REMAIN 4" COLD WATER SUPPLY WITH 4" MASTER BUTTERFLY VALVE.
3. PROVIDE TWO (2) 4" RPZ VALVES FOR INCOMING DOMESTIC WATER SERVICE.
4. 4" COLD WATER MAIN TO BE INSTALLED AT LOW LEVEL. 4" PIPE TO RISE UP TO CEILING LEVEL WITHIN CORNER.
5. PROVIDE WATER SOFTENER WITH BRINE TANKS. WATER SOFTENER TO BE USED FOR ALL DOMESTIC WATER FIXTURES FOR BUILDING. CONNECT INTO TANKS WITH 3" CONNECTION. PROVIDE 4" BYPASS WITH VALVE NORMALLY CLOSED. PROVIDE 4" HOUSEKEEPING PAD.
6. 2" SANITARY UP TO DRINKING FOUNTAIN ABOVE.
7. PROVIDE NEW 4" DUPLEX VARIABLE SPEED COLD WATER BOOSTER PUMP. PUMPS TO BE INSTALLED ON SKID PACKAGE. COMPLETE WITH CONTROL PANEL AND ANTIVIBRATION FOOT PADS. PROVIDE 4" STAINLESS STEEL BRAIDED HOSES ON INLET AND OUTLET OF WATER PIPES. PROVIDE 4" HOUSE KEEPING PAD FOR PUMPSET.

KEY PLAN



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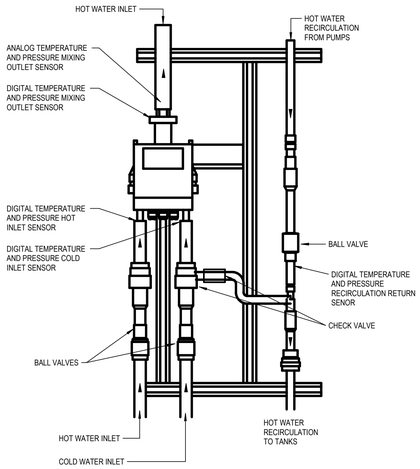
ENLARGED FIRE PUMP ROOM FLOOR PLANS - BASEMENT

NOV 16, 2026

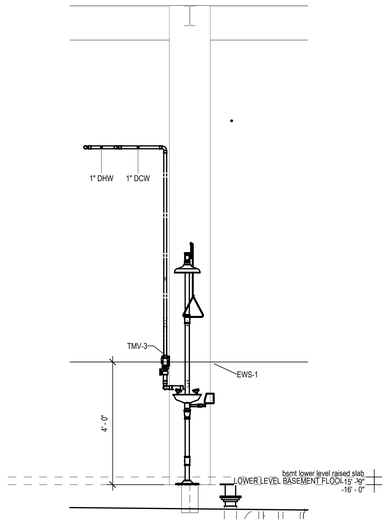
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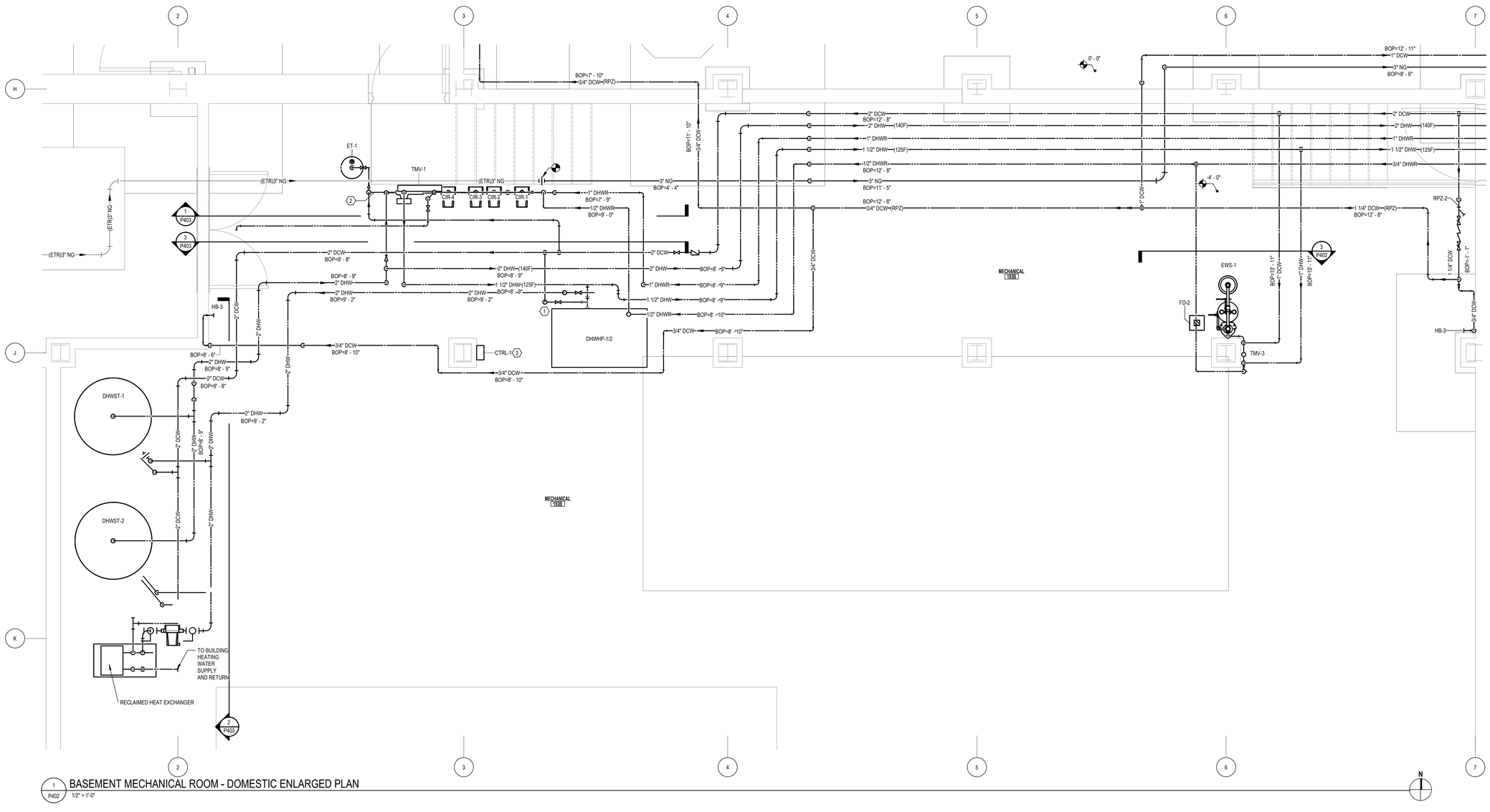
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2 P402 MASTER MIXING VALVE DETAIL
NOT TO SCALE



3 P402 MECHANICAL ROOM EMERGNECY SHOWER SECTION
1/2" = 1'-0"



1 P402 BASEMENT MECHANICAL ROOM - DOMESTIC ENLARGED PLAN
1/2" = 1'-0"

KEYED NOTES

1. PROVIDE 2" COLD WATER AND 2" HOT WATER DOWN TO WATER SOURCE HEAT PUMPS. PROVIDE ISOLATION VALVES AT LOW LEVEL WITH DRAIN POINT FOR BOTH SYSTEMS. PROVIDE IN LINE STRAINER ON COLD WATER LINE. PROVIDE UNIONS ON CONNECTION TO UNIT.
2. PROVIDE 1-1/2" COLD WATER, 1-1/2" HOT WATER (140F) DROP AND HOT WATER RISE (125F).
3. PROVIDE DOMESTICE HOT WATER CONTROL PANEL ON COLUMN WALL. ROUTE BACK SENSOR CABLES FROM DOMESTIC WATER SOURCE HEAT PUMP DHWHP-1, DHWHP-2, STORAGE TANK COLD TRIGGER TEMPERATURE SENSORS DHWST-1, DHWST-2, AND HOT WATER SUPPLY WARM TRIGGER TEMPERATURE SENSOR.

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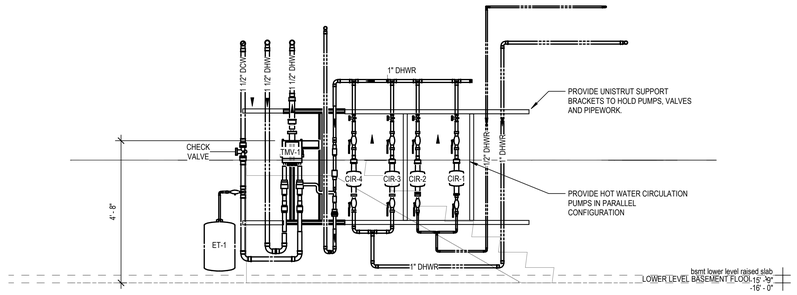
ENLARGED MECHANICAL ROOM FLOOR PLANS - BASEMENT

NOV 16, 2026

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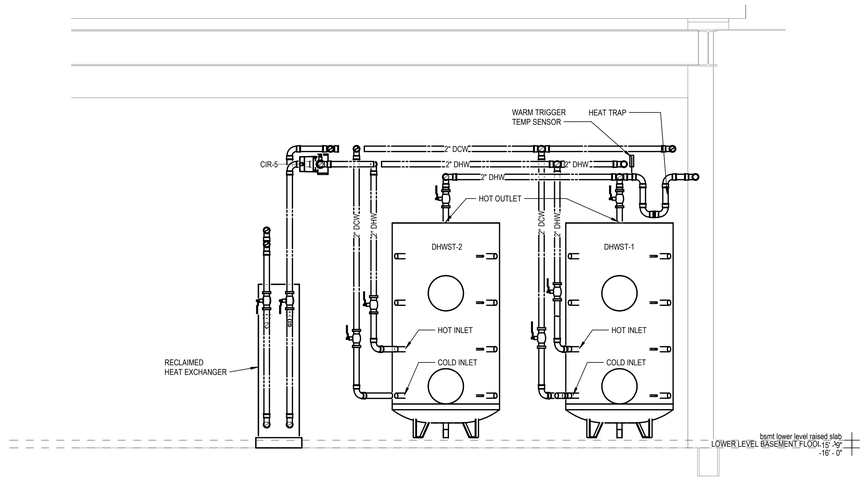
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1 P403 MECHANICAL ROOM - TMV AND CIRCULATION PUMP SECTION

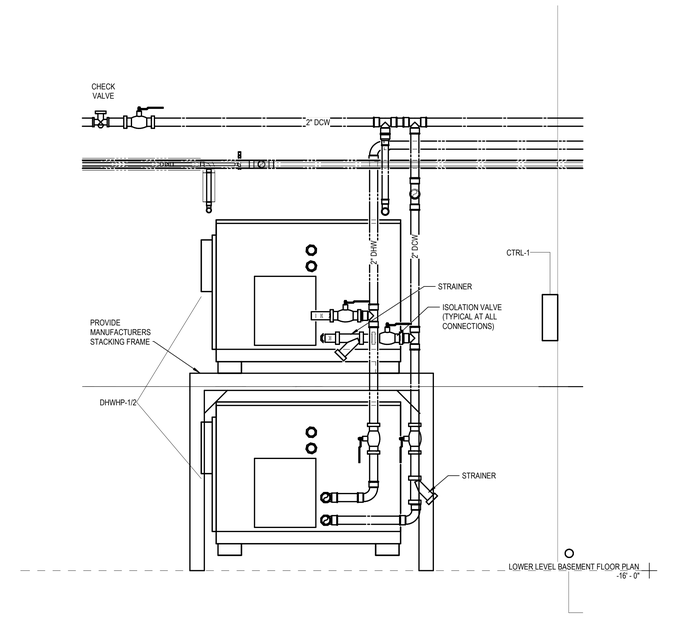
1/2" = 1'-0"



NOTES:
1. PROVIDE UNION CONNECTIONS AND ISOLATION VALVES ON ALL DOMESTIC HOT WATER STORAGE TANKS.
2. INSTALL HOT WATER TANKS ON 4" HOUSE KEEPING PAD.
3. PROVIDE MINIMUM 1" BALL VALVE ON TANK LOW POINTS FOR DRAIN PURUPOSES. FLOOR DRAIN PROVIDED FOR DRAIN POINT. (DRAINS NOT SHOWN)
4. ROUTE TEMPERATURE AND PRESSURE RELIEF VALVES TO TRAPPED SANITARY WASTE.

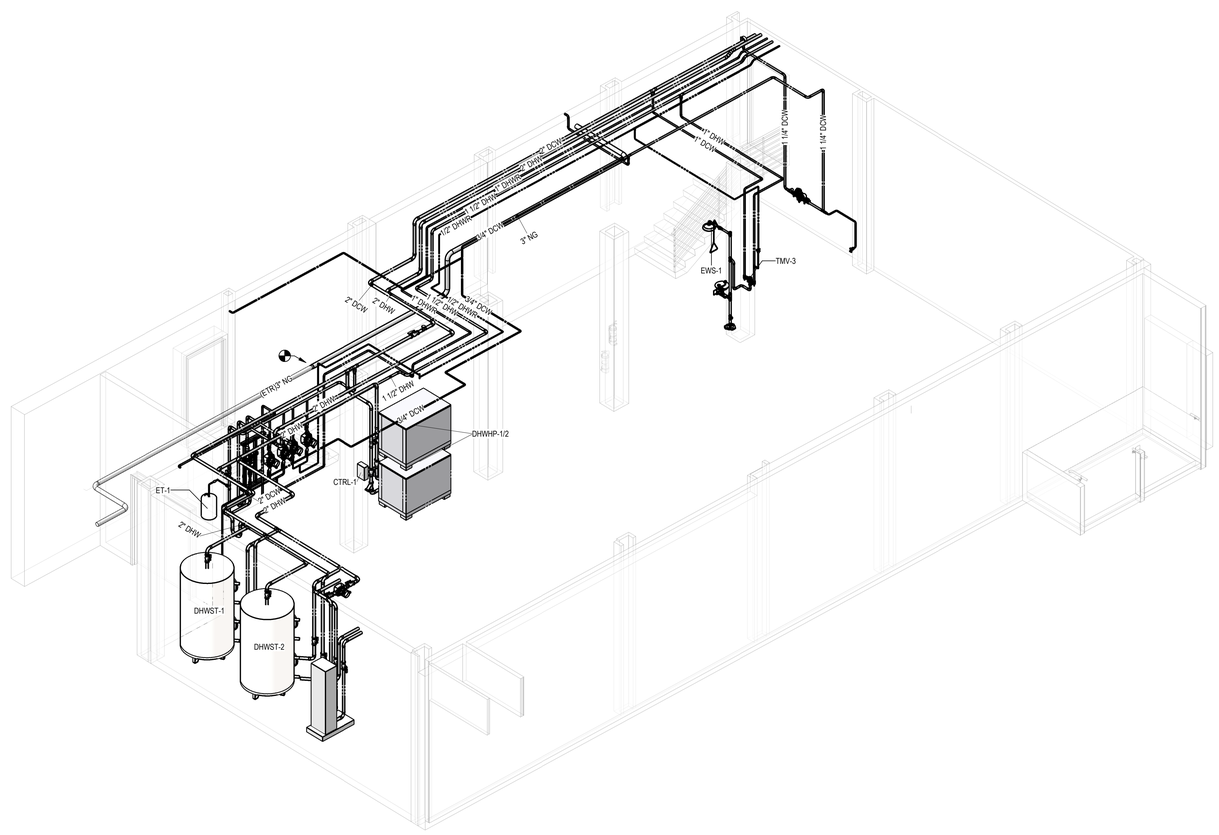
2 P403 DOMESTIC HOT WATER STORAGE TANK SECTION

1/2" = 1'-0"



3 P403 WATER SOURCE HEAT PUMP SECTION

3/4" = 1'-0"



4 P403 BASEMENT MECHANICAL ROOM - ISOMETRIC VIEW

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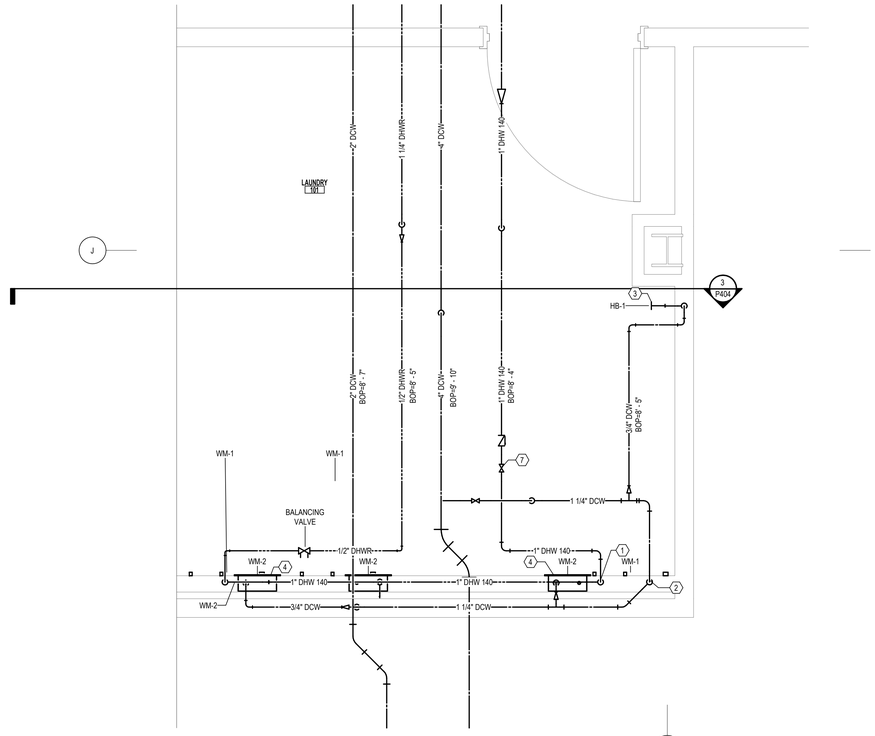
MECHANICAL ROOM SECTION DETAILS - BASEMENT

NOV 16, 2026

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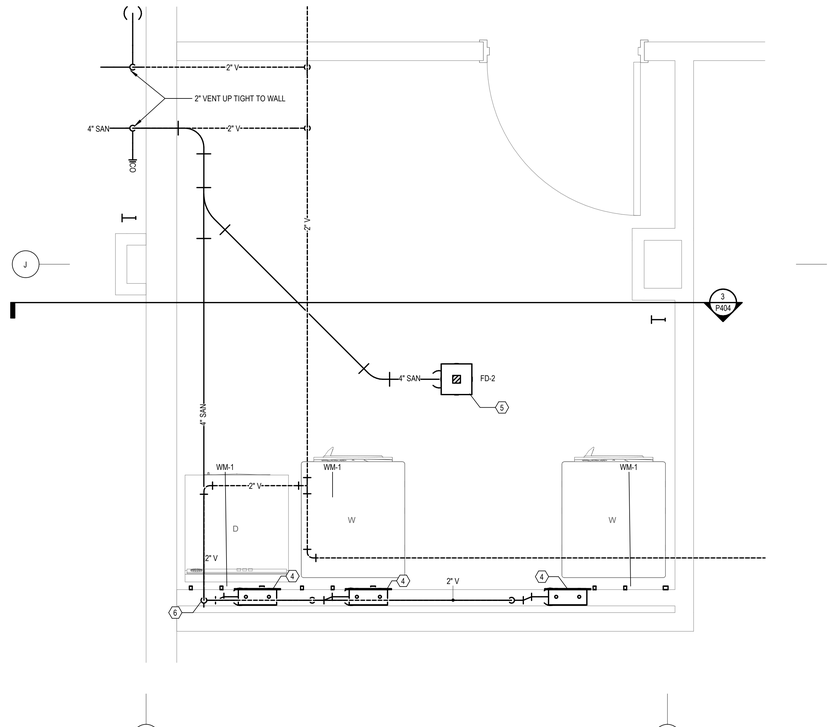
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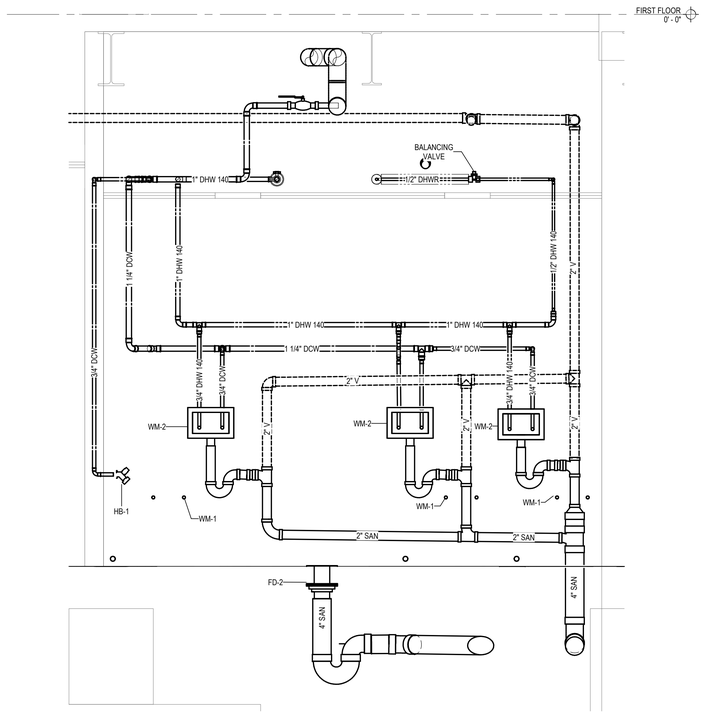
2 P404 BASEMENT LAUNDRY - ENLARGED DOMESTIC PLAN

3/4" = 1'-0"



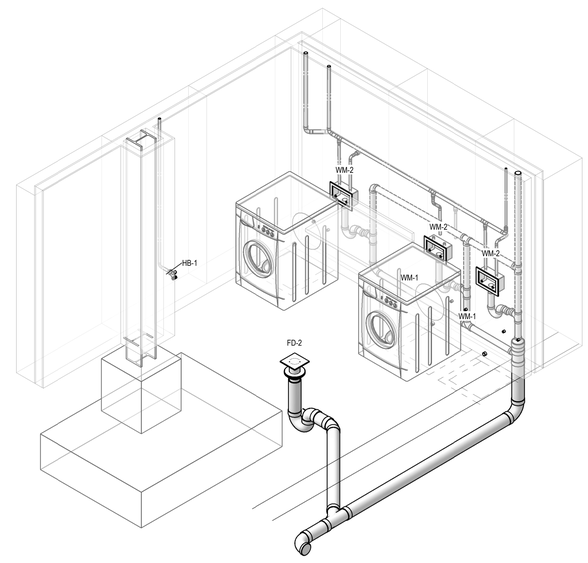
1 P404 BASEMENT LAUNDRY - ENLARGED WASTE PLAN

3/4" = 1'-0"



3 P404 BASEMENT LAUNDRY ROOM

3/4" = 1'-0"



4 P404 LAUNDRY - 3D ISOMETRIC

GENERAL NOTES

1. WASHER AND DRYER PROVIDED BY CLIENT.
2. DUCTLESS DRYER - PROVIDE CONNECTION WITH AIR GAP TO SANITARY FOR CONDENSATION.
3. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
4. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. ADJUST VALVES TO 0.5 GPM RETURN.
5. PROVIDELAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
6. INSTALL 2" VENT WITHIN 16'-0" OF 4" FLOOR DRAIN.
7. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

KEYED NOTES

1. 1-1/4" HOT WATER TO DROP DOWN WITHIN WALL.
2. PROVIDE 1-1/4" COLD WATER DROP WITHIN WALL. ALLOW TO OFFSET TO BACK OF WALL.
3. PROVIDE 3/4" BRASS HOSE BIB 2'-0" ABOVE FINISH FLOOR LEVEL. SURFACE MOUNT PIPE DROPS FROM CEILING.
4. PROVIDE RECESSED WASHING MACHINE BOXES WITH INTERGRATED DOMESTIC WASHING MACHINES CONNECTIONS, WATER HAMMER ARRESTORS AND WASTE CONNECTION POINT FOR WASHING MACHINE DISCHARGE AND DRYER CONDENSATION.
5. PROVIDE 4" FLOOR DRAINS WITHIN 16'-0" OF VENTED SANITARY LINE.
6. 4" SANITARY RISE.
7. PROVIDE ISOLATION VALVE ON DOMESTIC SERVICES SERVING LAUNDRY . PROVIDE CHECK VALVE ON HOT WATER PIPEWORK. VALVES ACCESSIBLE VIA ACT CEILING TILES.

KEY PLAN



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LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By:	E.B
Checked By:	T.A
Project Manager:	M.R.

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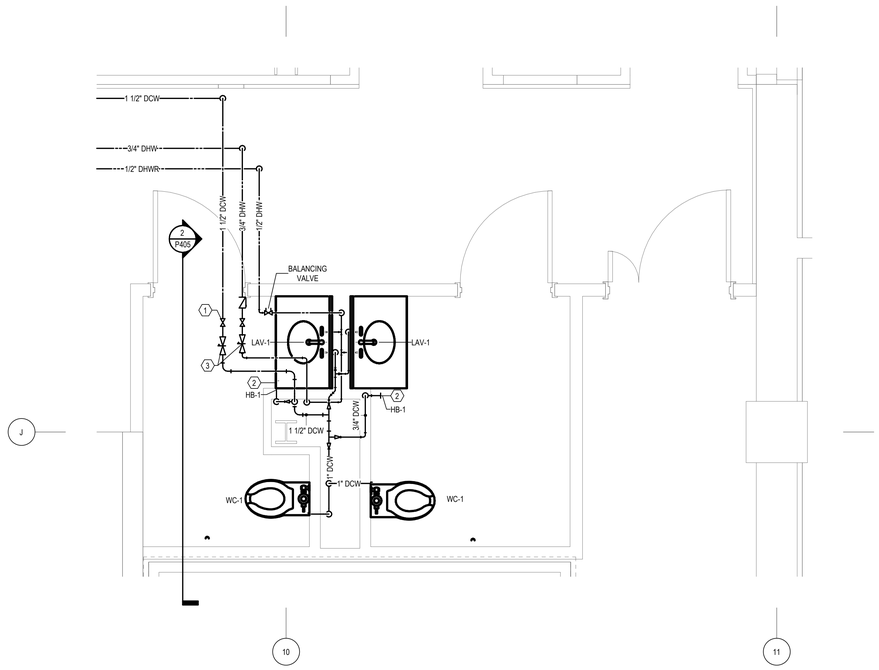
P404

ENLARGED LAUNDRY FLOOR PLANS - BASEMENT

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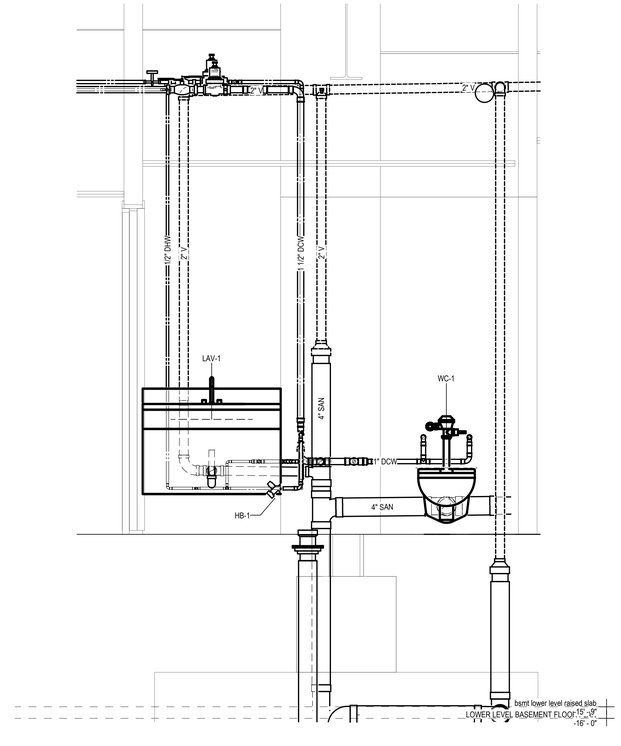
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1 P405 — BASEMENT PLUMBING DOMESTIC PLAN - ENLARGED FLOOR PLAN

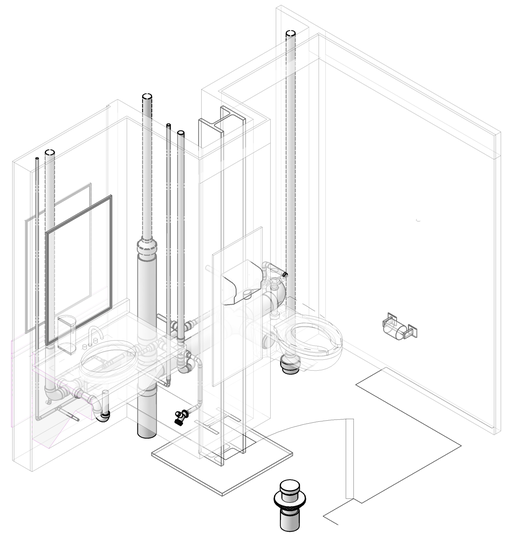
1/2" = 1'-0"

N



2 P405 — BASEMENT BATHROOM - PLUMBING ELEVATION

3/4" = 1'-0"



3 P405 — BASEMENT BATHROOM - 3D ISOMETRIC

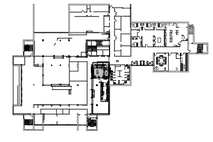
GENERAL NOTES

1. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. ADJUST VALVES TO 0.5 GPM RETURN.
3. PROVIDELAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
4. INSTALL 2" VENT WITHIN 16'-0" OF 4" FLOOR DRAIN.
5. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

#KEYED NOTES

1. PROVIDE ISOLATION VALVE ON DOMESTIC SERVICES SERVING BASEMENT BATHROOMS. PROVIDE CHECK VALVE ON HOT WATER PIPEWORK. VALVES ACCESSIBLE VIA ACT CEILING TILES.
2. PROVIDE HOSE BIB FOR BATHROOM WASHDOWN AND CLEANING. INSTALL HOSE BIB 1'-0" FROM FINISH FLOOR LEVEL.
3. PROVIDE PRESSURE REDUCTION VALVE WITHIN CEILING SPACE. COMMISSION VALVE TO MAXIMUM 60PSI.

KEY PLAN



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EXPIRATION: 02/28/2027

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Project Manager:	M.R.

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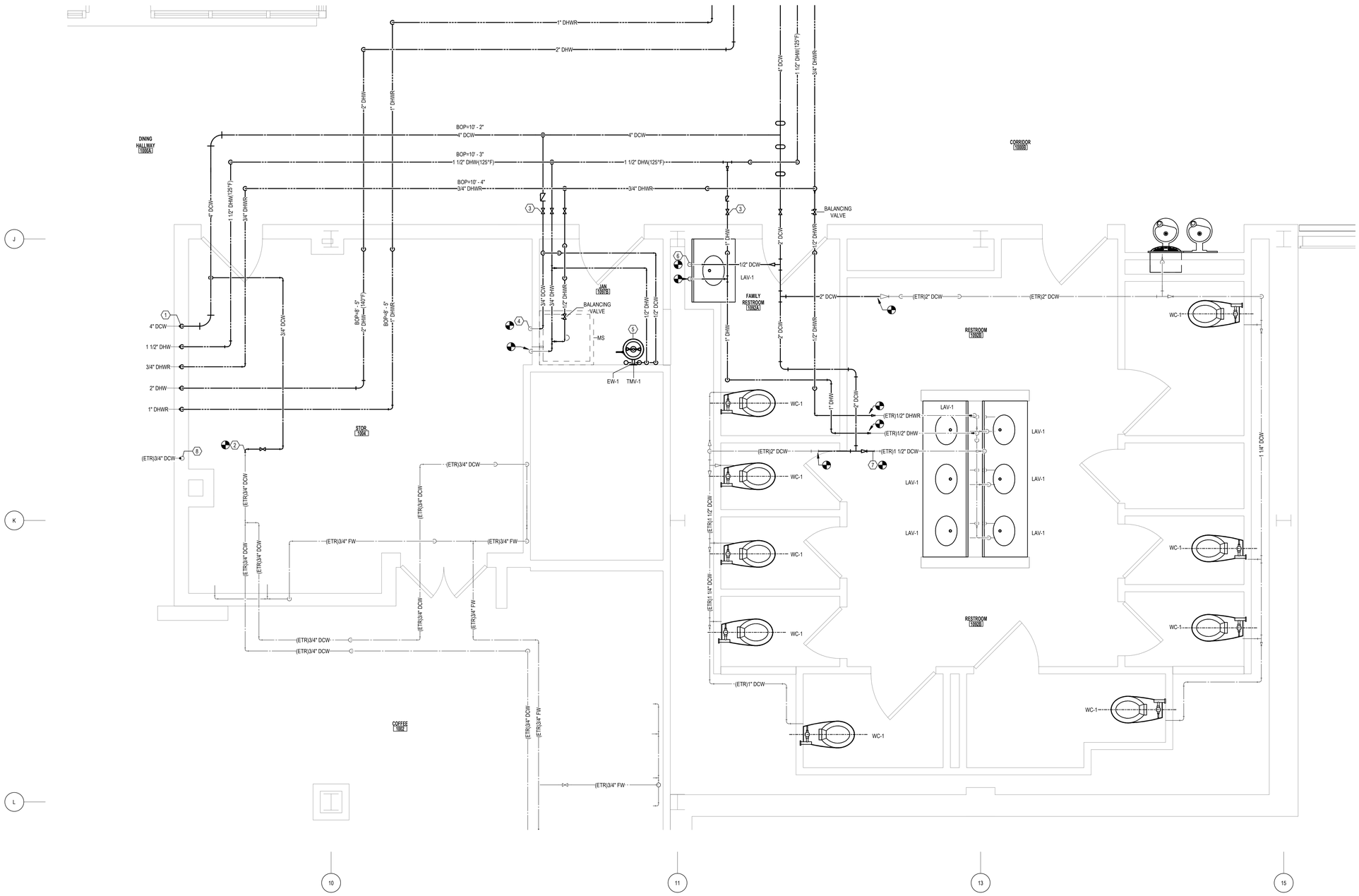
P405

ENLARGED BATHROOM FLOOR PLANS - BASEMENT

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1 P406 FIRST FLOOR BATHROOM DOMESTIC PLAN

1/2" = 1'-0"

N

0' 0.5' 1' 2' 4'

SCALE: 1/2" = 1'-0"

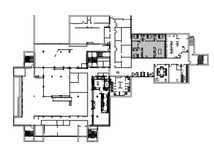
GENERAL NOTES

1. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. ADJUST VALVES TO 0.5 GPM RETURN.
3. PROVIDE LAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
4. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

KEYED NOTES

1. PROVIDE DOMESTIC RISERS FROM BASEMENT UP TO FIRST FLOOR CEILING. UTILIZE EXISTING CORE HOLES WHERE POSSIBLE AND PROVIDE ADDITIONAL CORE HOLES FOR NEW DOMESTIC SERVICES.
2. RECONNECT COLD WATER SERVICES TO DUNKIN DONUTS WITHIN CEILING SPACE. PROVIDE ISOLATION VALVE.
3. PROVIDE ISOLATION VALVE ON DOMESTIC SERVICES SERVING JANITORS CLOSET AND LEVEL 1 BATHROOM. PROVIDE CHECK VALVE ON HOT WATER PIPEWORK. VALVES ACCESSIBLE VIA ACT CEILING TILES.
4. CONNECT ONTO COLD AND HOT WATER PIPEWORK WITHIN CEILING SPACE OF JANITORS CLOSET. VERTICAL DROPS WITHIN WALL TO REMAIN.
5. PROVIDE WALL MOUNTED EMERGENCY EYEWASH 3'-0" ABOVE FINISH FLOOR LEVEL. EYEWASH TO BE FITTED WITH THERMOSTATIC MIXING VALVE AND COMMISSIONED TO 80°F DISCHARGE TEMPERATURE. DRAINAGE TO BE SURFACE MOUNTED AND INDIRECTLY DISCHARGE INTO MOP SINK.
6. CONNECT ONTO COLD AND HOT WATER PIPEWORK WITHIN CEILING SPACE OF FAMILY RESTROOM. VERTICAL DROPS WITHIN WALL TO REMAIN.
7. CONNECT ONTO EXISTING TO REMAIN DOMESTIC SERVICES OF RESTROOM WITHIN CEILING SPACE.
8. DOMESTIC PENETRATIONS SERVING 2 AND 3 BAY SINK IN DUNKIN DONUTS TO REMAIN.

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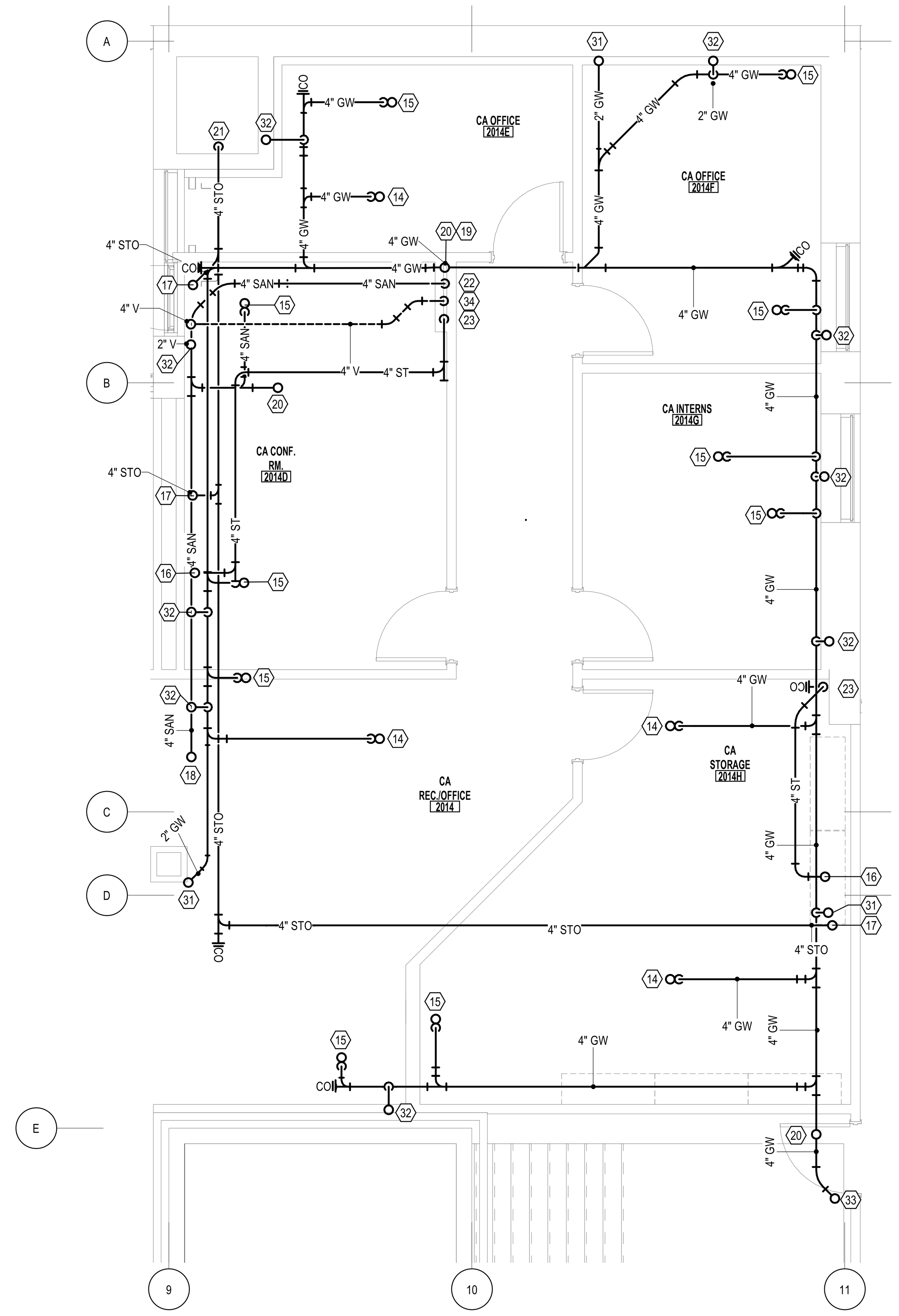
ENLARGED FLOOR PLAN - FIRST FLOOR

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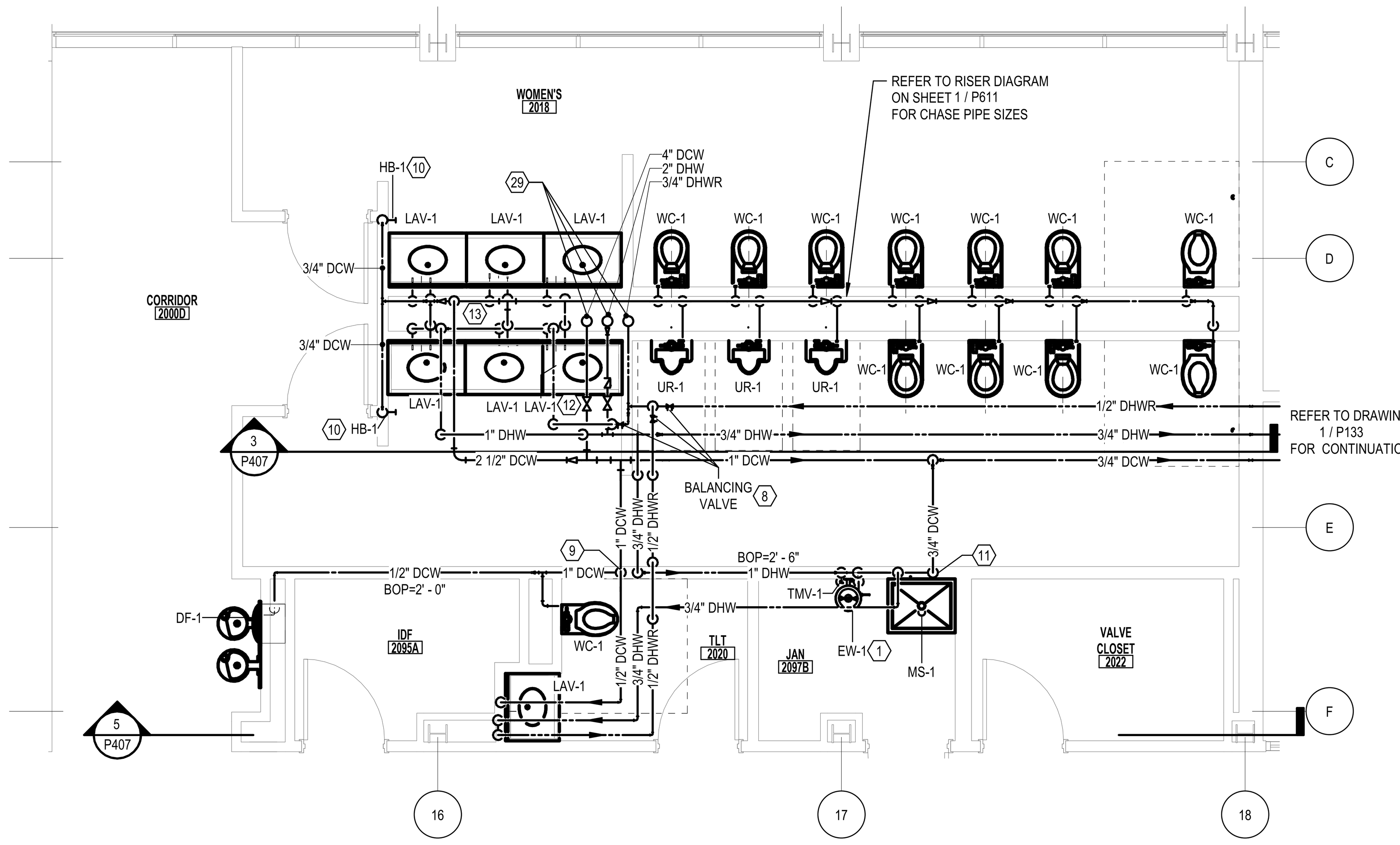
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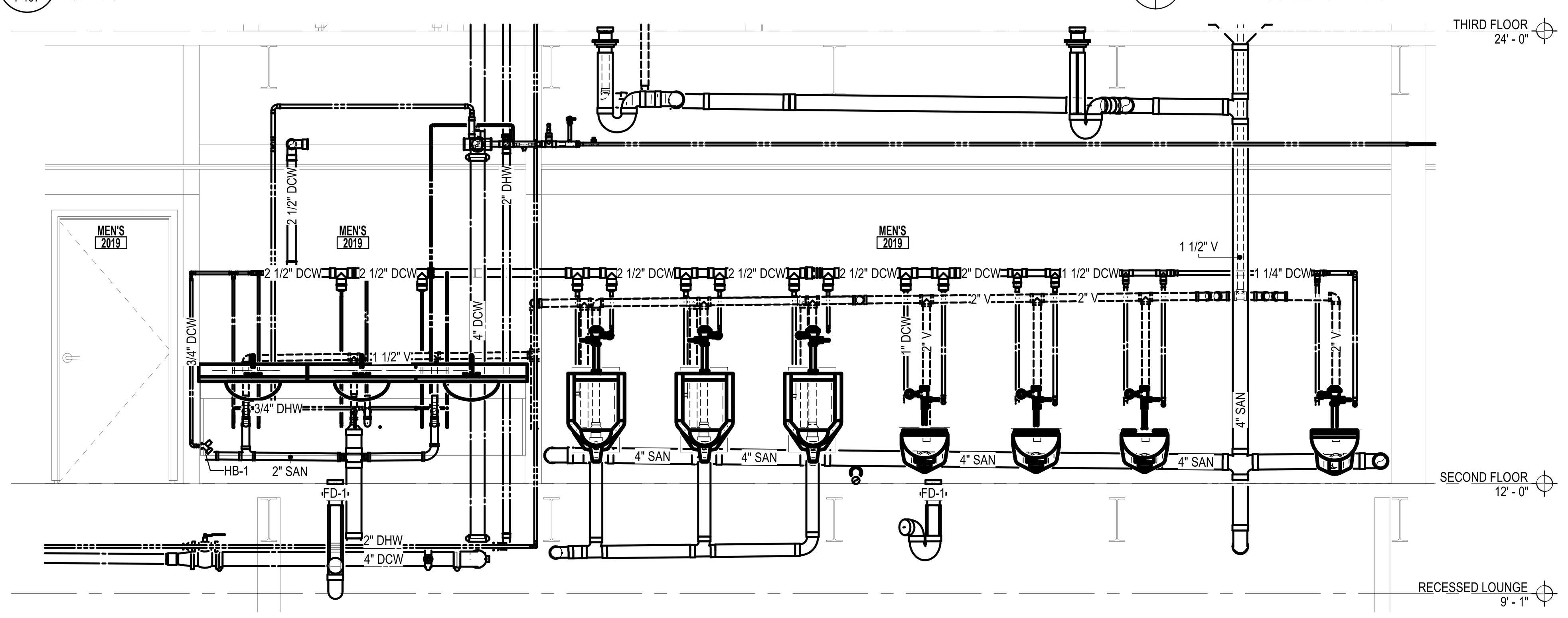
6 SECOND FLOOR PLUMBING KITCHEN SANITARY PLAN
P407 1/4" = 1'-0"

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

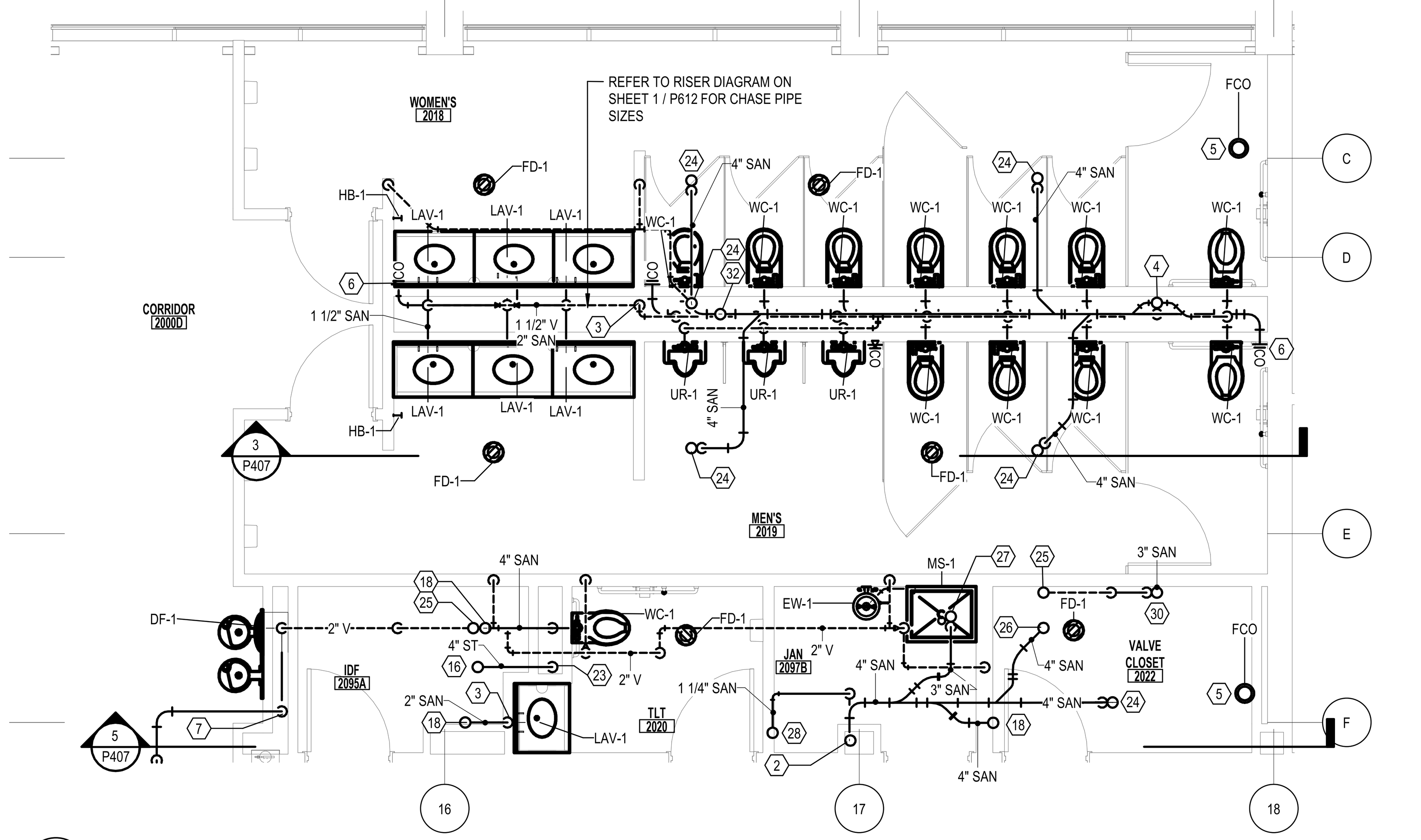


2 SECOND FLOOR BATHROOM - ENLARGED DOMESTIC PLAN
P407 1/4" = 1'-0"

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

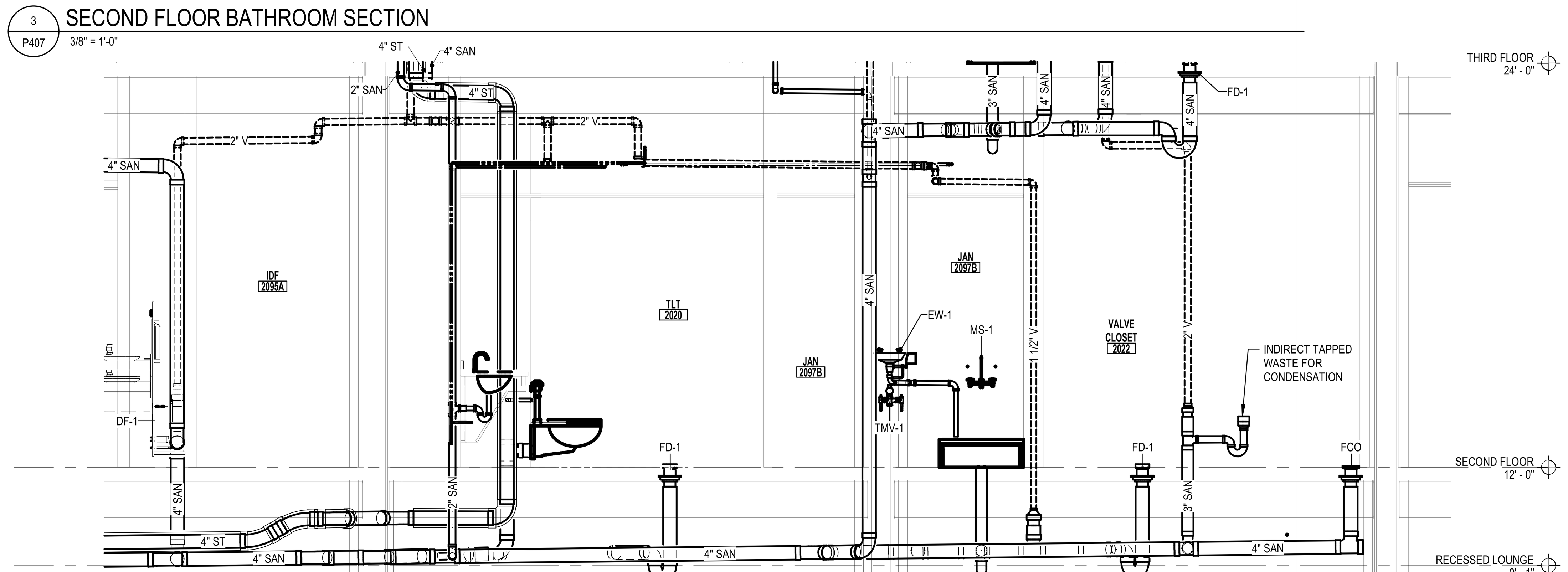


3 SECOND FLOOR BATHROOM SECTION
P407 3/8" = 1'-0"

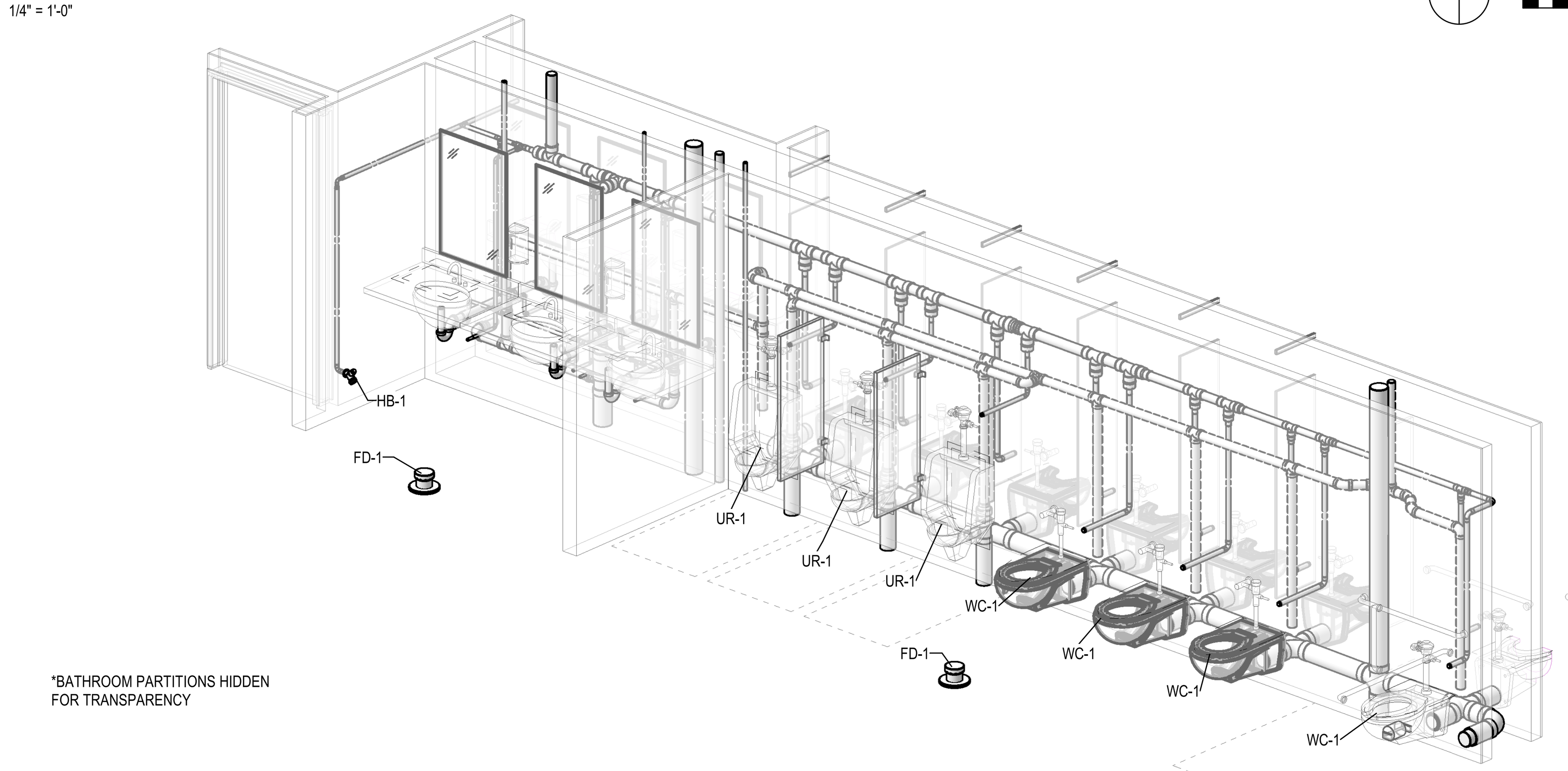


1 SECOND FLOOR BATHROOM - ENLARGED WASTE PLAN
P407 1/4" = 1'-0"

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



5 SECOND FLOOR INDIVIDUAL BATHROOM SECTION
P407 3/8" = 1'-0"



*BATHROOM PARTITIONS HIDDEN FOR TRANSPARENCY

4 MEN'S BATHROOM - 3D ISOMETRIC
P407 NOT TO SCALE

GENERAL NOTES

1. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. ADJUST VALVES TO 0.5 GPM RETURN.
3. PROVIDELAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
4. INSTALL 2" VENT AS SHOWN TO MAINTAIN PROPER ARM LENGTH FROM TRAP OF FLOOR DRAIN.
5. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

KEYED NOTES

1. PROVIDE WALL MOUNTED EMERGENCY EYEWASH 3'-0" ABOVE FINISH FLOOR LEVEL. EYEWASH TO BE FITTED WITH THERMOSTATIC MIXING VALVE AND COMMISSIONED TO 80 DEG F DISCHARGE TEMPERATURE. DRAINAGE TO BE SURFACE MOUNTED AND INDIRECTLY DISCHARGED INTO MOP SINK.
2. 4" SANITARY RISER DOWN TO BELOW. PROVIDE 2" VENT CONNECTION UP TO ABOVE. CONNECT INTO VENT PIPING ABOVE FLOOD LEVEL RIM OF FIXTURES SERVED.
3. 2" SANITARY DOWN WITHIN WALL.
4. PROVIDE 4" SANITARY WASTE TO CHASE ABOVE.
5. PROVIDE 4" CLEAN OUT. INSTALL RISER UP TO FINISH FLOOR LEVEL.
6. PROVIDE WALL CLEANOUT AT LOW LEVEL FOR SANITARY SYSTEM. FINISH CLEANOUTS WITH ROUND CHROME FINISH PLATE.
7. 4" SANITARY DROP TO FLOOR BELOW.
8. PROVIDE BALANCING VALVES WITHIN CEILING SPACE. 1X BALANCE VALVES TO SERVE SECOND FLOOR BATHROOM LAVATORIES, 1X BALANCE VALVE TO SERVE TRT AND JANITOR ROOMS, AND 1X BALANCE VALVE TO SERVE SINK IN BREAK ROOM [2026]. VALVES ACCESSIBLE VIA ACT CEILING TILE.
9. PROVIDE COLD WATER AND HOT WATER DROP IN STUD WALL FROM WITHIN CEILING. RUN DOMESTIC SERVICES WITHIN WALL TO PLUMBING FIXTURES. HOT WATER RETURN TO OFFSET WITHIN CEILING.
10. PROVIDE HOSE BIB FOR BATHROOM WASHDOWN AND CLEAINING. INSTALL HOSE BIB 1'-0" FROM FINISH FLOOR LEVEL.
11. PROVIDE COLD WATER DROP WITHIN STUD WALL FOR MOP SINK AND EMERGENCY EYE WASH STATION.
12. PROVIDE 3" COLD WATER SHUT OFF VALVE. 1-1/2" HOT WATER SHUT OFF VALVE AND CHECK VALVE WITHIN CEILING SPACE TO ISOLATE SECOND FLOOR BATHROOM PLUMBING FIXTURES.
13. DOMESTIC SERVICES DROP FROM WITHIN CEILING TO CHASE.
14. GREASE WASTE PIPE WITH P-TRAP UP TO FLOOR DRAIN.
15. GREASE WASTE PIPE WITH P-TRAP UP TO FLOOR SINK.
16. STORM PIPING RISER UP TO ABOVE.
17. STORM OVERFLOW PIPING RISER UP TO ABOVE.
18. SANITARY RISER UP TO ABOVE.
19. GREASE WASTE PIPING DOWN TO BELOW.
20. PROVIDE SANITARY/GREASE WASTE PIPING UP TO FLOOR CLEANOUT.
21. STORM OVERFLOW PIPING DOWN TO BELOW.
22. SANITARY PIPING DOWN TO BELOW.
23. STORM PIPING DOWN TO BELOW.
24. SANITARY PIPING WITH P-TRAP UP TO FLOOR DRAIN.
25. SANIARY VENT PIPING RISER UP TO ABOVE.
26. SANITARY PIPING UP TO WATER CLOSET.
27. SANITARY PIPING WITH P-TRAP UP TO MOP SINK ABOVE.
28. SANITARY PIPING RISER TO EYE WASH STATION ABOVE.
29. DOMESTIC WATER PIPING RISER TO ABOVE AND DOWN TO BELOW.
30. PROVIDE FUNNEL WITH TRAP FOR INDIRECT CONDENSATE DRAIN.
31. 2" GW PIPING UP TO KITCHEN HAND WASHING SINK ABOVE.
32. 2" VENT UP VERTICALLY WITH NO MORE THAN 45 DEG BEND TO ABOVE FLOOD LEVEL RIM OF FIXTURE SERVED BEFORE CONNECTION INTO VENT SYSTEM.
33. 4" GW PIPING UP TO KITCHEN BACKFLOW PREVENTER DISCHARGE.
34. 4" SANITARY VENT PIPING DOWN TO BELOW.

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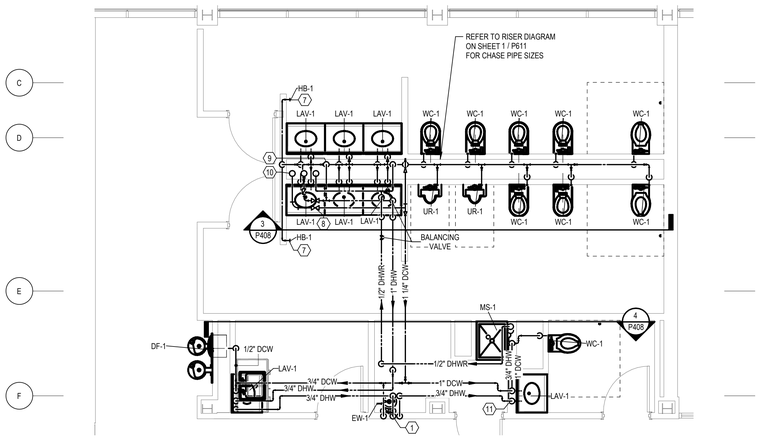
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P407
ENLARGED FLOOR PLAN - SECOND FLOOR

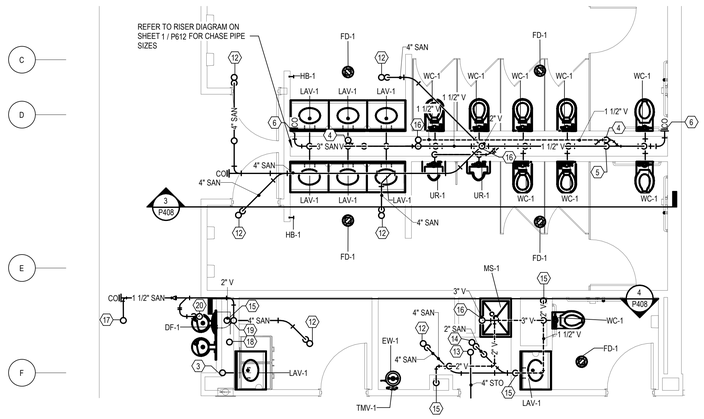
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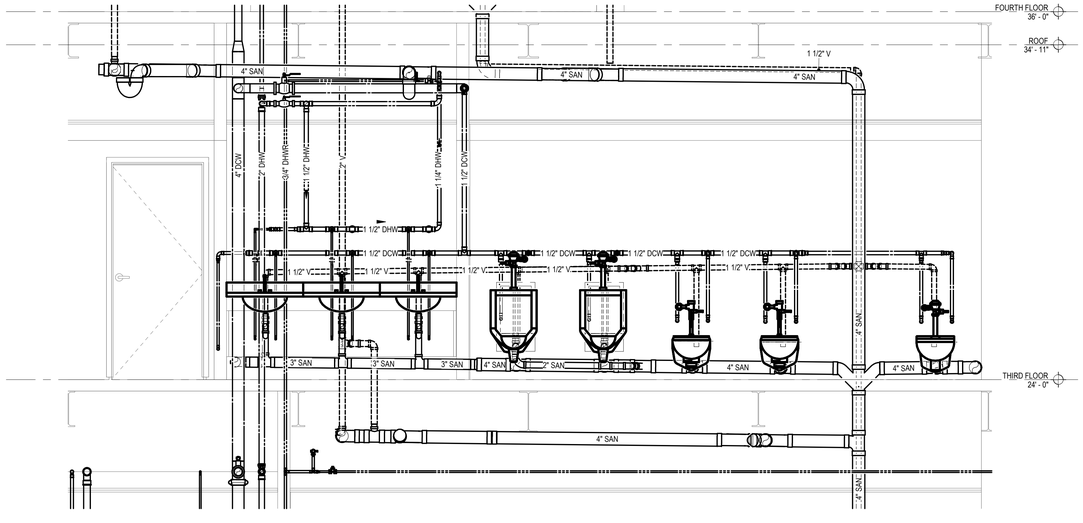
2 P408 THIRD FLOOR BATHROOM - ENLARGED DOMESTIC PLAN
1/4" = 1'-0"

N 0' 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"



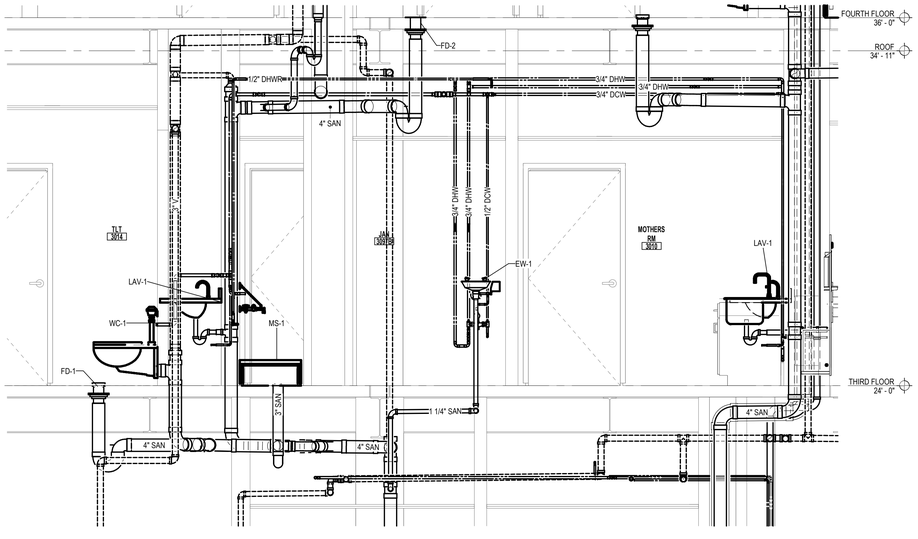
1 P408 THIRD FLOOR BATHROOM - ENGLARGED WASTE PLAN
1/4" = 1'-0"

N 0' 1' 2' 4' 8'
SCALE: 1/4" = 1'-0"



3 P408 THIRD FLOOR BATHROOM - PLUMBING SECTION
1/2" = 1'-0"

0' 0.5' 1' 2' 4'
SCALE: 1/2" = 1'-0"



4 P408 THIRD FLOOR INDIVIDUAL BATHROOM SECTION
1/2" = 1'-0"

0' 0.5' 1' 2' 4'
SCALE: 1/2" = 1'-0"

GENERAL NOTES

1. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. COMMISSION VALVES TO 0.5 GPM RETURN.
3. PROVIDELAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
4. INSTALL 2" VENT AS SHOWN TO MAINTAIN PROPER ARM LENGTH BETWEEN TRAP OF FLOOR DRAIN.
5. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

KEYED NOTES

1. PROVIDE WALL MOUNTED EMERGENCY EYEWASH 3'-0" ABOVE FINISH FLOOR LEVEL. EYEWASH TO BE FITTED WITH THERMOSTATIC MIXING VALVE AND COMMISSIONED TO 80°F DISCHARGE TEMPERATURE.
3. 2" SANITARY RISER FROM FLOOR BELOW.
4. 2" VENT RISE.
5. 4" SANITARY RISE.
6. PROVIDE WALL CLEAN OUTS AT LOW LEVEL FOR SANITARY SYSTEM. FINISH CLEANOUTS WITH ROUND CHROME FINISH PLATE.
7. PROVIDE HOSE BIB FOR BATHROOM WASHDOWN AND CLEANING. INSTALL HOSE BIB 1'-0" FROM FINISH FLOOR LEVEL.
8. PROVIDE 3" COLD WATER BALL VALVE. 1-1/2" HOT WATER BALL VALVE AND CHECK VALVE WITHIN CEILING SPACE TO ISOLATE THIRD FLOOR BATHROOM PLUMBING FIXTURES.
9. PROVIDE CONTINUOUS HOT WATER PIPEWORK DOWN INTO CHASE TO SERVE LAVATORIES. RISE UP OUT OF CHASE TO SERVE INDIVIDUAL BATHROOMS AND JANITORS CLOSET.
10. PROVIDE 2-1/2" COLD WATER, 1-1/4" HOT WATER AND 1-/2" HOT WATER RETURN UP THROUGH FLOOR INTO CHASE.
11. DROP DOMESITC PIPEWORK FROM WITHIN CEILING DOWN IN WALL TO SERVE PLUMBING FIXTURES.
12. 4" RISER TO FLOOR DRAIN. PROVIDE TRAP FOR FLOOR DRAIN
13. STORM OVER FLOW RISE.
14. SAN PIPE UP TO INDIRECT FUNNEL DRAIN. PROVIDE WITH P-TRAP.
15. VENT DROP.
16. VENT RISE.
17. SAN RISE.
18. STORM PIPE RISE AND DROP.
19. 4" SANITARY DROP TO FLOOR BELOW. 4" VENT RISE.
20. SAN WITH P-TRAP UP TO MOP SINK.

KEY PLAN



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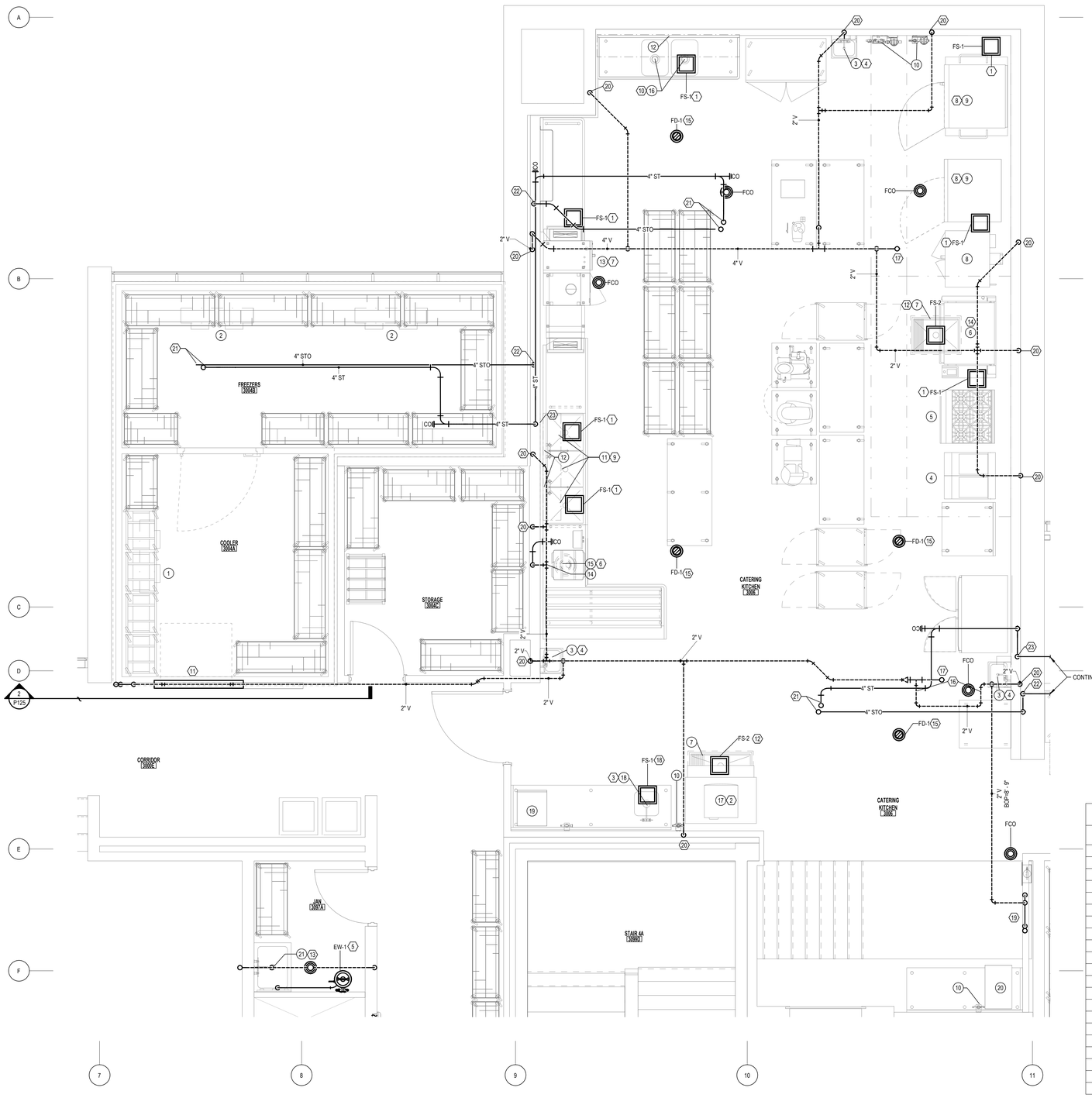
P408

ENLARGED FLOOR PLAN - THIRD FLOOR

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1 P409 THIRD FLOOR KITCHEN SANITARY PLAN

3/8" = 1'-0"

N

KITCHEN EQUIPMENT ROUGH IN SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	INDIRECT WASTE	DIRECT WASTE	GAS SIZE	BTU/H	COMMENTS
1	1	WALK-IN COOLER	3/4"	-	-	-	-
2	2	WALK-IN FREEZER	3/4"	-	-	-	-
3	3	HAND SINK	-	1-1/2"	-	-	-
4	1	FRYER, GAS	-	-	3/4"	244000	-
5	1	RANGE, GAS	-	-	1-1/4"	260000	-
6	1	TILT SKILLET, ELECTRIC	1-1/2"	-	-	-	-
7	2	FLOOR TROUGH	-	1-1/2"	-	-	-
8	1	CONVECTION OVEN, GAS	-	-	3/4"	140000	-
9	2	COMBI OVEN, ELECTRIC	2"	-	-	-	-
10	3	WATER FILTER	-	-	-	-	-
11	1	SOILED DISHTABLE (3 COMPARTMENT)	1-1/2"	-	-	-	-
12	3	SWING FAUCET/POT SINK FAUCET	-	-	-	-	-
13	1	WAREWASHER, CONVEYOR	-	-	-	-	-
14	1	PRERINSE FAUCET	-	-	-	-	-
15	1	DISPOSER	-	1-1/2"	-	-	CONNECT INTO SANITARY
16	1	TWO COMPARTMENT SINK	1-1/2"	-	-	-	-
17	1	ICE BIN/ICE MACHINE	3/4"	-	-	-	-
18	1	WORK SINK	1-1/2"	-	-	-	-
19	1	COFFEE MACHINE	-	-	-	-	-
20	1	SODA MACHNIE	-	-	-	-	-
21	1	MOP SINK CABINET W/ FAUCET	-	2"	-	-	-

NOTES:
1. REFER TO P-410 FOR DOMESTIC WATER CONNECTION INFORMATION.

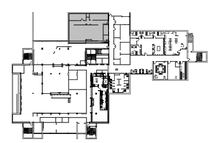
GENERAL NOTES

1. DEADLEGS OFF HOT WATER SUPPLY AND RETURN TO HAVE A MAXIMUM DISTANCE OF 2'-0" TO ALL PUBLIC LAVATORIES. ALL OTHER FIXTURES TO HAVE A MAXIMUM WAIT TIME OF 10 SECONDS.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE.
3. CONTINUOUS LOOP USED FOR HOT WATER SUPPLY
4. PROVIDE 1/2" CHROME ISOLATION VALVES ON ALL KITCHEN EQUIPMENT.
5. REFER TO KITCHEN CONSULTANTS PLANS FOR ADDITIONAL DOCUMENTATION. SCHEDULE PROVIDED FOR REFERENCE.
6. 6" METAL STUD WALL PROVIDED AROUND KITCHEN. PLUMBING CONTRACTOR TO UTILIZED FRAME WORK FOR ALL DROPS AND HORIZONTAL RUNS FOR KITCHEN EQUIPMENT. PROVIDE RUBBER / PLASTIC GROMMETS TO PREVENT GALVANIC CORROSION AND WATER HAMMER.

KEYED NOTES

1. PROVIDE 4" GW PIPING WITH P-TRAP UP TO FLOOR SINK. PROVIDE VENT CONNECTION AS SHOWN.
2. ROUTE 3/4" CONDENSATE AND 1" DRAIN PIPING FROM ICE MACHINE AND BIN TO FLOOR TROUGH. TERMINATE WITH AIR GAP.
3. ROUTE 1-1/2" DRAIN PIPING FROM WORK SINK TO FLOOR SINK. TERMINATE WITH AIR GAP.
4. PROVIDE 1-1/2" SAN WITH P-TRAP SERVING HAND WASHING SINK. CONNECT TO 2" VENT PIPING SERVING SINK AND FIXTURES BELOW AS A WET VENT.
5. PROVIDE 1-1/2" DRAIN SERVING EYE WASH STATION. DRAIN INDIRECTLY INTO MOP SINK. TERMINATE WITH AIR GAP.
6. PROVIDE 2" SANITARY CONNECTION TO FOOD DISPOSER. CONNECT 1-1/2" VENT PIPING AND ROUTE ABOVE CEILING BEFORE CONNECTION WITH KITCHEN VENT SYSTEM.
7. ROUTE 2" DRAIN FROM DISHWASHER TEMPERED DRAIN WATER TO FLOOR SINK. TERMINATE WITH AIR GAP. REFER TO KITCHEN DRAWINGS FOR INFORMATION REGARDING TEMPERED DRAINAGE.
8. ROUTE 2" DRAIN FROM COMBI OVEN TO FLOOR SINK. TERMINATE WITH AIR GAP.
9. ROUTE 1-1/2" DRAIN FROM EACH COMPARTMENT OF THE 3 BAY SINK TO FLOOR SINK. DRAIN INDIRECTLY WITH AIR GAP.
10. ROUTE 1-1/2" DRAIN FROM EACH COMPARTMENT OF THE 2 BAY SINK TO FLOOR SINK. DRAIN INDIRECTLY WITH AIR GAP.
11. ROUTE 3/4" CONDENSATE PIPING FROM WALK-IN COOLER/FREEZER TO FLOOR TRENCH. TERMINATE WITH AIR GAP. PROVIDE HEAT TRACING AS REQUIRED.
12. PROVIDE 4" GW PIPING UP TO FLOOR TROUGH. REFER TO KITCHEN DRAWINGS FOR INFORMATION REGARDING FLOOR TROUGHS. PROVIDE VENT CONNECTION AS SHOWN.
13. PROVIDE 2" SAN PIPING UP TO MOP SINK WITH P-TRAP. PROVIDE 1-1/2" VENT PIPING UP TO ABOVE CEILING BEFORE CONNECTING INTO KITCHEN VENT SYSTEM AS SHOWN.
14. PROVIDE 2" DRAINAGE FROM TILT SKILLET DRAIN TEMPERING SYSTEM TO FLOOR TROUGH. TERMINATE WITH AIR GAP.
15. PROVIDE AREA FLOOR DRAIN WITH 4" GW WITH P-TRAP FROM BELOW. PROVIDE VENT CONNECTION AS SHOWN.
16. ROUTE VENT PIPING AROUND HVAC DUCTWORK IN THIS AREA.
17. 4" VTR. TERMINATE NOT LESS THAN 18" ABOVE ROOF LEVEL.
18. PROVIDE 2-1/2" GREASE WASTE FROM FLOOR SINK. PROVIDE MAXIMUM 3" MAG DRILL THROUGH CENTER OF STRUCTURAL BEAM 5'-8" LEFT OF GRID #10. DO NOT USE BLOW TORCH TO CREATE PENETRATION.
19. PROVIDE SANITARY CONNECTION FOR RPZ CONECTION. PROVIDE 2" VENT RISE UP.
20. VENT DROP.
21. PROVIDE 4" ST AND STO PIPE UP TO BI FINCTIONAL ROOF DRAIN. UTILIZE EXISTING ROOF PENETRATION. PROVIDE WATER PROOF FLASHING AND PIPE BOOT.
22. OVERFLOW STORM PIPE DROP.
23. STORM PIPE DROP.

KEY PLAN



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STATE OF NEW YORK DANIEL LACCETTI 109560 LICENSED PROFESSIONAL ENGINEER

EXPIRATION: 02/28/2027

Drawn By:	E.B
Checked By:	T.A
Project Manager:	M.R.

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P409

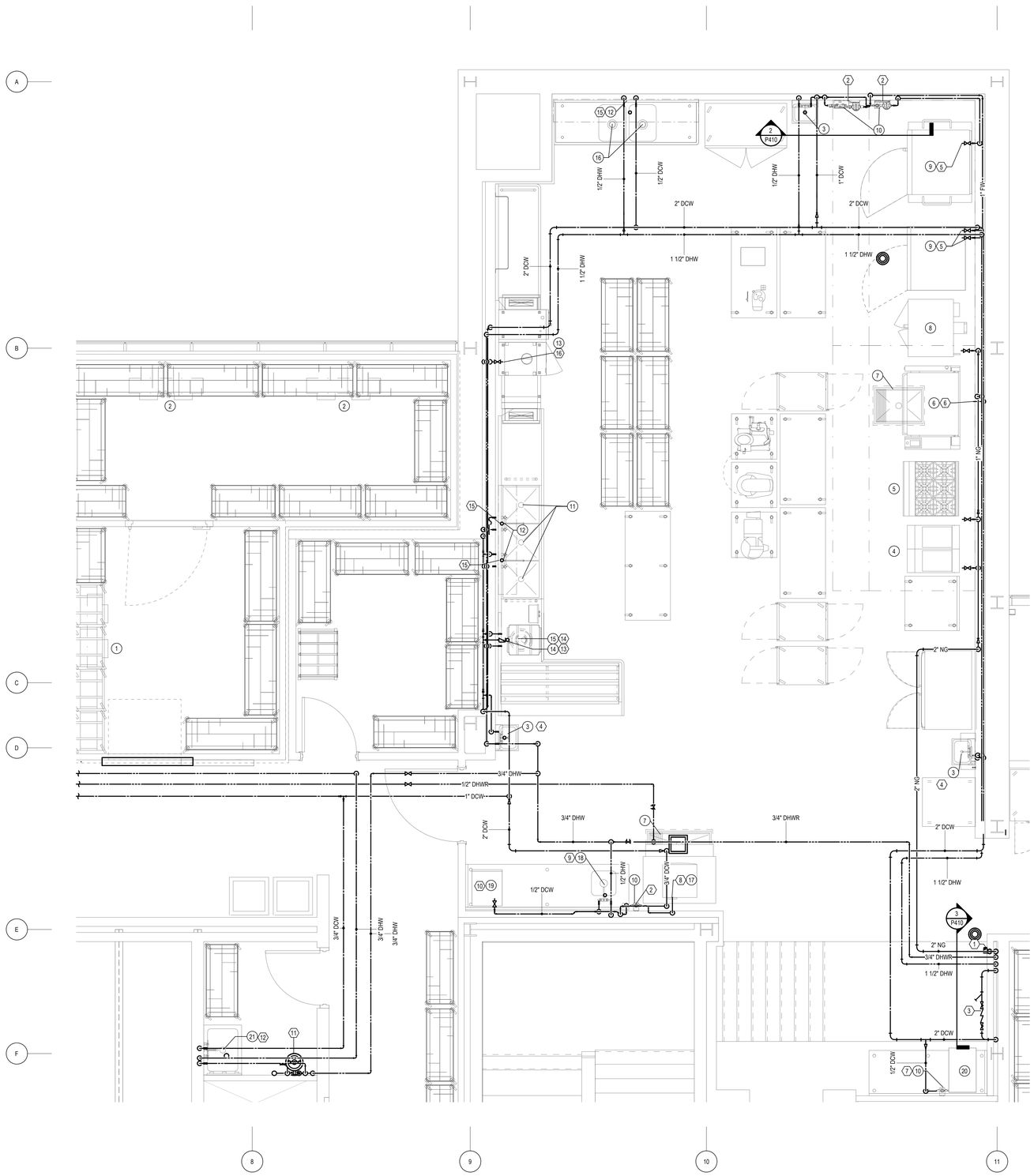
ENLARGED KITCHEN SAN FLOOR PLAN - THIRD FLOOR

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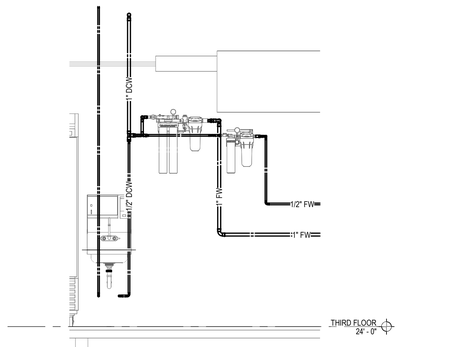
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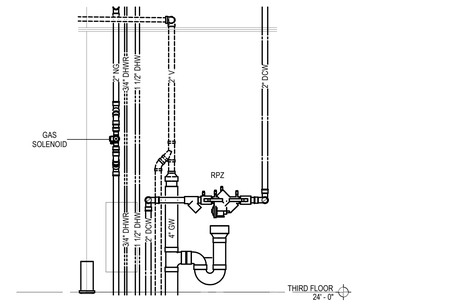
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1 P410 THIRD FLOOR PLUMBING DOMESTIC PLAN - ENLARGED KITCHEN PLAN
3/8" = 1'-0"



2 P410 3RD FLOOR KITCHEN - WATER FILTERS
1/2" = 1'-0"
0' 0.5' 1' 2' 4'
SCALE: 1/2" = 1'-0"



3 P410 GAS SOLENOID VALVE SECTION
1/2" = 1'-0"
0' 0.5' 1' 2' 4'
SCALE: 1/2" = 1'-0"

KITCHEN EQUIPMENT ROUGH IN SCHEDULE

ITEM NO.	QTY.	DESCRIPTION	CW	HW	GAS SIZE	BTU/H	COMMENTS
1	1	WALK-IN COOLER	-	-	-	-	-
2	2	WALK-IN FREEZER	-	-	-	-	-
3	3	HAND SINK	1/2"	1/2"	-	-	-
4	1	FRYER, GAS	-	-	3/4"	244000	-
5	1	RANGE, GAS	-	-	1-1/4"	260000	-
6	1	TILT SKILLET, ELECTRIC	3/4"	3/4"	-	-	-
7	2	FLOOR TROUGH	-	-	-	-	-
8	1	CONVECTION OVEN, GAS	-	-	3/4"	140000	-
9	2	COMBI OVEN, ELECTRIC	3/4"	-	-	-	PROVIDE BACKFLOW PREVENTION
10	3	WATER FILTER	3/4"	-	-	-	-
11	1	SOILED DISHTABLE (3 COMPARTMENT)	-	-	-	-	-
12	3	SWING FAUCET/POT SINK FAUCET	3/4"	3/4"	-	-	-
13	1	WAREWASHER, CONVEYOR	-	3/4"	-	-	-
14	1	PRERINSE FAUCET	1/2"	1/2"	-	-	-
15	1	DISPOSER	1/2"	1/2"	-	-	-
16	1	TWO COMPARTMENT SINK	-	-	-	-	-
17	1	ICE BIN/ICE MACHINE	3/8"	-	-	-	-
18	1	WORK SINK	1/2"	1/2"	-	-	-
19	1	COFFEE MACHINE	3/8"	-	-	-	PROVIDE BACKFLOW PREVENTION
20	1	SODA MACHINE	3/8"	-	-	-	PROVIDE BACKFLOW PREVENTION
21	1	MOP SINK CABINET W/ FAUCET	1/2"	1/2"	-	-	-

NOTE: REFER TO P-409 FOR SANITARY/GREASE WASTE/ VENT CONNECTION INFORMATION.

GENERAL NOTES

1. DEADLEGS OFF HOT WATER SUPPLY AND RETURN TO HAVE A MAXIMUM DISTANCE OF 2'-0" TO ALL PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE.
3. CONTINUOUS LOOP USED FOR HOT WATER SUPPLY
4. PROVIDE 1/2" CHROME ISOLATION VALVES ON ALL KITCHEN EQUIPMENT.
5. REFER TO KITCHEN CONSULTANTS PLANS FOR ADDITIONAL DOCUMENTATION. SCHEDULE PROVIDED FOR REFERENCE
6. 6" METAL STUD WALL PROVIDED AROUND KITCHEN. PLUMBING CONTRACTOR TO UTILIZED FRAME WORK FOR ALL DROPS AND HORIZONTAL RUNS FOR KITCHEN EQUIPMENT. PROVIDE RUBBER / PLASTIC GROMMETS TO PREVENT GALVANIC CORROSION AND WATER HAMMER.

(#) KEYED NOTES

1. PROVIDE EMERGENCY GAS SOLENOID VALVE SERVING KITCHEN EQUIPMENT. SOLENOID VALVE TO ISOLATE ALL GAS SUPPLY IN THE EVENT OF EMERGENCY.
2. PROVIDE WATER FILTRATION UNITS. PROVIDE ASSE 1022 BACKFLOW PREVENTER BEFORE INLET CONNECTION.
3. PROVIDE 2" RPZ AT LOW LEVEL TO SERVE ALL KITCHEN FIXTURES.
4. 1/2" DCW, 1/2" DHW, 1/2" HWR PIPING DOWN TO HAND WASHING SINK.
5. 3/4" DCW FROM COMBI OVEN FILTRATION SYSTEM. PROVIDE STUBBED OUT PIPING AT WILL WITH SHUTOFF VALVE.
6. 3/4" DHW, 3/4" DCW DOWN TO TILT SKILLET. PROVIDE STUBBED OUT PIPING AT WALL WITH SHUTOFF VALVE.
7. 3/8" DCW TO SODA DISPENSER. PROVIDE FILTRATION AS PER MANUFACTURER'S REQUIREMENTS. PROVIDE ASSE 1022 BACKFLOW PREVENTION PRIOR TO WATER FILTRATION.
8. 3/8" DCW TO ICE MACHINE. PROVIDE WATER FILTER AS PER MANUFACTURERS REQUIREMENTS. PROVIDE ASSE 1022 BACKFLOW PREVENTION PRIOR TO FILTRATION SYSTEM. PROVIDE STUBBED OUT PIPING AT WALL WITH SHUTOFF VALVE.
9. 1/2" DHW, 1/2" DCW, 1/2" DHWR DOWN TO WORK SINK.
10. 1/2" DCW TO COFFEE BREWER. PROVIDE WATER FILTER AS PER MANUFACTURER'S REQUIREMENTS.
11. 1/2" DCW, 1/2" DHW DOWN TO EMERGENCY EYE WASH STATION. PROVIDE WITH FAIL SAFE TEMPERING VALVE. ADJUST TO 80 DEG F. DHWR UP AND OVER TO MOP SINK FOR HOT WATER RECIRCULATION.
12. 1/2" DHW, 1/2" DCW DOWN TO JANITOR'S SINK CABINET. 1/2" DHW RETURNED TO CEILING NEAR MOP SINK CONNECTION FOR HOT WATER RECIRCULATION.
13. 1/2" DCW, 1/2" DHW DOWN TO PRERINSE FAUCET
14. 1/2" DCW WITH CHECK VALVE TO DISPOSER. PROVIDE STUBBED OUT PIPING AT WALL WITH SHUTOFF VALVE.
15. 3/4" DCW, 3/4" DHW 1/2" HWR DOWN TO SWING FAUCET.
16. 3/4" DHW DOWN TO WAREWASHER/CONVEYOR. PROVIDE STUBBED OUT PIPING AT WALL WITH SHUTOFF VALVE.

KEY PLAN



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EXPIRATION: 02/28/2027

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Checked By:	T.A
Project Manager:	M.R.

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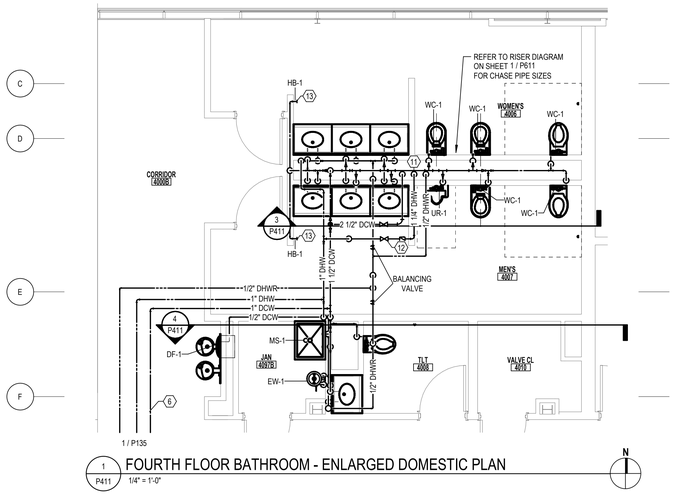
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P410
ENLARGED KITCHEN DOM FLOOR PLAN - THIRD FLOOR

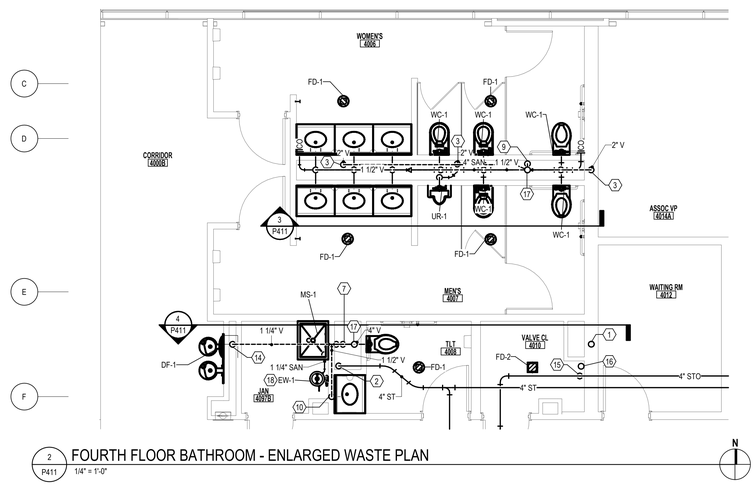
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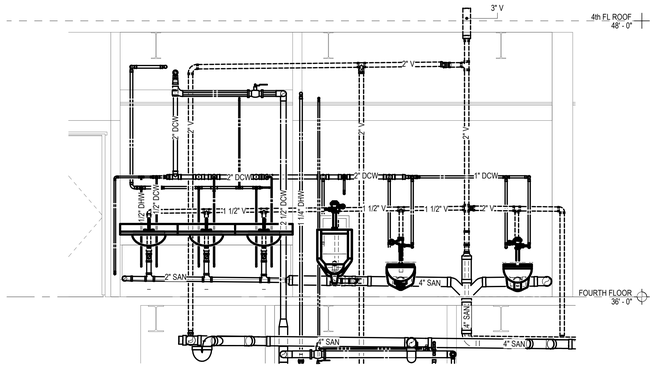
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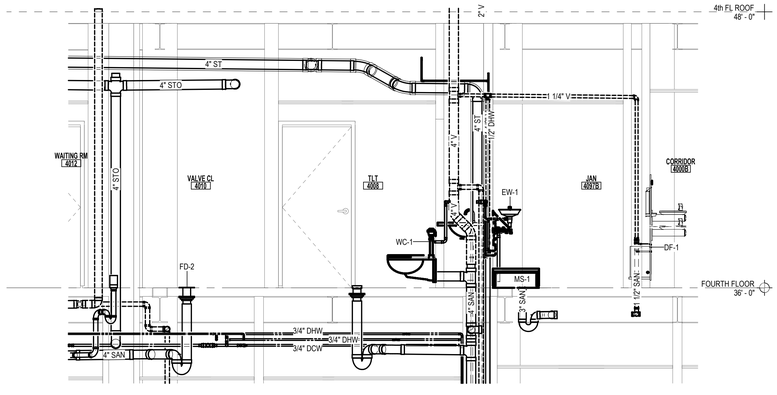
1 P411 FOURTH FLOOR BATHROOM - ENLARGED DOMESTIC PLAN
1/4" = 1'-0"



2 P411 FOURTH FLOOR BATHROOM - ENLARGED WASTE PLAN
1/4" = 1'-0"



3 P411 FOURTH FLOOR BATHROOM - PLUMBING SECTION
3/8" = 1'-0"



4 P411 FOURTH FLOOR INDIVIDUAL BATHROOM SECTION
3/8" = 1'-0"

GENERAL NOTES

1. PROVIDE MAXIMUM 2'-0" BRANCH OFF HOT WATER LOOP FOR FIXTURES SERVING PUBLIC LAVATORIES.
2. ALL BALANCING VALVES TO BE LOCATED WITHIN CEILING SPACE. ADJUST VALVES TO 0.5 GPM RETURN.
3. PROVIDELAVATORIES, SINKS AND DRINKING FOUNTAINS WITH 1/2" CHROME ISOLATION VALVES.
4. INSTALL 2" VENT AS SHOWN TO MAINTAIN PROPER ARM LENGTH BETWEEN TRAP OF FLOOR DRAIN.
5. REFER TO RISER DIAGRAM ON PAGE P611 FOR WATER HAMMER ARRESTOR LOCATIONS AND SIZE DESIGNATION.

(#) KEYED NOTES

1. VENTS TO CONNECT WITHIN CEILING SPACE. SINGLE 3" VENT TO PENETRATE THROUGH ROOF.
2. PROVIDE 4" SANITARY PIPE RISE UP TO ABOVE.
3. VENT DROP.
6. DOMESTIC SERVICES TO BREAK OUT ROOM KITCHEN SINK AND FOURTH FLOOR MECHANICAL ROOMS.
7. 4" SANITARY DROP TO FLOOR BELOW.
9. 1 1/2" VENT INTO VENT STACK
10. 1 1/2" VENT DOWN TO FIXTURE
11. PROVIDE 2-1/2" COLD WATER, 1-1/4" HOT WATER AND 1/2" HOT WATER RETURN FOR FIXTURES ON FOURTH FLOOR.
12. PROVIDE COLD WATER BALL VALVE. HOT WATER BALL VALVE AND CHECK VALVE WITHIN CEILING SPACE TO ISOLATE FOURTH FLOOR BATHROOM PLUMBING FIXTURES. VALVES ACCESSIBLE VIA ACT CEILING.
13. PROVIDE HOSE BIB FOR BATHROOM WASHDOWN AND CLEANING. INSTALL HOSE BIB 1'-0" FROM FINISH FLOOR LEVEL.
14. 1-1/4" VENT FROM DRINKING FOUNTAIN BELOW.
15. STORM OVER FLOW PIPE DROP.
16. PROVIDE 3" FUNNEL WITH TRAP FOR INDIRECT CONDENSATE DRAIN
17. VENT THROUGH ROOF.
18. PROVIDE WALL MOUNTED EMERGENCY EYEWASH 3'-0" ABOVE FINISH FLOOR LEVEL. EYEWASH TO BE FITTED WITH THERMOSTATIC MIXING VALVE AND COMMISSIONED TO 80°F DISCHARGE TEMPERATURE. DRAINAGE TO BE SURFACE MOUNTED AND INDIRECTLY DISCHARGE INTO MOP SINK.

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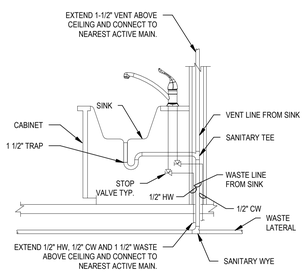
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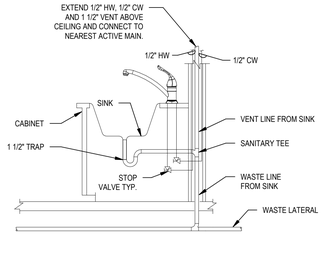
P411
ENLARGED FLOOR PLAN - FOURTH FLOOR

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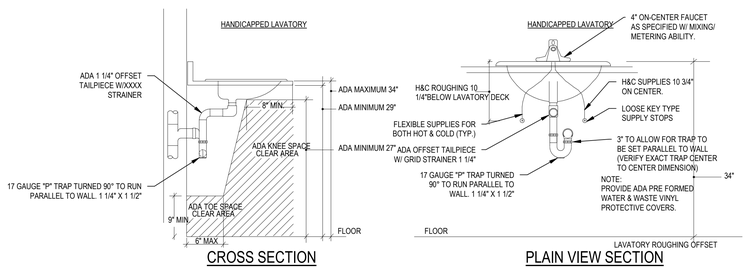
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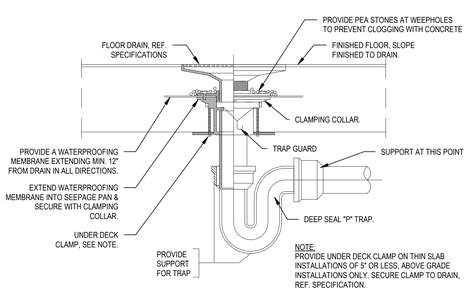




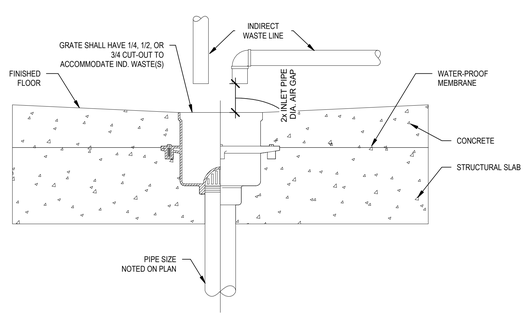
16 P501 COUNTERTOP SINK DETAIL
1" = 1'-0"



14 P501 HANDICAPPED LAVATORY ROUGHING DETAIL
3/4" = 1'-0"

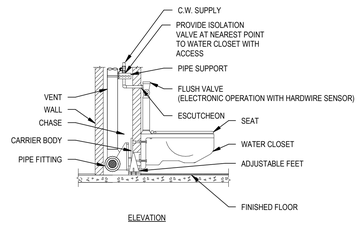


4 P501 FLOOR DRAIN WITH TRAP GUARD
1" = 1'-0"

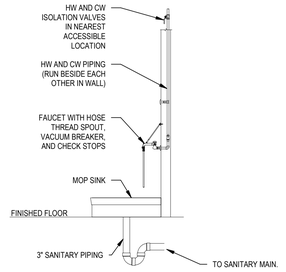


5 P501 FLOOR SINK INSTALLATION DETAIL
1" = 1'-0"

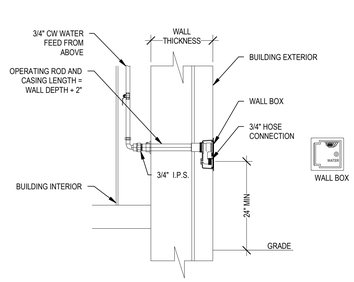
12 P501 WALL HANG URINAL DETAIL
1" = 1'-0"



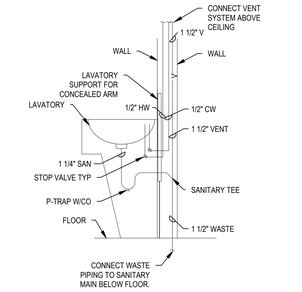
10 P501 SINGLE WALL HUNG WATER CLOSET DETAIL
1" = 1'-0"



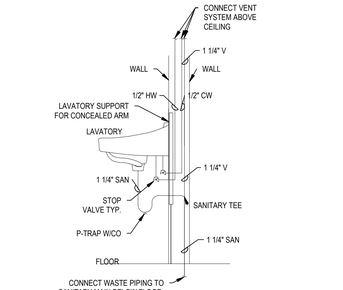
17 P501 MOP RECEPTOR DETAIL
3/4" = 1'-0"



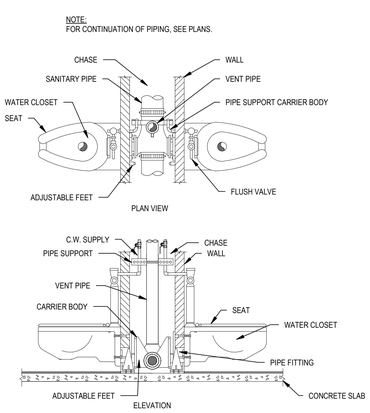
19 P501 EXTERIOR WALL HYDRANT DETAIL
1" = 1'-0"



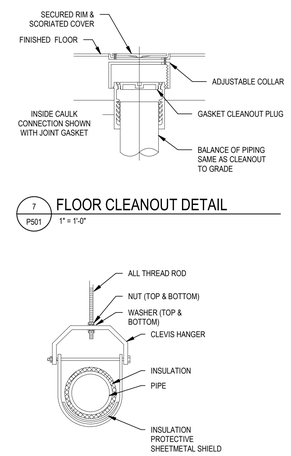
15 P501 UNDERMOUNT LAVATORY DETAIL
3/4" = 1'-0"



13 P501 LAVATORY DETAIL
3/4" = 1'-0"

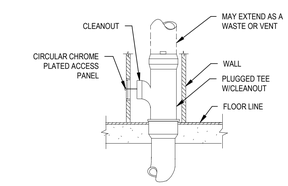


9 P501 BACK TO BACK W.C. DETAIL
1" = 1'-0"

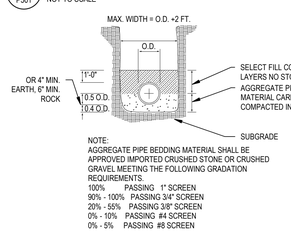


7 P501 FLOOR CLEANOUT DETAIL
1" = 1'-0"

3 P501 TYPICAL CLEVIS HANGER DETAIL
3/4" = 1'-0"



8 P501 WALL CLEANOUT DETAIL
NOT TO SCALE



2 P501 PIPE BEDDING DETAIL
1" = 1'-0"

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STATE OF NEW YORK DANIEL LACCETTI 109560 LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By: E.B
Checked By: T.A
Project Manager: M.R.

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P501
PLUMBING DETAILS

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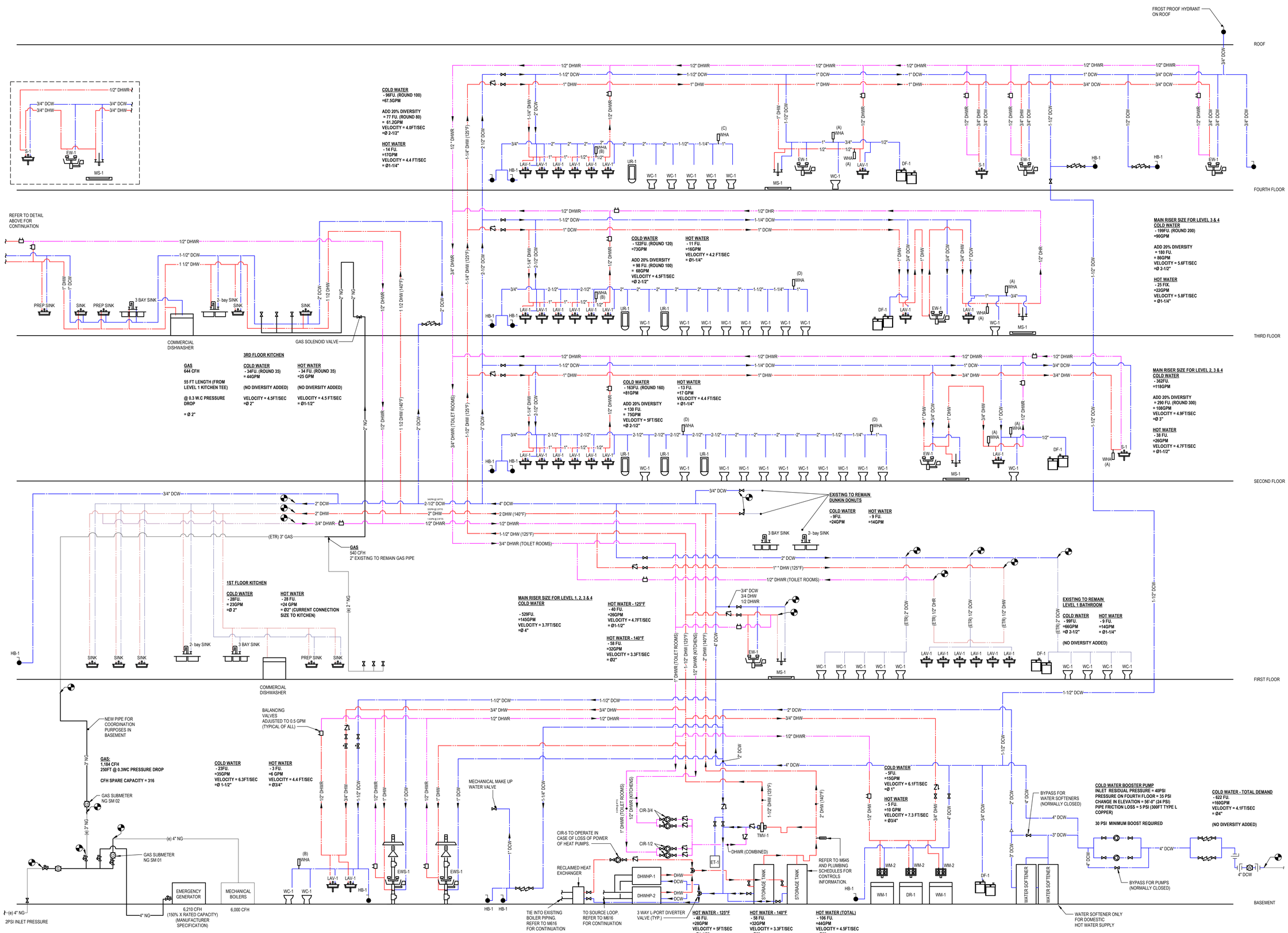
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1 / P611 DOMESTIC RISER DIAGRAM
NOT TO SCALE

STATE OF NEW YORK
DANIEL LACCETTI
109560
LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By:	E.B
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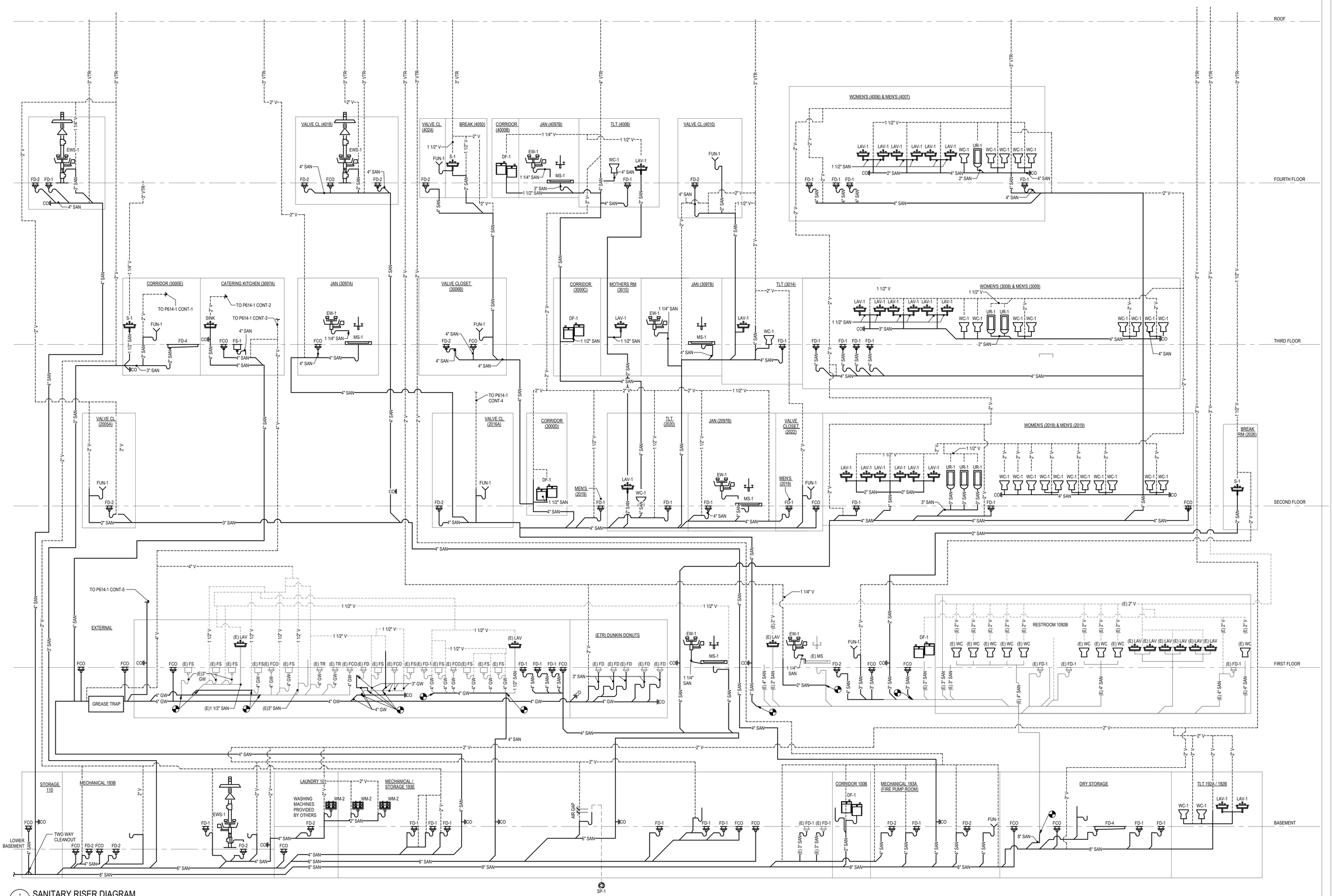
PLUMBING RISER DIAGRAMS - DOMESTIC

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1 P612 SANITARY RISER DIAGRAM
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109560
LICENSED PROFESSIONAL ENGINEER
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PLUMBING RISER DIAGRAM - WASTE

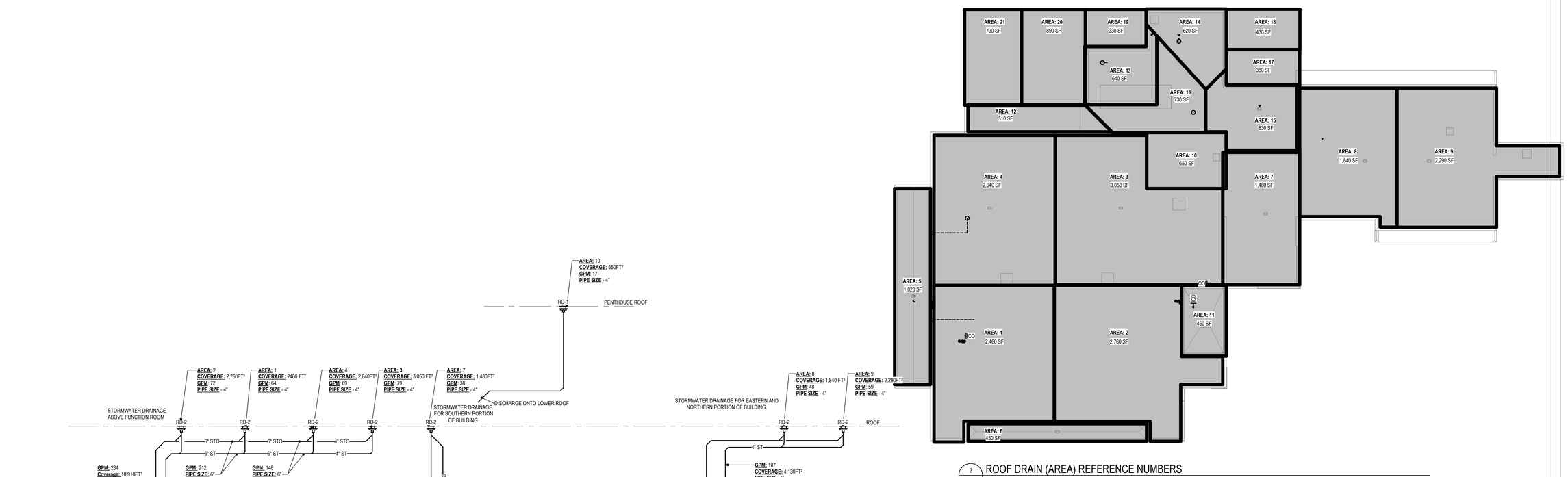
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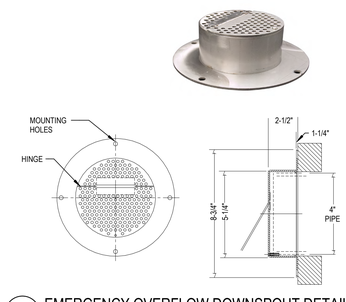
GENERAL NOTES

1. 1:100 YEAR STORM EVENT USED FOR CALCULATIONS (2.5INCH/HOUR)
2. PIPE SLOPE OF 1/8" / 12" USED FOR CALCULATIONS ON HORIZONTAL RUNS

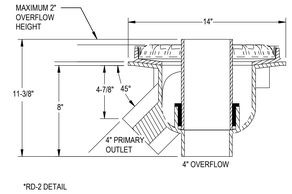


1 / P613 STORMWATER SCHEMATIC
NOT TO SCALE

2 / P613 ROOF DRAIN (AREA) REFERENCE NUMBERS
1/16" = 1'-0"



4 / P613 EMERGENCY OVERFLOW DOWNSPOUT DETAIL
NOT TO SCALE



*RD-2 DETAIL

3 / P613 ROOF DRAIN WITH INTERNAL OVERFLOW DETAIL
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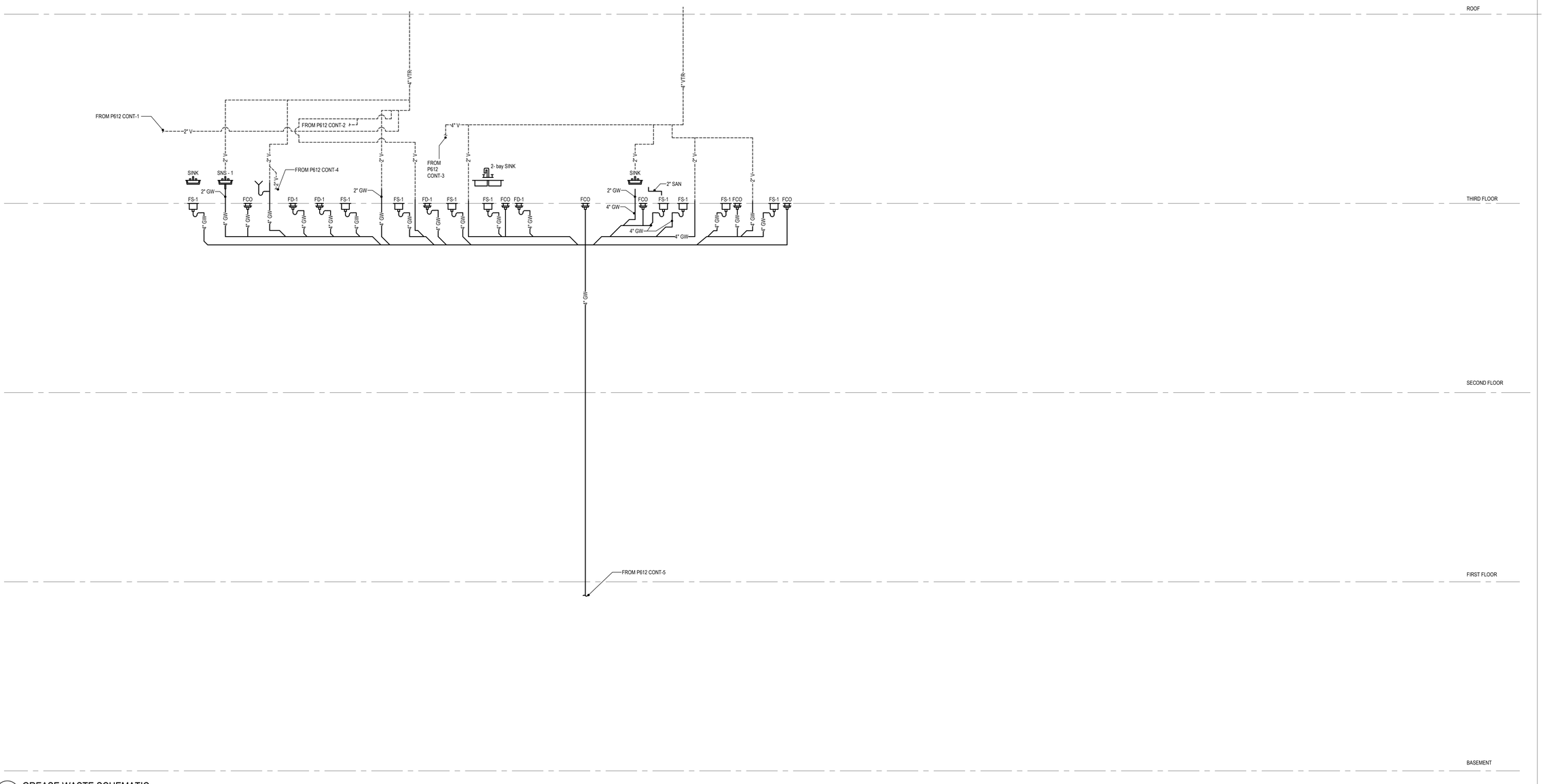
P613

PLUMBING RISER DIAGRAMS - STORMWATER

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1 P614 GREASE WASTE SCHEMATIC
3/16" = 1'-0"

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PLUMBING RISER DIAGRAMS - GREASE WASTE

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PLUMBING FIXTURE SCHEDULE

MARK	QTY	DESCRIPTION (TEXT)	ADA	CW	HW	TW	TRAP	SAN	V	MFR.	MODEL	NOTES
CO-3	2	FLOOR CLEAN OUT					6			ZURN	ZN-1400	7
DF-1	4	DRINKING FOUNTAIN	YES	1/2			1 1/4	1 1/4		ELKAY	LZSTL8WSBPRO	6
EW-1	6	EYEWASH STATION				1/2	1 1/4			GUARDIAN	G1814	4
EWS-1	5	COMBINATION EYE WASH SHOWER		1	1		1 1/4			GUARDIAN	G1950P	20
FCO	28	FLOOR CLEAN OUT					4			ZURN	VARIES	7
FD-1	23	FLOOR DRAIN (FINISHED AREAS)					4			ZURN	Z415B	3
FD-2	23	FLOOR DRAIN (MECH UTILITY ROOMS)					4			WATTS	FD-1200-A	10
FD-3	1	FLOOR DRAIN (4" RPZ DISCHARGE)					6	6		ZURN	Z415B	3
FS-1	8	FLOOR SINK						4		BY KITCHEN CONSULTANT		
FS-2	2	FLOOR TROUGH					2 1/2	4		BY KITCHEN CONSULTANT		
HB-1	11	BATHROOM HOSE BIBB		3/4						ZURN	Z1349	21
HB-2	6	HOSE BIBB		3/4						ZURN	Z1321XL	5
HB-3	6	HOSE BIBB		3/4						ZURN	195XL	22
LAV-1	17	LAVATORY	YES	1/2	1/2	-	1 1/4	1 1/2	1 1/2	DUPONT CORIAN	810 W/ OFFSET	17
MS-1	5	MOP SINK		3/4	3/4		4	4	2	FIAT	MOLDED STONE MOP BASIN	16
OF-1	5	OVERFLOW DOWNSPOUT NOZZLE						4		WATTS	RD-960	23
RD-1	1	ROOF DRAIN (NO OVERFLOW)						4		ZURN	Z100-4NH	2
RD-2	18	ROOF DRAIN (WITH OVERFLOW)						4		ZURN	100C-ULP FROET DRAIN	19
RD-3	1	SCUPPER DRAIN						2		THUNDERBIRD	PDSR2NH	18
RO-1	3	PROMINADE DECK DRAIN						4		ZURN	10" Z158	1
S-1	10	SINK	YES	1/2	1/2		2	2	2	AMERICAN STANDARD	EDGEWATER	11
TD-1	1	TRENCH DRAIN					-	4		ZURN	Z886-HDS	12
TD-2	1	TRENCH DRAIN					-	4		ZURN	Z886-HDS	12
UR-1	6	URINAL		1				1 1/4	1 1/4	AMERICAN STANDARD	WASHBROOK	13
WC-1	29	WALL HUNG WATER CLOSET	YES	1				4	2	AMERICAN STANDARD	AFWALL	15
WM-1	3	WASHING MACHINE		3/4	3/4			2	2	BY CLIENT	BY CLIENT	14
WM-2	3	RECESSED WASHING MACHINE BOX		3/4	3/4		2	2	2	ZURN	WM2961-34	24

NOTES:

1. 10" SQUARE PATIO DRAIN WITH REMOVABLE HEEL PROOF GRATE. 4" OUTLET
2. 15" DIAMETER CAST IRON ROOF DRAIN WITH 4" OUTLET.
3. 8" DIAMETER DRAIN WITH 4" SANITARY CONNECTION. PROVIDE CAST IRON BODY WITH REMOVABLE STAINLESS STEEL GRATE.
4. STAINLESS STEEL VALVE WITH PVC DISH. COMBINED FACE / EYEWASH STATION, MOUNTING HEIGHT BETWEEN 33" & 53" FROM FINISH FLOOR LEVEL. PROVIDE EYEWASH STATION WITH THERMOSTATIC MIXING VALVE (BASIS OF DESIGN: GUARDIAN G6020) - CAPABLE OF DELIVERING 13 GPM. COMMISSIONED TO 80F. THERMOSTATIC MIXING VALVES TO MEET OR EXCEED ANSI Z358.1
5. PROVIDE AUTOMATIC DRAINING NON-FREEZE WALL HYDRANT WITH BACKFLOW PREVENTION (VACUUM BREAKER). FIELD MEASURE EXTERIOR WALL AND ORDER TO SIZE. PROVIDE POLISHED BRONZE FACE
6. BI-LEVEL WALL MOUNTED BARRIER-FREE WATER COOLER WITH BOTTLE FILLER. 8.0 GPM, 4.0 AMPS, 120 VOLT, WITH ELECTRICAL CORD AND PLUG.
   PROVIDE R147XC ANGLE STOP AND 704-1 1-1/2" P-TRAP. PROVIDE APPROPRIATE BLOCKING AND WALL SUPPORT AT ROUGH IN STAGE.
7. 6" ROUND STAINLESS STEEL CLEAN OUTS WITH 4" PVC PIPE CONNECTIONS. INTEGRATED GAS TIGHT PLUG.
8. NOT USED.
9. NOT USED.
10. 6" STAINLESS STEEL STRAINER WITH EPOXY COATED CAST IRON BODY. PROVIDE 4" REMOVABLE WATERLESS TRAP SEAL (GREEN DRAIN GD4) IN DRAIN.
11. PROVIDE UNDERMOUNT STAINLESS STEEL SINK. COORDINATE HOLE SIZE IN BENCH TOP,HOLE FOR FAUCET AND ADHESION METHODS TO COUNTERTOP.
    PROVIDE AMERICAN STANDARD ASPIRATIONS TOUCHLESS PULL-DOWN KITCHEN SINK (POLISHED CHROME - 1048800000) FOR EACH SINK. FAUCET SENSOR IS HARD WIRED UP TO TRANSFORMER IN CEILING.
12. PROVIDE STAINLESS STEEL TRENCH DRAINS WITH HEEL PROOF GRATE EXTERNALLY TO FREEZERS/COOLERS FOR GENERAL WASH DOWN. PROVIDE BOTTOM OUT SANITARY WASTE THROUGH CONCRETE SLAB.
13. PROVIDE AMERICAN STANDARD WASHBROOK FLOWISE URINAL (WHITE) . CONTRACTOR TO INSTALL SUPPORT BLOCKING AT ROUGH IN STAGE FOR URINAL MOUNTING. PROVIDE SLOAN ECOS MODEL 186-0.5 HARDWIRED SENSOR FLUSH VALVE WITH EL154 TRANSFORMER, FLUSH VALVES SHALL BE SATIN CHROME FINISH.
14. DUCTLESS DRYER PROVIDED BY CLIENT. CONNECT CONDENSATION LINE TO SANITARY SYSTEM WITH 1" AIR GAP.
15. PROVIDE AMERICAN STANDARD AFWALL MILLENIUM FLOWISE WATER CLOSET (WHITE). PROVIDE HEAVY DUTY OPEN FRONT TOILET SEAT (#5901.100). PROVIDE SLOAN ECOS MODEL 111-1.6/1.1 HARDWIRED DUAL FLUSH VALVE WITH SLOAN EL154 TRANSFORMER. FLUSH VALVES SHALL BE SATIN CHROME FINISH.
    PROVIDE **ZURN Z-1201 SERIES WATER CLOSET CARRIERS**
16. 5.PROVIDE FIAT MSG 2424 WALL GUARD, ZURN Z843M1 FAUCET, DELTA 28T910 FAUCET AND HOSE BRACKET, DELTA 28T911 MOP HANGER
17. DUPONT CORIAN (WHITE) UNDERMOUNT LAVATORIES WITH OFFSET. PROVIDE CORIAN CUTOUT AND ADHESION METHODS TO CORIAN COUNTERTOP AND HOLE FOR FAUCET. PROVIDE AMERICAN STANDARD SELECTRONIC INTEGRATED LAVATORY FAUCET (#7098.335). PROVIDE AMERICAN STANDARD (BASIS OF DESIGN :MODEL 605XTMV1070) THERMOSTATIC MIXING VALVE ON ALL FAUCETS AND ADJUST TO MAXIMUM 110F. PROVIDE HARDWIRED POWER KIT (#PK0.HAC) FOR EACH FAUCET.
18. PROVIDE 2" SCUPPER DRAIN THROUGH BUILDING FACADE FOR STORMWATER RUN OFF. ENCLOSE PENETRATION, SEAL AND MAKE WATER TIGHT THROUGH PENETRATION.
19. 14" BI-FUNCTIONAL DEEP SUMP WITH 4" INTEGRATED PRIMARY AND OVERFLOW DRAIN. PROVIDE MAXIMUM 2" OVERFLOW DRAIN HEIGHT.
20. COMBINATION EMERGENCY EYEWASH AND EYE/FACEWASH STATION. STAINLESS STEEL VALVES WITH PVC DISH OUTLETS. PROVIDE TEMPERING VALVE (BASIS OF DESIGN: GUARDIAN G6040), CAPABLE OF DELIVERING 50GPM. COMMISSION TEMPERING VALVE TO 80F. TEMPERING VALVE TO MEET OR EXCEED ANSI Z358.1
21. STAINLESS STEEL VALVE WITH FLUSH FACE PLATE. 3/4" HOSE CONNECTION OUTLET WITH KEY OPERATION TO PREVENT UNAUTHORIZED USE.
22. SOLID BRASS HOSE BIBB WITH 3/4" NPT MALE CONNECTION.
23. 304 STAINLESS STEEL WALL DOWN SPOUT WITH PERFORATED HINGED COVER. MECHANICALLY FASTEN TO EXTERIOR WALL
24. RECESSED PVC WASHING MACHINE BOX WITH INTEGRATED COLD WATER, HOT WATER AND SANITARY CONNECTIONS. PROVIDE INTEGRATED WATER HAMMER ARRESTORS ON DOMESTIC HOT AND COLD CONNECTIONS.

REDUCE PRESSURE ZONE (RPZ) SCHEDULE

Instance Mark	QTY	LOCATION	DESIGN FLOW (GPM)	SIZE	MFR.	MODEL	COMMENTS
RPZ-1	2	FIRE PUMP ROOM	160	4"	WATTS	LF909OSY	1
RPZ-2	1	MECHANICAL / STORAGE 193E		1 1/4"	WATTS	LF909M1-QT-S-FS	2
RPZ-3	1	3RD FLOOR KITCHEN		2"	WATTS	2" LF909M1-QT-S-FS	3

NOTES:

1. PROVIDE TWO (2) X 4" RPZ BACKFLOW PREVENTER WITHIN FIRE PUMP ROOM. RPZ TO COMPLY WITH LEAD FREE ACT. PROVIDE INTEGRATED STRAINERS AND ISOLATIONS VALVES ON VALVE SET. VALVES SIZED TO OPERATE AT 100% BUILDING DESIGN CAPACITY (160GPM)
2. PROVIDE 1-1/4" RPZ FOR MECHANICAL WATER SUPPLY AND MAKE UP WATER.
3. PROVIDE 2" RPZ FOR THIRD FLOOR KITCHEN.

DOUBLE DETECTOR CHECK VALVE (DDCV) SCHEDULE

Instance Mark	QTY	LOCATION	SIZE	MFR.	MODEL	COMMENTS
DDCV	3	MECHANICAL ROOMS	3/4"	Zurn Water, LLC	350	1

NOTES::

1. DOUBLE DETECTOR CHECK VALVE USED FOR ALL MECHANICAL MAKE UP WATER AND CLEAN HOSE BIBBS.

MASTER DIGITIAL MIXING VALVE SCHEDULE

Mark	Count	Location	Manufacturer	Model	Size Connection	Comments
TMV-1	1	MECHANICAL - 193B	WATTS	Intellistation 2S	1"-1/2"	1

NOTES:

1. PROVIDE PRE-ASSEMBLED DIGITAL MASTER MIXING VALVE COMPLETE WITH VALVES, SENSORS, DISPLAY AND UNISTRUT MOUNTING BRACKET. ADJUST VALVE TO 125°F DISCHARGE TEMPERATURE. MIXING VALVE TO BE USED FOR ALL PUBLIC AMENITIES.
2. PROVIDE INLET AND OUTLET TEMPERATURE/ PRESSURE SENSOR ACCESSORIES. MODEL (RK-IS2 T&P 4 SENSOR KIT).
3. PROVIDE BMS CONNECTION TO MASTER DIGITAL MIXING VALVE. BMS SHALL DISPLAY TEMPERATURES AND PRESSURES ON ALL SIDES OF THE VALVE.

WATER SOFTENER SCHEDULE

Mark	Count	Connection Size	Manufacturer	Model	Peak Flow	Mineral Tank Size	Brine Tank Size	Salt Capacity	Comments
WS-1	1	3"	ATS	NXT450-3*	190 GPM	30" x 72"	39" x 48"	1500	1

NOTES:

1. PROVIDE DUAL 3" WATER SOFTENERS WITH SINGLE BRINE TANK. WATER SOFTENER TO CONDITION ALL DOMESTIC WATER FOR COREY UNION SITE.
2. PROVIDE 3" X 4" REDUCERS FOR CONNECTION TO TANKS. PROVIDE UNIONS AND BALL VALVES ON ALL INLET AND OUTLET CONNECTIONS. PROVIDE 2" DRAIN OFF EACH SOFTENING TANK, PROVIDE 8" AIRGAP TO SANITARY. PROVIDE 4" BY-PASS WITH BALL VALVE (NORMALLY CLOSE).
3. INDIVIDUAL PULSE METERS TO BE INSTALLED ON EACH WATER SOFTENER. PROVIDE PENTAIR NXT-2 CONTROLLER FOR MONITORING CAPABILITY.

GREASE TRAP SCHEDULE

Mark	Count	SERVES	DESIGN GPM	MAX GPM	DESIGN GREASE RETENTION (LB)	MAX GREASE RETENTION (LB)	MANHOLE RISER LENGTH (FEET)	MANUFACTURER	MODEL	MATERIAL	Comments
GT-1	1	DUNKIN DONUTS, LEVEL 1 & LEVEL 3 KITCHEN	137	200	4,095	4,958	4' - 2"	SCHIER PRODUCTS	GB-1000	HDPE	1

1. PROVIDE SHIERS FP24 'FAST PITCH' MANHOLE RISER EXTENSIONS FOR EACH GREASE TRAP MANHOLE
   PROVIDE SHIERS T24-GI WITH H-20 (16,000LB) RATING MAN HOLE COVER.

WATER HAMMER ARRESTOR SCHEDULE

	A	B	C	D	E	F
FIXTURE UNITS	1-11	12-21	22-60	61-113	114-154	155-330

NOTES:

1. ZURN 1260XL WATER HAMMER ARRESTOR USED AS BASIS OF DESIGN
2. LETTER REFERENCING USED FOR SIZING.
3. REFER TO DOMESTIC RISER DIAGRAM ON SHEET P611 FOR LOCATIONS AND SIZE.

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL	TANK VOLUME	CONNECTION	MAX WORKING PRESSURE	MAX OPERATING TEMPERATURE	AIR CHARGE	SERVICE
ET-1	TACO	CA450-125P	119 GAL	1-1/2" NPT	125 PSI	240 DEG F	SEE NOTES	DOMESTIC HOT WATER

NOTES:

1. PROVIDE EXPANSION TANK WITH, 119 GALLON NOMINAL TANK VOLUME, 125 PSIG MAXIMUM WORKING PRESSURE, 240°F MAXIMUM OPERATING TEMPERATURE. WITH NSF/ANSI 61-G CERTIFICATION FOR POTABLE WATER SERVICE.
2. PROVIDE FACTORY PRECHARGE IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND SYSTEM OPERATING PRESSURES. VERIFY FINAL PRECHARGE PRESSURE IN FIELD PRIOR TO PLACING SYSTEM IN SERVICE.
3. PROVIDE EXPANSION TANK ON COLD-WATER SUPPLY TO DOMESTIC HOT-WATER SYSTEM, DOWNSTREAM OF THE DOMESTIC WATER SERVICE/BACKFLOW PREVENTER AND UPSTREAM OF THE WATER HEATING EQUIPMENT, UNLESS OTHERWISE INDICATED.
4. PROVIDE ISOLATION VALVE AND DRAIN CONNECTION AT EXPANSION TANK CONNECTION TO FACILITATE TANK SERVICE AND REPLACEMENT.
5. EXPANSION TANK SIZING SHALL BE BASED ON TOTAL DOMESTIC HOT-WATER SYSTEM VOLUME, MINIMUM SYSTEM PRESSURE, MAXIMUM SYSTEM OPERATING TEMPERATURE, AND MAXIMUM SYSTEM PRESSURE.
6. CONTRACTOR SHALL VERIFY EXPANSION TANK PRECHARGE AND SYSTEM PRESSURES PRIOR TO STARTUP.
7. INSTALL EXPANSION TANK IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE REQUIRED CLEARANCE FOR INSTALLATION, INSPECTION, AND SERVICE.

DOMESTIC PUMP SCHEDULE

MARK	COUNT	LOCATION	RATED FLOW (GPM)	HEAD (FT)	MANUFACTURER	MODEL	COMMENTS
CIR-1	1	MECHANICAL - 193B	6.6	32.48	Grundfos	Alpha2 26-99 SU	2
CIR-2	1	MECHANICAL - 193B	6.6	32.48	Grundfos	Alpha2 26-99 SU	2
CIR-3	1	MECHANICAL - 193B	6.6	32.48	Grundfos	Alpha2 26-99 SU	2
CIR-4	1	MECHANICAL - 193B	6.6	32.48	Grundfos	Alpha2 26-99 SU	2
CIR-5	1	MECHANICAL-193B	46.7	26.25	Grundfos	MAGNA3 40-80 GF	4
CWB-1,2	1	FIRE PUMP ROOM	90	161	Grundfos	HYDRO MPC-E 2CRE	1
SP-1	1	LIFT SHAFT BASE	50	10	Liberty Pumps, Inc.	LIBERTY 280	3

NOTES:

1. PROVIDE 4" DUAL INLINE VARIABLE SPEED DOMESTIC COLD WATER BOOSTER PUMPS. PUMPS TO INSTALLED ON SKID PACKAGE, COMPLETE WITH CONTROL PANEL AND FLANGED CONNECTIONS. PROVIDE VIBRATION DAMPENING RUBBER FOOTERS. INSTALL VIBRATION ISOLATION BETWEEN PIPING AND PUMPSET WITH ISOLATION VALVES TO ASSIST WITH FUTURE MAINTENANCE. PROVIDE BY-PASS WITH 4" BALL VALVE (NORMALLY CLOSED). PROVIDE WITH VFD INTEGRAL WITH DISCONNECT.
2. CIRCULATING PUMPS TO BE INSTALLED IN PARALLEL. PUMPS TO BE INSTALLED ON 12 HOUR ROTATING TIMER. EACH SET OF CIRCULATING PUMPS TO SERVE KITCHEN (LEVEL 1 & LEVEL 3) HOT WATER CIRCULATION LOOP AND OTHER SET TO SERVE TOILET AMENITIES. PROVIDE BALL VALVES AND UNIONS ON EITHER SIDE OF PUMPS FOR FUTURE SERVICING.

   TO SERVE ALL BATHROOMS - 125°F LOOP
   TO SERVE ALL KITCHEN EQUIPMENT - 140°F LOOP
3. PROVIDE DUAL 1/2 HP SUBMERSIBLE PUMP AT THE BASE OF LIFT SHAFT. PUMP TO BE SIZED TO HANDLE 50GPM @ 15FT HEAD. PUMPS TO DISCHARGE INTO SANITARY LINE BEHIND LIFT SHAFTS WITH MINIMUM 2" AIR GAP. CONTRACTOR TO COORDINATE ACCESS INTO ELEVATOR SHAFT ON SITE. PROVIDE WITH OIL MINDER CONTROLS.
4. PROVIDE EMERGENCY POWER CONNECTION TO PUMP. PUMP TO OPERATE IN CASE OF EMERGENCY POWER LOSS TO CYCLE WATER THROUGH RECLAIMED HEAT EXCHANGER.

DOMESTIC HOT WATER HEAT PUMP SCHEDULE

MARK	QTY	MANUFACTURER (BASIS OF DESIGN)	MODEL	CONFIGURATION	REFRIGERANT	DHW CAPACITY NOMINAL	DHW CAPACITY DESIGN	RECOVERY RATE	DESIGN DHW FLOW	SOURCE WATER FLOW	DHW CONNECTION	SOURCE CONNECTION	DHW PRESSURE DROP	EXTERNAL HEAD ALLOWANCE	COP	NOMINAL POWER INPUT	ELECTRICAL	MCA	MOCP	RLA	SCCR	COMPRESSOR	COMPRESSOR HP	MAX DHW TEMP	MAX DHW WORKING PRESSURE	MAX SOURCE WORKING PRESSURE	SOURCE WATER OPERATING RANGE	MIN AMBIENT TEMP	DIMENSIONS (L x W x H)	DRY WEIGHT	OPERATING WEIGHT	SOUND PRESSURE	SERVICE CLEARANCE	CONTROLS/BMS
DHWHP-1	1	NYLE	C185W	MULTI-PASS	R513A	201,940 BTUH	116 MBH	343 GPH	30 GPM	33 GPM	2" FPT	2" FPT	6.5 FT HD	20.7 FT HD	4	16.7 kW	460/3/60	91 A	150 A	74 A	100	SCROLL	25 HP	160°F	150 PSIG	300 PSIG	40°F-120°F	33°F	31" L x 52" D x 40" H	938 LB	970 LB	67.0 dB(A)	48" FRONT; 6" LEFT/RIGHT; 4" REAR	INTEGRAL CIRCULATOR; TANK SENSORS; MCP-G STAGING/BMS CONTROL
DHWHP-2	1	NYLE	C185W	MULTI-PASS	R513A	201,940 BTUH	116 MBH	343 GPH	30 GPM	33 GPM	2" FPT	2" FPT	6.5 FT HD	20.7 FT HD	4	16.7 kW	460/3/60	91 A	150 A	74 A	100	SCROLL	25 HP	160°F	150 PSIG	300 PSIG	40°F-120°F	33°F	31" L x 52" D x 40" H	938 LB	970 LB	67.0 dB(A)	48" FRONT; 6" LEFT/RIGHT; 4" REAR	INTEGRAL CIRCULATOR; TANK SENSORS; MCP-G STAGING/BMS CONTROL

DOMESTIC HOT WATER STORAGE TANK SCHEDULE

MARK	QTY	MANUFACTURER	MODEL	STORAGE CAPACITY	TANK MATERIAL	INSULATION	MAX WORKING PRESSURE	WATER CONNECTIONS	RELIEF VALVE	THERMOWELLS	LOW SENSOR CYCLE VOLUME	MID SENSOR CYCLE VOLUME	HIGH SENSOR CYCLE VOLUME	TANK HEIGHT	WIDTH	DRY WEIGHT	JACKETED DRY WEIGHT	CONTROL/SENSOR
DHWST-1	1	NYLE	THERMAPRIME 650	650 GAL	GLASS LINED	R-13	150 PSIG	4" MPT	150 PSIG (INCLUDED)	3	86 GAL	179 GAL	288 GAL	93"	48"	1,250 LB	1,600 LB	UNIVERSAL 10K NTC TANK SENSORS; COORDINATE WITH MCP-G
DHWST-2	1	NYLE	THERMAPRIME 650	650 GAL	GLASS LINED	R-13	150 PSIG	4" MPT	150 PSIG (INCLUDED)	3	86 GAL	179 GAL	288 GAL	93"	48"	1,250 LB	1,600 LB	UNIVERSAL 10K NTC TANK SENSORS; COORDINATE WITH MCP-G

NOTES:

1. PROVIDE TWO (2) NYLE C185W MULTI-PASS WATER-SOURCE HEAT PUMP WATER HEATERS, EACH SIZED TO PROVIDE APPROXIMATELY 116 MBH AT THE PROJECT DESIGN SOURCE WATER TEMPERATURE OF 35°F. UNITS SHALL OPERATE AS A STAGED SYSTEM.
2. PROVIDE TWO (2) NYLE THERMAPRIME 650-GALLON GLASS-LINED, ASME SECTION IV STORAGE TANKS, PROVIDING 1,300 GALLONS TOTAL STORAGE CAPACITY.
3. PROVIDE NYLE MCP-G MAIN CONTROL PANEL FOR STAGING AND CONTROL OF THE HEAT PUMPS AND STORAGE TANKS. PROVIDE CONTROLS WIRING BETWEEN HEAT PUMPS, TANKS AND MCP-G AS DETAILED ON M645.
4. MCP-G SHALL PROVIDE BACNET IP COMMUNICATION WITH THE BUILDING MANAGEMENT SYSTEM VIA A BACNET GATEWAY ACCESSORY. COORDINATE FINAL NETWORK CONNECTION, ADDRESSING, AND GRAPHICS REQUIREMENTS WITH THE OWNER.
5. HEAT PUMP UNITS INCLUDE INTEGRAL CIRCULATORS. COORDINATE HYDRONIC/SOURCE WATER PIPING, PUMP CONTROL, FLOW REQUIREMENTS, AND AVAILABLE EXTERNAL HEAD WITH THE MANUFACTURER PRIOR TO FINAL INSTALLATION.
6. PROVIDE 2" DHW AND 2" SOURCE WATER CONNECTIONS AT EACH C185W HEAT PUMP. PROVIDE ISOLATION VALVES, STRAINERS, CHECK VALVES, UNIONS/FLANGES, AND OTHER ACCESSORIES REQUIRED FOR SERVICE AND MANUFACTURER'S INSTALLATION REQUIREMENTS.
7. PROVIDE 4" WATER CONNECTIONS AT EACH 650-GALLON THERMAPRIME STORAGE TANK.
8. PROVIDE 150 PSIG TEMPERATURE AND PRESSURE RELIEF VALVE AT EACH STORAGE TANK. RELIEF DISCHARGE SHALL BE ROUTED TO AN APPROVED LOCATION IN ACCORDANCE WITH CODE AND PROJECT REQUIREMENTS.
9. STORAGE TANK PIPING SHALL BE ARRANGED TO MAINTAIN PROPER STRATIFICATION AND SHALL FOLLOW THE MANUFACTURER'S RECOMMENDED REVERSE-RETURN PIPING ARRANGEMENT.
10. PROVIDE ISOLATION VALVES AT ALL HEAT PUMP AND STORAGE TANK CONNECTIONS TO ALLOW INDIVIDUAL EQUIPMENT TO BE REMOVED FROM SERVICE WITHOUT DRAINING THE ENTIRE DHW SYSTEM.
11. PROVIDE DRAIN CONNECTIONS AND ROUTE TANK AND EQUIPMENT DRAIN/RELIEF DISCHARGE TO AN APPROVED INDIRECT WASTE RECEPTOR WHERE REQUIRED.
12. MAINTAIN MANUFACTURER'S REQUIRED SERVICE CLEARANCES. PROVIDE A MINIMUM 48-INCH CLEAR SERVICE AREA IN FRONT OF EACH C185W HEAT PUMP. DO NOT LOCATE PIPING, ELECTRICAL EQUIPMENT, OR OTHER OBSTRUCTIONS WITHIN REQUIRED SERVICE AREAS.
13. PROVIDE EQUIPMENT HOUSEKEEPING PADS AND STACKING FRAME SUPPORTS AS REQUIRED BY THE CONTRACT DOCUMENTS AND MANUFACTURER.
14. CONTRACTOR SHALL VERIFY FIELD CONDITIONS, EQUIPMENT ACCESS, DOOR/WALL OPENINGS, FINAL CONNECTION LOCATIONS, AND EQUIPMENT SERVICE CLEARANCES PRIOR TO EQUIPMENT PROCUREMENT.
15. CONTRACTOR SHALL COORDINATE ELECTRICAL POWER REQUIREMENTS WITH THE ELECTRICAL CONTRACTOR. PROVIDE EQUIPMENT DISCONNECTING MEANS AND OVERCURRENT PROTECTION IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND ELECTRICAL DRAWINGS.
16. PROVIDE BUILDING MANAGEMENT SYSTEM INTERFACE AND CONTROLS AS INDICATED. BAS CONTRACTOR SHALL COORDINATE DIRECT COMMUNICATION WITH THE NYLE MCP-G AND SHALL NOT ASSUME THAT INDIVIDUAL HARDWIRED CONTROL OF EACH HEAT PUMP IS REQUIRED.
17. ALL EQUIPMENT AND ACCESSORIES SHALL BE COMPATIBLE WITH THE PROJECT DOMESTIC HOT WATER OPERATING TEMPERATURES AND WATER QUALITY REQUIREMENTS.
18. COORDINATE FINAL STORAGE TANK TEMPERATURE, MIXING VALVE SETPOINT, RECIRCULATION RETURN TEMPERATURE, AND HEAT PUMP CONTROL SETPOINTS WITH THE DOMESTIC HOT WATER CONTROL SEQUENCE.
19. MINIMUM 140°F WATER TEMPERATURE TO BE MAINTAINED AS PER NEW YORK STATE HEALTH GUIDELINES.
20. REFER TO MECHANICAL DRAWINGS FOR INFOMRATION REGARDING GEOTHERMAL LOOP.
21. RECLAIMED HOT WATER HEAT EXCHANGER TO BE PIPED IN SERIES FOR USE AS BACKUP.
22. PROVIDE MANUFACTURER'S TANK TEMPERATURE SENSORS AND INSTALL IN LOCATIONS RECOMMENDED BY THE HEAT PUMP MANUFACTURER. PROVIDE SENSOR EXTENSIONS, JUNCTION BOXES, AND CONDUIT AS REQUIRED.

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EXPIRATION: 02/28/2027

Drawn By: E.B
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Revisions

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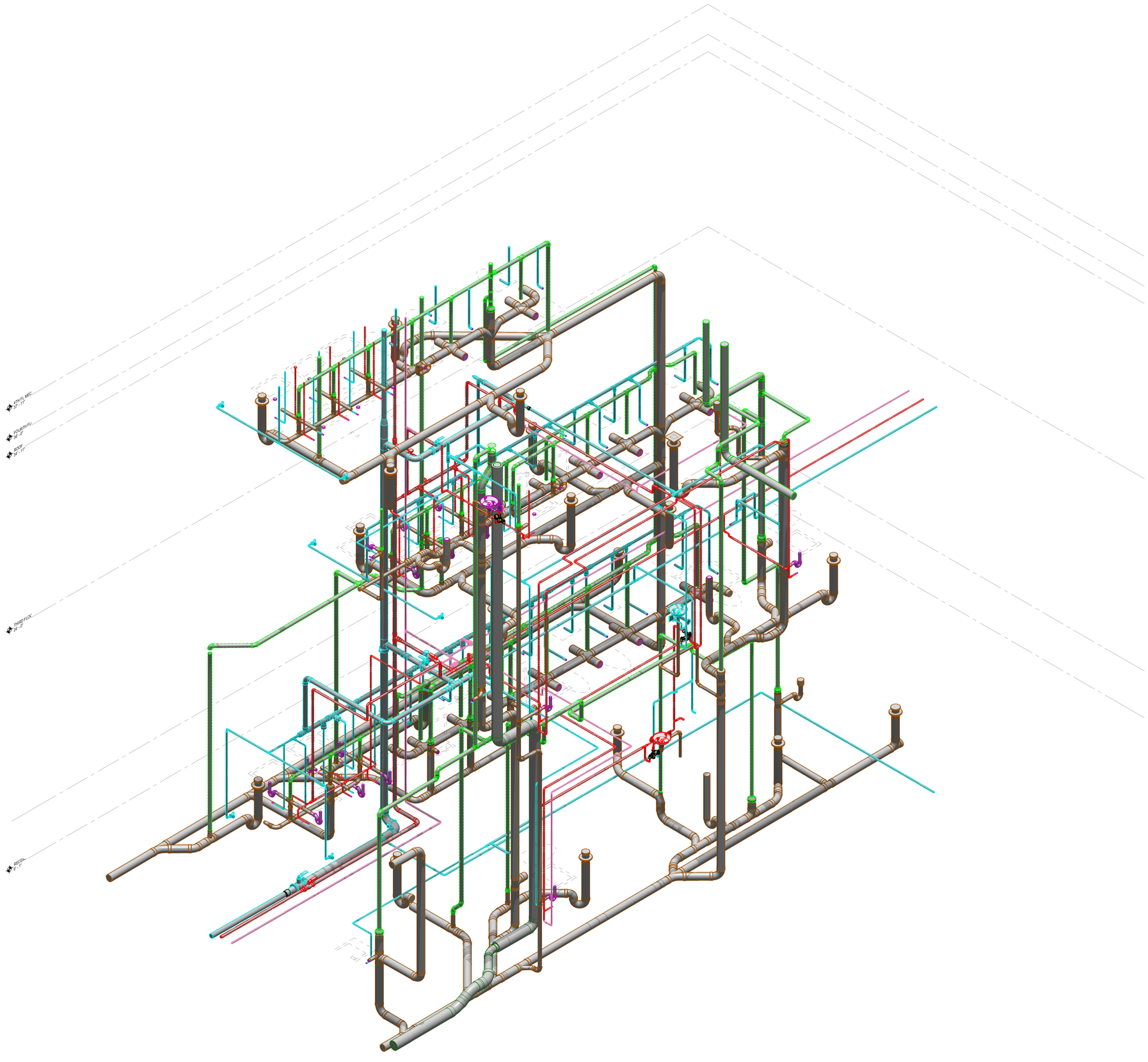
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P621
PLUMBING SCHEDULES

NOV 16, 2026
BID DOCUMENTS

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Revisions

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P901

PLUMBING 3D ISOMETRICS

NOV 16, 2026
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HVAC REMOVAL - GENERAL NOTES:

A. ROOF PENETRATIONS LEFT OPEN BY MECHANICAL EQUIPMENT REMOVALS SHALL BE PROVIDED WITH A TEMPORARY WEATHER PROOF CURB CAP. WEATHER PROOF CURB CAP SHALL BE INSTALLED OVER THE EXISTING ROOF CURB AND SEALED WEATHER TIGHT. TEMPORARY CURB CAP WILL REMAIN IN PLACE FROM THE DATE EQUIPMENT IS REMOVED TO A SCHEDULED NEW EQUIPMENT INSTALLATION DATE. REFER TO ASBESTOS ABATEMENT - GENERAL NOTES.

B. ALL ASBESTOS ABATEMENT WORK WILL BE EXECUTED BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR IN ACCORDANCE WITH NEW YORK STATE INDUSTRIAL 56 (1CR56) AND APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

C. FOR EQUIPMENT AND SYSTEMS EXISTING TO REMAIN IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE CONDITIONS OF EXACT SIZES AND LOCATION OF EXISTING DUCT, PIPING, ETC... BEFORE STARTING DEMOLITION WORK, REPORT ANY DISCREPANCIES BETWEEN PLANS AND ACTUAL FIELD CONDITIONS TO THE OWNER'S REPRESENTATIVE AND ENGINEER PRIOR TO THE COMMENCEMENT OF DEMOLITION WORK.

D. CONTRACTOR TO REMOVE THE INDICATED HVAC ITEMS AS SHOWN ON THE PLANS. THIS INCLUDES ALL HANGERS, SUPPORTS AND RELATED MATERIALS AS DIRECTED, THIS MATERIAL SHALL BE REMOVED FROM THE SITE UNLESS INDICATED TO BE TURNED OVER TO THE OWNER.

E. CAP AND SEAL WATER TIGHT ALL POINTS AT WHICH PIPING IS REMOVED FROM PIPING THAT WILL REMAIN.

F. CONTRACTOR SHALL VERIFY CLEARANCE REQUIREMENTS AND INDICATED ROUTING OF NEW DUCTWORK AND PIPING BEFORE FABRICATING NEW DISTRIBUTION NETWORKS, AS DISTRIBUTION NETWORKS MAY REQUIRE RISING AND DROPPING DUE TO EXISTING FIELD CONDITIONS.

G. ALL REMOVAL WORK SHALL COMPLY WITH NFPA 241.

H. THE ABOVE GENERAL NOTES APPLY TO ALL HVAC REMOVAL CONSTRUCTION DOCUMENTS.

ASBESTOS ABATEMENT - GENERAL NOTES:

A. ALL INFILLING/FIRE STOPPING OF VACANT PENETRATIONS AS A RESULT OF REMOVALS, ABANDONED PENETRATIONS AND NEW PENETRATIONS TO ACCOMMODATE NEW DISTRIBUTION NETWORKS SHALL CONFORM TO SPECIFICATIONS. REFER TO SPECIFICATION SECTION 078413 - PENETRATION FIRESTOPPING AND SPECIFICATION SECTION 028213 - ASBESTOS ABATEMENT AND HM SERIES DRAWINGS.

B. CONTRACTOR IS HEREBY NOTIFIED THAT ASBESTOS-CONTAINING SPRAY ON FIREPROOFING, ASSOCIATED OVERSPRAY AND DEBRIS IS LOCATED THROUGHOUT THE BUILDING, INCLUDING ABOVE CEILING SYSTEMS, WITHIN CAVITIES AND EQUIPMENT. THIS MATERIAL IS LOCATED ON STRUCTURAL STEEL BEAMS AND COLUMNS AND ASSOCIATED OVER-SPRAY EXISTS ON ADJACENT ARCHITECTURAL AND MECHANICAL ITEMS THE CONTRACTOR ACKNOWLEDGES THAT THE FOLLOWING CONDITIONS EXIST AND MUST CONDUCT WORK ACCORDINGLY AS IT RELATES TO THESE ITEMS/MATERIALS:
- ALL EXISTING CEILING SYSTEMS, INCLUDING SUSPENDED CEILING TILES, T-GRID COMPONENTS, HANGERS, ETC. ARE CONSIDERED ASBESTOS CONTAMINATED.
- ALL BUILDING COMPONENTS LOCATED ABOVE OR MOUNTED INTO THE EXISTING CEILING SYSTEMS, INCLUDING DUCTWORK, PIPING, CONDUITS, CABLING, SPEAKERS, SMOKE DETECTORS, ETC. ARE CONSIDERED ASBESTOS CONTAMINATED.
- ALL WALL CAVITIES, INCLUDING PIPE CHASES, PLENUMS, ETC. ARE CONSIDERED ASBESTOS CONTAMINATED.
- ALL BUILDING COMPONENTS LOCATED WITHIN OR MOUNTED INSIDE THE EXISTING WALL SYSTEMS, INCLUDING DUCTWORK, PIPING, CONDUITS, CABLING, SPEAKERS, SMOKE DETECTORS, ETC., ARE CONSIDERED ASBESTOS CONTAMINATED.

D. ALL WORK INVOLVING THE DISTURBANCE OR POTENTIAL DISTURBANCE OF ANY OF THE AFOREMENTIONED ITEMS (C) IN ANY WAY, SHALL BE CONSIDERED TO BE AN ASBESTOS PROJECT. ALL SUCH WORK SHALL ONLY BE UNDERTAKEN BY A LICENSED ASBESTOS ABATEMENT CONTRACTOR UNDER ABATEMENT CONDITIONS. IF AN UNLICENSED CONTRACTOR'S WORK WOULD DISTURB AN ACM, STOP AND IMMEDIATELY NOTIFY THE ABATEMENT TEAM. DISTURBANCE INCLUDES, BUT IS NOT LIMITED TO, REMOVAL, SANDING/ABRADING, CUTTING, PENETRATING, AND SYSTEMS FASTENING TO.

E. REFER TO SPECIFICATION SECTION 078413 - PENETRATION FIRESTOPPING AND SPECIFICATION SECTION 028213 - ASBESTOS ABATEMENT AND HM SERIES DRAWINGS.

HVAC GENERAL NOTES:

GENERAL NOTES PERTAIN TO ALL SHEETS CONTAINED IN THE DRAWING SET. EACH INDIVIDUAL SHEET MAY CONTAIN SUPPLEMENTARY GENERAL NOTES THAT PERTAIN TO THAT SPECIFIC DRAWING OR DRAWING SERIES. ALL SYMBOLS AND/OR ABBREVIATIONS MAY APPLY TO THIS PARTICULAR PROJECT. GENERAL NOTES AS FOLLOWS:

A. THE ENTIRE MECHANICAL SYSTEM SHALL BE IN ACCORDANCE WITH THE 2025 BUILDING CODE OF NEW YORK STATE, 2025 MECHANICAL CODE OF NEW YORK STATE, 2025 ENERGY CONSERVATION CODE OF NEW YORK STATE, AND ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.

B. PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY LOCAL, STATE AND FEDERAL CODES.

C. THE CONTRACTOR SHALL COORDINATE ALL FEES RELATED TO PERMITTING, INSPECTIONS, TAP-ON FEES, ETC..

D. ALL INFILLING/FIRE STOPPING OF VACANT PENETRATIONS AS A RESULT OF REMOVALS, ABANDONED PENETRATIONS AND NEW PENETRATIONS TO ACCOMMODATE NEW DISTRIBUTION NETWORKS SHALL CONFORM TO SPECIFICATIONS. COORDINATE ALL LOCATIONS AND SIZES WITH ARCHITECTURAL PLANS. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF FIRE AND SMOKE RATED WALLS. REFER TO SPECIFICATION SECTION 078413 - PENETRATION FIRESTOPPING.

E. THE PIPING AND DUCTWORK INDICATED ON THESE PLANS ARE DIAGRAMMATIC. COORDINATE ALL HVAC EQUIPMENT, ACCESSORY AND DISTRIBUTION NETWORKS INSTALLATION WITH FACILITY STRUCTURE, CEILINGS, LIGHTING, CONDUIT, DOMESTIC PIPING, STORM, SANITARY AND CONDENSATE DRAIN PIPING (EXISTING AND NEW). PREPARE AND SUBMIT FULL COORDINATION DRAWINGS OF SYSTEMS TO ENGINEER FOR APPROVAL PRIOR TO ORDERING MATERIALS. ANY CORRECTIVE REWORK REQUIRED TO ACCOMMODATE MISCOORDINATION WILL BE AT THE CONTRACTORS EXPENSE.

F. HVAC EQUIPMENT DENOTED ON SCHEDULES IS BASIS OF DESIGN EQUIPMENT. OTHER ACCEPTABLE MANFACTURER'S ARE FOUND IN THE SPECIFICATIONS.

G. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER 'S PUBLISHED INSTRUCTIONS.

H. DO NOT SHUT DOWN ANY MECHANICAL, PLUMBING, FIRE PROTECTION, NATURAL GAS, ELECTRICAL, OR RELATED SYSTEMS WITHOUT THE OWNERS PRIOR WRITTEN APPROVAL. FOLLOW ALL CAMPUS REQUIREMENTS AND SHUT DOWN PROCEDURES AS WELL AS ALL REQUIREMENTS OF THIS PROJECT. COORDINATE ALL SHUT DOWN REQUIREMENTS WITH OWNER.

I. IF REQUIRED, PROVIDE SHUT DOWNS AND TIE-INS DURING OFF HOURS TO AVOID DISRUPTION OF BUILDING SYSTEMS. COORDINATE ALL SHUT DOWN REQUIREMENTS WITH THE OWNER.

J. ALL HYDRONIC PIPING AND DUCTWORK LOCATED ABOVE CEILINGS ARE NOT ACCESSIBLE DUE TO ACM LADEN CEILINGS. REMOVAL DRAWINGS ARE BASED ON INFORMATION FROM RECORD DRAWINGS. EXACT LOCATIONS OF PIPING AND DUCTWORK MAY VARY FROM WHAT IS SHOWN ON REMOVAL DRAWINGS. THIS SHOULD BE CONSIDERED IN BID TABULATION AND DOCUMENTED IN CONFORMED DRAWING SET. REFER TO SPECIFICATION SECTION 028213 - ASBESTOS ABATEMENT, HM SERIES DRAWINGS AND ASBESTOS ABATEMENT - GENERAL NOTES

K. FIELD VERIFY EXACT LOCATION, DEPTH, COMPOSITION AND CONDITION OF ALL PIPING, VALVES AND SYSTEMS AS REQUIRED FOR WORK OF THE CONTRACT.

L. PROVIDE ALL NECESSARY DUCTWORK AND PIPING OFFSETS, FITTINGS AND TRANSITIONS, PIPING INCREASERS/REDUCERS AS REQUIRED FOR EQUIPMENT CONNECTIONS. CONTRACTOR SHALL MAKE SUCH CHANGES IN DUCTWORK, PIPING AND LOCATION OF EQUIPMENT, ETC. TO ACCOMMODATE WORK, OBSTACLES. CONSULT EQUIPMENT MANUFACTURERS DATA FOR ACTUAL DUCTWORK AND PIPING CONNECTIONS SIZES, INCLUDING, BUT NOT LIMITED TO THOSE SHOWN ON CONTRACT DRAWINGS. INSTALL PIPING AND DUCTWORK TO AVOID INTERFERENCE WITH OPERATION, SERVICE AND MAINTENANCE OF ALL EQUIPMENT. FIELD VERIFY AND COORDINATE ALL EQUIPMENT, DIMENSIONS BEFORE FABRICATION.

M. PROVIDE ALL MISCELLANEOUS STEEL REQUIRED ENSURING PROPER INSTALLATION FOR SUPPORTING DUCTWORK, PIPING AND EQUIPMENT.

N. ALL SURFACE MOUNTED EQUIPMENT SHALL BE FASTENED WITH ANCHORS OR FASTENERS AS SPECIFIED FOR SUBSTRATE. PLASTIC OR FIBER SHIELD ARE NOT ACCEPTABLE.

O. CONTRACTOR SHALL LOCATE THERMOSTATS AND TEMPERATURE SENSORS AT 4'-0" AFF, A MINIMUM OF 8" FROM LIGHT SWITCH. REFER TO TEMPERATURE ZONE PLANS FOR T-STAT AND SENSOR LOCATIONS. COORDINATE WITH ARCHITECTURAL PLANS. COORDINATE EXACT LOCATION OF ALL THERMOSTATS AND SPACE SENSORS WITH ENGINEER. ISOLATE THERMOSTAT AND SENSOR BASES FROM THERMAL CONTACT WITH WALL.

P. ALL CEILING AND WALL ACCESS DOORS ARE REQUIRED FOR ACCESS TO SERVICE EQUIPMENT SUCH AS, VALVES, AIR VENTS, AUTOMATIC DAMPERS AND FIRE DAMPERS, ETC. COORDINATE CEILING AND WALL ACCESS DOOR LOCATIONS AND TYPE WITH PROJECT ARCHITECT. PROVIDE REMOTE ACTUATED VOLUME DAMPERS FOR ALL BALANCING DAMPER THAT ARE PHYSICALLY DIFFICULT TO REACH.

Q. DUCTWORK ROUTED PARALLEL TO A RATED WALL OR CORRIDOR SHALL BE INSTALLED WITH MINIMUM 6" CLEARANCE TO ALLOW FOR INSPECTION OF WALL PENETRATIONS. PROVIDE 12" CLEARANCE WHERE POSSIBLE.

R. DUCTWORK AND PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING WITH ELECTRIC PANELS WHEN SHOWN NEAR PANELS OR OVER ELECTRICAL ROOMS.

S. CONTRACTOR TO FURNISH AND INSTALL CONDENSATE DRAINS FOR ALL CHILLED BEAMS AND COOLING EQUIPMENT. PLUMBING CONTRACTOR SHALL ENSURE PROPER INSTALLATION AND DRAINAGE TERMINATION. CONDENSATE PIPING SHALL BE TYPE "DWV" COPPER, UNLESS OTHERWISE NOTED.

T. COORDINATE ALL OUTSIDE AIR INTAKE LOCATIONS WITH EXHAUSTS AND PLUMBING VENTS. ALL VENT TERMINATIONS ABOVE ROOF SHALL BE A MINIMUM 10'-0" AWAY FROM ANY HVAC OUTSIDE AIR INTAKE (ROOFTOP UNIT, LOUVER, ETC.).

U. ALL HVAC EQUIPMENT, PIPING AND DUCTWORK DISTRIBUTION NETWORKS SHALL BE SUPPORTED FROM OR ANCHORED TO THE BUILDING STRUCTURE, UNLESS NOTED OTHERWISE. CEILING CONSTRUCTION SHALL NOT BE USED FOR SUPPORT OR ANCHORING OF WORK.

V. HVAC SYSTEMS SHALL OPERATE UNDER CONDITIONS OF LOAD WITHOUT UNUSUAL OR EXCESSIVE NOISE OR VIBRATION. UNUSUAL OR EXCESSIVE NOISE OR VIBRATION SHALL BE CORRECTED. CONFIRM DESIGN SOUND LEVELS WITH PROJECT ACOUSTICAL CONSULTANT.

W. ALL DUCTWORK AND AIR HANDLING UNIT, DOAS, MAU CASINGS ARE TO BE THOROUGHLY CLEANED BEFORE THEY ARE STARTED UP.

X. CONTRACTOR SHALL BE REQUIRED TO REPLACE FILTERS ON HVAC EQUIPMENT AFTER ALL DUST PRODUCING CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO THE FINAL PUNCH AND OCCUPIED USE.

Y. REFER AND COMPLY WITH ALL DIVISION 23 SPECIFICATIONS.

HVAC DUCTWORK GENERAL NOTES:

A. COORDINATE DIFFUSER, REGISTER AND CHILLED BEAM LOCATIONS WITH LIGHTING, FIRE DETECTION, CEILING, AND SPRINKLER HEAD LOCATIONS.

B. COORDINATE LOUVER, DIFFUSER, REGISTER, AND GRILLE FRAME TYPES TO MATE AND MATCH ADJACENT WALL AND CEILING CONSTRUCTION.

D. ALL SQUARE ELBOWS SHALL HAVE TURNING VANES, EXCEPT FOR LINED RETURN AIR SOUND TRAPS.

E. CONTRACTOR TO COORDINATE DUCTWORK WITH ARCHITECTURAL DRAWINGS TO ENSURE ALL DUCTWORK IS CONCEALED, EXCEPT FOR DUCTWORK ABOVE THE STAGE IN THE GREAT HALL.

F. PROVIDE IRIS BALANCING DAMPERS FOR ALL DUCT BRANCHES SERVING SUPPLY AIR DIFFUSERS, SUPPLY AIR GRILLES, RETURN AIR GRILLES, AND EXHAUST AIR GRILLES.

G. PROTECT VALVE AND DAMPER POSITION INDICATORS AND ACTUATORS FROM PAINTING. COORDINATE WITH PAINT INSTALLER TO PRESERVE TAG DATA, EQUIPMENT TAGS, FREE OF PAINT.

H. FOR NECK AND BRANCH DUCT SIZE TO EACH REGISTER, GRILLE AND DIFFUSER, REFER TO HVAC SCHEDULE DRAWINGS.

HVAC PIPING GENERAL NOTES:

A. 2-1/2 INCH AND LARGER CHILLED WATER PIPING SHALL NOT BE TAAPPED WITH ANYTHING LESS THAN ½ INCH PIPE.

B. "PETE'S PLUGS" SHALL BE 3/8 INCH, EXTENDED LENGTH STEM TO ALLOW FOR INSULATION.

C. PITCH ALL PIPING UPWARD IN THE DIRECTION OF FLOW.

D. UNLESS OTHERWISE NOTED PROVIDE DRAINS AT LOW POINTS OF HYDRONIC PIPING. DRAINS SHALL BE CONSTRUCTED WITH A ¾ INCH BALL VALVE WITH HOSE CONNECTION AND END CAP.

E. UNLESS OTHERWISE NOTED, PROVIDE MANUAL AIR VENTS AT HIGH POINTS OF HYDRONIC PIPING. VENTS SHALL BE CONSTRUCTED WITH A ½ INCH BALL VALVE WITH HOSE CONNECTION AND END CAP.

F. PROVIDE TEST PORTS ON BOTH SIDES OF DP SENSORS FOR SETUP AND CALIBRATION.

G. INSTALL ALL CONTROL VALVES AT LOCATIONS THAT ARE EASILY ACCESSIBLE FOR SERVICE ACCESS. AHU/ERU/DOAS/GSHP/ACB/VAV(RH)/VAV(ACB) AND HEAT EXCHANGER CONTROL VALVES SHALL BE READILY ACCESSIBLE. POSITION INDICATORS SHALL BE READILY VISIBLE FROM THE FLOOR. COORDINATE TO AVOID SERVICE OBSTRUCTIONS.

H. CONTRACTOR IS RESPONSIBLE FOR DRAINING/FILLING HYDRONIC PIPING WITH WATER/CHEMICALS/GLYCOL. ALL HVAC HYDRONIC PIPING SYSTEMS SHALL BE FLUSHED, PRESSURE TESTED, CHEMICALLY CLEANED, TREATED, AND AIR PURGED IN STRICT ACCORDANCE WITH THE REQUIREMENTS DETAILED IN SPECIFICATION SECTIONS 23 21 13 AND 23 25 00. COORDINATE ALL PROCEDURES WITH THE OWNER'S REPRESENTATIVE AND THE WATER TREATMENT VENDOR. DO NOT PUT PIPING INTO OPERATION UNTIL TESTED AND APPROVED.

HVAC ELECTRICAL COORDINATION NOTES:

A. VERIFY THAT MOTORS AND EQUIPMENT MATCH FIELD VOLTAGE.

B. VARIABLE FREQUENCY DRIVES (VFD) – COORDINATE TO ENSURE VFD IS APPROPRIATE FOR ACTUAL INSTALLED MOTOR, THE ATTACHED FAN WHEEL INERTIA AND THE BUILDING MANAGEMENT SYSTEM. DO NOT INSTALL OR CONNECT DRIVE BEFORE VERIFYING VFD/MOTOR CONTROL SYSTEM COMPATIBILITY.

HVAC HANGER NOTES:

A. M/P/FP SYSTEMS AND EQUIPMENT SHALL NOT BE HUNG FROM THE ROOF DECK.

MECHANICAL ROOM NOTES:

A. REFER TO ARCHITECTURAL, STRUCTURAL, PLUMBING, FIRE PROTECTION AND ELECTRICAL DRAWINGS FOR COORDINATING ALL INSTALLED MATERIALS.

B. DO NOT BLOCK TUBE PULL OR SERVICE SPACE ON EQUIPMENT WITH PIPING, DUCTWORK, ETC. FLANGED OR REMOVABLE SECTIONS MAY BE USED IN SOME INSTANCES WHERE TIGHT CLEARANCES EXIST.

C. PIPE DRAIN LINES FROM EQUIPMENT TO NEAREST FLOOR DRAIN. REFER TO DRAWINGS FOR LOCATIONS OF FLOOR DRAINS.

MECHANICAL INSULATION NOTES:

A. OMIT HEATING PIPE INSULATION UNDERNEATH RADIATOR.

B. OMIT PERIMETER HEATING PIPING INSULATION AT SLAB PENETRATIONS WITHIN THE SLAB SLEEVE.

C. CONTROL VALVES: COORDINATE INSULATION INSTALLATION TO EXPOSE FACTORY VALVE INFORMATION WHEN ATTACHED BY MANUFACTURER.

DIRECT DIGITAL CONTROLS (DDC) NOTES:

A. PROVIDE POWER FOR ELECTRONIC THERMOSTATS, CURRENT SENSORS, TRANSMITTERS, METERS, SENSORS, ACTUATORS, AND ACCESSORIES.

B. ALL POWER FOR CONTROL PANELS SHALL BE DERIVED FROM A 115V 20A POWER CIRCUIT IN MECHANICAL ROOMS/VALVE CLOSETS. ALL CONTROL POWER SHALL BE BACKED UP BY THE STANDBY EMERGENCY POWER SYSTEM.

C. ALL CONTROL VARIABLES, OBJECTS, CONTROL LOOPS AND OTHER SOFTWARE CONSTRUCTS SHALL BE NAMED APPROPRIATELY SO THEY ARE READILY UNDERSTANDABLE. ALL CONTROL OBJECTS SHALL IDENTIFY BUILDING, SYSTEM, OBJECT.

D. PROVIDE ELECTRIC ACTUATOR FOR ALL CONTROL VALVES, DAMPERS AND MECHANICAL CONTROL DEVICES.

E. PROVIDE POINTS LIST WITH IP ADDRESSES, REFER TO DRAWINGS AND SPECIFICATIONS.

F. PROVIDE VARIABLE NAMES, REFER TO DRAWINGS AND SPECIFICATIONS.

G. PROVIDE ALARM PRIORITIES, REFER TO DRAWINGS AND SPECIFICATIONS

H. PROVIDE CONTROLS CABINETS WITH PLEXIGLAS WINDOW IN CABINET COVER.

I. INSTALL CONTROL PANELS TO PROVIDE 3'-0" MIN CLEARANCE IN FRONT OF PANEL. CONTROL PANELS SHALL BE MOUNTED ON ¾" AC PLYWOOD, PAINTED NAVY BLUE. TOP OF MOUNTING BOARD 6'-0" AFF.

J. INSTALL ALL CONTROLS WIRING IN CONDUIT.

K. COORDINATE LIGHTING CONTROL WITH BUILDING MANAGEMENT SYSTEM (BMS). COORDINATE LIGHTING CONTROLLERS WITH BMS. S.

HVAC COMMISSIONING NOTES:

A. THE CONTRACTOR SHALL COORDINATE AND SUPPORT ALL COMMISSIONING ACTIVITIES.

B. ALL HVAC SYSTEMS SHALL BE FULLY INSTALLED, STARTED, TAB-VERIFIED, AND INTEGRATED WITH THE BMS PRIOR TO COMMISSIONING.

C. PROVIDE ACCESS TO ALL HVAC EQUIPMENT, CONTROLS, DAMPERS, SENSORS, TEST PORTS, AND SERVICE CLEARANCES.

D. ALL BMS POINTS SHALL BE COMPLETE, CHECKED OUT, AND AVAILABLE TO THE CXA PRIOR TO FUNCTIONAL TESTING.

E. TAB PLAN AND FINAL TAB REPORT SHALL BE REVIEWED AND ACCEPTED BY THE CXA PRIOR TO COMMISSIONING.

TESTING, ADJUSTING & BALANCING NOTES:

A. FINAL CONSTRUCTION: UPON COMPLETION OF THE HVAC RENOVATION WORK, AN INDEPENDENT AABC OR NEBB CERTIFIED TAB CONTRACTOR SHALL BALANCE EQUIPMENT, PIPING AND DUCTS TO PROVIDE INDICATED FLOWS, TEMPERATURES, ETC... ANY ADDITION OF DAMPERS, ADJUSTMENTS, (FAN SPEED, CHANGE OUT OF PULLEYS, ETC.) REQUIRED FOR THIS SHALL BE INCLUDED IN THIS CONTRACTOR'S PROPOSAL.

B. FINAL REPORT: SUBMIT FINAL TEST AND BALANCE REPORT TO ENGINEER FOR REVIEW AND ACCEPTANCE. ONE WEEK PRIOR TO COMMISSIONING PHASE.

C. ONCE "FINAL BALANCING REPORT" HAS BEEN APPROVED BY MECHANICAL ENGINEER, EMAIL ENTIRE REPORT TO ENERGY MANAGER, MATTHEW_BRUBAKER@CORTLAND.EDU AND THE SUNY CORTLAND PROJECT COORDINATOR, DILLION_YOUNG@CORTLAND.EDU

D. ANY EXISTING TO REMAIN SYSTEM SHALL BE MEASURED AND A REPORT PROVIDED PRIOR TO THE START OF ANY DEMOLITION. PRIOR TO THE COMPLETEION OF THE PROJECT, THE EXISTING SYSTEM SHALL BE MEASURED AND VERIFIED TO ENSURE IT MEETS IT'S PRE-CONSTRUCTION PERFORMANCE.

MECHANICAL SYMBOLS LEGEND

- POINT OF DISCONNECTION
- POINT OF CONNECTION
- PIPE TURNED UP
- PIPE TURNED DOWN
- BRANCH OFF BOTTOM OF PIPE
- BRANCH OFF TOP OF PIPE
- GENERIC SHUTOFF VALVE (REFER TO SPECS FOR SPECIFIC TYPE OF VALVE)
- BALL VALVE
- BUTTERFLY VALVE
- BALANCE VALVE
- CHECK VALVE
- PT — PRESSURE/TEMPERATURE PLUG
- EPV M — ELECTRONIC PRESSURE INDEPENDENT VALVE
- M — 2-WAY CONTROL VALVE
- RELIEF VALVE
- 3-WAY CONTROL VALVE
- PUMP (SCHEMATIC)
- STRAINER
- UNION
- FLANGE
- F — FLOW METER
- PRESSURE GAUGE
- THERMOMETER
- SIGHT GLASS
- DP — DIFFERENTIAL PRESSURE GAUGE
- THERMOWELL
- PIPE BREAK
- T — THERMOSTAT
- T — PNEUMATIC THERMOSTAT
- S — SENSOR
- H — HUMIDISTAT
- CO_2 — CARBON DIOXIDE SENSOR
- SD — SMOKE DETECTOR
- 1 / 24x24 / 1000 — BALANCED AIR TERMINAL
  - MARK
  - NECK SIZE
  - CFM
- 1 / 24x24 — UNBALANCED AIR TERMINAL
  - MARK
  - NECK SIZE
- AIR FLOW ARROW
- L — LOUVERED DOOR
- UC — UNDERCUT DOOR
- 12x8 — DUCT (DIMENSIONS IN INCHES, WxH)
- DUCT SECTION - SUPPLY
- DUCT SECTION - RETURN
- DUCT SECTION - EXHAUST
- VOLUME DAMPER - MANUAL OPERATION
- TURNING VANES
- FD — FIRE DAMPER
- F/SD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- AS — AIR SEPARATOR
- HX- — HEAT EXCHANGER
- ET- — EXPANSION TANK
- FUNNEL DRAIN

MECHANICAL ABBREVIATIONS

%	PERCENT
AC	AIR CONDITIONING
AC	ALTERNATING CURRENT
ACB	ACTIVE CHILLED BEAM
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
ADJ	ADJACENT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFUE	ANNUAL FUEL UTILIZATION EFFICIENCY
AHJ	AUTHORITY HAVING JURSIDICTION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARD INSTITUTE
APD	AIR PRESSURE DROP
APPROX	APPROXIMATE
AVG	AVERAGE
BHP	BRAKE HORSEPOWER
BLDG	BUILDING
BO	BOTTOM OF
BSMT	BASEMENT
BTU	BRITISH THERMAL UNIT
CAP	CAPACITY
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	CEILING
CLR	CLEAR
CMPR	COMPRESSOR
COL	COLUMN
COMB	COMBUSTION
CONC	CONCRETE
COND	CONDENS (-ATE, -ATION, -ER, -ING)
CONN	CONNECTION
CONT	CONTINUOUS
CU FT	CUBIC FEET
CU IN	CUBIC INCH
CV	VALVE FLOW COEFFICIENT
DB	DRY BULB
dB	DECIBEL
DC	DIRECT CURRENT
DEG	DEGREE
DEMO	DEMOLITION
DIA	DIAMETER
DWG	DRAWING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
EDR	EQUIVALENT DIRECT RADIATION
ELEV	ELEVATION
EQ	EQUAL
ESP	EXTERNAL STATIC PRESSURE
EST	ESTIMATED
ETR	EXISTING TO REMAIN
EVAP	EVAPORAT (-E, -ED, -ING, -OR)
EWT	ENTERING WATER TEMPERATURE
EXIST, (E)	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FAHRENHEIT
FA	FREE AREA
FIN	FINISHED
FL	FLOOR
FLA	FULL LOAD AMPERES
FPC	FIRE PROTECTION CONTRACTOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOW SWITCH
FT	FOOT
FUT	FUTURE
FV	FACE VELOCITY
G	GLYCOL
GA	GAUGE
GAL	GALLON
GC	GENERAL CONTRACTOR
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GR	GRAINS
HD	HEAD
HG	MERCURY
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE STEAM
HR	HOUR
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
HZ	HERTZ / FREQUENCY
ID	DIAMETER, INSIDE
IN	INCH
INSUL	INSULATION
INT	INTERIOR
IPS	IRON PIPE SIZE
KW	KILOWATT
KWH	KILOWATT-HOUR
LAT	LEAVING AIR TEMPERATURE
LBS	POUNDS

LF	LINEAR FEET
LG	LENGTH
LOC	LOCATION
LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPERES
LWT	LEAVING WATER TEMPERATURE
MATL	MATERIAL
MAX	MAXIMUM
MBH	BTU PER HOUR (THOUSAND)
MC	MECHANICAL CONTRACTOR
MCA	MINIMUM CIRCUIT AMPERES
MECH	MECHANICAL
MFG	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
MOCP	MAXIMUM OVERCURRENT PROTECTION
MPS	MEDIUM PRESSURE STEAM
MTG	MOUNTING
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OC	ON CENTER
OD	DIAMETER, OUTSIDE
ODWH	ON DEMAND WATER HEATER
OPG	OPENING
OPP	OPPOSITE HAND
OS	OPEN SITE
OT	OFF TOP
OZ	OUNCE
PC	PLUMBING CONTRACTOR
PH	PHASE (ELECTRICAL)
PLBG	PLUMBING
PPM	PARTS PER MILLION
PR	PAIR
PRESS	PRESSURE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	PSI ABSOLUTE
PSIG	PSI GAUGE
PT	PRESSURE TEST PORT
R	THERMAL RESISTANCE
R12, R22	REFRIGERANT (12, 22, ETC)
RA	RETURN AIR
RAD	RADIATION
RCVR	RECEIVER
REA	RELIEF AIR
RECIRC	RECIRCULATION
REF	REFERENCE
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPERES
RO	ROUGH OPENING
ROW	RIGHT OF WAY
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SCFM	CFM, STANDARD CONDITIONS
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SIM	SIMILAR
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SPLY	SUPPLY
SQ	SQUARE
SQ FT	SQUARE FOOT
SQ IN	SQUARE INCH
ST	STEEL
STD	STANDARD
SUCT	SUCTION
T'STAT	THERMOSTAT
TA	THROW AWAY
TAB	TEST AND BALANCE
TBD	TO BE DETERMINED
TC	TEMPERATURE CONTROL CONTRACTOR
TD	TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TO	TOP OF
TS	TAMPER SWITCH
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
U	HEAT TRANSFER COEFFICIENT
UNO	UNLESS OTHERWISE NOTED
V	VOLT
VAC	VACUUM
VAR	VARIABLE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VENT	VENTILATION, VENT
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIF	VERIFY IN FIELD
VOL	VOLUME
VVT	VARIABLE VOLUME AND TEMPERATURE
W	WATT
W/	WITH
W/O	WITHOUT
WB	WET BULB
WBT	WET BULB TEMPERATURE
WH	WHITE
WPD	WATER PRESSURE DROP
WT	WEIGHT
WTD	WATER TEMPERATURE DROP

MECHANICAL LINETYPE LEGEND

	ARCHITECTURAL BACKGROUND		
(E) / (ETR)	EXISTING PIPING/DUCTWORK TO REMAIN		
	EXISTING PIPING/DUCTWORK TO BE REMOVED		
	PIPING/DUCTWORK TO BE PROVIDED		
CD	CONDENSATE DRAIN	50 °F	Water
GWR	GEOTHERMAL WATER RETURN	105 °F / 44°F	Propylene Glycol - 25%
GWS	GEOTHERMAL WATER SUPPLY	95 °F / 54°F	Propylene Glycol - 25%
PCGR	PRIMARY COOLING GLYCOL RETURN	55 °F	Propylene Glycol - 25%
PCGS	PRIMARY COOLING GLYCOL SUPPLY	45 °F	Propylene Glycol - 25%
PCWR	PRIMARY COOLING WATER RETURN	55 °F	Water
PCWS	PRIMARY COOLING WATER SUPPLY	45 °F	Water
PD	PUMPED DISCHARGE	50 °F	Water
RL	REFRIGERANT LIQUID		
RS	REFRIGERANT SUCTION		
SCGR	SECONDARY COOLING GLYCOL RETURN	55 °F	Propylene Glycol - 25%
SCGS	SECONDARY COOLING GLYCOL SUPPLY	45 °F	Propylene Glycol - 25%
SCWR	SECONDARY COOLING WATER RETURN	55 °F	Water
SCWS	SECONDARY COOLING WATER SUPPLY	45 °F	Water
PHGR	PRIMARY HEATING GLYCOL RETURN	105 °F	Propylene Glycol - 25%
PHGS	PRIMARY HEATING GLYCOL SUPPLY	125 °F	Propylene Glycol - 25%
PHWR	PRIMARY HEATING WATER RETURN	105 °F	Water
PHWS	PRIMARY HEATING WATER SUPPLY	125 °F	Water
SHGR	SECONDARY HEATING GLYCOL RETURN	105 °F	Propylene Glycol - 25%
SHGS	SECONDARY HEATING GLYCOL SUPPLY	125 °F	Propylene Glycol - 25%
SHWR	SECONDARY HEATING WATER RETURN	105 °F	Water
SHWS	SECONDARY HEATING WATER SUPPLY	125 °F	Water
TPWR	TWO PIPE CHANGEOVER WATER RETURN	55 °F / 105°F	Water
TPWS	TWO PIPE CHANGEOVER WATER SUPPLY	45 °F / 125°F	Water
CWM	COLD WATER MAKEUP		

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EXPIRATION: 02/28/2027

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Checked By: J.P.
Project Manager: M.R.

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Revisions

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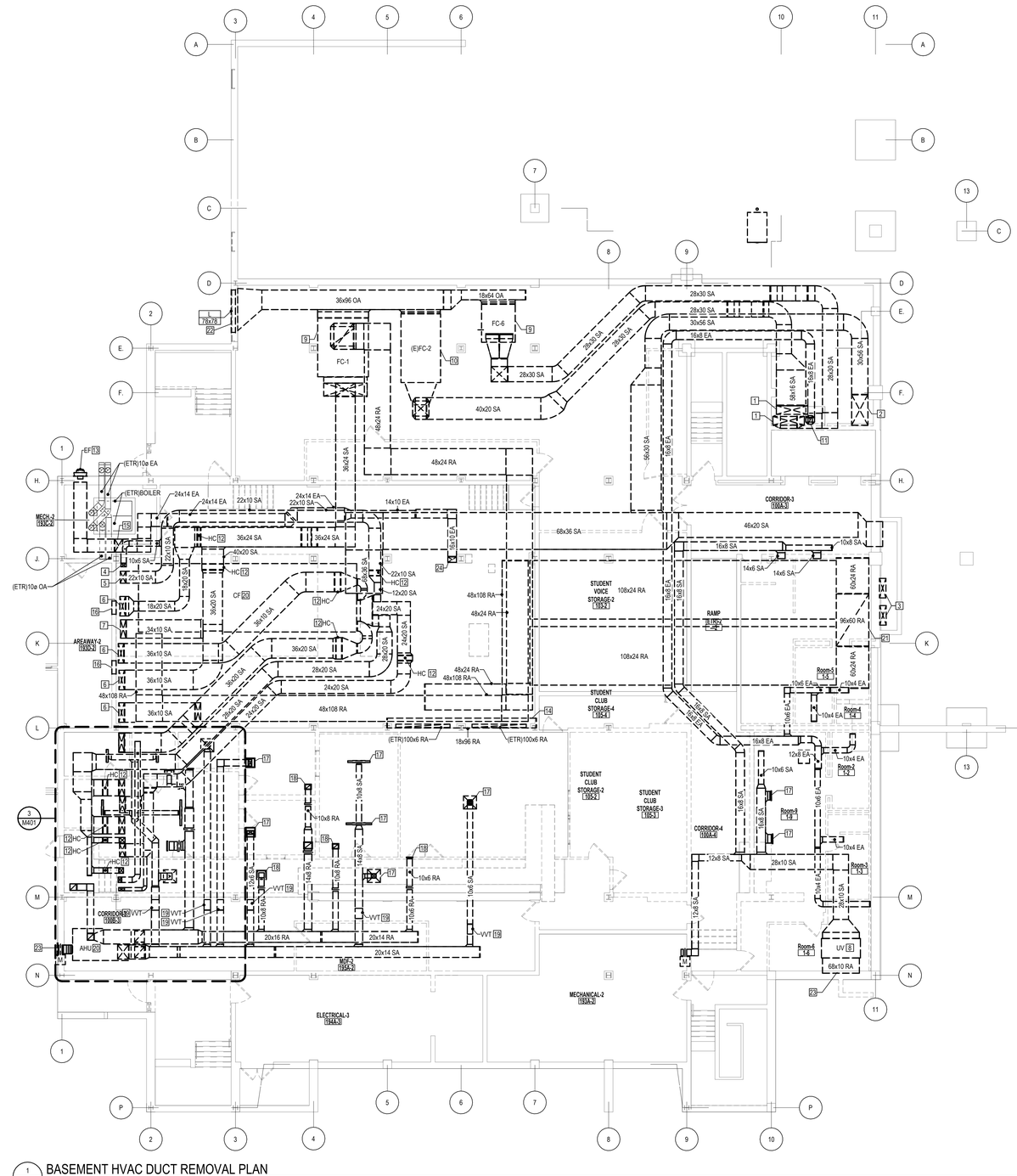
M001
HVAC NOTES AND LEGENDS

NOVEMBER 16, 2026
BID DOCUMENTS

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SUPPLEMENTAL GENERAL NOTES

1. ALL MECHANICAL UNITS IN BASEMENT MECHANICAL ROOM TO CUT INTO SMALL PIECES AND BROUGHT OUT OF THE BUILDING USING NEW LOUVER (L-1). REFER TO NEW PLAN M121 FOR LOUVER LOCATION AND SIZE.
2. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.

KEYED NOTES

1. REMOVE 58x16 SA DUCT UP TO FLOOR ABOVE.
2. REMOVE 56x30 SA DUCT UP TO FLOOR ABOVE.
3. REMOVE 36x12 SA DUCT UP TO FLOOR ABOVE. PATCH CONCERETE PLENUM TO MATCH EXISTING CONSTRUCTION.
4. REMOVE 10x6 SA DUCT UP TO FLOOR ABOVE.
5. REMOVE 22x10 SUPPLY DUCT UP TO FLOOR ABOVE.
6. REMOVE 36x10 SA DUCT UP TO FLOOR ABOVE.
7. REMOVE 34x10 SA DUCT UP TO FLOOR ABOVE.
8. REMOVE UNIT VENTILATOR, ASSOCIATED DUCTWORK, AND CONTROLS.
9. REMOVE FAN COIL UNIT, ASSOCIATED DUCTWORK, AND CONTROLS.
10. DISCONNECT AND REMOVE EXISTING COILS FROM FC-2. FC-2 IS TO BE TEMPORARILY REMOVED AND SAVED FOR REINSTALLATION WITH NEW COILS. REFER TO NEW DRAWINGS FOR LOCATION.
11. REMOVE 16x8 EA DUCT UP TO FLOOR ABOVE.
12. REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
13. REMOVE EF WITH CONTROLS AND ASSOCIATED DUCT. PATCH WALL OPENING TO MATCH EXISTING CONDITION.
14. REMOVE 48x24 RA DUCT FROM RETURN PLENUM TO FCU-1. REMOVE RETURN PLENUM AND ASSOCIATED DUCTWORK UP TO FLOOR ABOVE.
15. REMOVE EXHAUST DUCT UP TO FLOOR ABOVE.
16. REMOVE OA LOUVER.
17. REMOVE EXISTING SUPPLY GRILLE
18. REMOVE RETURN GRILLE.
19. REMOVE VARIABLE VOLUME AND TEMPERATURE ZONE CONTROL BOX AND ASSOCIATED DUCTWORK. TURN VVT BOX AND CONTROLS OVER TO CAMPUS.
20. REMOVE AIR HANDLING UNIT, ASSOCIATED DUCTWORK, AND CONTROLS.
21. REMOVE 96x60 RA UP TO FLOOR ABOVE
22. REMOVE LOUVER. EXISTING AND NEW UNITS TO TRAVEL THROUGH THIS AREA. REFER TO ARCHITECTURAL DRAWINGS FOR OPENING SIZE FOR UNIT TRAVEL.
23. REMOVE THE LOUVER. PATCH OPENING TO MATCH EXISTING CONSTRUCTION.
24. REMOVE GRILLE AND DUCT DOWN TO GRILLE.

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Project Manager:	M.R.

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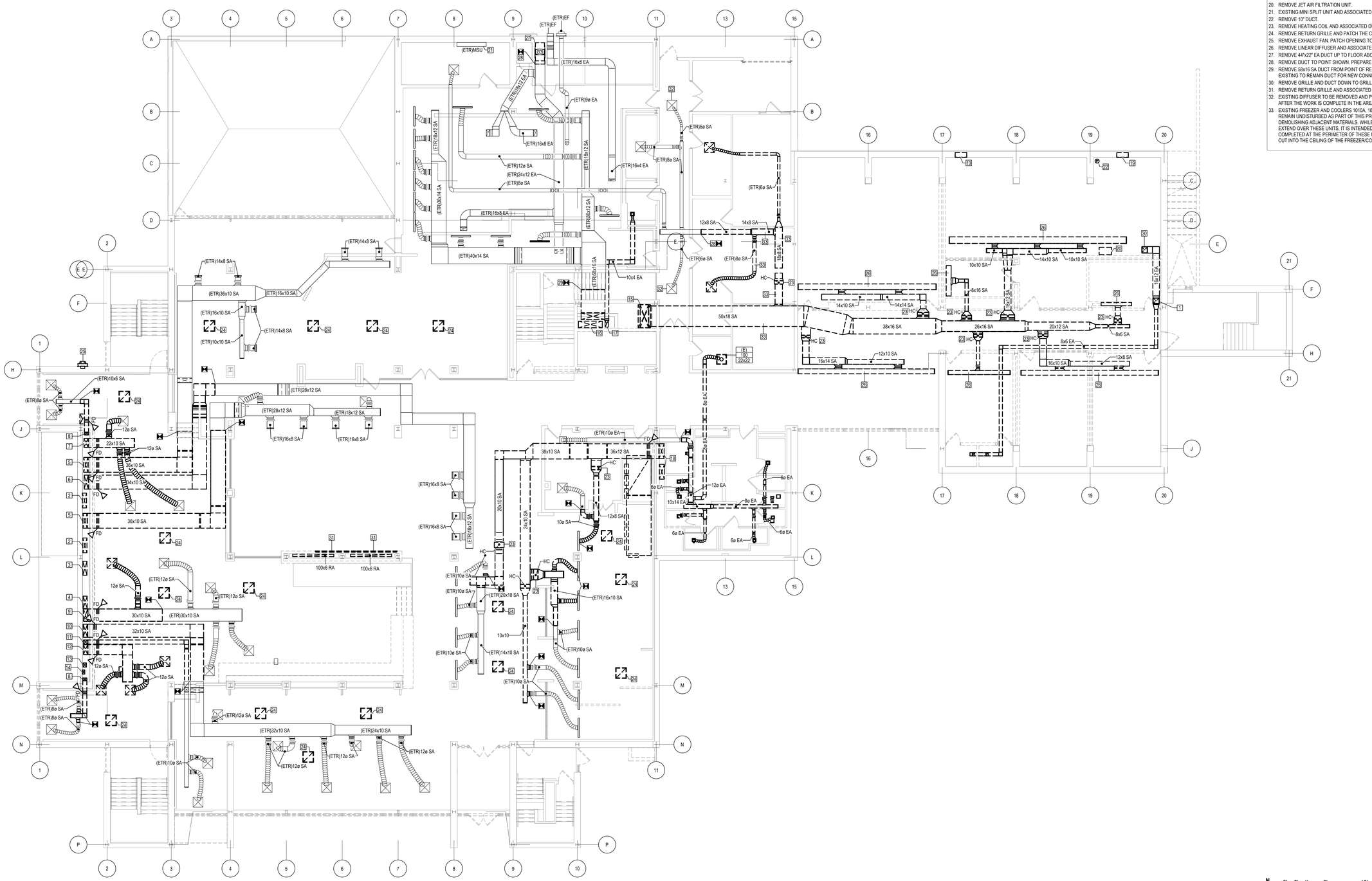
M101

HVAC BASEMENT DUCT REMOVAL PLAN

NOVEMBER 16, 2026
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1 M102 FIRST FLOOR HVAC DUCT REMOVAL PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.

KEYED NOTES

1. REMOVE 16x14 EA DUCT UP TO FLOOR ABOVE.
2. REMOVE 36x10 SA DUCT UP TO FLOOR ABOVE AND 36x10 SA DUCT DN TO FLOOR BELOW.
3. REMOVE 34x10 SA DUCT UP TO FLOOR ABOVE AND 34x10 SA DUCT DN TO FLOOR BELOW.
4. REMOVE 30x10 SA DUCT UP TO FLOOR ABOVE AND 30x10 SA DUCT DN TO FLOOR BELOW.
5. REMOVE 36x10 SA DUCT DN TO FLOOR BELOW.
6. REMOVE 34x10 SA DUCT DN TO FLOOR BELOW.
7. REMOVE 22x10 SA DUCT DN TO FLOOR BELOW.
8. REMOVE 10x6 SA DUCT DN TO FLOOR BELOW.
9. REMOVE 30x10 SA DUCT DN TO FLOOR BELOW.
10. REMOVE 32x10 SA DUCT DN TO FLOOR BELOW.
11. REMOVE 10x10 SA DUCT DN TO FLOOR BELOW.
12. REMOVE 24x10 SA DUCT DN TO FLOOR BELOW.
13. REMOVE 10x8 SA DUCT UP TO FLOOR ABOVE AND 10x8 SA DUCT DN TO FLOOR BELOW.
14. REMOVE 10x6 SA DUCT UP TO FLOOR ABOVE AND 10x6 SA DUCT DN TO FLOOR BELOW.
15. REMOVE 56x20 SA DUCT UP TO FLOOR ABOVE AND 56x30 SA DUCT DN TO FLOOR BELOW.
16. REMOVE 58x16 UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
17. REMOVE 16x8 EA DUCT UP AND DN.
18. REMOVE 36x12 SA DUCT UP AND DN.
19. REMOVE 28x28 FAN.
20. REMOVE JET AIR FILTRATION UNIT.
21. EXISTING MINI SPLIT UNIT AND ASSOCIATED CONDENSING UNIT TO REMAIN.
22. REMOVE 10" DUCT.
23. REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
24. REMOVE RETURN GRILLE AND PATCH THE CEILING.
25. REMOVE EXHAUST FAN. PATCH OPENING TO MATCH EXISTING CONSTRUCTION.
26. REMOVE LINEAR DIFFUSER AND ASSOCIATED DUCT.
27. REMOVE 44"x22" EA DUCT UP TO FLOOR ABOVE.
28. REMOVE DUCT TO POINT SHOWN. PREPARE FOR NEW CONNECTION.
29. REMOVE 58x16 SA DUCT FROM POINT OF REMOVAL AND PREPARE THE EXISTING TO REMAIN DUCT FOR NEW CONNECTION.
30. REMOVE GRILLE AND DUCT DOWN TO GRILLE.
31. REMOVE RETURN GRILLE AND ASSOCIATED DUCT.
32. EXISTING DIFFUSER TO BE REMOVED AND PRESERVED FOR REINSTALLATION AFTER THE WORK IS COMPLETE IN THE AREA.
33. EXISTING FREEZER AND COOLERS 1010A, 1010B, 1010C, AND 1013C ARE TO REMAIN UNDISTURBED AS PART OF THIS PROJECT. TAKE CARE WHILE DEMOLISHING ADJACENT MATERIALS. WHILE SOME PIPING AND DUCTWORK EXTEND OVER THESE UNITS, IT IS INTENDED FOR THE WORK TO BE COMPLETED AT THE PERIMETER OF THESE UNITS. NO OPENINGS SHALL BE CUT INTO THE CEILING OF THE FREEZER/COOLER UNITS.

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Drawn By:	PDG
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M102

HVAC FIRST FLOOR DUCT REMOVAL PLAN

NOVEMBER 16, 2026

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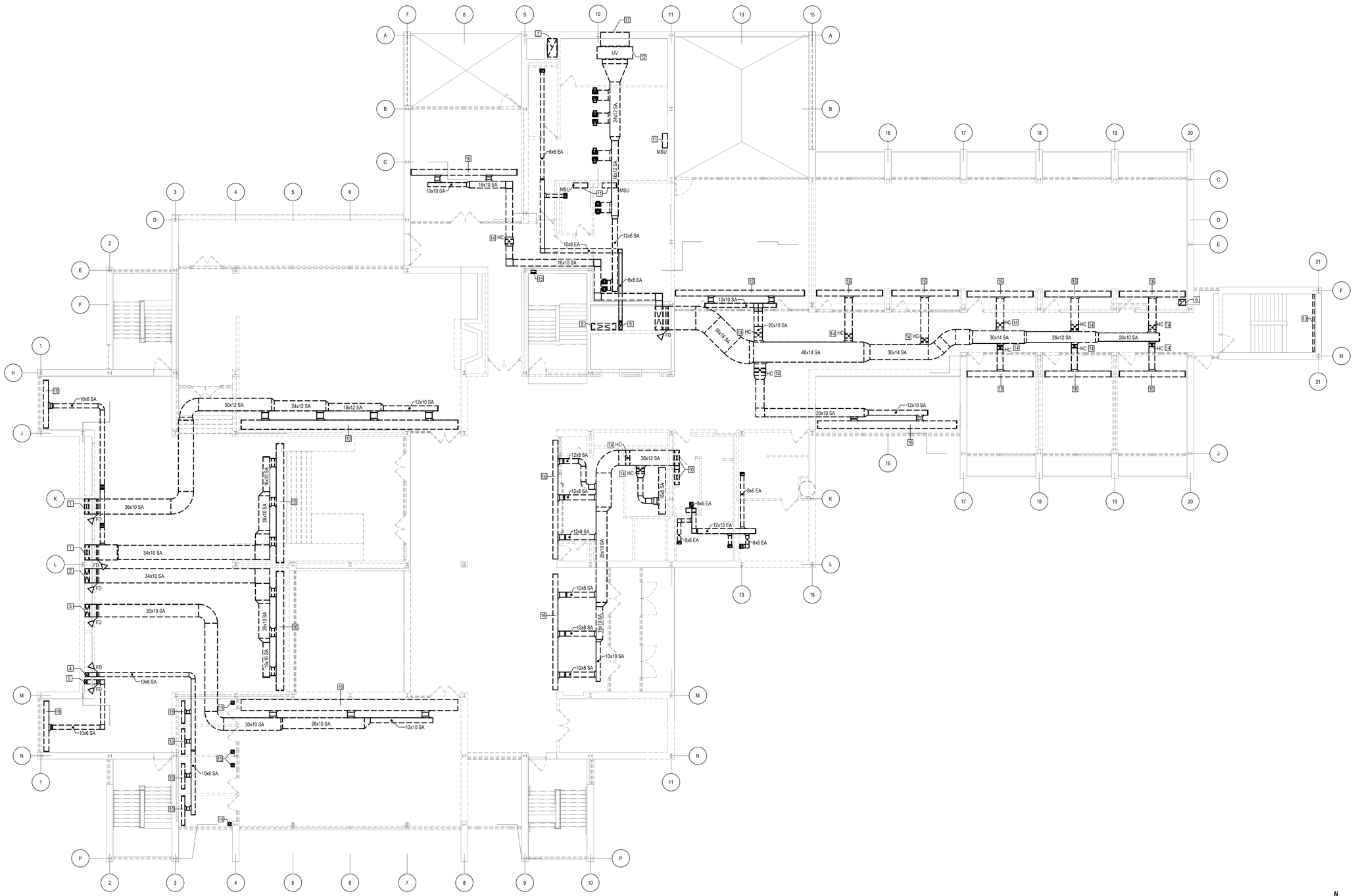
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.

KEYED NOTES

1. REMOVE 36x10 SA DUCT DN TO FLOOR BELOW.
2. REMOVE 34x10 SA DUCT DN TO FLOOR BELOW.
3. REMOVE 30x10 SA DUCT DN TO FLOOR BELOW.
4. REMOVE 10x8 SA DUCT DN TO FLOOR BELOW.
5. REMOVE 10x6 SA DUCT DN TO FLOOR BELOW.
6. REMOVE 16x14 EA DUCT UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
7. REMOVE 44x22 EA DUCT UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
8. REMOVE 56x18 SA DUCT UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
9. REMOVE 20x8 EA DUCT UP TO FLOOR ABOVE AND 16x8 EA DUCT DN TO FLOOR BELOW.
10. REMOVE 36x12 SA DUCT DN TO FLOOR BELOW.
11. REMOVE MINI SPLIT UNIT AND ASSOCIATED CONDENSING UNIT.
12. REMOVE UNIT VENTILATOR, ASSOCIATED DUCTWORK, AND CONTROLS.
13. REMOVE ELECTRIC HEATING SOURCE.
14. REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
15. REMOVE RETURN GRILLE.
16. REMOVE LINEAR DIFFUSER AND ASSOCIATED DUCT.
17. REMOVE THE LOUVER. PATCH OPENING TO MATCH EXISTING CONSTRUCTION.



1 M103 SECOND FLOOR HVAC DUCT REMOVAL PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M103
HVAC SECOND FLOOR DUCT REMOVAL PLAN

NOVEMBER 16, 2026
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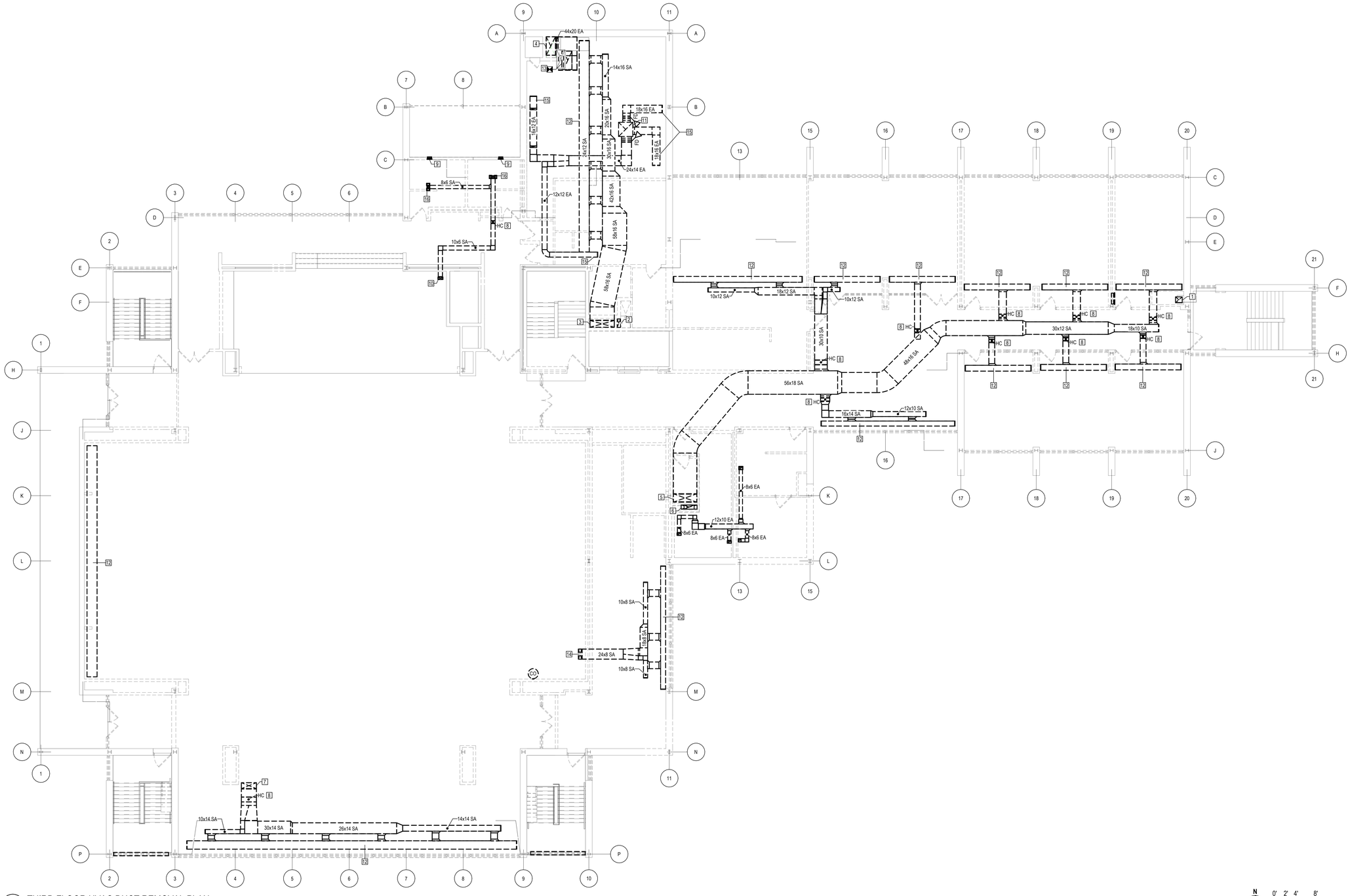
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.

KEYED NOTES

1. REMOVE 16x14 EA DUCT UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
2. REMOVE 20x8 EA DUCT UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
3. REMOVE 58x16 SA DUCT DN TO FLOOR BELOW.
4. REMOVE 44x22 EA DUCT DN TO FLOOR BELOW.
5. REMOVE 56x20 SA DUCT UP TO FLOOR ABOVE.
6. REMOVE 38x10 EA DUCT UP TO FLOOR ABOVE AND 24x10 EA DUCT DN TO FLOOR BELOW.
7. REMOVE 36x14 SA DUCT UP TO FLOOR ABOVE.
8. REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
9. REMOVE RETURN GRILLE.
10. REMOVE 12x6 SA DUCT UP TO FLOOR ABOVE.
11. REMOVE EA DUCT UP TO FAN.
12. REMOVE LINEAR DIFFUSER AND ASSOCIATED DUCT.
13. REMOVE DUCT TO POINT SHOWN. PREPARE FOR NEW CONNECTION.
14. REMOVE DUCT UP TO FLOOR ABOVE.
15. REMOVE DUCT FROM HOOD.
16. REMOVE DIFFUSER.



1 M104 THIRD FLOOR HVAC DUCT REMOVAL PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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SUNY CORTLAND COREY UNION

M104

HVAC THIRD FLOOR DUCT REMOVAL PLAN

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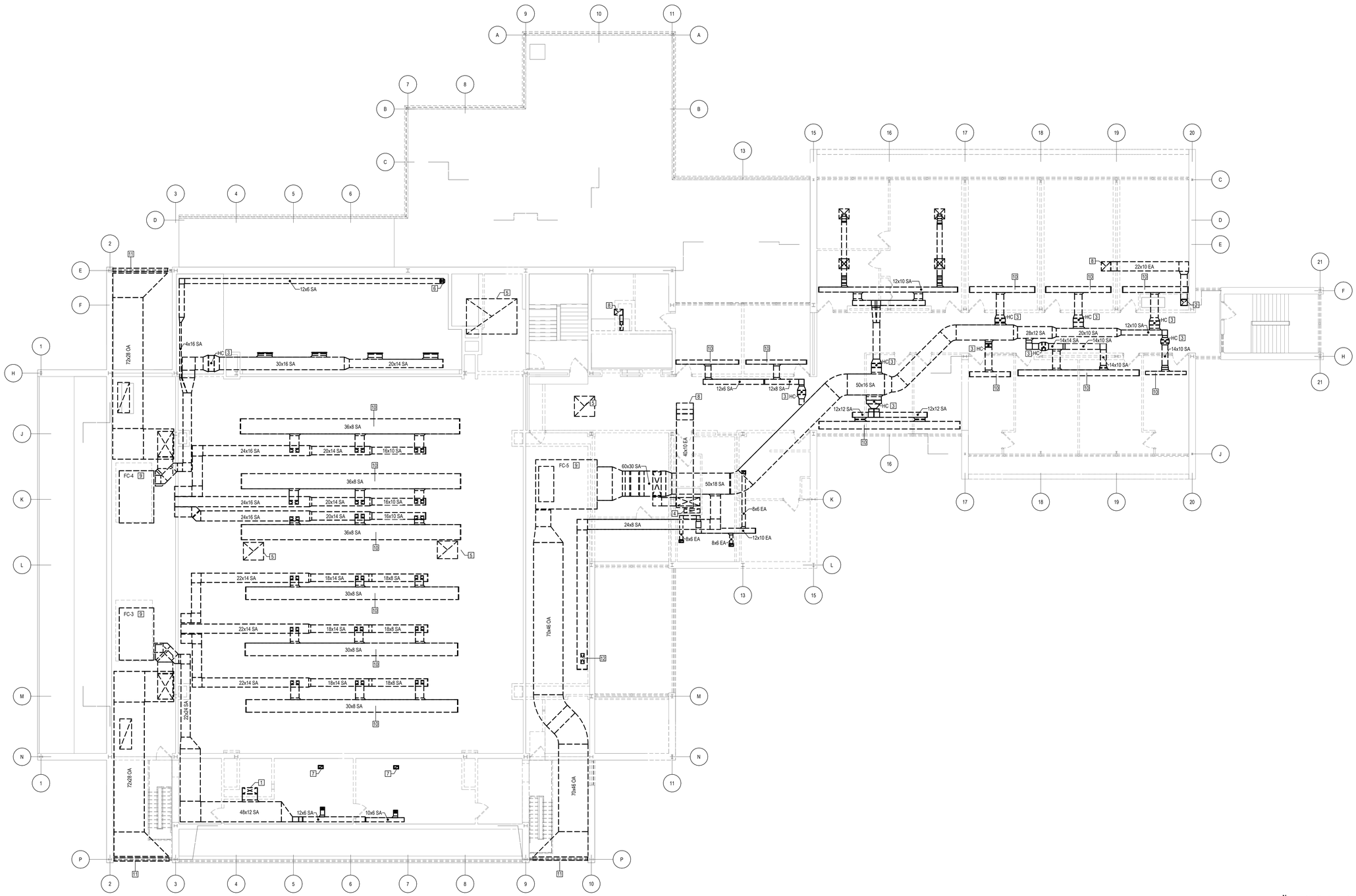
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE OPEN ROOF PENETRATIONS CREATED BY THE REMOVAL OF EQUIPMENT SHOWN ON THIS PLAN WITH A SEALED, WEATHPROOF CURB CAP OR APPROVED EQUIVALENT. THE CURB CAP SHALL REMAIN UNTIL THE INSTALLATION DATE OF NEW EQUIPMENT, OR UNTIL THE ROOF OPENING IS SEALED SHUT.
2. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.

KEYED NOTES

1. REMOVE 36x14 SA DUCT DN TO FLOOR BELOW.
2. REMOVE 16x14 EA DUCT DN TO FLOOR BELOW.
3. REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
4. REMOVE 38x10 EA DUCT DN TO FLOOR BELOW.
5. REMOVE RELIEF DUCT UP TO GRAVITY VENT.
6. REMOVE 12x6 SA DUCT DN TO FLOOR BELOW.
7. REMOVE RETURN GRILLE.
8. REMOVE EA DUCT UP TO FAN.
9. REMOVE FAN COIL UNIT, ASSOCIATED DUCTWORK, AND CONTROLS.
10. REMOVE LINEAR DIFFUSER AND ASSOCIATED DUCT.
11. REMOVE THE LOUVER. PATCH OPENING TO MATCH EXISTING CONSTRUCTION.
12. REMOVE DUCT DOWN TO FLOOR BELOW.



1 M105 FOURTH FLOOR HVAC DUCT REMOVAL PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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M105
HVAC FOURTH FLOOR DUCT REMOVAL PLAN

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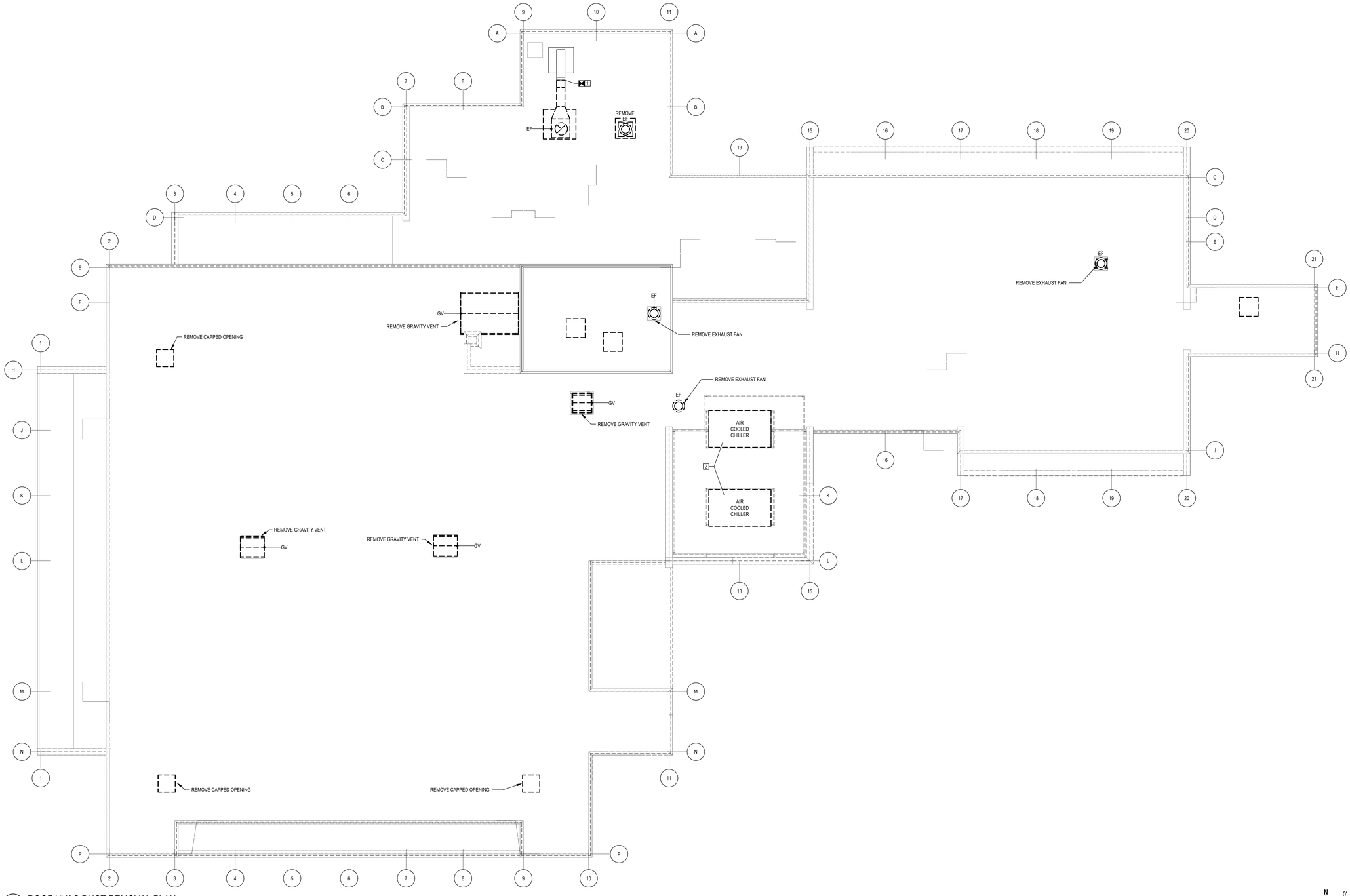
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE TEMPORARY COVERING OF ROOF PENETRATIONS AFTER REMOVAL OF MECHANICAL SYSTEMS UNTIL THE ROOF WORK OCCURS. REFER TO ARCHITECTURAL PLANS FOR PATCHING.
2. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, CURBS, AND ANY APPURTENANCES.

KEYED NOTES

1. TEMPORARILY REMOVE THE EXISTING FAN, CURB, RAIL AND ASSOCIATED DUCT. PRESERVE IT FOR REINSTALLATION IN NEW LOCATION. REFER TO NEW WORK DRAWINGS.
2. REMOVE CHILLERS AND EVACUATE REFRIGERANT. DELIVER STORED REFRIGERANT AND CHILLERS TO DESIGNATED LOCATION ON THE CAMPUS.



1 M106 ROOF HVAC DUCT REMOVAL PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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M106
HVAC ROOF REMOVAL PLAN

NOVEMBER 16, 2026
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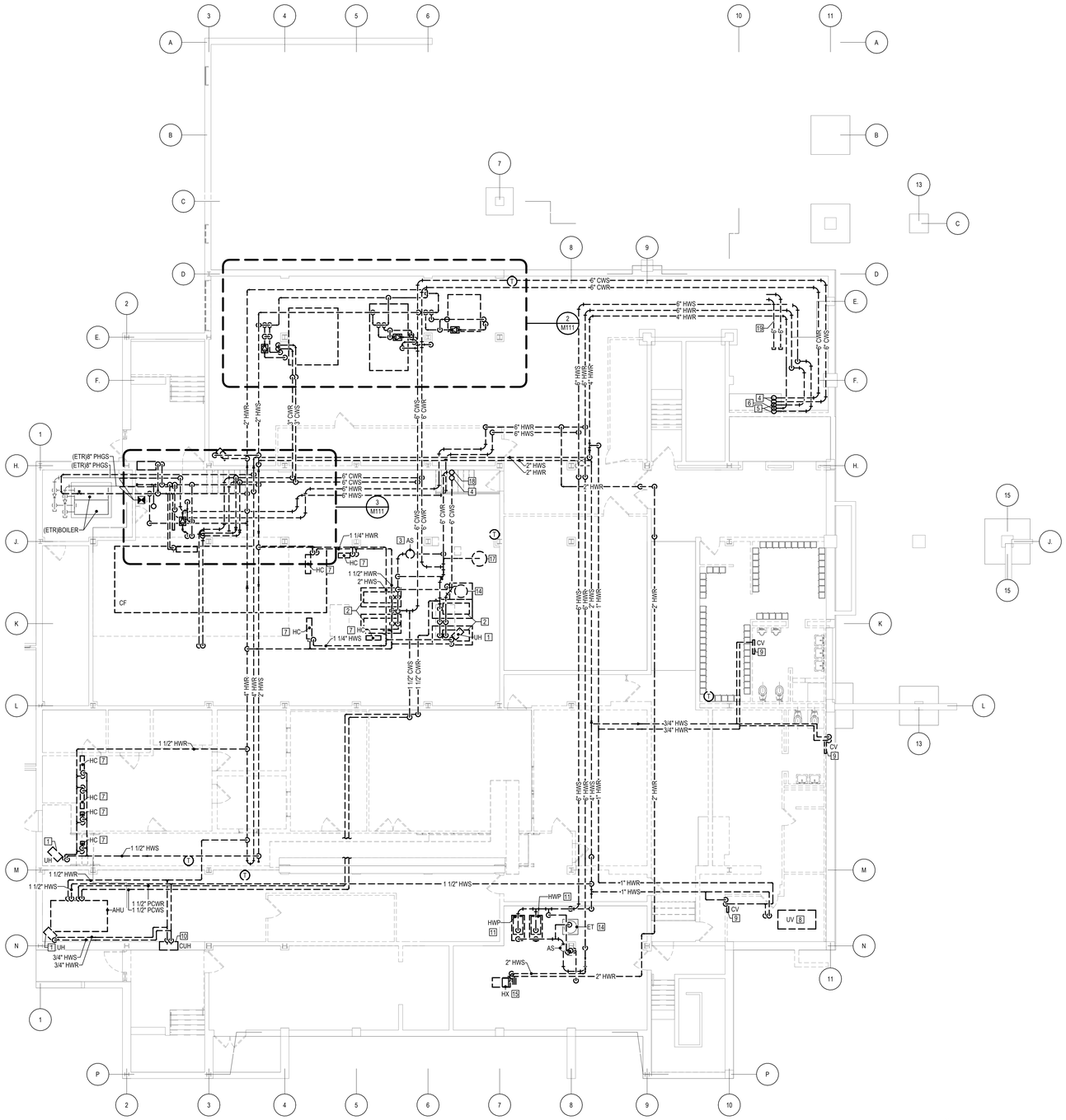
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.
2. REMOVE ALL EXISTING THERMOSTATS, ROOM SENSORS, AND ASSOCIATED WIRING AND CONTROLS UNLESS OTHERWISE NOTED.

KEYED NOTES

1. DISCONNECT AND REMOVE UNIT HEATER AND ASSOCIATED HWS AND HWR PIPING.
2. DISCONNECT AND REMOVE CHILLED WATER PUMP AND ASSOCIATED CURB.
3. REMOVE EXISTING AIR SEPARATOR.
4. REMOVE 6" CWS UP TO FLOOR ABOVE.
5. REMOVE 6" HWS&R UP TO FLOOR ABOVE.
6. REMOVE 4" HWR UP TO FLOOR ABOVE.
7. REMOVE HEATING COIL AND ASSOCIATED HWS AND HWR PIPING.
8. REMOVE UNIT VENTILATOR AND ASSOCIATED HWS AND HWR PIPING.
9. DISCONNECT AND REMOVE WALL CONVECTOR AND ASSOCIATED HWS AND HWR PIPING.
10. DISCONNECT AND REMOVE WALL MOUNTED CABINET HEATER AND ASSOCIATED HWS AND HWR PIPING.
11. DISCONNECT AND REMOVE HEATING PUMPS AND ASSOCIATED CONTROLS.
12. DISCONNECT HYDRONIC COILS. REFER TO NOTE 10 ON M101.
13. REMOVE FAN COIL UNIT, ASSOCIATED DUCTWORK, AND CONTROLS.
14. REMOVE EXPANSION TANK AND ASSOCIATED CURB.
15. REMOVE HEAT EXCHANGER AND TURN OVER TO OWNER.
16. DISCONNECT AND REMOVE WALL MOUNTED CABINET HEATER AND ASSOCIATED CONTROLS.
17. REMOVE GLYCOL FEEDER.
18. REMOVE 6" CWR UP TO FLOOR ABOVE.
19. REMOVE ABANDONED 6" PIPWING.
20. DISCONNECT AND REMOVE EXISTING PUMP AND ASSOCIATED PIPING, PIPING ACCESSORIES, HANGERS, AND APPURTENCES. REFER TO ELECTRICAL DRAWINGS FOR DISCONNECTION OF ELECTRICAL SERVICES.

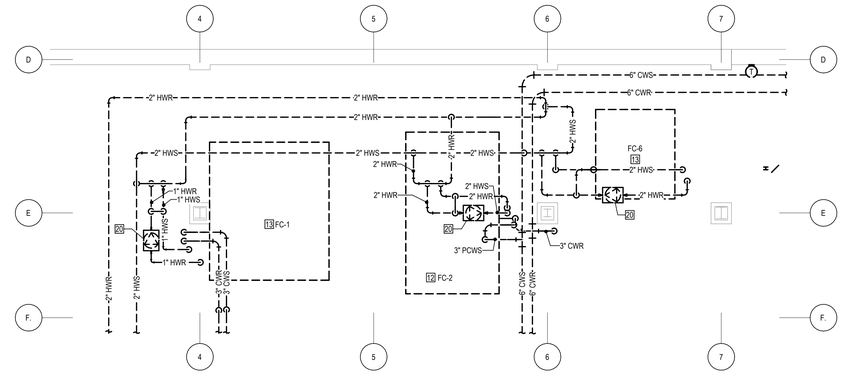


1 M111 BASEMENT HVAC PIPE REMOVAL PLAN
1/8" = 1'-0"

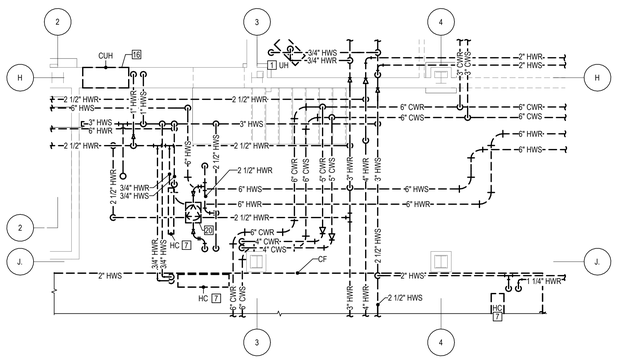
N

0' 2' 4' 8' 16'

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



2 M111 BASEMENT HVAC PIPE REMOVAL PLAN - Callout 1
1/4" = 1'-0"



3 M111 BASEMENT HVAC PIPE REMOVAL PLAN - Callout 2
1/4" = 1'-0"

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M111
HVAC BASEMENT PIPE REMOVAL PLAN

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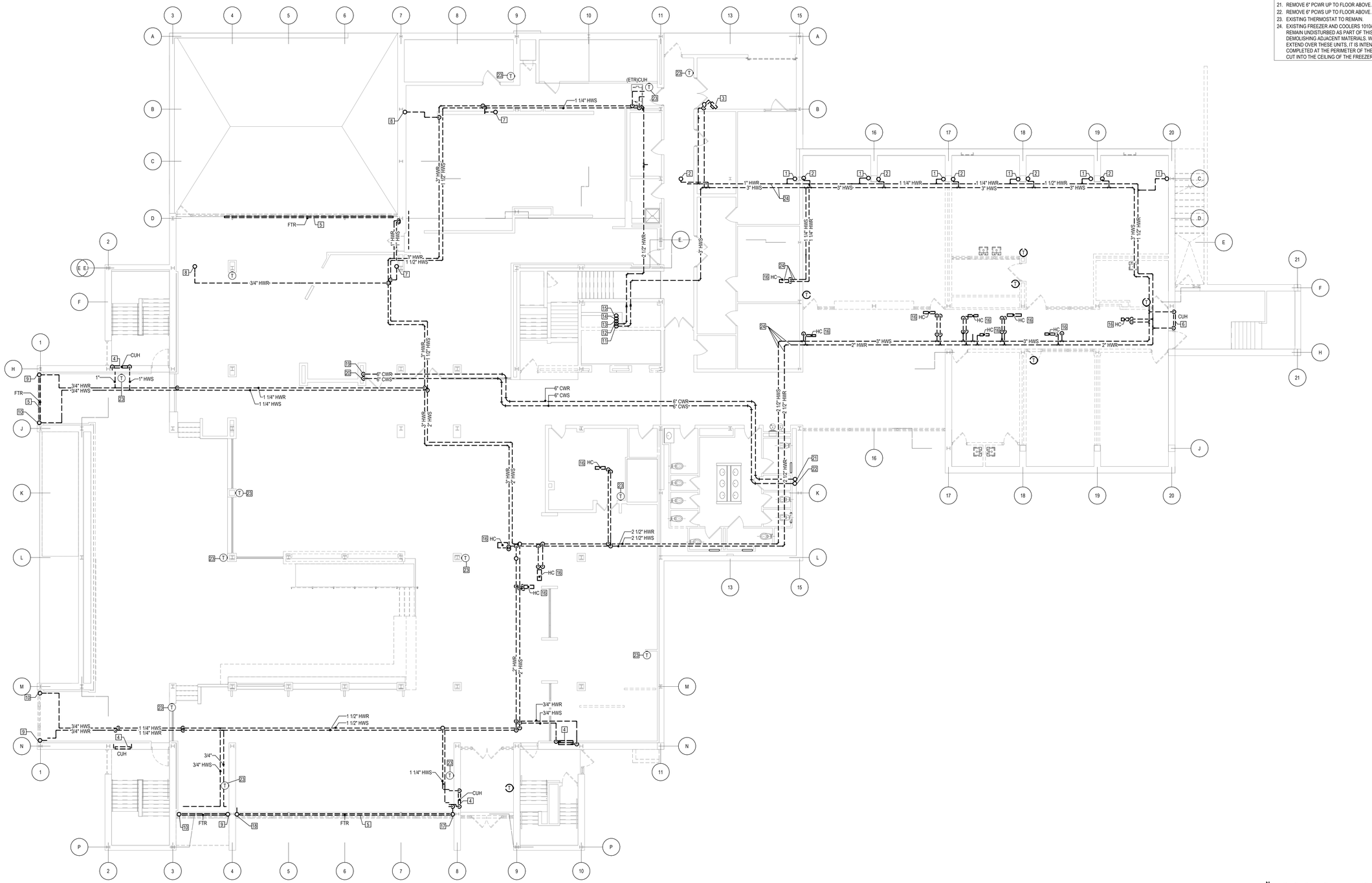
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.
2. REMOVE ALL EXISTING THERMOSTATS, ROOM SENSORS, AND ASSOCIATED WIRING AND CONTROLS UNLESS OTHERWISE NOTED.

KEYED NOTES

1. REMOVE 3/4" HWR UP TO FLOOR ABOVE.
2. REMOVE 3/4" HWS UP TO FLOOR ABOVE.
3. DISCONNECT AND REMOVE UNIT HEATER AND ASSOCIATED HWS AND HWR PIPING.
4. DISCONNECT AND REMOVE WALL MOUNTED CABINET HEATER AND ASSOCIATED CONTROLS.
5. REMOVE FIN TUBE RADIATION.
6. DISCONNECT AND REMOVE WALL MOUNTED CABINET HEATER AND ASSOCIATED HWS AND HWR PIPING.
7. REMOVE 1" HWS UP TO FLOOR ABOVE.
8. REMOVE 1" HWR UP TO FLOOR ABOVE.
9. REMOVE 3/4" HWR UP TO FLOOR ABOVE.
10. REMOVE 3/4" HWS UP TO FLOOR ABOVE.
11. REMOVE 5" HWS UP AND 6" HWS DN.
12. REMOVE 5" HWR UP AND 4" HWR DN.
13. REMOVE 6" HWR UP AND DN.
14. REMOVE 8" CWS UP AND DN.
15. REMOVE 8" CWR UP AND DN.
16. REMOVE HEATING COIL AND ASSOCIATED HWS AND HWR PIPING.
17. REMOVE 1" HWS UP TO FLOOR ABOVE.
18. REMOVE 1" HWR UP TO FLOOR ABOVE.
19. REMOVE 6" CWR DN TO FLOOR BELOW.
20. REMOVE 6" CWS DN TO FLOOR BELOW.
21. REMOVE 6" PCWR UP TO FLOOR ABOVE.
22. REMOVE 6" PCWS UP TO FLOOR ABOVE.
23. EXISTING THERMOSTAT TO REMAIN.
24. EXISTING FREEZER AND COOLERS 1010A, 1010B, 1010C, AND 1013C ARE TO REMAIN UNDISTURBED AS PART OF THIS PROJECT. TAKE CARE WHILE DEMOLISHING ADJACENT MATERIALS. WHILE SOME PIPING AND DUCTWORK EXTEND OVER THESE UNITS, IT IS INTENDED FOR THE WORK TO BE COMPLETED AT THE PERIMETER OF THESE UNITS. NO OPENINGS SHALL BE CUT INTO THE CEILING OF THE FREEZER/COOLER UNITS.



1 M112 FIRST FLOOR HVAC PIPE REMOVAL PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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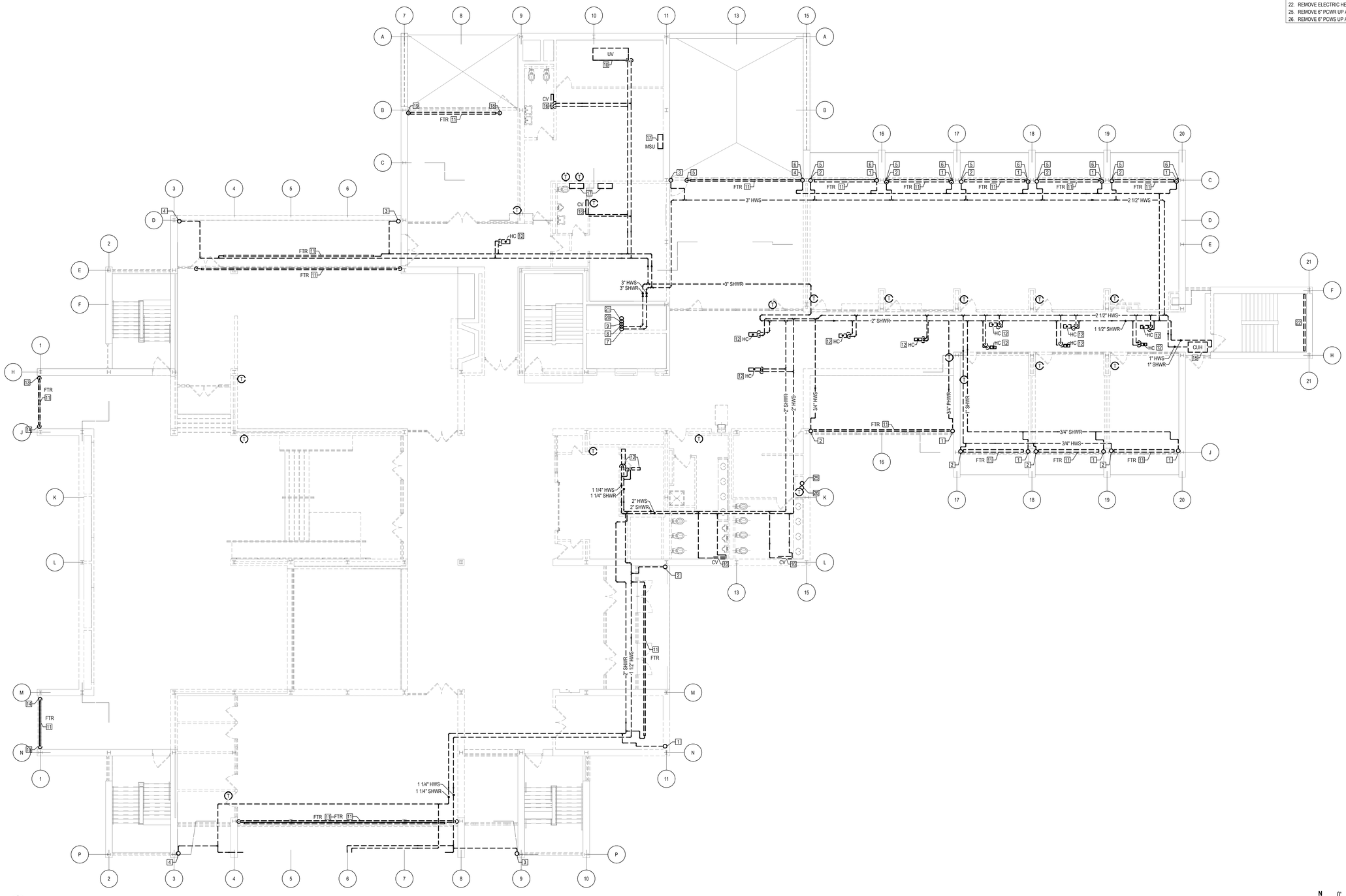
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M112
HVAC FIRST FLOOR PIPE REMOVAL PLAN

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1 M113 SECOND FLOOR HVAC PIPE REMOVAL PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.
2. REMOVE ALL EXISTING THERMOSTATS, ROOM SENSORS, AND ASSOCIATED WIRING AND CONTROLS UNLESS OTHERWISE NOTED.

KEYED NOTES

1. REMOVE 3/4" HWR UP TO FLOOR ABOVE.
2. REMOVE 3/4" HWS UP TO FLOOR ABOVE.
3. REMOVE 1" HWS UP TO FLOOR ABOVE.
4. REMOVE 1" HWR UP TO FLOOR ABOVE.
5. REMOVE 3/4" HWS DN TO FLOOR BELOW.
6. REMOVE 3/4" HWR DN TO FLOOR BELOW.
7. REMOVE 5" HWS UP AND DN.
8. REMOVE 5" HWR UP AND DN.
9. REMOVE 6" HWR UP AND DN.
10. REMOVE UNIT VENTILATOR AND ASSOCIATED HWS AND HWR PIPING.
11. REMOVE FINNED TUBE RADIATION AND ASSOCIATED HWS AND HWR PIPING.
12. REMOVE HEATING COIL AND ASSOCIATED HWS AND HWR PIPING.
13. REMOVE 3/4" HWR DN TO FLOOR BELOW.
14. REMOVE 3/4" HWS DN TO BELOW.
15. DISCONNECT AND REMOVE CEILING MOUNTED CABINET HEATER AND ASSOCIATED HWS AND HWR PIPING.
16. DISCONNECT AND REMOVE WALL CONVECTOR AND ASSOCIATED HWS AND HWR PIPING.
17. REMOVE MINI SPLIT AND ASSOCIATED REFRIGERANT PIPING.
18. REMOVE 1" HWS DN TO FLOOR BELOW.
19. REMOVE 1" HWR DN TO FLOOR BELOW.
20. REMOVE 8" CWS DN TO FLOOR BELOW.
21. REMOVE 8" CWR DN TO FLOOR BELOW.
22. REMOVE ELECTRIC HEATING SOURCE.
25. REMOVE 6" PCWR UP AND DN.
26. REMOVE 6" PCWS UP AND DN.

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M113

HVAC SECOND FLOOR PIPE REMOVAL PLAN

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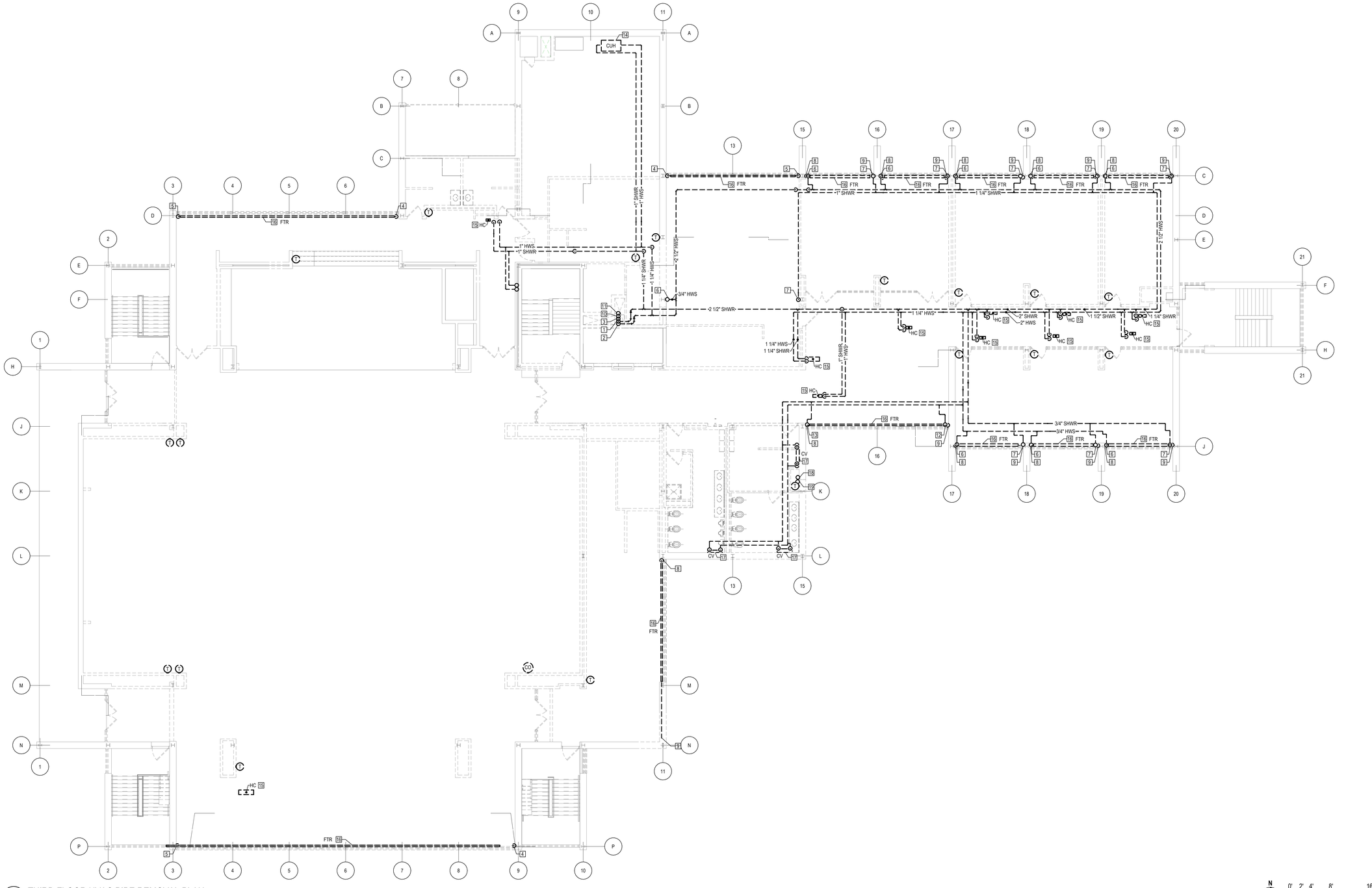
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.
2. REMOVE ALL EXISTING THERMOSTATS, ROOM SENSORS, AND ASSOCIATED WIRING AND CONTROLS UNLESS OTHERWISE NOTED.

KEYED NOTES

1. REMOVE 5" HWR UP AND DN.
2. REMOVE 4" HWS UP AND 5" HWS DN.
3. REMOVE 6" HWR UP AND DN.
4. REMOVE 1" HWS DN TO FLOOR BELOW.
5. REMOVE 1" HWR DN TO FLOOR BELOW.
6. REMOVE 3/4" HWS UP TO FLOOR ABOVE.
7. REMOVE 3/4" HWR UP TO FLOOR ABOVE.
8. REMOVE 3/4" HWS DN TO FLOOR BELOW.
9. REMOVE 3/4" HWR DN TO FLOOR BELOW.
10. REMOVE 8" CWS UP AND DN.
11. REMOVE 8" CWR UP AND DN.
12. REMOVE 1" HWS UP TO FLOOR ABOVE.
13. REMOVE 1" HWR UP TO FLOOR ABOVE.
14. DISCONNECT AND REMOVE CEILING MOUNTED CABINET HEATER AND ASSOCIATED HWS AND HWR PIPING.
15. REMOVE HEATING COIL AND ASSOCIATED HWS AND HWR PIPING.
16. REMOVE FINNED TUBE RADIATION AND ASSOCIATED HWS AND HWR PIPING.
17. DISCONNECT AND REMOVE WALL CONVECTOR AND ASSOCIATED HWS AND HWR PIPING.
18. REMOVE 6" PCWR UP AND DN.
19. REMOVE 6" PCWS UP AND DN.



1 THIRD FLOOR HVAC PIPE REMOVAL PLAN
M114 1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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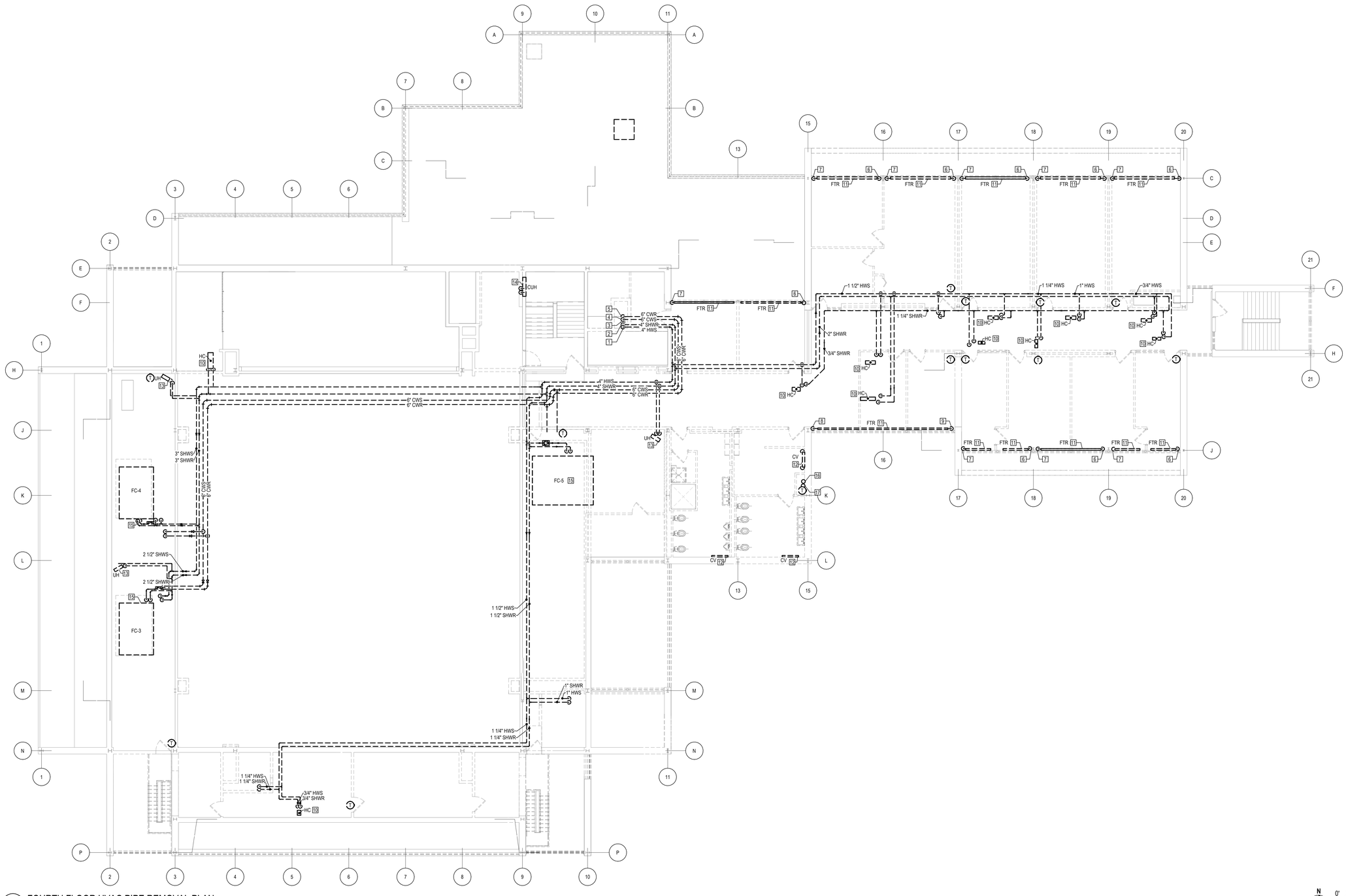
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SUPPLEMENTAL GENERAL NOTES

1. FOR ANY EQUIPMENT BEING REMOVED ALSO REMOVE ASSOCIATED EXISTING CONTROLS, HANGERS, SUPPORTS, AND ANY APPURTENANCES.
2. REMOVE ALL EXISTING THERMOSTATS, ROOM SENSORS, AND ASSOCIATED WIRING AND CONTROLS UNLESS OTHERWISE NOTED.

KEYED NOTES

1. REMOVE 4" HWS DN TO FLOOR BELOW.
2. REMOVE 5" HWR DN TO FLOOR BELOW.
3. REMOVE 6" HWR DN TO FLOOR BELOW.
4. REMOVE 8" CWS DN TO FLOOR BELOW.
5. REMOVE 8" CWR DN TO FLOOR BELOW.
6. REMOVE 3/4" HWR DN TO FLOOR BELOW.
7. REMOVE 3/4" HWS DN TO FLOOR BELOW.
8. REMOVE 1" HWR DN TO FLOOR BELOW.
9. REMOVE 1" HWS DN TO FLOOR BELOW.
10. REMOVE HEATING COIL AND ASSOCIATED HWS AND HWR PIPING.
11. REMOVE FINNED TUBE RADIATION AND ASSOCIATED HWS AND HWR PIPING.
12. DISCONNECT AND REMOVE WALL CONVECTOR AND ASSOCIATED HWS AND HWR PIPING.
13. DISCONNECT AND REMOVE UNIT HEATER AND ASSOCIATED HWS AND HWR PIPING.
14. DISCONNECT AND REMOVE WALL MOUNTED CABINET HEATER AND ASSOCIATED HWS AND HWR PIPING.
15. REMOVE FAN COIL UNIT AND ASSOCIATED PIPING.
16. REMOVE 6" PCWR UP TO ROOF AND DN TO FLOOR BELOW.
17. REMOVE 6" PCWS UP TO ROOF AND DN TO FLOOR BELOW.



1 / M115 FOURTH FLOOR HVAC PIPE REMOVAL PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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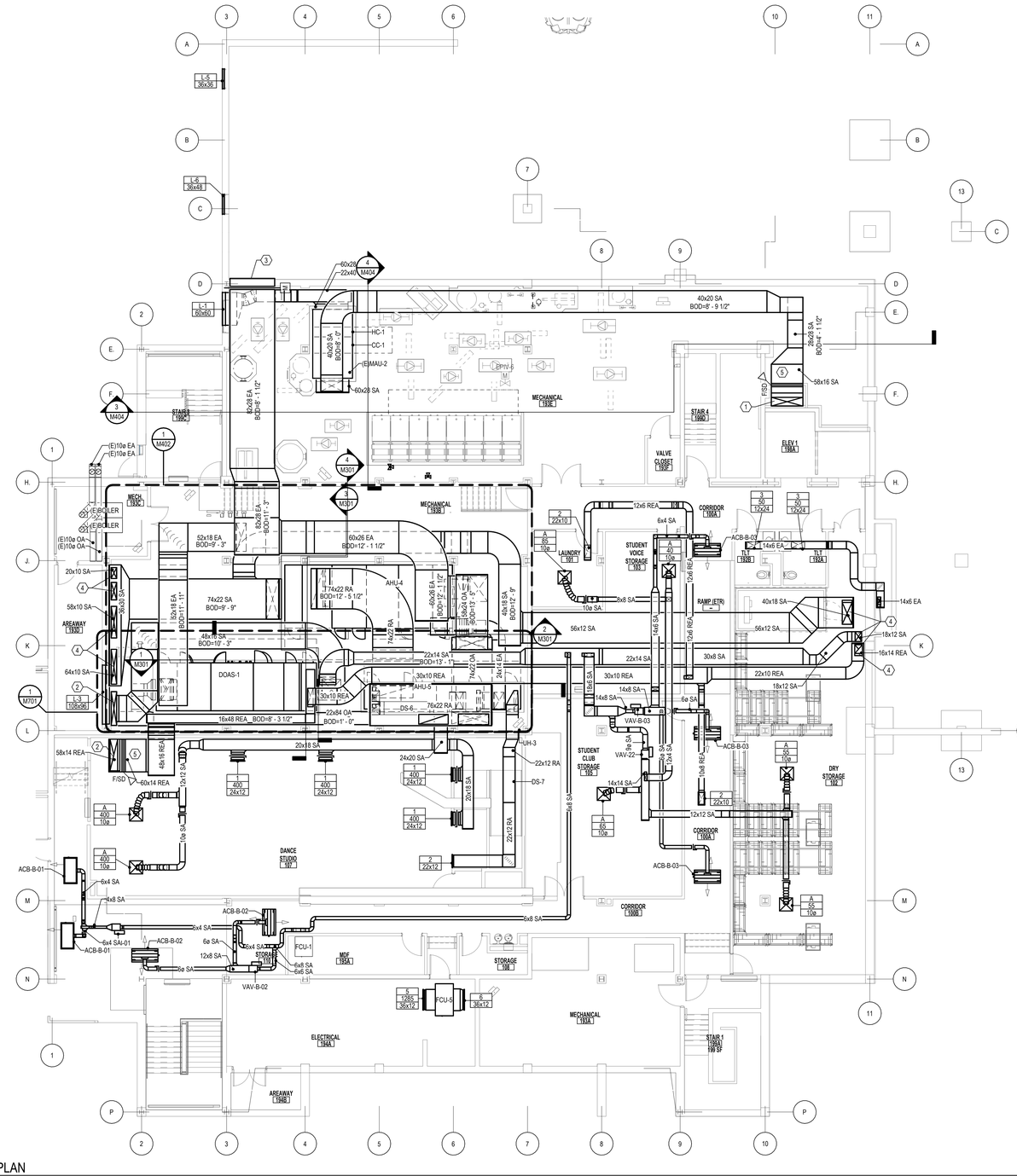
M115
HVAC FOURTH FLOOR PIPE REMOVAL PLAN

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3 / M121 BASEMENT HVAC PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR DUCT CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.

(#) KEYED NOTES

1. 58"x16" SA UP TO FLOOR ABOVE
2. DUCT UP TO SECOND FLOOR.
3. OPEN END DUCT WITH BIRD SCREEN.
4. DUCT UP TO FIRST FLOOR.
5. PROVIDE A 18" X 18" DUCT ACCESS DOOR FOR FISD MAINTENANCE.

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M121
HVAC BASEMENT DUCT PLAN

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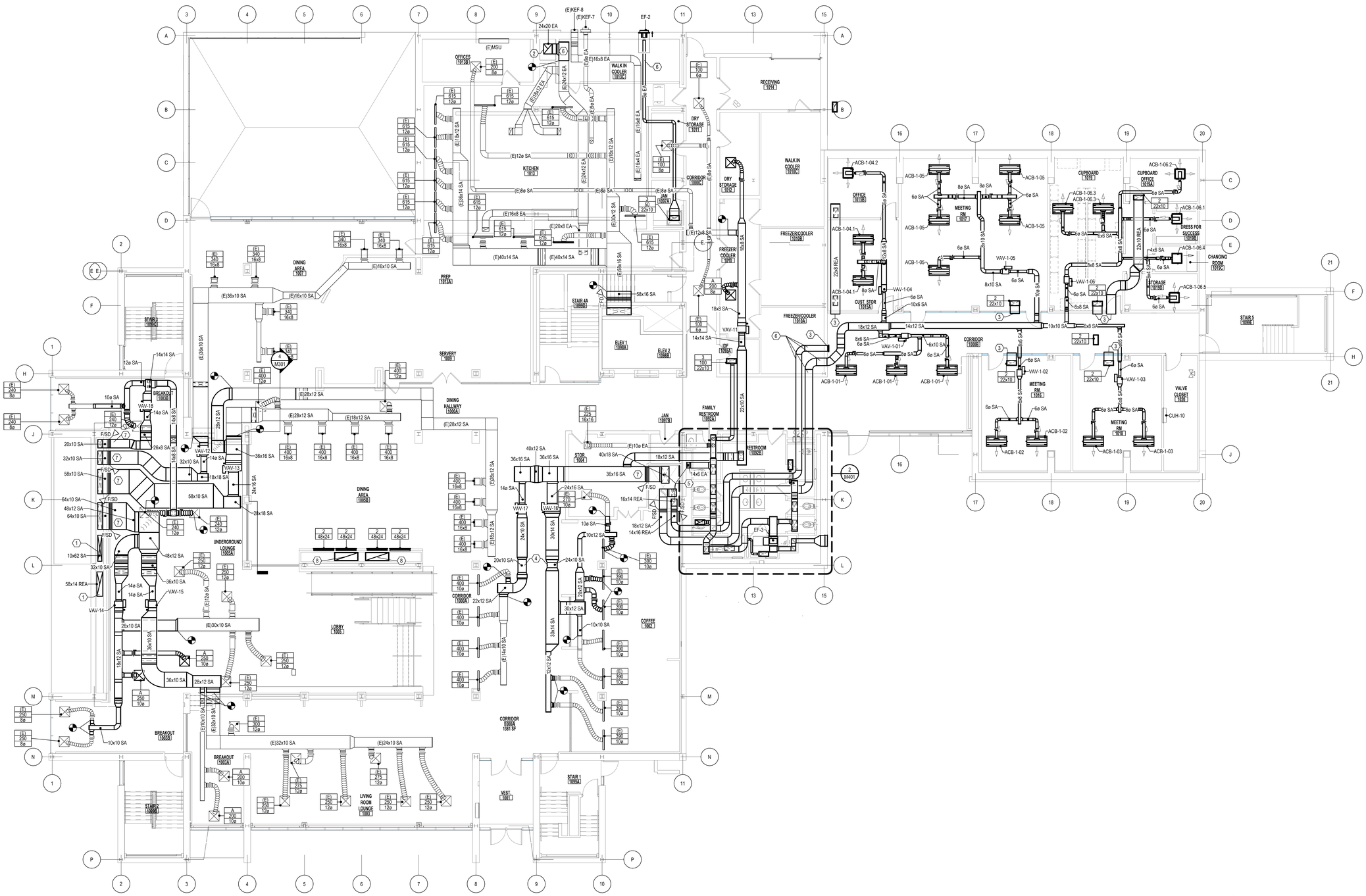
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR DUCT CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.

(#) KEYED NOTES

1. DUCT UP TO SECOND FLOOR.
2. 24"x20" EA DUCT UP TO FLOOR ABOVE.
3. REA OPEN END DUCT ABOVE CEILING. PROVIDE BIRDSCREEN.
4. DUCT THROUGH BEAM OPENING. MATCH THE EXISTING SIZE OF DUCT.
5. DUCT DOWN TO FLOOR BELOW.
6. EXISTING FREEZER AND COOLERS 1010A, 1010B, 1010C, AND 1013C ARE TO REMAIN UNDISTURBED AS PART OF THIS PROJECT. TAKE CARE WHILE DEMOLISHING ADJACENT MATERIALS. WHILE SOME PIPING AND DUCTWORK EXTEND OVER THESE UNITS, IT IS INTENDED FOR THE WORK TO BE COMPLETED AT THE PERIMETER OF THESE UNITS. NO OPENINGS SHALL BE CUT INTO THE CEILING OF THE FREEZER/COOLER UNITS.
7. PROVIDE A 18" X 18" DUCT ACCESS DOOR FOR F/SD MAINTENANCE.
8. OPEN END DUCT WITH BIRD SCREEN AT BOTTOM OF THE SHAFT FOR PLENUM RETURN. PROVIDE F/SD IN DUCT WHERE DUCT PENETRATES THE FLOOR.



2 M122 FIRST FLOOR HVAC PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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EXPIRATION: 02/28/2027

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M122
HVAC FIRST FLOOR DUCT PLAN

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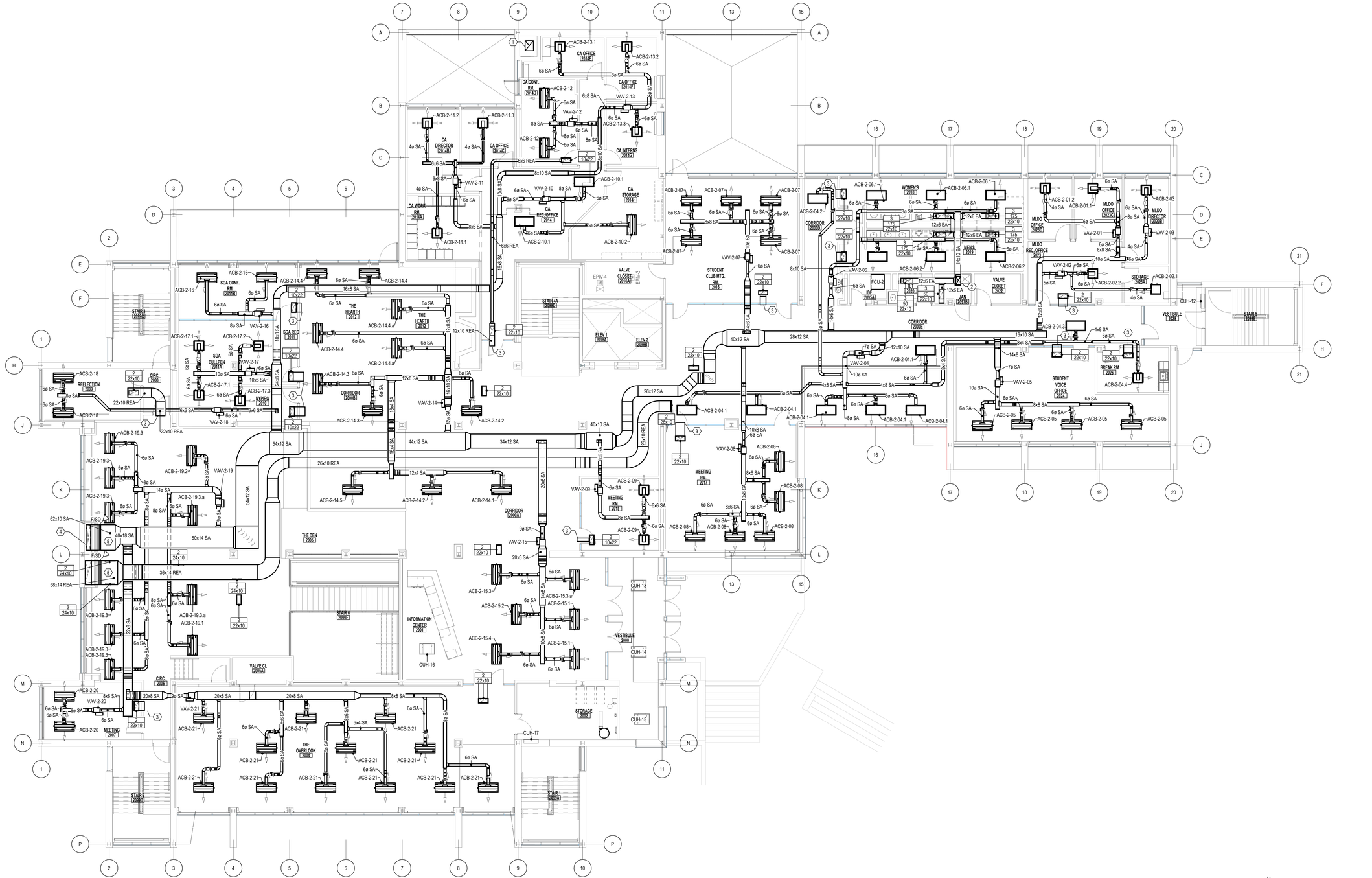
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR DUCT CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.

(#) KEYED NOTES

1. 24"x20" EA DUCT UP AND DN.
2. 18"x10" EA UP TO FLOOR ABOVE
3. REA OPEN END DUCT ABOVE CEILING. PROVIDE BIRDSCREEN.
4. DUCT FROM BASEMENT.
5. PROVIDE A 18" X 18" DUCT ACCESS DOOR FOR FISD MAINTENANCE.



2 M123 SECOND FLOOR HVAC PLAN

1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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M123

HVAC SECOND FLOOR DUCT PLAN

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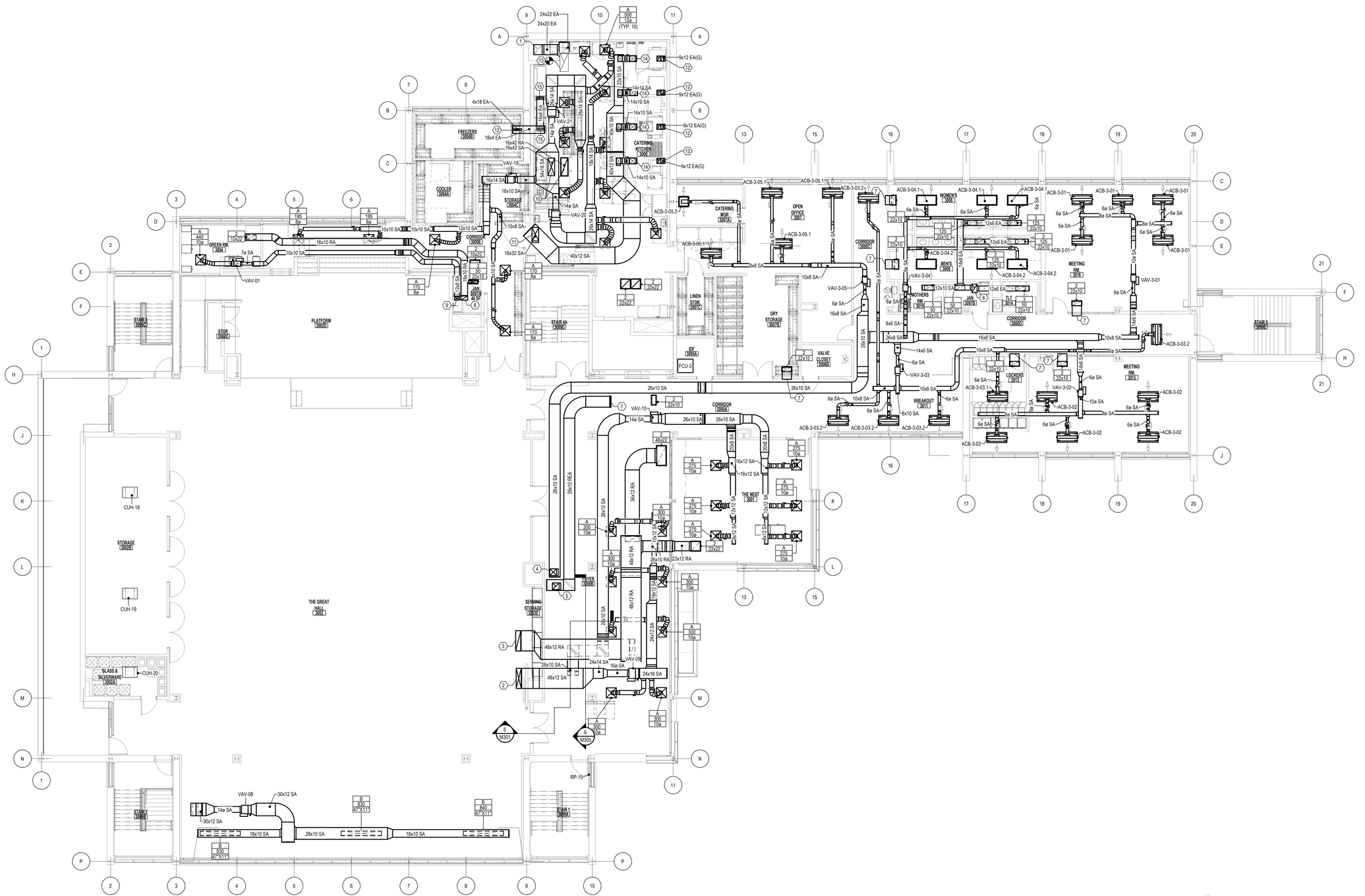
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR DUCT CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.

(#) KEYED NOTES

1. 24"x20" EA DUCT DN TO FLOOR BELOW.
2. 48"x12" SA UP TO FLOOR ABOVE
3. 48"x12" RA UP TO FLOOR ABOVE
4. 16"x16" SA UP TO FLOOR ABOVE
5. 16"x16" REA UP TO FLOOR ABOVE
6. 18"x10" EA UP AND DN
7. REA OPEN END DUCT ABOVE CEILING. PROVIDE BIRDSCREEN.
8. 16"x8" RA UP TO FLOOR ABOVE
9. DUCT UP TO FLOOR ABOVE.
10. DUCT UP TO AHU-3.
11. DUCT UP TO MAU-1.
12. DUCT FROM KITCHEN HOOD UP TO KITCHEN EXHAUST FAN.
13. CONNECT EXISTING DROP FROM KITCHEN EXHAUST FAN ON ROOF TO NEW DUCT.
14. DUCT TO KITCHEN HOOD SA CONNECTION. REFER TO FOODSERVICES DRAWING FOR HOOD INFORMATION.
15. DUCT FROM DISHWASHER HOOD EA CONNECTION. REFER TO FOODSERVICES DRAWING FOR HOOD INFORMATION.



2 / M124 THIRD FLOOR HVAC PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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M124
HVAC THIRD FLOOR DUCT PLAN

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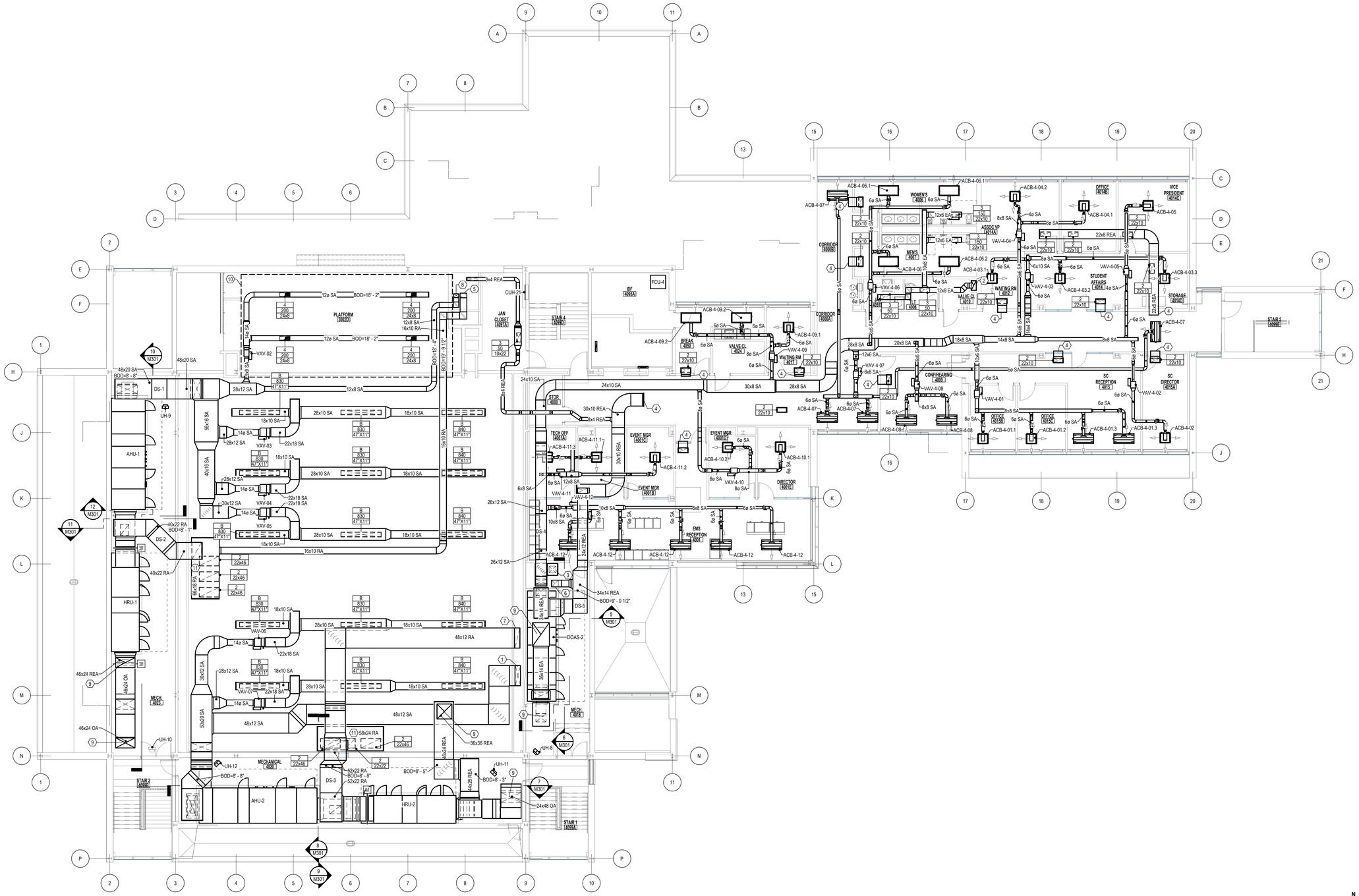
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR DUCT CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.

(#) KEYED NOTES

1. 48"x12" SA DOWN TO FLOOR BELOW
2. 20"x10" EA UP TO EF-3. 18"x10" EA DN TO FLOOR BELOW.
3. 16"x16" SA DN TO FLOOR BELOW
4. REA OPEN END DUCT ABOVE CEILING. PROVIDE BIRDSCREEN.
5. 16"x8" RA DN TO FLOOR BELOW
6. 16"x16" REA DN TO FLOOR BELOW
7. 48"x12" RA DOWN TO FLOOR BELOW
8. 16"x8" SA DN TO FLOOR BELOW
9. DUCT UP TO GRAVITY VENTILATOR.
10. PAINT THE EXPOSED DUCT IN THIS AREA. REFER TO ARCHITECTURAL DRAWINGS A602 FOR CUSTOM COLOR SELECTION.
11. PROVIDE ACOUSTICAL 1" DUCT LINING.



2 / M125 FOURTH FLOOR HVAC PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

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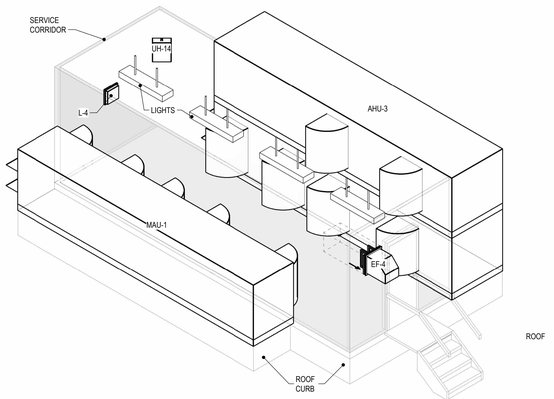
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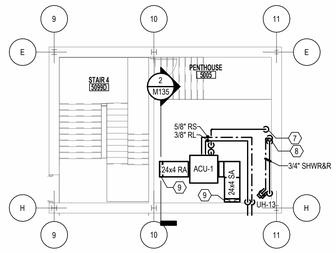
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HVAC FOURTH FLOOR DUCT PLAN

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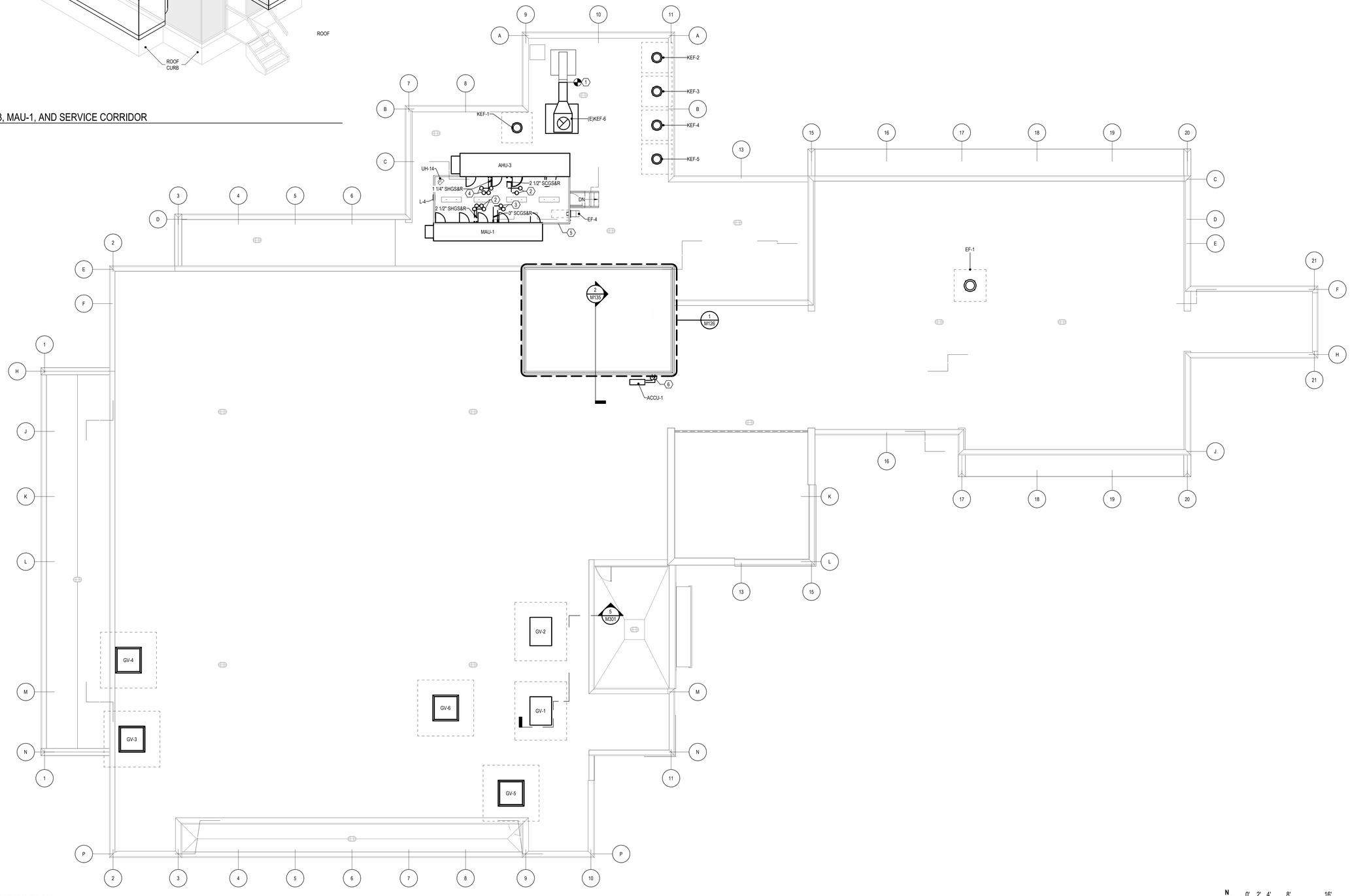
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3 M126 AHU-3, MAU-1, AND SERVICE CORRIDOR



1 M126 ELEVATOR MACHINE ROOM
1/8" = 1'-0"



2 M126 ROOF HVAC PLAN
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

SUPPLEMENTAL GENERAL NOTES

1. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR CONNECTIONS. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
2. REFER TO ARCHITECTURAL ROOF PLAN FOR FALL PROTECTION INFORMATION.

KEYED NOTES

1. REINSTALLATION THE EXISTING FAN, CURB, AND RAILS TO THE NEW LOCATION SHOWN (PLAN NORTH BY 1'-6"). REFER TO ARCHITECTURAL DRAWINGS FOR ROOF FLASHING WORK. PROVIDE ADDITIONAL SUPPORT AS REQUIRED.
2. 2.5" SHGS&R DN TO FLOOR BELOW.
3. 3" SHGS&R DN TO FLOOR BELOW.
4. 1-1/4" SHGS&R DN TO FLOOR BELOW.
5. PROVIDE COMPLETE MANUFACTURER'S SERVICE COORIDOR BETWEEN ROOFTOP AIR HANDLING UNITS. ACCESS DOOR, 5KW ELECTRIC UNIT HEATER, 12" DIA 1/4" HP FAN WITH BARAMETERIC DAMPER, GRAVITY INTAKE HOOD, AND LIGHTING TO BE PROVIDED WITH THE PACKAGE. REFER TO CUSTOM AIR HANDLING UNIT SPECIFICATIONS.
6. 3/8" RL AND 5/8" RS THROUGH EXTERIOR WALL TO DX FCU IN PENTHOUSE. PROVIDE WATER STOP SLEEVES.
7. 3/4" CD DN TO FLOOR BELOW.
8. 3/4" SHWS&R DN TO FLOOR BELOW.
9. DUCT DN TO ELEVATOR SHAFT. DUCT TO END 6" BELOW FLOOR SLAB.

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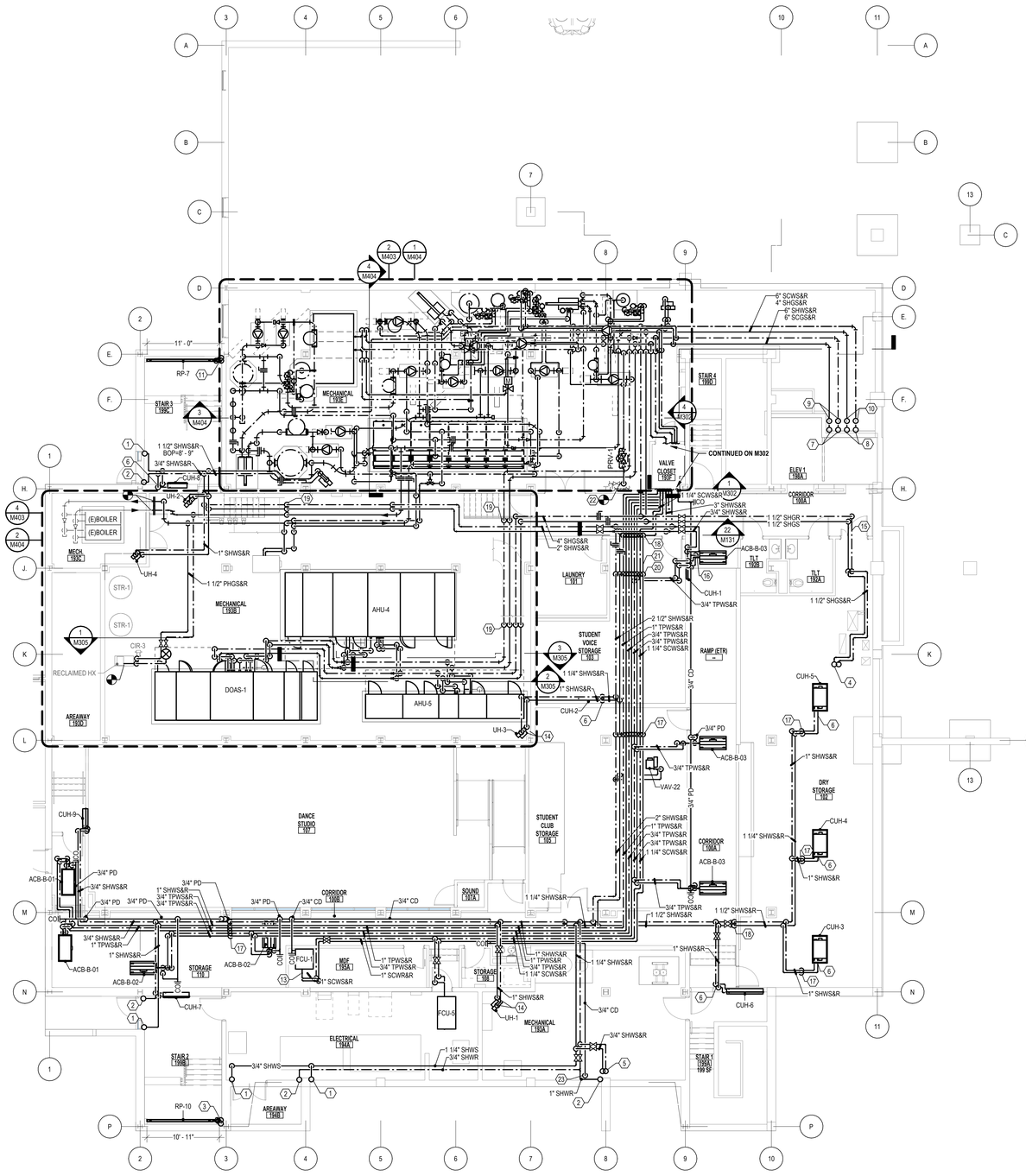
M126
HVAC ROOF PLAN

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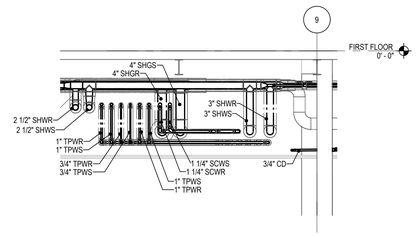
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1 M131 BASEMENT HVAC PIPE PLAN
1/8" = 1'-0"



22 M131 BSMT CORR ELEVATION SOUTH
3/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

SUPPLEMENTAL GENERAL NOTES

1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL NEW MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
3. UNIT CONDENSATE IS PUMPED UNLESS OTHERWISE NOTED.

(#) KEYED NOTES

1. 3/4" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
2. 3/4" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
3. 1" SHWS&R UP TO RADIANT PANEL ON LANDING ABOVE, AND 1" SHWS&R DN TO RADIANT PANEL ON LANDING.
4. 1 1/2" SHGS&R UP TO FLOOR ABOVE.
5. 3/4" SHWS&R UP TO CABINET UNIT HEATER ON FLOOR ABOVE.
6. 1" SHWS&R TO CABINET UNIT HEATER.
7. 6" SCGS&R UP TO FLOOR ABOVE.
8. 4" SHGS&R UP TO FLOOR ABOVE.
9. 6" SHWS&R UP TO FLOOR ABOVE.
10. 6" SCWS&R UP TO FLOOR ABOVE.
11. 1" SHWS&R DN TO RADIANT PANEL.
13. 1" SCWS&R TO FAN COIL UNIT.
14. 1" SHWS&R TO UNIT HEATER.
15. OFFSET PIPING BELOW DUCTWORK.
16. CONDENSATE PIPING FROM UNIT IS DESIGNED FOR GRAVITY DRAINAGE
17. DROP HVAC PIPING UNDER BEAM.
18. RAISE HVAC PIPING TO LEVEL OF HIGH CEILING
19. DROP HVAC PIPING UNDER DUCT.
20. RAISE HVAC PIPING ABOVE DUCT.
21. RUN HVAC PIPING BELOW BEAM.
22. CONNECT TO MAKE-UP WATER RPZ SHOWN ON PLUMBING DRAWINGS.
23. 3/4" CD TO FLOOR DRAIN IN MECHANICAL ROOM.

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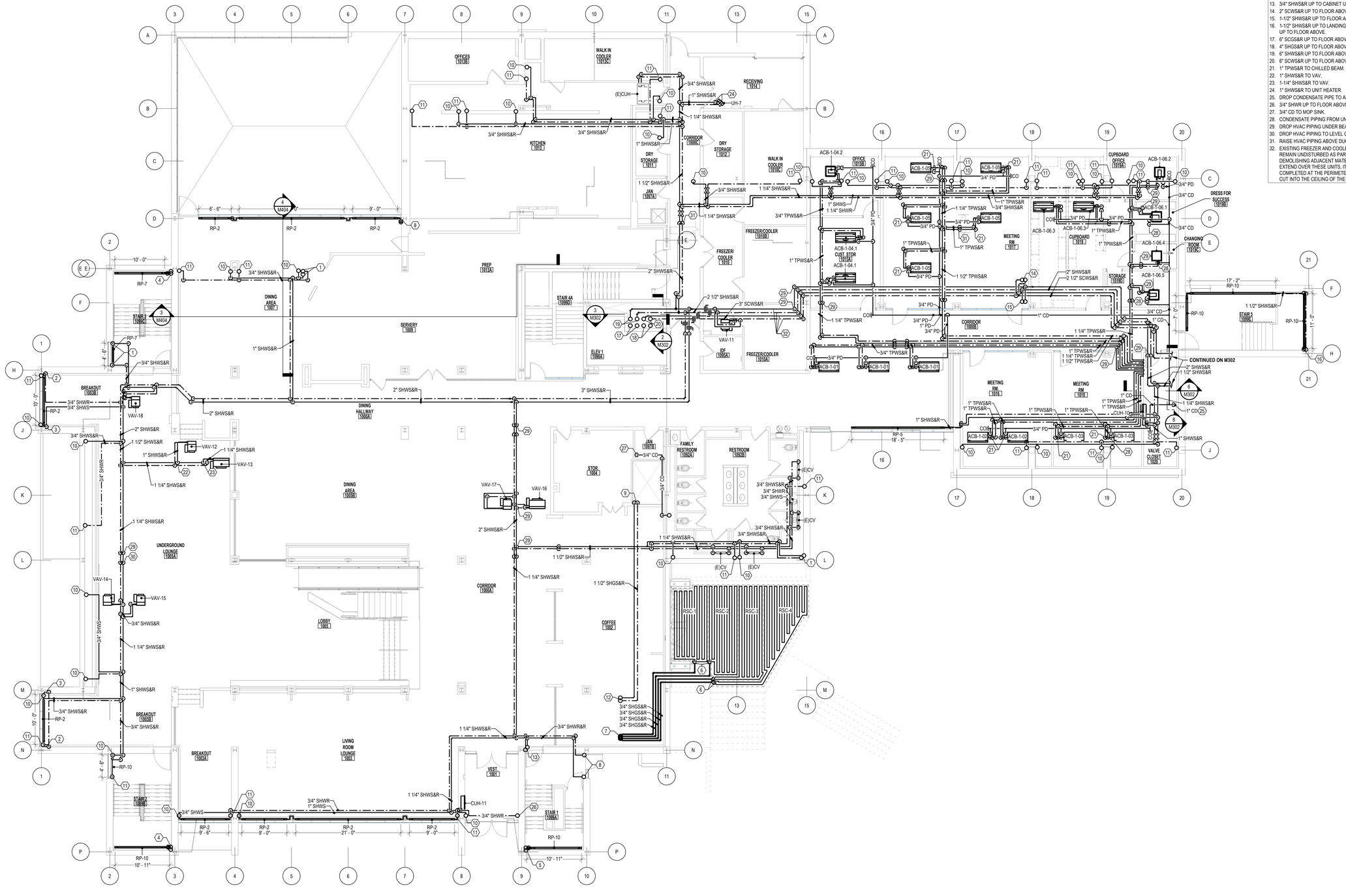
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M131
HVAC BASEMENT PIPE PLAN

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SUPPLEMENTAL GENERAL NOTES

1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL NEW MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
3. UNIT CONDENSATE IS PUMPED UNLESS OTHERWISE NOTED.

(#) KEYED NOTES

1. 3/4" SHWS&R UP TO RADIANT PANEL ON FLOOR ABOVE.
2. 3/4" SHWR DN TO RADIANT PANEL.
3. 3/4" SHWS DN TO RADIANT PANEL.
4. 1 1/4" SHWS&R UP TO RADIANT PANEL ON LANDING ABOVE, 1" SHWS&R TO RADIANT PANEL ON LANDING, AND 1" SHWS&R DN TO LANDING BELOW.
5. 1" SHWS&R UP TO RADIANT PANEL ON LANDING ABOVE, AND 1" SHWS&R DN TO RADIANT PANEL ON LANDING.
6. FACTORY PREINSULATED GROUPED SUPPLY AND RETURN TUBE TO RAISE UP AND END AT BOTTOM OF SLAB. INDIVIDUAL PREINSULATED TUBES TO BE RUN FROM POINT ONWARD TO RADIENT SLAB CIRCUIT.
7. (#3) FACTORY PREINSULATED GROUPED SUPPLY AND RETURN TUBE UP TO MANIFOLD ON FLOOR ABOVE.
8. 3/4" SHWS&R UP TO RADIANT PANEL ON FLOOR ABOVE.
9. 1 1/2" SHGS&R DN TO FLOOR BELOW.
10. 3/4" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
11. 3/4" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
12. 1 1/2" SHGS&R UP TO FLOOR ABOVE.
13. 3/4" SHWS&R UP TO CABINET UNIT HEATER ON FLOOR ABOVE.
14. 2" SCWS&R UP TO FLOOR ABOVE
15. 1-1/2" SHWS&R UP TO FLOOR ABOVE.
16. 1-1/2" SHWS&R UP TO LANDING, 3/4" TO RADIANT PANEL ON LANDING, AND 2" UP TO FLOOR ABOVE.
17. 6" SCGS&R UP TO FLOOR ABOVE AND DOWN TO FLOOR BELOW.
18. 4" SHGS&R UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
19. 6" SHWS&R UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
20. 6" SCWS&R UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
21. 1" TPWS&R TO CHILLED BEAM.
22. 1" SHWS&R TO VAV.
23. 1-1/4" SHWS&R TO VAV.
24. 1" SHWS&R TO UNIT HEATER.
25. DROP CONDENSATE PIPE TO ABOVE FUNNEL FOR INDIRECT DRAINAGE.
26. 3/4" SHWR UP TO FLOOR ABOVE.
27. 3/4" CD TO MOP SINK.
28. CONDENSATE PIPING FROM UNIT IS DESIGNED FOR GRAVITY DRAINAGE
29. DROP HVAC PIPING UNDER BEAM.
30. DROP HVAC PIPING TO LEVEL OF LOW CEILING.
31. RAISE HVAC PIPING ABOVE DUCT.
32. EXISTING FREEZER AND COOLERS 1010A, 1010B, 1010C, AND 1013C ARE TO REMAIN UNDISTURBED AS PART OF THIS PROJECT. TAKE CARE WHILE DEMOLISHING ADJACENT MATERIALS. WHILE SOME PIPING AND DUCTWORK EXTEND OVER THESE UNITS, IT IS INTENDED FOR THE WORK TO BE COMPLETED AT THE PERIMETER OF THESE UNITS. NO OPENINGS SHALL BE CUT INTO THE CEILING OF THE FREEZER/COOLER UNITS.

1 M132 FIRST FLOOR HVAC PIPE PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
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SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M132
HVAC FIRST FLOOR PIPE PLAN

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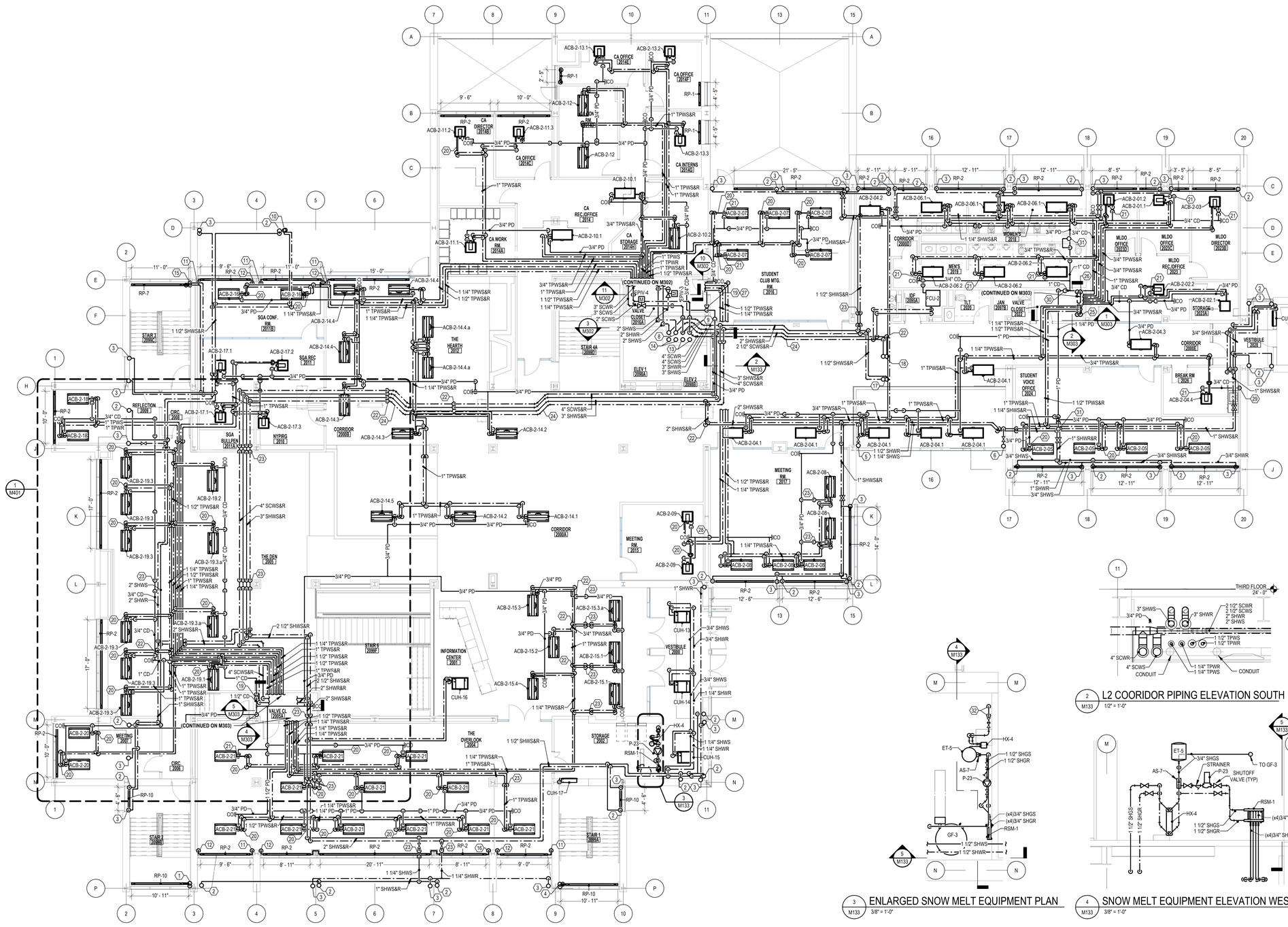
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SUPPLEMENTAL GENERAL NOTES

1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL NEW MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
3. UNIT CONDENSATE IS PUMPED UNLESS OTHERWISE NOTED.

(#) KEYED NOTES

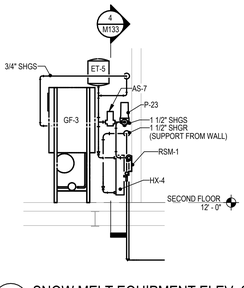
1. 2" SHWS&R DN TO LANDING, 3/4" TO RADIANT PANEL ON LANDING, AND 2" DN TO LANDING BELOW.
2. 3/4" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
3. 3/4" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
4. 1-1/2" SHWS&R UP TO LANDING ABOVE, 3/4" TO RADIANT PANEL ON LANDING, AND 1-1/4" DN TO LANDING BELOW.
5. 1" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
6. 1" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
7. 2" SHWS&R UP TO LANDING ABOVE, 3/4 TO RP ON LANDING, AND 2" DN TO LANDING BELOW.
8. 4" SHWS&R UP TO FLOOR ABOVE, AND 6" DN TO FLOOR BELOW.
9. 2-1/2" SCWS&R UP TO FLOOR ABOVE, 4" TO HORIZONAL, AND 6" DN TO FLOOR BELOW.
10. 3/4" SHWS&R UP TO RADIANT PANEL ON FLOOR ABOVE.
11. 3/4" SHWR DN TO FLOOR BELOW.
12. 3/4" SHWS DN TO FLOOR BELOW.
13. 4" SHGS&R UP TO FLOOR ABOVE AND DN TO FLOOR BELOW.
14. 6" SCGS&R UP TO FLOOR ABOVE AND DOWN TO FLOOR BELOW.
15. 1-1/2" DN TO LANDING, 3/4" TO RADIANT PANEL ON LANDING, AND 1-1/4" DN TO LANDING BELOW.
16. 1" SHWR DN TO FLOOR BELOW.
17. 1-1/2" SHWS&R UP TO FLOOR ABOVE.
18. 2-1/2" SCWS&R UP TO FLOOR ABOVE.
19. DROP CONDENSATE PIPE TO ABOVE FUNNEL FOR INDIRECT DRAINAGE.
20. 1" TPWS&R TO CHILLED BEAM.
21. CONDENSATE PIPING FROM UNIT IS DESIGNED FOR GRAVITY DRAINAGE
22. RAISE HVAC PIPING ABOVE DUCT.
23. DROP HVAC PIPING UNDER BEAM.
24. OFFSET HVAC PIPING AROUND DUCTWORK.
25. 1 1/2" SHWS&R DN TO FLOOR BELOW.
26. 2" SCWS&R DN TO FLOOR BELOW.
27. CONNECT 3/4" LINES TOGETHER INTO SINGLE DROP BEFORE DUMPING TO FUNNEL.
28. 3/4" CD DN TO FLOOR BELOW.
29. 3/4" CD DN IN WALL. LEAVE WALL BELOW COUNTER AND DRAIN TO FUNNEL WITHIN CABINET.
30. 1" CD DN TO FLOOR DRAIN IN MECH RM.
31. 3/4" CD UP TO FLOOR ABOVE.
32. 1 1/2" SHGS&R DN TO FLOOR BELOW.



1 M133 SECOND FLOOR HVAC PIPE PLAN
1/8" = 1'-0"

3 M133 ENLARGED SNOW MELT EQUIPMENT PLAN
3/8" = 1'-0"

4 M133 SNOW MELT EQUIPMENT ELEVATION WEST
3/8" = 1'-0"



5 M133 SNOW MELT EQUIPMENT ELEV. SOUTH
3/8" = 1'-0"

2 M133 L2 COORIDOR PIPING ELEVATION SOUTH
1/2" = 1'-0"

N
0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

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EXPIRATION: 02/28/2027

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Project Manager:	M.R.

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M133
HVAC SECOND FLOOR PIPE PLAN

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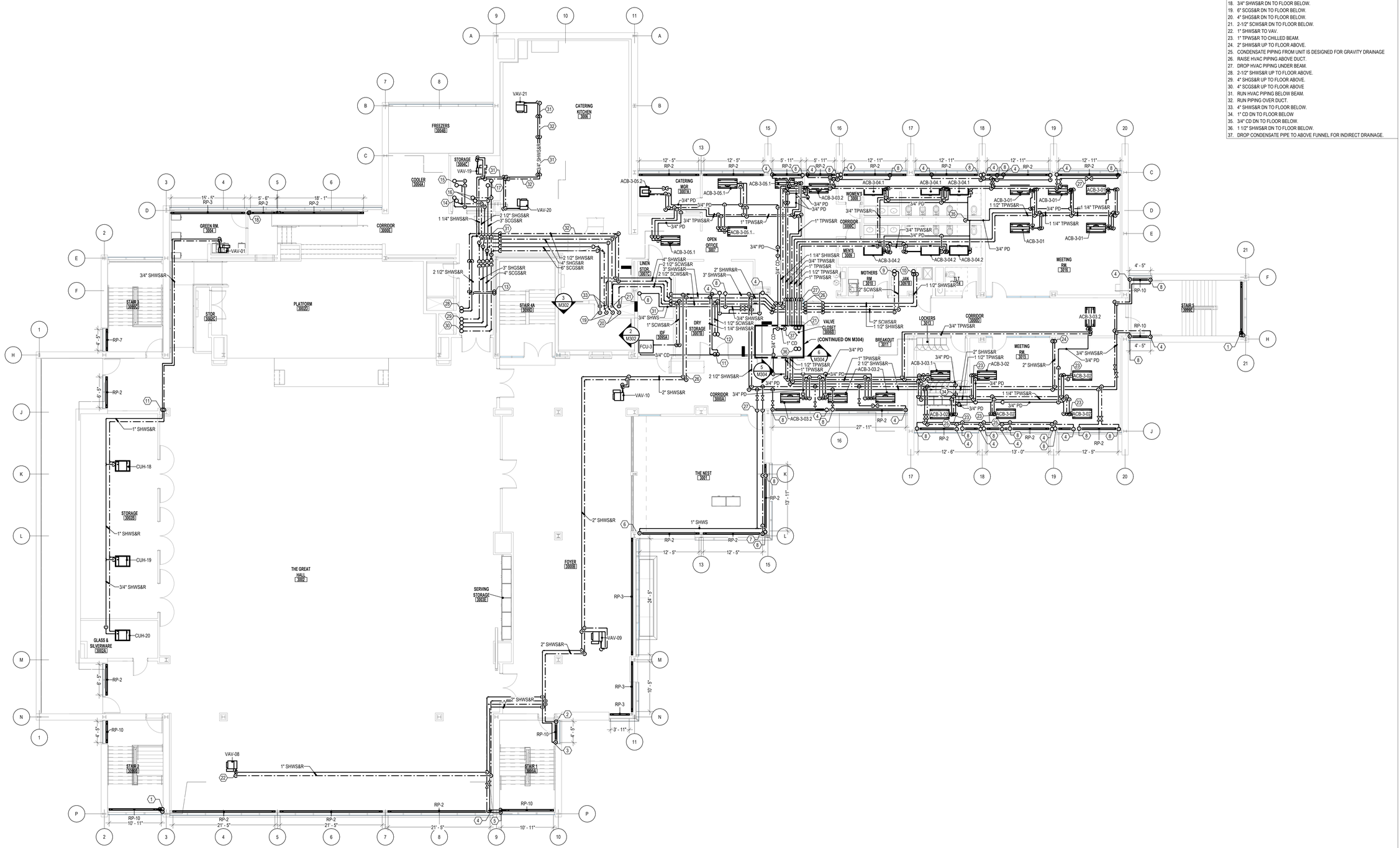
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SUPPLEMENTAL GENERAL NOTES

1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL NEW MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
3. UNIT CONDENSATE IS PUMPED UNLESS OTHERWISE NOTED.

(#) KEYED NOTES

1. 2" SHWS&R UP TO LANDING ABOVE, 3/4 TO RP ON LANDING, AND 2" DN TO LANDING BELOW.
2. 3/4" SHGR UP TO RADIANT PANEL ON FLOOR ABOVE.
3. 3/4" SHGS UP TO RADIANT PANEL ON FLOOR ABOVE.
4. 3/4" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
5. 2" SHWS&R DN TO LANDING, 1" TO RP ON LANDING, AND 1-1/2" DN TO LANDING BELOW.
6. 1" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
7. 1" SHWR UP TO RADIANT PANEL ON FLOOR ABOVE.
8. 3/4" SHWS UP TO RADIANT PANEL ON FLOOR ABOVE.
9. 2" SCWS&R UP TO FLOOR ABOVE
10. 1-1/2" SHWS&R UP TO FLOOR ABOVE.
11. 1-1/4" SHWS&R UP TO FLOOR ABOVE.
12. 1-1/2" SCWS&R UP TO FLOOR ABOVE.
13. 3/4" SHWS&R UP TO FLOOR ABOVE.
14. 2-1/2" SHGS&R UP TO FLOOR ABOVE.
15. 1-1/4" SHGS&R UP TO FLOOR ABOVE.
16. 3" SCGS&R UP TO FLOOR ABOVE.
17. 2-1/2" SCGS&R UP TO FLOOR ABOVE
18. 3/4" SHWS&R DN TO FLOOR BELOW.
19. 6" SCGS&R DN TO FLOOR BELOW.
20. 4" SHGS&R DN TO FLOOR BELOW.
21. 2-1/2" SCWS&R DN TO FLOOR BELOW.
22. 1" SHWS&R TO VAV.
23. 1" TPWS&R TO CHILLED BEAM.
24. 2" SHWS&R UP TO FLOOR ABOVE.
25. CONDENSATE PIPING FROM UNIT IS DESIGNED FOR GRAVITY DRAINAGE
26. RAISE HVAC PIPING ABOVE DUCT.
27. DROP HVAC PIPING UNDER BEAM.
28. 2-1/2" SHWS&R UP TO FLOOR ABOVE.
29. 4" SHGS&R UP TO FLOOR ABOVE.
30. 4" SCGS&R UP TO FLOOR ABOVE.
31. RUN HVAC PIPING BELOW BEAM.
32. RUN PIPING OVER DUCT.
33. 4" SHWS&R DN TO FLOOR BELOW.
34. 1" CD DN TO FLOOR BELOW
35. 3/4" CD DN TO FLOOR BELOW.
36. 1 1/2" SHWS&R DN TO FLOOR BELOW.
37. DROP CONDENSATE PIPE TO ABOVE FUNNEL FOR INDIRECT DRAINAGE.



1 / M134 THIRD FLOOR HVAC PIPE PLAN

1/8" = 1'-0"

N 0' 2' 4' 8' 16'

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

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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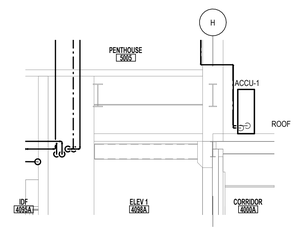
M134

HVAC THIRD FLOOR PIPE PLAN

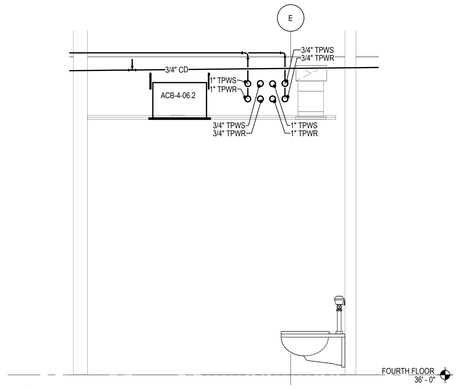
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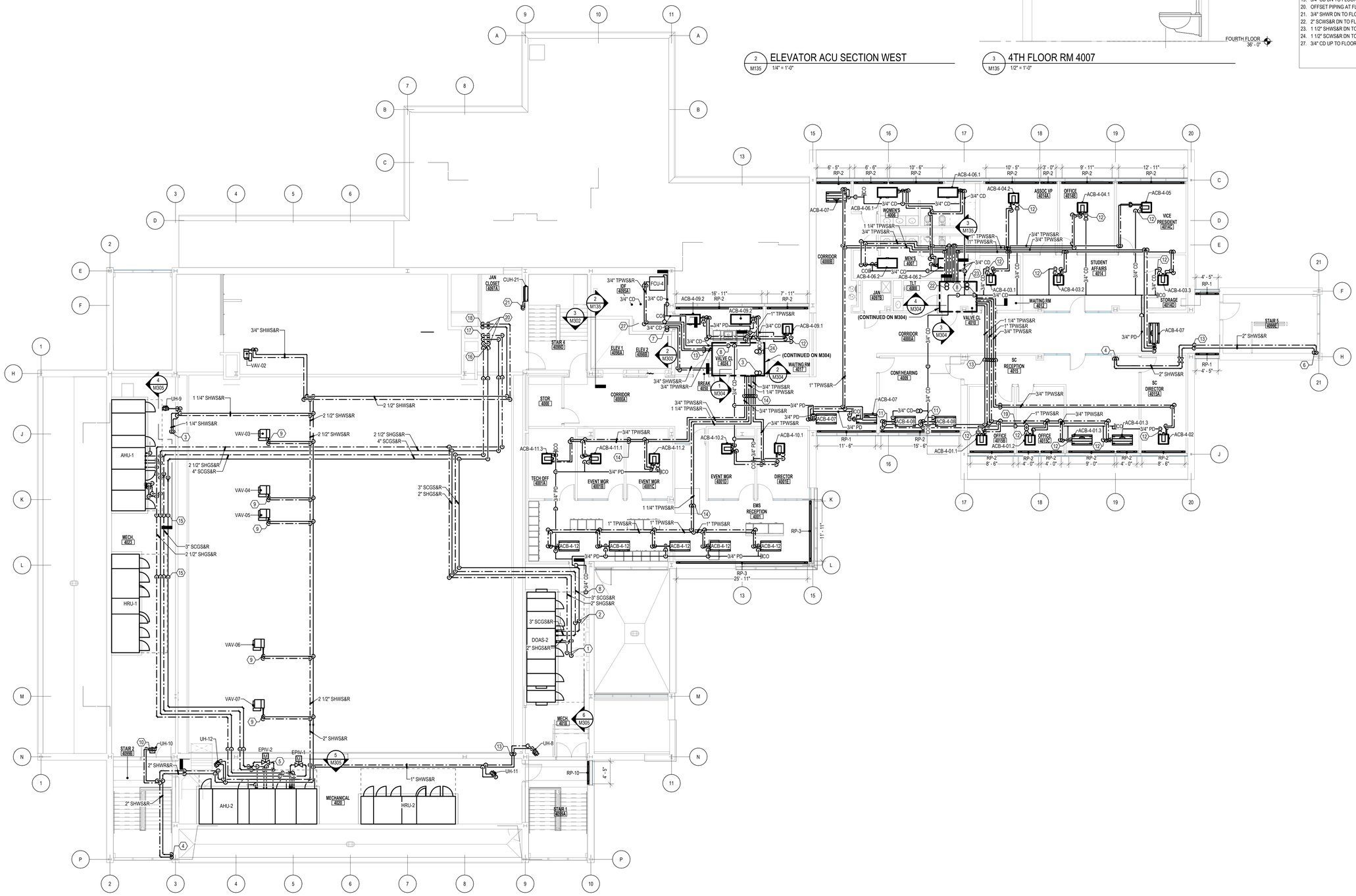
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2 M135 ELEVATOR ACU SECTION WEST
1/4" = 1'-0"



3 M135 4TH FLOOR RM 4007
1/2" = 1'-0"



1 M135 FOURTH FLOOR HVAC PIPE PLAN
1/8" = 1'-0"

N
0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

SUPPLEMENTAL GENERAL NOTES

1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL NEW MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.
3. UNIT CONDENSATE IS PUMPED UNLESS OTHERWISE NOTED.

(#) KEYED NOTES

1. 2" SHGS&R DN TO DOAS UNIT.
2. 3" SCGS&R DN TO DOAS UNIT.
3. 1-1/4" SHWS&R DN TO FLOOR BELOW.
4. 2" SHWS&R DOWN TO FLOOR BELOW.
5. 2-1/2" SCGS&R TO AHU.
6. 2" SHWS&R DN TO LANDING, 3/4" TO RP ON LANDING, AND 2" DN TO LANDING BELOW.
7. 3/4" SHWS&R UP TO FLOOR ABOVE.
8. DROP CONDENSATE PIPE TO ABOVE FUNNEL FOR INDIRECT DRAINAGE.
9. 1" SHWS&R TO VAV.
10. 1" SHWS&R TO UNIT HEATER.
11. 1" TPWS&R TO CHILLED BEAM.
12. CONDENSATE PIPING FROM UNIT IS DESIGNED FOR GRAVITY DRAINAGE
13. DROP HVAC PIPING UNDER BEAM.
14. RAISE HVAC PIPING ABOVE DUCT.
15. DROP HVAC PIPING UNDER DUCT.
16. 4" SCGS DN TO FLOOR BELOW.
17. 4" SHGS&R DN TO FLOOR BELOW.
18. 2-1/2" SHWS&R DN TO FLOOR BELOW.
19. 3/4" CD DN TO FLOOR BELOW.
20. OFFSET PIPING AT FLOOR TO MISS BEAM BELOW.
21. 3/4" SHWR DN TO FLOOR BELOW.
22. 2" SCWS&R DN TO FLOOR BELOW.
23. 1 1/2" SHWS&R DN TO FLOOR BELOW.
24. 1 1/2" SCWS&R DN TO FLOOR BELOW.
27. 3/4" CD UP TO FLOOR ABOVE.

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EXPIRATION: 02/28/2027

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Project Manager:	M.R.

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Revisions

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103 PROSPECT TERRACE,
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SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M135
HVAC FOURTH FLOOR PIPE PLAN

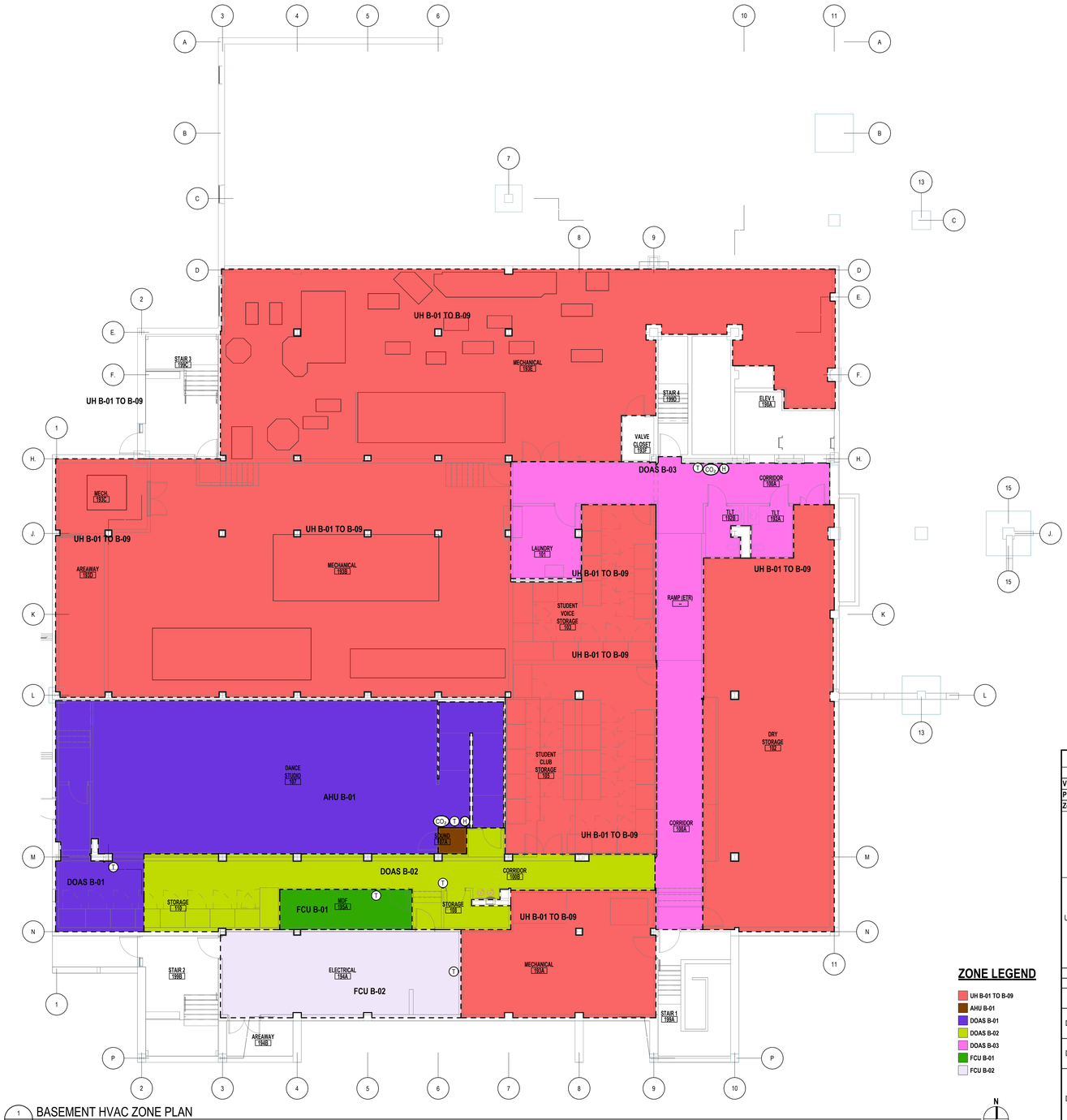
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE THERMOSTAT, CO2 SENSOR, AND HUMIDITY SENSOR. REFER TO PLAN FOR LOCATION.

(#) KEYED NOTES



1 M141 BASEMENT HVAC ZONE PLAN

1/8" = 1'-0"

ZONE LEGEND

- UH B-01 TO B-09
- AHU B-01
- DOAS B-01
- DOAS B-02
- DOAS B-03
- FCU B-01
- FCU B-02

VENTILATION TABLE

VENTILATION WORKSHEET ASHRAE 62.1												
PROJECT: SUNY Cortland Corey Union												
Zone Identification					**Standard Case: ASHRAE Std 62.1 Ventilation Rate Procedure**							
Zone	**Unit Serving**	**Room Number and Name**		**Occupancy Category**	**Area (sf)**	**Code Required People Outdoor Air Rate (cfm/person)**	**Area Outdoor Air Rate (cfm/sf)**	**Occupant Density (#/1000 sf)**	**Number Occupants**	**Uncorrected OA (CFM)**	**System Ventilation Efficiency (E_v)**	**Corrected OA (CFM)**	**EA/SF**
UH B-01 TO B-09		194B	Electrical	Electrical equipment rooms	60	0	0.00	0	0	0	0.8	0	-
		193A	Mechanical	Electrical equipment rooms	549	0	0.00	0	0	0	0.8	0	-
		193B	Mechanical	Electrical equipment rooms	2314	0	0.00	0	0	0	0.8	0	-
		193C	Mechanical	Electrical equipment rooms	157	0	0.00	0	0	0	0.8	0	-
		193D	Mechanical	Electrical equipment rooms	186	0	0.00	0	0	0	0.8	0	-
		193E	Mechanical	Electrical equipment rooms	2394	0	0.00	0	0	0	0.8	0	-
		103	Student Voice Storage	Storage rooms	423	5	0.06	2	1	30	0.8	38	-
		105	Student Club Storage	Storage rooms	716	5	0.06	2	2	53	0.8	66	-
		102	Dry Storage	Storage rooms	1236	5	0.06	2	3	89	0.8	111	-
FCU B-01	-	195A	MDF	Electrical equipment rooms	124	0	0.00	0	0	0	0.8	0	-
FCU B-02	-	194A	Electrical	Electrical equipment rooms	502	0	0.00	0	0	0	0.8	0	-
AHU B-01	AHU-5	107	Dance Studio	Music/theater/dance	1536	10	0.06	35	54	632	0.8	790	-
		107A	Sound	Office space	15	5	0.06	5	1	6	0.8	7	-
DOAS B-01	DOAS B-01	109B	Vestibule		64	-	-	-	-	-	-	-	-
		100B	Corridor	Corridors	139	0	0.06	0	0	8	0.8	10	-
		110	Storage	Storage rooms	69	5	0.06	2	1	9	0.8	11	-
DOAS B-02	DOAS B-02	100B	Corridor	Corridors	511	0	0.06	0	0	31	0.8	38	-
		110	Storage	Storage rooms	108	5	0.06	2	1	11	0.8	14	-
		108	Storage	Storage rooms	46	5	0.06	2	1	8	0.8	10	-
DOAS B-03	DOAS B-03	100A	Corridor	Corridors	303	0	0.06	0	0	18	0.8	23	-
			Ramp	Corridors	143	0	0.06	0	0	9	0.8	11	-
		100A	Corridor	Corridors	372	0	0.06	0	0	22	0.8	28	-
		192A	Toilet	Toilet	55	0	0.00	0	0	0	0.8	0	50 / 70
		192B	Toilet	Toilet	43	0	0.00	0	0	0	0.8	0	50 / 70
		101	Laundry	Coin operated laundries	123	8	0.12	20	3	37	0.8	47	-

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EXPIRATION: 02/28/2027

Drawn By: PDG
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Project Manager: M.R.

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M141
HVAC BASEMENT ZONE PLAN

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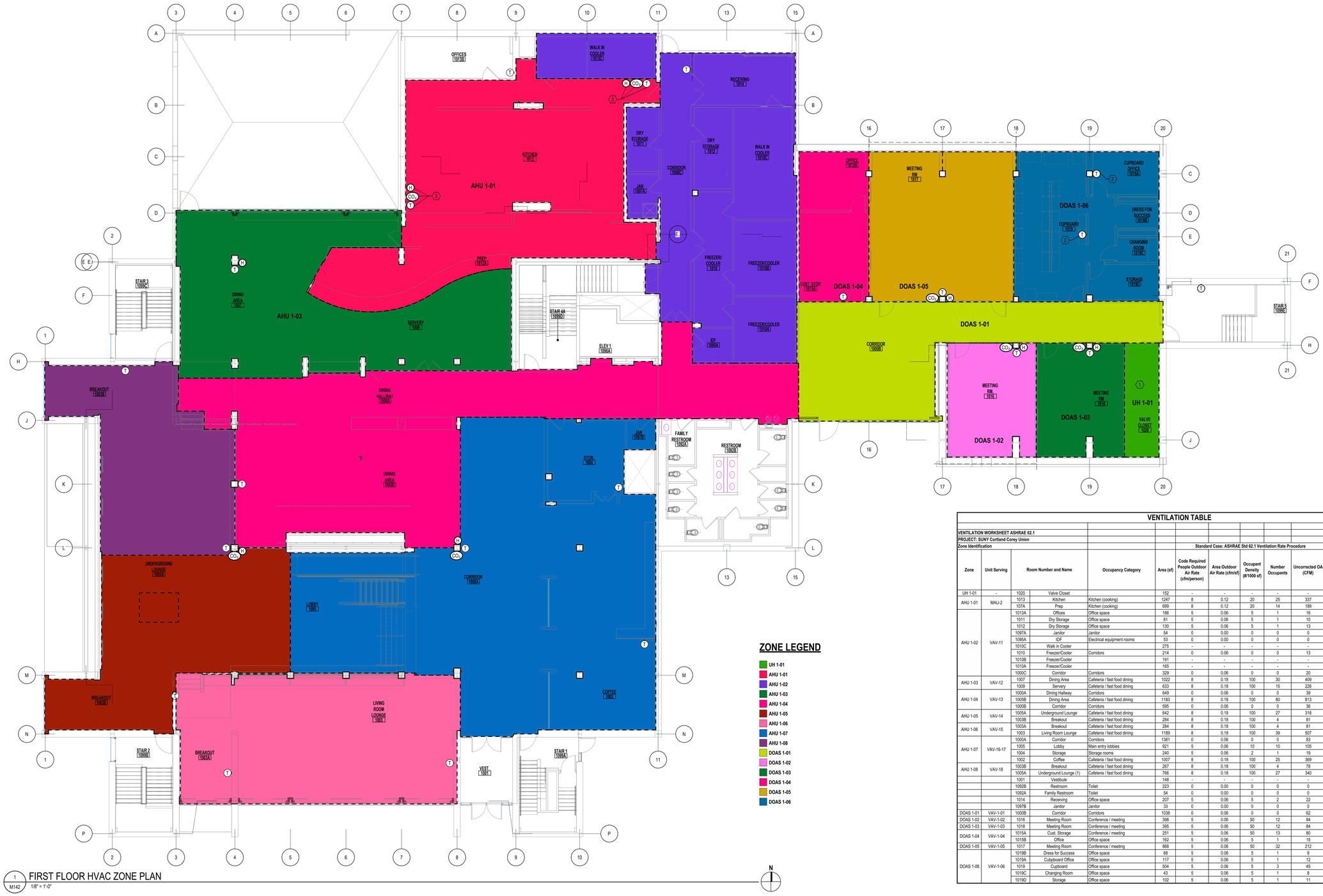
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE THERMOSTAT, CO2 SENSOR, AND HUMIDITY SENSOR. REFER TO PLAN FOR LOCATION.

KEYED NOTES

1. PROVIDE CONTROL PANEL IN THIS ROOM.
2. ZONE TEMPERATURES TO BE AVERAGED FOR SPACE CONTROL.
3. ZONE TEMPERATURES, HUMIDITIES, AND CO2 READINGS TO BE AVERAGED FOR SPACE CONTROL.



ZONE LEGEND

- UH 1-01
- AHU 1-01
- AHU 1-02
- AHU 1-03
- AHU 1-04
- AHU 1-05
- AHU 1-06
- AHU 1-07
- AHU 1-08
- DOAS 1-01
- DOAS 1-02
- DOAS 1-03
- DOAS 1-04
- DOAS 1-05
- DOAS 1-06

1 M142 FIRST FLOOR HVAC ZONE PLAN
1/8" = 1'-0"

N

VENTILATION TABLE

VENTILATION WORKSHEET ASHRAE 62.1											
PROJECT: SUNY Cortland Corey Union											
Zone Identification					Standard Case: ASHRAE Std 62.1 Ventilation Rate Procedure						
Zone	Unit Serving	Room Number and Name		Occupancy Category	Area (sf)	Code Required People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/sf)	Occupant Density (#/1000 sf)	Number Occupants	Uncorrected OA (CFM)	System Ventilation Efficiency (E_v)	Corrected OA (CFM)	EA/SF
UH 1-01	-	1020	Valve Closet		152	-	-	-	-	-	-	-	-
AHU 1-01	MAU-2	1013	Kitchen	Kitchen (cooking)	1247	8	0.12	20	25	337	0.8	421	0.70
		107A	Prep	Kitchen (cooking)	699	8	0.12	20	14	189	0.8	236	0.70
AHU 1-02	VAV-11	1013A	Offices	Office space	186	5	0.06	5	1	16	0.8	20	-
		1011	Dry Storage	Office space	81	5	0.06	5	1	10	0.8	12	-
		1012	Dry Storage	Office space	130	5	0.06	5	1	13	0.8	16	-
		1097A	Janitor	Janitor	54	0	0.00	0	0	0	0.8	0	-
		1095A	IDF	Electrical equipment rooms	53	0	0.00	0	0	0	0.8	0	-
		1010C	Walk in Cooler		275	-	-	-	-	-	-	-	-
		1010	Freezer/Cooler	Corridors	214	0	0.06	0	0	13	0.8	16	-
		1010B	Freezer/Cooler		191	-	-	-	-	-	-	-	-
		1010A	Freezer/Cooler		165	-	-	-	-	-	-	-	-
		1000C	Corridor	Corridors	329	0	0.06	0	0	20	0.8	25	-
AHU 1-03	VAV-12	1007	Dining Area	Cafeteria / fast food dining	1022	8	0.18	100	30	409	0.8	511	-
		1009	Servery	Cafeteria / fast food dining	633	8	0.18	100	15	226	0.8	283	-
AHU 1-04	VAV-13	1000A	Dining Hallway	Corridors	649	0	0.06	0	0	39	0.8	49	-
		1005B	Dining Area	Cafeteria / fast food dining	1183	8	0.18	100	80	813	0.8	1016	-
		1000B	Corridor	Corridors	595	0	0.06	0	0	36	0.8	45	-
AHU 1-05	VAV-14	1005A	Underground Lounge	Cafeteria / fast food dining	642	8	0.18	100	27	318	0.8	398	-
AHU 1-06	VAV-15	1003B	Breakout	Cafeteria / fast food dining	284	8	0.18	100	4	81	0.8	101	-
		1003A	Breakout	Cafeteria / fast food dining	284	8	0.18	100	4	81	0.8	101	-
		1003	Living Room Lounge	Cafeteria / fast food dining	1189	8	0.18	100	39	507	0.8	633	-
AHU 1-07	VAV-16-17	1000A	Corridor	Corridors	1381	0	0.06	0	0	83	0.8	104	-
		1005	Lobby	Main entry lobbies	921	5	0.06	10	10	105	0.8	132	-
		1004	Storage	Storage rooms	240	5	0.06	2	1	19	0.8	24	-
		1002	Coffee	Cafeteria / fast food dining	1007	8	0.18	100	25	369	0.8	461	-
AHU 1-08	VAV-18	1003B	Breakout	Cafeteria / fast food dining	267	8	0.18	100	4	78	0.8	98	-
		1005A	Underground Lounge (1)	Cafeteria / fast food dining	766	8	0.18	100	27	340	0.8	425	-
		1001	Vestibule		148	-	-	-	-	-	-	-	-
		1092B	Restroom	Toilet	223	0	0.00	0	0	0	0.8	0	50 / 70
		1092A	Family Restroom	Toilet	54	0	0.00	0	0	0	0.8	0	50 / 70
		1014	Receiving	Office space	207	5	0.06	5	2	22	0.8	28	-
		1097B	Janitor	Janitor	33	0	0.00	0	0	0	0.8	0	-
DOAS 1-01	VAV-1-01	1000B	Corridor	Corridors	1038	0	0.06	0	0	62	0.8	78	-
DOAS 1-02	VAV-1-02	1016	Meeting Room	Conference / meeting	398	5	0.06	50	12	84	0.8	105	-
DOAS 1-03	VAV-1-03	1018	Meeting Room	Conference / meeting	395	5	0.06	50	12	84	0.8	105	-
DOAS 1-04	VAV-1-04	1015A	Cust. Storage	Conference / meeting	251	5	0.06	50	13	80	0.8	100	-
		1015B	Office	Office space	162	5	0.06	5	1	15	0.8	18	-
DOAS 1-05	VAV-1-05	1017	Meeting Room	Conference / meeting	868	5	0.06	50	32	212	0.8	265	-
DOAS 1-06	VAV-1-06	1019B	Dress for Success	Office space	68	5	0.06	5	1	9	0.8	11	-
		1019A	Cubpboard Office	Office space	117	5	0.06	5	1	12	0.8	15	-
		1019	Cupboard	Office space	504	5	0.06	5	3	45	0.8	57	-
		1019C	Changing Room	Office space	43	5	0.06	5	1	8	0.8	9	-
		1019D	Storage	Office space	102	5	0.06	5	1	11	0.8	14	-

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STATE OF NEW YORK DANIEL LACCETTI 109560 LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By: PDG
Checked By: J.P.
Project Manager: M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M142
HVAC FIRST FLOOR ZONE PLAN

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

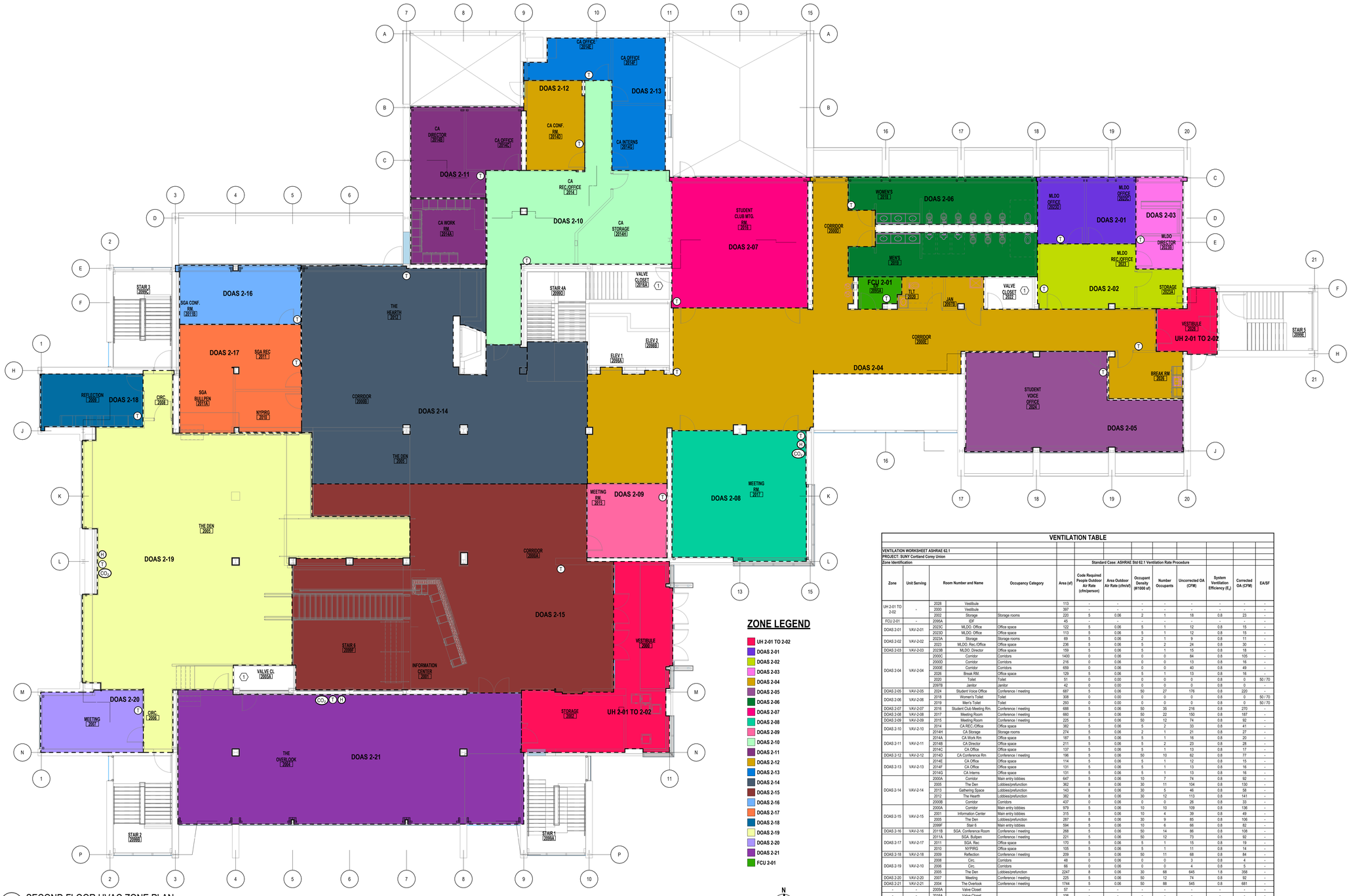
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE THERMOSTAT, CO2 SENSOR, AND HUMIDITY SENSOR. REFER TO PLAN FOR LOCATION.

(E) KEYED NOTES

1. PROVIDE CONTROL PANEL IN THIS ROOM.



ZONE LEGEND

- UH 2-01 TO 2-02
- DOAS 2-01
- DOAS 2-02
- DOAS 2-03
- DOAS 2-04
- DOAS 2-05
- DOAS 2-06
- DOAS 2-07
- DOAS 2-08
- DOAS 2-09
- DOAS 2-10
- DOAS 2-11
- DOAS 2-12
- DOAS 2-13
- DOAS 2-14
- DOAS 2-15
- DOAS 2-16
- DOAS 2-17
- DOAS 2-18
- DOAS 2-19
- DOAS 2-20
- DOAS 2-21
- FCU 2-01

1 / M143 SECOND FLOOR HVAC ZONE PLAN
1/8" = 1'-0"

N

VENTILATION TABLE

VENTILATION WORKSHEET ASHRAE 62.1
PROJECT: SUNY Cortland Corey Union
Zone Identification — Standard Case: ASHRAE Std 62.1 Ventilation Rate Procedure

Zone	Unit Serving	Room Number	Room Name	Occupancy Category	Area (sf)	Code Required People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/sf)	Occupant Density (#/1000 sf)	Number Occupants	Uncorrected OA (CFM)	System Ventilation Efficiency (Ev)	Corrected OA (CFM)	EA/SF
UH 2-01 TO 2-02	-	2028	Vestibule		113	-	-	-	-	-	-	-	-
		2000	Vestibule		397	-	-	-	-	-	-	-	-
		2002	Storage	Storage rooms	220	5	0.06	2	1	18	0.8	23	-
FCU 2-01	-	2005A	IDF		45	-	-	-	-	-	-	-	-
DOAS 2-01	VAV-2-01	2023C	MLDO. Office	Office space	122	5	0.06	5	1	12	0.8	15	-
		2023D	MLDO. Office	Office space	113	5	0.06	5	1	12	0.8	15	-
DOAS 2-02	VAV-2-02	2023A	Storage	Storage rooms	69	5	0.06	2	1	9	0.8	11	-
DOAS 2-03	VAV-2-03	2023	MLDO. Rec./Office	Office space	236	5	0.06	5	2	24	0.8	30	-
		2023B	MLDO. Director	Office space	159	5	0.06	5	1	15	0.8	18	-
DOAS 2-04	VAV-2-04	2000C	Corridor	Corridors	1400	0	0.06	0	0	84	0.8	105	-
		2000D	Corridor	Corridors	216	0	0.06	0	0	13	0.8	16	-
		2000E	Corridor	Corridors	659	0	0.06	0	0	40	0.8	49	-
		2026	Break RM.	Office space	129	5	0.06	5	1	13	0.8	16	-
		2020	Toilet	Toilet	51	0	0.00	0	0	0	0.8	0	50 / 70
		2007B	Janitor	Janitor	42	0	0.00	0	0	0	0.8	0	-
DOAS 2-05	VAV-2-05	2024	Student Voice Office	Conference / meeting	687	5	0.06	50	27	176	0.8	220	-
DOAS 2-06	VAV-2-06	2018	Women's Toilet	Toilet	308	0	0.00	0	0	0	0.8	0	50 / 70
		2019	Men's Toilet	Toilet	293	0	0.00	0	0	0	0.8	0	50 / 70
DOAS 2-07	VAV-2-07	2016	Student Club Meeting Rm.	Conference / meeting	688	5	0.06	50	35	216	0.8	270	-
DOAS 2-08	VAV-2-08	2017	Meeting Room	Conference / meeting	660	5	0.06	50	22	150	0.8	187	-
DOAS 2-09	VAV-2-09	2015	Meeting Room	Conference / meeting	225	5	0.06	50	12	74	0.8	92	-
DOAS 2-10	VAV-2-10	2014	CA REC./Office	Office space	382	5	0.06	5	2	33	0.8	41	-
		2014H	CA Storage	Storage rooms	274	5	0.06	2	1	21	0.8	27	-
DOAS 2-11	VAV-2-11	2014A	CA Work Rm	Office space	187	5	0.06	5	1	16	0.8	20	-
		2014B	CA Director	Office space	211	5	0.06	5	2	23	0.8	28	-
		2014C	CA Office	Office space	137	5	0.06	5	1	13	0.8	17	-
DOAS 2-12	VAV-2-12	2014D	CA Conference Rm	Conference / meeting	196	5	0.06	50	10	62	0.8	77	-
		2014E	CA Office	Office space	114	5	0.06	5	1	12	0.8	15	-
DOAS 2-13	VAV-2-13	2014F	CA Office	Office space	131	5	0.06	5	1	13	0.8	16	-
		2014G	CA Interns	Office space	131	5	0.06	5	1	13	0.8	16	-
DOAS 2-14	VAV-2-14	2000A	Corridor	Main entry lobbies	647	5	0.06	10	7	74	0.8	92	-
		2005	The Den	Lobbies/prefunction	362	8	0.06	30	11	104	0.8	130	-
		2013	Gathering Space	Lobbies/prefunction	143	8	0.06	30	5	46	0.8	58	-
		2012	The Hearth	Lobbies/prefunction	382	8	0.06	30	12	113	0.8	141	-
		2000B	Corridor	Corridors	437	0	0.06	0	0	26	0.8	33	-
DOAS 2-15	VAV-2-15	2000A	Corridor	Main entry lobbies	979	5	0.06	10	10	109	0.8	136	-
		2001	Information Center	Main entry lobbies	315	5	0.06	10	4	39	0.8	49	-
		2005	The Den	Lobbies/prefunction	287	8	0.06	30	9	85	0.8	106	-
		2009F	Stair 6	Main entry lobbies	594	5	0.06	10	6	66	0.8	82	-
DOAS 2-16	VAV-2-16	2011B	SGA. Conference Room	Conference / meeting	268	5	0.06	50	14	86	0.8	108	-
DOAS 2-17	VAV-2-17	2011A	SGA. Bullpen	Conference / meeting	221	5	0.06	50	12	73	0.8	92	-
		2011	SGA. Rec	Office space	170	5	0.06	5	1	15	0.8	19	-
		2010	NYPIRG	Office space	105	5	0.06	5	1	11	0.8	14	-
DOAS 2-18	VAV-2-18	2009	Reflection	Conference / meeting	209	5	0.06	50	11	68	0.8	84	-
DOAS 2-19	VAV-2-10	2008	Circ.	Corridors	48	0	0.06	0	0	3	0.8	4	-
		2006	Circ.	Corridors	66	0	0.06	0	0	4	0.8	5	-
		2005	The Den	Lobbies/prefunction	2247	8	0.06	30	68	645	1.8	358	-
DOAS 2-20	VAV-2-20	2007	Meeting	Conference / meeting	225	5	0.06	50	12	74	0.8	92	-
DOAS 2-21	VAV-2-21	2004	The Overlook	Conference / meeting	1744	5	0.06	50	88	545	0.8	681	-
-	-	2005A	Valve Closet		57	-	-	-	-	-	-	-	-
-	-	2016A	Valve Closet		106	-	-	-	-	-	-	-	-
-	-	2022	Valve Closet		59	-	-	-	-	-	-	-	-

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NEW YORK STATE — DANIEL LACCETTI — 109560 — LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By: PDG
Checked By: J.P.
Project Manager: M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M143
HVAC SECOND FLOOR ZONE PLAN

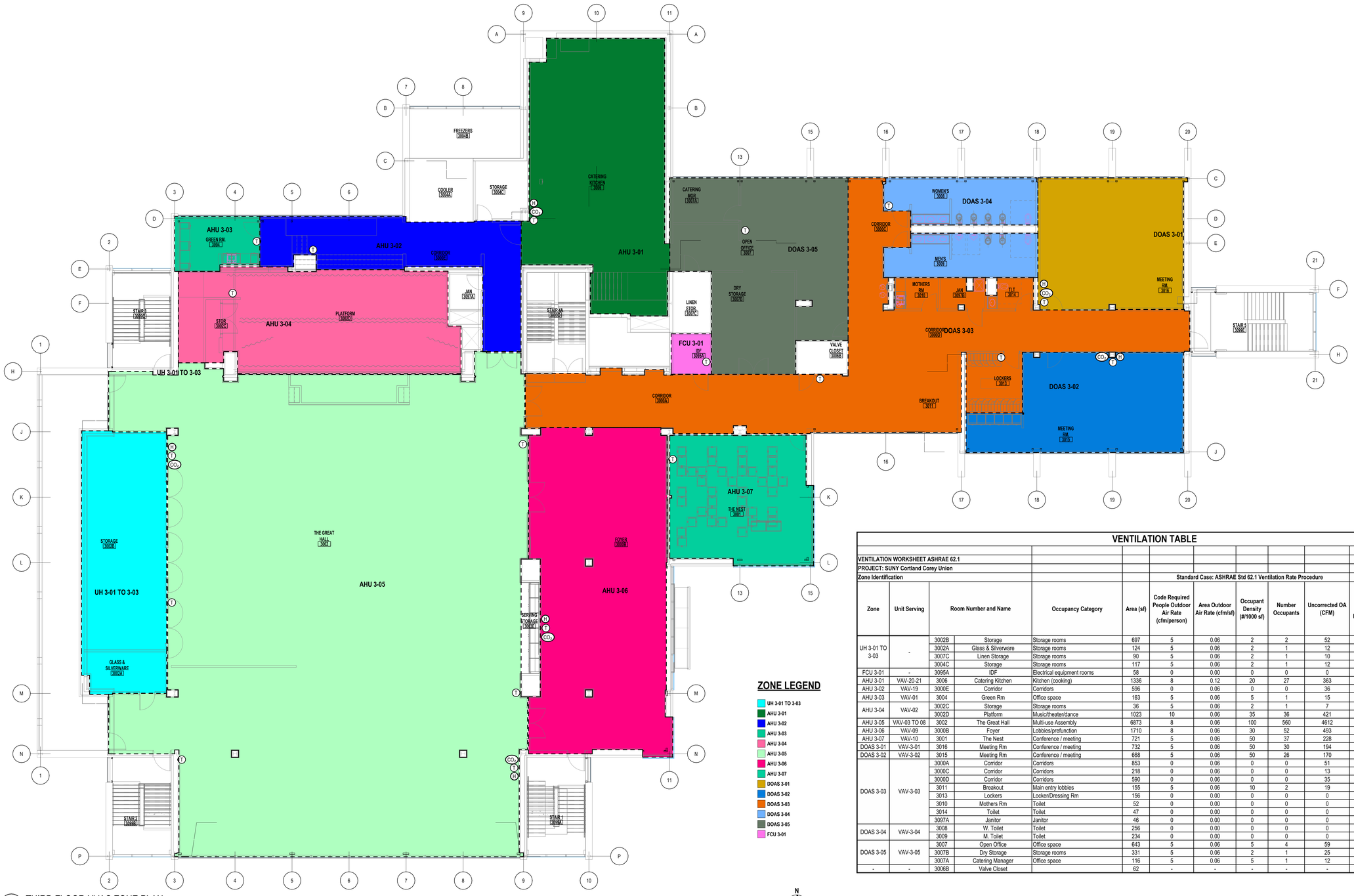
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE THERMOSTAT, CO2 SENSOR, AND HUMIDITY SENSOR. REFER TO PLAN FOR LOCATION.

(#) KEYED NOTES



ZONE LEGEND

- UH 3-01 TO 3-03
- AHU 3-01
- AHU 3-02
- AHU 3-03
- AHU 3-04
- AHU 3-05
- AHU 3-06
- AHU 3-07
- DOAS 3-01
- DOAS 3-02
- DOAS 3-03
- DOAS 3-04
- DOAS 3-05
- FCU 3-01

VENTILATION TABLE

VENTILATION WORKSHEET ASHRAE 62.1

PROJECT: SUNY Cortland Corey Union

Zone Identification — Standard Case: ASHRAE Std 62.1 Ventilation Rate Procedure

Zone	Unit Serving	Room Number and Name		Occupancy Category	Area (sf)	Code Required People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/sf)	Occupant Density (#/1000 sf)	Number Occupants	Uncorrected OA (CFM)	System Ventilation Efficiency (E_v)	Corrected OA (CFM)	EA/SF
UH 3-01 TO 3-03	-	3002B	Storage	Storage rooms	697	5	0.06	2	2	52	0.8	65	-
		3002A	Glass & Silverware	Storage rooms	124	5	0.06	2	1	12	0.8	16	-
		3007C	Linen Storage	Storage rooms	90	5	0.06	2	1	10	0.8	13	-
		3004C	Storage	Storage rooms	117	5	0.06	2	1	12	0.8	15	-
FCU 3-01	-	3095A	IDF	Electrical equipment rooms	58	0	0.00	0	0	0	0.8	0	-
AHU 3-01	VAV-20-21	3006	Catering Kitchen	Kitchen (cooking)	1336	8	0.12	20	27	363	0.8	454	0.70
AHU 3-02	VAV-19	3000E	Corridor	Corridors	596	0	0.06	0	0	36	0.8	45	-
AHU 3-03	VAV-01	3004	Green Rm	Office space	163	5	0.06	5	1	15	0.8	18	-
AHU 3-04	VAV-02	3002C	Storage	Storage rooms	36	5	0.06	2	1	7	0.8	9	-
		3002D	Platform	Music/theater/dance	1023	10	0.06	35	36	421	0.8	527	-
AHU 3-05	VAV-03 TO 08	3002	The Great Hall	Multi-use Assembly	6873	8	0.06	100	560	4612	0.8	5765	-
AHU 3-06	VAV-09	3000B	Foyer	Lobbies/prefunction	1710	8	0.06	30	52	493	0.8	616	-
AHU 3-07	VAV-10	3001	The Nest	Conference / meeting	721	5	0.06	50	37	228	0.8	285	-
DOAS 3-01	VAV-3-01	3016	Meeting Rm	Conference / meeting	732	5	0.06	50	30	194	0.8	242	-
DOAS 3-02	VAV-3-02	3015	Meeting Rm	Conference / meeting	668	5	0.06	50	26	170	0.8	213	-
DOAS 3-03	VAV-3-03	3000A	Corridor	Corridors	853	0	0.06	0	0	51	0.8	64	-
		3000C	Corridor	Corridors	218	0	0.06	0	0	13	0.8	16	-
		3000D	Corridor	Corridors	590	0	0.06	0	0	35	0.8	44	-
		3011	Breakout	Main entry lobbies	155	5	0.06	10	2	19	0.8	24	-
		3013	Lockers	Locker/Dressing Rm	156	0	0.00	0	0	0	0.8	0	0.25
		3010	Mothers Rm	Toilet	52	0	0.00	0	0	0	0.8	0	50 / 70
		3014	Toilet	Toilet	47	0	0.00	0	0	0	0.8	0	50 / 70
		3097A	Janitor	Janitor	46	0	0.00	0	0	0	0.8	0	-
DOAS 3-04	VAV-3-04	3008	W. Toilet	Toilet	256	0	0.00	0	0	0	0.8	0	50 / 70
		3009	M. Toilet	Toilet	234	0	0.00	0	0	0	0.8	0	50 / 70
DOAS 3-05	VAV-3-05	3007	Open Office	Office space	643	5	0.06	5	4	59	0.8	73	-
		3007B	Dry Storage	Storage rooms	331	5	0.06	2	1	25	0.8	31	-
		3007A	Catering Manager	Office space	116	5	0.06	5	1	12	0.8	15	-
-	-	3006B	Valve Closet		62	-	-	-	-	-	-	-	-

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STATE OF NEW YORK · DANIEL LACETTI · 109560 · LICENSED PROFESSIONAL ENGINEER

EXPIRATION: 02/28/2027

Drawn By: PDG
Checked By: J.P.
Project Manager: M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M144
HVAC THIRD FLOOR ZONE PLAN

NOVEMBER 16, 2026
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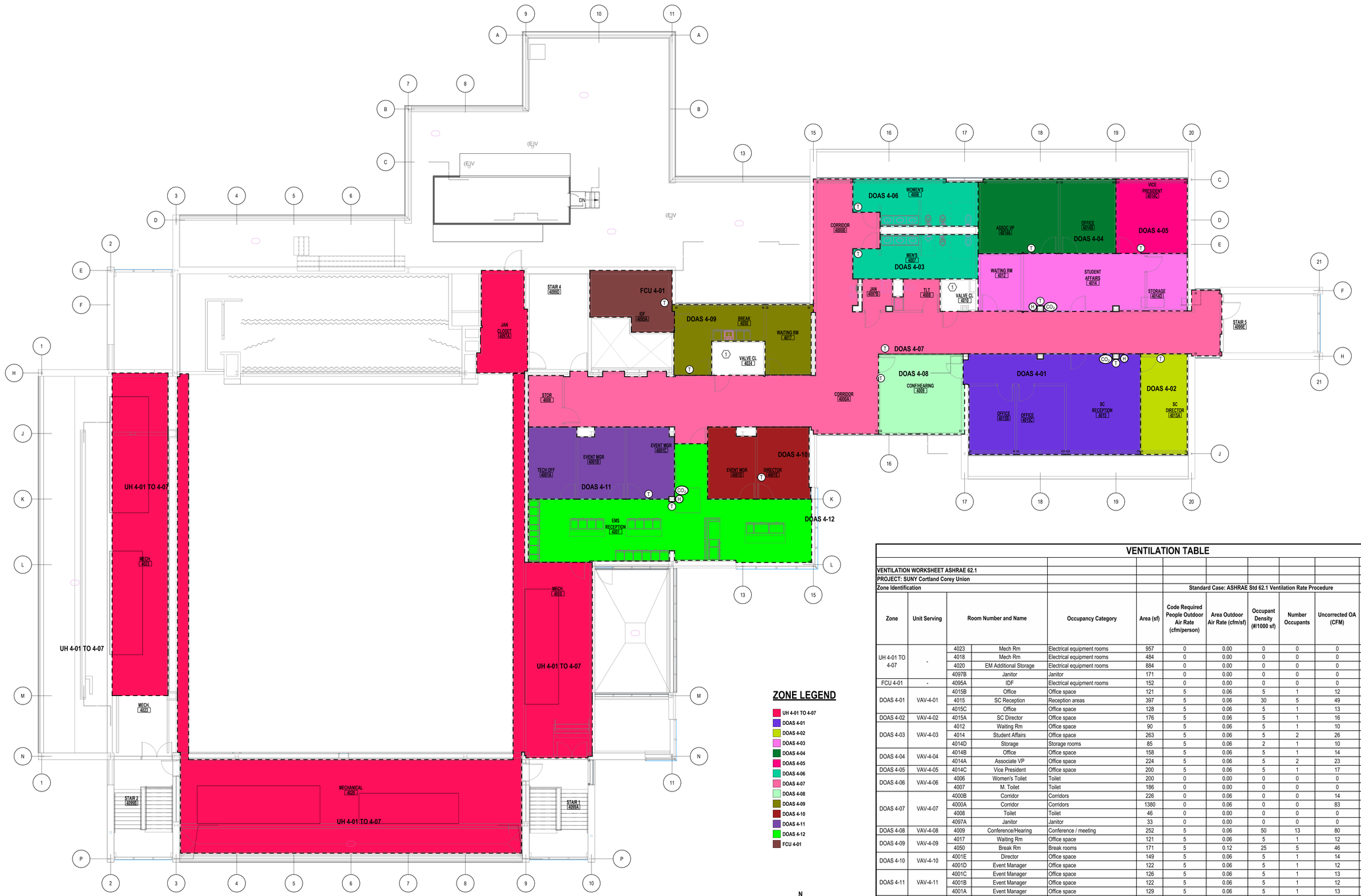
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SUPPLEMENTAL GENERAL NOTES

1. PROVIDE THERMOSTAT, CO2 SENSOR, AND HUMIDITY SENSOR. REFER TO PLAN FOR LOCATION.

(#) KEYED NOTES

1. PROVIDE CONTROL PANEL IN THIS ROOM.



ZONE LEGEND

- UH 4-01 TO 4-07
- DOAS 4-01
- DOAS 4-02
- DOAS 4-03
- DOAS 4-04
- DOAS 4-05
- DOAS 4-06
- DOAS 4-07
- DOAS 4-08
- DOAS 4-09
- DOAS 4-10
- DOAS 4-11
- DOAS 4-12
- FCU 4-01

1 / M145 FOURTH FLOOR HVAC ZONE PLAN
1/8" = 1'-0"

N

VENTILATION TABLE

VENTILATION WORKSHEET ASHRAE 62.1											
PROJECT: SUNY Cortland Corey Union											
Zone Identification					Standard Case: ASHRAE Std 62.1 Ventilation Rate Procedure						
Zone	Unit Serving	Room Number and Name		Occupancy Category	Area (sf)	Code Required People Outdoor Air Rate (cfm/person)	Area Outdoor Air Rate (cfm/sf)	Occupant Density (#/1000 sf)	Number Occupants	Uncorrected OA (CFM)	System Ventilation Efficiency (E_v)	Corrected OA (CFM)	EA/SF
UH 4-01 TO 4-07	-	4023	Mech Rm	Electrical equipment rooms	957	0	0.00	0	0	0	0.8	0	-
		4018	Mech Rm	Electrical equipment rooms	484	0	0.00	0	0	0	0.8	0	-
		4020	EM Additional Storage	Electrical equipment rooms	884	0	0.00	0	0	0	0.8	0	-
		4097B	Janitor	Janitor	171	0	0.00	0	0	0	0.8	0	-
FCU 4-01	-	4095A	IDF	Electrical equipment rooms	152	0	0.00	0	0	0	0.8	0	-
DOAS 4-01	VAV-4-01	4015B	Office	Office space	121	5	0.06	5	1	12	0.8	15	-
		4015	SC Reception	Reception areas	397	5	0.06	30	5	49	0.8	61	-
		4015C	Office	Office space	128	5	0.06	5	1	13	0.8	16	-
DOAS 4-02	VAV-4-02	4015A	SC Director	Office space	176	5	0.06	5	1	16	0.8	19	-
DOAS 4-03	VAV-4-03	4012	Waiting Rm	Office space	90	5	0.06	5	1	10	0.8	13	-
		4014	Student Affairs	Office space	263	5	0.06	5	2	26	0.8	32	-
		4014D	Storage	Storage rooms	85	5	0.06	2	1	10	0.8	13	-
DOAS 4-04	VAV-4-04	4014B	Office	Office space	158	5	0.06	5	1	14	0.8	18	-
		4014A	Associate VP	Office space	224	5	0.06	5	2	23	0.8	29	-
DOAS 4-05	VAV-4-05	4014C	Vice President	Office space	200	5	0.06	5	1	17	0.8	21	-
DOAS 4-06	VAV-4-06	4006	Women's Toilet	Toilet	200	0	0.00	0	0	0	0.8	0	50 / 70
		4007	M. Toilet	Toilet	186	0	0.00	0	0	0	0.8	0	50 / 70
DOAS 4-07	VAV-4-07	4000B	Corridor	Corridors	226	0	0.06	0	0	14	0.8	17	-
		4000A	Corridor	Corridors	1380	0	0.06	0	0	83	0.8	104	-
		4008	Toilet	Toilet	46	0	0.00	0	0	0	0.8	0	50 / 70
		4097A	Janitor	Janitor	33	0	0.00	0	0	0	0.8	0	-
DOAS 4-08	VAV-4-08	4009	Conference/Hearing	Conference / meeting	252	5	0.06	50	13	80	0.8	100	-
DOAS 4-09	VAV-4-09	4017	Waiting Rm	Office space	121	5	0.06	5	1	12	0.8	15	-
		4050	Break Rm	Break rooms	171	5	0.12	25	5	46	0.8	57	-
DOAS 4-10	VAV-4-10	4001E	Director	Office space	149	5	0.06	5	1	14	0.8	17	-
		4001D	Event Manager	Office space	122	5	0.06	5	1	12	0.8	15	-
DOAS 4-11	VAV-4-11	4001C	Event Manager	Office space	126	5	0.06	5	1	13	0.8	16	-
		4001B	Event Manager	Office space	122	5	0.06	5	1	12	0.8	15	-
		4001A	Event Manager	Office space	129	5	0.06	5	1	13	0.8	16	-
DOAS 4-12	VAV-4-12	4001	EMS Reception	Reception areas	751	5	0.06	30	23	160	0.8	200	-
-	-	4024	Valve Closet		65	-	-	-	-	-	-	-	-
-	-	4010	Valve Closet		36	-	-	-	-	-	-	-	-

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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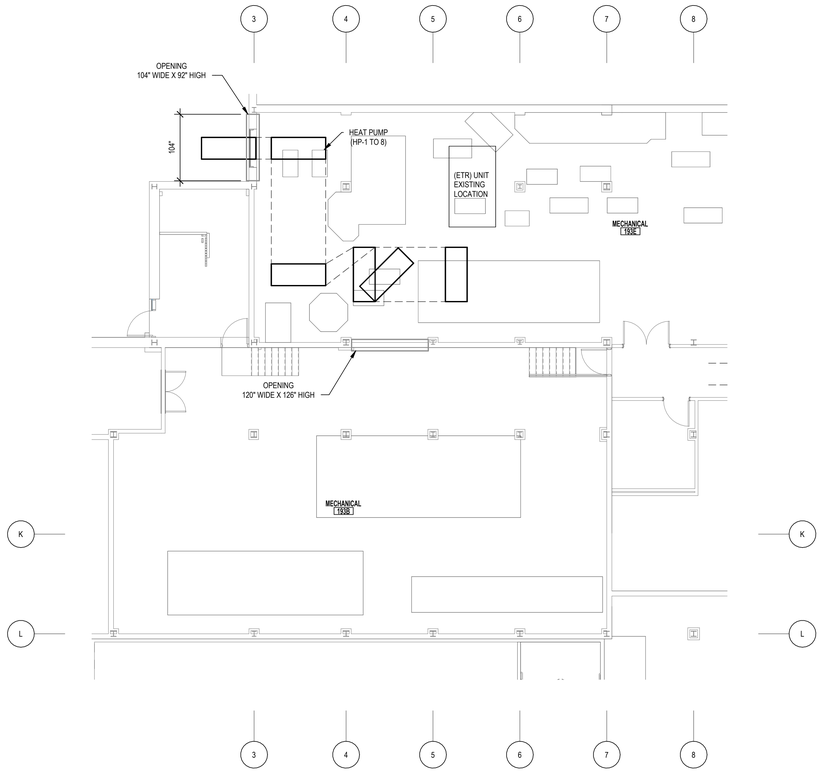
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M145
HVAC FOURTH FLOOR ZONE PLAN

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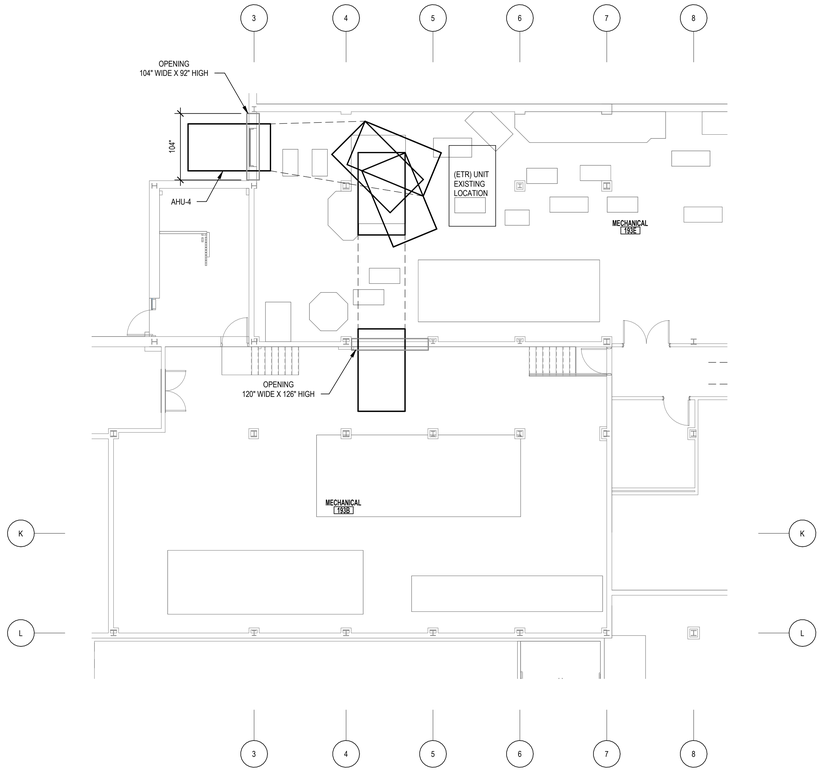
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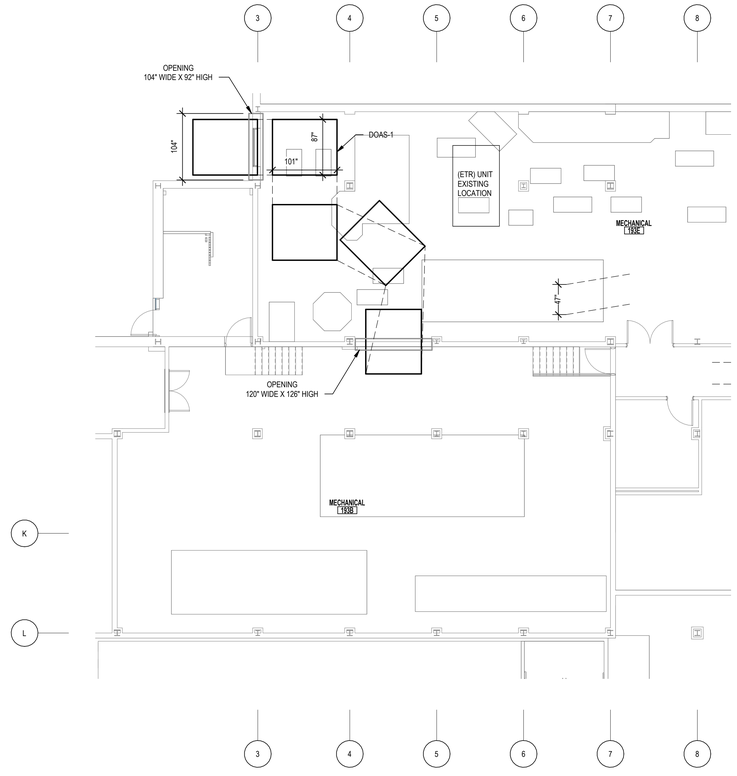
50 M201 BASEMENT HP-1 TO 7 TRAVEL PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"



2 M201 BASEMENT AHU-4 TRAVEL PLAN1
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"



81 M201 BASEMENT DOAS-1 TRAVEL PLAN
1/8" = 1'-0"

N 0' 2' 4' 8' 16'
SCALE: 1/8" = 1'-0"

SUPPLEMENTAL GENERAL NOTES

1. UNITS LOCATED IN MECHANICAL ROOM 193B WILL BE TRAVELLED THROUGH THE OPENING IN SECTIONS AND WILL BE ASSEMBLED IN THE FIELD. EXACT LOCATION OF OPENING TO BE COORDINATED WITH STRUCTURAL/ARCHITECTURAL DRAWINGS.
2. UNITS LOCATED IN MECHANICAL ROOM 193E WILL BE TRAVELLED THROUGH ELEVATOR.
3. OPENING:
   A. MECH ROOM 193E : 104" WIDE X 128" HIGH
   B. MECH ROOM 193B : 120" WIDE X 126" HIGH
4. UNITS LARGET SECTIONS (L X W X H) :
   A. THE WIDTH BELOW (FOR AHU AND DOAS) ALSO INCLUDE THE LIFTING LUGS SIZE (6.5" EACH SIDE), WHICH WILL BE REMOVED PRIOR TO ASSEMBLY IN THE MECHANICAL ROOM:
      a. DOAS-1 (RM 193B) : 87" X 101" X 65"
      b. AHU-4 (RM 193B) : 73.5" X 129" X 89"
      c. AHU-5 (RM 193B) : 67.5" X 57" X 47"
      d. HP-1 TO 7 (RM 193E) : 34" X 85.1" X 77.5"

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Project Manager:	M.R.

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M201
BASEMENT UNIT TRAVEL PATH

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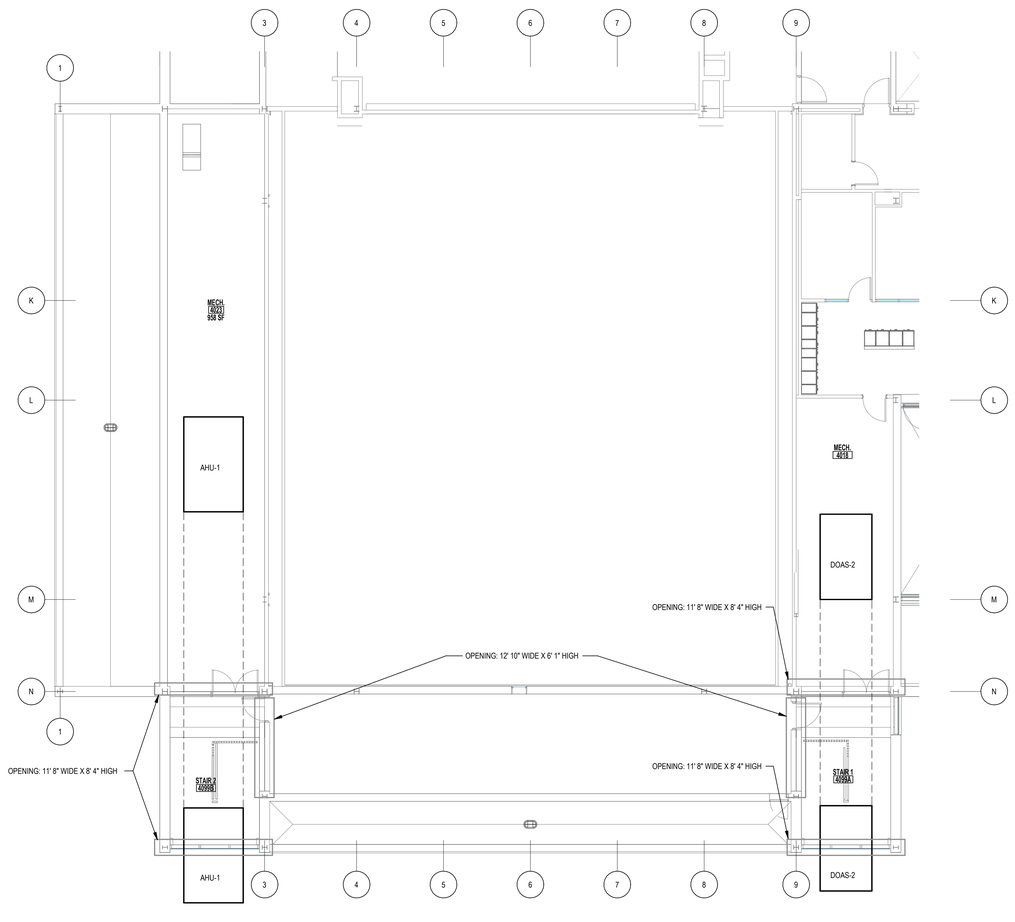
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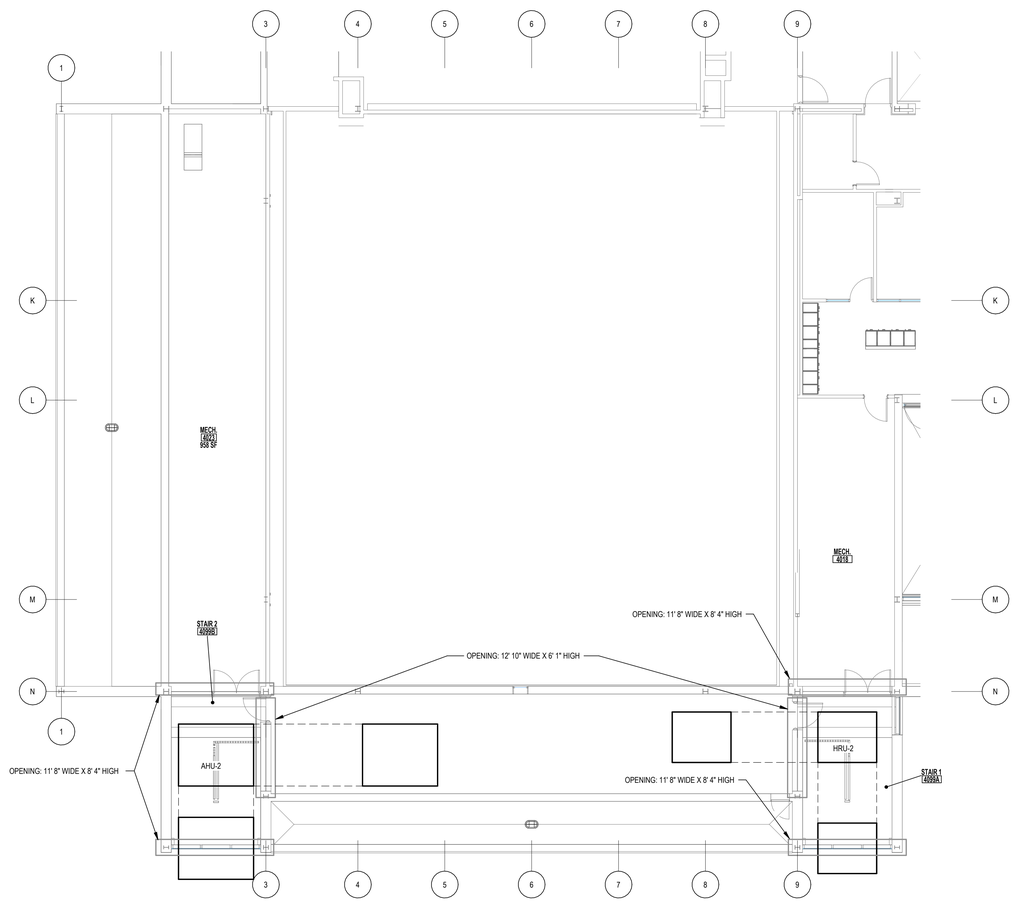
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SUPPLEMENTAL GENERAL NOTES

1. FOURTH FLOOR UNIT TRAVEL PATH:
   A. UNITS LOCATED IN MECHANICAL ROOMS (4018, 4020, 4023) WILL BE TRAVELLED THROUGH THE BUILDING IN SECTIONS AND WILL BE ASSEMBLED IN THE FIELD TRAVELLING THROUGH THE DEMOLISHED CURTAINWALL OPENING ON THE STAIRS AND THEN THROUGH DEMOLISHED WALLS: NORTH WALLS OF 4099A AND 4099B AND EAST WALL OF ROOM 4020. REFER TO A-114 FOR MORE INFORMATION.
   B. THE SECTION SIZES SHOWN BELOW ARE BASED UPON BASIS OF DESIGN. CONTRACTOR TO DECIDE THE FINAL SIZES BASED UPON THE CRANE CAPACITY AND MAXIMUM WEIGHT CAPACITY IN STAIRWAY AREA(S). REFER TO STRUCTURAL DRAWING FOR WEIGHT CAPACITY OF EACH SECTION.
2. UNITS LARGEST SECTIONS (L X W X H) :
   A. THE WIDTH SHOWN BELOW ALSO INCLUDE THE LIFTING LUGS SIZE (6.5" EACH SIDE), WHICH WILL BE REMOVED PRIOR TO ASSEMBLY IN THE MECHANICAL ROOM:
      a. DOAS-2 (RM 4018): 133.5" X 81" X 51"
      b. AHU-2 (RM 4020) : 117.5" X 97" X 71"
      c. HRU-2 (RM 4020) : 92" X 79" X 47"
      d. AHU-1 (RM 4023) : 148.5" X 93" X 69"
      e. HRU-1 (RM 4023) : 93.5" X 79" X 47"



26 M202 FOURTH FLOOR AHU/HRU-1 AND DOAS-2 TRAVEL PATH
1/8" = 1'-0"



48 M202 FOURTH FLOOR AHU/HRU-2 TRAVEL PATH
1/8" = 1'-0"

N

0' 2' 4' 8' 16'

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

N

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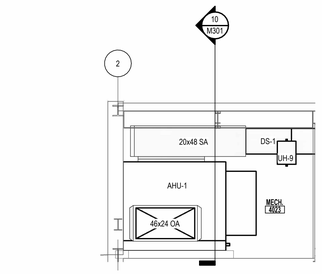
M202

FOURTH FLOOR
UNIT TRAVEL PATH

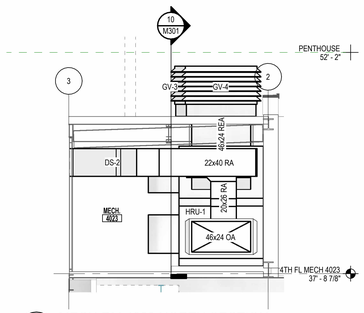
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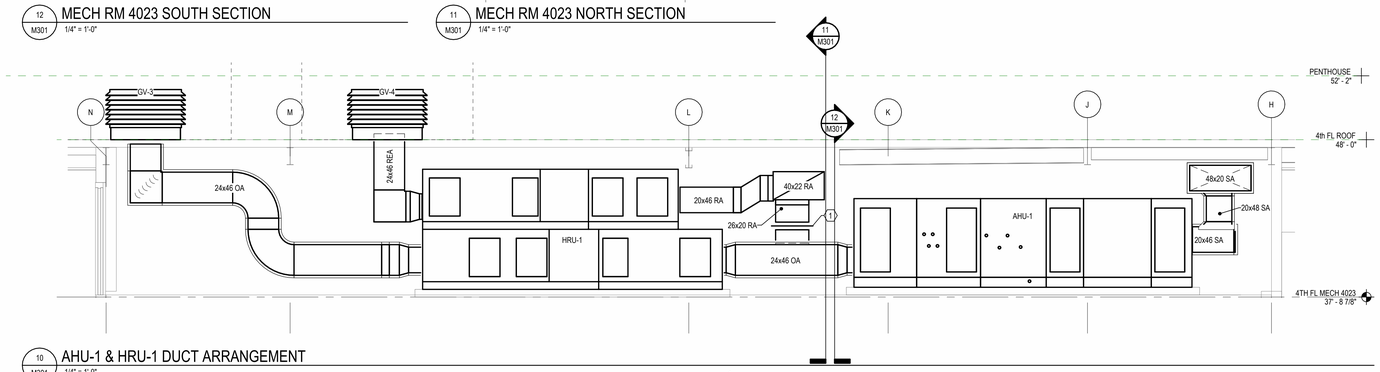
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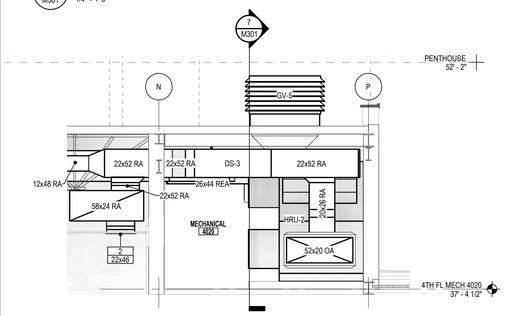
12 M301 MECH RM 4023 SOUTH SECTION
1/4" = 1'-0"



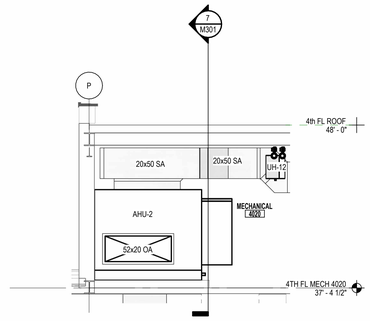
11 M301 MECH RM 4023 NORTH SECTION
1/4" = 1'-0"



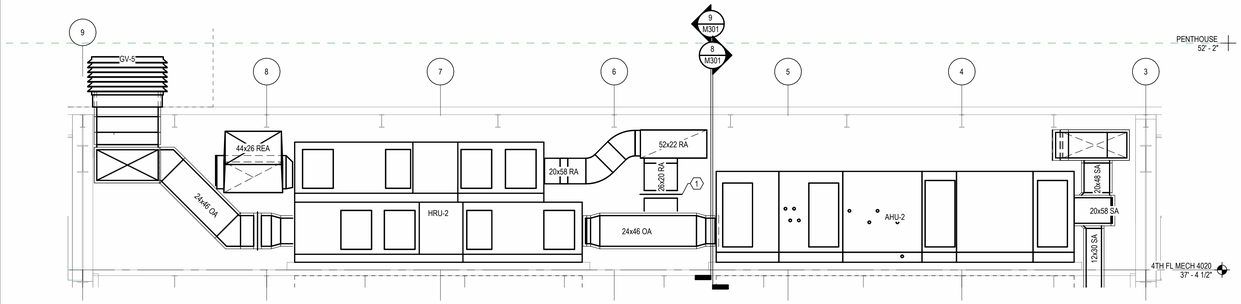
10 M301 AHU-1 & HRU-1 DUCT ARRANGEMENT
1/4" = 1'-0"



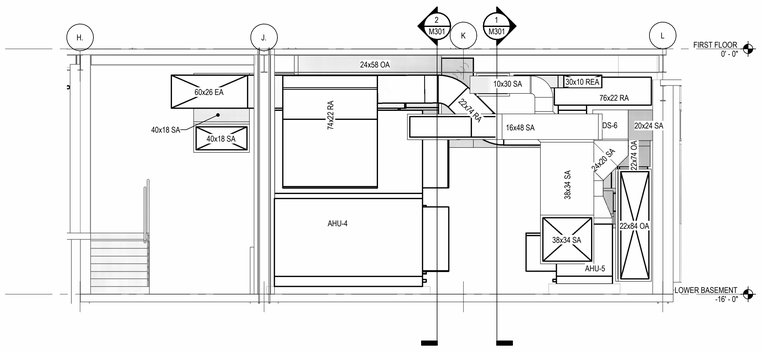
9 M301 MECH RM 4020 WEST SECTION
1/4" = 1'-0"



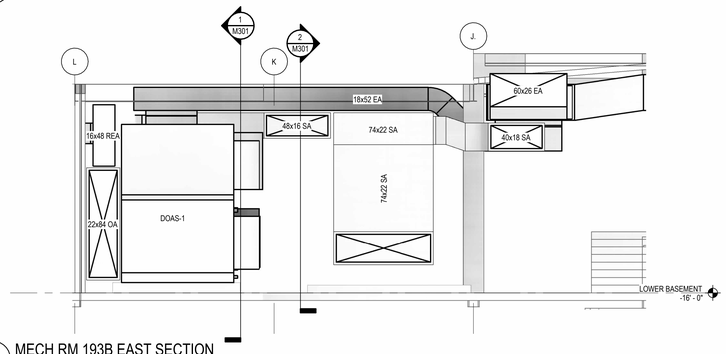
8 M301 MECH RM 4020 EAST SECTION
1/4" = 1'-0"



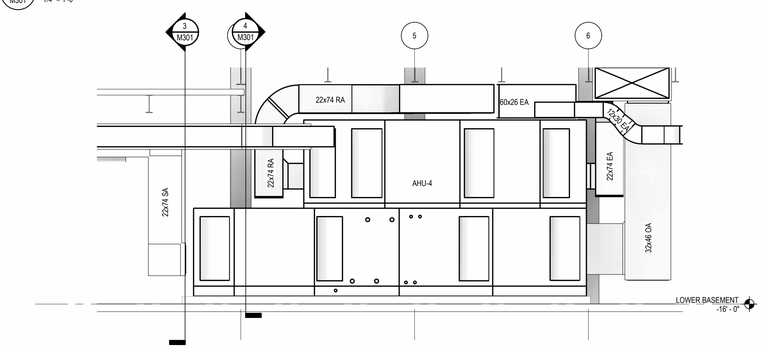
7 M301 AHU-2 & HRU-2 DUCT ARRANGEMENT
1/4" = 1'-0"



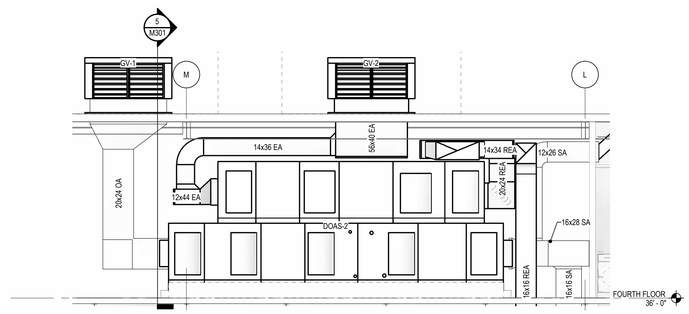
4 M301 MECH RM 193B WEST SECTION
1/4" = 1'-0"



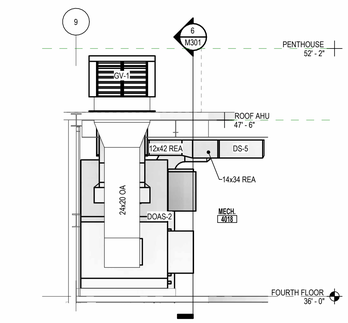
3 M301 MECH RM 193B EAST SECTION
1/4" = 1'-0"



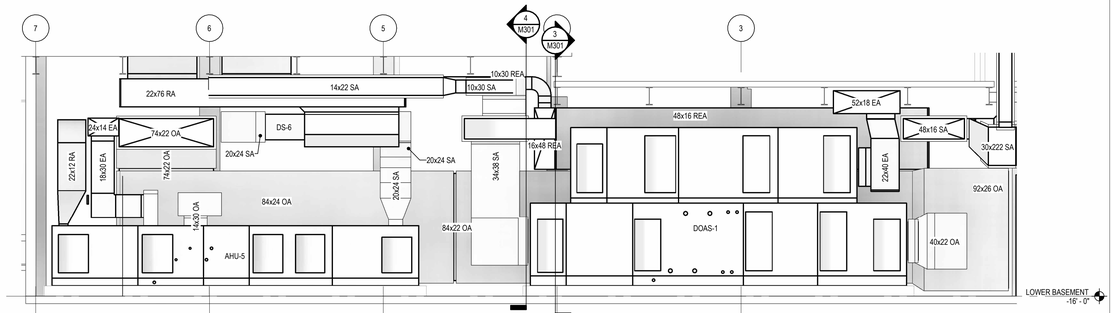
2 M301 AHU-4 DUCT ARRANGEMENT
1/4" = 1'-0"



6 M301 DOAS-2 DUCT ARRANGEMENT
1/4" = 1'-0"



5 M301 MECH RM 4018 SOUTH SECTION
1/4" = 1'-0"



1 M301 DOAS-1 AND AHU-5 DUCT ARRANGEMENT
1/4" = 1'-0"

KEYED NOTES

1. MOTORIZED DAMPER. ACTING AS A MIXED AIR DAMPER.

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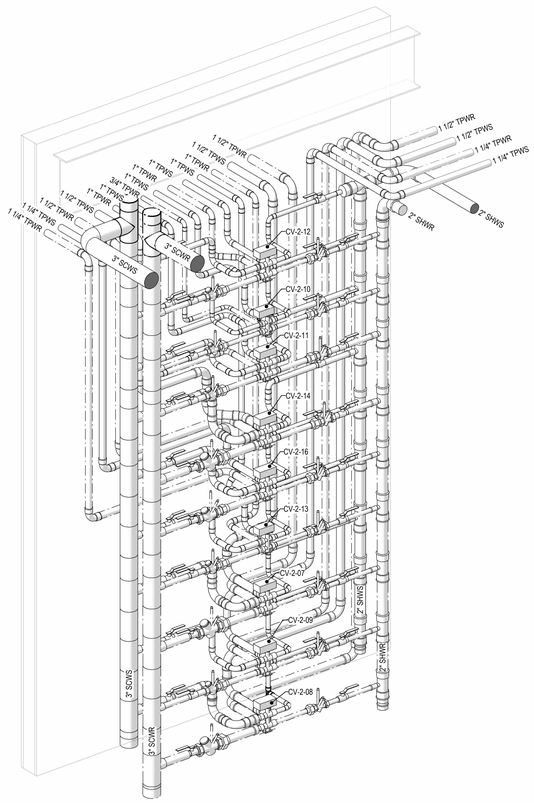
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M301
HVAC DUCT SECTIONS

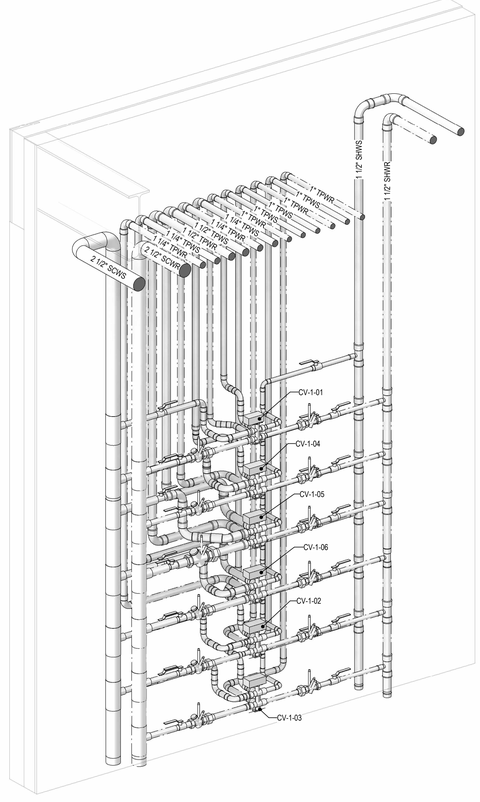
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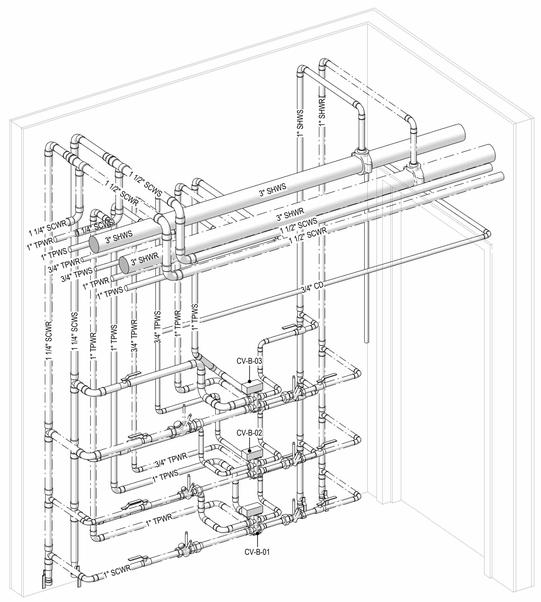
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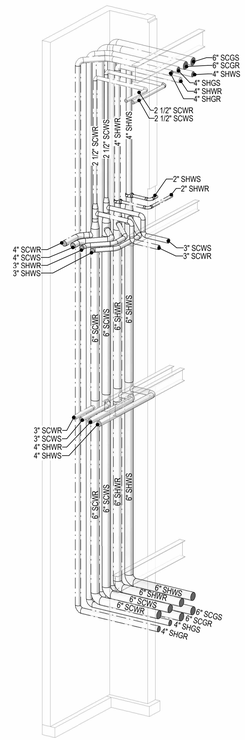
12 M302 VALVE CLOSET 2016A ISOMETRIC



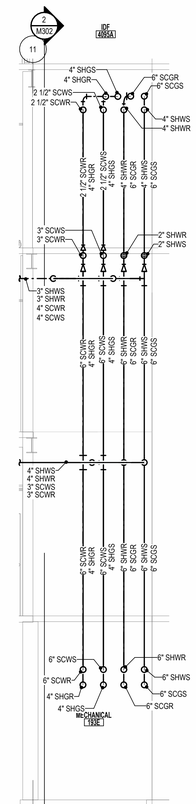
9 M302 VALVE CLOSET 1020 ISOMETRIC



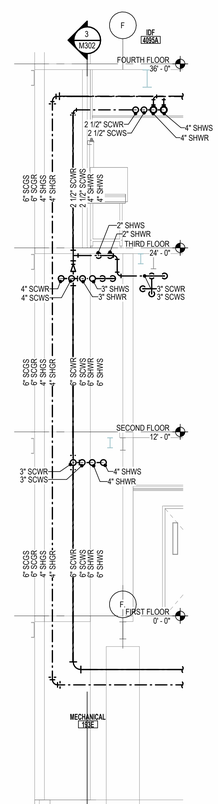
7 M302 VALVE CLOSET 193F ISOMETRIC



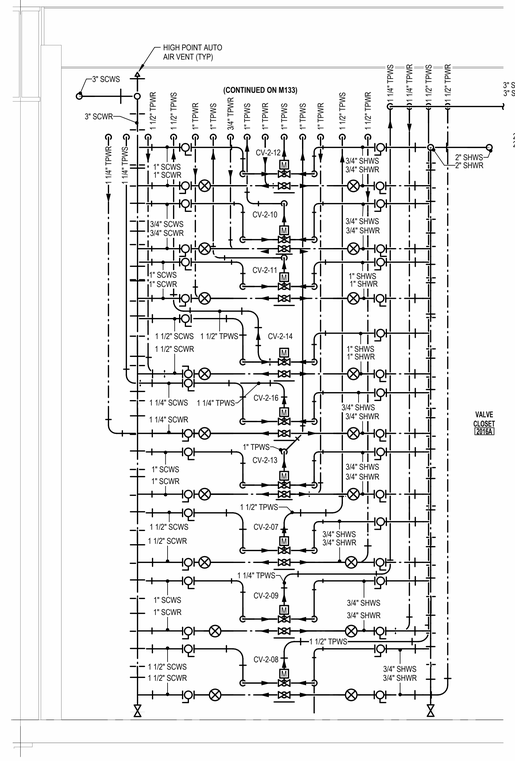
5 M302 RISER ISOMETRIC



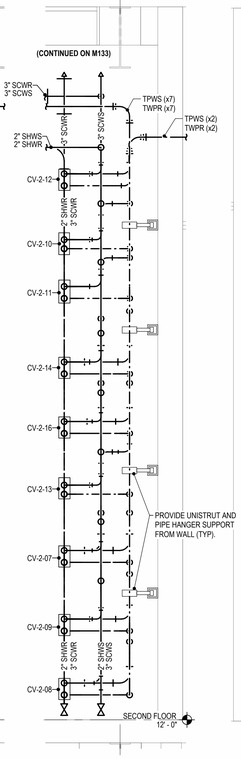
3 M302 RISER NORTH
1/4" = 1'-0"



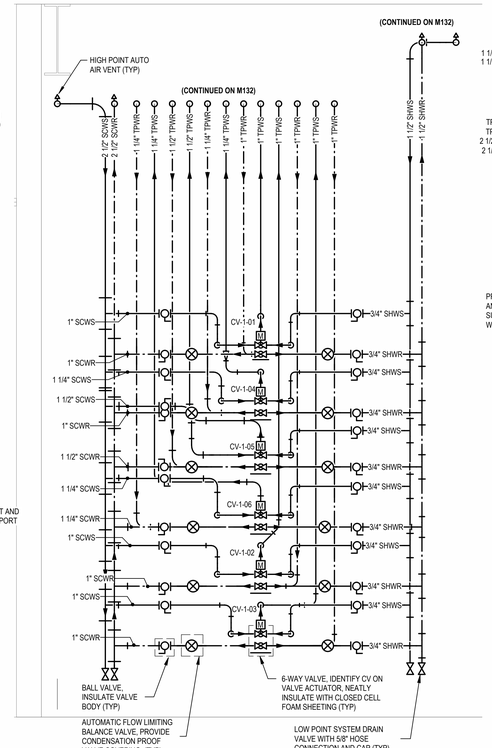
2 M302 RISER EAST
1/4" = 1'-0"



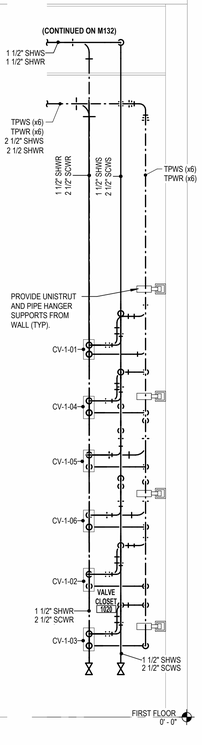
11 M302 VALVE CLOSET 2016A SOUTH ELEVATION
1" = 1'-0"



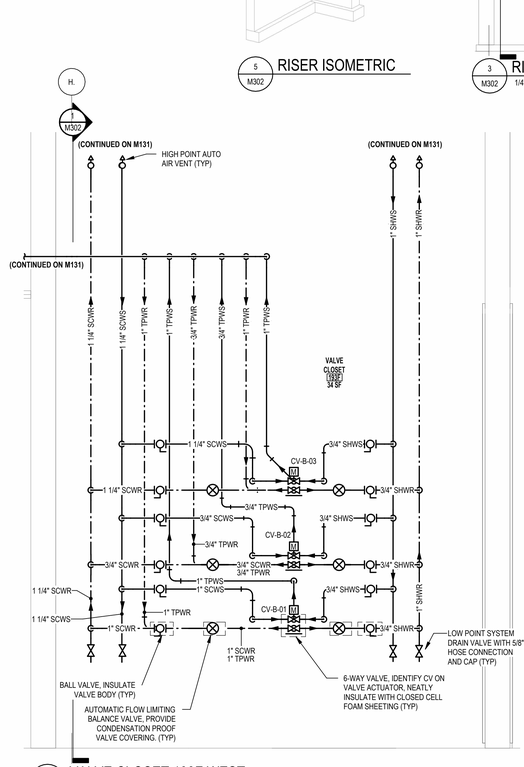
10 M302 VC 2016A WEST
1" = 1'-0"



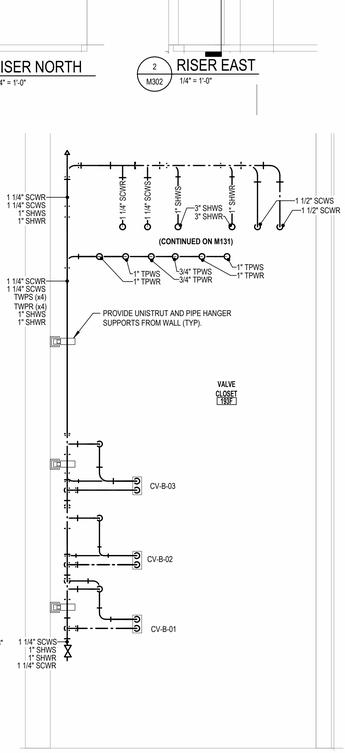
8 M302 VALVE CLOSET 1020 WEST ELEVATION
1" = 1'-0"



6 M302 VC 1020 SOUTH
1" = 1'-0"



4 M302 VALVE CLOSET 193F WEST
1" = 1'-0"



1 M302 VALVE CLOSET 193F NORTH ELEVATION
1" = 1'-0"

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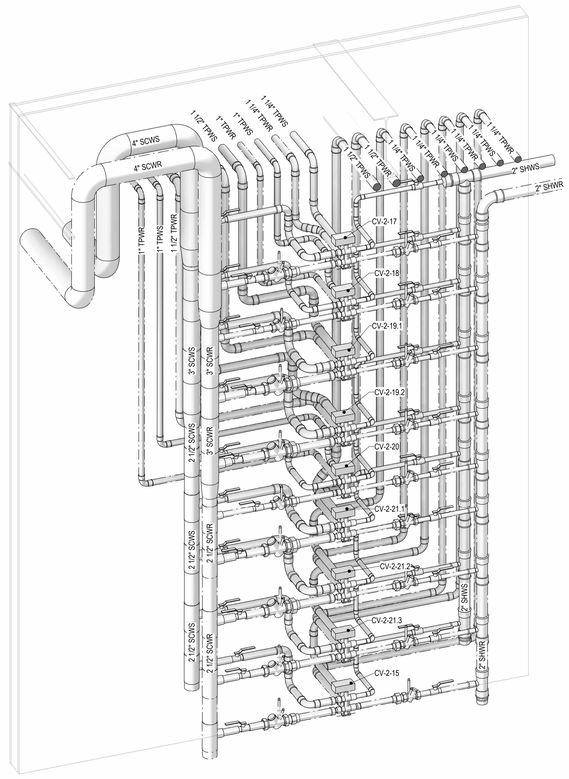
SUNY CORTLAND COREY UNION

M302
HVAC PIPE SECTIONS

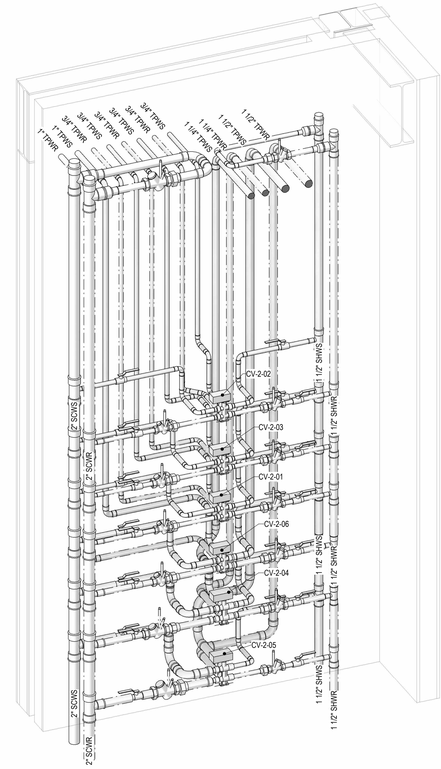
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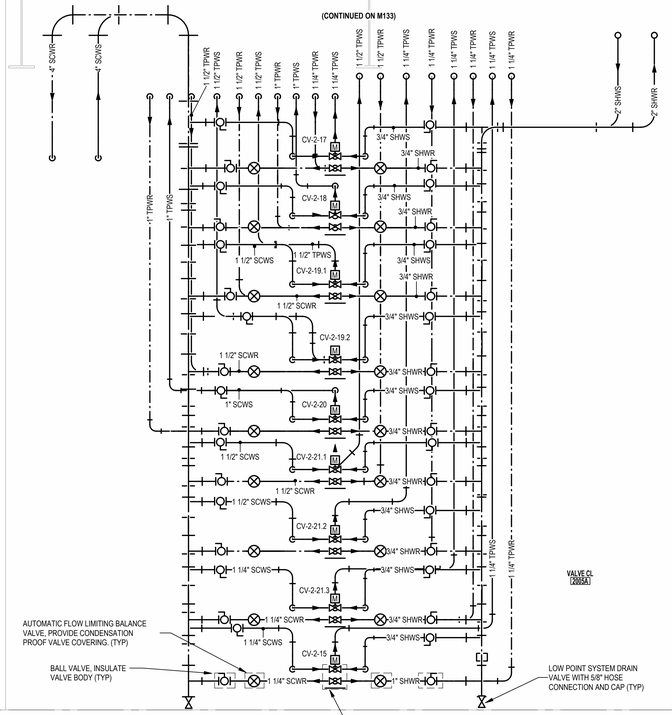
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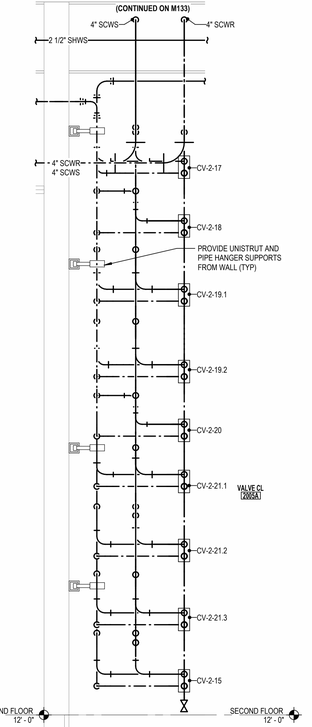
6 M303 VALVE CLOSET 2005A ISOMETRIC



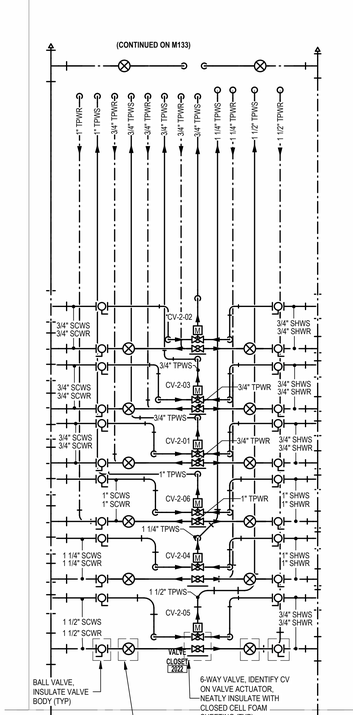
3 M303 VALVE CLOSET 2022 ISOMETRIC



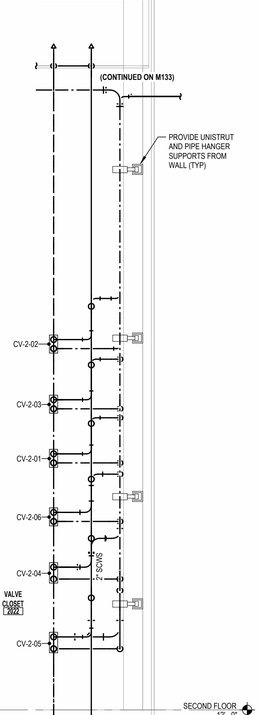
5 M303 VALVE CLOSET 2005A SOUTH ELEVATION 1" = 1'-0"



4 M303 VALVE CLOSET 2005A WEST ELEVATION 1" = 1'-0"



2 M303 VALVE CLOSET 2022 WEST ELEVATION 1" = 1'-0"



1 M303 VALVE CLOSET 2022 SOUTH ELEVATION 1" = 1'-0"

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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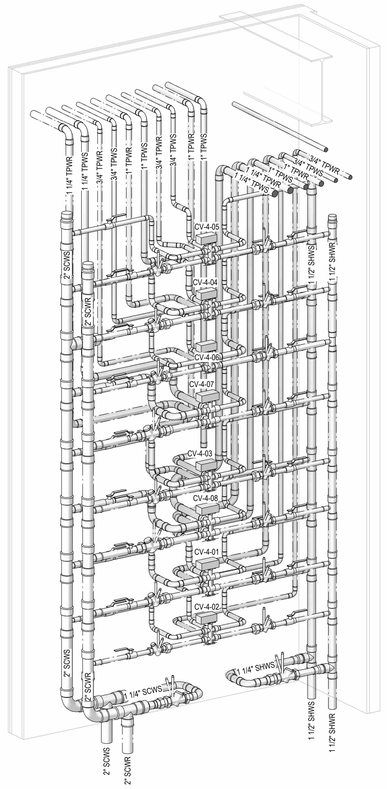
SUNY CORTLAND COREY UNION

M303
HVAC PIPE SECTIONS

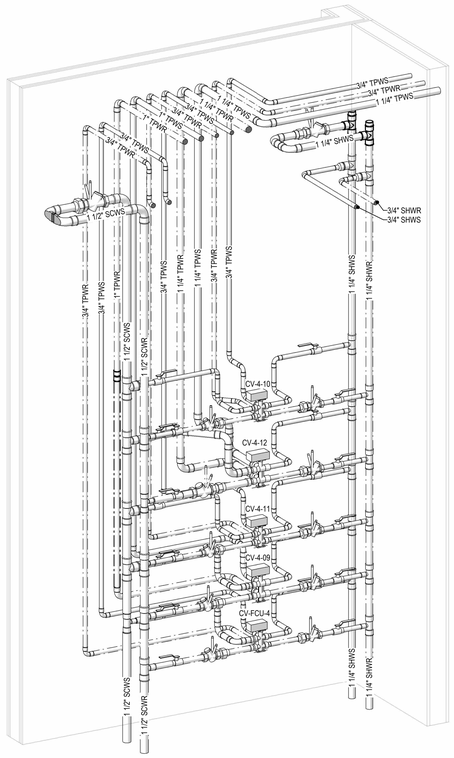
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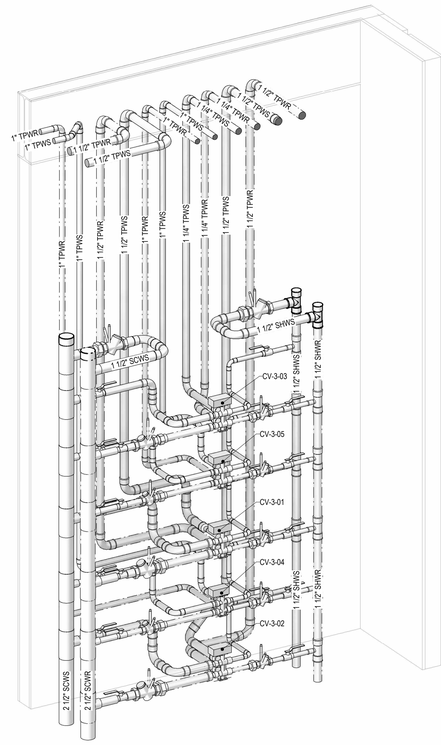
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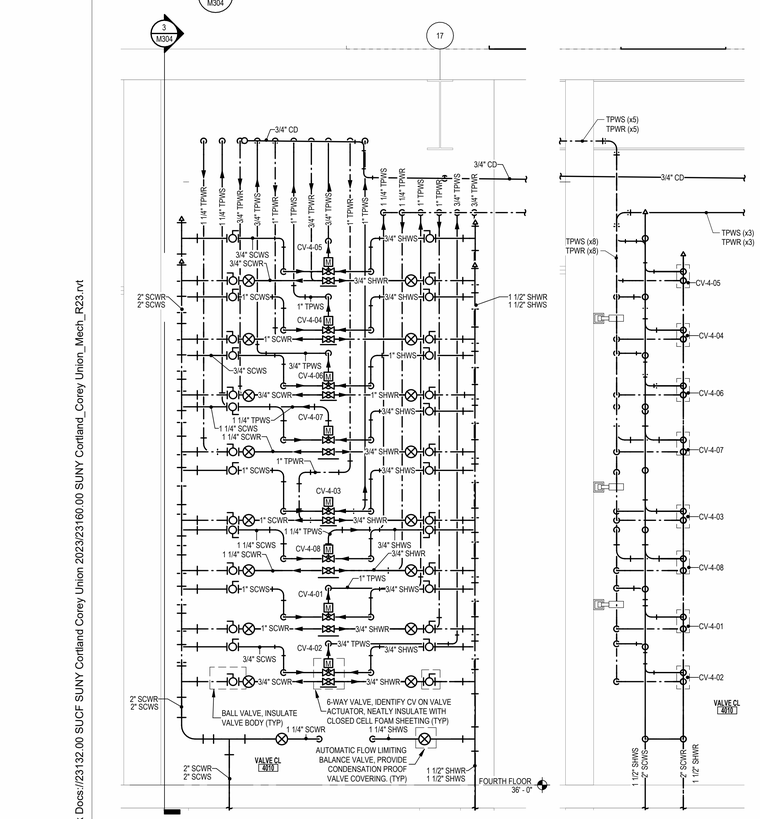
9 M304 VALVE CLOSET 4010 ISOMETRIC



8 M304 VALVE CLOSET 4024 ISOMETRIC

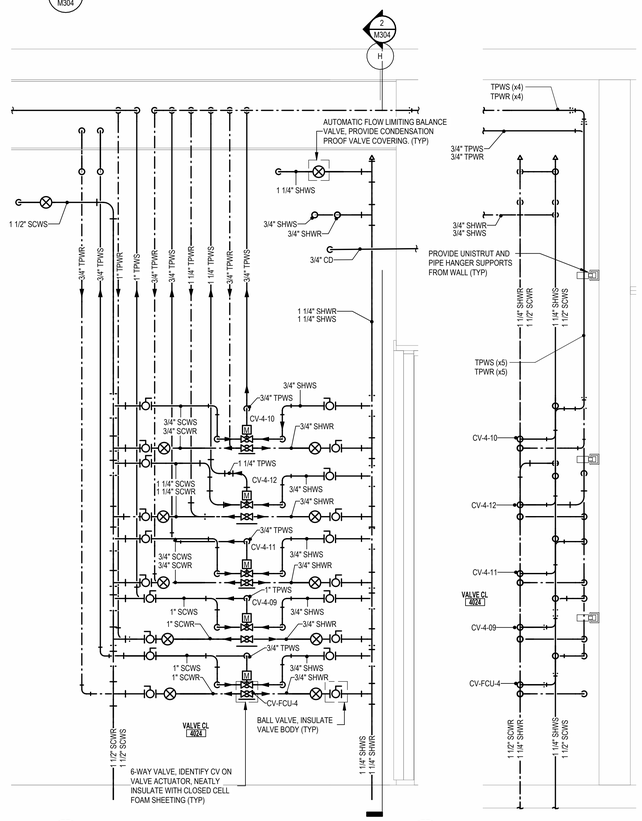


7 M304 VALVE CLOSET 3006B ISOMETRIC



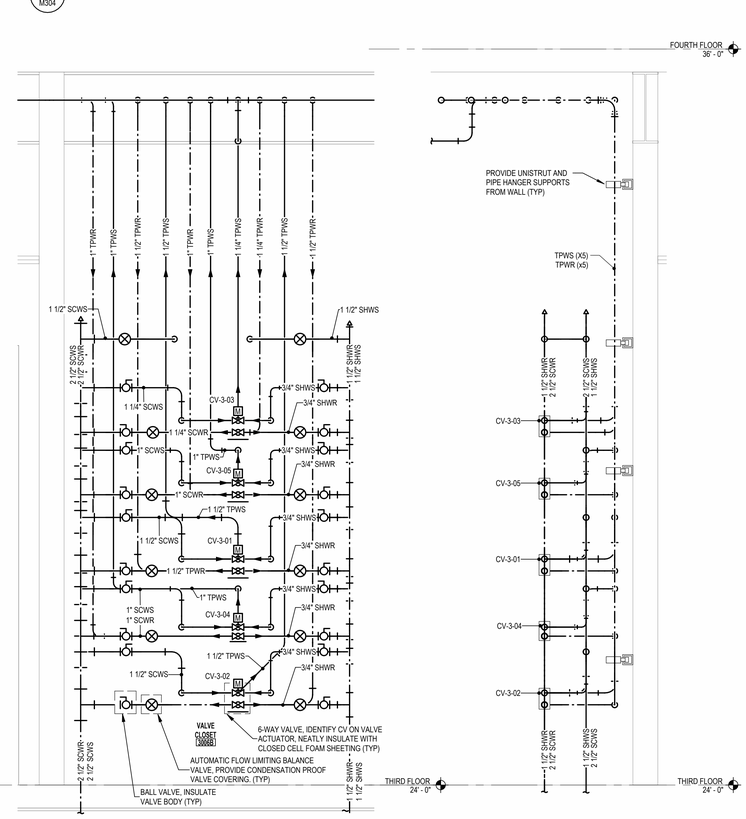
4 M304 VALVE CLOSET 4010 SOUTH ELEVATION
1" = 1'-0"

3 M304 VALVE CLOSET 4010 WEST ELEVATION
1" = 1'-0"



1 M304 VALVE CLOSET 4024 WEST ELEVATION
1" = 1'-0"

2 M304 VALVE CLOSET 4024 SOUTH ELEVATION
1" = 1'-0"



5 M304 VALVE CLOSET 3006B WEST ELEVATION
1" = 1'-0"

6 M304 VALVE CLOSET 3006B SOUTH ELEVATION
1" = 1'-0"

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Checked By:	J.P.
Project Manager:	M.R.

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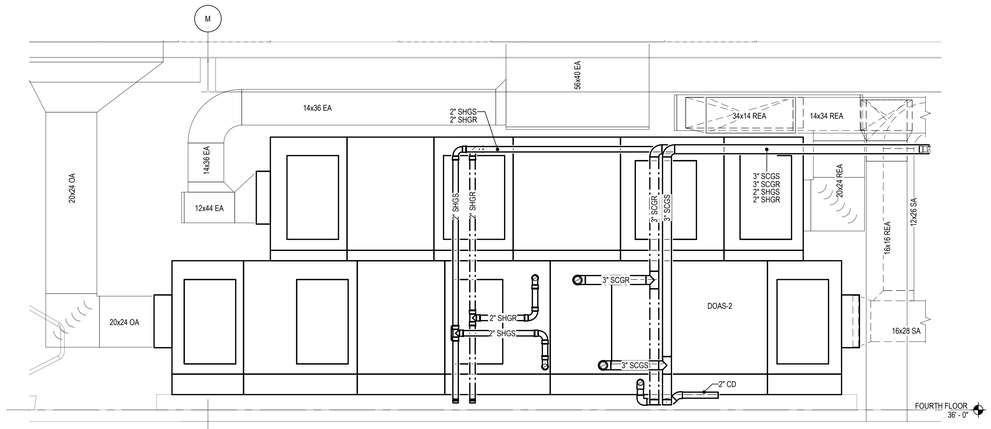
SUNY CORTLAND COREY UNION

M304
HVAC PIPE SECTIONS

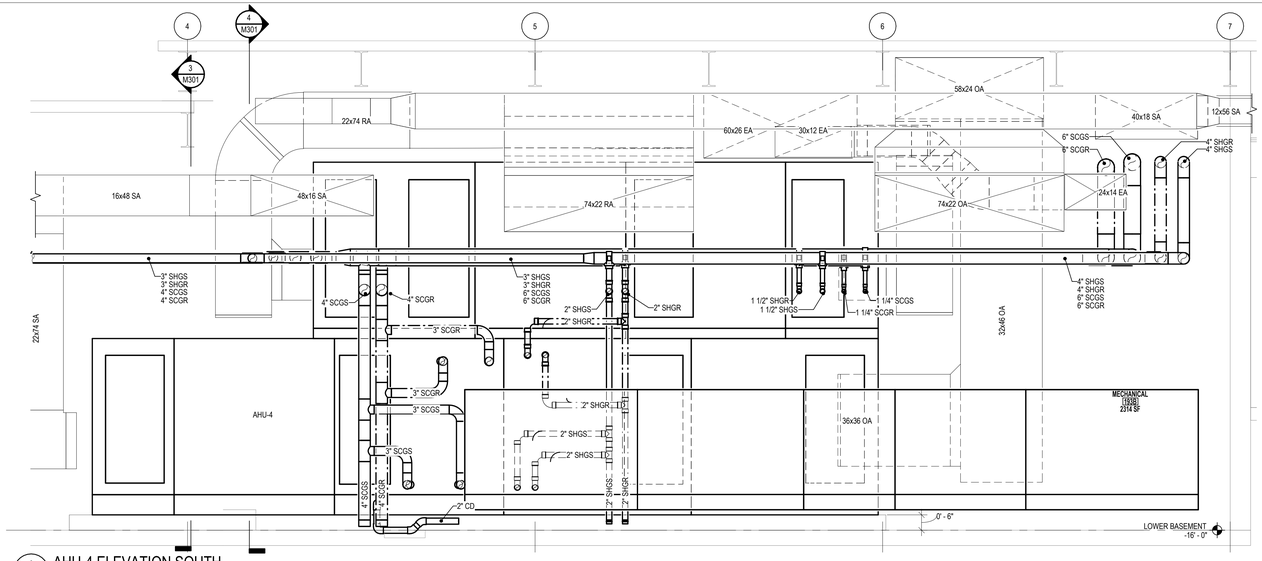
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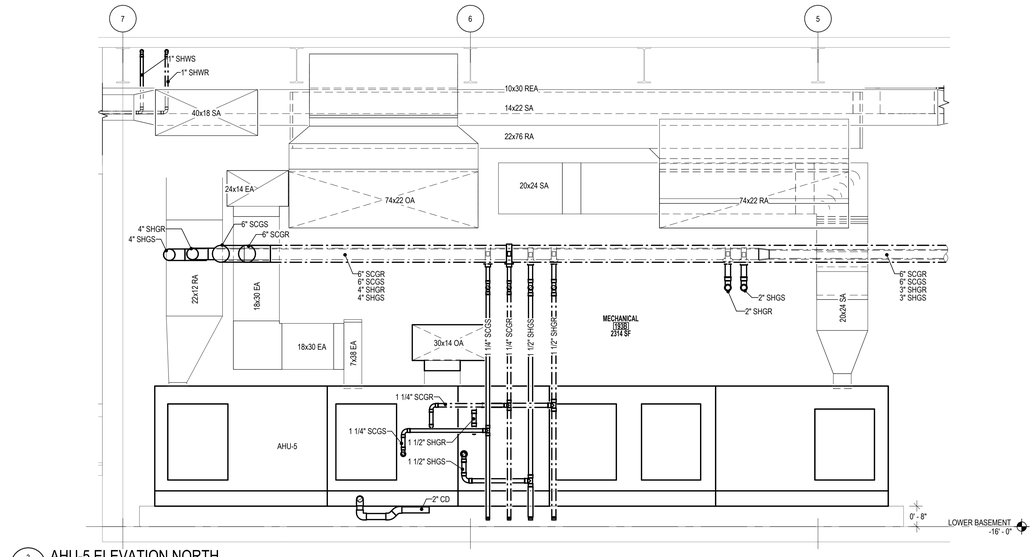
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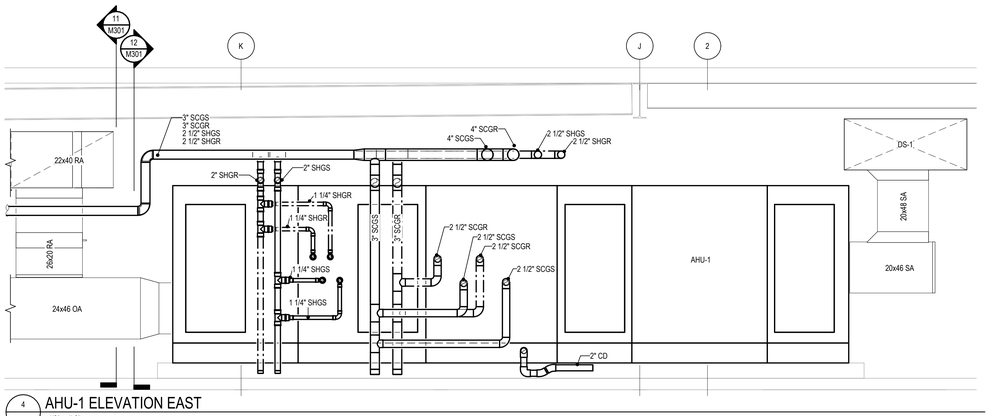
6 M305 DOAS-2 ELEVATION EAST
1/2" = 1'-0"



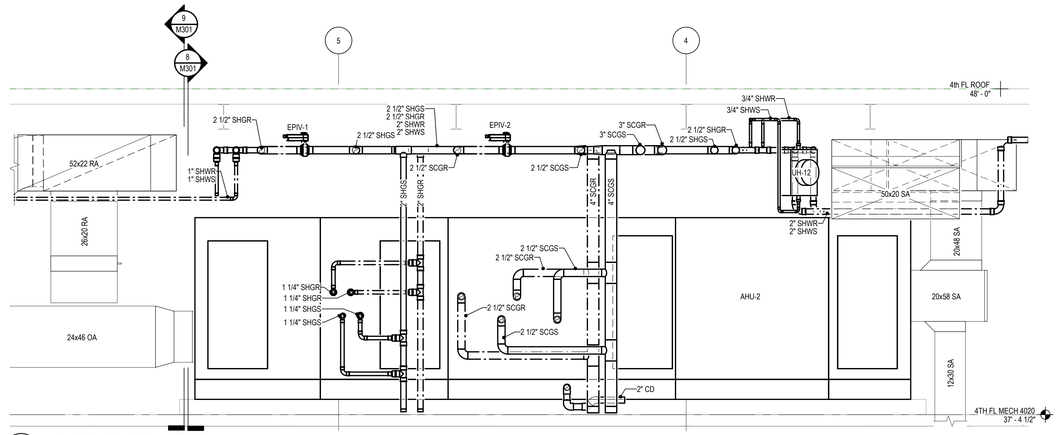
2 M305 AHU-4 ELEVATION SOUTH
1/2" = 1'-0"



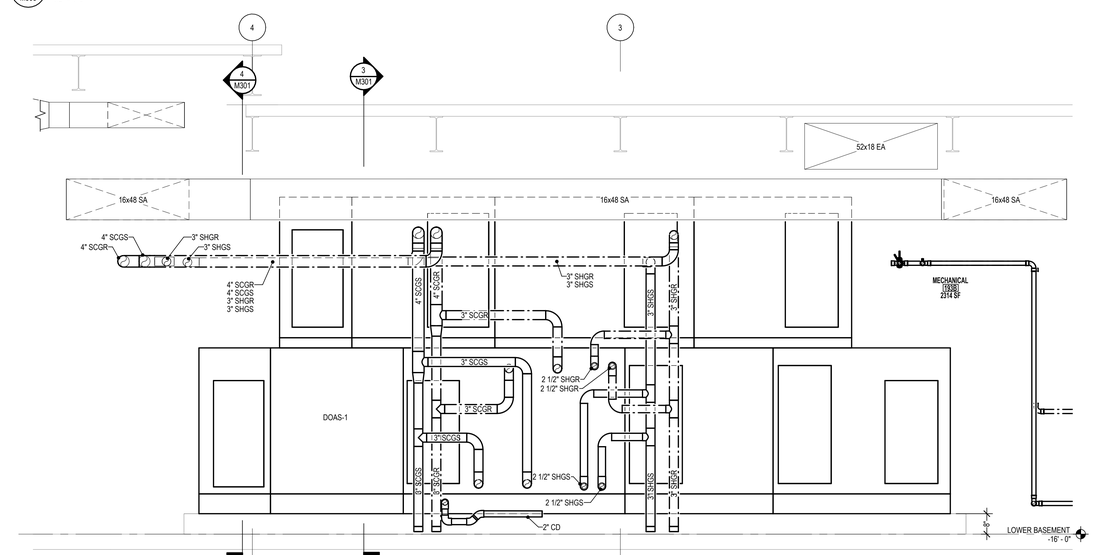
3 M305 AHU-5 ELEVATION NORTH
1/2" = 1'-0"



4 M305 AHU-1 ELEVATION EAST
1/2" = 1'-0"



5 M305 AHU-2 ELEVATION NORTH
1/2" = 1'-0"



1 M305 DOAS-1 ELEVATION NORTH
1/2" = 1'-0"

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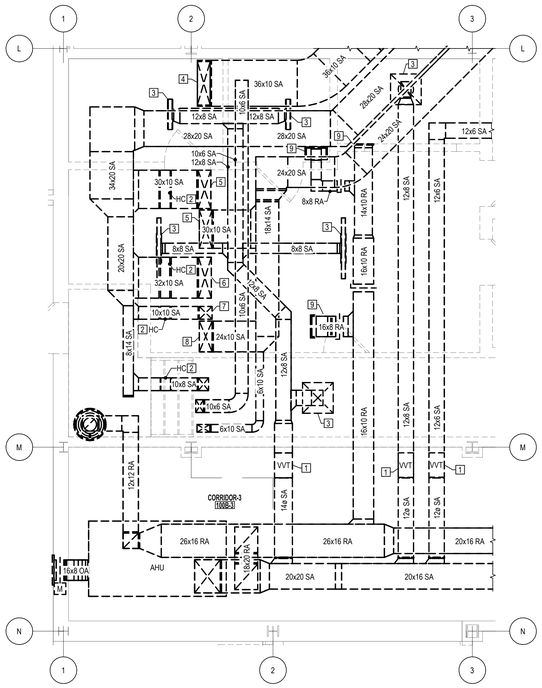
SUNY CORTLAND COREY UNION

M305
HVAC PIPE SECTIONS

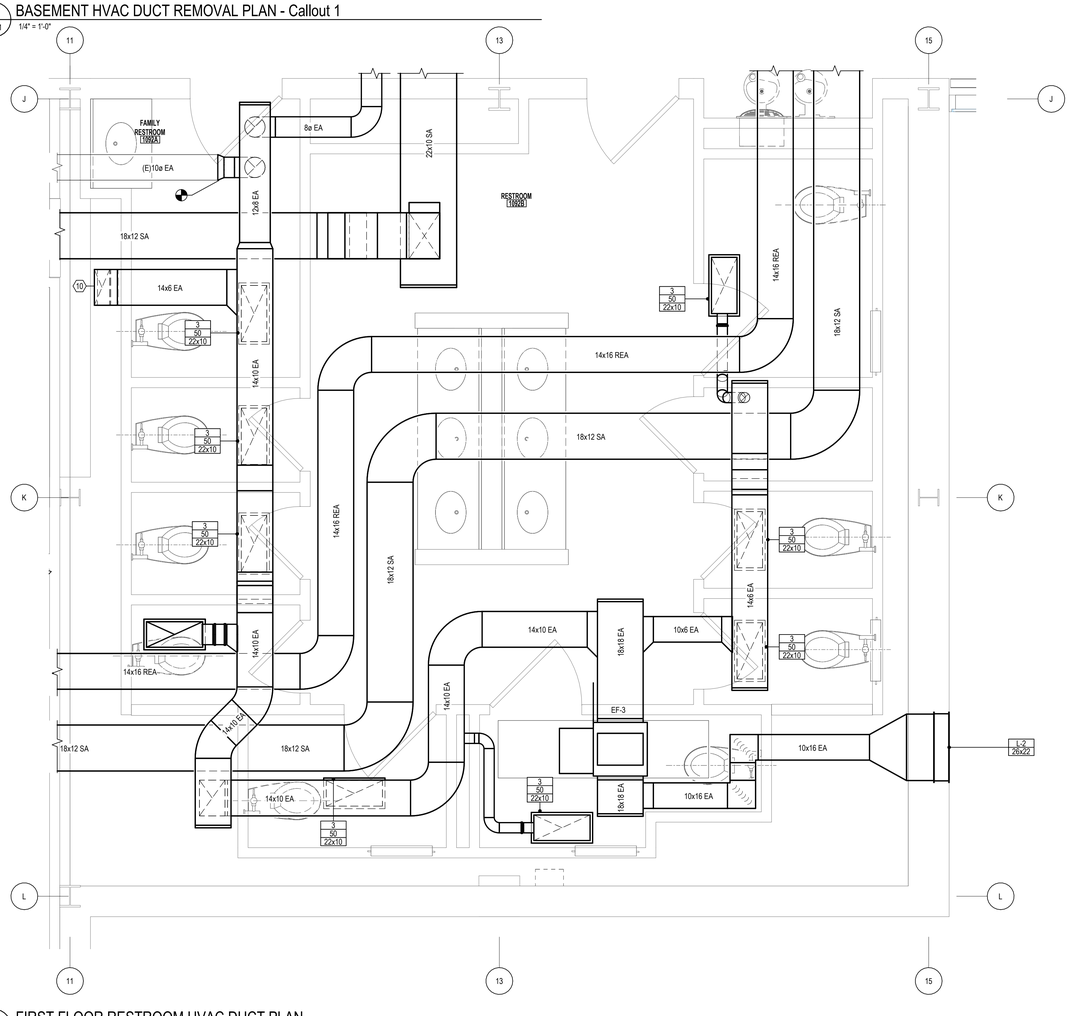
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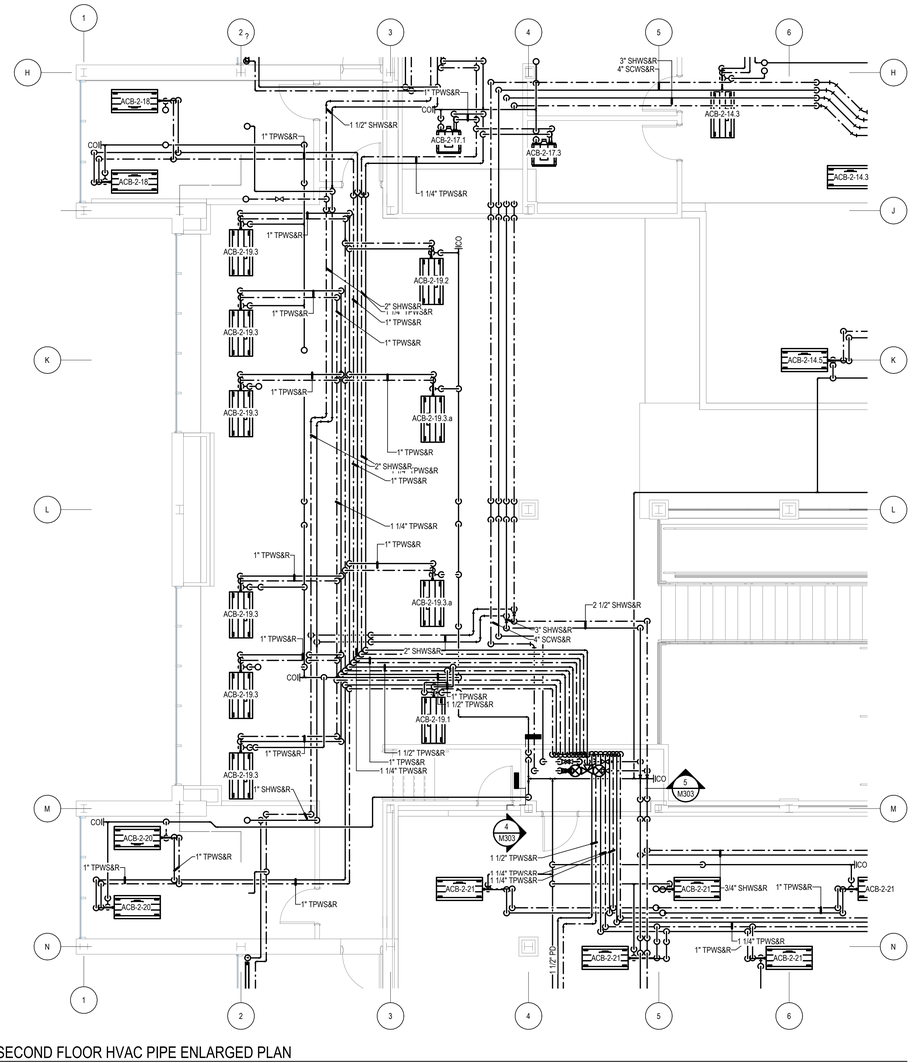
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3 M401 BASEMENT HVAC DUCT REMOVAL PLAN - Callout 1
1/4" = 1'-0"



2 M401 FIRST FLOOR RESTROOM HVAC DUCT PLAN
1/2" = 1'-0"



1 M401 SECOND FLOOR HVAC PIPE ENLARGED PLAN
3/16" = 1'-0"

KEYED NOTES

# 1.	REMOVE VARIABLE VOLUME AND TEMPERATURE ZONE CONTROL BOX AND ASSOCIATED DUCTWORK. TURN VVT BOX AND CONTROLS OVER TO CAMPUS.
# 2.	REMOVE HEATING COIL AND ASSOCIATED DUCTWORK.
# 3.	REMOVE EXISTING SUPPLY GRILLE
# 4.	REMOVE 34x10 SA DUCT UP TO FLOOR ABOVE.
# 5.	REMOVE 30x10 SA DUCT UP TO FLOOR ABOVE.
# 6.	REMOVE 32x10 SUPPLY DUCT UP TO FLOOR ABOVE.
# 7.	REMOVE 10x10 SUPPLY DUCT UP TO FLOOR ABOVE.
# 8.	REMOVE 24x10 SUPPLY DUCT UP TO FLOOR ABOVE.
# 9.	REMOVE RETURN GRILLE.
(#) 10.	DUCT DOWN TO FLOOR BELOW.

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Drawn By:	PDG
Checked By:	J.P.
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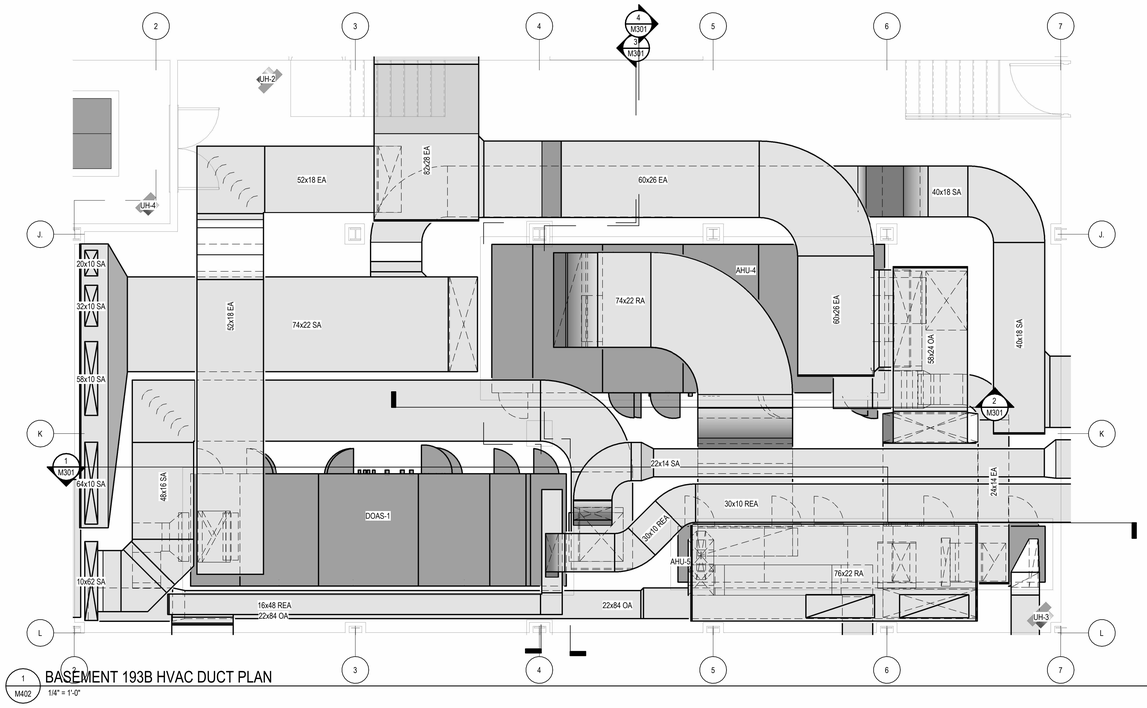
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M401
HVAC ENLARGED PLANS AND ELEVATIONS

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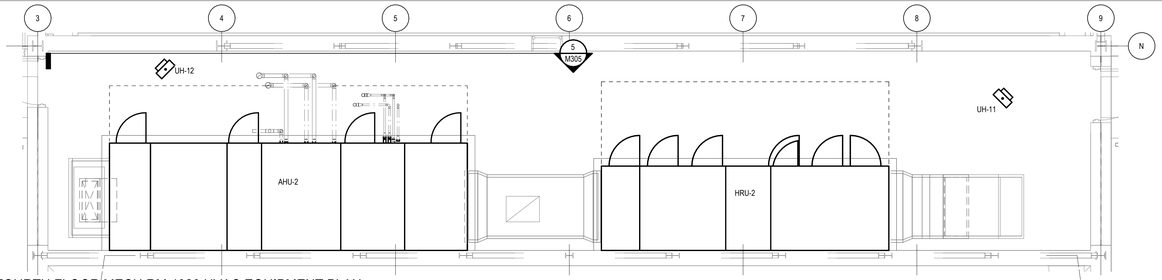
M402

HVAC ENLARGED PLANS AND ELEVATIONS

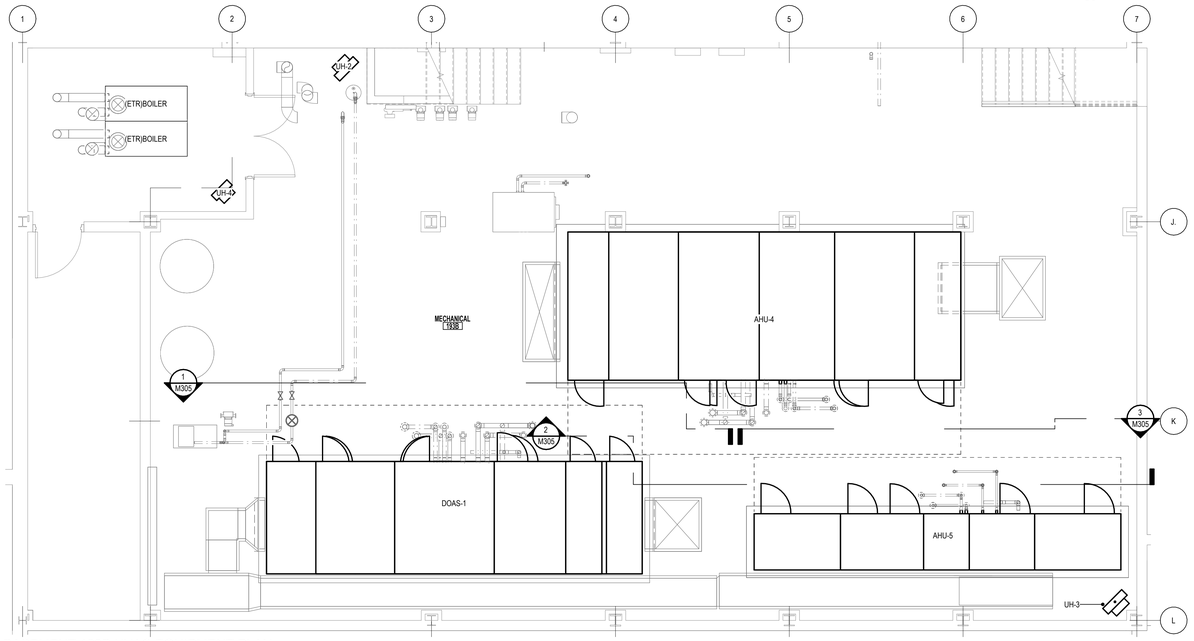
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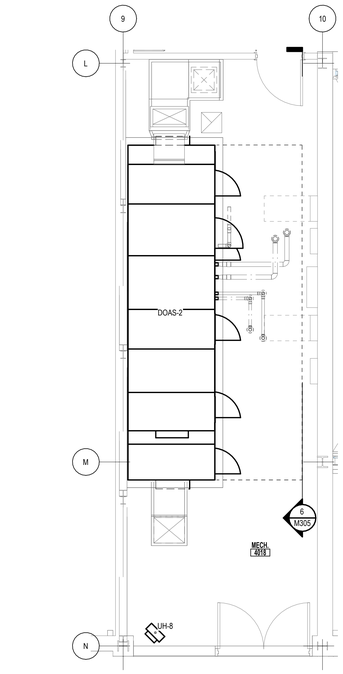
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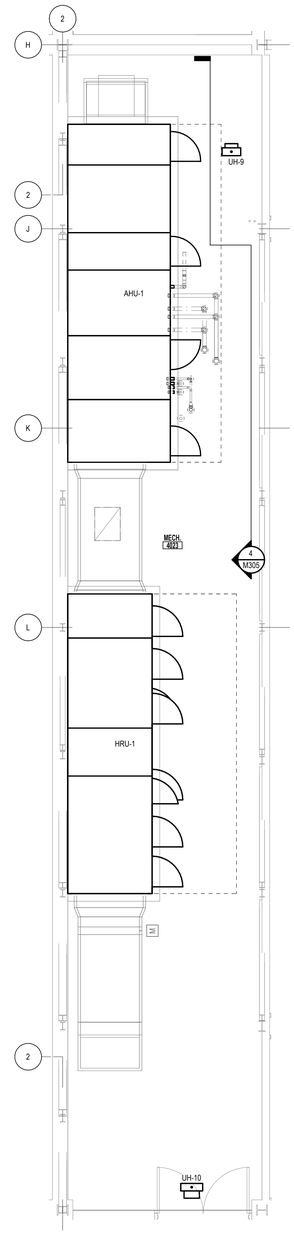
5 M403 FOURTH FLOOR MECH RM 4020 HVAC EQUIPMENT PLAN
1/4" = 1'-0"



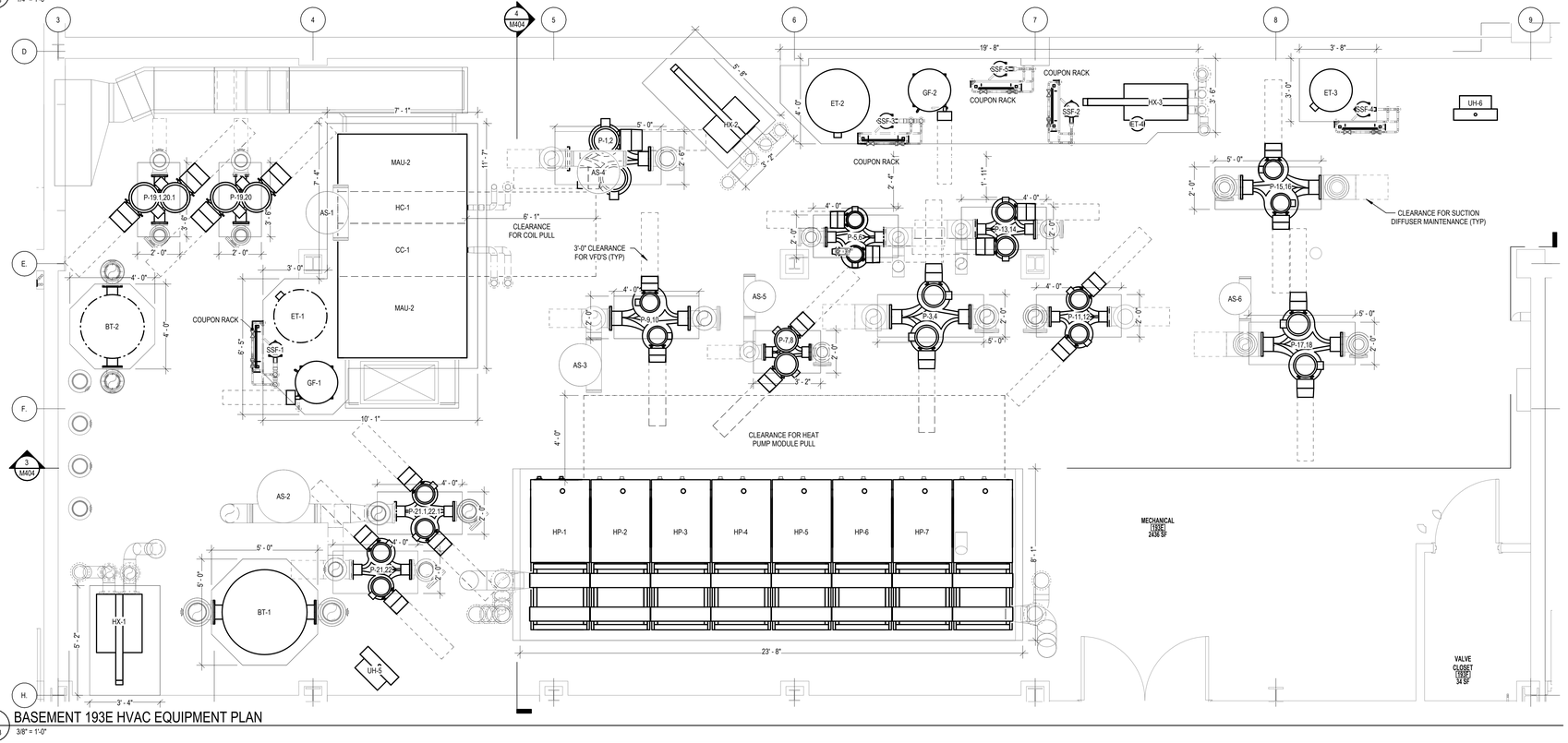
4 M403 BASEMENT 193B HVAC EQUIPMENT PLAN
1/4" = 1'-0"



3 M403 FOURTH FLOOR MECH RM 4018 HVAC EQUIPMENT PLAN
1/4" = 1'-0"



1 M403 FOURTH FLOOR MECH RM 4023 HVAC EQUIPMENT PLAN
1/4" = 1'-0"



2 M403 BASEMENT 193E HVAC EQUIPMENT PLAN
3/8" = 1'-0"

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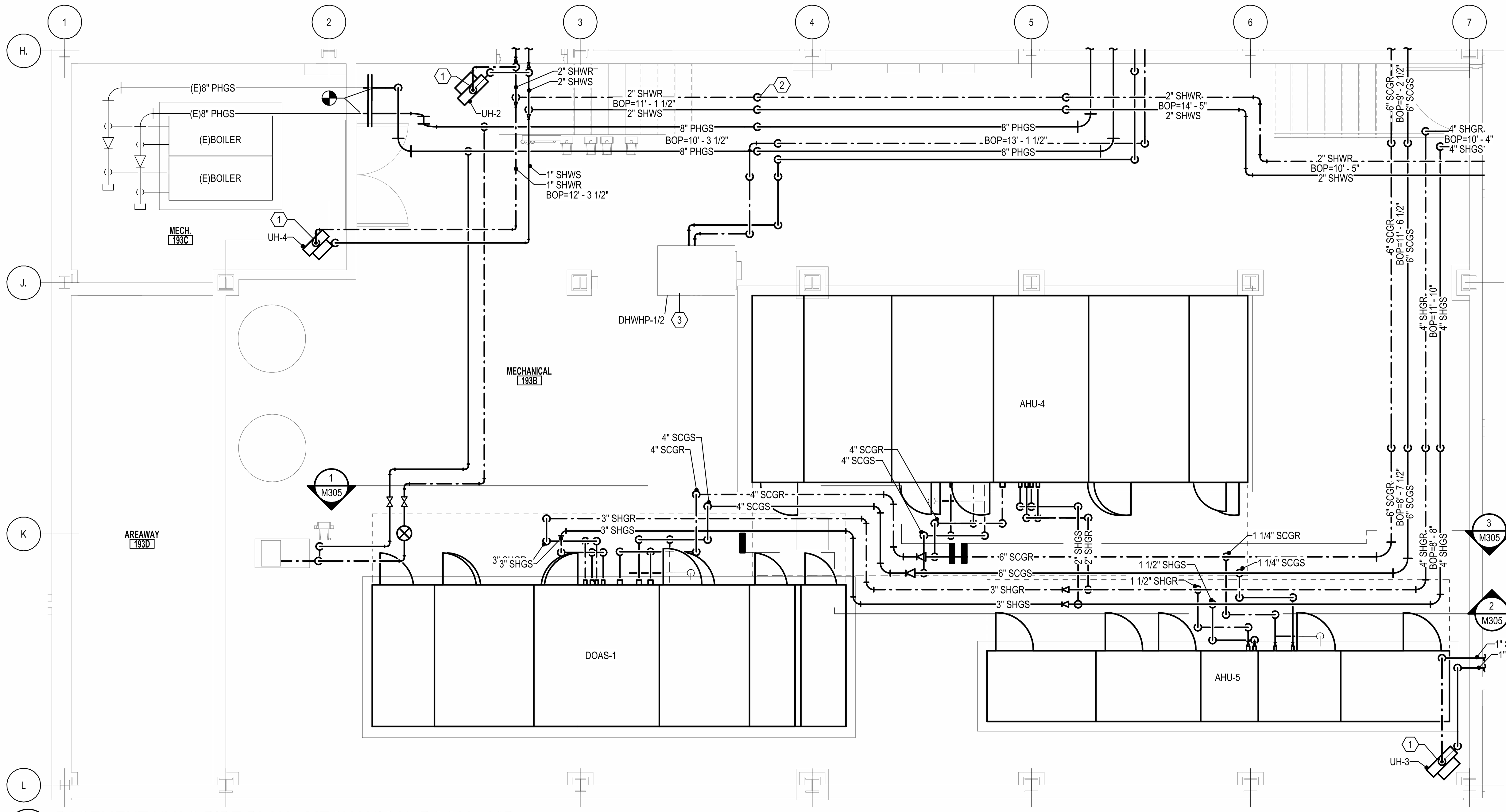
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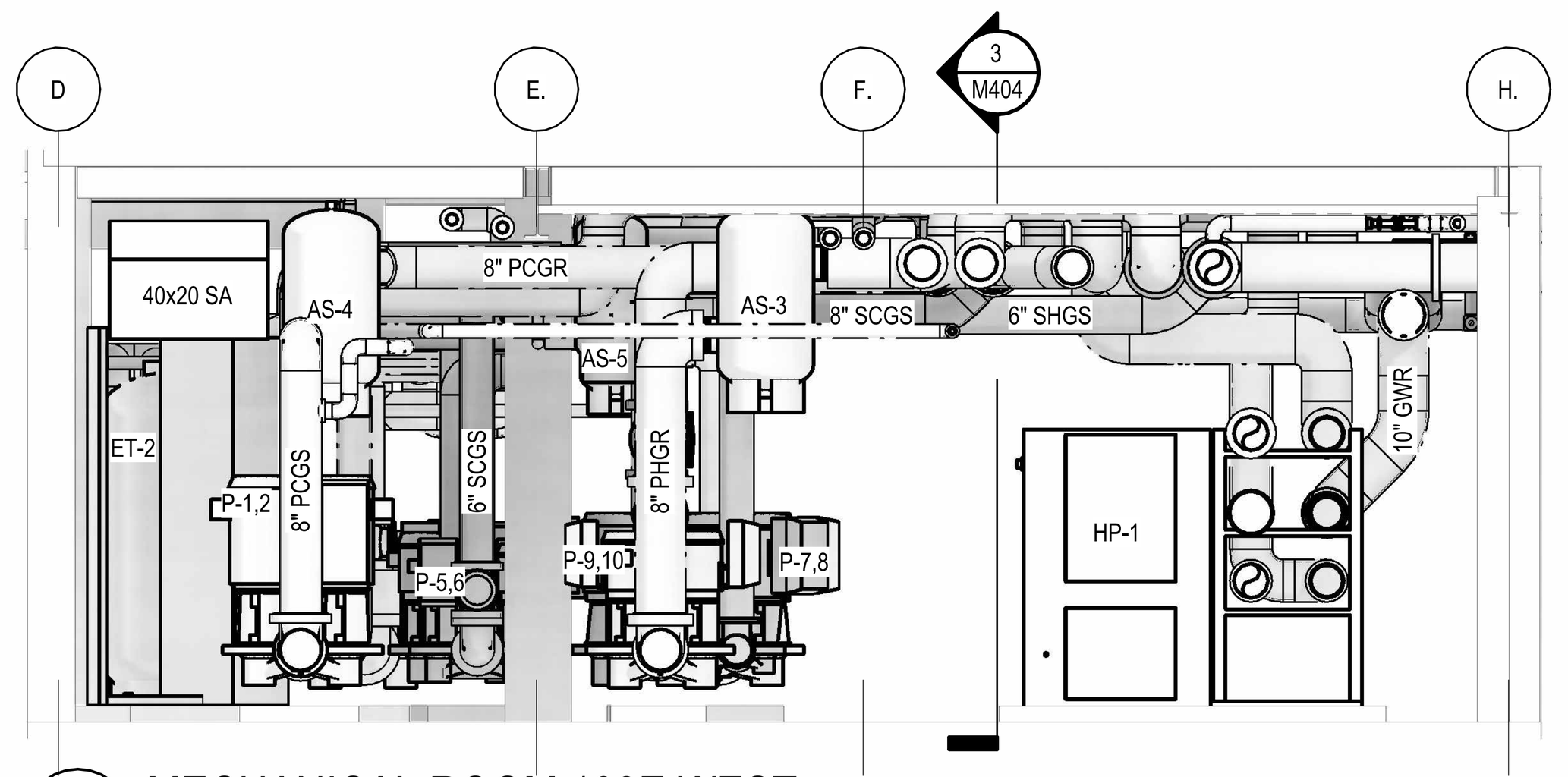
M403
HVAC ENLARGED EQUIPMENT PLAN

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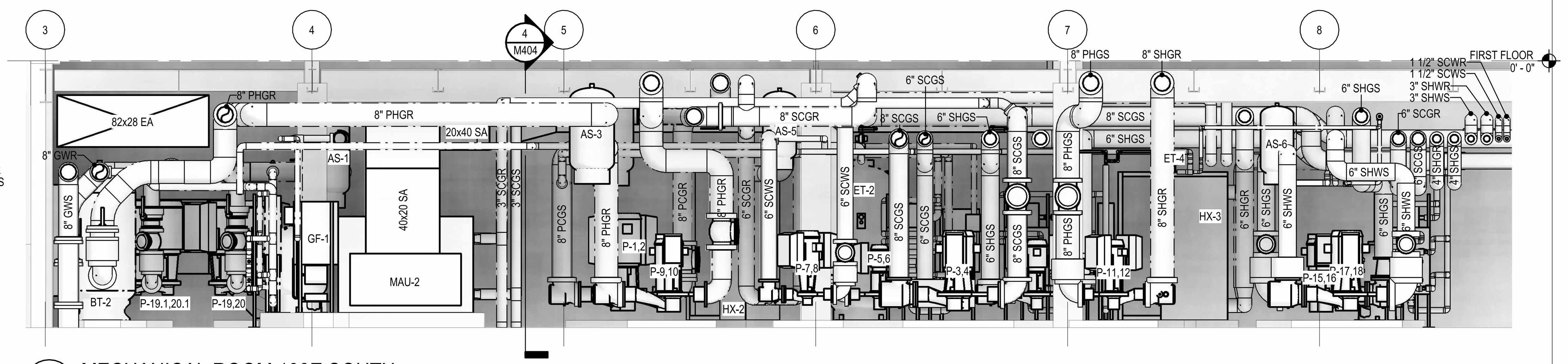
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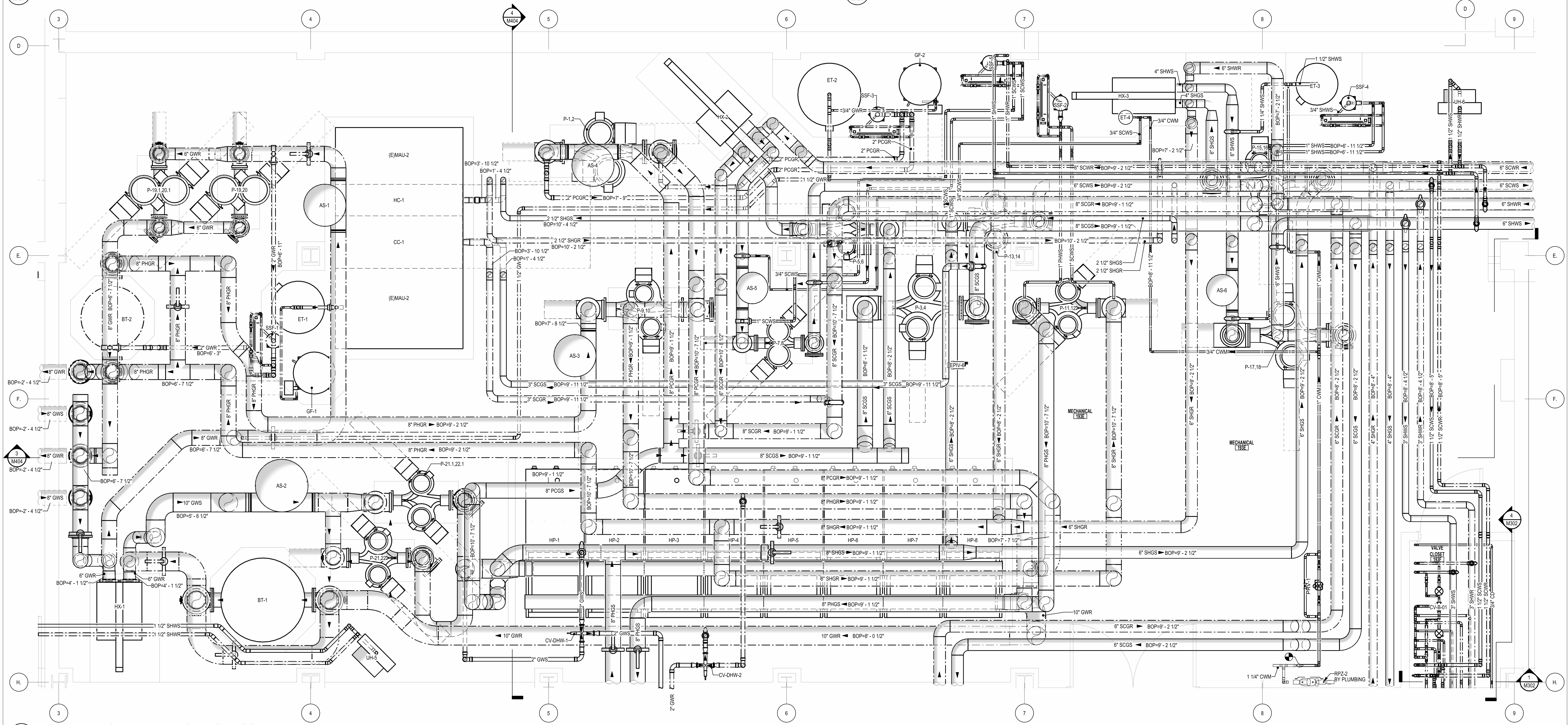
BASEMENT HVAC PIPE PLAN - MECHANICAL ROOM 193B
2 M404 1/4" = 1'-0"



MECHANICAL ROOM 193E WEST
4 M404 1/4" = 1'-0"



MECHANICAL ROOM 193E SOUTH
3 M404 1/4" = 1'-0"



BASEMENT HVAC PIPE PLAN - MECHANICAL ROOM PIPE PLAN
1 M404 1/2" = 1'-0"

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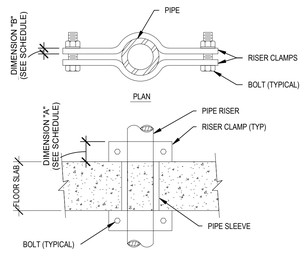
SUNY CORTLAND COREY UNION

M404
HVAC ENLARGED MECHANICAL ROOM PLANS

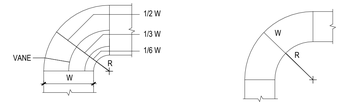
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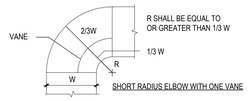
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ANCHORS FOR PIPE RISERS		
PIPE SIZE	BOLT DIA.	RISER CLAMP DIMENSIONS A x B
1/2" THRU 1"	3/8"	1 1/4" x 3/16"
1 1/4" THRU 3"	3/8"	1 1/4" x 1/4"
4"	1/2"	1 1/2" x 1/4"
5" & 6"	1/2"	2" x 1/4"
8"	5/8"	2" x 3/8"
10"	5/8"	2" x 1/2"



13 M501 ANCHORS FOR PIPE RISERS DETAIL
NOT TO SCALE

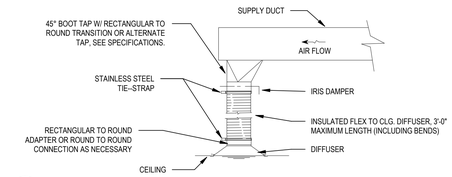


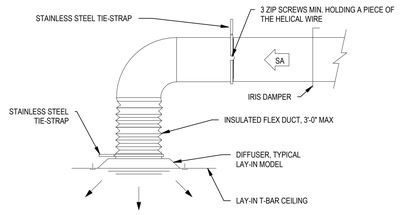


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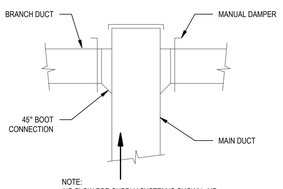
1. MAKE THE INTERIOR SURFACE OF ALL RADIUS ELBOWS ROUND.
2. MAKE ALL STANDARD RADIUS ELBOWS SHOWN ON PLANS SHORT RADIUS ELBOWS. ALL SHORT RADIUS ELBOWS HAVE VANES, AND VANES ARE CONSTRUCTED, SUPPORTED AND FASTENED IN ACCORDANCE WITH SMACNA.

8 M501 TYPICAL RADIUS ELBOWS
NOT TO SCALE



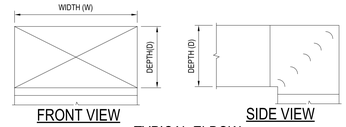


18 M501 TYPICAL DIFFUSER INSTALLATION DETAIL
NOT TO SCALE

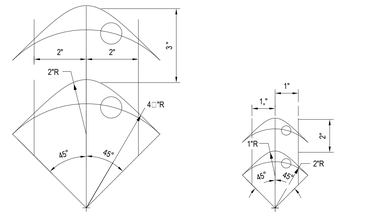


7 M501 BRANCH DUCT CONNECTION
NOT TO SCALE

NOTE:
AIR FLOW FOR SUPPLY SYSTEM IS SHOWN. AIR FLOW FOR EXHAUST SYSTEM IS OPPOSITE.



TYPICAL ELBOW



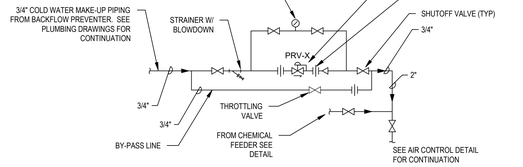
LARGE DOUBLE VANE ELBOW: USE FOR ELBOWS 36" OR WIDER, AND ANY DEPTH

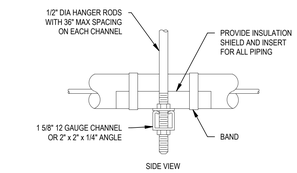
SMALL DOUBLE VANE ELBOW: USE FOR ELBOWS UP TO 36" IN WIDTH, AND/OR DEPTH

NOTES:

1. ALL SQUARE OR RECTANGULAR ELBOWS SHALL HAVE ONE OF THE TWO TYPES OF TURNING VANES SHOWN ABOVE. SINGLE VANE ELBOWS SHALL NOT BE PERMITTED.
2. CONSTRUCT, SUPPORT, AND FASTEN ALL VANES AS RECOMMENDED BY SMACNA.
3. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR EXHAUST OR RETURN DUCT MAY BE MADE RADIUS ELBOWS, PROVIDED THAT SPACE PERMITS RADIUS INSTALLATION.
4. ALL SQUARE OR RECTANGULAR ELBOWS SHOWN ON PLANS FOR SUPPLY DUCT MAY BE MADE RADIUS ELBOWS, PROVIDED THAT SPACE PERMITS RADIUS INSTALLATION AND/OR THERE IS NO OUTLET OR TAKE-OFF WITHIN 5D ON THE DOWNSTREAM SIDE OF THE ELBOW.

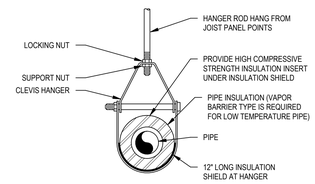
3 M501 SQUARE OR RECTANGULAR ELBOWS
NOT TO SCALE

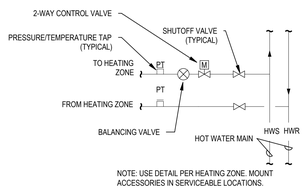




17 M501 TRAPEZE HANGER DETAIL
NOT TO SCALE

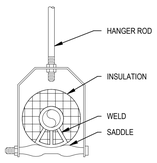
12 M501 MAKEUP WATER DETAIL
NOT TO SCALE



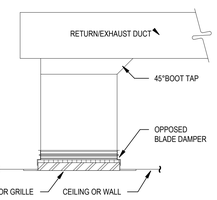


16 M501 CLEVIS HANGER DETAIL
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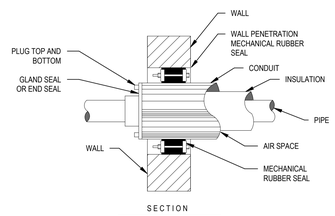
11 M501 HEATING ZONE BRANCH PIPING DETAIL
NOT TO SCALE



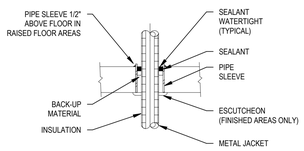
15 M501 ADJUSTABLE ROLLER HANGER
NOT TO SCALE



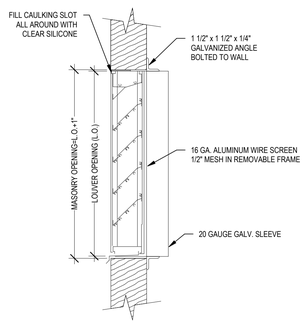
10 M501 REGISTER OF GRILLE CONNECTION DETAIL
NOT TO SCALE



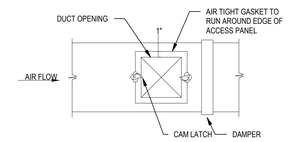
14 M501 BUILDING WALL PENETRATION DETAIL
NOT TO SCALE



9 M501 PIPE SLEEVE DETAIL THRU RAISED FLOOR
NOT TO SCALE



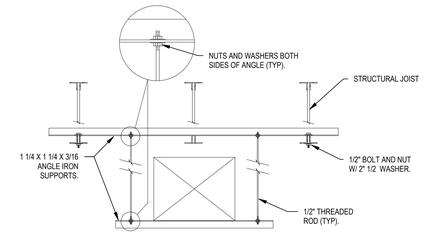
4 M501 TYPICAL LOUVER DETAIL
NOT TO SCALE



ACCESS PANEL SIZE SCHEDULE	
DUCT SIZE	ACCESS PANEL SIZE
6" TO 15"	10" W x (DAMPER DEPTH-2") D
15" TO 21"	12" W x (DAMPER DEPTH-2") D
21" AND ABOVE	18" W x (DAMPER DEPTH-2") D

ALL OTHER ACCESS PANELS TO BE A MINIMUM OF 15" x 15" WHERE DUCT SIZE ALLOWS. USE FOUR CAM LATCHES ON PANELS LARGER THAN 18" x 18" SIZE.

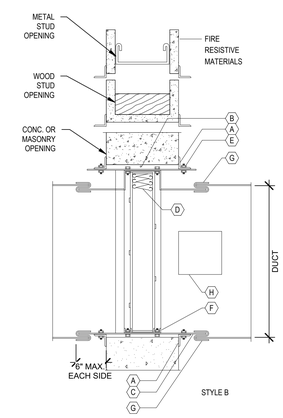
5 M501 ACCESS PANEL DETAIL
NOT TO SCALE



2 M501 TYPICAL DUCT HANGER DETAIL
NOT TO SCALE

KEYNOTES

A. RETAINING ANGLE: SHALL BE MINIMUM OF 1 1/2"x1 1/2"x14 GA. FASTEN TO SLEEVE ONLY WITH 1/4" DIA. BOLTS & NUTS ON 8" CENTERS & WITH MINIMUM OF TWO CONNECTIONS IN EACH SIDE. RETAINING ANGLES SHALL OVERLAP WALL A MINIMUM OF ONE INCH ON ALL FOUR SIDES.
B. CLEARANCE: OPENINGS IN WALL OR FL. SHALL BE 1/8" PER FOOT LARGER THAN DAMPER DIMENSIONS (3/16" FOR STAIN-LESS STEEL) MINIMUM CLEARANCE OF 1/4" REQUIRED IN BOTH DIRECTIONS.
C. STEEL SLEEVE: 14 GAGE WITH BREAKAWAY CONNECTIONS.
D. FIRE DAMPER: UL BLADE TYPE.
E. BOLTS AND NUTS: SECURE RETAINING ANGLES TO SLEEVE ONLY ON 8" CENTERS WITH 1/4" DIAMETER. BOLTS & NUTS AND WITH A MINIMUM OF TWO CONNECTIONS IN EACH SIDE.
F. SECURE DAMPER TO SLEEVE ON SAME SPACING AS ANGLES AS RECOMMENDED BY SMACNA.
G. BREAKAWAY CONNECTIONS: PROVIDE BREAKAWAY CONNECTIONS AT JOINTS BETWEEN DUCTS AND SLEEVE PER SMACNA RECOMMENDATIONS.
H. ACCESS DOOR: TO BE MINIMUM 12"x12", OR AS LARGE AS REQUIRED FOR FIRE DAMPER ACCESS.
I. INSTALL AND TEST DAMPER PER MANUFACTURER REQUIREMENTS. PERFORM THE UL555/UL555s TEST PER MANUFACTURER REQUIREMENTS.



1 M501 FIRE DAMPER IN RECTANGULAR DUCT
NOT TO SCALE

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STATE OF NEW YORK · DANIEL LACCETTI · 109560 · LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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SWBR Project Number 23160.00

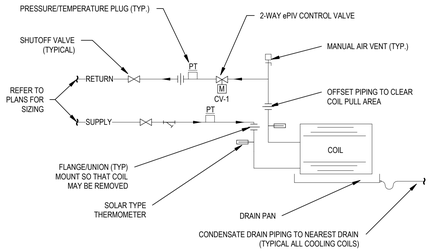
SUNY CORTLAND COREY UNION

M501
HVAC DETAILS

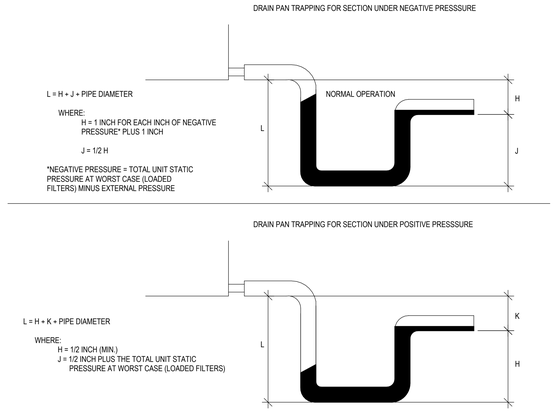
NOVEMBER 16, 2026
BID DOCUMENTS

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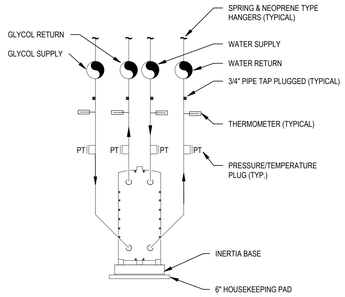
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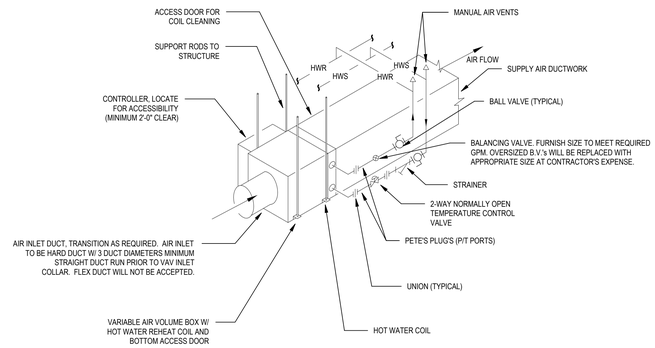
14 M502 AHU AND DOAS COIL PIPING DETAIL
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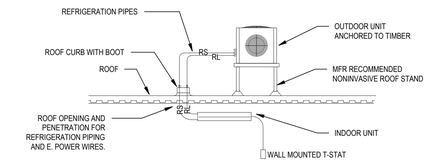
10 M502 COOLING COIL CONDENSATE TRAP DETAIL
NOT TO SCALE



7 M502 PLATE & FRAME HEAT EXCHANGER DETAIL
NOT TO SCALE

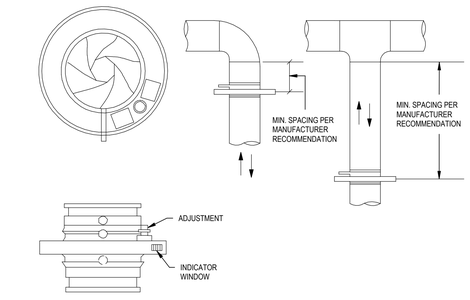


4 M502 VAV REHEAT BOX WITH 2-WAY VALVE
NOT TO SCALE

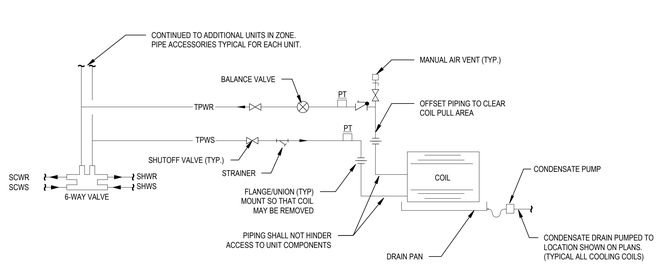


NOTE: INDOOR TO BE MOUNTED INSIDE OF ELEVATOR SHAFT, PER ELEVATOR CONSULTANT. COORDINATE WITH ARCHITECT AND ELEVATOR CONSULTANT BEFORE INSTALLING INDOOR UNIT.

3 M502 ELEVATOR SHAFT SPLIT SYSTEM
NOT TO SCALE

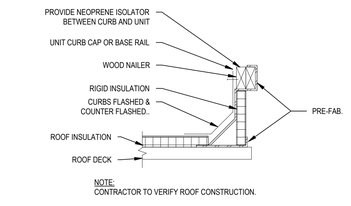


12 M502 IRIS DAMPER
12" = 1'-0"



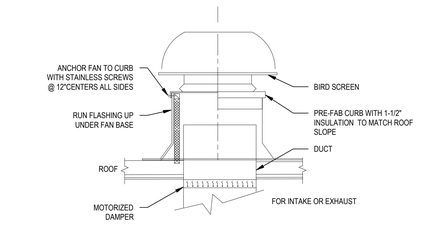
NOTE: PIPING ACCESSORIES SHALL BE MOUNTED IN SERVICEABLE LOCATIONS.SEE FLOOR PLANS FOR SIZES, SEE VALVE CLOSET SECTIONS FOR 6 WAY VALVE DETAIL

9 M502 CHILLED BEAM COIL PIPING DETAIL (6-WAY CONTROL VALVE)
NOT TO SCALE

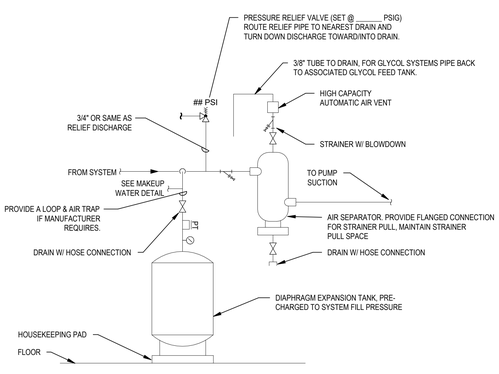


NOTE:
CONTRACTOR TO VERIFY ROOF CONSTRUCTION.

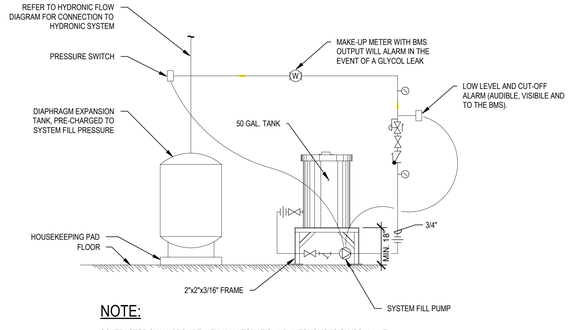
6 M502 TYPICAL ROOF CURB INSTALLATION DETAIL
NOT TO SCALE



2 M502 STATIONARY ROOF VENTILATOR DETAIL
NOT TO SCALE



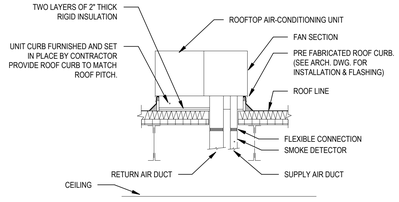
11 M502 AIR CONTROL FOR CLOSED SYSTEMS
NOT TO SCALE



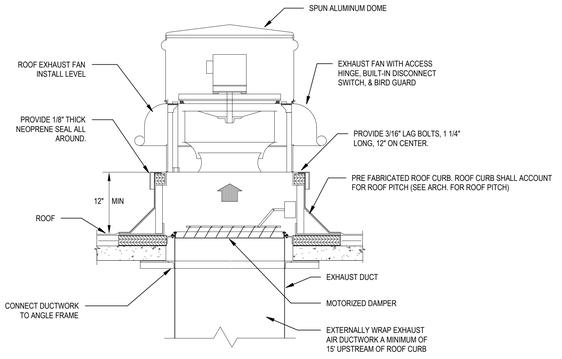
NOTE:

CONTRACTOR SHALL PROVIDE A FULLY AUTOMATIC AND AUTONOMOUS GLYCOL MAKE-UP PACKAGE. COMPLETE SYSTEM SHALL INCLUDE: LOW LEVEL CUT-OFF AND ALARM ARRANGEMENT, NECESSARY VALVES, STRAINERS, PRESSURE TANK WITH PRESSURE CONTROL, REDUCING VALVE AND GAUGES, TRANSLUCENT POLYETHYLENE SOLUTION CONTAINER WITH LID, MAGNETIC STARTER, MOTOR AND CONTROLS.

8 M502 GLYCOL FILL STATION
NOT TO SCALE



5 M502 ROOFTOP AIR CONDITIONING UNIT DETAIL
NOT TO SCALE



1 M502 ROOF EXHAUST FAN DETAIL
NOT TO SCALE

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EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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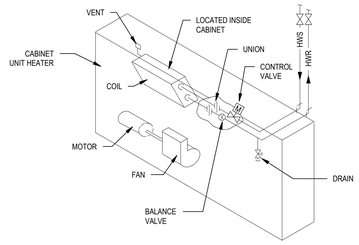
SUNY CORTLAND COREY UNION

M502
HVAC DETAILS

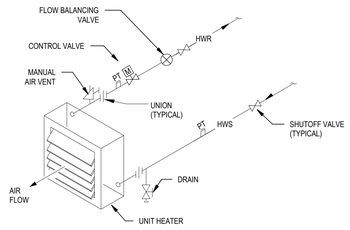
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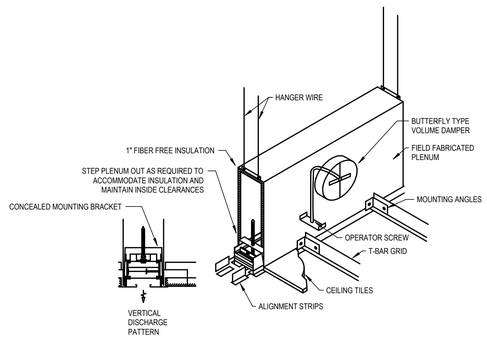
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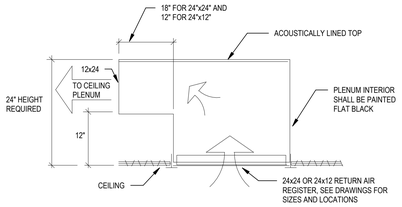
9 M503 CABINET UNIT HEATER PIPING
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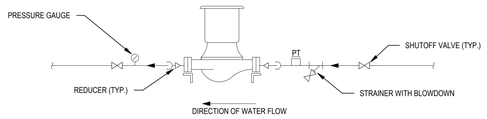
5 M503 TYPICAL HORIZ. HOT WATER UNIT HEATER PIPING
NOT TO SCALE



3 M503 LINEAR SLOT DETAIL
NOT TO SCALE

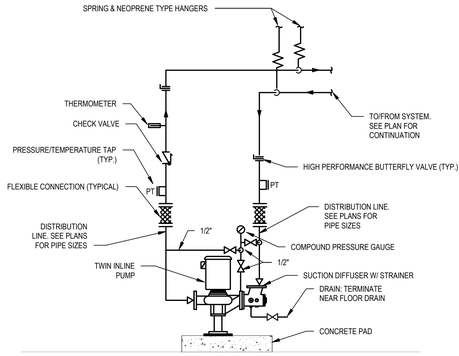


13 M503 TYPICAL RETURN AIR PLENUM REGISTER DETAIL
NOT TO SCALE

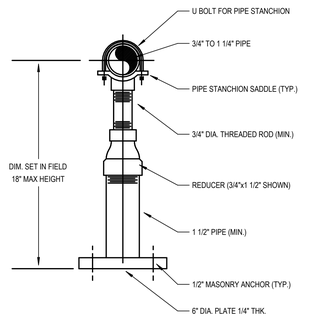


NOTES:
1. SUPPORT PUMP FROM PIPING ONLY. DO NOT SUPPORT PUMP FROM MOTOR. PROVIDE ANGLE IRON SUPPORT FRAME. SECURE RIGIDLY SUPPORT FRAME TO FLOOR OR NEAR COLUMN.
2. PROVIDE ADEQUATE CLEARANCE FOR SERVICING OF PUMPS. PUMP SHALL BE REMOVABLE WITHOUT DISMANTLING OR REMOVING OF PIPING OR VALVES.

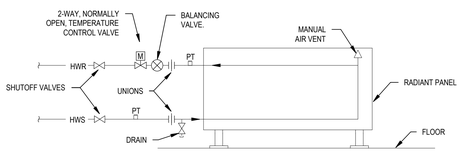
8 M503 IN-LINE WATER PUMP
NOT TO SCALE



4 M503 BASE MOUNTED TWIN INLINE PUMP
NOT TO SCALE

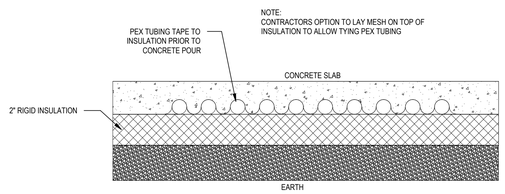


2 M503 BASE MOUNTED PIPE SUPPORT DETAIL
NOT TO SCALE

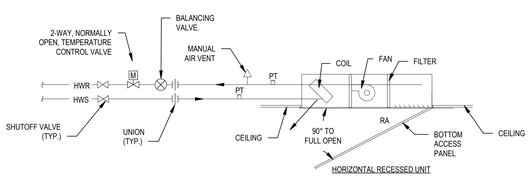


NOTE: REFER TO PLANS FOR PIPING LOCATION, ROUTING OPTIONS, AND SIZES.

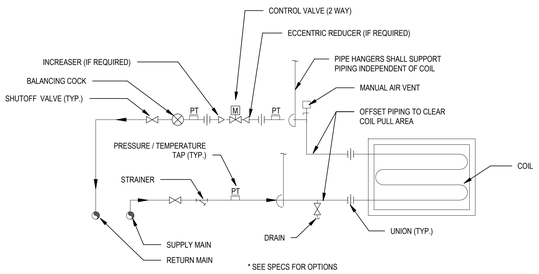
12 M503 FLOOR MOUNTED RADIANT PANEL PIPING
NOT TO SCALE



11 M503 RADIANT SLAB DETAIL
NOT TO SCALE

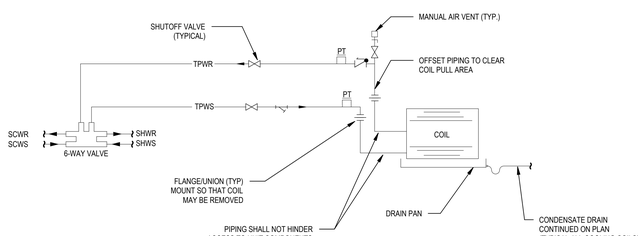


10 M503 CEILING HUNG UNIT HEATER PIPING
NOT TO SCALE



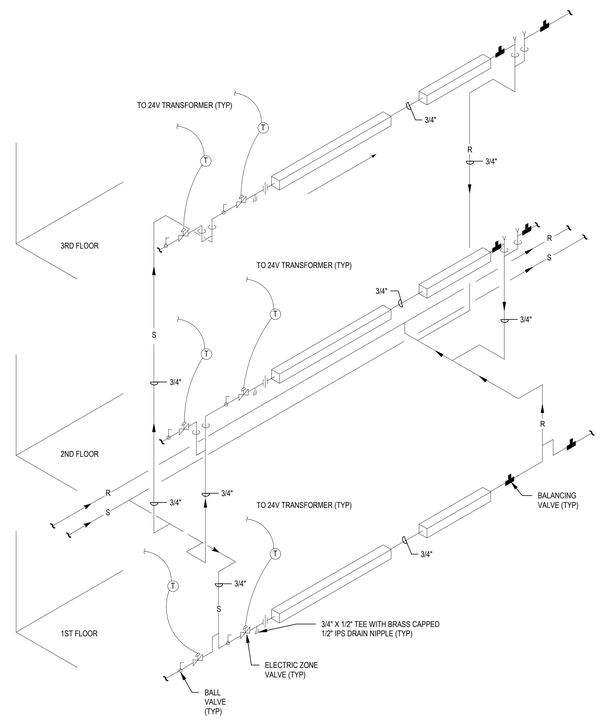
NOTE: THIS DETAIL TO BE USED FOR REHEAT COILS, FAN COIL UNITS, AND COOLING AND HEATING COILS.

7 M503 COOLING COIL FAN COIL UNIT (2-WAY CONTROL VALVE)
NOT TO SCALE



NOTE: PIPING ACCESSORIES SHALL BE MOUNTED IN SERVICEABLE LOCATIONS.SEE FLOOR PLANS FOR SIZES, SEE VALVE CLOSET SECTIONS FOR 6 WAY VALVE DETAIL

6 M503 FAN COIL UNIT PIPING DETAIL (6-WAY CONTROL VALVE)
NOT TO SCALE



1 M503 MULTIPLE LEVEL RADIANT PANEL PIPING DETAIL
NOT TO SCALE

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STATE OF NEW YORK DANIEL LACCETTI 109560 LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

Drawn By:	PDG
Checked By:	J.P.
Project Manager:	M.R.

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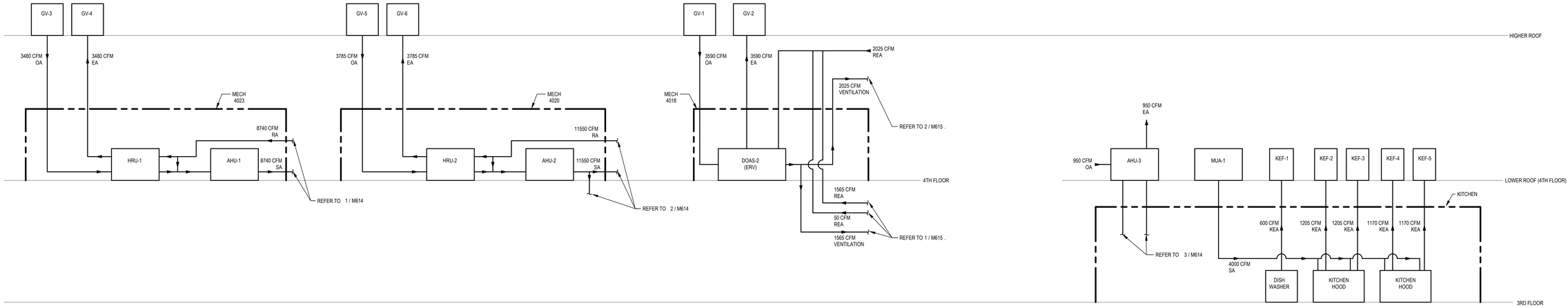
SUNY CORTLAND COREY UNION

M503
HVAC DETAILS

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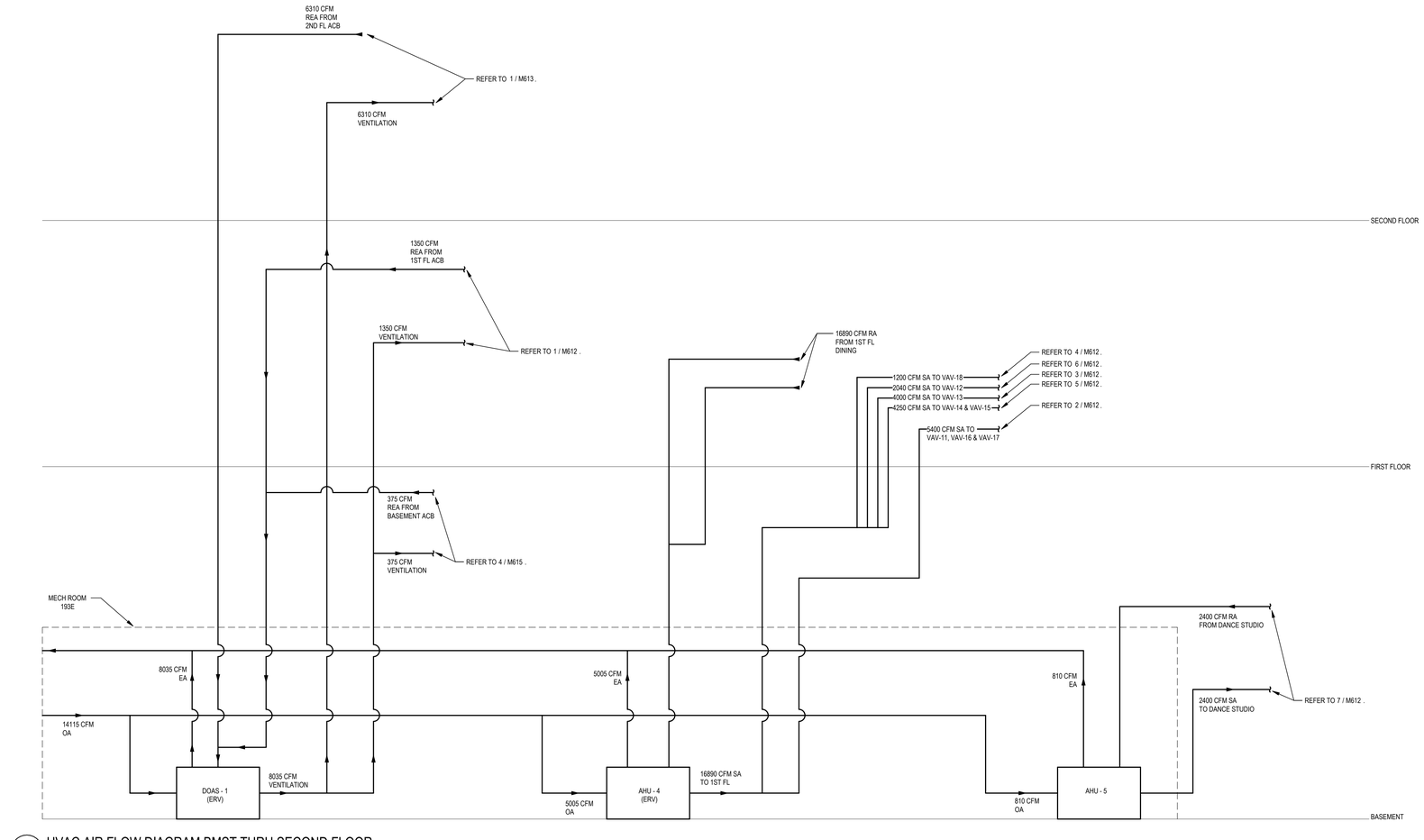
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2 M611 HVAC AIR FLOW DIAGRAM 3RD FLOOR AND ABOVE

NOT TO SCALE



1 M611 HVAC AIR FLOW DIAGRAM BMST THRU SECOND FLOOR

NOT TO SCALE

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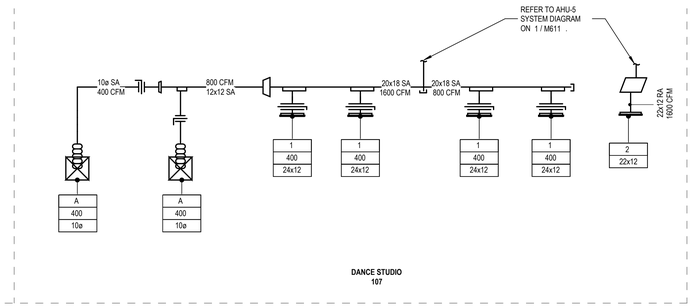
SUNY CORTLAND COREY UNION

M611
HVAC AIR FLOW DIAGRAM

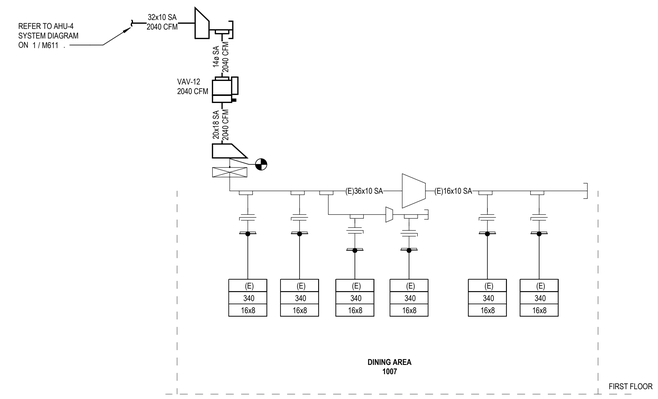
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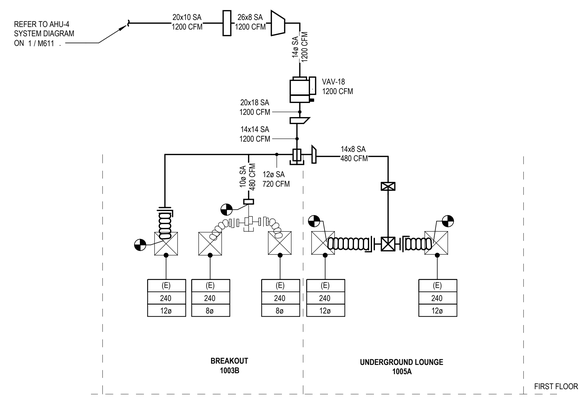
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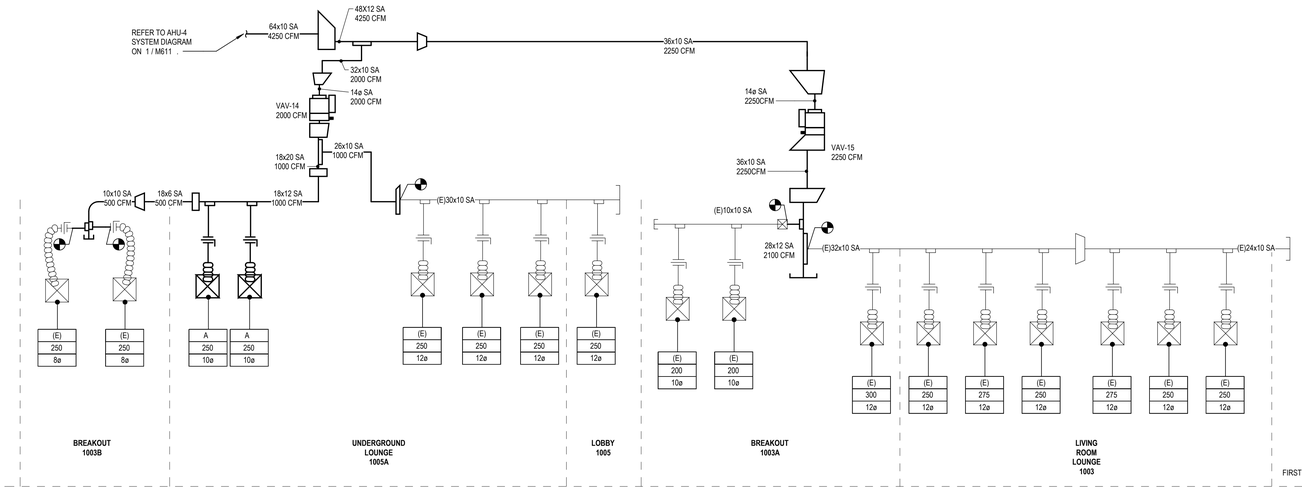
7 M612 HVAC BASEMENT AHU-5 AIRFLOW RISER DIAGRAM
NOT TO SCALE



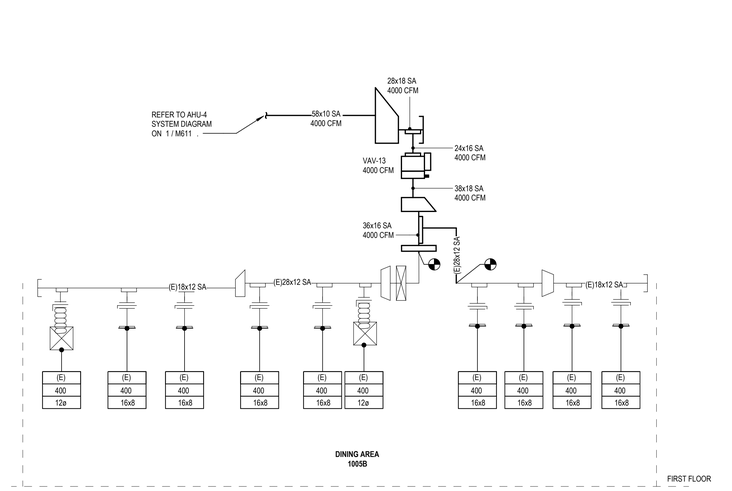
6 M612 HVAC FIRST FLOOR VAV-12 AIRFLOW RISER DIAGRAM
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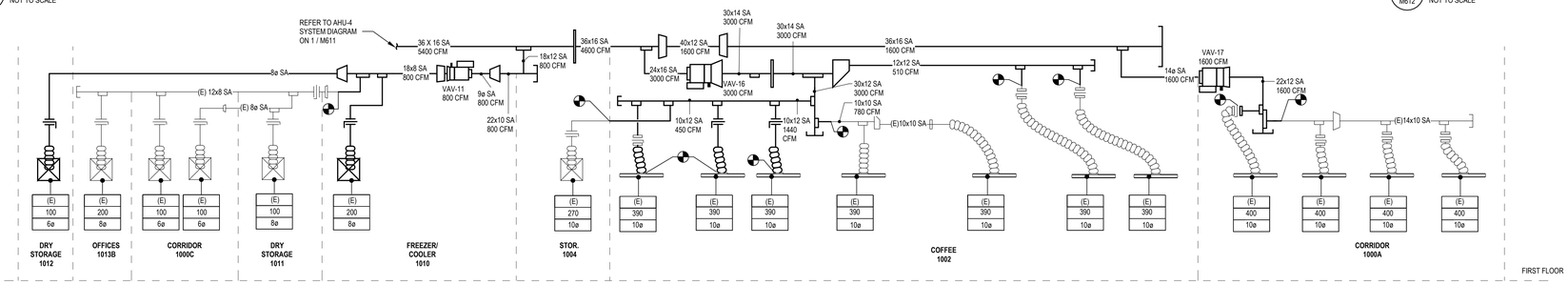
4 M612 HVAC FIRST FLOOR VAV-18 AIRFLOW RISER DIAGRAM
NOT TO SCALE



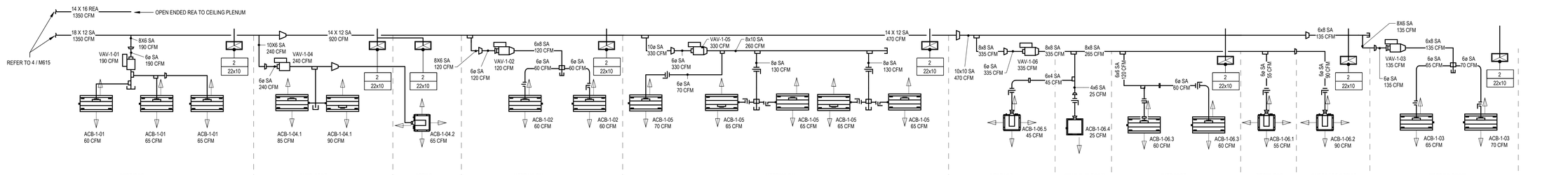
5 M612 HVAC FIRST FLOOR VAV-14 & VAV-15 AIRFLOW RISER DIAGRAM
NOT TO SCALE



3 M612 HVAC FIRST FLOOR VAV-13 AIRFLOW RISER DIAGRAM
NOT TO SCALE



2 M612 HVAC FIRST FLOOR VAV-11, VAV-16 & VAV-17 AIRFLOW RISER DIAGRAM
NOT TO SCALE



1 M612 HVAC FIRST FLOOR DOAS-1 AIR FLOW RISER DIAGRAM PLAN
NOT TO SCALE

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STATE OF NEW YORK
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Checked By:	J.P.
Project Manager:	M.R.

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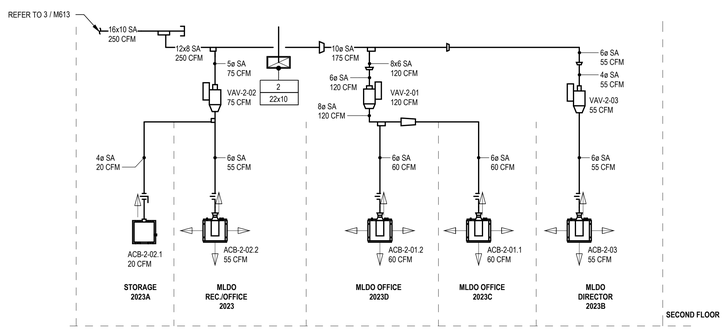
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M612
HVAC AIR FLOW DIAGRAM

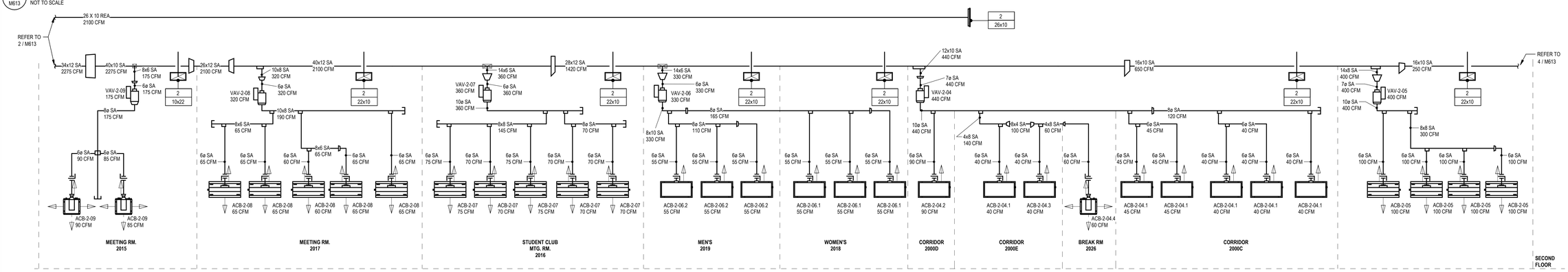
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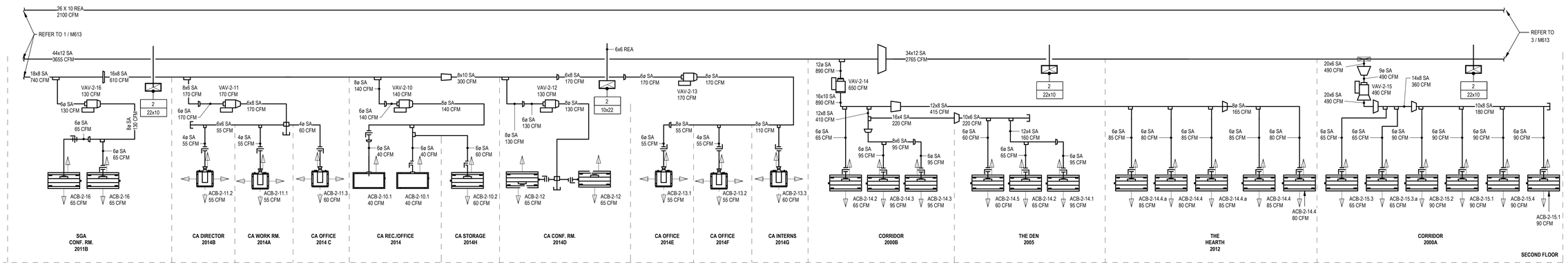
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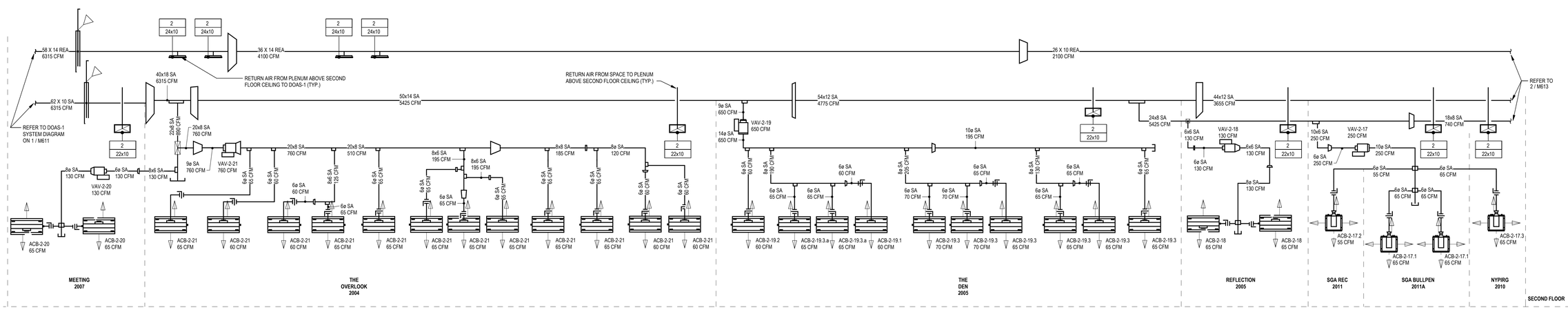
3 M613 HVAC SECOND FLOOR DOAS-1 AIRFLOW RISER DIAGRAM PART 3

NOT TO SCALE



2 M613 HVAC SECOND FLOOR DOAS-1 AIRFLOW RISER DIAGRAM PART 2

NOT TO SCALE



1 M613 HVAC SECOND FLOOR DOAS-1 AIRFLOW RISER DIAGRAM PART 1

NOT TO SCALE

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Checked By:	J.P.
Project Manager:	M.R.

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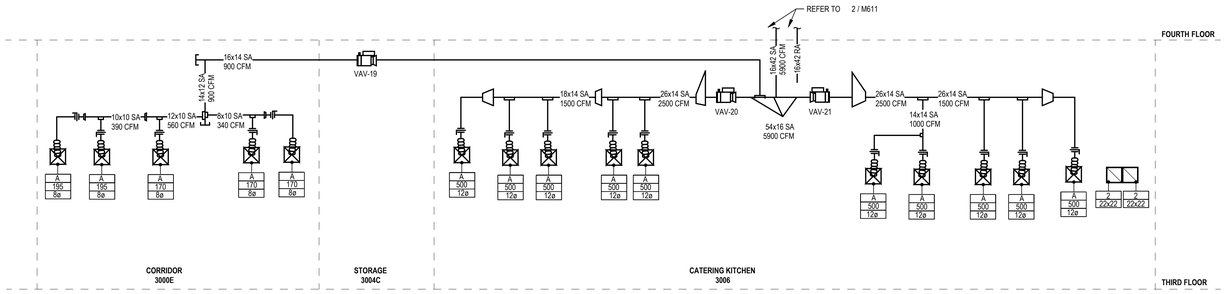
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HVAC AIR FLOW DIAGRAM

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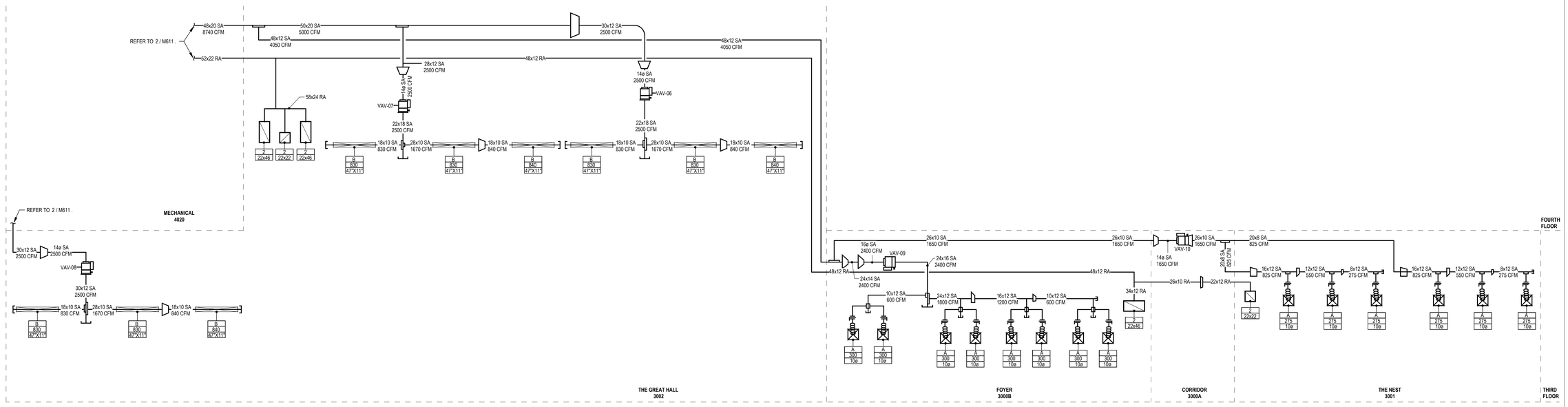
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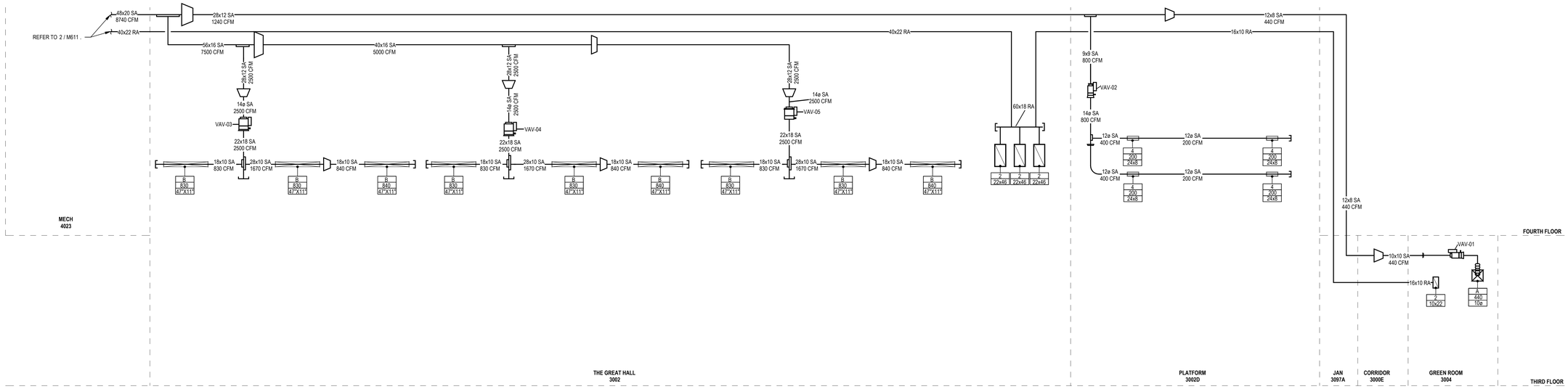
3 M614 AHU-3 AIR FLOW DIAGRAM

NOT TO SCALE



2 M614 AHU-2 AIR FLOW DIAGRAM

NOT TO SCALE



1 M614 AHU-1 AIR FLOW DIAGRAM

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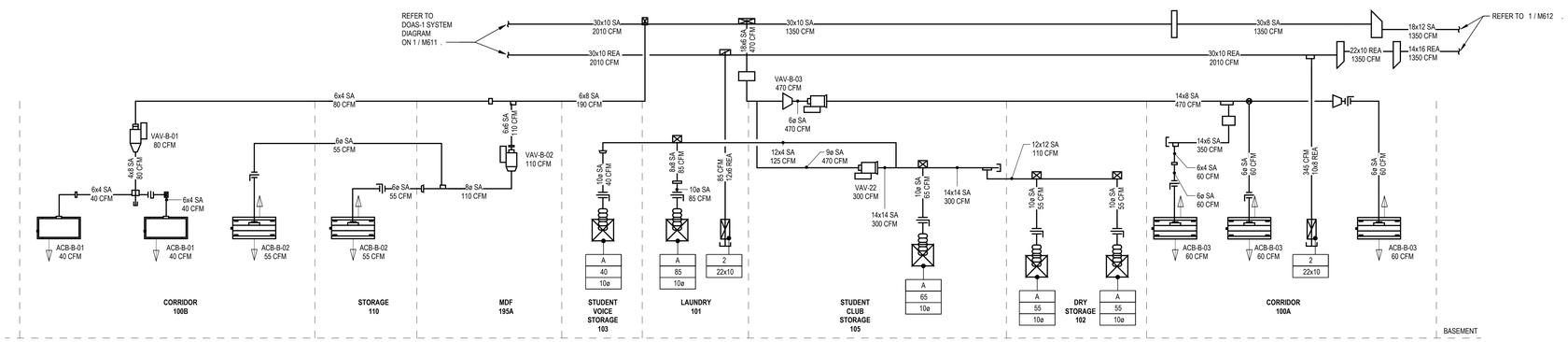
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HVAC AIR FLOW DIAGRAM

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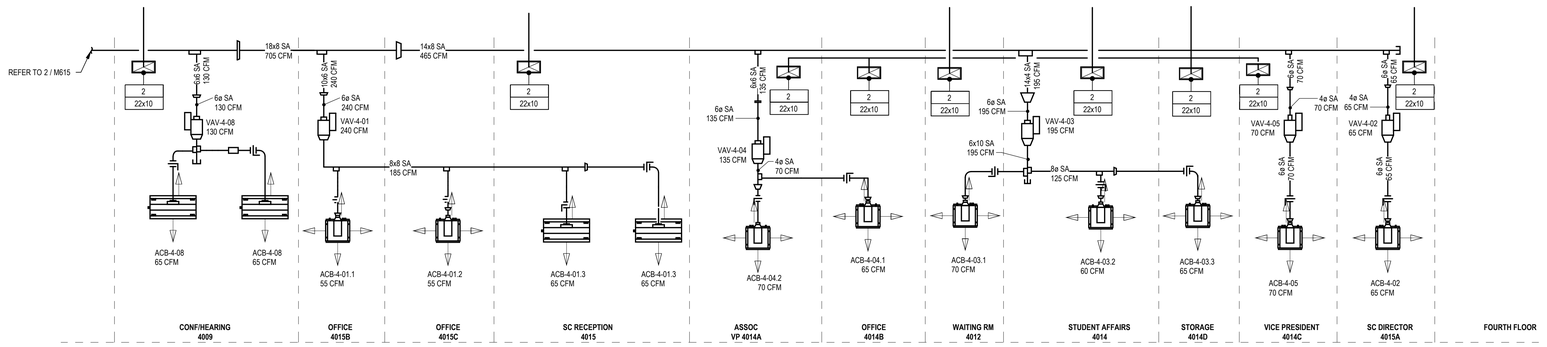
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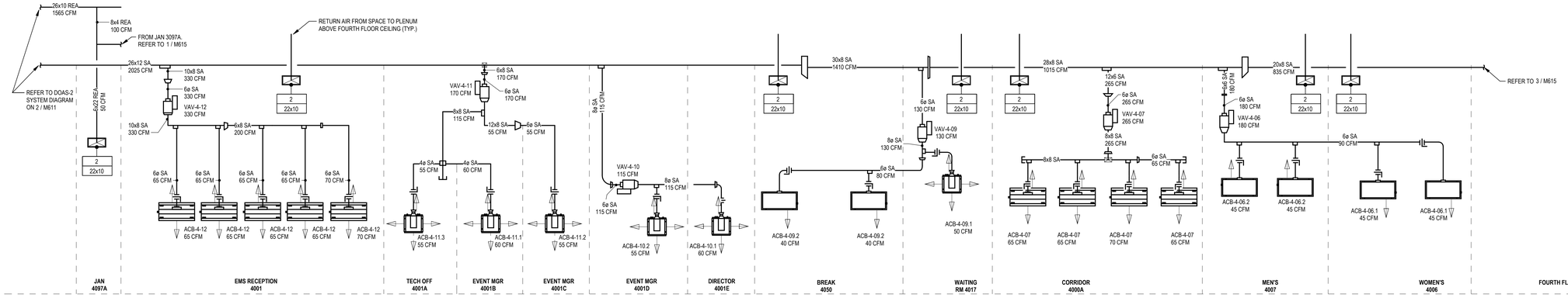
4 M615 HVAC BASEMENT DOAS-1 AIRFLOW RISER DIAGRAM

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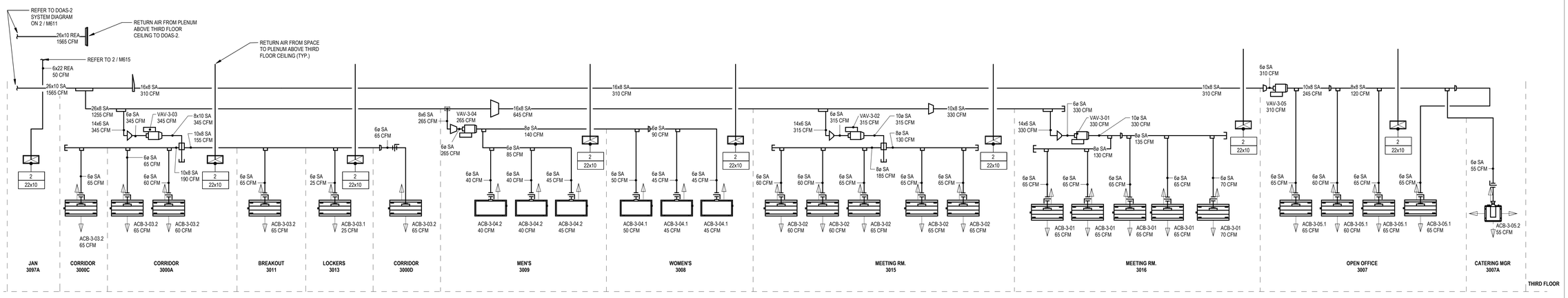
3 M615 HVAC FOURTH FLOOR DOAS-2 AIRFLOW RISER DIAGRAM PART 2

NOT TO SCALE



2 M616 HVAC FOURTH FLOOR DOAS-2 AIRFLOW RISER DIAGRAM PART 1

NOT TO SCALE



1 M615 HVAC THIRD FLOOR DOAS-2 AIRFLOW RISER DIAGRAM

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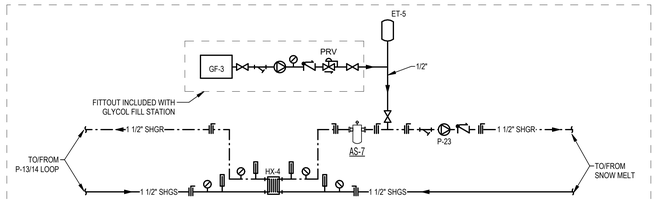
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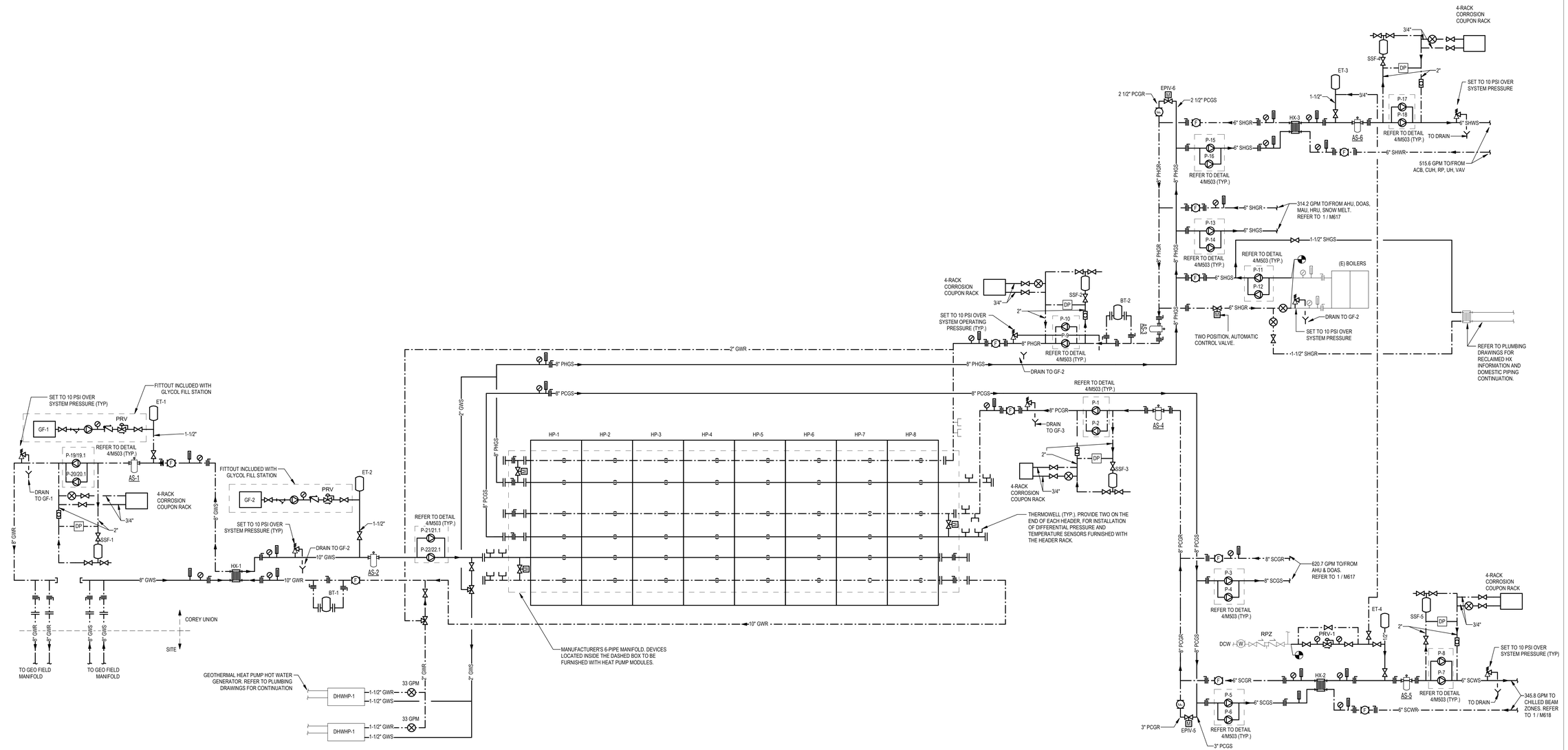
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SUPPLEMENTAL GENERAL NOTES

1. PRIMARY AND SECONDARY SYSTEMS ARE INTERCONNECTED. SET RELIEF PRESSURE ON PRIMARY SYSTEMS BASED ON THE HIGHEST PRESSURE OF THE SECONDARY SYSTEMS.
2. PROVIDE ALL VALVES, METERS, GAUGES, ACCESSORIES AND APPURTENANCES AS INDICATED.



SNOW MELT SYSTEM



1 M616 HVAC FLOW DIAGRAM.
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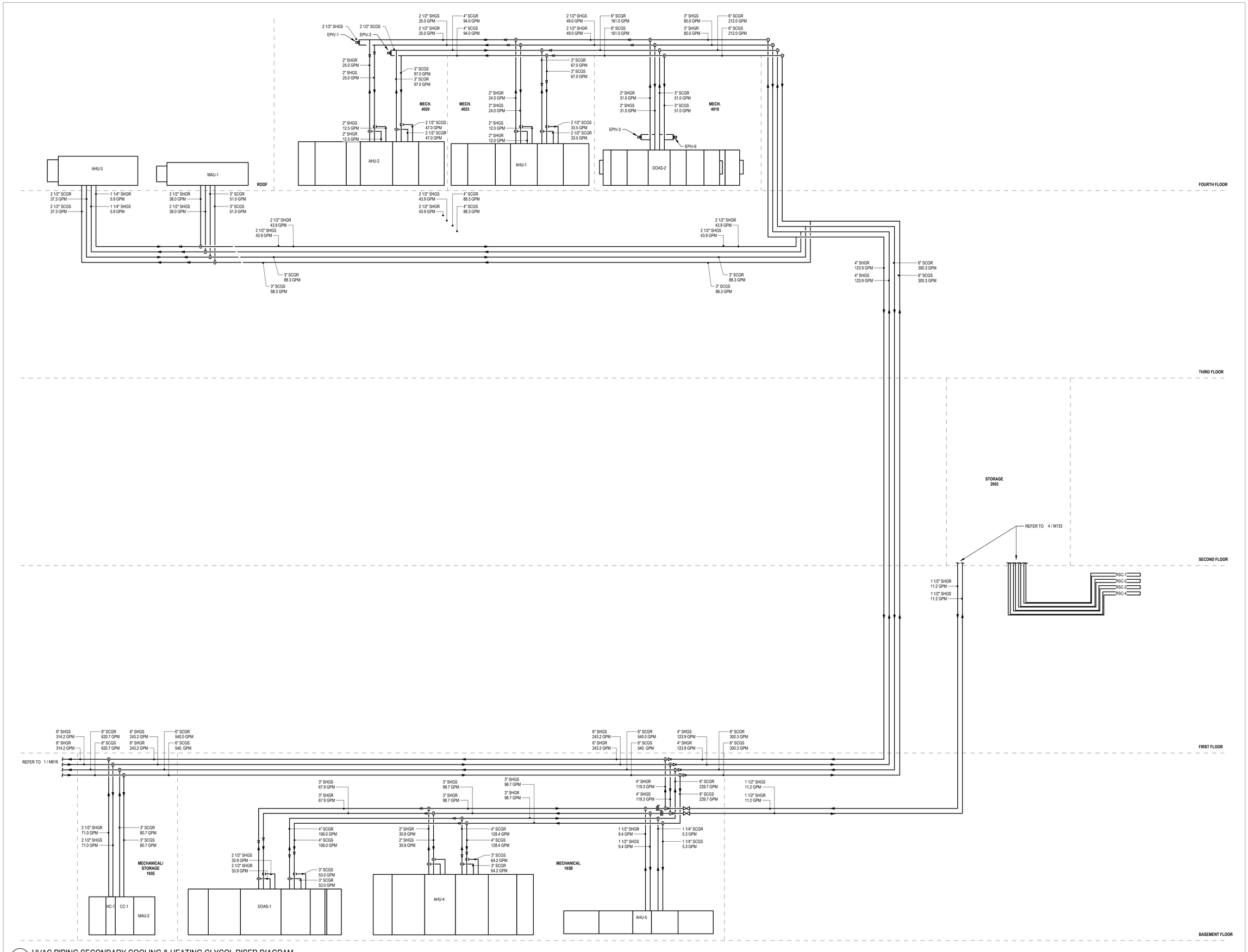
M616

HVAC HYDRONIC SOURCE FLOW DIAGRAM

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1 / M617 HVAC PIPING SECONDARY COOLING & HEATING GLYCOL RISER DIAGRAM

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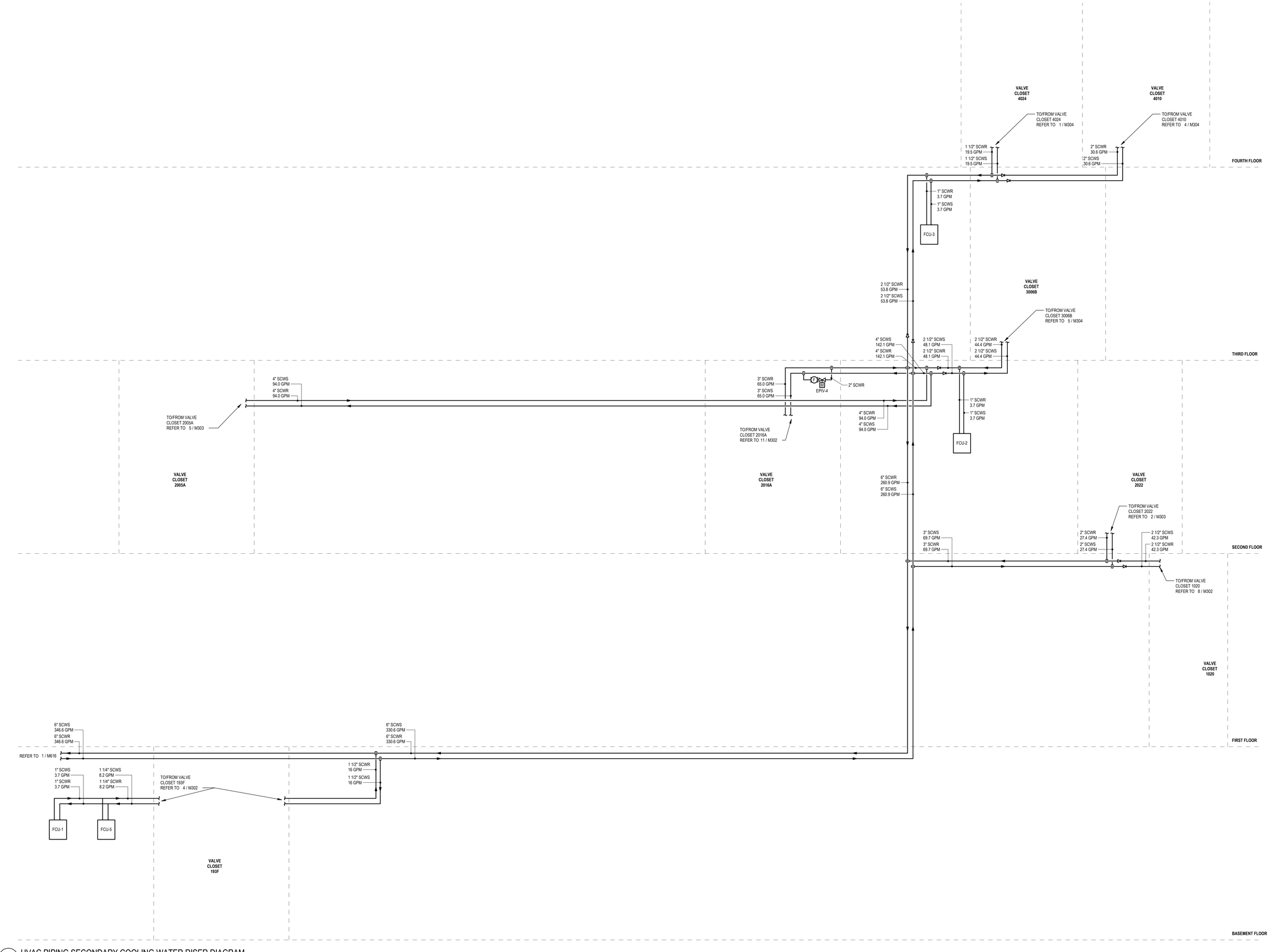
SUNY CORTLAND COREY UNION

M617
HVAC GLYCOL FLOW DIAGRAM

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1 / M618 HVAC PIPING SECONDARY COOLING WATER RISER DIAGRAM

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M618

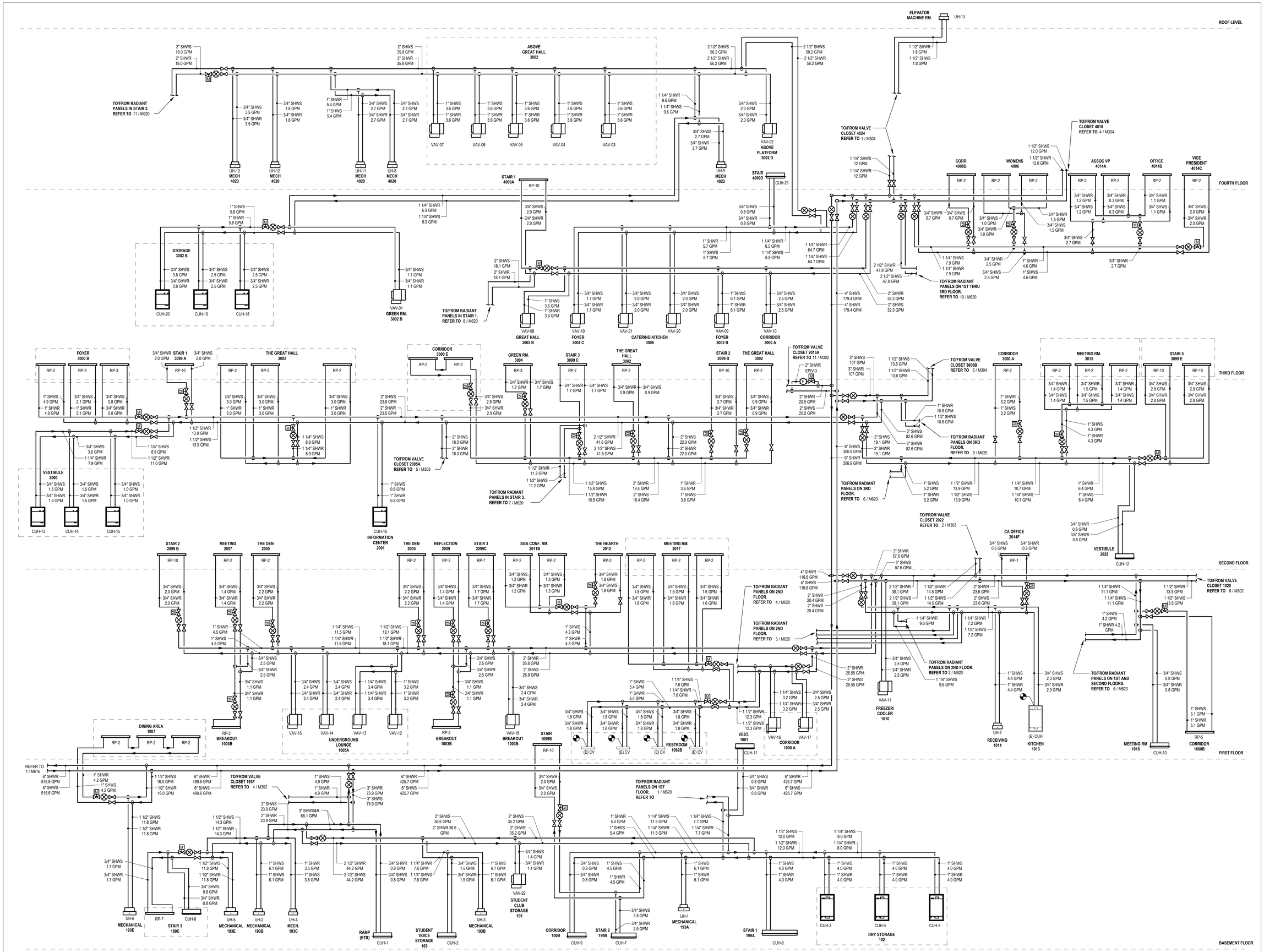
HVAC COOLING WATER FLOW DIAGRAM

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1 M619 HVAC PIPING SECONDARY HEATING WATER RISER DIAGRAM

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STATE OF NEW YORK DANIEL LACCETTI 109560 LICENSED PROFESSIONAL ENGINEER

EXPIRATION: 02/28/2027

Drawn By: PDG
Checked By: J.P.
Project Manager: M.R.

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Revisions

COREY UNION
103 PROSPECT TERRACE, CORTLAND, NY, 13045
SWBR Project Number 23160.00

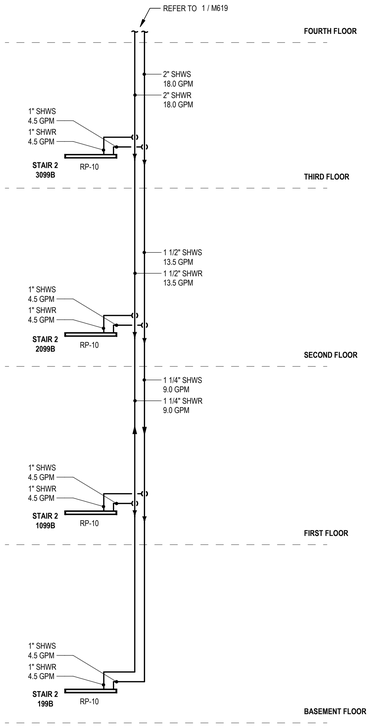
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M619

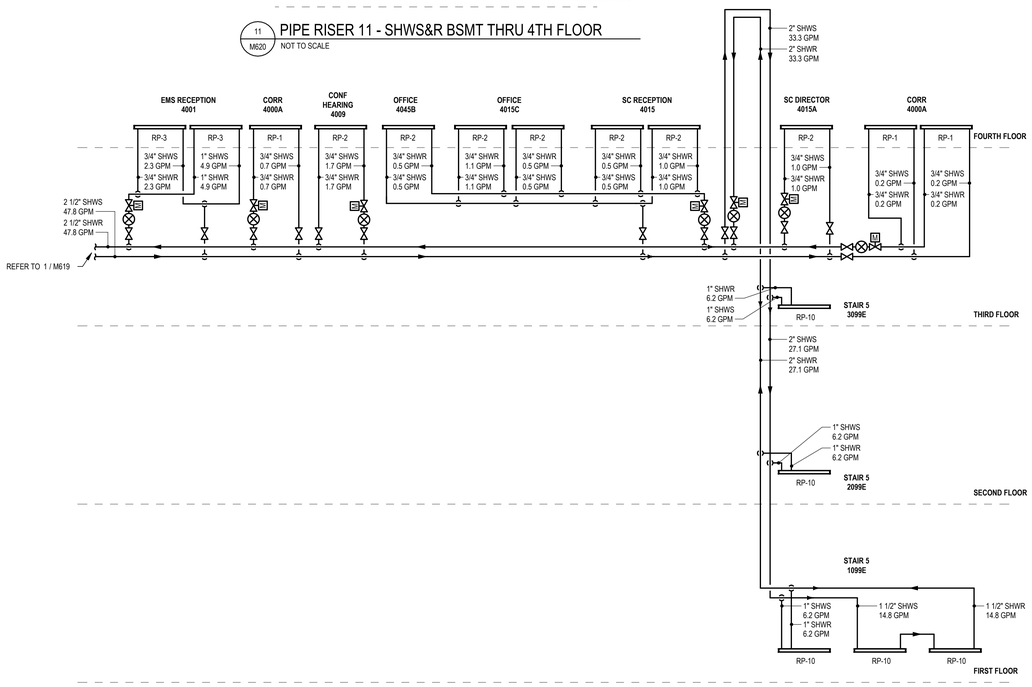
HVAC HEATING WATER FLOW DIAGRAMS

NOVEMBER 16, 2026
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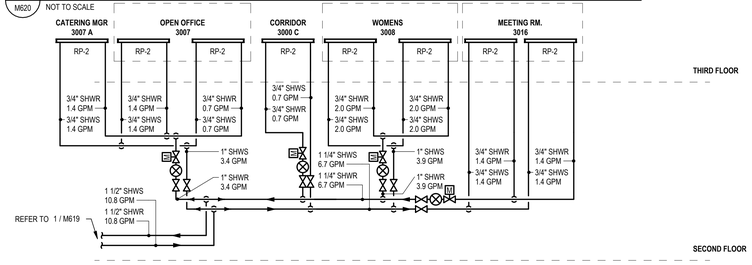
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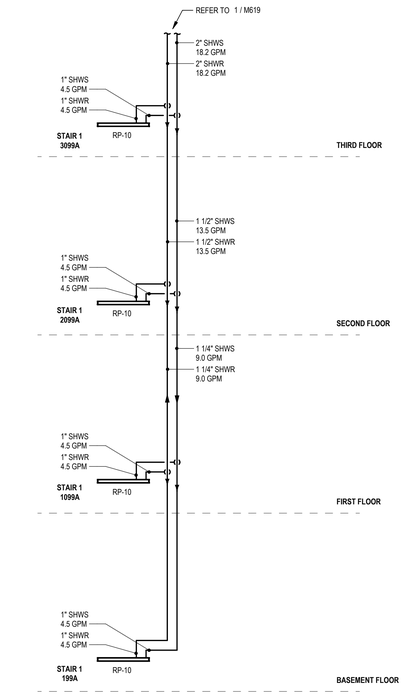
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NOT TO SCALE



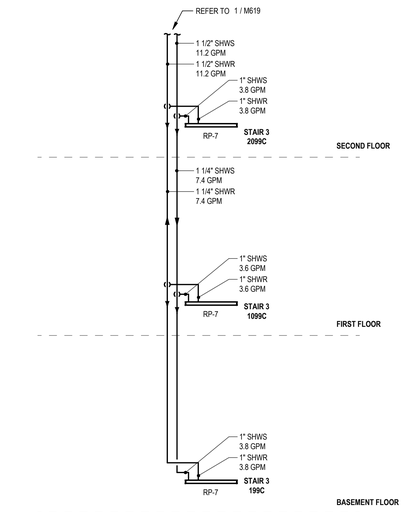
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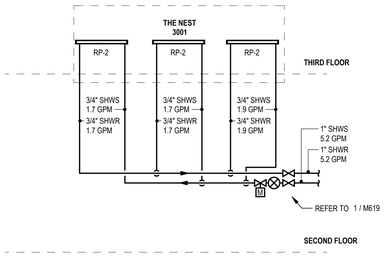
9 M620 PIPE RISER 9 - SHWS&R 2ND AND 3RD FLOOR
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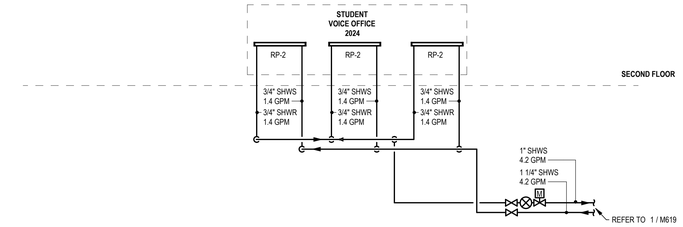
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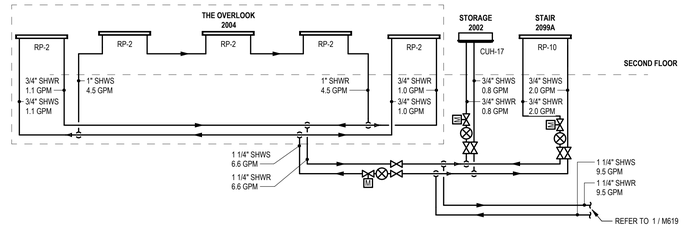
7 M620 PIPE RISER 7 - SHWS&R BSMT THRU 2ND FLOOR
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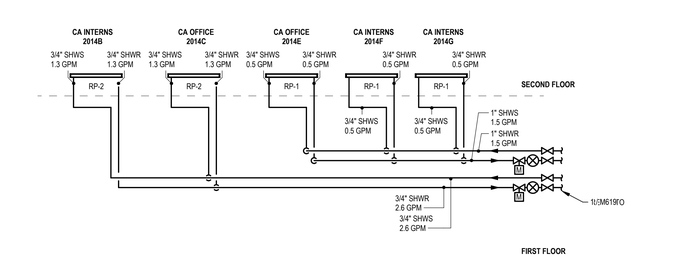
6 M620 PIPE RISER 6 - SHWS&R 2ND AND 3RD FLOOR
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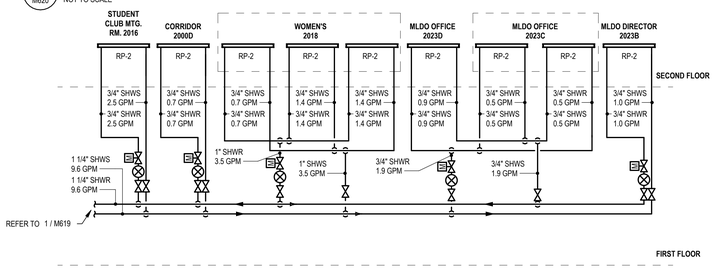
5 M620 PIPE RISER 5 - SHWS&R 1ST AND 2ND FLOOR
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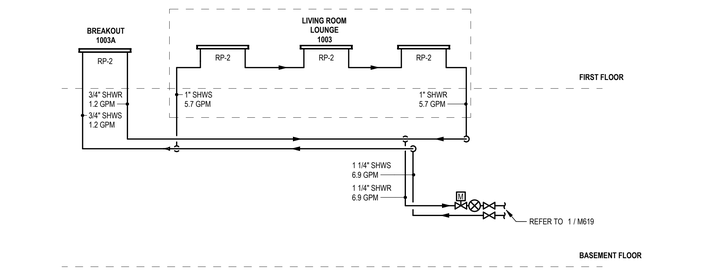
4 M620 PIPE RISER 4 - SHWS&R 1ST AND 2ND FLOOR
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3 M620 PIPE RISER 3 -SHWS&R 1ST AND 2ND FLOOR
NOT TO SCALE



2 M620 PIPE RISER 2 - SHWS&R 1ST AND 2ND FLOOR
NOT TO SCALE



1 M620 PIPE RISER 1 - SHWS&R BSMT AND 1ST FLOOR
NOT TO SCALE

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M620
HVAC HEATING WATER FLOW DIAGRAMS

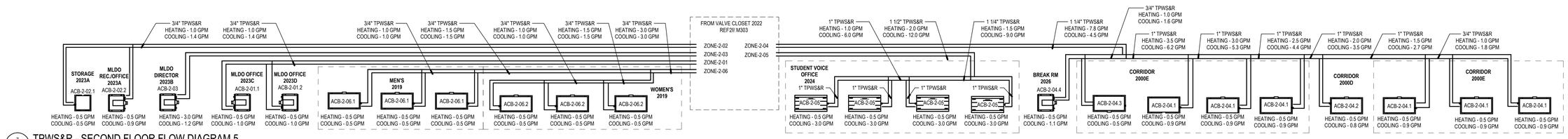
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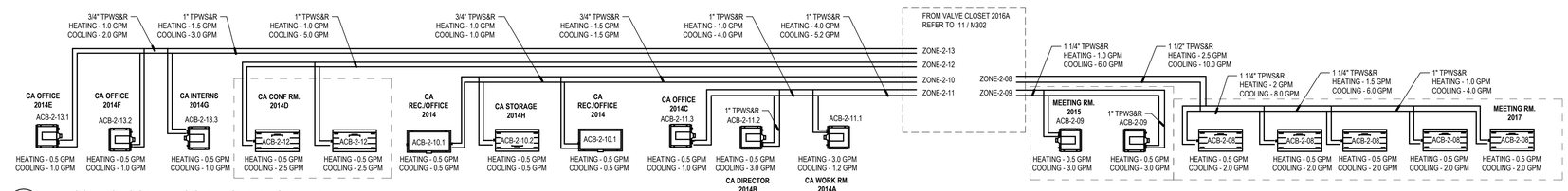
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SUPPLEMENTAL GENERAL NOTES

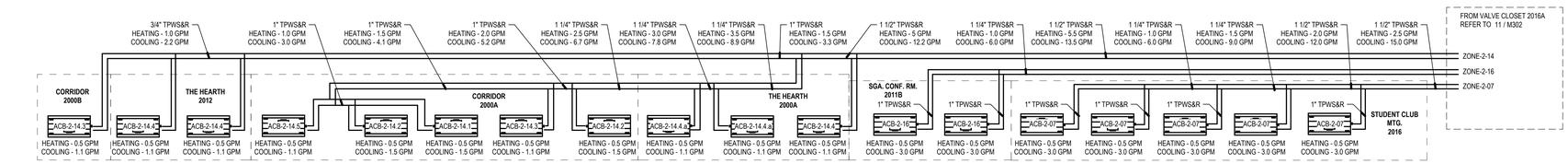
1. ALL THE BRANCH (SUPPLY AND RETURN) PIPES SERVING TERMINAL UNITS ARE 3/4" UNLESS OTHERWISE NOTED.
2. PROVIDE ALL THE MECHANICAL EQUIPMENT SHOWN ON PLAN. REFER TO PLAN FOR PIPE CONNECTION. REFER TO DETAIL SHEETS FOR INSTALLATION INSTRUCTION AND SCHEDULE SHEETS FOR PRODUCT CAPACITY INFORMATION.



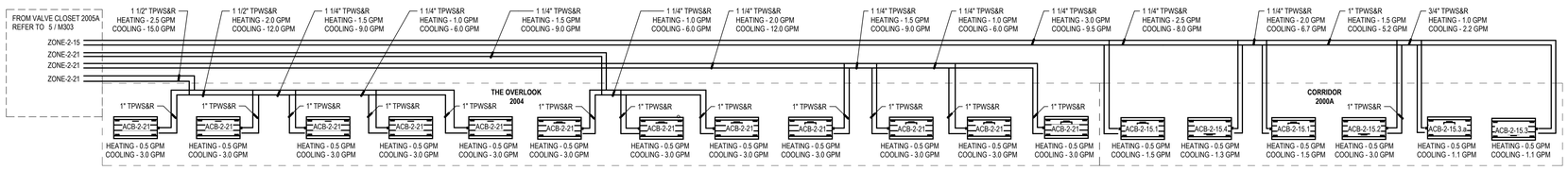
7 M621 TPWS&R - SECOND FLOOR FLOW DIAGRAM 5
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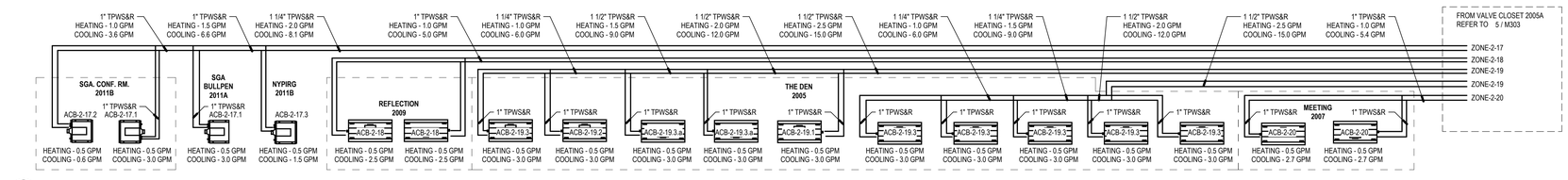
6 M621 TPWS&R - SECOND FLOOR FLOW DIAGRAM 4
NOT TO SCALE



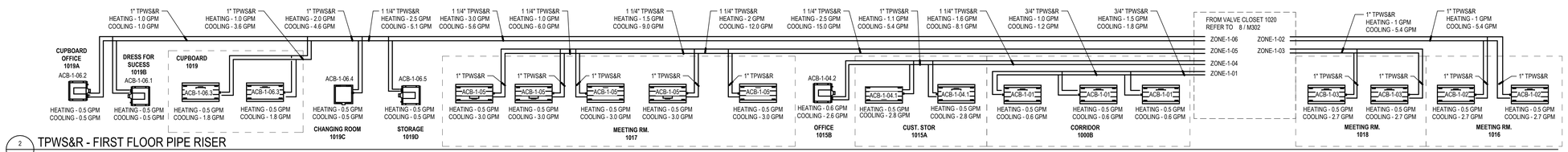
5 M621 TPWS&R - SECOND FLOOR FLOW DIAGRAM 3
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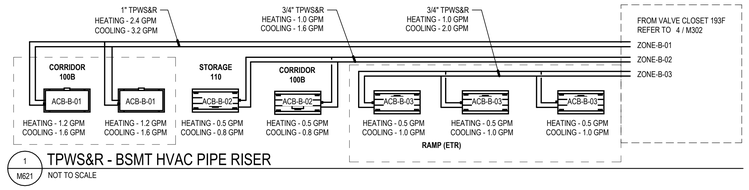
4 M621 TPWS&R - SECOND FLOOR FLOW DIAGRAM 2
NOT TO SCALE



3 M621 TPWS&R - SECOND FLOOR FLOW DIAGRAM 1
NOT TO SCALE



2 M621 TPWS&R - FIRST FLOOR PIPE RISER
NOT TO SCALE



1 M621 TPWS&R - BSMT HVAC PIPE RISER
NOT TO SCALE

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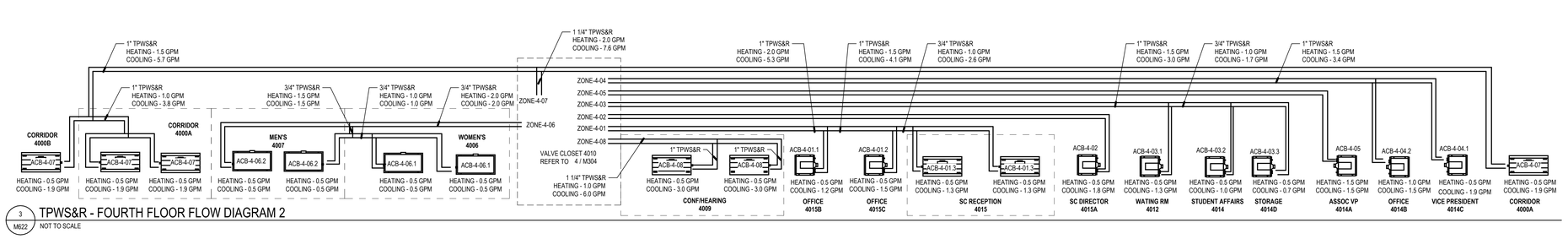
M621
HVAC TWO PIPE FLOW DIAGRAMS

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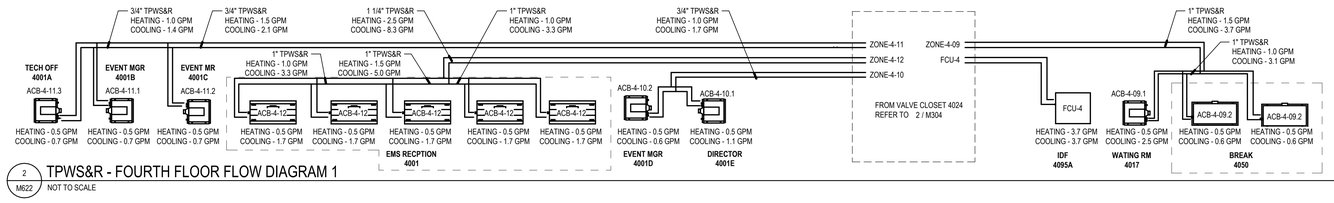
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SUPPLEMENTAL GENERAL NOTES

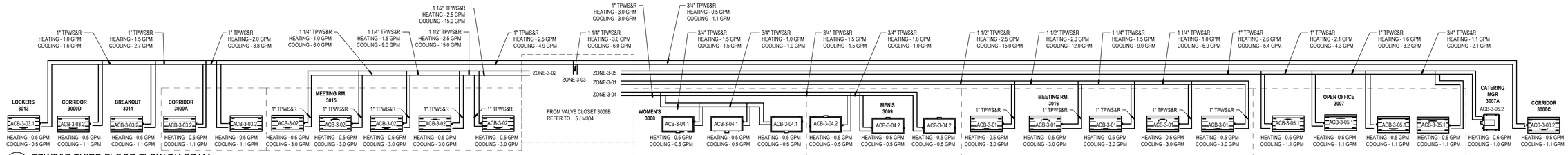
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3 M622 TPWS&R - FOURTH FLOOR FLOW DIAGRAM 2
NOT TO SCALE



2 M622 TPWS&R - FOURTH FLOOR FLOW DIAGRAM 1
NOT TO SCALE



1 M622 TPWS&R THIRD FLOOR FLOW DIAGRAM
NOT TO SCALE

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M622
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GEOTHERMAL HEAT PUMP SCHEDULE

MARK	LOCATION	FLUID TYPE	NOM. TON	COMP. QTY	REFRIGERANT TYPE	REFRIGERANT CHARGE PER CIRCUIT (LB)	COOLING CONDENSER EWT (°F)	COOLING CONDENSER LWT (°F)	COOLING CONDENSER GPM	COOLING CONDENSER WPD (FT)	COOLING EVAPORATOR EWT (°F)	COOLING EVAPORATOR LWT (°F)	COOLING EVAPORATOR GPM	COOLING EVAPORATOR WPD (FT)	EER	SIMULTANEOUS CONDENSER EWT (°F)	SIMULTANEOUS CONDENSER LWT (°F)	SIMULTANEOUS CONDENSER GPM	SIMULTANEOUS CONDENSER WPD (FT)	SIMULTANEOUS EVAPORATOR EWT (°F)	SIMULTANEOUS EVAPORATOR LWT (°F)	SIMULTANEOUS EVAPORATOR GPM	SIMULTANEOUS EVAPORATOR WPD (FT)	HEATING CONDENSER EWT (°F)	HEATING CONDENSER LWT (°F)	HEATING CONDENSER GPM	HEATING CONDENSER WPD (FT)	HEATING EVAPORATOR EWT (°F)	HEATING EVAPORATOR LWT (°F)	HEATING EVAPORATOR GPM	HEATING EVAPORATOR WPD (FT)	COP (@ 35°F SOURCE EWT)	FLA	MCA	V	PH	HZ	MFR.	MODEL	NOTES
HP-1	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-2	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-3	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-4	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-5	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-6	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-7	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8
HP-8	MECHANICAL/STORAGE 193E	25% PROPYLENE GLYCOL	50	2	R-454B	16	95.00	105.06	147.2	23.30	54.00	43.92	116.9	14.50	13.35	110	129.79	71.4	5.80	54	44.16	107.3	12.25	95.00	114.82	55.42	3.70	35.00	25.15	81.55	7.10	3.75	100.7	115.9	460	3	60	WATER FURNACE	T5HS050LN24AA	1 TO 8

NOTES:
1. PROVIDE WITH MANUFACTURER FABRICATED 6-PIPE HEADER WITH CONTROL AND BYPASS VALVING, AIR VENTING, AND DRAINS.
2. PROVIDE WITH UNITARY CONTROLS CAPABLE OF BMS COMMUNICATION.
3. PROVIDE WITH SIMULTANEOUS HEATING AND COOLING CAPABILITY.
4. PROVIDE WITH DUAL SCROLL COMPRESSORS
5. PROVIDE WITH STAINLESS STEEL INTEGRAL HEAT EXCHANGERS
6. PROVIDE WITH SOUND ATTENUATION KIT.
7. FURNISH WITH DISCONNECT SWITCH FOR EACH MODULE.
8. PROVIDE WITH MANUFACTURER'S REMOTE INTERNET CONNECTION OPTION. REMOTE INTERNET CONNECTION SHALL ALLOW MANUFACTUER TO REMOTE MONITOR THE SYSTEMS OPERATING STATUS, ALARMS, TEMPERATURES, COMPRESSOR INFORMATION AND HISTROICAL DATA DURING START UP AND MAINTENANCE.
9. PROVIDE INDIVIDUAL MODULES WITH POWER MONITORING DEVICE, MONITORED VIA BACNET MSTP.

HEATING/COOLING COIL SCHEDULE (CHILLED AND HOT WATER)

MARK	LOCATION	SERVES	SUPPLY CFM	MIN. OA CFM	FLUID TYPE	COOLING CAPACITY MBH SENS	COOLING CAPACITY MBH TOTAL	COOLING GPM	COOLING EWT DEG F	COOLING LWT DEG F	COOLING EAT (DB/WB) DEG F	COOLING LAT (DB/WB) DEG F	COOLING WPD	HEATING MBH	HEATING GPM	HEATING EWT DEG F	HEATING LWT DEG F	HEATING EAT DEG F	HEATING LAT DEG F	HEATING WPD	MFR.	MODEL	NOTES
CC-1	MECHANICAL 193E	MAU-2	7380	7380	25% PROPYLENE GLYCOL	233.17	470.57	80.7	45	57	82.7/72.9	53.8/53.6	8.800								DAIKIN	5WM0710C	
HC-1	MECHANICAL 193E	MAU-2	7380	7380	25% PROPYLENE GLYCOL									614.78	71	125	107	-3	73.2	5.600	DAIKIN	5WS1302C	

GRAVITY VENTILATOR SCHEDULE

MARK	LOCATION	SERVES	TYPE	CFM	LENGTH (IN)	WIDTH (IN)	HEIGHT (IN)	THROAT SIZE (IN) LENGTH	THROAT SIZE (IN) WIDTH	MFR.	MODEL	NOTES
GV-1	4TH FLOOR ROOF	DOAS-2	INTAKE	3800	64	64	39.25	50	50	GREENHECK	WIH-50X50	1, 2
GV-2	4TH FLOOR ROOF	DOAS-2	RELIEF	3800	62	62	39.25	48	48	GREENHECK	WRH-50X50	1, 2
GV-3	4TH FLOOR ROOF	AHU-1	INTAKE	8740	108	74	54.25	94	60	GREENHECK	WIH-60X94	1, 2
GV-4	4TH FLOOR ROOF	AHU-1	RELIEF	8740	90	74	50.50	82	60	GREENHECK	WRH-60X82	1, 2
GV-5	4TH FLOOR ROOF	AHU-2	INTAKE	11550	104	72	54.25	90	58	GREENHECK	WIH-58X90	1, 2
GV-6	4TH FLOOR ROOF	AHU-2	RELIEF	11550	92	70	50.50	84	56	GREENHECK	WRH-56X84	1, 2

NOTES:
1. PROVIDE WITH 24" ROOF CURB.
2. PROVIDE WITH POWER OPEN AND SPRING CLOSE MOTORIZED DAMPER AND BIRD SCREEN.

MAKEUP AIR UNIT SCHEDULE

MARK	LOCATION	SERVES	SUPPLY CFM	OA CFM	SUPPLY FAN ESP (IN)	SUPPLY FAN HP	SUPPLY FAN RPM	FLUID TYPE	COOLING CAPACITY MBH TOTAL	COOLING CAPACITY MBH SENS.	COOLING GPM	COOLING EWT (°F)	COOLING LWT (°F)	COOLING EAT DB/WB (°F)	COOLING LAT DB/WB (°F)	COOLING WATER HEAD LOSS (FT)	HEATING MBH	HEATING GPM	HEATING EWT (°F)	HEATING LWT (°F)	HEATING EAT (°F)	HEATING LAT (°F)	HEATING WATER HEAD LOSS (FT)	ELECTRICAL V / PH / HZ	MFR.	MODEL NO	NOTES
MAU-1	ROOF	3RD FLOOR KITCHEN HOOD	4000	4000	3	7.5	3485	25% PROPYLENE GLYCOL	244	163	51.0	45	55	90/71.5	52.4/52.2	20.09	356	38.00	125	105	-2	80	9.76	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 12
MAU-2	THIS IS EXISTING TO REMAIN UNIT SERVING FIRST FLOOR KITCHEN. PREVIOUSLY KNOWN AS FC-2. UPDATE THE EQUIPMENT TAG ON EQUIPMENT AND IN CONTROLS SYSTEM.																										

NOTES:
1. PROVIDE WITH 24" ROOF CURB.
2. PROVIDE WITH AIR INTAKE WEATHER HOOD AND BIRD SCREEN.
3. REFER TO COIL HOOKUP AND CONDENSATE TRAP DETAIL(S).
4. PROVIDE WITH MERV 8 FILTERS.
5. PROVIDE WITHOUT UNITARY CONTROLS, UNIT TO BE BMS CONTROLLED.
6. PROVIDE WITH UNIT MOUNTED 120V DUPLEX OUTLET.
7. BASIS OF DESIGN HAS (4) POINTS OF ELECTRICAL POWER CONNECTION.
8. COORDINATE WITH AHU-3 DIMENSIONS AND PROVIDE WITH MANUFACTURER MADE SERVICE CORRIDOR.
9. PROVIDE WITH AIRFLOW MONITORING STATIONS ON FANS.
10. PROVIDE WITH ALUMINUM STAIRS TO ALLOW FOR ACCESS INTO SERVICE CORRIDOR. LEVELTHE CURBS AND STAIRS BETWEEN AHU-3 AND MAU-1.
11. PROVIDE HEATING AND COOLING COILS WITH 2-WAY EPIV CONTROL VALVE SIZED FOR THE COILS FULL FLOW.
12. AHU-3 AND MAU-1 SHOULD BE PROVIDED BY THE SINGLE MANUFACTURER.

AIR HANDLING UNIT SCHEDULE (CHILLED AND HOT WATER)

MARK	LOCATION	SERVES	SUPPLY CFM	MIN. OA CFM	SUPPLY FAN ESP (IN)	SUPPLY FAN HP	SUPPLY FAN FLA	SUPPLY FAN RPM	RETURN FAN ESP (IN)	RETURN FAN HP	RETURN FAN FLA	RETURN FAN RPM	FLUID TYPE	V	PH	HZ	COOLING CAPACITY MBH SENS	COOLING CAPACITY MBH TOTAL	COOLING GPM	COOLING EWT DEG F	COOLING LWT DEG F	COOLING EAT (DB/WB) DEG F	COOLING LAT (DB/WB) DEG F	COOLING WPD	HEATING CAPACITY MBH	HEATING GPM	HEATING EWT DEG F	HEATING LWT DEG F	HEATING EAT DEG F	HEATING LAT DEG F	HEATING WPD	MFR.	MODEL	NOTES
AHU-1	MECHANICAL 4023	GREAT HALL, PLATFORM, GREEN RM 3004	8740	3480	4	20.0	24.1	2220					25% PROPYLENE GLYCOL	460	3	60	238	319	67.0	45	55	78/65	52.8/52.6	14.360	222	24	125	105	41.5	65	3.230	BUFFALO AIR HANDLING	CUSTOM	1 TO 9, 13, 14
AHU-2	MECHANICAL 4020	GREAT HALL, FOYER 300B, THE NEST 3001	11550	3785	4	25.0	29.5	2108					25% PROPYLENE GLYCOL	460	3	60	327	452	94.0	45	55	76.6/64	50.4/50.3	13.090	237	25	125	105	46	65	3.150	BUFFALO AIR HANDLING	CUSTOM	1 TO 9, 13, 14
AHU-3	ROOF	3RD FL KITCHEN	5900	950	3	15.0	18.0	2578	2.00	5	6.45	1779	25% PROPYLENE GLYCOL	460	3	60	142	179	37.3	45	55	73.3/61.8	51/51	13.470	56	5.88	125	105	58.5	67.2	2.190	BUFFALO AIR HANDLING	CUSTOM	1 TO 7, 10, 11, 12, 14, 15
AHU-4	REFER TO (AHU-4) AIR HANDLING UNIT SCHEDULE (CHILLED AND HOT WATER W/ ENERGY RECOVERY WHEEL) BELOW.																																M	
AHU-5	MECHANICAL 193B	DANCE STUDIO 107	2400	810	3	5.0	5.9	3354	2.00	5	6.45	2631	25% PROPYLENE GLYCOL	460	3	60	67	91	18.9	45	55	76.8/64	50.8/50.8	10.620	101	10.59	125	105	46	84.8	12.490	BUFFALO AIR HANDLING	CUSTOM	1 TO 9, 14

NOTES:
1. REFER TO COIL HOOKUP AND CONDENSATE TRAP DETAIL(S).
2. PROVIDE WITH MERV 13 FILTERS.
3. PROVIDE WITHOUT UNITARY CONTROLS, UNIT TO BE BMS CONTROLED.
4. PROVIDE SPRING ISOLATORS FOR UNIT FANS.
5. PROVIDE WITH UNIT MOUNTED 120V DUPLEX OUTLET.
6. BASIS OF DESIGN HAS (4) POINTS OF ELECTRICAL POWER CONNECTION.
7. PROVIDE WITH AIRFLOW MONITORING STATIONS ON FANS.
8. UNIT LOCATED IN MECHANICAL ROOM(S) TO TRAVEL IN SECTIONS AND ASSEMBLED IN THE FIELD.
9. LARGEST SECTION TO BE SIZED TO ALLOW MOVEMENT THROUGH UNIT TRAVEL PATH.
10. PROVIDE WITH 24" ROOF CURB.
11. PROVIDE WITH AIR INTAKE WEATHER HOOD AND BIRD SCREEN.
12. PROVIDE WITH ROOFING ALUMINUM STAIRS TO GET INTO SERVICE CORRIDOR. LEVEL THE CURBS AND STAIRS BETWEEN AHU-3 AND MAU-1.
13. PROVIDE WITH SPLIT HEATING AND COOLING COILS TO ALLOW FOR COIL PULL CLEARANCE.
14. PROVIDE HEATING AND COOLING COILS WITH 2-WAY EPIV CONTROL VALVE SIZED FOR THE COILS FULL FLOW.
15. AHU-3 AND MAU-1 TO BE PROVIDED BY THE SINGLE MANUFACTURER.

HEAT RECOVERY UNIT SCHEDULE

MARK	LOCATION	SERVES	SUPPLY FAN ESP (IN)	SUPPLY FAN HP	SUPPLY FAN FLA	SUPPLY FAN RPM	RETURN FAN ESP (IN)	RETURN FAN HP	RETURN FAN FLA	RETURN FAN RPM	SUMMER SUPPLY CFM	SUMMER SUPPLY DB/WB (°F)	SUMMER OUTSIDE CFM	SUMMER OUTSIDE DB/WB (°F)	SUMMER RETURN CFM	SUMMER RETURN TEMP. DB/WB (DEG .F)	SUMMER EXHAUST CFM	SUMMER EXHAUST DB/WB (°F)	SUMMER WHEEL EFF. %	WINTER SUPPLY CFM	WINTER SUPPLY DB/WB (°F)	WINTER OUTSIDE CFM	WINTER OUTSIDE DB/WB (°F)	WINTER RETURN CFM	WINTER RETURN DB/WB (°F)	WINTER EXHAUST CFM	WINTER EXHAUST DB/WB (°F)	WINTER WHEEL EFF %	HP	V / PH / HZ	MFR.	MODEL NO	NOTES
HRU-1	MECHANICAL 4023	AHU-1	1	7.5	8.75	3485.0	1	7.5	8.76	3485	3480	74.3/62.36	3755	90/71.5	3480	70/59.72	3755	85.7/69.36	79.8	3480	54.1/44.2	3790	-2/-2	3480	70/52.94	3790	13.9/13.45	78.6	0.25	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 8
HRU-2	MECHANICAL 4018	AHU-2	1	7.5	8.76	3349.0	1	7.5	8.76	3349	3785	74.5/62.5	4060	90/71.5	3785	70/59.72	4060	85.5/69.24	78.7	3785	53.5/43.82	4095	-2/-2	3785	70/52.94	4095	14.5/14.03	77.7	0.25	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 8

NOTES:
1. MANUFACTURER OF ENERGY RECOVERY WHEEL FOR BASIS OF DESIGN AIR HANDLING UNIT IS THERMOTECH.
2. UNIT TO TRAVEL IN SECTIONS AND ASSEMBLED IN THE FIELD, INCLUDING THE ENERGY WHEEL SECTION.
3. PROVIDE SPRING ISOLATORS FOR UNIT FANS.
4. PROVIDE WITH UNITARY CONTROLS CAPABLE OF BMS COMMUNICATION.
5. PROVIDE WITH MERV 8 FILTERS.
6. BASIS OF DESIGN HAS (2) POINTS OF ELECTRICAL POWER CONNECTION.
7. LARGEST SECTION TO BE SIZED TO ALLOW MOVEMENT THROUGH UNIT TRAVEL PATH.
8. PROVIDE WITH AIRFLOW MONITORING STATIONS ON FANS.

AIR HANDLING UNIT SCHEDULE (CHILLED AND HOT WATER W/ ENERGY RECOVERY WHEEL)

MARK	LOCATION	SERVES	SUPPLY CFM	MIN. OA CFM	SUPPLY FAN ESP (IN)	SUPPLY FAN HP	SUPPLY FAN FLA	SUPPLY FAN RPM	RETURN FAN ESP (IN)	RETURN FAN HP	RETURN FAN FLA	RETURN FAN RPM	FLUID TYPE	COOLING MBH TOTAL	COOLING MBH SENS.	COOLING GPM	COOLING EWT (°F)	COOLING LWT (°F)	COOLING EAT DB/WB (°F)	COOLING LAT DB/WB (°F)	COOLING WATER HEAD LOSS (FT)	HEATING MBH	HEATING GPM	HEATING EWT (°F)	HEATING LWT (°F)	HEATING EAT (°F)	HEATING LAT (°F)	HEATING WATER HEAD LOSS (FT)	SUMMER SUPPLY CFM	SUMMER SUPPLY DB/WB (°F)	SUMMER OUTSIDE CFM	SUMMER OUTSIDE DB/WB (°F)	SUMMER RETURN CFM	SUMMER RETURN DB/WB (°F)	SUMMER EXHAUST CFM	SUMMER EXHAUST DB/WB (°F)	SUMMER WHEEL EFF %	WINTER SUPPLY CFM	WINTER SUPPLY DB/WB (°F)	WINTER OUTSIDE CFM	WINTER OUTSIDE DB/WB (°F)	WINTER RETURN CFM	WINTER RETURN DB/WB (°F)	WINTER EXHAUST CFM	WINTER EXHAUST DB/WB (°F)	WINTER WHEEL EFF %	HP	V / PH / HZ	MFR.	MODEL NO	NOTES
AHU-4	MECHANICAL 193B	FIRST FLOOR DINING	16890	5005	4	50.0	58	2181.0	4	30.0	35.10	1959	25% PROPYLENE GLYCOL	618	456	128.4	45	55	76/63.5	51/50.8	11.580	292	30.76	125	105	49	65	7.69	5005	74.8/62.75	5152	90/71.6	5005	70/59.72	5152	85.2/69.11	76.9	5005	52.8/43.09	5152	-2/-2	5005	70/52.94	5152	15.7/15.19	75.9	0.33	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 10

NOTES:
1. REFER TO COIL HOOKUP AND CONDENSATE TRAP DETAIL(S).
2. PROVIDE WITH MERV 13 FILTERS.
3. PROVIDE WITH UNITARY ENERGY RECOVERY WHEEL CONTROLS, REMAINING SECTIONS TO BE BMS CONTROLED.
4. PROVIDE WITH UNIT MOUNTED 120V DUPLEX OUTLET.
5. BASIS OF DESIGN HAS (4) POINTS OF ELECTRICAL POWER CONNECTION.
6. UNIT TO TRAVEL IN SECTIONS AND ASSEMBLED IN THE FIELD, INCLUDING THE ENERGY WHEEL SECTION.
7. PROVIDE WITH AIRFLOW MONITORING STATIONS ON FANS.
8. MANUFACTURER OF ENERGY RECOVERY WHEEL FOR BASIS OF DESIGN AIR HANDLING UNIT IS THERMOTECH
9. PROVIDE WITH SPLIT HEATING AND COOLING COILS TO ALLOW FOR COIL PULL CLEARANCE.
10. PROVIDE HEATING AND COOLING COILS WITH 2-WAY EPIV CONTROL VALVE SIZED FOR THE COILS FULL FLOW.

DEDICATED OUTSIDE AIR UNIT SCHEDULE

MARK	LOCATION	SERVES	SUPPLY CFM	OA CFM	SUPPLY FAN ESP (IN)	SUPPLY FAN HP	SUPPLY FAN FLA	SUPPLY FAN RPM	RETURN FAN ESP (IN)	RETURN FAN HP	RETURN FAN FLA	RETURN FAN RPM	FLUID TYPE	COOLING MBH TOTAL	COOLING MBH SENS.	COOLING GPM	COOLING EWT (°F)	COOLING LWT (°F)	COOLING EAT DB/WB (°F)	COOLING LAT DB/WB (°F)	COOLING WATER HEAD LOSS (FT)	HEATING MBH	HEATING GPM	HEATING EWT (°F)	HEATING LWT (°F)	HEATING EAT (°F)	HEATING LAT (°F)	HEATING WATER HEAD LOSS (FT)	SUMMER SUPPLY CFM	SUMMER SUPPLY DB/WB (°F)	SUMMER OUTSIDE CFM	SUMMER OUTSIDE DB/WB (°F)	SUMMER RETURN CFM	SUMMER RETURN DB/WB (°F)	SUMMER EXHAUST CFM	SUMMER EXHAUST DB/WB (°F)	SUMMER WHEEL EFF %	WINTER SUPPLY CFM	WINTER SUPPLY DB/WB (°F)	WINTER OUTSIDE CFM	WINTER OUTSIDE DB/WB (°F)	WINTER RETURN CFM	WINTER RETURN DB/WB (°F)	WINTER EXHAUST CFM	WINTER EXHAUST DB/WB (°F)	WINTER WHEEL EFF %	HP	V / PH / HZ	MFR.	MODEL NO	NOTES
DOAS-1	MECHANICAL 193B	BSMT, 1ST, & 2ND FL CHILLED BEAMS	8300	8300	4	20.0	24	1770	4	15.0	18.00	1765.0	25% PROPYLENE GLYCOL	509	337	105.92	45	55	90/71.5	52.4/52.4	3.68	645	67.94	125	105	-2	70	5.20	8300	74.9/62.78	8484	90/71.5	8300	70/59.7	8484	85.1/68.97	76.4	8300	51.9/42.77	8484	-2/-2	8300	70/52.94	8484	16.1/15.57	75.4	0.33	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 12
DOAS-2	MECHANICAL 4018	3RD & 4TH FL CHILLED BEAMS	3800	3800	3	7.5	8.76	3485	3	7.5	9.00	1765.0	25% PROPYLENE GLYCOL	242	157	50.37	45	55	90/71.5	51.8/51.5	13.39	295	31.00	125	105	-2	70	4.43	3800	75.3/63.07	3915	90/71.5	3800	70/59.72	3915	84.7/68.74	74.9	3800	50.4/41.82	3915	-2/-2	3800	70/52.94	3915	17.6/16.96	74.4	0.25	460/3/60	BUFFALO AIR HANDLING	CUSTOM	1 TO 10, 12

NOTES:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH VFD.
3. REFER TO COIL HOOKUP AND CONDENSATE TRAP DETAIL(S).
4. PROVIDE WITH MERV 8 FILTERS.
5. PROVIDE WITHOUT UNITARY CONTROLS, UNIT TO BE BMS CONTROLED.
6. PROVIDE SPRING ISOLATORS FOR UNIT FANS.
7. PROVIDE WITH UNIT MOUNTED 120V DUPLEX OUTLET.
8. BASIS OF DESIGN HAS (4) POINTS OF ELECTRICAL POWER CONNECTION.
9. UNIT TO TRAVEL IN SECTIONS AND ASSEMBLED IN THE FIELD, INCLUDING THE ENERGY WHEEL SECTION.
10. PROVIDE WITH AIRFLOW MONITORING STATIONS ON FANS.
11. PROVIDE WITH SPLIT HEATING AND COOLING COILS TO ALLOW FOR COIL PULL CLEARANCE.
12. PROVIDE HEATING AND COOLING COILS WITH 2-WAY EPIV CONTROL VALVE SIZED FOR THE COILS FULL FLOW.

GEOTHERMAL HEAT EXCHANGER SCHEDULE

MARK	TYPE	LOCATION	SERVICE	YEAR 1 MBH	YEAR 30 MBH	BUILDING SIDE FLUID TYPE	BUILDING SIDE YEAR 1 EWT (°F)	BUILDING SIDE YEAR 1 LWT (°F)	BUILDING SIDE YEAR 30 EWT (°F)	BUILDING SIDE YEAR 30 LWT (°F)	BUILDING SIDE GPM	BUILDING SIDE WPD (PSI)	WELL FIELD SIDE FLUID TYPE	WELL FIELD YEAR 1 EWT (°F)	WELL FIELD YEAR 1 LWT (°F)	WELL FIELD YEAR 30 EWT (°F)	WELL FIELD YEAR 30 LWT (°F)	WELL FIELD GPM	WELL FIELD WPD (PSI)	MFR.	MODEL	NOTES
HX-1	GASKETED PLATE FRAME	MECHANICAL/STORAGE 193E	GEOTHERMAL FIELD	5969.2	5747.6	25% PROPYLENE GLYCOL	105	95	105	95	1200.0	5.00	25% PROPYLENE GLYCOL	59	77	52	70	700	2.04	BELL & GOSSETT	AP42-107	1,2

(BUILDING SIDE and WELL FIELD SIDE are WORST CASE - COOLING.)

NOTES:
1. PROVIDE WITH FRAME WITH SPACE TO ACCOMODATE ADDITIONAL PLATES.
2. HEAT EXCHANGER OPERATES FOR BOTH HEATING AND COOLING MODES. HEAT EXCHANGER HAS BEEN SELECTED FOR THE LARGEST MBH EXCHANGE (COOLING MODE).

HEAT PUMP DUCTED SPLIT UNIT SCHEDULE

MARK	QTY	LOCATION	SERVES	TYPE	CFM	HEATING MBH (17°F AMBIENT)	COOLING MBH (95°F AMBIENT)	REFR. TYPE	REFRIG. SIZE LIQUID-SUCTION (IN)	FANS W	MCA	V	PH	HZ	MFR.	MODEL	NOTES
ACU-1	1	PENTHOUSE 5005	ELEVATOR SHAFT	DX	420	13	18	R454B	1/4 - 1/2	96	1.38	208	1	60	MITSUBISHI	SEZ-AD18NL	1, 2

NOTES:
1. PROVIDE WITH BACNET COMPATIBLE TEMPERATURE SENSOR.
2. PROVIDE WITH BACNET COMPATIBLE CONTROLLER.
3. PROVIDE WITH DRAIN PAN OVERFLOW FLOAT SWITCH.

AIR COOLED CONDENSING UNIT SCHEDULE

MARK	QTY	LOCATION	SERVES	TYPE	MBH	REFR. TYPE	REFRIG. SIZE LIQUID-SUCTION (IN)	COOLING EFFICIENCY EER/SEER	MCA	V	PH	HZ	MFR.	MODEL	NOTES
ACCU-1	1	ROOF	FCU-6	OUTDOOR	18	R454B	1/4 - 1/2	12.80/17	25	208	1	60	MITSUBISHI	SUZ-AA18NL	1 TO 4

NOTES:
1. PROVIDE WITH MANUFACTURER RECOMMENDED EQUIPMENT STAND.
2. PROVIDE WITH CRANK CASE HEATER.
3. PROVIDE WITH LOW AMBIENT WINTER KIT WITH WIND BAFFLE.
4. PROVIDE WITH DISCONNECT SWITCH.

EXHAUST FAN SCHEDULE

MARK	SERVES	FAN TYPE	DRIVE	CFM	HP	BHP	RPM	ESP (IN-WG)	V	PH	HZ	FLA	MFR.	MODEL	NOTES
EF-1	2ND TO 4TH FL RESTROOMS	DOWNBLAST	DIRECT	1850	1.5	0.6	1449	1.00	208	3	60	6.6	GREENHECK	G-140-A	1, 2, 3
EF-2	JANITOR 1097A	SIDEWALL	BELT	50	0.33	0.27	1477	1.00	208	3	60	2.4	GREENHECK	AER-20-03-0605	1, 3, 4
EF-3	1FL RESTROOM	INLINE	BELT	875	0.75	0.53	1931	1.52	208	3	60	3.5	GREENHECK	BSQ-130HP	1, 4
EF-4	AHU SERVICE ENCLOSURE	SIDEWALL	12" 1/4" HP FAN PROVIDED WITH MFR'S SERVICE CORRIDOR. REFER TO CUSTOM AHU SPECS.												1,3
KEF-1	CATERING KITCHEN 3006	UPBLAST	DIRECT	600	0.5	0.25	2031	1.00	115	1	60	6.6	GREENHECK	CUE-100HP-VG	1, 2, 3
KEF-2	CATERING KITCHEN 3006	UPBLAST	DIRECT	1205	0.75	0.33	1461	1.00	208	3	60	3.5	GREENHECK	CUE-130-A	1, 2, 3
KEF-3	CATERING KITCHEN 3006	UPBLAST	DIRECT	1205	0.75	0.33	1461	1.00	208	3	60	3.5	GREENHECK	CUE-130-A	1, 2, 3
KEF-4	CATERING KITCHEN 3006	UPBLAST	DIRECT	1170	0.75	0.32	1450	1.00	208	3	60	3.5	GREENHECK	CUE-130-A	1, 2, 3
KEF-5	CATERING KITCHEN 3006	UPBLAST	DIRECT	1170	0.75	0.32	1450	1.00	208	3	60	3.5	GREENHECK	CUE-130-A	1, 2, 3
KEF-6	THIS IS EXISTING TO REMAIN EXHAUST FAN SERVING FIRST FLOOR KITCHEN. PREVIOUSLY KNOWN AS EF-1. UPDATE THE EQUIPMENT TAG ON EQUIPMENT AND IN CONTROLS SYSTEM.														
KEF-7	THIS IS EXISTING TO REMAIN EXHAUST FAN SERVING FIRST FLOOR KITCHEN. PREVIOUSLY KNOWN AS EF-2. UPDATE THE EQUIPMENT TAG ON EQUIPMENT AND IN CONTROLS SYSTEM.														
KEF-8	THIS IS EXISTING TO REMAIN EXHAUST FAN SERVING FIRST FLOOR KITCHEN. PREVIOUSLY KNOWN AS EF-3. UPDATE THE EQUIPMENT TAG ON EQUIPMENT AND IN CONTROLS SYSTEM.														

NOTES:
1. PROVIDE WITH DISCONNECT SWITCH.
2. PROVIDE WITH 24" ROOF CURB.
3. PROVIDE WITH POWER OPEN AND SPRING CLOSE MOTORIZED DAMPER AND BIRD SCREEN.
4. PROVIDE WITH ADJUSTABLE BELT AND KIT FOR BALANCING.

PUMP SCHEDULE

MARK	LOCATION	SERVICE	TYPE	HP	BHP	RPM	GPM	HEAD (FT)	NPSH (FT)	FLUID TYPE	TEMP.	V	PH	HZ	MFR.	MODEL	NOTES
P-1,2	MECHANICAL193E	PRIMARY COOLING GLYCOL	DUAL ARM INLINE	25	18.16	1647	935	45.00	25.45	25% PROPYLENE GLYCOL	45 °F	460	3	60	ARMSTRONG	4302 0810-025.0	1 THRU 4
P-3,4	MECHANICAL193E	SECONDARY COOLING GLYCOL	DUAL ARM INLINE	15	10.57	1563	621	50.00	10.95	25% PROPYLENE GLYCOL	45 °F	460	3	60	ARMSTRONG	4302 0810-015.0	1 THRU 4
P-5,6	MECHANICAL193E	SECONDARY COOLING HEAT EXCHANGER	DUAL ARM INLINE	3	2.73	1061	340	20.00	3.54	25% PROPYLENE GLYCOL	45 °F	460	3	60	ARMSTRONG	4302 0608-003.0	1 THRU 4
P-7,8	MECHANICAL193E	SECONDARY COOLING WATER	DUAL ARM INLINE	15	12.88	3135	342	85.00	18.40	WATER	45 °F	460	3	60	ARMSTRONG	4302 0406-015.0	1 THRU 4
P-9,10	MECHANICAL193E	PRIMARY HEATING GLYCOL	DUAL ARM INLINE	5	4.01	1143	571	20.00	5.08	25% PROPYLENE GLYCOL	125 °F	460	3	60	ARMSTRONG	4302 0808-005.0	1 THRU 4
P-11,12	MECHANICAL193E	PRIMARY HEATING GLYCOL SIDE SOURCE	DUAL ARM INLINE	10	7.55	1571	600	36.00	8.72	25% PROPYLENE GLYCOL	125 °F	208	3	60	ARMSTRONG	4302 0608-015.0	1 THRU 4
P-13,14	MECHANICAL193E	SECONDARY HEATING GLYCOL	DUAL ARM INLINE	7.5	5.72	1512	314	45.00	6.91	25% PROPYLENE GLYCOL	125 °F	460	3	60	ARMSTRONG	4302 0808-007.5	1 THRU 4
P-15,16	MECHANICAL193E	SECONDARY HEATING HEAT EXCHANGER	DUAL ARM INLINE	5	3.75	1131	543	20.00	4.82	25% PROPYLENE GLYCOL	125 °F	208	3	60	ARMSTRONG	4302 0808-005.0	1 THRU 4
P-17,18	MECHANICAL193E	SECONDARY HEATING WATER	DUAL ARM INLINE	15	11.52	1682	516	70.00	7.73	WATER	125 °F	208	3	60	ARMSTRONG	4302 0810-015.0	1 THRU 4
P-19,20	MECHANICAL193E	GEOTHERMAL FIELD	DUAL ARM INLINE	40	34.45	3505	350	240.00	11.15	25% PROPYLENE GLYCOL	40 °F	460	3	60	ARMSTRONG	4302 0408-040.0	1 THRU 4
P-19.1,20.1	MECHANICAL193E	GEOTHERMAL FIELD	DUAL ARM INLINE	40	34.45	3505	350	240.00	11.15	25% PROPYLENE GLYCOL	40 °F	460	3	60	ARMSTRONG	4302 0408-040.0	1 THRU 4
P-21,22	MECHANICAL193E	HEAT PUMP GEOTHERMAL SOURCE	DUAL ARM INLINE	10	8.23	1614	590	40.00	8.93	25% PROPYLENE GLYCOL	40 °F	480	3	60	ARMSTRONG	4302 0608-010.0	1 THRU 4
P-21.1,22.1	MECHANICAL193E	HEAT PUMP GEOTHERMAL SOURCE	DUAL ARM INLINE	10	8.23	1614	590	40.00	8.93	25% PROPYLENE GLYCOL	40 °F	480	3	60	ARMSTRONG	4302 0608-010.0	1 THRU 4
P-23	STORAGE 2002	SNOW MELT	ECM INLINE	1	0.30	3528	12	30.00		40% PROPYLENE GLYCOL	115 °F	208	1	60	BELL & GOSSETT	ECOCIRC XL 55-45	-

NOTES:
1. PROVIDE WITH PUMP MOUNTED, BACNET IP COMPATIBLE VFD. COORDINATE VFD ROTATION/POSITION FOR SERVICE CLEARANCES BETWEEN PUMPS.
2. PROVIDE WITH SHAFT GROUNDING RINGS.
3. PROVIDE WITH SUCTION DIFFUSER.
4. MOTORS TO BE INDIVIDUALLY POWERED AND CONTROLLED.

HEAT EXCHANGER SCHEDULE

MARK	TYPE	LOCATION	SERVICE	MBH	HOT SIDE FLUID TYPE	HOT SIDE EWT (°F)	HOT SIDE LWT (°F)	HOT SIDE GPM	HOT SIDE WPD (PSI)	COLD SIDE FLUID TYPE	COLD SIDE EWT (°F)	COLD SIDE LWT (°F)	COLD SIDE GPM	COLD SIDE WPD (PSI)	MFR.	MODEL	NOTES
HX-2	GASKETED PLATE FRAME	MECHANICAL/STORAGE 193E	SECONDARY COOLING	1654.5	25% PROPYLENE GLYCOL	56	46	346.6	11.21	WATER	44.0	53.0	340	10.15	BELL & GOSSETT	AP86-161	1
HX-3	GASKETED PLATE FRAME	MECHANICAL/STORAGE 193E	SECONDARY HEATING	5204	25% PROPYLENE GLYCOL	130	110	540.0	11.44	WATER	105.0	125.0	516	9.87	BELL & GOSSETT	AP62-90	1
HX-4	BRAZED PLATE	STORAGE 2002	SNOW MELT	107	25% PROPYLENE GLYCOL	125	115	11.2	1.92	40% PROPYLENE GLYCOL	104.0	114.0	12	2.07	BELL & GOSSETT	BP415-40	

NOTES:
1. PROVIDE WITH FRAME WITH SPACE TO ACCOMODATE ADDITIONAL PLATES.

FAN COIL UNIT SCHEDULE

MARK	LOCATION	FANS CFM	FANS HP	FANS ESP (IN-WG)	COOLING MBH	COOLING MBH SENS.	COOLING EAT (°F) DB	COOLING EAT (°F) WB	COOLING EWT (°F)	COOLING LWT (°F)	COOLING GPM	COOLING WPD (FT)	HW HEATING MBH	HW HEATING EAT (°F) DB	HW HEATING EAT (°F) WB	HW HEATING EWT (°F)	HW HEATING LWT (°F)	HW HEATING GPM	HW HEATING WPD (FT)	V	PH	HZ	FLA	MFR.	MODEL	NOTES
FCU-1	MDF 195A	635	0.33	0.10	17.86	14.78	75	63	45	55	3.7	1.72								115	1	60	4.80	ENVIRO-TEC	HPE08	1
FCU-2	IDF 2095A	635	0.33	0.10	17.86	14.78	75	63	45	55	3.7	1.72								115	1	60	4.80	ENVIRO-TEC	HPE08	1
FCU-3	IDF 3095A	635	0.33	0.10	17.86	14.78	75	63	45	55	3.7	1.72								115	1	60	4.80	ENVIRO-TEC	HPE08	1
FCU-4	IDF 4095A	655	0.33	0.10	17.44	14.36	75	63	45	55	3.7	6.04	31.02	70	0	125	108.5	3.70	4.24	115	1	60	4.80	ENVIRO-TEC	HPE08	1, 2
FCU-5	ELECTRICAL 194A	1285	0.33	0.25	36	29.5	75	63	45	55	7.5	1.38								115	1	60	9.60	ENVIRO-TEC	HPP-D-16	1, 3

(HW HEATING is FCU-4 ONLY.)

NOTES:
1. PROVIDE WITH MANUFACTURER PACKAGED CONTROLS.
2. PROVIDE WITH CHANGEOVER COIL.
3. UNIT IS PROVIDED WITH TWO (2) MOTORS.

LOUVER SCHEDULE

MARK	LOCATION	SERVICE	USE	SIZE (IN)	DEPTH (IN)	CFM	APD (IN)	FREE AREA (SQFT)	TYPE	BIRD SCREEN	MAT'L	MANUFACTURER	MODEL	NOTES
L-1	MECHANICAL 193E	MAU-2	INTAKE	60 X 60	6	9000	0.04	14.7	DRAINABLE BLADE	YES	ALUMINUM	GREENHECK	EAD-635-60X60	1, 2
L-2	RESTROOM 1092B	EF-4	EXHAUST	26 X 22	6	775	0.03	1.7	DRAINABLE BLADE	YES	ALUMINUM	GREENHECK	EAD-632W-26X22	1, 2
L-3	MECHANICAL 193B	DOAS-2, AHU-4, AHU-5	INTAKE	108 X 96	6	27600	0.05	43.7	DRAINABLE BLADE	YES	ALUMINUM	GREENHECK	EAD-635-108X96	1, 2
L-4	PROVIDED WITH MFR'S SERVICE CORRIDOR. REFER TO CUSTOM AIR HANDLING UNIT SPECS.													1
L-5	PATIO/CRAWL SPACE	PATIO/CRAWL SPACE	-	36 X 36	6	-	-	5	DRAINABLE BLADE	YES	ALUMINUM	GREENHECK	ESD-635-36X36	1, 3, 5
L-6	PATIO/CRAWL SPACE	PATIO/CRAWL SPACE	-	36 X 48	6	-	-	6.1	DRAINABLE BLADE	YES	ALUMINUM	GREENHECK	ESD-603-36X48	1, 3, 4

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR SELECTION.
2. PROVIDE WITH POWER OPEN AND SPRING CLOSED MOTORIZED DAMPER.
3. LOUVER TO REMAIN OPEN.
4. PROVIDE WITH OPERABLE HINGE.
5. FIELD VERIFY THE LOUVER SIZE WITH EXISTING OPENING.

SIDE STREAM FILTER SCHEDULE

MARK	LOCATION	SERVES	NUMBER OF BAGS	CONN. SIZE IN	CONN. SIZE OUT	MAX GPM	WEIGHT (LBS)	MFR.	MODEL	NOTES
SSF-1	MECHANICAL193E	GROUND WATER LOOP	1	2"	2"	80	82	WESSELS CO.	4NBF12-2	1, 2
SSF-3	MECHANICAL193E	PRIMARY COOLING GLYCOL LOOP	1	2"	2"	80	82	WESSELS CO.	4NBF12-2	1, 2
SSF-4	MECHANICAL193E	SECONDARY HEATING LOOP	1	2"	2"	80	82	WESSELS CO.	4NBF12-2	1, 2
SSF-5	MECHANICAL193E	SECONDARY COOLING LOOP	1	2"	2"	80	82	WESSELS CO.	4NBF12-2	1, 2
SSF-2	MECHANICAL193E	SECONDARY COOLING LOOP	1	2"	2"	80	82	WESSELS CO.	4NBF12-2	1, 2

NOTES:
1. BAG FILTERS TO BE FLOOR MOUNTED.
2. BAG FILTERS TO FILTER A MAXIMUM OF 5% FLOW OF HYDRONIC LOOP.
3. PROVIDE WITH SIZE 2 BAG FILTER.

REGISTER AND GRILLE SCHEDULE

MARK	MOUNTING	FACE	MAT'L	PATTERN	DAMPER	USE	MAX. PD (IN)	MAX. NC LEVEL	MFR	MODEL	NOTES
1	LAY IN	DUCT SIZE + 1 3/4"	ALUMINUM	L	-	SUPPLY	0.03	25	TITUS	300FL	1
2	LAY IN	DUCT SIZE + 1 3/4"	ALUMINUM	L	-	RETURN	0.08	25	TITUS	350FL	1
3	LAY IN	DUCT SIZE + 1 3/4"	ALUMINUM	L	YES	EXHAUST	0.04	25	TITUS	350FL	1
4	DUCT	DUCT SIZE + 1 3/4"	ALUMINUM	L	YES	SUPPLY	0.05	25	TITUS	S300FL	1
5	DUCT	DUCT SIZE + 1 3/4"	ALUMINUM	L	YES	SUPPLY	0.05	25	TITUS	300FL	1
6	DUCT	DUCT SIZE + 1 3/4"	ALUMINUM	L	-	RETURN	0.05	25	TITUS	300FL	1

NOTES:
1. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR SELECTION.

DIFFUSER SCHEDULE

MARK	MOUNTING	FACE SIZE	MAT'L	PATTERN	DAMPER	MAX. PD (IN)	MAX. NC LEVEL	MANUFACTURER	MODEL	NOTES
A	LAY IN	24x24	ALUMINUM	PLAQUE FACE	-	0.08	25	TITUS	OMNI	1, 3
B	LAY IN	DUCT + 7/8"	ALUMINUM	1" - 6 SLOTS	YES	0.05	30	TITUS	ML-39	2, 3

NOTES:
1. INCLUDED DAMPER TO BE OPPOSED BLADE TYPE.
2. PROVIDE WITH INSULATED PLENUM BOX.
3. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR SELECTION.

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Revisions

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SUNY CORTLAND COREY UNION

M631
HVAC SCHEDULES

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ACTIVE CHILLED BEAM SCHEDULE

MARK	QTY	LOCATION	HEIGHT EXT.	FLOW DIRECTION	NOZZLE QTY	TOTAL CFM FOR QTY		PRESSURE (IN-WG)	COOLING							HEATING						NC SOUND	THROW	MFR.	MODEL	NOTES
						OA	SA		TOTAL BTU FOR QTY	TOTAL BTU SENS. FOR QTY	EAT (°F) DB	EWT (°F)	LWT (°F)	GPM/ UNIT	WPD/UNIT (FT)	TOTAL BTU FOR QTY	EAT (°F) DB	EWT (°F)	LWT (°F)	GPM/ UNIT	WPD/UNIT (FT)					
ACB-1-01	3	CORRIDOR 1000B	3 in.	2-WAY	31	190	960	0.45	14534	14131	55	45	58.10	0.60	0.20	22273	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-1-02	2	MEETING RM. 1016	3 in.	2-WAY	31	120	615	0.40	14841	11447	55	45	49.90	2.70	3.70	14552	70	125	95.6	0.50	0.11	20	7	NUCLIMATE	AIB-224-31	1 TO 6
ACB-1-03	2	MEETING RM. 1018	3 in.	2-WAY	31	135	665	0.50	15166	11957	55	45	49.90	2.70	3.69	15133	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-1-04.1	2	CUST. STOR 1015A	3 in.	2-WAY	38	175	720	0.40	16394	12987	55	45	50.10	2.75	3.83	15314	70	125	94.1	0.50	0.11	20	9	NUCLIMATE	AIB-224-38	1 TO 6
ACB-1-04.2	1	OFFICE 1015B	6 in.	4-WAY	24	65	250	0.50	5948	4814	55	45	48.80	2.60	1.93	6517	70	125	103.1	0.60	0.09	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-1-05	5	MEETING RM. 1017	3 in.	2-WAY	31	330	1665	0.50	39164	30448	55	45	49.60	3.00	4.53	37831	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-1-06.1	1	DRESS FOR SUCCESS 1019B	3 in.	4-WAY	24	55	210	0.35	3550	3452	55	45	55.90	0.50	0.08	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-1-06.2	1	CUPBOARD OFFICE 1019A	6 in.	4-WAY	31	90	285	0.50	5777	5058	55	45	51.00	0.50	0.08	8532	70	125	114.2	0.50	0.06	21	10	NUCLIMATE	MINI Q-31	1 TO 6
ACB-1-06.3	2	CUPBOARD 1019	3 in.	2-WAY	31	120	610	0.40	13189	10716	55	45	51.40	1.80	1.68	14552	70	125	95.6	0.50	0.11	20	7	NUCLIMATE	AIB-224-31	1 TO 6
ACB-1-06.4	1	CHANGING ROOM 1019C	0 in.	1-WAY	31	25	95	0.20	2496	2016	55	45	53.40	0.50	0.64	3673	70	125	110.2	0.50	0.52	18	10	NUCLIMATE	QM1-31-2	1 TO 6
ACB-1-06.5	1	STORAGE 1019D	6 in.	4-WAY	24	45	165	0.20	3211	2943	55	45	55.30	0.50	0.08	4876	70	125	105.3	0.50	0.06	14	6	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-01.1	1	MLDO OFFICE 2023C	6 in.	4-WAY	24	60	225	0.40	4511	3979	55	45	52.30	1.00	0.30	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-01.2	1	MLDO OFFICE 2023D	6 in.	4-WAY	24	60	225	0.40	4511	3979	55	45	52.30	1.00	0.30	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-02.1	1	STORAGE 2023A	0 in.	1-WAY	24	20	70	0.20	2045	1585	55	45	52.10	0.50	0.65	2870	70	125	113.4	0.50	0.52	18	10	NUCLIMATE	QM1-24-2	1 TO 6
ACB-2-02.2	1	MLDO REC/OFFICE 2023	6 in.	4-WAY	24	55	210	0.35	4247	3745	55	45	52.60	0.90	0.25	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-03	1	MLDO DIRECTOR 2023B	6 in.	4-WAY	24	55	210	0.35	4555	3877	55	45	51.20	1.20	0.43	7491	70	125	120.0	3.00	2.02	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-04.1	6	CORRIDOR 2000C	3 in.	1-WAY	24	250	870	0.20	23417	18626	55	45	52.40	0.90	2.41	31936	70	125	103.5	0.50	0.62	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-2-04.2	1	CORRIDOR 2000D	3 in.	1-WAY	38	90	250	0.20	5385	4723	55	45	55.20	0.80	1.91	7190	70	125	96.0	0.50	0.63	25	10	NUCLIMATE	QLU-38-2	1 TO 6
ACB-2-04.3	1	CORRIDOR 2000E	3 in.	1-WAY	24	40	145	0.20	3404	2886	55	45	56.20	0.50	0.77	5323	70	125	103.5	0.50	0.62	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-2-04.4	1	BREAK RM. 2026	6 in.	4-WAY	24	60	225	0.40	4686	4054	55	45	51.90	1.10	0.36	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-05	4	STUDENT VOICE OFFICE 2024	3 in.	2-WAY	38	400	1650	0.55	35698	28678	55	45	50.00	3.00	4.53	32448	70	125	92.3	0.50	0.11	23	11	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-06.1	3	WOMEN'S 2018	3 in.	1-WAY	24	165	575	0.50	11872	10635	55	45	57.60	0.50	0.77	19344	70	125	99.0	0.50	0.62	31	13	NUCLIMATE	QLU-24-2	1 TO 6
ACB-2-06.2	3	MEN'S 2019	3 in.	1-WAY	24	165	575	0.50	11872	10635	55	45	57.60	0.50	0.77	19344	70	125	99.0	0.50	0.62	31	13	NUCLIMATE	QLU-24-2	1 TO 6
ACB-2-07	5	STUDENT CLUB MTG. RM. 2016	3 in.	2-WAY	31	360	1800	0.60	40965	32151	55	45	49.80	3.00	4.53	39159	70	125	93.4	0.50	0.11	24	9	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-08	5	MEETING RM. 2017	3 in.	2-WAY	31	320	1600	0.45	35164	28218	55	45	51.10	2.00	2.06	37122	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-09	2	MEETING RM. 2015	6 in.	4-WAY	31	175	570	0.50	13314	10882	55	45	48.60	3.00	2.55	12784	70	125	99.2	0.50	0.06	21	10	NUCLIMATE	MINI Q-31	1 TO 6
ACB-2-10.1	2	CA REC/OFFICE 2014	3 in.	1-WAY	24	80	290	0.20	6808	5771	55	45	56.20	0.50	0.77	10645	70	125	103.5	0.50	0.62	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-2-10.2	1	CA STORAGE 2014H	3 in.	2-WAY	31	60	295	0.35	4435	4343	55	45	59.40	0.50	0.14	7120	70	125	96.3	0.50	0.11	19	6	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-11.1	1	CA WORK RM. 2014A	6 in.	4-WAY	24	55	210	0.35	4555	3877	55	45	51.20	1.20	0.43	5575	70	125	102.5	3.00	2.02	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-11.2	1	CA DIRECTOR 2014B	6 in.	4-WAY	24	55	210	0.35	5440	4266	55	45	48.10	3.00	2.55	7491	70	125	120.0	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-11.3	1	CA OFFICE 2014C	6 in.	4-WAY	24	60	210	0.35	4328	3779	55	45	52.00	1.00	0.30	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-12	2	CA CONF. RM. 2014D	3 in.	2-WAY	31	130	640	0.45	14729	11580	55	45	50.20	2.50	3.18	14849	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-13.1	1	CA OFFICE 2014E	6 in.	4-WAY	24	55	210	0.35	4328	3779	55	45	52.00	1.00	0.30	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-13.2	1	CA OFFICE 2014F	6 in.	4-WAY	24	55	210	0.35	4328	3779	55	45	52.00	1.00	0.30	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-13.3	1	CA INTERNS 2014G	6 in.	4-WAY	24	60	210	0.35	4328	3779	55	45	52.00	1.00	0.30	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-14.1	1	CORRIDOR 2000A	3 in.	2-WAY	38	95	395	0.50	7360	6368	55	45	53.00	1.50	1.18	7968	70	125	92.8	0.50	0.11	22	11	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-14.2	2	CORRIDOR 2000B & THE DEN 2005	3 in.	2-WAY	31	130	665	0.50	13158	11079	55	45	52.50	1.50	1.18	15133	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-14.3	2	CORRIDOR 2000B & THE DEN 2005	3 in.	2-WAY	38	190	790	0.50	13564	12244	55	45	54.80	1.10	0.64	15936	70	125	92.8	0.50	0.11	22	11	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-14.4	3	GATHERING SPACE 2013 & THE HEARTH 2012	3 in.	2-WAY	38	245	1030	0.35	18745	16568	55	45	54.20	1.10	0.64	22465	70	125	94.8	0.50	0.11	19	9	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-14.4.a	2	GATHERING SPACE 2013 & THE HEARTH 2012	3 in.	2-WAY	38	170	690	0.35	12497	11045	55	45	54.20	1.10	0.64	14977	70	125	94.8	0.50	0.11	19	9	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-14.5	1	THE DEN 2005	3 in.	2-WAY	31	60	320	0.45	5915	5159	55	45	54.10	1.10	0.64	7424	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-15.1	2	CORRIDOR 2000A	3 in.	2-WAY	38	180	755	0.45	14331	12325	55	45	52.80	1.50	1.18	15633	70	125	93.5	0.50	0.11	21	10	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-15.2	1	CORRIDOR 2000A	3 in.	2-WAY	38	90	380	0.45	8471	6734	55	45	49.80	3.00	4.53	7817	70	125	93.5	0.50	0.11	21	10	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-15.3	1	CORRIDOR 2000A	3 in.	2-WAY	31	65	330	0.50	6055	5315	55	45	54.30	1.10	0.64	7566	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-15.3.a	1	CORRIDOR 2000A	3 in.	2-WAY	31	65	335	0.50	6055	5315	55	45	54.30	1.10	0.64	7566	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-15.4	1	STAIR 6 2099F	3 in.	2-WAY	38	90	360	0.40	6821	5892	55	45	53.60	1.30	0.89	7657	70	125	94.1	0.50	0.11	20	9	NUCLIMATE	AIB-224-38	1 TO 6
ACB-2-16	2	SGA CONF. RM. 2011B	3 in.	2-WAY	31	130	665	0.50	15666	12179	55	45	49.60	3.00	4.53	15133	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-17.1	2	SGA BULLPEN 2011A	6 in.	4-WAY	24	130	470	0.45	11799	9388	55	45	48.30	3.00	2.55	11945	70	125	100.9	0.50	0.06	20	9	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-17.2	1	SGA REC 2011	6 in.	4-WAY	24	55	210	0.35	3778	3547	55	45	54.90	0.60	0.11	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-17.3	1	NYPIRG 2010	6 in.	4-WAY	24	65	235	0.45	5190	4383	55	45	50.70	1.50	0.66	5973	70	125	100.9	0.50	0.06	20	9	NUCLIMATE	MINI Q-24	1 TO 6
ACB-2-18	2	REFLECTION 2009	3 in.	2-WAY	31	130	640	0.45	14729	11580	55	45	50.20	2.50	3.18	14849	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-19.1	1	THE DEN 2005	3 in.	2-WAY	31	60	305	0.40	7465	5743	55	45	49.40	3.00	4.54	7276	70	125	95.6	0.50	0.11	20	7	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-19.2	1	THE DEN 2005	3 in.	2-WAY	31	60	305	0.40	7465	5743	55	45	49.40	3.00	4.54	7276	70	125	95.6	0.50	0.11	20	7	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-19.3	6	THE DEN 2005	3 in.	2-WAY	31	400	1998	0.50	46997	36538	55	45	49.60	3.00	4.53	45397	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-19.3.a	2	THE DEN 2005	3 in.	2-WAY	31	130	666	0.50	15666	12179	55	45	49.60	3.00	4.53	15133	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-20	2	MEETING 2007	3 in.	2-WAY	31	130	640	0.45	15205	11792	55	45	50.00	2.70	3.69	14849	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-21	1	THE OVERLOOK 2004	0 in.	2-WAY	31	65	320	0.45	91809	71012	55	45	49.50	3.00	4.54	89093	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-2-21	11	THE OVERLOOK 2004	3 in.	2-WAY	31	695	3515	0.45	91809	71012	55	45	49.50	3.00	4.54	89093	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-3-01	5	MEETING RM. 3016	3 in.	2-WAY	31	330	1665	0.50	39164	30448	55	45	49.60	3.00	4.53	37831	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-3-02	5	MEETING RM. 3015	3 in.	2-WAY	31	315	1600	0.45	38254	29589	55	45	49.50	3.00	4.54	37122	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-3-03.1	1	LOCKER RM. 3013	3 in.	2-WAY	18	40	250	0.50	3835	3138	55	45	58.80	0.50	0.14	6741	70	125	97.8	0.50	0.11	26	6	NUCLIMATE	AIB-224-18	1 TO 6
ACB-3-03.2	5	CORRIDOR 3000 & BREAKOUT 3011	3 in.	2-WAY	31	320	1600	0.45	29574	25797	55	45	54.10	1.10	0.64	37122	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-3-04.1	3	WOMEN'S 3008	3 in.	1-WAY	24	140	480	0.30	10902	9379	55	45	56.90	0.50	0.77	17195	70	125	101.9	0.50	0.62	27	11	NUCLIMATE	QLU-24-2	1 TO 6
ACB-3-04.2	3	MEN'S 3009	3 in.	1-WAY	24	125	435	0.20	10211	8657	55	45	56.20	0.50	0.77	15968	70	125	103.5	0.50	0.62	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-3-05.1	4	OPEN OFFICE 3007	3 in.	2-WAY	31	255	1280	0.45	23659	20638	55	45	54.10	1.10	0.64	29698	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-3-05.2	1	CATERING MGR 3007A	6 in.	4-WAY	24	55	210	0.35	4328	3779	55	45	52.00	1.00	0.30	5882	70	125	105.2	0.60	0.09	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-01.1	1	OFFICE 4015B	6 in.	4-WAY	24	55	210	0.35	4555	3877	55	45	51.20	1.20	0.43	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-01.2	1	OFFICE 4015C	6 in.	4-WAY	24	55	225	0.40	5001	4190	55	45	50.50	1.50	0.66	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-01.3	2	SC RECEPTION 4015	3 in.	2-WAY	31	130	640	0.45	12577	10639	55	45	53.30	1.30	0.89	14849	70	125	95.0	0.50	0.11	21	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-4-02	1	SC DIRECTOR 4015A	6 in.	4-WAY	24	65	235	0.45	5394	4471	55	45	50.00	1.80	0.95	5973	70	125	100.9	0.50	0.06	20	9	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-03.1	1	WAITING RM. 4012	6 in.	4-WAY	24	70	250	0.50	5155	4469	55	45	51.40	1.30	0.50	6134	70	125	100.2	0.50	0.06	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-03.2	1	STUDENT AFFAIRS 4014	6 in.	4-WAY	24	60	225	0.40	4511	3979	55	45	52.30	1.00	0.30	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-03.3	1	STORAGE 4014D	6 in.	4-WAY	24	65	250	0.50	4311	4112	55	45	54.50	0.70	0.15	6134	70	125	100.2	0.50	0.06	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-04.1	1	OFFICE 4014B	6 in.	4-WAY	24	65	250	0.50	5603	4663	55	45	49.90	1.90	1.05	6134	70	125	100.2	0.50	0.06	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-04.2	1	ASSOC. VP 4014A	6 in.	4-WAY	24	70	250	0.50	5362	4558	55	45	50.90	1.50	0.66	7429	70	125	110.0	1.00	0.24	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-05	1	VP 4014C	6 in.	4-WAY	24	70	250	0.50	5362	4558	55	45	50.90	1.50	0.66	7979	70	125	114.3	1.50	0.53	21	10	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-06.1	2	WOMEN'S 4006	3 in.	1-WAY	24	90	305	0.25	7040	6013	55	45	56.60	0.50	0.77	11062	70	125	102.7	0.50	0.62	26	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-4-06.2	2	MEN'S 4007	3 in.	1-WAY	24	90	320	0.30	7268	6253	55	45	56.90	0.50	0.77	11463	70	125	101.9	0.50	0.62	27	11	NUCLIMATE	QLU-24-2	1 TO 6
ACB-4-07	4	CORRIDOR 4000	3 in.	2-WAY	31	265	1330	0.50	27867	22830	55	45	51.30	1.90	1.87	30265	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-4-08	2	CONFERENCE RM. 4009	3 in.	2-WAY	31	130	665	0.50	15666	12179	55	45	49.60	3.00	4.53	15133	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-4-09.1	1	WAITING RM. 4017	6 in.	4-WAY	24	50	195	0.30	5063	3984	55	45	48.50	2.50	1.79	5357	70	125	103.4	0.50	0.06	16	7	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-09.2	2	BREAK RM. 4050	3 in.	1-WAY	24	80	290	0.20	7166	5927	55	45	55.00	0.60	1.09	10645	70	125	103.5	0.50	0.62	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-4-10.1	1	DIRECTOR 4001E	6 in.	4-WAY	24	60	225	0.40	4686	4054	55	45	51.90	1.10	0.36	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-10.2	1	EVENT MGR 4001D	6 in.	4-WAY	24	55	195	0.30	3629	3363	55	45	54.60	0.60	0.11	5357	70	125	103.4	0.50	0.06	16	7	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-11.1	1	EVENT MGR 4001B	6 in.	4-WAY	24	60	225	0.40	4140	3822	55	45	54.30	0.70	0.15	5788	70	125	101.6	0.50	0.06	18	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-11.2	1	EVENT MGR 4001C	6 in.	4-WAY	24	55	210	0.35	3980	3632	55	45	54.00	0.70	0.15	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-11.3	1	TECH OFFICE 4001A	6 in.	4-WAY	24	55	210	0.35	3980	3632	55	45	54.00	0.70	0.15	5575	70	125	102.5	0.50	0.06	17	8	NUCLIMATE	MINI Q-24	1 TO 6
ACB-4-12	5	EMS RECEPTION 4001	3 in.	2-WAY	31	330	1665	0.50	34304	28307	55	45	52.20	1.65	1.42	37831	70	125	94.5	0.50	0.11	22	8	NUCLIMATE	AIB-224-31	1 TO 6
ACB-B-01	2	CORRIDOR 100B & STORAGE 110	3 in.	1-WAY	24	80	290	0.20	8366	6459	55	45	49.50	1.60	7.39	11382	70	125	115.4	1.20	3.36	25	10	NUCLIMATE	QLU-24-2	1 TO 6
ACB-B-02	2	CORRIDOR 100B & STORAGE 110	3 in.	2-WAY	31	110	560	0.30	10185	9036	55	45	55.80	0.80	0.35	13914	70	125	96.9	0.50	0.11	18	6	NUCLIMATE	AIB-224-31	1 TO 6
ACB-B-03	3	CORRIDOR 100A	3 in.	2-WAY	31	185	920	0.40	17012	14877	55	45	54.60	1.00	0.53	21828	70	125	95.6	0.50	0.11	20	7	NUCLIMATE	AIB-224-31	1 TO 6

NOTES:
1. PROVIDE DRAIN PAN WITH FLOAT SWITCH.
2. INSULATE WITH 1/4" ARMACELL FOAM WITH VAPOR BARRIER.
3. REFER TO SHEETS A152-A154 FOR CUSTOM COLOR SELECTIONS.
4. PROVIDE WITH PANEL FILTERS AND LINT SCREEN.
5. COOLING BTU PERFORMANCE BASED UPON ROOM RETURN AIR AT 70F DB/59.7F WB AND HEATING BTU PERFORMANCE BASED UPON ROOM RETURN AIR AT 70F.
6. THROW SHOWS TERMINAL VELOCITY UNDER 100 FPM.

VAV (REHEAT) SCHEDULE

MARK	AHU	SERVES	SIZE		CFM		TERMINAL AIR DIFF. PRESSURE	NC LEVELS		HOT WATER HEAT COIL									MFR.	MODEL	NOTES
			UNIT	OUTLET	MAX	MIN		RADIATED	DISCH	CFM	MBH	EAT (DEG. F)	LAT (DEG. F)	EWT (DEG. F)	LWT (DEG. F)	GPM	WPD	ROWS			
VAV-01	AHU-1	GREEN ROOM 3004	07	12x10	440	70	0.21	20	24	245	8	55	85.0	125	110.9	1.10	0.31	2	TITUS	DESV	1 TO 4
VAV-02	AHU-1	PLATFORM 3002	08	12x10	800	530	0.62	24	29	530	17.3	55	85.0	125	107.7	2.00	0.39	3	TITUS	DESV	1 TO 4
VAV-03	AHU-1	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-04	AHU-1	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-05	AHU-1	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-06	AHU-2	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-07	AHU-2	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-08	AHU-2	THE GREAT HALL 3002	14	20x17.5	2500	960	0.47	23	24	960	29.2	55	83.0	125	108.5	3.60	0.58	2	TITUS	DESV	1 TO 4
VAV-09	AHU-2	FOYER 3000B	16	24x18	2400	620	0.31	18	23	1100	35.8	55	85.0	125	113.2	6.10	0.64	2	TITUS	DESV	1 TO 4
VAV-10	AHU-2	THE NEST 3001	14	20x17.5	1650	285	0.23	20	23	700	22.8	55	85.0	125	106.8	2.50	0.37	2	TITUS	DESV	1 TO 4
VAV-11	AHU-4	BACK OF HOUSE OFFICES	14	20x17.5	800	120	0.08	16	19	700	22.8	55	85.0	125	106.8	2.50	0.37	2	TITUS	DESV	1 TO 4
VAV-12	AHU-4	FIRST FLOOR DINING	14	20x17.5	2040	800	0.34	22	23	800	26	55	85.0	125	108.6	3.20	0.50	2	TITUS	DESV	1 TO 4
VAV-13	AHU-4	FIRST FLOOR DINING	40	38x18	4000	1150	0.34	39	31	1150	37.4	55	85.0	125	102.5	3.40	0.31	2	TITUS	DESV	1 TO 4
VAV-14	AHU-4	FIRST FLOOR DINING	14	20x17.5	2000	675	0.33	21	23	675	22	55	85.0	125	106.4	2.40	0.34	2	TITUS	DESV	1 TO 4
VAV-15	AHU-4	FIRST FLOOR DINING	14	20x17.5	2250	740	0.39	23	24	1000	32.5	55	85.0	125	113.8	2.40	1.47	2	TITUS	DESV	1 TO 4
VAV-16	AHU-4	COFFEE 1002 AND FIRST FL DINING	40	38x18	3000	600	0.22	34	28	1100	35.8	55	85.0	125	102.0	3.20	0.28	2	TITUS	DESV	1 TO 4
VAV-17	AHU-4	COFFEE 1002 AND FIRST FL DINING	14	20x17.5	1600	250	0.22	20	22	700	22.8	55	85.0	125	106.8	2.50	0.37	2	TITUS	DESV	1 TO 4
VAV-18	AHU-4	FIRST FLOOR DINING	14	20x17.5	1200	670	0.14	18	22	670	21.8	55	85.0	125	106.3	2.40	0.33	2	TITUS	DESV	1 TO 4
VAV-19	AHU-3	CORRIDOR 3000E	12	16x15	900	120	0.16	18	25	450	14.7	55	85.0	125	107.1	1.70	0.33	2	TITUS	DESV	1 TO 4
VAV-20	AHU-3	CATERING KITCHEN 3006	14	20x17.5	2500	415	0.47	23	24	600	19.5	55	85.0	125	105.1	2.00	0.26	2	TITUS	DESV	1 TO 4
VAV-21	AHU-3	CATERING KITCHEN 3006	14	20x17.5	2500	415	0.47	23	24	600	19.5	55	85.0	125	105.1	2.00	0.26	2	TITUS	DESV	1 TO 4
VAV-22	DOAS-1	BASEMENT STORAGES	09	14X12.5	300	300	0.05	12	13	300	10.1	55	86.1	125	110.8	1.40	0.24	2	TITUS	DESV	1 TO 4

NOTES:
1. PROVIDE WITH 24V CONTROL BOX AND CONTROLLER CAPABLE OF 3RD PARTY AIR FLOW SENSOR INPUT,
2. PROVIDE EBTRON EF-N-1000-T BEAD-IN-GLASS AIRFLOW SENSOR IN INLET DUCT AND INTEGRATE INTO THE VAV CONTROLLER.
3. COORDINATE THE HANDING OF THE UNIT TO MAINTAIN ACCESS CLEARANCE.
4. PROVIDE WITH COIL HOOKUP KIT.

RADIANT SLAB MANIFOLD SCHEDULE

MARK	SERVICE	TYPE	FLUID	# CIRCUITS	EWT (°F)	dT (°F)	GPM	WPD (FT H20)			SIZE		MFR	MODEL	NOTES
								MANIFOLD	MAX CIRCUIT	TOTAL	MAIN	CIRCUIT			
RSM-1	SNOW MELT	1 1/2" STAINLESS STEEL	40% PROPYLENE GLYCOL	4	114	20	11.65	0.7	17.4	18.1	1 1/2"	3/4"	MR-PEX	328-4	

RADIANT SLAB CIRCUIT SCHEDULE

MARK	SERVICE	FLUID	SIZE	LENGTH	TUBE SPACING	EWT (°F)	dT (°F)	BTU	GPM	WPD (FT H20)	NOTES
RSC-1	SNOW MELT	40% PROPYLENE GLYCOL	3/4"	273' - 0"	0' - 6"	114	20	26866	2.92	17.30	
RSC-2	SNOW MELT	40% PROPYLENE GLYCOL	3/4"	273' - 0"	0' - 6"	114	20	26944	2.93	17.40	
RSC-3	SNOW MELT	40% PROPYLENE GLYCOL	3/4"	272' - 0"	0' - 6"	114	20	26747	2.90	17.10	
RSC-4	SNOW MELT	40% PROPYLENE GLYCOL	3/4"	272' - 0"	0' - 6"	114	20	26782	2.91	17.10	

VAV (FLOW CONTROL BOX) SCHEDULE

MARK	SIZE (IN)	CFM	TERMINAL AIR DIFF. PRESSURE	NC LEVEL		MANUFACTURER	MODEL	NOTES
				RADIATED	DISCH			
VAV-1-01	6	190	0.03	14	22	TITUS	DESV	1 TO 4
VAV-1-02	6	120	0.01	-	15	TITUS	DESV	1 TO 4
VAV-1-03	6	135	0.01	10	17	TITUS	DESV	1 TO 4
VAV-1-04	6	240	0.05	17	24	TITUS	DESV	1 TO 4
VAV-1-05	6	330	0.09	22	24	TITUS	DESV	1 TO 4
VAV-1-06	6	335	0.09	22	24	TITUS	DESV	1 TO 4
VAV-2-01	6E	120	0.01	-	15	TITUS	DESV	1 TO 4
VAV-2-02	5	75	0.01	-	17	TITUS	DESV	1 TO 4
VAV-2-03	4	55	0.01	-	20	TITUS	DESV	1 TO 4
VAV-2-04	7	440	0.07	22	25	TITUS	DESV	1 TO 4
VAV-2-05	7	400	0.06	20	25	TITUS	DESV	1 TO 4
VAV-2-06	6	330	0.09	22	24	TITUS	DESV	1 TO 4
VAV-2-07	6	360	0.11	23	25	TITUS	DESV	1 TO 4
VAV-2-08	6	320	0.08	21	24	TITUS	DESV	1 TO 4
VAV-2-09	6	170	0.02	13	20	TITUS	DESV	1 TO 4
VAV-2-10	6	140	0.02	10	18	TITUS	DESV	1 TO 4
VAV-2-11	6	170	0.02	13	20	TITUS	DESV	1 TO 4
VAV-2-12	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-2-13	6	170	0.01	13	20	TITUS	DESV	1 TO 4
VAV-2-14	12	890	0.01	20	24	TITUS	DESV	1 TO 4
VAV-2-15	9	490	0.01	16	20	TITUS	DESV	1 TO 4
VAV-2-16	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-2-17	6	250	0.05	17	24	TITUS	DESV	1 TO 4
VAV-2-18	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-2-19	9	650	0.03	18	25	TITUS	DESV	1 TO 4
VAV-2-20	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-2-21	9	760	0.04	20	24	TITUS	DESV	1 TO 4
VAV-3-01	6	330	0.09	22	24	TITUS	DESV	1 TO 4
VAV-3-02	6	315	0.08	21	23	TITUS	DESV	1 TO 4
VAV-3-03	6	345	0.1	22	24	TITUS	DESV	1 TO 4
VAV-3-04	6	265	0.06	18	25	TITUS	DESV	1 TO 4
VAV-3-05	6	310	0.08	21	23	TITUS	DESV	1 TO 4
VAV-4-01	6	240	0.05	17	24	TITUS	DESV	1 TO 4
VAV-4-02	4	65	0.01	-	22	TITUS	DESV	1 TO 4
VAV-4-03	6	195	0.03	14	22	TITUS	DESV	1 TO 4
VAV-4-04	6	135	0.01	10	17	TITUS	DESV	1 TO 4
VAV-4-05	4	70	0.01	-	23	TITUS	DESV	1 TO 4
VAV-4-06	6	180	0.03	13	20	TITUS	DESV	1 TO 4
VAV-4-07	6	265	0.06	18	25	TITUS	DESV	1 TO 4
VAV-4-08	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-4-09	6	130	0.01	-	17	TITUS	DESV	1 TO 4
VAV-4-10	6	115	0.01	-	15	TITUS	DESV	1 TO 4
VAV-4-11	6	170	0.02	13	20	TITUS	DESV	1 TO 4
VAV-4-12	6	330	0.09	22	24	TITUS	DESV	1 TO 4
VAV-B-01	6	80	0.01	-	10	TITUS	DESV	1 TO 4
VAV-B-02	6	110	0.01	-	14	TITUS	DESV	1 TO 4
VAV-B-03	6	185	0.03	13	20	TITUS	DESV	1 TO 4

NOTES:
1. PROVIDE WITH 24V CONTROL BOX AND CONTROLLER CAPABLE OF 3RD PARTY AIR FLOW SENSOR INPUT,
2. PROVIDE EBTRON EF-N-1000-T BEAD-IN-GLASS AIRFLOW SENSOR IN INLET DUCT AND INTEGRATE INTO THE VAV CONTROLLER.
3. COORDINATE THE HANDING OF THE UNIT TO MAINTAIN ACCESS CLEARANCE.

6-WAY CONTROL VALVE SCHEDULE

MARK	LOCATION			MFR	MODEL	COOLING			HEATING			SIZE	TYPE	NOTES
	FLOOR	ROOM NAME	ROOM #			GPM	DP (PSI)	Cv	GPM	DP (PSI)	Cv			
CV-1-01	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	1.8	4.00	0.9	1.5	4.00	0.75	1/2"	B315	1, 2
CV-1-02	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	5.4	4.00	2.7	1.0	4.00	0.5	3/4"	B320	1, 2
CV-1-03	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	5.4	4.00	2.7	1.0	4.00	0.5	3/4"	B320	1, 2
CV-1-04	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	8.1	6.00	3.31	1.6	4.00	0.8	3/4"	B320	1, 2
CV-1-05	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-1-06	FIRST FLOOR	VALVE CLOSET	1020	BELIMO	6-WAY VALVE	6.6	4.00	3.3	5.9	4.00	2.95	3/4"	B320	1, 2
CV-2-01	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	2.0	4.00	1	1.0	4.00	0.5	1/2"	B315	1, 2
CV-2-02	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	1.4	4.00	0.7	1.0	4.00	0.5	1/2"	B315	1, 2
CV-2-03	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	1.2	4.00	0.6	3.0	4.00	1.5	1/2"	B315	1, 2
CV-2-04	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	7.8	4.00	3.9	4.5	4.00	2.25	3/4"	B320	1, 2
CV-2-05	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	12.0	7.00	4.54	2.0	1.00	2	3/4"	B320	1, 2
CV-2-06	SECOND FLOOR	VALVE CLOSET	2022	BELIMO	6-WAY VALVE	3.0	4.00	1.5	3.0	4.00	1.5	1/2"	B315	1, 2
CV-2-07	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-2-08	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	10.0	5.00	4.47	2.5	2.00	1.77	3/4"	B320	1, 2
CV-2-09	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	6.0	4.00	3	1.0	4.00	0.5	3/4"	B320	1, 2
CV-2-10	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	1.5	4.00	0.75	1.5	4.00	0.75	1/2"	B315	1, 2
CV-2-11	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	5.2	4.00	2.6	4.0	4.00	2	3/4"	B320	1, 2
CV-2-12	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	5.0	4.00	2.5	1.0	4.00	0.5	3/4"	B320	1, 2
CV-2-13	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	3.0	4.00	1.5	1.5	4.00	0.75	1/2"	B315	1, 2
CV-2-14	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	13.3	6.00	5.43	5.5	4.00	2.75	3/4"	B320	1, 2
CV-2-15	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	9.5	4.50	4.48	3.0	3.00	1.73	3/4"	B320	1, 2
CV-2-16	SECOND FLOOR	VALVE CLOSET	2016A	BELIMO	6-WAY VALVE	6.0	4.00	3	1.0	4.00	0.5	3/4"	B320	1, 2
CV-2-17	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	8.1	6.00	3.31	2.0	4.00	1	3/4"	B320	1, 2
CV-2-18	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	5.0	4.00	2.5	1.0	4.00	0.5	3/4"	B320	1, 2
CV-2-19.1	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-2-19.2	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-2-20	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	5.4	4.00	2.7	1.0	4.00	0.5	3/4"	B320	1, 2
CV-2-21.1	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-2-21.2	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	12.0	7.00	4.54	2.0	1.00	2	3/4"	B320	1, 2
CV-2-21.3	SECOND FLOOR	VALVE CL	2005A	BELIMO	6-WAY VALVE	9.0	7.50	3.29	1.5	4.00	0.75	3/4"	B320	1, 2
CV-3-01	THIRD FLOOR	VALVE CLOSET	3006B	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-3-02	THIRD FLOOR	VALVE CLOSET	3006B	BELIMO	6-WAY VALVE	15.0	7.50	5.48	2.5	1.00	2.5	3/4"	B320	1, 2
CV-3-03	THIRD FLOOR	VALVE CLOSET	3006B	BELIMO	6-WAY VALVE	6.0	4.00	3	3.0	4.00	1.5	3/4"	B320	1, 2
CV-3-04	THIRD FLOOR	VALVE CLOSET	3006B	BELIMO	6-WAY VALVE	3.0	4.00	1.5	3.0	4.00	1.5	1/2"	B315	1, 2
CV-3-05	THIRD FLOOR	VALVE CLOSET	3006B	BELIMO	6-WAY VALVE	5.4	4.00	2.7	2.6	4.00	1.3	3/4"	B320	1, 2
CV-4-01	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	5.3	4.00	2.65	2.0	4.00	1	3/4"	B320	1, 2
CV-4-02	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	1.8	4.00	0.9	0.5	4.00	0.25	1/2"	B315	1, 2
CV-4-03	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	3.0	4.00	1.5	1.5	4.00	0.75	1/2"	B315	1, 2
CV-4-04	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	3.4	4.00	1.7	1.5	4.00	0.75	1/2"	B315	1, 2
CV-4-05	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	1.5	4.00	0.75	1.5	4.00	0.75	1/2"	B315	1, 2
CV-4-06	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	2.0	4.00	1	2.0	4.00	1	1/2"	B315	1, 2
CV-4-07	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	7.6	5.50	3.24	2.0	4.00	1	3/4"	B320	1, 2
CV-4-08	FOURTH FLOOR	VALVE CL	4010	BELIMO	6-WAY VALVE	6.0	4.00	3	1.0	4.00	0.5	3/4"	B320	1, 2
CV-4-09	FOURTH FLOOR	VALVE CL	4024	BELIMO	6-WAY VALVE	3.7	4.00	1.85	1.5	4.00	0.75	3/4"	B320	1, 2
CV-4-10	FOURTH FLOOR	VALVE CL	4024	BELIMO	6-WAY VALVE	1.7	4.00	0.85	1.0	4.00	0.5	1/2"	B315	1, 2
CV-4-11	FOURTH FLOOR	VALVE CL	4024	BELIMO	6-WAY VALVE	2.1	4.00	1.05	1.5	4.00	0.75	1/2"	B315	1, 2
CV-4-12	FOURTH FLOOR	VALVE CL	4024	BELIMO	6-WAY VALVE	8.3	4.50	3.91	2.5	2.00	1.77	3/4"	B320	1, 2
CV-B-01	BASEMENT	VALVE CLOSET	193F	BELIMO	6-WAY VALVE	3.2	4.00	1.6	2.4	4.00	1.2	1/2"	B315	1, 2
CV-B-02	BASEMENT	VALVE CLOSET	193F	BELIMO	6-WAY VALVE	1.6	4.00	0.8	1.0	4.00	0.5	1/2"	B315	1, 2
CV-B-03	BASEMENT	VALVE CLOSET	193F	BELIMO	6-WAY VALVE	3.0	4.00	1.5	1.5	4.00	0.75	1/2"	B315	1, 2
CV-FCU-4	FOURTH FLOOR	VALVE CL	4024	BELIMO	6-WAY VALVE	3.7	4.00	1.85	3.7	4.00	1.85	1/2"	B315	1, 2

NOTES:
1. FAILURE MODE: LAST POSITION.
2. INSULATE WITH CLOSE CELL FOAM SHEETS.

3-WAY CONTROL VALVE SCHEDULE

MARK	LOCATION	MFR	MODEL	GPM	DP (PSI)	Cv	SIZE	NOTES
CV-DHW-1	MECHANICAL193E	BELIMO	3-WAY VALVE	33.0	4.00	16.5	1 1/2"	1,2
CV-DHW-2	MECHANICAL193E	BELIMO	3-WAY VALVE	33.0	4.00	16.5	1 1/2"	1,2

NOTES:
1. FAILURE MODE: LAST POSITION.
2. INSULATE WITH CLOSE CELL FOAM SHEETS.

UNIT HEATER SCHEDULE

MARK	LOCATION	TYPE	FANS		HEATING						ELECTRICAL				MFR.	MODEL	NOTES
			CFM	HP	NOM. MBH	CORR. MBH PER EWT AND EAT	EAT (°F)	EWT (°F)	GPM	WPD (FT)	V	PH	HZ	FLA (+/- 0.2)			
UH-1	MECHANICAL193A	HW CEILING HUNG	1400	0.083	61	23.68	70	125	6.10	0.240	115	1	60	2.2	STERLING	HS-084B	1 TO 5
UH-2	MECHANICAL 193B	HW CEILING HUNG	1100	0.083	54.9	21.31	70	125	6.10	0.240	115	1	60	2.2	STERLING	HS-084B	1 TO 5
UH-3	MECHANICAL 193B	HW CEILING HUNG	1400	0.083	61	23.68	70	125	6.10	0.240	115	1	60	2.2	STERLING	HS-084B	1 TO 5
UH-4	MECHANICAL 193C	HW CEILING HUNG	750	0.05	34.8	13.51	70	125	3.50	0.120	115	1	60	1.4	STERLING	HS-048B	1 TO 5
UH-5	MECHANICAL/STORAGE 193E	HW CEILING HUNG	2200	0.33	118	45.81	70	125	11.80	0.600	115	1	60	4.5	STERLING	HS-180B	1 TO 5
UH-6	MECHANICAL/STORAGE 193E	HW CEILING HUNG	PROVIDED WITH MFR'S SERVICE CORRIDOR. REFER TO CUSTOM AIR HANDLING UNIT SPECS.													)B	1 TO 5
UH-7	RECEIVING 1014	HW CEILING HUNG	700	0.05	39.2	15.22	70	125	4.40	0.170	115	1	60	1.4	STERLING	HS-060B	1 TO 5
UH-8	MECHANICAL 4018	HW CEILING HUNG	480	0.034	23.5	9.12	70	125	2.70	0.090	115	1	60	1.2	STERLING	HS-036B	1 TO 5
UH-9	MECHANICAL 4023	HW CEILING HUNG	480	0.034	23.5	9.12	70	125	2.70	0.090	115	1	60	1.2	STERLING	HS-036B	1 TO 5
UH-10	MECHANICAL 4023	HW CEILING HUNG	630	0.05	31.3	12.15	70	125	3.50	0.120	115	1	60	1.4	STERLING	HS-048B	1 TO 5
UH-11	EM ADDITIONAL STORAGE 4020	HW CEILING HUNG	550	0.034	26.1	10.13	70	125	2.70	0.090	115	1	60	1.2	STERLING	HS-036B	1 TO 5
UH-12	EM ADDITIONAL STORAGE 4020	HW CEILING HUNG	450	0.021	17.4	6.76	70	125	1.80	0.014	115	1	60	0.8	STERLING	HS-024B	1 TO 5
UH-13	PENTHOUSE 5005	HW CEILING HUNG	450	0.021	17.4	6.76	70	125	1.80	0.014	115	1	60	0.8	STERLING	HS-024B	1 TO 5
UH-14	AHU SERVICE CORRIDOR	EL. CEILING HUNG						120	0.80	0.800	115	1	60		STERLING	HS-024B	3,4,5

NOTES:
1. PROVIDE WITH COIL HOOKUP KIT.
2. COORDINATE THE HANDING OF THE UNIT TO FOR COIL CONNECTION.
3. PROVIDE WITH INTEGRAL THERMOSTAT.
4. FURNISH WITH DISCONNECT/SAFETY AND SAFETY SWITCH.
5. PROVIDE WITH MANUFACTUER CONTROLLER.

RADIANT HEATER SCHEDULE

ROOM #	NAME	MARK	QTY	LENGTH	dT (°F)	EWT (°F)	AWT (°F)	LWT (°F)	REQ BTU/FT	CORR. FACTOR	CORR REQ BTU/FT	NOM BTU/FT @ 215°F EWT, 65°F EAT	GPM	WPD (FT H20)	CONN. TYPE AND HANDING	MFR.	MODEL	NOTES
RP-1																		
2014E	CA OFFICE	**RP-1**	1	2.5	5	125	123	120	142	0.269	529	979	0.5	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-1	1 TO 4
2014F	CA OFFICE	**RP-1**	1	4.5	10	125	120	115	119	0.237	502	979	0.5	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-1	1 TO 4
2014G	CA INTERNS	**RP-1**	1	4.5	10	125	120	115	119	0.237	502	979	0.5	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-1	1 TO 4
4000A-2	CORRIDOR-2	**RP-1**	2	4.5	20	125	115	105	109	0.207	528	979	0.2	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-1	1 TO 4
4000A-2	CORRIDOR-2	**RP-1**	1	11.5	20	125	115	105	125	0.207	604	979	0.7	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-1	1 TO 4
RP-2																		
		RP-2	1	10.0	20	125	115	105	281	0.207	1357	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1003	LIVING ROOM LOUNGE	**RP-2**	2	9.0	20	125	115	105	300	0.207	1450	1589	1.3	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1003	LIVING ROOM LOUNGE	**RP-2**	1	21.0	20	125	115	105	300	0.207	1450	1589	3.0	0.61	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1003A	BREAKOUT	**RP-2**	1	9.5	20	125	115	105	271	0.207	1309	1589	1.2	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1003B-1	BREAKOUT-1	**RP-2**	1	10.0	20	125	115	105	230	0.207	1110	1589	1.1	0.12	TYPE B LEFT HAND	RUNTAL	R2F-2	1 TO 4
1003B-2	BREAKOUT-2	**RP-2**	1	10.0	20	125	115	105	230	0.207	1110	1589	1.1	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1007	DINING AREA	**RP-2**	1	6.5	20	125	115	105	237	0.207	1146	1589	0.7	0.12	TYPE C RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1007	DINING AREA	**RP-2**	1	9.0	20	125	115	105	237	0.207	1146	1589	1.0	0.45	TYPE D RIGHT HAND	RUNTAL	R2F-2	1 TO 4
1007	DINING AREA	**RP-2**	1	21.0	20	125	115	105	237	0.207	1146	1589	2.4	1.21	TYPE D RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2000D	CORRIDOR	**RP-2**	1	6.0	20	125	115	105	240	0.207	1161	1589	0.7	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2004	THE OVERLOOK	**RP-2**	3	9.0	20	125	115	105	240	0.207	1159	1589	1.0	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2004	THE OVERLOOK	**RP-2**	1	9.5	20	125	115	105	240	0.207	1158	1589	1.1	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2004	THE OVERLOOK	**RP-2**	1	21.0	20	125	115	105	240	0.207	1159	1589	2.4	0.32	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2005-1	THE DEN-1	**RP-2**	2	17.0	20	125	115	105	266	0.207	1287	1589	2.2	0.32	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2007	MEETING	**RP-2**	1	10.0	20	125	115	105	281	0.207	1357	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2011B	SGA CONF. RM.	**RP-2**	1	9.5	20	125	115	105	253	0.207	1222	1589	1.2	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2011B	SGA CONF. RM.	**RP-2**	1	11.0	20	125	115	105	253	0.207	1222	1589	1.3	0.12	TYPE B RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2012-1	THE HEARTH-1	**RP-2**	1	15.0	20	125	115	105	247	0.207	1193	1589	1.8	0.79	TYPE C LEFT HAND	RUNTAL	R2F-2	1 TO 4
2014B	CA DIRECTOR	**RP-2**	1	9.5	20	125	115	105	292	0.207	1412	1589	1.3	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2014C	CA OFFICE	**RP-2**	1	10.0	20	125	115	105	278	0.207	1341	1589	1.3	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2016	STUDENT CLUB MTG. RM.	**RP-2**	1	21.5	20	125	115	105	244	0.207	1177	1589	2.5	0.45	TYPE A LEFT HAND	RUNTAL	R2F-2	1 TO 4
2017	MEETING RM.	**RP-2**	2	12.5	20	125	115	105	273	0.207	1318	1589	1.6	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2017	MEETING RM.	**RP-2**	1	14.0	20	125	115	105	273	0.207	1318	1589	1.8	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2018	WOMEN'S	**RP-2**	1	6.0	20	125	115	105	229	0.207	1105	1589	0.7	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2018	WOMEN'S	**RP-2**	2	13.0	20	125	115	105	229	0.207	1105	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2023B	MLDO DIRECTOR	**RP-2**	1	8.5	20	125	115	105	239	0.207	1154	1589	1.0	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2023C	MLDO OFFICE	**RP-2**	1	3.5	15	125	118	110	239	0.237	1010	1589	0.5	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2023C	MLDO OFFICE	**RP-2**	1	4.0	20	125	115	105	239	0.207	1156	1589	0.5	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2023D	MLDO OFFICE	**RP-2**	1	8.5	20	125	115	105	226	0.207	1094	1589	0.9	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
2024	STUDENT VOICE OFFICE	**RP-2**	3	13.0	20	125	115	105	226	0.207	1092	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3000A	CORRIDOR	**RP-2**	1	28.0	20	125	115	105	238	0.207	1152	1589	3.2	0.61	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3000C	CORRIDOR	**RP-2**	1	6.0	20	125	115	105	240	0.207	1161	1589	0.7	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3000E	CORRIDOR	**RP-2**	1	5.5	20	125	115	105	262	0.207	1266	1589	0.7	0.12	TYPE D RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3000E	CORRIDOR	**RP-2**	1	17.5	20	125	115	105	262	0.207	1266	1589	2.2	1.21	TYPE C RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3001	THE NEST	**RP-2**	2	12.5	20	125	115	105	277	0.207	1338	1589	1.7	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3001	THE NEST	**RP-2**	1	14.0	20	125	115	105	277	0.207	1338	1589	1.9	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3002-1	THE GREAT HALL-1	**RP-2**	2	6.5	20	125	115	105	285	0.207	1375	1589	0.9	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3002-1	THE GREAT HALL-1	**RP-2**	3	21.5	20	125	115	105	285	0.207	1375	1589	3.0	0.45	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3007	OPEN OFFICE	**RP-2**	1	6.0	20	125	115	105	230	0.207	1113	1589	0.7	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3007	OPEN OFFICE	**RP-2**	1	12.5	20	125	115	105	230	0.207	1113	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3007A	CATERING MGR	**RP-2**	1	12.5	20	125	115	105	224	0.207	1082	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3008	WOMEN'S	**RP-2**	2	13.0	20	125	115	105	312	0.207	1509	1589	2.0	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3015-1	MEETING RM.-1	**RP-2**	2	12.5	20	125	115	105	232	0.207	1121	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3015-1	MEETING RM.-1	**RP-2**	1	13.0	20	125	115	105	232	0.207	1121	1589	1.5	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
3016	MEETING RM.	**RP-2**	2	13.0	20	125	115	105	219	0.207	1059	1589	1.4	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4000B	CORRIDOR	**RP-2**	1	6.5	20	125	115	105	230	0.207	1112	1589	0.7	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4006	WOMEN'S	**RP-2**	1	6.5	20	125	115	105	305	0.207	1473	1589	1.0	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4006	WOMEN'S	**RP-2**	1	10.5	20	125	115	105	305	0.207	1473	1589	1.5	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4009	CONF/HEARING	**RP-2**	1	15.5	20	125	115	105	221	0.207	1066	1589	1.7	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4014A	ASSOC VP	**RP-2**	1	3.0	20	125	115	105	213	0.207	1030	1589	0.3	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4014A	ASSOC VP	**RP-2**	1	10.5	20	125	115	105	244	0.207	1179	1589	1.2	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4014B	OFFICE	**RP-2**	1	10.0	20	125	115	105	231	0.207	1118	1589	1.1	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4014C	VICE PRESIDENT	**RP-2**	1	13.0	20	125	115	105	312	0.207	1509	1589	2.0	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4015	SC RECEPTION	**RP-2**	1	4.0	20	125	115	105	244	0.207	1180	1589	0.5	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4015	SC RECEPTION	**RP-2**	1	9.0	20	125	115	105	244	0.207	1180	1589	1.1	0.12	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4015A	SC DIRECTOR	**RP-2**	1	8.5	20	125	115	105	239	0.207	1154	1589	1.0	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4015B	OFFICE	**RP-2**	1	8.5	20	125	115	105	239	0.207	1154	1589	1.0	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4015C	OFFICE	**RP-2**	2	4.0	20	125	115	105	267	0.207	1291	1589	0.5	0.03	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4017	WAITING RM	**RP-2**	1	8.0	20	125	115	105	234	0.207	1129	1589	0.9	0.05	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
4050	BREAK	**RP-2**	1	17.0	20	125	115	105	221	0.207	1069	1589	1.8	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-2	1 TO 4
RP-3																		
3000B	FOYER	**RP-3**	1	4.0	20	125	115	105	415	0.207	2005	2019	0.8	0.02	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
3000B	FOYER	**RP-3**	1	10.5	20	125	115	105	415	0.207	2005	2019	2.1	0.15	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
3000B	FOYER	**RP-3**	1	24.5	20	125	115	105	415	0.207	2005	2019	4.9	0.55	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
3004	GREEN RM.	**RP-3**	1	15.5	20	125	115	105	221	0.207	1066	2019	1.7	0.21	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
4001	EMS RECEPTION	**RP-3**	1	12.0	20	125	115	105	391	0.207	1889	2019	2.3	0.15	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
4001	EMS RECEPTION	**RP-3**	1	26.0	20	125	115	105	391	0.207	1889	2019	4.9	0.55	TYPE A RIGHT HAND	RUNTAL	R2F-3	1 TO 4
RP-5																		
1000B	CORRIDOR	**RP-5**	1	18.5	20	125	115	105	565	0.207	2731	3094	5.1	0.95	TYPE D LEFT HAND	RUNTAL	R2F-5	1 TO 4
RP-7																		
199C-1	STAIR 3-1	**RP-7**	1	10.0	20	125	115	105	785	0.207	3793	3846	3.8	0.36	TYPE C RIGHT HAND	RUNTAL	R2F-7	1 TO 4
199C-2	STAIR 3-2	**RP-7**	1	4.5	20	125	115	105	785	0.207	3793	3846	1.7	0.02	TYPE A RIGHT HAND	RUNTAL	R2F-7	1 TO 4
199C-2	STAIR 3-2	**RP-7**	1	10.0	20	125	115	105	751	0.207	3626	3846	3.6	0.36	TYPE C RIGHT HAND	RUNTAL	R2F-7	1 TO 4
2099C	STAIR 3	**RP-7**	1	4.5	20	125	115	105	785	0.207	3793	3846	1.7	0.02	TYPE A RIGHT HAND	RUNTAL	R2F-7	1 TO 4
2099C	STAIR 3	**RP-7**	1	10.0	20	125	115	105	785	0.207	3793	3846	3.8	0.36	TYPE C RIGHT HAND	RUNTAL	R2F-7	1 TO 4
3099C	STAIR 3	**RP-7**	1	4.5	20	125	115	105	785	0.207	3793	3846	1.7	0.02	TYPE A RIGHT HAND	RUNTAL	R2F-7	1 TO 4
RP-10																		
		RP-10	2	10.0	20	125	115	105	935	0.207	4515	4644	4.5	0.21	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
199B-1	STAIR 2-1	**RP-10**	1	10.0	20	125	115	105	925	0.207	4471	4644	4.5	0.17	TYPE C LEFT HAND	RUNTAL	R2F-10	1 TO 4
1099B	STAIR 2	**RP-10**	1	4.5	20	125	115	105	925	0.207	4471	4644	2.0	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
1099B	STAIR 2	**RP-10**	1	10.0	20	125	115	105	925	0.207	4471	4644	4.5	0.17	TYPE C LEFT HAND	RUNTAL	R2F-10	1 TO 4
1099E	STAIR 5	**RP-10**	1	7.0	15	125	118	110	1095	0.237	4621	4644	4.3	0.17	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
1099E	STAIR 5	**RP-10**	1	10.0	15	125	118	110	1095	0.237	4621	4644	6.2	0.34	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
1099E	STAIR 5	**RP-10**	1	17.0	15	125	118	110	1095	0.237	4621	4644	10.5	0.53	TYPE D RIGHT HAND	RUNTAL	R2F-10	1 TO 4
2099A	STAIR 1	**RP-10**	1	4.5	20	125	115	105	935	0.207	4515	4644	2.0	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
2099A	STAIR 1	**RP-10**	1	10.0	20	125	115	105	935	0.207	4515	4644	4.5	0.21	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
2099B	STAIR 2	**RP-10**	1	4.5	20	125	115	105	925	0.207	4471	4644	2.0	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
2099B	STAIR 2	**RP-10**	1	10.0	20	125	115	105	925	0.207	4471	4644	4.5	0.17	TYPE C LEFT HAND	RUNTAL	R2F-10	1 TO 4
2099E	STAIR 5	**RP-10**	1	10.0	15	125	118	110	1095	0.237	4621	4644	6.2	0.34	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
3099A	STAIR 1	**RP-10**	1	4.5	20	125	115	105	935	0.207	4515	4644	2.0	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
3099A	STAIR 1	**RP-10**	1	10.0	20	125	115	105	935	0.207	4515	4644	4.5	0.21	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
3099B	STAIR 2	**RP-10**	1	4.5	15	125	118	110	1060	0.237	4471	4644	2.7	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
3099B	STAIR 2	**RP-10**	1	10.0	20	125	115	105	925	0.207	4471	4644	4.5	0.17	TYPE C LEFT HAND	RUNTAL	R2F-10	1 TO 4
3099E	STAIR 5	**RP-10**	2	4.5	15	125	118	110	1095	0.237	4621	4644	2.8	0.02	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4
3099E	STAIR 5	**RP-10**	1	10.0	15	125	118	110	1095	0.237	4621	4644	6.2	0.34	TYPE C RIGHT HAND	RUNTAL	R2F-10	1 TO 4
4099A	STAIR 1	**RP-10**	1	4.5	20	125	115	105	935	0.207	4515	4644	2.0	0.01	TYPE A RIGHT HAND	RUNTAL	R2F-10	1 TO 4

NOTES:
1. REFER TO SHEET A151 FOR CUSTOM COLOR SELECTION.
2. COORDINATE THE UNIT HANDING FOR PIPE CONNECTION.
3. PROVIDE WITH MANUFACTURER RECOMMENDED FLOOR MOUNT STAND.
4. PROVIDE FILLER PIECES AS NEEDED TO FIT WALL TO WALL, FILL CORNERS, AND COVER PIPE DROPS/RISERS.

CABINET UNIT HEATER (HOT WATER) SCHEDULE

MARK	LOCATION	MOUNTING TYPE	FAN			HEATING						ELECTRICAL				MFR.	MODEL	NOTES
			CFM	HP	SPEED	NOM. MBH	CORR. MBH PER EWT AND EAT	EAT (°F)	EWT (°F)	GPM	WPD (FT)	V	PH	HZ	AMPS			
CUH-1	STUDENT VOICE STORAGE 103	WALL RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-2	STUDENT CLUB STORAGE 105	WALL RECESSED	185	0.067	LOW	15	5.82	70	125	1.50	0.15	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-3	DRY STORAGE 102	CEILING RECESSED	685	0.1	LOW	48.3	18.75	70	125	4.00	1.10	115	1	60	1.50	STERLING	RC-1190-08	1, 2, 4, 5, 6, 7
CUH-4	DRY STORAGE 102	CEILING RECESSED	685	0.1	LOW	48.3	18.75	70	125	4.00	1.10	115	1	60	1.50	STERLING	RC-1190-08	1, 2, 4, 5, 6, 7
CUH-5	DRY STORAGE 102	CEILING RECESSED	685	0.1	LOW	48.3	18.75	70	125	4.00	1.10	115	1	60	1.50	STERLING	RC-1190-08	1, 2, 4, 5, 6, 7
CUH-6	STAIR 1 199A	WALL RECESSED	845	0.1	LOW	53.5	20.77	70	125	4.00	1.15	115	1	60	1.95	STERLING	RW-1120-10	1 TO 7
CUH-7	STAIR 2 199B	WALL RECESSED	345	0.067	LOW	25.8	10.02	70	125	2.50	0.41	115	1	60	0.65	STERLING	RW-1120-04	1 TO 7
CUH-8	STAIR 3 199C	WALL RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-9	VESTIBULE 109B	WALL RECESSED	185	0.067	LOW	12.9	5.99	60	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-10	VALVE CLOSET 1020	WALL RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-11	VESTIBULE 1001	WALL RECESSED	185	0.067	LOW	12.9	5.99	60	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-12	VESTIBULE 2028	WALL RECESSED	185	0.067	LOW	12.9	5.99	60	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-13	VESTIBULE 2000	CEILING RECESSED	185	0.067	LOW	15	6.97	60	125	1.50	0.15	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-14	VESTIBULE 2000	CEILING RECESSED	185	0.067	LOW	15	6.97	60	125	1.50	0.15	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-15	VESTIBULE 2000	CEILING RECESSED	185	0.067	LOW	13.8	6.41	60	125	1.00	0.06	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-16	INFORMATION CENTER 2001	CEILING RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-17	STORAGE 2002	WALL RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7
CUH-18	STORAGE 3002B	CEILING RECESSED	185	0.067	LOW	17.3	6.72	70	125	2.50	0.36	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-19	STORAGE 3002B	CEILING RECESSED	185	0.067	LOW	17.3	6.72	70	125	2.50	0.36	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-20	GLASS & SILVERWARE 3002A	CEILING RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RC-1190-02	1, 2, 4, 5, 6, 7
CUH-21	JAN CLOSET 4097B	WALL RECESSED	185	0.067	LOW	12.9	5.01	70	125	0.84	0.06	115	1	60	0.45	STERLING	RW-1120-02	1 TO 7

NOTES:
1. PROVIDE WITH COIL HOOKUP KIT.
2. COORDINATE THE HANDING OF THE UNIT TO FOR COIL CONNECTION.
3. PROVIDE WITH RECESSED WALL SLEEVE ASSEMBLY.
4. PROVIDE WITH INTEGRAL THERMOSTAT.
5. FURNISH WITH DISCONNECT/SAFETY AND SAFETY SWITCH.
6. PROVIDE WITH MANUFACTUER CONTROLLER.
7. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR SELECTION.

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STATE OF NEW YORK · DANIEL LACCETTI · 109560 · LICENSED PROFESSIONAL ENGINEER
EXPIRATION: 02/28/2027

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Revisions

COREY UNION
103 PROSPECT TERRACE,
CORTLAND, NY, 13045
SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M632
HVAC SCHEDULES

NOVEMBER 16, 2026
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AIR SEPARATOR SCHEDULE

MARK	QTY	LOCATION	SERVES	TYPE	FLUID TYPE	FLUID TEMP	FLUID VOLUME	MAX GPM	DESIGN GPM	WPD (FT)	CONNECTION TYPE	CONNECTION SIZE	SHIP WEIGHT (LB)	OP. WEIGHT (LB)	MFR	MODEL	NOTES
AS-1	1	MECHANICAL/STORAGE 193E	GEOTHERMAL FIELD	CENTRIFUGAL WITH STRAINER	25% PROPYLENE GLYCOL	40 °F	90 gal	1300	700	1.12	GROOVED	8"	404	1115	BELL & GOSSETT	R-8G	
AS-2	1	MECHANICAL/STORAGE 193E	HEAT PUMP GEOTHERMAL SOURCE	CENTRIFUGAL WITH STRAINER	25% PROPYLENE GLYCOL	40 °F	150 gal	2000	1396	1.45	GROOVED	10"	765	2017	BELL & GOSSETT	R-10G	
AS-3	1	MECHANICAL/STORAGE 193E	PRIMARY HEATING GLYCOL	CENTRIFUGAL WITH STRAINER	25% PROPYLENE GLYCOL	125 °F	90 gal	1300	680.5	1.04	GROOVED	8"	404	1115	BELL & GOSSETT	R-8G	
AS-4	1	MECHANICAL/STORAGE 193E	PRIMARY COOLING GLYCOL	CENTRIFUGAL WITH STRAINER	25% PROPYLENE GLYCOL	45 °F	90 gal	1300	1108	2.81	GROOVED	8"	404	1115	BELL & GOSSETT	R-8G	
AS-5	1	MECHANICAL/STORAGE 193E	SECONDARY COOLING WATER	CENTRIFUGAL WITH STRAINER	WATER	45 °F	34 gal	700	342	0.68	GROOVED	6"	264	545	BELL & GOSSETT	R-6G	
AS-6	1	MECHANICAL/STORAGE 193E	SECONDARY HEATING WATER	CENTRIFUGAL WITH STRAINER	WATER	125 °F	34 gal	700	522	1.56	GROOVED	6"	264	545	BELL & GOSSETT	R-6G	
AS-7	1	STORAGE 2130	SNOW MELT	COALESCING	40% PROPYLENE GLYCOL	115 °F		45	12		SOLDERED	1 1/2"			BELL & GOSSETT	EASB-JR	

BUFFER TANK SCHEDULE

MARK	LOCATION	SERVES	TYPE	TANK VOLUME (GAL.)	MAX OP. PRESSURE (PSI)	HEIGHT	DIA.	CONN. SIZE (IN)	OP. WEIGHT (LB)	MFR.	MODEL	NOTES
BT-1	MECHANICAL 193E	HEAT PUMP GEOTHERMAL SOURCE	BUFFER TANK	700.0	125	8' - 4"	4' - 10"	8"	7100	TACO	BTL0700F08-125NN	1
BT-2	MECHANICAL 193E	PRIMARY HEATING GLYCOL	BUFFER TANK	250.0	125	5' - 9"	3' - 0"	6"	2800	TACO	BTL0250F06-125NN	1

NOTES:
1. PROVIDE WITH INTERNAL BAFFLES.

DUCT SILENCER SCHEDULE

MARK	LOCATION	SERVES	APD (IN-WG)	CFM	MINIMUM DYNAMIC INSERTION LOSS (dB) 63HZ	125HZ	250HZ	500HZ	1KHZ	2KHZ	4KHZ	8KHZ	SIZE (IN)	LENGTH (IN)	MFR.	MODEL	NOTES
DS-1	MECHANICAL 4023	AHU-1 SUPPLY	0.07	8740	2	3	7	11	13	11	8	5	48x20	36	VIBRO-ACOUSTICS	RD-HV	
DS-2	MECHANICAL 4023	AHU-1 RETURN	0.06	8740	3	3	8	17	19	16	13	12	40x22	48	VIBRO-ACOUSTICS	RD-UHV	
DS-3	MECHANICAL 4020	AHU-2 RETURN	0.20	11550	8	12	25	42	50	50	32	20	52x22	60	VIBRO-ACOUSTICS	RD-LV	
DS-4	EMS RECEPTION 4001	DOAS-2 SUPPLY	0.19	2025	8	12	22	33	34	25	16	12	26x12	84	VIBRO-ACOUSTICS	RD-MHV	1
DS-5	MECHANICAL 4018	DOAS-2 RETURN	0.14	3590	4	6	11	15	23	20	17	15	34x14	48	VIBRO-ACOUSTICS	RED-UHV	2
DS-6	MECHANICAL 193B	AHU-5 SUPPLY	0.22	2400	9	12	28	50	46	42	29	20	22x12	84	VIBRO-ACOUSTICS	RD-MV	
DS-7	DANCE STUDIO 107	AHU-5 RETURN	0.19	2400	7	11	25	44	55	46	27	16	24x20	84	VIBRO-ACOUSTICS	RD-HV	1

NOTES:
1. SILENCER TO BE PROVIDED WITH 18-GAUGE WALLS.
2. 90-DEGREE RECTANGULAR ELBOW ATTENUATOR WITH CENTERLINE LENGTH.

END OF LOOP BYPASS EPIV SCHEDULE

MARK	LOCATION FLOOR	LOCATION ROOM #	SYSTEM	MFR.	MODEL	COOLING GPM	COOLING DP (PSI)	COOLING Cv	HEATING GPM	HEATING DP (PSI)	HEATING Cv	SIZE	NOTES
EPIV-1	FOURTH	4020	SHGS&R	BELIMO	P6250-180AKRX24-EP2-MOD	----------			72.0	5.00	32.5	2 1/2"	
EPIV-2	FOURTH	4020	SCGS&R	BELIMO	P6250-180AKRX24-EP2-MOD	87.0	5.00	39.4	----------			2 1/2"	
EPIV-3	SECOND FLOOR	2016A	SHWS&R	BELIMO	P2200-76AKRX24-EP2-MOD	----------			73.0	5.00	33	2"	
EPIV-4	SECOND FLOOR	2016A	SCWS&R	BELIMO	P2200-76AKRX24-EP2-MOD	47.0	5.00	21.2	----------			2"	
EPIV-5	BASEMENT	193E	PCGS&R	BELIMO	P6250-180AKRX24-EP2-MOD	104.0	5.00	47	----------			2 1/2"	
EPIV-6	BASEMENT	193E	PHGS&R	BELIMO	P6250-180AKRX24-EP2-MOD	----------			104.0	5.00	47	2 1/2"	

GLYCOL FILL SYSTEM SCHEDULE

MARK	LOCATION	SERVES	VOLUME	FLUID	PUMP TYPE	PUMP GPM	PUMP HEAD (FT)	PUMP HP	ELECTRICAL V	ELECTRICAL PH	ELECTRICAL HZ	MFR.	MODEL	TYPE NOTES
GF-1	MECHANICAL/STORAGE 193E	GEOTHERMAL FIELD	55 gal	25% PROPYLENE GLYCOL	IN-LINE	10	70.00	0.5	120	1	60	BELL & GOSSETT	GMU560S	1 TO 3
GF-2	MECHANICAL/STORAGE 193E	HEAT PUMP GEOTHERMAL SOURCE	55 gal	25% PROPYLENE GLYCOL	IN-LINE	10	70.00	0.5	120	1	60	BELL & GOSSETT	GMU560S	1 TO 3
GF-3	STORAGE 2002	RADIANT SLAB	55 gal	40% PROPYLENE GLYCOL	IN-LINE	10	70.00	0.5	120	1	60	BELL & GOSSETT	GMU560S	1 TO 3

NOTES:
1. PACKAGE SHALL INCLUDE DIAPHRAM TANK, LOW WATER CUT-OFF, DISCONNECT AND STARTER, Y STRAINER, TRIPLE DUTY VALVE, AND 0-60 PSI PRESSURE GAUGES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE MEANS OF INITIAL CHARGING OF SYSTEM AT SPECIFIED GLYCOL SOLUTION PERCENTAGE
3. PROVIDE VISIBLE SOLUTION LEVEL SCALE ONCE SYSTEM IS FULLY CHARGED, TESTED, AND READY FOR OPERATION. CONTRACTOR SHALL FILL TANK WITH GLYCOL AT SPECIFIED SOLUTION PERCENTAGE, TO LEVEL INDICATED IN MANUFACTURERS INSTRUCTIONS.

SYSTEM UNIT FAN SOUND POWER LEVEL SCHEDULE

UNIT	FAN	TYPE	SOUND POWER 63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
AHU-1	SUPPLY	INLET dB	82	83	97	90	79	75	72	70
		OUTLET dB	88	89	96	93	87	82	80	78
HRU-1	SUPPLY	INLET dB	83	83	89	90	82	80	80	80
		OUTLET dB	89	85	90	92	85	82	80	77
	RETURN	INLET dB	83	83	89	90	82	80	80	80
		OUTLET dB	89	85	90	92	85	82	80	77
AHU-2	SUPPLY	INLET dB	84	87	101	91	83	82	80	75
		OUTLET dB	92	92	96	94	90	87	84	80
HRU-2	SUPPLY	INLET dB	86	84	91	92	84	82	82	82
		OUTLET dB	93	87	92	94	88	86	83	80
	RETURN	INLET dB	86	84	91	92	84	82	82	82
		OUTLET dB	93	87	92	94	88	86	83	80
AHU-3	SUPPLY	INLET dB	85	85	96	95	83	80	78	74
		OUTLET dB	85	84	94	94	86	81	77	73
	RETURN	INLET dB	80	86	94	85	80	78	74	66
		OUTLET dB	84	87	92	88	83	78	71	66
AHU-4	SUPPLY	INLET dB	86	90	106	98	87	83	79	77
		OUTLET dB	93	93	101	100	93	85	80	78
	RETURN	INLET dB	82	90	104	91	85	80	77	74
		OUTLET dB	91	93	100	98	93	87	82	77
AHU-5	SUPPLY	INLET dB	95	82	86	93	85	80	79	81
		OUTLET dB	98	84	87	95	86	81	76	74
	RETURN	INLET dB	82	81	88	88	80	78	79	79
		OUTLET dB	88	82	87	90	80	76	74	72
DOAS-1	SUPPLY	INLET dB	83	84	97	90	80	76	72	70
		OUTLET dB	87	87	94	92	84	77	75	75
	RETURN	INLET dB	81	88	96	82	77	77	74	68
		OUTLET dB	87	89	91	88	84	81	78	72
DOAS-2	SUPPLY	INLET dB	97	85	87	95	88	82	81	83
		OUTLET dB	99	85	88	95	88	82	77	76
	RETURN	INLET dB	90	87	90	91	83	81	81	80
		OUTLET dB	91	87	91	92	87	84	80	77
MAU-1	SUPPLY	INLET dB	97	84	88	96	87	82	81	84
		OUTLET dB	100	86	89	97	88	83	78	77

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Revisions

COREY UNION
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SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M633
HVAC SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

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BMS - GENERAL SEQUENCE OF OPERATIONS:

GENERAL: HVAC SYSTEMS PROVIDE HEATING, COOLING, VENTILATION AND EXHAUST TO OCCUPIED SPACES IN THE BUILDING CONTROLLED BY A CENTRAL BUILDING MANAGEMENT SYSTEM (BMS) ACCESSIBLE TO THE CAMPUS MANAGEMENT GROUP. THE EXISTING AUTOMATED LOGIC CONTROLS SYSTEM IS TO BE EXTENDED AND UPDATED, AS NOTED IN THE DESIGN DOCUMENTATION, TO PROVIDE COMFORT CONDITIONS AND CODE REQUIRED VENTILATION AS DESCRIBED IN THE DESIGN DOCUMENTATION.

DESIGN CONDITIONS:

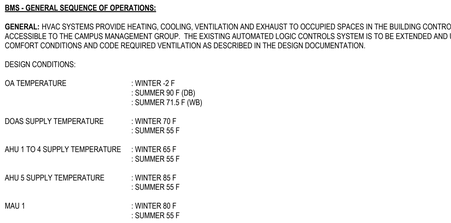
OA TEMPERATURE	: WINTER -2 F : SUMMER 90 F (DB) : SUMMER 71.5 F (WB)
DOAS SUPPLY TEMPERATURE	: WINTER 70 F : SUMMER 55 F
AHU 1 TO 4 SUPPLY TEMPERATURE	: WINTER 65 F : SUMMER 55 F
AHU 5 SUPPLY TEMPERATURE	: WINTER 85 F : SUMMER 55 F
MAU 1	: WINTER 80 F : SUMMER 55 F

HVAC ZONE SETPOINTS:
ROOM CONDITIONS SHALL BE MONITORED BY WALL MOUNTED, WIRED TEMPERATURE SENSORS WITH LCD READOUTS FOR TEMPERATURE AND ZONE OPERATING MODE (HEATING OR COOLING). SETPOINTS SHALL BE FULLY ADJUSTABLE AT THE CENTRAL BUILDING MANAGEMENT SYSTEM (BMS) AND LOCALLY ADJUSTABLE FOR +/- 3 DEG. F. AT THE TEMPERATURE SENSOR. LOCAL ADJUSTMENT SHALL BE ABLE TO BE LOCKED OUT BY THE CENTRAL BMS. INITIAL SETPOINTS TO BE AS FOLLOWS:

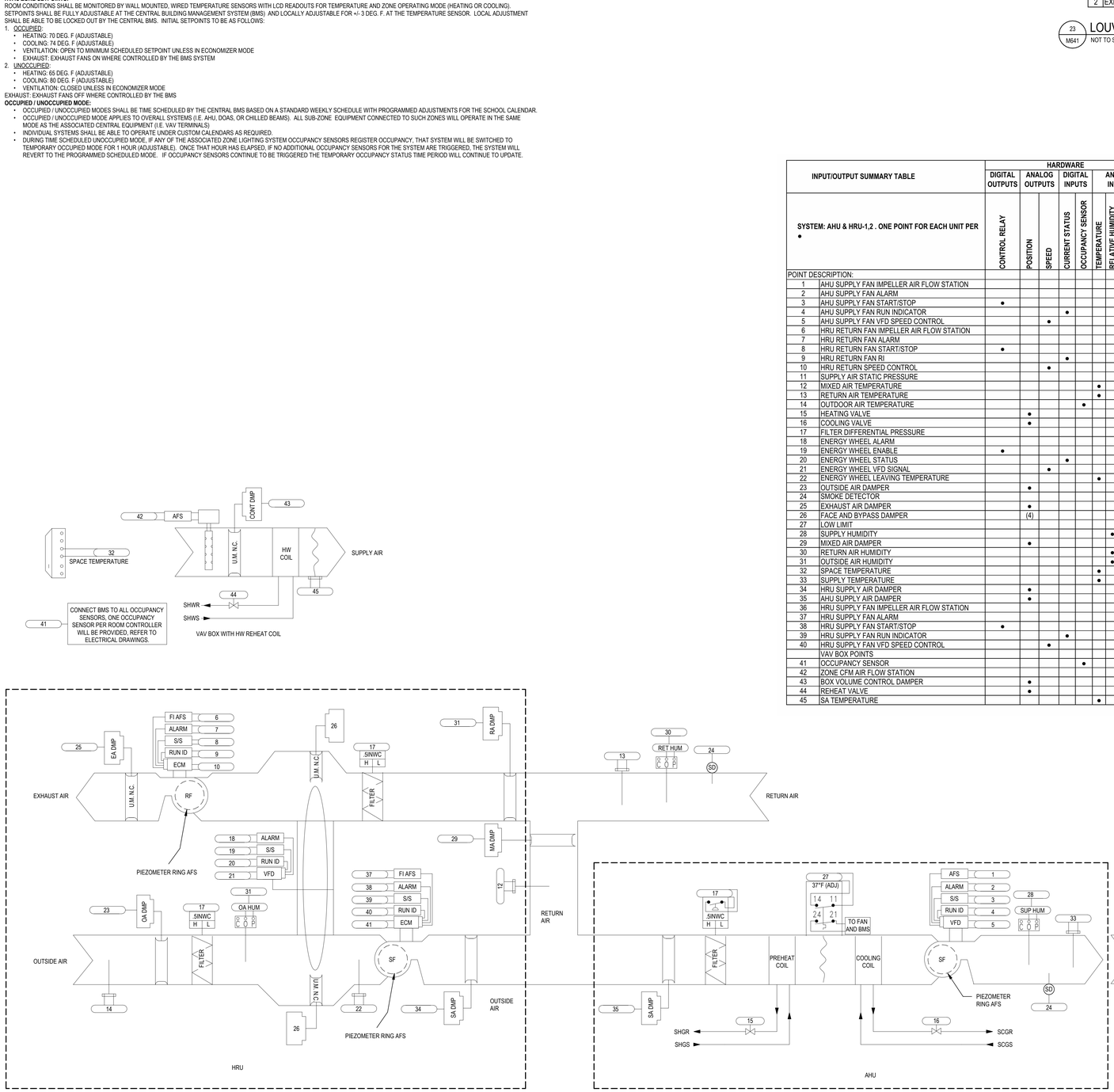
1. OCCUPIED:
   - HEATING: 70 DEG. F (ADJUSTABLE)
   - COOLING: 74 DEG. F (ADJUSTABLE)
   - VENTILATION: OPEN TO MINIMUM SCHEDULED SETPOINT UNLESS IN ECONOMIZER MODE
   - EXHAUST: EXHAUST FANS ON WHERE CONTROLLED BY THE BMS SYSTEM
2. UNOCCUPIED:
   - HEATING: 65 DEG. F (ADJUSTABLE)
   - COOLING: 80 DEG. F (ADJUSTABLE)
   - VENTILATION: CLOSED UNLESS IN ECONOMIZER MODE

EXHAUST: EXHAUST FANS OFF WHERE CONTROLLED BY THE BMS

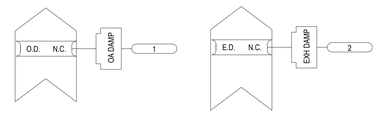
OCCUPIED / UNOCCUPIED MODE:
- OCCUPIED / UNOCCUPIED MODES SHALL BE TIME SCHEDULED BY THE CENTRAL BMS BASED ON A STANDARD WEEKLY SCHEDULE WITH PROGRAMMED ADJUSTMENTS FOR THE SCHOOL CALENDAR.
- OCCUPIED / UNOCCUPIED MODE APPLIES TO OVERALL SYSTEMS (I.E. AHU, DOAS, OR CHILLED BEAMS). ALL SUB-ZONE EQUIPMENT CONNECTED TO SUCH ZONES WILL OPERATE IN THE SAME MODE AS THE ASSOCIATED CENTRAL EQUIPMENT (I.E. VAV TERMINALS)
- INDIVIDUAL SYSTEMS SHALL BE ABLE TO OPERATE UNDER CUSTOM CALENDARS AS REQUIRED.
- DURING TIME SCHEDULED UNOCCUPIED MODE, IF ANY OF THE ASSOCIATED ZONE LIGHTING SYSTEM OCCUPANCY SENSORS REGISTER OCCUPANCY, THAT SYSTEM WILL BE SWITCHED TO TEMPORARY OCCUPIED MODE FOR 1 HOUR (ADJUSTABLE). ONCE THAT HOUR HAS ELAPSED, IF NO ADDITIONAL OCCUPANCY SENSORS FOR THE SYSTEM ARE TRIGGERED, THE SYSTEM WILL REVERT TO THE PROGRAMMED SCHEDULED MODE. IF OCCUPANCY SENSORS CONTINUE TO BE TRIGGERED THE TEMPORARY OCCUPANCY STATUS TIME PERIOD WILL CONTINUE TO UPDATE.



INPUT/OUTPUT SUMMARY TABLE	HARDWARE											SOFTWARE		
	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS		ANALOG INPUTS								
SYSTEM: AHU & HRU-1,2 . ONE POINT FOR EACH UNIT PER ●	CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE	TRENDING	ALARM	GRAPHICS - PROVIDE FOR ALL
POINT DESCRIPTION:												
1 AHU SUPPLY FAN IMPELLER AIR FLOW STATION								●		●		
2 AHU SUPPLY FAN ALARM											●	
3 AHU SUPPLY FAN START/STOP	●											
4 AHU SUPPLY FAN RUN INDICATOR				●						●		
5 AHU SUPPLY FAN VFD SPEED CONTROL			●									
6 HRU RETURN FAN IMPELLER AIR FLOW STATION								●		●		
7 HRU RETURN FAN ALARM											●	
8 HRU RETURN FAN START/STOP	●											
9 HRU RETURN FAN RI				●						●		
10 HRU RETURN SPEED CONTROL			●									
11 SUPPLY AIR STATIC PRESSURE									●			
12 MIXED AIR TEMPERATURE						●				●		
13 RETURN AIR TEMPERATURE						●				●		
14 OUTDOOR AIR TEMPERATURE							●			●		
15 HEATING VALVE		●								●		
16 COOLING VALVE		●								●		
17 FILTER DIFFERENTIAL PRESSURE									(6)		(6)	
18 ENERGY WHEEL ALARM											●	
19 ENERGY WHEEL ENABLE	●											
20 ENERGY WHEEL STATUS				●						●		
21 ENERGY WHEEL VFD SIGNAL			●									
22 ENERGY WHEEL LEAVING TEMPERATURE						●				●		
23 OUTSIDE AIR DAMPER		●								●		
24 SMOKE DETECTOR											(4)	
25 EXHAUST AIR DAMPER		●								●		
26 FACE AND BYPASS DAMPER		(4)								●		
27 LOW LIMIT											●	
28 SUPPLY HUMIDITY							●			●		
29 MIXED AIR DAMPER		●								●		
30 RETURN AIR HUMIDITY							●			●		
31 OUTSIDE AIR HUMIDITY							●			●		
32 SPACE TEMPERATURE						●				●		
33 SUPPLY TEMPERATURE						●				●	●	
34 HRU SUPPLY AIR DAMPER		●								●		
35 AHU SUPPLY AIR DAMPER		●								●		
36 HRU SUPPLY FAN IMPELLER AIR FLOW STATION								●		●		
37 HRU SUPPLY FAN ALARM											●	
38 HRU SUPPLY FAN START/STOP	●											
39 HRU SUPPLY FAN RUN INDICATOR				●						●		
40 HRU SUPPLY FAN VFD SPEED CONTROL			●									
VAV BOX POINTS												
41 OCCUPANCY SENSOR					●					●		
42 ZONE CFM AIR FLOW STATION									●	●		
43 BOX VOLUME CONTROL DAMPER		●								●		
44 REHEAT VALVE		●								●		
45 SA TEMPERATURE						●				●		



1 M641 AHU-1&2 - CONTROLS DIAGRAM
NOT TO SCALE



INPUT/OUTPUT SUMMARY TABLE	HARDWARE								
	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS		ANALOG INPUTS			
SYSTEM: LOUVER AND GRAVITY VENT	CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
POINT DESCRIPTION:										
1 INTAKE AIR DAMPER		●								
2 EXHAUST/RELIEF AIR DAMPER		●								

23 M641 LOUVERS AND GRAVITY VENT CONTROLS DIAGRAM
NOT TO SCALE

SEQUENCE OF OPERATION FOR MOTORIZED CONTROL DAMPERS ON GRAVITY HOODS AND INTAKE/EXHAUST LOUVERS

GENERAL: MOTORIZED CONTROL DAMPERS SHALL BE INTERLOCKED WITH THE ASSOCIATED SUPPLY, RETURN OR EXHAUST FAN. WHEN THE FAN ACTIVATES, THE DAMPER SHALL OPEN. WHEN THE FAN SHUT DOWNS, THE DAMPER SHALL CLOSE.

AHU-1 & 2 AND HRU-1 & 2: VARIABLE VOLUME, MULTI-ZONE WITH ASSOCIATED HRU AND VAV TERMINALS

GENERAL: SYSTEM CONSISTS OF AN INDOOR AIR HANDLER WITH SUPPLY FAN, HYDRONIC COOLING AND HYDRONIC PREHEAT. EACH AIR HANDLER HAS AN ASSOCIATED HEAT RECOVERY UNIT (HRU) WITH TOTAL ENTHALPY ENERGY RECOVERY WHEEL SUPPLY FAN, RETURN FAN, AND FACE AND BYPASS DAMPERS TO PERMIT 100% AIR SIDE ECONOMIZER OPERATION. ZONING SHALL BE ACCOMPLISHED USING PRESSURE INDEPENDENT VAV TERMINALS WITH HYDRONIC REHEAT COILS.

UNIT OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:
OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS WITH A ZONE OVERRIDE OF OCCUPIED / UNOCCUPIED MODE AS SENSED BY ZONE OCCUPANCY SENSORS.
OCCUPIED MODE:
- THE HRU OUTSIDE AIR AND AHU RETURN AIR DAMPERS SHALL MODULATE IN OPPOSITION TO PROVIDE MINIMUM VENTILATION OR ECONOMIZER SETTINGS AS INDICATED IN UNIT SCHEDULE AND ESTABLISHED DURING TESTING, ADJUSTING AND BALANCING (TAB).
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS OCCUPIED SETTINGS.
- HRU AND AHU SUPPLY FANS AND HRU RETURN FAN SHALL RUN CONTINUOUSLY.

UNOCCUPIED MODE:
- THE ASSOCIATED HRU SHALL BE SHUT OFF, OUTSIDE AIR DAMPER SHALL CLOSE, THE AHU RETURN DAMPER SHALL OPEN FULL.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS UNOCCUPIED SETTINGS.
- AHU SUPPLY FAN SHALL CYCLE WITH HEATING OR COOLING DEMANDS.
- WHILE IN UNOCCUPIED MODE, IF A ZONE ENTERS OCCUPIED MODE AS SENSED BY THE BUILDING MANAGEMENT SYSTEMS OCCUPANCY SENSORS, THE UNIT SHALL ENTER OCCUPIED MODE.

FAN CONTROL:
- HRU AND AHU SUPPLY FANS AND HRU RETURN FAN SHALL RUN CONTINUOUSLY AS PER OCCUPIED/UNOCCUPIED MODE, UNLESS TRIGGERED INTO ALARM CONDITION FOR FREEZE PROTECTION, FIRE ALARM, OR SMOKE DETECTION.
- THE AIR HANDLER SUPPLY FAN SHALL MODULATE TO MAINTAIN THE MINIMUM DUCT STATIC PRESSURE SET-POINT, ESTABLISHED DURING TAB, AS SENSED 2/3 DOWN THE SUPPLY AIR DUCT.
- THE HRU RETURN FAN SHALL OPERATE AT A FIXED OFFSET FROM THE AHU SUPPLY FAN IN ALL OPERATING MODES AS ESTABLISHED DURING TAB TO MAINTAIN CORRECT BUILDING PRESSURE. TARGET BUILDING PRESSURIZATION IS POSITIVE 0.05 IN WG.
- THE HRU SUPPLY FAN SHALL PROVIDE MINIMUM VENTILATION AIRFLOW TO THE AHU DURING OCCUPIED HOURS.
- SUPPLY DUCT STATIC PRESSURE SETPOINT SHALL BE RESET FROM THE INITIAL SETPOINT AS ESTABLISHED DURING TAB:
  1. THE INITIAL DUCT STATIC PRESSURE SET POINT SHALL BE 1.5 IN H2O (ADJUSTABLE), OR AS DETERMINED DURING TAB.
  2. THE STATIC PRESSURE SET POINT SHALL BE RESET BASED ON ZONE AIRFLOW REQUESTS, DERIVED FROM DAMPER POSITION AND MEETING AIRFLOW REQUIREMENTS AS DESCRIBED. BELOW:
     - A. THE DUCT STATIC PRESSURE SET POINT SHALL BE INCREMENTALLY RESET DOWN BY 0.10 " (ADJUSTABLE) AT A FREQUENCY OF 10 MINUTES (ADJUSTABLE) TO A MINIMUM OF 0.50 IN H2O (ADJUSTABLE) UNTIL ONE ASSOCIATED VAV TERMINAL DAMPER IS 95% OPEN OR WHEN THE SUPPLY FAN VFD HAS REACHED ITS LOWEST OPERATING SPEED LIMIT.
     - B. WHEN AT LEAST THREE ZONE VAV TERMINAL DAMPERS ARE GREATER THAN 95% (ADJUSTABLE) OPEN, THE REVERSE SHALL OCCUR AND THE DUCT STATIC PRESSURE SET POINT SHALL INCREMENTALLY RESET UP AT SAME RATE AS ABOVE TO A MAXIMUM OF 2.0 IN H2O (ADJUSTABLE).
- THE AHU SUPPLY FAN VFD MINIMUM SPEED SETTING SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING TO BE AS LOW AS POSSIBLE WHILE AVOIDING INERTIAL STALLING OF FAN, APPROXIMATELY 5% ABOVE THE FIELD OBSERVED STALL SPEED OF THE FAN OPERATING IN THE SYSTEM.

DISCHARGE AIR TEMPERATURE SETPOINT:
DISCHARGE AIR TEMPERATURE SHALL BE RESET USING A STRAIGHT-LINE PROPORTIONAL ALGORITHM BASED ON OUTDOOR AIR TEMPERATURE AS FOLLOWS:
- AT OUTDOOR AIR TEMPERATURE AT OR ABOVE 60 DEG. F, DISCHARGE AIR TEMPERATURE SHALL BE 55 DEG F (ADJ).
  1. DEW POINT OVERRIDE:
     - A. WHEN THE OUTSIDE AIR IS AT OR ABOVE A 60° DEW POINT, THE DISCHARGE AIR TEMPERATURE SHALL RESET TO 53°. ONCE THE OUTSIDE AIR DEW POINT DROPS BELOW 60° FOR 30 MINUTES (ADJ.), THE DISCHARGE AIR TEMPERATURE SHALL RESET 1°F EVERY 20 MINUTES (ADJ.) TO THE OUTDOOR AIR TEMPERATURE RESET TEMPERATURE AS DESCRIBED HEREIN.
- AT OUTDOOR AIR TEMPERATURES AT OR BELOW 40 DEG. F, THE DISCHARGE AIR TEMPERATURE SHALL BE 65 DEG. F (ADJ).
- AT OUTDOOR AIR TEMPERATURES BETWEEN 40 AND 60 DEG F THE DISCHARGE AIR TEMPERATURE SHALL BE RESET PROPORTIONALLY BETWEEN THOSE VALUES (ADJ).
- DISCHARGE AIR SETPOINT SHALL BE MAINTAINED AT ALL TIMES WITHIN +/- 2 DEG. F (ADJ) OF CALCULATED VALUE.

MIXED AIR DAMPER CONTROL:
NORMAL OPERATION:
- IN ALARM CONDITION WHEN THE SUPPLY FANS AND RETURN AIR FAN ARE OFF, THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE FULLY OPEN.
- WHEN THE AHU AND HRU SUPPLY FANS ARE ON AND THE UNIT IS IN OCCUPIED MODE, THE OUTSIDE, RETURN AND EXHAUST DAMPERS SHALL BE MODULATED TO MAINTAIN THE REQUIRED VENTILATION AIR AS SENSED BY THE OUTSIDE AIR FLOW MEASURING STATION, CALIBRATED DURING TAB.

ECONOMIZER OPERATION:
- ECONOMIZER CONTROLS SHALL MODULATE OUTSIDE AIR, RETURN AIR AND MIXED AIR DAMPERS BETWEEN MINIMUM OA FLOW RATE AND 100% OA FLOW TO MATCH AHU SUPPLY AIR FLOW RATE. 100% OA FLOW IS APPROXIMATELY 5,000 CFM FOR BOTH HRUS.
- ECONOMIZER OPERATION SHALL BE UNDER DUAL ENTHALPY CONTROL.
- DURING ECONOMIZER OPERATION, ENERGY RECOVERY AT THE HRU SHALL BE LOCKED OUT AND BYPASSED USING FACE AND BYPASS DAMPERS. HRU SUPPLY AND RETURN FANS SHALL REMAIN IN OPERATION, AT A THE MAXIMUM SPEED THAT KEEPS AIR VELOCITY UNDER 500 FPM THROUGH THE HRU FILTER BANKS.
- THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER, RETURN AIR AND MIXED AIR DAMPERS AT THE AHU AND HRU IN SEQUENCE TO MAINTAIN THE MIXED AIR TEMPERATURE SET POINT 2°F (ADJ) LOWER THAN THE DISCHARGE AIR TEMPERATURE SET POINT.
- THE ECONOMIZER MODE SHALL BE ENABLED WHENEVER:
  1. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJUSTABLE).
  2. AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.
  3. AND THE SUPPLY FAN STATUS IS ON.
  4. AND THE PREHEAT CONTROL OUTPUT HAS BEEN OFF CONTINUOUSLY FOR AT LEAST 10 MINUTES (ADJUSTABLE).
- WHEN ECONOMIZER MODE IS ENABLED, THE FOLLOWING OPERATIONS SHALL BE ALLOWED TO OCCUR AS NEEDED IN ORDER ACHIEVE MIXED AIR TEMPERATURE SET POINT:
  1. THE OA DAMPER SHALL MODULATE OPEN BEYOND THE MINIMUM VENTILATION AIR POSITION AND UP TO FULLY OPEN.
  2. THE RETURN AIR DAMPER AND THE MIXED AIR DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN SYSTEM BALANCE.
  3. THE HRU SUPPLY AND RETURN AIR FANS SHALL MODULATE AS REQUIRED TO PROVIDE ECONOMIZER FLOW.
- THE ECONOMIZER MODE SHALL BE DISABLED AND THE ECONOMIZER DAMPER SHALL MODULATE TO THE MINIMUM VENTILATION SET POINT AND THE RETURN AIR DAMPER SHALL OPEN WHEN:
  1. MIXED AIR TEMPERATURE DROPS FROM 50°F (ADJUSTABLE) TO 45°F (ADJUSTABLE).
  2. OR THE FREEZESTAT IS ON.
  3. OR THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY.
  4. OR LOSS OF SUPPLY FAN ON STATUS, OR IF UNIT IS COMMANDED OF.

CHILLED WATER COOLING CONTROL:
- CHILLED WATER COOLING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN COOLING MODE, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT TEMPERATURE.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL COOLING SHALL BE LOCKED OUT.

HOT WATER HEATING CONTROL:
- HOT WATER HEATING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN HEATING MODE. THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- WHEN THE FREEZE STAT IS TRIGGERED, OPEN THE HOT WATER HEATING VALVE 100%.
- IF THE UNIT ENTERS ECONOMIZER OPERATION MECHANICAL HEATING SHALL BE LOCKED OUT.

HEAT RECOVERY UNIT (HRU):
- THE HEAT RECOVERY UNIT SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS. ASSOCIATED OUTSIDE AIR AND EXHAUST AIR DAMPERS SHALL BE OPEN WHEN THE UNIT IS OPERATING AND CLOSED OTHERWISE.
- THE HEAT RECOVERY UNIT SYSTEM OPERATE UNDER MANUFACTURER 'S STANDARD CONTROL SEQUENCE FOR WHEEL SPEED, FACE AND BYPASS DAMPER OPERATION AND FREEZE PROTECTION, AS DETAILED BELOW:
  1. COOL MODE:
     - A. COOL MODE SHALL ACTIVATE WHEN THE OUTSIDE AIR TEMPERATURE IS GREATER THAN OR EQUAL TO THE RETURN AIR TEMPERATURE.
     - B. WHEEL SPEED SHALL BE 12 RPM (ADJ.).
  2. HEAT MODE:
     - A. HEAT MODE SHALL ACTIVATE WHEN THE OUTSIDE AIR TEMPERATRURE IS LESS THAN RETURN AIR TEMPERATURE.
     - B. WHEEL SPEED SHALL BE 12 RPM (ADJ.).
  3. SLEEP MODE:
     - A. SLEEP MODE SHALL ACTIVATE WHEN SUPPLY AIR TEMPERATURE IS GREATER THAN OR EQUAL TO THE SUPPLY AIR SETPOINT, WHEN IN HEAT MODE
     - B. THE WHEEL SHALL CYCLE FOR A SHORT PERIOD TO TEST AIR TEMPERATURES. THE WHEEL SHALL ACTIVATE OUT OF SLEEP MODE WHEN SUPPLY AIR TEMPERATURE IS LESS THAN SUPPLY AIR TEMPERATURE SETPOINT WHEN THE WHEEL STOPS TURNING OR AT ANYTIME THAT THE SUPPLY AIR TEMPERATURE IS LESS THAN THE SUPPLY AIR TEMPERATURE SETPOINT AND OUTSIDE AIR TEMPERATURE DROPS BELOW THE OUTSIDE AIR TEMPERATURE MEASURED WHEN THE WHEEL WENT INTO SLEEP MODE.
     - C. THE WHEEL AWAKES IF THE MODE CHANGES FROM HEAT TO COOL OR THE WHEEL IS DISABLED.
- THE BMS SYSTEM SHALL INTERFACE WITH THE HRU CONTROLLER TO MONITOR STATUS OF ALL ASSOCIATED AIRSTREAM TEMPERATURES AS WELL AS WHEEL ROTATION SPEED AND DIRECTION AND ANNUNCIATE ANY ALARMS

VAV BOX CONTROL:
EACH VAV BOX SHALL OPERATE TO MAINTAIN THE OCCUPIED OR UNOCCUPIED SPACE ZONE TEMPERATURE SETPOINT. THE TEMPERATURE SETPOINT AND SCHEDULE SHALL BE USER DEFINABLE.
HEATING MODE:
- THE VAV BOX SHALL MODULATE THE AIRFLOW TO ITS MINIMUM FLOW RATE SETPOINT.
- THE HYDRONIC RE-HEAT COIL SHALL UTILIZE PID LOOP CONTROL LOGIC TO SLOWLY MODULATE THE HEATING HOT WATER CONTROL VALVE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SET POINT.
- IF THE SPACE TEMPERATURE SETPOINT IS NOT ACHIEVED AT MINIMUM AIRFLOW WITH VALVE FULL OPEN, AIRFLOW SHALL INCREASE TO THE MAXIMUM AIRFLOW RATE AND THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN AN 85°F (ADJ) DAT.

COOLING MODE:
- THE REHEAT COIL SHALL BE OFF.
- ON A RISE IN TEMPERATURE ABOVE THE SPACE COOLING SET POINT, THE DAMPER SHALL MODULATE BETWEEN MINIMUM AND MAXIMUM AIRFLOW RATE TO SATISFY ZONE REQUIREMENTS.
- AS THE SPACE TEMPERATURE DROPS TO THE COOLING SET POINT, THE DAMPER SHALL MODULATE DOWN TO ITS MINIMUM POSITION.

OCCUPIED (VENTILATION) MODE:
- WHILE IN OCCUPIED MODE AS SENSED BY THE OCCUPANCY SENSOR AND WHILE THERE IS NO CALL FOR HEATING OR COOLING THE VAV BOX SHALL BE AT ITS MINIMUM AIRFLOW POSITION, WHICH WILL CORRELATE TO THE VENTILATION REQUIREMENTS OF THE SPACE. THE UNIT SHALL STAY IN OCCUPIED MODE UNTIL UNOCCUPIED MODE OCCURS.

UNOCCUPIED MODE:
- DURING SCHEDULED UNOCCUPIED HOURS, OR DURING SCHEDULED OCCUPIED HOURS IN ZONES WHERE THERE IS NO OCCUPANCY SENSED, THE VAV BOX SHALL MODULATE OPEN TO BRING THE SPACE TO THE UNOCCUPIED SETPOINT UPON A COOL FOR HEATING OR COOLING.

SAFETIES / ALARMS:
- IF THE AHU DISCHARGE AIR TEMPERATURE FALLS BELOW 37°F (ADJ.), THE UNIT SHALL BE COMMANDED INTO THE UNOCCUPIED MODE. ASSOCIATED HEATING VALVES SHALL BE COMMANDED FULLY OPEN AND AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY CONTROL POINT DEVIATES FROM SET-POINT BY MORE THAN 5 DEGREES F (ADJ.). AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AND ALARM SHALL BE GENERATED BY THE BMS.
- IN ALARM CONDITION FOR FREEZE PROTECTION, SMOKE OR FIRE THE UNIT FANS SHALL SHUT OFF, OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE AND RETURN AIR DAMPER SHALL OPEN.

BALANCING: COORDINATE SYSTEM TESTING, ADJUSTING AND BALANCING WITH BUILDING MANAGEMENT SYSTEM AND EQUIPMENT START UP.

NOTE: VAV-3-03 AND VAV-3-05 TO OPERATE IN OCCUPIED MODE WHEN MAU-1 AND KEF-1 THRU KEF-5 ARE IN OPERATION.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
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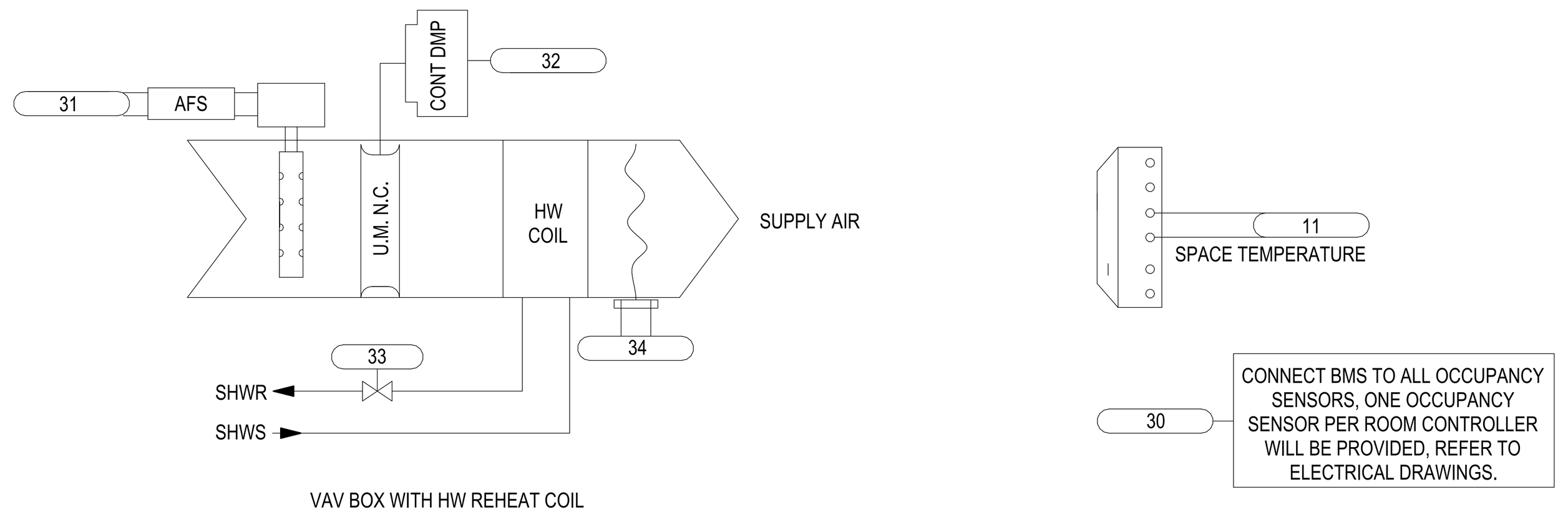
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M641
DDC CONTROL DIAGRAMS

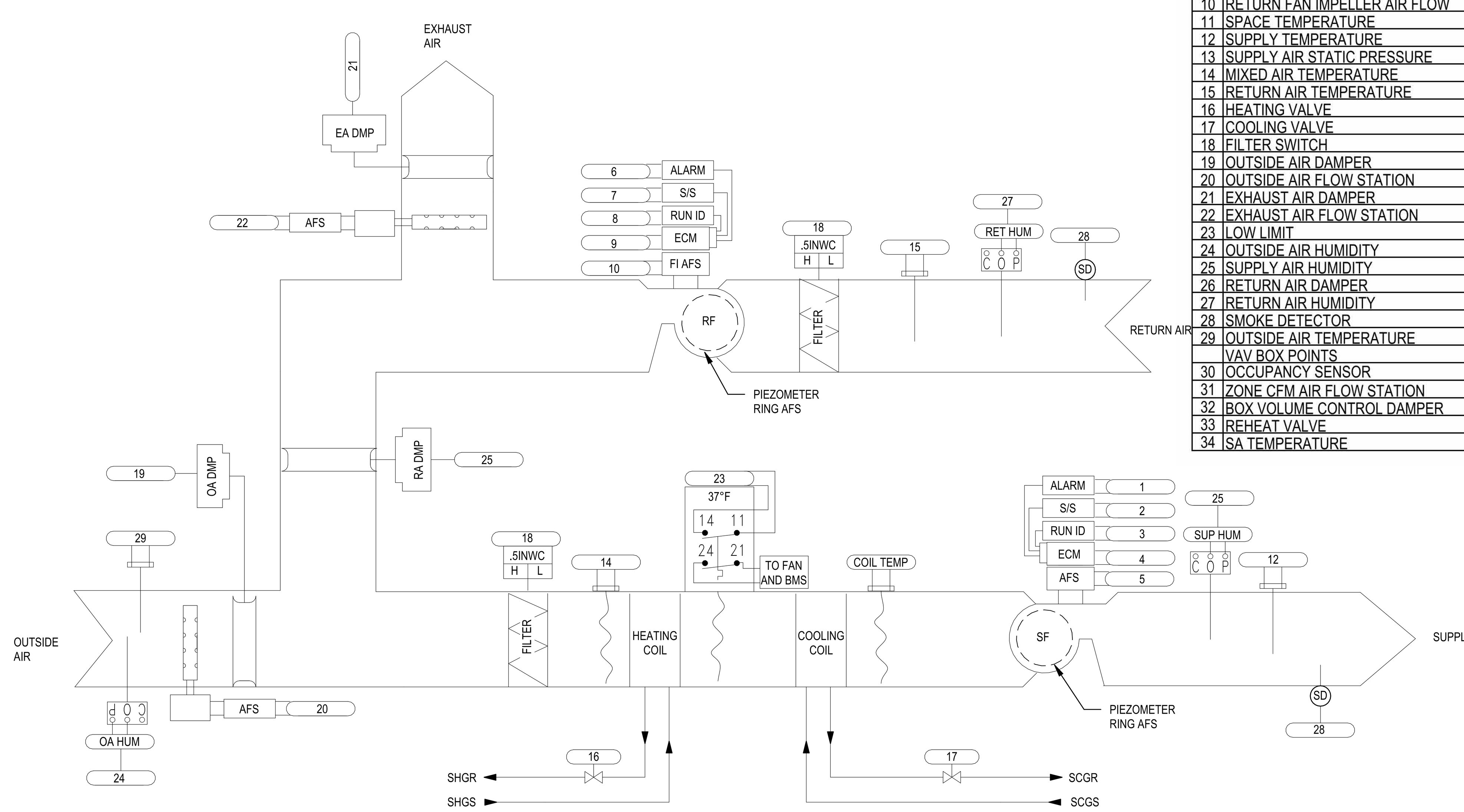
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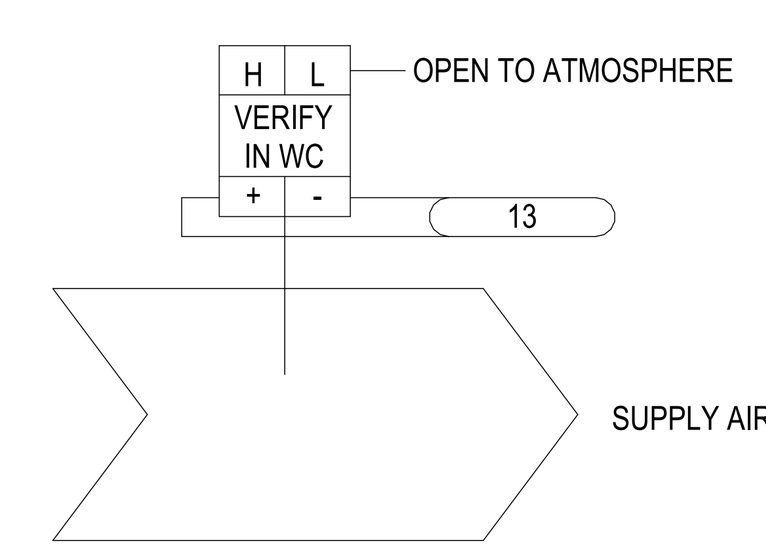
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CONNECT BMS TO ALL OCCUPANCY SENSORS, ONE OCCUPANCY SENSOR PER ROOM CONTROLLER WILL BE PROVIDED, REFER TO ELECTRICAL DRAWINGS.





2 / M642 **AHU-3 - CONTROLS DIAGRAM**
NOT TO SCALE

INPUT/OUTPUT SUMMARY TABLE — SYSTEM: AHU-3

POINT DESCRIPTION:	HARDWARE: DIGITAL OUTPUTS: CONTROL RELAY	HARDWARE: ANALOG OUTPUTS: POSITION	ANALOG OUTPUTS: SPEED	DIGITAL INPUTS: CURRENT STATUS	DIGITAL INPUTS: OCCUPANCY SENSOR	ANALOG INPUTS: TEMPERATURE	ANALOG INPUTS: RELATIVE HUMIDITY	ANALOG INPUTS: FLOW	ANALOG INPUTS: STATIC PRESSURE	SOFTWARE: TRENDING	SOFTWARE: ALARM	SOFTWARE: GRAPHICS - PROVIDE FOR ALL
1 SUPPLY FAN ALARM											•	
2 SUPPLY FAN START/STOP	•											
3 SUPPLY FAN RUN INDICATOR				•								
4 SUPPLY FAN VFD SPEED CONTROL			•							•		
5 SUPPLY FAN IMPELLER AIR FLOW								•				
6 RETURN FAN ALARM											•	
7 RETURN FAN START/STOP	•											
8 RETURN FAN RUN INDICATOR				•								
9 RETURN FAN VFD SPEED CONTROL			•							•		
10 RETURN FAN IMPELLER AIR FLOW								•				
11 SPACE TEMPERATURE					•	•				•		
12 SUPPLY TEMPERATURE						•				•	•	
13 SUPPLY AIR STATIC PRESSURE									•	•		
14 MIXED AIR TEMPERATURE						•				•		
15 RETURN AIR TEMPERATURE						•				•		
16 HEATING VALVE		•								•		
17 COOLING VALVE	•									•		
18 FILTER SWITCH									(2)		(2)	
19 OUTSIDE AIR DAMPER		•								•		
20 OUTSIDE AIR FLOW STATION								•		•		
21 EXHAUST AIR DAMPER		•								•		
22 EXHAUST AIR FLOW STATION								•		•		
23 LOW LIMIT										•	•	
24 OUTSIDE AIR HUMIDITY							•			•		
25 SUPPLY AIR HUMIDITY							•			•		
26 RETURN AIR DAMPER		•								•		
27 RETURN AIR HUMIDITY							•			•		
28 SMOKE DETECTOR											(2)	
29 OUTSIDE AIR TEMPERATURE							•			•		
VAV BOX POINTS												
30 OCCUPANCY SENSOR					•					•		
31 ZONE CFM AIR FLOW STATION								•		•		
32 BOX VOLUME CONTROL DAMPER		•								•		
33 REHEAT VALVE		•								•		
34 SA TEMPERATURE						•				•		

AHU-3: VARIABLE VOLUME, MULTI-ZONE, WITH ASSOCIATED VAV TERMINALS

GENERAL: SYSTEM CONSISTS OF A ROOFTOP AIR HANDLER WITH SUPPLY AND RETURN FANS, HYDRONIC COOLING, HYDRONIC PREHEAT, AND 100% AIR SIDE ECONOMIZER OPERATION.

UNIT OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:

OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS WITH A ZONE OVERRIDE OF OCCUPIED / UNOCCUPIED MODE AS SENSED BY ZONE OCCUPANCY SENSORS.

OCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM VENTILATION AS INDICATED IN UNIT SCHEDULE AND ESTABLISHED DURING TAB.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS OCCUPIED SETTINGS.
- SUPPLY AND RETURN FANS SHALL RUN CONTINUOUSLY.

UNOCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL CLOSE AND THE RETURN DAMPER SHALL OPEN FULL.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS UNOCCUPIED SETTINGS.
- SUPPLY AND RETURN FANS SHALL CYCLE WITH HEATING OR COOLING DEMANDS.
- WHILE IN UNOCCUPIED MODE, IF A ZONE ENTERS OCCUPIED MODE AS SENSED BY THE BUILDING MANAGEMENT SYSTEMS OCCUPANCY SENSORS, THE UNIT SHALL ENTER OCCUPIED MODE.

FAN CONTROL:
- THE SUPPLY AND RETURN FANS SHALL RUN CONTINUOUSLY UNLESS TRIGGERED INTO ALARM CONDITION FOR FREEZE PROTECTION, FIRE OR SMOKE DETECTION.
- THE SUPPLY FAN SHALL MODULATE TO MAINTAIN THE MINIMUM STATIC PRESSURE SET-POINT, ESTABLISHED DURING TAB.
- THE RETURN FAN SHALL OPERATE AT A FIXED OFFSET FROM THE SUPPLY FAN AS ESTABLISHED DURING TAB TO MAINTAIN POSITIVE BUILDING PRESSURE. TARGET BUILDING PRESSURIZATION IS POSITIVE 0.05 IN WG, WHEN KITCHEN EXHAUST FAN IS NOT RUNNING.
- SUPPLY AIR STATIC PRESSURE SETPOINT SHALL BE RESET DOWN FROM THE PROGRAMMED MINIMUM:
  1. THE INITIAL DUCT STATIC PRESSURE SET POINT SHALL BE 1.5 IN H2O (ADJUSTABLE), OR AS DETERMINED DURING TAB
  2. THE STATIC PRESSURE SET POINT SHALL BE RESET BASED ON ZONE AIRFLOW REQUESTS, DERIVED FROM DAMPER POSITION AND MEETING AIRFLOW REQUIREMENTS AS DESCRIBED BELOW:
     A. THE DUCT STATIC PRESSURE SET POINT SHALL BE INCREMENTALLY RESET DOWN BY 0.10 " (ADJUSTABLE) AT A FREQUENCY OF 10 MINUTES (ADJUSTABLE) TO A MINIMUM OF 0.50 IN H2O (ADJUSTABLE) UNTIL ONE ASSOCIATED VAV TERMINAL DAMPER IS 95% OPEN OR WHEN THE SUPPLY FAN VFD HAS REACHED ITS LOWEST OPERATING SPEED LIMIT.
     B. WHEN AT LEAST THREE ZONE VAV TERMINAL DAMPERS ARE GREATER THAN 95% (ADJUSTABLE) OPEN, THE REVERSE SHALL OCCUR AND THE DUCT STATIC PRESSURE SET POINT SHALL INCREMENTALLY RESET UP AT SAME RATE AS ABOVE TO A MAXIMUM OF 2.0 IN H2O (ADJUSTABLE).
- THE SUPPLY FAN VFD MINIMUM SPEED SETTING SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING TO BE AS LOW AS POSSIBLE WHILE AVOIDING INERTIAL STALLING OF FAN, APPROXIMATELY 5% ABOVE THE FIELD OBSERVED STALL SPEED OF THE FAN OPERATING IN THE SYSTEM.

DISCHARGE AIR TEMPERATURE SETPOINT RESET SCHEDULE:
- DISCHARGE AIR TEMPERATURE SHALL BE RESET USING A STRAIGHT-LINE PROPORTIONAL ALGORITHM BASED ON OUTDOOR AIR TEMPERATURE AS FOLLOWS:
  - AT OUTDOOR AIR TEMPERATURE AT OR ABOVE 60 DEG. F, DISCHARGE AIR TEMPERATURE SHALL BE 55 DEG F (ADJ).
    1. DEW POINT OVERRIDE:
       A. WHEN THE OUTSIDE AIR IS AT OR ABOVE A 60° DEW POINT, THE DISCHARGE AIR TEMPERATURE SHALL RESET TO 53°. ONCE THE OUTSIDE AIR DEW POINT DROPS BELOW 60° FOR 30 MINUTES (ADJ.), THE DISCHARGE AIR TEMPERATURE SHALL RESET 1°F EVERY 20 MINUTES (ADJ.) TO THE OUTDOOR AIR TEMPERATURE RESET TEMPERATURE AS DESCRIBED HEREIN.
  - AT OUTDOOR AIR TEMPERATURES AT OR BELOW 40 DEG. F, THE DISCHARGE AIR TEMPERATURE SHALL BE 65 DEG. F (ADJ).
  - AT OUTDOOR AIR TEMPERATURES BETWEEN 40 AND 60 DEG F THE DISCHARGE AIR TEMPERATURE SHALL BE RESET PROPORTIONALLY BETWEEN THOSE VALUES.
  - DISCHARGE AIR SETPOINT SHALL BE MAINTAINED AT ALL TIMES WITHIN +/- 2 DEG. F (ADJ).

MIXED AIR DAMPER CONTROL:

NORMAL OPERATION:
- IN ALARM CONDITION WHEN THE SUPPLY AND RETURN AIR FANS ARE OFF, THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE FULLY OPEN.
- WHEN THE SUPPLY AND RETURN FANS ARE ON AND THE UNIT IS IN OCCUPIED MODE, THE OUTSIDE, RETURN AND EXHAUST DAMPERS SHALL BE MODULATED TO MAINTAIN THE REQUIRED VENTILATION AIR AS SENSED BY THE OUTSIDE AIR FLOW MEASURING STATION, CALIBRATED DURING TAB.

ECONOMIZER OPERATION:
- ECONOMIZER CONTROLS SHALL MODULATE OUTSIDE AIR AND RETURN AIR DAMPERS BETWEEN MINIMUM OA FLOW RATE AND 100% OA FLOW RATE.
- ECONOMIZER OPERATION SHALL BE UNDER DUAL ENTHALPY CONTROL.
- THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER AND RETURN AIR DAMPERS IN SEQUENCE TO MAINTAIN THE MIXED AIR TEMPERATURE SET POINT 2°F (ADJ) LOWER THAN THE DISCHARGE AIR TEMPERATURE SET POINT.
- THE ECONOMIZER MODE SHALL BE ENABLED WHENEVER:
  1. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJUSTABLE).
  2. AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.
  3. AND THE SUPPLY FAN STATUS IS ON.
  4. AND THE PREHEAT CONTROL OUTPUT HAS BEEN OFF CONTINUOUSLY FOR AT LEAST 10 MINUTES (ADJUSTABLE).
- WHEN ECONOMIZER MODE IS ENABLED, THE FOLLOWING OPERATIONS SHALL BE ALLOWED TO OCCUR AS NEEDED IN ORDER ACHIEVE MIXED AIR TEMPERATURE SET POINT:
  1. THE OA DAMPER SHALL MODULATE OPEN BEYOND THE MINIMUM VENTILATION AIR POSITION AND UP TO FULLY OPEN.
  2. THEN RETURN AIR DAMPER AND THE EXHAUST DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN SYSTEM BALANCE.
- THE ECONOMIZER MODE SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL MODULATE TO THE MINIMUM VENTILATION SET POINT AND THE RETURN AIR DAMPER SHALL OPEN WHEN:
  1. MIXED AIR TEMPERATURE DROPS FROM 50°F (ADJUSTABLE) TO 45°F (ADJUSTABLE).
  2. OR THE FREEZESTAT IS ON.
  3. OR THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY.
  4. OR LOSS OF SUPPLY FAN ON STATUS, OR IF UNIT IS COMMANDED OFF.

CHILLED WATER COOLING CONTROL:
- CHILLED WATER COOLING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN COOLING MODE, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL COOLING SHALL BE LOCKED OUT.

HOT WATER HEATING CONTROL:
- HOT WATER HEATING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN HEATING MODE, THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL HEATING SHALL BE LOCKED OUT.
- WHEN THE FREEZE STAT IS TRIGGERED, OPEN THE HOT WATER HEATING VALVE 100%.

VAV BOX CONTROL:

EACH VAV BOX SHALL OPERATE TO MAINTAIN THE OCCUPIED OR UNOCCUPIED SPACE ZONE TEMPERATURE SETPOINT, OR THE OCCUPIED VENTILATION AIR RATE. THE TEMPERATURE SETPOINT AND SCHEDULE SHALL BE USER DEFINABLE.

HEATING MODE:
- THE VAV BOX SHALL MODULATE THE AIRFLOW TO ITS MINIMUM FLOW RATE SETPOINT.
- THE HYDRONIC RE-HEAT COIL SHALL UTILIZE PID LOOP CONTROL LOGIC TO SLOWLY MODULATE THE HEATING HOT WATER CONTROL VALVE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SET POINT.
- IF THE SPACE TEMPERATURE SETPOINT IS NOT ACHIEVED AT MINIMUM AIRFLOW WITH VALVE FULL OPEN, AIRFLOW SHALL INCREASE TO THE MAXIMUM AIRFLOW RATE AND THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN AN 85°F (ADJ) DAT.

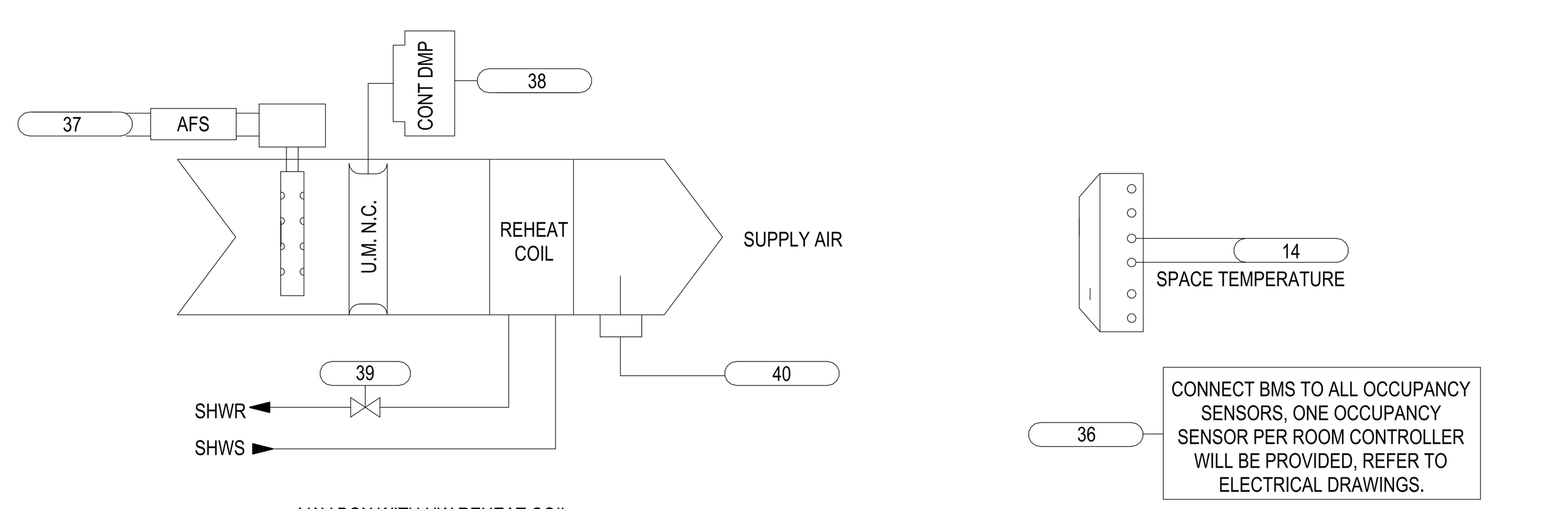
COOLING MODE:
- THE REHEAT COIL SHALL BE OFF.
- ON A RISE IN TEMPERATURE ABOVE THE SPACE COOLING SET POINT, THE DAMPER SHALL MODULATE BETWEEN MINIMUM AND MAXIMUM AIRFLOW RATE TO SATISFY ZONE REQUIREMENTS.
- AS THE SPACE TEMPERATURE DROPS TO THE COOLING SET POINT, THE DAMPER SHALL MODULATE DOWN TO ITS MINIMUM POSITION.

VENTILATION MODE:
- WHILE IN OCCUPIED MODE AND WHILE THERE IS NO CALL FOR HEATING OR COOLING THE VAV BOX SHALL BE AT ITS MINIMUM AIRFLOW POSITION, WHICH WILL CORRELATE TO THE VENTILATION REQUIREMENTS OF THE SPACE.

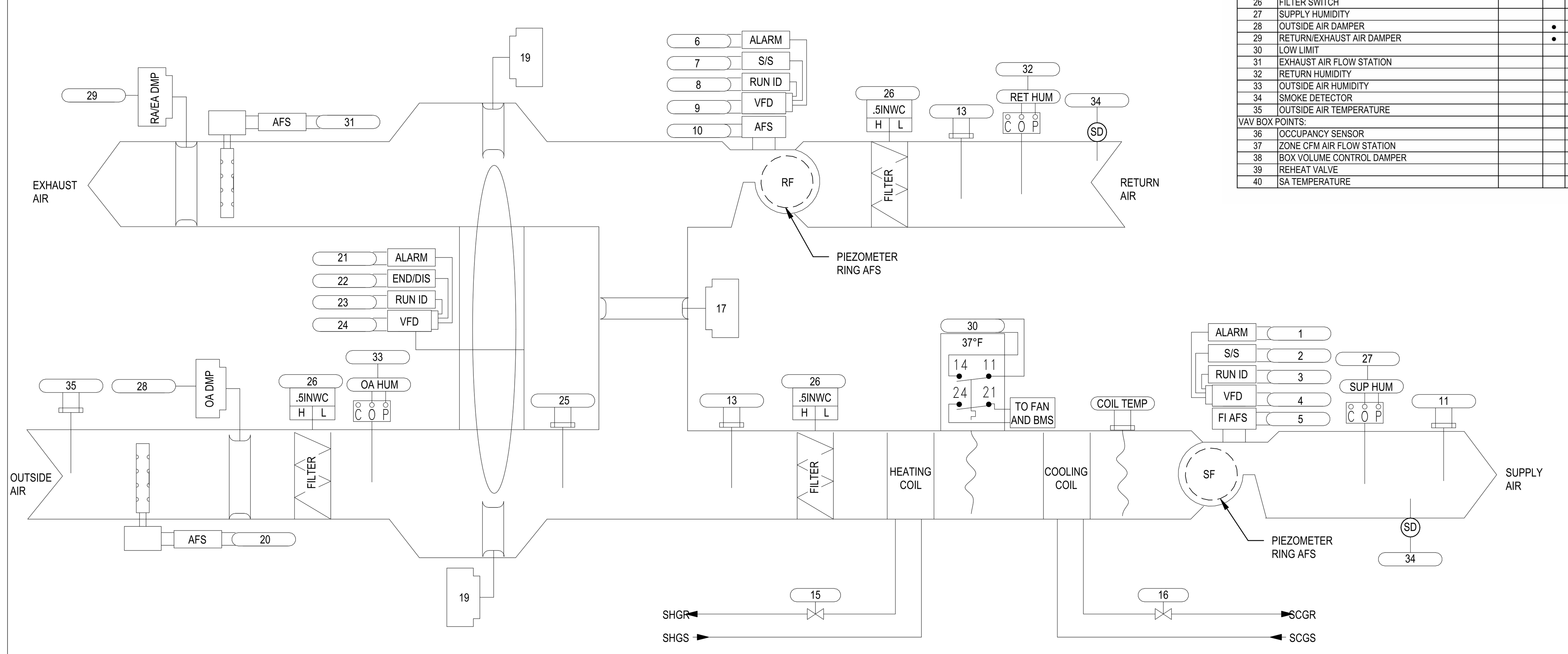
UNOCCUPIED MODE:
- DURING SCHEDULED UNOCCUPIED HOURS, OR DURING SCHEDULED OCCUPIED HOURS IN ZONES WHERE THERE IS NO OCCUPANCY SENSED, THE VAV BOX SHALL CLOSE. THE VAV BOX SHALL MODULATE OPEN TO BRING THE SPACE TO THE UNOCCUPIED SETPOINT UPON A CALL FOR HEATING OR COOLING.

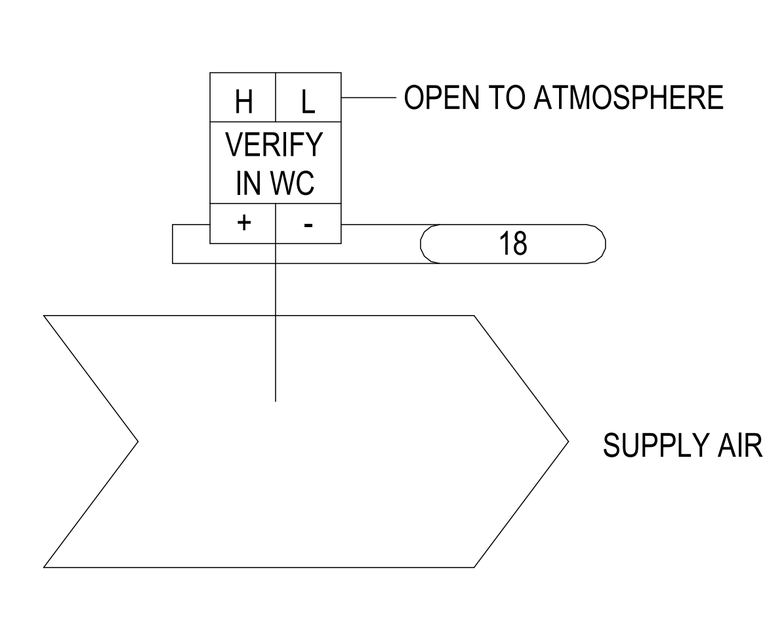
SAFETIES / ALARMS: IF THE DISCHARGE AIR TEMPERATURE FALLS BELOW 40 DEGREES F (ADJ.), THE UNIT SHALL BE COMMANDED INTO THE UNOCCUPIED MODE. ASSOCIATED HEATING VALVES SHALL BE COMMANDED FULLY OPEN AND AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY CONTROL POINT DEVIATES FROM SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AND ALARM SHALL BE GENERATED BY THE BMS.

BALANCING: COORDINATE SYSTEM TESTING, ADJUSTING AND BALANCING WITH BUILDING MANAGEMENT SYSTEM AND EQUIPMENT START UP.



CONNECT BMS TO ALL OCCUPANCY SENSORS, ONE OCCUPANCY SENSOR PER ROOM CONTROLLER WILL BE PROVIDED, REFER TO ELECTRICAL DRAWINGS.





DUCT STATIC PRESSURE TRANSMITTER

SUPPLY AIR DUCT PRESSURE AT 2/3 POINT DOWNSTREAM OF UNIT

1 / M642 **AHU-4 - CONTROLS DIAGRAM**
NOT TO SCALE

INPUT/OUTPUT SUMMARY TABLE — SYSTEM: AHU-4 - VARIABLE AIR VOLUME SYSTEM - SEQUENCE OF OPERATIONS

POINT DESCRIPTION:	HARDWARE: DIGITAL OUTPUTS: CONTROL RELAY	HARDWARE: ANALOG OUTPUTS: POSITION	ANALOG OUTPUTS: SPEED	DIGITAL INPUTS: CURRENT STATUS	DIGITAL INPUTS: OCCUPANCY SENSOR	ANALOG INPUTS: TEMPERATURE	ANALOG INPUTS: RELATIVE HUMIDITY	ANALOG INPUTS: FLOW	ANALOG INPUTS: STATIC PRESSURE	SOFTWARE: TRENDING	SOFTWARE: ALARM	SOFTWARE: GRAPHICS - PROVIDE FOR ALL
1 SUPPLY FAN ALARM											•	
2 SUPPLY FAN START/STOP	•											
3 SUPPLY FAN RUN INDICATOR				•								
4 SUPPLY FAN VFD SPEED CONTROL			•							•		
5 SUPLY FAN IMPELLER AIR FLOW STATION								•				
6 RETURN FAN ALARM											•	
7 RETURN FAN START/STOP	•											
8 RETURN FAN RUN INDICATOR				•								
9 RETURN FAN VFD SPEED CONTROL			•							•		
10 RETURN FAN IMPELLER AIR FLOW STATION								•		•		
11 SUPPLY TEMPERATURE						•				•	•	
12 MIXED AIR TEMPERATURE						•				•		
13 RETURN AIR TEMPERATURE						•				•		
14 SPACE TEMPERATURE						•				•		
15 HEATING VALVE		•								•		
16 COOLING VALVE		•								•		
17 MIXED AIR DAMPER		•								•		
18 STATIC PRESSURE									•			
19 FACE AND BYPASS DAMPERS		(2)										
20 OUTSIDE AIR FLOW STATION								•		•		
21 ENERGY RECOVERY WHEEL ALARM											•	
22 ENERGY WHEEL START/STOP	•											
23 ENERGY RECOVERY WHEEL STATUS				•								
24 ENERGY RECOVERY WHEEL VFD SPEED			•									
25 ENERGY WHEEL RECOVERY WHEEL LEAVING TEMP						•						
26 FILTER SWITCH									(3)		(3)	
27 SUPPLY HUMIDITY							•					
28 OUTSIDE AIR DAMPER		•										
29 RETURN/EXHAUST AIR DAMPER		•										
30 LOW LIMIT											•	
31 EXHAUST AIR FLOW STATION								•				
32 RETURN HUMIDITY							•					
33 OUTSIDE AIR HUMIDITY							•					
34 SMOKE DETECTOR											(2)	
35 OUTSIDE AIR TEMPERATURE						•				•		
VAV BOX POINTS:												
36 OCCUPANCY SENSOR					•							
37 ZONE CFM AIR FLOW STATION								•				
38 BOX VOLUME CONTROL DAMPER			•									
39 REHEAT VALVE			•									
40 SA TEMPERATURE						•						

AHU-4: VARIABLE VOLUME, MULTI-ZONE WITH ENERGY WHEEL AND VAV TERMINALS

GENERAL: SYSTEM CONSISTS OF AN INDOOR AIR HANDLER WITH SUPPLY AND RETURN FANS, HYDRONIC COOLING, HYDRONIC PREHEAT, A TOTAL ENTHALPY ENERGY RECOVERY WHEEL AND FACE AND BYPASS DAMPERS TO PERMIT 100% AIR SIDE ECONOMIZER OPERATION. ZONING IS ACCOMPLISHED USING PRESSURE INDEPENDENT VAV TERMINALS WITH HYDRONIC REHEAT COILS.

UNIT OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:

OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS WITH A ZONE OVERRIDE OF OCCUPIED / UNOCCUPIED MODE AS SENSED BY ZONE OCCUPANCY SENSORS.

OCCUPIED MODE:
- THE OUTSIDE AIR AND RETURN AIR AHU DAMPERS SHALL MODULATE IN OPPOSITION TO PROVIDE MINIMUM VENTILATION OR ECONOMIZER SETTINGS AS INDICATED IN UNIT SCHEDULE AND ESTABLISHED DURING TAB.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS OCCUPIED SETTINGS.
- SUPPLY FAN AND RETURN FANS SHALL RUN CONTINUOUSLY

UNOCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL CLOSE, THE RETURN DAMPER SHALL OPEN FULL.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS UNOCCUPIED SETTINGS.
- SUPPLY AND RETURN FANS SHALL CYCLE WITH HEATING OR COOLING DEMANDS.
- WHILE IN UNOCCUPIED MODE, IF A ZONE ENTERS OCCUPIED MODE AS SENSED BY THE BUILDING MANAGEMENT SYSTEMS OCCUPANCY SENSORS, THE UNIT SHALL ENTER OCCUPIED MODE.

FAN CONTROL:
- THE SUPPLY FAN AND RETURN FAN SHALL RUN CONTINUOUSLY UNLESS TRIGGERED INTO ALARM CONDITION FOR FREEZE PROTECTION, FIRE ALARM, OR SMOKE DETECTION.
- THE SUPPLY FAN SHALL MODULATE TO MAINTAIN THE MINIMUM DUCT STATIC PRESSURE SET-POINT, ESTABLISHED DURING TAB, AS SENSED 2/3 DOWN THE SUPPLY AIR DUCT.
- THE RETURN FAN SHALL OPERATE AT A FIXED OFFSET FROM THE SUPPLY FAN IN ALL OPERATING MODES AS ESTABLISHED DURING TAB TO MAINTAIN POSITIVE BUILDING PRESSURE. TARGET BUILDING PRESSURIZATION IS POSITIVE 0.05 IN WG.
- SUPPLY DUCT STATIC PRESSURE SETPOINT SHALL BE RESET FROM THE INITIAL SETPOINT AS ESTABLISHED DURING TAB:
  1. THE INITIAL DUCT STATIC PRESSURE SET POINT SHALL BE 1.5 IN H2O (ADJUSTABLE), OR AS DETERMINED DURING TAB.
  2. THE STATIC PRESSURE SET POINT SHALL BE RESET BASED ON ZONE AIRFLOW REQUESTS, DERIVED FROM DAMPER POSITION AND MEETING AIRFLOW REQUIREMENTS AS DESCRIBED BELOW:
     A. THE DUCT STATIC PRESSURE SET POINT SHALL BE INCREMENTALLY RESET DOWN BY 0.10 " (ADJUSTABLE) AT A FREQUENCY OF 10 MINUTES (ADJUSTABLE) TO A MINIMUM OF 0.50 IN H2O (ADJUSTABLE) UNTIL ONE ASSOCIATED VAV TERMINAL DAMPER IS 95% OPEN OR WHEN THE SUPPLY FAN VFD HAS REACHED ITS LOWEST OPERATING SPEED LIMIT.
     B. WHEN AT LEAST THREE ZONE VAV TERMINAL DAMPERS ARE GREATER THAN 95% (ADJUSTABLE) OPEN, THE REVERSE SHALL OCCUR AND THE DUCT STATIC PRESSURE SET POINT SHALL INCREMENTALLY RESET UP AT SAME RATE AS ABOVE TO A MAXIMUM OF 2.0 IN H2O (ADJUSTABLE).
- THE SUPPLY FAN VFD MINIMUM SPEED SETTING SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING TO BE AS LOW AS POSSIBLE WHILE AVOIDING INERTIAL STALLING OF FAN, APPROXIMATELY 5% ABOVE THE FIELD OBSERVED STALL SPEED OF THE FAN OPERATING IN THE SYSTEM.

DISCHARGE AIR TEMPERATURE SETPOINT:

DISCHARGE AIR TEMPERATURE SHALL BE RESET USING A STRAIGHT LINE PROPORTIONAL ALGORITHM BASED ON OUTDOOR AIR TEMPERATURE AS FOLLOWS:
- AT OUTDOOR AIR TEMPERATURE AT OR ABOVE 60 DEG. F, DISCHARGE AIR TEMPERATURE SHALL BE 55 DEG F (ADJ).
  1. DEW POINT OVERRIDE:
     A. WHEN THE OUTSIDE AIR IS AT OR ABOVE A 60° DEW POINT, THE DISCHARGE AIR TEMPERATURE SHALL RESET TO 53°. ONCE THE OUTSIDE AIR DEW POINT DROPS BELOW 60° FOR 30 MINUTES (ADJ.), THE DISCHARGE AIR TEMPERATURE SHALL RESET 1°F EVERY 20 MINUTES (ADJ.) TO THE OUTDOOR AIR TEMPERATURE RESET TEMPERATURE AS DESCRIBED HEREIN.
- AT OUTDOOR AIR TEMPERATURES AT OR BELOW 40 DEG. F, THE DISCHARGE AIR TEMPERATURE SHALL BE 65 DEG. F (ADJ).
- AT OUTDOOR AIR TEMPERATURES BETWEEN 40 AND 60 DEG F THE DISCHARGE AIR TEMPERATURE SHALL BE RESET PROPORTIONALLY BETWEEN THOSE VALUES (ADJ).
- DISCHARGE AIR SETPOINT SHALL BE MAINTAINED AT ALL TIMES WITHIN +/- 2 DEG. F (ADJ) OF CALCULATED VALUE.

MIXED AIR DAMPER CONTROL:

NORMAL OPERATION:
- IN ALARM CONDITION WHEN THE SUPPLY AND RETURN AIR FANS ARE OFF, THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL BE CLOSED AND THE RETURN AIR DAMPER SHALL BE FULLY OPEN.
- WHEN THE SUPPLY FAN IS ON AND THE UNIT IS IN OCCUPIED MODE, THE OUTSIDE, RETURN AND EXHAUST AIR DAMPERS SHALL BE MODULATED TO MAINTAIN THE REQUIRED VENTILATION AIR AS SENSED BY THE OUTSIDE AIR FLOW MEASURING STATION, CALIBRATED DURING TAB.

ECONOMIZER OPERATION:
- ECONOMIZER CONTROLS SHALL MODULATE OUTSIDE AIR AND RETURN AIR DAMPERS BETWEEN MINIMUM OA FLOW RATE AND 100% OA FLOW RATE
- ECONOMIZER OPERATION SHALL BE UNDER DUAL ENTHALPY CONTROL.
- DURING ECONOMIZER OPERATION ENERGY RECOVERY SHALL BE LOCKED OUT AND BYPASSED USING FACE AND BYPASS DAMPERS.
- THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER, AND RETURN AIR DAMPERS AT THE AHU AND ERV IN SEQUENCE TO MAINTAIN THE MIXED AIR TEMPERATURE SET POINT 2°F (ADJ) LOWER THAN THE DISCHARGE AIR TEMPERATURE SET POINT.
- THE ECONOMIZER MODE SHALL BE ENABLED WHENEVER:
  1. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJUSTABLE).
  2. AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.
  3. AND THE SUPPLY FAN STATUS IS ON.
  4. AND THE PREHEAT CONTROL OUTPUT HAS BEEN OFF CONTINUOUSLY FOR AT LEAST 10 MINUTES (ADJUSTABLE).
- WHEN ECONOMIZER MODE IS ENABLED, THE FOLLOWING OPERATIONS SHALL BE ALLOWED TO OCCUR AS NEEDED IN ORDER ACHIEVE MIXED AIR TEMPERATURE SET POINT:
  1. THE OA DAMPER SHALL MODULATE OPEN BEYOND THE MINIMUM VENTILATION AIR POSITION AND UP TO FULLY OPEN.
  2. THEN RETURN AIR DAMPER AND THE EXHAUST AIR DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN SYSTEM BALANCE.
- THE ECONOMIZER MODE SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL MODULATE TO THE MINIMUM VENTILATION SET POINT AND THE RETURN AIR DAMPER SHALL OPEN WHEN:
  1. MIXED AIR TEMPERATURE DROPS FROM 50°F (ADJUSTABLE) TO 45°F (ADJUSTABLE),
  2. OR THE FREEZESTAT IS ON,
  3. OR THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY,
  4. OR LOSS OF SUPPLY FAN ON STATUS, OR IF UNIT IS COMMANDED OFF.

CHILLED WATER COOLING CONTROL:
- CHILLED WATER COOLING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN COOLING MODE, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL COOLING SHALL BE LOCKED OUT.

HOT WATER HEATING CONTROL:
- HOT WATER HEATING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN HEATING MODE, THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL HEATING SHALL BE LOCKED OUT.
- WHEN THE FREEZE STAT IS TRIGGERED, OPEN THE HOT WATER HEATING VALVE 100%

ENERGY RECOVERY WHEEL:
- THE ENERGY RECOVERY WHEEL SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS. ASSOCIATED AUTOMATIC AIR DAMPERS (AAD) SHALL BE OPEN WHEN THE UNIT IS OPERATING AND CLOSED OTHERWISE.
- THE ENERGY RECOVERY SYSTEM SHALL OPERATE UNDER MANUFACTURER 'S STANDARD CONTROL SEQUENCE FOR WHEEL SPEED, FACE AND BYPASS DAMPER OPERATION AND FREEZE PROTECTION
- THE BMS SYSTEM SHALL INTERFACE WITH THE ERV CONTROLLER TO MONITOR STATUS OF ALL ASSOCIATED AIRSTREAM TEMPERATURES AS WELL AS WHEEL ROTATION SPEED AND DIRECTION AND ANNUNCIATE ANY ALARMS

VAV BOX CONTROL:

EACH VAV BOX SHALL OPERATE TO MAINTAIN THE OCCUPIED OR UNOCCUPIED SPACE ZONE TEMPERATURE SETPOINT. THE TEMPERATURE SETPOINT AND SCHEDULE SHALL BE USER DEFINABLE.

HEATING MODE:
- THE VAV BOX SHALL MODULATE THE AIRFLOW TO ITS MINIMUM FLOW RATE SETPOINT.
- THE HYDRONIC RE-HEAT COIL SHALL UTILIZE PID LOOP CONTROL LOGIC TO SLOWLY MODULATE THE HEATING HOT WATER CONTROL VALVE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SET POINT.
- IF THE SPACE TEMPERATURE SETPOINT IS NOT ACHIEVED AT MINIMUM AIRFLOW WITH VALVE FULL OPEN, AIRFLOW SHALL INCREASE TO THE MAXIMUM AIRFLOW RATE AND THE HOT WATER CONTROL VALVE SHALL MODULATE TO MAINTAIN AN 85°F (ADJ) DAT.

COOLING MODE:
- THE REHEAT COIL SHALL BE OFF.
- ON A RISE IN TEMPERATURE ABOVE THE SPACE COOLING SET POINT, THE DAMPER SHALL MODULATE BETWEEN MINIMUM AND MAXIMUM AIRFLOW RATE TO SATISFY ZONE REQUIREMENTS.
- AS THE SPACE TEMPERATURE DROPS TO THE COOLING SET POINT, THE DAMPER SHALL MODULATE DOWN TO ITS MINIMUM POSITION.

VENTILATION MODE:
- WHILE IN OCCUPIED MODE AND WHILE THERE IS NO CALL FOR HEATING OR COOLING THE VAV BOX SHALL BE AT ITS MINIMUM AIRFLOW POSITION, WHICH WILL CORRELATE TO THE VENTILATION REQUIREMENTS OF THE SPACE.

UNOCCUPIED MODE:
- DURING SCHEDULED UNOCCUPIED HOURS, OR DURING SCHEDULED OCCUPIED HOURS IN ZONES WHERE THERE IS NO OCCUPANCY SENSED, THE VAV BOX SHALL CLOSE. THE VAV BOX SHALL MODULATE OPEN TO BRING THE SPACE TO THE UNOCCUPIED SETPOINT UPON A CALL FOR HEATING OR COOLING.

SAFETIES / ALARMS:
- IF THE AHU DISCHARGE AIR TEMPERATURE FALLS BELOW 40 DEGREES F (ADJ.), THE UNIT SHALL BE COMMANDED INTO THE UNOCCUPIED MODE. ASSOCIATED HEATING VALVES SHALL BE COMMANDED FULLY OPEN AND AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY CONTROL POINT DEVIATES FROM SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AND ALARM SHALL BE GENERATED BY THE BMS.
- IN ALARM CONDITION FOR FREEZE PROTECTION, SMOKE OR FIRE THE UNIT FANS SHALL SHUT OFF, OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE AND RETURN AIR DAMPER SHALL OPEN.

BALANCING: COORDINATE SYSTEM TESTING, ADJUSTING AND BALANCING WITH BUILDING MANAGEMENT SYSTEM AND EQUIPMENT START UP.

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Revisions

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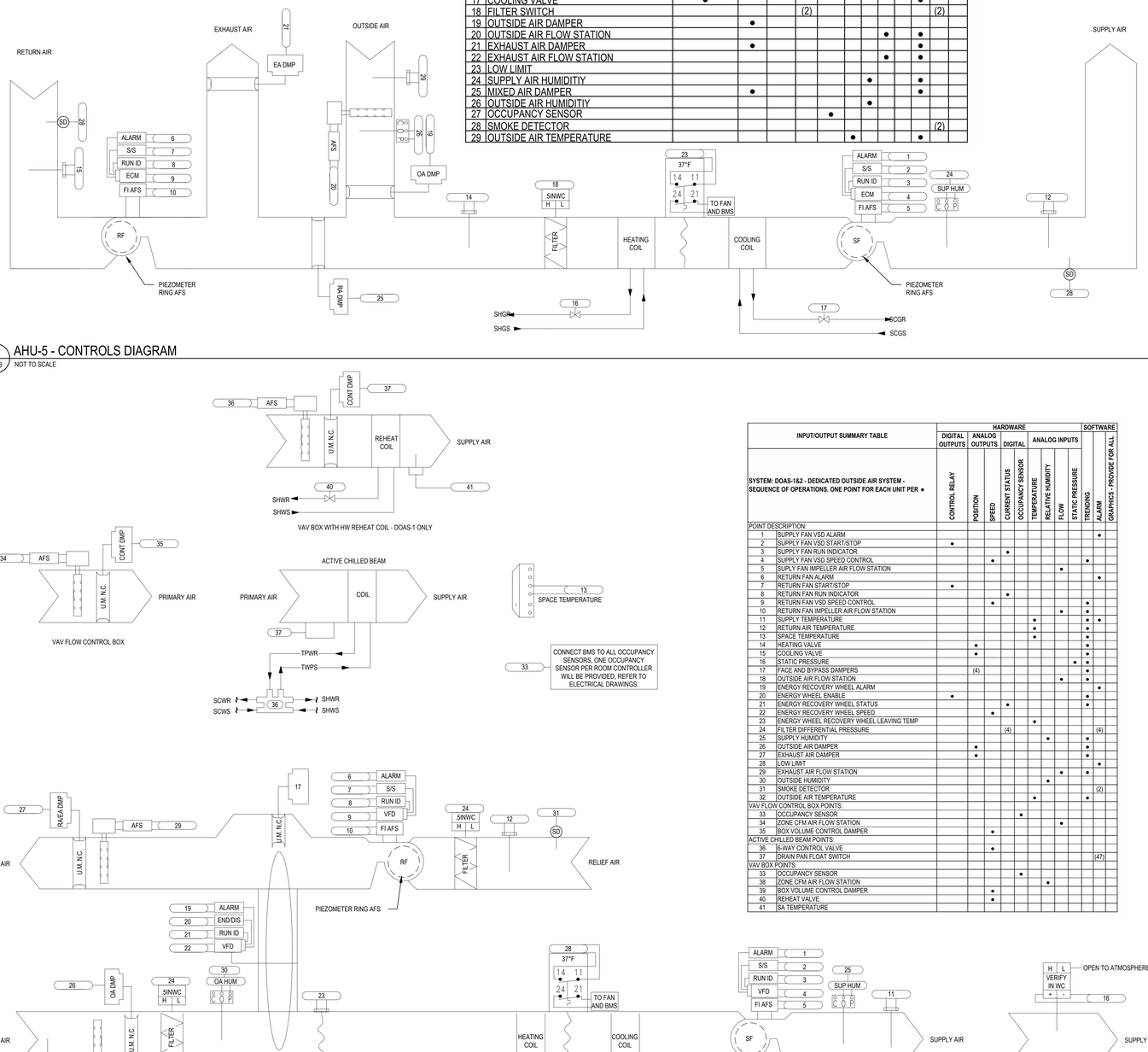
M642
DDC CONTROL DIAGRAMS

NOVEMBER 16, 2026
BID DOCUMENTS

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INPUT/OUTPUT SUMMARY TABLE	HARDWARE									SOFTWARE		
	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS		ANALOG INPUTS						
SYSTEM: AHU-5	CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE	TRENDING	ALARM	GRAPHICS - PROVIDE FOR ALL
POINT DESCRIPTION:												
1 SUPPLY FAN ALARM											•	
2 SUPPLY FAN START/STOP	•											
3 SUPPLY FAN RI				•								
4 SUPPLY FAN VFD SPEED CONTROL			•							•		
5 SUPPLY FAN IMPELLER AIR FLOW								•				
6 RETURN FAN ALARM											•	
7 RETURN FAN START/STOP	•											
8 RETURN FAN RI				•								
9 RETURN FAN VFD SPEED CONTROL			•							•		
10 RETURN FAN IMPELLER AIR FLOW								•		•		
11 SPACE TEMPERATURE					•	•				•	•	
12 SUPPLY TEMPERATURE						•				•	•	
13 SUPPLY AIR STATIC PRESSURE									•	•		
14 MIXED AIR TEMPERATURE						•				•		
15 RETURN AIR TEMPERATURE						•				•		
16 HEATING VALVE		•								•		
17 COOLING VALVE	•									•		
18 FILTER SWITCH				(2)							(2)	
19 OUTSIDE AIR DAMPER		•								•		
20 OUTSIDE AIR FLOW STATION								•		•		
21 EXHAUST AIR DAMPER		•								•		
22 EXHAUST AIR FLOW STATION								•		•		
23 LOW LIMIT												
24 SUPPLY AIR HUMIDITIY							•			•		
25 MIXED AIR DAMPER		•								•		
26 OUTSIDE AIR HUMIDITIY							•					
27 OCCUPANCY SENSOR					•							
28 SMOKE DETECTOR											(2)	
29 OUTSIDE AIR TEMPERATURE						•				•		



2 M643 AHU-5 - CONTROLS DIAGRAM
NOT TO SCALE

INPUT/OUTPUT SUMMARY TABLE	HARDWARE									SOFTWARE		
	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL		ANALOG INPUTS						
SYSTEM: DOAS-1&2 - DEDICATED OUTSIDE AIR SYSTEM - SEQUENCE OF OPERATIONS. ONE POINT FOR EACH UNIT PER •	CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE	TRENDING	ALARM	GRAPHICS - PROVIDE FOR ALL
POINT DESCRIPTION:												
1 SUPPLY FAN VSD ALARM											•	
2 SUPPLY FAN VSD START/STOP	•											
3 SUPPLY FAN RUN INDICATOR				•								
4 SUPPLY FAN VSD SPEED CONTROL			•							•		
5 SUPLY FAN IMPELLER AIR FLOW STATION								•				
6 RETURN FAN ALARM											•	
7 RETURN FAN START/STOP	•											
8 RETURN FAN RUN INDICATOR				•								
9 RETURN FAN VSD SPEED CONTROL			•							•		
10 RETURN FAN IMPELLER AIR FLOW STATION								•		•		
11 SUPPLY TEMPERATURE						•				•	•	
12 RETURN AIR TEMPERATURE						•				•		
13 SPACE TEMPERATURE						•				•		
14 HEATING VALVE		•								•		
15 COOLING VALVE		•								•		
16 STATIC PRESSURE									•	•		
17 FACE AND BYPASS DAMPERS		(4)								•		
18 OUTSIDE AIR FLOW STATION								•		•		
19 ENERGY RECOVERY WHEEL ALARM											•	
20 ENERGY WHEEL ENABLE	•									•		
21 ENERGY RECOVERY WHEEL STATUS				•						•		
22 ENERGY RECOVERY WHEEL SPEED			•									
23 ENERGY WHEEL RECOVERY WHEEL LEAVING TEMP						•						
24 FILTER DIFFERENTIAL PRESSURE				(4)							(4)	
25 SUPPLY HUMIDITY							•			•		
26 OUTSIDE AIR DAMPER		•								•		
27 EXHAUST AIR DAMPER		•								•		
28 LOW LIMIT											•	
29 EXHAUST AIR FLOW STATION								•		•		
30 OUTSIDE HUMIDITY							•					
31 SMOKE DETECTOR											(2)	
32 OUTSIDE AIR TEMPERATURE						•				•		
VAV FLOW CONTROL BOX POINTS:												
33 OCCUPANCY SENSOR					•							
34 ZONE CFM AIR FLOW STATION								•				
35 BOX VOLUME CONTROL DAMPER			•									
ACTIVE CHILLED BEAM POINTS:												
36 6-WAY CONTROL VALVE			•									
37 DRAIN PAN FLOAT SWITCH											(47)	
VAV BOX POINTS:												
33 OCCUPANCY SENSOR					•							
38 ZONE CFM AIR FLOW STATION							•					
39 BOX VOLUME CONTROL DAMPER			•									
40 REHEAT VALVE			•									
41 SA TEMPERATURE												

1 M643 DOAS-1&2 - CONTROLS DIAGRAM
NOT TO SCALE

AHU-5: SINGLE ZONE CONSTANT VOLUME

GENERAL: SYSTEM CONSISTS OF AN AIR HANDLER WITH SUPPLY AND RETURN FANS, HYDRONIC COOLING, HYDRONIC PREHEAT, AND 100% AIR SIDE ECONOMIZER OPERATION.

UNIT OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:
OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS WITH A ZONE OVERRIDE OF OCCUPIED / UNOCCUPIED MODE AS SENSED BY ZONE OCCUPANCY SENSORS.
OCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM VENTILATION OR ECONOMIZER SETTING AS INDICATED IN UNIT SCHEDULE AND ESTABLISHED DURING TAB.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS OCCUPIED SETTINGS.
- SUPPLY FAN AND RETURN FANS SHALL RUN CONTINUOUSLY.
- WHILE IN OCCUPIED MODE, IF THE ZONE ENTERS UNOCCUPIED MODE AS SENSED BY THE BUILDING MANAGEMENT SYSTEMS OCCUPANCY SENSORS, THE UNIT SHALL ENTER OCCUPIED MODE.

UNOCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL CLOSE, THE RETURN DAMPER SHALL OPEN FULL.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS UNOCCUPIED SETTINGS.
- SUPPLY AND RETURN FANS SHALL CYCLE WITH HEATING OR COOLING DEMANDS.
- WHILE IN UNOCCUPIED MODE, IF THE ZONE ENTERS OCCUPIED MODE AS SENSED BY THE BUILDING MANAGEMENT SYSTEMS OCCUPANCY SENSORS, THE UNIT SHALL ENTER OCCUPIED MODE.

FAN CONTROL:
- THE SUPPLY AND RETURN FANS SHALL RUN CONTINUOUSLY UNLESS TRIGGERED INTO ALARM CONDITION FOR FREEZE PROTECTION, FIRE, OR SMOKE DETECTION.
- THE RETURN FAN SHALL OPERATE AT A FIXED OFFSET FROM THE SUPPLY FAN AS ESTABLISHED DURING TAB TO MAINTAIN POSITIVE BUILDING PRESSURE. TARGET BUILDING PRESSURIZATION IS POSITIVE 0.05 IN WG.
- SUPPLY FAN SPEED TO BE SET TO OPERATE AS FOLLOWS:
  - OCCUPIED MODE: TO SPEED AS ESTABLISHED DURING TAB.
  - UNOCCUPIED MODE: SUPPLY AND RETURN FANS SHALL CYCLE AS REQUIRED TO MAINTAIN UNOCCUPIED SPACE SETPOINT TEMPERATURE.

DISCHARGE AIR TEMPERATURE SETPOINT RESET SCHEDULE:
- DISCHARGE AIR TEMPERATURE SHALL BE RESET USING A STRAIGHT-LINE PROPORTIONAL ALGORITHM BASED ON OUTDOOR AIR TEMPERATURE AS FOLLOWS:
  - AT OUTDOOR AIR TEMPERATURE AT OR ABOVE 60 DEG. F, DISCHARGE AIR TEMPERATURE SHALL BE 55 DEG F (ADJ).
  - 1. DEW POINT OVERRIDE:
    - A. WHEN THE OUTSIDE AIR IS AT OR ABOVE A 60° DEW POINT, THE DISCHARGE AIR TEMPERATURE SHALL RESET TO 53°. ONCE THE OUTSIDE AIR DEW POINT DROPS BELOW 60° FOR 30 MINUTES (ADJ.), THE DISCHARGE AIR TEMPERATURE SHALL RESET 1°F EVERY 20 MINUTES (ADJ.) TO THE OUTDOOR AIR TEMPERATURE RESET TEMPERATURE AS DESCRIBED HEREIN.
  - AT OUTDOOR AIR TEMPERATURES AT OR BELOW 40 DEG. F, THE DISCHARGE AIR TEMPERATURE SHALL BE 65 DEG. F (ADJ).
  - AT OUTDOOR AIR TEMPERATURES BETWEEN 40 AND 60 DEG F THE DISCHARGE AIR TEMPERATURE SHALL BE RESET PROPORTIONALLY BETWEEN THOSE VALUES.
  - DISCHARGE AIR SETPOINT SHALL BE MAINTAINED AT ALL TIMES WITHIN +/- 2 DEG. F (ADJ).

MIXED AIR DAMPER CONTROL:
NORMAL OPERATION:
- IN ALARM CONDITION WHEN THE SUPPLY AND RETURN AIR FANS ARE OFF, THE OUTSIDE AND EXHAUST AIR DAMPERS SHALL BE CLOSED AND THE RETURN DAMPER SHALL BE FULLY OPEN.
- WHEN THE SUPPLY FAN IS ON, THE OUTSIDE, RETURN AND EXHAUST AIR DAMPERS SHALL BE MODULATED TO MAINTAIN THE REQUIRED VENTILATION AIR AS SENSED BY THE OUTSIDE AIR FLOW MEASURING STATION.
- WHEN THE OUTSIDE AIR TEMPERATURE IS BELOW 40 DEGREES F (ADJ.), OPEN THE HOT WATER HEATING VALVE 100% AND MODULATE THE EXHAUST AIR DAMPER AS REQUIRED TO MAINTAIN DISCHARGE AIR TEMPERATURE SET-POINT.

ECONOMIZER OPERATION:
- ECONOMIZER CONTROLS SHALL MODULATE OUTSIDE AIR AND RETURN AIR DAMPERS BETWEEN MINIMUM OA FLOW RATE AND 100% OA FLOW RATE
- THE ECONOMIZER SHALL OPERATE AS FIRST STAGE OF COOLING FOR THE SINGLE ZONE SYSTEM
- ECONOMIZER OPERATION SHALL BE UNDER DUAL ENTHALPY CONTROL.
- THE CONTROLLER SHALL MODULATE THE OUTSIDE AIR DAMPER AND RETURN DAMPER AND IN SEQUENCE TO MAINTAIN THE MIXED AIR TEMPERATURE SET POINT AT 60 DEG. F (ADJ).
- THE ECONOMIZER MODE SHALL BE ENABLED WHENEVER:
  1. OUTSIDE AIR TEMPERATURE IS LESS THAN 65°F (ADJUSTABLE).
  2. AND THE OUTSIDE AIR ENTHALPY IS LESS THAN THE RETURN AIR ENTHALPY.
  3. AND THE SUPPLY FAN STATUS IS ON.
  4. AND THE PREHEAT CONTROL OUTPUT HAS BEEN OFF CONTINUOUSLY FOR AT LEAST 10 MINUTES (ADJUSTABLE).
- WHEN ECONOMIZER MODE IS ENABLED, THE FOLLOWING OPERATIONS SHALL BE ALLOWED TO OCCUR AS NEEDED IN ORDER ACHIEVE MIXED AIR TEMPERATURE SET POINT:
  1. THE OA DAMPER SHALL MODULATE OPEN BEYOND THE MINIMUM VENTILATION AIR POSITION AND UP TO FULLY OPEN.
  2. THE RETURN AIR DAMPER AND THE EXHAUST AIR DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN SYSTEM BALANCE.
- THE ECONOMIZER MODE SHALL BE DISABLED AND THE OUTSIDE AIR DAMPER SHALL MODULATE TO THE MINIMUM VENTILATION SET POINT AND THE RETURN AIR DAMPER SHALL OPEN WHEN:
  1. MIXED AIR TEMPERATURE DROPS FROM 50°F (ADJUSTABLE) TO 45°F (ADJUSTABLE).
  2. OR THE FREEZESTAT IS ON.
  3. OR THE OUTSIDE AIR ENTHALPY IS GREATER THAN THE RETURN AIR ENTHALPY.
  4. OR LOSS OF SUPPLY FAN ON STATUS, OR IF UNIT IS COMMANDED OFF.

CHILLED WATER COOLING CONTROL:
- CHILLED WATER COOLING SHALL BE ENABLED WHENEVER THE ZONE TEMPERATURE IS ABOVE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN COOLING MODE, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN ZONE SETPOINT TEMPERATURE.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL COOLING SHALL BE LOCKED OUT.

HOT WATER HEATING CONTROL:
- HOT WATER HEATING SHALL BE ENABLED WHENEVER THE ZONE TEMPERATURE IS BELOW SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN HEATING MODE, THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN ZONE SETPOINT TEMPERATURE.
- IF UNIT ENTERS ECONOMIZER OPERATION MECHANICAL HEATING SHALL BE LOCKED OUT.
- WHEN THE FREEZE STAT IS TRIGGERED, OPEN THE HOT WATER HEATING VALVE 100%.

SAFETIES / ALARMS:
- IF THE DISCHARGE AIR TEMPERATURE FALLS BELOW 40 DEGREES F (ADJ.), THE UNIT SHALL BE COMMANDED INTO THE UNOCCUPIED MODE. ASSOCIATED HEATING VALVES SHALL BE COMMANDED FULLY OPEN AND AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY CONTROL POINT DEVIATES FROM SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AND ALARM SHALL BE GENERATED BY THE BMS.

BALANCING: COORDINATE SYSTEM TESTING, ADJUSTING AND BALANCING WITH BUILDING MANAGEMENT SYSTEM AND EQUIPMENT START UP.

DOAS-1 & 2: DEDICATED OUTSIDE AIR UNIT WITH HYDRONIC HEATING AND COOLING SERVING ACTIVE CHILLED BEAMS

GENERAL: SYSTEM CONSISTS OF AN INDOOR DEDICATED OUTSIDE AIR UNIT WITH SUPPLY AND RELIEF FAN, HYDRONIC COOLING, HYDRONIC PREHEAT, AND TOTAL ENTHALPY ENERGY RECOVERY WHEEL WITH FACE AND BYPASS DAMPERS. THE DOAS UNIT DELIVERS PRIMARY (VENTILATION) AIR TO ACTIVE CHILLED BEAMS VIA VAV FLOW CONTROL BOX TERMINALS WITHOUT REHEAT THAT MODULATE BETWEEN OCCUPIED AND UNOCCUPIED SETTINGS AS INDICATED BELOW.

UNIT OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:
OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS WITH TEMPORARY LOCAL OVERRIDE OF UNOCCUPIED MODE BASED ON ZONE OCCUPANCY SENSORS.
OCCUPIED MODE:
- THE OUTSIDE AIR DAMPER SHALL OPEN TO MINIMUM VENTILATION AS INDICATED IN UNIT SCHEDULE AND ESTABLISHED DURING TAB.
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS OCCUPIED SETTINGS.
- SUPPLY FAN AND RELIEF FANS SHALL RUN CONTINUOUSLY

UNOCCUPIED MODE:
- ZONE HEATING AND COOLING SETPOINTS SHALL BE SET TO BMS UNOCCUPIED SETTINGS.
- SUPPLY AND RELIEF FANS SHALL CYCLE OFF IF NO ASSOCIATED ZONES ARE CALLING FOR HEATING AND COOLING.

FAN CONTROL:
- THE SUPPLY FAN AND RELIEF FAN SHALL RUN CONTINUOUSLY UNLESS CYCLING FOR UNOCCUPIED MODE OR TRIGGERED INTO ALARM CONDITION FOR FREEZE PROTECTION, FIRE ALARM, OR SMOKE DETECTION.
- THE SUPPLY FAN SHALL MODULATE TO MAINTAIN THE MINIMUM DUCT STATIC PRESSURE SET-POINT, ESTABLISHED DURING THE TEST AND BALANCE EFFORT, AS SENSED 2/3 DOWN THE SUPPLY AIR DUCT.
- THE RELIEF FAN SHALL OPERATE AT A FIXED OFFSET FROM THE SUPPLY FAN IN ALL OPERATING MODES AS ESTABLISHED DURING TEST AND BALANCE TO MAINTAIN CORRECT BUILDING POSITIVE PRESSURIZATION. TARGET BUILDING PRESSURIZATION IS POSITIVE 0.05 IN WG.
- SUPPLY DUCT STATIC PRESSURE SETPOINT SHALL BE RESET FROM THE INITIAL SETPOINT AS ESTABLISHED DURING TAB.
  1. THE INITIAL DUCT STATIC PRESSURE SET POINT SHALL BE 1.5 IN H2O (ADJUSTABLE), OR AS DETERMINED DURING TAB
  2. THE STATIC PRESSURE SET POINT SHALL BE RESET BASED ON ZONE AIRFLOW REQUESTS, DERIVED FROM DAMPER POSITION AND MEETING AIRFLOW REQUIREMENTS AS DESCRIBED BELOW:
     - A. THE DUCT STATIC PRESSURE SET POINT SHALL BE INCREMENTALLY RESET DOWN BY 0.10 " (ADJUSTABLE) AT A FREQUENCY OF 10 MINUTES (ADJUSTABLE) TO A MINIMUM OF 0.50 IN H2O (ADJUSTABLE) UNTIL ONE ASSOCIATED VAV TERMINAL DAMPER IS 95% OPEN OR WHEN THE SUPPLY FAN VFD HAS REACHED ITS LOWEST OPERATING SPEED LIMIT.
     - B. WHEN AT LEAST THREE ZONE VAV TERMINAL DAMPERS ARE GREATER THAN 95% (ADJUSTABLE) OPEN, THE REVERSE SHALL OCCUR AND THE DUCT STATIC PRESSURE SET POINT SHALL INCREMENTALLY RESET UP AT SAME RATE AS ABOVE TO A MAXIMUM OF 2.0 IN H2O (ADJUSTABLE).
- THE SUPPLY FAN VFD MINIMUM SPEED SETTING SHALL BE OPTIMIZED IN THE FIELD DURING SYSTEM BALANCING TO BE AS LOW AS POSSIBLE WHILE AVOIDING INERTIAL STALLING OF FAN, APPROXIMATELY 5% ABOVE THE FIELD OBSERVED STALL SPEED OF THE FAN OPERATING IN THE SYSTEM.

DISCHARGE AIR TEMPERATURE SETPOINT:
DOAS DISCHARGE AIR TEMPERATURE SHALL BE RESET BASED ON OUTDOOR AIR TEMPERATURE AS FOLLOWS:
- AT OUTDOOR AIR TEMPERATURE AT OR ABOVE 70 DEG. F (ADJ), DISCHARGE AIR TEMPERATURE SHALL BE 55 DEG F (ADJ).
  - 1. DEW POINT OVERRIDE:
    - A. WHEN THE OUTSIDE AIR IS AT OR ABOVE A 60° DEW POINT, THE DISCHARGE AIR TEMPERATURE SHALL RESET TO 53°. ONCE THE OUTSIDE AIR DEW POINT DROPS BELOW 60° FOR 30 MINUTES (ADJ.), THE DISCHARGE AIR TEMPERATURE SHALL RESET 1°F EVERY 20 MINUTES (ADJ.) TO THE OUTDOOR AIR TEMPERATURE RESET TEMPERATURE AS DESCRIBED HEREIN.
- AT OUTDOOR AIR TEMPERATURES AT OR BELOW 60 DEG. F (ADJ), THE DISCHARGE AIR TEMPERATURE SHALL BE 70 DEG. F (ADJ).
- AT OUTDOOR AIR TEMPERATURES BETWEEN 60 AND 70 DEG F (ADJ), AND WHILE THE DEW POINT IS AT 60° (ADJ.) OR LESS, THE DOAS UNIT SHALL BE IN "DEADBAND" MODE AND THE FOLLOWING SHALL HAPPEN:
  - FACE AND BYPASS DAMPERS SHALL MODULATE TO BYPASS ENTHALPY WHEEL
  - HEATING AND COOLING HYDRONIC CONTROL VALVES SHALL BE LOCKED CLOSED.
- UNLESS IN DEADBAND MODE, DISCHARGE AIR SETPOINT SHALL BE MAINTAINED AT ALL TIMES WITHIN +/- 2 DEG. F (ADJ) OF SETPOINT.

CHILLED WATER COOLING CONTROL:
- CHILLED WATER COOLING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS ABOVE THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN COOLING MODE, THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT TEMPERATURE.
- IF UNIT ENTERS DEADBAND MODE MECHANICAL COOLING SHALL BE LOCKED OUT.

HOT WATER HEATING CONTROL:
- HOT WATER HEATING SHALL BE ENABLED WHENEVER THE DISCHARGE AIR TEMPERATURE IS BELOW THE DISCHARGE AIR RESET SCHEDULE SETPOINT AND THE UNIT IS NOT IN ECONOMIZER MODE.
- WHEN THE SUPPLY FAN IS RUNNING AND THE SYSTEM IS IN HEATING MODE. THE HEATING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN THE DISCHARGE AIR SETPOINT.
- WHEN THE FREEZE STAT IS TRIGGERED, OPEN THE HOT WATER HEATING VALVE 100%.
- IF THE UNIT DEADBAND MODE MECHANICAL HEATING SHALL BE LOCKED OUT.

ENERGY RECOVERY WHEEL:
- THE ENERGY RECOVERY WHEEL SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS UNLESS UNIT IS IN DEADBAND MODE.
- THE ENERGY RECOVERY SYSTEM SHALL OPERATE UNDER MANUFACTURER 'S STANDARD CONTROL SEQUENCE FOR WHEEL SPEED, FACE AND BYPASS DAMPER OPERATION AND FREEZE PROTECTION
- THE BMS SYSTEM SHALL INTERFACE WITH THE ENERGY WHEEL CONTROLLER TO MONITOR STATUS OF ALL ASSOCIATED AIRSTREAM TEMPERATURES AS WELL AS WHEEL ROTATION SPEED AND DIRECTION AND ANNUNCIATE ANY ALARMS

VAV FLOW CONTROL BOX CONTROL:
OCCUPIED MODE:
- OCCUPANCY MODE SHALL BE SENSED BY THE OCCUPANCY SENSOR, THE BUILDING MANAGMENT SYSTEM SHALL BE CAPABLE OF SETTING OCCUPANCY STATUS.
- WHEN THE ZONE IS SATISFIED, THE ZONES VAV FLOW CONTROL BOX SHALL OPEN TO MINIMUM POSITION REQUIRED FOR SCHEDULE VENTILATION AIRFLOW AS ESTABLISHED DURING TAB.
- UPON A CALL FOR COOLING OR HEATING, THE ZONES VAV FLOW CONTROL BOX SHALL MODULATE TO PROVIDE SCHEDULED ACTIVE CHILLED BEAM PRIMARY AIRFLOW AS ESTABLISHED DURING TAB.

UNOCCUPIED MODE:
- WHEN A ZONE IS IN UNOCCUPIED MODE AS SENSED BY THE OCCUPANCY SENSOR OR AS SET BY THE BUILDING MANAGEMENT SYSTEM, THE ASSOCIATED VAV FLOW CONTROL BOX SHALL BE CLOSED. THE VAV FLOW CONTROL BOX SHALL OPEN AS REQUIRED TO SATISFY HEATING OR COOLING.

ACTIVE CHILLED BEAM CONTROL:
EACH CHILLED BEAM SHALL OPERATE TO MAINTAIN THE OCCUPIED OR UNOCCUPIED SPACE ZONE TEMPERATURE SETPOINT. THE TEMPERATURE SETPOINT SHALL BE USER DEFINABLE.
HEATING MODE:
- WHEN SPACE TEMPERATURE IS BELOW SETPOINT BY MORE THAN 2°F (ADJUSTABLE), SEQUENCE THE 6-WAY ZONE CONTROL VALVE FOR THE ZONE TO HEATING MODE, ZONE CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.

COOLING MODE:
- WHEN SPACE TEMPERATURE IS ABOVE SETPOINT BY MORE THAN 2°F (ADJUSTABLE), SEQUENCE THE 6-WAY ZONE CONTROL VALVE FOR THE ZONE TO COOLING MODE, ZONE CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.

VAV BOX WITH REHEAT CONTROL:
OCCUPIED / UNOCCPIED MODE:
- BOX SHALL OPERATE .

SAFETIES / ALARMS:
- IF THE DOAS DISCHARGE AIR TEMPERATURE FALLS BELOW 40 DEGREES F (ADJ.), THE UNIT SHALL BE COMMANDED INTO THE UNOCCUPIED MODE. ASSOCIATED HEATING VALVES SHALL BE COMMANDED FULLY OPEN AND AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY CONTROL POINT DEVIATES FROM SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS.
- WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AND ALARM SHALL BE GENERATED BY THE BMS.
- IN ALARM CONDITION FOR FREEZE PROTECTION, SMOKE OR FIRE THE UNIT FANS SHALL SHUT OFF, OUTSIDE AIR AND RELIEF AIR DAMPERS SHALL CLOSE.
- A DRAIN PAN FLOAT SWITCH SHALL BE PROVIDED TO ATLEAST ONE ACTIVE CHILLED BEAM PER EACH ACTIVE CHILLED BEAM ZONE. REFER TO HVAC ZONE PLAN. UPON ACTIVATION OF THE DRAIN PAN FLOAT SWITCH, AN ALARM SHALL BE GENERATED BY THE BMS, THAT ZONES ACB 6-WAY VALVES SHALL SHUT DOWN AND THE ZONES FLOW CONTROL BOX SHALL MODULATE CLOSED.

BALANCING: COORDINATE SYSTEM TESTING, ADJUSTING AND BALANCING WITH BUILDING MANAGEMENT SYSTEM AND EQUIPMENT START UP.

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Revisions

COREY UNION
103 PROSPECT TERRACE,
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SWBR Project Number 23160.00

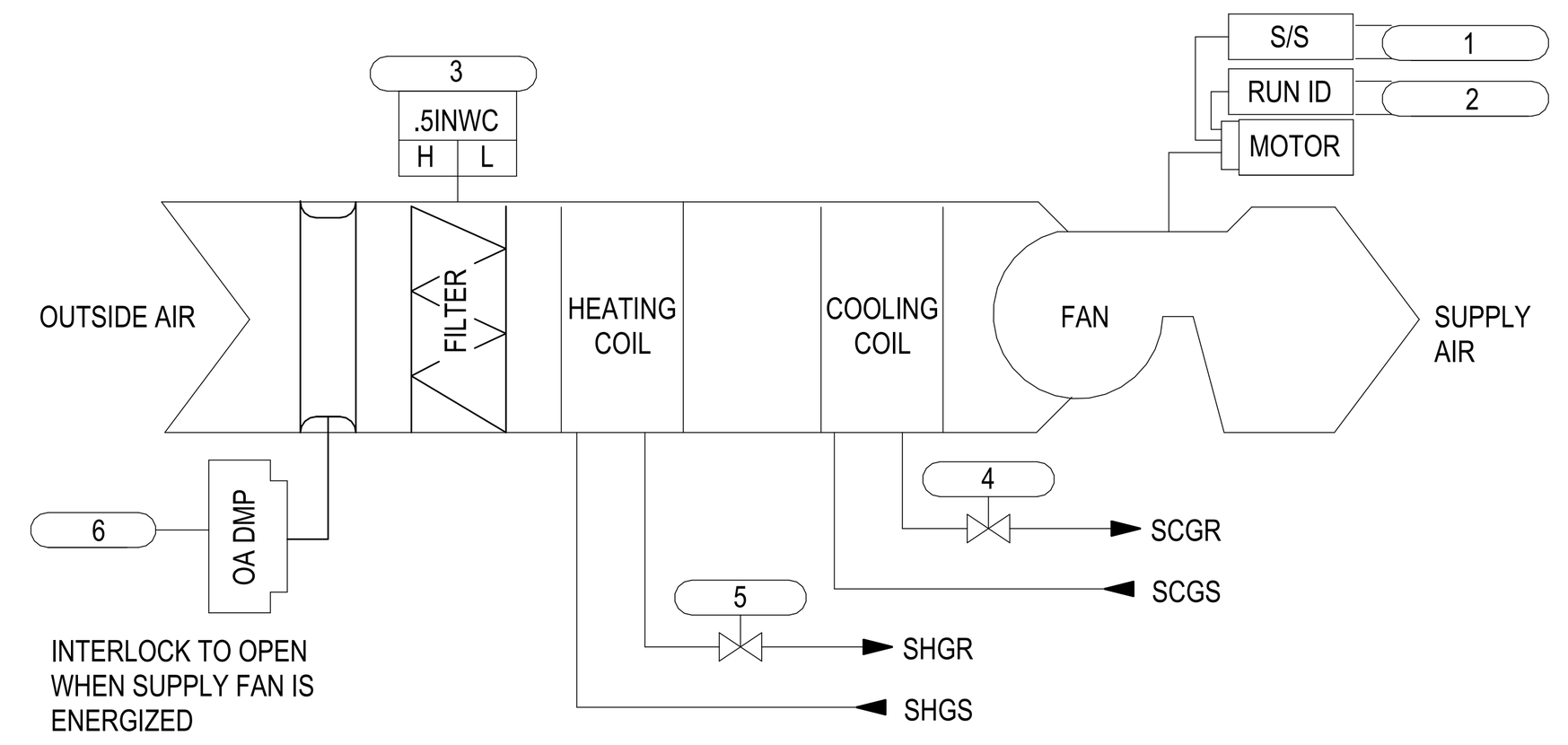
SUNY CORTLAND COREY UNION

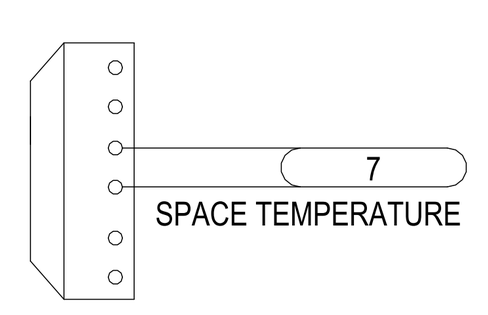
M643
DDC CONTROL DIAGRAMS

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

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MAKE-UP AIR UNIT - SEQUENCE OF OPERATIONS:

OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS.

FAN CONTROL: THE SUPPLY FAN SHALL CYCLE ON AND OFF AS REQUIRED TO MAINTAIN THE OCCUPIED AND UNOCCUPIED SET-POINT.

OUTSIDE AIR DAMPER CONTROL: OUTSIDE AIR DAMPER SHALL BE SHUT UNTIL THE SUPPLY FAN IS ENERGIZED. WHEN SUPPLY FAN IS ENERGIZED, THE OUTSIDE AIR DAMPER SHALL MODULATE TO THE POSITION REQUIRED TO PROVIDE AIRFLOW AS ESTABLISHED IN TAB.

HEATING CONTROL: MODULATE THE ASSOCIATED HEATING VALVE AS REQUIRED TO MAINTAIN OCCUPIED AND UNOCCUPIED SET-POINT.

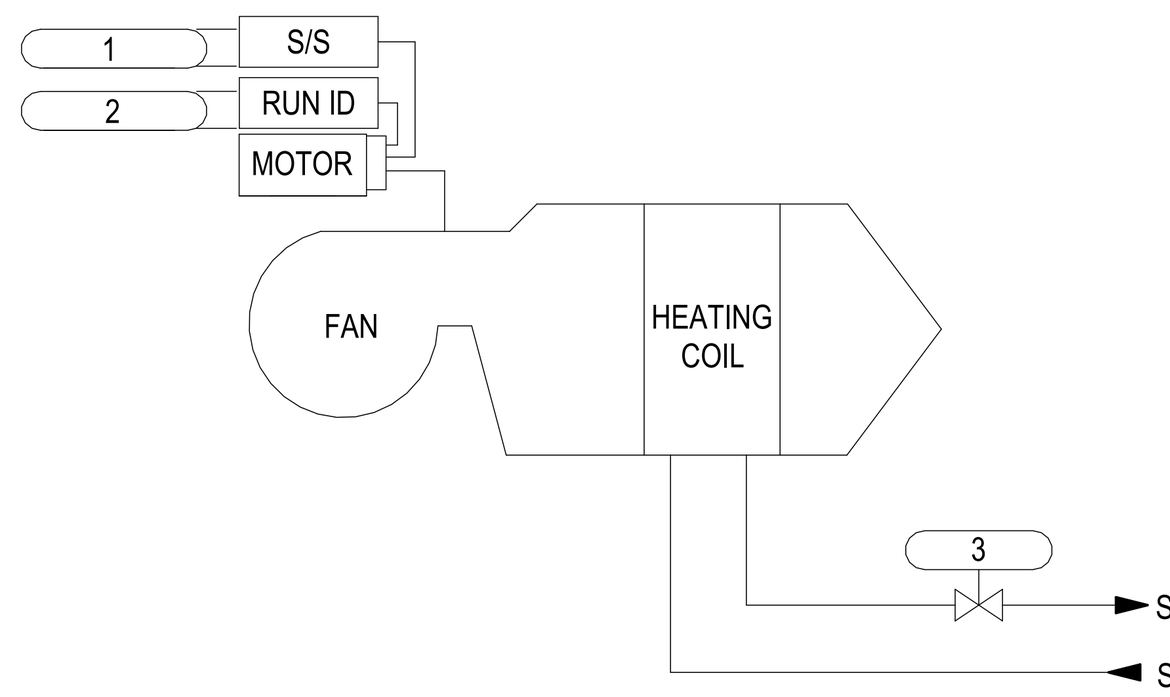
COOLING CONTROL: MODULATE THE ASSOCIATED HEATING VALVE AS REQUIRED TO MAINTAIN OCCUPIED AND UNOCCUPIED SET-POINT.

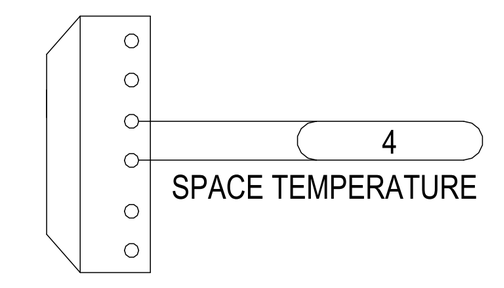
SAFTIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.

INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: MAU-2. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN START/STOP	●									
2	SUPPLY FAN RUN INDICATOR				●						
3	FILTER DIFFERENTIAL PRESSURE										(1)
4	COOLING VALVE		●								
5	HEATING VALVE		●								
6	OUTSIDE AIR DAMPER		●								
7	SUPPLY AIR TEMPERATURE							●			

10 M644 MAKE UP AIR UNIT (MAU-2)
NOT TO SCALE





INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: CUH AND UH. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN START/STOP	●									
2	SUPPLY FAN RI				●						
3	HEATING VALVE		●								
4	SPACE TEMPERATURE							●			

6 M644 HOT WATER UNIT HEATER/CABINET UNIT HEATER - CONTROLS DIAGRAM
NOT TO SCALE

HOT WATER UNIT HEATER - SEQUENCE OF OPERATIONS:

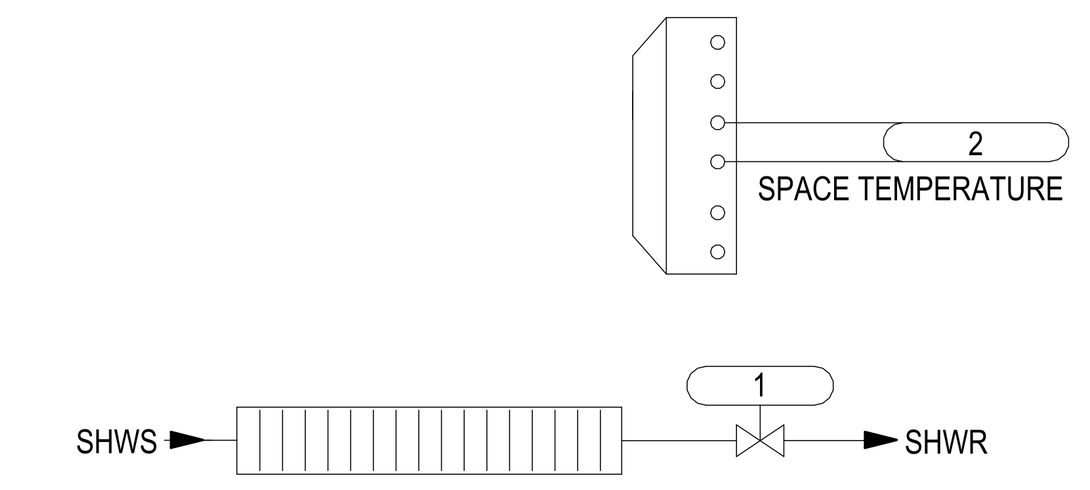
OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS. IN THE OCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE 65 DEGREES F (ADJ.). IN THE UNOCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE RESET TO 50 DEGREES F (ADJ.).

FAN CONTROL: THE SUPPLY FAN SHALL CYCLE ON AND OFF AS REQUIRED TO MAINTAIN THE OCCUPIED AND UNOCCUPIED SET-POINT.

HEATING CONTROL: MODULATE THE ASSOCIATED HEATING VALVE AS REQUIRED TO MAINTAIN OCCUPIED AND UNOCCUPIED SET-POINT.

SPACE TEMPERATURE SENSOR: REVIEW HVAC ZONE PLAN DRAWINGS, COORDINATE SPACE TEMPERATURE SENSOR CONNECTION WITH OTHER EQUIPMENT LOCATED WITHIN THE SAME ROOM. EQUIPMENT SERVING THE SAME ROOM SHALL BE CONNECTED TO THE SAME SPACE TEMPERATURE SENSOR OR HAVE SPACE TEMPERATURE SENSORS LOCATED ADJACENT TO EACHOTHER.

SAFTIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.



INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: BASEBOARD RADIANT PANEL. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	HEATING VALVE		●								
2	SPACE TEMPERATURE							●			

RADIANT PANEL SEQUENCE OF OPERATIONS:

OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS. IN THE OCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE 65 DEGREES F (ADJ.). IN THE UNOCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE SET TO 50 DEGREES F (ADJ.).

HEATING CONTROL: MODULATE THE ASSOCIATED HEATING VALVE AS REQUIRED TO MAINTAIN OCCUPIED OR UNOCCUPIED SET-POINT.

SPACE TEMPERATURE SENSOR: REVIEW HVAC ZONE PLAN DRAWINGS, COORDINATE SPACE TEMPERATURE SENSOR CONNECTION WITH OTHER EQUIPMENT LOCATED WITHIN THE SAME ROOM. EQUIPMENT SERVING THE SAME ROOM SHALL BE CONNECTED TO THE SAME SPACE TEMPERATURE SENSOR OR HAVE SPACE TEMPERATURE SENSORS LOCATED ADJACENT TO EACHOTHER.

SAFETIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.

3 M644 HYDRONIC RADIANT PANEL CONTROL DIAGRAM
NOT TO SCALE

VESTIBULE HOT WATER UNIT HEATER - SEQUENCE OF OPERATIONS:

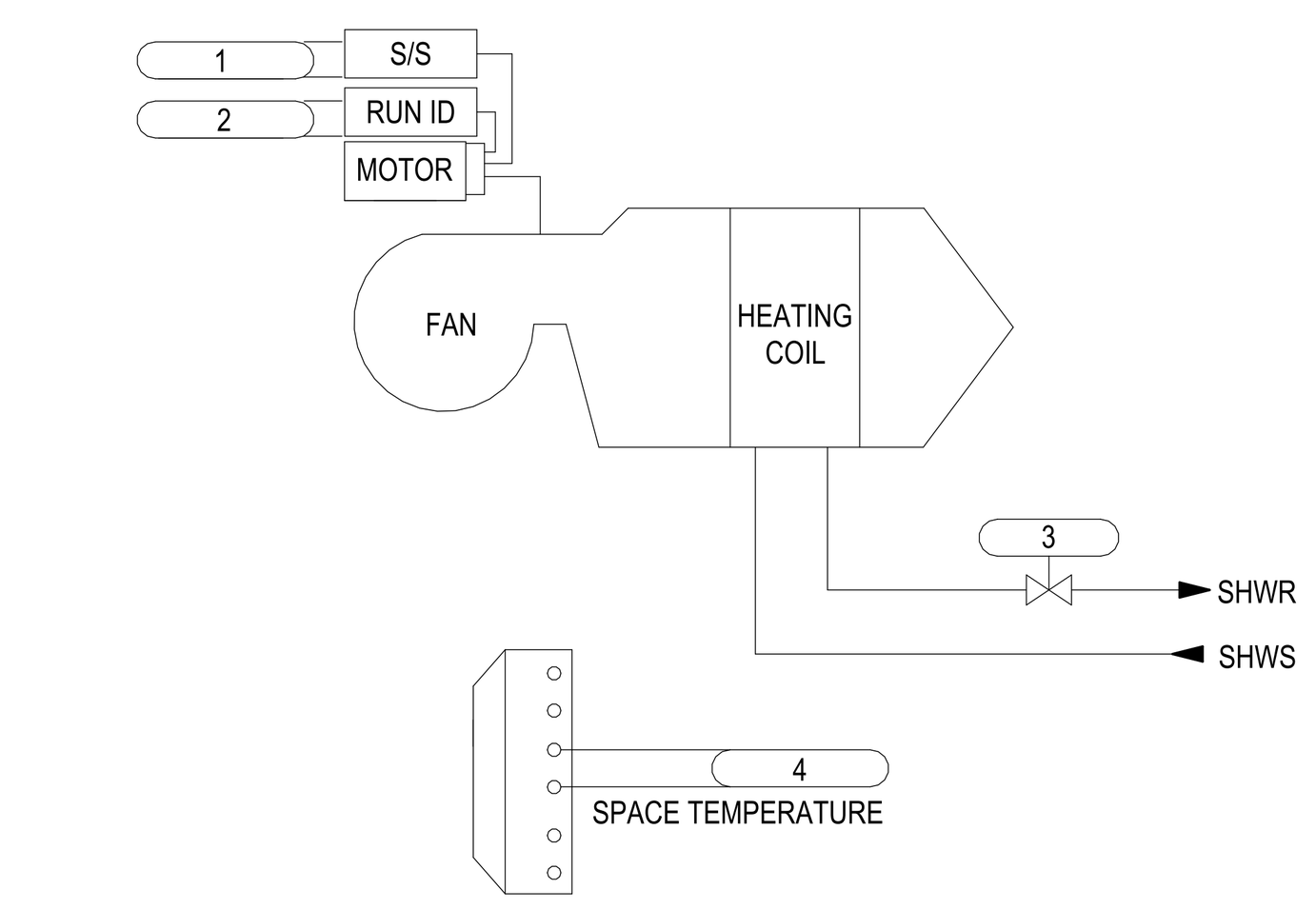
OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS. IN THE OCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE 65 DEGREES F (ADJ.). IN THE UNOCCUPIED MODE THE SPACE HEATING SET-POINT SHALL BE RESET TO 50 DEGREES F (ADJ.).

FAN CONTROL: THE SUPPLY FAN SHALL CYCLE ON AND OFF AS REQUIRED TO MAINTAIN THE OCCUPIED AND UNOCCUPIED SET-POINT.

HEATING CONTROL: MODULATE THE ASSOCIATED HEATING VALVE AS REQUIRED TO MAINTAIN A SET-POINT NO HIGHER THAN 60°F. THE UNIT SHALL NOT HEAT WHEN THE OUTDOOR AIR TEMPERATURE IS GREATER THAN 45°F, AS SENSED BY THE BMS.

SPACE TEMPERATURE SENSOR: REVIEW HVAC ZONE PLAN DRAWINGS, COORDINATE SPACE TEMPERATURE SENSOR CONNECTION WITH OTHER EQUIPMENT LOCATED WITHIN THE SAME ROOM. EQUIPMENT SERVING THE SAME ROOM SHALL BE CONNECTED TO THE SAME SPACE TEMPERATURE SENSOR OR HAVE SPACE TEMPERATURE SENSORS LOCATED ADJACENT TO EACHOTHER.

SAFTIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.



INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: CUH AND UH. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN START/STOP	●									
2	SUPPLY FAN RI				●						
3	HEATING VALVE		●								
4	SPACE TEMPERATURE							●			

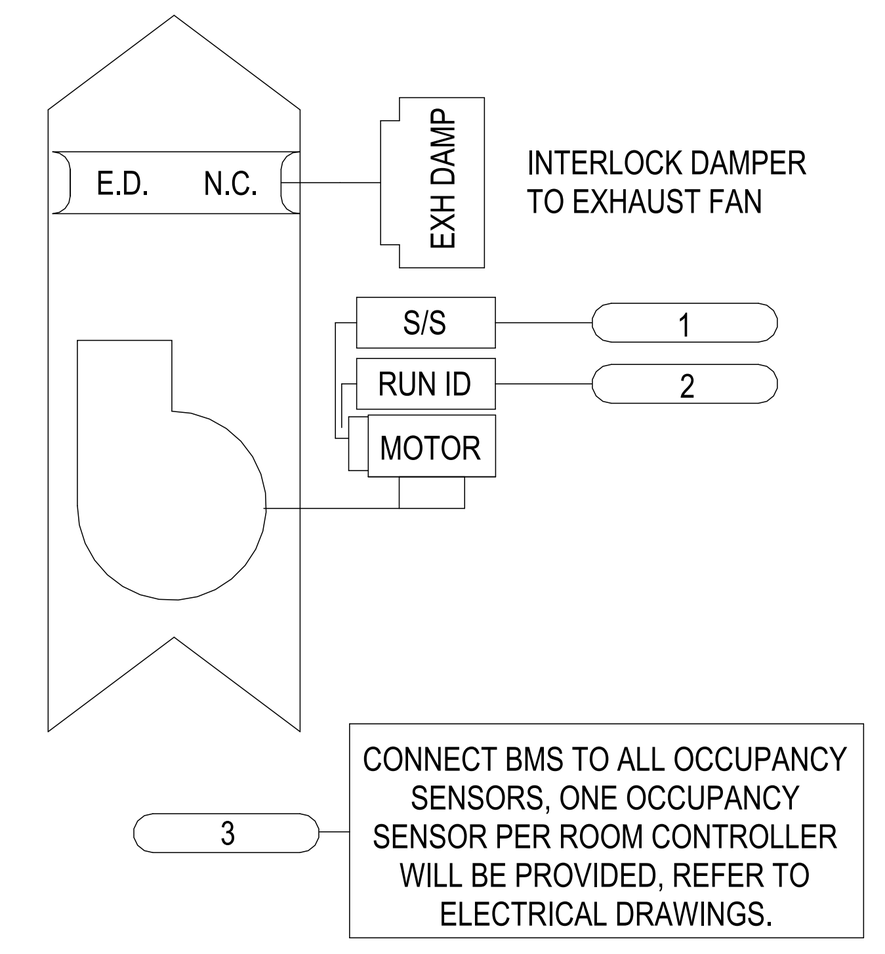
9 M644 VESTIBULE HOT WATER UNIT HEATER/CABINET UNIT HEATER - CONTROLS DIAGRAM
NOT TO SCALE

TYPICAL EXHAUST FAN - SEQUENCE OF OPERATIONS:

OCCUPIED / UNOCCUPIED MODE / OCCUPANCY SENSOR:
- OCCUPIED / UNOCCUPIED MODE SHALL BE SCHEDULED BY THE BMS.
- OCCUPIED MODE:
  - EXHAUST FAN SHALL RUN CONTINUOUSLY
  - AUTOMATIC AIR DAMPER (AAD), IF INCLUDED SHALL OPEN
  - AAD, IF INCLUDED, SHALL BE PROVED OPEN PRIOR TO ENERGIZING THE FAN
- UNOCCUPIED MODE:
  - AAD SHALL CLOSE UNLESS SCHEDULED OPEN BY SPECIFIC NOTE IN OTHER SEQUENCES
  - EXHAUST FAN SHALL BE OFF
  - WHILE IN UNOCCUPIED MODE, WHEN OCCUPANCY IS SENSED THE FAN SHALL START FOR A MINIMUM OF 5 MINUTES (ADJUSTABLE).

SAFETIES / ALARMS: WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.

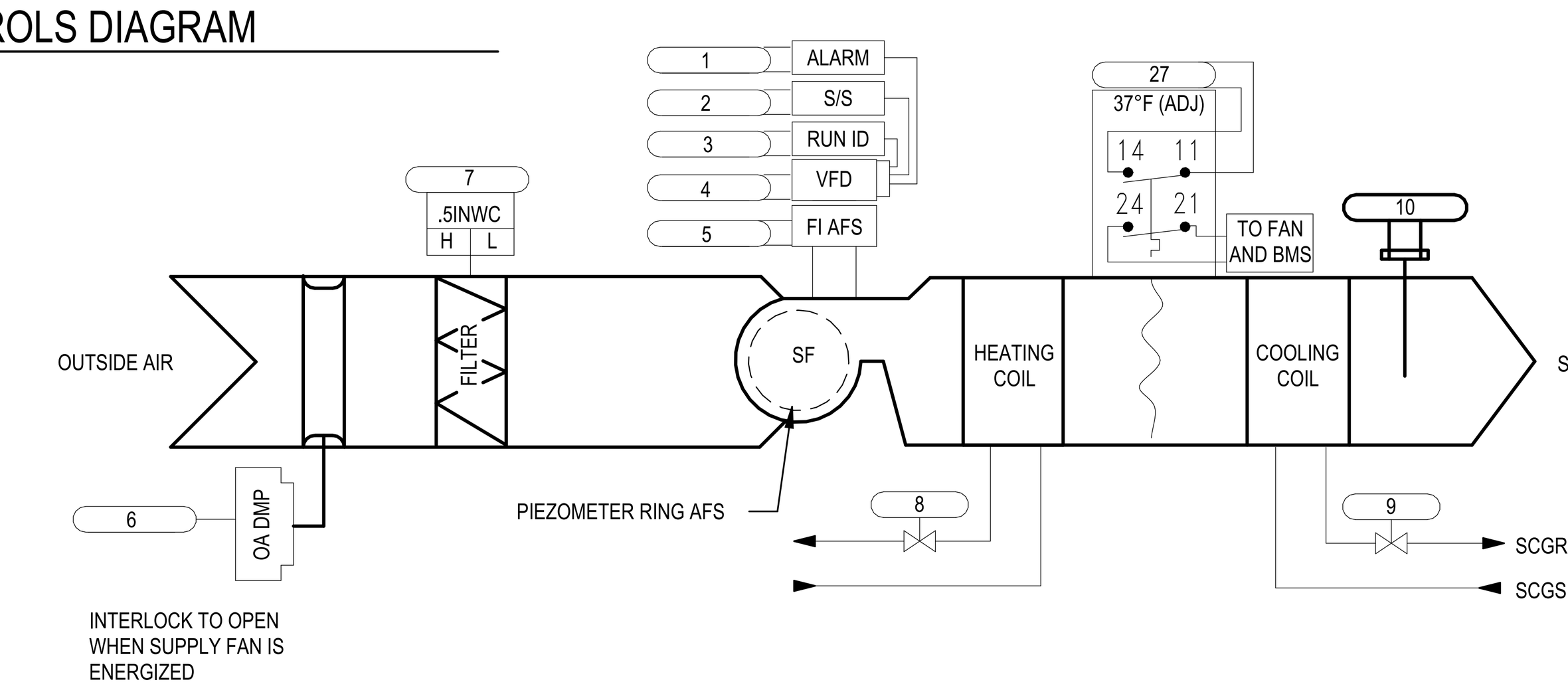
NOTE:
1. COORDINATE SYSTEM TAB WITH BMS START UP.
2. REFER TO MECHANICAL DRAWINGS FOR LOCATIONS AND QUANTITIES.

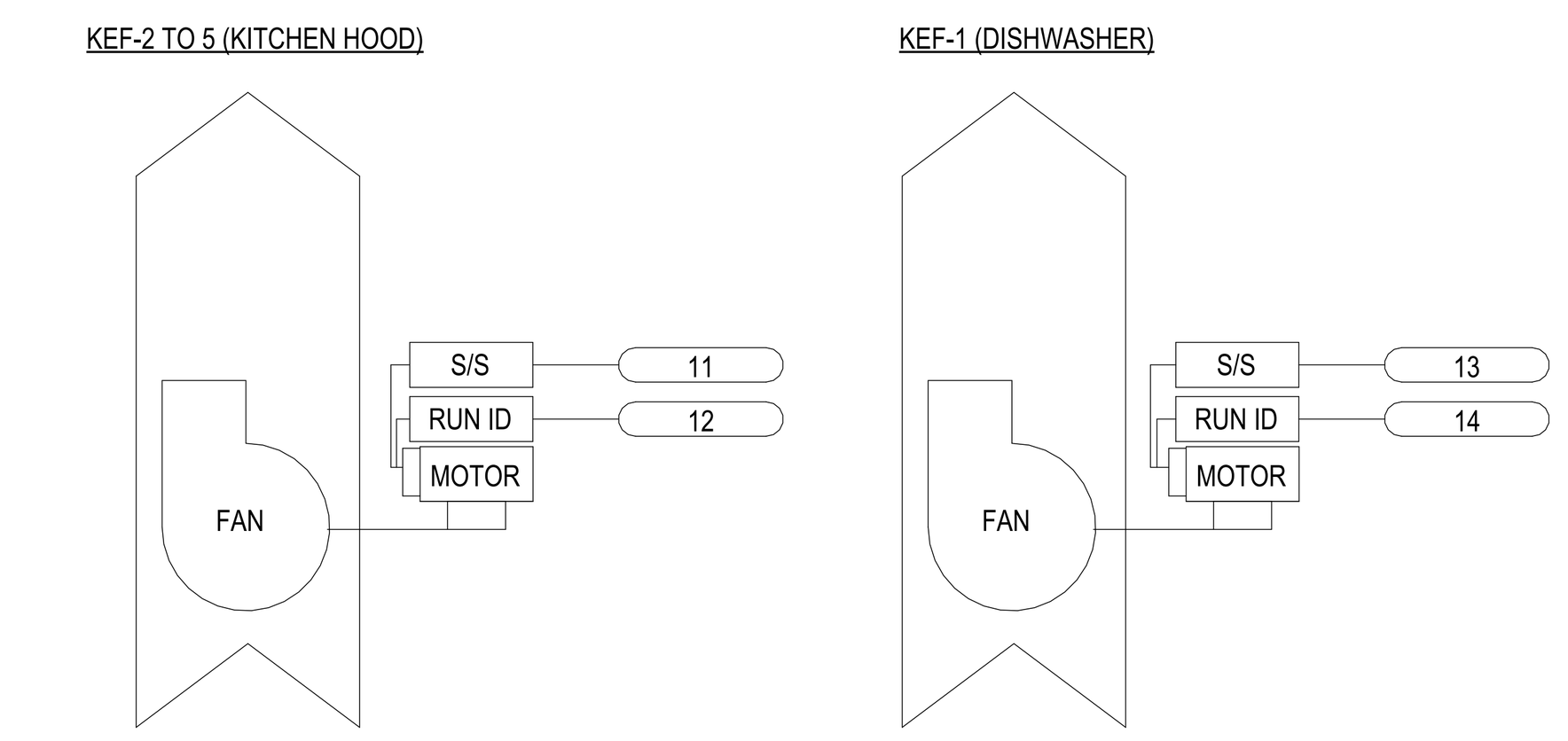


INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: EXHAUST FAN**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	EXHAUST FAN START/STOP	●									
2	EXHAUST FAN STATUS				●						
3	OCCUPANCY SENSOR					(4)					

5 M644 EXHAUST FAN CONTROL DIAGRAM
NOT TO SCALE





INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: MAU-1, KEF -1 THRU 5. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN IMPELLER AIR FLOW STATION									●	
2	SUPPLY FAN ALARM						●				
3	SUPPLY FAN START/STOP	●									
4	SUPPLY FAN RUN INDICATOR				●						
5	SUPPLY FAN VFD SPEED CONTROL			●							
6	OUTSIDE AIR DAMPER		●								
7	FILTER DIFFERENTIAL PRESSURE										(2)
8	HEATING VALVE		●								
9	COOLING VALVE		●								
10	SUPPLY AIR TEMPERATURE							●			
11	KEF START/STOP	(5)									
12	KEF RUN INDICATOR				(5)						

KITCHEN MAU AND KEF SEQUENCE OF OPERATIONS:

GENERAL: KITCHEN EXHAUST FANS AND MAKE UP AIR UNIT TO BE CONTROLLED BY KITCHEN EQUIPMENT CONTROLLER. BMS INTERFACE TO PROVIDE MONITORING, ALARM, AND SAFETY FUNCTIONS. COORDINATE KITCHEN HOOD ANSUL SAFETY SYSTEM WITH GAS SUPPLY ISOLATION CONTROL VALVE.

EXHAUST FAN: KEF-1: THE FAN SHALL TURNED ON UPON ACTIVATION OF THE DISHWASHER.
KITCHEN HOOD EXHAUST FANS: KEF-2, KEF-3, KEF-4, & KEF-5: KEF-2 & KEF-3 ARE SHALL BE INTERLOCKED, AS THEY SERVE THE SAME HOOD. KEF-4 & KEF-5 SHALL BE INTERLOCKED, AS THEY SERVE THE SAME HOOD. ACTIVATION OF THE FAN(S) SHALL BE BASED ON THE USAGE OF THE KITCHEN HOOD THEY ARE SERVING. THE FAN(S) SHALL BE TURNED ON WITH ACTIVATION OF THE RESPECTIVE KITCHEN HOOD(S). ACTIVATION OF THE KITCHEN HOOD WILL OCCUR WITHIN 15 MINUTES OF ACTIVATION OF THE EQUIPMENT SERVED BY THE HOOD OR BY ELEVATED TEMPERATURE AS SENSED BY THE HOOD. HOODS SHALL ALSO HAVE THE OPTION TO BE MANUALLY TURNED ON AND OFF BY H/O/A SWITCH AS REQUIRED.

MAKE UP AIR UNIT: MAU-1: WHEN THE ASSOCIATED HOOD EXHAUST FAN IS ACTIVATED AS DETECTED BY THE HOOD SENSOR, THE MAU OUTSIDE AIR DAMPER SHALL OPEN AND THE MAU SUPPLY FAN SHALL START AND OPERATE UNTIL THE HOOD EXHAUST FAN IS DEACTIVATED.
THE MAU SHALL OPERATE IN THREE (4) STAGES:
1. ONE HOOD AND ASSOCIATED FAN IS OPERATING: WHEN ONLY ONE KITCHEN FAN IS OPERATING THE MAU SHALL ONLY SUPPLY AIR SCHEDULED FOR THAT HOOD.
2. TWO HOODS AND ASSOCIATED FANS ARE OPERATING: WHEN TWO KITCHEN FANS ARE OPERATING, THE MAU SHALL SUPPLY THE TOTAL AIR SCHEDULED FOR ALL THE ACTIVE HOODS.
3. THREE HOODS AND ASSOCIATED FANS ARE OPERATING: WHEN THREE KITCHEN FANS ARE OPERATING, THE MAU SHALL SUPPLY THE TOTAL AIR SCHEDULED FOR ALL THE ACTIVE HOODS.
4. ALL HOODS AND ASSOCIATED FANS ARE OPERATING: WHEN ALL THE KITCHEN FANS ARE OPERATING, THE MAU SHALL SUPPLY THE TOTAL AIR SCHEDULED FOR ALL THE ACTIVE HOODS.
5. AIRFLOW RATES AND ASSOCIATED FAN RPM TO BE ESTABLISHED FOR EACH EF AND THE MAU IN EACH STAGE DURING TAB EFFORT. BMS TO MONITOR EACH FAN OPERATION AND DETERMINE REQUIRED MAU FAN SPEED TO PROVIDE REQUIRED MAKEUP AIR FOR ENERGIZED EXHAUST FANS, AS REQUIRED.

NOTE: REFER TO SCHEDULE AND DRAWINGS FOR AIR BALANCE TO THE KITCHEN EXHAUST FAN(S) AND RESPECTIVE HOOD(S) MAKE UP AIR.

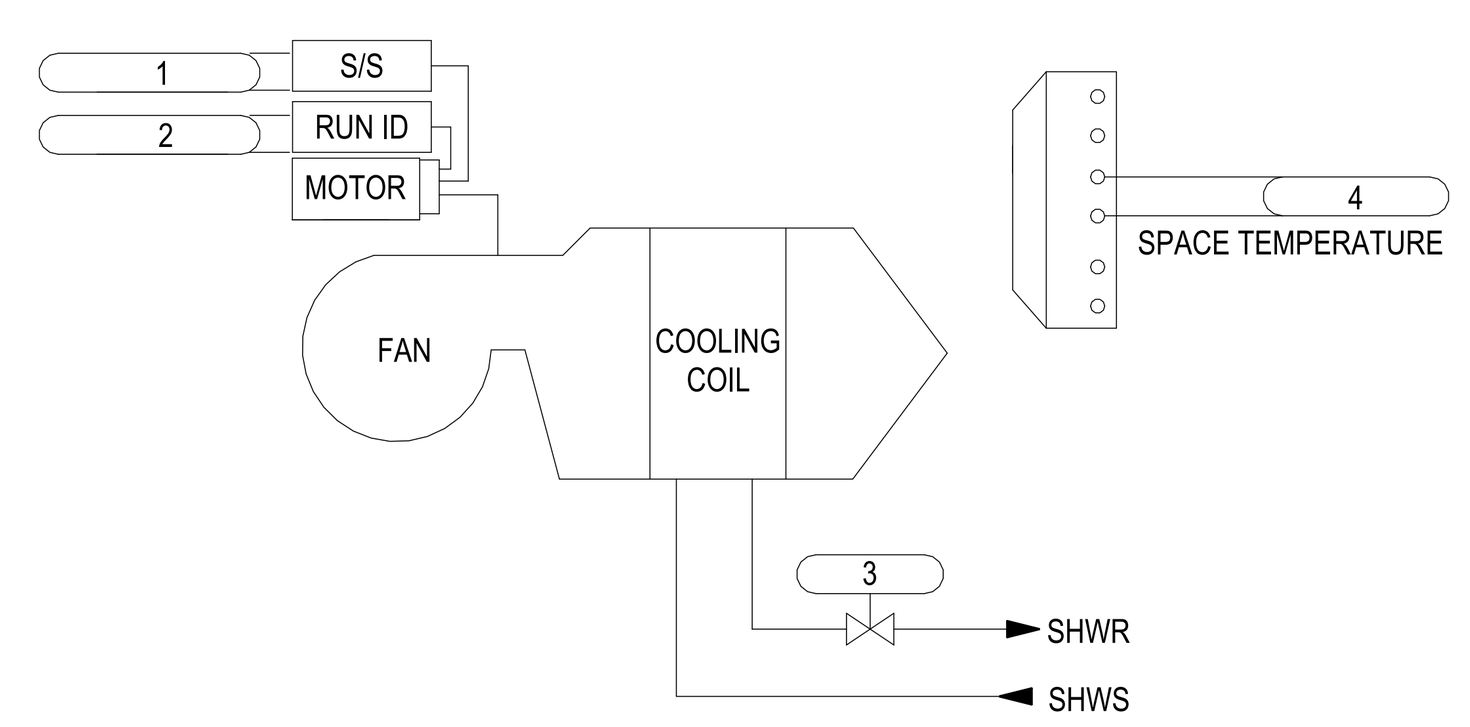
VENTILATING: WHEN THE SUPPLY FAN IS ACTIVATED AND OUTSIDE AIR TEMPERATURE IS BELOW 65°F (ADJUSTABLE), MODULATE THE HEATING VALVE AS REQUIRED TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F, UNTIL A CALL FOR CONDITIONING OVERRIDES.
WHEN THE SUPPLY FAN IS ACTIVATED AND OUTSIDE AIR TEMPERATURE IS ABOVE 75°F (ADJUSTABLE), MODULATE THE COOLING VALVE AS REQUIRED TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 70°F, UNTIL A CALL FOR CONDITIONING OVERRIDES.

HEATING: WHEN THE SUPPLY FAN IS ACTIVATED, AND ROOM TEMPERATURE IS BELOW THE SET POINT, MODULATE THE HEATING VALVE AS REQUIRED TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 80 °F (ADJUSTABLE).

COOLING: WHEN THE SUPPLY FAN IS ACTIVATED, AND ROOM TEMPERATURE IS ABOVE THE 75 °F (ADJUSTABLE) SET POINT, MODULATE THE COOLING VALVE AS REQUIRED TO MAINTAIN A DISCHARGE AIR TEMPERATURE OF 55 °F (ADJUSTABLE).

SAFETIES / ALARMS: WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS. PROVIDE INTERFACE OF BMS WITH FIRE ALARM SYSTEM TO LOCKOUT OPERATION OF EXHAUST FANS AND MAKEUP AIR UNIT IF ZONE IS IN ALARM MODE.

2 M644 THIRD FLOOR KITCHEN - CONTROL DIAGRAM (MAU-1, KEF-1 THRU KEF-5)
NOT TO SCALE



FAN COIL UNIT SEQUENCE OF OPERATIONS (COOLING ONLY):

OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS. IN THE OCCUPIED MODE THE SPACE COOLING SET-POINT SHALL BE 75 DEGREES F (ADJ.). IN THE UNOCCUPIED MODE THE SPACE COOLING SET-POINT SHALL BE RESET TO 75 DEGREES F (ADJ.).

FAN CONTROL: ON A CALL FOR COOLING, THE SUPPLY FAN SHALL CYCLE ON. WHEN THE SET POINT IS SATISIFIED, THE FAN SHALL CYCLE OFF.

COOLING CONTROL: MODULATE THE ASSOCIATED COOLING VALVE AS REQUIRED TO MAINTAIN OCCUPIED AND UNOCCUPIED SET-POINT.

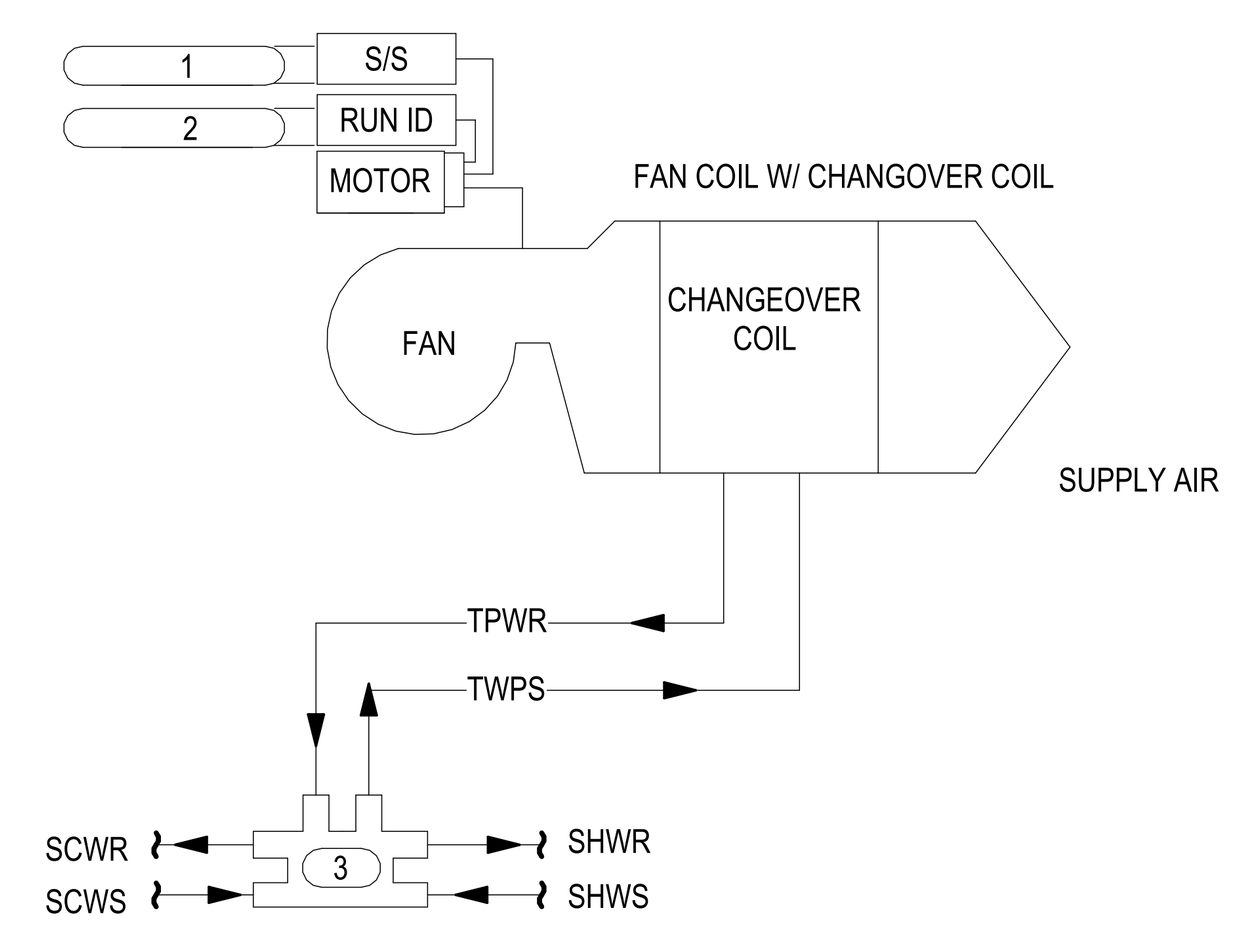
SPACE TEMPERATURE SENSOR: REVIEW HVAC ZONE PLAN DRAWINGS FOR LOCATION.

SAFTIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.

INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: FAN COIL UNITS (COOLING ONLY). ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN START/STOP	●									
2	SUPPLY FAN RI				●						
3	COOLING VALVE		●								
4	SPACE TEMPERATURE							●			

8 M644 FAN COIL UNIT (COOLING ONLY) - CONTROL DIAGRAM
NOT TO SCALE



FAN COIL UNIT SEQUENCE OF OPERATIONS (CHANGEOVER COIL):

OCCUPIED / UNOCCUPIED MODE: SHALL BE SCHEDULED BY THE BMS.

FAN CONTROL: ON A CALL FOR HEATING OR COOLING, THE SUPPLY FAN SHALL CYCLE ON. WHEN THE SET POINT IS SATISIFIED, THE FAN SHALL CYCLE OFF.

6-WAY CONTROL VALVE:
HEATING MODE:
- WHEN SPACE TEMPERATURE IS BELOW SETPOINT BY MORE THAN 2°F (ADJUSTABLE), SEQUENCE THE 6-WAY ZONE CONTROL VALVE FOR THE ZONE TO HEATING MODE, ZONE CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.

COOLING MODE:
- WHEN SPACE TEMPERATURE IS ABOVE SETPOINT BY MORE THAN 2°F (ADJUSTABLE), SEQUENCE THE 6-WAY ZONE CONTROL VALVE FOR THE ZONE TO COOLING MODE, ZONE CONTROL VALVE SHALL MODULATE TO MAINTAIN SETPOINT.

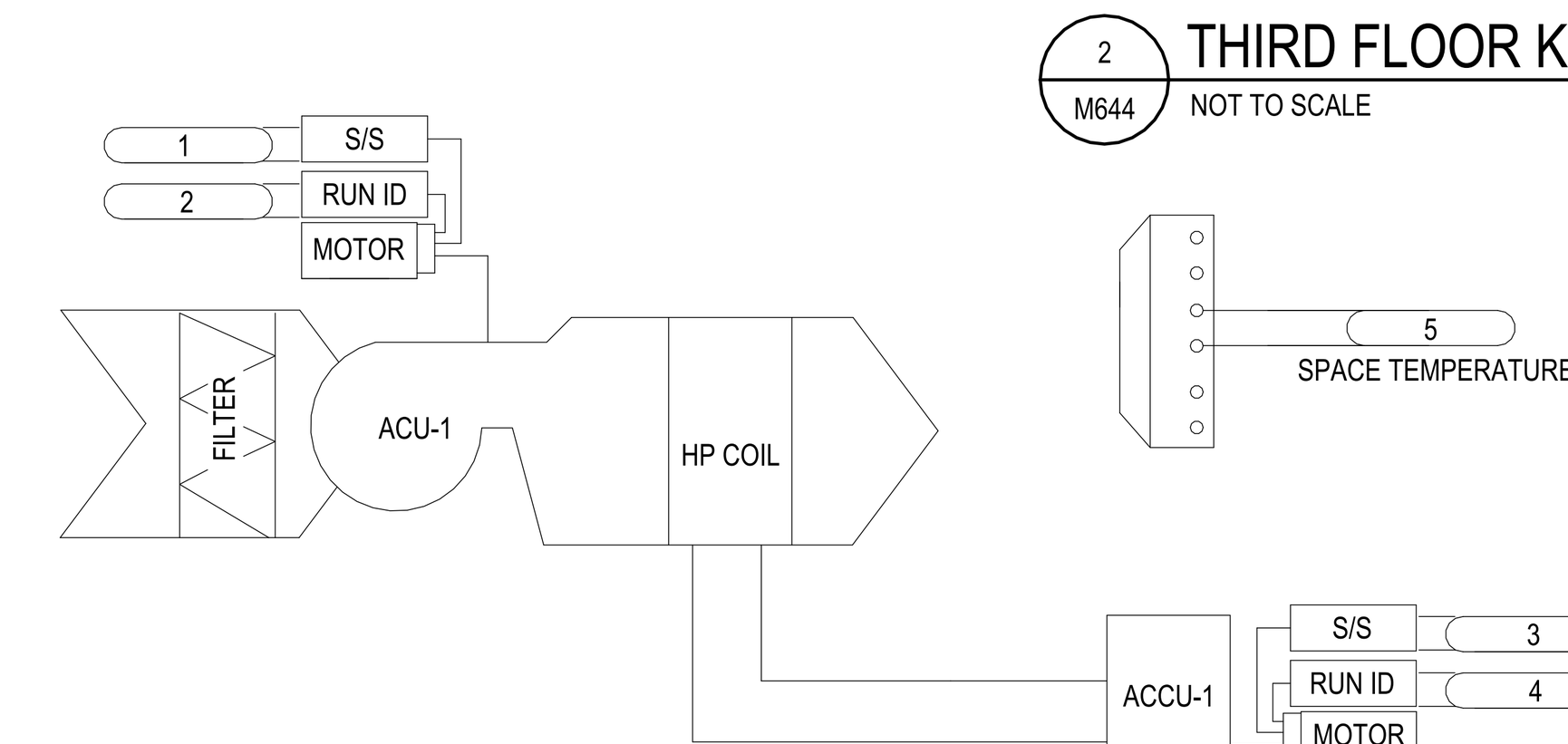
SPACE TEMPERATURE SENSOR: REVIEW HVAC ZONE PLAN DRAWINGS FOR LOCATION.

SAFTIES / ALARMS: WHEN ANY CONTROL POINT DEVIATES FROM THE SET-POINT BY MORE THAN 5 DEGREES F (ADJ.), AN ALARM SHALL BE GENERATED BY THE BMS. WHEN ANY SENSED OUTPUT DIFFERS FROM ITS COMMANDED STATE, AN ALARM SHALL BE GENERATED BY THE BMS.

INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: FAN COIL UNITS. ONE POINT FOR EACH UNIT PER ●**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	SUPPLY FAN START/STOP	●									
2	SUPPLY FAN RI				●						
3	6-WAY VALVE		●								
4	SPACE TEMPERATURE							●			

7 M644 FAN COIL UNIT (CHANGEOVER COIL) - CONTROL DIAGRAM
NOT TO SCALE



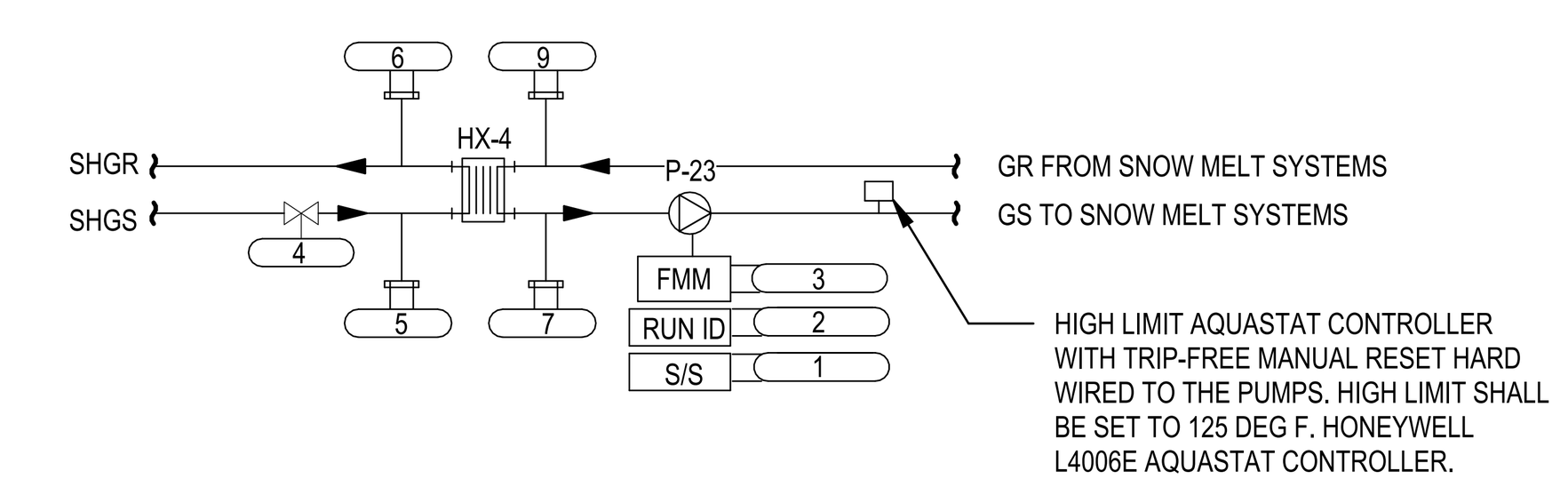
DUCTLESS-SPLIT HEAT PUMP UNIT SEQUENECE OF OPERATIONS:

1. UNIT CONTROL:
   A. THE DUCTLESS SPLIT SYSTEM SHALL BE ENABLED YEAR ROUND AND CONTROLLED BY THE ON-BOARD MICROPROCESSOR CONTROLLER TO MAINTAIN TEMPERATURE AS FOLLOWS:
      a. THE COOLING SETPOINT SHALL BE 80°F. WHEN THE TEMPERATURE RISES ABOVE 85°F (ADJUSTABLE) THE UNIT SHALL ENTER COOLING MODE.
      b. THE HEATING SETPOINT SHALL BE 35°F. WHEN THE TEMPERATURE FALLS BELOW 30°F (ADJUSTABLE) THE UNIT SHALL ENTER HEATING MODE.
2. AN ALARM SHALL BE GENERATED TO THE BMS FOR THE FOLLOWING:
   A. HIGH SPACE TEMPERATURE (100°F ADJ.)
   B. LOW SPACE TEMPERATURE (10°F AD.)
   C. WHEN ACU-1 OR ACCU-1 DOES NOT PROVIDE STATUS AFTER BEING COMMANDED ON AFTER 5 MINUTES.

INPUT/OUTPUT SUMMARY TABLE — **SYSTEM: HEAT PUMP SPLIT SYSTEM**

	POINT DESCRIPTION	DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRESSURE
1	ACU-1 FAN START/STOP	●									
2	ACU-1 FAN STATUS				●						
3	ACU-1 FAN START/STOP	●									
4	ACU-1 FAN STATUS				●						
5	SPACE TEMPERATURE							●			

4 M644 SPLIT HEAT PUMP UNITS (ELEVATOR SHAFT)
NOT TO SCALE



INPUT/OUTPUT SUMMARY TABLE — **SNOW MELT ZONE SYSTEM**

	POINT DESCRIPTION	BINARY OUTPUTS	ANALOG OUTPUTS		BINARY INPUTS			ANALOG INPUTS			
		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	ALARM	TEMPERATURE	RELATIVE HUMIDITY	FLOW	STATIC PRSSURE
1	SECONDARY SNOWMELT ZONE PUMP START/STOP	(2)									
2	SECONDARY SNOWMELT ZONE PUMP STATUS				(2)						
3	SECONDARY SNOWMELT ZONE PUMP FLOW MONITORING METER									(2)	
4	HOT WATER CONTROL VALVE POSITION COMMAND		●								
5	HOT WATER SUPPLY TEMPERATURE							●			
6	HOT WATER RETURN TEMPERATURE							●			
7	SNOW MELT ZONE GLYCOL WATER SUPPLY TEMPERATURE							●			
8	SNOW MELT ZONE GLYCOL WATER SUPPLY TEMP SETPOINT										
9	SNOW MELT ZONE GLYCOL WATER RETURN TEMPERATURE							●			
10	SNOW MELT ZONE MOISTURE (TYP OF 5)				●		●				
11	SNOW MELT ZONE TEMPERATURE (TYP OF 5)							●			
12	CAMPUS OUTSIDE AIR TEMPERATURE SENSOR							●			

1 M644 SNOWMELT SYSTEM CONTROL DIAGRAM
NOT TO SCALE

SEQUENCE OF OPERATION

SYSTEM DESCRIPTION
- SNOW MELT SYSTEM
- SNOW MELT LOOP PUMP
- HEAT EXCHANGER HX-4

GENERAL
- THE SNOW MELT SYSTEM IS USED TO PROVIDE HEATING IN WINTER FOR CLEARING SIDEWALKS.
- THE SNOW MELT SYSTEMS CONSIST TYPICALLY OF A TWO WAY VALVE, MOISTURE/TEMPERATURE SENSORS AND PUMP.
- SYSTEM SHALL BE CONTROLLED THROUGH THE BUILDING AUTOMATION SYSTEM (BMS).
- ALL SETPOINTS SHALL BE ADJUSTABLE.
- THE BMS SHALL BE CAPABLE OF RETAINING ITS PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR AT LEAST TEN HOURS.

SETPOINTS
- SNOW MELT LOOP SUPPLY TEMPERATURE: 125°F

LOOP PUMP START/STOP
OPERATION MODE:
- UPON A START COMMAND AS DICTATED BY THE SNOW MELT SENSORS, THE PUMP SHALL RUN CONTINUOUSLY. ONCE STARTED, THE PUMP SHALL BE ON FOR A MINIMUM OF 10 MINUTES.
- UPON REACHING SLAB SETPOINT AND IF THE SLAB IS DRY, THE PUMPS SHALL DE-ENERGIZE.
- WHEN SLAB TEMPERATURE IS ABOVE 50°F, THE PUMP SHALL DE-ENERGIZE.
- IF THE OUTSIDE AIR TEMPERATURE IS ABOVE 40°F, THE PUMPS SHALL DE-ENERGIZE. THE PUMPS SHALL BE OFF FOR A MINIMUM OF 10 MINUTES.

SLAB TEMPERATURE CONTROL
- IF THE PUMP IS OFF THE ASSOCIATED HOT WATER CONTROL VALVE (#4) SHALL BE CLOSED.
- THE HOT WATER CONTROL VALVE SHALL MODULATE AS REQUIRED TO MAINTAIN THE SNOW MELT LOOP SUPPLY WATER TEMPERATURE SETPOINT.
- THE SLAB SENSOR SHALL BE AN OPTICAL SENSOR AND MONITORED CONTINUOUSLY. THE SENSOR HEATING ELEMENT SHALL MELT SNOW AND MEASURE LIGHT FRAFRACTION THROUGH THE MOISTURE THAT ACCUMULATES ON IT'S SURFACE. THE SENSOR SHALL ALSO SENSE SLAB TEMPERATURE.
- MELTING MODE: IF THE SNOW SENSOR DETECTS MOISTURE, THE SLAB SETPOINT SHALL INCREASE TO 50°F. IF NO MOISTURE IS DETECTED FOR A PERIOD OF 2 HOURS (ADJUSTABLE), THE SYSTEM SHALL REVERT BACK TO THE IDLE MODE.

GLYCOL HOT WATER LOOP CONTROL
- THE SIDEWALK LOOP GLYCOL SUPPLY TEMPERATURE SETPOINT SHALL BE DETERMINED ACCORDING TO THE SLAB TEMPERATURE. AS THE SLAB TEMPERATURE RANGES FROM (SLAB SETPOINT + 5)TO (SLAB SETPOINT - 5), THE GLYCOL TEMPERATURE SETPOINTS SHALL RANGE FROM 60°F TO THE MINIMUM OF SLAB TEMPERATURE +70°F OR GLYCOL HIGH END. THE INITIAL VALUES FOR GLYCOL HIGH END AND GLYCOL LOW END ARE 125°F AND 60°F.
- THE FINAL GLYCOL SUPPLY TEMPERATURE SETPOINT SHALL BE DETERMINED BY THE MINIMUM OF THE INITIAL GLYCOL SUPPLY SETPOINT OR THE GLYCOL RETURN TEMPERATURE + MAX DELTA T. THE INITIAL VALUE FOR MAX DELTA T IS 25°F.

SAFETIES
- IF THE PUMP IS COMMANDED ON AND STATUS IS NOT RECEIVED IN 30 SECONDS (ADJ), AN ALARM SHALL BE GENERATED.
- IF THE PUMP IS COMMANDED OFF AND STATUS IS ON FOR MORE THAN 30 SECONDS (ADJ), AN ALARM SHALL BE GENERATED.
- IF ANY SLAB SENSOR IS MORE THAN 20°F ABOVE OR BELOW THE OTHER SENSORS IN THE SYSTEM, AN ALARM SHALL BE GENERATED.
- IF THE LOOP GLYCOL SUPPLY TEMPERATURE EXCEEDS 125°F, THE PUMP SHALL BE DISABLED AND AN ALARM SHALL BE GENERATED.

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EXPIRATION: 02/28/2027

Drawn By: PDG
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Revisions

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SWBR Project Number 23160.00

SUNY CORTLAND COREY UNION

M644
DDC CONTROL DIAGRAMS

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

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HEAT PUMP PLANT - SEQUENCE OF OPERATIONS:

PLANT ENABLE/DISABLE: THE HEAT PUMP PLANT SHALL BE ENABLED/DISABLED BY THE SYSTEM OPERATOR, NOT THE BMS. INDIVIDUAL MODULES SHALL NOT ENABLE / DISABLE UNLESS CALLED FOR BY THE HEAT PUMP PLANT SUPERVISORY CONTROLLER. THE FIRST PLANT OPERATION AFTER ENABLING OF THE PLANT SHALL BE TO START THE GLYCOL COOLING LOOP PRIMARY PUMPS, THE GLYCOL HEATING LOOP PRIMARY PUMPS AND THE GROUND SOURCE PRIMARY PUMPS. AFTER PUMP STATUS HAS BEEN CONFIRMED FOR 5 MINUTES (ADJ.), THE HEAT PUMP PLANT ITSELF SHALL START. THE HEAT PUMP PLANTS INTEGRAL UNITARY CONTROL SYSTEM SHALL OPERATE USING A BUILT IN 'AUTO FULL BUILDING' MODE, THIS MODE SHALL COMMAND THE PLANT INTO HEATING, COOLING AND SIMULTANEOUS MODES AS DICTATED BY INTERNAL CONTROLS. THIS MODE OF OPERATION ALLOWS FOR CONTINUOUS OPERATION OF THE HEAT PUMP.
- FOR ALL MODES OF HEAT PUMP OPERATION, THE RELATED PRIMARY PUMPS OPERATION MUST BE PROVEN FOR 5 MINUTES (ADJ.).

GEOTHERMAL LOOP PUMPS (P-19, 20, P-19.1/20.1): THE GEOTHERMAL LOOP PUMPS, P-19, 20, P-19.1/20.1), SHALL CIRCULATE YEAR ROUND. GEOTHERMAL LOOP PUMPS SHALL RUN AT MINIMUM CONSTANT SPEED SET DURING TESTING, ADJUSTING AND BALANCING TO PROVIDE THE MINIMUM FLOW ALLOWED BY THE PUMPS TURNDOWN. THE PUMPS SHALL STAGE AS REQUIRED TO MAINTAIN A MAXIMUM 10°F (ADJ.) TEMPERATURE DIFFERENCE BETWEEN THE SOURCE INLET AND OUTLET TEMPERATURES. THE PUMPS SPEED SHALL INCREASE WHEN THE 10°F (ADJ.) TEMPERATURE DIFFERENCE IS EXCEEDED, WITH MAXIMUM SPEED BEING REACHED AT A 15°F (ADJ.) TEMPERATURE DIFFERENCE.

PRIMARY LOOP PUMPS:

GLYCOL HEATING LOOP PRIMARY PUMPS (P-9/10):
- UPON ENABLE OF THE HEAT PUMP PLANT BY THE SYSTEM OPERATOR, THE GLYCOL HEATING LOOP PRIMARY PUMPS, P-9, 10 SHALL BE ENABLED.
- THE PUMPS SHALL RUN CONTINUOUSLY WHILE THE PLANT IS ENABLED TO MAINTAIN CONSTANT FLOW THROUGH THE HEAT PUMP PLANT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- PUMP STATUS SHALL BE PROVEN BEFORE THE HEAT PUMP PLANT STARTS, UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN A FIXED LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#150). THIS FIXED LOOP DIFFERENTIAL PRESSURE SET POINT SHALL BE SET DURING TAB. THE END OF LOOP BYPASS VALVE (#149) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE FIXED LOOP DIFFERENTIAL PRESSURE AT LOW FLOWS, AS ESTABLISHED DURING TESTING, ADJUSTING AND BALANCING. THIS IS NOT THE BYPASS HEADER VALVE (#126).
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

GLYCOL COOLING LOOP PRIMARY PUMPS (P-1/2):
- UPON ENABLE OF THE HEAT PUMP PLANT BY THE SYSTEM OPERATOR, THE GLYCOL COOLING LOOP PRIMARY PUMPS, P-1, 2 SHALL BE ENABLED.
- THE PUMPS SHALL RUN CONTINUOUSLY WHILE THE PLANT IS ENABLED TO MAINTAIN CONSTANT FLOW THROUGH THE HEAT PUMP PLANT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- PUMP STATUS SHALL BE PROVEN BEFORE THE HEAT PUMP PLANT STARTS, UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN A FIXED LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#152). THIS FIXED LOOP DIFFERENTIAL PRESSURE SET POINT SHALL BE SET DURING TAB. THE END OF LOOP BYPASS VALVE (#151) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE FIXED LOOP DIFFERENTIAL PRESSURE AT LOW FLOWS, AS ESTABLISHED DURING TESTING, ADJUSTING AND BALANCING. THIS IS NOT THE BYPASS HEADER VALVE (#125).
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

GROUND SOURCE PRIMARY PUMPS (P-21/22, P-21.1/22.1):
- UPON ENABLE OF THE HEAT PUMP PLANT BY THE SYSTEM OPERATOR, THE GROUND SOURCE PRIMARY PUMPS, P-21, 22, P-21.1, 22.1 , SHALL BE ENABLED.
- THE PUMPS SHALL STAGE AS REQUIRED TO MAINTAIN A MAXIMUM 10°F (ADJ.) TEMPERATURE DIFFERENCE BETWEEN THE SOURCE INLET AND OUTLET TEMPERATURES. THE PUMPS SPEED SHALL INCREASE WHEN THE 10°F (ADJ.) TEMPERATURE DIFFERENCE IS EXCEEDED, WITH MAXIMUM SPEED BEING REACHED AT A 15°F (ADJ.) TEMPERATURE DIFFERENCE.
- THE PUMPS SHALL OPERATE IN A LEAD-LAG SEQUENCE, WITH A SINGLE PUMP RUNNING NO LONGER THAN 24 HOURS STRAIGHT (ADJ.).
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).

SECONDARY PUMPS

GLYCOL HEATING LOOP HEAT EXCHANGER PUMPS (P-15/16):
- THE LEAD PUMP SHALL BE ENABLED WHEN ALL OF THE FOLLOWING ARE TRUE:
  1. THE CENTRAL HEAT PUMP PLANT IS ENABLED
  2. THE PRIMARY HEATING GLYCOL PUMP IS ENABLED.
  3. THERE IS A PRESSURE REQUEST ON THE SYSTEM HEATING WATER LOOP.
- THE LEAD PUMP SHALL BE DISABLED WHEN THERE IS NO CALL FOR THE LOOPS SERVICE FOR A CONTINUOUS 15 MINUTES (ADJ.).
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AND MODULATE TO MAINTAIN THE SYSTEM SIDE LEAVING WATER TEMPERATURE SET POINT. IF THE SYSTEM SIDE TEMPERATURE IS ABOVE 125°F, THE PUMP SHALL MAINTAIN MINIMUM SPEED UNTIL THE PRESSURE REQUEST IS SATISFIED.
- IF THE SYSTEM SIDE TEMPERATURE IS BELOW 125°F, THE PUMP SHALL RAMP UP BY 10% FOR A MINIMUM OF FIVE (5) MINUTES (ADJ.). THE PUMP SHALL CONTINUE TO RAMP UP BY 10% EVERY FIVE (5) (ADJ.) MINUTES UNTIL THE SYSTEM SIDE LEAVING WATER IS SATISFIED. AT WHICH POINT, THE PUMP SHALL MAINTAIN SPEED.
- IF THE SYSTEM SIDE LEAVING WATER TEMPERATURE IS MORE THAN 2°F (ADJ.) ABOVE SETPOINT FOR 5 MINUTES (ADJ.) THE PUMP SHALL RAMP DOWN BY 10% EVERY 5 MINUTES TO PUMP MINIMUM SPEED.
- PUMP MINIMUM SPEED SHALL BE SET DURING TAB, INITIAL MINIMUM SPEED TO BE 25% (ADJ.).
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED AND THE OTHER PUMP SHALL START.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE SYSTEM SIDE LEAVING WATER TEMPERATURE SETPOINT FOR FIVE (5) MINUTES (ADJ.) AND SHALL STAGE OFF AFTER FIVE (5) MINUTES (ADJ.) WHEN THE TEMPERATURE IS MET.
- THE PUMP SHALL TURN OFF WHEN THERE IS NOT A PRESSURE REQUEST ON THE HEATING WATER LOOP.

GLYCOL COOLING LOOP HEAT EXCHANGER PUMPS (P-5/6):
- THE LEAD PUMP SHALL BE ENABLED WHEN ALL OF THE FOLLOWING ARE TRUE:
  1. THE CENTRAL HEAT PUMP PLANT IS ENABLED
  2. THE PRIMARY COOLING GLYCOL PUMP IS ENABLED.
  3. THERE IS A PRESSURE REQUEST ON THE SYSTEM COOLING WATER LOOP.
- THE LEAD PUMP SHALL BE DISABLED WHEN THERE IS NO CALL FOR THE LOOPS SERVICE FOR A CONTINUOUS 15 MINUTES (ADJ.).
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AND MODULATE TO MAINTAIN THE SYSTEM SIDE LEAVING WATER TEMPERATURE SET POINT. IF THE SYSTEM SIDE TEMPERATURE IS BELOW 45°F, THE PUMP SHALL MAINTAIN MINIMUM SPEED UNTIL THE PRESSURE REQUEST IS SATISFIED.
- IF THE SYSTEM SIDE TEMPERATURE IS ABOVE 45°F, THE PUMP SHALL RAMP UP BY 10% FOR A MINIMUM OF FIVE (5) MINUTES (ADJ.). THE PUMP SHALL CONTINUE TO RAMP UP BY 10% EVERY FIVE (5) (ADJ.) MINUTES UNTIL THE SYSTEM SIDE LEAVING WATER IS SATISFIED. AT WHICH POINT, THE PUMP SHALL MAINTAIN SPEED.
- IF THE SYSTEM SIDE LEAVING WATER TEMPERATURE IS MORE THAN 1°F (ADJ.) BELOW SETPOINT FOR 5 MINUTES (ADJ.) THE PUMP SHALL RAMP DOWN BY 10% EVERY 5 MINUTES TO PUMP MINIMUM SPEED.
- PUMP MINIMUM SPEED SHALL BE SET DURING TAB, INITIAL MINIMUM SPEED TO BE 25% (ADJ.).
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED AND THE OTHER PUMP SHALL START.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE SYSTEM SIDE LEAVING WATER TEMPERATURE SETPOINT FOR FIVE (5) MINUTES (ADJ.) AND SHALL STAGE OFF AFTER FIVE (5) MINUTES (ADJ.) WHEN THE TEMPERATURE IS MET.
- THE PUMP SHALL TURN OFF WHEN THERE IS NOT A PRESSURE REQUEST ON THE COOLING WATER LOOP.

SYSTEM PUMPS

GLYCOL CHILLED WATER (DOAS/AHU/MAU COOLING COILS) COOLING LOOP PUMPS (P-3,4):
- THE LEAD PUMP SHALL BE ENABLED WHENEVER THE CENTRAL PLANT COOLING/SIMULTANEOUS MODE IS ENABLED AND THERE IS A ZONE PRESSURE REQUEST.
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AS SET DURING TAB AND MODULATE TO MAINTAIN THE ACTIVE DP SETPOINT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED AND THE OTHER PUMP SHALL START.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN THE ACTIVE LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#161). THE INDIVIDUAL FIXED LOOP DIFFERENTIAL PRESSURE SET POINTS SHALL BE SET DURING TAB.
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE END OF LOOP BYPASS VALVE (#159) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE LOOP MINIMUM FLOW AT OR ABOVE MINIMUM STABLE FLOW AS MEASURED BY THE LOOP FLOW METER (#105).
- THE PUMP SHALL FOLLOW THE RESET LOGIC AS INDICATED IN THE 'SYSTEM/SECONDARY PUMP RESET LOGIC PARAGRAPH BELOW.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

CHILLED WATER (ACTIVE CHILLED BEAMS) COOLING LOOP PUMPS (P-7,8):
- THE LEAD PUMP SHALL BE ENABLED WHENEVER THE CENTRAL PLANT COOLING/SIMULTANEOUS MODE IS ENABLED AND THERE IS A ZONE PRESSURE REQUEST.
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AS SET DURING TAB AND MODULATE TO MAINTAIN THE ACTIVE DP SETPOINT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED AND THE OTHER PUMP SHALL START.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN THE ACTIVE LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#164). THE INDIVIDUAL FIXED LOOP DIFFERENTIAL PRESSURE SET POINTS SHALL BE SET DURING TAB.
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE END OF LOOP BYPASS VALVE (#162) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE LOOP MINIMUM FLOW AT OR ABOVE MINIMUM STABLE FLOW AS MEASURED BY THE LOOP FLOW METER (#111).
- THE PUMP SHALL FOLLOW THE RESET LOGIC AS INDICATED IN THE 'SYSTEM/SECONDARY PUMP RESET LOGIC' PARAGRAPH BELOW.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

GLYCOL HEATING WATER (DOAS/AHU/MAU COOLING COILS) HEATING LOOP PUMPS (P-13/14):
- THE LEAD PUMP SHALL BE ENABLED WHENEVER THE CENTRAL PLANT HEATING/SIMULTANEOUS MODE IS ENABLED AND THERE IS A ZONE PRESSURE REQUEST.
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AS SET DURING TAB AND MODULATE TO MAINTAIN THE ACTIVE DP SETPOINT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN THE ACTIVE LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#158). THE INDIVIDUAL FIXED LOOP DIFFERENTIAL PRESSURE SET POINTS SHALL BE SET DURING TAB.
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE END OF LOOP BYPASS VALVE (#156) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE LOOP MINIMUM FLOW AT OR ABOVE MINIMUM STABLE FLOW AS MEASURED BY THE LOOP FLOW METER (#115).
- THE PUMP SHALL FOLLOW THE RESET LOGIC AS INDICATED IN THE 'SYSTEM/SECONDARY PUMP RESET LOGIC' PARAGRAPH BELOW.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

HEATING WATER (ACTIVE CHILLED BEAM, REHEAT COIL, CABINET UNIT HEATER, RADIANT PANEL) HEATING LOOP PUMPS (P-17/18):
- THE LEAD PUMP SHALL BE ENABLED WHENEVER THE CENTRAL PLANT HEATING/SIMULTANEOUS MODE IS ENABLED AND THERE IS A ZONE PRESSURE REQUEST.
- WHEN ENABLED, THE LEAD PUMP SHALL START AT MINIMUM SPEED AS SET DURING TAB AND MODULATE TO MAINTAIN THE ACTIVE DP SETPOINT.
- THE PUMPS SHALL RUN IN A LEAD LAG SEQUENCE, WITH NO PUMP RUNNING LONGER THAN 24 HOURS.
- UPON FAILURE OF A COMMANDED PUMP TO PROVE STATUS, AN ALARM SHALL BE GENERATED.
- UPON A PLANT ALARM OR LOSS OF FLOW CONDITION, THE PUMPS SHALL LOCK OUT.
- THE PUMPS SHALL MODULATE TO MAINTAIN THE ACTIVE LOOP DIFFERENTIAL PRESSURE SET POINT, AS SENSED BY THE DP SENSOR (#155). THE INDIVIDUAL FIXED LOOP DIFFERENTIAL PRESSURE SET POINTS SHALL BE SET DURING TAB.
- THE PUMP MINIMUM SPEED SHALL BE SET DURING TAB TO AS LOW AS POSSIBLE WHILE MAINTAINING PUMP OPERATION. INITIAL SPEED SHALL BE 15% (ADJ.).
- THE END OF LOOP BYPASS VALVE (#153) SHALL MODULATE INDEPENDENTLY TO MAINTAIN THE LOOP MINIMUM FLOW AT OR ABOVE MINIMUM STABLE FLOW AS MEASURED BY THE LOOP FLOW METER (#121).
- THE PUMP SHALL FOLLOW THE RESET LOGIC AS INDICATED IN THE 'SYSTEM/SECONDARY PUMP RESET LOGIC' PARAGRAPH BELOW.
- THE LAG PUMP SHALL STAGE ON WHEN THE LEAD PUMP REACHES MAXIMUM SPEED AND CANNOT MAINTAIN THE DP SETPOINT FOR 5 MINUTES (ADJ.), AND SHALL STAGE OFF WHEN THE LOOP DEMAND IS MET FOR 5 MINUTES (ADJ.).

SYSTEM/SECONDARY PUMP RESET LOGIC (P-3,4, P-7,8, P-13, 14, P-17,18):
- THE LOOP DP SETPOINT SHALL BE SET BETWEEN A MINIMUM SETPOINT (SP-MIN) AND A MAXIMUM SETPOINT (SP-MAX) USING A TRIM AND RESPOND ALGORITHM EXECUTING AT A FIXED TIME STEP (T-STEP). INTIAL VALUES PER THE LOOP RESET SCHEDULE.
- AT EACH TIME STEP, THE CONTROLLER SHALL TRIM (DECREASE) THE DP SETPOINT BY THE TRIM AMOUNT (SP-TRIM).
- FOR EACH PRESSURE REQUEST RECEIVED, THE CONTROLLER SHALL RESPOND BY INCREASING THE DP SETPOINT BY THE RESPOND AMOUNT (SP-RES), UP TO A MAXIMUM INCREASE PER TIME STEP (SP-RES-MAX).
- AN IGNORE COUNT (I) SHALL BE APPLIED. THE CONTROLLER SHALL IGNORE THE FIRST (I) PRESSURE REQUESTS EACH TIME STEP BEFORE RESPONDING TO FILTER SINGLE-TERMINAL NOISE.
- PRESSURE REQUESTS SHALL BE GENERATED BY THE LOOPS TERMINAL CONTROL VALVES (6-WAY VALVES, REHEAT COIL VALVES, EQUIPMENT COIL VALVES) SERVED Y THE LOOP. A TERMINAL SHALL GENERATE ONE (1) PRESSURE REQUEST WHEN ITS CONTROL VALVE POSITION IS GREATER THAN 95% OPEN (ADJ.) FOR A CONTINUOUS PERIOD OF TWO (2) MINUTES (ADJ.). THE REQUEST SHALL CLEAR WHEN THE VALVE POSITION DROPS BELOW 85%.
- THE RESET LOGIC SHALL INCLUDE AN OUTPUT SMOOTHING FUNCTION SO THE ACTIVE DP SETPOINT CHANGED GRADUALLY AND DOES NOT OSCILLATE AS TERMINALS CYCLE IN AND OUT OF THEIR REQUEST CONDITION.

LOOP RESET SCHEDULE *(initial values; all adjustable, finalize during TAB):*

Loop	Pumps	SP-min	SP-max	T-step	SP-trim	SP-res	SP-res-max	Ignore (I)
CHW / Glycol-CHW system	P-3/4, P-7/8	3 psi	TAB	2 min	0.5 psi	0.5 psi	2 psi	1
HW / Glycol-HW system	P-13/14, P 17/18	3 psi	TAB	2 min	0.5 psi	0.5 psi	2 psi	1

EMERGENCY BOILER, EMERGENCY HEATING MODE: UPON A LOSS OF POWER, THE BUILDINGS GENERATOR SHALL PROVIDE POWER TO THE EXISTING EMERGENCY BOILER, B-1/2, HEATING WATER PUMPS P-11/12, 15/16, 17/18 AND THE ASSOCIATED CONTROLS PANELS FOR OPERATION OF THIS EQUIPMENT AND THE BUILDINGS RADIANT PANELS. THE BOILERS SHALL FIRE UP AND HEATING WATER PUMPS P-11/12, 15/16, 17/18 SHALL START. THE BOILER TWO POSITION AUTOMATIC CONTROL VALVE (#164) SHALL OPEN. THE BOILERS SHALL RUN UNTIL THE PLANT OPERATOR SHUTS THEM OFF. THE INTENTION OF THIS MODE IS TO PROVIDE HOT WATER TO THE RADIANT PANELS IN THE EVENT OF A POWER OUTAGE IN THE WINTER. EXISTING BOILERS SHALL BE PROVIDED WITH AN AERCO BACNET COMPATIBLE CONTROLLER TO ALLOW FOR INTEGRATION IN THE BUILDING MANAGEMENT SYSTEM.

EMERGENCY BOILER TEST: THE HEAT PUMP PLANT AND BOILERS SHALL BE SEQUENCED FOR A MONTHLY BOILER TEST. DURING THIS TEST THE HEAT PUMP PLANT AND PLANT PRIMARY PUMPS (P-1/2, P-9/10, P-21/21.1, P-22/22.1) SHALL BE DISABLED AS THE FIRST STEP. THE BOILER TWO POSITION AUTOMATIC CONTROL VALVE CONTROL VALVE (#171) SHALL OPEN. THE BOILERS SHALL BE ENABLED ALONG WITH PUMPS P-11/12, P-15/16 AND P-17/18. THE BOILERS SHALL RUN FOR A MINIMUM OF (30) MINUTES, OR AMPLE TIME TO VERIFIY BURNER IGNITION AND FIRING, WATER FLOW AND TEMPERATURE RISE. A SUCCESSFUL TEST SHALL MAINTAIN WATER TEMPERATURES AT 130°F (ADJ.) AT THE BOILER OUTLET WITH ALL PUMPS OPERATING.

UPON THE END OF THE TEST, THE BOILER AND PUMPS P-11/12 SHALL DISABLE AND TYPICAL HEAT PUMP PLANT OPERATION SHALL COMMENCE. THE TEST SHALL NOT OCCUR ON DAYS THAT THE OUTSIDE AIR TEMPERATURE IS ABOVE 55°F (ADJ.). UNDER NO CIRCUMSTANCE SHALL THE EMERGENCY BOILER TEST RUN WHILE THE HEAT PUMP PLANT IS ENABLED. THE TEST SHALL CAP EXITING WATER TEMPERATURES AT 130°F BY MODULATING BOILER BURNERS.

IF IGNITION OR PUMP OPERATION IS NOT PROVEN WITHIN 5 MINUTES (ADJ.), ABORT THE TEST. IF TEMPERATURE RISE IS NOT PROVEN AFTER 15 MINUTES (ADJ.), ABORT THE TEST. AFTER THE TEST IS ABORTED, GENERATE A TEST FAILED ALARM BACK TO THE BMS.

SAFETIES/ALARMS: WHEN ANY STATUS DEVIATES FROM ITS COMMANDED VALUE, AN ALARM SHALL BE GENERATED TO THE BMS.

SYSTEM OVERPRESSURE AND CATASTROHPIC LEAK CONTROL:
THE PRESSURE SENSOR LOCATED NEAREST TO THE HYDRONIC LOOPS PRESSURE RELIEF VALVE SHALL PREVENT OVERPRESSURE IN TWO STAGES:
- STAGE 1: WHEN PRESSURE RISES ABOVE RELIEF PRESSURE MINUS 10 PSI FOR TWO MINUTES (ADJ.), AN ALARM SHALL BE GENERATED TO THE BMS AND THE HYDRONIC LOOPS PUMPS SHALL REDUCE SPEED BY 25% (ADJ.).
- STAGE 2: WHEN PRESSURE CONTINUES TO RISE ABOVE RELIEF PRESSURE MINUS 5 PSI FOR TWO MINUTES (ADJ.), AN ALARM SHALL BE GENERATED TO THE BMS AND THE HYDRONIC LOOP PUMPS AND THE CENTRAL HEAT PUMP PLANT SHALL SHUTDOWN.

REFRIGERANT LEAK CONTROL:
- UPON ACTIVATION OF THE HEAT PUMP PLANTS INTEGRAL REFRIGERANT LEAK DETECTION SYSTEM, THE HEAT PUMP PLANT SHALL SHUTDOWN. ALL SYSTEM PUMPS SHALL STOP. ALARM STROBE AND SPEAKERS PROVIDED WITH THE HEAT PUMP PLANT SHALL ACTIVATE. ALARM STROBE AND SPEAKERS SHALL BE INSTALLED IN A VISIBLE LOCATION INSIDE OF THE MECHANICAL ROOM AND ON THE OUTSIDE SIDE OF THE ENTRANCE INTO THE MECHANICAL ROOM.

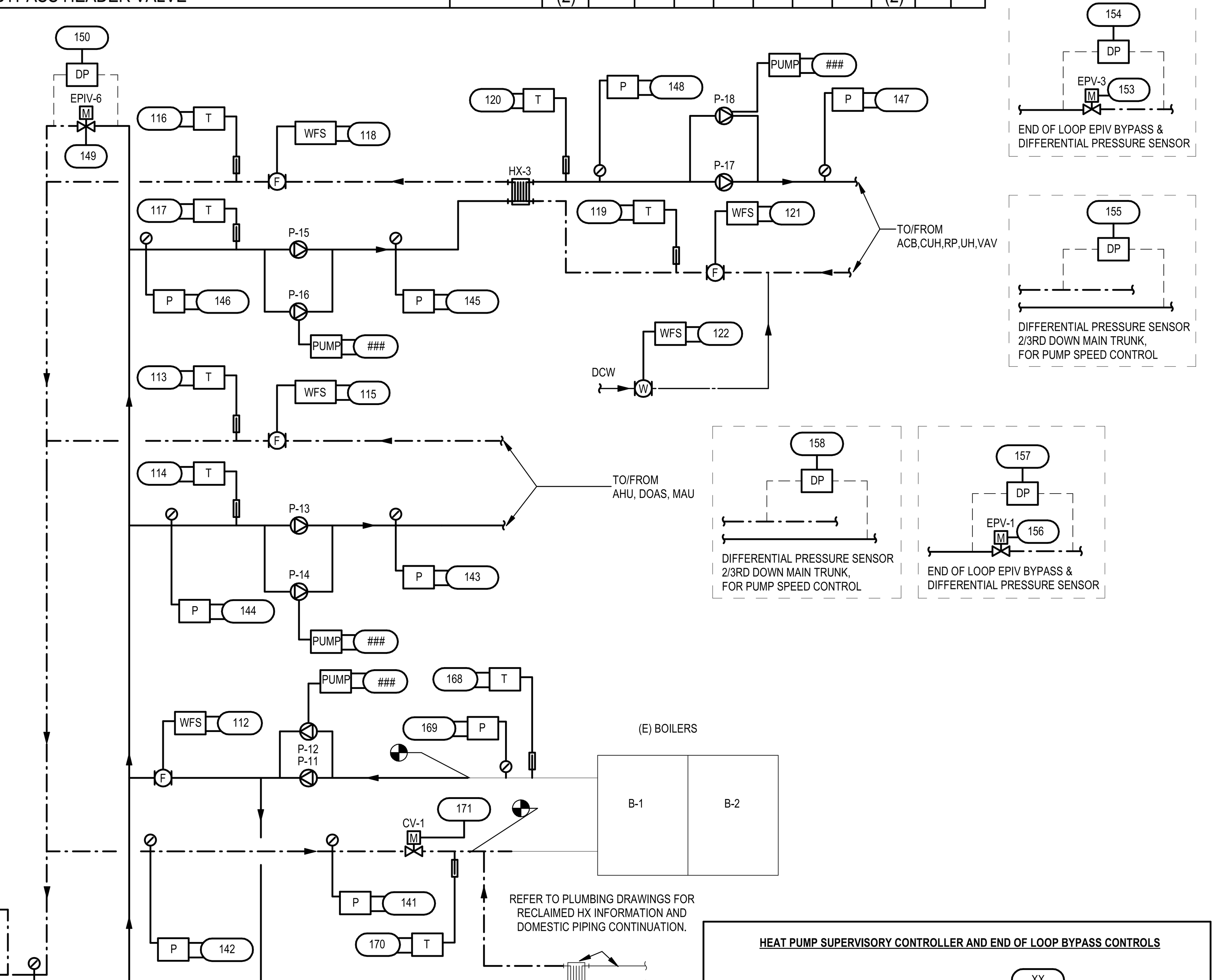
CAMPUS INTEGRATION: THE HEAT PUMP PLANTS UNITARY CONTROLLER SHALL BE INTEGRATED INTO THE EXISTING CAMPUS FACILITY/BUILDING MANAGEMENT SYSTEMS.

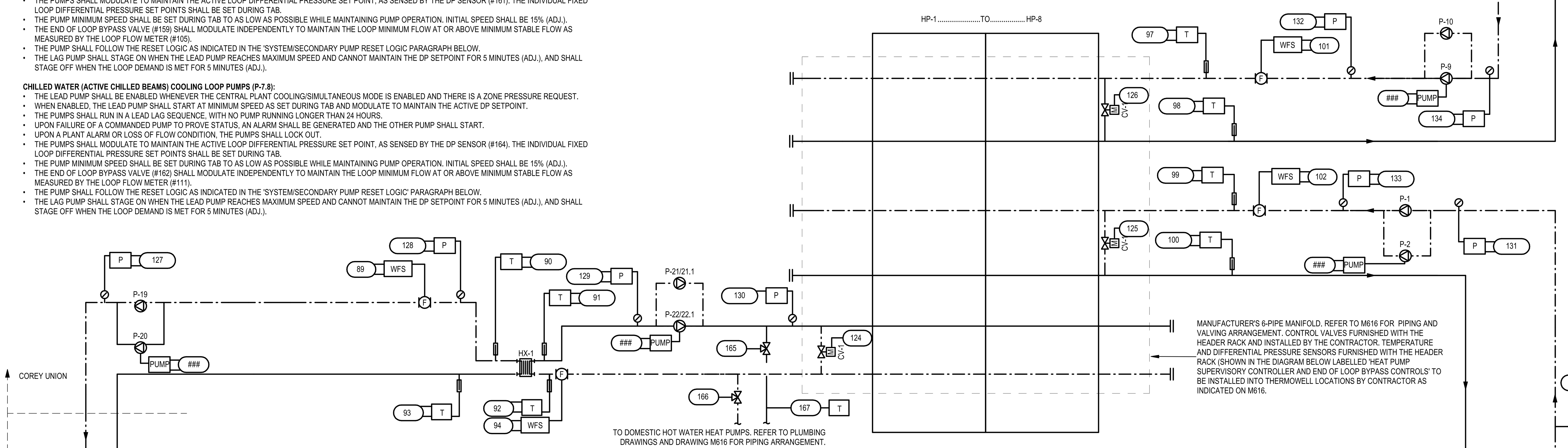
TAB/BMS COORDINATION: BALANCING SHALL NOT OCCUR UNTIL CONTROLS START UP HAS OCCURRED. LOOP DP TRANSMITTER LOCATION, FIXED DP SETPOINT, END OF LOOP BYPASS MINIMUM FLOW SETPOINT, AND PUMP SPEED MINIMUM SHALL BE COORDINATED WITH THE BALANCING AND CONTROLS START UP PROCESS.

CHILLED WATER TEMPERATURE RESET SCHEDULE: THE CHILLED WATER SUPPLY TEMPERATURE SETPOINT SHALL BE CONTROLLED BASED ON TOTAL COOLING DEMAND, AS DEFINED BY THE TOTAL NUMBER OF COOLING CALLS IN THE BUILDING AT ANY GIVEN TIME. THE RESET SCHEDULE SHALL FOLLOW SMOOTHING PROPORTIONAL, INTEGRAL AND DERIVATIVE CONTROL LOGIC TO MINIMIZE STEP CHANGES IN THE CHILLED WATER SET POINT TO NO MORE THAN 3°F DURING ANY 30-MINUTE (ADJ.) PERIOD. THE CHILLED WATER SUPPLY TEMPERATURE SHALL RESET BETWEEN 52°F DOWN TO 42°F PROPORTIONAL TO THE AMOUNT OF COOLING CALLS IN THE BUILDING, FROM 1% TO 100% OF TOTAL POSSIBLE CALLS. WITH 52°F BEING THE SETPOINT AT 1%, 51°F AT 10%, 50°F AT 20%, ETC... A COOLING CALL IS DEFINED AS FOLLOWS: WHEN A SPACE TEMPERATURE SENSOR IS ABOVE SETPOINT AND THE ASSOCIATED TERMINAL UNITS COOLING VALVE IS OPEN OR FOR EVERY 5 GPM OF CHILLED WATER THROUGH A CENTRAL AIR MOVING PIECE OF EQUIPMENT'S (DOAS, AHU, MAU) COOLING COIL.

HEATING WATER TEMPERATURE RESET SCHEDULE: THE HEATING HOT WATER SUPPLY TEMPERATURE SETPOINT SHALL BE CONTROLLED BASED ON TOTAL HEATING DEMAND, AS DEFINED BY THE TOTAL NUMBER OF HEATING CALLS IN THE BUILDING AT ANY GIVEN TIME. THE RESET SCHEDULE SHALL FOLLOW SMOOTHING PROPORTIONAL, INTEGRAL AND DERIVATIVE CONTROL LOGIC TO MINIMIZE STEP CHANGES IN THE HEATING WATER SET POINT TO NO MORE THAN 3°F DURING ANY 30-MINUTE (ADJ.) PERIOD. THE HEATING HOT WATER SUPPLY TEMPERATURE SHALL RESET BETWEEN 105°F UP TO 125°F PROPORTIONAL TO THE AMOUNT OF HEATING CALLS IN THE BUILDING, FROM 1% TO 100% OF TOTAL POSSIBLE CALLS. WITH 105°F BEING THE SETPOINT AT 1%, 107°F AT 10%, 109°F AT 20%, ETC... A HEATING CALL IS DEFINED AS FOLLOWS: WHEN A SPACE TEMPERATURE SENSOR IS BELOW SETPOINT AND THE ASSOCIATED TERMINAL UNITS HEATING VALVE IS OPEN OR FOR EVERY 5 GPM OF HEATING HOT WATER THROUGH A CENTRAL AIR MOVING PIECE OF EQUIPMENT'S (DOAS, AHU, MAU) HEATING COIL.

INPUT/OUTPUT SUMMARY TABLE		HARDWARE									SOFTWARE		
		DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL		ANALOG INPUTS						
SYSTEM: HEAT PUMP BUILDING HYDRONIC SYSTEM		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	TEMPERATURE	RELATIVE HUMIDITY	FLOW	PRESSURE	TRENDING	ALARM	GRAPHICS - PROVIDE FOR ALL
POINT DESCRIPTION:													
#	PUMP VFD ALARM											(22)	
#	PUMP VFD START/STOP	(22)											
#	PUMP VFD STATUS				(22)								
#	PUMP VFD SPEED CONTROL			(22)							(22)		
#	TEMPERATURE SENSOR						(20)				(20)		
#	PRESSURE SENSOR									(22)			
#	FLOW STATION								(12)		(12)		
#	END OF LOOP CONTROL VALVE		(4)								(4)		
#	BYPASS HEADER VALVE		(2)								(2)		

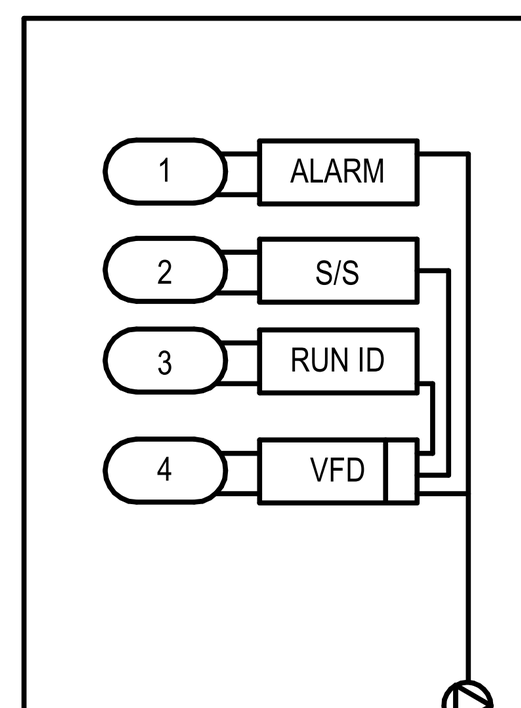




MANUFACTURER'S 6-PIPE MANIFOLD. REFER TO M616 FOR PIPING AND VALVING ARRANGEMENT. CONTROL VALVES FURNISHED WITH THE HEADER RACK AND INSTALLED BY THE CONTRACTOR. TEMPERATURE AND DIFFERENTIAL PRESSURE SENSORS FURNISHED WITH THE HEADER RACK (SHOWN IN THE DIAGRAM BELOW LABELLED 'HEAT PUMP SUPERVISORY CONTROLLER AND END OF LOOP BYPASS CONTROLS' TO BE INSTALLED INTO THERMOWELL LOCATIONS BY CONTRACTOR AS INDICATED ON M616.

TO DOMESTIC HOT WATER HEAT PUMPS. REFER TO PLUMBING DRAWINGS AND DRAWING M616 FOR PIPING ARRANGEMENT.

PUMP CONTROL POINTS LIST (###):

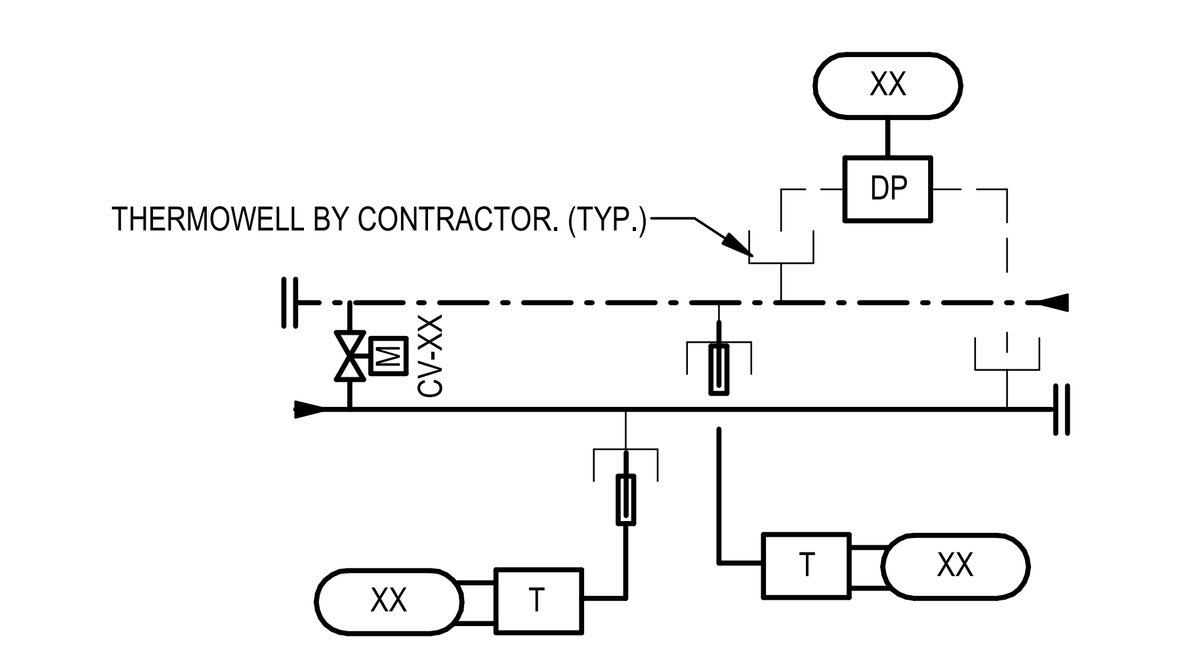


P-1: 1 TO 4
P-2: 5 TO 8
P-3: 9 TO 12
P-4: 13 TO 16
P-5: 17 TO 20
P-6: 21 TO 24
P-7: 25 TO 28
P-8: 29 TO 32
P-9: 33 TO 36
P-10: 37 TO 40
P-11: 41 TO 44
P-12: 45 TO 48
P-13: 49 TO 52
P-14: 53 TO 56
P-15: 57 TO 60
P-16: 61 TO 64
P-17: 65 TO 68
P-18: 69 TO 72
P-19: 73 TO 76
P-20: 77 TO 80
P-21: 81 TO 84
P-22: 85 TO 88
P-19.1: 180 TO 183
P-20.1: 184 TO 187
P-21.1: 188 TO 191
P-22.1: 192 TO 195

GENERIC PUMP CONTROL POINTS. POINTS FOR EACH PUMP ARE IN SAME ORDER (ALARM, S/S, RUN ID, VFD).

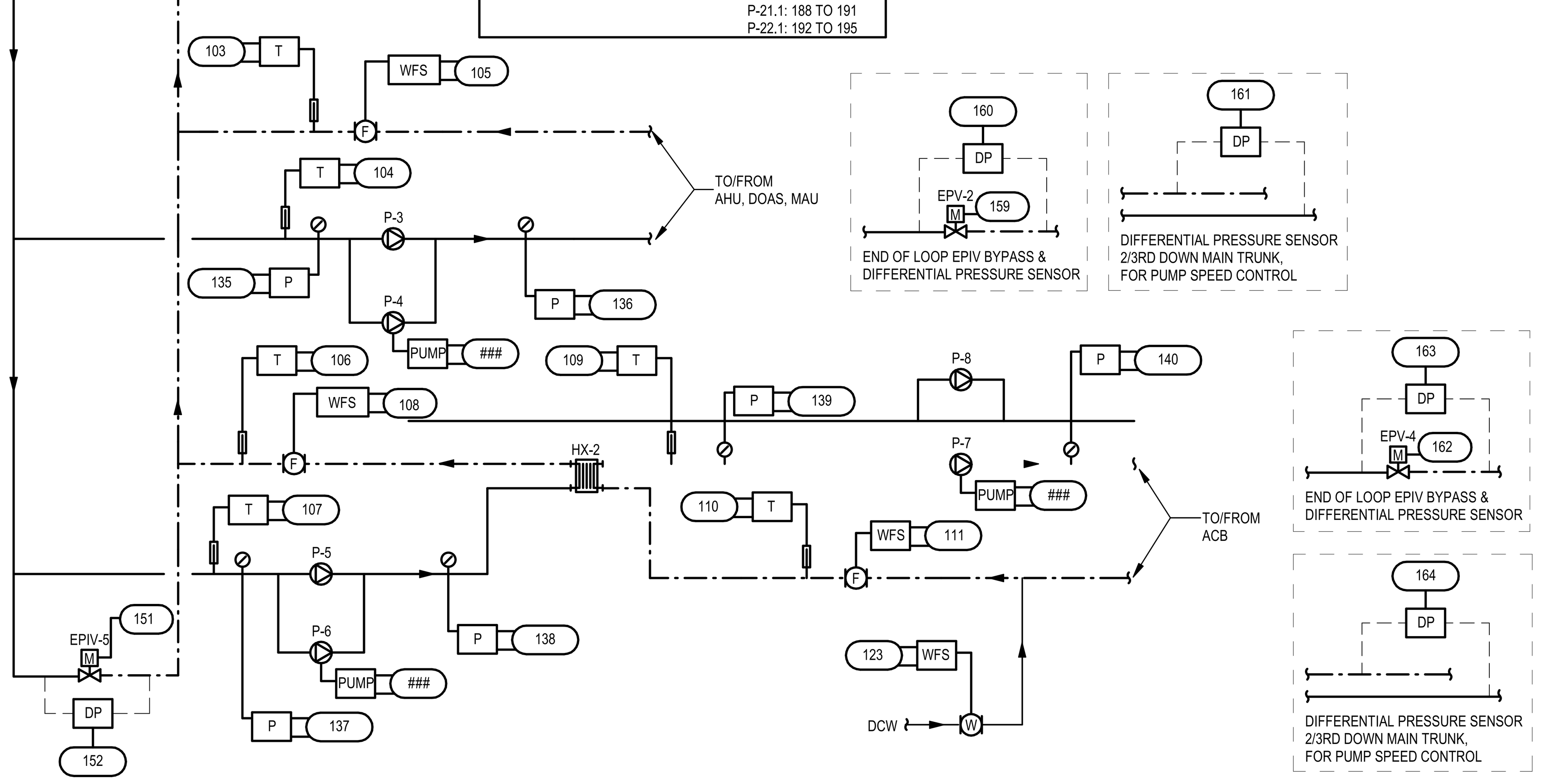
REPRESENTED BY ### IN THE PUMP POINTS ON THE DIAGRAM.

HEAT PUMP SUPERVISORY CONTROLLER AND END OF LOOP BYPASS CONTROLS

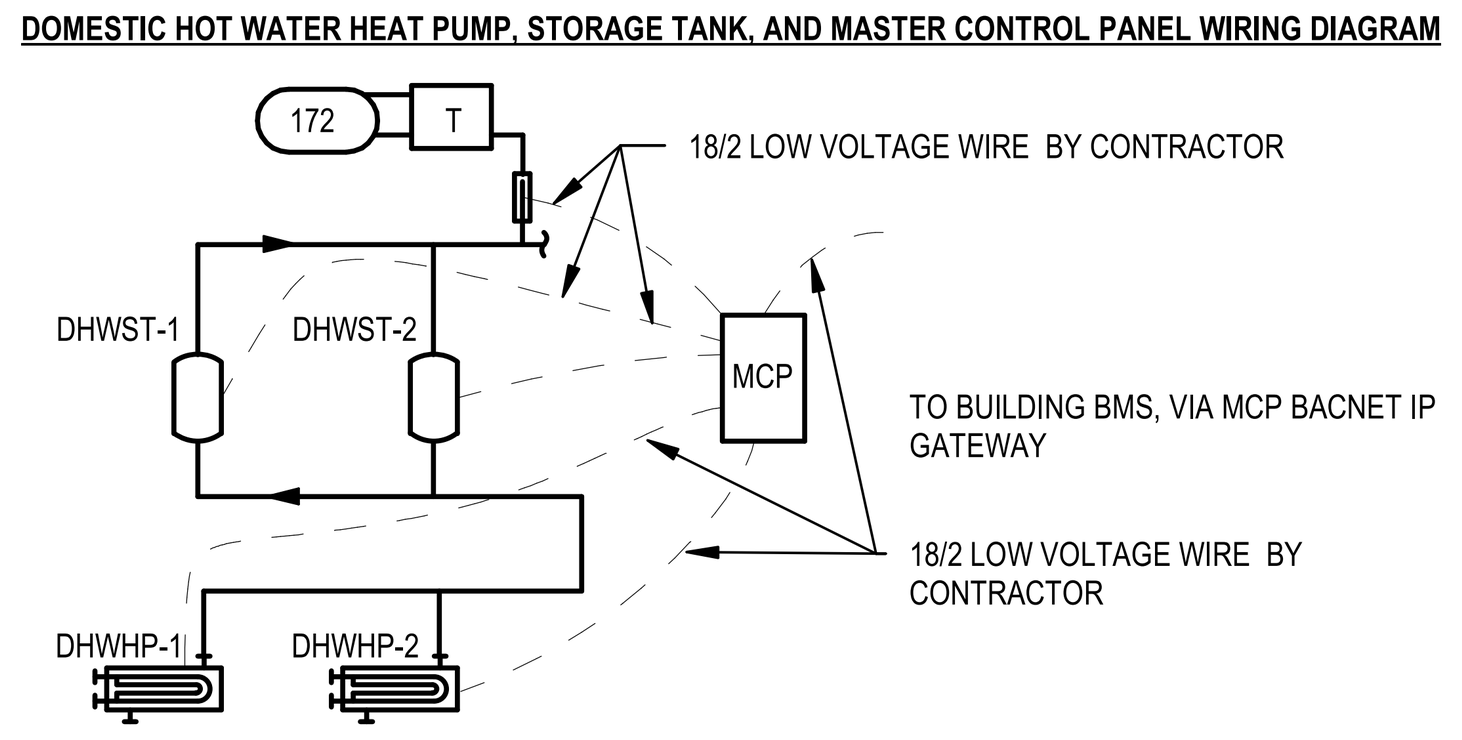


REFER TO SPECIFICATION "23 81 46 WATER SOURCE MODULAR HEAT PUMPS" SECTION H.10. FOR MODULE CONTROL POINTS. CONTROL POINTS SHALL BE PROVIDED FOR EACH HEAT PUMP MODULE. EACH HEAT PUMP MODULE HAS AN INDIVIDUAL CONTROLLER. PROVIDE GRAPHICS FOR EACH POINT. THESE CONTROLLERS SHALL BE DAISY CHAINED TO THE MAIN SUPERVISORY CONTROLLER, FURNISHED WITH THE UNIT. THE HEAT PUMP PLANT SHALL BE CONNECTED TO BMS THROUGH SUPERVISORY CONTROLLER, THE SUPERVISORY CONTROLLER IS FURNISHED WITH THE UNITS.

AS SHOWN IN THE DIAGRAM ABOVE, ALL BYPASS COMPONENTS FURNISHED WITH THE BYPASS HEADER RACK SHALL BE INSTALLED AND WIRED BACK TO THE SUPERVISORY CONTROLLER BY THE CONTRACTOR. THIS INCLUDES THE THREE (3) BYPASS VALVES, SIX (6) DP SENSORS, AND SIX (6) TEMP SENSORS.



DOMESTIC HOT WATER HEAT PUMP, STORAGE TANK, AND MASTER CONTROL PANEL WIRING DIAGRAM



NOTE: REFER TO P611 FOR EXACT PIPING ARRANGEMENT AND TEMPERATURE SENSOR LOCATION.

DOMESTIC HOT WATER HEAT PUMP - SEQUENCE OF OPERATIONS:

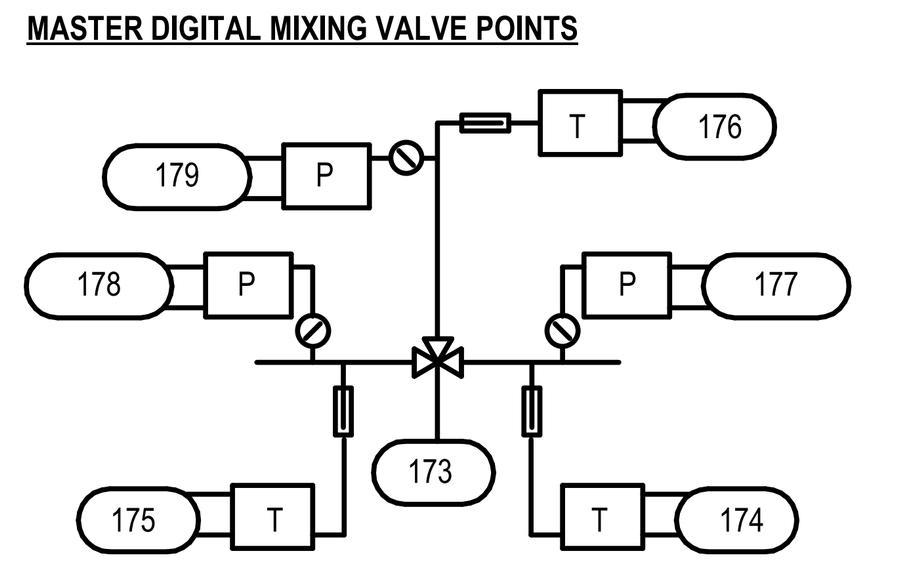
THE DOMESTIC HOT WATER PLANT SHALL OPERATE PER MANUFACTUER'S INTEGRATED CONTROLS. THIS INCLUDES MONITORING OF STORAGE TANK TEMPERATURES, INTEGRAL HEAT PUMP STATUS'S, AND MONITORING OF TEMPERATURE SENSOR #172.

DOMESTIC HOT WATER HEAT PUMP SOURCE WATER AND PRIMARY GLYCOL HEATING WATER BLENDING

DOMESTIC HOT WATER HEAT PUMP 3-WAY CONTROL VALVE - SEQUENCE OF OPERATIONS:

3-WAY CONTROL VALVES (165, 166) SHALL HAVE PORTS OPEN FROM THE GROUND (SOURCE) WATER LOOPS TO THE DOMESTIC HOT WATER HEAT PUMPS WHEN THE GROUND WATER LOOP IS AT OR ABOVE 45°F (ADJ.). WHEN A TEMPERATURE (167) IS SENSED BELOW 45°F, THE THREE WAY VALVES SHALL MODULATE THE PRIMARY GLYCOL HEATING WATER PORTS OPEN IN TANDEM UNTIL THE TEMPERATURE SENSED IS 50°F (ADJ.). WHEN THE TEMPERATURE SENSED IS 50°F, THE 3-WAY VALVES SHALL MODULATE THE PRIMARY GLYCOL HEATING WATER PORTS CLOSED.

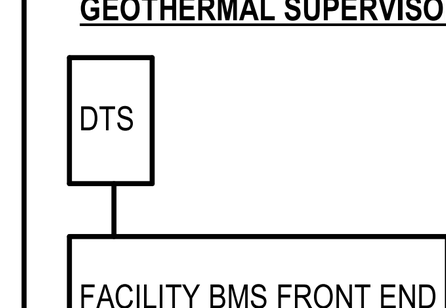
MASTER DIGITAL MIXING VALVE POINTS



PLUMBING BMS POINTS LIST

INPUT/OUTPUT SUMMARY TABLE		HARDWARE									SOFTWARE		
		DIGITAL OUTPUTS	ANALOG OUTPUTS		DIGITAL		ANALOG INPUTS						
SYSTEM: Plumbing System		CONTROL RELAY	POSITION	SPEED	CURRENT STATUS	OCCUPANCY SENSOR	TEMPERATURE	RELATIVE HUMIDITY	FLOW	PRESSURE	TRENDING	ALARM	GRAPHICS - PROVIDE FOR ALL
POINT DESCRIPTION:													
#	3-WAY VALVE		(3)								(3)		
#	TEMPERATURE SENSOR						(5)				(5)		
#	PRESSURE SENSOR									(3)			

GEOTHERMAL SUPERVISORY CONTROLLER



THE 'DISTRIBUTED TEMPERATURE SYSTEM' (DTS) MONITORS A SINGLE WELLFIELD BORE HOLES TEMPERATURE AND FEEDS THE INFORMATION BACK TO AN INTEGRATOR PANEL IN THE BUILDING MECHANICAL ROOM.

IT IS THE INTENT OF THE GEOTHERMAL DESIGN TO HAVE THE 'DTS' MANUFACTURER PROVIDE A BACNET COMPATIBLE DEVICE TO ALLOW FOR CONNECTION TO THE FACILITY FRONT END.

1
M645
HVAC CONTROL DIAGRAM
NOT TO SCALE

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

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EXPIRATION: 02/28/2027

Drawn By: PDG
Checked By: J.P.
Project Manager: M.R.

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Revisions

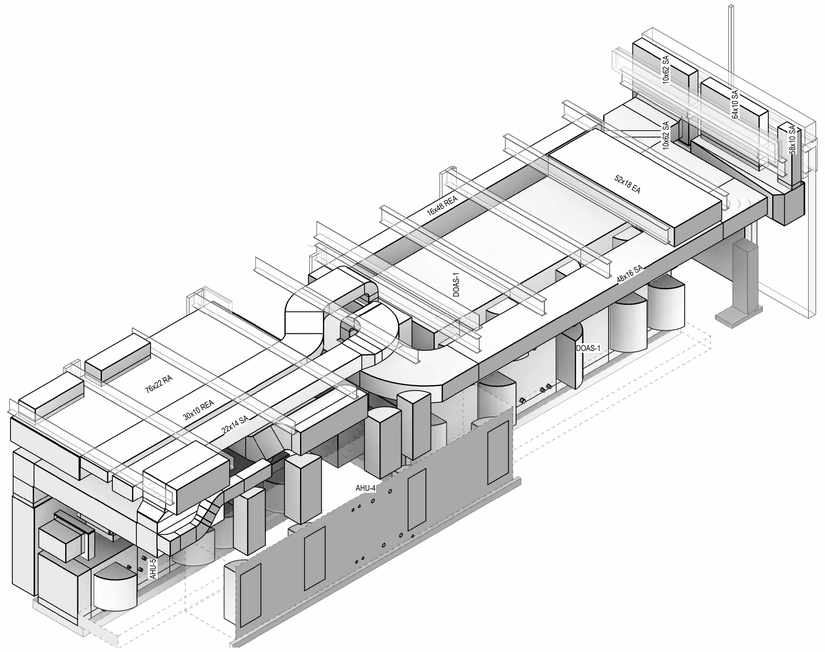
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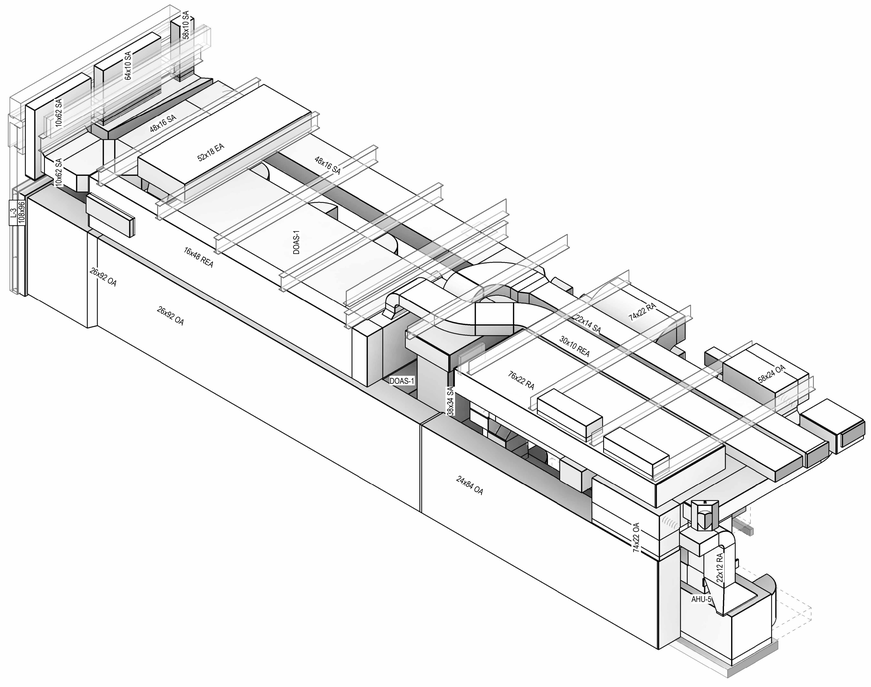
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M645
DDC CONTROL DIAGRAM

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1 M701 BASEMENT MECHANICAL ROOM ISOMETRIC PLAN

1/4" = 1'-0"

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23160.00 SUNY Cortland_Corey Union_Mech_R23.rvt

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Checked By:	J.P.
Project Manager:	M.R.

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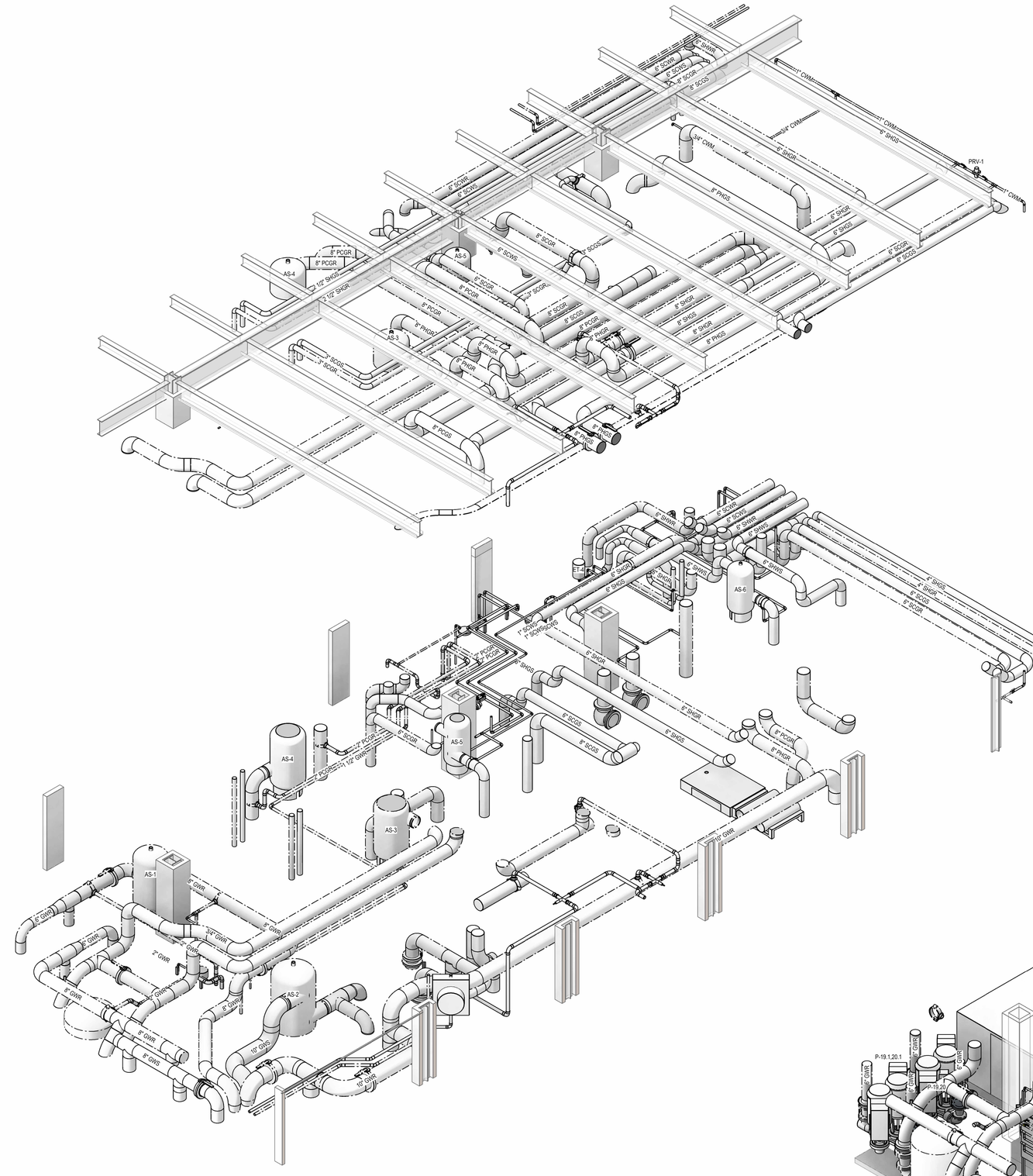
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M701

HVAC ISOMETRICS

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3 M702 BASEMENT HVAC PIPE ISOMETRIC PLAN

NOT TO SCALE

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M702

HVAC ISOMETRICS PIPING

NOVEMBER 16, 2026

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GENERAL NOTES

SYMBOLS AND ABBREVIATIONS
1. THIS SHEET CONTAINS SYMBOLS AND ABBREVIATIONS TYPICALLY SHOWN ON ELECTRICAL DRAWINGS AND SCHEMATICS. THIS CONTRACT DRAWING SET MAY NOT CONTAIN ALL SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET.

PERMITS AND INSPECTIONS
1. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS AND ARRANGE FOR ALL REQUIRED INSPECTIONS IN ACCORDANCE WITH STATE AND LOCAL GOVERNING AUTHORITIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2023 NEC, AND STATE AND LOCAL GOVERNING REGULATIONS.
3. PERFORM WORK AS REQUIRED BY CODES, REGULATIONS, LAWS OF LOCAL, STATE AND FEDERAL GOVERNMENTS, AND OTHER AUTHORITIES WITH LAWFUL JURISDICTION. ALL MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM

SCOPE
1. UNLESS OTHERWISE INDICATED, PROVIDE A COMPLETE AND OPERATIONAL ELECTRICAL SYSTEM INCLUDING ALL NECESSARY MATERIAL, LABOR, AND EQUIPMENT.
2. ALL DISCONNECTS REQUIRED BY CODE MAY NOT BE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY DISCONNECTS AND OVERCURRENT PROTECTIVE DEVICES.
3. ALL EQUIPMENT AND MATERIAL SHALL BE LABELED AND LISTED, AND INSTALLED IN ACCORDANCE WITH THEIR LISTING.
4. PROVIDE ELECTRICAL CONNECTION FOR EVERY FIXTURE, OR ITEM OF EQUIPMENT REQUIRING SAME, WHICH IS SHOWN OR LISTED ON ANY CONTRACT DRAWING
5. CONTRACTOR SHALL PROVIDE NECESSARY SUPPORT FRAMING, STIFFENERS, BRACING, AND HANGERS WHETHER SHOWN OR NOT TO ENSURE A COMPLETE AND DURABLE SYSTEM. SUPPORT FRAMING CONNECTIONS SHALL BE WELDED UNLESS SPECIFICALLY SHOWN OTHERWISE. ACTUAL SUPPORTS MAY VARY FROM THOSE SHOWN IN DETAILS TO ACCOMODATE EXISTING FIELD CONDITIONS.
6. THE WORK INCLUDED IN THIS CONTRACT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS. WORK INCLUDED ON THE DRAWINGS ONLY, OR IN THE SPECIFICATIONS ONLY, SHALL BE INCORPORATED AS IF INCLUDED IN BOTH. ALL SYSTEMS SHOWN ARE INTENDED TO BE COMPLETE AND FULLY FUNCTIONING. THE CONTRACTOR SHALL PROVIDE SUCH COMPONENTS AS NECESSARY FOR A FULLY FUNCTIONING SYSTEM.
7. ALL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, RECTILINEAR TO BUILDING STRUCTURE.
8. CONTRACTOR SHALL FIELD VERIFY ALL SITE CONDITIONS AND DIMENSIONS PRIOR TO COMMENCEMENT OF ANY WORK OR SHOP FABRICATION. REQUIRED CHANGES TO WORK SHOWN ON CONSTRUCTION DRAWINGS SHALL BE APPROVED BY THE ENGINEER IN WRITING, OTHER TRADES, AND OWNER AS REQUIRED PRIOR TO ANY CONSTRUCTION.

COORDINATION OF WORK
1. THE CONTRACTOR SHALL COORDINATE AND VERIFY THAT WORKING AND DEDICATED EQUIPMENT SPACE REQUIREMENTS ARE MET PER NEC AND AHJ.
2. FIELD LOCATE ALL CORE DRILL LOCATIONS.
3. BEFORE CUTTING OR DRILLING INTO BUILDING ELEMENTS INSPECT AND LAYOUT WORK TO AVOID DAMAGING STRUCTURAL ELEMENTS AND BUILDING UTILITIES.
4. BEFORE SELECTING MATERIAL/EQUIPMENT AND PROCEEDING WITH WORK, INSPECT AREAS WHERE MATERIAL AND EQUIPMENT ARE TO BE INSTALLED TO INSURE SUITABILITY, AND CHECK NEEDED SPACE FOR PLACEMENT, CLEARANCES AND INTERCONNECTIONS.
5. POSSIBLE SYSTEM SHUT-DOWNS AND WORK AREAS CLOSURES MUST BE COORDINATED WITH THE CAMPUS.
6. TURN OVER TO THE OWNER ALL MANUFACTURER'S WARRANTIES FOR EQUIPMENT AND MATERIALS PROVIDED.

DEFINITIONS
1. THE DEFINITION OF ELECTRICAL TERMS USED SHALL BE AS DEFINED IN THE EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS REFERENCED IN THE BUILDING CODE OF NEW YORK STATE.
2. THE TERM "INDICATED" SHALL MEAN "AS SHOWN ON CONTRACT DOCUMENTS (SPECIFICATIONS, DRAWINGS, AND RELATED ATTACHMENTS)".
3. THE TERM "PROVIDE" SHALL MEAN "TO FURNISH, INSTALL, AND CONNECT COMPLETELY"
4. THE TERM "SIZE" SHALL MEAN ONE OR MORE OF THE FOLLOWING: "LENGTH, CURRENT AND VOLTAGE RATING, NUMBER OF POLES, NEMA SIZE, AND OTHER SIMILAR ELECTRICAL CHARACTERISTICS".

PLANS
1. ELECTRICAL PLANS, DETAILS, AND ONE LINE DIAGRAMS SHOW THE GENERAL LOCATION AND ARRANGEMENT OF THE ELECTRICAL SYSTEM. THEY ARE DIAGRAMMATIC AND DO NOT SHOW ALL CONDUIT BODIES, CONNECTORS, BENDS, FITTINGS, HANGERS, AND ADDITIONAL PULL BOXES WHICH THE CONTRACTOR MUST PROVIDE TO COMPLETE THE ELECTRICAL SYSTEM.
2. ELECTRICAL PLANS AND DETAILS DO NOT SHOW ALL INTERFERENCES AND CONDITIONS, VISIBLE AND/OR HIDDEN, THAT MAY EXIST. CONTRACTOR MUST INSPECT AND SURVEY THE SPACE BEFORE PERFORMING THE WORK.
3. THESE DRAWINGS ARE SCHEMATIC IN NATURE AND REPRESENT A COMPLETED PROJECT. MINOR MODIFICATIONS OF WORK SHALL BE PROVIDED BY THE CONTRACTOR TO COMPLY WITH PROJECT REQUIREMENTS, LOCATIONS OF DEVICES AND EQUIPMENT SHOW A GENERAL ARRANGEMENT AND INTENDED FUNCTION. ALL COMPONENTS SHOWN ON THE RISER DIAGRAMS, BUT NOT ON THE PLAN OR VICE VERSA, SHALL BE INCLUDED AS IF SHOWN ON BOTH. EXACT LOCATION OF MECHANICAL EQUIPMENT THAT REQUIRE ELECTRICAL CONNECTIONS ARE SHOWN ON THE MECHANICAL DRAWINGS. BEFORE INSTALLATION OF WORK, CHECK FOR SWINGS AND ALL REQUIRED CLEARANCES, TO AVOID INTERFERENCE WITH OTHER TRADES. COORDINATE WITH ALL CONTRACT DOCUMENTS, SHOP DRAWINGS AND EQUIPMENT DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED CONTRACT DRAWINGS.

METHODS
1. ALL EXTERIOR CONDUITS TO HAVE DUCT SEAL INSTALLED AT ALL ENDS, BOXES, WEATHERHEADS, PENETRATIONS TO INTERIOR SPACES, ETC.
2. DUCT BANKS SHALL NOT BE ROUTED DIRECTLY ABOVE OR BELOW EXISTING/PROPOSED UTILITIES EXCEPT WHEN CROSSING. WHERE CROSSING EXISTING OR PROPOSED UTILITIES DUCT BANKS SHALL CROSS AT 90 DEGREE ANGLES.
3. ALL CONDUIT SYSTEMS EXPOSED TO TEMPERATURE DIFFERENTIALS, IN POTENTIAL CONDENSING ATMOSPHERES, EXTERIOR INSTALLED, OR INSTALLED UNDERGROUND SHALL HAVE PROVISIONS FOR DRAINING WATER OUT OF CONDUIT SYSTEMS.
4. WHERE WIRE SIZE IS NOT NOTED ON DRAWINGS, CONTRACTOR SHALL SIZE ACCORDING TO THE NEC AND SHALL ADHERE TO THE FOLLOWING CRITERIA:
   - EQUIPMENT CIRCUITS AND FEEDERS LESS THAN OR EQUAL TO 100A SHALL BE SIZED USING THE 60°C COPPER AMPACITY COLUMN (NEC T310.16).
   - EQUIPMENT CIRCUITS AND FEEDERS GREATER THAN 100A SHALL BE SIZED USING THE 75°C COPPER AMPACITY COLUMN (NEC T310.16). MINIMUM WIRE SIZE SHALL BE #12 THHN/THWN.
   - ALUMINUM SHALL NOT BE USED. CONDUCTORS SHALL BE SOLID UP THROUGH #10.

UNDERGROUND UTILITIES
1. UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES WHETHER FUNCTIONAL OR ABANDONED WITHIN THE PROJECT AREA ARE SHOWN ON THESE DRAWINGS.
2. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE BEGINNING WORK & SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM HIS/HER WORK.
3. THE CONTRACTOR SHALL NOTIFY "DIG SAFELY NEW YORK" 1-800-962-7962 PRIOR TO ANY EXCAVATION.
4. NO ATTEMPT WAS MADE TO LOCATE SUBSURFACE STRUCTURES, ABOVEGROUND STRUCTURES AND/OR UTILITIES BELIEVED TO EXIST IN THE WORKING AREA. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE EXISTING UTILITIES NEEDED TO COMPLETE THE WORK AND IT SHALL BE HIS RESPONSIBILITY TO PROCEED WITH GREAT CARE IN EXECUTING ANY WORK. CONTRACTOR SHALL COMPLY WITH THE STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE, 16NYCRR PART 753.
5. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER AND OWNER.
6. CONTRACTOR SHALL PROTECT ALL EXISTING STORM WATER DRAINAGE FACILITIES, INCLUDING PIPES, DRAINAGE STRUCTURES, SWALES, DITCHES, ETC. CONTRACTOR SHALL REPLACE AND RESTORE ANY AND ALL OF THESE FACILITIES, AFFECTED BY CONSTRUCTION ACTIVITIES, AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING UTILITIES DURING OPERATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY SURVEY OR RIGHT-OF-WAY MONUMENTS DISTURBED DURING CONSTRUCTION. THE CONTRACTOR SHALL EMPLOY A LICENSED LAND SURVEYOR TO RESTORE ALL DISTURBED MONUMENTS TO THEIR ORIGINAL LOCATION.
9. RESTORE ALL SURFACES TO AS GOOD OR BETTER CONDITION THAN BEFORE CONSTRUCTION AS SOON AS POSSIBLE FOLLOWING COMPLETION OF WORK IN ANY AREA.
10. THE CONTRACTOR SHALL BECOME FAMILIAR WITH SITE CONDITIONS AND SHALL INCLUDE PROVISIONS TO AVOID CONFLICTS WITH AND/OR RESTORE SITE FEATURES IN THE BID.
11. ALL SUITABLE EXCAVATED MATERIAL SHALL BE REUSED ON SITE AND BE SUITABLY STABILIZED SO THAT IT CANNOT REASONABLY RE-ENTER ANY BODY OF WATER.
12. ALL EXCAVATION SHALL BE CONDUCTED IN ACCORDANCE WITH OSHA STANDARDS, LOCAL REGULATIONS, STATE REGULATIONS, AND FEDERAL REGULATIONS.

GENERAL SCHEDULES

DRAWING NOTATION

- HEAVY & DASHED AND/OR HATCHED INDICATES EXISTING EQUIPMENT TO BE DEMOLISHED/REMOVED BY CONTRACTOR
- LIGHT & SOLID INDICATES EXISTING EQUIPMENT TO REMAIN.
- HEAVY & SOLID INDICATES EQUIPMENT TO BE PROVIDED BY CONTRACTOR.

TEXT ADJACENT TO EQUIPMENT IS SOMETIMES ADDED FOR EXTRA CLARIFICATION ON DEMO/EXISTING TO REMAIN ITEMS. REFER TO LIST BELOW FOR DEFINITIONS.

TBR	EXISTING EQUIPMENT TO BE REMOVED BY CONTRACTOR
ETR	EXISTING EQUIPMENT TO REMAIN. CONTRACTOR SHALL MAINTAIN IN OPERATION.
ERE	EXISTING EQUIPMENT TO BE REMOVED AND RELOCATED AS SHOWN BY CONTRACTOR.
D/R	EXISTING EQUIPMENT TO BE TEMPORARILY DISCONNECTED TO ACCOMMODATE BUILDING MODIFICATIONS, AND THEN REINSTALLED IN ORIGINAL LOCATION UPON COMPLETION OF MODIFICATIONS.

(#) OR (1 / E-100) — SYMBOL INDICATING GENERAL LOCATION FROM WHICH REFERENCE PHOTOGRAPH WAS TAKEN.

POWER EQUIPMENT

SINGLE LINE DIAGRAM

- POWER TRANSFORMER
- PT — POTENTIAL TRANSFORMER
- CT — CURRENT TRANSFORMER
- FUSE
- **AF / **AT — MOLDED CASE CIRCUIT BREAKER "AF" INDICATES AMPERE FRAME SIZE "AT" INDICATES AMPERE TRIP SETTINGS
- ##AF / ##AT / #P — FUSED DISCONNECT "##AF" INDICATES AMPERE SWITCH SIZE "##AT" INDICATES AMPERE FUSE SIZE "#P" INDICATES NO. OF POLES
- ##A — DISCONNECT SWITCH (NON-FUSED) "##A" INDICATES AMPERE SWITCH SIZE
- SYSTEM GROUND OR EQUIPMENT GROUND
- PANELBOARD WITH MAIN CIRCUIT BREAKER # = 3-PHASE VOLTAGE
- PANELBOARD WITH MAIN LUGS ONLY # = 3-PHASE VOLTAGE
- EMERGENCY GENERATOR
- M — METER
- AUTOMATIC TRANSFER SWITCH

FLOOR PLAN

- SURFACE MTD BRANCH CIRCUIT PANELBOARD.
- RECESSED MTD BRANCH CIRCUIT PANELBOARD.
- JUNCTION AND/OR PULL BOX
- AF/P — HEAVY DUTY NON-FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "P" - INDICATES # OF POLES
- AF/AT/P — HEAVY DUTY FUSED DISCONNECT SWITCH. "AF" - INDICATES FRAME SIZE "AT" - INDICATES FUSE TRIP SIZE "P" - INDICATES # OF POLES
- SPD — SURGE SUPPRESSION DEVICE
- (M) — ELECTRICAL CONNECTION AS DEFINED IN MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
- UTILITY POLE
- DB-XX — DESIGNATION FOR UNDERGROUND ELECTRICAL DUCT BANK
- U — URINAL ELECTRICAL ROUGH-IN
- T — LAV ELECTRICAL ROUGH-IN
- T — SPECIAL ELECTRICAL ROUGH-IN

REFER TO JUNCTION BOX SCHEDULE SHEET E502, FOR ADDITIONAL INFORMATION.

- PLC — PLUG LOAD CONTROLLER. REFER TO LIGHTING CONTROL DETAILS

WIRING DEVICES

RECEPTACLES
1. FACEPLATE COLOR - NYLON WHITE, UON.
2. DEVICE COLOR - WHITE, UON.

- (#) — 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE, MOUNTING HEIGHT 18" AFF UON.
- (#) — 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., HEAVY DUTY DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER.
- (#) — 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., DOUBLE DUPLEX "QUAD" RECEPTACLE. MOUNTING HEIGHT 18"AFF UON.
- (#) — 125 VOLT, 2 POLE, 3 WIRE, 20 AMP., DOUBLE DUPLEX "QUAD" RECEPTACLE MOUNTED ABOVE COUNTER.

TEXT ADJACENT TO RECEPTACLES INDICATES CONFIGURATION OR ACCESSORIES. REFER TO RECEPTACLE TAG SCHEDULE, SHEET E-502 FOR ADDITIONAL TYPES AND USES

DATA
1. FACEPLATE COLOR - REFER TO SCHEDULE SHEET
2. DEVICE COLOR - REFER TO SCHEDULE SHEET

- DATA/VOICE/VOIP DROPS. REFER TO DETAIL SHEET FOR SPECIFIC ROUGH-IN REQUIREMENTS
  - WAP
  - FB
- RAS — BUILDING AUTOMATION SYSTEM PANEL
- C — SECURITY CAMERA ROUGH-IN. REFER TO DETAIL SHEETS

SURFACE RACEWAY USAGE

IN SOME AREAS SURFACE RACEWAY MAY BE REQUIRED, BUT NOT SHOWN. COORDINATE IN FIELD AND PROVIDE ACCORDINGLY. IN GENERAL - OBTAIN APPROVAL PRIOR TO USING SURFACE RACEWAY, WHERE NOT SPECIFICALLY SHOWN.

- (#) (#) — SINGLE CHANNEL METAL SURFACE RACEWAY V700 OR SIMILAR. MOUNTING HEIGHT 18" AFF, UON.
- (#) (#) — DUAL CHANNEL PLASTIC SURFACE RACEWAY 5000 SERIES OR SIMILAR. MOUNTING HEIGHT 18" AFF, UON.

LIGHTING

LIGHT FIXTURES

'A' UPPER CASE LETTER INDICATES FIXTURE TYPE.

'a' LOWER CASE LETTER INDICATES SWITCH CONTROL. WHERE NO SWITCH CONTROL DESIGNATION IS PROVIDED, CONTROL SHALL BE VIA MASTER ROOM SWITCH OR MASTER ROOM OCCUPANCY SENSOR (WHERE PROVIDED).

'#' INDICATES PANELBOARD CIRCUIT TO WHICH FIXTURE SHALL BE CIRCUITED.

'NL' INDICATES NIGHT LIGHT. FIXTURE SHALL NOT HAVE SWITCH CONTROL.

EXIT & EGRESS

- EBU — EMERGENCY BATTERY UNIT (EBU). REFER TO LUMINAIRE SCHEDULE
- EBU/R — EMERGENCY BATTERY UNIT (EBU) WITH REMOTE HEAD. REFER TO LUMINAIRE SCHEDULE
- CEILING-MOUNTED ILLUMINATED "EXIT" SIGN LIGHTING FIXTURE.
- WALL-MOUNTED ILLUMINATED "EXIT" SIGN LIGHTING FIXTURE.

NOTE: ARROWS INDICATE DIRECTION OF EGRESS.

EXIT SIGNS SHALL BE INSTALLED 8'-6" AFF. PROVIDE PENDANTS AS REQUIRED BY ROOM CEILING/STRUCTURE HEIGHT.

LIGHTING CONTROL

- VS — #
- VD — #
- PC
- PLC
- RC — a,b,c
- $ — #

REFER TO LIGHTING CONTROL SYSTEM SCHEDULE AND ASSOCIATED DETAILS

FIRE ALARM SYSTEM LEGEND

FIRE ALARM DEVICES

CEILING-MOUNTED DEVICES:

- SPEAKER/STROBE (WHITE DEVICE, CLEAR LENS) CEILING MOUNTED (15cd UNLESS OTHERWISE NOTED)
- STROBE ONLY (WHITE DEVICE, CLEAR LENS) CEILING MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- SPEAKER ONLY CEILING MOUNTED.

WALL-MOUNTED DEVICES:

- SPEAKER/STROBE (WHITE DEVICE, CLEAR LENS) WALL MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- STROBE ONLY (WHITE DEVICE, CLEAR LENS) WALL MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- SPEAKER ONLY (WHITE DEVICE), WALL MOUNTED.

FIRE ALARM EQUIPMENT

- FR — FAN/UNIT SHUTDOWN RELAY MODULE
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- IAM — ADDRESSABLE INTERFACE MODULE
- NAC — STROBE APPLIANCE POWER SUPPLY
- MNS — VOICE AMPLIFICATION PANEL
- FATC — FIRE ALARM TERMINAL CABINET

INITIATION DEVICES

- F — FIRE ALARM PULL STATION
- SD — FIRE ALARM SMOKE DETECTOR - PHOTOELECTRIC TYPE
- HD 135°F — FIRE ALARM HEAT DETECTOR - FIXED HEAD 135°F
- HD — FIRE ALARM HEAT DETECTOR - RATE OF RISE
- DS S R — DUCT MOUNTED SMOKE DETECTOR "S" DENOTES - MOUNT ON SUPPLY SIDE "R" DENOTES - MOUNT ON RETURN SIDE
- SD ELV — FIRE ALARM SMOKE DETECTOR - ELEVATOR RECALL
- FATS — FIRE ALARM TAMPER SWITCH
- FAFS — FIRE ALARM FLOW SWITCH

GAS & CO EQUIPMENT

- COD — CARBON MONOXIDE DETECTOR

GENERAL ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AXL	ACROSS-THE-LINE MOTOR STARTER
BDA	BI-DIRECTIONAL AMPLIFIER
BFG	BELOW FINISH GRADE
BLDG	BUILDING
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CL	CENTERLINE
CLF	CURRENT LIMITING FUSE
CT	CURRENT TRANSFORMER
CU	COPPER
DAS	DISTRIBUTED ANTENNA SYSTEM
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ECB	ENCLOSED CIRCUIT BREAKER
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
F	FUSE
FLA	FULL LOAD AMPERES
FMC	FLEXIBLE METAL CONDUIT
FT	FEET
GFCI,GFI	GROUND-FAULT CIRCUIT INTERRUPTER
GND,G	GROUND OR GROUNDING
HOA	HAND, OFF, AUTOMATIC SWITCH
KCMIL	THOUSAND CIRCULAR MILS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LTG	LIGHTING
LFMC	LIQUID-TIGHT FMC
MC	METAL CLAD CABLE
MCB	MAIN CIRCUIT BREAKER
MCP	MOTOR CIRCUIT PROTECTOR
MFR	MANUFACTURER
MLO	MAIN LUGS ONLY
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRIC CODE
NEMA	NAT'L ELECTRICAL MFR'S ASSOC.
NF	NON FUSED
NTS	NOT TO SCALE
P	POLE
PET	PROTECTIVE ENTRANCE TERMINAL
PH	PHASE
PVC	POLYVINYL CHLORIDE
QTY	QUANTITY
REQ'D	REQUIRED
RMC	RIGID METAL CONDUIT
RTU	ROOF TOP UNIT
SP	SPARE
TYP	TYPICAL
UG	UNDERGROUND OR UNDERGRADE
UON,UNO	UNLESS OTHERWISE NOTED
V	VOLT
W	WIRE
WAP	WIRELESS ACCESS POINT
WP	WEATHER PROOF RATED DEVICE
XFMR	TRANSFORMER
Δ	DELTA
Y	WYE
ϕ	PHASE

CIRCUITING LEGEND

CIRCUITING

- LP2A-1,3,5 — HOMERUN TO PANEL "LP2A", CIRCUITS #1,3,5 (VIA 20A-1P C/B'S). PROVIDE INSULATED GROUND CONDUCTOR IN ACCORDANCE WITH SPECIFICATIONS. NUMBER OF CIRCUITS INDICATED BY QUANTITY OF ARROW HEADS
- LP2A-2 — HOMERUN TO PANEL "L2PA" VIA 20A/1P CKT BKR. SEE BELOW PARAGRAPH 'HASH MARKS' FOR CONDUCTOR SIZING:

  HASH MARKS INDICATE QUANTITY OF #12 AWG COPPER CONDUCTORS IN CONDUIT. WHEN NO HASH MARKS ARE INDICATED, CONDUIT SHALL CONTAIN (2) #12 WIRES AND #12 GROUND WIRE. ASSUME 3/4" DIAMETER CONDUIT, UNLESS NOTED OTHERWISE NOTED.
  EXAMPLE SHOWN AT LEFT INDICATES 2 HOT (SHORT LINES), 2 NEUTRAL (LONG LINES), AND 1 GROUND WIRE (LONG LINE WITH TAIL).

NOTE
CONDUCTORS REQUIRED FOR LUMINAIRE SWITCHING ARE NOT ACCOUNTED FOR ON THE PLANS USING HASH MARKS. CONTRACTOR SHALL INCLUDE ANY NECESSARY CONDUCTORS REQUIRED FOR SWITCHING IN BID. SWITCHING DESIGNATIONS (LOWER CASE LETTERS) ARE SHOWN TO ILLUSTRATE SWITCHING INTENT.

CIRCUIT ROUTING SHOWN ON DRAWINGS SHALL BE CONSIDERED DIAGRAMMATIC ONLY. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS AND ROUTE FEEDERS AFTER HAVING CONSIDERED ALL FIELD OBSTACLES

COMMISSIONING GENERAL NOTES

1. PLEASE NOTE THAT THE SELECTION OF A PROJECT COMMISSIONING AUTHORITY (CXA) IS STILL PENDING. MODIFICATIONS TO THE SCOPE OF SERVICES OUTLINED IN DIRECTIVE 1B-6 MAY BE REQUIRED AND WILL BE DETERMINED BY THE FUND AND THE SELECTED CONSULTANT CXA. ANY AUTHORIZED CXA SCOPE OF WORK MODIFICATIONS WILL BE COMMUNICATED TO THE ARCHITECTURAL AND ENGINEERING DESIGN TEAM FOR IMPLEMENTATION OF REQUIRED CHANGES TO THE BID DOCUMENTS BY FORMAL ADDENDA.
2. THIS PROJECT IS SUBJECT TO COMMISSIONING IN ACCORDANCE WITH SUCF DIRECTIVE 1B-6.
3. THE CONTRACTOR SHALL COORDINATE AND SUPPORT ALL COMMISSIONING ACTIVITIES.
4. LIGHTING CONTROL SYSTEMS SHALL BE FULLY INSTALLED AND OPERATIONAL PRIOR TO FUNCTIONAL TESTING.
5. PROVIDE ACCESS TO ALL LIGHTING CONTROL DEVICES AND BMS INTERFACE POINTS WHERE SCHEDULED.
6. ALL CONTROL POINTS SHALL BE COMPLETE, CHECKED OUT, AND AVAILABLE TO THE CXA PRIOR TO FUNCTIONAL TESTING.
7. PROVIDE COMPLETE LIGHTING CONTROL TRAINING. SUBMIT TRAINING RECORDS AND VIDEO FILES TO THE OWNER.
8. FIRE AND LIFE SAFETY COMMISSIONING BY THE FUND. COORDINATE AS REQUIRED.

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-001

ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES

NOVEMBER 16, 2026

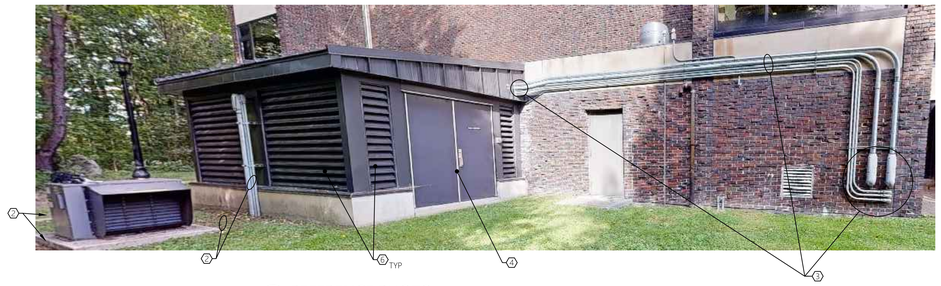
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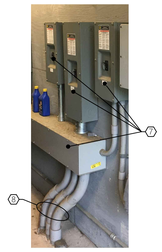
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1 ELECTRICAL SITE REMOVAL PLAN
SCALE: 1/8" = 1'0"



2 REFERENCE PHOTO
SCALE: NTS GENERATOR SHELTER



3 REFERENCE PHOTO
SCALE: NTS FITZGERALD GEN FEEDERS

GENERAL SHEET NOTES:

1. UNDERGROUND ELECTRICAL UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON EXISTING MAPPING. THEY SHOULD NOT BE CONSIDERED ACCURATE. THE DESIGN HAS MADE CERTAIN ASSUMPTIONS REGARDING CIRCUIT REMOVAL. IN SOME CASES THE SOURCE AND LOAD END OF THE CIRCUIT IS UNKNOWN.
2. EXTENSIVE FIELD INVESTIGATION WILL BE REQUIRED BY THE CONTRACTOR PRIOR TO DISCONNECTION AND REMOVAL OF LIGHT FIXTURES.
3. CONTRACTOR TO FIELD VERIFY LINE AND LOAD SIDE OF EACH FIXTURE TO BE REMOVED. IDENTIFY IMPACTED DOWNSTREAM FIXTURES WHICH ARE TO REMAIN. ADJUST THE LOCATIONS OF HANDHOLES AND INTERCEPT LOCATIONS IN THE FIELD AS NECESSARY TO MAINTAIN DOWNSTREAM CONNECTIVITY.
4. PROVIDE ADDITIONAL HANDHOLES WHERE REQUIRED FOR CIRCUIT INTERCEPTION AND EXTENSION. DO NOT LOCATE SPECIFIED POLYMER HANDHOLES IN MOVEMENT AREAS.
5. FIELD VERIFY THE EXISTING CONDUCTOR SIZES AND QUANTITIES. WHERE CIRCUIT EXTENSIONS ARE REQUIRED, EXTEND EXISTING SIZE AND QUANTITY OF CONDUCTORS TO MAINTAIN DOWNSTREAM CONNECTIVITY.

SHEET KEY NOTES:

1. PROVIDE REMOVAL OF EXISTING GENERATOR & GENERATOR CIRCUITS BACK TO NEAREST POINT OF DISCONNECTION.
2. PROVIDE REMOVAL OF EXISTING LOAD BANK &, CONCRETE PAD. REMOVE CORRESPONDING LOAD BANK FEEDER. PROVIDE BUILDING PENETRATION REPAIR TO MATCH EXISTING.
3. PROVIDE REMOVAL OF EXISTING CIRCUITS ALONG BUILDING EXTERIOR. PROVIDE BUILDING PENETRATION REPAIR TO MATCH EXISTING .
4. CAREFULLY REMOVE DOUBLE DOORS & STORE FOR LATER REINSTALLATION. COORDINATE WITH A-SHEETS.
5. PROVIDE SAW CUT & REMOVAL OF EXISTING CONCRETE PAD WITHIN BUILDING WALLS. REFER TO SHEET S-111 FOR CONCRETE PAD REMOVAL/REPLACEMENT. MAINTAIN INTEGRITY OF EXISTING UGE WHERE APPLICABLE.
6. PROVIDE LOUVER REMOVAL & REPLACE WITH SOLID/INSULATED WALLS. COORDINATE WITH ARCHITECTURAL SHEETS.
7. REMOVE EXISTING WALL MOUNTED BREAKERS AND WIREWAY.
8. EXISTING FITZGERALD HALL FEEDERS. INTERCEPT AND RE-USE UG CONDUIT/CONDUCTORS. REFER TO E-703 FOR ADDITIONAL INFORMATION. ATS START WIRING IS BELIEVED TO BE WITHIN THESE CONDUITS. FIELD INVESTIGATE AND EXTEND TO NEW GENERATOR START RELAY.

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Checked By: BCW
Project Manager:

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E-002

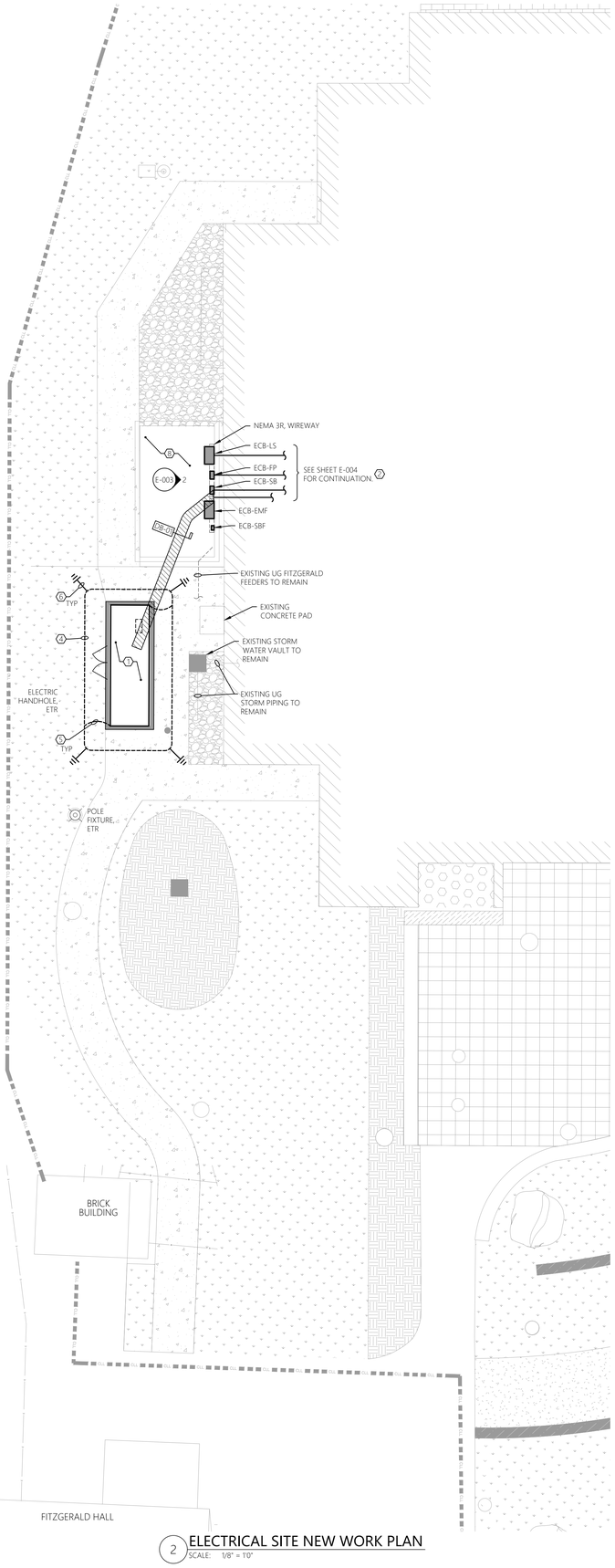
ELECTRICAL
PARTIAL SITE
GENERATOR
REMOVAL PLAN

NOVEMBER 16, 2026

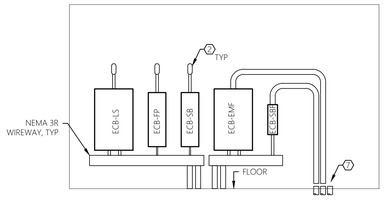
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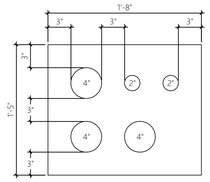
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2 ELECTRICAL SITE NEW WORK PLAN
SCALE: 1/8" = 1'0"



2 ELECTRICAL INTERIOR ELEVATION
SCALE: 1/4" = 1'-0"



3 'DB-01' SECTION
SCALE: 1-1/2" = 1'-0"

SHEET KEY NOTES:

1. PROVIDE NATURAL GAS GENERATOR. REFER ALSO TO SINGLE LINE DIAGRAM, E-703.
2. CONDUITS SHALL EXTEND THROUGH AREAWAY AND INTO MECHANICAL ROOM. COORDINATE WALL PENETRATION HEIGHT IN FIELD. REFER ALSO TO CONDUIT ROUTING PLAN FOR CONTINUATION.
3. REFER TO DUCT BANK SCHEDULE FOR MORE INFORMATION.
4. PROVIDE COUNTERPOISE LOOP AROUND GENERATOR PAD. UTILIZE #3/0 BARE COPPER LOOP AT 30" BFG. REFER TO GROUNDING DETAIL, SHEET E-607 FOR MORE INFORMATION.
5. PROVIDE GROUND LUG CONNECTION TO EQUIPMENT FRAME, TYP.
6. PROVIDE 3/4" x 10'-0" COPPER CLAD GROUND ROD AT EACH CORNER OF COUNTERPOISE LOOP. UTILIZE COMPRESSION FITTINGS, TYP.
7. INTERCEPT EXISTING FITZGERALD HALL FEEDERS & PROVIDE EXTENSION TO ECBs. REFER TO E-703 FOR ADDITIONAL INFORMATION. ATS START WIRING IS BELIEVED TO BE WITHIN THESE CONDUITS. FIELD INVESTIGATE AND EXTEND TO NEW GENERATOR START RELAY.
8. PROVIDE CONCRETE FLOOR REPLACEMENT UPON COMPLETION OF ELECTRICAL WORK. REFER TO SHEET S-111.

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Checked By: BCW
Project Manager:

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Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-003

ELECTRICAL
PARTIAL SITE
GENERATOR NEW
WORK PLAN

NOVEMBER 16, 2026

BID DOCUMENTS

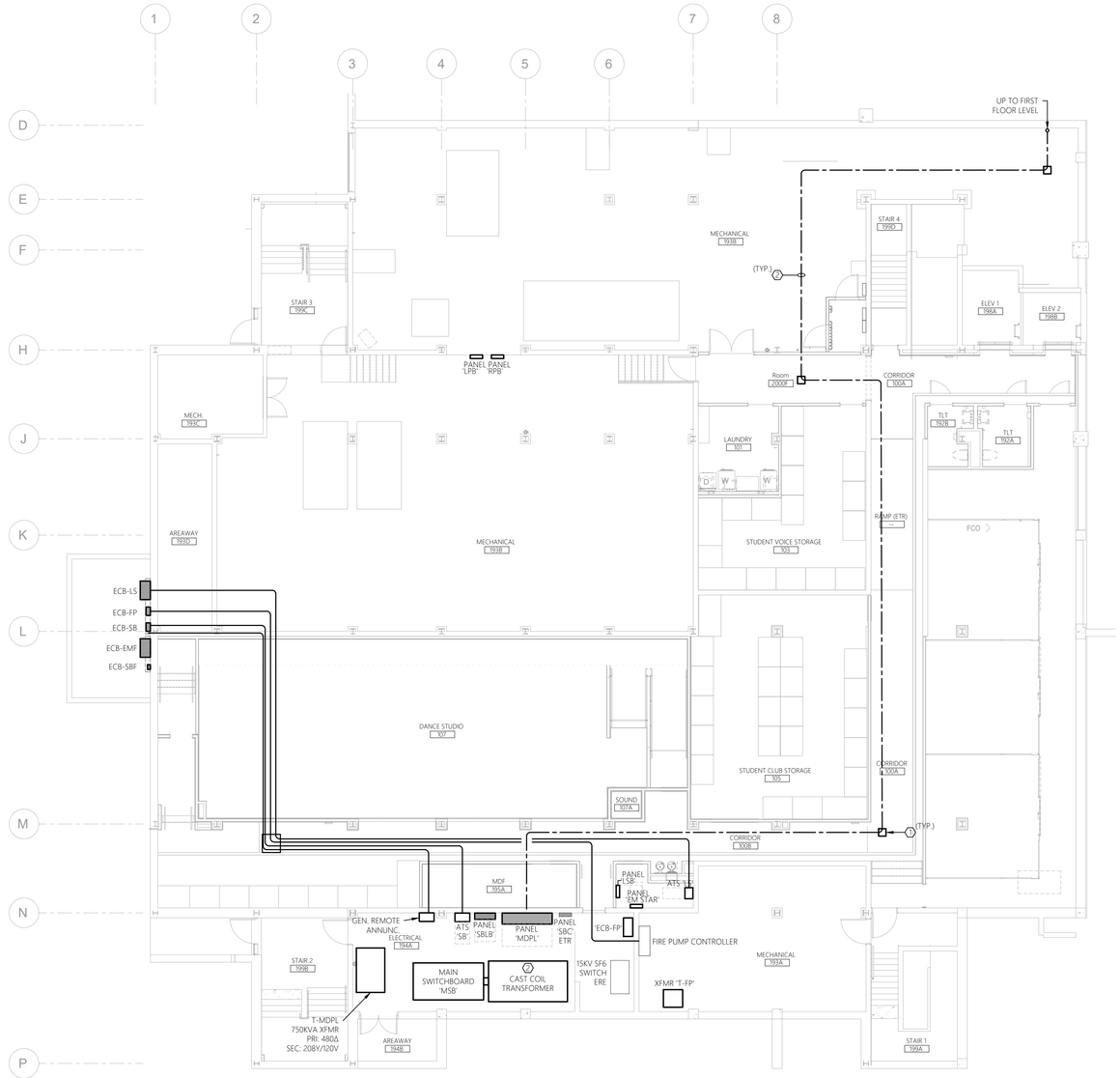
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LINEWORK NOTATION

INDIVIDUAL CONDUIT RUN

MULTIPLE CONDUIT RUNS



1 ELECTRICAL CONDUIT ROUTING PLAN - BASEMENT

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

0 4' 8' 16'

SCALE: 1/8"=1'-0

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. PATHWAYS SHOWN ON THESE SHEETS ARE SUGGESTIONS ONLY. CONTRACTOR TO COORDINATE FINAL PATHWAYS AND INCORPORATE INTO THE COORDINATION DRAWING SET FOR REVIEW/APPROVAL BY DESIGN TEAM.

SHEET KEY NOTES:

1. PULL BOXES/POINTS SHOWN ARE GENERIC. PROVIDE NECESSARY PULL BOXES TO MEET NEC CRITERIA. PROVIDE SUPPLEMENTAL BOXES AS NEEDED FOR EASE OF PULLING CONDUCTORS.
2. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC IN NATURE, COORDINATE EXACT ROUTING REQUIREMENTS WITH OTHER TRADES AND OWNER IN FIELD PRIOR TO ROUGH-IN. REFER TO SINGLE LINE DIAGRAM, SHEET E-703 FOR EXACT QUANTITIES/SIZES OF CONDUIT & CONDUCTORS.

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Checked By: BCW
Project Manager:

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E-004

ELECTRICAL CONDUIT ROUTING PLAN - BASEMENT

NOVEMBER 16, 2026

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LINEWORK NOTATION

INDIVIDUAL CONDUIT RUN

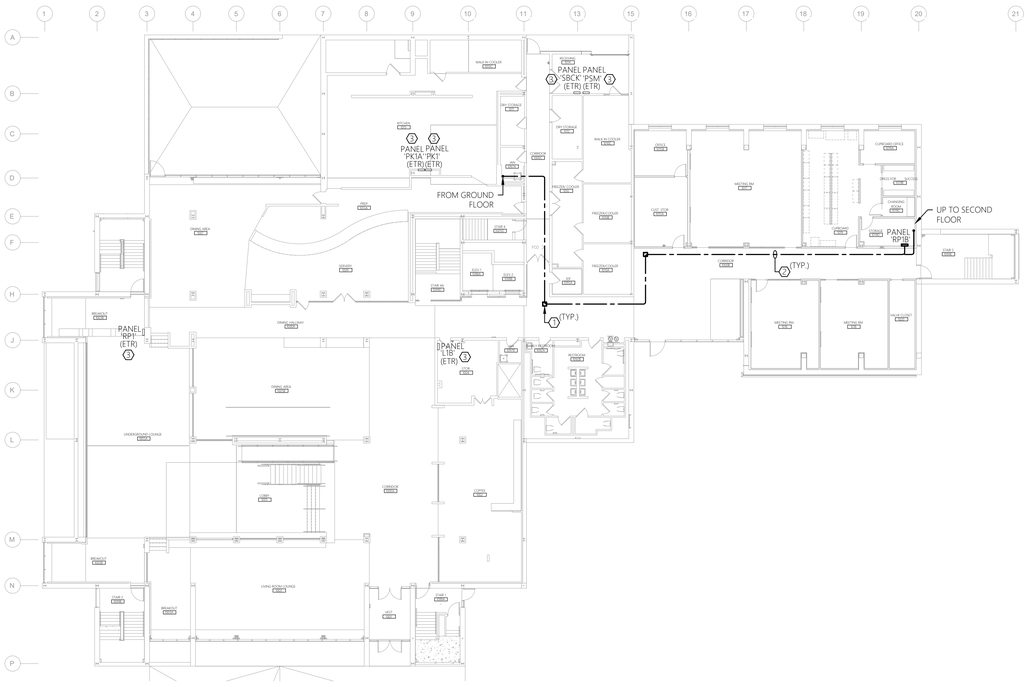
MULTIPLE CONDUIT RUNS

SHEET KEY NOTES:

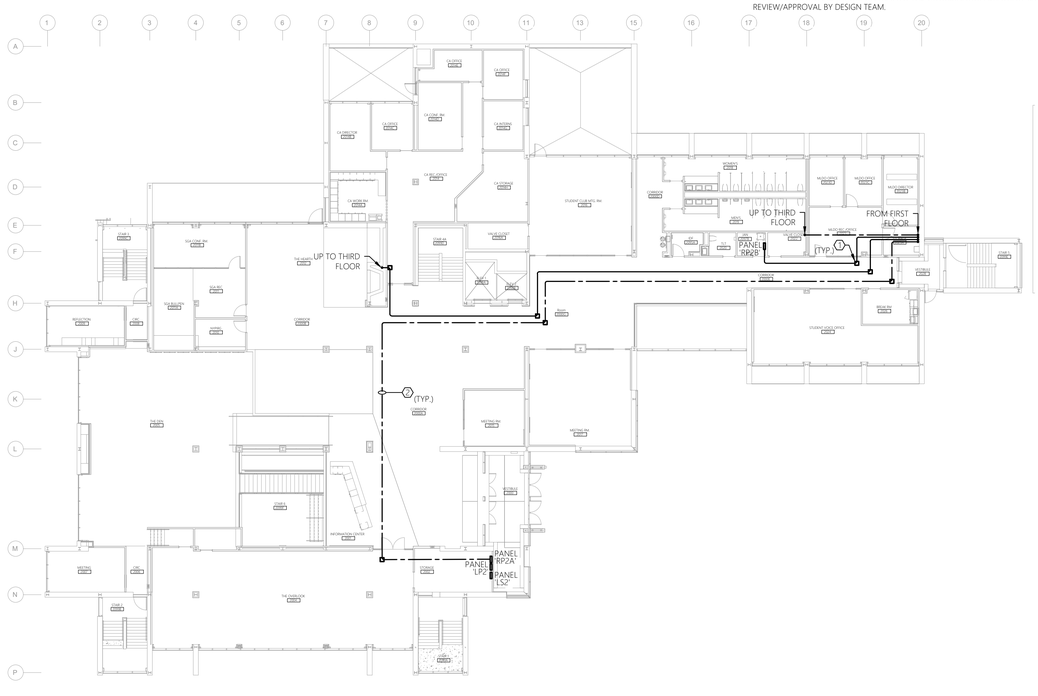
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2. CONDUIT ROUTING SHOWN IS DIAGRAMMATIC IN NATURE, COORDINATE EXACT ROUTING REQUIREMENTS WITH OTHER TRADES AND OWNER IN FIELD PRIOR TO ROUGH-IN. REFER TO SINGLE LINE DIAGRAM, SHEET E-703 FOR EXACT QUANTITIES/SIZES OF CONDUIT & CONDUCTORS.
3. EXISTING PANEL FEED IS TO BE INTERCEPTED AND FED VIA REPLACEMENT ELECTRICAL DISTRIBUTION. PROVIDE INTERCEPTION AT A STRATEGIC LOCATION. PROVIDE ALL CIRCUIT EXTENSIONS/MODIFICATIONS AS NECESSARY. REFER TO SINGLE LINE DIAGRAM, SHEET E-703, FOR ADDITIONAL INFORMATION. FIELD VERIFY EXISTING CONDUCTOR/CONDUIT SIZES PRIOR TO SPLICING.

GENERAL SHEET NOTES:

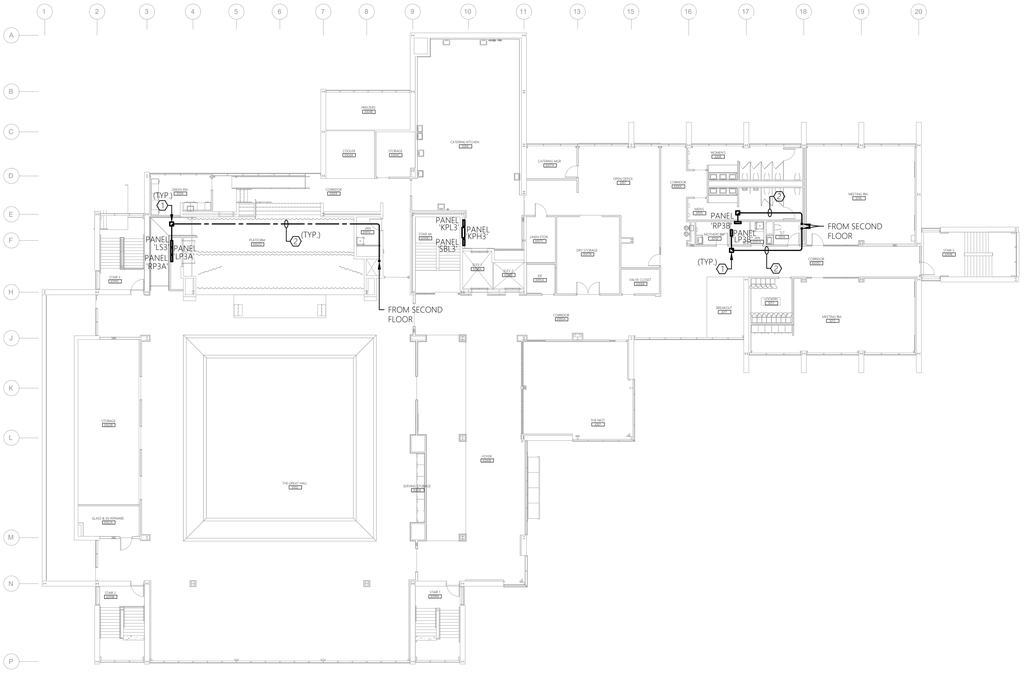
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8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. PATHWAYS SHOWN ON THESE SHEETS ARE SUGGESTIONS ONLY. CONTRACTOR TO COORDINATE FINAL PATHWAYS AND INCORPORATE INTO THE COORDINATION DRAWING SET FOR REVIEW/APPROVAL BY DESIGN TEAM.



1 ELECTRICAL CONDUIT ROUTING PLAN - FIRST FLOOR
SCALE: 1/16" = 1'-0"

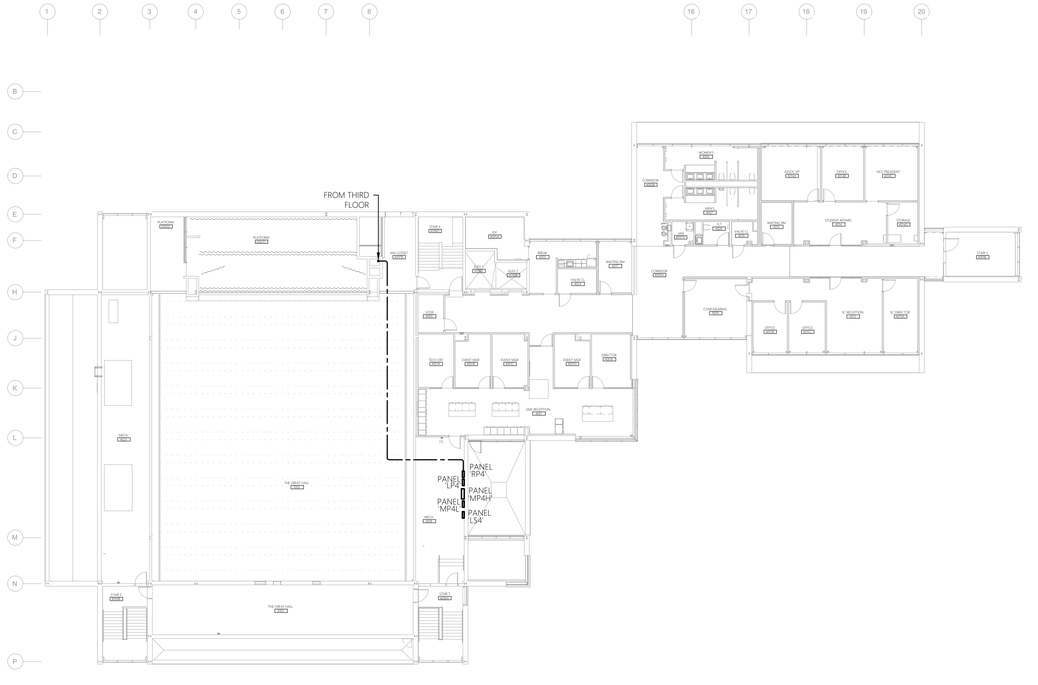


2 ELECTRICAL CONDUIT ROUTING PLAN - SECOND FLOOR
SCALE: 1/16" = 1'-0"



0' 4' 8' 16' 32'
SCALE: 1/16" = 1'-0"

3 ELECTRICAL CONDUIT ROUTING PLAN - THIRD FLOOR
SCALE: 1/16" = 1'-0"



4 ELECTRICAL CONDUIT ROUTING PLAN - FOURTH FLOOR
SCALE: 1/16" = 1'-0"

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Drawn By:	KJM
Checked By:	BCW
Project Manager:	

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SUCF Project No. 041046-00

E-005

ELECTRICAL CONDUIT ROUTING PLANS

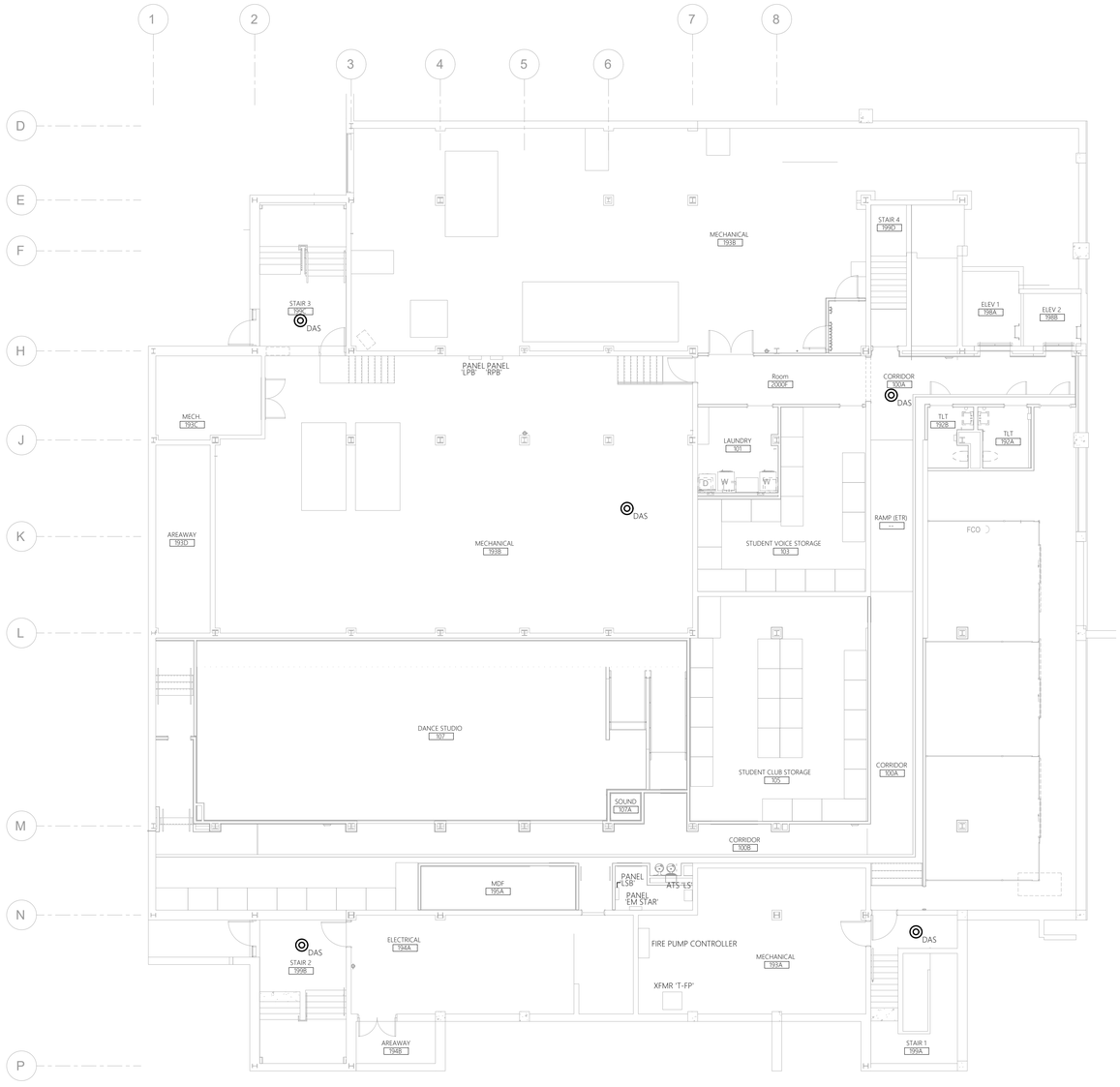
NOVEMBER 16, 2026

BID DOCUMENTS

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= DAS REMOTE ANTENNA (COMBA RDU-800 OR EQUAL) - CEILING MOUNT, 700/800 MHz PUBLIC SAFETY. DAS

ALL STAIRWELLS, MECHANICAL SPACES, CORRIDORS, AND LOADING DOCK 100% COVERED PER NFPA 72 24.5.2.



1 EMERGENCY RESPONDER RADIO SYSTEM BASEMENT PLAN
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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EMERGENCY RESPONDER RADIO SYSTEM
PLAN - BASEMENT

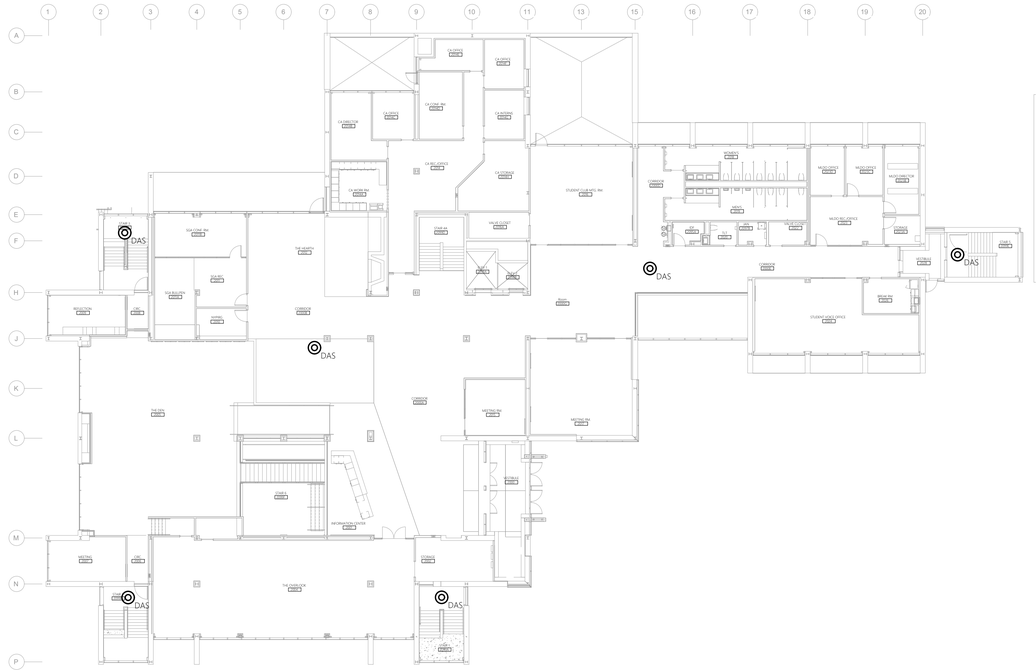
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BID DOCUMENTS

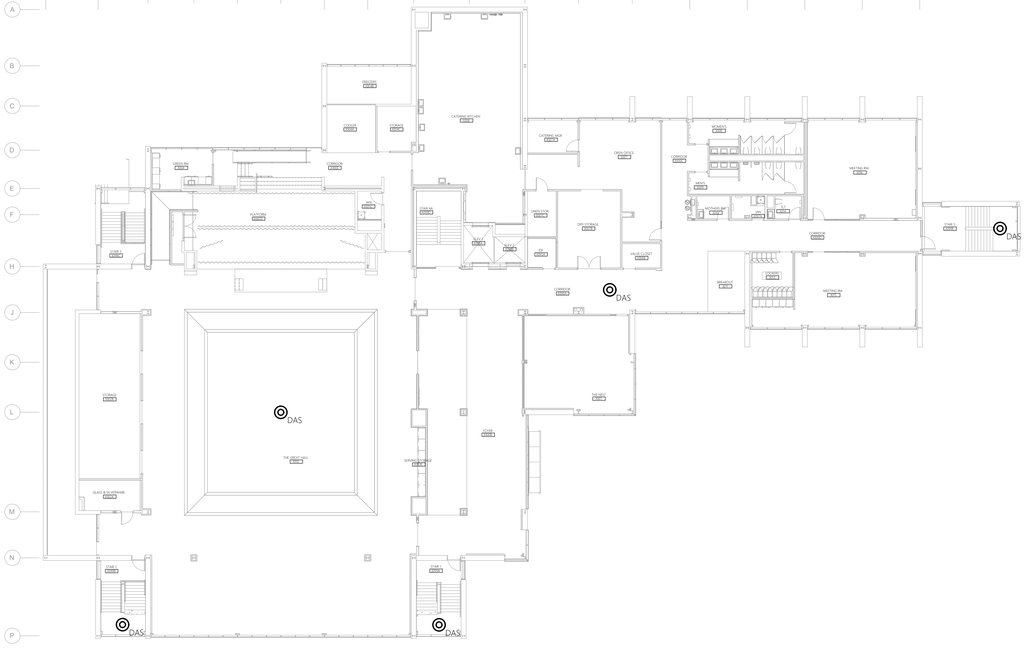
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1 EMERGENCY RESPONDER RADIO SYSTEM - FIRST FLOOR
SCALE: 1/16" = 1'-0"



2 EMERGENCY RESPONDER RADIO SYSTEM - SECOND FLOOR
SCALE: 1/16" = 1'-0"



3 EMERGENCY RESPONDER RADIO SYSTEM - THIRD FLOOR
SCALE: 1/16" = 1'-0"

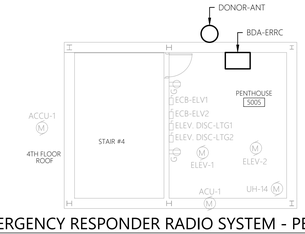


4 EMERGENCY RESPONDER RADIO SYSTEM - FOURTH FLOOR
SCALE: 1/16" = 1'-0"

0' 4' 8' 16' 32'
SCALE: 1/16" = 1'-0"

DAS = DAS REMOTE ANTENNA (COMBA RDU-800 OR EQUAL) - CEILING MOUNT, 700/800 MHz PUBLIC SAFETY.

ALL STAIRWELLS, MECHANICAL SPACES, CORRIDORS, AND LOADING DOCK 100% COVERED PER NFPA 72 24.5.2.



5 EMERGENCY RESPONDER RADIO SYSTEM - PENTHOUSE
SCALE: 1/8" = 1'-0"

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Drawn By: KJM
Checked By: BCW
Project Manager:

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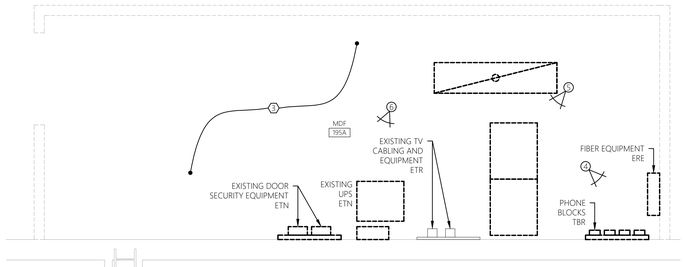
E-007

EMERGENCY RESPONDER RADIO SYSTEM PLANS

NOVEMBER 16, 2026

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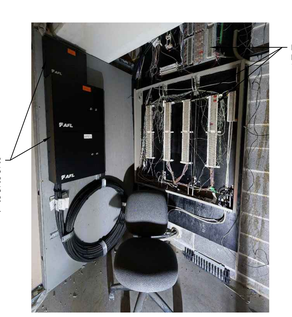


2 ENLARGED ELECTRICAL REMOVALS PLAN - MDF 195A
SCALE: 1/2" = 1'-0"

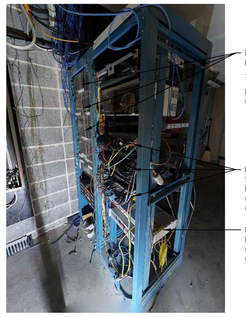


PROVIDE REMOVAL OF FACP. INTERCEPT ALL EXISTING TO REMAIN SLC, NAC, & CONTROL CIRCUITS & PROVIDE EXTENSIONS TO NEW FACP ON 4TH FLOOR. UTILIZE (3) 1-1/4" CONDUITS FROM THIS LOCATION TO IDF ROOM 4024.

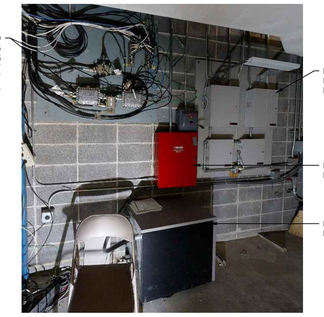
3 REFERENCE PHOTO
SCALE: NTS EXISTING FACP



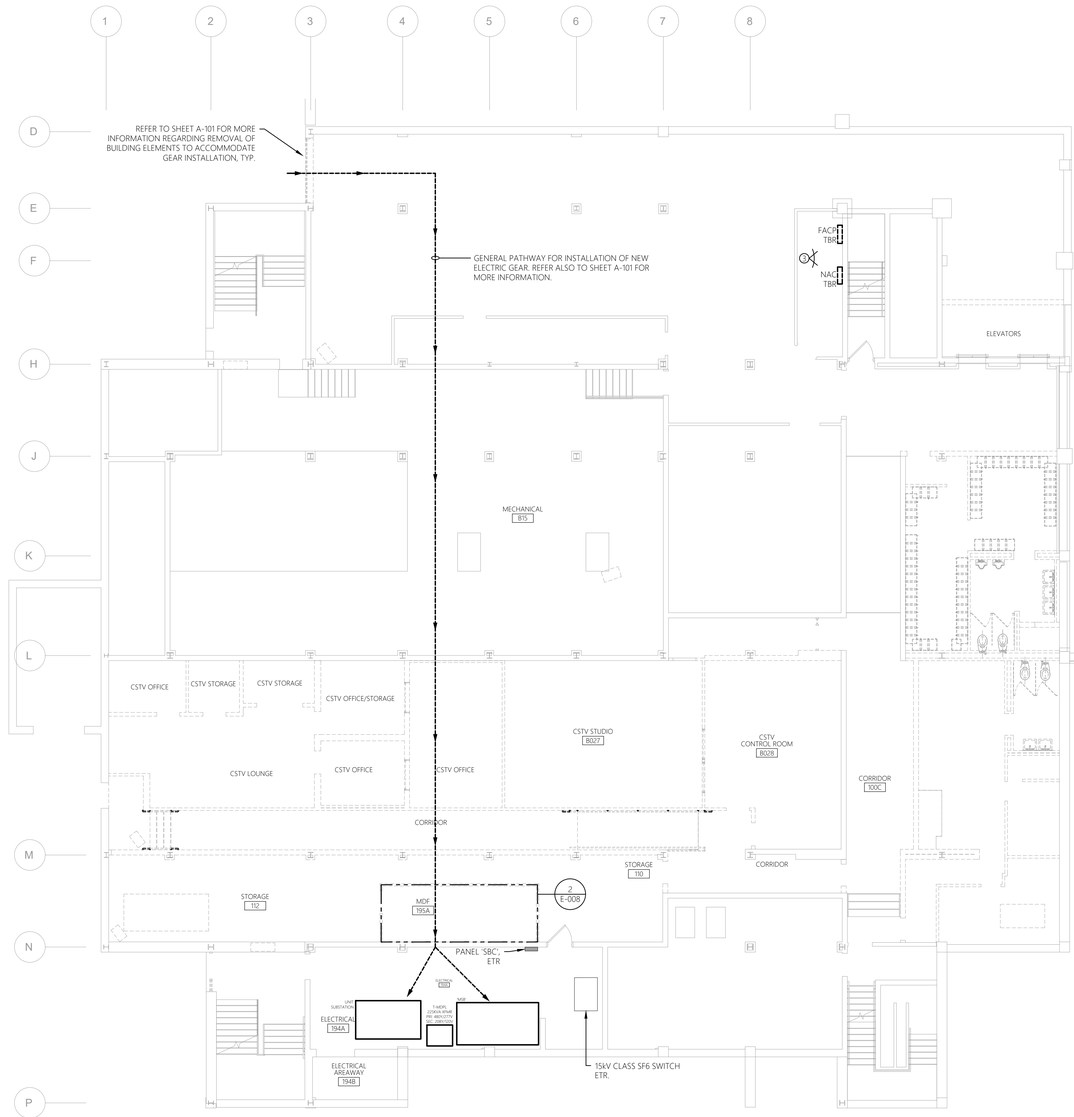
4 REFERENCE PHOTO
SCALE: NTS



5 REFERENCE PHOTO
SCALE: NTS



6 REFERENCE PHOTO
SCALE: NTS



1 ELECTRICAL GEAR INSTALLATION PATHWAY PLAN - BASEMENT
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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Project Manager:

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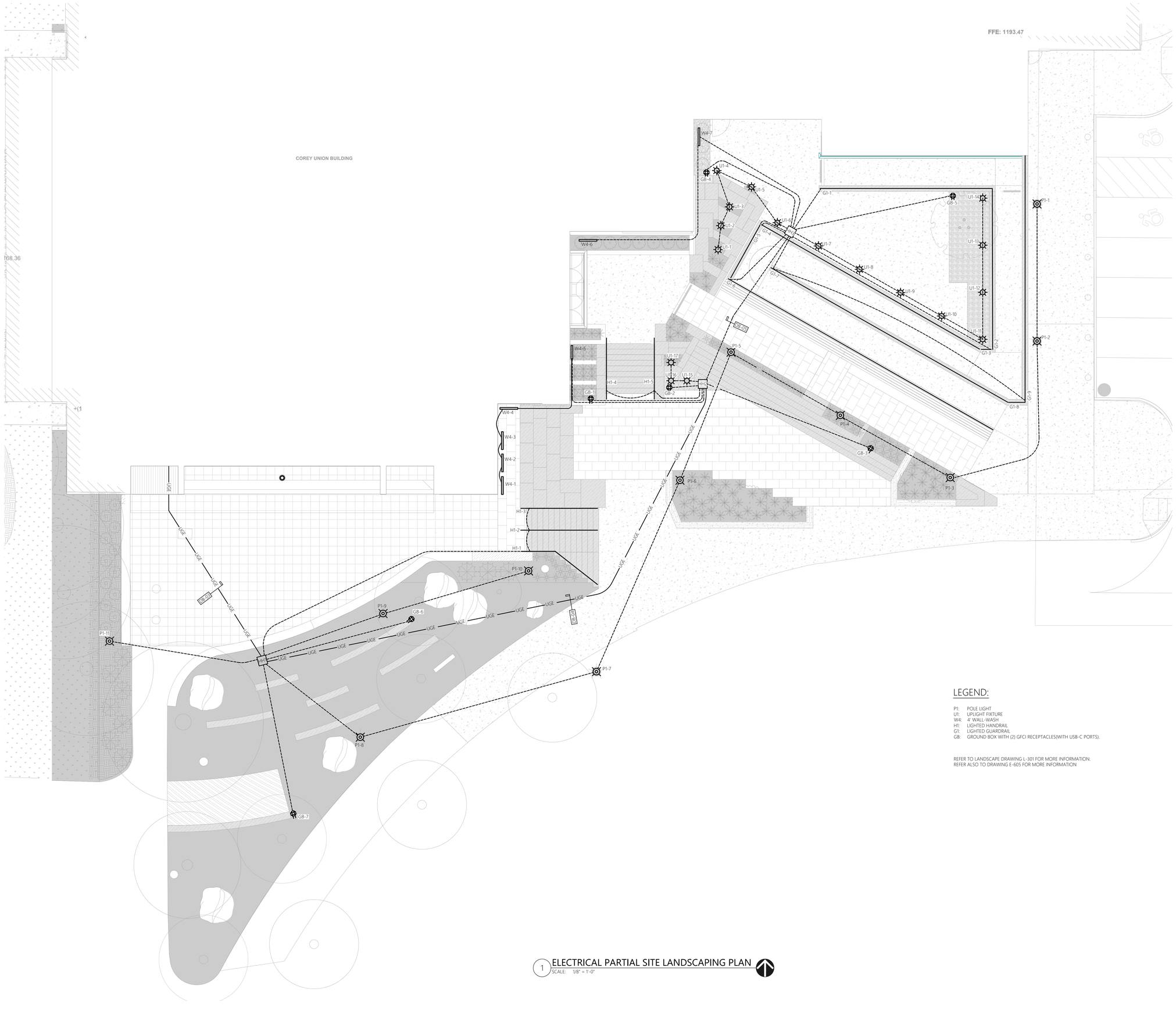
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E-008

ELECTRICAL NEW GEAR ROUTING PLAN

NOVEMBER 16, 2026
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LEGEND:

P1: POLE LIGHT
U1: UPLIGHT FIXTURE
W4: 4' WALL-WASH
H1: LIGHTED HANDRAIL
G1: LIGHTED GUARDRAIL
GB: GROUND BOX WITH (2) GFCI RECEPTACLES(WITH USB-C PORTS).

REFER TO LANDSCAPE DRAWING L-301 FOR MORE INFORMATION.
REFER ALSO TO DRAWING E-605 FOR MORE INFORMATION

1 ELECTRICAL PARTIAL SITE LANDSCAPING PLAN
SCALE: 1/8" = 1'-0"

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Checked By:	BCW
Project Manager:	

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E-009

ELECTRICAL PARTIAL SITE LANDSCAPING PLAN

NOVEMBER 16, 2026

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11/16/2026 8:06:09 AM

GENERAL SHEET NOTES:

1. UNDERGROUND ELECTRICAL UTILITIES SHOWN ON THESE DRAWINGS ARE BASED ON EXISTING MAPPING. THEY SHOULD NOT BE CONSIDERED ACCURATE. THE DESIGN HAS MADE CERTAIN ASSUMPTIONS REGARDING CIRCUIT REMOVAL. IN MANY CASES THE SOURCE AND LOAD END OF THE CIRCUIT IS UNKNOWN.
2. EXTENSIVE FIELD INVESTIGATION WILL BE REQUIRED BY THE CONTRACTOR PRIOR TO DISCONNECTION AND REMOVAL OF LIGHT FIXTURES.
3. CONTRACTOR TO FIELD VERIFY LINE AND LOAD SIDE OF EACH FIXTURE TO BE REMOVED. IDENTIFY IMPACTED DOWNSTREAM FIXTURES WHICH ARE TO REMAIN. ADJUST THE LOCATIONS OF HANDHOLES AND INTERCEPT LOCATIONS IN THE FIELD AS NECESSARY TO MAINTAIN DOWNSTREAM CONNECTIVITY.
4. PROVIDE ADDITIONAL HANDHOLES WHERE REQUIRED FOR CIRCUIT INTERCEPTION AND EXTENSION. DO NOT LOCATE SPECIFIED POLYMER HANDHOLES IN MOVEMENT AREAS.
5. FIELD VERIFY THE EXISTING CONDUCTOR SIZES AND QUANTITIES. WHERE CIRCUIT EXTENSIONS ARE REQUIRED, EXTEND EXISTING SIZE AND QUANTITY OF CONDUCTORS TO MAINTAIN DOWNSTREAM CONNECTIVITY.

SHEET KEY NOTES:

1. PROVIDE REMOVAL OF LIGHT FIXTURE, POLE & FOUNDATION. REMOVE EXISTING CONDUIT/CONDUCTORS BACK TO NEAREST ACTIVE (TO REMAIN) CIRCUIT NODE. REFER ALSO TO SHEET C-103.
2. PROVIDE REMOVAL OF LIGHT FIXTURE. REFER ALSO TO SHEET C-103.
3. PROVIDE REMOVAL OF LIGHT FIXTURE, POLE & FOUNDATION. RETAIN ASSEMBLY FOR REINSTALLATION IN ALTERNATE LOCATION. REFER ALSO TO SHEET C-103.
4. PROVIDE REINSTALLATION OF LIGHT FIXTURE & POLE. PROVIDE NEW CONCRETE FOUNDATION. REFER ALSO TO SHEET C-141.

CORNISH / VAN HOESEN COMPLEX
BUILDING #20
3 STORY BRICK

COREY UNION
BUILDING #32
3 STORY BRICK

1 E-002

1 E-009

LEGEND:
PL - POLE LIGHT
LF - LED LIGHT FIXTURE
WM - 4' WALL MOUNTED
CM - CEILING MOUNTED
UC - UNDER CABINET
RECEPTACLE - DUPLEX RECEPTACLE (2PC) RECEPTACLE/DUPLEX USB (4 PORTS)

REFER TO LIGHTING FIXTURE SCHEDULE ON SHEET E-001 FOR ADDITIONAL INFORMATION.
REFER TO SHEET E-001 FOR SYMBOL LEGEND AND ABBREVIATIONS.

1 ELECTRICAL SITE LIGHTING PLAN
SCALE: 1" = 20'-0"

FILE PATH:

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E-010
ELECTRICAL OVERALL SITE LIGHTING PLAN

NOVEMBER 16, 2026
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GENERAL REMOVAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO SPECIFICATION SECTION 26 0501 - ELECTRICAL REMOVAL.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:

MECHANICAL EQUIPMENT & MISC. ELECTRICAL EQUIPMENT:
WHERE INDICATED TO BE REMOVED:
- REFER TO BOTH ELECTRICAL AND MECHANICAL DRAWINGS FOR AN ACCURATE DEPICTION OF ALL REMOVAL REQUIRED FOR THIS CONTRACT.
- REMOVE ALL WIRE & EXPOSED CONDUIT BACK TO SOURCE PANEL (UNLESS OTHERWISE NOTED).
- REMOVE ANY ASSOCIATED MOTOR STARTERS &/OR DISCONNECTS.
- REMOVE CIRCUIT WIRING FROM SOURCE PANEL, LABEL BREAKER AS SPARE.
- PROVIDE REVISED TYPED PANELBOARD DIRECTORIES FOR ALL EXISTING TO REMAIN PANELS WHERE CIRCUITS ARE TO BE REMOVED.
- CAMPUS SHALL HAVE RIGHT OF FIRST REFUSAL FOR ALL REMOVED EQUIPMENT. ALL REMAINING EQUIPMENT SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

RECEPTACLES:
- REMOVE ALL RECEPTACLES IMPACTED BY WALL MODIFICATION/REMOVAL. REFER TO ARCHITECTURAL DRAWINGS WHERE NECESSARY. **NOTE** ALL RECEPTACLES MAY NOT BE SHOWN ON THESE REMOVAL PLANS. MINOR FIELD VERIFICATION REQUIRED.
- REMOVE ALL ASSOCIATED WIRE & CONDUIT BACK TO SOURCE OR NEAREST ACTIVE JUNCTION BOX.
- WHERE NECESSARY, PROVIDE CIRCUIT EXTENSION(S) AS NEEDED TO MAINTAIN CIRCUITS IN ADJACENT NON-IMPACTED SPACES.

LIGHTING: ROOMS WHERE LIGHTING IS INDICATED TO BE REMOVED - UNLESS OTHERWISE INDICATED ON PLAN:
- REMOVE FIXTURES IN THE GENERAL AREAS INDICATED ON PLAN. EXACT QTY OF FIXTURES MAY VARY, FIELD VERIFY AND COORDINATE WITH GENERAL CONTRACT.
- REMOVE FIXTURES AS NEEDED TO ACCOMMODATE RENOVATION WORK BY OTHER TRADES. IN THESE AREAS, RE-INSTALLATION AND RECONNECTION IS REQUIRED.
- MAINTAIN HOMERUNS, FOR RECONNECTION TO NEW LIGHTING FIXTURES.
- REMOVE SWITCHING DEVICES
- REMOVE CONTACTORS ASSOCIATED WITH LOW VOLTAGE SWITCHING DEVICES
- DISPOSE OF ALL LAMPS IN ACCORDANCE WITH STATE/FEDERAL AND EPA REQUIREMENTS.
- CAMPUS SHALL HAVE RIGHT OF FIRST REFUSAL FOR ALL REMOVED FIXTURES. ALL REMAINING FIXTURES SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

FIRE ALARM AND VOICE NOTIFICATION SYSTEM:
- THIS PROJECT INCLUDES A COMPLETELY NEW FIRE ALARM SYSTEM. IN GENERAL, SCOPE INCLUDES:
- DISCONNECTION AND REMOVAL OF EXISTING SYSTEM SHALL NOT BE ALLOWED UNTIL THE NEW SYSTEM IS INSTALLED/CONNECTED AND TESTED PER NFPA 72.
- REMOVE ALL INITIATION DEVICES (SMOKES, HEATS, DUCT SMOKES, PULL STATIONS, ETC.) & TURN OVER TO CAMPUS.
- REMOVE ALL ANNUNCIATION APPLIANCES & TURN OVER TO CAMPUS.
- REMOVE MAIN CONTROL PANEL, ANNUNCIATORS AND AUXILIARY HEAD END EQUIPMENT & TURN OVER TO CAMPUS.
- WHERE NEW FINISHES DO NOT COVER EXISTING HOLES, PATCH WORK WILL BE REQUIRED (PATCH AND MATCH ADJACENT WALL/CEILING FINISHES). SEAL ALL CONDUIT PENETRATIONS WITH FIRE CAULKING, PER UL INSTALLATION INSTRUCTIONS FOR THE PRODUCTS USED.

EXIT SIGNS:
- REMOVE WHERE INDICATED OR WHERE IMPACTED BY WALL/CEILING MODIFICATIONS.
- REMOVE ALL ASSOCIATED WIRING BACK TO SOURCE OR NEAREST JUNCTION BOX.

EMERGENCY LIGHTING:
- MAINTAIN ANY EMERGENCY LIGHTS/EBU'S IN NON IMPACTED SPACES.
- REMOVE ANY EMERGENCY LIGHTS INDICATED ON PLAN, OR AS NEEDED TO FACILITATE CONSTRUCTION ACTIVITY.

PANELBOARD REMOVAL AND REPLACEMENT:
- REFER TO SINGLE LINE DIAGRAM FOR SCOPE OF WORK.
- RECONNECTION AND EXTENSION OF NON-IMPACTED/EXISTING TO REMAIN CIRCUITS SHALL BE REQUIRED.

GENERAL CIRCUIT AND FEEDER REMOVAL AND REPLACEMENT:
- MAINTAIN ANY EXISTING NON-IMPACTED PANELBOARDS AND ANY NON-IMPACTED CIRCUITS WHICH ARE EXISTING TO REMAIN.
- WHERE CIRCUITS ARE AFFECTED BY MODIFICATION/REMOVAL ACTIVITIES, PROVIDE NECESSARY CIRCUIT EXTENSIONS AND ALL NECESSARY LABOR/MATERIALS AS NECESSARY TO REPAIR AND RE-CONNECT CIRCUIT(S).

DATA AND VOICE/PHONE:
- EXISTING DATA RACK SHALL BE RELOCATED TO A NEW DATA ROOM. ALL EXISTING HORIZONTAL CABLING SHALL BE REMOVED FROM PROJECT. FIELD VERIFICATION IS REQUIRED. LOTS OF CABLING ABOVE CEILINGS (UNSUPPORTED), ALL OF WHICH SHALL BE REMOVED BACK TO THE RACK LOCATION.
- REFER TO CAMERA/WAP PARAGRAPHS BELOW (THESE CABLES WILL NEED TO BE RE-RUN FROM THE NEW DATA RACK LOCATION)
- REMOVE ALL DEVICES/FACEPLATES & BOXES THROUGHOUT PROJECT. **NOTE** MANY DEVICES ARE NOT SHOWN ON THESE REMOVAL PLANS. FIELD VERIFICATION REQUIRED.)
- CONTRACTOR SHALL REPAIR/PATCH/MATCH AFFECTED WALL & CEILING AREAS WHERE REMOVAL OF EQUIPMENT/DEVICES HAS VISUAL IMPACT (WHERE NEW FINISHES WILL NOT COVER IMPACT OF REMOVAL ACTIVITY).

WIRELESS ACCESS POINTS:
- WAPS NOT IMPACTED BY RENOVATION ACTIVITIES SHALL REMAIN IN EXISTING LOCATIONS. HOWEVER, NEW UTP CABLING TO EACH WAP WILL BE REQUIRED FROM THE NEW DATA ROOM. OLD CABLING SHALL BE REMOVED BACK TO THE EXISTING RACK.
- WAPS IMPACTED BY RENOVATION ACTIVITIES SHALL BE CAREFULLY REMOVED TURNED OVER TO SUNY CORTLAND NETWORK SERVICES.

CAMERAS:
- CAMERAS NOT IMPACTED BY RENOVATION ACTIVITIES SHALL REMAIN IN EXISTING LOCATIONS. HOWEVER, NEW UTP CABLING TO EACH CAMERA WILL BE REQUIRED FROM THE NEW DATA ROOM. OLD CABLING SHALL BE REMOVED BACK TO THE EXISTING RACK.
- CAMERAS IMPACTED BY RENOVATION ACTIVITIES SHALL BE CAREFULLY REMOVED AND TURNED OVER TO SUNY CORTLAND NETWORK SERVICES.
- COORDINATE ALL WORK WITH SUNY CORTLAND NETWORK SERVICES.

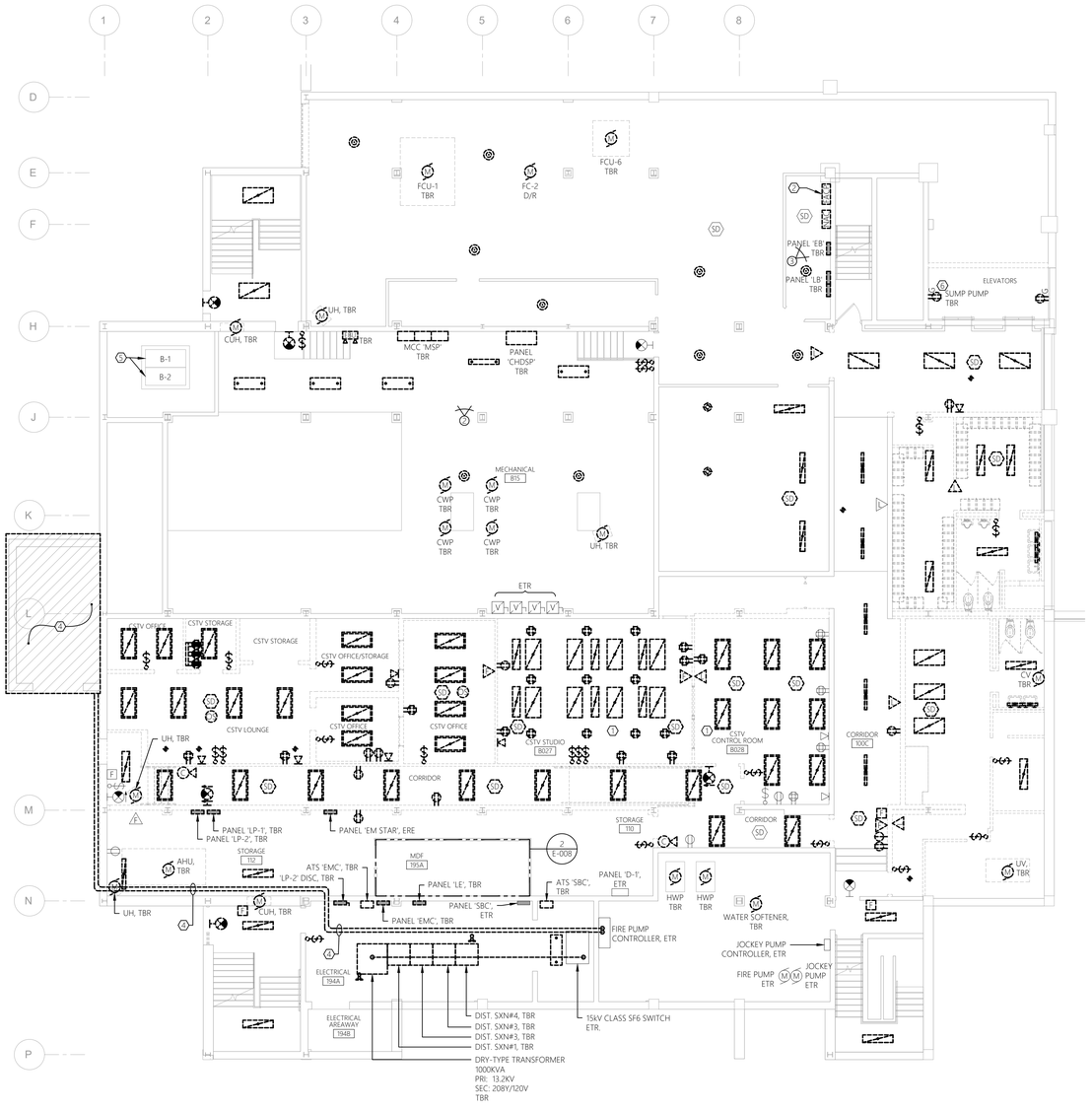
PAGING SYSTEM:
REMOVE ENTIRE SYSTEM THROUGHOUT FACILITY, TO INCLUDE:
- ALL SPEAKERS (RECESSED AND SURFACE MOUNTED) (NOT ALL SHOWN ON PLAN)
- ALL ASSOCIATED HANDSETS (NOT ALL SHOWN ON PLAN)
- MAIN HEAD END SYSTEM COMPONENTS
- 110 & 66 BLOCKS AND ALL BACKBONE & HORIZONTAL CABLING

CLOCK SYSTEM:
REMOVE ENTIRE SYSTEM THROUGHOUT FACILITY, TO INCLUDE:
- ALL SYSTEM/WIRED CLOCKS AND ASSOCIATED CABLE/RACEWAY THROUGHOUT FACILITY. NETWORK CLOCKS SHALL BE TURNED OVER TO SUNY CORTLAND NETWORK SERVICES.
- ALL BATTERY CLOCKS (NON SYSTEM). RETURN TO OWNER. WHERE REFUSED BY OWNER, PROPERTY SHALL BECOME THAT OF THE CONTRACTOR.
- HEAD END SYSTEM COMPONENTS (LOCATION UNKNOWN)

INTRUDER ALERT SYSTEM:
- REMOVE NOTIFICATION DEVICES WHERE INDICATED OR WHERE IMPACTED BY WALL/CEILING MODIFICATIONS. PROVIDE NECESSARY CIRCUIT EXTENSIONS AND ALL NECESSARY LABOR/MATERIALS AS NECESSARY TO REPAIR AND RE-CONNECT CIRCUIT(S).

SHEET KEY NOTES:

1. CAMPUS TO PROVIDE REMOVAL OF STUDIO EQUIPMENT SUCH AS LIGHTING , SPEAKERS , CAMERAS, AND AUDIO CONTROL BOARD
2. EXISTING FACP HEAD END EQUIPMENT, TBR. REFER TO E-704 FOR MODIFICATIONS TO SYSTEM PROPOSED FOR THIS PROJECT. REMOVE CIRCUIT BACK TO SOURCE.
3. CONTRACTOR TO PROVIDE REMOVAL OF ORPHANED CABLING, EQUIPMENT & RACKS. PROVIDE REMOVAL OF ALL COAXIAL CABLES WITHIN SCOPE OF WORK, EXCEPT BUILDING MAIN INCOMING COAX. COORDINATE ALL SUCH REMOVALS WITH CAMPUS IT.
4. REFER TO SHEET E-002.
5. EQUIPMENT ETR. ELECTRICAL FEEDERS/CONNECTION TBR. REFER TO SLD FOR MORE INFORMATION.
6. IN ELEVATOR PIT, REMOVE SUMP PUMP & CIRCUIT BACK TO SOURCE.



1 ELECTRICAL REMOVAL PLAN - BASEMENT
SCALE: 1/8" = 1'-0"



2 REFERENCE PHOTO
SCALE: NTS

0 4' 8' 16'
SCALE: 1/8"=1'-0

FILE PATH:

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JADE STONE ENGINEERING

STATE OF NEW YORK BENJAMIN C. WALLMOF 085954 LICENSED PROFESSIONAL ENGINEER

Drawn By: KJM
Checked By: BCW
Project Manager:

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103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

ER-100

ELECTRICAL REMOVAL PLAN - BASEMENT

NOVEMBER 16, 2026
BID DOCUMENTS

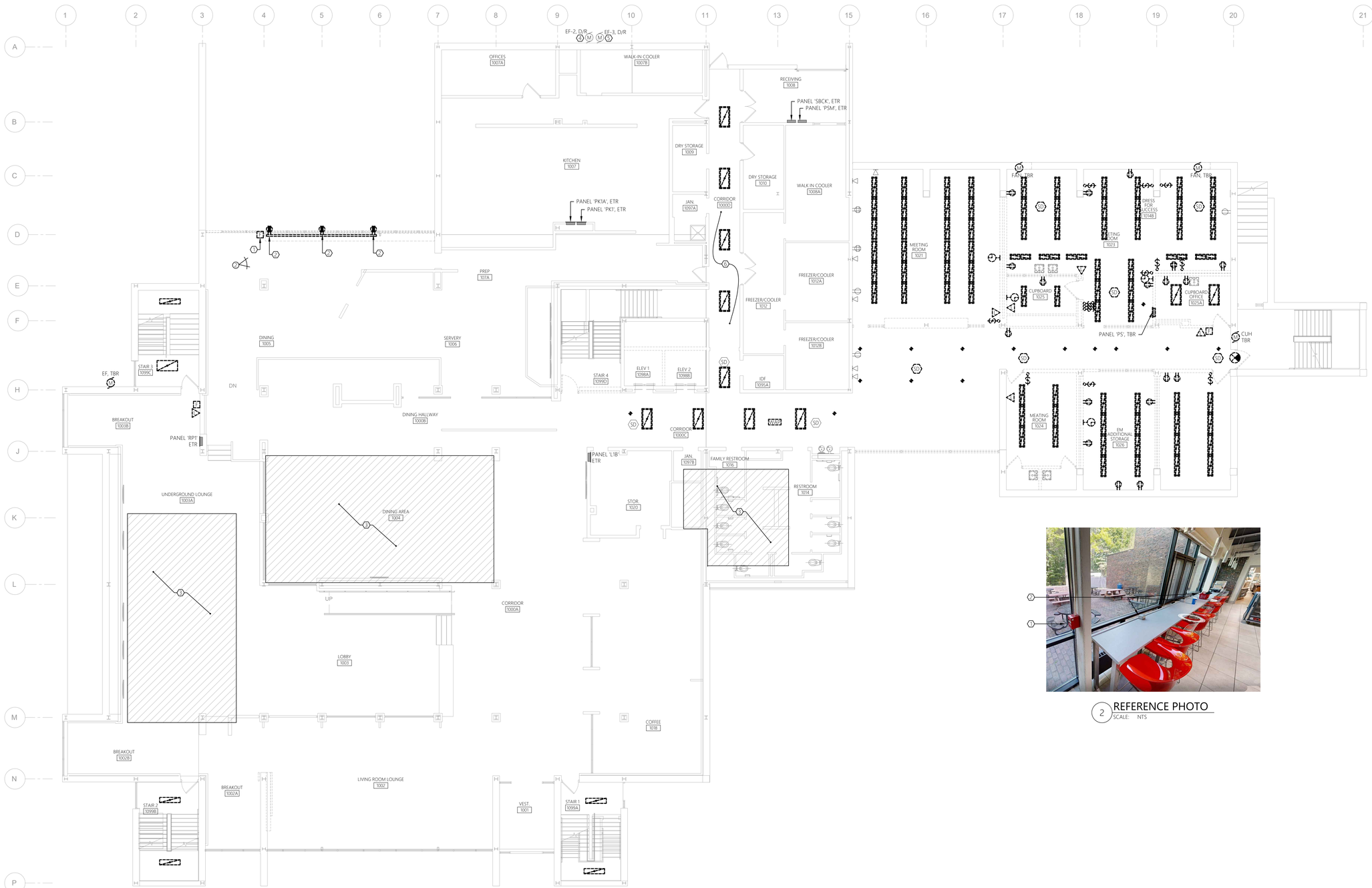
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SHEET KEY NOTES:

1. REMOVE FIRE ALARM PULL STATION FROM STRUCTURAL COLUMN & SUSPEND DEVICE OUT OF THE WAY TO ACCOMMODATE REPLACEMENT OF GLAZING WALL. COORDINATE WITH FIRE ALARM VENDOR.
2. PROVIDE CAREFUL REMOVAL OF COUNTER-MOUNTED DOGHOUSE RECEPTACLES & POWER RACEWAY TO ACCOMMODATE GLAZING WALL REMOVAL. REMOVE CIRCUIT BACK TO NEAREST JUNCTION. RETAIN RECEPTACLES FOR CIRCUIT REINSTALLATION UPON COMPLETION OF GLAZING WALL REPLACEMENT.
3. PROVIDE DISCONNECTION OF ALL CEILING MOUNTED DEVICES & TEMPORARILY STORE & REINSTALL TO FACILITATE MECHANICAL MODIFICATIONS IN THIS AREA. WHERE POSSIBLE, TEMPORARILY SUSPEND AND MAINTAIN IN SERVICE. COORDINATE WITH FIRE ALARM VENDOR FOR SUPPORT.
4. PROVIDE DISCONNECTION & RECONNECTION TO EF-2 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM 20A/2P BREAKER IN PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'KEF-8' ON SHEET E-101. FIELD VERIFICATION REQUIRED.
5. PROVIDE DISCONNECTION & RECONNECTION TO EF-3 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM 20A/1P BREAKER IN PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'KEF-7' ON SHEET E-101. FIELD VERIFICATION REQUIRED.
6. PROVIDE CAREFUL REMOVAL OF CORRIDOR CEILING FIXTURES & DEVICES TO ACCOMMODATE WORK BY OTHER TRADES. STORE FIXTURES & DEVICES FOR REINSTALLATION/RECONNECTION.

GENERAL REMOVAL NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO ER-100 FOR GENERAL REMOVAL NOTES.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:



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

0 4' 8' 16'
SCALE: 1/8"=1'-0

2 REFERENCE PHOTO
SCALE: NTS

FILE PATH:

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Checked By:	BCW
Project Manager:	

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ELECTRICAL REMOVAL PLAN - FIRST FLOOR

NOVEMBER 16, 2026
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GENERAL REMOVAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO ER-100 FOR GENERAL REMOVAL NOTES.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:



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

0 4' 8' 16'
SCALE: 1/8"=1'-0

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ER-102

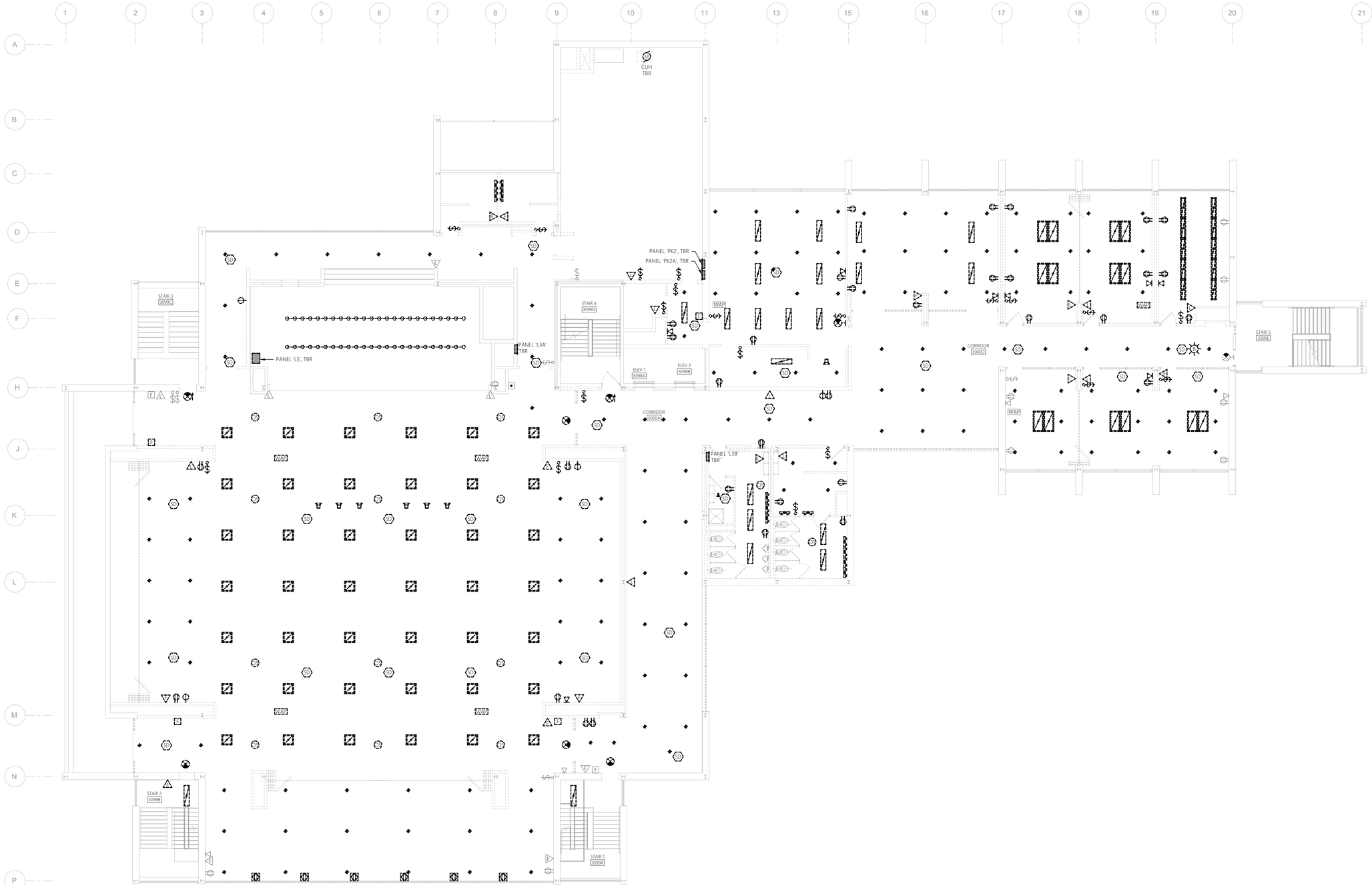
ELECTRICAL REMOVAL PLAN - SECOND FLOOR

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GENERAL REMOVAL NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO ER-100 FOR GENERAL REMOVAL NOTES.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:



1 ELETRICAL REMOVAL PLAN - THIRD FLOOR
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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ER-103

ELECTRICAL REMOVAL PLAN - THIRD FLOOR

NOVEMBER 16, 2026
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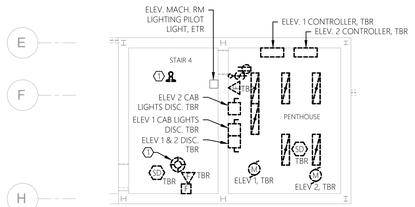
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GENERAL REMOVAL NOTES:

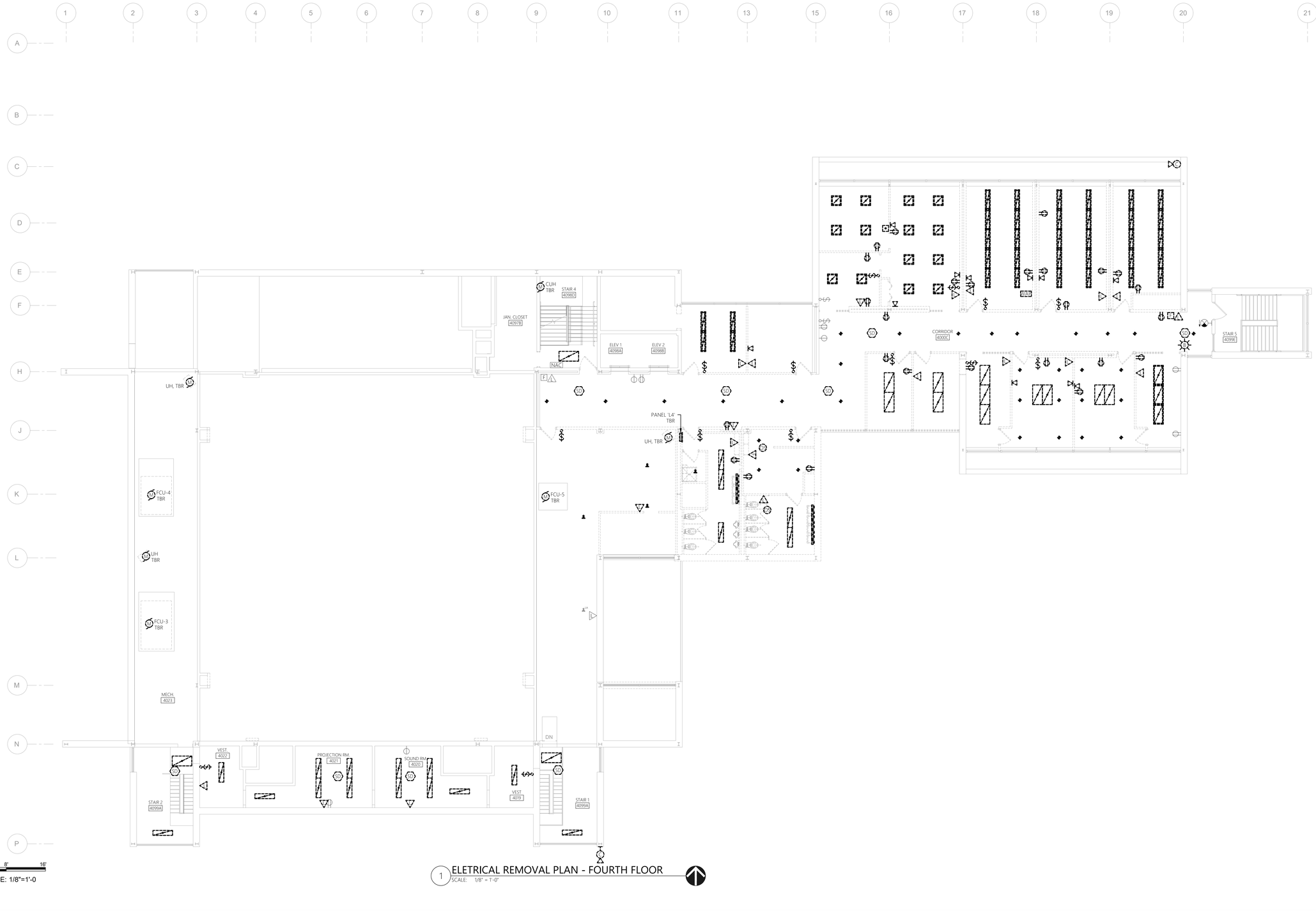
1. REFER TO E001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO ER-100 FOR GENERAL REMOVAL NOTES.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:

SHEET KEY NOTES:

(1) REMOVE LIGHT FIXTURE/SOCKET, SWITCHING MEANS & WIRING BACK TO SOURCE. RETAIN JUNCTION BOX & CONCEALED CONDUIT.



2 ELETRICAL REMOVAL PLAN - PENTHOUSE
SCALE: 1/8" = 1'-0"



0 4' 8' 16'
SCALE: 1/8"=1'-0

1 ELETRICAL REMOVAL PLAN - FOURTH FLOOR
SCALE: 1/8" = 1'-0"

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ER-104

ELECTRICAL REMOVAL PLANS - 4TH FLOOR & PENTHOUSE

NOVEMBER 16, 2026

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SHEET KEY NOTES:

1. PROVIDE DISCONNECTION & RECONNECTION TO EF-1 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM 40A/3P BREAKER IN PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'KEF-6' ON SHEET E-105. FIELD VERIFICATION REQUIRED.

GENERAL REMOVAL NOTES:

1. REFER TO E001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS & GENERAL NOTES.
2. REFER TO ER-100 FOR GENERAL REMOVAL NOTES.
3. THESE REMOVAL DRAWINGS ARE SCHEMATIC IN NATURE & ARE BASED ON CASUAL FIELD OBSERVATIONS. IT IS NOT THE INTENTION OF THESE DRAWINGS TO INDICATE EVERY DEVICE/FIXTURE REQUIRING REMOVAL/DEMO, RATHER GENERAL SYSTEMS WHICH ARE TO BE REMOVED. IN GENERAL:



1 ELETRICAL REMOVAL PLAN - PENTHOUSE/ROOF
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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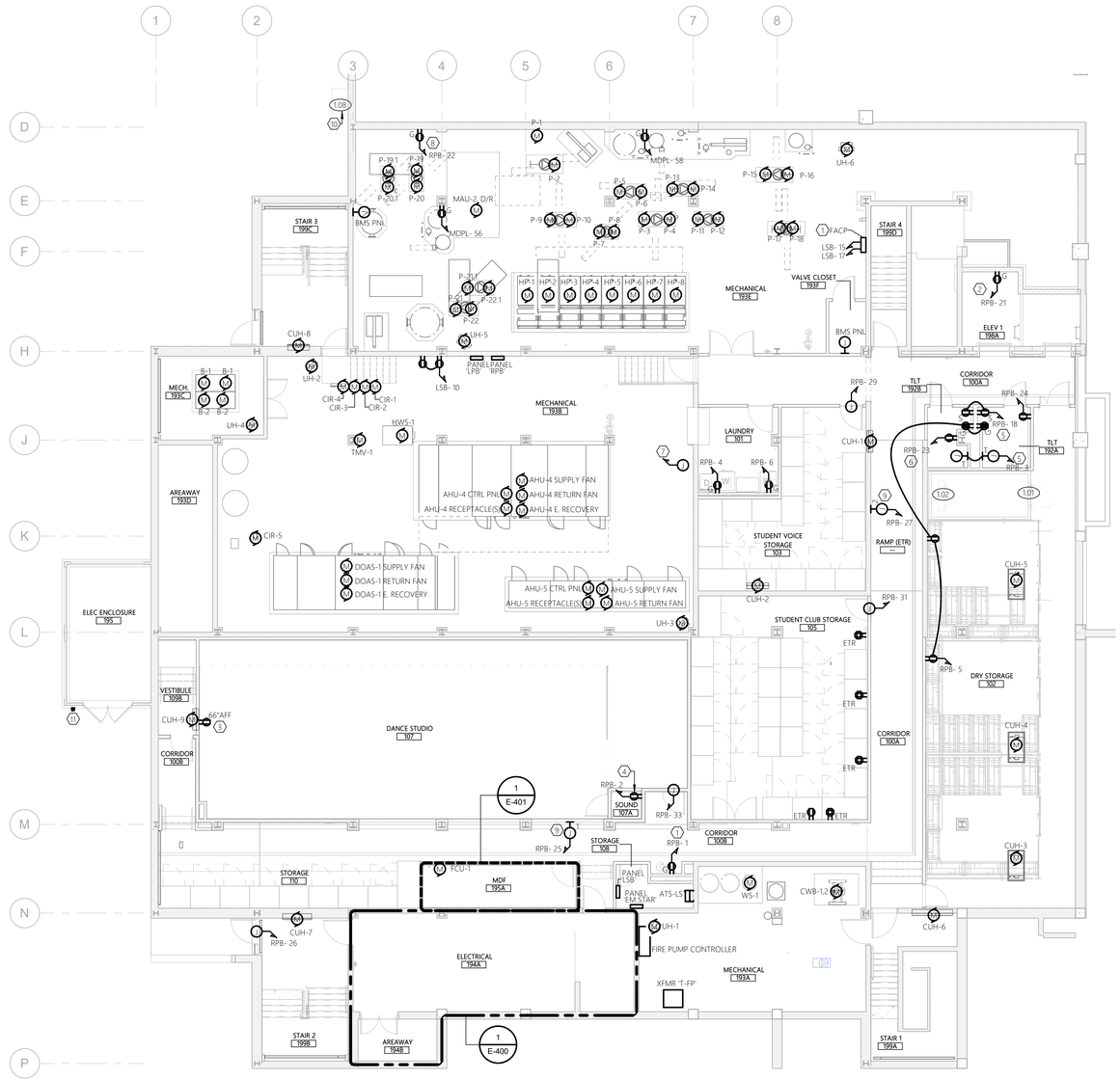
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ER-105

ELECTRICAL REMOVAL PLAN - ROOF

NOVEMBER 16, 2026
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1 ELECTRICAL POWER PLAN - BASEMENT

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

0 4' 8' 16'

SCALE: 1/8"=1'-0

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. REFER TO SHEET E-703 FOR MODIFICATIONS TO SYSTEM PROPOSED FOR THIS PROJECT.
2. PROVIDE 120V, GFCI RATED ELEVATOR PIT RECEPTACLE FOR SUMP PUMP. COORDINATE EXACT MOUNTING HEIGHT IN FIELD PRIOR TO ROUGH-IN.
3. PROVIDE 120V RECEPTACLE WITHIN WALL MOUNTED A/V STORAGE BOX #10. REFER ALSO TO 'TA' DRAWINGS.
4. PROVIDE 120V RECEPTACLE FOR A/V EQUIPMENT. REFER ALSO TO 'TA' DRAWINGS.
5. PROVIDE ELECTRICAL ROUGH-IN FOR PLUMBING FIXTURES. REFER TO JUNCTION BOX SCHEDULE, DRAWING E502, FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH P-DRAWINGS.
6. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
7. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR 120V:24V STEP DOWN TRANSFORMER FOR VAV'S. TRANSFORMERS ARE TO BE FURNISHED AND INSTALLED BY DIVISION 23 WITHIN ACCESSIBLE LOCATIONS. LOCATED ON AS-BUILTS.
8. COORDINATE WITH GEOTHERMAL INSTALLER, PROVIDE DEDICATED 20A, 120V RECEPTACLE FOR POWER SERVICE TO DTS/INTEGRATOR PANEL.
9. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.
10. REMOTE REFRIGERATION UNIT TO BE LOCATED OUTSIDE. COORDINATE LOCATION WITH FS DRAWINGS PRIOR TO ROUGH-IN.
11. PROVIDE REMOTE GENERATOR EMERGENCY STOP WITH WEATHER-PROOF COVER.
12. COORDINATE EXACT LOCATION OF ELEVATOR PIT SUMP PUMP WITH PLUMBING DRAWINGS.

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Checked By:	BCW
Project Manager:	

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E-100

ELECTRICAL POWER PLAN - BASEMENT

NOVEMBER 16, 2026
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CONTRACT TO MAINTAIN EXISTING ELECTRICAL INFRASTRUCTURE WITHIN HATCHED AREA THROUGH CONSTRUCTION PHASE.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL POWER PLAN - FIRST FLOOR

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

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. PROVIDE 120V RECEPTACLE WITHIN WALL MOUNTED A/V STORAGE BOX #10 REFER ALSO TO 'TA' DRAWINGS.
2. PROVIDE 120V RECEPTACLE WITHIN WALL MOUNTED A/V STORAGE BOX #12 REFER ALSO TO 'TA' DRAWINGS.
3. PROVIDE 120V RECEPTACLE FOR A/V EQUIPMENT. REFER ALSO TO 'TA' DRAWINGS.
4. PROVIDE RECONNECTION OF STORED DOGHOUSE RECEPTACLES & RACEWAY ON COUNTERTOP, FOLLOWING THE REPLACEMENT OF GLAZING WALL.
5. PROVIDE POKE-THRU CONNECTIONS (THROUGH MASONRY WALL). PROVIDE FINAL CIRCUIT CONNECTION WITHIN ROOM #1016 FURRED WALL.
6. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR 120V:24V STEP DOWN TRANSFORMER FOR VAV'S. TRANSFORMERS ARE TO BE FURNISHED AND INSTALLED BY DIVISION 23 WITHIN ACCESSIBLE LOCATIONS. LOCATED ON AS-BUILTS.
7. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.
8. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.
9. PROVIDE DISCONNECTION & RECONNECTION TO KEF-8 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM 20A/2P BREAKER IN PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'EF-2' ON THAT PANEL. FIELD VERIFICATION REQUIRED.
10. PROVIDE DISCONNECTION & RECONNECTION TO KEF-7 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM 20A/1P BREAKER IN PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'EF-3' ON THAT PANEL. FIELD VERIFICATION REQUIRED.

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JSE
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STATE OF NEW YORK · BENJAMIN C. WALLACE · 085954 · LICENSED PROFESSIONAL ENGINEER

Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-101

ELECTRICAL POWER PLAN - FIRST FLOOR

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH:

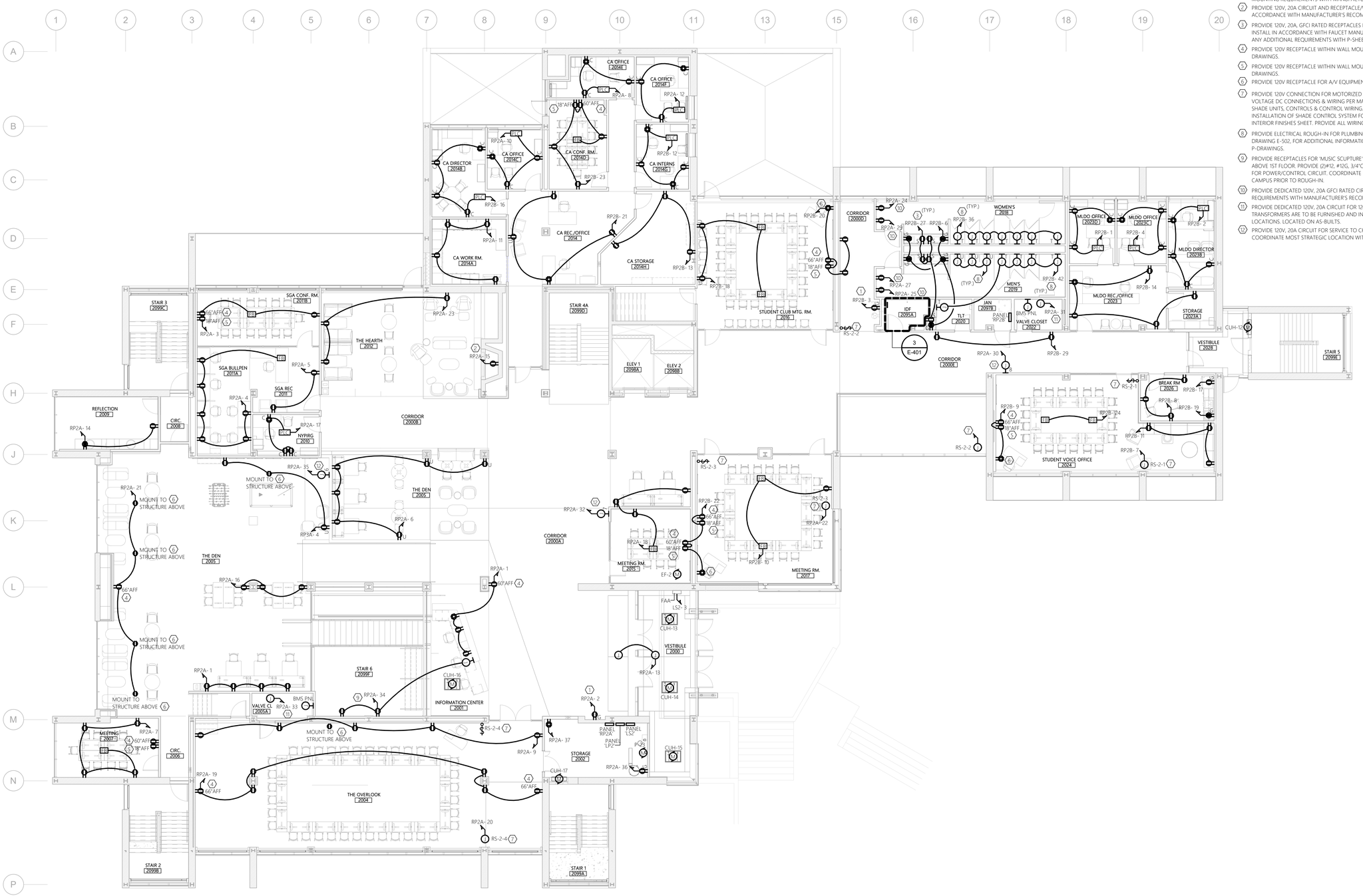
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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR WATER FOUNTAIN. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
2. PROVIDE 120V, 20A CIRCUIT AND RECEPTACLE/WHIP FOR FIREPLACE, PROVIDE ROUGH-IN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE 120V, 20A, GFCI RATED RECEPTACLES FOR SENSOR ACTIVATED BATHROOM FAUCET, INSTALL IN ACCORDANCE WITH FAUCET MANUFACTURER'S RECOMMENDATIONS. COORDINATE ANY ADDITIONAL REQUIREMENTS WITH P-SHEETS.
4. PROVIDE 120V RECEPTACLE WITHIN WALL MOUNTED A/V STORAGE BOX #10. REFER ALSO TO 'TA' DRAWINGS.
5. PROVIDE 120V RECEPTACLE WITHIN WALL MOUNTED A/V STORAGE BOX #12 REFER ALSO TO 'TA' DRAWINGS.
6. PROVIDE 120V RECEPTACLE FOR A/V EQUIPMENT. REFER ALSO TO 'TA' DRAWINGS.
7. PROVIDE 120V CONNECTION FOR MOTORIZED ROLLER SHADE POWER SUPPLY. PROVIDE ALL LOW VOLTAGE DC CONNECTIONS & WIRING PER MANUFACTURER'S INSTRUCTION FOR MULTIPLE SHADE UNITS, CONTROLS & CONTROL WIRING. CONTRACTOR TO PROVIDE TURN KEY INSTALLATION OF SHADE CONTROL SYSTEM FOR WINDOWS IDENTIFIED ON ARCHITECTURAL INTERIOR FINISHES SHEET. PROVIDE ALL WIRING, PANELS AND KEYPADS.
8. PROVIDE ELECTRICAL ROUGH-IN FOR PLUMBING FIXTURES. REFER TO JUNCTION BOX SCHEDULE, DRAWING E-502, FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH P-DRAWINGS.
9. PROVIDE RECEPTACLES FOR 'MUSIC SCUPTURE' RELOCATION. ELEVATION IS ANTICIPATED @ 14' ABOVE 1ST FLOOR. PROVIDE (2)#12, #12G, 3/4"C TO J-BOX IN INFORMATION DESK IN SPACE 2001 FOR POWER/CONTROL CIRCUIT. COORDINATE FINAL ELEVATIONS & CONNECTIONS WITH CAMPUS PRIOR TO ROUGH-IN.
10. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
11. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR 120V-24V STEP DOWN TRANSFORMER FOR VAV'S. TRANSFORMERS ARE TO BE FURNISHED AND INSTALLED BY DIVISION 23 WITHIN ACCESSIBLE LOCATIONS. LOCATED ON AS-BUILTS.
12. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL POWER PLAN - SECOND FLOOR

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

FILE PATH:

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JADE STONE ENGINEERING

STATE OF NEW YORK BENJAMIN C. WALLACE LICENSED PROFESSIONAL ENGINEER 085954

Drawn By:	CCH
Checked By:	BCW
Project Manager:	

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103 Prospect Terrace
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SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-102

ELECTRICAL POWER PLAN - SECOND FLOOR

NOVEMBER 16, 2026

BID DOCUMENTS

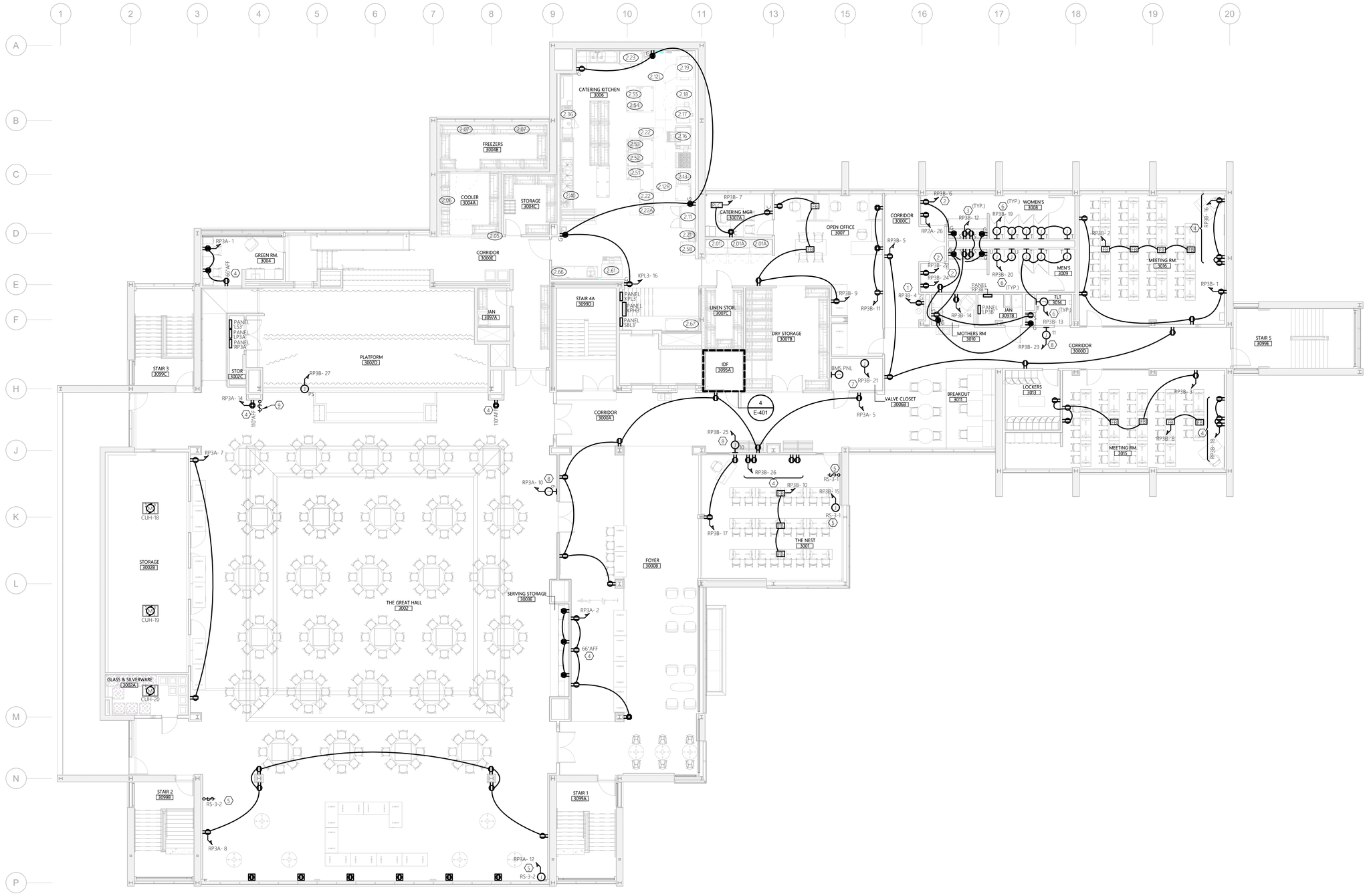
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SHEET KEY NOTES:

1. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR WATER FOUNTAIN. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
2. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
3. PROVIDE 120V, 20A, GFCI RATED RECEPTACLES FOR SENSOR ACTIVATED BATHROOM FAUCET, INSTALL IN ACCORDANCE WITH FAUCET MANUFACTURER'S RECOMMENDATIONS. COORDINATE ANY ADDITIONAL REQUIREMENTS WITH P-SHEETS.
4. PROVIDE 120V RECEPTACLE. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & ELEVATIONS.
5. PROVIDE 120V CONNECTION FOR MOTORIZED ROLLER SHADE POWER SUPPLY. PROVIDE ALL LOW VOLTAGE DC CONNECTIONS & WIRING PER MANUFACTURER'S INSTRUCTION FOR MULTIPLE SHADE UNITS, CONTROLS & CONTROL WIRING. CONTRACTOR TO PROVIDE TURN KEY INSTALLATION OF SHADE CONTROL SYSTEM FOR WINDOWS IDENTIFIED ON ARCHITECTURAL INTERIOR FINISHES SHEET. PROVIDE ALL WIRING, PANELS AND KEYPADS.
6. PROVIDE ELECTRICAL ROUGH-IN FOR PLUMBING FIXTURES. REFER TO JUNCTION BOX SCHEDULE, DRAWING E-502, FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH P-DRAWINGS.
7. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR 120V-24V STEP DOWN TRANSFORMER FOR VAV'S. TRANSFORMERS ARE TO BE FURNISHED AND INSTALLED BY DIVISION 23 WITHIN ACCESSIBLE LOCATIONS. LOCATED ON AS-BUILTS.
8. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.
9. PROVIDE SWITCH FOR PROJECTION SCREEN DEPLOYMENT. COORDINATE TYPE WITH SCREEN MFR.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL POWER PLAN - THIRD FLOOR

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

FILE PATH:

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BENJAMIN C. WALLRAPP
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Drawn By: CCH
Checked By: BCW
Project Manager:

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103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-103

ELECTRICAL POWER PLAN - THIRD FLOOR

NOVEMBER 16, 2026
BID DOCUMENTS

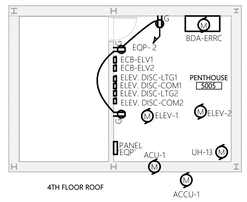
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GENERAL SHEET NOTES:

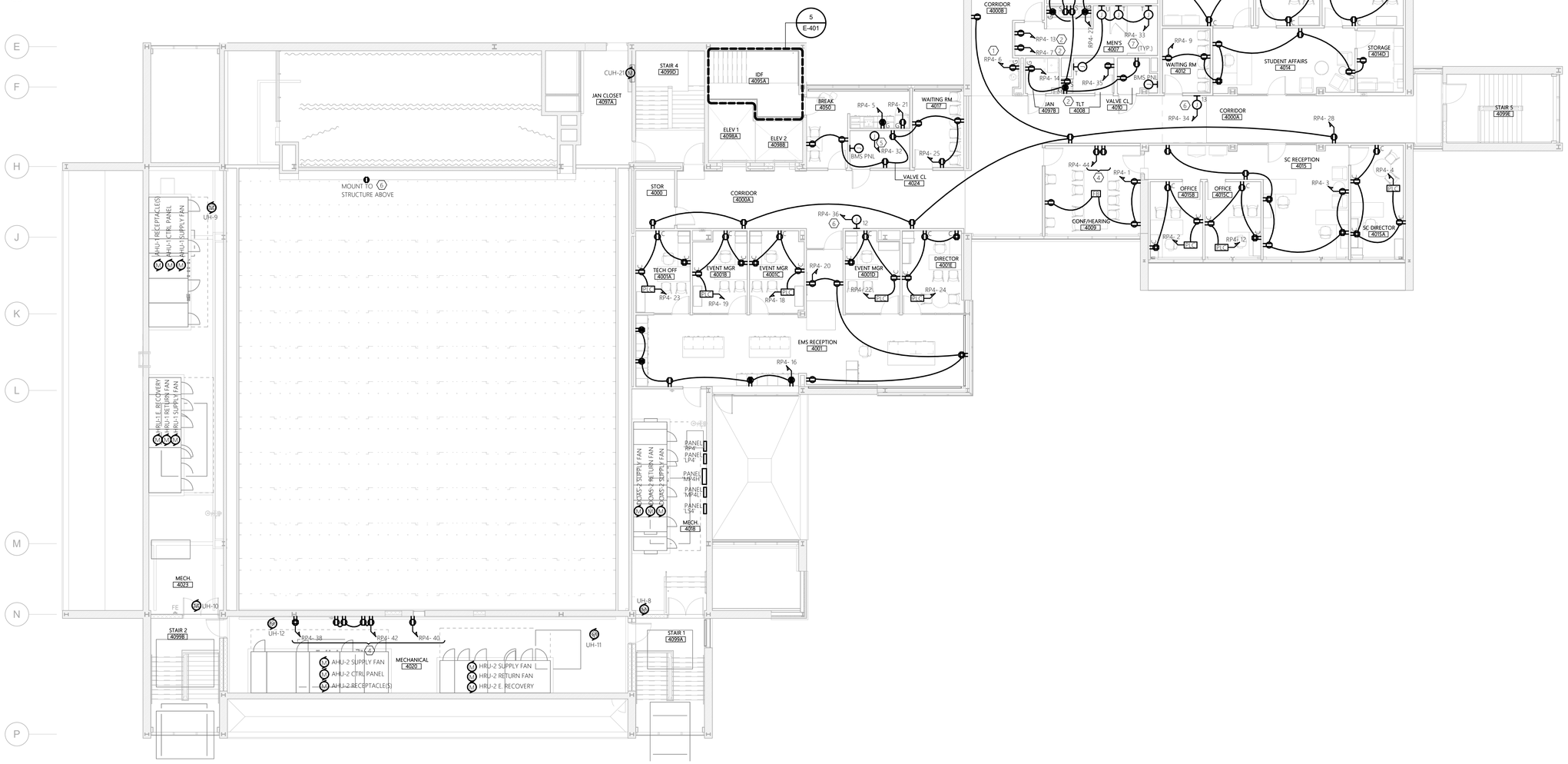
1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR WATER FOUNTAIN. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
2. PROVIDE DEDICATED 120V, 20A GFCI RATED CIRCUIT FOR HAND DRYER. COORDINATE MOUNTING REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS PRIOR TO ROUGH-IN.
3. PROVIDE 120V, 20A, GFCI RATED RECEPTACLES FOR SENSOR ACTIVATED BATHROOM FAUCET, INSTALL IN ACCORDANCE WITH FAUCET MANUFACTURER'S RECOMMENDATIONS. COORDINATE ANY ADDITIONAL REQUIREMENTS WITH P-SHEETS.
4. PROVIDE 120V RECEPTACLE. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & ELEVATIONS.
5. PROVIDE DEDICATED 120V, 20A CIRCUIT FOR 120V:24V STEP DOWN TRANSFORMER FOR VAV'S. TRANSFORMERS ARE TO BE FURNISHED AND INSTALLED BY DIVISION 23 WITHIN ACCESSIBLE LOCATIONS. LOCATED ON AS-BUILTS.
6. PROVIDE 120V, 20A CIRCUIT FOR SERVICE TO CHILLED BEAM CONDENSATE PUMPS (16 MAX). COORDINATE MOST STRATEGIC LOCATION WITH M-DRAWINGS.
7. PROVIDE ELECTRICAL ROUGH-IN FOR PLUMBING FIXTURES. REFER TO JUNCTION BOX SCHEDULE, DRAWING E-502, FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH P-DRAWINGS.



2 ELECTRICAL POWER PLAN - PENTHOUSE
SCALE: 1/8" = 1'-0"



1 ELECTRICAL POWER PLAN - FOURTH FLOOR
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

FILE PATH:

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JADE STONE ENGINEERING

STATE OF NEW YORK · BENJAMIN C. WALLISDORF · 085954 · LICENSED PROFESSIONAL ENGINEER

Drawn By: CCH
Checked By: BCW
Project Manager:

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Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-104

ELECTRICAL POWER PLAN - 4TH FLOOR & PENTHOUSE

NOVEMBER 16, 2026

BID DOCUMENTS

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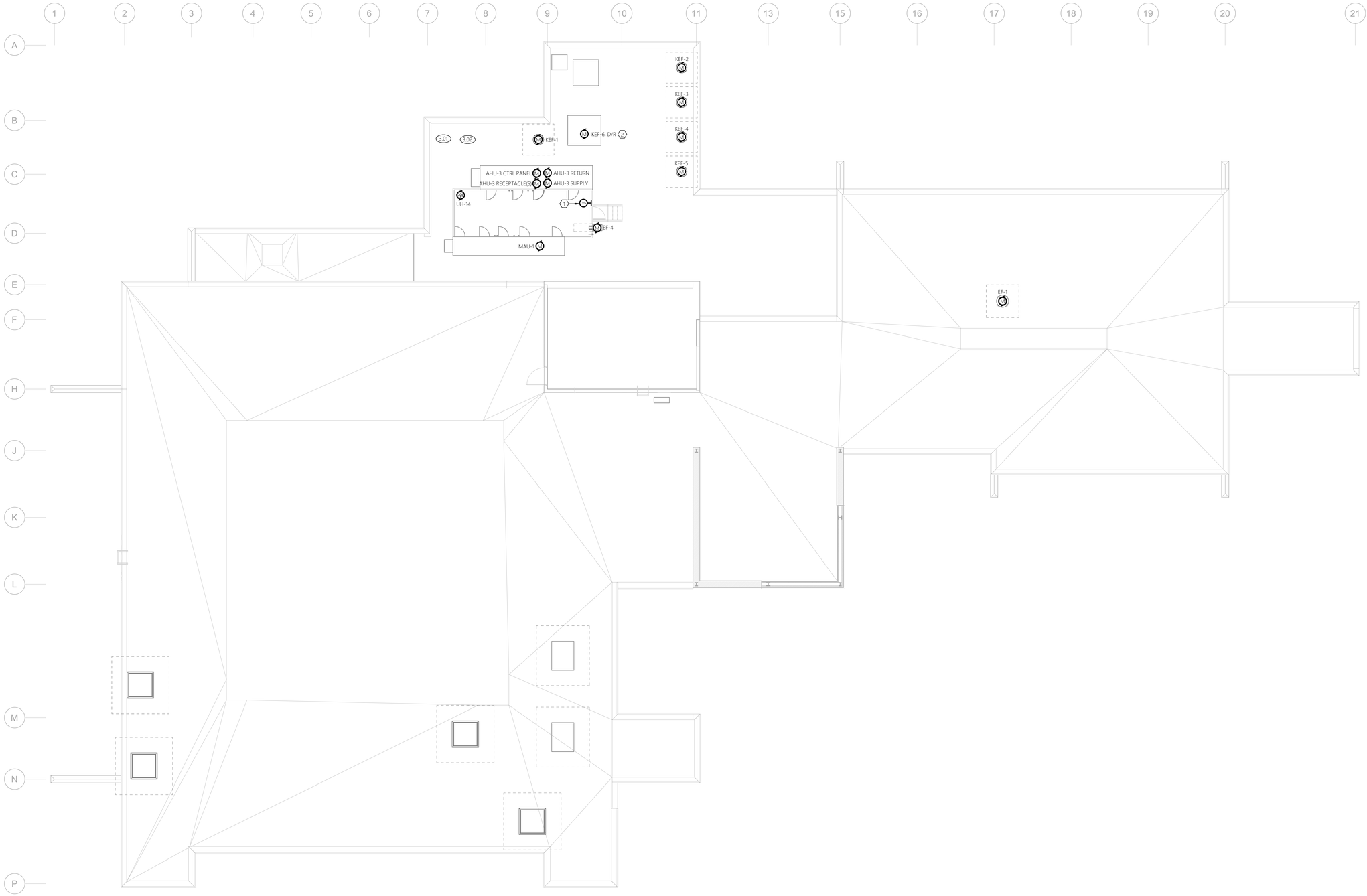
GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

(1) PROVIDE 120V, 20A CIRCUIT FOR SERVICE CORRIDOR LIGHTING. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS AND M-SHEETS.

(2) PROVIDE DISCONNECTION & RECONNECTION TO KEF-6 TO ACCOMMODATE WORK FOR OTHER TRADES. IT IS ASSUMED TO BE FED FROM PANEL 'PSM', LOCATED IN RECEIVING ROOM 109 & IDENTIFIED AS 'EF-1' ON THAT PANEL. FIELD VERIFICATION REQUIRED.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL POWER PLAN - ROOF

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

FILE PATH:

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Checked By:	BCW
Project Manager:	

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Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-105

ELECTRICAL POWER PLAN - ROOF PLAN

NOVEMBER 16, 2026

BID DOCUMENTS

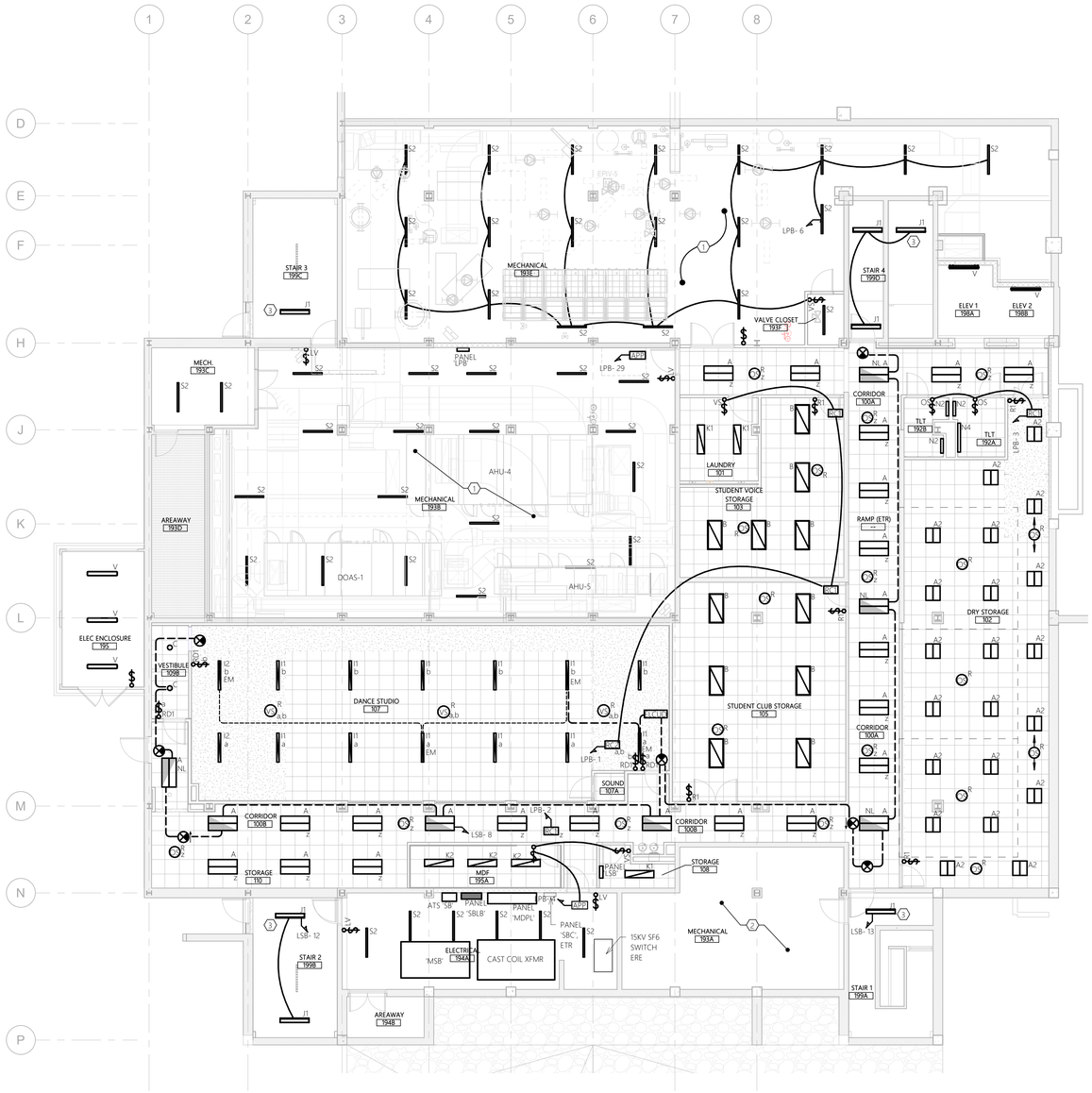
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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECAT GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.

SHEET KEY NOTES:

1. COORDINATE LIGHTING LAYOUT SO AS TO NOT CONFLICT WITH DUCTWORK OR PIPING. COORDINATE WITH MECHANICAL TRADE PRIOR TO INSTALLATION.
2. LIGHTING & LIGHTING CONTROL IN THIS SPACE IS EXISTING TO REMAIN.
3. CONNECT ALL FIXTURES IN COMMON STAIR TOWER ON SAME CIRCUIT.



1 ELECTRICAL LIGHTING PLAN - BASEMENT
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

FILE PATH:

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STATE OF NEW YORK
BENJAMIN C. WALLSHOFF
085954
LICENSED PROFESSIONAL ENGINEER

Drawn By:	KJM
Checked By:	BCW
Project Manager:	

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Revisions

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103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-200
ELECTRICAL LIGHTING PLAN - BASEMENT

NOVEMBER 16, 2026
BID DOCUMENTS

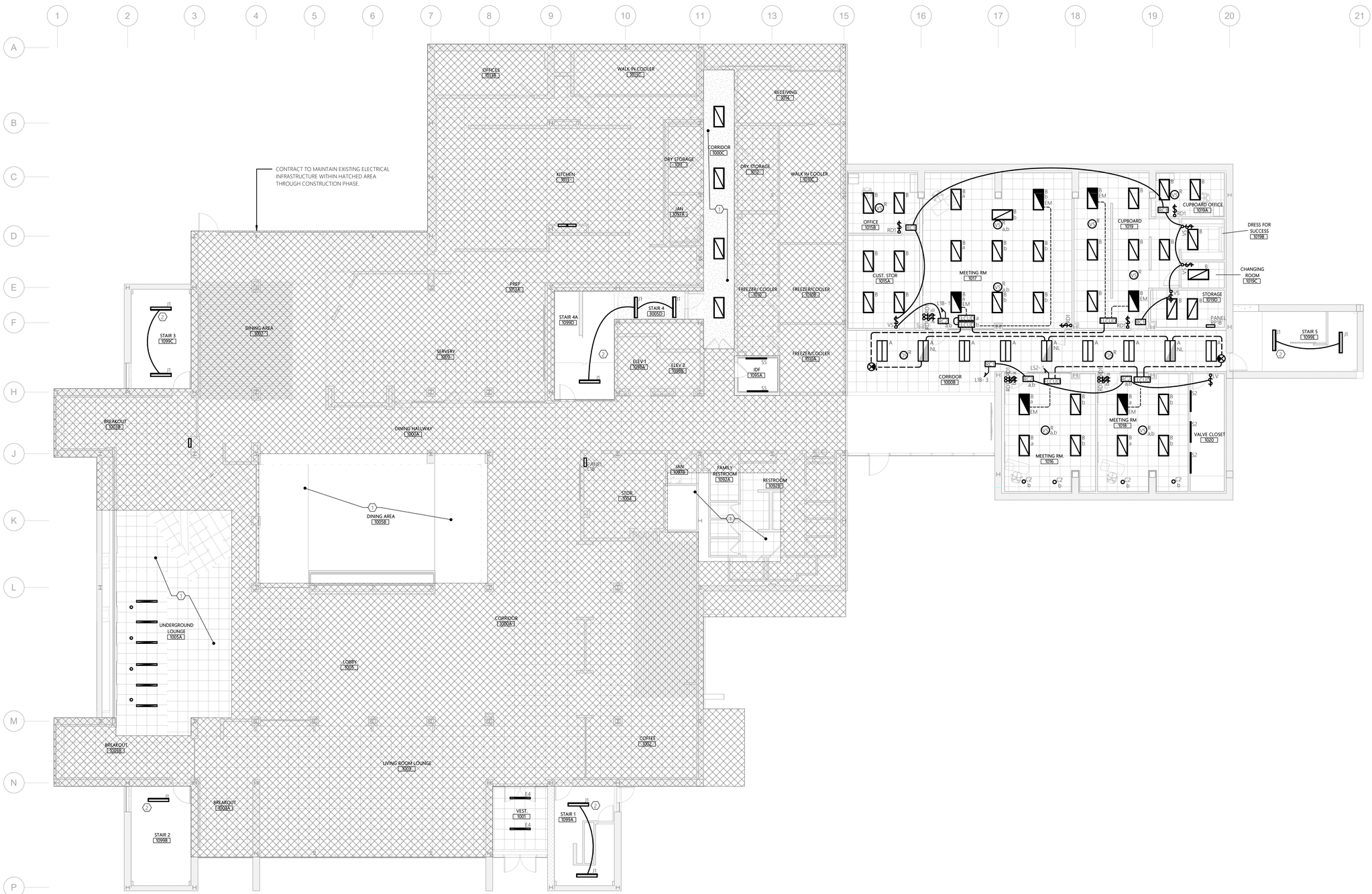
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SHEET KEY NOTES:

1. PROVIDE RECONNECTION OF ALL CEILING MOUNTED DEVICES WHICH WERE TEMPORARILY STORED & REINSTALL. COORDINATE WITH FIRE ALARM VENDOR FOR SUPPORT. NOT ALL FIXTURES/DEVICES SHOWN.
2. CONNECT ALL FIXTURES IN COMMON STAIR TOWER ON SAME CIRCUIT.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL LIGHTING PLAN - FIRST FLOOR

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

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BENJAMIN C. WALLRAFF
LICENSED PROFESSIONAL ENGINEER
086954

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Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-201

ELECTRICAL LIGHTING PLAN - FIRST FLOOR

NOVEMBER 16, 2026

BID DOCUMENTS

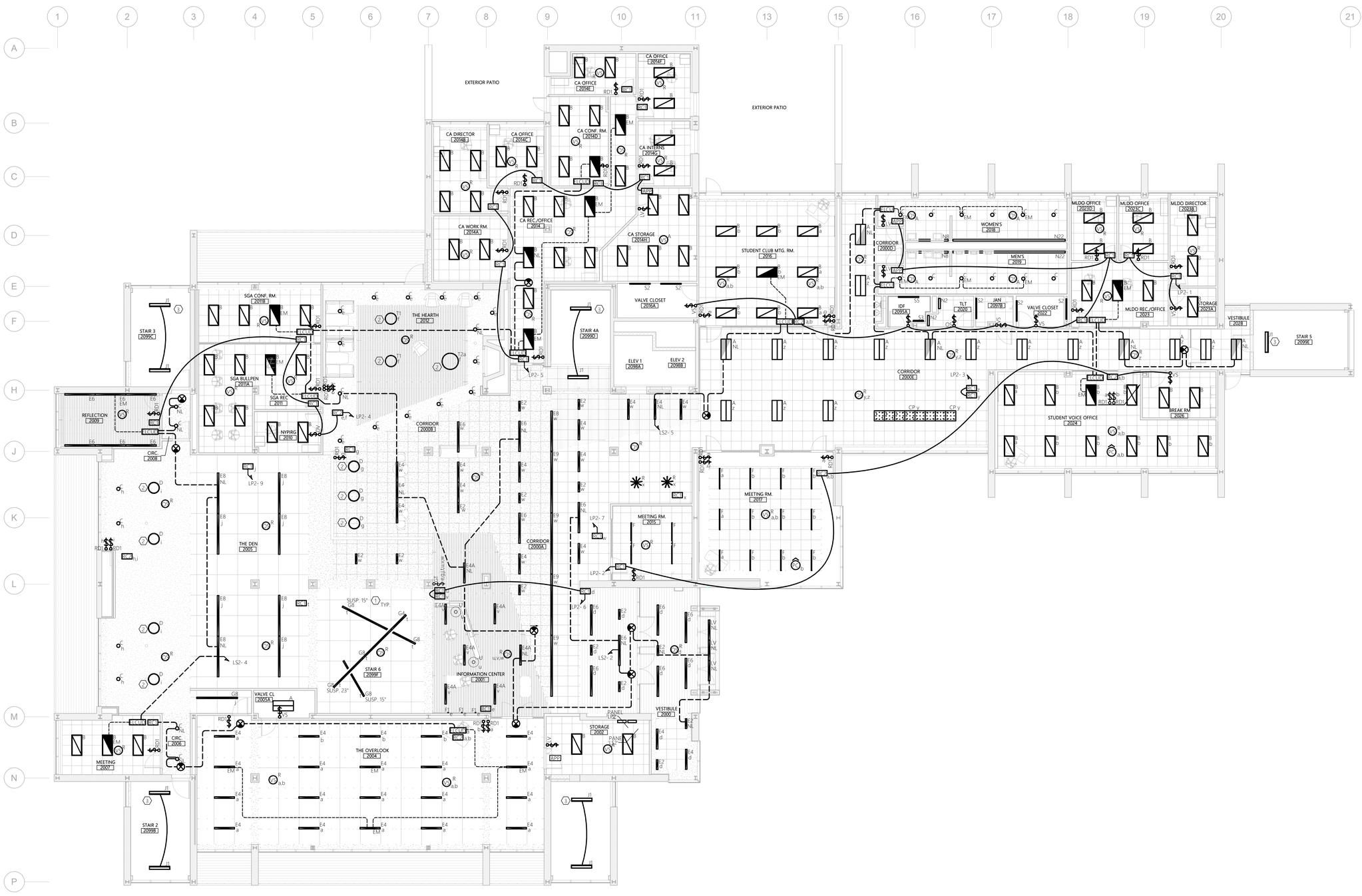
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SHEET KEY NOTES:

1. SUSPENSION LENGTH REFERS TO LENS FINISHED FACE DISTANCE FROM CEILING ABOVE.
2. PRIOR TO ROUGH-IN, COORDINATE FINAL LIGHT FIXTURE LOCATION WITH FINISHED FURNITURE LAYOUT.
3. CONNECT ALL FIXTURES IN COMMON STAIR TOWER ON SAME CIRCUIT.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECAT GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.



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

0 4' 8' 16'
SCALE: 1/8"=1'-0

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E-202

ELECTRICAL LIGHTING PLAN - SECOND FLOOR

NOVEMBER 16, 2026
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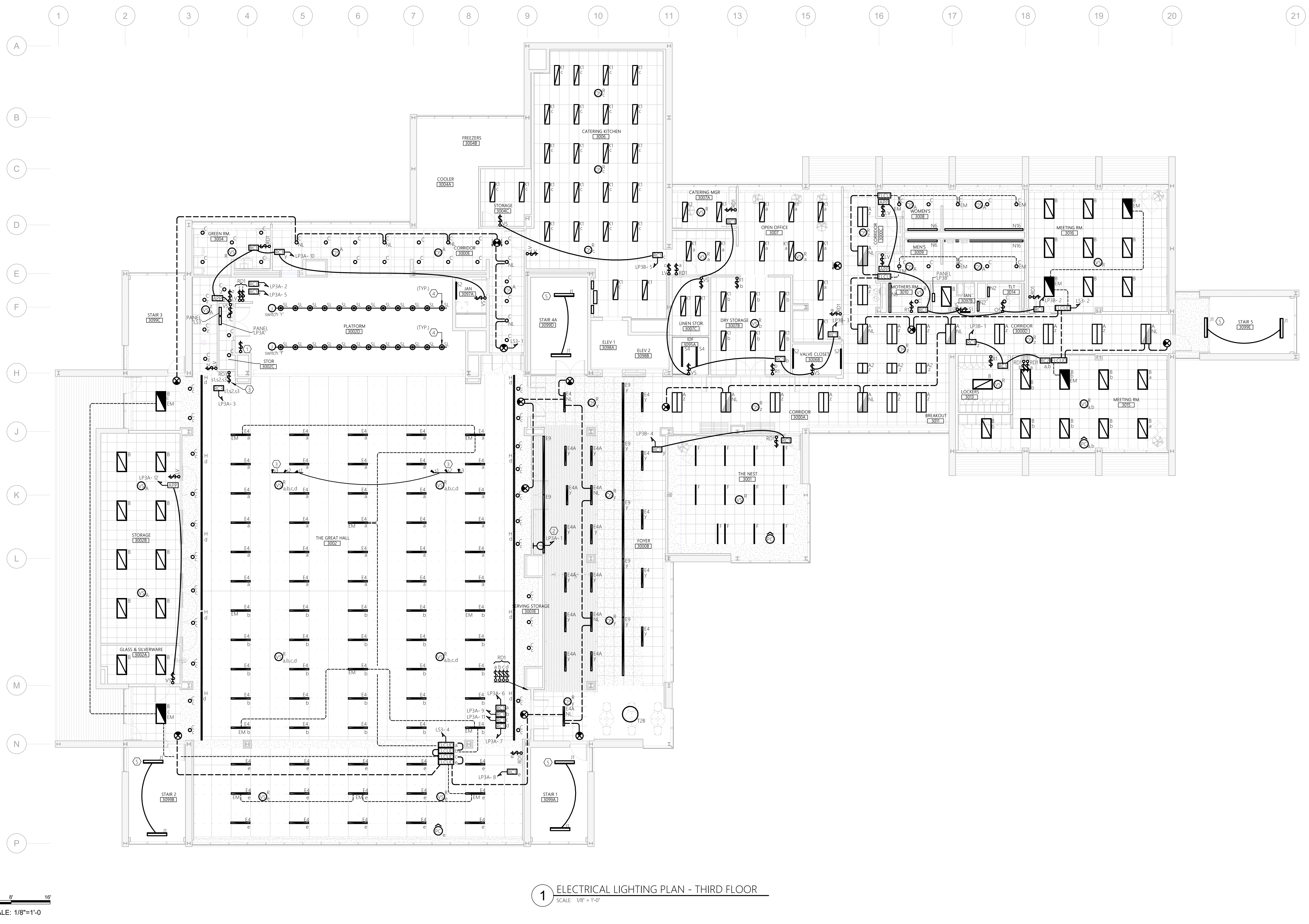
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SHEET KEY NOTES:

1. PROVIDE SINGLE POLE LIGHT SWITCH FOR LOFT LIGHTING ABOVE. COORDINATE SWITCH LOCATION WITH ACCESS LADDER IN FIELD.
2. PROVIDE JUNCTION BOX FOR LIGHTED SIGN. PROVIDE ON/OFF CONTROL VIA BMS. PROVIDE CONTACTOR & SWITCHING CIRCUIT AS NECESSARY.
3. PROVIDE 6' SECTION OF SURFACE-MOUNTED TRACK FOR PLATFORM SPOT LIGHTS. PROVIDE (3) SPOT LIGHTS PER TRACK, EACH FOCUSSED TO A DIFFERENT SPOTS ON STAGE (STAGE LEFT, STAGE MIDDLE, STAGE RIGHT). PROVIDE (3) DIFFERENT SWITCHING ZONES. COORDINATE SWITCH LOCATION WITH CAMPUS PRIOR TO ROUGH-IN
4. PROVIDE 36' SECTION OF SUSPENDED TRACK FOR PLATFORM DOWN LIGHTS. PROVIDE (12) LED DIMMABLE WHITE-LIGHT FIXTURES PER TRACK. PROVIDE A SINGLE DIMMING SWITCH. COORDINATE SWITCH LOCATION WITH CAMPUS PRIOR TO ROUGH-IN.
5. CONNECT ALL FIXTURES IN COMMON STAIR TOWER ON SAME CIRCUIT.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.



1 ELECTRICAL LIGHTING PLAN - THIRD FLOOR
SCALE: 1/8" = 1'-0"

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Checked By: BCW
Project Manager:

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SUCF Project No. 041046-00

E-203

ELECTRICAL LIGHTING PLAN - THIRD FLOOR

NOVEMBER 16, 2026
BID DOCUMENTS

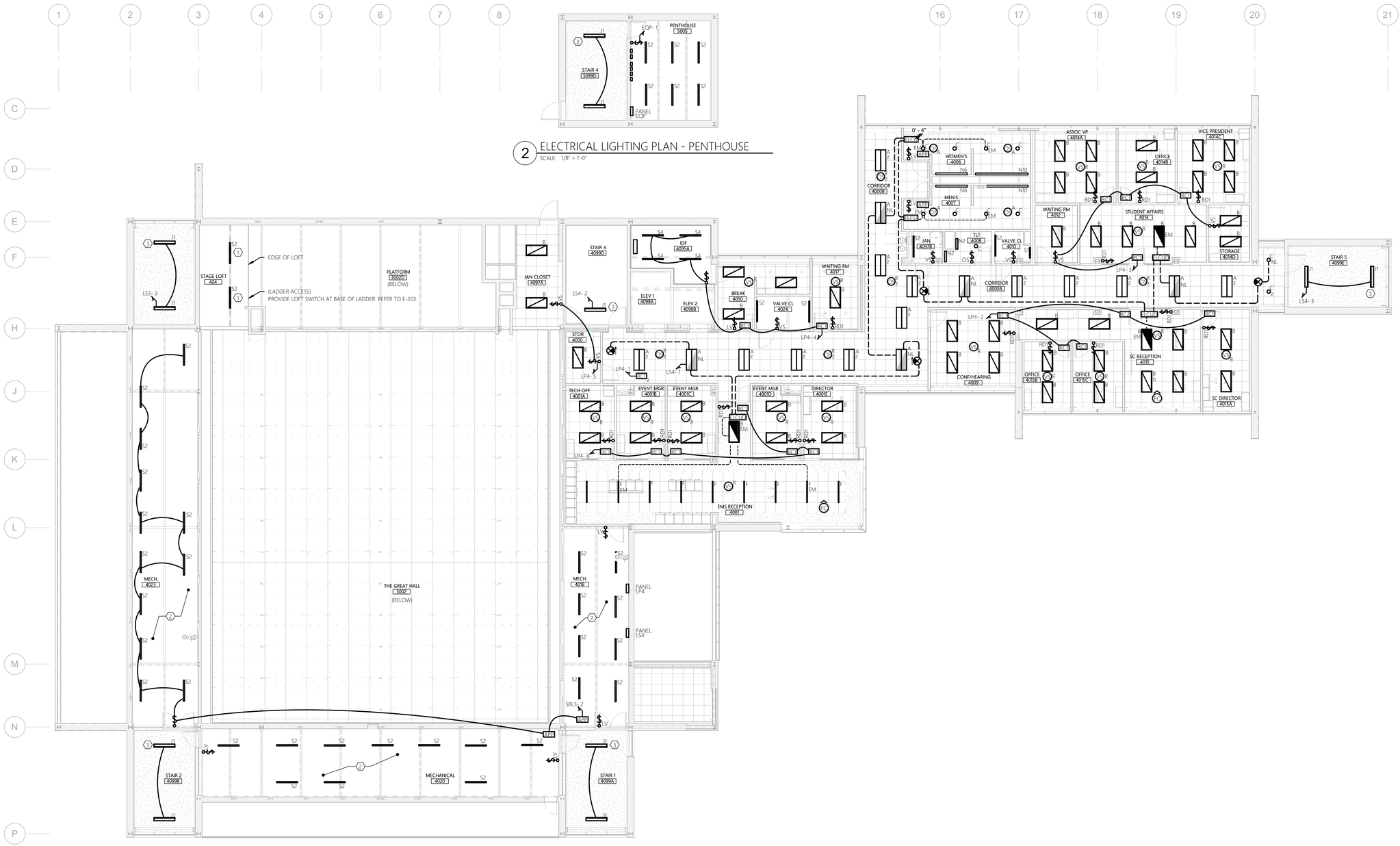
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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.

SHEET KEY NOTES:

1. PROVIDE LIGHT FIXTURE SURFACE MOUNTED TO BOTTOM OF STRUCTURAL STEEL. (APPROX. 8'-10" ABOVE LOFT)
2. COORDINATE LIGHTING LAYOUT SO AS TO NOT CONFLICT WITH DUCTWORK OR PIPING. COORDINATE WITH MECHANICAL TRADE PRIOR TO INSTALLATION.
3. CONNECT ALL FIXTURES IN COMMON STAIR TOWER ON SAME CIRCUIT.



2 ELECTRICAL LIGHTING PLAN - PENTHOUSE
SCALE: 1/8" = 1'-0"

1 ELECTRICAL LIGHTING PLAN - FOURTH FLOOR
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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Project Manager:	

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E-204

ELECTRICAL LIGHTING PLANS - 4TH FLOOR & PENTHOUSE

NOVEMBER 16, 2026

BID DOCUMENTS

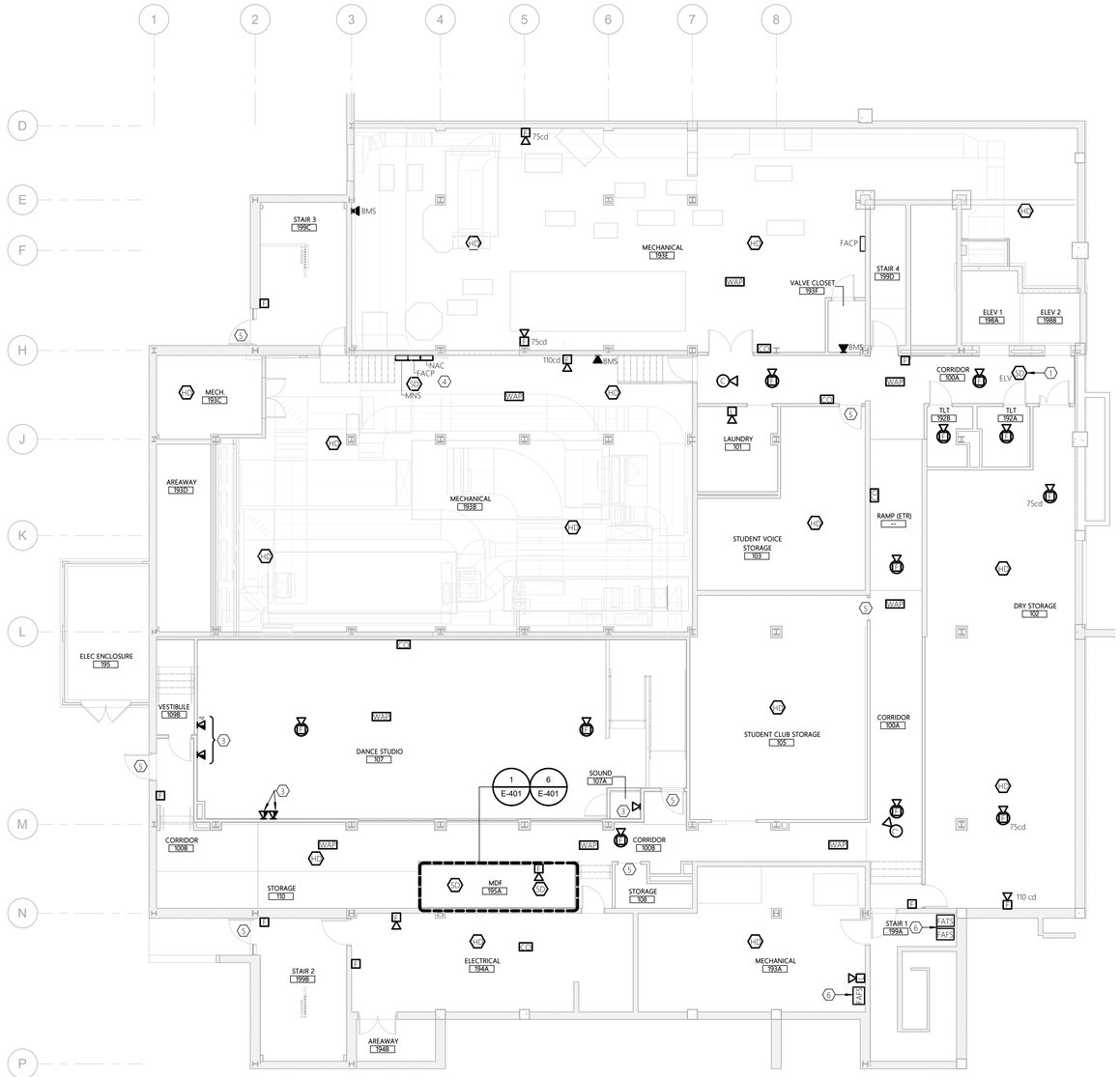
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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. CIRCUIT AND PROGRAM SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE WITH FACILITY FIRE ALARM VENDOR AND ELEVATOR SERVICE PROVIDER.
2. PROVIDE 6" x 4" WELDED WIRE CABLE TRAY THROUGHOUT.
3. PROVIDE DATA CONNECTION. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & MOUNTING HEIGHTS.
4. PROPOSED LOCATION OF MAIN FIRE ALARM CONTROL PANELS.
5. REFER TO SHEET E-707 FOR DOOR HARDWARE INSTALLATION INFORMATION AND RISER DIAGRAMS. COORDINATE WITH A-SHEETS.
6. TAMPER/FLOW SWITCHES ARE EXISTING TO REMAIN IN BASEMENT. PROVIDE NEW FIRE ALARM MONITORING DEVICES AND NEW CABLING TO EST-4. REFER TO RISER DIAGRAM, SHEET E-704 FOR ADDITIONAL INFORMATION.



1 ELECTRICAL SYSTEMS PLAN - BASEMENT
SCALE: 1/8" = 1'-0"

0 4' 8' 16'
SCALE: 1/8"=1'-0

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Checked By: BCW
Project Manager:

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E-300
ELECTRICAL SYSTEMS PLAN - BASEMENT

NOVEMBER 16, 2026
BID DOCUMENTS

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SHEET KEY NOTES:

1. PROVIDE DATA CONNECTION. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & MOUNTING HEIGHTS.
2. REFER TO SHEET E-707 FOR DOOR HARDWARE INSTALLATION INFORMATION AND RISER DIAGRAMS. COORDINATE WITH A-SHEETS.
3. PROVIDE SECURITY CAMERA ROUGH-IN. ELEVATION IS NOTED AS BEING ABOVE FLOOR LEVEL, ANTICIPATING CAMERA IS POINTED TOWARDS STAIR ACCESS FROM THE FLOOR BELOW.
4. PROVIDE 6" x 4" WELDED WIRE CABLE TRAY THROUGHOUT.
5. TAMPER & FLOW SWITCHES EXISTING TO REMAIN ON 1ST FLOOR (STAIR). PROVIDE NEW FIRE ALARM MONITORING DEVICE AND NEW CABLING TO EST-4. REFER TO RISER DIAGRAM, SHEET E-704 FOR ADDITIONAL INFORMATION.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.



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

0 4' 8' 16'
SCALE: 1/8"=1'-0

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E-301

ELECTRICAL SYSTEMS PLAN - FIRST FLOOR

NOVEMBER 16, 2026
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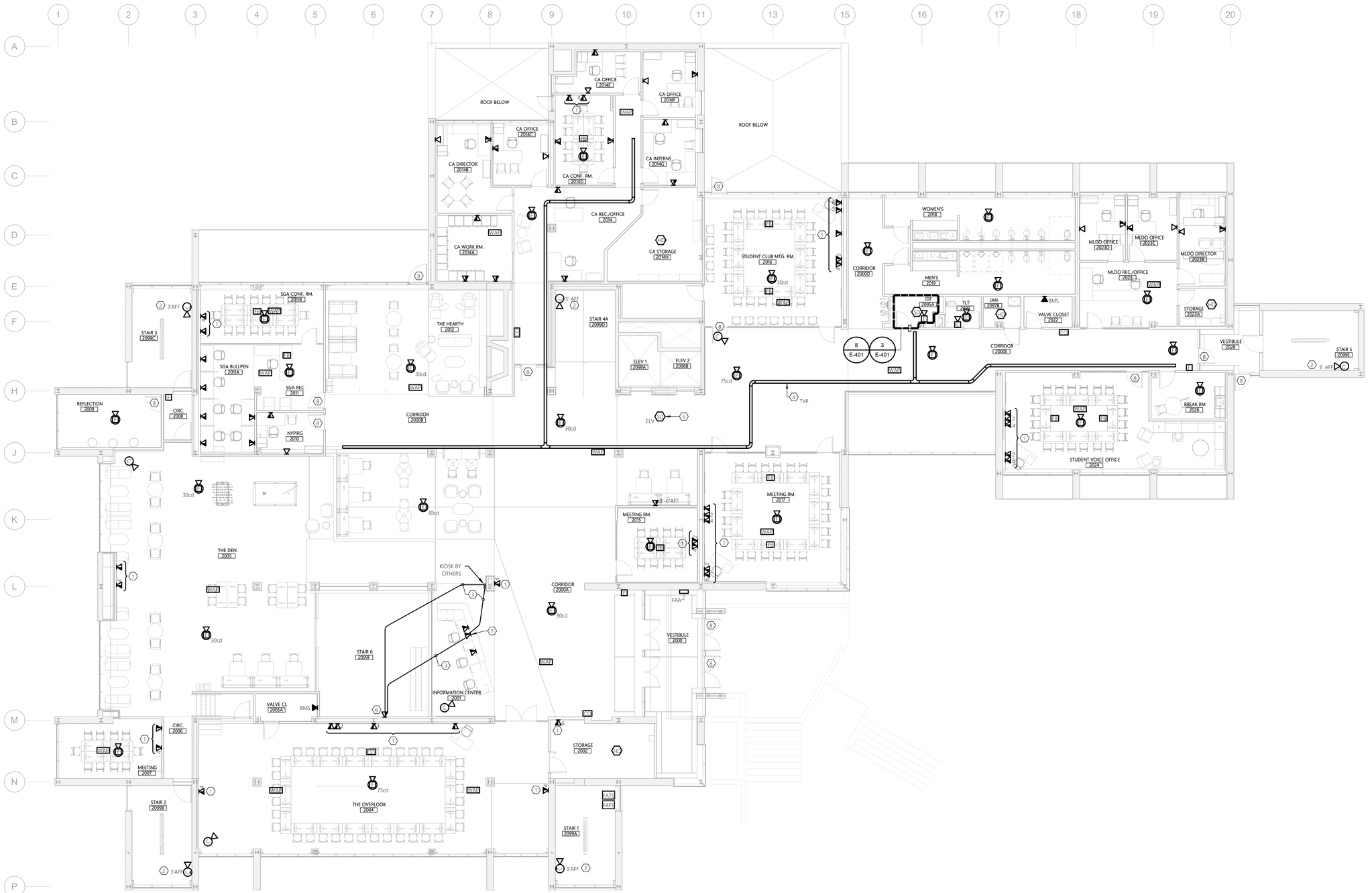
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SHEET KEY NOTES:

1. PROVIDE DATA CONNECTION. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & MOUNTING HEIGHTS.
2. PROVIDE SECURITY CAMERA ROUGH-IN. ELEVATION IS NOTED AS BEING ABOVE FLOOR LEVEL, ANTICIPATING CAMERA IS POINTED TOWARDS STAIR ACCESS FROM THE FLOOR BELOW.
3. PROVIDE 1" SPARE CONDUIT TO POSSIBLE KIOSK LOCATION AT COLUMN. KIOSK PROVIDED BY OTHERS.
4. PROVIDE 6" x 4". WELDED WIRE CABLE TRAY THROUGHOUT.
5. CIRCUIT AND PROGRAM SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE WITH FACILITY FIRE ALARM VENDOR AND ELEVATOR SERVICE PROVIDER.
6. PROVIDE DEDICATED DATA CONNECTION FOR 'MUSIC SCULPTURE' RELOCATION. PROVIDE CAT6 CABLING TO DEDICATED DATA CONNECTION AT INFORMATION DESK. ANTICIPATED SCULPTURE ELEVATION IS 14' ABOVE 1ST FLOOR. COORDINATE FINAL ELEVATION AFF WITH CAMPUS PRIOR TO ROUGH-IN.
7. PROVIDE DEDICATED DATA CONNETION FOR MUSIC SCULPTURE CONTROL.
8. REFER TO SHEET E-707 FOR DOOR HARDWARE INSTALLATION INFORMATION AND RISER DIAGRAMS. COORDINATE WITH A-SHEETS.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.



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

0 4' 8' 16'
SCALE: 1/8"=1'-0

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E-302

ELECTRICAL SYSTEMS PLAN - SECOND FLOOR

NOVEMBER 16, 2026

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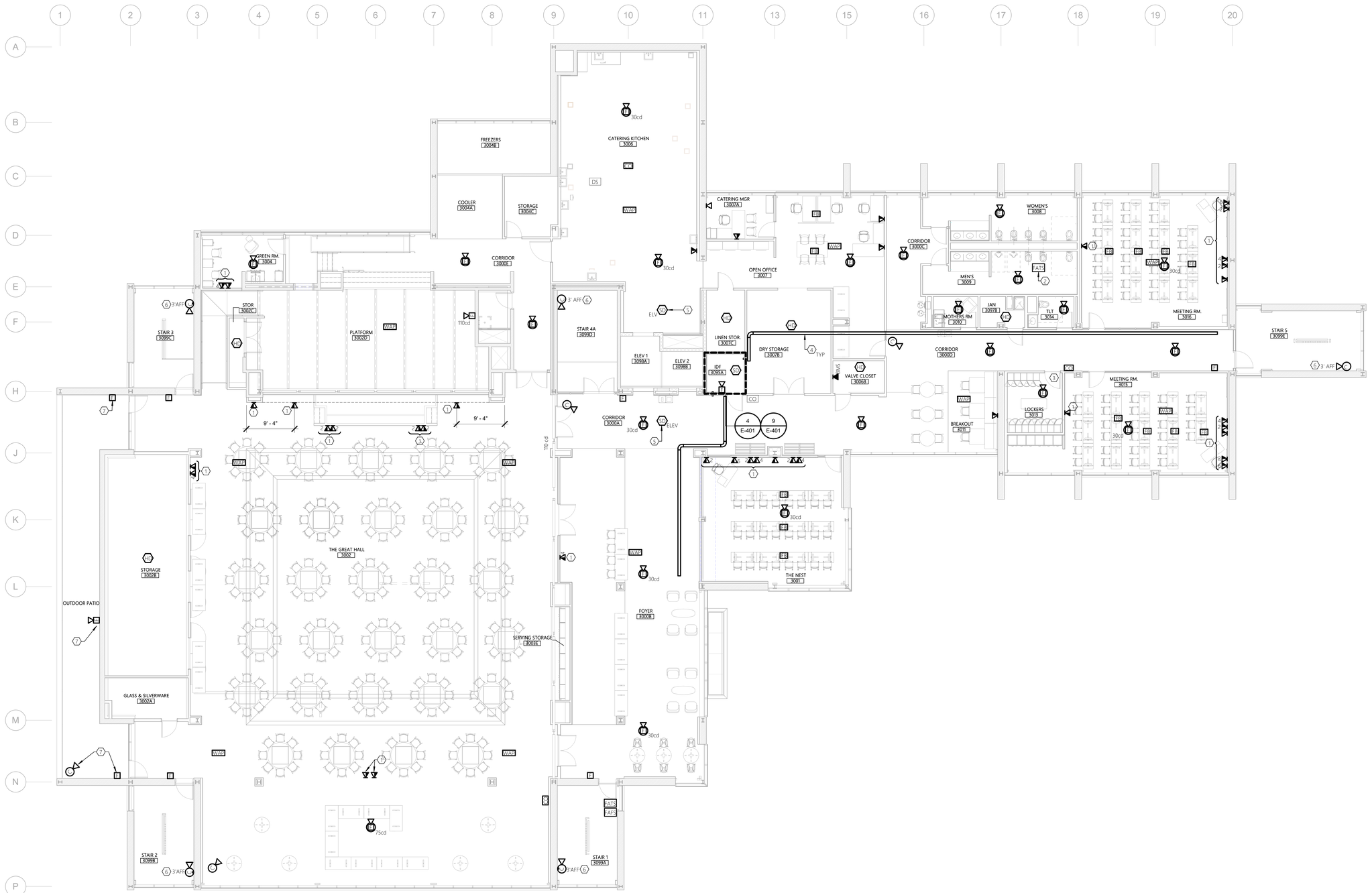
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SHEET KEY NOTES:

1. PROVIDE DATA CONNECTION. REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & MOUNTING HEIGHTS.
2. ALLOW TAMPER SWITCH IN BATHROOM CEILING FOR FIRE SPRINKLER AIR ADMITTANCE VALVE.
3. REFER TO SHEET E-707 FOR DOOR HARDWARE INSTALLATION INFORMATION AND RISER DIAGRAMS. COORDINATE WITH A-SHEETS.
4. PROVIDE 6" x 4" WELDED WIRE CABLE TRAY THROUGHOUT.
5. CIRCUIT AND PROGRAM SMOKE DETECTOR FOR ELEVATOR RECALL. COORDINATE WITH FACILITY FIRE ALARM VENDOR AND ELEVATOR SERVICE PROVIDER.
6. PROVIDE SECURITY CAMERA ROUGH-IN. ELEVATION IS NOTED AS BEING ABOVE FLOOR LEVEL, ANTICIPATING CAMERA IS POINTED TOWARDS STAIR ACCESS FROM THE FLOOR BELOW.
7. PROVIDE WEATHER-PROOF DEVICE.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NEC41 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.



0 4' 8' 16'

SCALE: 1/8"=1'-0

1 ELECTRICAL POWER PLAN - SYSTEMS FLOOR
SCALE: 1/8" = 1'-0"

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SUCF Project No. 041046-00

E-303

ELECTRICAL SYSTEMS PLAN - THIRD FLOOR

NOVEMBER 16, 2026
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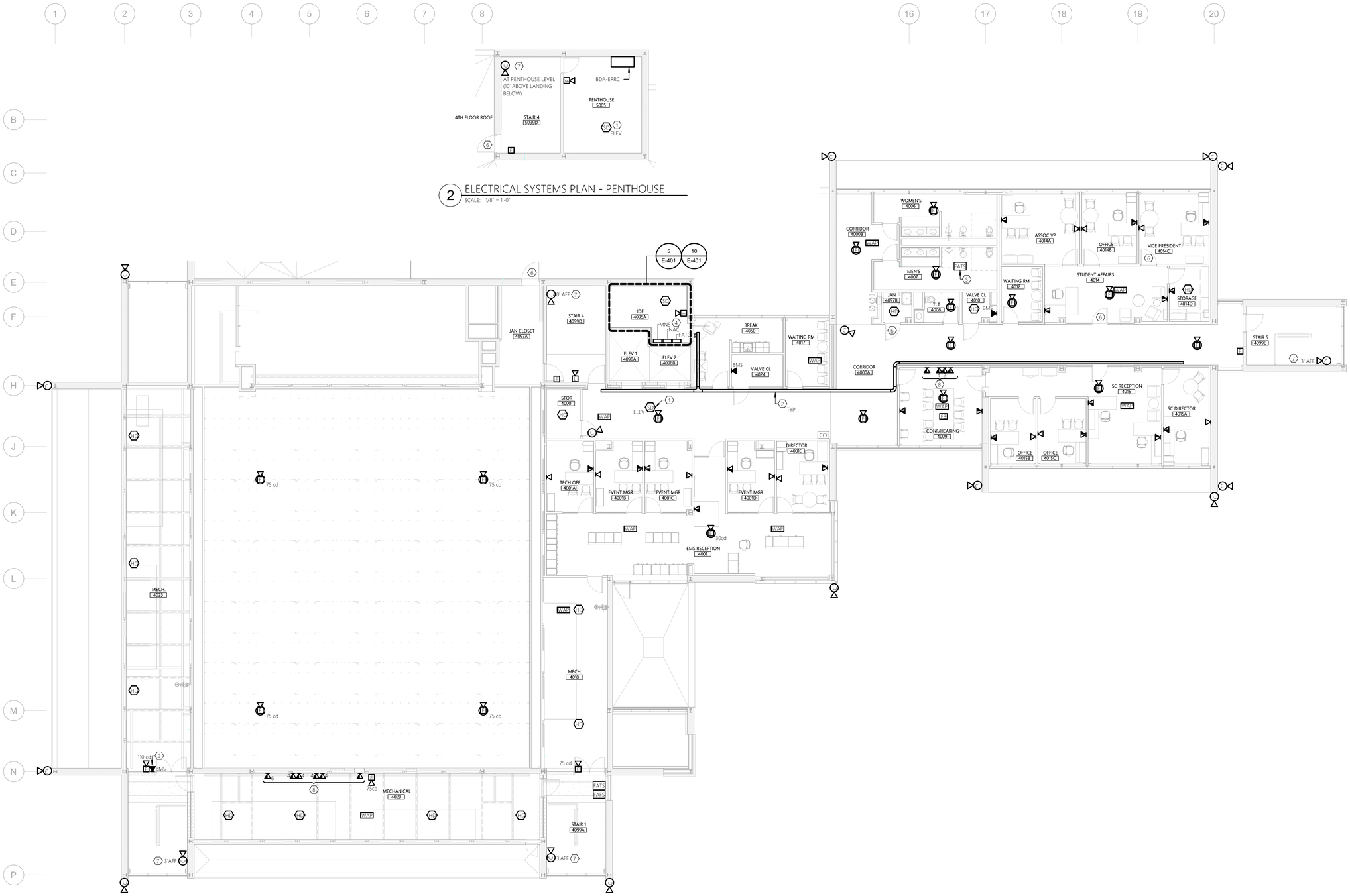
11/16/2026 8:07:52 AM

SHEET KEY NOTES:

1. CIRCUIT AND PROGRAM SMOKE DETECTOR FOR ELEVATOR RECALL. MATCH EXISTING PROGRAMMING. COORDINATE WITH FACILITY, FIRE ALARM VENDOR AND ELEVATOR SERVICE PROVIDER.
2. PROVIDE 6" x 4" WELDED WIRE CABLE TRAY THROUGHOUT.
3. PROPOSED BMS CONNECTION. COORDINATE DATA CONNECTION LOCATION IN FIELD.
4. PROPOSED LOCATION OF SUPPLEMENTAL FIRE ALARM CONTROL PANELS AND POWER SUPPLIES. COORDINATE FINAL LOCATIONS WITH APPROVED SHOP DRAWINGS. PROVIDE 20A, 120V CIRCUITS AS REQUIRED VIA LIFE SAFETY POWER PANELS. PROVIDE SMOKE DETECTOR ABOVE ALL PANELS.
5. ALLOW TAMPER SWITCH IN BATHROOM CEILING FOR FIRE SPRINKLER AIR ADMITTANCE VALVE.
6. REFER TO SHEET E-707 FOR DOOR HARDWARE INSTALLATION INFORMATION AND RISER DIAGRAMS. COORDINATE WITH A-SHEETS.
7. PROVIDE SECURITY CAMERA ROUGH-IN. ELEVATION IS NOTED AS BEING ABOVE THIS FLOOR LEVEL, ANTICIPATING CAMERA IS POINTED TOWARDS STAIR ACCESS FROM THE FLOOR BELOW.
8. PROVIDE DATA CONNECTION . REFER TO 'TA' DRAWINGS FOR MORE INFORMATION & MOUNTING HEIGHTS.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.



2 ELECTRICAL SYSTEMS PLAN - PENTHOUSE
SCALE: 1/8" = 1'-0"

1 ELECTRICAL SYSTEMS PLAN - FOURTH FLOOR
SCALE: 1/8" = 1'-0"

FILE PATH:

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JSE
JADE STONE ENGINEERING

STATE OF NEW YORK · BENJAMIN C. WALLSTEIN · 085954 · LICENSED PROFESSIONAL ENGINEER

Drawn By: KJM
Checked By: BCW
Project Manager:

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SUNY Cortland
SUCF Project No. 041046-00

E-304

ELECTRICAL SYSTEMS PLANS - 4TH FLOOR & PENTHOUSE

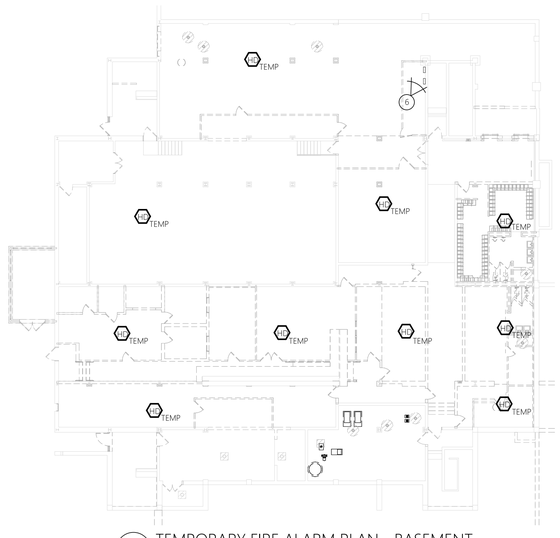
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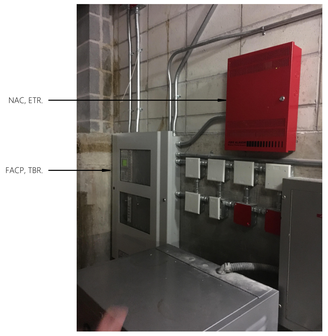
1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE TEMPORARY FIRE ALARM DEVICES AS INDICATED FOR DURATION OF CONSTRUCTION ACTIVITIES.
3. PROVIDE TEMPORARY HANGARS & SUPPORTS AS REQUIRED. OPEN FREE AIR CABLING PERMITTED.
4. REMOVE CONSTRUCTION FIRE ALARM DEVICES UPON COMPLETION AND ACCEPTANCE OF FINAL FIRE ALARM SYSTEM.
5. COORDINATE PHASING WITH A-SHEETS.



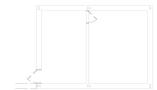
1 TEMPORARY FIRE ALARM PLAN - BASEMENT
SCALE: 1/16" = 1'-0"



2 TEMPORARY FIRE ALARM PLAN - 2ND FLOOR
SCALE: 1/16" = 1'-0"



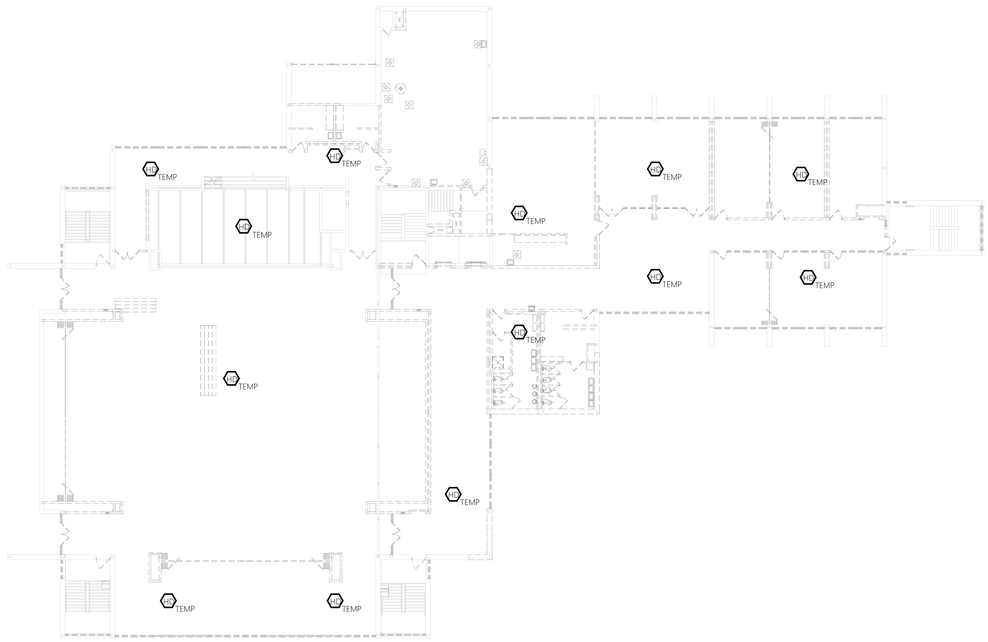
6 REFERENCE PHOTO FACP TBR
SCALE: NTS



5 ELECTRICAL SYSTEMS PLAN - PENTHOUSE
SCALE: 1/16" = 1'-0"



4 TEMPORARY FIRE ALARM PLAN - 4TH FLOOR
SCALE: 1/16" = 1'-0"



3 TEMPORARY FIRE ALARM PLAN - 3RD FLOOR
SCALE: 1/16" = 1'-0"

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Drawn By: KJM
Checked By: BCW
Project Manager:

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E-305

ELECTRICAL TEMPORARY FIRE ALARM PLANS

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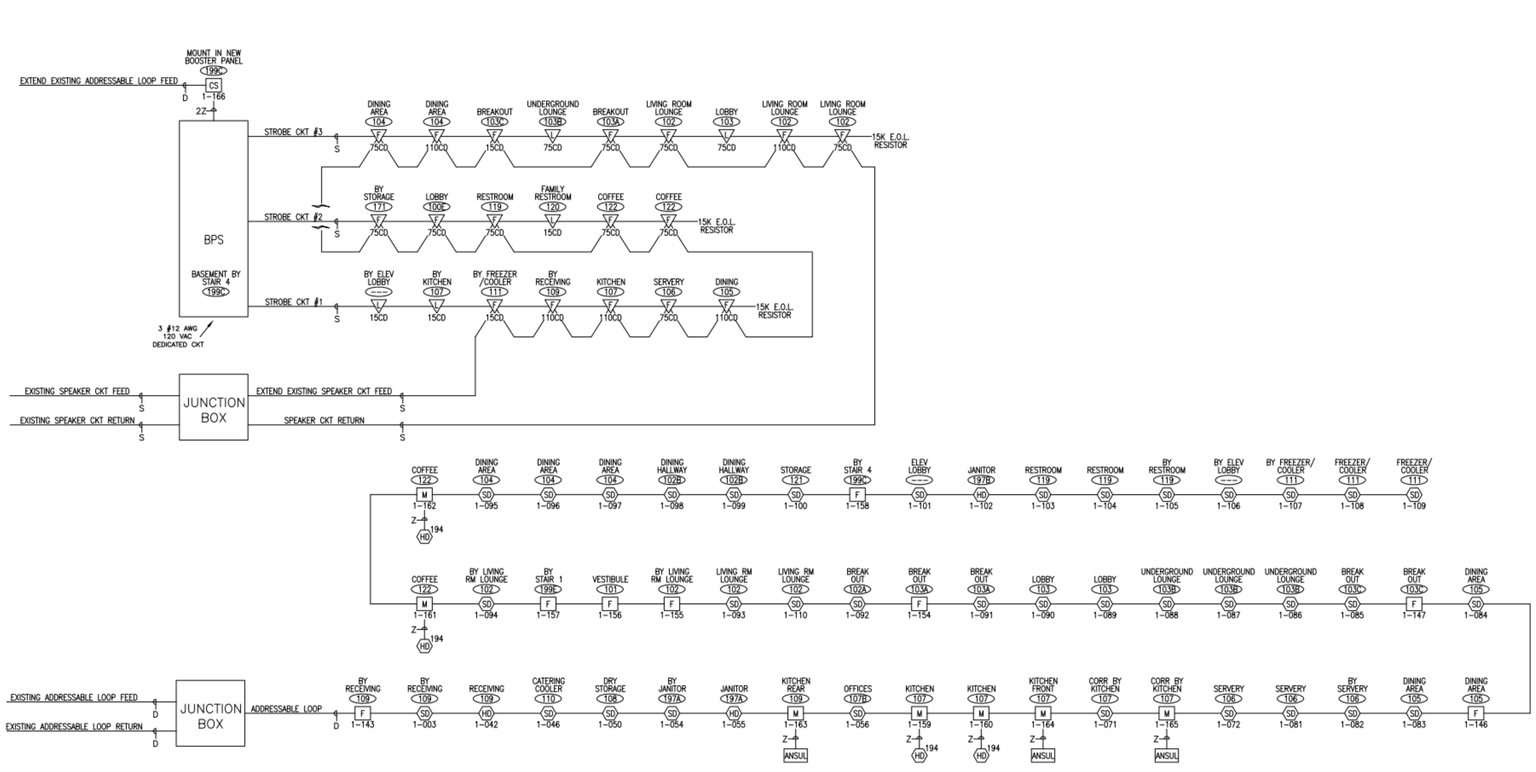
GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. PROVIDE TEMPORARY FIRE ALARM DEVICES AS INDICATED FOR DURATION OF CONSTRUCTION ACTIVITIES.
3. PROVIDE TEMPORARY HANGARS & SUPPORTS AS REQUIRED. OPEN FREE AIR CABLING PERMITTED.
4. REMOVE CONSTRUCTION FIRE ALARM DEVICES UPON COMPLETION AND ACCEPTANCE OF FINAL FIRE ALARM SYSTEM.
5. COORDINATE PHASING WITH A-SHEETS.

DEVICES/EQUIPMENT WITHIN HATCHED AREA SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION PERIOD. REFER TO RISER DIAGRAM BELOW.



1 TEMPORARY FIRE ALARM PLAN - 1ST FLOOR
SCALE: 1/16" = 1'-0"



8 FIRE ALARM RISER DIAGRAM
F-01 SCALE: NONE

EXISTING FIRE ALARM RISER DIAGRAM FROM 2017 PROJECT. DEVICES SHOWN ON RISER REFLECT THE EXISTING APPLIANCES AND DETECTION DEVICES WHICH ARE EXISTING TO REMAIN. THIS EQUIPMENT SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION. UPON COMPLETION OF PROJECT, THIS EQUIPMENT SHALL BE MIGRATED TO THE NEW CONTROL PANEL. REFER ALSO TO THE FIRE ALARM RISER DIAGRAM.

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E-306

ELECTRICAL TEMPORARY FIRE ALARM PLAN - 1ST FLOOR

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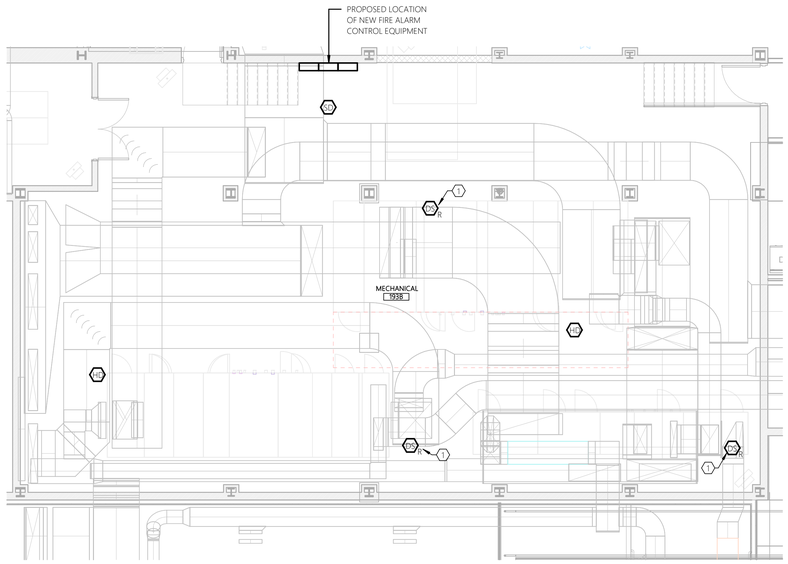
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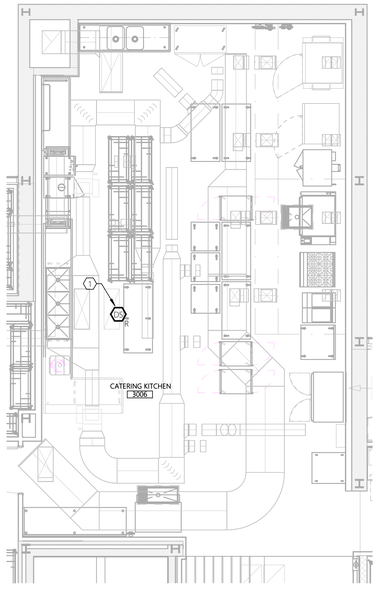
1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-706 FOR BACKBONE DATA RISER DIAGRAM.
4. REFER TO E-602 FOR HORIZONTAL CABLING SCHEDULE FOR DATA CABLING REQUIREMENTS AND DEVICE CONFIGURATIONS.
5. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
6. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
7. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
8. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
9. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

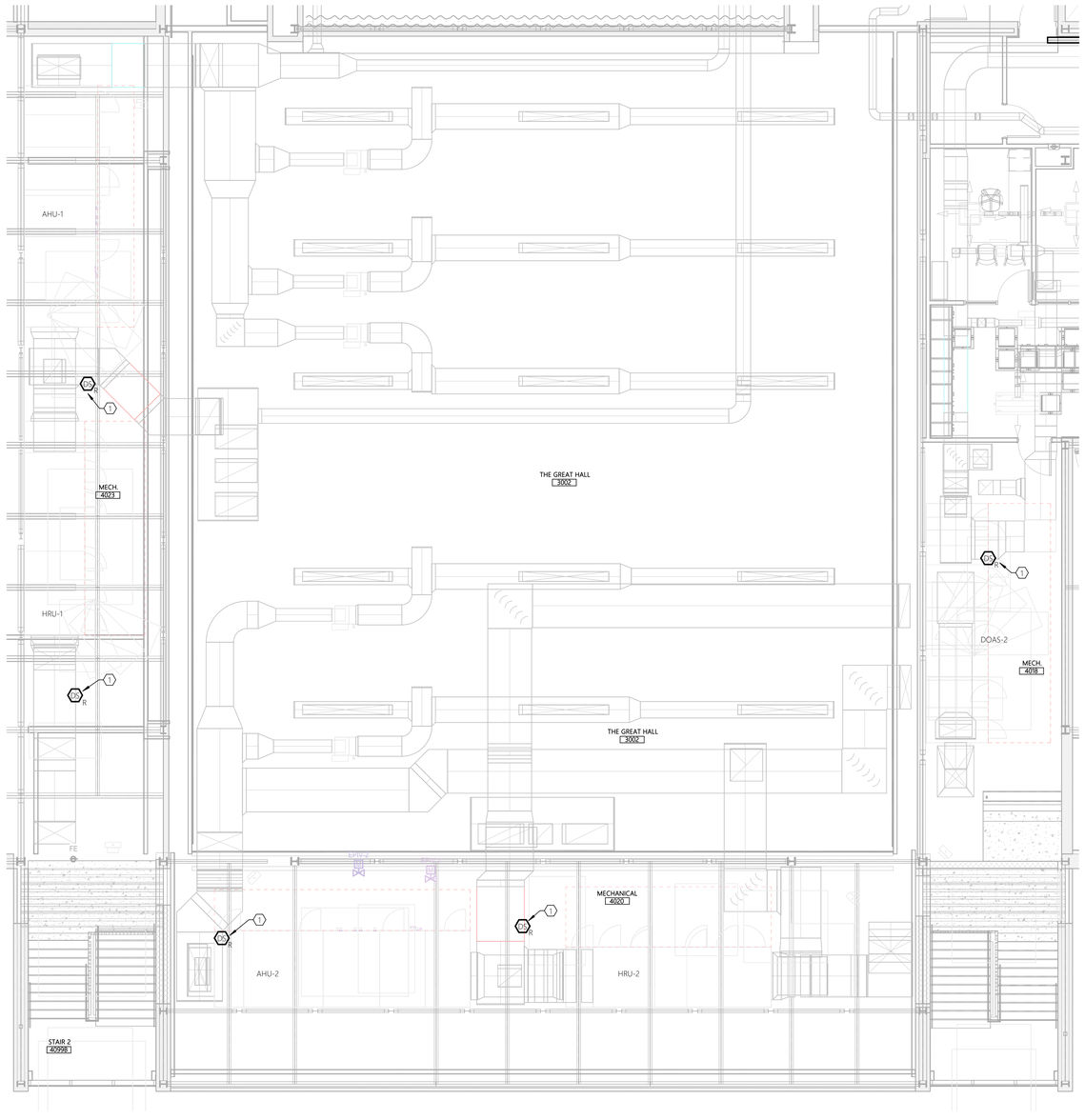
(1) PROVIDE INSTALLATION AND CONNECTION OF RETURN-SIDE DUCT SMOKE DETECTOR. REFER TO M-SHEETS FOR MECHANICAL EQUIPMENT ELEVATIONS FOR ADDITIONAL INFORMATION. COORDINATE WITH DIVISION 23 CONTRACTOR FOR INSTALLATION IN SPECIFIC LOCATIONS. PROVIDE ALL DUCT SMOKE DETECTORS WITH AUXILLIARY CONTACTS FOR BMS MONITORING.



1 DUCT SMOKE DETECTION PLAN - BASEMENT
SCALE: 3/16" = 1'-0"



2 DUCT SMOKE DETECTION PLAN - 3RD FLOOR
SCALE: 3/16" = 1'-0"



3 DUCT SMOKE DETECTION PLAN - 4TH FLOOR
SCALE: 3/16" = 1'-0"

0 2' 4' 8' 12'
SCALE: 3/16"=1'-0"

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BENJAMIN C. WALLOSTEIN
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Drawn By: CCH
Checked By: BCW
Project Manager:

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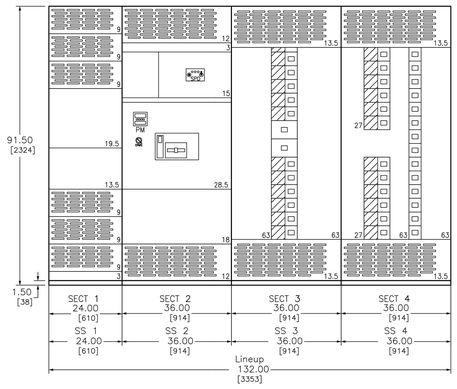
SUNY Cortland
SUCF Project No. 041046-00

E-307

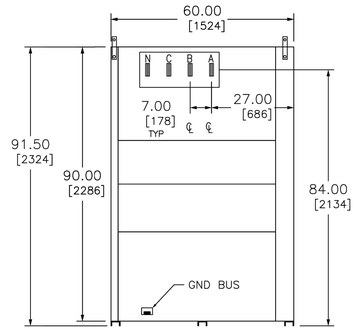
FIRE ALARM DUCT SMOKE DETECTION PLANS

NOVEMBER 16, 2026
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4 ELECTRICAL REFERENCE ELEVATION
SCALE: NTS SWITCHBOARD 'MSB'



LEFT SIDE VIEW

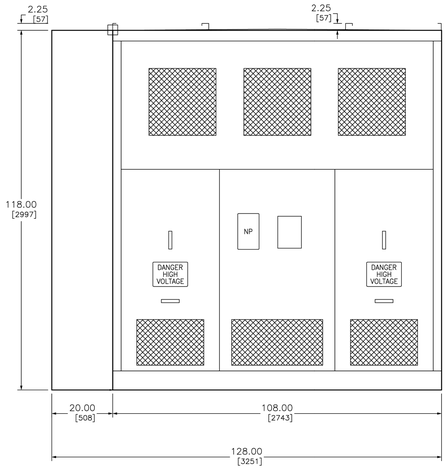
6 ELECTRICAL REFERENCE ELEVATION
SCALE: NTS SWITCHBOARD 'MSB'

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC., FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. EXISTING 15KV SECTIONALIZING SWITCH IS TO BE RELOCATED (2) FEET TO ACCOMMODATE ELECTRICAL GEAR MODIFICATIONS. MAINTAIN EXISTING CAMPUS ELECTRICAL LOOP CONDUCTORS AND MODIFY ROUTING AS NECESSARY TO RELOCATE SECTIONALIZING SWITCH. REFER TO ELECTRICAL REFERENCE PHOTO THIS SHEET FOR ADDITIONAL INFORMATION. IMPORTANT NOTE: CONTRACTOR SHALL ANTICIPATE THAT THIS RELOCATION MAY REQUIRE A CAMPUS SHUTDOWN. COORDINATE THIS ACTIVITY IN ADVANCE WITH THE CAMPUS. PERFORM WORK DURING OFF HOURS AS THE DIRECTION OF THE CAMPUS.
2. UNIT SUBSTATION TO BE INSTALLED 12" FROM ADJACENT WALL. COORDINATE EXACT INSTALLATION LOCATION IN FIELD PRIOR TO ROUGH-IN TO ENSURE APPROPRIATE CLEARANCES. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION.
3. COORDINATE REMOVALS WITH DIVISION 23.
4. PROVIDE GENERATOR REMOTE ANNUNCIATOR PANEL ON AVAILABLE WALL SPACE. COORDINATE FINAL LOCATION IN FIELD.
5. FIRE PUMP FEEDER. RUN IN RIGID GALVANIZED CONDUIT. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.



FRONT ELEVATION

3 ELECTRICAL REFERENCE ELEVATION
SCALE: NTS UNIT SUBSTATION

GENERAL NOTES

PRODUCT DESCRIPTION AND RATINGS:

POWER SYSTEM DATA:
1500kVA 13200 Delta PRIMARY 480Y/277V SECONDARY
3 PHASE 60HZ CLASS AN/AF 33% Overload w/Model 98A

ENCLOSURE DATA:
NEMA TYPE 1 GENERAL PURPOSE – INDOOR ENCLOSURE(UL CATAGORY C)
FINISH ANSI 61

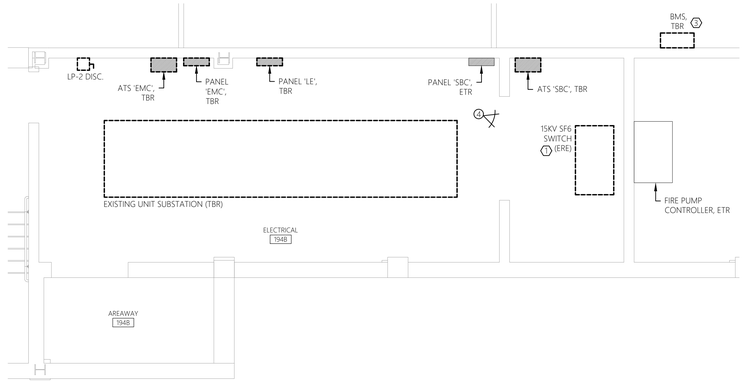
ESTIMATED SHIPPING WEIGHTS:

CORE AND COILS	11000 LB / 5000 KG
ENCLOSURE	1500 LB / 682 KG
TOTAL	12400 LB / 5637 KG

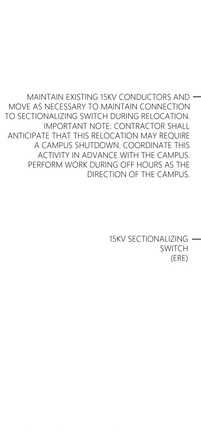
PRODUCT INFORMATION:

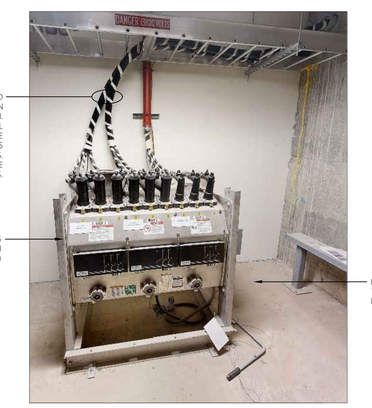
TRANSFORMER RATING

KVA:	1500kVA
PRIMARY VOLTAGE:	13200 Delta
HV BASIC IMPULSE LEVEL (KV):	95 kV
SECONDARY VOLTAGE:	480Y/277V
LV BASIC IMPULSE LEVEL (KV):	30 KV BIL
PRIMARY CONDUCTOR:	Copper Windings
SECONDARY CONDUCTOR:	Copper Windings
TAPS:	2–2.5% FCAN 2–2.5% FCBN
IMPEDANCE:	5.75 Nominal +/– 7.5%
TEMPERATURE RISE:	115 C
INSULATION CLASS:	Cast Coil 185 Degrees
UL LISTING:	Yes
SEISMIC SDS:	Not Required
DESIGN EFFICIENCY:	Energy Efficient per DOE 20



1 ELECTRICAL REMOVALS PLAN - ELECTRIC ROOM
SCALE: 1/4" = 1'-0"

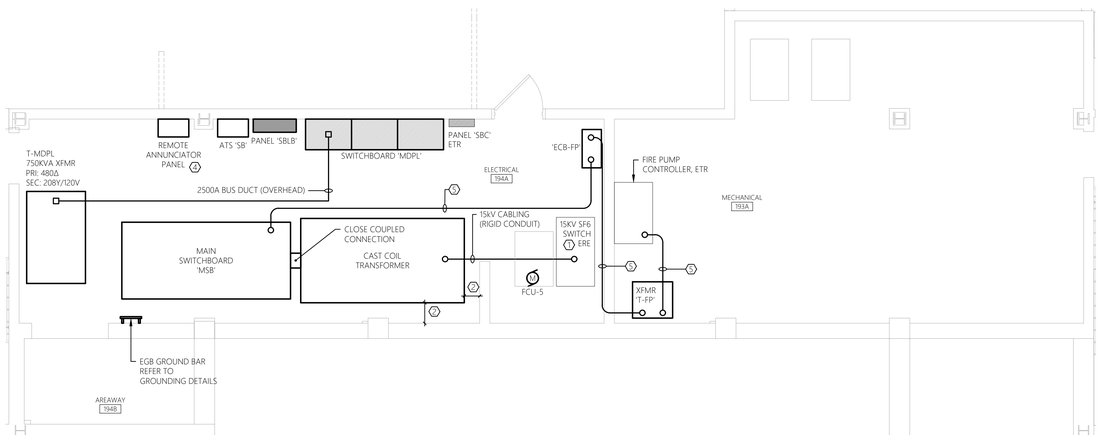




RELOCATE 15KV SECTIONALIZING SWITCH (2) FEET TOWARDS ADJACENT WALL. REFER TO ENLARGED PLANS FOR ADDITIONAL INFORMATION.

0 2' 4' 8'
SCALE: 1/4"=1'-0

5 ELECTRICAL REFERENCE PHOTO
SCALE: NTS



2 ELECTRICAL POWER PLAN - ELECTRIC ROOM
SCALE: 1/4" = 1'-0"

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Drawn By:	KJM
Checked By:	BCW
Project Manager:	

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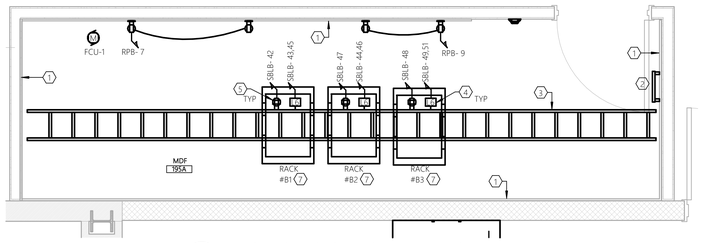
SUNY Cortland
SUCF Project No. 041046-00

E-400
ELECTRICAL ENLARGED PLANS

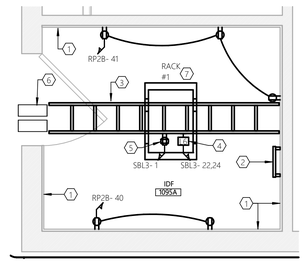
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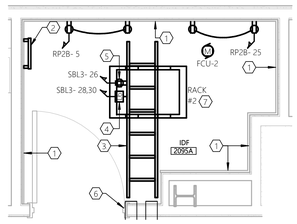
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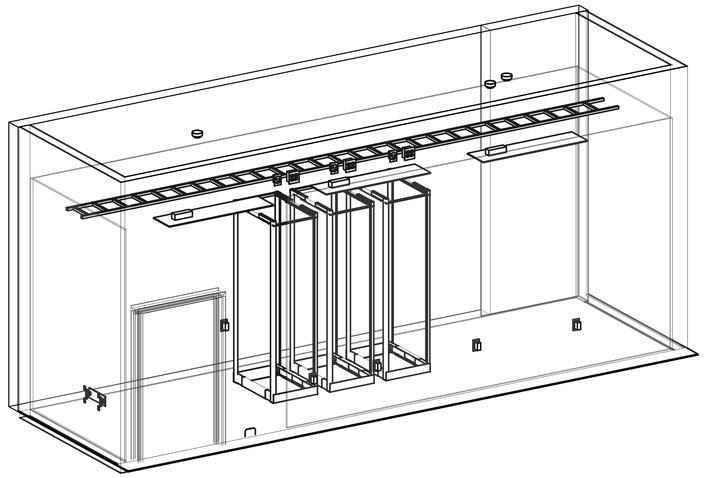
1 ELECTRICAL SYSTEMS PLAN - BASEMENT
SCALE: 1/2" = 1'-0"



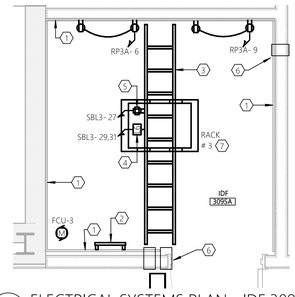
2 ELECTRICAL SYSTEMS PLAN - IDF 1095A
SCALE: 1/2" = 1'-0"



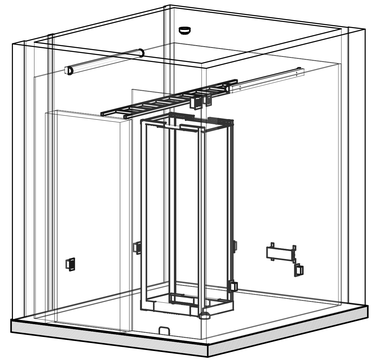
3 ELECTRICAL SYSTEMS PLAN - IDF 2095A
SCALE: 1/2" = 1'-0"



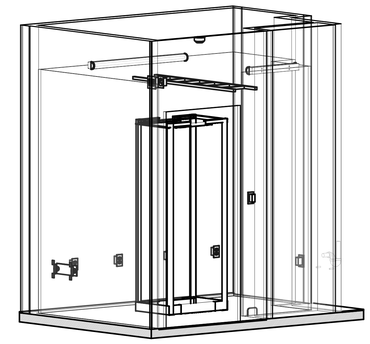
6 ISOMETRIC MDF 195A
SCALE:



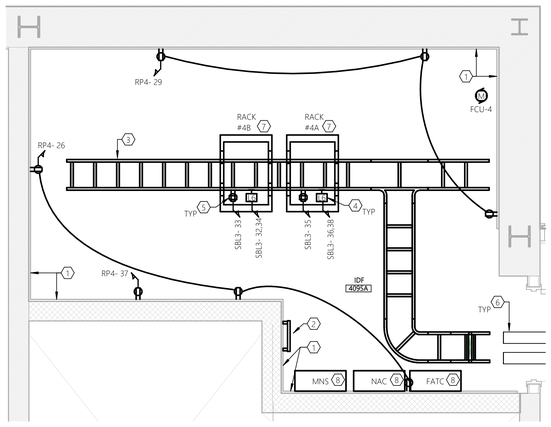
4 ELECTRICAL SYSTEMS PLAN - IDF 3095A
SCALE: 1/2" = 1'-0"



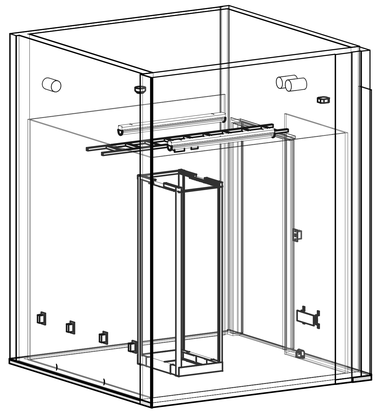
7 ISOMETRIC IDF 1095A
SCALE:



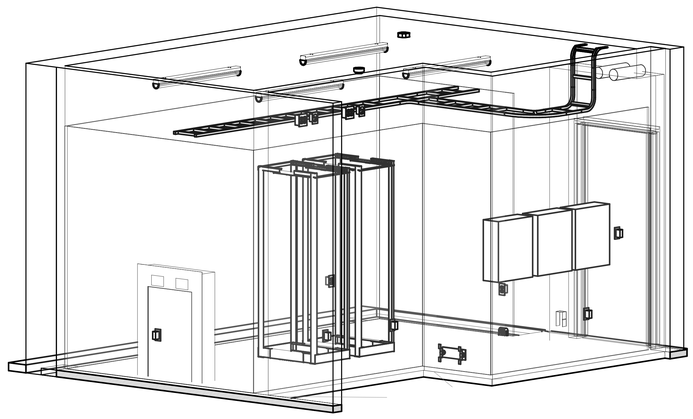
8 ISOMETRIC IDF 2095A
SCALE:



5 ELECTRICAL SYSTEMS PLAN - IDF 4095A
SCALE: 1/2" = 1'-0"



9 ISOMETRIC IDF 3095A
SCALE:



10 ISOMETRIC IDF 2024
SCALE:

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC., FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
12. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH FIRE RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.

SHEET KEY NOTES:

1. PROVIDE 3/4" PLYWOOD EACH WALL TO 8'AFF.
2. PROVIDE GROUND BAR PER DETAIL SHEET.
3. PROVIDE TYPE 'C' LADDER TRAY AT 7'-6" AFF. REFER TO DETAIL, SHEET E-601.
4. PROVIDE L6-30R TWIST LOCK RECEPTACLE MOUNTED TO CABLE TRAY.
5. PROVIDE QUADRUPLEX RECEPTACLE MOUNTED TO CABLE TRAY.
6. PROVIDE (2) 4" HILTI SPEED SLEEVES. REFER TO DETAIL, SHEET E-601.
7. PROVIDE DATA RACK PER DETAIL, SHEET E-602.
8. F/A EQUIPMENT LOCATED HERE WILL SERVE F/A DEVICES ON SECOND, THIRD & FOURTH FLOOR LEVELS.

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Drawn By: KJM
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-401
ELECTRICAL
ENLARGED PLANS

NOVEMBER 16, 2026
BID DOCUMENTS

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MECHANICAL EQUIPMENT CONNECTION SCHEDULE

INDICATED BY ⬭ ON PLAN SHEETS

EQUIPMENT: SPECIFIC NOTES:
1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS.
2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.

FIRE ALARM CONNECTIONS: REFER TO SYSTEMS DRAWINGS FOR DUCT SMOKE DETECTOR LOCATIONS.
- DETECTORS & REMOTE ANNUNCIATORS PROVIDED BY ELECTRICAL CONTRACTOR
- COORDINATE INSTALLATION IN UNITS/DUCTS WITH DIVISION 23.
- ALL CABLING BY DIVISION 26/28

DISCONNECT/SAFETY SWITCH — TYPES: A: NON-FUSED; B: FUSED; M: MOTOR RATED SWITCH; R: RECEPTACLE/CORD/PLUG; N: NOT REQUIRED; C: CKT BREAKER WITHIN SIGHT. SIZES: AF: AMPERE FRAME; AT: FUSE SIZE (RKS, UON)

STARTER — TYPES: VFD: VARIABLE FREQUENCY DRIVE W/ INTEGRAL DISC.; CMS: COMBINATION MOTOR STARTER; M: MOTOR RATED SWITCH – MANUAL STARTER; AQUA: LINE VOLTAGE AQUA STAT; N: NOT REQUIRED; P: PACKAGED CONTROLLER BY MANUFACTURER; LVT: LINE VOLT T-STAT ('R' INDICATES REVERSE TYPE)

EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	ELECTRICAL LOAD FLA (MCA)	KVA (BHP)	V	PH	POWER CONNECTION HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	CONNECTION BY DIVISION:	FIRE ALARM GENERAL ALARM (FIRE) SHUTDOWN	DISCONNECT/SAFETY SWITCH TYPE/SIZE	DISCONNECT/SAFETY SWITCH NEMA ENCLOSURE TYPE	DISCONNECT/SAFETY SWITCH FURNISHED BY DIVISION:	DISCONNECT/SAFETY SWITCH INSTALLED BY DIVISION:	STARTER TYPE	STARTER NEMA ENCLOSURE TYPE	STARTER FURNISHED BY DIVISION:	STARTER FINAL CONNECTION BY DIVISION:	REMARKS
UH-1	UNIT HEATER	MECHANICAL 193A	2.2	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-3	UNIT HEATER	MECHANICAL 193B	2.2	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-2	UNIT HEATER	MECHANICAL 193B	2.2	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-4	UNIT HEATER	MECHANICAL 193C	1.4	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-5	UNIT HEATER	MECHANICAL/STORAGE 193E	4.5	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-6	UNIT HEATER	MECHANICAL/STORAGE 193E	4.5	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-7	UNIT HEATER	RECEIVING 1014	1.4	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-8	UNIT HEATER	MECHANICAL 4018	1.2	-	120	1	PANEL MP4L	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-9	UNIT HEATER	MECHANICAL 4023	1.2	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-10	UNIT HEATER	MECHANICAL 4023	1.4	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-11	UNIT HEATER	EM ADDITIONAL STORAGE 4020	1.2	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-12	UNIT HEATER	EM ADDITIONAL STORAGE 4020	0.8	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-13	UNIT HEATER	PENTHOUSE 5005	0.8	-	120	1	PANEL MP4L	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-21	CABINET UNIT HEATER	JAN CLOSET 4097B	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
UH-14	UNIT HEATER	AHU SERVICE CORRIDOR	13.9	-	208	3	PANEL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-1	CABINET UNIT HEATER	STUDENT VOICE STORAGE 103	0.45	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-2	CABINET UNIT HEATER	STUDENT VOICE STORAGE 105	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-4	CABINET UNIT HEATER	DRY STORAGE 102	1.50	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-3	CABINET UNIT HEATER	DRY STORAGE 102	1.50	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-5	CABINET UNIT HEATER	DRY STORAGE 102	1.50	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-6	CABINET UNIT HEATER	STAIR 1 199A	1.95	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-7	CABINET UNIT HEATER	STAIR 2 199B	0.65	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-8	CABINET UNIT HEATER	STAIR 3 199C	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-9	CABINET UNIT HEATER	VESTIBULE 109B	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-10	CABINET UNIT HEATER	VALVE CLOSET 1020	0.45	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-11	CABINET UNIT HEATER	VESTIBULE 1001	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-12	CABINET UNIT HEATER	VESTIBULE 2028	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-13	CABINET UNIT HEATER	VESTIBULE 2000	0.45	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-14	CABINET UNIT HEATER	VESTIBULE 2000	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-15	CABINET UNIT HEATER	VESTIBULE 2000	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-16	CABINET UNIT HEATER	INFO. CENTER 2001	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-17	CABINET UNIT HEATER	STORAGE 2002	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-18	CABINET UNIT HEATER	STORAGE 3002B	0.45	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-19	CABINET UNIT HEATER	STORAGE 3002B	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
CUH-20	CABINET UNIT HEATER	GLASS & SILVERWARE 3002A	0.45	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	23	
HP-1	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-2	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-3	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-4	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-5	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-6	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-7	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P	-	23	23	
HP-8	HEAT PUMP	MECHANICAL/STORAGE 193E	100.7	-	480	3	PANEL MSB	150/3	(3)#1/0 & #6G, 2"C	26	NO	A	1	23	26	P		23	23	
WP-1	WATER SOURCED HEAT PUMP	MECHANICAL/STORAGE 193E	40 MCA	-	480	3	PANEL MSB	60/3	(3)#4 & #10G, 1-1/4"C	26	NO	A	1	23	26	P	-	23	23	
MAU-1	MAKE-UP AIR UNIT	ROOF	11	(7.5)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	YES	A	3R	23	26	VFD	3R	26	26	1
AHU-1	SUPPLY FAN	MECHANICAL 4023	24.1	(11.79)	480	3	PANEL MP4H	40/3	(3)#8 & #10G, 3/4"C	26	YES	-	-	23	26	VFD	3R	26	26	1 2
AHU-2	SUPPLY FAN	MECHANICAL 4020	29.5	(15.1)	480	3	PANEL MP4H	40/3	(3)#8 & #10G, 3/4"C	26	YES	-	-	23	26	VFD	1	26	26	1 2
AHU-3	SUPPLY FAN	ROOF	18	(7.6)	480	3	PANEL MP4H	30/3	(3)#10 & #10G, 3/4"C	26	YES	-	-	23	26	VFD	3R	26	26	1 2 3
	RETURN FAN		6.45	(3.8)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	VFD	3R	26	26	5
AHU-4	SUPPLY FAN	MECHANICAL 193B	58	(29.2)	480	3	PANEL MSB	90/3	(3)#2 & #8G, 1-1/4"C	26	YES	-	-	23	26	VFD	1	26	26	1 2
	RETURN FAN		35.1	(19.3)	480	3	PANEL MSB	50/3	(3)#6 & #10G, 1"C	26	YES			23	26	VFD	1	26	26	5
	ENERGY RECOVERY WHEEL		-	1/3HP	480	3	PANEL MSB	15/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	VFD	-	26	26	4 5
AHU-5	SUPPLY FAN	MECHANICAL 193B	5.9	(3.5)	480	3	PANEL MSB	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	VFD	1	26	26	1 2
	RETURN FAN		6.45	(1.88)	480	3	PANEL MSB	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	VFD	1	26	26	5

GENERAL SCHEDULE NOTES:
1. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. CONTRACTOR TO DETERMINE MOST FEASIBLE LOCATIONS AND MEANS OF MOUNTING LOOSE STARTERS/DISCONNECTS. INSTALL WITHIN SIGHT OF UNIT. UTILIZE AVAILABLE WALL SPACE, OR WHEN NO WALL SPACE AVAILABLE, PROVIDE UNISTRUT RACKING.
3. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
4. STARTERS SHALL BE NEMA STYLE AND SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
5. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
6. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
7. THIS IS A SINGLE PRIME CONTRACT. THE SCHEDULE ABOVE HAS MADE AN EFFORT TO PROVIDE SUGGESTED DIVISION OF RESPONSIBILITIES BETWEEN TRADES FOR STARTERS AND DISCONNECTS. THESE ARE JUST SUGGESTIONS. TURN KEY INSTALLATION IS REQUIRED BY THE CONTRACTOR.
   DIVISION 26: ELECTRICAL TRADE
   DIVISION 23: MECHANICAL TRADE AND/OR CONTROLS
   DIVISION 22: PLUMBING TRADE

REMARKS:
1. PROVIDE AIR HANDLING UNIT WITH 20A, 120V CIRCUIT FOR UNIT LIGHTING. COORDINATE INSTALLATION REQUIREMENTS WITH M-SHEETS.
2. PROVIDE AIR HANDLING UNIT WITH 20A, 120V CIRCUIT FOR UNIT CONTROL PANEL. COORDINATE INSTALLATION REQUIREMENTS WITH M-SHEETS.
3. PROVIDE 120V, 20A CIRCUIT FOR SERVICE CORRIDOR LIGHTING. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS AND M-SHEETS.
4. PROVIDE 120V, 20A CIRCUIT FOR UNIT CONTROL PANEL. COORDINATE INSTALLATION REQUIREMENTS WITH MANUFACTURER'S RECOMMENDATIONS AND M-SHEETS.
5. UPON COMPLETION OF INSTALLATION OF UNIT SPLIT SECTIONS, CONNECT AND TEST UNIT LIGHTING. COORDINATE ALL WORK AND REQUIREMENTS WITH M-SHEETS.

RACEWAY SCHEDULE

AREA	CABLING/RACEWAY METHOD	REMARKS
FINAL CONNECTIONS TO EQUIPMENT. LIMIT LENGTH TO 6'-0" OR LESS.	FMC CABLE (DRY LOCATIONS) LTFMC (WET LOCATIONS)	SEE NOTES BELOW
PERMITTED ONLY WHERE PRIOR APPROVAL HAS BEEN GRANTED. GENERALLY - AREAS WHERE EMT CONDUIT USAGE IS NOT PRACTICAL	MC CABLE	SEE NOTES BELOW
BRANCH CIRCUITS & FEEDERS CONCEALED DRY AREAS, PANELBOARD HOMERUNS, EXPOSED (NON FINISHED AREAS)	EMT	SEE NOTES BELOW
BELOW 10' IN MECH ROOMS, WET OR DAMP AREAS, EXTERIOR EXPOSED, OR AREAS SUBJECT TO PHYSICAL DAMAGE	GRS	SEE NOTES BELOW
USE WHERE DIRECTED ON DRAWINGS OR WHERE DEVICES (FIXTURES, ETC. ARE PROPOSED ON EXISTING NON-FISHABLE SURFACES (BLOCK/BRICK/MASONRY).	SURFACE METAL RACEWAY (WIREMOLD OR EQUAL)	SEE NOTES BELOW
BELOW GRADE CONDUIT (LIGHTING, CONTROLS, GENERATOR POWER, ETC..)	PVC #40 (FLOWABLE FILL) PVC#80 (SAND ENCASED)	SEE NOTES BELOW

GENERAL CONDUIT SCHEDULE NOTES:
1. FITTINGS:
   - EMT: SET SCREW TYPE WITH INSULATED BUSHINGS & THROAT.
   - GRS: THREADED STEEL WITH INSULATED BUSHINGS & THROAT.
   - MC: CLAMP STYLE WITH LOCKNUTS AND INSULATED BUSHING & THROAT
   - SURFACE RACEWAY/WIREMOLD: MANUFACTURER APPROVED FITTINGS NECESSARY, AS REQUIRED FOR COMPLETEINSTALLATION.
2. ALL CIRCUITS SHALL CONTAIN DEDICATED NEUTRALS (NO MULTI-WIRE CIRCUITS PERMITTED).
3. CONDUIT SHALL NOT BE UTILIZED FOR EFFECTIVE GROUND FAULT RETURN PATH. ALL CIRCUITS SHALL CONTAIN DEDICATED GREEN INSULATED CONDUCTOR SIZED PER DRAWINGS OR IN ACCORDANCE WITH APPLICABLE NEC CRITERIA.
4. ALL RACEWAY TYPES ARE AS DESCRIBED HERE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
5. ANY EMPTY RACEWAYS SHALL BE EQUIPPED WITH A PULL ROPE.
6. ALL CONDUITS SHALL BE LABELED WITH VOLTAGE, PANEL OR ORIGIN AND LOAD SERVED.

BRANCH CIRCUIT SCHEDULE

CIRCUIT BREAKER	PHASE CONDUCTORS AND/OR NEUTRAL CONDUCTORS	GROUND CONDUCTOR	CONDUIT
3-POLE CIRCUITS			
50/3	(3)#6	#10	1"C
40/3	(3)#8	#10	1"C
30/3	(3)#10	#10	3/4"C
20/3	(3)#12	#12	3/4"C
15/3	(3)#12	#12	3/4"C
2-POLE CIRCUITS			
50/2	(2)#6	#10	1"C
40/2	(2)#8	#10	3/4"C
30/2	(2)#10	#10	3/4"C
20/2	(2)#12	#12	3/4"C
15/2	(2)#12	#12	3/4"C
1-POLE CIRCUITS			
40/1	(2)#8	#10	3/4"C
30/1	(2)#10	#10	3/4"C
20/1	(2)#12	#12	3/4"C
15/1	(2)#12	#12	3/4"C

NOTES REGARDING USE OF THIS SCHEDULE:
1. USE THIS SCHEDULE AS FOLLOWS:
   - FOR ALL RECEPTACLE AND LIGHTING CIRCUITS.
   - WHERE SPECIFIC CONDUCTOR/CONDUIT SIZING IS NOT INDICATED ELSEWHERE ON THE DRAWING SET.
   - FOR ANY BRANCH CIRCUITS THAT ARE REQUIRED TO BE RELOCATED/EXTENDED, ETC.
2. DO NOT USE THIS SCHEDULE AS FOLLOWS:
   - FOR LARGE MECHANICAL LOADS (REFER TO MECHANICAL EQUIPMENT SCHEDULE, THIS SHEET).
   - FOR SERVICE ENTRANCE CONDUCTORS.
   - WHERE SPECIFIC CONDUCTOR/CIRCUIT IS CALLED FOR ON THE DRAWINGS.
3. WHERE CIRCUIT LENGTH EXCEEDS 100', CONTRACTOR SHALL USE NEXT HIGHER PHASE/NEUTRAL CONDUCTOR SIZE TO COMPENSATE FOR VOLTAGE DROP.

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Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-500
ELECTRICAL SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH:

11/16/2026 8:08:26 AM

INDICATED BY ⟲ ON PLAN SHEETS

MECHANICAL EQUIPMENT CONNECTION SCHEDULE (CONTINUED)

EQUIPMENT			ELECTRICAL LOAD				POWER CONNECTION				FIRE ALARM CONNECTIONS	DISCONNECT/SAFETY SWITCH				STARTER				REMARKS
SPECIFIC NOTES: 1. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS. 2. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.											REFER TO SYSTEMS DRAWINGS FOR DUCT SMOKE DETECTOR LOCATIONS. • DETECTORS & REMOTE ANNUNCIATORS PROVIDED BY ELECTRICAL CONTRACTOR • COORDINATE INSTALLATION IN UNITS/DUCTS WITH DIVISION 23. • ALL CABLING BY DIVISION 26/28	TYPES: A: NON-FUSED B: FUSED M: MOTOR RATED SWITCH R: RECEPTACLE/CORD/PLUG N: NOT REQUIRED C: CKT BREAKER WITHIN SIGHT		SIZES: AF: AMPERE FRAME AT: FUSE SIZE (RKS, UON)		TYPES: VFD: VARIABLE FREQUENCY DRIVE W/ INTEGRAL DISC. CMS: COMBINATION MOTOR STARTER ATL: ACROSS THE LINE STARTER, FVNR ECM: ELECTRICALLY COMMUTATED MOTOR AQUA: LINE VOLTAGE AQUA STAT N: NOT REQUIRED P: PACKAGED CONTROLLER BY MANUFACTURER LVT: LINE VOLT T-STAT ('R' INDICATES REVERSE TYPE)				
EQUIPMENT TAG	EQUIPMENT TYPE	LOCATION ON PLAN	FLA (MCA)	KVA (HP)	V	PH	HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	CONNECTION BY DIVISION:	GENERAL ALARM (FIRE) SHUTDOWN	DISCONNECT TYPE/SIZE	NEMA ENCLOSURE TYPE	FURNISHED BY DIVISION:	INSTALLED BY DIVISION:	STARTER TYPE	NEMA ENCLOSURE TYPE	FURNISHED BY DIVISION:	FINAL CONNECTION BY DIVISION:	
P-1	PUMP	MECH/STOR 193E	-	(25)	480	3	PNL MSB	50/3	(3)#6 & #10G, 1"C	26	NO	A	1	23	26	ECM	-	23	26	
P-2	PUMP	MECH/STOR 193E	-	(25)	480	3	PNL MSB	50/3	(3)#6 & #10G, 1"C	26	NO	A	1	23	26	ECM	-	23	26	
P-3	PUMP	MECH/STOR 193E	-	(15)	480	3	PNL MSB	30/3	(3)#10 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-4	PUMP	MECH/STOR 193E	-	(15)	480	3	PNL MSB	30/3	(3)#10 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-5	PUMP	MECH/STOR 193E	-	(3)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-6	PUMP	MECH/STOR 193E	-	(3)	480	3			(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-7	PUMP	MECH/STOR 193E	-	(15)	480	3	PNL MSB	30/3	(3)#10 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-8	PUMP	MECH/STOR 193E	-	(15)	480	3	PNL MSB	30/3	(3)#10 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-9	PUMP	MECH/STOR 193E	-	(5)	480	3	PNL MSB	20/3	(3)#12 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-10	PUMP	MECH/STOR 193E	-	(5)	480	3			(3#12 & #10G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-11	PUMP	MECH/STOR 193E	-	(10)	208	3	PNL SBLB	60/3	(3)#4 & #10G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-12	PUMP	MECH/STOR 193E	-	(10)	208	3	PNL SBLB	60/3	(3)#4 & #10G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-13	PUMP	MECH/STOR 193E	-	(7.5)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-14	PUMP	MECH/STOR 193E	-	(7.5)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-15	PUMP	MECH/STOR 193E	-	(5)	208	3	PNL SBLB	30/3	(3)#10 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-16	PUMP	MECH/STOR 193E	-	(5)	208	3	PNL SBLB	30/3	(3)#10 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-17	PUMP	MECH/STOR 193E	-	(15)	208	3	PNL SBLB	60/3	(3)#4 & #10G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-18	PUMP	MECH/STOR 193E	-	(15)	208	3	PNL SBLB	60/3	(3)#4 & #10G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-19	PUMP	MECH/STOR 193E	-	(40)	480	3	PNL MSB	70/3	(3)#4 & #8G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-19.1	PUMP	MECH/STOR 193E	-	(40)	480	3	PNL MSB	70/3	(3)#4 & #8G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-20	PUMP	MECH/STOR 193E	-	(40)	480	3	PNL MSB	70/3	(3)#4 & #8G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-20.1	PUMP	MECH/STOR 193E	-	(40)	480	3	PNL MSB	70/3	(3)#4 & #8G, 1-1/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-21	PUMP	MECH/STOR 193E	-	(10)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-21.1	PUMP	MECH/STOR 193E	-	(10)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-22	PUMP	MECH/STOR 193E	-	(10)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-22.1	PUMP	MECH/STOR 193E	-	(10)	480	3	PNL MSB	20/3	(3)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
P-23	PUMP	STORAGE 2002	-	(1)	208	1	PNL RP2A	20/2	(2)#12 & #12G, 3/4"C	26	NO	A	1	23	26	ECM	-	23	26	
EF-1	EXHAUST FAN	ROOF	6.6	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
EF-2	EXHAUST FAN	1st FLOOR EXTERIOR	2.4	-	208	3	PNL PSM	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
EF-3	EXHAUST FAN	ROOM 4097G	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
EF-4	EXHAUST FAN	SERVICE ENCLOSURE	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	1	23	26	
KEF-1	KITCHEN EXHAUST FAN	ROOF	6.6	-	120	1	PNL MP4L	20/1	(2)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
KEF-2	KITCHEN EXHAUST FAN	ROOF	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
KEF-3	KITCHEN EXHAUST FAN	ROOF	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
KEF-4	KITCHEN EXHAUST FAN	ROOF	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
KEF-5	KITCHEN EXHAUST FAN	ROOF	3.5	-	208	3	PNL MP4L	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	23	26	CMS	3R	23	26	
ACCU-1	OUTDOOR UNIT	ROOF	20	-	208	1	PNL MP4L	30/2	(2)#10 & #10G, 3/4"C	26	NO	A	3R	23	26	P	-	23	26	
ACU-1	INDOOR UNIT	PENTHOUSE 5005	1.1	-	208	1			(2)#12 & #12G, 3/4"C		INDOOR UNIT CIRCUITED VIA OUTDOOR UNIT						-	-	-	
CWB-1	COLD WATER BOOSTER PUMP	MECHANICAL 193A	-	(7.5)	208	3	PNL MDPL	40/3	(3)#8 & #10G, 3/4"C	26	NO	A	1	23	26	VFD	1	23	26	
HWS-1	HOT WATER HEATER	MECHANICAL 193B	32	-	480	3	PNL MSB	70/3	(3)#1/0 & #6G, 2"C	26	NO	-	1	23	26	VFD	1	23	26	
CIR-1	CIRCULATION PUMP	MECH. 193B	1.7	-	120	1	PNL RPB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	26	
CIR-2	CIRCULATION PUMP	MECH. 193B	1.7	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	26	
CIR-3	CIRCULATION PUMP	MECH. 193B	1.7	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	26	
CIR-4	CIRCULATION PUMP	MECH. 193B	1.7	-	120	1			(2)#12 & #12G, 3/4"C	26	NO	M	1	23	26	P	-	23	26	
BDA-ERRC	EMER. RESPONDER RADIO	PENTHOUSE - 5005	8	-	120	1	PANEL LS4	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	1	-	-	-	-	-	-	
TMV-1	MIXING VALVE (CTRL PANEL)	MECHANICAL 193B	1.75	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	1	23	26	-	-	-	-	
DOAS-1	SUPPLY FAN	MECHANICAL 193B	24	(20)	480	3	PANEL MSB	40/3	(3)#8 & #10G, 3/4"C	26	YES	-	-	-	-	VFD	1	26	26	①
	RETURN FAN		18	(15)	480	3	PANEL MSB	30/3	(3)#10 & #10G, 3/4"C	26	YES	-	-	-	-	VFD	1	26	26	
	ENERGY RECOVERY WHEEL		-	(1/3)	480	3			(3)#10 & #10G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
DOAS-2	SUPPLY FAN	MECHANICAL 4018	8.8	(7.5)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	-	-	VFD	1	26	26	①
	RETURN FAN		9	(7.5)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	YES	-	-	-	-	VFD	1	26	26	
	ENERGY RECOVERY WHEEL		-	(1/4)	480	3			(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
FCU-1	FAN COIL UNIT	MDF 195A	4.8	-	120	1	PANEL RPB	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	-	23	26	P	1	23	26	
FCU-2	FAN COIL UNIT	IDF 2095A	4.8	-	120	1	PANEL RP2B	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	-	23	26	P	1	23	26	
FCU-3	FAN COIL UNIT	IDF 3095A	4.8	-	120	1	PANEL RP3B	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	-	23	26	P	1	23	26	
FCU-4	FAN COIL UNIT	IDF 4095A	4.8	-	120	1	PANEL MP4L	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	-	23	26	P	1	23	26	
FCU-5	FAN COIL UNIT	ELECTRICAL 194A	9.6	-	120	1	PANEL RPB	20/1	(2)#12 & #12G, 3/4"C	26	NO	-	-	23	26	P	1	23	26	
HRU-1	SUPPLY FAN	MECHANICAL 4023	8.75	-	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
	RETURN FAN		8.75	-	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	①
	ENERGY RECOVERY WHEEL		-	(1/4)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
HRU-2	SUPPLY FAN	MECHANICAL 4018	8.75	-	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
	RETURN FAN		8.75	-	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	①
	ENERGY RECOVERY WHEEL		-	(1/4)	480	3	PANEL MP4H	20/3	(3)#12 & #12G, 3/4"C	26	NO	-	-	-	-	VFD	1	26	26	
CIR-5	CIRCULATION PUMP	MECHANICAL 193B	1.7	-	120	1	PANEL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	NO	M	-	23	26	P	1	23	26	
B-1	EXISTING BOILER	MECH. 193C	-	-	120	1	PNL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	-	-	-	-	-	-	-	-	-	②
			-	-	120	1	PNL SBLB	20/1	(2)#12 & #12G, 3/4"C	26								-	-	
B-2	EXISTING BOILER	MECH. 193C	-	-	120	1	PNL SBLB	20/1	(2)#12 & #12G, 3/4"C	26	-	-	-	-	-	-	-	-	-	②
			-	-	120	1	PNL SBLB	20/1	(2)#12 & #12G, 3/4"C	26								-	-	

GENERAL SCHEDULE NOTES:
1. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. CONTRACTOR TO DETERMINE MOST FEASIBLE LOCATIONS AND MEANS OF MOUNTING LOOSE STARTERS/DISCONNECTS. INSTALL WITHIN SIGHT OF UNIT. UTILIZE AVAILABLE WALL SPACE, OR WHEN NO WALL SPACE AVAILABLE, PROVIDE UNISTRUT RACKING.
3. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
4. STARTERS SHALL BE NEMA STYLE AND SIZED BASED ON ELECTRICAL LOAD DATA LISTED ON SCHEDULE.
5. MOTOR RATED SWITCHES SHALL BE EQUIPPED WITH HEATERS, WHICH SHALL BE SIZED BASED ON NAMEPLATE DATA (TO BE OBTAINED IN FIELD), NOT ON ELECTRICAL LOAD DATA ON SCHEDULE
6. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
7. THIS IS A SINGLE PRIME CONTRACT. THE SCHEDULE ABOVE HAS MADE AN EFFORT TO PROVIDE SUGGESTED DIVISION OF RESPONSIBILITIES BETWEEN TRADES FOR STARTERS AND DISCONNECTS. THESE ARE JUST SUGGESTIONS. TURN KEY INSTALLATION IS REQUIRED BY THE CONTRACTOR.
   DIVISION 26: ELECTRICAL TRADE
   DIVISION 23: MECHANICAL TRADE AND/OR CONTROLS
   DIVISION 22: PLUMBING TRADE

REMARKS:
① PROVIDE UNIT WITH 20A, 120V CIRCUIT FOR UNIT LIGHTING. COORDINATE INSTALLATION REQUIREMENTS WITH M-SHEETS.
② CIRCUIT REQUIREMENTS ARE ASSUMED. VERIFY IN FIELD.

CONDENSATE PUMP CONNECTION SCHEDULE

EQUIPMENT TAG	QTY	LOCATION ON PLAN (QTY. PER ROOM)	FLA (MCA)	KVA (HP)	V	PH	HOMERUN TO	CKT BKR	CONDUCTORS & CONDUIT	NEMA PLUG CONFIGURATION	REMARKS
CP-1 THRU CP-6	6	BASEMENT: CORRIDOR 100B & STORAGE 110 (4), CORRIDOR 100A (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-7 THRU CP-14	8	1ST FLOOR: CORRIDOR 1000B (3), MEETING RM. 1016 (2), MEETING RM. 1018 (1), CUST. STOR 1015A (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-15 THRU CP-23	9	1ST FLOOR: OFFICE 1015B (1), MEETING RM. 1017 (5), CUPBOARD OFFICE 1019A (1), CUPBOARD 1019 (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-24 THRU CP-36	13	2ND FLOOR: STORAGE 2023A (1), CORRIDOR 2000C (6), CORRIDOR 2000D (1), CORRIDOR 2000E (1), STUDENT VOICE OFFICE 2024 (4)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-37 THRU CP-51	15	2ND FLOOR: WOMEN'S 2018 (3), STUDENT CLUB MTG. RM. 2016 (3), MEETING RM. 2017 (5), MEETING RM. 2015 (2), CA REC/OFFICE 2014 (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-52 THRU CP-65	14	2ND FLOOR: CA STORAGE 2014H (1), CA WORK RM. 2014A (1), CA DIRECTOR 2014B (1), CA OFFICE 2014C (1), CA CONF. RM. 2014D (2), CA OFFICE 2014E (1), CA OFFICE 2014F (1), CA INTERNS 2014G (1), CORRIDOR 2000A (1), CORRIDOR 2000B & THE DEN 2005 (4)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-66 THRU CP-79	14	2ND FLOOR: GATHERING SPACE 2013 & THE HEARTH 2012 (5), THE DEN 2005 (1), CORRIDOR 2000A (5), STAIR 6 2099F (1), SGA CONF. RM. 2011B (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-80 THRU CP-93	14	2ND FLOOR: SGA BULLPEN 2011A (2), SGA REC 2011 (1), NYPIRG 2010 (1), REFLECTION 2009 (2), THE DEN 2005 (8)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-94 THRU CP-108	15	2ND FLOOR: THE DEN 2005 (2), MEETING 2007 (2), THE OVERLOOK 2004 (11)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-109 THRU CP-122	14	3RD FLOOR: MEETING RM. 3016 (5), MEETING RM. 3015 (3), LOCKER RM. 3013 (1), CORRIDOR 3000 & BREAKOUT 3011 (5)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-123 THRU CP-133	11	3RD FLOOR: WOMEN'S 3008 (3), MEN'S 3009 (3), OPEN OFFICE 3007 (4), CATERING MGR 3007A (1)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-134 THRU CP-143	10	4TH FLOOR: WOMEN'S 4006 (2), MEN'S 4007 (2), CORRIDOR 4000 (4), CONFERENCE RM. 4009 (2)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①
CP-144 THRU CP-155	12	4TH FLOOR: BREAK RM. 4050 (2), DIRECTOR 4001E (1), EVENT MGR 4001D (1), EVENT MGR 4001B (1), EVENT MGR 4001C (1), TECH OFFICE 4001A (1), EMS RECEPTION 4001 (5)	1	(1/50)	120	1	NEAREST PANEL	20/1	(2)#12 & #12G, 3/4"C	5-15P	①

GENERAL SCHEDULE NOTES:
1. INSTALLATION TO COMPLY WITH NEC ARTICLE 110.26.
2. CONFIRM HP, VOLTAGE AND PHASE CONNECTIONS PRIOR TO ROUGH-IN OF EQUIPMENT. COORDINATION REQUIRED BETWEEN TRADES.
3. CIRCUIT BREAKERS INDICATED ON SCHEDULE ABOVE SHALL BE PROVIDED BY THE CONTRACTOR IN THE PROPOSED PANEL (THEY ARE NOT EXISTING BREAKERS, UNLESS INDICATED ON THE PANELBOARD SCHEDULE).
4. WHEN LOCATION IS NOT REFERENCED ON 'E' SHEETS, REFER TO 'M' SHEETS. LOCATIONS SHOWN ARE GENERAL IN NATURE. COORDINATE WITH DIV. 23 PRIOR TO ROUGH-IN.
5. ELECTRICAL LOAD DATA LISTED IS PER PUMP.

REMARKS:
① PROVIDE RECEPTACLE LOCAL TO EACH CHILLED BEAM FOR EACH CONDENSATE PUMP. COORDINATE INSTALLATION WITH CONDENSATE PUMP MANUFACTURER'S RECOMMENDATIONS.

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-501
ELECTRICAL SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

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KITCHEN EQUIPMENT SCHEDULE

ITEM TAG	EQUIPMENT	# OF UNITS	LOAD DATA			SUPPLY DATA			PROVIDE CONNECTION VIA:				DATA CONNECTION REQUIRED	REMARKS
			FLA	VOLTS	PHASE	PANEL	BKR	CIRCUIT	RECEPTACLE TYPE	RECEPTACLE ELEVATION	J-BOX ELEVATION	SHUNT TRIP		
1.01	WALK-IN COOLER LIGHTS	1	10	120	1	SBLB	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102"AFF	NO	NO	
1.02	EVAPORATOR COIL, +35F	1	1.8	120	1	SBLB	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102"AFF	NO	NO	
1.08	REMOTE REFRIGERATION SYS.	1	7.3	208	1	SBLB	20/2	(2)#12 & #12G, 3/4"C	N/A	N/A	12"AFF	NO	NO	
2.01	REACH-IN FRIDGE	1	6.9	120	1	SBL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	83"AFF	N/A	NO	NO	
2.01A	REACH-IN REFRIGERATOR (EXISTING UNITS)	2	6.9	120	1	SBL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	83" AFF.	N/A	NO	NO	1
2.05	WALK-IN COOLER LIGHTS	1	10	120	1	SBL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102"AFF	NO	NO	
2.06	35°F EVAPORATOR COIL	1	1.8	120	1	SBL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102"AFF	NO	NO	
2.07	-10°F EVAPORATOR COIL	2	20.2	208	1	SBL3	30/2	(2)#10 & #10G, 3/4"C	N/A	N/A	102"AFF	NO	NO	
2.11	REACH-IN FREEZER	1	13.9	120	1	SBL3	20/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	76.5" AFF.	N/A	NO	NO	1
2.12L	EXHAUST HOOD WITH MUA	1	15	120	1	KPL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	108" AFF.	NO	NO	
2.12R	EXHAUST HOOD WITH MUA	1	15	120	1	KPL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	108" AFF.	NO	NO	
2.13	GAS FRYER	1	7	120	1	KPL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	11"AFF	YES	NO	
2.16	TILT SKILLET	1	50.3	480	3	KPH3	70/3	(3)#4 & #8G, 1-1/4"C	N/A	N/A	12"AFF	YES	NO	
2.17	GAS CONVECTION OVEN	1	7.9	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	36"AFF	N/A	YES	NO	1
			7.9	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	36"AFF	N/A	YES	NO	1
2.18	COMBI OVEN	1	35	480	3	KPH3	50/3	(3)#6 & #10G, 1"C	N/A	N/A	12"AFF	YES	NO	
			60	480	3	KPH3	80/3	(3)#3 & #8G, 1-1/4"C	N/A	N/A	12"AFF	YES	NO	
2.19	COMBI OVEN	1	100	480	3	KPH3	125/3	(3)#1 & #6G, 1-1/2"C	N/A	N/A	6"AFF	YES	NO	
2.21	FIRE SUPPRESSION SYSTEM	1	10	120	1	SBL3	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	60"AFF	NO	NO	2
2.22	HOT HOLDING CABINET	2	13.8	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	6"AFF	N/A	NO	NO	
2.22A	HOT HOLDING CAB. (FUTURE)	1	13.8	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	6"AFF	N/A	NO	NO	
2.23	REACH-IN FRIDGE	1	4	120	1	SBL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	12"AFF	N/A	NO	NO	1
2.36	CONVEYOR WAREWASHER	1	52.5	480	3	KPH3	70/3	(3)#4 & #8G, 1-1/4"C	N/A	N/A	70"AFF	NO	NO	
2.40	DISPOSER	1	8.8	208	3	KPL3	20/3	(3)#12 & #12G, 3/4"C	N/A	N/A	12" AFF.	NO	NO	3
2.51	FOOD CUTTER	1	9.5	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	48"AFF	N/A	NO	NO	
2.52	MIXER	1	8	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	48"AFF	N/A	NO	NO	
2.53	SLICER	1	4	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	48"AFF	N/A	NO	NO	
2.54	FOOD PROCESSOR	1	9	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	48"AFF	N/A	NO	NO	
2.55	SCALE	1	1.3	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	38"AFF	N/A	NO	NO	
2.58	BLAST CHILLER	1	12	208	1	SBL3	30/2	(2)#10 & #10G, 3/4"C	N/A	N/A	24"AFF	NO	NO	
2.61	ICE CUBE MACHINE	1	15	120	1	SBL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	60"AFF	N/A	NO	NO	
2.66	COFFEE MACHINE	1	24	208	1	KPL3	40/2	(2)#8 & #10G, 3/4"C	N/A	N/A	48"AFF	NO	NO	1
2.67	SODA DISPENSER	1	15	120	1	KPL3	15/1	(2)#12 & #12G, 3/4"C	GFCI 5-20R	48" AFF.	N/A	NO	NO	1
1.01	WALK-IN COOLER (LIGHTS)	1	10	120	1	SBLB	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102" AFF.	NO	NO	
1.02	EVAPORATOR COIL + 35F	1	1.8	120	1	SBLB	20/1	(2)#12 & #12G, 3/4"C	N/A	N/A	102" AFF.	NO	NO	
1.08	REMOTE REFRIGERATION SYSTEM	1	7.3	208	1	SBLB	20/2	(2)#12 & #12G, 3/4"C	N/A	N/A	12" AFF.	NO	NO	
3.01	REMOTE REFRIGERATION SYSTEM	1	10.3	208	1	SBL3	20/2	(2)#12 & #12G, 3/4"C	N/A	N/A	12" AFF.	NO	NO	
3.02	REMOTE REFRIGERATION SYSTEM	1	21.5	208	3	SBL3	30/3	(3)#10 & #10G, 3/4"C	N/A	N/A	12" AFF.	NO	NO	

SCHEDULE NOTES:

1. PROVIDE FLOOR PENETRATIONS FOR ALL CIRCUITS PROPOSED FOR ISLAND
2. REFER TO E-504 THRU E-506 FOR PANELBOARD SCHEDULES.
3. COORDINATE FINAL LOCATIONS OF ALL RECEPTACLES WITH GC PRIOR TO ROUGH-IN
4. COORDINATE FINAL RECEPTACLE HEIGHTS IN FIELD

REMARKS:

1. FIELD VERIFY EXISTING ELECTRICAL REQUIREMENTS WITH EQUIPMENT NAMEPLATE PRIOR TO ROUGH-IN.
2. PROVIDE NECESSARY FIRE RELAY(S)/CONNECTIONS SUCH THAT ACTIVATION OF FIRE SUPPRESSION SYSTEM WILL CAUSE SHUNT TRIP ACTIVATION OF EQUIPMENT UNDER THE HOOD. PROVIDE ROUGH-IN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. PROVIDE ADDITIONAL 120V, 20A CIRCUIT FROM PANEL KPL3 FOR UNIT CONTROL PANEL. PROVIDE ROUGH-IN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE GFCI RECEPTACLE

TEXT ADJACENT TO SYMBOL REPRESENTS THE TAG

JUNCTION BOX SCHEDULE

ITEM TAG	EQUIPMENT	LOAD DATA			SUPPLY DATA			PROVIDE CONNECTION VIA:			REMARKS
		KVA	VOLTS	PHASE	PANEL	BKR	CIRCUIT	RECEPTACLE TYPE	HEIGHT	DIRECT CONNECT	
U	URINAL	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	1
T	TOILET	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	2
D	DAS REMOTE ANTENNA	-	120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C	-	-	YES	3
PS	PROJECTION SCREEN		120	1	AS INDICATED	20/1	(2)#12 & #12G, 3/4"C				4

SPECIFIC NOTES:

1. COORDINATE INSTALLATION WITH URINAL MANUFACTURER'S RECOMMENDATIONS AND P-SHEETS.
2. COORDINATE INSTALLATION WITH TOILET MANUFACTURER'S RECOMMENDATIONS AND P-SHEETS.
3. COORDINATE INSTALLATION WITH DAS ANTENNA MANUFACTURER'S RECOMMENDATIONS.
4. COORDINATE MOUNTING HEIGHT/LOCATION IN FIELD WITH A/V DRAWINGS.

TEXT ADJACENT TO SYMBOL REPRESENTS THE TAG

RECEPTACLE TAG SCHEDULE

RECEPTACLE TAG	DESCRIPTION	FACEPLATE & DEVICE COLOR	BASIS OF DESIGN FACEPLATE	RECEPTACLE NEMA TYPE	BASIS OF DESIGN RECEPTACLE	REMARKS
NO TAG	STANDARD RECEPTACLE	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	
G	GROUND FAULT CIRCUIT INTERRUPTER	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	
C	CONTROLLED RECEPTACLE	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	2
T	TAMPER RESISTANT	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	
U	USB RECEPTACLE (5-20R + USB TYPE C)	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	
L6	TWIST-LOCK 30A, 2P RECEPTACLE	WHITE	THERMOPLASTIC NYLON	6-30R	HARD USE SPEC GRADE	
S	STANDARD RECEPTACLE USED FOR SINK/LAV POWER	WHITE	THERMOPLASTIC NYLON	5-20R	HARD USE SPEC GRADE	3
PLC	PLUG LOAD CONTROLLER	WHITE	THERMOPLASTIC NYLON	-	ACUITY nPP2-PL	1

GENERAL SCHEDULE NOTES:

1. NYLON FACEPLATE COLOR SHALL MATCH DEVICE COLOR

REMARKS:

1. INTERFACES WITH LIGHTING CONTROLS (OCCUPANCY/VACANCY SENSORS). REFER TO ELECTRICAL LIGHTING PLAN DETAILS FOR ADDITIONAL INFORMATION.
2. OCCUPANCY SENSOR CONTROLLED RECEPTACLE. PROVIDE NECESSARY POWER PACK & OCCUPANCY SENSOR FOR OPERATION.
3. COORDINATE WITH DIV 22. PROVIDE GFCI TYPE WHERE SPECIFIED BY LAV CONTROL INSTALLATION GUIDELINES. COORDINATE HEIGHT AND LOCATION IN FIELD

PARTIAL DUCT BANK SCHEDULE

DESIGNATION	TYPE	ORIGIN	DESTINATION	POWER CIRCUIT			DATA CIRCUIT			REMARKS
				CONDUCTORS/ CONDUIT	ORIGIN	DESTINATION	CONDUCTORS/ CONDUIT	ORIGIN	DESTINATION	
DB-01	FLOWABLE FILL CONCRETE	GENERATOR	ELECTRIC ENCLOSURE 195	REFER TO SINGLE LINE DIAGRAM, E-703	GENERATOR	DISCONNECT D-1	N/A	N/A	N/A	
				GENERATOR START WIRES, REFER TO E-703	GENERATOR	ATS-LS	N/A	N/A	N/A	
				GENERATOR START WIRES, REFER TO E-703	GENERATOR	ATS-SB	N/A	N/A	N/A	
				GENERATOR BLOCK HEATER CKT, REFER TO E-703	GENERATOR	PANEL LSB	N/A	N/A	N/A	
				GENERATOR BATTERY CHARGER CKT, REFER TO E-703	GENERATOR	PANEL LSB	N/A	N/A	N/A	
				GENERATOR START WIRES, REFER TO E-703	GENERATOR	FIRE PUMP CONTROLLER	N/A	N/A	N/A	
				GENERATOR REMOTE ANNUNCIATOR WIRES, REFER TO E-607	GENERATOR	REMOTE ANNUNCIATOR PANEL	N/A	N/A	N/A	
				GENERATOR E-STOP WIRES, REFER TO E-607	GENERATOR	REMOTE EMERGENCY STOP	N/A	N/A	N/A	

GENERAL SCHEDULE NOTES:

1. VERIFY CIRCUIT REQUIREMENTS WITH APPLICABLE EQUIPMENT MANUFACTURERS. PROVIDE CONDUCTORS AND CONDUIT AS REQUIRED.
2. DUCT BANK SWEEPS SHALL NOT HAVE LESS THAN 20'-0" RADIUS UNLESS OTHERWISE NOTED.
3. COORDINATE DUCT BANK LOCATIONS AND INSTALLATIONS WITH EXISTING AND PROPOSED STRUCTURES, EQUIPMENT, AND PIPING SYSTEMS.
4. NOT ALL CIRCUITS SHOWN FOR CLARITY. REFER TO SINGLE LINE DIAGRAMS, CONTROL DIAGRAMS, FLOOR PLANS, AND SCHEDULES FOR ADDITIONAL REQUIREMENTS.

REMARKS:

1. CONTRACTOR TO REFER TO SINGLE LINE DIAGRAMS, CONTROL DIAGRAMS, AND SCHEDULES FOR ADDITIONAL INFORMATION/REQUIREMENTS.
2. CONTRACTOR MAY GROUP POWER CIRCUITS INTO LARGER CONDUIT AND GROUP CONTROL CIRCUITS INTO SEPARATE LARGER CONDUIT. GROUPING OF CIRCUITS INTO LARGER CONDUITS MUST COMPLY WITH NEC FILL AND DERATING REQUIREMENTS. VFD INPUT & OUTPUT CONDUCTORS MUST BE RUN INDEPENDENT OF OTHER CONDUCTORS.

FEEDER SCHEDULE

FEEDER TAG DESIGNATION	NOMINAL AMPERE RATING	NUMBER OF SETS	PHASE & NEUTRAL CONDUCTOR		GROUND CONDUCTOR		CONDUIT SIZE (WHEN X=3,4,5)		
			QTY OF COND.	COPPER SIZE AWG/KCMIL	QTY OF COND.	COPPER SIZE AWG/KCMIL	3 WIRE & GND	4 WIRE & GND	5 WIRE & GND or (DOUBLE NEUTRAL)
0020.X	20	1	X	12	1	12	3/4"	3/4"	1"
0040.X	40	1	X	8	1	10	3/4"	1"	1"
0045.X	45	1	X	6	1	10	1"	1"	1-1/4"
0050.X	50	1	X	6	1	10	1"	1"	1-1/4"
0060.X	60	1	X	4	1	10	1-1/4"	1-1/4"	1-1/4"
0070.X	70	1	X	4	1	8	1-1/4"	1-1/4"	1-1/4"
0080.X	80	1	X	3	1	8	1-1/4"	1-1/4"	1-1/2"
0090.X	90	1	X	2	1	8	1-1/4"	1-1/2"	1-1/2"
0100.X	100	1	X	1	1	8	1-1/2"	2"	2"
0110.X	110	1	X	2	1	6	1-1/4"	1-1/2"	1-1/2"
0125.X	125	1	X	1	1	6	1-1/2"	2"	2"
0150.X	150	1	X	1/0	1	6	2"	2"	2"
0175.X	175	1	X	2/0	1	6	2"	2"	2-1/2"
0200.X	200	1	X	3/0	1	6	2"	2-1/2"	2-1/2"
0225.X	225	1	X	4/0	1	4	2-1/2"	2-1/2"	3"
0250.X	250	1	X	250	1	4	2-1/2"	3"	3"
0300.X	300	1	X	350	1	4	3"	3"	3-1/2"
0350.X	350	1	X	500	1	3	3-1/2"	3-1/2"	3-1/2"
0400.X	400	2	X	3/0	1	3	2"	2-1/2"	2-1/2"
0450.X	450	2	X	4/0	1	2	2-1/2"	2-1/2"	3"
0500.X	500	2	X	250	1	2	2-1/2"	3"	3"
0600.X	600	2	X	350	1	1	3"	3"	3-1/2"
0700.X	700	2	X	500	1	1/0	3-1/2"	3-1/2"	4"
0800.X	800	3	X	300	1	1/0	3"	3"	3-1/2"
0900.X	900	3	X	350	1	2/0	3"	3"	3-1/2"
1000.X	1000	3	X	400	1	2/0	3"	3-1/2"	3-1/2"
1200.X	1200	4	X	350	1	3/0	3"	3-1/2"	3-1/2"
1400.X	1400	4	X	500	1	4/0	3-1/2"	3-1/2"	4"
1600.X	1600	5	X	400	1	4/0	3"	3-1/2"	4"
1800.X	1800	5	X	500	1	250	3-1/2"	3-1/2"	4"
2000.X	2000	6	X	400	1	250	3"	3-1/2"	3-1/2"
2500.X	2500	7	X	500	1	350	3-1/2"	3-1/2"	4"
3000.X	3000	8	X	500	1	400	3-1/2"	3-1/2"	4"
3200.X	3200	9	X	500	1	500	3-1/2"	3-1/2"	4"
3500.X	3500	10	X	500	1	500	3-1/2"	3-1/2"	4"
4000.X	4000	11	X	500	1	500	3-1/2"	3-1/2"	4"
5000.X	5000	14	X	500	2	350	3-1/2"	4"	5"
6000.X	6000	16	X	500	2	400	3-1/2"	4"	5"

2-HOUR RATED MI POWER CABLE FEEDER SCHEDULE

FEEDER TAG DESIGNATION	NOMINAL AMPERE RATING	PHASE & NEUTRAL CONDUCTOR		GROUND CONDUCTOR	REMARKS
		CONDUCTORS: 1W, 3W, OR 4W	SIZE: AWG/KCMIL		
F20.X	20	1	12	3	1
F50.X	50	1	8	3	1
F65.X	65	1	6	3	1
F125.X	125	1	4	3	2
F145.X	145	1	3	3	2
F170.X	170	1	2	3	2
F195.X	195	1	1	3	2
F230.X	230	1	1/0	3	2
F405.X	405	1	250	3	2

AFTER PERIOD INDICATES QTY OF CURRENT-CARRYING CONDUCTORS REQUIRED
BEFORE PERIOD INDICATES REQUIRED AMPACITY RATING

REMARKS:

1. PROVIDE AS BUNDLED CONDUCTORS (SINGLE MI CABLE)
2. PROVIDE X NUMBER OF SINGLE CONDUCTORS(S)/MI CABLE(S).
3. UTILIZE COPPER SHEATHING AS GROUND SOURCE RETURN PATH.

TRANSFER SWITCH SCHEDULE

DESTINATION	TRANSFER TYPE	VOLTAGE	AMPERAGE	MAIN INPUT BREAKER	POLE	NEUTRAL	NEMA ENCLOSURE	REMARKS
ATS-LS	AUTOMATIC	208Y/120V	100A	N/A	4	SWITCHED	NEMA 12	
ATS-SB	AUTOMATIC	208Y/120V	400A	N/A	4	SWITCHED	NEMA 12	1 2

GENERAL SCHEDULE NOTES:

1. BASIS OF DESIGN TRANSFER SWITCH - REFER TO SPECIFICATION.

REMARKS:

1. PROVIDE WITH PROGRAMMED/DELAYED TRANSITION WITH LOAD SHED TO NEUTRAL CAPABILITY FOR LOAD SHEDDING PURPOSES.
2. PROVIDE TRANSFER SWITCH WITH AUXILIARY CONTACTS SUCH THAT UPON ACTIVATION OF FIRE PUMP ON EMERGENCY POWER, TRANSFER SWITCH WILL MOVE TO MIDDLE POSITION.

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
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E-502
ELECTRICAL SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH:

11/16/2026 8:08:26 AM

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	FIXTURE BASIS OF DESIGN	LENS/DIFFUSER	VOLTAGE	LAMPS	BALLAST BASIS OF DESIGN	MOUNTING	INSTALL ON DIMMING SWITCH	REMARKS
A	2'X4' LED TROFFER	COOPER METALUX SKYRIDGE 24SR-LD2-48-C-UNV-L835-CD1-MR-U	WHITE FROST LENS	120V	38.2W LED, 3500 K 5045L	0-10V DIMMING DRIVER	RECESSED GRID	VARIES	
A2	2'X2' LED TROFFER	COOPER METALUX SKYRIDGE 22SR-LD2-29-C-UNV-L835-CD1-U	WHITE FROST LENS	120V	23.4W LED, 3500 K 3095L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
A3	2'X4' LED TROFFER	COOPER METALUX SKYRIDGE 24SR-LD2-48-C-UNV-L835-CD1-MR-U-SK-24-WT	WHITE FROST LENS	120V	38.2W LED, 3500 K 5045L	0-10V DIMMING DRIVER	SURFACE MOUNT	NO	
B	2'X4' LED TROFFER	COOPER METALUX CRUZE 24CZ2-45-UNV-L835-CD1-U	WHITE FROST LENS	120V	35W LED, 3500 K 4602L	0-10V DIMMING DRIVER	RECESSED GRID	YES	
C	4" LED DOWNLIGHT	COOPER HALO COMMERCIAL HC420D010-HM405250835-41WDC	SPECULAR CLEAR	120V	20.9W, 3500K 2000L	0-10V DIMMING DRIVER	RECESSED	VARIES	
C2	6" LED DOWNLIGHT	COOPER HALO COMMERCIAL HC625D010-HM605250835-61WDC	SPECULAR CLEAR	120V	27.5W, 3500K 2500L	0-10V DIMMING DRIVER	RECESSED	VARIES	
D	LED PENDANT	SCOTT ARCHITECTURAL LIGHTING S2690 L54-35-EXT-PT (MATTE BLACK)-INT-PT(RUST)		120V	54W, 3500K 6600L	0-10V DIMMING DRIVER	CEILING SUSPEND	NO	
E2	2' LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG2F0-1-UDD-F-W-WPS	WHITE	120V	9.6W LED, 3500 K 1220L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
E4	4' LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG4F0-1-UDD-F-W-WPS	WHITE	120V	19.2W LED, 3500 K 2440L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
E6	6' LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG6F0-1-UDD-F-W-WPS	WHITE	120V	28.8W LED, 3500 K 3660L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
E8	8' LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG8F0-1-UDD-F-W-WPS	WHITE	120V	38.4W LED, 3500 K 4880L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
E9	LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG16F0-1-UDD-F-W-WPS	WHITE	120V	76.8W LED, 3500K 8960L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
E4A	LED DIRECT RECESSED	NEORAY DEFINE 3 LED RECESSED DIRECT S123DR-S560D835-ETG4F0-1-UDD-F-W-WPS	WHITE	120V	19.2W LED, 3500 K 2440L	0-10V DIMMING DRIVER	SUSPENDED LINEAR WOOD	NO	
LV	LED DIRECT RECESSED	PRECISION ARCHITECTURAL LIGHTING MICROLINEA MLS3-D-MO-K35-80-LOH-120	WHITE	120V	17.2W LED, 3500 K 1853L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
F	LED WHITE STRIP LIGHT	VODE 707		120V		DIMMABLE	CEILING SURFACE	NO	
F1	LED RGBW STRIP LIGHT	BL LIGHTING BL FLEXFORM RGBW2-F	-	(24V)	18W LED, 3500K 1000L	DIMMABLE	SURFACE	NO	
G4	LED DIRECT/INDIRECT SUSPENDED	NEORAY S123DIP-C340D365U835-C#T1W-4FO-1-UDD-F1-W	WHITE	120V	20.4 W LED, 3500 K 1460L UP/1300L DN	0-10V DIMMING DRIVER	CEILING SUSPEND	NO	
G8	LED DIRECT/INDIRECT SUSPENDED	NEORAY S123DIP-C340D365U835-C#T1W-8FO-1-UDD-F1-W	WHITE	120V	40.8 W LED, 3500 K 2920L UP/2600L DN	0-10V DIMMING DRIVER	CEILING SUSPEND	NO	
H	LED RGB COVE LIGHT	ALUZ LIGHTING		120V	W LED, 2500 K L	0-10V DIMMING DRIVER	SURFACE COVE	NO	
I1	LED DIRECT SURFACE	NEORAY S124DS-C575D835T1-4F0-1-UDD-A-W	WHITE	120V	19.2W LED, 3500 K 4880L	0-10V DIMMING DRIVER	SURFACE MOUNT ON GRID	YES	
I2	LED DIRECT SURFACE	NEORAY S124DS-C575D835JB-4F0-1-UDD-A-W	WHITE	120V	19.2W LED, 3500 K 4880L	0-10V DIMMING DRIVER	SURFACE MOUNT ON GYP	YES	
K1	2'X4' LED FLAT PANEL	COOPER METALUX CRUZE 24FP4735C	WHITE FROST LENS	120V	41.4W LED, 3500 K 4591L	0-10V DIMMING DRIVER	RECESSED GRID	VARIES	
K2	2'X4' LED FLAT PANEL	COOPER METALUX CRUZE 24FP6435C	WHITE FROST LENS	120V	60.3W LED, 3500 K 6091L	0-10V DIMMING DRIVER	RECESSED GRID	YES	
J1	1'X4' LED TROFFER	ILP CAVERN STAIRWELL CV4-3L-U-35-FRAL-WHP	FROSTED ACRYLIC	120V	22W LED, 3500 K 3237L	0-10V DIMMING DRIVER	SURFACE MOUNT	NO	(10)
N2	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG2F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	6W LED, 3500 K 720L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N4	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG4F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	12W LED, 3500 K 1440L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N6	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG6F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	18W LED, 3500 K L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N8	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG8F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	24W LED, 3500 K 2904L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N10	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG10F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	30W LED, 3500 K 3600L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N16	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG16F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	47W LED, 3500 K 5640L	0-10V DIMMING DRIVER	RECESSED GRID	NO	
N22	WALL MOUNT RECESSED PERIMETER	NEORAY S124DRP-S350D835-ETG22F0-1-UDD-F-W-WPS	WHITE FROST LENS	120V	66W LED, 3500 K 7986L	0-10V DIMMING DRIVER	RECESSED GRID	NO	(6)
U	LED PENDANT	VIBIA SKAN 0275	ACRYLIC	120V	13.8W LED, 3500 K 1670L	0-10V DIMMING DRIVER	CEILING SUSPEND	VARIES	
T1	LED PENDANT	SCOTT ARCHITECTURAL LIGHTING S2535 L60-35K-EXT-PT (RUST)	OPAL MATTE ACRYLIC	120V	60W, 3500K 4500L	0-10V DIMMING DRIVER	CEILING SUSPEND	VARIES	
T2A	LED PENDANT	SCOTT ARCHITECTURAL LIGHTING S2537 L108-35K-EXT-PT (RUST)	OPAL MATTE ACRYLIC	120V	108W, 3500K 13,200L	0-10V DIMMING DRIVER	CEILING SUSPEND	VARIES	
T2B	LED PENDANT	SCOTT ARCHITECTURAL LIGHTING S2537 L108-35K-EXT-PT (RUST) (12' STEM)	OPAL MATTE ACRYLIC	120V	108W, 3500K 13,200L	0-10V DIMMING DRIVER	CEILING SUSPEND	VARIES	
S1	LINEAR LED	METALUX SNLED LENSED 2SNLED-LD5-22SL-LW-UNV-L835-CD1-U	WHITE	120V	18W LED, 3500K 2420L	0-10V DIMMING DRIVER	SURFACE	NO	
S2	LINEAR LED	METALUX SNLED LENSED 4SNLED-LD5-26SL-LC-UNV-L835-CD1-U	WHITE	120V	27W LED, 3500K 3487L	0-10V DIMMING DRIVER	SURFACE	NO	
S3	LINEAR LED	METALUX SNLED LENSED 2SNLED-LD5-34HL-LC-UNV-L835-CD1-U	WHITE	120V	21W LED, 3500K 3077L	0-10V DIMMING DRIVER	SURFACE	NO	
S4	LINEAR LED	METALUX SNLED LENSED 4SNLED-LD5-46SL-LC-UNV-L835-CD1-U	WHITE	120V	38W LED, 3500K 5051L	0-10V DIMMING DRIVER	SURFACE	NO	
S5	LINEAR LED	METALUX SNLED LENSED 4SNLED-LD5-46SL-LC-UNV-L835-CD1-U-AYC	WHITE	120V	38W LED, 3500K 5051L	0-10V DIMMING DRIVER	SUSPEND FROM STRUCTURE	NO	
SL	STAGE FIXTURE	ANP LIGHTING - BB12 BB12-AM30W-D-3500-SRTCC-1/2"ST-100GLFR	WHITE	120V	30W LED, 3500K 2698L	0-10V DIMMING DRIVER	SUSPEND FROM LIGHTING TRUSS	YES	
R	PENDANT	BLACKJACK LIGHTING IRIDIUM 27C-EG-27U-30K	ACRYLIC	120V	42W LED, 3000K 2031L	0-10V DIMMING DRIVER	CEILING SUSPEND	YES	
P1	LED SITE POLE LIGHT	LUMENPULSE PURE T PUR100T-120-SSL-M110-35K-CRI80-4BLS-BK	SOFTSITE	120V	92W LED, 3500K 8637L	0-10V DIMMING DRIVER	POLE	NO	
CP	LED COMPOUND PENDANT	BLACKJACK LIGHTING QUATRO MODULAR SYSTEM MQ-2409-WH-GLSBU-8L-Z-35K	CANOPY WHITE	120V	72W LED, 3500K 3096L	0-10V DIMMING DRIVER	CEILING SURFACE	NO	(9)
U1	LED EXTERIOR FLUSH UPLIGHT	PERFORMANCE LIGHTING STEEL ROUND MIDI SRMIDI-7.6-20-BK-35-UNV-0-10V-TP	CLEAR	120V	7.5W LED, 3500K 320L	0-10V DIMMING DRIVER	GROUND FLUSH	YES	
V	LINEAR LED	METALUX VAPORTITE 4VT3-LD5-4-G-120V-L835-CD1-SSL-U	FROSTED LENS	120V	32W LED, 3500K 4428L	0-10V DIMMING	CEILING SURFACE	NO	
W4	LED EXTERIOR WALL WASH	LUMENPULSE LUMENFACADE LOI RO-120/277-48-35K-WW-TS0-DIM	GLASS	120V	34W LED, 3500K 4730L	0-10V DMMING	GROUND FLUSH	YES	
G1	LED GUARDRAIL-INTEGRAL LIGHT	ORGANIC LIGHTING ORGARAIL HR1-XX-P3-30-ND-S-P-LC-E	CLEAR	120V	1W/FT LED, 3000K 120L/FT	N/A	SURFACE WITHIN HANDRAIL	NO	(6)
H1	LED HANDRAIL-INTEGRAL LIGHT	ORGANIC LIGHTING ORGARAIL HR1-XX-P3-30-ND-S-P-LC-E	CLEAR	120V	1W/FT LED, 3000K 120L/FT	N/A	SURFACE WITHIN HANDRAIL	NO	(6)
EBU	WALL-MOUNTED EMERGENCY LIGHTING FIXTURE	COOPER SURE LITES SEL25	WHITE	120V	2.5W LED	N/A	SURFACE WALL	N/A	
EBU	WALL-MOUNTED EXTERIOR EMERGENCY LIGHTING FIXTURE	COOPER SURE LITES AEL246	WHITE	120V	1W LED	N/A	SURFACE WALL	N/A	
	EXIT SIGN - QUANTITY & ORIENTATION OF FACES & HANDS AS INDICATED ON DRAWINGS	COOPER (EVENLITE) SOV-AC-R-1C/2M-WH-SW/RC	RED CLEAR 1 FACE MIRROR 2 FACE	120V	LED	N/A	CEILING OR WALL	N/A	(1) (3)

GENERAL SCHEDULE NOTES:

1. MODELS ARE GIVEN FOR QUALITY ONLY. SUBSTITUTE LIGHT FIXTURES SHALL BE OF APPROVED EQUAL OR GREATER QUALITY.
2. PROVIDE BAR HANGERS/MOUNTING BRACKETS AS REQUIRED TO SUIT PROPOSED CEILING TYPE.

REMARKS:

(1) INTERCEPT & CONNECT TO NEAREST NON-SWITCHED PORTION OF LIGHTING CIRCUIT. TYPICAL FOR ALL EXIT SIGNS.
(2) PROVIDE ALL NECESSARY JUMPER WIRES AND CORD CONNECTORS FOR A COMPLETE SYSTEM. WHERE NECESSARY, LOCATE A RECEPTACLE (CONNECTED TO LOCAL CONTROL SWITCH) IN CABINET BACK WALL. COORDINATE FACTORY CABINET CUTS AS REQUIRED.
(3) CONTRACTOR IS TO REFER TO FLOOR PLANS TO DETERMINE ORIENTATION OF FACES & ARROWS, AND TO VERIFY MOUNTING TYPE.
(4) LIGHT FIXTURE TO BE DARK-SKY COMPLIANT AND UL-LISTED FOR WET LOCATIONS.
(5) WHEN FIXTURE IS CONTROLLED VIA DIMMING CONTROLLER/SWITCH, PROVIDE 0-10V DIMMING CONDUCTORS, INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
(6) LENGTHS VARY- PROVIDE LENGTH AS SHOWN ON FLOOR PLANS.
(7) MOUNTING HEIGHT: 9'-6" AFF. ASSUMED SUSPENSION LENGTH: 7'-0"±. COORDINATE IN FIELD.
(8) COORDINATE PLACEMENT/ARRANGEMENT WITH PROJECT MANAGER IN FIELD.
(9) (1) FIXTURE CONTAINS (4) 2X2 SQUARES OF (9) BULBS EACH. THUS, EACH FIXTURE HAS (36) 2W-BULBS.
(10) COORDINATE DETECTION RANGE WITH DOOR LANDINGS. PROGRAM FOR 50% DIM AFTER 10 MIN. OF NON-DETECTION.

LIGHTING DESIGN MATRIX

DESIGN CRITERIA				CONTROL REQUIREMENTS			SEQUENCE OF OPERATION		PROGRAMMING - INITIAL SETTINGS				TESTING
SPACE CATEGORY	DESIGN TARGET CRITERIA	ACTUAL LIGHTING PERFORMANCE	2025 ECCCNYS LPD, W/SF	OCC/VAC SENSOR CONTROL	DIMMING CONTROL	DAYLIGHTING CONTROL	LIGHTING CONTROL STRATEGY	DAYLIGHTING CONTROL STRATEGY	SENSOR ON / OFF MODE	OFF TIME DELAY	SUGGESTED MAX UPPER LEVEL SETPOINT FOR COMMISSIONING START UP	UNOCCUPIED / AFTER-HOURS STATE	FUNCTIONAL TESTS (SEE KEY BELOW)
CORRIDORS	LIGHTING LAYOUT (ARCHITECTURAL LOOK) DOMINATED THE CALCULATIONS. SET UPPER TRIM LIMIT BASED ON IN-FIELD REVIEW AFTER INSTALLATION COMPLETE	SEE LIGHTING CALCULATIONS	0.58	YES	YES	NO	TIME OF DAY CONTROL. AFTER HOURS, AUTO ON TRIGGERED BY OCCUPANCY DETECTION WITH AUTO OFF AFTER 15 MIN. OF NO DETECTION. NIGHT LIGHT FIXTURES FOR MINIMUM ILLUMINATION AND EMERGENCY	N/A	SCHEDULED ON (OCCUPIED HOURS). AUTO ON / AUTO OFF (AFTER HOURS)	15 MIN	REVIEW IN FIELD	NIGHT LIGHT FIXTURES ON. ALL OTHERS OFF	FT-1, FT-2, FT-3, FT-5
STORAGE ROOMS	20 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.43	YES	NO	NO	MANUAL ON. AUTO OFF AFTER 15 MIN OF NO DETECTION	N/A	MANUAL ON / AUTO OFF (VACANCY)	15 MIN	N/A	OFF	FT-1
MECH./ELEC. ROOMS	30 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	N/A	NO	NO	NO	MANUAL ON. MANUAL OFF	N/A	MANUAL ON / MANUAL OFF	N/A	N/A	AS SWITCHED	FT-2
IDF/MDF	30 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	N/A	NO	NO	NO	MANUAL ON. MANUAL OFF	N/A	MANUAL ON / MANUAL OFF	N/A	N/A	AS SWITCHED	FT-2
RESTROOMS	12 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.75	YES	NO	NO	AUTO ON. AUTO OFF AFTER 15 MIN OF NO DETECTION	N/A	AUTO ON / AUTO OFF (OCCUPANCY)	15 MIN	N/A	OFF	FT-1
MAIN LOBBY AND SUPPORTING SPACE	25 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.58	YES	YES	NO	TIME OF DAY CONTROL. AFTER HOURS, AUTO ON TRIGGERED BY OCCUPANCY DETECTION WITH AUTO OFF AFTER 15 MIN. OF NO DETECTION. NIGHT LIGHT FIXTURES FOR MINIMUM ILLUMINATION AND EMERGENCY	N/A	SCHEDULED ON (OCCUPIED HOURS). AUTO ON / AUTO OFF (AFTER HOURS)	15 MIN	25FC TARGET. CONFIRM IN FIELD	NIGHT LIGHT FIXTURES ON. ALL OTHERS OFF	FT-1, FT-2, FT-3, FT-5
FOOD PREPARATION	75 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.53	YES	YES	NO	MANUAL ON. MANUAL RAISE/LOWER LIGHT LEVEL AUTO OFF AFTER 30 MIN OF NO DETECTION	N/A	MANUAL ON / AUTO OFF (VACANCY)	30 MIN	70FC TARGET	OFF	FT-1, FT-2
OFFICES	35 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.85	YES	YES	NO	MANUAL ON. MANUAL RAISE/LOWER LIGHT LEVEL AUTO OFF AFTER 15 MIN OF NO DETECTION	N/A	MANUAL ON / AUTO OFF (VACANCY)	15 MIN	OCCUPIED: 30FC	OFF	FT-1, FT-2
STAIRWAY	15 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.58	YES	YES	NO	ON 24/7. DETECTION OF OCCUPANCY SHALL TRIGGER LIGHTS TO 100% FOR 3 MINUTES. AFTER TIMER EXPIRES, LIGHTS SHALL FALL TO 50% TRIM LEVEL UNTIL FURTHER OCCUPANCY IS DETECTED	N/A	ALWAYS ON. OCCUPANCY RAISES TO 100%	15 MIN	OCCUPIED: 20FC UNOCCUPIED: 10FC	50% TRIM LEVEL	FT-1, FT-2, FT-5
CLASSROOMS, MEETING ROOMS, CONFERENCE ROOMS	30 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.74	YES	YES	SELECT ROOMS. SEE FLOOR PLANS	MANUAL ON. MANUAL RAISE/LOWER LIGHT LEVEL AUTO OFF AFTER 30 MIN OF NO DETECTION	DAYLIGHTING ZONES AUTO DIMMING W/ MANUAL OVERRIDE	MANUAL ON / AUTO OFF (VACANCY)	30 MIN	OCCUPIED: 30FC	OFF	FT-1, FT-2, FT-4
2ND FLOOR COMMON AREAS (THE DEN, HEARTH)	10-20 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.78	YES	YES	NO	TIME OF DAY CONTROL & AUTO ON/AUTO OFF AFTER 15 MIN. OF NO DETECTION. NIGHT LIGHT FIXTURES FOR MINIMUM ILLUMINATION AND EMERGENCY. LOCAL OVERRIDE ON SOME ZONES AVAILABLE WITH RAISE/LOWER SWITCH	N/A	TIME OF DAY CONTROL WITH AUTO ON / AUTO OFF (OCCUPANCY)	15 MIN	REVIEW IN FIELD	NIGHT LIGHT FIXTURES ON. ALL OTHERS OFF	FT-1, FT-2, FT-3, FT-5
THE GREAT HALL	30 FC HORIZONTAL ILLUMINANCE (AVE MAINTAINED)	SEE LIGHTING CALCULATIONS	0.63	YES	YES	YES, NEAR SOUTH END	MANUAL ON. MANUAL RAISE/LOWER LIGHT LEVEL AUTO OFF AFTER 30 MIN OF NO DETECTION	DAYLIGHTING ZONES AUTO DIMMING W/ MANUAL OVERRIDE	MANUAL ON / AUTO OFF (VACANCY)	30 MIN	OCCUPIED: 30FC	OFF	FT-1, FT-2, FT-4

FUNCTIONAL TEST KEY:

FT-1 OCCUPANCY / VACANCY SENSORS: VERIFY LOCATION, AIMING AND COVERAGE BY WALK TEST. VERIFY MANUAL-ON OR AUTO-ON OPERATION PER MATRIX. VERIFY LIGHTS TURN OFF, OR REDUCE TO THE UNOCCUPIED LEVEL, AT THE PROGRAMMED TIME DELAY. VERIFY NO FALSE-ON OR FALSE-OFF. STAIRWAYS: MEASURE OCCUPIED AND UNOCCUPIED LEVELS.

FT-2 MANUAL CONTROL, DIMMING AND TRIM: VERIFY EACH SWITCH AND BUTTON CONTROLS ONLY ITS INTENDED ZONE AND MATCHES ITS LABEL. VERIFY RAISE/LOWER IS SMOOTH AND FLICKER-FREE OVER THE FULL RANGE AND ALL LUMINAIRES IN A ZONE TRACK TOGETHER. MEASURE AND RECORD ILLUMINANCE AT HIGH-END TRIM.

FT-3 TIME-OF-DAY SCHEDULE: VERIFY SYSTEM CLOCK AND PROGRAMMED OCCUPIED, UNOCCUPIED AND HOLIDAY EVENTS (ADVANCE SYSTEM TIME OR RUN TEST EVENTS). VERIFY AFTER-HOURS OCCUPANCY OPERATION, OVERRIDE TIME-OUT AND SCHEDULE RETENTION AFTER A POWER INTERRUPTION.

FT-4 DAYLIGHT-RESPONSIVE CONTROL: VERIFY PHOTOSENSOR LOCATION AND CALIBRATION. VERIFY CONTROLLED LUMINAIRES DIM AS DAYLIGHT INCREASES AND RAISE AS IT DECREASES WHILE MAINTAINING TARGET ILLUMINANCE. VERIFY ONLY DAYLIGHT-ZONE LUMINAIRES RESPOND AND MANUAL OVERRIDE OPERATES.

FT-5 EMERGENCY / NIGHT LIGHT (UL 924): WITH CONTROLLED LIGHTING OFF, AND AGAIN AT MINIMUM DIM, INTERRUPT NORMAL POWER AND VERIFY EMERGENCY LUMINAIRES GO TO FULL OUTPUT AND RETURN TO NORMAL CONTROL WHEN POWER IS RESTORED. VERIFY NIGHT LIGHT FIXTURES STAY ON IN ALL CONTROL STATES. APPLIES TO ALL SPACES SO EQUIPPED.

FT-6 BMS AND PLUG-LOAD INTERFACE: WITH DIVISION 23, VERIFY THE SIGNAL FROM EACH RELAY INTERFACE (DRI) IS RECEIVED AT THE BMS. VERIFY CONTROLLED RECEPTACLES SWITCH OFF AT THE VACANCY TIME DELAY AND ON AT OCCUPANCY. APPLIES WHEREVER DRI OR PLUG LOAD CONTROLLER (PLC) DEVICES OCCUR.

LIGHTING CONTROL SYSTEM SCHEDULE

SYMBOL	DESCRIPTION	FACEPLATE & DEVICE COLOR	BASIS OF DESIGN FACEPLATE	BASIS OF DESIGN SWITCH	REMARKS
RC1	DIGITAL ROOM CONTROLLER - SINGLE ZONE (DIMMING)	-	-	WATTSTOPPER LMRC-211	
RC2 a,b	DIGITAL ROOM CONTROLLER - DUAL ZONE (DIMMING)	-	-	WATTSTOPPER LMRC-212	
RC3 a,b,c	DIGITAL ROOM CONTROLLER - TRIPLE ZONE (DIMMING)	-	-	WATTSTOPPER LMRC-213	
DRI	DLM LOW VOLTAGE DUAL RELAY INTERFACE	-	-	WATTSTOPPER LMOR-102	(3)
APP	ANALOG 20A RATED POWER PACK	-	-	WATTSTOPPER BZ-150	
ELCU	EMERGENCY LIGHTING CONTROL UNIT UL924 DEVICE	-	-	WATTSTOPPER ELCU-200	
ELCUD	EMERGENCY LIGHTING CONTROL UNIT FOR DIMMING SWITCHES	-	-	WATTSTOPPER ELCU-200	
PLC	PLUG LOAD CONTROLLER	-	-	WATTSTOPPER LMPL-101	(2)
NB	NETWORK BRIDGE	-	-	WATTSTOPPER LMBC-300	
$ R1	ON/OFF SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMSW-210	
$ RD1	RAISE/LOWER DIGITAL DIMMING WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMDM-101	
$ RD2	2-BUTTON DIGITAL DIMMING WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMDM-102	
$ RD3	3-BUTTON DIGITAL DIMMING WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMDM-103	
$ GT	GRAPHIC TOUCHSCREEN	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMGS-150	
VS R a	DUAL TECHNOLOGY VACANCY SENSOR	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMDC-100	
VS A a	DUAL TECHNOLOGY VACANCY SENSOR	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER DT-305	
OS A a	PASSIVE INFRARED OCCUPANCY SENSOR	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER DT-300	
PC a	PHOTO CELL / DAYLIGHT SENSOR	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LMLS-500	
$ VS	VACANCY SENSOR DUAL TECH WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER DSW-301	
$ OS	OCCUPANCY SENSOR DUAL TECH WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER DSW-301	
$ DV	VACANCY SENSOR DUAL TECH DIMMING (0-10V) WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER DW-311	
$ LV	1-BUTTON LOW VOLTAGE MOMENTARY WALL SWITCH	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER LVSW-101	
$ T	ASTRONOMICAL TIME CLOCK	WHITE	THERMOPLASTIC NYLON	WATTSTOPPER RT-200	
$	SINGLE POLE SWITCH	WHITE	THERMOPLASTIC NYLON	PASS & SEYMOUR PT20AC1	

GENERAL SCHEDULE NOTES:

1. NYLON FACEPLATE COLOR SHALL MATCH DEVICE COLOR
2. "a, b, c ..." LOWER CASE LETTERING IS USED TO INDICATE FIXTURE SWITCHING CONFIGURATION

REMARKS:

(1) COORDINATE DURING SUBMITTALS.
(2) INTERFACES WITH LIGHTING CONTROLS (OCCUPANCY/VACANCY SENSORS). REFER TO ELECTRICAL POWER PLAN(S) FOR LOCATIONS.
(3) NOTE - THESE DEVICES ARE NOT SHOWN ON PLAN, PROVIDE ONE FOR EACH AND EVERY ROOM CONTROLLER ON THE PROJECT, PROVIDE CABLING BACK TO BMS CONTROL PANEL. COORDINATE CABLING WITH DIVISION 23.

LIGHTING DESIGN MATRIX NOTES

GENERAL NOTES:

G1. THIS MATRIX SETS THE DESIGN CRITERIA, SEQUENCE OF OPERATION, INITIAL PROGRAMMING SETTINGS AND FUNCTIONAL TESTS FOR EACH SPACE CATEGORY. USE IT WITH THE LIGHTING PLANS, LIGHTING CONTROL SYSTEM SCHEDULE, LUMINAIRE SCHEDULE AND SPECIFICATIONS. FOR SPACES NOT LISTED, APPLY THE MOST SIMILAR CATEGORY AND CONFIRM WITH THE ENGINEER.

G2. CONTROL PRODUCTS SCHEDULED ARE THE BASIS OF DESIGN. ALL REQUIREMENTS OF THIS MATRIX AND THESE NOTES APPLY EQUALLY TO ANY APPROVED EQUIVALENT SYSTEM.

G3. LIGHTING CONTROLS SHALL COMPLY WITH THE 2025 ECCCNYS, SECTION C405.2. FUNCTIONAL TESTING AND CLOSEOUT DOCUMENTATION SHALL COMPLY WITH SECTION C408.3. REPORT ANY CONFLICT BETWEEN THIS MATRIX AND THE CODE TO THE ENGINEER BEFORE PROGRAMMING.

G4. SETTINGS SHOWN ARE INITIAL START-UP SETTINGS. INCLUDE ALL LABOR, SOFTWARE AND SITE VISITS NEEDED TO PROGRAM, ADJUST AND RE-PROGRAM THE SYSTEM TO ACHIEVE THE SEQUENCES SHOWN AND TO INCORPORATE OWNER AND ENGINEER COMMENTS THROUGH FINAL ACCEPTANCE.

PROGRAMMING NOTES:

P1. START-UP AND PROGRAMMING SHALL BE PERFORMED ON SITE BY A FACTORY-AUTHORIZED TECHNICIAN OF THE LIGHTING CONTROL SYSTEM MANUFACTURER.

P2. PRE-PROGRAMMING MEETING: BEFORE PROGRAMMING, MEET WITH THE OWNER, ENGINEER AND THE OWNER'S COMMISSIONING AUTHORITY (CxA) TO CONFIRM TIME SCHEDULES (OCCUPIED HOURS, HOLIDAYS, ACADEMIC BREAKS), AFTER-HOURS OPERATION, TIME DELAYS, TRIM LEVELS, SCENE AND BUTTON ASSIGNMENTS, DEVICE NAMING AND ACCESS LEVELS. SUBMIT A ROOM-BY-ROOM PROGRAMMING SCHEDULE FOR REVIEW. DO NOT PROGRAM UNTIL IT IS RETURNED.

P3. PREREQUISITES: PROGRAM ONLY AFTER LUMINAIRES, DRIVERS, CONTROL DEVICES AND CONTROL WIRING ARE INSTALLED, TESTED AND LABELED, PERMANENT POWER IS ON, AND CEILINGS, FINISHES, FURNITURE AND WINDOW TREATMENTS ARE IN PLACE.

P4. OCCUPANCY / VACANCY SENSORS: SET ON/OFF MODE AND TIME DELAY PER MATRIX. ADJUST AIMING, MASKING AND SENSITIVITY FOR FULL COVERAGE, INCLUDING SEATED SMALL-MOTION ACTIVITY, WITHOUT FALSE TRIGGERING FROM ADJACENT SPACES, DOORWAYS OR HVAC AIRFLOW. DUAL-TECHNOLOGY SENSORS: BOTH TECHNOLOGIES TO INITIATE ON, EITHER TO MAINTAIN ON.

P5. HIGH-END TRIM: LIMIT THE MAXIMUM OUTPUT OF EACH DIMMED ZONE SO MEASURED AVERAGE ILLUMINANCE DOES NOT EXCEED THE "SUGGESTED MAX UPPER LEVEL SETPOINT". MEASURE WITH A CALIBRATED LIGHT METER AT 30 IN. AFF (AT FLOOR IN CIRCULATION SPACES AND STAIRS) WITH DAYLIGHT EXCLUDED. WHERE "REVIEW IN FIELD" OR "CONFIRM IN FIELD" IS SHOWN, SET TRIM WITH THE ENGINEER AND OWNER PRESENT. RECORD TRIM (PERCENT) AND FOOTCANDLES PER ZONE.

P6. LOW-END TRIM AND FADE: SET LOW-END TRIM AT THE LOWEST STABLE, FLICKER-FREE DRIVER OUTPUT. MANUAL RAISE/LOWER SHALL OPERATE BETWEEN LOW-END AND HIGH-END TRIM. TRANSITIONS TO ON, TO OFF AND BETWEEN LEVELS SHALL FADE SMOOTHLY.

P7. TIME-OF-DAY SCHEDULES: PROGRAM OCCUPIED-HOUR, HOLIDAY AND ACADEMIC-BREAK SCHEDULES AS DIRECTED BY THE OWNER. OUTSIDE SCHEDULED HOURS, SCHEDULED LIGHTING SHALL OPERATE BY OCCUPANCY PER MATRIX. A MANUAL OVERRIDE OF A SCHEDULED OFF SHALL TIME OUT WITHIN 2 HOURS. SET CLOCKS TO LOCAL TIME WITH AUTOMATIC DAYLIGHT-SAVING ADJUSTMENT AND CONFIRM SCHEDULES ARE RETAINED THROUGH A POWER OUTAGE.

P8. DAYLIGHT-RESPONSIVE CONTROL: AFTER HIGH-END TRIM IS SET, CALIBRATE EACH PHOTOSENSOR ZONE PER THE MANUFACTURER'S PROCEDURE TO MAINTAIN THE DESIGN TARGET ILLUMINANCE AS DAYLIGHT VARIES. DIMMING SHALL BE CONTINUOUS AND GRADUAL, WITHOUT VISIBLE STEPPING, FLICKER OR CYCLING. ONLY LUMINAIRES IN THE DAYLIGHT ZONES SHOWN ON THE PLANS SHALL RESPOND. MANUAL OVERRIDE SHALL NOT EXCEED HIGH-END TRIM AND SHALL RETURN TO AUTOMATIC CONTROL WHEN THE SPACE IS NEXT VACATED.

P9. EMERGENCY AND NIGHT LIGHT FIXTURES: FIXTURES ON UL 924 DEVICES SHALL FOLLOW NORMAL SWITCHING AND DIMMING WHILE NORMAL POWER IS PRESENT AND SHALL GO TO FULL OUTPUT ON LOSS OF NORMAL POWER REGARDLESS OF SWITCH, DIMMER, SENSOR OR SCHEDULE STATE. NIGHT LIGHT FIXTURES SHALL NOT BE TURNED OFF BY ANY LOCAL CONTROL, SENSOR OR SCHEDULE.

P10. STAIRWAYS AND EGRESS PATHS: FAILURE OF A SENSOR, CONTROLLER OR NETWORK SHALL DEFAULT THE CONTROLLED LIGHTING TO ON AT FULL OUTPUT.

P11. BMS AND PLUG-LOAD INTERFACE: CONFIGURE EACH RELAY INTERFACE (DRI) OUTPUT TO THE BMS AS REQUIRED BY DIVISION 23 (SPACE OCCUPANCY STATUS UNLESS DIRECTED OTHERWISE) AND EACH PLUG LOAD CONTROLLER (PLC) TO SWITCH ITS CONTROLLED RECEPTACLES WITH THE ROOM OCCUPANCY SENSOR. COORDINATE POINT NAMES AND TESTING WITH DIVISION 23.

P12. NAMING AND LABELING: NAME EVERY DEVICE, ZONE, GROUP AND SCHEDULE IN THE SYSTEM SOFTWARE USING THE OWNER'S FINAL ROOM NUMBERS. LABEL EACH ROOM CONTROLLER, POWER PACK, UL 924 DEVICE AND NETWORK BRIDGE WITH ITS CIRCUIT AND ZONE.

COMMISSIONING NOTES:

C1. PRE-FUNCTIONAL CHECKOUT: THE CONTRACTOR AND THE MANUFACTURER'S TECHNICIAN SHALL START UP, PROGRAM AND CHECK 100 PERCENT OF CONTROL DEVICES AND SUBMIT SIGNED CHECKLISTS BEFORE REQUESTING FUNCTIONAL TESTING.

C2. FUNCTIONAL TESTING: PERFORM THE TESTS LISTED IN THE MATRIX (SEE FUNCTIONAL TEST KEY) IN THE PRESENCE OF THE CxA (WHERE ENGAGED), ENGINEER AND OWNER. THE CONTRACTOR AND THE MANUFACTURER'S TECHNICIAN SHALL OPERATE THE SYSTEM, PROVIDE TEST INSTRUMENTS AND MAKE ADJUSTMENTS.

C3. TEST QUANTITIES: TEST NOT LESS THAN ONE OF EACH UNIQUE COMBINATION OF SENSOR TYPE AND SPACE GEOMETRY AND NOT LESS THAN 10 PERCENT OF EACH COMBINATION. WHERE 30 PERCENT OR MORE OF THOSE TESTED FAIL, TEST ALL REMAINING IDENTICAL COMBINATIONS. TEST 100 PERCENT OF TIME SCHEDULES, DAYLIGHT ZONES AND UL 924 DEVICES.

C4. DEFICIENCIES: CORRECT ALL DEFICIENCIES AND RETEST THE AFFECTED SPACES UNTIL ACCEPTED, AT NO ADDITIONAL COST TO THE OWNER.

C5. DOCUMENTATION: SUBMIT (A) FUNCTIONAL TEST REPORT LISTING DATE, TESTER, RESULT AND MEASURED VALUES FOR EACH SPACE; (B) AS-PROGRAMMED SETTINGS SCHEDULE (SENSOR MODE, TIME DELAY, TRIM, MEASURED FOOTCANDLES, DAYLIGHT SETPOINT, TIME SCHEDULES); (C) AS-BUILT CONTROL DRAWINGS SHOWING DEVICE LOCATIONS, ZONING AND ADDRESSES; (D) O&M MANUALS INCLUDING A SCHEDULE FOR INSPECTING AND RECALIBRATING CONTROLS; (E) ELECTRONIC BACKUP OF THE FINAL PROGRAM.

C6. TURNOVER: PROVIDE THE OWNER WITH ADMINISTRATOR CREDENTIALS, LICENSED CONFIGURATION SOFTWARE AND ANY HANDHELD OR WIRELESS CONFIGURATION TOOLS NEEDED TO MAINTAIN THE SYSTEM. NO FACTORY-DEFAULT PASSWORDS SHALL REMAIN.

C7. DEMONSTRATION AND TRAINING: BEFORE BENEFICIAL OCCUPANCY, DEMONSTRATE EACH SEQUENCE TO THE OWNER AND PROVIDE ON-SITE TRAINING BY THE MANUFACTURER'S TECHNICIAN COVERING OPERATION, SCHEDULE CHANGES, SENSOR ADJUSTMENT, TRIM AND DAYLIGHT RECALIBRATION, DEVICE REPLACEMENT AND PROGRAM BACKUP/RESTORE.

C8. POST-OCCUPANCY ADJUSTMENT: INCLUDE ONE RETURN VISIT BY THE TECHNICIAN WITHIN THE FIRST YEAR OF OCCUPANCY, AT A TIME SELECTED BY THE OWNER, TO ADJUST TIME DELAYS, SENSITIVITY, TRIM, SCHEDULES AND DAYLIGHT CALIBRATION AND PROVIDE REFRESHER TRAINING.

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-503

ELECTRICAL SCHEDULES

NOVEMBER 16, 2026

BID DOCUMENTS

FILE PATH:

11/16/2026 8:08:28 AM

Switchboard: MSB

Location: ELECTRIC 194A **Supply From:** 2000KVA XFMR **Mounting:** FLOOR **Enclosure:** Indoor
Volts: 480/277 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: **Mains Type:** MCB **Mains Rating:** 2000 A **MCB Rating:** 2000 A

Notes:

CKT	Circuit Description	# of Poles	Frame Size	Trip Rating	Load	Remarks
1	MP4H	3	400 A	400 A	80313 VA	
2	T-MDPL	3	400 A	300 A	329672 VA	
3	KPH3	3	400 A	300 A	297471 VA	
4	AHU-4 SUPPLY FAN	3	400 A	90 A	48219 VA	
5	AHU-4 RETURN FAN & ENERGY RECOVERY	3	400 A	50 A	30012 VA	
6	HWS-1	3	400 A	70 A	26573 VA	
7	ELEV-1	3	400 A	70 A	15388 VA	
8	ELEV-2	3	400 A	20 A	8314 VA	
9	DOAS-1 SUPPLY FAN	3	400 A	40 A	11520 VA	
10	DOAS-1 RETURN FAN & ENERGY RECOVERY WH.	3	400 A	30 A	480 VA	
11	AHU-5 SUPPLY FAN	3	400 A	20 A	2832 VA	
12	AHU-5 RETURN FAN	3	400 A	20 A	3096 VA	
13	P-1	3	400 A	50 A	28266 VA	
14	P-2	3	400 A	50 A	28266 VA	
15	P-19	3	400 A	70 A	43231 VA	
16	P-20	3	400 A	70 A	43231 VA	
17	P-19.1	3	400 A	70 A	43231 VA	
18	P-20.1	3	400 A	70 A	43231 VA	
19	P-3	3	400 A	30 A	17459 VA	
20	P-4	3	400 A	30 A	17459 VA	
21	P-5 & P-6	3	400 A	20 A	7981 VA	
22	P-7	3	400 A	30 A	17459 VA	
23	P-8	3	400 A	30 A	17459 VA	
24	P-9 & P-10	3	400 A	20 A	12637 VA	
25	P-13	3	400 A	20 A	9145 VA	
26	P-14	3	400 A	20 A	9145 VA	
27	P-21	3	400 A	20 A	6651 VA	
28	P-22	3	400 A	20 A	6651 VA	
29	P-21.1	3	400 A	20 A	6651 VA	
30	P-22.1	3	400 A	20 A	6651 VA	
31						
32						
				Total Conn. Load:	1218678 VA	
				Total Amps:	1466 A	

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC - All Season	298390 VA	100.00%	298390 VA		
Lighting	20373 VA	100.00%	20373 VA	Total Conn. Load:	1218678 VA
Other	7898 VA	100.00%	7898 VA	Total Est. Demand:	1155890 VA
Power	746584 VA	100.00%	746584 VA	Total Conn. Current:	1466 A
Receptacle	135576 VA	53.69%	72788 VA	Total Est. Demand Current:	1390 A
HVAC - Heating	10150 VA	100.00%	10150 VA		

Notes:

Branch Panel: RPB

Location: MECHANICAL 193B **Supply From:** MDPL **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 42kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	WATER FOUNTAIN	20 A	1	180 VA			1260...			1	20 A	Receptacle	2
3	TOILET FLUSHOMETERS - TLT 192A & 192B	20 A	1		0 VA			180 VA		1	30 A	RECEPT 101 LAUNDRY	4
5	RECEPTS 102, 192A, 192B	20 A	1			720 VA			180 VA	1	20 A	RECEPT 101 LAUNDRY	6
7	RECEPT MDF 195A	20 A	1	360 VA			360 VA			1	20 A	RECEPT 195A RACK#B2	8
9	RECEPT MDF 195A	20 A	1		360 VA			360 VA		1	20 A	RECEPT 195A RACK#B3	10
11	RECEPT 195A RACK#B1	20 A	1			360 VA			2496...	2	30 A	RECEPT TWIST LOCK 195A RACK#B3	12
13	RECEPT TWIST LOCK 195A RACK#B1	30 A	2	2496...			2496...						14
15					2496...			816 VA		1	20 A	CIR-1, CIR-2, CIR-3, CIR-4	16
17	RECEPT TWIST LOCK 195A RACK#B2	30 A	2			2496...			360 VA	1	20 A	SINK RECEPTS. - TLT 192A & 192B	18
19				2496...			0 VA			1	20 A	VAV STEP DOWN XFMR	20
21	RECEPT - ELEV. SUMP PUMP	20 A	1		960 VA			180 VA		1	20 A	FIBER OPTIC INTEGRATOR PANEL	22
23	HAND DRYER 192B	20 A	1			180 VA			180 VA	1	20 A	HAND DRYER 192A	24
25	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1	0 VA			0 VA			1	20 A	DOOR POWER SUPPLY E199B	26
27	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1		0 VA			576 VA		1	20 A	FCU-1	28
29	DOOR POWER SUPPLY 103	20 A	1			0 VA			1848...	1	20 A	FCU-5	30
31	DOOR POWER SUPPLY 105.1	20 A	1	0 VA			120 VA			1	20 A	AHU-5 RECEPTACLE(S)	32
33	DOOR POWER SUPPLY 107.1	20 A	1		0 VA			120 VA		1	20 A	AHU-4 RECEPTACLE(S)	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42

	A	B	C
Total Load:	9768 VA	6048 VA	8820 VA
Total Amps:	85 A	50 A	77 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	21156 VA	73.63%	15578 VA	Total Conn. Load:	24636 VA
HVAC - Heating	696 VA	100.00%	696 VA	Total Est. Demand:	19058 VA
Power	2784 VA	100.00%	2784 VA	Total Conn. Current:	68 A
Other	0 VA	0.00%	0 VA	Total Est. Demand Current:	53 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: RP2B

Location: JAN 2097B **Supply From:** RP2A **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 2023D	20 A	1	720 VA			900 VA			1	20 A	RECEPTS 2023B	2
3	DRINKING FOUNTAIN 2000D	20 A	1		180 VA			720 VA		1	20 A	RECEPTS 2023C	4
5	RECEPTS 2095A	20 A	1			360 VA			900 VA	1	20 A	RECEPTS 2018, 2019, 2020	6
7	ROLLER SHADES	20 A	1	864 VA			540 VA			1	20 A	RECEPTS 2026	8
9	RECEPTS 2024	20 A	1		720 VA			900 VA		1	20 A	RECEPTS 2017	10
11	RECEPTS 2024	20 A	1			540 VA			1080...	1	20 A	RECEPTS 2014G CA INTERNS	12
13	RECEPTS 2014H	20 A	1	540 VA			1080...			1	20 A	RECEPTS 2023, 2023A	14
15	RECEPT 2095A RACK #2	20 A	1		0 VA			720 VA		1	20 A	RECEPTS 2014B CA DIRECTOR	16
17	RECEPT 2026 FRIDGE	20 A	1			180 VA			1080...	1	20 A	RECEPTS 2016	18
19	RECEPT 2026 MICROWAVE	20 A	1	180 VA			1080...			1	20 A	RECEPTS 2016 & 2000D	20
21	RECEPTS 2014 CA REC./OFFICE	20 A	1		900 VA			1080...		1	20 A	RECEPTS 2015, 2017 A/V EQUIP.	22
23	RECEPTS 2014D CA CONF. RM.	20 A	1			540 VA			720 VA	1	20 A	FLOOR BOXES 2024 STUDENT VOICE OFFICE	24
25	RECEPTS 2095A	20 A	1	360 VA			360 VA			1	20 A	RECEPT 4095A RACK #4B	26
27	RECEPTS 2018, 2019, 2020	20 A	1		900 VA			2496...		2	20 A	RECEPT TWIST LOCK 4095A RACK	28
29	RECEPTS 2000E CORRIDOR	20 A	1			360 VA			2496...				30
31	RECEPT TWIST LOCK 4095A RACK #4B	30 A	2	2496...			2496...			2	30 A	RECEPT TWIST LOCK 4095A RACK #4A	32
33					2496...			2496...					34
35	RECEPT 4095A RACK #4A	20 A	1			360 VA			0 VA	1	20 A	TOILET FLUSHOMETERS - WOMEN'S 2018	36
37	RECEPT TWIST LOCK 1095A RACK#1	30 A	2	2496...			360 VA			1	20 A	RECEPT 1095A RACK#1	38
39					2496...			360 VA		1	20 A	RECEPTACLES 1095A	40
41	RECEPTACLES 1095A	20 A	1			540 VA			0 VA	1	20 A	TOILET FLUSHOMETERS - MEN'S 2019	42
43	FCU-2	20 A	1	576 VA			0 VA			1	20 A	Spare	44
45	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	46
47	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	50
51	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	54

	A	B	C
Total Load:	15048 VA	16464 VA	9156 VA
Total Amps:	133 A	145 A	76 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA	Total Conn. Load:	40668 VA
Power	1440 VA	100.00%	1440 VA	Total Est. Demand:	26054 VA
Receptacle	39228 VA	62.75%	24614 VA	Total Conn. Current:	113 A
				Total Est. Demand Current:	72 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: RP1B

Location: STORAGE 1019D **Supply From:** MDPL **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 1016 MEETING RM.	20 A	1	720 VA			900 VA			1	20 A	RECEPTS 1019A CUPBOARD OFFICE	2
3	RECEPTS 1000B CORRIDOR	20 A	1		540 VA			900 VA		1	20 A	RECEPTS 1015A	4
5	RECEPTS 1017 MEETING RM	20 A	1			1260...			360 VA	1	20 A	RECEPT 1000B CORRIDOR	6
7	RECEPTS 1019, 1021, 1026	20 A	1	1080...			900 VA			1	20 A	RECEPTS 1018 MEETING RM	8
9	RECEPTS 1015B	20 A	1		540 VA			0 VA		1	20 A	VAV STEP DOWN XFMR	10
11	RECEPT 1020 VALVE CLOSET	20 A	1			180 VA			0 VA	1	20 A	VAV STEP DOWN XFMR	12
13	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42

	A	B	C
Total Load:	3600 VA	1980 VA	1800 VA
Total Amps:	30 A	17 A	15 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	7380 VA	100.00%	7380 VA	Total Conn. Load:	7380 VA
Power	0 VA	0.00%	0 VA	Total Est. Demand:	7380 VA
Other	0 VA	0.00%	0 VA	Total Conn. Current:	20 A
				Total Est. Demand Current:	20 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: RP3A

Location: PLATFORM STO. 3002C **Supply From:** MDPL **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 3004 GREEN RM.	20 A	1	720 VA			900 VA			1	20 A	RECEPTS 3000B FOYER	2
3	RECEPT 3095A RACK #3	20 A	1		360 VA			540 VA		1	20 A	RECEPTS 2005 THE DEN	4
5	RECEPTS 3000A CORRIDOR	20 A	1			1260...			360 VA	1	20 A	RECEPT 3095A IDF	6
7	RECEPTS 3002 THE GREAT HALL	20 A	1	360 VA			1080...			1	20 A	RECEPTS 3002 THE GREAT HALL	8
9	RECEPT 3095A IDF	20 A	1		360 VA			0 VA		1	20 A	J-BOX: CHILLED BEAM CONDENSATE PUMPS	10
11	RECEPT TWIST LOCK 3095A RACK #3	30 A	2			2496...			864 VA	1	20 A		12
13				2496...			720 VA			1	20 A		14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42

	A	B	C
Total Load:	10596 VA	7380 VA	10200 VA
Total Amps:	92 A	62 A	89 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	25872 VA	69.33%	17936 VA	Total Conn. Load:	28176 VA
Power	2304 VA	100.00%	2304 VA	Total Est. Demand:	20240 VA
Other	0 VA	0.00%	0 VA	Total Conn. Current:	78 A
				Total Est. Demand Current:	56 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: L1B

Location: STOR. 1004 **Supply From:** MDPL **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 10kA **Mains Type:** MCB **Mains Rating:** 225 A **MCB Rating:** 225 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LIGHTING 1015A,1015B,1017,1019,A,B,C,D	20 A	1	843 VA	0 VA					1	20 A	Spare	2
3	LIGHTING 1000B, 1016, 1018, 1020	20 A	1			651 VA	0 VA			1	20 A	Spare	4
5	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	8
9	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	10
11	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	14
15	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	16
17	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	20
21	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	22
23	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	26
27	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	28
29	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	32
33	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	34
35	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA	0 VA					1	20 A	Spare	38
39	Spare	20 A	1			0 VA	0 VA			1	20 A	Spare	40
41	Spare	20 A	1					0 VA	0 VA	1	20 A	Spare	42

	A	B	C
Total Load:	843 VA	651 VA	0 VA
Total Amps:	8 A	6 A	0 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1494 VA	100.00%	1494 VA	Total Conn. Load:	1494 VA
Other	0 VA	0.00%	0 VA	Total Est. Demand:	1494 VA
				Total Conn. Current:	4 A
				Total Est. Demand Current:	4 A

Notes:

Branch Panel: RP2A

Location: STORAGE 2002 **Supply From:** MDPL **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 2005	20 A	1	1620...			180 VA			1	20 A	WATER FOUNTAIN	2
3	RECEPTS 2011B	20 A	1		720 VA			1440...		1	20 A	RECEPTS 2011A	4
5	RECEPTS 2011 SGA REC/OFFICE	20 A	1			360 VA			1080...	1	20 A	RECETPS 2005 THE DEN	6
7	RECEPTS 2007 MEETING	20 A	1	900 VA			1440...			1	20 A	RECEPTS 2014E CA OFFICE	8
9	RECEPTS 2004 THE OVERLOOK	20 A	1		1080...			720 VA		1	20 A	RECEPTS 2014C CA OFFICE	10
11	RECEPTS 2014A CA WORK RM.	20 A	1			0 VA			720 VA	1	20 A	RECEPTS 2014F CA OFFICE	12
13	DOORS 2000 VESTIBULE	20 A	1	0 VA			360 VA			1	20 A	RECEPTS REFLECTION 2009	14
15	FIREPLACE - 2012	20 A	1		180 VA			540 VA		1	20 A	RECEPTS 2005	16
17	RECEPTACLES - 2010	20 A	1			720 VA			900 VA	1	20 A	RECEPTS 2015, 2000A	18
19	RECEPTS 2004 THE OVERLOOK	20 A	1	1080...			864 VA			1	20 A	ROLLER SHADES	20
21	RECEPTS 2005 THE DEN	20 A	1		900 VA			864 VA		1	20 A	ROLLER SHADES	22
23	RECEPTS 2013 GATHERING SPACE	20 A	1			540 VA			180 VA	1	20 A	HAND DRYER 2018	24
25	HAND DRYER 2019	20 A	1	180 VA			180 VA			1	20 A	HAND DRYER 3008	26
27	HAND DRYER 2019	20 A	1		180 VA			864 VA		1	20 A	ROLLER SHADE - 2000E	28
29	HAND DRYER 2018	20 A	1			180 VA			0 VA	1	20 A	J-BOX: CHILLED BEAM CONDENSATE PUMPS	30
31	XFMR - VAVs	20 A	1	0 VA			0 VA			1	20 A	J-BOX: CHILLED BEAM CONDENSATE PUMPS	32
33	VAV STEP DOWN XFMR	20 A	1		0 VA			360 VA		1	20 A	RECEPTACLES 2099F MUSIC SCUPTURE	34
35	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1			0 VA			1356...	1	20 A	GLYCOL FILL GF-3	36
37	RECEPT STORAGE 2002 A/V RACK	20 A	1	360 VA			478 VA			2	20 A	P-23	38
39	Spare	20 A	1		0 VA			478 VA					40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42
43	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	44
45	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	46
47	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	50
51	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	52
53	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	54

	A	B	C
Total Load:	22690 VA	24790 VA	15192 VA
Total Amps:	199 A	216 A	127 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	1176 VA	100.00%	1176 VA	Total Conn. Load:	62673 VA
Power	4032 VA	100.00%	4032 VA	Total Est. Demand:	39419 VA
Receptacle	56508 VA	58.85%	33254 VA	Total Conn. Current:	174 A
HVAC - Heating	957 VA	100.00%	957 VA	Total Est. Demand Current:	109 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: RP3B

Location: JAN 3097A **Supply From:** RP3A **Mounting:** Surface **Enclosure:** Indoor
Volts: 120/208 Wye **Phases:** 3 **Wires:** 4
A.I.C. Rating: 22kA **Mains Type:** MLO **Mains Rating:** 150 A **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 3016 MEETING RM.	20 A	1	720 VA			1440...			1	20 A	FLOOR BOXES 3016 MEETING RM.	2
3	RECEPTS 3015 MEETING RM.	20 A	1		1440...			180 VA		1	20 A	DRINKING FOUNTAIN 3000C	4
5	RECEPTS 3000D, 3011	20 A	1			720 VA			1440...	1	20 A	RECEPTS 3008, 3009 RESTROOMS	6
7	RECEPTS 3007, 3007A	20 A	1	540 VA			720 VA			1	20 A	FLOOR BOXES 3015 MEETING RM.	8
9	RECEPTS 3007	20 A	1		1260...			1080...		1	20 A	FLOOR BOXES 3001 THE NEST	10
11	RECEPTS 3007	20 A	1			900 VA			1080...	1	20 A	SINK RECEPTS. - 3008, 3009, 3010, 3014	12
13	TOILET FLUSHOMETERS - MEN'S 3009	20 A	1	0 VA			180 VA			1	20 A	RECEPT. - MOTHERS RM 3010	14
15	ROLLER SHADES	20 A	1		864 VA			540 VA		1	20 A	RECEPTS 3016 MEETING RM.	16
17	RECEPTS 3001 THE NEST	20 A	1			360 VA			540 VA	1	20 A	RECEPTS 3015 MEETING RM.	18
19	FLUSHOMETERS - WOMEN'S 3008	20 A	1	0 VA			0 VA			1	20 A	URINAL FLUSHOMETERS - MEN'S 3009	20
21	VAV STEP DOWN XFMR	20 A	1		0 VA			180 VA		1	20 A	HAND DRYER 3009	22
23	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1			0 VA			180 VA	1	20 A	HAND DRYER 3009	24
25	J-BOX: CHILLED BEAM CONDENSATE PUMPS	20 A	1	0 VA			720 VA			1	20 A	RECEPTS 3001 THE NEST A/V	26
27	J-BOX - PROJECTION SCREEN	20 A	1		0 VA			576 VA		1	20 A	FCU-3	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42

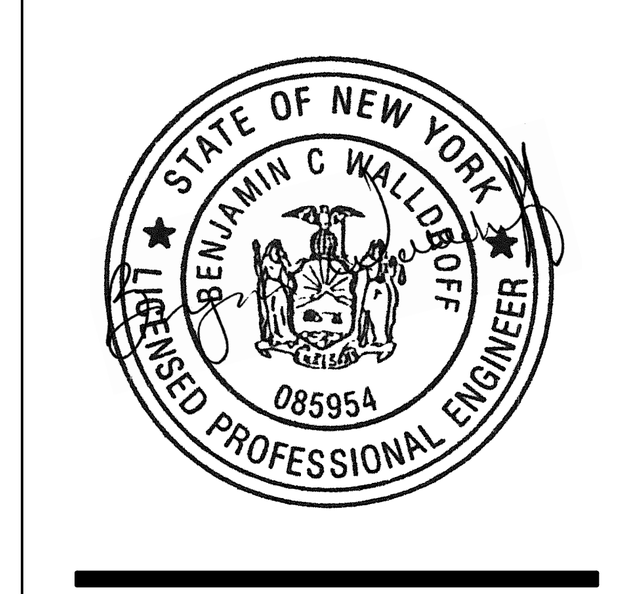
	A	B	C
Total Load:	4320 VA	6120 VA	5220 VA
Total Amps:	36 A	52 A	45 A

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	14220 VA	85.16%	12110 VA	Total Conn. Load:	15660 VA
Power	1440 VA	100.00%	1440 VA	Total Est. Demand:	13550 VA
Other	0 VA	0.00%	0 VA	Total Conn. Current:	43 A
				Total Est. Demand Current:	38 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

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JADE STONE ENGINEERING



Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-504
ELECTRICAL PANEL SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

FILE PATH:

Branch Panel: LPB

Location: MECHANICAL 193B
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 42kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING 101, 103, 105, 107	20 A	1	983 VA			1055...			1	20 A	LIGHTING 100A, 100B	2
3	LIGHTING 102, 192A, 192B	20 A	1		521 VA			137 VA		1	20 A	LIGHTING 108, 195A	4
5	Spare	20 A	1			0 VA			320 VA	1	20 A	LIGHTING 193E, 193F	6
7	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	LIGHTING 193B	20 A	1			160 VA			0 VA	1	20 A	Spare	30
			Total Load:	2037 VA		654 VA			480 VA				
			Total Amps:	17 A		6 A			4 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	2751 VA	100.00%	2751 VA	**Total Conn. Load:**	2751 VA
Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	2751 VA
				Total Conn. Current:	8 A
				Total Est. Demand Current:	8 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LP2

Location: STORAGE 2002
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LTG. 2018,2019,2020,2095A,2097A,2022,2023,...	20 A	1	763 VA			331 VA			1	20 A	LIGHTING - 2015, 2017, 2024, 2026	2
3	LIGHTING 2000D, 2000E, 2028	20 A	1		703 VA			540 VA		1	20 A	LIGHTING 2010, 2011, A, B, 2012	4
5	LIGHTING 2014, A, B, C, D, E, F, G, H	20 A	1			903 VA			712 VA	1	20 A	LIGHTING 2000, 2001	6
7	LIGHTING 2000A, 2000B	20 A	1	908 VA			0 VA			1	20 A	Spare	8
9	LIGHTING 2005, 2099F	20 A	1		616 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	1968 VA		1843 VA			1611 VA				
			Total Amps:	17 A		16 A			13 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	5417 VA	100.00%	5417 VA	**Total Conn. Load:**	5417 VA
Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	5417 VA
				Total Conn. Current:	15 A
				Total Est. Demand Current:	15 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LP3A

Location: PLATFORM STO. 3002C
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING - 3000B SIGN	20 A	1	600 VA			686 VA			1	20 A	LIGHTING 3002D PLATFORM-REAR	2
3	LIGHTING 3002 TRACK SPOTS	20 A	1		600 VA					1	20 A	LIGHTING 2010, 2011, A, B, 2012	4
5	LIGHTING 3002D PLATFORM-FRONT	20 A	1			686 VA			1236...	1	20 A	LIGHTING 3002 - ZONE 'a'	6
7	LIGHTING 3002 - ZONE 'd'	20 A	1	44 VA			618 VA			1	20 A	LIGHTING 3002 - ZONE 'e'	8
9	LIGHTING 3002 - ZONE 'b'	20 A	1		1030...			348 VA		1	20 A	LIGHTING 3000E, 3002C, 3002D, 3004, 3097A	10
11	LIGHTING 3002 - ZONE 'c'	20 A	1			327 VA			301 VA	1	20 A	LIGHTING 3002A, 3002B	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	1948 VA		1944 VA			2521 VA				
			Total Amps:	16 A		16 A			21 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	3799 VA	100.00%	3799 VA	**Total Conn. Load:**	6408 VA
Power	1372 VA	100.00%	1372 VA	**Total Est. Demand:**	6408 VA
Other	1244 VA	100.00%	1244 VA	**Total Conn. Current:**	18 A
				Total Est. Demand Current:	18 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LP3B

Location: JAN 3097A
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING 3000A,C,D, 3001, 3013, 3015	20 A	1	1035...			611 VA			1	20 A	LIGHTING 3008,3009, 3010, 3014, 3016, 3097B	2
3	LIGHTING 3006B, 3007, A, B, C,	20 A	1		601 VA			900 VA		1	20 A	LIGHTING 3000B, 3001	4
5	LIGHTING 3004C, 3004B, 3006	20 A	1			677 VA			0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	1642 VA		1465 VA			677 VA				
			Total Amps:	15 A		13 A			6 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	3774 VA	100.00%	3774 VA	**Total Conn. Load:**	3774 VA
Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	3774 VA
				Total Conn. Current:	10 A
				Total Est. Demand Current:	10 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LP4

Location: MECH. 4018
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING - 4000A/B	20 A	1	690 VA			482 VA			1	20 A	LIGHTING 4009, 4015, A, B, C	2
3	LIGHTING 4012, 4014, A, B, C, D	20 A	1		512 VA			197 VA		1	20 A	LIGHTING 4017, 4024, 4050, 4095A	4
5	LIGHTING 4000, 4097	20 A	1			90 VA			301 VA	1	20 A	LIGHTING 4001, A, B, C, D, E	6
7	Lighting	20 A	1	41 VA									8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	1210 VA		666 VA			391 VA				
			Total Amps:	10 A		6 A			3 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1571 VA	100.00%	1571 VA	**Total Conn. Load:**	2249 VA
Other	690 VA	100.00%	690 VA	**Total Est. Demand:**	2249 VA
				Total Conn. Current:	6 A
				Total Est. Demand Current:	6 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LSB

Location: STORAGE 108
Supply From: MDPL
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 42kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1				532 VA			305 VA						2
3	LS2	50 A	3		130 VA			754 VA		3	50 A	LS3	4
5						319 VA			0 VA				6
7				886 VA			389 VA			1	20 A	LIGHTING 100A, 100B, 107	8
9	LS4	50 A	3		154 VA			360 VA		1	20 A	RECEPTACLES 193B FIRE ALARM PANELS	10
11						960 VA			198 VA	1	20 A	LIGHTING STAIR 2	12
13	LIGHTING STAIR 1	20 A	1	198 VA			0 VA			1	20 A	GENERATOR BATTERY CHARGER	14
15	FACP	20 A	1		0 VA			0 VA					16
17	FACP	20 A	1			0 VA			0 VA	2	30 A	GENERATOR BLOCK HEATER	18
19	LIGHTING ELEVATOR PITS	20 A	1	76 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42
			Total Load:	2384 VA		1395 VA			1477 VA				
			Total Amps:	20 A		12 A			12 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	360 VA	100.00%	360 VA	**Total Conn. Load:**	5256 VA
Lighting	1506 VA	100.00%	1506 VA	**Total Est. Demand:**	5256 VA
Power	960 VA	100.00%	960 VA	**Total Conn. Current:**	15 A
Other	2431 VA	100.00%	2431 VA	**Total Est. Demand Current:**	15 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LS2

Location: STORAGE 2002
Supply From: LSB
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING 1ST FLOOR NL & EM	20 A	1	167 VA			365 VA			1	20 A	LIGHTING 2000, A, B, 2001, 2011, 2011B, 2	2
3	FIRE ALARM ANNUNCIATOR	20 A	1		0 VA			130 VA		1	20 A	LIGHTING 2004, 2005, 2005A, 2006, 2007, 2008...	4
5	LIGHTING 200D, 2000E, 2028	20 A	1			319 VA			0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	532 VA		130 VA			319 VA				
			Total Amps:	5 A		1 A			3 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	977 VA	100.00%	977 VA	**Total Conn. Load:**	978 VA
Other	8 VA	100.00%	8 VA	**Total Est. Demand:**	978 VA
				Total Conn. Current:	3 A
				Total Est. Demand Current:	3 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LS3

Location: PLATFORM STO. 3002C
Supply From: LSB
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	EM LIGHTING 3000E	20 A	1	71 VA			240 VA			1	20 A	EM LIGHTING	2
3	LIGHTING STAIR 3	20 A	1		154 VA			600 VA		1	20 A	EM LIGHTING	4
5	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	6
7	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	305 VA		754 VA			0 VA				
			Total Amps:	3 A		7 A			0 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	71 VA	100.00%	71 VA	**Total Conn. Load:**	1058 VA
Other	994 VA	100.00%	994 VA	**Total Est. Demand:**	1058 VA
				Total Conn. Current:	3 A
				Total Est. Demand Current:	3 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: LS4

Location: MECH. 4018
Supply From: LSB
Mounting: Surface
Enclosure: Indoor

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22kA
Mains Type: MLO
Mains Rating: 100 A
MCB Rating: N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	EM LIGHTING 4000A/B	20 A	1	600 VA			286 VA			1	20 A	LIGHTING STAIR 4	2
3	LIGHTING STAIR 5	20 A	1		154 VA			0 VA		1	20 A	ELEV. DISC-LTG1	4
5	BDA-ERRC	20 A	1			960 VA			0 VA	1	20 A	ELEV. DISC-COM1	6
7	Spare	20 A	1	0 VA			0 VA			1	20 A	ELEV. DISC-LTG2	8
9	Spare	20 A	1		0 VA			0 VA		1	20 A	ELEV. DISC-COM2	10
11	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	12
13	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	14
15	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	16
17	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	18
19	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	20
21	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	22
23	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	24
25	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	26
27	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	28
29	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	30
			Total Load:	886 VA		154 VA			960 VA				
			Total Amps:	8 A		1 A			9 A				

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	960 VA	100.00%	960 VA	**Total Conn. Load:**	2000 VA
Other	1040 VA	100.00%	1040 VA	**Total Est. Demand:**	2000 VA
				Total Conn. Current:	6 A
				Total Est. Demand Current:	6 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

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Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-505
ELECTRICAL PANEL SCHEDULES

NOVEMBER 16, 2026
BID DOCUMENTS

11/16/2026 8:08:30 AM

Branch Panel: MP4H

Location: MECH. 4018 | **Supply From:** MSB | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 480V | **Phases:** 3 | **Wires:** 3
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 400 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	DOAS-2 SUPPLY FAN	20 A	3	1402...			3856...			3	40 A	AHU-1	2
3					1402...			3856...					4
5						1402...			3856...				6
7	HRU-1 SUPPLY FN	20 A	3	2425...			4988...			3	30 A	AHU-3 SUPPLY FAN	8
9					2425...			4988...					10
11						2425...			4988...				12
13	MAU-1	200 A	3	1760...			1787...			3	20 A	AHU-3 RETURN FAN	14
15					1760...			1787...					16
17						1760...			1787...				18
19	DOAS-2 RETURN FAN & E. RECOVERY	20 A	3	2842...			2585...			3	20 A	HRU-1 RETURN FAN & E. RECOVERY	20
21					2842...			2585...					22
23						2842...			2585...				24
25	SPARE	30 A	3	0 VA			2425...			3	20 A	HRU-2 SUPPLY FAN	26
27					0 VA			2425...					28
29						0 VA			2425...				30
31	SPARE	30 A	3	0 VA			2702...			3	20 A	HRU-2 RECOVERY FAN & E. RECOVERY	32
33					0 VA			2702...					34
35						0 VA			2702...				36
37	SPARE	30 A	3	0 VA			0 VA			3	30 A	SPARE	38
39					0 VA			0 VA					40
41						0 VA			0 VA				42
			Total Load:	26771 VA			26771 VA						
			Total Amps:	97 A			97 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC - All Season	25607 VA	100.00%	25607 VA	**Total Conn. Load:**	80313 VA
Power	54707 VA	100.00%	54707 VA	**Total Est. Demand:**	80313 VA
				Total Conn. Current:	97 A
				Total Est. Demand Current:	97 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: MP4L

Location: MECH. 4018 | **Supply From:** MDPL | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	KEF-1	20 A	1	792 VA			793 VA			3	20 A	EF-1	2
3	KEF-2	20 A	3		420 VA			793 VA					4
5						420 VA			793 VA				6
7				420 VA			288 VA			3	20 A	EF-2	8
9	KEF-3	20 A	3		420 VA			288 VA					10
11						420 VA			288 VA				12
13				420 VA			696 VA			1	20 A	EF-4	14
15	KEF-4	20 A	3		420 VA			2184...		2	20 A	ACCU-1/ACU-1	16
17						420 VA			2184...				18
19				420 VA			552 VA			1	20 A	UH-8 THRU UH-12	20
21	KEF-5	20 A	3		420 VA			303 VA		1	20 A	UH-13, CUH-21	22
23						420 VA			576 VA	1	20 A	FCU-4	24
25				420 VA			600 VA			1	20 A	AHU-2 CONTROL PANEL	26
27	UH-14	20 A	3		1669...			600 VA		1	20 A	AHU-1 CONTROL PANEL	28
29						1669...			600 VA	1	20 A	AHU-3 CONTROL PANEL	30
31				1669...			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	36
37	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42
			Total Load:	7071 VA			7519 VA			7791 VA			
			Total Amps:	59 A			63 A			65 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC - All Season	9509 VA	100.00%	9509 VA	**Total Conn. Load:**	22381 VA
HVAC - Heating	5719 VA	100.00%	5719 VA	**Total Est. Demand:**	22381 VA
Power	7153 VA	100.00%	7153 VA	**Total Conn. Current:**	62 A
				Total Est. Demand Current:	62 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: SBLB

Location: ELECTRICAL-1 194A-1 | **Supply From:** MDPL | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 42kA | **Mains Type:** MLO | **Mains Rating:** 400 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	SBC	150 A	3	0 VA			1809...			3	150 A	SBL3	2
3					0 VA			1734...					4
5						0 VA			2037...				6
7	P-12	60 A	3	3699...			3699...			3	60 A	P-11	8
9					3699...			3699...					10
11						3699...			3699...				12
13	P-15	30 A	3	2005...			2005...			3	30 A	P-16	14
15					2005...			2005...					16
17						2005...			2005...				18
19	P-17	60 A	3	3203...			3203...			3	60 A	P-18	20
21					3203...			3203...					22
23						3203...			3203...				24
25	WS-1	20 A	1	120 VA			759 VA			2	20 A	1.08 REMOTE REFRIGERATION SYSTEM	26
27	1.02 - EVAPORATOR COIL - +35F	20 A	1		216 VA			759 VA					28
29	1.01 - WALK-IN COOLER LIGHTS	20 A	1			1200...			1134...	1	20 A	UH-5, UH-6, UH-7	30
31	BMS PANELS - 193E, 193F	20 A	1	840 VA			882 VA			1	20 A	CUH-1 THRU CUH-6	32
33	EXISTING BOILER-1	20 A	1		720 VA			186 VA		1	20 A	CUH-7, CUH-8, CUH-9	34
35	EXISTING BOILER-1	20 A	1			720 VA			162 VA	1	20 A	CUH-10, CUH-11, CUH-12	36
37	EXISTING BOILER-2	20 A	1	720 VA			108 VA			1	20 A	CUH-13 THRU CUH-17	38
39	EXISTING BOILER-2	20 A	1		720 VA			258 VA		1	20 A	CUH-18, CUH-19, CUH-20	40
41	TMV-1	20 A	1			210 VA			360 VA	1	20 A	RECEPT 195A RACK#B1	42
43	RECEPT TWIST LOCK 195A RACK#B1	30 A	2	2496...			2496...			2	30 A	RECEPT TWIST LOCK 195A RACK#B2	44
45					2496...			2496...					46
47	RECEPT 195A RACK#B2	20 A	1			360 VA			360 VA	1	20 A	RECEPT 195A RACK#B3	48
49	RECEPT TWIST LOCK 195A RACK#B3	30 A	2	2496...									50
51					2496...								52
53													54
			Total Load:	46824 VA			45504 VA			42690 VA			
			Total Amps:	394 A			383 A			356 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	480 VA	100.00%	480 VA	**Total Conn. Load:**	135016 VA
Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	118788 VA
Power	89781 VA	100.00%	89781 VA	**Total Conn. Current:**	375 A
Receptacle	42456 VA	61.78%	26228 VA	**Total Est. Demand Current:**	330 A
HVAC - Heating	2778 VA	100.00%	2778 VA		

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: SBL3

Location: CATERING KITCHEN 3006 | **Supply From:** SBLB | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 150 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPT 1095A RACK#1	20 A	1	360 VA			480 VA			1	20 A	LIGHTING 4018, 4020, 4023	2
3	2.01 - REACH-IN FRIDGE	20 A	1		828 VA			1668...		1	20 A	2.11 REACH-IN FREEZER	4
5	2.01A - REACH-IN FRIDGE	20 A	1			828 VA			756 VA	1	20 A	2.23 - REACH-IN FRIDGE	6
7	2.01A - REACH-IN FRIDGE	20 A	1	0 VA			1800...			1	20 A	2.61 - ICE CUBE MACHINE	8
9	BMS PANELS - 4010, 4024	20 A	1		1440...			1200...		1	20 A	2.05 - WALK-IN COOLER LIGHTS	10
11	BMS PANELS 1020, 2022	20 A	1			1440...			1071...	2	20 A	3.01 REMOTE REFRIGERATION SYSTEM	12
13	BMS PANELS - 2005A, 3006B	20 A	1	1440...			1071...						14
15	2.06 - EVAPORATOR COIL - +35F	20 A	1		216 VA			2582...					16
17	2.07 - EVAPORATOR COIL - 10F	30 A	2	2101...			2101...			3	30 A	3.02 REMOTE REFRIGERATION SYSTEM	18
19							2582...						20
21	2.21 - FIRE SUPRESSION SYSTEM	20 A	1		1200...			2496...		2	30 A	RECEPT TWIST LOCK 1095A RACK#1	22
23	2.58 - BLAST CHILLER	20 A	2	1248...			1248...		2496...				24
25						0 VA				1	20 A	RECEPT 2095A RACK #2	26
27	RECEPT 3095A RACK #3	20 A	1		360 VA			2496...		2	30 A	RECEPT TWIST LOCK 4095A RACK	28
29	RECEPT TWIST LOCK 3095A RACK #3	30 A	2			2496...			2496...				30
31				2496...			2496...			2	30 A	RECEPT TWIST LOCK 4095A RACK #4B	32
33	RECEPT 4095A RACK #4B	20 A	1		360 VA			2496...					34
35	RECEPT 4095A RACK #4A	20 A	1			360 VA			2496...				36
37	Spare	20 A	1	0 VA					0 VA	1	20 A	Spare	38
39	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	40
41	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	42
			Total Load:	18096 VA			17342 VA			20370 VA			
			Total Amps:	152 A			145 A			171 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	26400 VA	68.94%	18200 VA	**Total Conn. Load:**	55804 VA
Lighting	480 VA	100.00%	480 VA	**Total Est. Demand:**	47604 VA
Power	29402 VA	100.00%	29402 VA	**Total Conn. Current:**	155 A
Other	0 VA	0.00%	0 VA	**Total Est. Demand Current:**	132 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: KPH3

Location: | **Supply From:** MSB | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 480V | **Phases:** 3 | **Wires:** 3
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 400 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	2.16 - TILT SKILLET	70 A	3	1394...			1662...			3	80 A	2.18 - COMBI OVEN	2
3					1394...			1662...					4
5						1394...			1662...				6
7	2.19 - COMBI OVEN	125 A	3	2771...			9700...			3	50 A	2.18 - COMBI OVEN	8
9					2771...			9700...					10
11						2771...			9700...				12
13	2.36 - CONVEYOR WAREWASHER	70 A	3	1454...			0 VA			3	20 A	Spare	14
15					1454...			0 VA					16
17						1454...			0 VA				18
19	Spare	20 A	3	0 VA			0 VA			3	20 A	Spare	20
21					0 VA			0 VA					22
23						0 VA			0 VA				24
25	Spare	20 A	3	0 VA			0 VA			3	20 A	Spare	26
27					0 VA			0 VA					28
29						0 VA			0 VA				30
			Total Load:	99157 VA			99157 VA			99157 VA			
			Total Amps:	358 A			358 A			358 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	297471 VA	100.00%	297471 VA	**Total Conn. Load:**	297471 VA
				Total Est. Demand:	297471 VA
				Total Conn. Current:	358 A
				Total Est. Demand Current:	358 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS

Branch Panel: KPL3

Location: CATERING KITCHEN 3006 | **Supply From:** MDPL | **Mounting:** Flush | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MLO | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	2.40 - DISPOSER	20 A	3	1057...			1800...			1	20 A	2.12R - EXAUST HOOD WITH MUA	2
3					1057...			948 VA		1	20 A	2.17 - CONVECTION GAS OVEN	4
5						1057...			948 VA	1	20 A	2.17- CONVECTION GAS OVEN	6
7	2.07 - EVAPORATOR COIL - 10F	30 A	2	2101...			1140...			1	20 A	2.51 - FOOD CUTTER	8
9					2101...			960 VA		1	20 A	2.52 - MIXER	10
11	2.40- DISPOSER CONTROL PANEL	20 A	1			600 VA			480 VA	1	20 A	2.53 - ELECTRIC SLICER	12
13	2.12L - EXAUST HOOD WITH MUA	20 A	1	1800...			1656...			1	20 A	2.22A - HOT HOLDING CABINET	14
15	2.13 - GAS FRYER	20 A	1		840 VA			720 VA		1	20 A	RECEPTS 3006	16
17	2.67 - SODA DISPENSER	20 A	1			2400...			0 VA	1	20 A	Spare	18
19	2.22 - HOT HOLDING CABINET	20 A	1	1656...			0 VA			1	20 A	Spare	20
21	2.22 - HOT HOLDING CABINET	20 A	1		1656...			0 VA		1	20 A	Spare	22
23	2.54 - FOOD PROCESSOR	20 A	1			1080...			0 VA	1	20 A	Spare	24
25	2.55 - SCALE	20 A	1	156 VA			0 VA			1	20 A	Spare	26
27	2.66 - COFFEE MACHINE	40 A	2		2496...			0 VA		1	20 A	Spare	28
29						2496...			0 VA	1	20 A	Spare	30
31	Spare	20 A	1	0 VA			0 VA			1	20 A	Spare	32
33	Spare	20 A	1		0 VA			0 VA		1	20 A	Spare	34
35	Spare	20 A	1			0 VA			0 VA	2	20 A	Spare	36
37	Spare	20 A	3	0 VA			0 VA						38
39					0 VA			0 VA		1	20 A	Spare	40
41						0 VA			0 VA	1	20 A	Spare	42
			Total Load:	11366 VA			10778 VA			9061 VA			
			Total Amps:	97 A			92 A			76 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	720 VA	100.00%	720 VA	**Total Conn. Load:**	31204 VA
Power	30484 VA	100.00%	30484 VA	**Total Est. Demand:**	31204 VA
Other	0 VA	0.00%	0 VA	**Total Conn. Current:**	87 A
				Total Est. Demand Current:	87 A

Notes:
1. REFER TO KITCHEN EQUIPMENT CONNECTION SCHEDULE, SHEET E-502, FOR SHUNT TRIP CIRCUIT BREAKER REQUIREMENTS.
2. PROVIDE WITH INTEGRAL TVSS

Branch Panel: EQP

Location: PENTHOUSE 5005 | **Supply From:** RP4 | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 10kA | **Mains Type:** MLO | **Mains Rating:** 100 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	LIGHTING 5005	20 A	1	64 VA			540 VA			1	20 A	RECEPTACLES - ELEV MACH. RM	2
3													4
5													6
7													8
9													10
11													12
13													14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
			Total Load:	544 VA			0 VA			0 VA			
			Total Amps:	5 A			0 A			0 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Receptacle	540 VA	100.00%	540 VA	**Total Conn. Load:**	544 VA
Lighting	64 VA	100.00%	64 VA	**Total Est. Demand:**	544 VA
Other	0 VA	0.00%	0 VA	**Total Conn. Current:**	2 A
				Total Est. Demand Current:	2 A

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

Branch Panel: RP4

Location: MECH. 4018 | **Supply From:** MDPL | **Mounting:** Surface | **Enclosure:** Indoor
Volts: 120/208 Wye | **Phases:** 3 | **Wires:** 4
A.I.C. Rating: 22kA | **Mains Type:** MCB | **Mains Rating:** 225 A | **MCB Rating:** N/A

CKT	Circuit Description	Trip	Poles	A	B	C	A	B	C	Poles	Trip	Circuit Description	CKT
1	RECEPTS 4009	20 A	1	900 VA			720 VA			1	20 A	RECEPTS 4015B	2
3	RECEPTS 4015	20 A	1		1440...			900 VA		1	20 A	RECEPTS 4015A	4
5	RECEPTS 4050 MICROWAVE	20 A	1			180 VA			180 VA	1	20 A	DRINKING FOUNTAIN 4000B	6
7	HAND DRYER 4007	20 A	1	180 VA			720 VA			1	20 A	RECEPTS 4014B	8
9	RECEPTS 4012, 4014, 4014D	20 A	1		1440...			720 VA		1	20 A	RECEPTS 4014C	10
11	RECEPTS 4014A	20 A	1			720 VA			720 VA	1	20 A	RECEPTS 4015C	12
13	HAND DRYER 4007	20 A	1	180 VA			720 VA			1	20 A	RECEPTS 4097A, 4008, 4010	14
15	HAND DRYER 4006	20 A	1		180 VA			900 VA		1	20 A	RECEPTS 4001 EMS RECEPTION	16
17	HAND DRYER 4006	20 A	1			180 VA			720 VA	1	20 A	RECEPTS 4001C EVENT MGR	18
19	RECEPTS 4001A EVENT MGR	20 A	1	720 VA			900 VA			1	20 A	RECEPTS 4001 EMS RECEPTION	20
21	RECEPT 4050 FRIDGE	20 A	1		180 VA			720 VA		1	20 A	RECEPTS 4001B EVENT MGR	22
23	RECEPTS 4001E TECH OFF	20 A	1			720 VA			720 VA	1	20 A	RECEPTS 4001D DIRECTOR	24
25	RECEPTS 4017, 4050, 4095A	20 A	1	1260...			540 VA			1	20 A	RECEPTS 4095A	26
27	RECEPTS 4006, 4007	20 A	1		720 VA			1080...		1	20 A	RECEPTS 4000, 4000A, 4000B	28
29	RECEPT 4024	20 A	1			540 VA			900 VA	1	20 A	RECEPTS 4006, 4007	30
31	TOILET FLUSHOMETERS - WOMEN'S 4006	20 A	1	0 VA			0 VA			1	20 A	VAV STEP DOWN XFMR	32
33	FLUSHOMETERS - MEN'S 4007	20 A	1		0 VA			0 VA		1	20 A	J-BOX: CHILLED BEAM CONDENSATE PUMPS	34
35	HAND DRYER 4008	20 A	1			180 VA			0 VA	1	20 A	J-BOX: CHILLED BEAM CONDENSATE PUMPS	36
37	RECEPT 4095A SOUND MASKING UNIT	20 A	1	180 VA			360 VA			1	20 A	RECEPT 4020 MECHANCIAL - A/V RACK	38
39	AHU-2 RECEPTACLE(S)	20 A	1		120 VA			180 VA		1	20 A	RECEPT 4020 MECHANCIAL - PROJECTOR	40
41	AHU-1 RECEPTACLE(S)	20 A	1			120 VA			720 VA	1	20 A	RECEPTS 4020 MECHANCIAL - A/V EQUIP.	42
43	Spare	20 A	1	0 VA			360 VA			1	20 A	RECEPTS 4009 A/V EQUIP.	44
45	Spare	20 A	1		0 VA			120 VA		1	20 A	AHU-3 RECEPTACLE(S)	46
47	Spare	20 A	1			0 VA			0 VA	1	20 A	Spare	48
49	Spare	20 A	1	0 VA			544 VA						50
51	Spare	20 A	1		0 VA			0 VA		3	50 A	PANEL 'EQP'	52
53	Spare	20 A	1			0 VA			0 VA				54
			Total Load:	8280 VA			8700 VA			6600 VA			
			Total Amps:	71 A			75 A			55 A			

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC - All Season	120 VA	100.00%	120 VA	**Total Conn. Load:**	23580 VA
Lighting	64 VA	100.00%	64 VA	**Total Est. Demand:**	16970 VA
Other	0 VA	0.00%	0 VA	**Total Conn. Current:**	65 A
Power	240 VA	100.00%	240 VA	**Total Est. Demand Current:**	47 A
Receptacle	23220 VA	71.53%	16610 VA		

Notes:
1. PROVIDE WITH INTEGRAL TVSS.

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LICENSED PROFESSIONAL ENGINEER

Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-506
ELECTRICAL PANEL SCHEDULES

NOVEMBER 16, 2026
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DEMO/NEW EQUIPMENT -DEMAND LOAD CALCULATIONS
Demand Calculation

Demand Load Calculations

Red Text Enter Value
Blue Text Calculated Value

COREY UNION GENERATOR

No.	Load Type	Item Description	Quantity	Volts	Phase	FLA	KW	PF	KVA	LOAD Diversity	Demand Load (KVA)	Note	LOAD (KVA) Lighting	Recept.	Equipment Cont.	Equipment Non-cont.	Kitchen	MECHANICAL EQUIPMENT All Season	MECHANICAL EQUIPMENT Cooling	MECHANICAL EQUIPMENT Heating	MECHANICAL EQUIPMENT Stand-by	MECHANICAL EQUIPMENT C/N	REMARKS
1	MH	ACCU-5/ACU-5	1	208	1	13	2.70	1.00	2.70	1.00	2.70									2.70			
2	MH	UH-2,5,11	3	120	1	1.4	0.50	1.00	0.50	1.00	0.50									0.50			
3	MH	UH-1,9,10	3	120	1	1.2	0.43	1.00	0.43	1.00	0.43									0.43			
4	MH	UH-3,4,6,7	4	120	1	2.2	1.06	1.00	1.06	1.00	1.06									1.06			
5	MH	CUH-1-11 & CUH-13-16, 18	17	120	1	0.45	0.92	1.00	0.92	1.00	0.92									0.92			
6	MH	CUH-12 & CUH-17	2	120	1	0.65	0.16	1.00	0.16	1.00	0.16									0.16			
7	MAS	P-11 , 12	2	208	1	28	11.65	1.00	11.65	0.50	5.82							5.82					
8	MAS	P-15, 16	2	208	1	17	7.07	1.00	7.07	0.50	3.54							3.54					
9	MAS	P-17, 18	2	208	1	40	16.64	1.00	16.64	0.50	8.32							8.32					
10	ENC	BAS MAIN PANEL	1	120	1	10	1.20	1.00	1.20	1.00	1.20					1.20							
11	ENC	(E) FIRE PUMP	1	208	3	162	58.36	1.00	58.36	1.00	58.36					58.36							
12	ENC	PANEL 'SBDK'	1	208	3	100	36.03	1.00	36.03	1.00	36.03					36.03							
13	ENC	PANEL 'EMC'	1	208	3	30	10.81	1.00	10.81	1.00	10.81					10.81							
14	ENC	(E) BOILER	2	208	3	11	7.93	1.00	7.93	1.00	7.93					7.93							
15	ENC	FITZGERALD PANEL 'EM'	1	208	3	15	5.40	1.00	5.40	1.00	5.40					5.40							
16	ENC	FITZGERALD PANEL 'SB'	1	208	3	150	54.04	1.00	54.04	1.00	54.04					54.04							
17	ENC	ELEV-2	1	480	3	8.7			7.23														
18	ENC	ELEV-1	1	480	3	15.45	12.84	1.00	12.84	1.00	12.84					12.84							
		SUB-TOTALS					227.7		235.0		210.06		0.00	0.00	0.00	186.61	0.00	17.68	0.00	5.77	0.00		

SERVICE ENTRANCE	
VOLTAGE	480
PHASE	3
AMPS	167.40

FEEDER DEMAND: CONSERVATIVE			
DEMAND kVA	DEMAND AMPS	%	SERVICE SIZE
139.2	167.4	125%	209

TOTAL DEMAND LOAD			
Load Type	Connected kVA	Factor	Demand kVA
Lighting	0.00	1	0.00
Receptacles	0.00 0	0.5	0.00
Equipment: Continuous	0.00	1	0.00
Equipment: Non-Continuous	186.61	0.65	121.30
Kitchen	0.00	0.85	0.00
Mechanical: Concurrent	17.68	0.75	13.26
Mech: Non-Concurrent	5.77	0.8	4.62
Standby (Not Inc. in Demand)	0.00	N/A	N/A
TOTAL KVA	210.06		139.17

FEEDER DEMAND: NEC			
	DEMAND kVA	DEMAND AMPS	%	SERVICE SIZE
Lighting	0.0	0.0	125%	0
Receptacle	0.0	0.0	100%	0
Equipment: Continuous	0.0	0.0	125%	0
Equipment: Non-Continuous	121.3	145.9	100%	146
Kitchen	0.0	0.0	100%	0
Mech: Concurrent	13.3	15.9	100%	16
Mech: Non-Concurrent	4.6	5.6	100%	6
Largest motor	58.4	70.2	25%	18
TOTALS	197.5	237.6		185

1 ELECTRICAL LOAD CALCULATION
SCALE: NTS GENERATOR

GENERAC®
S45W29290 Hwy 59 Waukesha, WI 53189

03/05/2025

Generator and Load Summary

Selected Generator & Alternator

Product Family Method :	Auto Select
Product Family :	SG/MG Spark
Sizing Method :	Auto Select
Generator :	350 kW, 21.9L
Quantity :	1
Alternator :	K0600124Y23 - 500kW

Model
350 kW, 21.9L

350 kw, Natural Gas Genset -- Site rated 350 kw
21.9 L Engine with Upsized (K0600124Y23 - 500kW) Alternator

Load Level		Transients		Harmonics	
Running :	51%	Fdip (Hz):	2.3	THVD Cont:	0.0%
Peak :	44	Vdip (%):	12.1	THVD Peak :	0.0%

Load Summary -- Connected Load of 177.14 kW

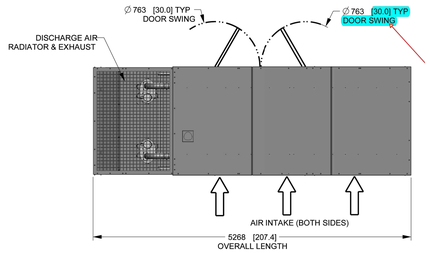
Running		Transients		Harmonics	
kW:	177.14	kW (Step):	115	kVA:	0
kVA:	184.14	kW (Peak):	177.14	THID Cont:	0%
PF:	0.96	kVA (Step):	337.8	THID Peak :	0%

Solution Limits

Max Loading :	90%	Fdip (Hz):	15	THVD Cont:	11 %
		Vdip (%):	35	THVD Peak :	13 %

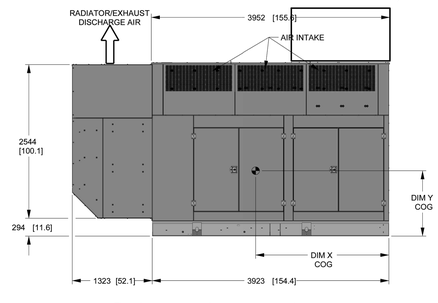
Load List		Starting		Running		Harmonic Current Distortion			Limits	
Sequence	Description	kW	kVA	kW	kVA	Peak	Cont.	kVA	Vdip	Cont.
Group 1 (Non-Concurrent)	Miscellaneous : Load List (without FP) 1 X 115.00 kW @ 1.00 PF Harmonics: THID = 0.00%	115	115	115	115	0%	0%	0	35.00%	15 Hertz
Group 1 (Non-Concurrent)	Miscellaneous : Elevator Machine Room 1 X 30.00 Amps @ 1.00 PF Harmonics: THID = 0.00%	10.81	10.81	10.81	10.81	0%	0%	0	35.00%	15 Hertz
Group 1 (Non-Concurrent)	Fire Pump : Fire Pump #1 1 X 162.00 Amps Code G (6 kVA/Hp) Across the Line Rated torque at start running at 100%	108.1	337.8	51.33	58.33	0%	0%	0	15.00%	15 Hertz
Group 1 (Non-Concurrent) Summary	All loads on (sequence starting) 177.1kWAll loads on (sequence starting) 177.1kW Application Peak	115	337.8	177.14	184.14	0%	0%	0	15% 31 volts	25% 15 hertz

2 ELECTRICAL LOAD CALCULATION
SCALE: NTS GENERATOR

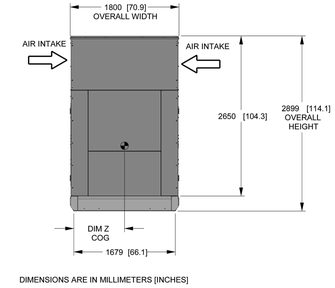


3 GENERATOR ELEVATION
SCALE: NTS

NOTE TO ESTIMATOR - INCLUDE LOAD BANK, UNIT MOUNTED



4 GENERATOR ELEVATION
SCALE: NTS



DIMENSIONS ARE IN MILLIMETERS [INCHES]

5 GENERATOR ELEVATION
SCALE: NTS

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Drawn By: CCH
Checked By: BCW
Project Manager:

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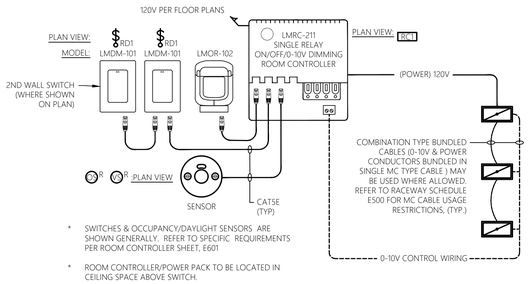
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SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-507
ELECTRICAL LOAD CALCULATIONS

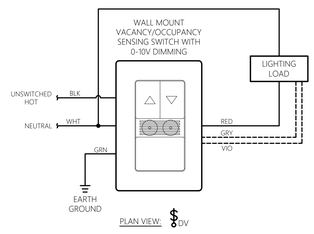
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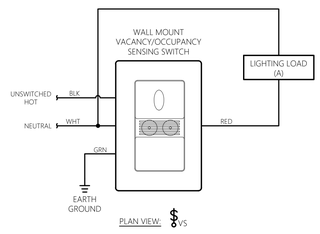
1 LIGHTING CONTROL SYSTEM SINGLE ZONE CONTROL
SCALE: NTS TYPICAL

1. ON/OFF & DIMMING CONTROL OF ONE ZONE.
2. SWITCH SHOWN SHALL BE CONFIGURED FOR MANUAL ON / AUTOMATIC OFF OPERATION.



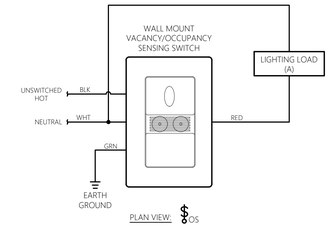
2 WALL MOUNT VACANCY/OCCUPANCY SENSOR WITH 0-10V DIMMING DETAIL
SCALE: NTS TYPICAL

SWITCH SHALL BE CONFIGURED FOR MANUAL ON / AUTOMATIC OFF OPERATION.

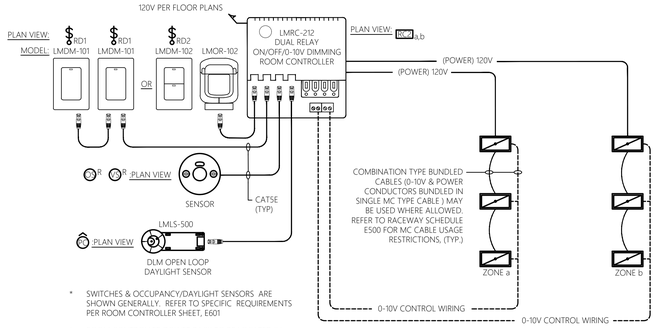


3 WALL MOUNT VACANCY SENSOR DETAIL
SCALE: NTS TYPICAL

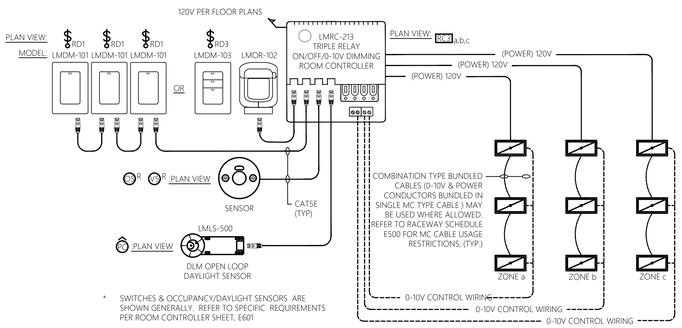
SWITCH SHALL BE CONFIGURED FOR AUTOMATIC ON / AUTOMATIC OFF OPERATION.



4 WALL MOUNT OCCUPANCY SENSOR DETAIL
SCALE: NTS TYPICAL



5 LIGHTING CONTROL SYSTEM DUAL ZONE CONTROL
SCALE: NTS TYPICAL



6 LIGHTING CONTROL SYSTEM TRIPLE ZONE CONTROL
SCALE: NTS TYPICAL

GENERAL DETAIL NOTES:

1. PROVIDE AN EMERGENCY LIGHTING CONTROL UNIT (ELCUD) FOR EACH GROUP OF EMERGENCY FIXTURES IDENTIFIED ON PLAN.
2. MAXIMUM CURRENT HANDLING CAPACITY OF A SINGLE ELCUD UNIT SHALL NOT EXCEED 12.0 AMPS.
3. ELCUD UNITS SHALL BE MOUNTED WITHIN REACH (FOR TESTING), BUT NOT IN PUBLIC SIGHT.
4. WIRING DIAGRAMS ARE GENERIC IN NATURE AND ARE PROVIDED TO INDICATE GENERAL INTENT. CONTRACTOR SHALL FOLLOW WIRING DIAGRAMS PROVIDED WITH PRODUCT SUBMITTAL DOCUMENTATION.

SEQUENCE OF OPERATION:

UPON LOSS OF NORMAL POWER, THE ELCUD WILL BYPASS THE ROOM CONTROLLER AND FORCE EMERGENCY FIXTURE(S) 'ON' AT 100%. THE ELCUD SHALL BE UL924 LISTED.

7 ENHANCED ROOM CONTROLLER WITH EMERGENCY BYPASS
SCALE: NTS

9 LAY-IN FIXTURE MOUNTING DETAIL
SCALE: NTS

SEQUENCE OF OPERATION:

1. LOW VOLTAGE SWITCH SHALL TOGGLE ON/OFF LIGHTING FIXTURES.
2. REFER TO FLOOR PLANS FOR EXACT QUANTITIES REQUIRED PER ROOM.

ANALOG OCCUPANCY SENSOR WITH POWER PACK & LOW VOLTAGE MOMENTARY SWITCH
8 SCALE: NTS TYPICAL

NOTES:
1. SWITCHES & OCCUPANCY/DAYLIGHT SENSORS ARE SHOWN GENERALLY. REFER TO FLOOR PLANS.
2. ROOM CONTROLLER/POWER PACK TO BE LOCATED IN CEILING SPACE ABOVE SWITCH.

10 PLUG LOAD ROOM CONTROLLER & LIGHTING CONTROL SYSTEM SINGLE ZONE CONTROL DETAIL
SCALE: NOT TO SCALE TYPICAL

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Checked By:	BCW
Project Manager:	

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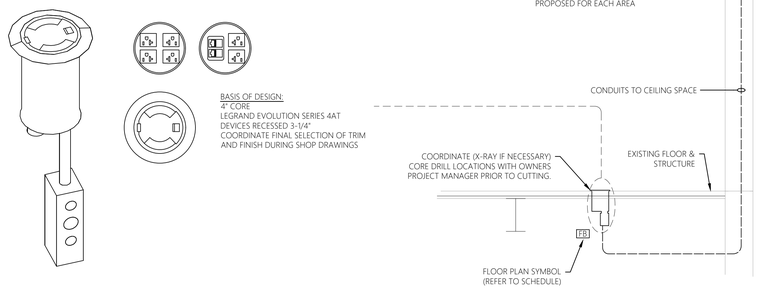
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E-600
ELECTRICAL DETAILS

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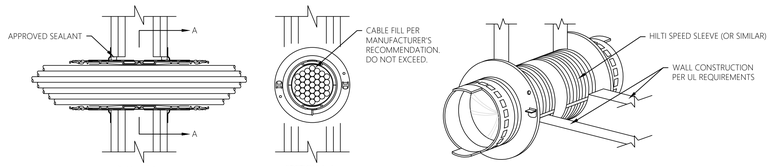
FLOOR BOX SCHEDULE

	BOX TYPE			STYLE			EQUIPPED WITH (QTY)							TRIM FINISH	BASIS OF DESIGN	REMARKS:
	POKE THRU	FLOOR BOX	WALL BOX	FLUSH/SURFACE	RECESSED		5-20R POWER	RJ-45 DATA	RJ-45 VOICE	SM FOC W/ LC	VGA	USB	L/R RCA			
FB	●	-	-	●	-		(1)	(2)	-	-	-	-	-	BRONZE	LEGRAND EVO 4AT	

GENERAL SCHEDULE NOTES:

1. COORDINATE THE EXACT HEIGHT AND POSITION OF FLOOR BOX IN ALL ROOMS PRIOR TO ROUGH-IN.

1 FLOOR BOX BASIS OF DESIGN & INSTALLATION DETAIL
SCALE: NOT TO SCALE



1. FIRESTOP DEVICE* — FIRESTOP DEVICE CONSISTS OF A CORRUGATED STEEL TUBE WITH AN INNER PLASTIC HOUSING, INTUMESCENT MATERIAL RINGS, TWISTED INNER FABRIC SMOKE SEAL, FLANGES AND GASKETING MATERIAL (NOT SHOWN). FIRESTOP DEVICE TO BE INSTALLED IN ACCORDANCE WITH THE ACCOMPANYING INSTALLATION INSTRUCTIONS.
2. WALL ASSEMBLY — THE 1, 2, 3 OR 4 HR FIRE RATED GYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED WITHIN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY.

CABLES — WITHIN THE LOADING AREA FOR EACH FIRESTOP DEVICE, THE CABLES MAY REPRESENT A 0 TO 100 PERCENT VISUAL FILL. CABLES TO BE TIGHTLY BUNDLED WITHIN THE DEVICE AND RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. DO NOT EXCEED THE MANUFACTURER'S LISTED CABLE CAPACITY.

MAX CABLE FILL	CABLE TYPE	L RATING, CFM/SQ FT				L RATING, CFM			
		AMBIENT		400°F		AMBIENT		400°F	
		SEALANT	GASKET	SEALANT	GASKET	SEALANT	GASKET	SEALANT	GASKET
0%	—	LESS THAN 1	1.0	LESS THAN 1	2.7	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1
100%	ITEM 2D ONLY	4.9	4.9	1.3	3.5	LESS THAN 1	LESS THAN 1	LESS THAN 1	LESS THAN 1
100%	ANY CABLES (ITEM 2) IN ANY COMBINATION	9.2	9.2	9.6	11.8	1.2	1.2	1.3	1.6

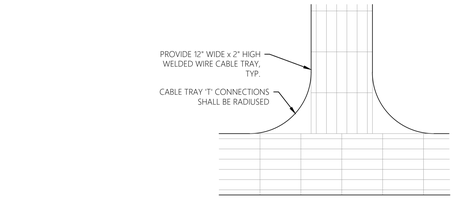
1. WALL ASSEMBLY -- THE 1, 2, 3, OR 4 HOUR FIRE RATED SYPSUM BOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED WITHIN THE INDIVIDUAL U300, U400, V400 OR W400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCORPORATE THE FOLLOWING CONSTRUCTION FEATURES:
   A. STUDS -- WALL FRAMING SHALL CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4 IN. (51 BY 102 MM) LUMBER SPACED MAX 16 IN. (406 MM) OC. STEEL STUDS TO BE MIN 2-1/2 IN. (64 MM) WIDE AND SPACED MAX 24 IN. (610 MM) OC FOR 1 AND 2 HR WALL ASSEMBLIES. STEEL STUDS TO BE 3-5/8 IN. (92 MM) FOR 3 AND 4 HR WALL ASSEMBLIES.
   B. GYPSUM BOARD -- NOM 5/8" THICK GYPSUM BOARD AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. OPENING IN GYPSUM BOARD TO BE MAX 2-1/2 IN. (64 MM) DIAM FOR 2" DEVICE AND MAX 4-1/2 IN. (114 MM) DIAM FOR 4" DEVICE.

THE HOURLY F AND FH RATINGS OF THE FIRESTOP SYSTEM ARE DEPENDENT UPON THE HOURLY RATING OF THE WALL IN WHICH IT IS INSTALLED.

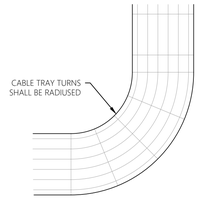
2. CABLES -- WITHIN THE LOADING AREA FOR EACH FIRESTOP DEVICE, THE CABLES MAY REPRESENT A 0 TO 100 PERCENT VISUAL FILL. CABLES TO BE TIGHTLY BUNDLED WITHIN THE DEVICE AND RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. ANY COMBINATIONOF THE FOLLOWING TYPES OF CABLES MAY BE USED:
   A. MAX 100 PAIR NO. 24 AWG (OR SMALLER) COPPER CONDUCTOR TELECOMMUNICATION CABLE WITH POLYVINYL CHLORIDE (PVC) JACKETING AND INSULATION.
   B. MAX 7/C NO. 12 AWG COPPER CONDUCTOR CONTROL CABLE WITH PVC OR XLPE JACKET AND INSULATION.
   C. MAX 4/0 AWG TYPE RHH GROUND CABLE.
   D. MAX 4 PR NO. 22 AWG CAT 5 OR CAT 6 COMPUTER CABLES.
   E. MAX RG-6/U COAXIAL CABLE WITH FLUORINATED ETHYLENE INSULATION AND JACKETING.
   F. FIBER OPTIC CABLE WITH POLYVINYL CHLORIDE (PVC) OR POLYETHYLENE (PE) JACKET AND INSULATION HAVING A MAX DIAM OF 1/2 IN. (13 MM).
   G. MAX 20/C NO. 22 AWG SHIELDED PRINTER CABLE WITH PVC JACKET.
   H. THROUGH-PENETRATING PRODUCT* - TWO COPPER CONDUCTORS NO. 18 AWG (OR SMALLER) POWER OR NON POWER LIMITED FIRE ALARM CABLE WITH OR WITHOUT A JACKET UNDER A METAL ARMOR. AFC CABLE SYSTEMS INC.
   I. MAX. 1/4 IN. (6 MM) DIAMETER S-VIDEO CABLE CONSISTING OF 2 MAX 24 AWG 75 OHM COAX OR TWISTED PAIR CABLE WITH PE INSULATION AND PVC JACKET.
   J. MAX 3/C NO 12 AWG MC CABLE.
   K. THROUGH PENETRATING PRODUCT -- ANY CABLES, ARMORED CABLE OR METAL CLAD CABLE CURRENTLY CLASSIFIED UNDER THE THROUGH PENETRATING PRODUCT CATEGORY. SEE THROUGH PENETRATING PRODUCT (XHLY) CATEGORY IN THE FIRE RESISTANCE DIRECTORY FOR NAMES OF MANUFACTURERS.

FOR OPENING WITH CABLES, WHEN THE HOURLY RATING OF THE WALL ASSEMBLY IS 1 HR, THE T, FT AND FTH RATINGS ARE 0 HR. FOR OPENING WITH CABLES, WHEN THE HOURLY RATING OF THE WALL ASSEMBLY IS 2 HR, THE T, FT AND FTH RATINGS ARE 1-3/4 HR EXCEPT THAT, WHEN ITEM 2C, 2G, 2I, 2J OR 2K IS USED, THE T, FT AND FTH RATINGS ARE 1 HR FOR 2C, 2 OR 2I AND THE T, FT AND FTH RATINGS ARE 1/2 HR FOR 2J OR 2 K (SEE ITEM 3 ALSO). WHEN THE HOURLY RATING OF THE WALL ASSEMBLY IS 3 OR 4 HR, THE T, FT AND FTH RATINGS ARE 2 HR. FOR WALL ASSEMBLIES WITH A 3 OR 4 HR RATING, ITEMS 2G AND 2I ARE NOT TO BE USED. L RATINGS APPLY ONLY WHEN DEVICE FLANGES AND CP 606 OR FS-ONE SEALANT ARE USED. SEE TABLE BELOW FOR L RATINGS.

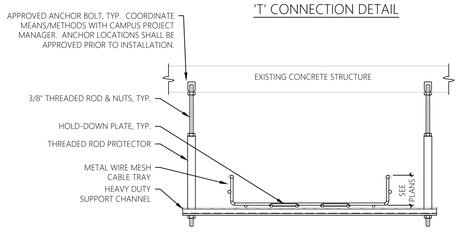
2 FIRE-RATED PRE-MANUFACTURED SLEEVE DETAIL
SCALE: NTS



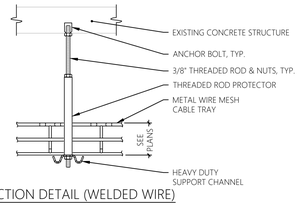
'T' CONNECTION DETAIL



90 DEGREE DETAIL



SECTION DETAIL (WELDED WIRE)



SECTION DETAIL (WELDED WIRE)

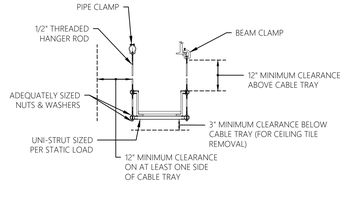
CABLE TRAY USAGE

LABEL	TRAY STYLE	DEPTH	WIDTH	BASIS OF DESIGN:	MATERIAL	COLOR	USAGE	ALLOWABLE NO. OF CAT6 CABLES 25% FILL
TYPE 'B'	WELDED WIRE	4"	6"	CHATSWORTH PEMSA 60283150-003	STEEL	ZINC	GENERAL AREAS	147
TYPE 'C'	LADDER TRAY	1.5"	12"	CHATSWORTH OR SIMILAR	STEEL	ZINC	MDF/IDF	-

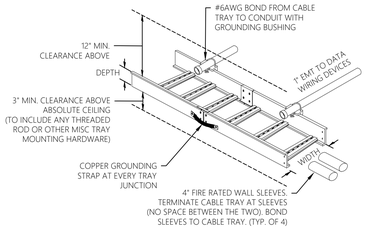
GENERAL SCHEDULE NOTES:

1. FOR EACH UTP:
   - PROVIDE 10' OF CABLE SLACK AT THE TR LOCATION.
   - PROVIDE 3-1/2' IN THE SUSPENDED CEILING ABOVE THE DROP.
2. WELDED WIRE CABLE TRAY INSTALLATION - FOLLOW MANUFACTURER'S RECOMMENDATIONS, UTILIZE MANUFACTURER SUPPLIED MOUNTING BRACKETS AND HARDWARE WHERE AVAILABLE.

4 WIRE MESH TYPE CABLE TRAY SUPPORT SYSTEM DETAILS
SCALE: NOT TO SCALE



CABLE TRAY SUPPORT



GROUNDING/BONDING & CONDUIT TERMINATION

5 CABLE TRAY INSTALLATION
SCALE: NTS

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Drawn By: KJM
Checked By: BCW
Project Manager:

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Revisions

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HORIZONTAL UTP CABLING

	CABLE COLOR					UTP TYPE				INSULATION			RJ45 JACK COLOR						CONFIG.		HOMERUN LOCATION
	BLUE	GREEN	YELLOW	WHITE	BLACK	CAT 5e	CAT 6	CAT 6A	CAT 5 4-PR	OTHER	PLENUM	RISER	GENERAL	GREEN	YELLOW	WHITE	ORANGE	OTHER	T568A	T568B	
DATA	●							●			●						●			●	NEAREST IDF DATA CLOSET
WAP	●							●			●						●			●	NEAREST IDF DATA CLOSET
POE CAMERA			●					●			●				●					●	NEAREST IDF DATA CLOSET
BMS CONTROL PANELS		●						●			●			●						●	NEAREST IDF DATA CLOSET
LIGHTING CONTROL				●				●			●					●				●	REFER TO LIGHTING CONTROL SUBMITTAL

CONFIRM COLOR WITH CAMPUS DURING SUBMITTAL PHASE

GENERAL SCHEDULE NOTES:

1. REFER ALSO TO SPECIFICATION SECTION 270500.
2. ALL CABLING TO BE LABELED AT EACH END.
3. PROVIDE A DEDICATED CABLE FOR EACH JACK IDENTIFIED ON THE PLANS/DETAILS. JACKS SHALL BE 6A.
4. REFER TO FLOOR PLAN SHEETS FOR GENERAL LOCATIONS.
5. PROVIDE STAINLESS STEEL FACEPLATES FOR ALL DATA PER CAMPUS STANDARD
6. PROVIDE SERVICE LOOPS & SLACK AT EACH END.
7. PROVIDE CABLE TESTING AND TESTING REPORT TO ENGINEER FOR APPROVAL

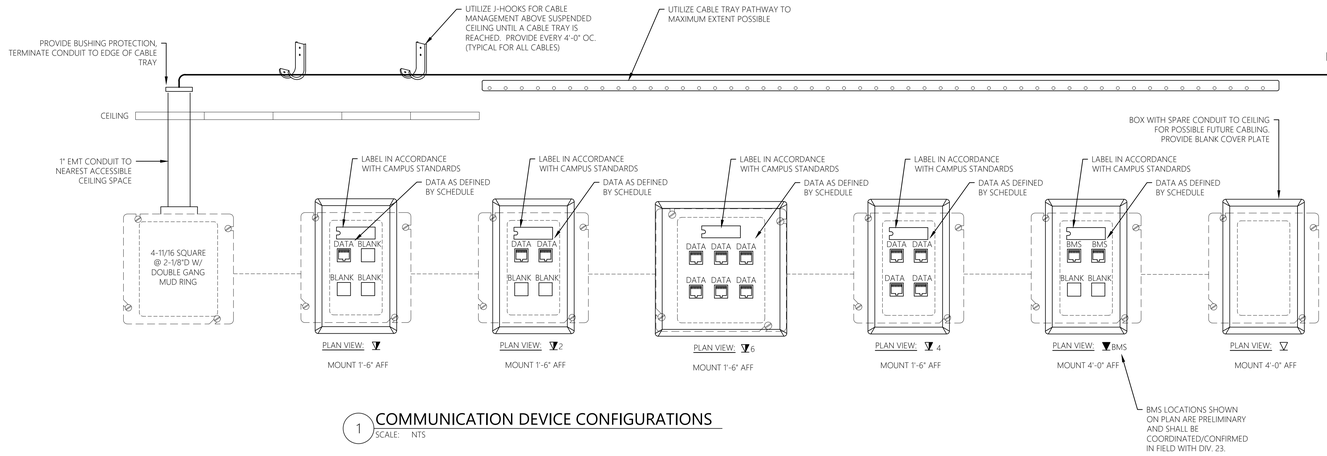
CONDUIT FILL CAPACITY SCHEDULE

EMT CONDUIT/ SLEEVE SIZE	CAT6 - UTP (0.24" OD)	CAT6A - F/UTP (0.29" OD)
1"	4	3
1-1/4"	10	6
1-1/2"	15	7
2"	20	14
2-1/2"	30	17
3"	40	20
3-1/2"	MAX	MAX
4"	MAX	MAX

EMT CONDUIT (CONCEALED) TO CABLE TRAY. SIZE OF CONDUIT BASED ON QTY OF UTP CABLES. REFER TO ADJACENT CONDUIT FILL CAPACITY SCHEDULE (1" MIN)

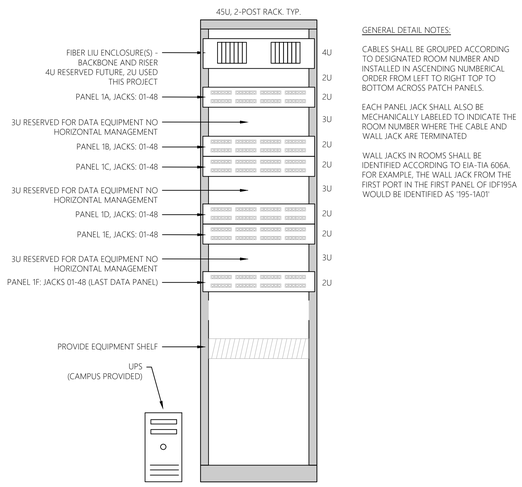
GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL NOTES.
2. ALL CABLING SHALL BE LABELED AT EACH END, AND AT FACEPLATE. FOLLOW ADJACENT LABELING SCHEME. CABLE LABELS SHALL BE SELF LAMINATING, PANDUIT OR EQUAL. FINAL LABELING REQUIREMENTS TO BE CLOSELY COORDINATED WITH OWNER.
3. ALL CABLING SHALL BE NEATLY RUN AND SUFFICIENTLY SUPPORTED. FOLLOW NECA 1-2010 GUIDELINES.
4. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
5. ALL PENETRATIONS TO BE PERFORMED IN A NEAT MANOR AND CAULKED. PROVIDE FIRE RATED CAULK WHERE REQUIRED.
6. ALL CABLING SHALL BE TESTED FOR PROPER IDENTIFICATION AND CONTINUITY. ALL OPENS, SHORTS, CROSSES, GROUNDS AND REVERSALS SHALL BE CORRECTED.
7. CONTRACTOR TO COORDINATE ALL PROPOSED WORK WITH THE OWNER AND CAMPUS IT STAFF.
8. EXACT ROUTING OF HORIZONTAL CABLING SHALL BE DETERMINED BY CONTRACTOR IN FIELD. REFER TO FLOOR PLAN SHEETS FOR DATA RACK AND VOICE BLOCK HOMERUN INFORMATION.
9. CONTRACTOR SHALL SUBMIT PRODUCT/SUBMITTAL DATA ON ALL MATERIALS SHOWN ON THIS SHEET FOR APPROVAL BY ENGINEER AND OWNER.



1 COMMUNICATION DEVICE CONFIGURATIONS

SCALE: NTS



GENERAL DETAIL NOTES:

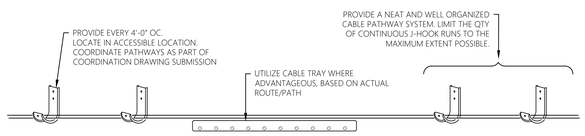
CABLES SHALL BE GROUPED ACCORDING TO DESIGNATED ROOM NUMBER AND INSTALLED IN ASCENDING NUMBERICAL ORDER FROM LEFT TO RIGHT TOP TO BOTTOM ACROSS PATCH PANELS.

EACH PANEL JACK SHALL ALSO BE MECHANICALLY LABELED TO INDICATE THE ROOM NUMBER WHERE THE CABLE AND WALL JACK ARE TERMINATED

WALL JACKS IN ROOMS SHALL BE IDENTIFIED ACCORDING TO EIA-TIA 606A. FOR EXAMPLE, THE WALL JACK FROM THE FIRST PORT IN THE FIRST PANEL OF IDF195A WOULD BE IDENTIFIED AS '195-1A01'

2 CORTLAND CAMPUS STANDARD RACK CONFIGURATION

SCALE: NTS



J - HOOK MANAGEMENT REQUIREMENTS:

1. UTILIZE A COMBINATION OF J-HOOKS AND CABLE TRAY FOR CABLE MANAGEMENT ON THIS PROJECT.
2. INTENT IS TO LIMIT THE NUMBER OF CONTINUOUS J-HOOK RUNS. THEREFORE, CAREFUL ROUTE PLANNING FOR ALL CABLING IS REQUIRED PRIOR TO INSTALLATION.
3. J-HOOKS SHALL BE SIZED (IN FIELD) TO ALLOW FOR MULTI-DISCIPLINE USE.

PERMITTED USAGE:

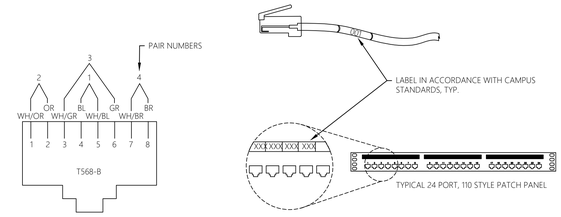
1. UTP CABLE (AS DEFINED IN HORIZONTAL CABLE SCHEDULE)
2. DIVISION 23 BMS COMMUNICATION CABLING. (GREEN JACKET)
3. DIVISION 23 VAV 24V CABLING (GREEN JACKET)
4. CARD ACCESS CABLING (YELLOW JACKET)

DISALLOWED:

1. DIVISION 28 ALL FIRE ALARM CABLING IS IN DEDICATED CONDUIT/RACEWAY
2. FIBER OPTIC BACKBONE (RUN IN DEDICATED ORANGE ENT)

4 J HOOK & CABLE TRAY CABLING MANAGEMENT REQUIREMENTS

SCALE: NTS



3 T568-B PUNCHDOWN & LABELING REQUIREMENTS

SCALE: NTS

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JADE STONE ENGINEERING

STATE OF NEW YORK BENJAMIN C. WALLHOFF 085954 LICENSED PROFESSIONAL ENGINEER

Drawn By:	KJM
Checked By:	BCW
Project Manager:	

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SUNY Cortland
SUCF Project No. 041046-00

E-602

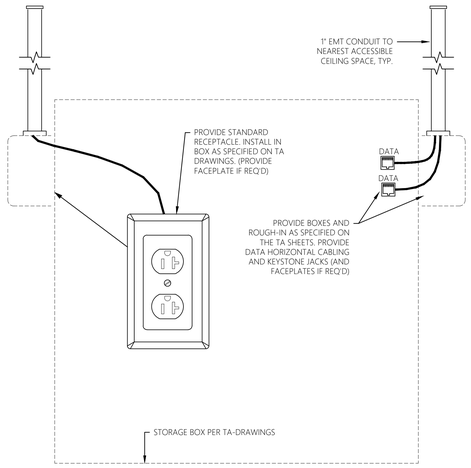
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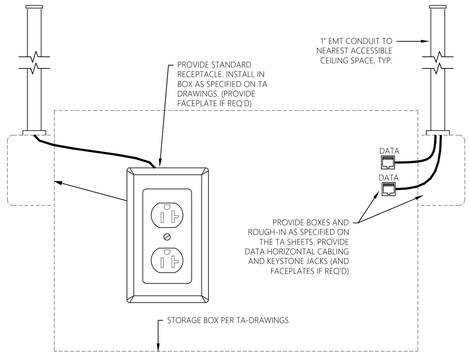
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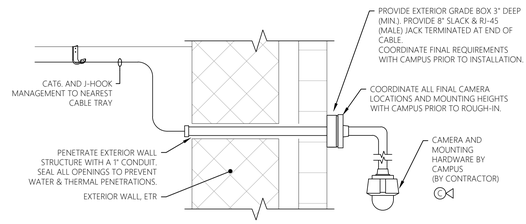


TYPICAL INSTALLATION FOR STORAGE BOXES #10 & #12. REFER TO TA-DRAWINGS



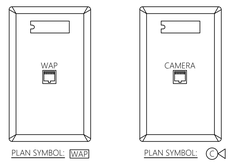
TYPICAL INSTALLATION FOR STORAGE BOX #11. REFER TO TA-DRAWINGS

1 STORAGE BOX DETAILS AND COORDINATION WITH TA SHEETS
SCALE: NTS



EXTERIOR WALL

2 CAMERA SYSTEM ROUGH-IN DETAILS
SCALE: NTS

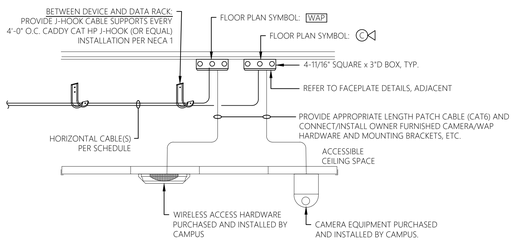


PLAN SYMBOL: WAP

MOUNTING HEIGHT DETERMINED IN FIELD.

PLAN SYMBOL:

MOUNTING HEIGHT DETERMINED IN FIELD.



CEILING AREAS

3 WIRELESS ACCESS POINT AND CAMERA ROUGH-IN
SCALE: NTS

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Drawn By: KJM
Checked By: BCW
Project Manager:

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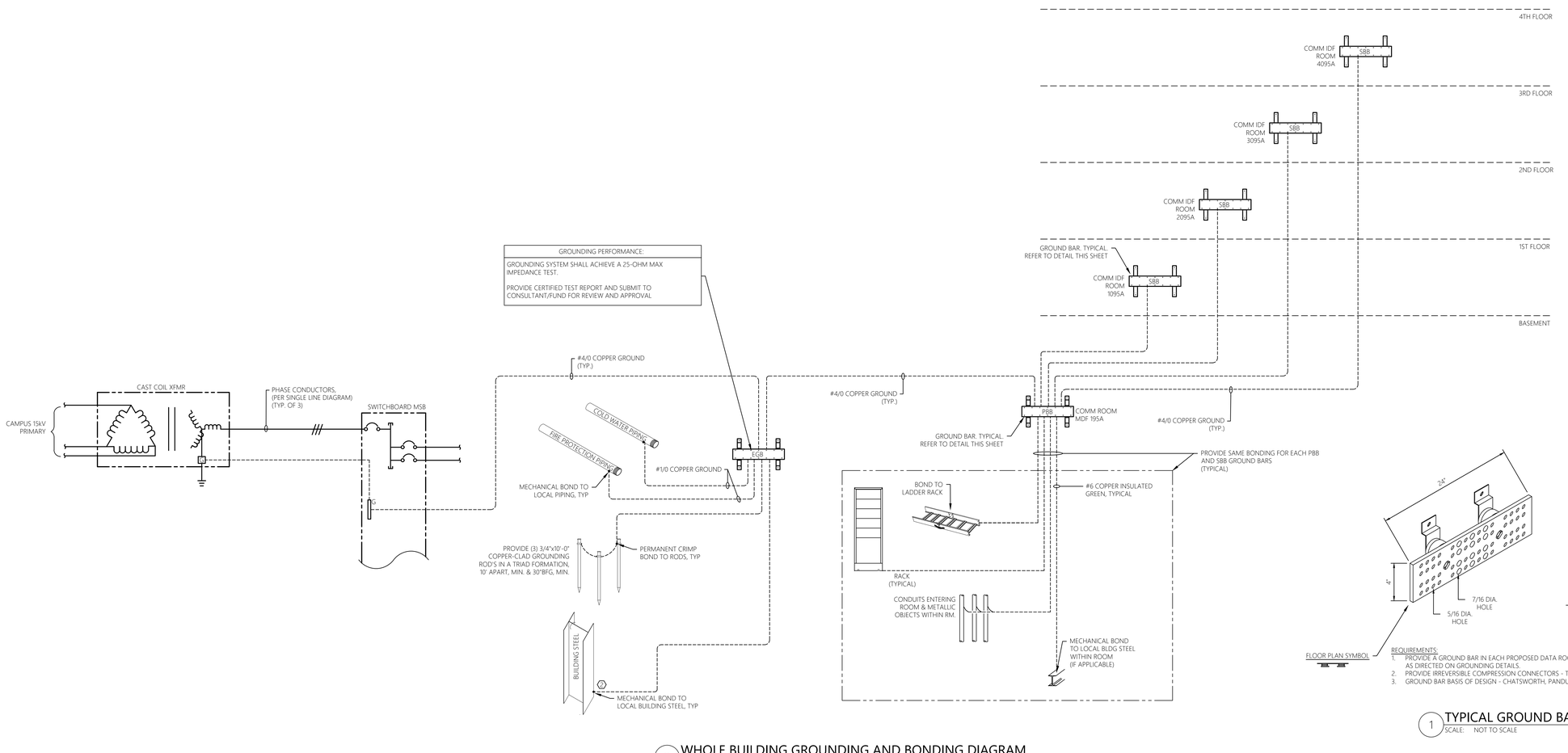
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E-603
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2 WHOLE BUILDING GROUNDING AND BONDING DIAGRAM
SCALE: NOT TO SCALE

1 TYPICAL GROUND BAR DETAIL
SCALE: NOT TO SCALE

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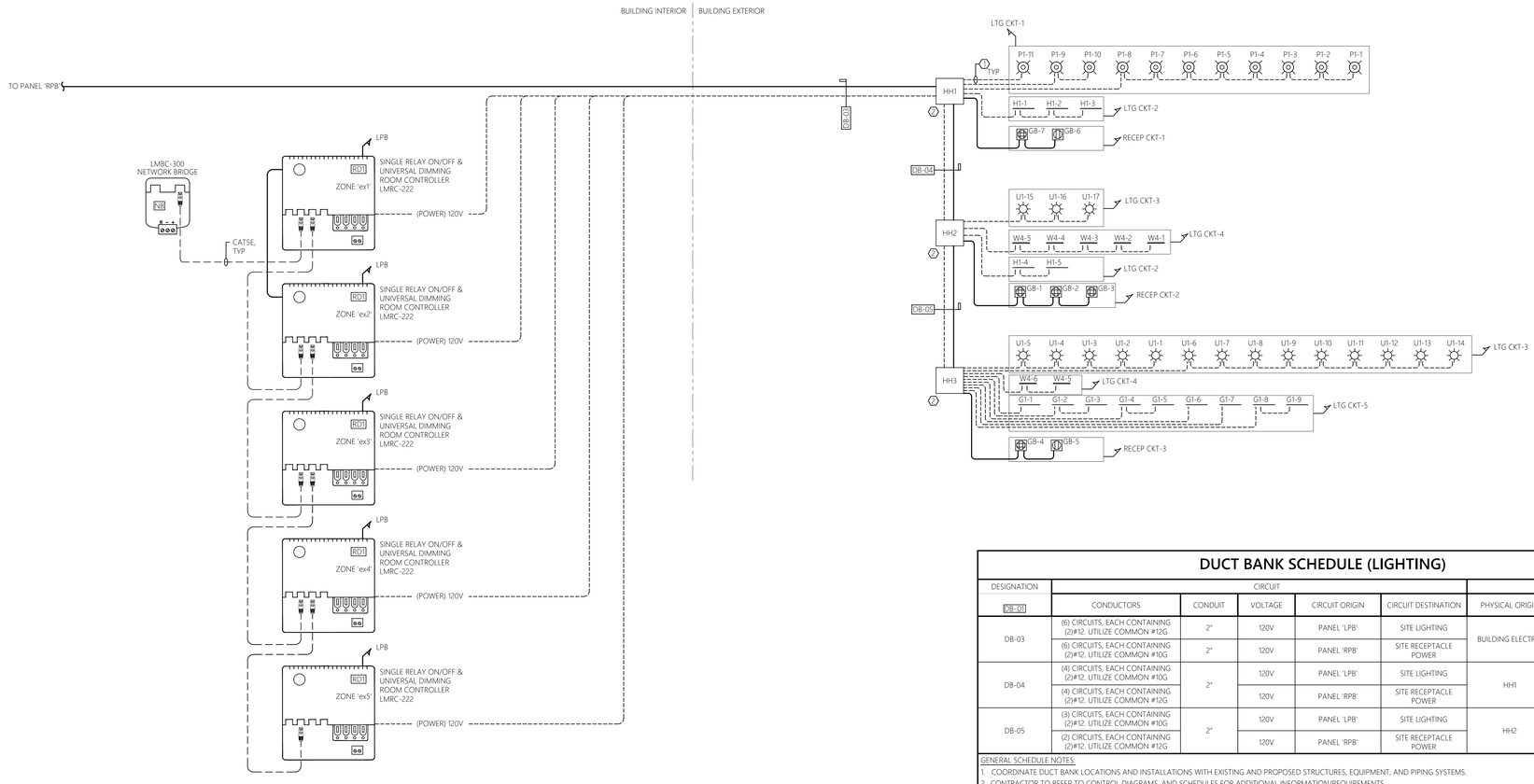
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SUCF Project No. 041046-00

E-604
ELECTRICAL DETAILS

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BID DOCUMENTS

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DETAIL GENERAL NOTES:

1. REFER ALSO TO L-301 FOR SITE PLAN LAYOUT AND FIXTURE LOCATIONS.
2. FIXTURE BASIS OF DESIGN PRODUCT DATA IS PROVIDED ON SHEET L-301.
3. CO-LOCATE ALL EXTERIOR LIGHTING POWER CONTROLLERS WITHIN MAIN ELECTRICAL ROOM, BASEMENT LEVEL. COORDINATE LOCATION IN FIELD.

DETAIL KEY NOTES:

(1) PROVIDE (2)#12 & #12G, 1"C. COORDINATE ROUGH-IN WITH APPROVED SUBMITTALS. PROVIDE ALL NECESSARY BOXES, FITTINGS, ETC..

(2) PROVIDE POLYMER HANDHOLE. REFER TO DETAIL, THIS SHEET.

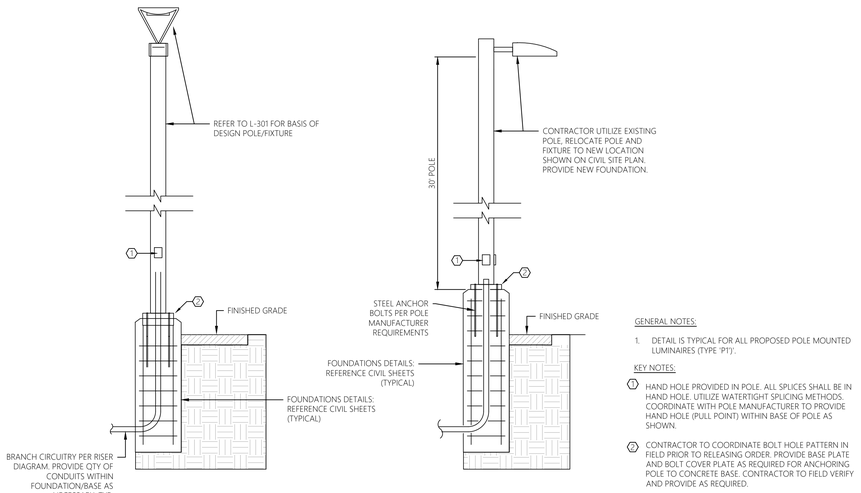
DUCT BANK SCHEDULE (LIGHTING)

DESIGNATION	CIRCUIT							
XB-01	CONDUCTORS	CONDUIT	VOLTAGE	CIRCUIT ORIGIN	CIRCUIT DESTINATION	PHYSICAL ORIGIN	PHYSICAL DESTINATION	REMARKS
DB-03	(6) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #12G	2"	120V	PANEL 'LPB'	SITE LIGHTING	BUILDING ELECTRIC	HH1	
	(6) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #10G		120V	PANEL 'RPB'	SITE RECEPTACLE POWER			
DB-04	(4) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #10G	2"	120V	PANEL 'LPB'	SITE LIGHTING	HH1	HH2	
	(4) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #12G		120V	PANEL 'RPB'	SITE RECEPTACLE POWER			
DB-05	(3) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #10G	2"	120V	PANEL 'LPB'	SITE LIGHTING	HH2	HH3	
	(2) CIRCUITS, EACH CONTAINING (2)#12. UTILIZE COMMON #12G		120V	PANEL 'RPB'	SITE RECEPTACLE POWER			

GENERAL SCHEDULE NOTES:
1. COORDINATE DUCT BANK LOCATIONS AND INSTALLATIONS WITH EXISTING AND PROPOSED STRUCTURES, EQUIPMENT, AND PIPING SYSTEMS.
2. CONTRACTOR TO REFER TO CONTROL DIAGRAMS, AND SCHEDULES FOR ADDITIONAL INFORMATION/REQUIREMENTS.

REMARKS:

1 EXTERIOR LIGHTING CONTROL & SITE RECEPTACLE RISER DIAGRAM
SCALE: NTS



GENERAL NOTES:

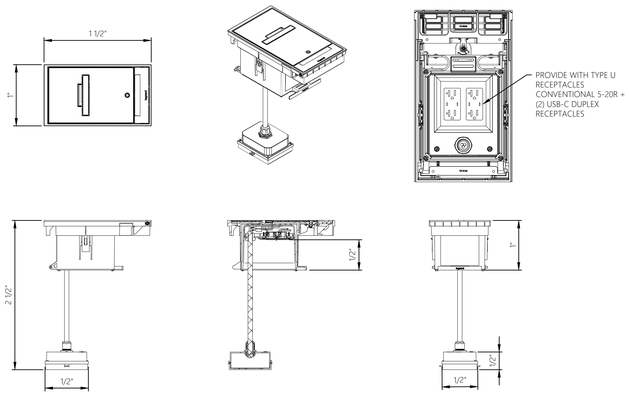
1. DETAIL IS TYPICAL FOR ALL PROPOSED POLE MOUNTED LUMINAIRES (TYPE 'P1').

KEY NOTES:

(1) HAND HOLE PROVIDED IN POLE. ALL SPLICES SHALL BE IN HAND HOLE. UTILIZE WATERTIGHT SPLICING METHODS. COORDINATE WITH POLE MANUFACTURER TO PROVIDE HAND HOLE (PULL POINT) WITHIN BASE OF POLE AS SHOWN.

(2) CONTRACTOR TO COORDINATE BOLT HOLE PATTERN IN FIELD PRIOR TO RELEASING ORDER. PROVIDE BASE PLATE AND BOLT COVER PLATE AS REQUIRED FOR ANCHORING POLE TO CONCRETE BASE. CONTRACTOR TO FIELD VERIFY AND PROVIDE AS REQUIRED.

2 TYPICAL POLE MOUNTED LIGHTING FIXTURE DETAILS
SCALE: NTS



BOD: LEGRAND P/N: XB814C520 10/26/2016

3 GROUND BOX DETAILS
SCALE: NTS

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LICENSED PROFESSIONAL ENGINEER

Drawn By:	KJM
Checked By:	BCW
Project Manager:	

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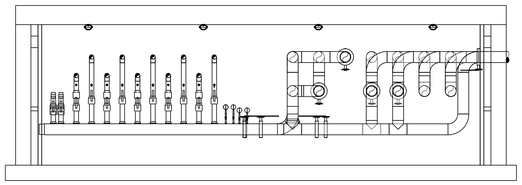
SUNY Cortland
SUCF Project No. 041046-00

E-605
ELECTRICAL DETAILS

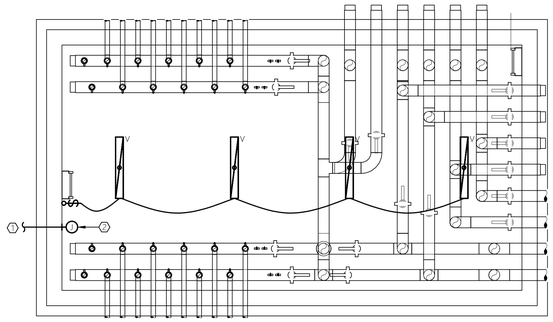
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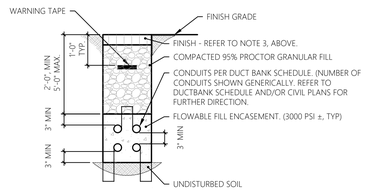
2 GEOTHERMAL VALVE VAULT SECTION
SCALE: 1/4" = 1'-0"



1 GEOTHERMAL VALVE VAULT PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

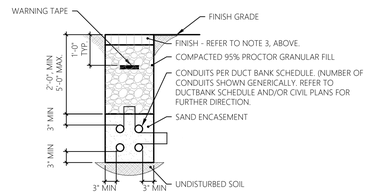
1. POWER AND CONTROL CONDUITS TO HAVE SEPARATION OF 12" MINIMUM.
2. DETAIL IS TYPICAL AND MAY REFLECT CONDUITS NOT REQUIRED FOR PROJECT.
3. FINISHED SURFACE TO MATCH SURFACE BEING DISTURBED. REFER TO CIVIL SHEETS.



3 TYPICAL FLOWABLE FILL DUCT BANK SECTION
SCALE: NTS

GENERAL NOTES:

1. POWER AND CONTROL CONDUITS TO HAVE SEPARATION OF 12" MINIMUM.
2. DETAIL IS TYPICAL AND MAY REFLECT CONDUITS NOT REQUIRED FOR PROJECT.
3. FINISHED SURFACE TO MATCH SURFACE BEING DISTURBED. REFER TO CIVIL SHEETS.



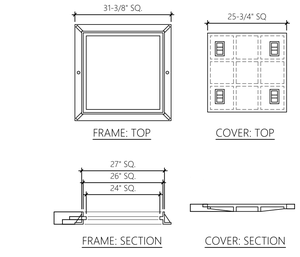
3A TYPICAL SAND ENCASED DUCT BANK SECTION
SCALE: NTS

GENERAL SHEET NOTES:

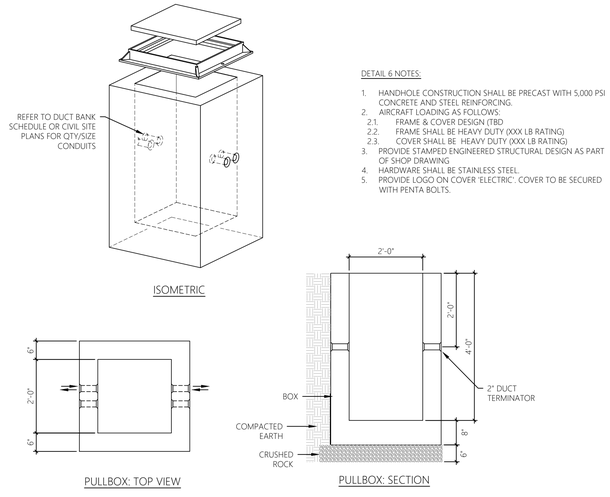
1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANEL SCHEDULES FOR CIRCUIT CHARACTERISTICS.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGARS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW & APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503 FOR CIRCUITING REQUIREMENTS.
12. COORDINATE WITH ARCHITECTURAL PLANS FOR SPECIFIC LIGHT PLACEMENT WITHIN CEILING GRID AND FOR SPECIALTY FIXTURE MOUNTING HEIGHTS.
13. ALL CEILING CAVITIES ARE BEING USED FOR RETURN AIR SYSTEMS. ALL CABLING NOT FULLY INSTALLED IN CONDUIT SHALL BE PLENUM RATED.
14. CONTRACTOR SHALL PREPARE/PROVIDE FIRE RATED PENETRATIONS THROUGH RATED WALLS. PROVIDE UL LISTED METHODS. REFER TO G CODE PLAN SHEETS FOR RATED WALL LOCATIONS.
15. NOTE - LMOR DEVICES ARE NOT SHOWN ON FLOOR PLANS, REFER TO LIGHTING CONTROL SCHEDULE, SHEET E-503.

SHEET KEY NOTES:

1. PROVIDE (2)#10 & #10G, 1"C. PROVIDE BREAKER WITHIN PANEL 'RPB' FOR NEW FEED.
2. PROVIDE A SINGLE NEMA 3 JUNCTION BOX FOR DISTRIBUTION TO LIGHTING & WATERPROOF RECEPTACLE. PROVIDE ALSO MOISTURE-PROOF LIGHT SWITCH.



4 TYPICAL RIM/COVER DETAIL FOR CONCRETE HANDHOLE
SCALE: NTS



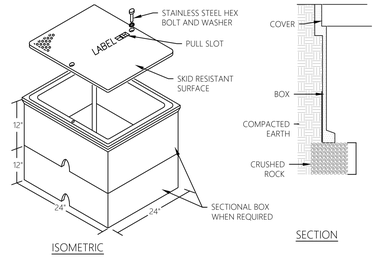
DETAIL 6 NOTES:

1. HANDHOLE CONSTRUCTION SHALL BE PRECAST WITH 5,000 PSI CONCRETE AND STEEL REINFORCING.
2. AIRCRAFT LOADING AS FOLLOWS:
   2.1. FRAME & COVER DESIGN (TBD
   2.2. FRAME SHALL BE HEAVY DUTY (XXX LB RATING)
   2.3. COVER SHALL BE HEAVY DUTY (XXX LB RATING)
3. PROVIDE STAMPED ENGINEERED STRUCTURAL DESIGN AS PART OF SHOP DRAWING
4. HARDWARE SHALL BE STAINLESS STEEL.
5. PROVIDE LOGO ON COVER 'ELECTRIC'. COVER TO BE SECURED WITH PENTA BOLTS.

5 TYPICAL CONCRETE HANDHOLE DETAIL
SCALE: NTS

GENERAL NOTES:

1. CONSTRUCTION SHALL BE A POLYMER CONCRETE.
2. HANDHOLE TO HAVE 15,000LB DESIGN LOAD AND 22,500LB TEST LOAD.
3. ALL HARDWARE SHALL BE STAINLESS STEEL. PROVIDE SLEEVES FOR ALL PENETRATIONS AS NECESSARY.
4. BOTTOM SHALL BE OPEN FOR DRAINAGE.
5. PROVIDE LOGO ON COVER 'ELECTRIC'. COVER TO BE SECURED WITH PENTA BOLTS.
6. HANDHOLES MUST MEET ALL APPLICABLE REQUIREMENTS OF ANSI/SCTE 77.
7. HANDHOLES SHALL MEET MINIMUM SIZE REQUIREMENTS IN ACCORDANCE WITH NEC ARTICLE 314.30.
8. PROVIDE AS SPLIT HANDHOLE WHERE BOTH POWER AND COMMUNICATION ARE PRESENT CONTRACTOR TO FIELD VERIFY.



6 TYPICAL ELECTRICAL 2' x 2' POLYMER HANDHOLE DETAIL
SCALE: NTS

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Project Manager:

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E-606
ELECTRICAL DETAILS

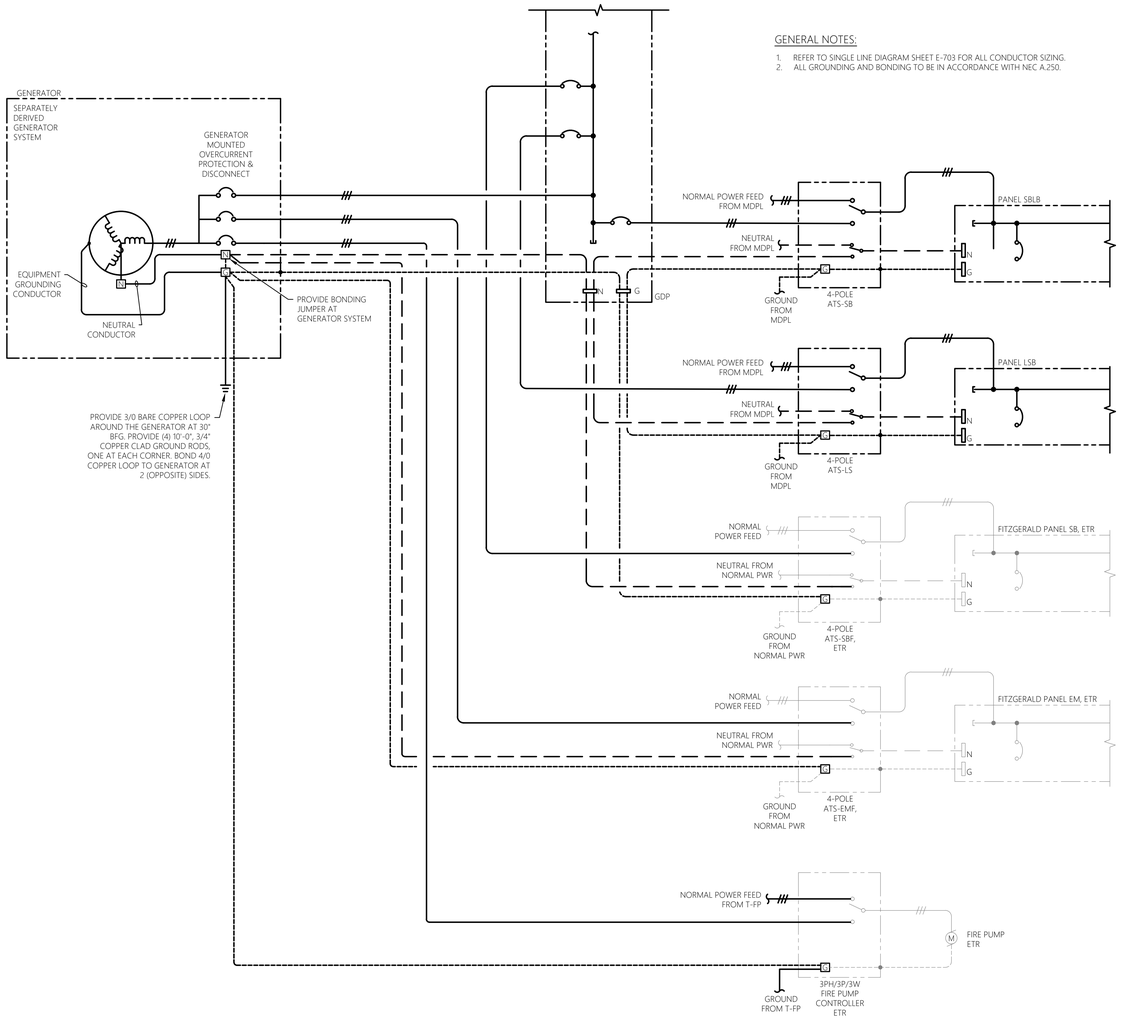
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GENERAL NOTES:

1. REFER TO SINGLE LINE DIAGRAM SHEET E-703 FOR ALL CONDUCTOR SIZING.
2. ALL GROUNDING AND BONDING TO BE IN ACCORDANCE WITH NEC A.250.

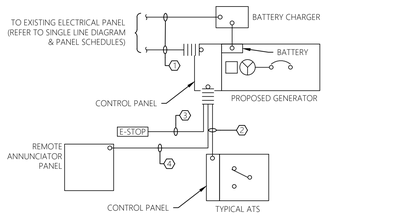


1 SEPARATELY DERIVED GENERATOR SYSTEM GROUNDING AND BONDING DETAIL

SCALE: NTS

KEY NOTES:

1. PROVIDE CONDUCTORS/CABLE IN CONDUIT PER MANUFACTURER'S REQUIREMENTS. CONNECTION AT GENERATOR SHALL BE FLEXIBLE TYPE. TYPICAL OF ALL GENERATOR AUXILIARY EQUIPMENT.
2. (12)#14 & (2)#18STP, 1"C. (ALSO SHOWN ON SINGLE LINE DIAGRAM)
3. (4)#14, 3/4"C.
4. (10)#14, 3/4"C.

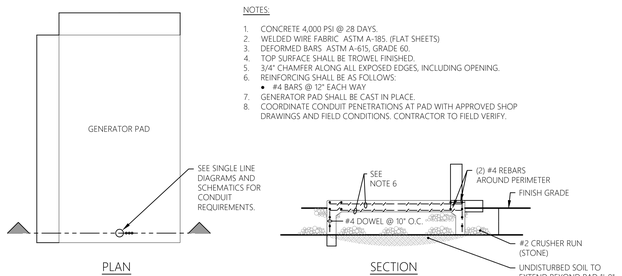


3 TYPICAL GENERATOR CONTROL & AUXILIARY RISER

SCALE: NTS

NOTES:

1. CONCRETE 4,000 PSI @ 28 DAYS.
2. WELDED WIRE FABRIC, ASTM A-185. (FLAT SHEETS)
3. DEFORMED BARS ASTM A-615, GRADE 60.
4. TOP SURFACE SHALL BE TROWEL FINISHED.
5. 3/4" CHAMFER ALONG ALL EXPOSED EDGES, INCLUDING OPENING.
6. REINFORCING SHALL BE AS FOLLOWS:
   - #4 BARS @ 12" EACH WAY
7. GENERATOR PAD SHALL BE CAST IN PLACE.
8. COORDINATE CONDUIT PENETRATIONS AT PAD WITH APPROVED SHOP DRAWINGS AND FIELD CONDITIONS. CONTRACTOR TO FIELD VERIFY.



2 GENERATOR PAD DETAIL

SCALE: NTS

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Drawn By: KJM
Checked By: BCW
Project Manager:

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SUNY Cortland
SUCF Project No. 041046-00

E-607

ELECTRICAL DETAILS

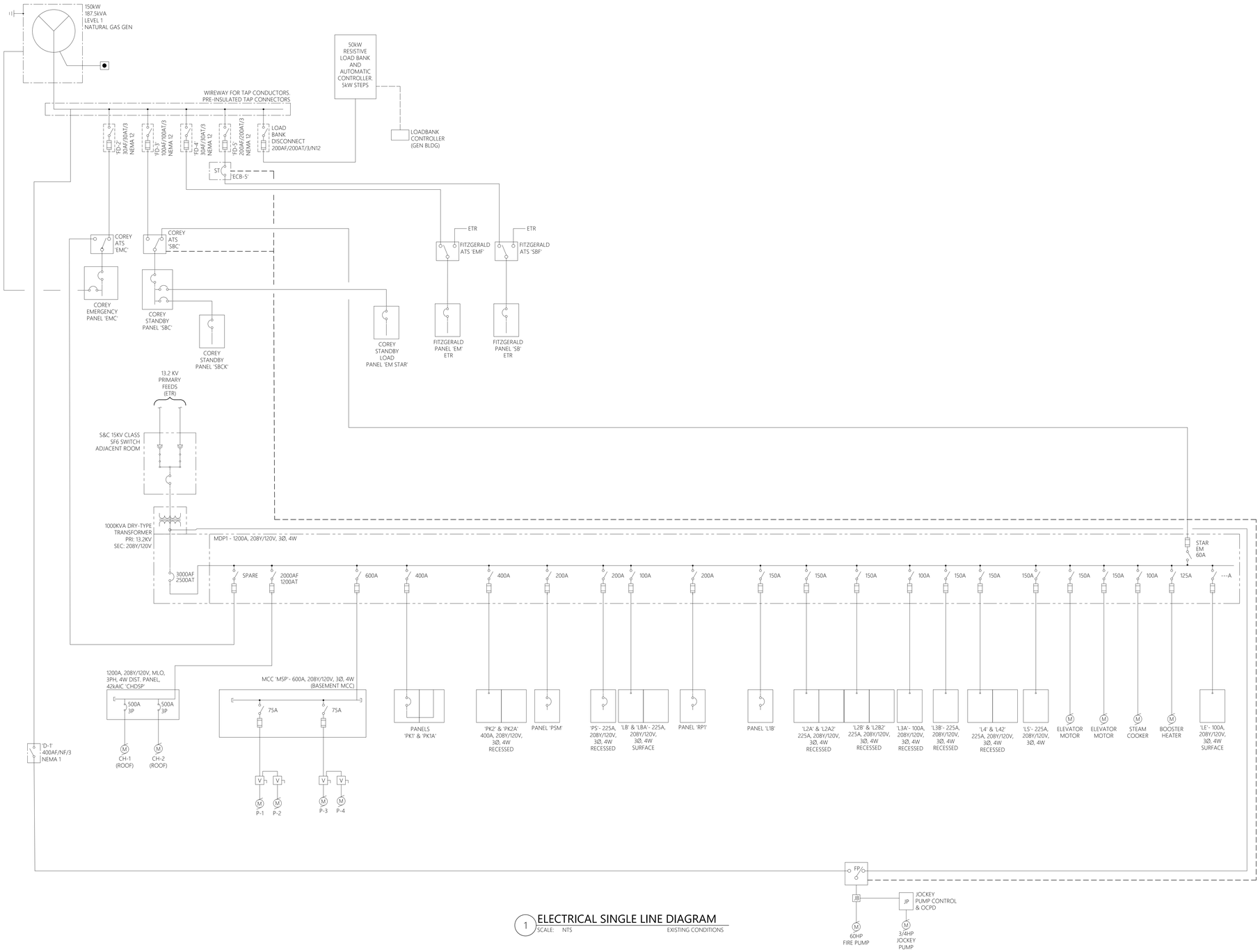
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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANELBOARD SCHEDULES.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NECAI GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW AND APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.



1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS EXISTING CONDITIONS

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Checked By:	BCW
Project Manager:	

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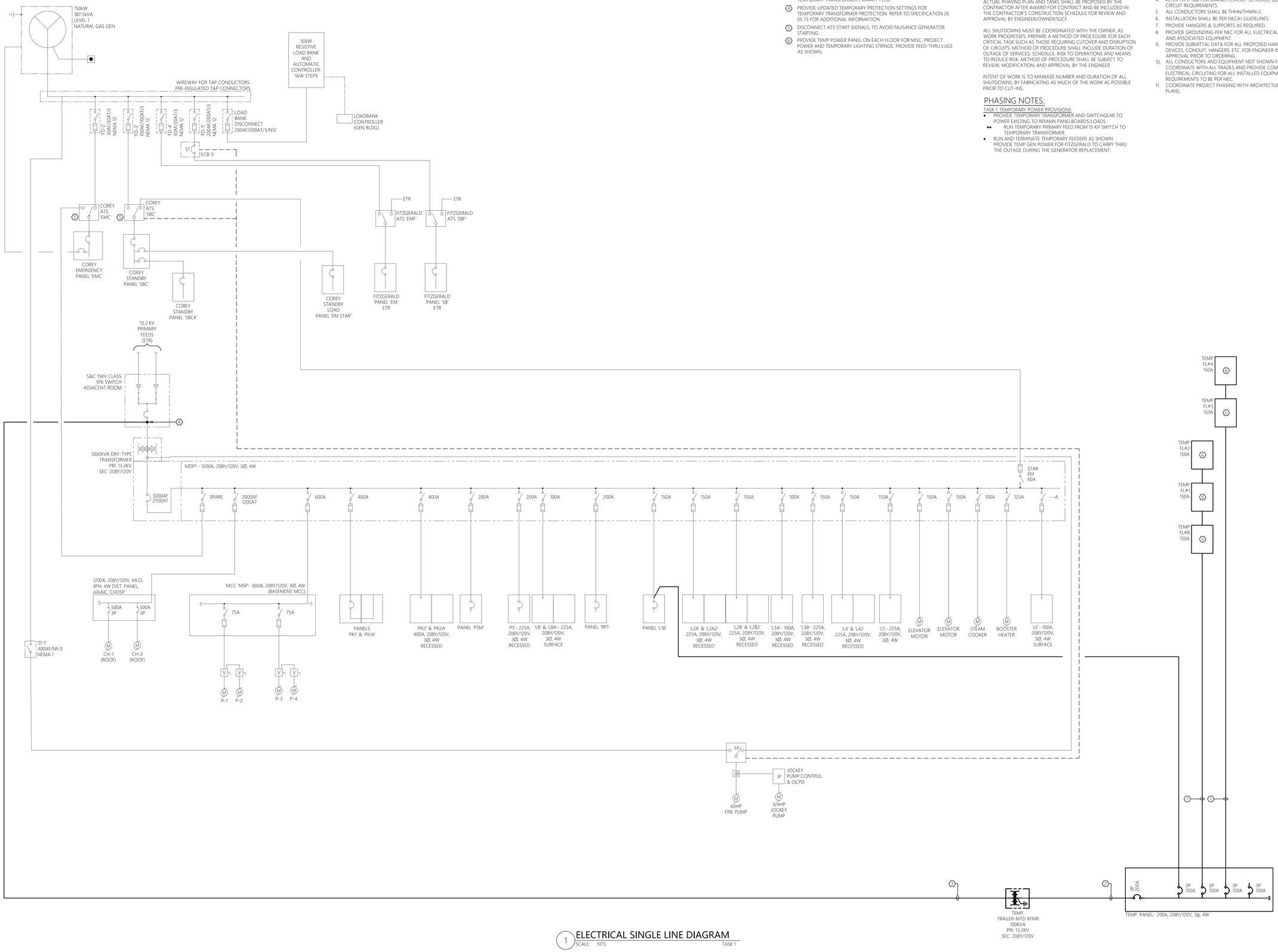
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E-700
ELECTRICAL SINGLE LINE DIAGRAM

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1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS TASK 1

SHEET KEY NOTES:

1. PROVIDE (4)#3/0 & #6G TEMPORARY CABLING FOR PANELBOARD FEED. SER CABLE ACCEPTABLE FOR THIS PURPOSE.
2. PROVIDE (4)#3/0 & #6G, 2-1/2"C
3. PROVIDE (3)#1/0 15KV 133% EPR & #1 XHHW TEMPORARY CABLING FOR TEMPORARY TRANSFORMER PRIMARY FEED.
4. PROVIDE UPDATED TEMPORARY PROTECTION SETTINGS FOR TEMPORARY TRANSFORMER PROTECTION. REFER TO SPECIFICATION 26 05 73 FOR ADDITIONAL INFORMATION.
5. DISCONNECT ATS START SIGNALS, TO AVOID NUISANCE GENERATOR STARTING.
6. PROVIDE TEMP POWER PANEL ON EACH FLOOR FOR MISC. PROJECT POWER AND TEMPORARY LIGHTING STRINGS. PROVIDE FEED-THRU LUGS AS SHOWN.

GENERAL PHASING NOTES:

MINIMAL ELECTRICAL DOWNTIME WILL BE ALLOWED FOR THIS FACILITY. THIS PHASING PLAN IS INTENDED TO REPRESENT A GENERAL SEQUENCE OF WORK FOR ESTIMATING AND GENERAL PLANNING PURPOSES ONLY. IT IS A GENERAL SEQUENCE GUIDELINE AND IS NOT INTENDED TO BE INCLUSIVE OF ALL TASKS REQUIRED TO COMPLETE THIS PROJECT. ACTUAL PHASING PLAN AND TASKS SHALL BE PROPOSED BY THE CONTRACTOR AFTER AWARD FOR CONTRACT AND BE INCLUDED IN THE CONTRACTOR'S CONSTRUCTION SCHEDULE FOR REVIEW AND APPROVAL BY ENGINEER/OWNER/SUCF.

ALL SHUTDOWNS MUST BE COORDINATED WITH THE OWNER. AS WORK PROGRESSES, PREPARE A METHOD OF PROCEDURE FOR EACH CRITICAL TASK SUCH AS THOSE REQUIRING CUTOVER AND DISRUPTION OF CIRCUITS. METHOD OF PROCEDURE SHALL INCLUDE DURATION OF OUTAGE OF SERVICES, SCHEDULE, RISK TO OPERATIONS AND MEANS TO REDUCE RISK. METHOD OF PROCEDURE SHALL BE SUBJECT TO REVIEW, MODIFICATION, AND APPROVAL BY THE ENGINEER.

INTENT OF WORK IS TO MINIMIZE NUMBER AND DURATION OF ALL SHUTDOWNS, BY FABRICATING AS MUCH OF THE WORK AS POSSIBLE PRIOR TO CUT-INS.

PHASING NOTES:

TASK 1: TEMPORARY POWER PROVISIONS

- PROVIDE TEMPORARY TRANSFORMER AND SWITCHGEAR TO POWER EXISTING TO REMAIN PANELBOARDS/LOADS.
  - RUN TEMPORARY PRIMARY FEED FROM 15 KV SWITCH TO TEMPORARY TRANSFORMER.
- RUN AND TERMINATE TEMPORARY FEEDERS AS SHOWN. PROVIDE TEMP GEN POWER FOR FITZGERALD TO CARRY THRU THE OUTAGE DURING THE GENERATOR REPLACEMENT.

GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-500 SERIES FOR PANELBOARD SCHEDULES.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2.
6. INSTALLATION SHALL BE PER NEC® GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW AND APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PROJECT PHASING WITH ARCHITECTURAL PHASING PLANS.

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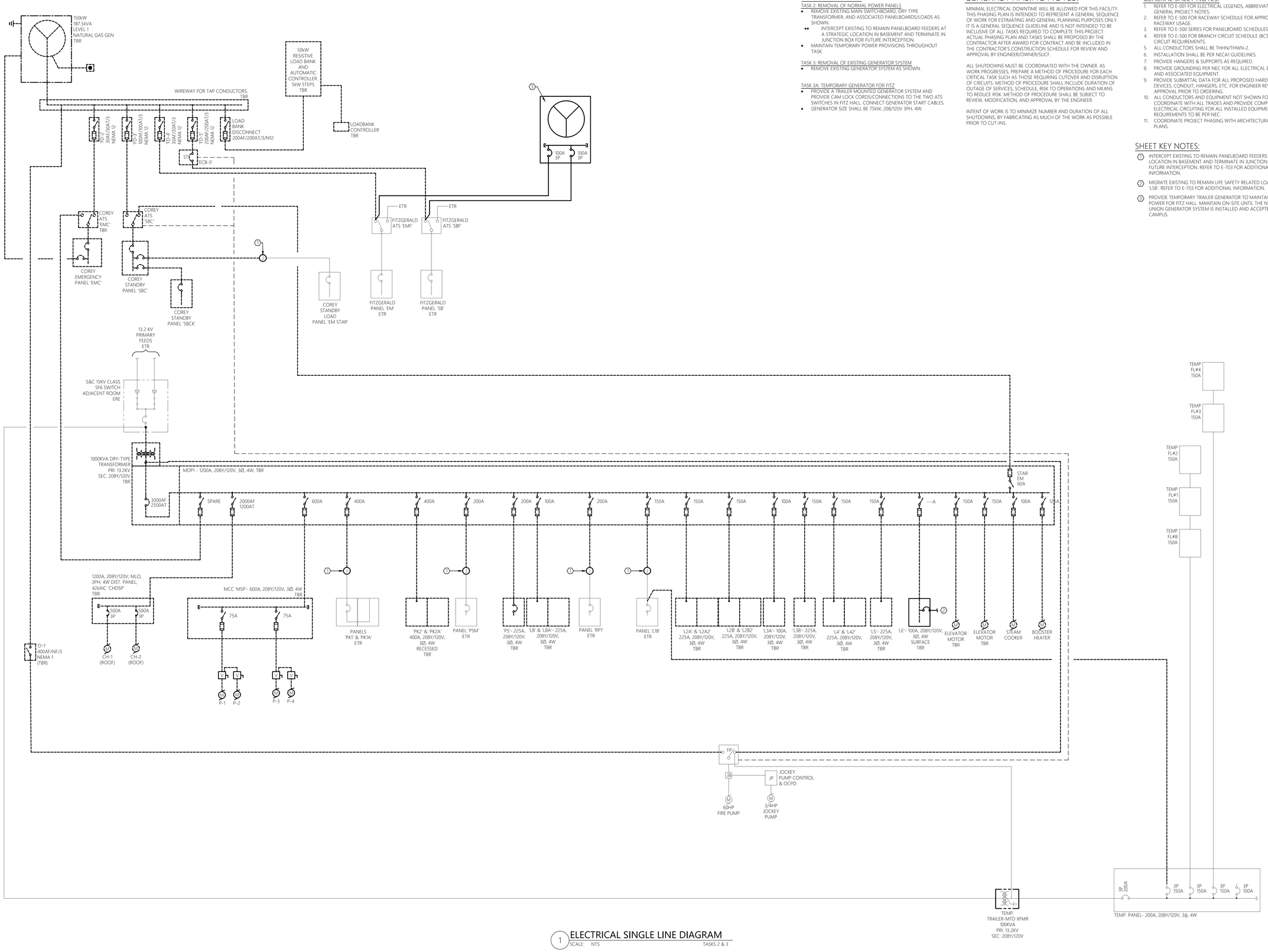
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SUCF Project No. 041046-00

E-701
ELECTRICAL SINGLE LINE DIAGRAM

NOVEMBER 16, 2026
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1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS TASKS 2 & 3

PHASING NOTES:

TASK 2: REMOVAL OF NORMAL POWER PANELS

- REMOVE EXISTING MAIN SWITCHBOARD, DRY TYPE TRANSFORMER, AND ASSOCIATED PANELBOARDS/LOADS AS SHOWN.
  - INTERCEPT EXISTING TO REMAIN PANELBOARD FEEDERS AT A STRATEGIC LOCATION IN BASEMENT AND TERMINATE IN JUNCTION BOX FOR FUTURE INTERCEPTION.
- MAINTAIN TEMPORARY POWER PROVISIONS THROUGHOUT TASK.

TASK 3: REMOVAL OF EXISTING GENERATOR SYSTEM

- REMOVE EXISTING GENERATOR SYSTEM AS SHOWN.

TASK 3A: TEMPORARY GENERATOR FOR FITZ

- PROVIDE A TRAILER MOUNTED GENERATOR SYSTEM AND PROVIDE CAM LOCK CORDS/CONNECTIONS TO THE TWO ATS SWITCHES IN FITZ HALL. CONNECT GENERATOR START CABLES.
- GENERATOR SIZE SHALL BE 75kW, 208/120V 3PH, 4W.

GENERAL PHASING NOTES:

MINIMAL ELECTRICAL DOWNTIME WILL BE ALLOWED FOR THIS FACILITY. THIS PHASING PLAN IS INTENDED TO REPRESENT A GENERAL SEQUENCE OF WORK FOR ESTIMATING AND GENERAL PLANNING PURPOSES ONLY. IT IS A GENERAL SEQUENCE GUIDELINE AND IS NOT INTENDED TO BE INCLUSIVE OF ALL TASKS REQUIRED TO COMPLETE THIS PROJECT. ACTUAL PHASING PLAN AND TASKS SHALL BE PROPOSED BY THE CONTRACTOR AFTER AWARD FOR CONTRACT AND BE INCLUDED IN THE CONTRACTOR'S CONSTRUCTION SCHEDULE FOR REVIEW AND APPROVAL BY ENGINEER/OWNER/SUCF.

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INTENT OF WORK IS TO MINIMIZE NUMBER AND DURATION OF ALL SHUTDOWNS, BY FABRICATING AS MUCH OF THE WORK AS POSSIBLE PRIOR TO CUT-INS.

GENERAL SHEET NOTES:

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8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW AND APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PROJECT PHASING WITH ARCHITECTURAL PHASING PLANS.

SHEET KEY NOTES:

(1) INTERCEPT EXISTING TO REMAIN PANELBOARD FEEDERS AT A STRATEGIC LOCATION IN BASEMENT AND TERMINATE IN JUNCTION BOX FOR FUTURE INTERCEPTION. REFER TO E-703 FOR ADDITIONAL INFORMATION.

(2) MIGRATE EXISTING TO REMAIN LIFE SAFETY RELATED LOADS TO PANEL 'LSB'. REFER TO E-703 FOR ADDITIONAL INFORMATION.

(3) PROVIDE TEMPORARY TRAILER GENERATOR TO MAINTAIN EMERGENCY POWER FOR FITZ HALL. MAINTAIN ON-SITE UNTIL THE NEW COREY UNION GENERATOR SYSTEM IS INSTALLED AND ACCEPTED BY THE CAMPUS.

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ELECTRICAL SINGLE LINE DIAGRAM

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GENERAL SHEET NOTES:

1. REFER TO E-001 FOR ELECTRICAL LEGENDS, ABBREVIATIONS AND GENERAL PROJECT NOTES.
2. REFER TO E-500 FOR RACEWAY SCHEDULE FOR APPROVED RACEWAY USAGE.
3. REFER TO E-504 THRU E-506 FOR PANELBOARD SCHEDULES.
4. REFER TO E-500 FOR BRANCH CIRCUIT SCHEDULE (BCS) FOR CIRCUIT REQUIREMENTS.
5. ALL CONDUCTORS SHALL BE THHN/THWN-2, UON.
6. INSTALLATION SHALL BE PER NECA1 GUIDELINES.
7. PROVIDE HANGERS & SUPPORTS AS REQUIRED.
8. PROVIDE GROUNDING PER NEC FOR ALL ELECTRICAL EQUIPMENT AND ASSOCIATED EQUIPMENT.
9. PROVIDE SUBMITTAL DATA FOR ALL PROPOSED HARDWARE, DEVICES, CONDUIT, HANGERS, ETC. FOR ENGINEER REVIEW AND APPROVAL PRIOR TO ORDERING.
10. ALL CONDUCTORS AND EQUIPMENT NOT SHOWN FOR CLARITY. COORDINATE WITH ALL TRADES AND PROVIDE COMPLETE ELECTRICAL CIRCUITING FOR ALL INSTALLED EQUIPMENT. ALL REQUIREMENTS TO BE PER NEC.
11. COORDINATE PROJECT PHASING WITH ARCHITECTURAL PHASING PLANS.

GENERAL PHASING NOTES:

MINIMAL ELECTRICAL DOWNTIME WILL BE ALLOWED FOR THIS FACILITY. THIS PHASING PLAN IS INTENDED TO REPRESENT A GENERAL SEQUENCE OF WORK FOR ESTIMATING AND GENERAL PLANNING PURPOSES ONLY. IT IS A GENERAL SEQUENCE GUIDELINE AND IS NOT INTENDED TO BE INCLUSIVE OF ALL TASKS REQUIRED TO COMPLETE THIS PROJECT. ACTUAL PHASING PLAN AND TASKS SHALL BE PROPOSED BY THE CONTRACTOR AFTER AWARD FOR CONTRACT AND BE INCLUDED IN THE CONTRACTOR'S CONSTRUCTION SCHEDULE FOR REVIEW AND APPROVAL BY ENGINEER/OWNER/SUCF.

ALL SHUTDOWNS MUST BE COORDINATED WITH THE OWNER, AS WORK PROGRESSES, PREPARE A METHOD OF PROCEDURE FOR EACH CRITICAL TASK SUCH AS THOSE REQUIRING CUTOVER AND DISRUPTION OF CIRCUITS. METHOD OF PROCEDURE SHALL INCLUDE DURATION OF OUTAGE OF SERVICES, SCHEDULE, RISK TO OPERATIONS AND MEANS TO REDUCE RISK. METHOD OF PROCEDURE SHALL BE SUBJECT TO REVIEW, MODIFICATION, AND APPROVAL BY THE ENGINEER.

INTENT OF WORK IS TO MINIMIZE NUMBER AND DURATION OF ALL SHUTDOWNS, BY FABRICATING AS MUCH OF THE WORK AS POSSIBLE PRIOR TO CUT-INS.

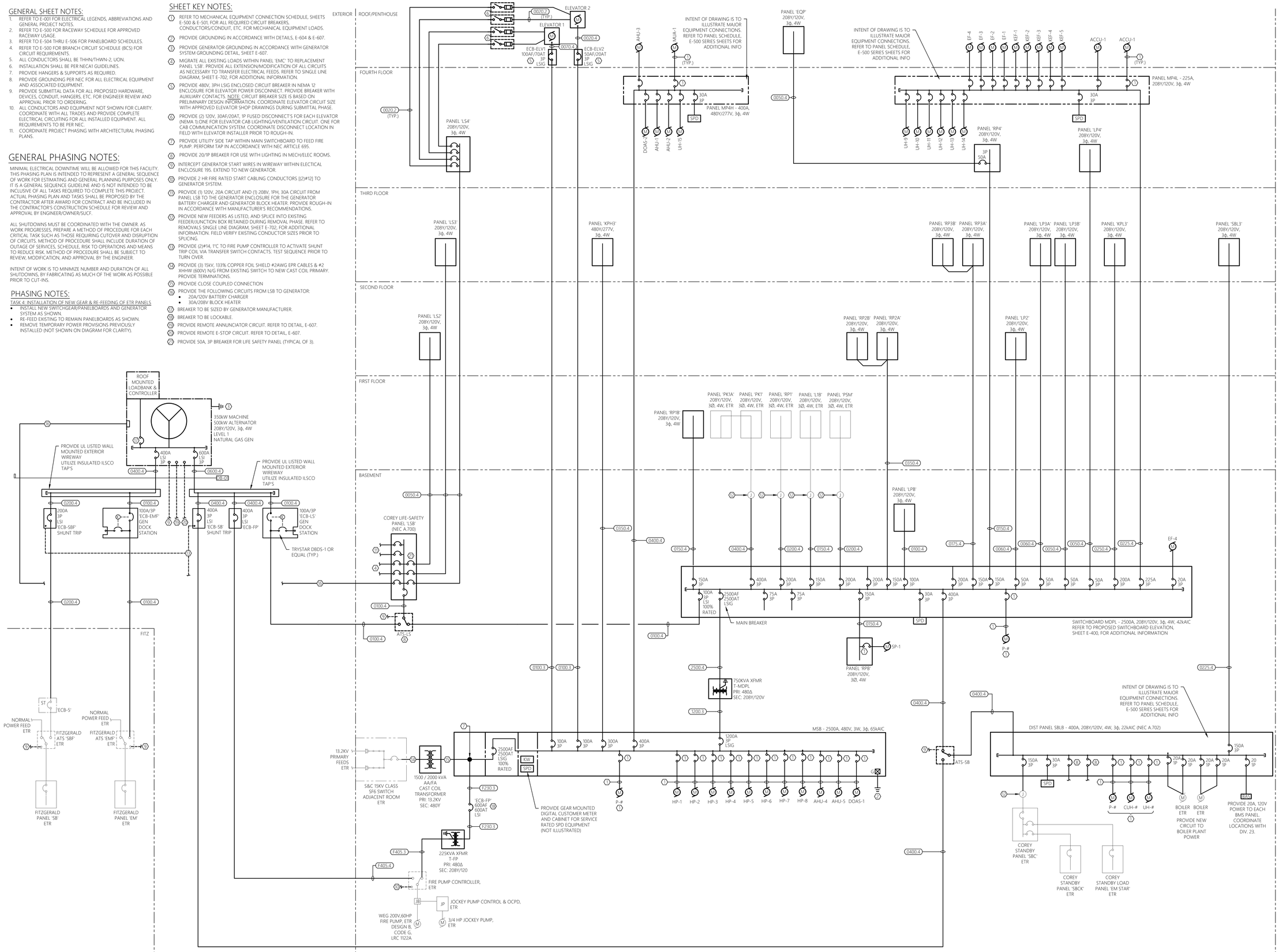
PHASING NOTES:

TASK 4: INSTALLATION OF NEW GEAR & RE-FEEDING OF ETR PANELS

- INSTALL NEW SWITCHGEAR/PANELBOARDS AND GENERATOR SYSTEM AS SHOWN.
- RE-FEED EXISTING TO REMAIN PANELBOARDS AS SHOWN.
- REMOVE TEMPORARY POWER PROVISIONS PREVIOUSLY INSTALLED (NOT SHOWN ON DIAGRAM FOR CLARITY).

SHEET KEY NOTES:

1. REFER TO MECHANICAL EQUIPMENT CONNECTION SCHEDULE, SHEETS E-500 & E-501, FOR ALL REQUIRED CIRCUIT BREAKERS, CONDUCTORS/CONDUIT, ETC. FOR MECHANICAL EQUIPMENT LOADS.
2. PROVIDE GROUNDING IN ACCORDANCE WITH DETAILS, E-604 & E-607.
3. PROVIDE GENERATOR GROUNDING IN ACCORDANCE WITH GENERATOR SYSTEM GROUNDING DETAIL, SHEET E-607.
4. MIGRATE ALL EXISTING LOADS WITHIN PANEL 'EMC' TO REPLACEMENT PANEL 'LSB'. PROVIDE ALL EXTENSION/MODIFICATION OF ALL CIRCUITS AS NECESSARY TO TRANSFER ELECTRICAL FEEDS. REFER TO SINGLE LINE DIAGRAM, SHEET E-702, FOR ADDITIONAL INFORMATION.
5. PROVIDE 480V, 3PH LSIG ENCLOSED CIRCUIT BREAKER IN NEMA 12 ENCLOSURE FOR ELEVATOR POWER DISCONNECT. PROVIDE BREAKER WITH AUXILIARY CONTACTS. NOTE: CIRCUIT BREAKER SIZE IS BASED ON PRELIMINARY DESIGN INFORMATION. COORDINATE ELEVATOR CIRCUIT SIZE WITH APPROVED ELEVATOR SHOP DRAWINGS DURING SUBMITTAL PHASE.
6. PROVIDE (2) 120V, 30AF/20AT, 1P FUSED DISCONNECT'S FOR EACH ELEVATOR (NEMA 1).ONE FOR ELEVATOR CAB LIGHTING/VENTILATION CIRCUIT. ONE FOR CAB COMMUNICATION SYSTEM. COORDINATE DISCONNECT LOCATION IN FIELD WITH ELEVATOR INSTALLER PRIOR TO ROUGH-IN.
7. PROVIDE UTILITY SIDE TAP WITHIN MAIN SWITCHBOARD TO FEED FIRE PUMP. PERFORM TAP IN ACCORDANCE WITH NEC ARTICLE 695.
8. PROVIDE 20/1P BREAKER FOR USE WITH LIGHTING IN MECH/ELEC ROOMS.
9. INTERCEPT GENERATOR START WIRES IN WIREWAY WITHIN ELECTICAL ENCLOSURE 195. EXTEND TO NEW GENERATOR.
10. PROVIDE 2 HR FIRE RATED START CABLING CONDUCTORS [(2)#12] TO GENERATOR SYSTEM.
11. PROVIDE (1) 120V, 20A CIRCUIT AND (1) 208V, 1PH, 30A CIRCUIT FROM PANEL LSB TO THE GENERATOR ENCLOSURE FOR THE GENERATOR BATTERY CHARGER AND GENERATOR BLOCK HEATER. PROVIDE ROUGH-IN IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
12. PROVIDE NEW FEEDERS AS LISTED, AND SPLICE INTO EXISTING FEEDER/JUNCTION BOX RETAINED DURING REMOVAL PHASE. REFER TO REMOVALS SINGLE LINE DIAGRAM, SHEET E-702, FOR ADDITIONAL INFORMATION. FIELD VERIFY EXISTING CONDUCTOR SIZES PRIOR TO SPLICING.
13. PROVIDE (2)#14, 1"C TO FIRE PUMP CONTROLLER TO ACTIVATE SHUNT TRIP COIL VIA TRANSFER SWITCH CONTACTS. TEST SEQUENCE PRIOR TO TURN OVER.
14. PROVIDE (3) 15kV, 133% COPPER FOIL SHIELD #2AWG EPR CABLES & #2 XHHW (600V) N/G FROM EXISTING SWITCH TO NEW CAST COIL PRIMARY. PROVIDE TERMINATIONS.
15. PROVIDE CLOSE COUPLED CONNECTION
16. PROVIDE THE FOLLOWING CIRCUITS FROM LSB TO GENERATOR:
    - 20A/120V BATTERY CHARGER
    - 30A/208V BLOCK HEATER
17. BREAKER TO BE SIZED BY GENERATOR MANUFACTURER.
18. BREAKER TO BE LOCKABLE.
19. PROVIDE REMOTE ANNUNCIATOR CIRCUIT. REFER TO DETAIL, E-607.
20. PROVIDE REMOTE E-STOP CIRCUIT. REFER TO DETAIL, E-607.
21. PROVIDE 50A, 3P BREAKER FOR LIFE SAFETY PANEL (TYPICAL OF 3).



1 ELECTRICAL SINGLE LINE DIAGRAM
SCALE: NTS TASK 4

FILE PATH:

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JSE
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Drawn By: BCW
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Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-703
ELECTRICAL SINGLE LINE DIAGRAM

NOVEMBER 16, 2026
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FIRE ALARM SYSTEM LEGEND

FIRE ALARM DEVICES

CEILING-MOUNTED DEVICES:

- SPEAKER/STROBE (WHITE DEVICE, CLEAR LENS) CEILING MOUNTED (15cd UNLESS OTHERWISE NOTED)
- STROBE ONLY (WHITE DEVICE, CLEAR LENS) CEILING MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- SPEAKER ONLY CEILING MOUNTED.

WALL-MOUNTED DEVICES:

- SPEAKER/STROBE (WHITE DEVICE, CLEAR LENS) WALL MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- STROBE ONLY (WHITE DEVICE, CLEAR LENS) WALL MOUNTED. (15cd UNLESS OTHERWISE NOTED)
- SPEAKER ONLY (WHITE DEVICE), WALL MOUNTED.

FIRE ALARM EQUIPMENT

- FR — FAN/UNIT SHUTDOWN RELAY MODULE
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM ANNUNCIATOR PANEL
- FAM — ADDRESSABLE INTERFACE MODULE
- NAC — STROBE APPLIANCE POWER SUPPLY
- MNS — VOICE AMPLIFICATION PANEL
- FATC — FIRE ALARM TERMINAL CABINET

INITIATION DEVICES

- F — FIRE ALARM PULL STATION
- SD — FIRE ALARM SMOKE DETECTOR - PHOTOELECTRIC TYPE
- HD 135°F — FIRE ALARM HEAT DETECTOR - FIXED HEAD 135°F
- HD — FIRE ALARM HEAT DETECTOR - RATE OF RISE
- DS S R — DUCT MOUNTED SMOKE DETECTOR "S" DENOTES - MOUNT ON SUPPLY SIDE "R" DENOTES - MOUNT ON RETURN SIDE
- SD ELV — FIRE ALARM SMOKE DETECTOR - ELEVATOR RECALL
- FATS — FIRE ALARM TAMPER SWITCH
- FAFS — FIRE ALARM FLOW SWITCH

GAS & CO EQUIPMENT

- COD — CARBON MONOXIDE DETECTOR ONLY. PROVIDE ADDRESSABLE MODULE FOR INTERFACE WHEN NECESSARY.

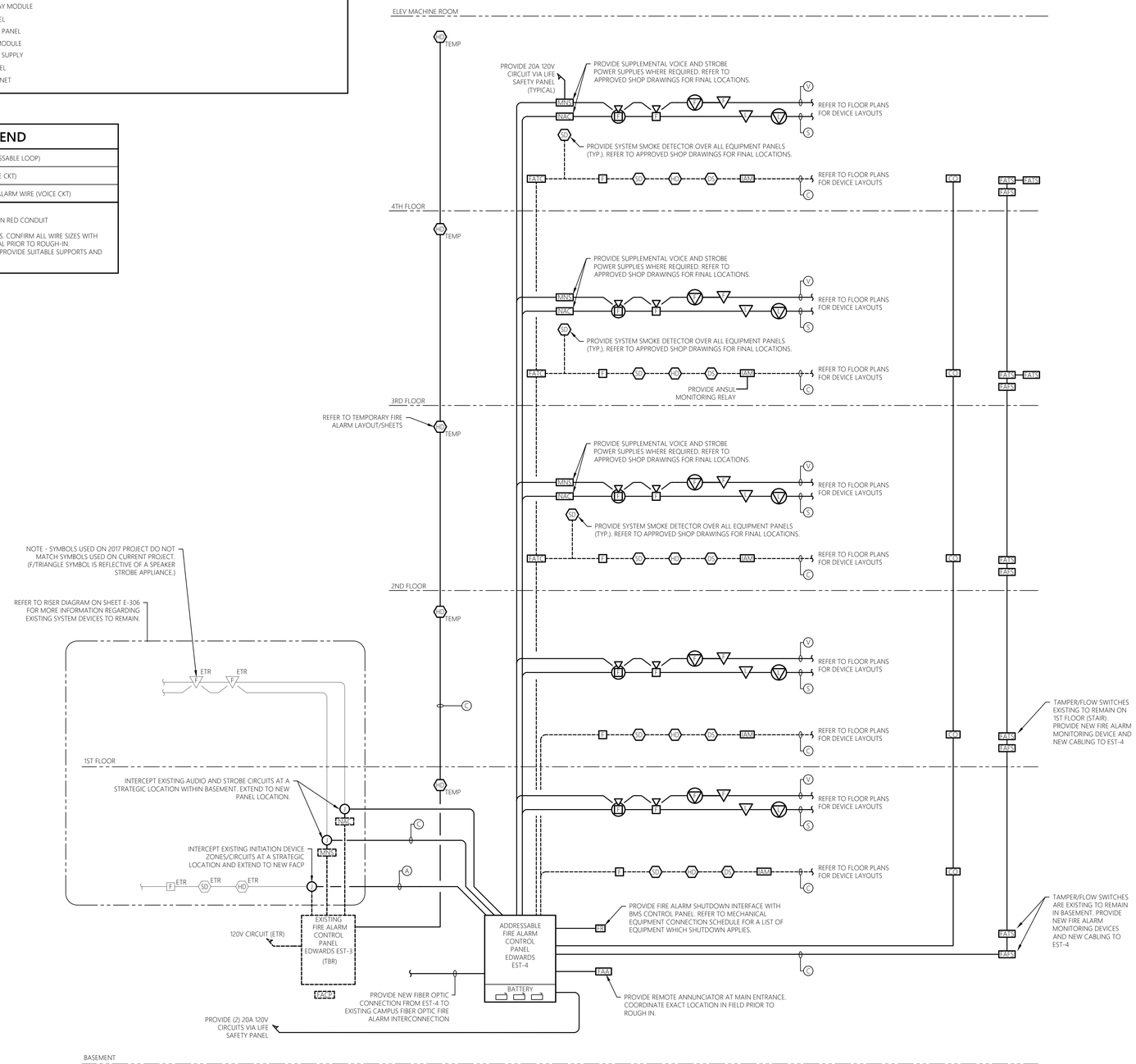
WIRING LEGEND

C	1 PAIR #16AWG FIRE ALARM WIRE (ADDRESSABLE LOOP)
S	1 PAIR #14AWG FIRE ALARM WIRE (STROBE CKT)
V	1 PAIR TWISTED/SHIELDED #14AWG FIRE ALARM WIRE (VOICE CKT)

GENERAL CABLING NOTES:
1. ALL FIRE ALARM CABLE SHALL BE INSTALLED WITHIN RED CONDUIT
2. ALL WIRING TO COMPLY WITH NEC ARTICLE 760.
3. WIRE SIZES SHOWN ABOVE ARE PRELIMINARY SIZES. CONFIRM ALL WIRE SIZES WITH FIRE ALARM APPROVED SHOP DRAWING/SUBMITTAL PRIOR TO ROUGH-IN.
4. TEMP CABLING MAY BE RUN WITHOUT RACEWAY. PROVIDE SUITABLE SUPPORTS AND PROTECT CABLE DURING CONSTRUCTION.

PERFORMANCE REQUIREMENT

PROVIDE TEMPORARY HEAT DETECTORS THROUGHOUT PROJECT BOUNDARY & MAINTAIN UNTIL NEW SYSTEM HAS BEEN TESTED AND IS READY FOR USE. REFER TO SHEETS E-305 & E-306 FOR TEMPORARY HEAT DETECTOR LAYOUT. REMOVE TEMPORARY HEAT DETECTORS AND ASSOCIATED CABLING AFTER NEW SYSTEM IS COMMISSIONED.



2 PARTIAL FIRE ALARM RISER DIAGRAM
SCALE: NOT TO SCALE

FIRE ALARM VENDOR:

1. PROJECT PARTS/SMARTS/PROGRAMMING SHALL BE SUPPLIED BY EVERON SOLUTIONS. PROJECT QUOTE HAS BEEN SUPPLIED TO SUCF. CONTRACTOR SHALL WORK WITH EVERON SOLUTIONS TO MEET THE CONTRACT REQUIREMENTS.
2. ALL ROUGH-IN, CABLING, CONDUIT, BOXES, PANEL/DEVICE/APPLIANCE INSTALLATION SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR. INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE APPROVED EVERON DIV. 28 SUBMITTALS.

FIRE ALARM DETAIL NOTES:

1. ALL STROBES AND COMBINATION HORN/STROBE LIGHTS SHALL BE SET TO 15 CANDELA UNLESS NOTED OTHERWISE.
2. ALL WIRING SHALL BE AS REQUIRED FOR COMPLETE AND OPERABLE SYSTEM AND SHALL BE PER MANUFACTURERS RECOMMENDATIONS.
3. RISER DIAGRAM IS SCHEMATIC IN NATURE AND DOES NOT REFLECT ACTUAL QUANTITIES OF DEVICES REQUIRED OR SHALL ALL REQUIRED EQUIPMENT NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM. REFER TO PLAN SHEETS FOR DEVICE QUANTITIES. SEVERAL SHOP DRAWINGS SHALL BE REQUIRED TO COMPLETE PROPOSED DESIGN. PROVIDE PROGRAMMING FOR ALL NEW DEVICES.
4. PROVIDE BATTERY BACK-UP CAPABILITY IN ACCORDANCE WITH NFPA 70 IN THE EVENT OF UTILITY POWER FAILURE.
5. THE FIRE ALARM SYSTEM SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 70-2019 EDITION AND LOCAL JURISDICTION REQUIREMENTS.

QUALIFICATIONS OF INSTALLER:

1. LICENSED IN THE STATE OF NEW YORK TO INSTALL FIRE ALARM SYSTEMS.
2. UTILIZE SYSTEM MANUFACTURER AUTHORIZED AND FACTORY TRAINED/CERTIFIED TECHNICIANS. TECHNICIANS SHALL BE CERTIFIED NICET LEVEL III FIRE ALARM LAYOUT TECHNICIANS TO SUPERVISE LAYOUT AND INSTALLATION. THE TECHNICIAN(S) SHALL BE ON SITE FOR SUPERVISION OF THE INSTALLATION AND TESTING OF THE SYSTEM. MEET ALL APPLICABLE LICENSING AND CERTIFICATION REQUIREMENTS.

REQUIRED DOCUMENTATION:

THE FOLLOWING IS TO BE SUBMITTED TO THE DIRECTOR'S REPRESENTATIVE AND LOCAL AHJ FOR REVIEW AND RECORD KEEPING:

1. NYS DEPARTMENT OF STATE LICENSE TO INSTALL FIRE ALARM SYSTEMS AND NICET CERTIFICATION.
2. CERTIFICATION FROM THE FIRE ALARM EQUIPMENT MANUFACTURER THAT ALL EQUIPMENT AND DEVICES ARE UL LISTED
3. ELECTRICAL LOAD AND POWER SUPPLY CALCULATIONS: CALCULATIONS USING ACTUAL AMPERAGE LOADS FOR EACH DEVICE DURING STANDBY AND ALARM CONDITIONS.
4. BATTERY CALCULATIONS
5. CONDUCTOR TYPE AND SIZES
6. VOLTAGE DROP CALCULATIONS
7. DRAWINGS/SCHEDULES:
   - FLOOR PLANS - ALL EQUIPMENT AND DEVICE LOCATIONS
   - TYPICAL WIRING DIAGRAMS - FOR EACH DEVICE SHOWING TERMINATION IDENTIFICATIONS, SIZE AND TYPE OF CONDUCTORS.
   - SYSTEM RISER DIAGRAMS - NUMBER, SIZE AND TYPE OF RISER RACEWAYS AND CONDUCTORS IN EACH RISER RACEWAY AND NUMBER OF EACH DEVICE. INCLUDE POINT TO POINT WIRING, ADDRESS AND EXACT LABEL DESCRIPTION OF EACH ADDRESSABLE DEVICE.
   - SYSTEM INPUT/OUTPUT SEQUENCE OF OPERATION

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Drawn By:	CCH
Checked By:	BCW
Project Manager:	

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SUCF Project No. 041046-00

E-704

ELECTRICAL FIRE ALARM RISER

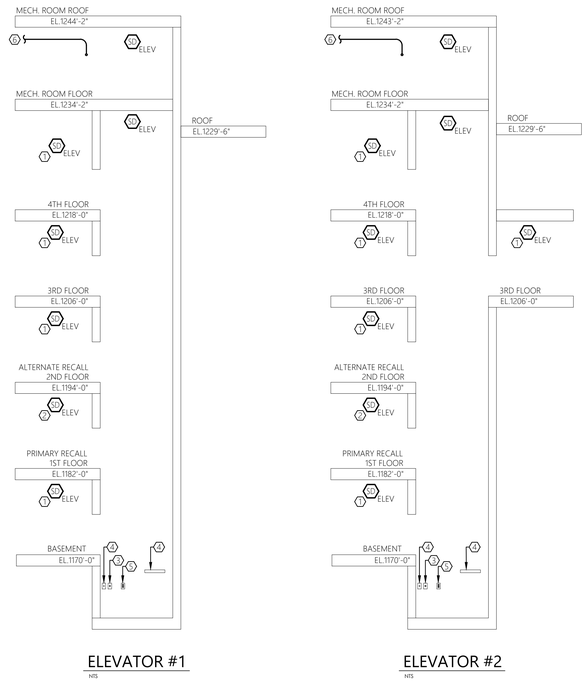
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FIRE ALARM & DETECTION SYSTEM RESPONSE CHART

SYSTEM INPUTS	ANNUNCIATION			NOTIFICATION									CONTROL				
	ACTUATE AUDIBLE ALARM SIGNAL ON ANNUNCIATOR	ACTUATE SUPERVISORY INDICATOR ON ANNUNCIATOR	ACTUATE TROUBLE SIGNAL INDICATOR ON ANNUNCIATOR	INITIATE CARBON MONOXIDE EVACUATION MESSAGE	INITIATE FIRE ALARM GENERAL ALARM EVACUATION MESSAGE	ACTUATE FIRE HAT WARNING LIGHT IN CAR & LOBBY (CONTINUOUS)	ACTUATE FIRE HAT WARNING LIGHT IN CAR & LOBBY (FLASHING)	TRANSMIT ALARM SIGNAL TO CENTRAL STATION	TRANSMIT TROUBLE SIGNAL TO CENTRAL STATION	TRANSMIT SUPERVISORY SIGNAL TO CENTRAL STATION	ACTIVATE EXTERIOR FIRE ALARM FLOW BELL	ACUATE RESPECTIVE FAN SUTDOWN	SHUT DOWN ALL AIR HANDLERS/DOAS AND EXHAUST FANS & CLOSE FIRE/SMOKE DAMPERS.	ACTUATE ELEVATOR RECALL (PRIMARY)	ACTUATE ELEVATOR RECALL (ALTERNATE)	SHUNT TRIP ELEVATOR BREAKER
MANUAL ALARM BOX (PULL STATION)	●				●			●					●				
SMOKE DETECTOR	●				●			●					●				
SMOKE DETECTOR - ELEVATOR LOBBY - MAIN RECALL FLOOR (1ST FLOOR)	●				●	●		●					●		●		
SMOKE DETECTOR - ELEVATOR LOBBY - ALL EXCEPT MAIN RECALL FLOOR	●				●	●		●					●	●			
SMOKE/HEAT DETECTOR - OVER ELEVATOR CONTROLLER	●				●		●	●					●				
DUCT SMOKE DETECTOR		●								●		●					
HEAT DETECTOR:	●				●			●					●				
FIRE SUPPRESSION SYSTEM FLOW SWITCH (FAFS)	●				●			●			●		●				
FIRE SUPPRESSION TAMPER SWITCH (FATS)			●						●								
FACP PRIMARY POWER (AC) FAILURE		●								●							
FACP LOW BATTERY			●						●								
NAC SHORT CIRCUIT			●						●								
OPEN CIRCUIT			●						●								
GROUND FAULT			●						●								
ACTIVATION OF HEAT DETECTOR ABOVE ELEVATOR CONTROL EQUIPMENT	●				●			●					●	●			●
DRY VALVE LOW/HIGH PRESSURE SWITCH		●								●							
CARBON MONOXIDE (CO) DETECTOR ACTIVATION		●		●													



ELEVATOR #1
NTS

ELEVATOR #2
NTS

1 ELEVATOR PARTIAL RISER DIAGRAM
SCALE: NTS

GENERAL NOTES

1. CONTRACTOR TO COORDINATE ELEVATOR PHONE ROUGH-IN/CONNECTION WITH ELEVATOR INSTALLER IN THE FIELD.
2. ALL ELEVATOR RECALL PROGRAMMING SHALL BE IN ACCORDANCE WITH ASME A17.1. COORDINATE WITH THE ELEVATOR VENDOR AND PROVIDE ALL ASSOCIATED FIRE ALARM PROGRAMMING AND ADDITIONAL FIRE ALARM CONTROL RELAYS AS REQUIRED TO SATISFY A17.1 AND LOCAL AHJ REQUIREMENTS.
3. COORDINATE ROUTING OF ALL CONDUIT IN THE ELEVATOR MACHINE ROOM AND ELEVATOR PIT WITH THE ELEVATOR INSTALLER.
4. PROVIDE TEMPORARY HEAT DETECTORS IN PLACE OF SMOKE DETECTORS IN LOBBIES/MECH ROOM/SHAFT DURING CONSTRUCTION TO PREVENT NUISANCE TRIPPING, AS NECESSARY.
5. CONTROL CIRCUITS TO SHUT DOWN ELEVATOR POWER SHALL BE MONITORED FOR THE PRESENCE OF OPERATING VOLTAGE. LOSS OF VOLTAGE TO THE CONTROL CIRCUIT FOR THE DISCONNECTING MEANS SHALL CAUSE A SUPERVISORY SIGNAL TO BE INDICATED AT THE BUILDING FIRE ALARM CONTROL UNIT.

DETAIL NOTES:

(1) IF SMOKE DETECTOR IS ACTIVATED, ELEVATOR IS TO RECALL TO MAIN RECALL FLOOR, OPEN DOOR, ACTIVATE IN-CAR WARNING LIGHT, AND INITIATE DISTINCT VISIBLE ALARM AT FACP. DETECTOR IS EXISTING TO REMAIN - PROVIDE FACP PROGRAMMING AND ASSOCIATED ELEVATOR CONTROL RELAYS.

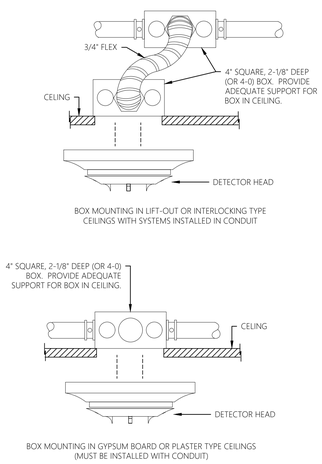
(2) IF SMOKE DETECTOR IS ACTIVATED, ELEVATOR IS TO RECALL TO ALTERNATE RECALL FLOOR, OPEN DOOR, ACTIVATE IN-CAR WARNING LIGHT, AND INITIATE DISTINCT VISIBLE ALARM AT FACP. DETECTOR IS EXISTING TO REMAIN - PROVIDE FACP PROGRAMMING AND ASSOCIATED ELEVATOR CONTROL RELAYS.

(3) ELEVATOR EMERGENCY STOP SWITCH ADJACENT TO LIGHT SWITCH IN ELEVATOR HOISTWAY PIT. PROVIDE CONNECTION (CONDUCTORS, CONDUIT, TERMINATIONS) TO ELEVATOR CONTROLLER.

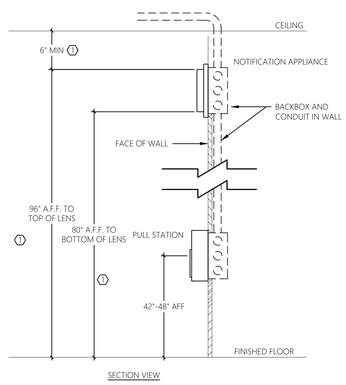
(4) PROVIDE & INSTALL NEW LIGHT FIXTURE PER FLOOR PLAN NOTES. COORDINATE FINAL FIXTURE AND SWITCH LOCATION WITH THE ELEVATOR MANUFACTURER/INSTALLER TO AVOID CONFLICT. LOCATE LIGHT SWITCH ON WALL NEAREST TO PIT ACCESS LADDER.

(5) REFER TO FLOOR PLAN FOR ELEVATOR PIT RECEPTACLE INFORMATION.

(6) FOR ELEVATOR CONTROLLER, PROVIDE (4) CAT 6, 3/4"C FOR ELEVATOR COMMUNICATIONS SYSTEM AND AND SPECIFIED CAB CAMERA SYSTEM. CONDUIT AND WIRING SHALL BE RUN FROM ELEVATOR CONTROLLER IN THE MACHINE ROOM TO THE CAMPUS DATA NETWORK IN THE 4TH FLOOR TELECOM ROOM. CONNECT WIRING TO CAMPUS NETWORK IN SERVER ROOM. COORDINATE NETWORK CONNECTION LOCATION, TERMINATION LOCATION AND TYPE AND CABLING/CONNECTION REQUIREMENTS WITH FACILITY AND ELEVATOR INSTALLER PRIOR TO ROUGH-IN.



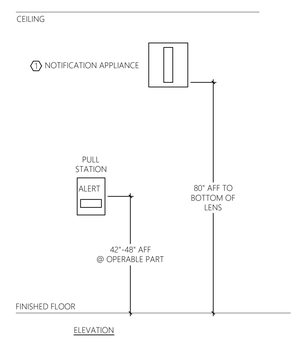
2 INSTALLATION DETAILS FOR CEILING MOUNTED FIRE ALARM DEVICES & APPLIANCES
SCALE: NTS



GENERAL DETAIL NOTES:

(1) WALL MOUNTED VISUAL APPLIANCES SHALL BE MOUNTED SO THAT NO PART OF THE LENS IS HIGHER THAN 96" AFF OR LOWER THAN 80"AFF. IF CEILING HEIGHT PREVENTS 80" AFF, THEN MOUNT SUCH THAT TOP OF LENS IS 6" BELOW CEILING. WHERE CORRIDORS ARE 20' WIDE OR LESS, MOUNT VISUAL APPLIANCES WITHIN 15' FROM END OF CORRIDOR. MAXIMUM 100' SEPARATION BETWEEN VISUAL APPLIANCES. MAXIMUM CORRIDOR LENGTH COVERED BY A SINGLE 15cd STROBE SHALL NOT EXCEED 30'.

(2) MOUNT MANUAL STATIONS WITHIN 5' OF EXIT DOORWAY OPENING.



3 INSTALLATION DETAILS FOR WALL MOUNTED FIRE ALARM DEVICES & APPLIANCES
SCALE: NTS

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Project Manager:

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Cortland, NY 13045
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SUCF Project No. 041046-00

E-705
FIRE ALARM DETAILS & RISER

NOVEMBER 16, 2026
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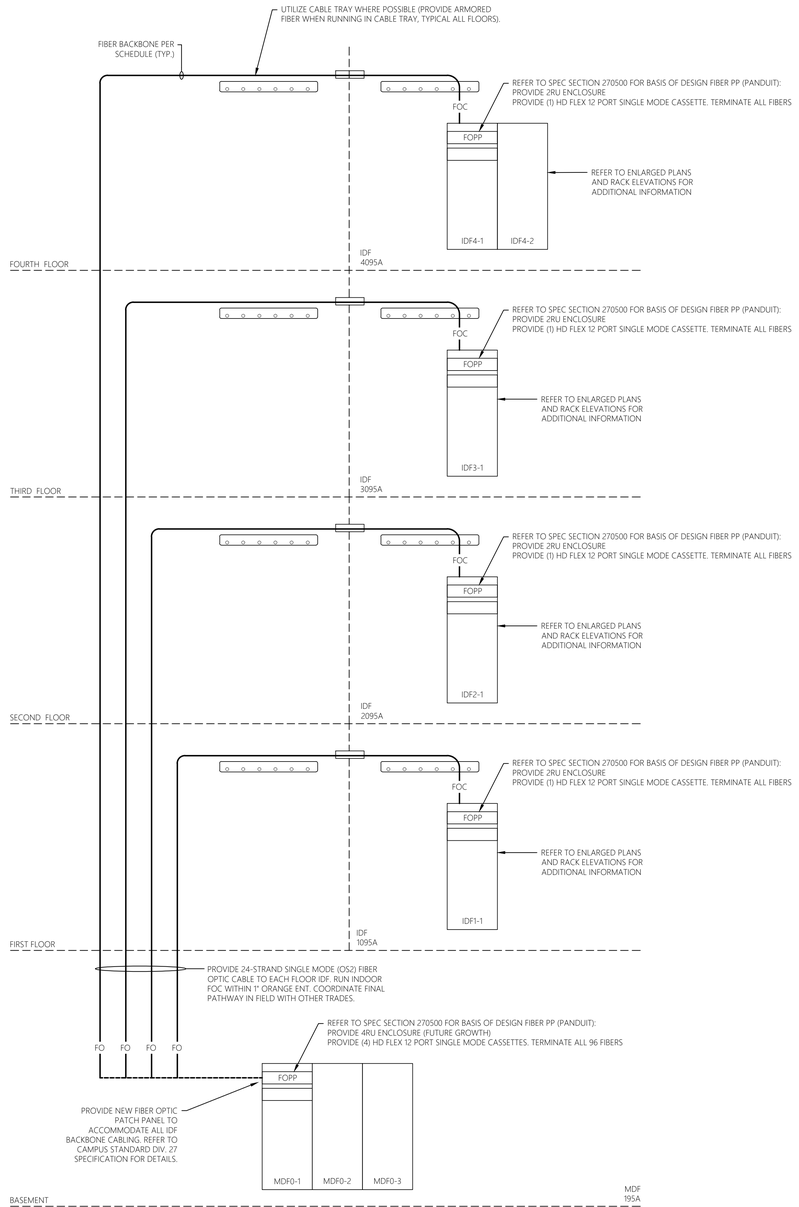
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ISP BACKBONE CABLING SCHEDULE

	CABLE TYPE						JACKET COLOR				TERMINATIONS					INSTALLATION						REMARKS
	FOC 6 SM	FOC 12 SM	FOC 24 SM	CAT 3 25-PR	CAT 3 50-PR	CAT 3 300-PR	ORANGE	YELLOW	BLACK	GRAY	SC	ST	FC	LC	110	4"C	3" EMT	2" EMT	1" EMT	CABLE TRAY	1" ORANGE PLASTIC	
FIBER			●					●						●					●		●	

REMARKS:

COORDINATE ROUTE WITH OTHER TRADES IN FIELD PRIOR TO INSTALLATION.



1 BACKBONE RISER DIAGRAM

SCALE: NOT TO SCALE

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Drawn By:	CCH
Checked By:	BCW
Project Manager:	

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103 Prospect Terrace
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E-706

ISP BACKBONE RISER DIAGRAM

NOVEMBER 16, 2026
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CABLE LEGEND

		CONTRACTOR PROVIDED	CAMPUS PROVIDED
1	BANANA MULTI-CONDUCTOR ACCESS CONTROL CABLE (WEST PENN #AC251822B OR EQUIVALENT)	X	
2	18AWG 4 CONDUCTOR (FROM MULTI-CONDUCTOR)		X
3	22AWG 6 CONDUCTOR (FROM MULTI-CONDUCTOR)		X
4	22AWG 4 CONDUCTOR (FROM MULTI-CONDUCTOR)		X
5	LOW VOLTAGE CABLING PER MANUFACTURER'S RECOMMENDATIONS		X
6	CAT6 TO MDF/IDF	X	
7	FIRE ALARM CONNECTION TO FACP (WIRING REQUIREMENTS PER FIRE ALARM VENDOR)	X	
8	(2)#12AWG & #12G	X	

EQUIPMENT LEGEND

		CONTRACTOR PROVIDED	CAMPUS PROVIDED
CR	CARD READER		X
PS	POWER SUPPLY (120V INPUT, 24V OUTPUT)	X	
J	JUNCTION	X	
EH	ELECTRIC HINGE	X	
EL	ELECTRIC LOCKSET	X	
ES	ELECTRIC STRIKE	X	
DC	DOOR CONTACTS		X
ML	MAGNETIC LOCK	X	
FR	FIRE RELAY	X	
EX	EXIT DEVICE		X
DA	DOOR ALARM	X	

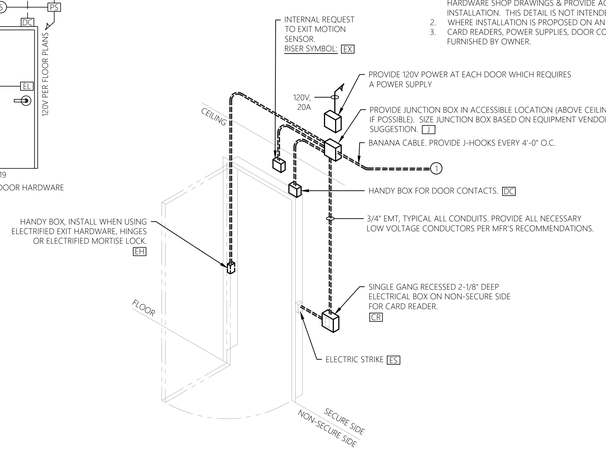
SCHEDULE NOTES:
1. REFER TO SPEC SECTION 087100 'DOOR HARDWARE' FOR ALL HARDWARE REQUIREMENTS.

ACCESS CONTROL DOOR SCHEDULE

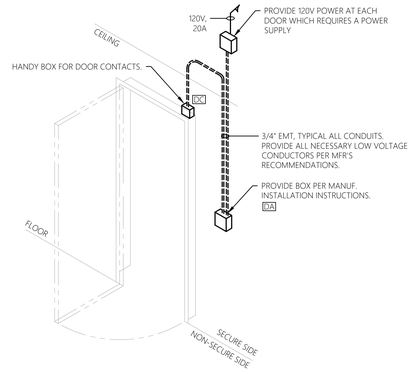
Door Number	Room Name	Equipment: Card Reader	Electric Strike	Electrified Lockset	Electrified Hinge	Request to Exit	Electrified Door Operator	Door Contacts	Alarm Device	Power Supply	Electrified Door Actuator	Remarks:
E100B	Exterior/Dance Studio						X	X	X	X		Single door. Power supply is provided with Door Management Alarm device and requires a 120v circuit to be provided to the Power Supply
199B	*Listed in Hardware Schedule, not on most recent set of Architectural Drawings*						X	X	X	X		Power supply is provided with Door Management Alarm device and requires a 120v circuit to be provided to the Power Supply
E199B	Exterior/Stair 2						X	X	X	X		Single door. Power supply is provided with Door Management Alarm device and requires a 120v circuit to be provided to the Power Supply
E199C	Exterior/Stair 3						X	X	X	X		Single door. Power supply is provided with Door Management Alarm device and requires a 120v circuit to be provided to the Power Supply
E1099A	Exterior/Stair 1							X				Single Door
1019	Cupboard	X		X	X			X		X		Single Door
103	Student Voice Storage	X		X	X			X		X		Single Door
105.1	Student Club Storage	X		X	X			X		X		Single Door
108	Storage	X		X	X			X		X		Single Door
2011	SGA Rec	X		X	X			X		X		Single Door
3013	Lockers	X		X	X			X		X		Single Door
4014C	Vice President	X		X	X			X		X		Single Door
2009	Reflection	X		X	X			X		X		Single Door
2014	CA Rec /Office	X		X	X			X		X		Single Door
2016.1	Student Club MTG RM	X		X	X			X		X		Single Door
2024	Student Voice Office	X		X	X			X		X		Single Door
4014	Student Affairs	X		X	X			X		X		Single Door
E1000B	Exterior/Corridor		X		X			X		X		Single Door
E1000C	Exterior/Corridor	X	X					X		X		Single Door
E2028	Exterior/Vestibule	X	X		X		X	X		X	X	Single Door
E1001	Exterior/Vestibule	X	X		X		X	X		X	X	Double Door
E2000.1	Exterior/Vestibule	X	X		X		X	X		X	X	Double Door
1000A	Vestibule						X				X	Double Door
2000.1	Vestibule						X				X	Double Door
E2016	Exterior/Student Club MTG. RM.					X		X				Single Door
2028.1	Vestibule						X				X	Single Door
E1007	Exterior/Dining Area					X		X				Single Door
E4097B	Exterior/Jan Closet							X				Single Door
E5099D	Exterior/Stair 4							X				Single Door
107.1	Dance Studio	X	X					X		X		Single Door

1 TYPICAL DOOR ACCESS RISER DIAGRAM
SCALE: NOT TO SCALE

CARD ACCESS CONTROL PROJECT REQUIREMENTS:
1. GENERIC ROUGH-IN REQUIREMENTS ARE ILLUSTRATED IN THE ADJACENT DETAILS. COORDINATE WITH DOOR HARDWARE SHOP DRAWINGS & PROVIDE ACTUAL ROUGH-IN REQUIRED FOR EACH SPECIFIC DOOR INSTALLATION. THIS DETAIL IS NOT INTENDED TO SHOW ALL CONDITIONS/INSTALLATION REQUIREMENTS.
2. WHERE INSTALLATION IS PROPOSED ON AN EXISTING BLOCK WALL - PROVIDE SURFACE RACEWAY/BOXES.
3. CARD READERS, POWER SUPPLIES, DOOR CONTROL PANELS, DOOR CONTACTS, REQUEST TO EXIT EQUIPMENT IS FURNISHED BY OWNER.



2 TYPICAL ACCESS CONTROL DOOR ROUGH-IN
SCALE: NOT TO SCALE



3 DOOR ALARM ROUGH IN
SCALE: NOT TO SCALE

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JADE STONE ENGINEERING

STATE OF NEW YORK
BENJAMIN C. WALLSHEIN
LICENSED PROFESSIONAL ENGINEER
085954

Drawn By: CCH
Checked By: BCW
Project Manager:

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Revisions

Renovate Corey Union
103 Prospect Terrace
Cortland, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 041046-00

E-707

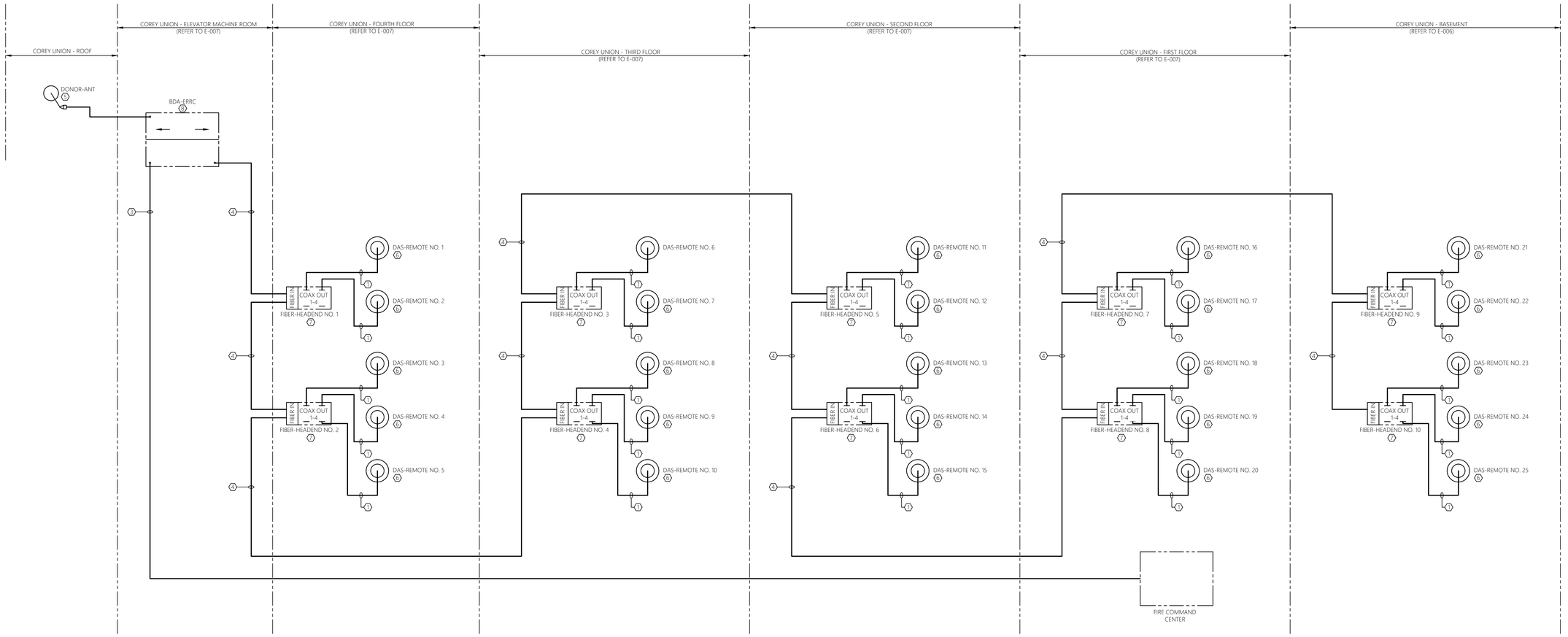
SECURITY ACCESS RISER DIAGRAM & DETAILS

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SHEET KEY NOTES:

1. (1) COAX CABLE, 3/4"C. PROVIDE AS LMR-400-FR OR APPROVED EQUAL.
2. 12-STRAND, MULTI-MODE (50 MICRON CORE / 125 MICRON CLADDING DIAMETER), FIBER OPTIC CABLE, 4"C. PROVIDE MAXCELL FABRIC INNERDUCT WITH 4" CONDUIT. PROVIDE AS MAXCELL 4" 4-CELL PRODUCT. INSTALL PROPOSED FIBER OPTIC CABLE WITHIN 1-CELL OF THE PROPOSED INNERDUCT. FIBER OPTIC CABLE TO BE CONTINUOUS (NO SPLICE) AND SUITABLE FOR INDOOR/OUTDOOR APPLICATIONS, ALONG WITH SUITABLE FOR DIRECT BURIAL APPLICATIONS. FIBER OPTIC CABLE TO BE MODEL CLEARCURVE AS MANUFACTURED BY CORNING OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW DURING SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. (1) CAT 6A PREMIUM ETHERNET CABLE, 3/4" C. PROVIDE AS PLENUM RATED WITH 4 BONDED PAIRS. TO BE BELDEN #3633 OR APPROVED EQUAL.
4. 12-STRAND, MULTI-MODE (50 MICRON CORE / 125 MICRON CLADDING DIAMETER), FIBER OPTIC CABLE, 4"C. PROVIDE MAXCELL FABRIC INNERDUCT WITH 4" CONDUIT. PROVIDE AS MAXCELL 4" 4-CELL PRODUCT. INSTALL PROPOSED FIBER OPTIC CABLE WITHIN 1-CELL OF THE PROPOSED INNERDUCT. FIBER OPTIC CABLE TO BE CONTINUOUS (NO SPLICE) AND SUITABLE FOR INDOOR/OUTDOOR APPLICATIONS, ALONG WITH SUITABLE FOR DIRECT BURIAL APPLICATIONS. FIBER OPTIC CABLE TO BE MODEL CLEARCURVE AS MANUFACTURED BY CORNING OR APPROVED EQUAL. SUBMIT PRODUCT DATA TO ENGINEER FOR REVIEW DURING SUBMITTAL PHASE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. DONOR ANTENNA. PROVIDE AS COMBA AO-700/800-OMNI, 6 DBI, LIGHTING-PROTECTED, WITH ROOF MOUNT, OR APPROVED EQUAL.
6. DAS REMOTE ANTENNA. PROVIDE AS COMBA RDU-800 WITH CEILING MOUNT, OR APPROVED EQUAL.
7. FIBER HEAD-END/SPLITTER. PROVIDE AS COMBA RH7W22R783348, 4-PORT, OR APPROVED EQUAL.
8. BDA. PROVIDE AS WESTELL GRANITECORE CSG-700/800, WITH 12-HOUR UPS, WITHIN NEMA 4 ENCLOSURE, OR APPROVED EQUAL.



1 EMERGENCY RESPONDER RADIO SYSTEM RISER DIAGRAM
SCALE: NOT TO SCALE

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Checked By:	BCW
Project Manager:	

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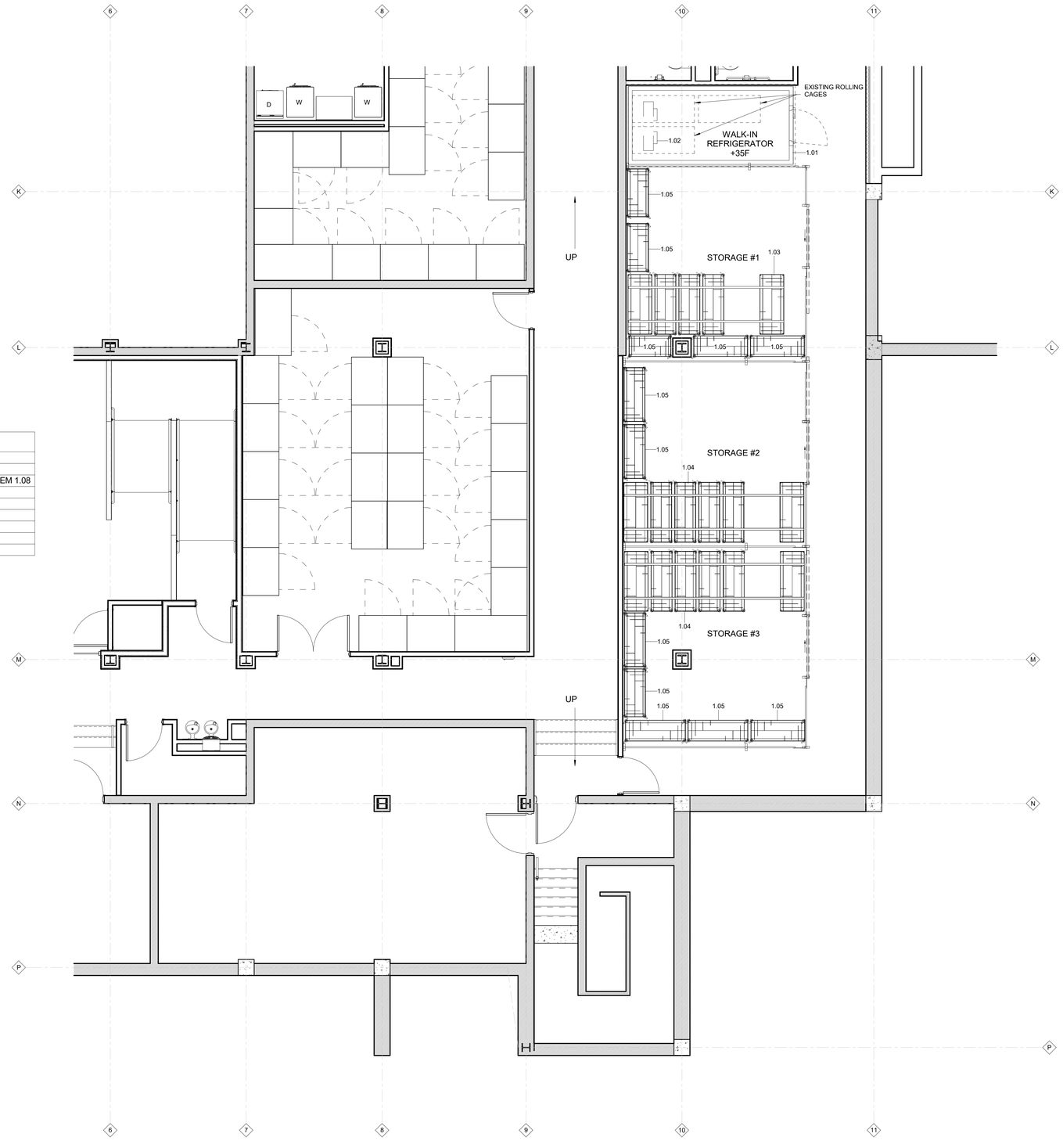
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EMERGENCY RESPONDER RADIO SYSTEM RISER DIAGRAM

NOVEMBER 16, 2026

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Equipment Schedule - Basement					
Item	QTY	Description	CFCI	OFCI	Schedule Remarks
1.01	1	WALK-IN COOLER	X		
1.02	1	EVAPORATOR COIL, +35F	X		CONNECTED TO REMOTE REFRIGERATION SYSTEM, ITEM 1.08
1.03	1	HIGH DENSITY SHELVING		X	
1.04	2	HIGH DENSITY SHELVING		X	
1.05	12	SHELVING, UNIT		X	
1.06	1	OPEN NUMBER			
1.07	1	OPEN NUMBER			
1.08	1	REMOTE REFRIGERATION SYSTEM	X		CONNECTED TO EVAPORATOR COIL, ITEM 1.02

CFCI = CONTRACTOR FURNISHED, CONTRACTOR INSTALLED

OFCI = OWNER FURNISHED, CONTRACTOR INSTALLED

REMOTE REFRIGERATION SYSTEM



OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION

1 QF-101 Equipment Plan - Basement Level
1/4" = 1'-0"

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Issue Date: 11/16/26
Registration Expires: 11/30/27

Drawn By: CULINARY ADVISORS
Checked By:CULINARY ADVISORS
Project Manager: RJZ

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QF-101
FOODSERVICE EQUIPMENT PLAN - BASEMENT

NOVEMBER 16, 2026
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ELECTRICAL NOTES

1. SERVICES FOR CLOCK OUTLETS, TELEPHONE AND COMPUTER CONDUITS, HVA/C SYSTEMS AND ROOM LIGHTING ARE SHOWN ON ARCHITECTURAL/ELECTRICAL DRAWINGS. SOME CONVENIENCE OUTLETS HAVE BEEN SHOWN ON THE FOODSERVICE EQUIPMENT PLANS.

2. THE ELECTRICAL DIVISION IS RESPONSIBLE FOR:

   A. ALL WIRING, FITTINGS, AND LABOR, UP TO AND INCLUDING FINAL CONNECTIONS.

   B. INTERWIRING VENTILATOR, FIRE PROTECTION, WASTE DISPOSERS, REMOTE REFRIGERATION, AND DETERGENT PUMPING SYSTEMS.

   C. PROVISION OF AREA SUB-PANELS IN LIEU OF DISCONNECT SWITCHES, WHEREVER POSSIBLE.

   D. PROVISION OF ALL EXPOSED HARDWARE AND FIXTURES IN CHROME OR STAINLESS STEEL.

   E. COORDINATION OF PANELBOARDS WITH EQUIPMENT LOCATIONS AND REQUIREMENTS.

   F. PROVISION OF SHUNT-TRIP BREAKERS FOR COOKING EQUIPMENT AS REQUIRED.

   G. EMPTY CONDUITS FOR CONTROL/COMPUTER WIRING AS REQUIRED.

3. ALL ELECTRICAL WORK WITHIN FABRICATED EQUIPMENT WILL BE BY THE CONTRACTOR, READY FOR FINAL, SINGLE POINT CONNECTION UNLESS OTHERWISE NOTED.

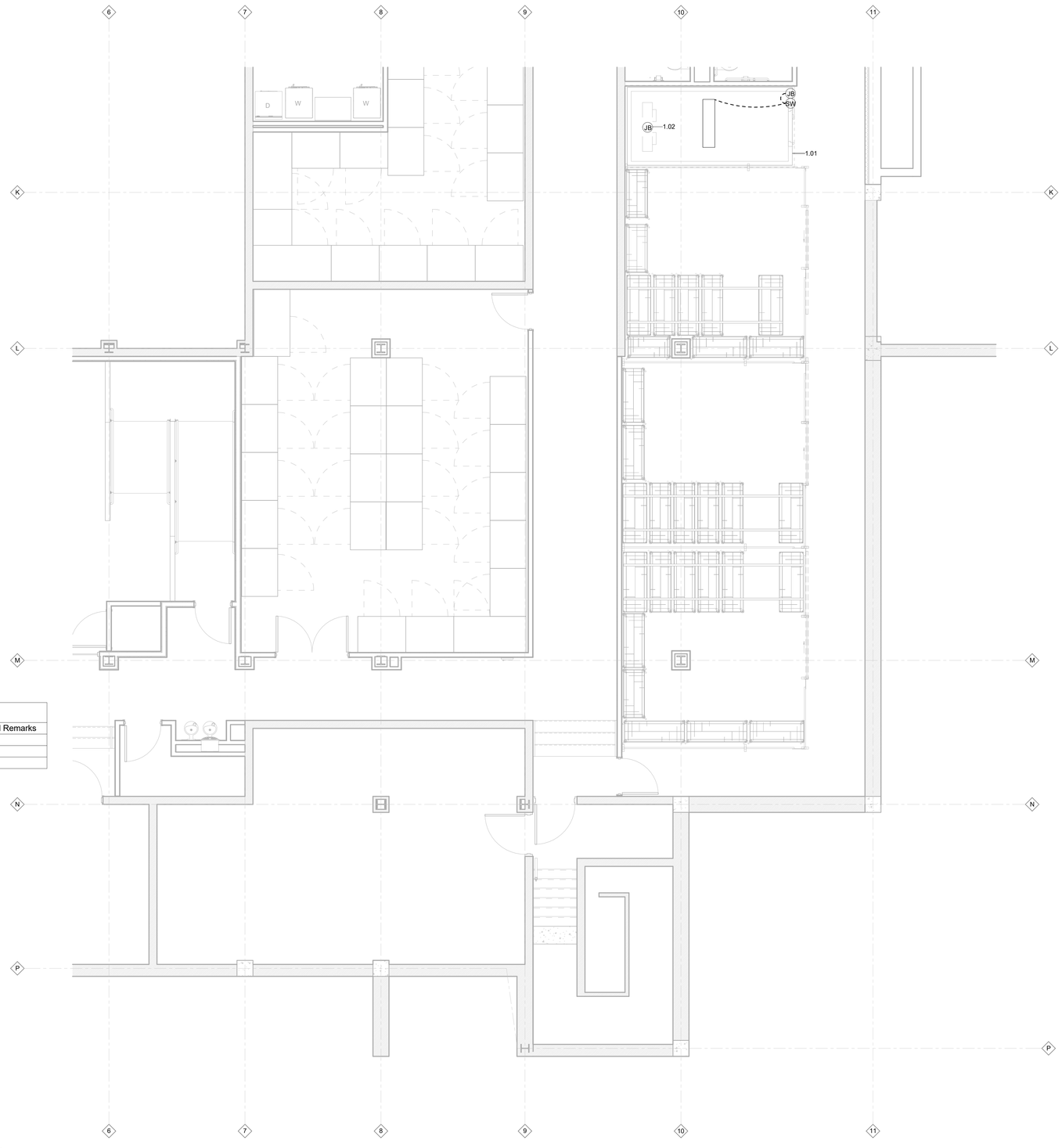
4. FUTURE EQUIPMENT CONNECTIONS ARE TO BE COMPLETELY ROUGHED-IN AND WIRED, BUT WITH COVERPLATES FOR FUTURE USE.

5. PROVIDE CONVENIENCE OUTLETS ON WALLS THROUGHOUT THE FOODSERVICE FACILITY, EXCEPT ABOVE DEEP SINKS OR DISHWASHING EQUIPMENT. OUTLETS ABOVE COUNTERS AND WORK TABLES SHOULD BE 48" ABOVE THE FLOOR WHERE COUNTERS OR TABLES ARE ON A WALL. OUTLETS ON OPEN RUNS OF WALL SHOULD BE 18" ABOVE THE FLOOR. GENERALLY, OUTLETS SHOULD BE SPACED EVERY 6'-0", WITH MINIMUM OF TWO (2) OUTLETS ABOVE ANY COUNTER OR WORK TABLE. TWO OUTLETS PER 20 AMP CIRCUIT IS ACCEPTABLE. SEE ELECTRICAL DRAWINGS FOR ANY ADDITIONAL OUTLETS.

6. DROP CORDS SHALL BE LOCATED GENERALLY WHERE THEY ARE SHOWN ON OUR FOODSERVICE ELECTRICAL SPOT CONNECTION PLAN(S). DROP CORDS AT REST SHALL BE 6'-8" AFF WHEN OVER OPEN FLOOR SPACE OR MOBILE TABLES OR COUNTERS AND 6'-0" WHEN ABOVE STATIONARY TABLES OR COUNTERS. IF DROP CORDS ARE LOCATED FOR THE SOLE PURPOSE OF PROVIDING POWER TO TALL ITEMS OF EQUIPMENT, THEY SHALL HANG AT A HEIGHT APPROPRIATE TO THE EQUIPMENT. SEE ELECTRICAL DRAWINGS FOR ANY ADDITIONAL OUTLETS.

ELECTRICAL SYMBOLS AND ABBREVIATIONS

Single Receptacle	SR	(SR)
Duplex Receptacle	DR	(DR)
Switch	SW	(SW)
Junction Box	JB	(JB)
Drop Cord From Ceiling	DC	(DC)
Data/Commuications	DA	(DA)
Electrical Connection	EC	(EC)
Control Wiring Interconnection	IC	(IC)
Empty Junction Box	EJ	
Amp	A	
Kilowatt	KW	
Horsepower	HP	
Volt	V	
Phase	PH	
Above Finished Floor	AFF	
Down from Above	DFA	



Electrical Utility Load Schedule - Basement

Item	Qty	Description	Elec Conn	AFF	Volts	PH	FL Amps	Electrical Remarks
1.01	1	WALK-IN COOLER	JB	102"	120	1	10.0	LIGHTS
1.02	1	EVAPORATOR COIL, +35F	JB	102"	120	1	1.8	
1.08	1	REMOTE REFRIGERATION SYSTEM	JB	12"	208	1	7.3	

REMOTE REFRIGERATION SYSTEM



OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION

1 / QF-102 Electrical Spot Connection Plan - Basement Level
1/4" = 1'-0"

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Checked By: CULINARY ADVISORS
Project Manager: RJZ

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QF-102

ELECTRICAL SPOT CONN. PLAN & UTIL LOAD SCHED - BASEMENT

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PLUMBING / VENTILATION NOTES

1. SERVICES SHOWN RELATE TO FOOD SERVICE EQUIPMENT REQUIREMENTS ONLY.
2. THE PLUMBING/MECHANICAL DIVISIONS ARE RESPONSIBLE FOR:

   A. ALL WATER, WASTE, SERVICE TO EQUIPMENT INCLUDING PIPING, FITTING, SLEEVES, STOPS, VALVES, TRAPS, CLEANOUTS, INSULATION, AND HARDWARE UP TO AND INCLUDING FINAL CONNECTIONS.

   B. PROVISION OF ALL EXPOSED PIPING AND FITTINGS IN CHROME OR STAINLESS STEEL, ALL OTHERS PAINTED WITH TWO COATS SILVER.

   C. INDIVIDUALLY VALVING EACH SUPPLY CONNECTION.

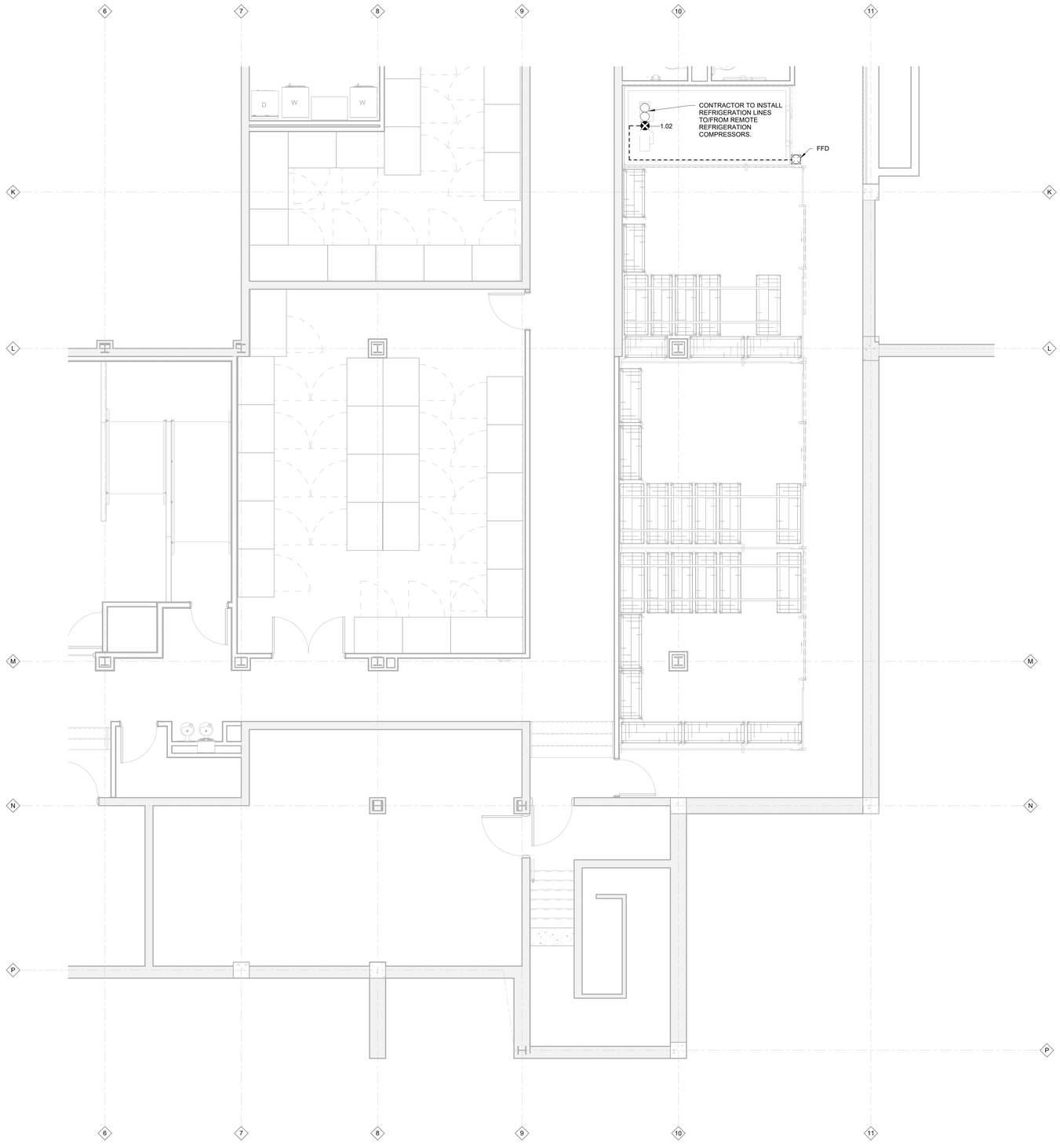
   F. INDIRECT WASTE LINES FROM WALK-IN REFRIGERATOR/FREEZER COILS IN COPPER; INCLUDING 15 WATT-PER LINEAL-FOOT HEAT TAPE AND INSULATION INSIDE FREEZERS, LINES SECURELY FASTENED 3/4" CLEAR OF WALLS.

PLUMBING SYMBOLS AND ABBREVATIONS

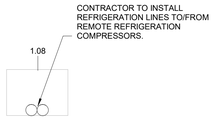
Gas	G
British Thermal Units (000s)	MBTU
Cold Water	CW
Hot Water	HW
Cooling Tower Water	CTW
Cooling Tower Water Return	CTWR
Waste	W
Indirect Waste	IW
Air Gap Waste	AGW
Funnel Floor Drain	FFD
Floor Drain	FD
Floor Sink	FS
Grease Trap	GT
Steam Supply	SS
Condensate Return	CR
Compressed Air	AIR
Refrigeration Line	REF
Down From Above	DFA
Above Finished Floor	AFF

Plumbing Utility Load Schedule - Basement

Item	Qty	Description	CW Size	CW AFF	HW Size	HW AFF	IW Size	IW AFF	DW Size	DW AFF	Plumbing Remarks
1.02	1	EVAPORATOR COIL, +35F					3/4"	102"			



REMOTE REFRIGERATION SYSTEM



OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION

1 / QF-103 Plumbing Spot Connection Plan - Basement Level
1/4" = 1'-0"

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FOODSERVICE PLUMBING SPOT CONN. PLAN & UTIL LOAD SCHED

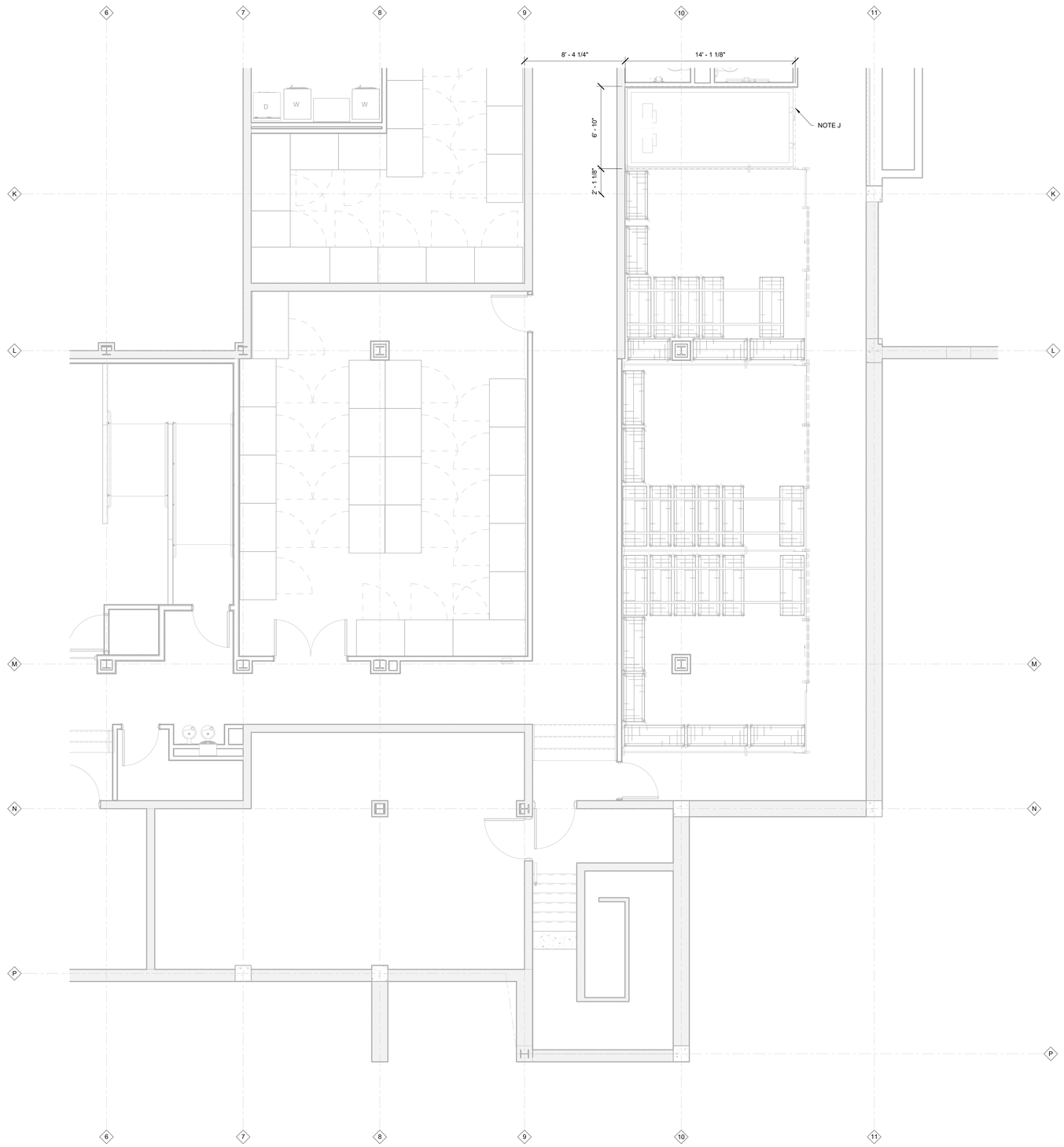
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SPECIAL CONDITIONS NOTES
NOTE A: NOT USED
NOTE B: NOT USED
NOTE C: NOT USED
NOTE D: NOT USED
NOTE E: NOT USED
NOTE F: NOT USED
NOTE G: NOT USED
NOTE H: NOT USED
NOTE I: NOT USED
NOTE J: CONTRACTOR SHALL INSTALL WALK-IN PER DETAIL W.3.
NOTE K: NOT USED
NOTE L: NOT USED
NOTE M: NOT USED
NOTE N: NOT USED
NOTE O: NOT USED
NOTE P: NOT USED
NOTE Q: NOT USED
NOTE R: NOT USED
GENERAL NOTE: CONTRACTOR TO COORDINATE ALL EQUIPMENT LEGS WITH FLOOR DRAIN AND FLOOR TROUGH LOCATIONS.

SOME NOTES MAY NOT BE USED
SEE STANDARD DETAILS SHEET FOR DETAILS



1 QF-104 Special Conditions Plan - Basement Level
1/4" = 1'-0"

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Checked By: CULINARY ADVISORS
Project Manager: RJZ

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QF-104

FOODSERVICE SPECIAL CONDITIONS PLAN - BASEMENT LEVEL

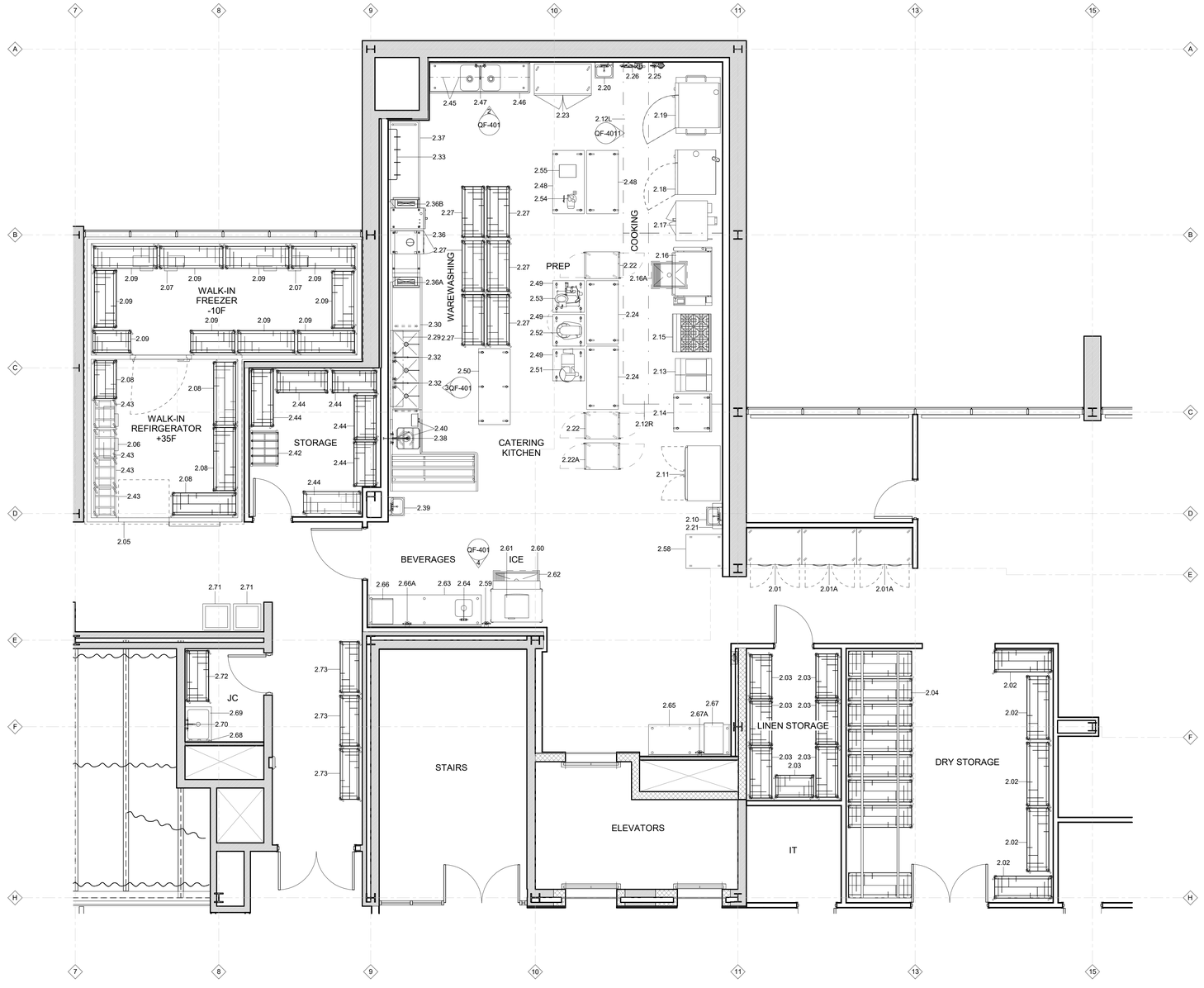
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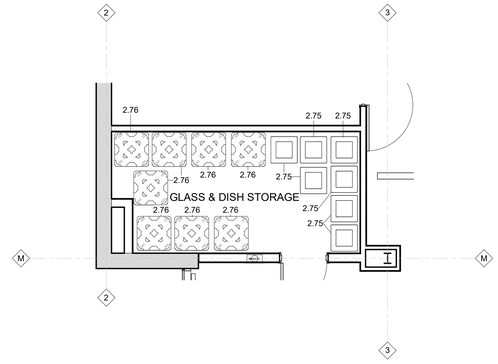
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Equipment Schedule - Third Floor					
Item	QTY	Description	CFCI	OFCI	Schedule Remarks
2.01	1	REFRIGERATOR, REACH-IN		X	
2.01A	2	REFRIGERATOR, REACH-IN		X	EXISTING / TO BE RELOCATED
2.02	5	SHELVING, UNIT		X	
2.03	7	SHELVING, UNIT		X	
2.04	1	HIGH DENSITY SHELVING		X	
2.05	1	WALK-IN COOLER	X		
2.06	1	EVAPORATOR COIL, +35F	X		CONNECTED TO REMOTE REFRIGERATION SYSTEM, ITEM 3.01
2.07	2	EVAPORATOR COIL-10F	X		CONNECTED TO REMOTE REFRIGERATION SYSTEM, ITEM 3.02
2.08	4	SHELVING, UNIT		X	
2.09	10	SHELVING, UNIT		X	
2.10	1	HAND SINK	X		
2.11	1	FREEZER, REACH-IN		X	EXISTING / TO BE RELOCATED
2.12L	1	EXHAUST HOOD WITH MUA	X		
2.12R	1	EXHAUST HOOD WITH MUA	X		
2.13	1	FRYER, GAS		X	
2.14	1	WORKTABLE		X	
2.15	1	RANGE, GAS		X	
2.16	1	TILT SKILLET, ELECTRIC		X	
2.16A	1	FLOOR TROUGH	X		
2.17	1	CONVECTION OVEN, GAS		X	EXISTING / TO BE RELOCATED
2.18	1	COMBI OVEN, ELECTRIC		X	
2.19	1	COMBI OVEN, ELECTRIC		X	
2.20	1	HAND SINK	X		
2.21	1	FIRE SUPPRESSION SYSTEM	X		
2.22	2	HOT HOLDING CABINET, PASS THROUGH		X	
2.22A	1	HOT HOLDING CABINET, PASS THROUGH		X	FUTURE
2.23	1	REFRIGERATOR, REACH-IN		X	EXISTING / TO BE RELOCATED
2.24	2	WORKTABLE		X	
2.25	1	WATER FILTER		X	
2.26	1	WATER FILTER		X	
2.27	6	SHELVING, UNIT		X	
2.28	1	OPEN NUMBER			
2.29	1	WALL SHELF	X		
2.30	1	SOILED DISHTABLE W/ THREE COMPARTMENT SINK		X	
2.31	1	OPEN NUMBER			
2.32	2	SWING FAUCET, 12"		X	
2.33	1	POT RACK	X		
2.34	1	OPEN NUMBER			
2.35	1	OPEN NUMBER			
2.36	1	WAREWASHER, CONVEYOR		X	
2.36A	1	VENT DUCT, LOAD END	X		
2.36B	1	VENT DUCT, UNLOAD END	X		
2.37	1	DISHTABLE, CLEAN		X	
2.38	1	PRE-RINSE FAUCET		X	
2.39	1	HAND SINK	X		
2.40	1	DISPOSER	X		
2.41	1	OPEN NUMBER			
2.42	1	CAN RACK		X	
2.43	4	BUN PAN RACK		X	
2.44	6	SHELVING, UNIT		X	
2.45	2	WALL SHELF	X		
2.46	1	TWO COMPARTMENT SINK		X	
2.47	1	POT SINK FAUCET		X	
2.48	2	WORKTABLE		X	
2.49	3	WORKTABLE		X	
2.50	1	WORKTABLE		X	
2.51	1	FOOD CUTTER		X	
2.52	1	MIXER		X	
2.53	1	SLICER, ELECTRIC		X	
2.54	1	FOOD PROCESSOR		X	
2.55	1	SCALE		X	
2.56	1	OPEN NUMBER			
2.57	1	OPEN NUMBER			
2.58	1	BLAST CHILLER		X	
2.59	1	WATER FILTER		X	
2.60	1	ICE BIN		X	
2.61	1	ICE MACHINE, CUBE		X	
2.62	1	FLOOR TROUGH	X		
2.63	1	WORKTABLE		X	
2.64	1	WORK SINK, WELD-IN		X	
2.65	1	WORKTABLE		X	
2.66	1	COFFEE MACHINE		X	EXISTING / TO BE RELOCATED
2.66A	1	WATER FILTER		X	
2.67	1	SODA DISPENSER		X	EXISTING / TO BE RELOCATED
2.67A	1	WATER FILTER		X	
2.68	1	MOP HANGER	X		
2.69	1	MOP SINK	X		
2.70	1	MOP SINK FAUCET		X	
2.71	2	LAUNDRY CART		X	
2.72	1	SHELVING, UNIT		X	
2.73	3	SHELVING, UNIT		X	EXISTING / TO BE RELOCATED
2.74	1	OPEN NUMBER			
2.75	7	DOLLY, DISHWASHER RACK		X	
2.76	8	POKER CHIP DOLLY		X	
3.01	1	REMOTE REFRIGERATION SYSTEM	X		CONNECTED TO EVAPORATOR COIL, ITEM 2.06
3.02	1	REMOTE REFRIGERATION SYSTEM	X		CONNECTED TO EVAPORATOR COIL, ITEM 2.07



1 QF-201 Equipment Plan - Third Floor
1/4" = 1'-0"



2 QF-201 Equipment Plan - Third Floor Glass and Dish Storage
1/4" = 1'-0"

REMOTE REFRIGERATION SYSTEM



OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION

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Issue Date: 11/16/26
Registration Expires: 11/30/27

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Checked By:CULINARY ADVISORS
Project Manager: RJZ

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Revisions

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103 PROSPECT TERRACE
CORTLAND, NY 13045
SWBR Project Number 23132.00

SUNY COURTLAND
SUCF Project No. 041046-00

QF-201

FOODSERVICE EQUIPMENT PLAN - 3RD FLOOR

NOVEMBER 16, 2026
BID DOCUMENTS

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ELECTRICAL NOTES

1. SERVICES FOR CLOCK OUTLETS, TELEPHONE AND COMPUTER CONDUITS, HVA/C SYSTEMS AND ROOM LIGHTING ARE SHOWN ON ARCHITECTURAL/ELECTRICAL DRAWINGS. SOME CONVENIENCE OUTLETS HAVE BEEN SHOWN ON THE FOODSERVICE EQUIPMENT PLANS.

2. THE ELECTRICAL DIVISION IS RESPONSIBLE FOR:

   A. ALL WIRING, FITTINGS, AND LABOR, UP TO AND INCLUDING FINAL CONNECTIONS.

   B. INTERWIRING VENTILATOR, FIRE PROTECTION, WASTE DISPOSERS, REMOTE REFRIGERATION, AND DETERGENT PUMPING SYSTEMS.

   C. PROVISION OF AREA SUB-PANELS IN LIEU OF DISCONNECT SWITCHES, WHEREVER POSSIBLE.

   D. PROVISION OF ALL EXPOSED HARDWARE AND FIXTURES IN CHROME OR STAINLESS STEEL.

   E. COORDINATION OF PANELBOARDS WITH EQUPIMENT LOCATIONS AND REQUIREMENTS.

   F. PROVISION OF SHUNT-TRIP BREAKERS FOR COOKING EQUIPMENT AS REQUIRED.

   G. EMPTY CONDUITS FOR CONTROL/COMPUTER WIRING AS REQUIRED.

3. ALL ELECTRICAL WORK WITHIN FABRICATED EQUIPMENT WILL BE BY THE CONTRACTOR, READY FOR FINAL, SINGLE POINT CONNECTION UNLESS OTHERWISE NOTED.

4. FUTURE EQUIPMENT CONNECTIONS ARE TO BE COMPLETELY ROUGHED-IN AND WIRED, BUT WITH COVERPLATES FOR FUTURE USE.

5. PROVIDE CONVENIENCE OUTLETS ON WALLS THROUGHOUT THE FOODSERVICE FACILITY, EXCEPT ABOVE DEEP SINKS OR DISHWASHING EQUIPMENT. OUTLETS ABOVE COUNTERS AND WORK TABLES SHOULD BE 48" ABOVE THE FLOOR WHERE COUNTERS OR TABLES ARE ON A WALL. OUTLETS ON OPEN RUNS OF WALL SHOULD BE 18" ABOVE THE FLOOR. GENERALLY, OUTLETS SHOULD BE SPACED EVERY 6'-0", WITH MINIMUM OF TWO (2) OUTLETS ABOVE ANY COUNTER OR WORK TABLE. TWO OUTLETS PER 20 AMP CIRCUIT IS ACCEPTABLE. SEE ELECTRICAL DRAWINGS FOR ANY ADDITIONAL OUTLETS.

6. DROP CORDS SHALL BE LOCATED GENERALLY WHERE THEY ARE SHOWN ON OUR FOODSERVICE ELECTRICAL SPOT CONNECTION PLAN(S). DROP CORDS AT REST SHALL BE 6'-8" AFF WHEN OVER OPEN FLOOR SPACE OR MOBILE TABLES OR COUNTERS AND 6'-0" WHEN ABOVE STATIONARY TABLES OR COUNTERS. IF DROP CORDS ARE LOCATED FOR THE SOLE PURPOSE OF PROVIDING POWER TO TALL ITEMS OF EQUIPMENT, THEY SHALL HANG AT A HEIGHT APPROPRIATE TO THE EQUIPMENT. SEE ELECTRICAL DRAWINGS FOR ANY ADDITIONAL OUTLETS.

ELECTRICAL SYMBOLS AND ABBREVIATIONS

Single Receptacle	SR	SR
Duplex Receptacle	DR	DR
Switch	SW	SW
Junction Box	JB	JB
Drop Cord From Ceiling	DC	▼
Data/Commuications	DA	DA
Electrical Connection	EC	◆◆
Control Wiring Interconnection	IC	IC
Empty Junction Box	EJ	
Amp	A	
Kilowatt	KW	
Horsepower	HP	
Volt	V	
Phase	PH	
Above Finished Floor	AFF	
Down from Above	DFA	



1 QF-202 Electrical Spot Connection Plan - Third Floor
1/4" = 1'-0"

REMOTE REFRIGERATION SYSTEM



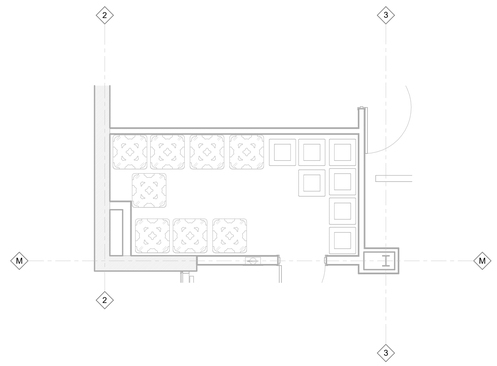
OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION

Electrical Utility Load Schedule - Remote Refrigeration

Item	Qty	Description	Elec Conn	AFF	Volts	PH	FL Amps	Electrical Remarks
3.01	1	REMOTE REFRIGERATION SYSTEM	JB	12"	208	1	10.3	
3.02	1	REMOTE REFRIGERATION SYSTEM	JB	12"	208	3	21.5	

Electrical Utility Load Schedule - Third Floor

Item	Qty	Description	Elec Conn	AFF	Volts	PH	FL Amps	Electrical Remarks
2.01	1	REFRIGERATOR, REACH-IN	NEMA 5-15P	83"	120	1	6.9	
2.01A	2	REFRIGERATOR, REACH-IN	NEMA 5-15P	83"	120	1	6.9	VERIFY EXISTING UTLITIES
2.05	1	WALK-IN COOLER	JB	102"	120	1	10.0	LIGHTS
2.06	1	EVAPORATOR COIL, +35F	JB	102"	120	1	1.8	
2.07	2	EVAPORATOR COIL-10F	JB	102"	208	1	20.2	
2.11	1	FREEZER, REACH-IN	NEMA 5-20P	76 1/2"	120	1	13.9	VERIFY EXISTING UTLITIES
2.12L	1	EXHAUST HOOD WITH MUA	JB	108"	120	1	15.0	
2.12R	1	EXHAUST HOOD WITH MUA	JB	108"	120	1	15.0	
2.13	1	FRYER, GAS	JB	11"	120	1	7.0	
2.16	1	TILT SKILLET, ELECTRIC	JB	12"	480	3	50.3	
2.17	1	CONVECTION OVEN, GAS	(2) NEMA 5-15P	36"	120	1	7.9	VERIFY EXISTING UTLITIES
2.18	1	COMBI OVEN, ELECTRIC	(2) JB	12"	480	3	35.0	SECOND ELECTRICAL CONNECTION 480V/60/3PH, 60 FL AMPS
2.19	1	COMBI OVEN, ELECTRIC	JB	6"	480	3	100.0	
2.21	1	FIRE SUPPRESSION SYSTEM	JB	60"	120	1	10.0	
2.22	2	HOT HOLDING CABINET, PASS THROUGH	NEMA 5-15P	6"	120	1	13.8	
2.22A	1	HOT HOLDING CABINET, PASS THROUGH	NEMA 5-15P	6"	120	1	13.8	
2.23	1	REFRIGERATOR, REACH-IN	NEMA-5-15P	12"	120	1	4.0	VERIFY EXISTING UTLITIES
2.36	1	WAREWASHER, CONVEYOR	JB	70"	480	3	52.5	
2.40	1	DISPOSER	JB	12"	208	3	8.8	ADDITIONAL 120V/60/1PH CONNECTION FOR CONTROL PANEL
2.51	1	FOOD CUTTER	NEMA 5-15P	48"	120	1	9.5	
2.52	1	MIXER	NEMA 5-15P	48"	120	1	8.0	
2.53	1	SLICER, ELECTRIC	NEMA 5-15P	48"	120	1	4.0	
2.54	1	FOOD PROCESSOR	NEMA 5-15P	48"	120	1	9.0	
2.55	1	SCALE	NEMA 5-15P	38"	120	1	1.3	
2.58	1	BLAST CHILLER	JB	24"	208	1	12.0	
2.61	1	ICE MACHINE, CUBE	NEMA 5-15P	60"	120	1	15.0	
2.66	1	COFFEE MACHINE	JB	48"	240	1	24.0	VERIFY EXISTING UTILITIES
2.67	1	SODA DISPENSER	NEMA 5-15P	48"	120	1	15.0	VERIFY EXISTING UTILITIES



3 QF-202 Electrical Spot Connection Plan - Third Floor Glass and Dish Storage
1/4" = 1'-0"

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Issue Date: 11/16/26
Registration Expires: 11/30/27

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Checked By:CULINARY ADVISORS
Project Manager: RJZ

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103 PROSPECT TERRACE
CORTLAND, NY 13045
SWBR Project Number 23132.00

SUNY COURTLAND
SUCF Project No. 041046-00

QF-202

ELECTRICAL SPOT CONN. PLAN & UTIL LOAD SCHED - 3RD FLOOR

NOVEMBER 16, 2026

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PLUMBING / VENTILATION NOTES

1. SERVICES SHOWN RELATE TO FOOD SERVICE EQUIPMENT REQUIREMENTS ONLY.
2. THE PLUMBING/MECHANICAL DIVISIONS ARE RESPONSIBLE FOR:
   - A. ALL WATER, WASTE, GAS, STEAM, AND HVAC SERVICE TO EQUIPMENT INCLUDING PIPING, FITTING, SLEEVES, STOPS, VALVES, TRAPS, CLEANOUTS, INSULATION, AND HARDWARE UP TO AND INCLUDING FINAL CONNECTIONS.
   - B. PROVISION OF ALL EXPOSED PIPING AND FITTINGS IN CHROME OR STAINLESS STEEL, ALL OTHERS PAINTED WITH TWO COATS SILVER.
   - C. INDIVIDUALLY VALVING EACH SUPPLY CONNECTION.
   - D. INTERCONNECTING VENTILATORS AND CONTROL PANELS, DETERGENT SYSTEMS, WASTE SYSTEMS AND WAREWASHER-BOOSTER HEATER.
   - E. INSTALLING FIRE CONTROL GAS SHUT-OFF VALVE PROVIDED BY FIRE SYSTEM CONTRACTOR.
   - F. INDIRECT WASTE LINES FROM WALK-IN REFRIGERATOR/FREEZER COILS IN COPPER; INCLUDING 15 WATT-PER LINEAL-FOOT HEAT TAPE AND INSULATION INSIDE FREEZERS, LINES SECURELY FASTENED 3/4" CLEAR OF WALLS.

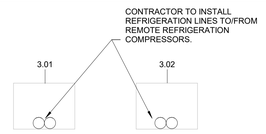
PLUMBING SYMBOLS AND ABBREVATIONS

Gas	G
British Thermal Units (000s)	MBTU
Cold Water	CW
Hot Water	HW
Cooling Tower Water	CTW
Cooling Tower Water Return	CTWR
Waste	W
Indirect Waste	IW
Air Gap Waste	AGW
Funnel Floor Drain	FFD
Floor Drain	FD
Floor Sink	FS
Grease Trap	GT
Steam Supply	SS
Condensate Return	CR
Compressed Air	AIR
Refrigeration Line	REF
Down From Above	DFA
Above Finished Floor	AFF

VENTILATION SYMBOLS & ABBREVIATIONS

Exhaust Duct	EXH
Supply Duct	SUP
Static Pressure, Inches of Water Gauge	SPWG

REMOTE REFRIGERATION SYSTEM



OUTDOOR, AIR COOLED, REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION



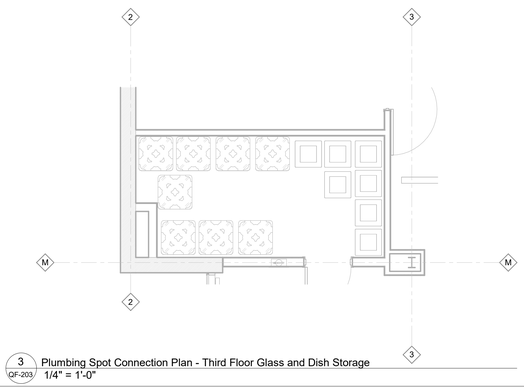
1 QF-203 Plumbing & Ventilation Spot Connection Plan - Third Floor
1/4" = 1'-0"

Plumbing Utility Load Schedule - Third Floor

Item	Qty	Description	CW Size	CW AFF	HW Size	HW AFF	IW Size	IW AFF	DW Size	DW AFF	Gas Size	Gas AFF	BTU/H	Plumbing Remarks
2.06	1	EVAPORATOR COIL, +35F					3/4"	102"						
2.07	2	EVAPORATOR COIL-10F					3/4"	102"						
2.10	1	HAND SINK	1/2"	30"	1/2"	30"			1 1/2"	24"				
2.13	1	FRYER, GAS									3/4"	11 1/2"	244000.0 Btu/h	
2.15	1	RANGE, GAS									1 1/4"	31 1/8"	260000.0 Btu/h	
2.16	1	TILT SKILLET, ELECTRIC	3/4"	11"	3/4"	11"	1 1/2"	9"						
2.16A	1	FLOOR TROUGH	1/2"	0"					1 1/2"	-3"				DRAIN WATER TEMPERING KIT
2.17	1	CONVECTION OVEN, GAS									3/4"	8 1/2"	140000.0 Btu/h	VERIFY EXISTING UTILITIES
2.18	1	COMBI OVEN, ELECTRIC	3/4"	48"			2"	48"						CW INTERCONNECTED FROM ITEM 2.26. (2) CW & IW CONNECTIONS
2.19	1	COMBI OVEN, ELECTRIC	3/4"	5"			2"	5"						CW INTERCONNECTED FROM ITEM 2.25
2.20	1	HAND SINK	1/2"	30"	1/2"	30"			1 1/2"	24"				
2.25	1	WATER FILTER	3/4"	72"										CW INTERCONNECTED TO ITEM 2.19
2.26	1	WATER FILTER	3/4"	72"										CW INTERCONNECTED TO ITEM 2.18
2.30	1	SOILED DISHTABLE W/ THREE COMPARTMENT SINK					1 1/2"	24"						(3) IW CONNECTIONS
2.32	2	SWING FAUCET, 12"	3/4"	38"	3/4"	38"								
2.36	1	WAREWASHER, CONVEYOR			3/4"	11"	2"	13"						
2.38	1	PRE-RINSE FAUCET	1/2"	38"	1/2"	38"								
2.39	1	HAND SINK	1/2"	30"	1/2"	30"			1 1/2"	24"				
2.40	1	DISPOSER	1/2"	30"					2"	24"				
2.46	1	TWO COMPARTMENT SINK					1 1/2"	24"						(2) IW CONNECTIONS
2.47	1	POT SINK FAUCET	3/4"	38"	3/4"	38"								
2.59	1	WATER FILTER	1/2"	72"										CW INTERCONNECTED TO ITEM 2.61
2.60	1	ICE BIN					1"	24 3/4"						
2.61	1	ICE MACHINE, CUBE	3/8"	90"			3/4"	80"						CW INTERCONNECTED FROM ITEM 2.59
2.62	1	FLOOR TROUGH							1 1/2"	-3"				
2.64	1	WORK SINK, WELD-IN	1/2"	36"	1/2"	36"	1 1/2"	24"						
2.66	1	COFFEE MACHINE	3/8"	48"										VERIFY EXISTING UTILITIES. CW INTERCONNECTED FROM ITEM 2.66A
2.66A	1	WATER FILTER	3/8"	72"										CW INTERCONNECTED TO ITEM 2.66A
2.67	1	SODA DISPENSER	3/8"	48"										VERIFY EXISTING UTILITIES. CW INTERCONNECTED FROM ITEM 2.67A
2.67A	1	WATER FILTER	3/8"	72"										CW INTERCONNECTED TO ITEM 2.67
2.69	1	MOP SINK							2"	0"				
2.70	1	MOP SINK FAUCET	1/2"	36"	1/2"	36"								

Ventilation Utility Load Schedule

Item	Qty	Description	Exhaust Length	Exhaust Depth	Exhaust CFM	Exhaust SPWG	Supply Length	Supply Depth	Supply CFM	Supply SPWG	Ventilation Remarks
2.12L	1	EXHAUST HOOD WITH MUA	12"	9"	2407	0.30	12"	12"	1926	0.12	
2.12R	1	EXHAUST HOOD WITH MUA	12"	8"	2342	0.31	12"	12"	1874	0.12	
2.36A	1	VENT DUCT, LOAD END	4"	16"	200						
2.36B	1	VENT DUCT, UNLOAD END	4"	16"	400						



3 QF-203 Plumbing Spot Connection Plan - Third Floor Glass and Dish Storage
1/4" = 1'-0"

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QF-203

PLUMBING SPOT CONN. PLAN & UTIL LOAD SCHED - 3RD FLOOR

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SPECIAL CONDITIONS NOTES

NOTE A: CONTRACTOR SHALL ENSURE WET CHEMICAL FIRE SUPPRESSION SYSTEM IS INSTALLED PER MANUFACTURER'S INSTRUCTIONS AND TO MEET ALL CODES REQUIRED. SEE DETAIL FP.1.

NOTE B: CONTRACTOR SHALL PROVIDE DEPRESSION IN SLAB TO RECEIVE STAINLESS STEEL FLOOR TROUGH AND GRATING. SEE DETAIL FT.1. DEPRESSION TO BE LEVEL AND SMOOTH.

NOTE C: NOT USED

NOTE D: NOT USED

NOTE E: NOT USED

NOTE F: NOT USED

NOTE G: PROVIDE RECTANGULAR VENT DUCT CONNECTION PER DETAIL V.2.

NOTE H: NOT USED

NOTE I: NOT USED

NOTE J: NOT USED

NOTE K: CONTRACTOR SHALL INSTALL WALK-IN PER DETAIL W.4.

NOTE L: CONTRACTOR SHALL ENSURE THAT ALL WALLS ARE PROPERLY REINFORCED TO SUPPORT ALL WALL SUPPORTED EQUIPMENT AS PER DETAIL WB.1.

NOTE M: NOT USED

NOTE N: NOT USED

NOTE O: NOT USED

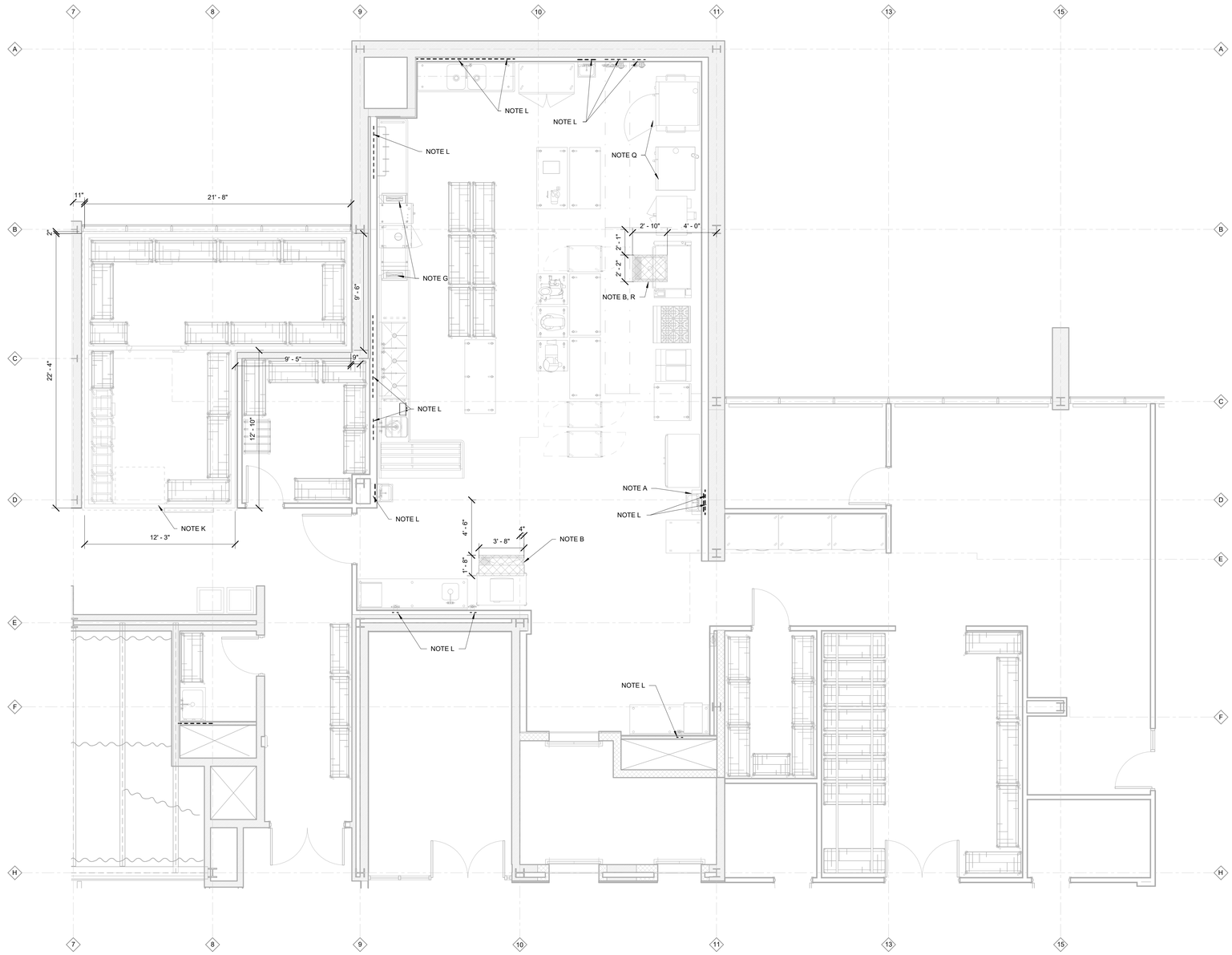
NOTE P: NOT USED

NOTE Q: NOT USED

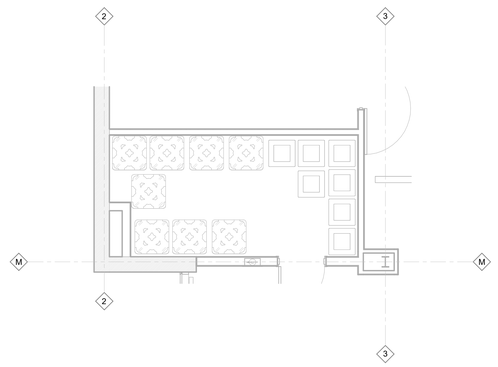
NOTE R: CONTRACTOR TO VERIFY ALL MANUFACTURER'S RECOMMENDED POUR PATHS ARE MET BY FLOOR TROUGH LOCATION AND ENSURE FULL ACCEPTANCE OF FOOD PRODUCTS FROM EQUIPMENT.

GENERAL NOTE: CONTRACTOR TO COORDINATE ALL EQUIPMENT LEGS WITH FLOOR DRAIN AND FLOOR TROUGH LOCATIONS.

SOME NOTES MAY NOT BE USED
SEE STANDARD DETAILS SHEET FOR DETAILS



1 QF-204 Special Conditions Plan - Third Floor
1/4" = 1'-0"



2 QF-204 Special Conditions Plan - Third Floor Glass and Dish Storage
1/4" = 1'-0"

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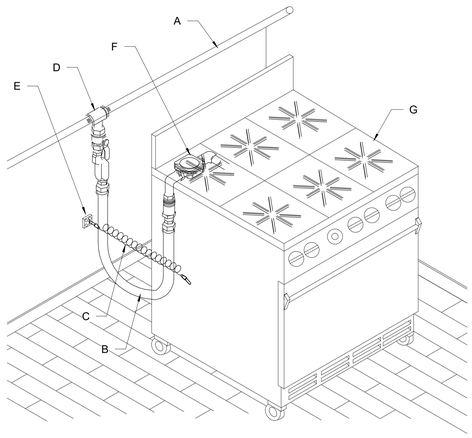
FOODSERVICE SPECIAL CONDITIONS PLAN - 3RD FLOOR

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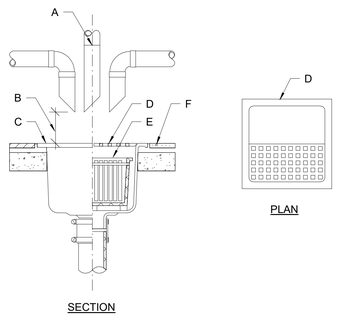
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A. INCOMING GAS TO BE LOW PRESSURE; HIGH PRESSURE REGULATOR BY CONTRACTOR
B. GAS HOSE, QUICK DISCONNECT, AND SWIVEL(S) PROVIDED & INSTALLED BY CONTRACTOR
C. RESTRAINING DEVICE PROVIDED AND INSTALLED BY CONTRACTOR
D. ALL CONNECTIONS TO BE WITHIN 4" OF FINISHED WALL FACE UNLESS OTHERWISE NOTED
E. BLOCKING REQUIRED BY CONTRACTOR
F. LOW PRESSURE GAS REGULATOR PROVIDED & INSTALLED BY CONTRACTOR

GD.1

GAS HOSE WITH QUICK DISCONNECT DETAIL — NOT TO SCALE



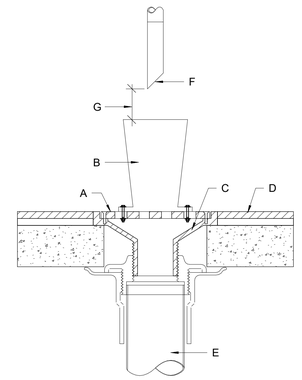
SECTION

PLAN

A. PIPE DIAMETER PER PLUMBING UTILITY LOAD SCHEDULE
B. PIPE(S) CUT AT 45° ANGLE. AIR GAP TO BE 2X PIPE DIAMETER
C. SET FLOOR SINK FLUSH WITH, OR SLIGHTLY BELOW, FINISHED FLOOR. IN NO CASE SHALL FLOOR SINK LIP BE ABOVE THE FINISHED FLOOR SUCH THAT WATER FLOW IS IMPEDED UNLESS OTHERWISE DIRECTED BY LOCAL CODE.
D. GRATE WITH 1/2 OPENING FOR EQUIPMENT DRAINS
E. SEDIMENT BUCKET
F. FINISHED FLOOR AS SPECIFIED

P.1

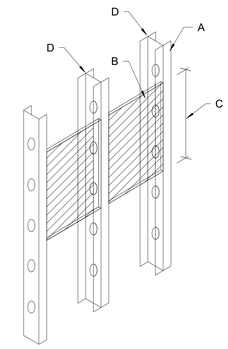
FLOOR SINK DETAIL — NOT TO SCALE



A. REMOVABLE GRATE
B. BOLT ON FUNNEL. IF FUNNEL IS USED, REPLACE GRATE WITH CUT OUT GRATE FOR FUNNEL.
C. ADJUSTABLE DRAIN BODY
D. FINISHED FLOOR. DRAIN TO BE SET DEAD LEVEL OR SLIGHTLY BELOW FLOOR UNLESS OTHERWISE DIRECTED BY LOCAL CODE
E. DIMENSIONS TO SUIT SITE CONDITIONS AND SUPPORT EQUIPMENT
F. PIPE(S) CUT AT 45 DEGREE ANGLE
G. AIR GAP TO BE 2X PIPE DIAMETER

P.2

FLOOR DRAIN / FUNNEL FLOOR DRAIN DETAIL — NOT TO SCALE



A. WOOD OR METAL WALL STUD (METAL SHOWN)
B. 1/2" FIRE RESISTANT TREATED PLYWOOD FOR WALL BACKING BETWEEN STUDS. (PLYWOOD SHOWN)
C. PROVIDE WALL BACKING 12" ABOVE AND 12" BELOW FULL HEIGHT OF EQUIPMENT
D. RUN STUD BACK TO BACK IN ORDER TO SECURE PLYWOOD PROPERLY

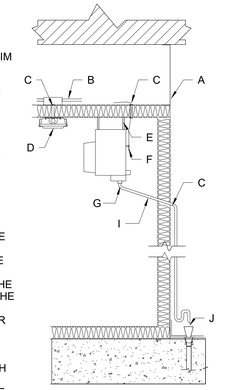
CONCRETE MASONARY WALLS DO NOT REQUIRE BLOCKING

ALL WORK SHOWN TO BE BY GENERAL CONTRACTOR UNLESS NOTED OTHERWISE

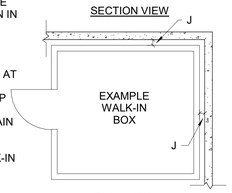
WB.1

WALL BACKING DETAIL — NOT TO SCALE

A. CONTRACTOR TO FABRICATE STAINLESS STEEL TRIM PANELS TO MATCH WALK-IN EXTERIOR FINISH. TRIM WALK-IN TO ADJACENT WALLS AND CEILING AS REQUIRED.
B. ALL ELECTRICAL CONDUIT TO BE RUN ABOVE THE CEILING OF THE WALK-IN. NO EXPOSED CONDUIT, EXCEPT FOR THE FINAL NIPPPLE LENGTH, IS ACCEPTABLE.
C. SEAL ALL WALK-IN WALL AND CEILING PENETRATIONS WITH SILICONE SEALANT.
D. SEAL ALL LIGHT FIXTURES TO THE CEILING.
E. BLOWER COIL TO BE SUSPENDED A MINIMUM OF 4" BELOW THE CEILING. USE ALL NON-CORROSIVE HARDWARE TO MOUNT THE BLOWER COIL.
F. TEMPERATURE SENSING BULBS TO BE LOCATED AT THE AIR INLET OF THE BLOWER COIL AND WIRED BACK TO THE INDICATING THERMOMETER DIAL AT THE DOOR. LOCATING THE TEMPERATURE SENSING BULB JUST INSIDE THE DOOR PANEL, IS NOT ACCEPTABLE.
G. COPPER CONDENSATE DRAIN. PITCH THE DRAIN A MINIMUM OF 1/4" PER FOOT. THE DRAIN IS TO EXIT THROUGH THE WALK-IN WALL AS CLOSE AS POSSIBLE TO ITS CONNECTION AT THE BLOWER COIL. IF DRAIN MUST BE RUN IN THE WALK-IN BOX THEN HUG DRAIN LINES TIGHT TO WALK-IN WALL AS CLOSE AS POSSIBLE USING PROPER PIPE SUPPORTS.
H. TERMINATE THE CONDENSATE DRAIN AT A DEDICATED FUNNEL FLOOR DRAIN. TERMINATE THE DRAIN WITH A P-TRAP IF PRESCRIBED BY LOCAL CODES.
I. INSTALL HEAT TRACE ALONG ALL DRAIN LINES INSIDE OR THROUGH FREEZER COMPARTMENTS
J. PROVIDE A 2" AIR GAP AROUND WALK-IN



SECTION VIEW

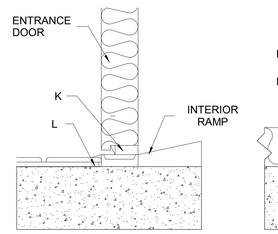


PLAN VIEW

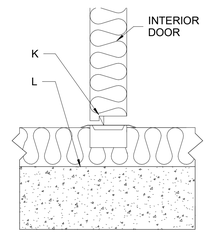
K. HEATED DOOR THRESHOLD IN PREFABRICATED DOOR PANEL, BY CONTRACTOR. INSTALL SUCH THAT THRESHOLD IS LEVEL WITH FINISHED FLOOR.
L. 6 MIL POLYETHYLENE VAPOR BARRIER SET IN BOTTOM OF RAW FLOOR DEPRESSION, BY CONTRACTOR . DEPRESSION TO BE RENDERED FULLY WATERTIGHT. BOTTOM OF DEPRESSION SHOULD BE DEAD LEVEL. SCREED SAND MAY BE USED TO CORRECT ANY UNEVENNESS.
M. COVE BASE, SAME MATERIAL AS FLOOR FINISH, BY CONTRACTOR
N. BUILDING WALL (IF REQUIRED)

W.4

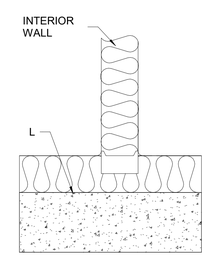
TYPICAL WALK-IN DETAIL - NO DEPRESSION (MANUFACTURER FLOOR SET ON SLAB) — NOT TO SCALE



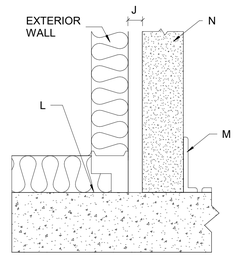
SECTION THROUGH ENTRANCE DOOR



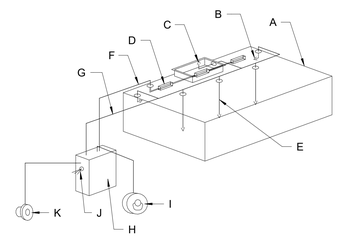
SECTION THROUGH INTERIOR DOOR



SECTION THROUGH INTERIOR PARTITION



SECTION THROUGH EXTERIOR WALL



A. EXHAUST HOOD
B. PLENUM PROTECTION NOZZLES
C. DUCT PROTECTION NOZZLE
D. DETECTORS
E. APPLIANCE PROTECTION NOZZLES
F. DETECTION LINE
G. EXTINGUISHING AGENT LINE
H. SYSTEM CONTROL AUTOMAN WITH AGENT TANK ENCLOSED
I. REMOTE MANUAL PULL STATION
J. MICRO-SWITCH WIRES FOR ELECTRIC SHUT-DOWNS, WIRED BY CONTRACTOR
K. ELECTRICAL OR MECHANICAL GAS VALVE, INSTALLED BY CONTRACTOR

FP.1

FIRE SUPRESSION SYSTEM DETAIL — NOT TO SCALE

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STATE OF NEW YORK

Issue Date: 11/16/26
Registration Expires: 11/30/27

Drawn By: CULINARY ADVISORS
Checked By:CULINARY ADVISORS
Project Manager: RJZ

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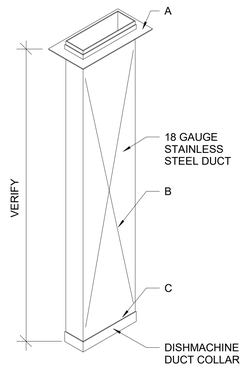
SUNY COURTLAND
SUCF Project No. 041046-00

QF-301
FOODSERVICE STANDARD DETAILS

NOVEMBER 16, 2026
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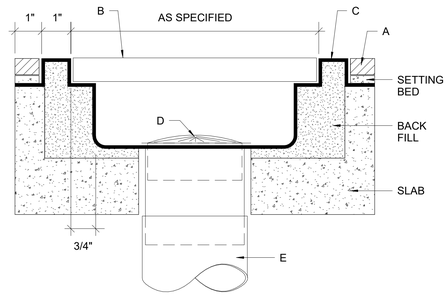
A. 18 GAUGE STAINLESS STEEL, 1" HIGH BY 2" ANGLE TRIM SECURED TO DUCT AND CEILING WITH STAINLESS STEEL SCREWS AND SEALED WITH SILICONE. CRIMP EDGES TO PROVIDE HUG-TITE EDGES.

B. CROSS BREAK BOTH WIDE SIDES OF DUCT.

C. VENT TO FIT TIGHTLY INSIDE DUCT COLLAR ON DISHMACHINE.

V.2

RECTANGULAR VENT DUCT CONNECTION DETAIL — NOT TO SCALE

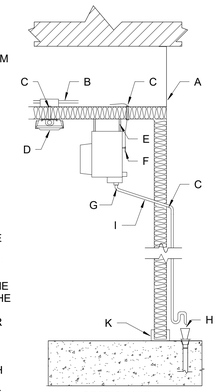


A. FLOORING AS SPECIFIED BY ARCHITECT
B. 1" HIGH SUBWAY GRATING AS SPECIFIED, SIZED TO FIT FRAME, MAXIMUM SIZE TO BE LESSER OF 36" LENGTH OR 30 POUNDS
C. 14 GAUGE STAINLESS STEEL ALL-WELDED PAN & FRAME SET ON AND SECURED TO SLAB
D. PAN PITCHED TO DRAIN PROVIDE STAINLESS STEEL PERFORATED BASKET
E. DRAIN PIPE FURNISHED BY PLUMBING TRADES

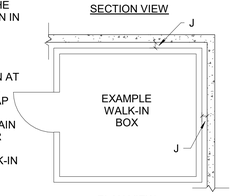
FT.1

FLOOR TROUGH DETAIL — NOT TO SCALE

A. CONTRACTOR TO FABRICATE STAINLESS STEEL TRIM PANELS TO MATCH WALK-IN EXTERIOR FINISH. TRIM WALK-IN TO ADJACENT WALLS AND CEILING AS REQUIRED.
B. ALL ELECTRICAL CONDUIT TO BE RUN ABOVE THE CEILING OF THE WALK-IN. NO EXPOSED CONDUIT, EXCEPT FOR THE FINAL NIPPPLE LENGTH, IS ACCEPTABLE.
C. SEAL ALL WALK-IN WALL AND CEILING PENETRATIONS WITH SILICONE SEALANT.
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H. TERMINATE THE CONDENSATE DRAIN AT A DEDICATED FUNNEL FLOOR DRAIN. TERMINATE THE DRAIN WITH A P-TRAP IF PRESCRIBED BY LOCAL CODES.
I. INSTALL HEAT TRACE ALONG ALL DRAIN LINES INSIDE OR THROUGH FREEZER COMPARTMENTS
J. PROVIDE A 2" AIR GAP AROUND WALK-IN



SECTION VIEW



PLAN VIEW

K. WALK-IN WALLS SHALL BE INSTALLED WITHIN A SCREED THAT IS MECHANICALLY FASENED TO THE FLOOR

NOTE: DURING CURING, MORTAR GROUT, AND OTHER CEMENTITIOUS MATERIALS EMIT GASES THAT DISCOLOR AND DETERIORATE THE SURFACE METAL OF THE WALK-IN. CONTRACTOR TO PROVIDE ADEQUATE VENTILATION UNTIL THE MATERIALS ARE FULLY CURED. DISCOLORED WALK-IN SURFACE SHALL BE CAUSE FOR REJECTION OF THE ENTIRE WALK-IN INSTALLATION.

W.3

TYPICAL WALK-IN DETAIL - NO FLOOR — NOT TO SCALE

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STATE OF NEW YORK

Issue Date: 11/16/26
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Checked By:CULINARY ADVISORS
Project Manager: RJZ

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SUNY COURTLAND
SUCF Project No. 041046-00

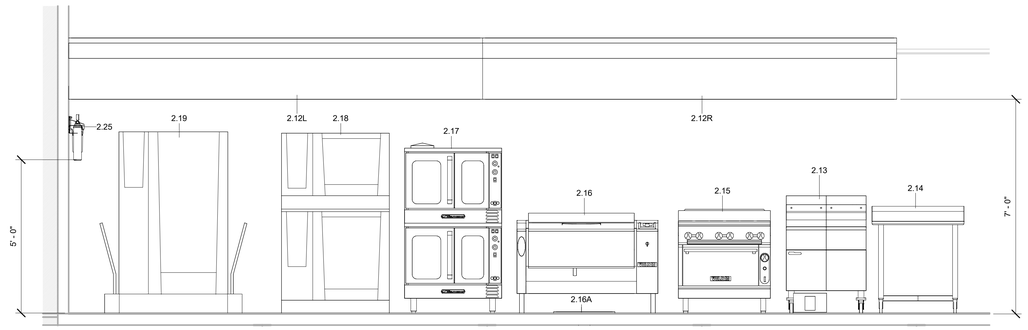
QF-302

FOODSERVICE
STANDARD
DETAILS

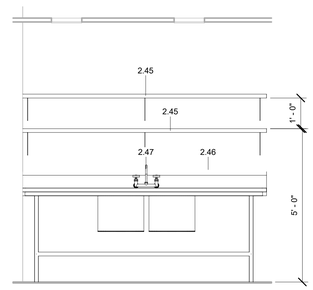
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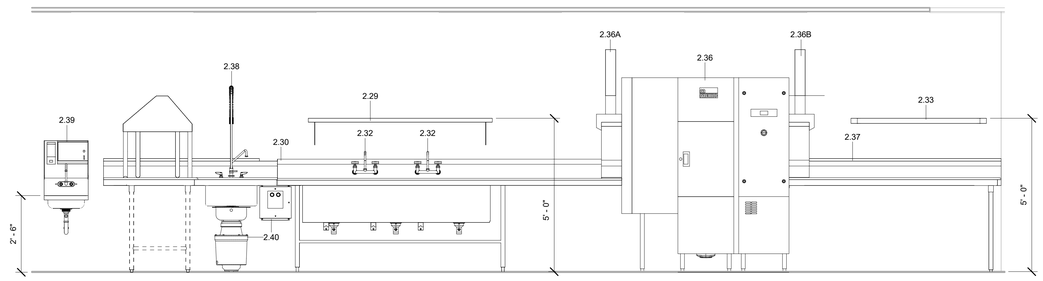
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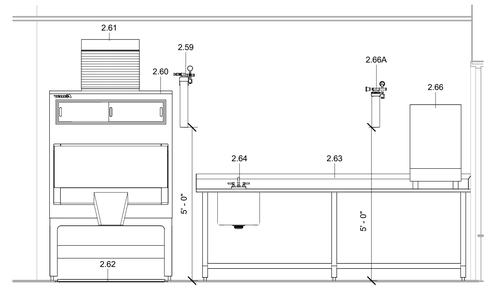
1 QF-401 Third Floor - Cook Line
1/2" = 1'-0"



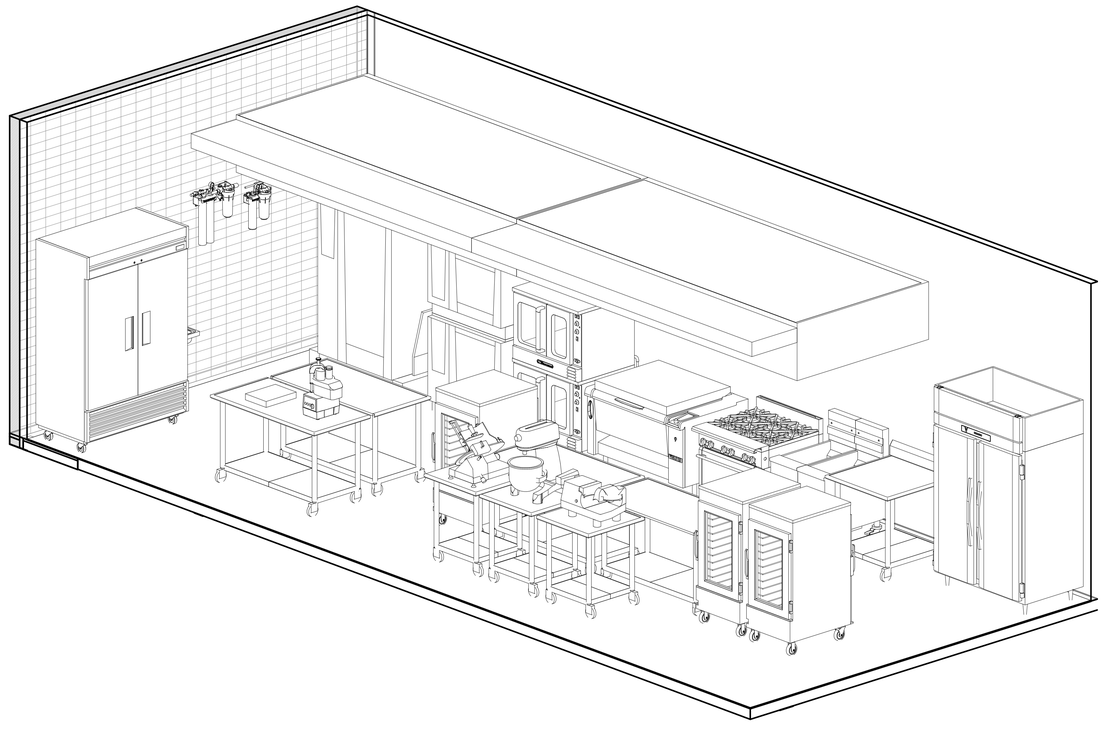
2 QF-401 Third Floor - Two Compartment Sink
1/2" = 1'-0"



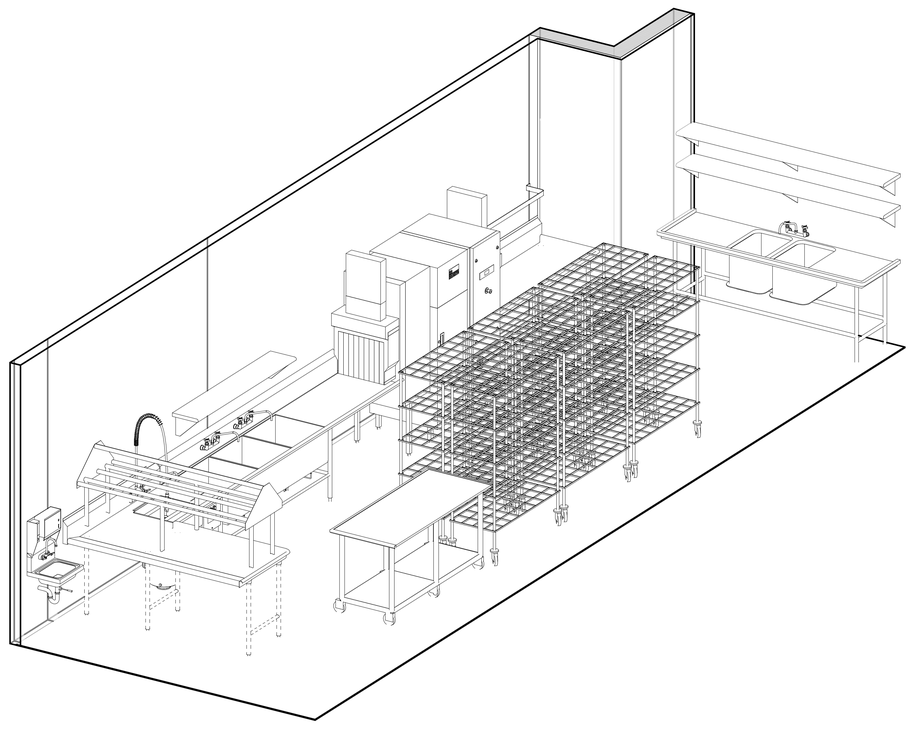
3 QF-401 Third Floor - Warewashing
1/2" = 1'-0"



4 QF-401 Third Floor Ice & Beverages
1/2" = 1'-0"



5 QF-401 Third Floor - Cooking and Prep



6 QF-401 Third Floor - Warewashing

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QF-401

FOODSERVICE ELEVATIONS, ISOMETRICS, & SECTIONS

NOVEMBER 16, 2026

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ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AAP	ALARM ANNUNCIATOR PANEL
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ARCH	ARCHITECT
AV	AUDIOVISUAL
AVC	AUDIOVISUAL CONTRACTOR
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BCT	BONDING CONDUCTOR FOR TELECOMMUNICATIONS
BFF	BELOW FINISH FLOOR
BICSI	BUILDING INDUSTRY CONSULTING SERVICE INTERNATIONAL
C	CAMERA
CAT	CATEGORY
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CD	CONSTRUCTION DOCUMENTS
CL	CENTERLINE
CLG	CEILING
CONTR	CONTRACTOR
CT	CABLE TRAY
DEMO	DEMOLITION
DIA	DIAGRAM
EC	ELECTRICAL CONTRACTOR
EQ	EQUAL DIMENSION
ELEC	ELECTRICAL
EMER	EMERGENCY
ENCL	ENCLOSURE
FT	FEET
FP	FIRE PROTECTION
GND	GROUND
GC	GENERAL CONTRACTOR
HT	HEIGHT
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
IDS	INTRUSION DETECTION SYSTEM
IN	INCHES
I/O	AUDIOVISUAL I/O PANEL
J-BOX	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LV	LOW VOLTAGE
KP	KEYPAD
M	MICROPHONE
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MTR	MAIN TELECOMMUNICATION ROOM
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PB	PULL BOX
PBB	PRIMARY BONDING BUSBAR
PET	PROTECTED ENTRANCE TERMINAL
PS	PROJECTION SCREEN SWITCH
PST	PROJECTION SCREEN TYPE
PT	POKE THRU
PTZ	PAN / TILT / ZOOM
PWR	POWER
QTY	QUANTITY
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RCP	REFLECTED CEILING PLAN
RECPT	RECEPTACLE
REQD	REQUIRED
RM	ROOM
RS	ROOM SCHEDULER
RU	RACK UNIT
S	SPEAKER
SB	SPECIALTY BACK BOX
SBB	SECONDARY BONDING BUSBAR
SMG	SOUND MASKING SYSTEM GENERATOR
SMP	SOUND MASKING SYSTEM PAGER
TB	TELECOMMUNICATIONS BACKBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TE	TELECOMMUNICATIONS ENCLOSURE
TC	TELECOMMUNICATIONS CONTRACTOR
TV	TELEVISION
TP	TOUCH PANEL
UL	UNDERWRITERS LABORATORY
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTIL	UTILITY
WP	WEATHERPROOF
WAP	WIRELESS ACCESS POINT

AUDIOVISUAL SYMBOLS

CEILING MOUNTED DEVICES

- CEILING CONDUIT PENETRATION.
- A"#" — CEILING MOUNTED AUDIOVISUAL BACK BOX. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- A"#" — CEILING MOUNTED BACK BOX FOR POWER, DATA, AND AUDIOVISUAL. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — CEILING MOUNTED SPECIALTY AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — CEILING MOUNTED DUPLEX AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — CEILING MOUNTED DOUBLE DUPLEX AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — CEILING MOUNTED AC POWER PULL BOX. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — CEILING MOUNTED CLOCK AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- HORIZONTAL CONDUIT
- CABLE TRAY
- C"#" — CEILING MOUNTED CAMERA. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- S"#" — CEILING MOUNTED SPEAKER. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- M"#" — CEILING MOUNTED MICROPHONE. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- M — CEILING MOUNTED MOTOR FOR PROJECTION SCREEN.
- (A) — CEILING MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR AUDIOVISUAL NEEDS. REFER TO CEILING DATA OUTLET SCHEDULE ON TT-SERIES FOR INFORMATION. SYMBOL SHOWN ON AUDIOVISUAL FOR COORDINATION PURPOSES ONLY.
- (R) — CEILING MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR ROOM SCHEDULER. REFER TO CEILING DATA OUTLET SCHEDULE ON TT-SERIES FOR INFORMATION. SYMBOL SHOWN ON AUDIOVISUAL FOR COORDINATION PURPOSES ONLY.
- SM"X" — SOUND MASKING SYSTEM EMITTER. "#" INDICATES TYPE. REFER TO SOUND MASKING SYSTEM SCHEDULE FOR ADDITIONAL INFORMATION.

FLOOR MOUNTED DEVICES

- FB"#" — FLOOR BOX FOR POWER, DATA, AND AUDIOVISUAL. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- PT"#" — POKE-THRU FOR POWER, DATA, AND AUDIOVISUAL. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.

WALL MOUNTED DEVICES

- A"#" — WALL MOUNTED BACK BOX FOR POWER, DATA, AND AUDIOVISUAL. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- A"#" — WALL MOUNTED AUDIOVISUAL DEVICE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- PS"#" — LOW VOLTAGE PROJECTION SCREEN SWITCH MOUNTED 44" AFF. "#" INDICATES NUMBER OF GANGS.
- P"#" — WALL MOUNTED SPECIALTY AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — WALL MOUNTED DUPLEX AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — WALL MOUNTED DOUBLE DUPLEX AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — WALL MOUNTED AC POWER PULL BOX. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- P"#" — WALL MOUNTED CLOCK AC POWER RECEPTACLE. "#" INDICATES TYPE. REFER TO INFRASTRUCTURE TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- * — INDICATES OUTLETS TO BE MOUNTED 6" ABOVE FINISHED COUNTER.
- C"#" — WALL MOUNTED CAMERA. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- S"#" — WALL MOUNTED SPEAKER. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- M"#" — WALL MOUNTED MICROPHONE. "#" INDICATES TYPE. REFER TO EQUIPMENT TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- (A) — WALL MOUNTED TELECOMMUNICATIONS DATA OUTLET FOR AUDIOVISUAL NEEDS. REFER TO DATA OUTLET SCHEDULE ON TT-SERIES FOR INFORMATION.
- SMG# — SOUND MASKING SYSTEM CONTROL GENERATOR PANEL. "#" INDICATES TYPE. REFER TO SOUND MASKING SYSTEM SCHEDULE FOR ADDITIONAL INFORMATION.
- SMP# — SOUND MASKING SYSTEM PAGER AND INTERCOM DEVICE. "#" INDICATES TYPE. REFER TO SOUND MASKING SYSTEM SCHEDULE FOR ADDITIONAL INFORMATION.

AUDIOVISUAL SYMBOLS

AUDIOVISUAL EQUIPMENT

- FPD-X — WALL MOUNTED FLAT PANEL DISPLAY. "X" INDICATES TYPE. REFER TO FLAT PANEL TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- PST-X — CEILING MOUNTED PROJECTION SCREEN SYSTEM. "X" INDICATES TYPE. REFER TO PROJECTION SCREEN TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- ER-X — AUDIOVISUAL EQUIPMENT RACK. "X" INDICATES TYPE. REFER TO EQUIPMENT RACK TYPE SCHEDULE FOR ADDITIONAL INFORMATION.
- RSD-X — ROOM SCHEDULING PANEL. "X" INDICATED TYPE. REFER TO ROOM SCHEDULING PANEL ON TA-002 FOR ADDITIONAL INFORMATION. PROVIDED BY AVC.
- TP — WALL MOUNTED CONTROL PANEL. PROVIDED BY AVC.

VIEW REFERENCE CALLOUTS

- X / X TAX.X X / X — MULTI-WALL ELEVATION CALLOUT
- X TAX.X — ROOM SECTION CALLOUT
- X TAX.X — ENLARGED PLAN CALLOUT
- X TAX.X — RISER DETAIL CALLOUT

INDUSTRY STANDARDS

AUDIOVISUAL INSTALLATION SHALL COMPLY WITH THE MOST CURRENT VERSION OF THE FOLLOWING STANDARDS:

AMERICANS WITH DISABILITIES ACT, 2010

ANSI/ASA S12.60; ACOUSTICAL PERFORMANCE CRITERIA, DESIGN REQUIREMENTS, AND GUIDELINES FOR SCHOOLS

ANSI/INFOCOMM 2M-2010, STANDARD GUIDE FOR AUDIOVISUAL SYSTEMS DESIGN AND COORDINATION PROCESS (PROJECT MANAGEMENT PROCESS)

ANSI/INFOCOMM 3M-2011 PROJECTED IMAGE SYSTEM CONTRAST RATIO

ANSI/INFOCOMM 4: 2012 AUDIOVISUAL SYSTEMS ENERGY MANAGEMENT

ANSI/INFOCOMM V202.01:2016, DISPLAY IMAGE SIZE FOR 2D CONTENT IN AUDIOVISUAL SYSTEMS

AV DESIGN REFERENCE MANUAL, FROM INFOCOMM INTERNATIONAL

AV 9000:2012 QUALITY MANAGEMENT SYSTEM CONDUIT, PATHWAY, AND DEDICATED EQUIPMENT ROOM CONSIDERATIONS

AUDIOVISUAL SYSTEM DESIGN AND COORDINATION COMPONENTS, FROM INFOCOMM INTERNATIONAL

ANSI/TIA-568.0-D - GENERIC TELECOMMUNICATIONS CABLING FOR CUSTOMER PREMISES, 2015

ANSI/TIA-568.1-D - COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING STANDARD, 2015

ANSI/TIA-568-C.2 - BALANCED TWISTED-PAIR TELECOMMUNICATIONS CABLING AND COMPONENTS STANDARD, 2009

ANSI/TIA-568.3-D - OPTICAL FIBER CABLING COMPONENTS STANDARD, 2016

ANSI/TIA-568.4-D - BROADBAND COAXIAL CABLING AND COMPONENTS STANDARD, 2017

ANSI/TIA-569-D - TELECOMMUNICATIONS PATHWAYS AND SPACES, 2015

ANSI/TIA/EIA-598-D - OPTICAL FIBER CABLE COLOR CODING, 2014

ANSI/TIA-606-B - ADMINISTRATION STANDARD FOR COMMERCIAL TELECOMMUNICATIONS INFRASTRUCTURE, 2012

ANSI/TIA-607-C - COMMERCIAL BUILDING GROUNDING (EARTHING) AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS, 2015

DAVIS AND DAVIS, 1987 "SOUND SYSTEM ENGINEERING"

GIDDINGS, 1990, " AUDIO SYSTEMS DESIGN AND INSTALLATION

INFOCOMM, AV/IT INFRASTRUCTURE GUIDELINES FOR HIGHER EDUCATION

NFPA 70 - NATIONAL ELECTRICAL CODE (NEC)

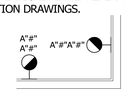
NFPA 72 - NATIONAL FIRE ALARM AND SIGNALING CODE

NFPA 75 - STANDARD FOR THE PROTECTION OF INFORMATION TECHNOLOGY EQUIPMENT

NFPA 76 - STANDARD FOR THE FIRE PROTECTION OF TELECOMMUNICATIONS FACILITIES

GENERAL NOTES

1. ALL WALL MOUNTED OUTLETS ARE TO BE MOUNTED AT 18" AFF (TO CL OF BOX), UNLESS OTHERWISE NOTED. SEE ARCHITECTURAL DRAWINGS FOR BACK BOX MOUNTING STANDARDS.
2. INSTANCE BELOW IS TYPICAL OF MULTIPLE "STACKED" BOXES ON THE SAME VERTICAL PLANE. REFER TO AUDIOVISUAL TA-SERIES ELEVATION DRAWINGS.



3. ALL POWER RECEPTACLES AND TELECOMMUNICATIONS OUTLETS ARE FOR AV REFERENCE ONLY. REFER TO ELECTRICAL AND TELECOMMUNICATIONS DRAWINGS FOR FINAL LOCATIONS.
4. THE AUDIOVISUAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SAFETY. THE ARCHITECT AND/OR ENGINEER WILL ASSUME NO RESPONSIBILITY FOR WORKMAN'S OR PEDESTRIAN'S SAFETY.
5. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL BE CONSTRUCTED TO CONFLICT WITH ANY NATIONAL, STATE, MUNICIPAL, OR LOCAL LAW OR REGULATIONS.
6. THE WORK UNDER THIS CONTRACT SHALL INCLUDE THE FURNISHING OF ALL NECESSARY MATERIALS, TOOLS, AND LABOR FOR A COMPLETE AND WORKING INSTALLATION AS DEFINED BY THE PLANS AND SPECIFICATIONS.
7. THE AUDIOVISUAL CONTRACTOR AT THE SITE SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PERTAINING TO THE INSTALLATION OF THE AUDIOVISUAL SYSTEMS. WHEN THE CONTRACTOR UNCOVERS CONDITIONS NOT INDICATED ON THE PLANS OR IN THE SPECIFICATIONS, THEY SHALL NOTIFY THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH ANY WORK. FAILURE TO NOTIFY WILL MAKE THE CONTRACTOR RESPONSIBLE FOR ALL COSTS AND CONSEQUENCES OF SUCH FAILURE.
8. CONTRACTOR SHALL CLEAN UP ALL DEBRIS AT THE END OF EACH WORK DAY.
9. ALL CONDUITS RUN IN EXPOSED AREAS SHALL BE MOUNTED TIGHT TO THE UNDERSIDE OF THE STRUCTURAL STEEL.
10. COORDINATE EXACT LOCATIONS OF EQUIPMENT WITH OTHER CONSTRUCTION TRADES
11. FLOOR BOXES SHOWN ON TA, TT SERIES DRAWINGS ARE FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
12. ALL DEVICES SHOWN ON THE EXTERIOR OF THE BUILDING SHALL BE WEATHERPROOF TYPE.
13. ALL DIMENSIONS SHOWN ON TA SERIES DRAWINGS ARE TO CENTERLINES OF BOX / DEVICE.
14. ANY ESTABLISHED PROJECT STANDARD DEVICE MOUNTING HEIGHTS, ESPECIALLY THOSE ON THE ARCHITECTURAL DRAWINGS, TAKE PRECEDENT OVER VERTICAL MOUNTING DIMENSIONS AND LISTED HEIGHTS SHOWN IN THE TA SERIES.

DRAWING LIST

SHEET NO.	SHEET NAME	REV
TA-001	AUDIOVISUAL SYMBOLS & NOTES	
TA-002	AUDIOVISUAL SCHEDULES	
TA-101	AUDIOVISUAL BASEMENT FLOOR PLAN	
TA-102	AUDIOVISUAL FIRST FLOOR PLAN	
TA-103	AUDIOVISUAL SECOND FLOOR PLAN	
TA-104	AUDIOVISUAL THIRD FLOOR PLAN	
TA-105	AUDIOVISUAL FOURTH FLOOR PLAN	
TA-201	AUDIOVISUAL BASEMENT CEILING PLAN	
TA-202	AUDIOVISUAL FIRST FLOOR CEILING PLAN	
TA-203	AUDIOVISUAL SECOND FLOOR CEILING PLAN	
TA-204	AUDIOVISUAL THIRD FLOOR CEILING PLAN	
TA-205	AUDIOVISUAL FOURTH FLOOR CEILING PLAN	
TA-301	AUDIOVISUAL BASEMENT EQUIPMENT PLAN	
TA-302	AUDIOVISUAL FIRST FLOOR EQUIPMENT PLAN	
TA-303	AUDIOVISUAL SECOND FLOOR EQUIPMENT PLAN	
TA-304	AUDIOVISUAL THIRD FLOOR EQUIPMENT PLAN	
TA-305	AUDIOVISUAL FOURTH FLOOR EQUIPMENT PLAN	
TA-401	AUDIOVISUAL DETAILS	
TA-501	AUDIOVISUAL RISER DIAGRAMS	
TA-502	AUDIOVISUAL RISER DIAGRAMS	
TA-601	AUDIOVISUAL ELEVATIONS	
TA-602	AUDIOVISUAL ELEVATIONS	
TA-603	AUDIOVISUAL ELEVATIONS	
TA-604	AUDIOVISUAL ELEVATIONS	
TA-605	AUDIOVISUAL ELEVATIONS	

AUDIOVISUAL RESPONSIBILITY MATRIX

SCOPE ITEM	FURNISH	INSTALL
AUDIOVISUAL INFRASTRUCTURE		
AUDIOVISUAL CABLING	OWNER (NIC)	OWNER (NIC)
AUDIOVISUAL TERMINATIONS	OWNER (NIC)	OWNER (NIC)
DATA TO SUPPORT AUDIOVISUAL EQUIPMENT (COORDINATED WITH E-SERIES DRAWINGS)	CONTRACTOR	CONTRACTOR
AUDIOVISUAL INFRASTRUCTURE & PATHWAYS - AS SHOWN ON TA-SERIES DRAWINGS	CONTRACTOR	CONTRACTOR
IN-WALL BLOCKING SUPPORT FOR AV MOUNTS	CONTRACTOR	CONTRACTOR
POWER OUTLETS AS SHOWN ON TA-SERIES (COORDINATED WITH E-SERIES DRAWINGS)	CONTRACTOR	CONTRACTOR
DISPLAY MOUNTS	OWNER (NIC)	OWNER (NIC)
DISPLAY MOUNT BACKING	CONTRACTOR	CONTRACTOR
CEILING MOUNTS - UNISTRUT AND PLATES	CONTRACTOR	CONTRACTOR
AUDIOVISUAL SYSTEMS		
WALL MOUNTED SPEAKERS	OWNER (NIC)	OWNER (NIC)
CEILING MOUNTED SPEAKERS	OWNER (NIC)	OWNER (NIC)
AV CAMERAS	OWNER (NIC)	OWNER (NIC)
FLAT PANEL DISPLAYS	OWNER (NIC)	OWNER (NIC)
PROJECTION SCREENS	CONTRACTOR	CONTRACTOR
PROJECTORS	OWNER (NIC)	OWNER (NIC)
AV VIDEO, AUDIO, AND CONTROL EQUIPMENT INSTALLED, WIRED, AND CONFIGURED AS SHOWN ON SY-SERIES DRAWINGS	OWNER (NIC)	OWNER (NIC)
CONTROL SYSTEM TOUCH SCREENS AND KEYPADS	OWNER (NIC)	OWNER (NIC)
AV EQUIPMENT RACKS	OWNER (NIC)	OWNER (NIC)
CREDENZAS AND LECTERNS	OWNER (NIC)	OWNER (NIC)
COMMISSIONING, PROGRAMMING AND PROJECT MANAGEMENT		
CONTROL SYSTEM(S) PROGRAMMING	OWNER (NIC)	OWNER (NIC)
AUDIO DSP PROGRAMMING	OWNER (NIC)	OWNER (NIC)

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Revisions

Renovate Corey Union
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CORTLAND, NY 13045

23132.00
SWBR Project Number

SUNY CORTLAND
SUCF Project No. 041046-00

TA-001

AUDIOVISUAL SYMBOLS & NOTES

November 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23132-SUNY Cortland Corey Union_TECH_R23.rvt

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PROJECTION SCREEN SCHEDULE

TYPE	IMAGE HEIGHT	IMAGE WIDTH	DIAGONAL	CASE SIZE	WEIGHT	INSTALLATION	OPERATION	MAKE & MODEL	IMAGE SURFACE	BLACK DROP	NOTES	DETAIL
PST-A	135"	240"	275"	273 1/8"	169 LBS	CEILING RECESSED	LOW VOLTAGE CONTROL	DALITE TENSIONED ADVANTAGE SERIES	HD PROGRESSIVE 1.0	12"	PROVIDED & INSTALLED BY CONTRACTOR	

PROJECTION SCREEN ROOM SCHEDULE

ROOM NUMBER	TYPE	QUANTITY	THROW DISTANCE *	THROW DISTANCE +/- **
3002	PST-A	1		

PROJECTION SCREEN TYPE SCHEDULE NOTES:

1. SEE PROJECTION SCREEN ROOM SCHEDULE ON THIS SHEET FOR LOCATIONS.
2. BACKING, JUNCTION BOXES, CONDUITS, PROJECTION SCREEN, AND ELECTRICAL OUTLETS BY GENERAL/ELECTRICAL CONTRACTOR.
3. AV CABLING BY AUDIOVISUAL CONTRACTOR (UON).
4. FOR WALL MOUNTED SCREENS, PROVIDE 3/4" PLYWOOD BACKING TO SUPPORT FIVE TIMES WEIGHT OF THE PROJECTION SCREEN.

FLAT PANEL ROOM SCHEDULE

ROOM NUMBER	TYPE	QUANTITY
107	FPD-F	1
1016	FPD-F	1
1017	FPD-H	1
1018	FPD-F	1
2000A	FPD-C	1
2004	FPD-G	2
2004	FPD-I	1
2005	FPD-F	1
2007	FPD-E	1
2011B	FPD-F	1
2014D	FPD-F	1
2015	FPD-E	1
2016	FPD-H	1
2017	FPD-H	1
2024	FPD-G	1
3000B	FPD-G	1
3001	FPD-H	2
3002	FPD-D	2
3004	FPD-A	1
3015	FPD-H	1
3016	FPD-H	1
4009	FPD-F	1

FLAT PANEL TYPE SCHEDULE

TYPE	DIAGONAL SIZE	POWER CONSUMPTION	DISPLAY WIDTH	DISPLAY HEIGHT	DISPLAY DEPTH	WEIGHT	ORIENTATION	INTERACTIVE	NOTES
FPD-A	46"	76 W	41 27/32"	24 5/16"	2 1/2"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-C	50"	122 W	45 11/32"	26 1/4"	3"	-	PORTRAIT	NO	PROVIDED & INSTALLED BY OWNER
FPD-D	55"	122 W	49 11/16"	28 23/32"	3"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-E	65"	150 W	58 13/32"	33 5/8"	3 13/32"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-F	75"	122 W	67 1/8"	38 1/2"	3"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-G	86"	122 W	76 23/32"	43 29/32"	3"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-H	98"	122 W	87 5/32"	49 25/32"	3"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER
FPD-I	136"	1000 W	118 19/32"	72 3/16"	2 3/32"	-	LANDSCAPE	NO	PROVIDED & INSTALLED BY OWNER

FLAT PANEL TYPE SCHEDULE NOTES:

1. SEE FLAT PANEL ROOM SCHEDULE ON THIS SHEET FOR LOCATIONS.
2. BACKING, JUNCTION BOXES, CONDUITS, AND ELECTRICAL OUTLETS BY GENERAL/ELECTRICAL CONTRACTOR.
3. DISPLAY, DISPLAY MOUNT, AND AV CABLING BY AUDIOVISUAL CONTRACTOR (UON).
4. FOR DISPLAYS LARGER THAN 50" OR WEIGHT GREATER THAN 40 LBS, PROVIDE 3/4" PLYWOOD BACKING TO SUPPORT FIVE TIMES WEIGHT OF THE DISPLAY AND MOUNT.

INFRASTRUCTURE TYPE SCHEDULE

TYPE	FUNCTION	MANUFACTURER	MODEL	ENCLOSURE DESCRIPTION	MOUNTING STYLE	POWER REQUIREMENTS	DETAIL	NOTES
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	44" AFF - FLUSH (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
A2	2 GANG AV BACK BOX	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	18" AFF - FLUSH (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
A3	2 GANG AV BACK BOX FOR CAMERA	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	84" AFF - FLUSH (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	44" AFF - FLUSH (UON)	-		PROVIDED & INSTALLED BY CONTRACTOR
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	117" AFF - FLUSH (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
A7	4 GANG AV BACK BOX	RACO (OR EQUIV.)	-	PULL BOX WITH DEVICE COVER	18" AFF - FLUSH (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	CHIEF	PAC526F	FLAT PANEL DISPLAY WALL BOX ASSEMBLY	66" AFF - FLUSH (UON)	20A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	CHIEF	PAC525F	FLAT PANEL DISPLAY WALL BOX ASSEMBLY	66" AFF - FLUSH (UON)	20A -120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	CHIEF	PAC526FCW	FLAT PANEL DISPLAY WALL BOX ASSEMBLY	18" AFF - FLUSH (UON)	20A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
C2	2 GANG AV CEILING BACK BOX	RACO (OR EQUIV.)	-	PULL BOX WITH SCREW COVER	MOUNTED TO STRUCTURE ABOVE	-	-	PROVIDED & INSTALLED BY CONTRACTOR
P1	DUPLEX CONVIENCE OUTLET	REFER TO NOTES BELOW	-	-	18" AFF - FLUSH (UON)	15A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
P2	DUPLEX OUTLET FOR AV EQUIPMENT	REFER TO NOTES BELOW	-	-	18" AFF - FLUSH (UON)	20A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	REFER TO NOTES BELOW	-	-	18" AFF - FLUSH (UON)	20A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
P4	RECESSED CLOCK OUTLET	REFER TO NOTES BELOW	-	-	REFER TO DRAWINGS	20A -120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
P8	POWER PULL BOX	REFER TO NOTES BELOW	-	POWER PULL FOR CONNECTION TO AV EQUIPMENT	MOUNTED TO STRUCTURE ABOVE	20A - 120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR
PS1	1 GANG PROJECTION SCREEN SWITCH	RACO (OR EQUIV.)	-	PROJECTION SCREEN OPERATION SWITCH	44" AFF (UON)	-	-	PROVIDED & INSTALLED BY CONTRACTOR
PT1	POKE-THRU 1	REFER TO ELECTRICAL	REFER TO ELECTRICAL	POKE-THRU BOX CONTAINING AV/DATA/POWER	LOCATED IN FLOOR	20A -120V DUPLEX	-	PROVIDED & INSTALLED BY CONTRACTOR

INFRASTRUCTURE TYPE SCHEDULE NOTES:

1. POWER RECEPTACLES, INCLUDING THOSE WITHIN COMPOUND FLOOR BOXES, OR CEILING BOXES ARE PROVIDED BY THE ELECTRICAL CONTRACTOR AND APPEAR ON THE ELECTRICAL DRAWINGS. THE POWER RECEPTACLES ALSO APPEAR ON THE TA-SERIES INFRASTRUCTURE DRAWINGS FOR COORDINATION AND LOCATION PURPOSES. THE LOCATION OF THE POWER RECEPTACLE IN RELATION TO THE AUDIOVISUAL INFRASTRUCTURE MAY BE CRITICAL. REFER TO ELECTRICAL DRAWINGS FOR COMPLETE POWER LAYOUTS AND CIRCUITING INFORMATION.
2. TELECOM OUTLETS THAT ARE SHOWN ON THE TA-SERIES INFRASTRUCTURE DRAWINGS ARE REPRESENTATIVE OF TELECOM CONNECTIVITY REQUIREMENTS IN SUPPORT OF AUDIOVISUAL SYSTEMS. THEY ARE SHOWN ON THE TA-SERIES DRAWINGS FOR REFERENCE AND COORDINATION PURPOSES ONLY. THE LOCATION OF TELECOM OUTLETS ASSOCIATED WITH AUDIOVISUAL EQUIPMENT MAY BE CRITICAL. REFER TO STRUCTURED CABLING SYSTEM SPECIFICATIONS AND TT-SERIES DRAWINGS FOR ADDITIONAL INFORMATION.
3. UNLESS OTHERWISE DIRECTED, ALL JUNCTION BOXES MUST BE PROVIDED WITH A COVER. WHERE RAISED DEVICE COVERS ARE SPECIFIED IN THE SCHEDULE, MATCH COVER DEPTH TO WALL THICKNESS.
4. WHERE JUNCTION BOXES ARE MOUNTED AT OR ABOVE FINISHED CEILING HEIGHT, INSTALL JUNCTION BOX WITH OPEN SIDE FACING DOWN.
5. THE MANUFACTURER AND MODEL OF JUNCTION BOXES IN THE AUDIOVISUAL SCHEDULES HAVE BEEN LISTED TO ESTABLISH THE DESIRED LEVEL OF QUALITY AND PERFORMANCE FOR EACH DEVICE. UNLESS OTHERWISE INDICATED, THE INSTALLING CONTRACTOR MAY SUBSTITUTE THESE DEVICES WITH EQUIVALENT PRODUCTS BY OTHER MANUFACTURER.
6. CONFORM TO ESTABLISHED PROJECT STANDARD JUNCTION BOX MOUNTING HEIGHTS FOR ANY SCHEDULED DEVICE BOX WHOSE LISTED MOUNTING STYLE DEVIATES FROM THE STANDARD.
7. BOXES LISTED IN THE INFRASTRUCTURE TYPE SCHEDULE SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UON.

EQUIPMENT TYPE SCHEDULE

TYPE	FUNCTION	MANUFACTURER	MODEL	MOUNTING STYLE	POWER REQUIREMENTS	DETAIL	NOTES
C1	PTZ CONFERENCE CAMERA	TBD	TBD	WALL MOUNTED	POE+	-	PROVIDED & INSTALLED BY OWNER
M1	CEILING MICROPHONE	TBD	TBD	CEILING TILE	POE+	-	PROVIDED & INSTALLED BY OWNER
S1	WALL MOUNTED SPEAKER	TBD	TBD	WALL MOUNTED	20A -120V DUPLEX	-	PROVIDED & INSTALLED BY OWNER
S2	CEILING SPEAKER	TBD	TBD	CEILING TILE	-	-	PROVIDED & INSTALLED BY OWNER

EQUIPMENT RACK TYPE SCHEDULE

TYPE	MANUFACTURER	MODEL	DESCRIPTION	WIDTH	DEPTH	HEIGHT	WEIGHT (LBS)	RACK SPACES	NOTES
ER-A	MIDDLE ATLANTIC	MFR-1227GE	12 SPACE MOBILE RACK, 27" DEEP	22 5/8"	27 13/32"	27"	86	14	PROVIDED & INSTALLED BY OWNER
ER-B	MIDDLE ATLANTIC	BGR-38SA-27	38 SPACE (66-1/2"), 27" DEEP STAND ALONE BGR RACK WITH REAR DOOR, BLACK FINISH	23"	27"	70 5/8"	170	38	PROVIDED & INSTALLED BY OWNER

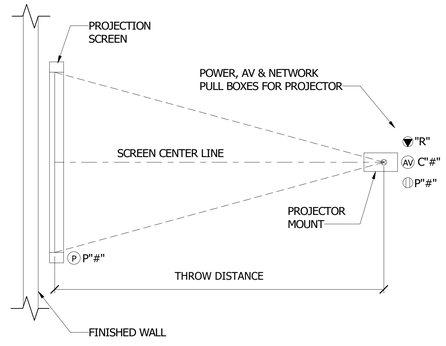
EQUIPMENT RACK SCHEDULE NOTES:

1. ALL EQUIPMENT RACKS OR TECHNICAL FURNITURE LISTED ARE PROVIDED BY THE AUDIOVISUAL CONTRACTOR UNLESS OTHERWISE NOTED.
2. WEIGHTS LISTED ARE EMPTY RACKS. REFER TO PRODUCT DATA FOR MAXIMUM WEIGHT CAPACITY.
3. ALL FINISH SELECTIONS SHALL BE APPROVED BY THE ARCHITECT THROUGH THE SUBMITTAL PROCESS.

EQUIPMENT RACK ROOM SCHEDULE

TYPE	ROOM NUMBER
ER-A	107A
ER-A	2002
ER-B	3002

CEILING MOUNT VIDEO PROJECTION SCREEN & PROJECTOR LAYOUT (TYP.)



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Checked By: AS
Project Manager: BMA

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Renovate Corey Union
103 PROSPECT TERRACE
CORTLAND, NY 13045

SWBR Project Number 23132.00

SUNY CORTLAND
SUCF Project No. 041046-00

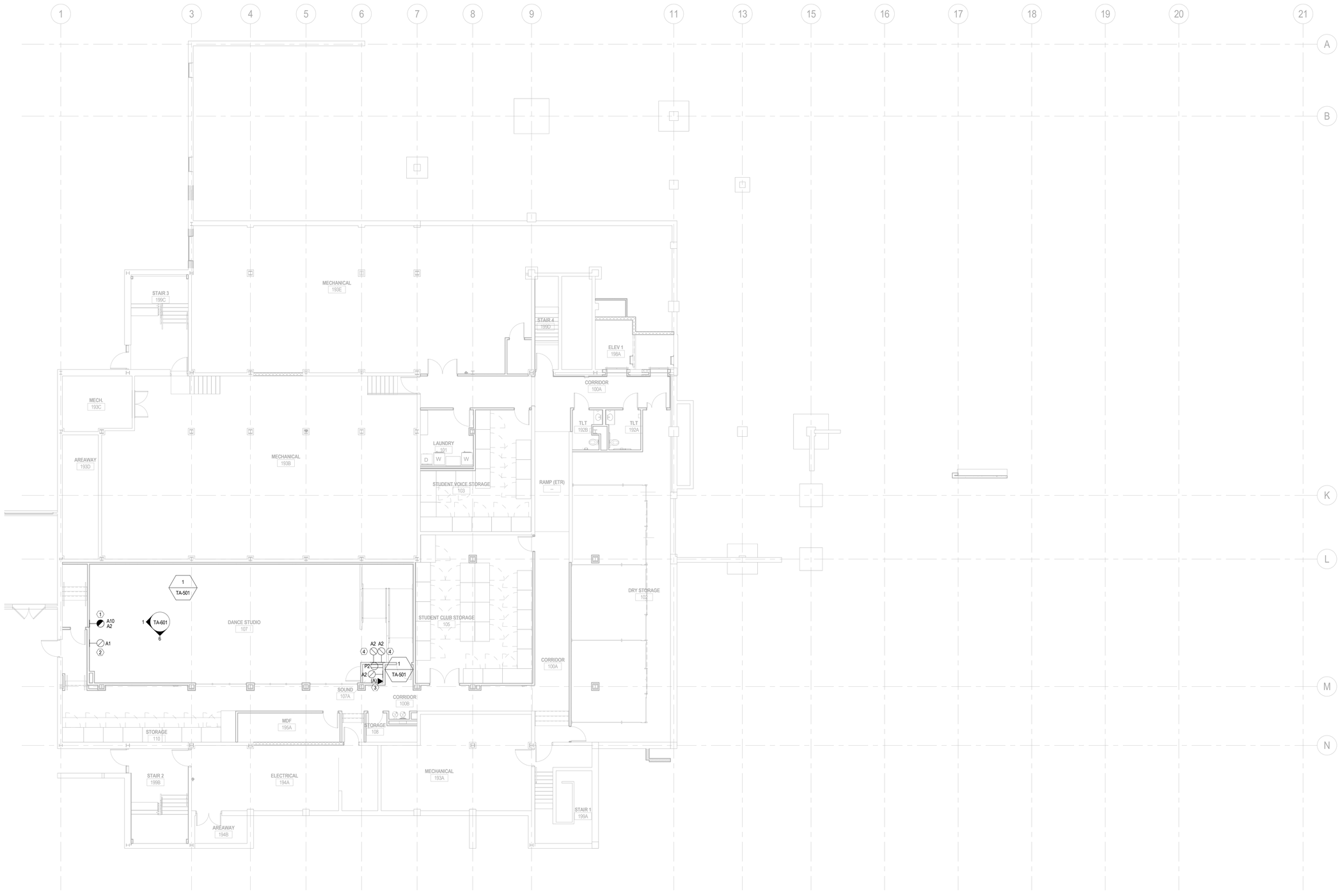
TA-002
AUDIOVISUAL SCHEDULES

November 16, 2026
BID DOCUMENTS

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11/10/2026 09:37:43

KEYNOTE LEGEND	
1	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITHIN A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 6 DATA DROPS IN SOUND 107A, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 1 DATA DROP WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.



1 AUDIOVISUAL BASEMENT FLOOR PLAN
1/8" = 1'-0"

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RCDD
11/16/2026

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Checked By:	AS
Project Manager:	BMA

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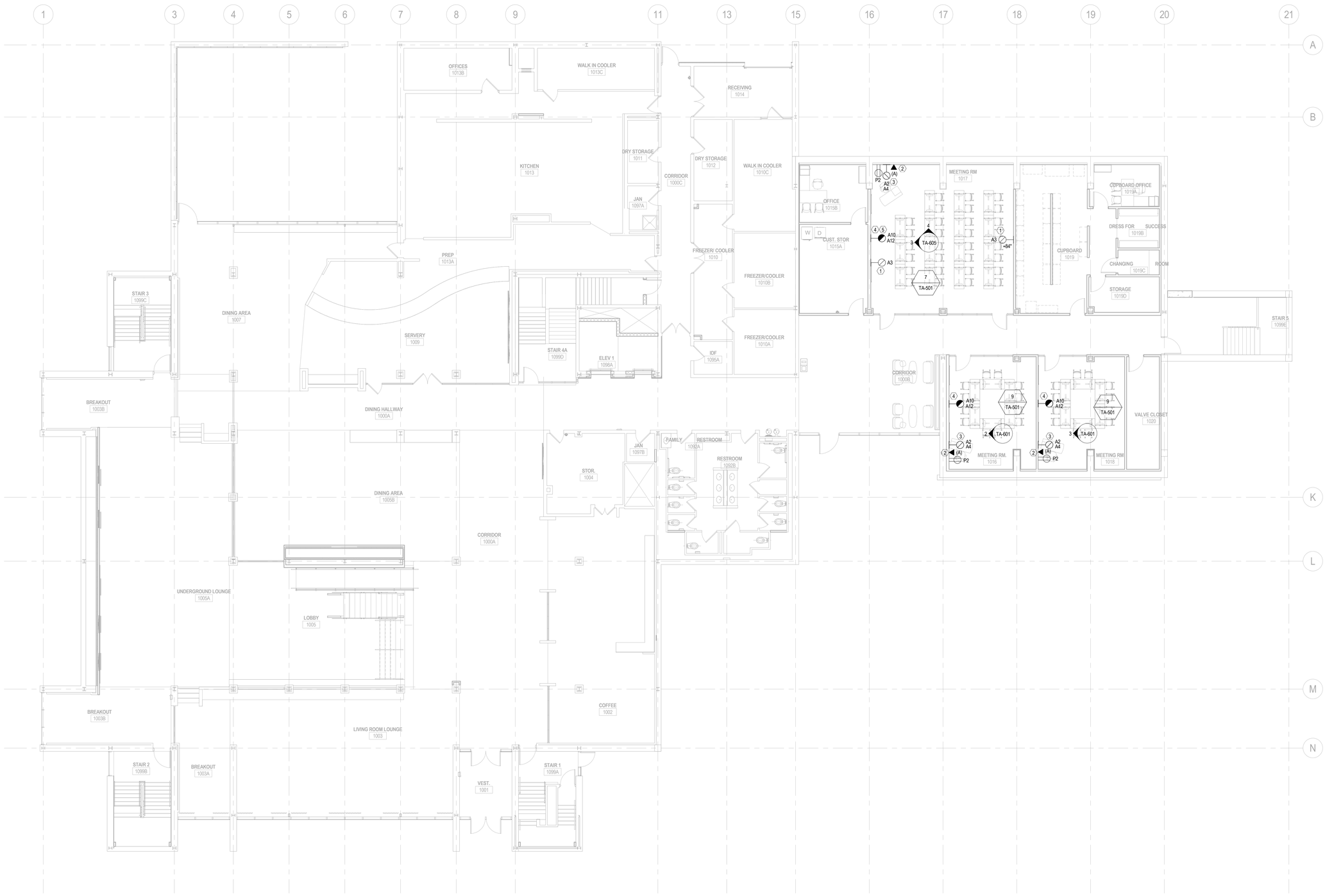
SUNY CORTLAND
SUCF Project No. 041046-00

TA-101
AUDIOVISUAL BASEMENT FLOOR PLAN

November 16, 2026
BID DOCUMENTS

11/10/2026 09:37:51

KEYNOTE LEGEND	
1	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 2 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.



1 AUDIOVISUAL FIRST FLOOR PLAN
1/8" = 1'-0"

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TA-102
AUDIOVISUAL
FIRST FLOOR PLAN

November 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23132-SUNY Cortland Corey Union_TECH_R23.rvt

11/10/2026 09:38:38

KEYNOTE LEGEND	
1	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 6 DATA DROPS AT AV EQUIPMENT RACK LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 2 DATA DROPS WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
9	PROVIDE 2 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
10	PROVIDE 1 DATA DROP WITHIN FLOOR BOX FOR AUDIOVISUAL EQUIPMENT.



1 AUDIOVISUAL SECOND FLOOR PLAN
1/8" = 1'-0"

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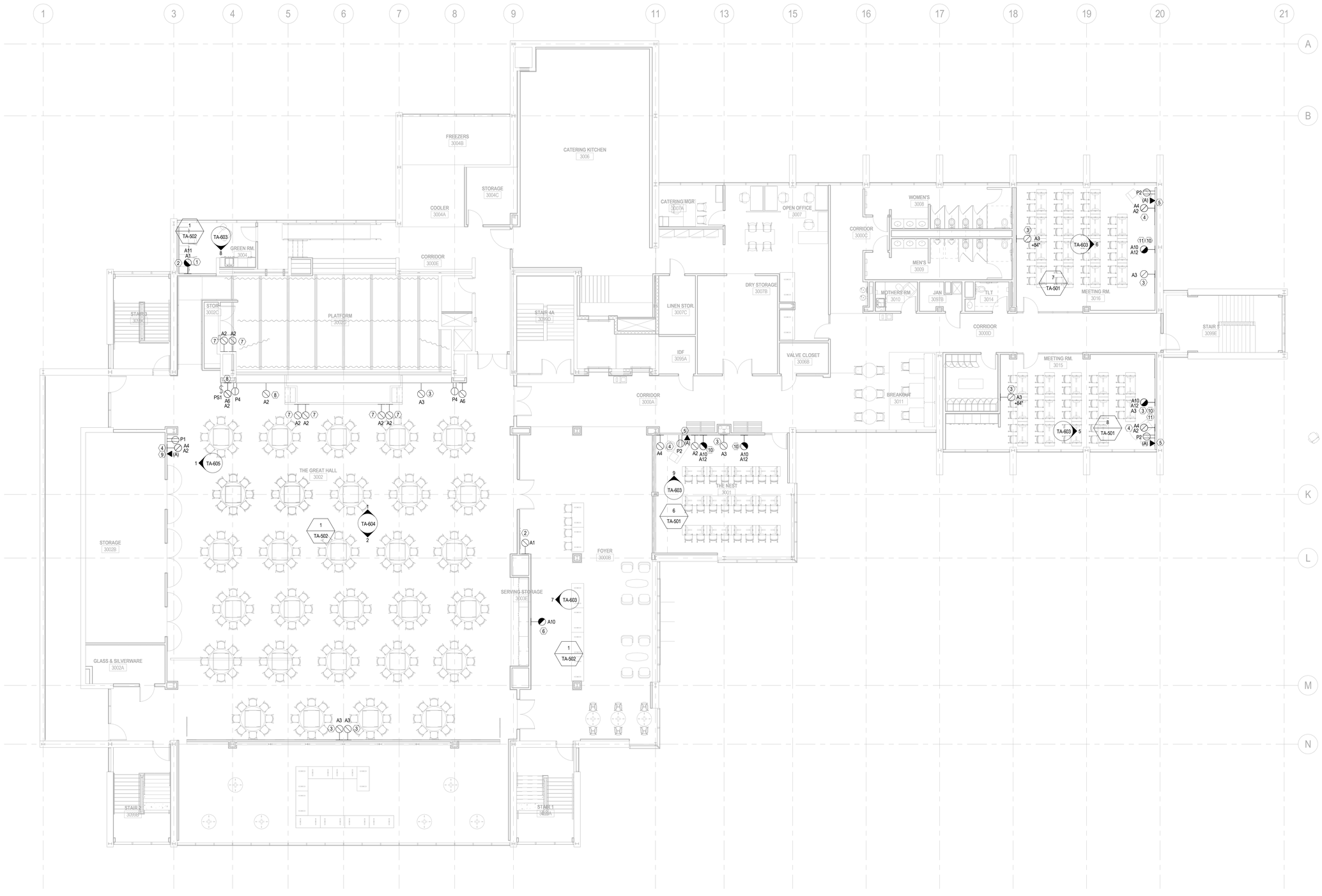
TA-103
AUDIOVISUAL SECOND FLOOR PLAN

November 16, 2026
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11/10/2026 09:39:20

KEYNOTE LEGEND	
1	PROVIDE 4 DATA DROPS WITHIN A11 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 2 DATA DROPS WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	PROVIDE 1 DATA DROP WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
9	PROVIDE 2 DATA DROPS FOR AV TRANSPORT, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
10	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
11	PROVIDE 2 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.



1 AUDIOVISUAL THIRD FLOOR PLAN
1/8" = 1'-0"

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Checked By:	AS
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SUCF Project No. 041046-00

TA-104
AUDIOVISUAL
THIRD FLOOR PLAN

November 16, 2026
BID DOCUMENTS

11/10/2026 09:39:54

KEYNOTE LEGEND	
1	PROVIDE 6 DATA DROPS AT AV EQUIPMENT RACK LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 4 DATA DROPS WITHIN A11 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 4 DATA DROPS FOR AV TRANSPORT, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 2 DATA DROPS AT PROJECTOR LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.



1 AUDIOVISUAL FOURTH FLOOR PLAN
1/8" = 1'-0"

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AUDIOVISUAL FOURTH FLOOR PLAN

November 16, 2026
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11/10/2026 09:40:16



1 BASEMENT FLOOR CEILING PLAN

1/8" = 1'-0"

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TA-201

AUDIOVISUAL
BASEMENT
CEILING PLAN

November 16, 2026

BID DOCUMENTS

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11/10/2026 09:40:43



1 AUDIOVISUAL FIRST FLOOR PLAN
1/8" = 1'-0"

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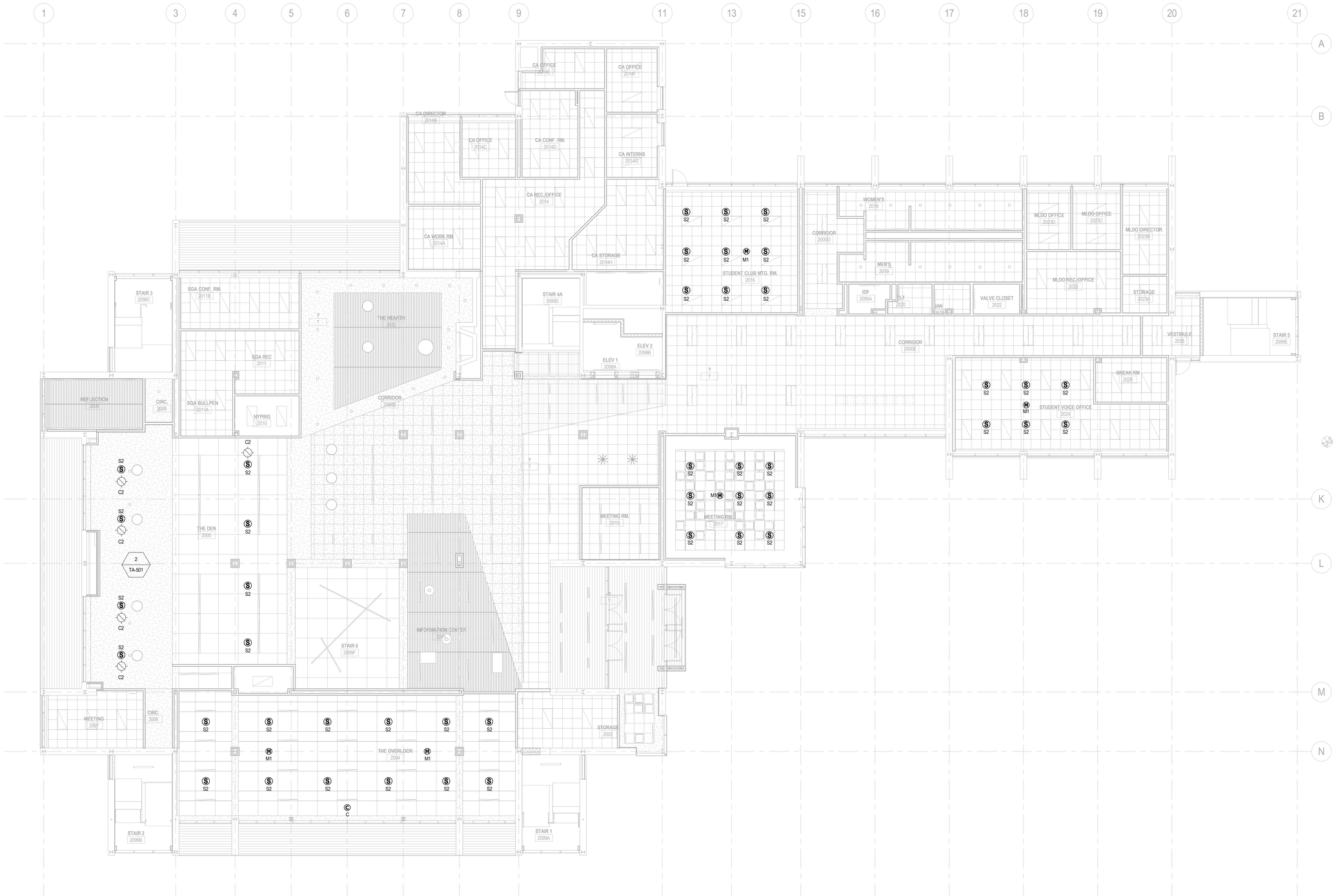
TA-202

AUDIOVISUAL
FIRST FLOOR
CEILING PLAN

November 16, 2026

BID DOCUMENTS

11/10/2026 09:41:16



1 AUDIOVISUAL SECOND FLOOR PLAN
1/8" = 1'-0"

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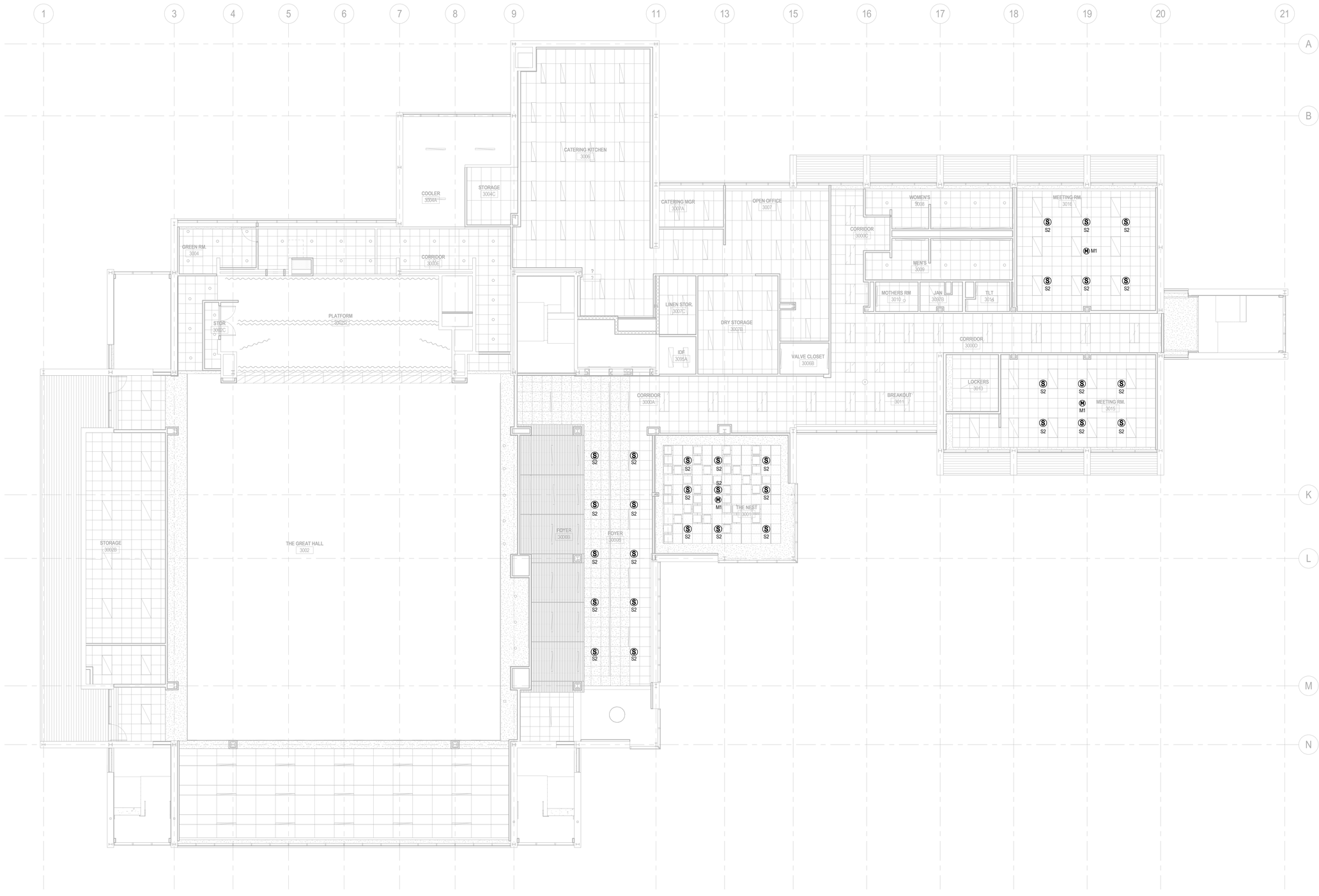
SUNY CORTLAND
SUCF Project No. 041046-00

TA-203

AUDIOVISUAL SECOND FLOOR CEILING PLAN

November 16, 2026
BID DOCUMENTS

11/10/2026 09:41:47



1 AUDIOVISUAL THIRD FLOOR PLAN
1/8" = 1'-0"

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TA-204

AUDIOVISUAL
THIRD FLOOR
CEILING PLAN

November 16, 2026
BID DOCUMENTS

11/10/2026 09:42:16



1 AUDIOVISUAL FOURTH FLOOR PLAN
1/8" = 1'-0"

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TA-205
AUDIOVISUAL FOURTH FLOOR CEILING PLAN

November 16, 2026
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11/10/2026 09:42:39



1 AUDIOVISUAL BASEMENT EQUIPMENT PLAN
1/8" = 1'-0"

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TA-301

AUDIOVISUAL BASEMENT EQUIPMENT PLAN

November 16, 2026
BID DOCUMENTS

11/10/2026 09:43:07



1 AUDIOVISUAL FIRST FLOOR EQUIPMENT PLAN
1/8" = 1'-0"

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TA-302
AUDIOVISUAL FIRST FLOOR EQUIPMENT PLAN

November 16, 2026
BID DOCUMENTS

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11/10/2026 09:43:39



1 AUDIOVISUAL SECOND FLOOR EQUIPMENT PLAN
1/8" = 1'-0"

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TA-303

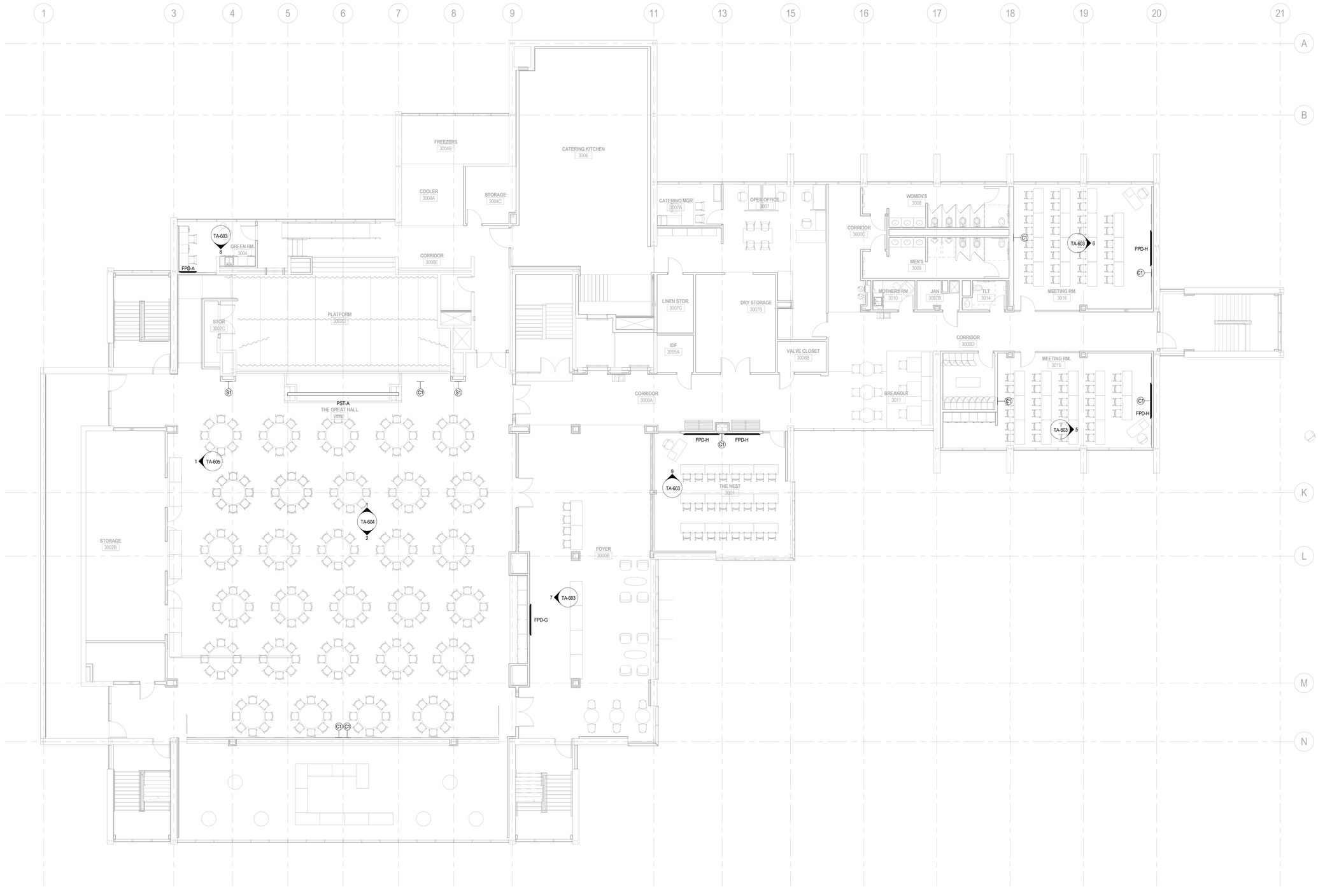
AUDIOVISUAL SECOND FLOOR EQUIPMENT PLAN

November 16, 2026

BID DOCUMENTS

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11/10/2026 09:44:12



1 AUDIOVISUAL THIRD FLOOR EQUIPMENT PLAN
1/8" = 1'-0"

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TA-304

AUDIOVISUAL
THIRD FLOOR
EQUIPMENT PLAN

November 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23132-SUNY Cortland Corey Union_TECH_R23.rvt

11/10/2026 09:44:43



1 AUDIOVISUAL FOURTH FLOOR EQUIPMENT PLAN
1/8" = 1'-0"

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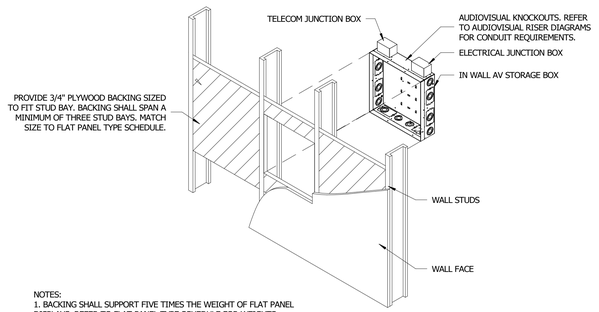
SUNY CORTLAND
SUCF Project No. 041046-00

TA-305

AUDIOVISUAL FOURTH FLOOR EQUIPMENT PLAN

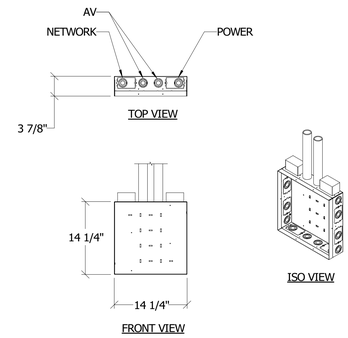
November 16, 2026
BID DOCUMENTS

11/10/2026 09:45:03

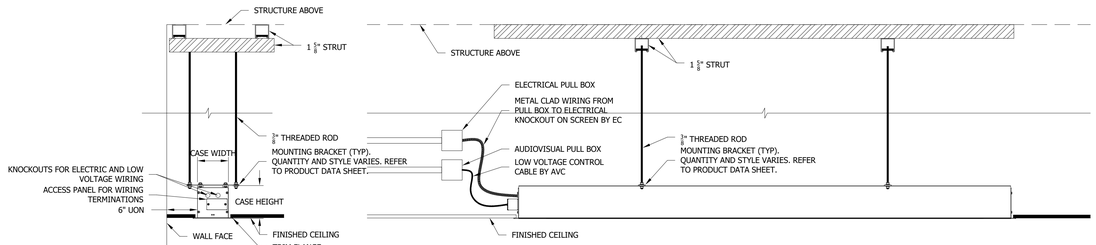


NOTES:
1. BACKING SHALL SUPPORT FIVE TIMES THE WEIGHT OF FLAT PANEL DISPLAYS. REFER TO FLAT PANEL TYPE SCHEDULE FOR WEIGHTS.
2. BACKING SHALL SPAN A MINIMUM OF THREE STUD BAYS.
3. SEE PARTITION TYPES FOR STUD SIZE AND MATERIAL.
4. VERIFY LOCATIONS OF BACKING WITH PLANS AND ROOM ELEVATIONS.
5. FLAT PANEL DISPLAYS AND MOUNTING BRACKETS BY AVC.

1 A10 - WALL MOUNTED DISPLAY BACKBOX MOUNTING DETAIL
1" = 1'-0"

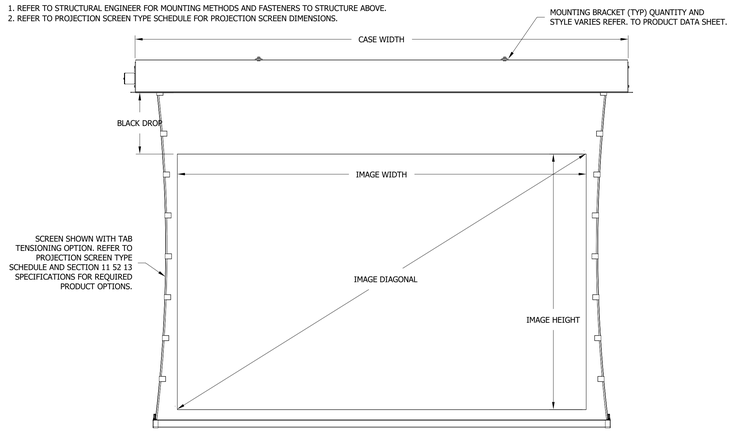


2 PAC 526 AV ALL BOX DETAIL
1" = 1'-0"



NOTES:

1. REFER TO STRUCTURAL ENGINEER FOR MOUNTING METHODS AND FASTENERS TO STRUCTURE ABOVE.
2. REFER TO PROJECTION SCREEN TYPE SCHEDULE FOR PROJECTION SCREEN DIMENSIONS.



3 CEILING RECESSED PROJECTION SCREEN DETAIL
1" = 1'-0"

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Bicsi
William Mcintosh
BICSI ID # 397321
EXPIRES 12-31-27
RCDD
11/16/2026

Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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Revisions

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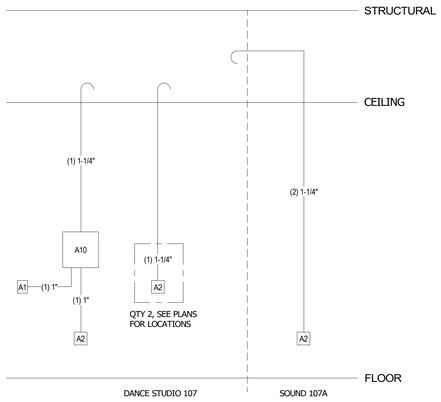
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SUCF Project No. 041046-00

TA-401
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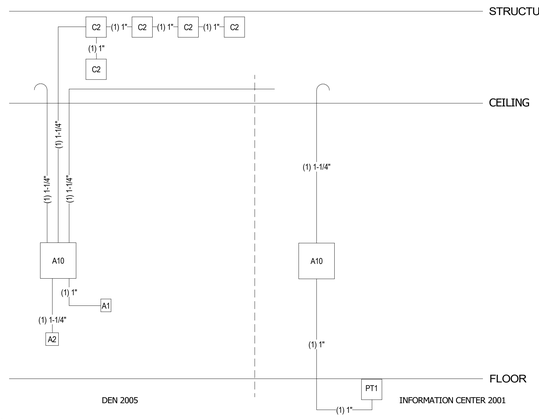
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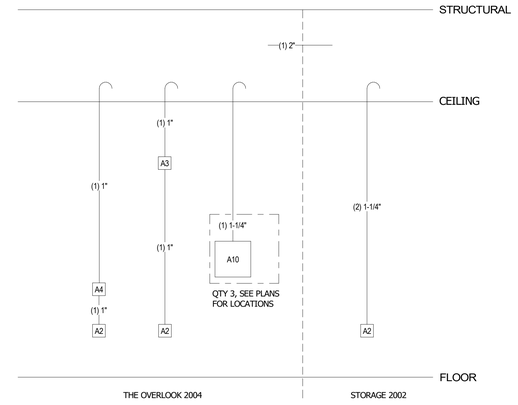
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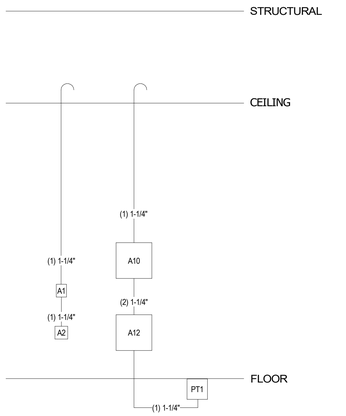
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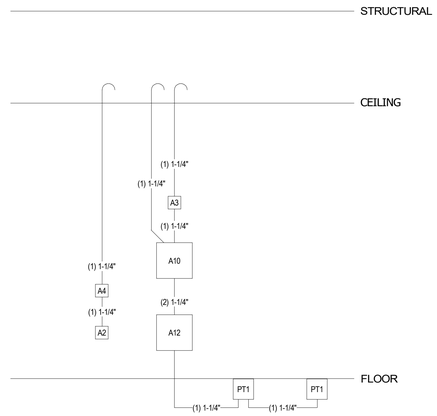
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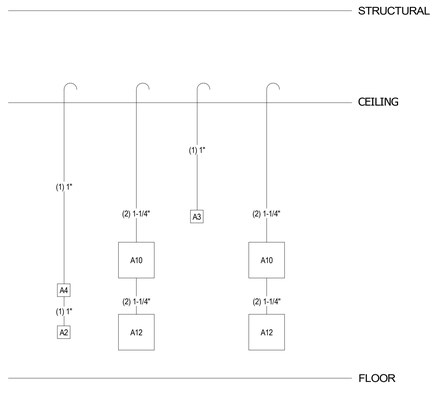
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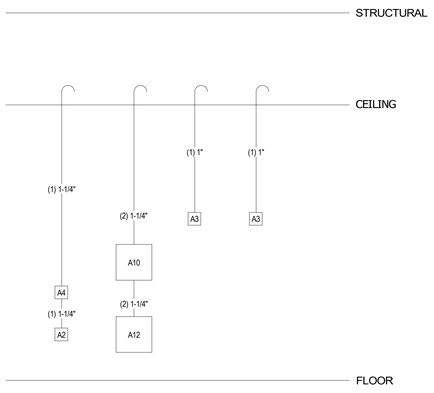
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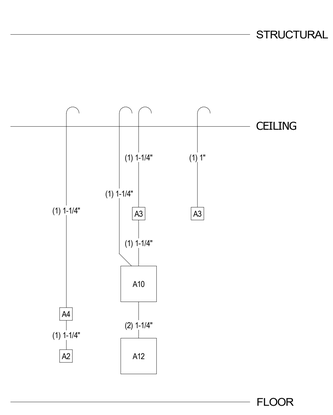
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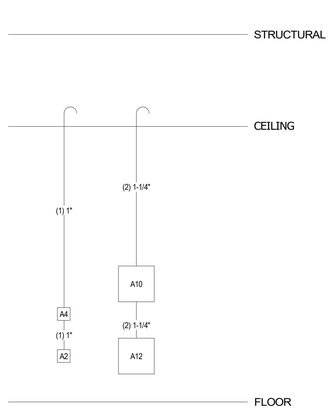
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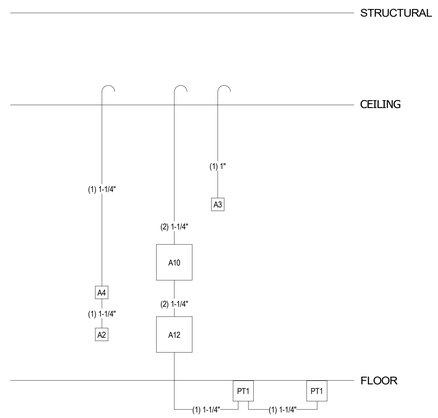
7 MEETING RM TYPE 4
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8 MEETING RM TYPE 5
Not To Scale



9 MEETING RM TYPE 6
Not To Scale



10 STUDENT CLUB MTG RM 2016
Not To Scale

INFRASTRUCTURE RISER SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-
PT1	POKE-THRU 1	-

SHEET NOTES:

1. PROVIDE NYLON BUSHING ON END OF ALL CONDUIT STUB(S) / SLEEVE(S).

2. LABEL THE CONDUIT AND BOX ON BOTH ENDS WITH THE ROOM AND BOX NUMBERS TO ALLOW READY IDENTIFICATION.

3. COMPLY WITH INDUSTRY STANDARDS AND BEST PRACTICES IN CONDUIT ROUTING PROVIDING APPROPRIATE QUANTITY OF PULL BOXES ALONG ANY PATH WITH MULTIPLE BENDS, REGARDLESS OF WHAT IS INDICATED IN THE RISER DIAGRAMS.

4. ALL CONDUIT SHOWN IS FOR AUDIOVISUAL CABLING PATHWAYS ONLY. NETWORK & POWER PATHWAY(S) / CONDUIT(S) TO COMPOUND AUDIOVISUAL BOXES SUCH AS DISPLAY WALL BOXES, PLENUM CEILING BOXES, FLOOR BOXES, OR POKE-THRU DEVICES SHOWN IN RISER MUST BE PROVIDED SEPARATELY. REFER TO TELECOMMUNICATIONS AND ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.

5. RISERS AS SHOWN ARE DIAGRAMMATIC ILLUSTRATIONS. ALL CONDUIT PATHWAYS INDICATED ARE TO ESTABLISH REQUIRED CONNECTIVITY ENDPOINTS. THE E.C. SHALL PROVIDE ACTUAL PATHWAY ROUTING BASED ON INDUSTRY BEST PRACTICES AND FIELD CONDITIONS.

- DENOTES CONDUIT STUB ABOVE ACCESSIBLE CEILING.

- DENOTES CONDUIT SLEEVE FROM ROOM TO ACCESSIBLE CEILING AREA WITHIN INDICATED AREA. IF NOT SPECIFICALLY INDICATED IN THE RISER DIAGRAM, LOCATE IN ACCESSIBLE CEILING AREA WITH LOW VOLTAGE PATHWAYS AVAILABLE TO THE NEAREST TELECOM CLOSET.

- DENOTES FLOOR PENETRATION CONDUIT STUB.

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William McIntosh
BICSI ID # 387331
EXPIRES 12-31-27
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Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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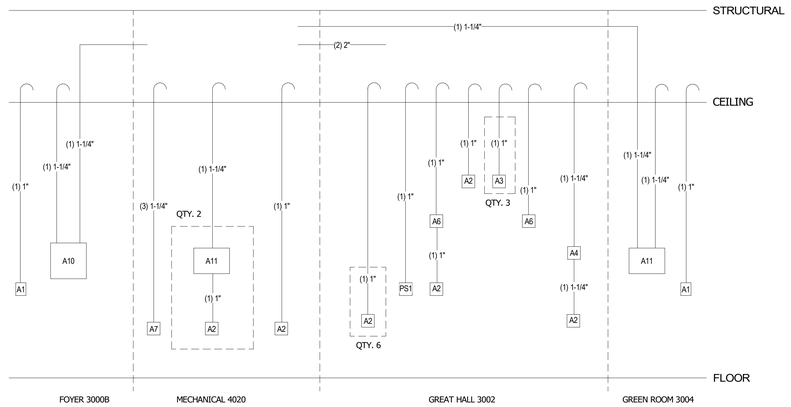
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SUCF Project No. 041046-00

TA-501
AUDIOVISUAL
RISER DIAGRAMS

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1 THE GREAT HALL
Not To Scale

INFRASTRUCTURE RISER SCHEDULE		
TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-
PT1	POKE-THRU 1	-

SHEET NOTES:

1. PROVIDE NYLON BUSHING ON END OF ALL CONDUIT STUB(S) / SLEEVE(S).

2. LABEL THE CONDUIT AND BOX ON BOTH ENDS WITH THE ROOM AND BOX NUMBERS TO ALLOW READY IDENTIFICATION.

3. COMPLY WITH INDUSTRY STANDARDS AND BEST PRACTICES IN CONDUIT ROUTING PROVIDING APPROPRIATE QUANTITY OF PULL BOXES ALONG ANY PATH WITH MULTIPLE BENDS, REGARDLESS OF WHAT IS INDICATED IN THE RISER DIAGRAMS.

4. ALL CONDUIT SHOWN IS FOR AUDIOVISUAL CABLING PATHWAYS ONLY. NETWORK & POWER PATHWAY(S) / CONDUIT(S) TO COMPOUND AUDIOVISUAL BOXES SUCH AS DISPLAY WALL BOXES, PLENUM CEILING BOXES, FLOOR BOXES, OR POKE-THRU DEVICES SHOWN IN RISER MUST BE PROVIDED SEPARATELY. REFER TO TELECOMMUNICATIONS AND ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.

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- DENOTES FLOOR PENETRATION CONDUIT STUB.

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Checked By:	AS
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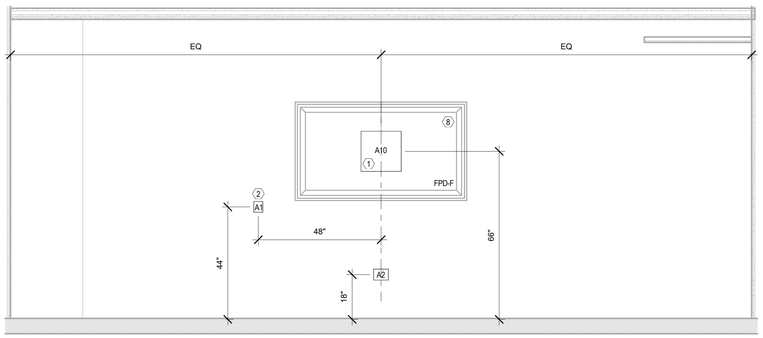
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TA-502
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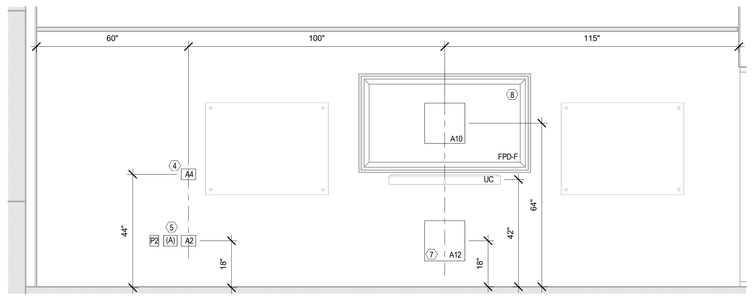
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1 DANCE STUDIO 107
1/2" = 1'-0"

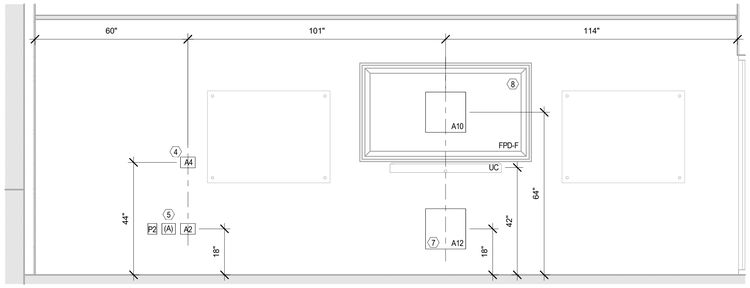


2 MEETING RM 1016
1/2" = 1'-0"

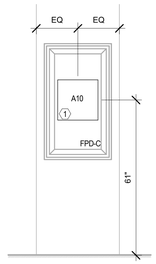
INFRASTRUCTURE ELEVATION SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
P1	DUPLEX CONVIENCE OUTLET	-
P2	DUPLEX OUTLET FOR AV EQUIPMENT	-
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	-
P4	RECESSED CLOCK OUTLET	-
P8	POWER PULL BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-

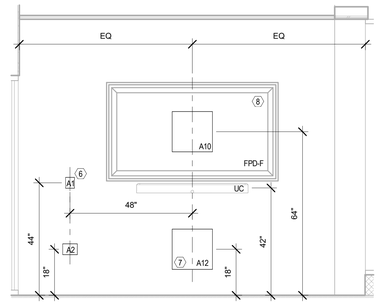
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1	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITHIN A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	BACKING TO SUPPORT FIVE TIMES WEIGHT OF DISPLAY AND MOUNT



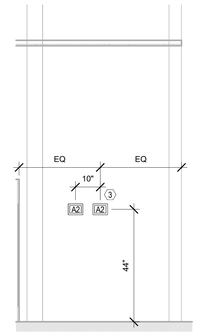
3 MEETING RM 1018
1/2" = 1'-0"



4 CORRIDOR 2000A
1/2" = 1'-0"



5 SGA CONF RM 2011B
1/2" = 1'-0"



6 DANCE STUDIO 107
1/2" = 1'-0"

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Checked By:	AS
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TA-601
AUDIOVISUAL ELEVATIONS

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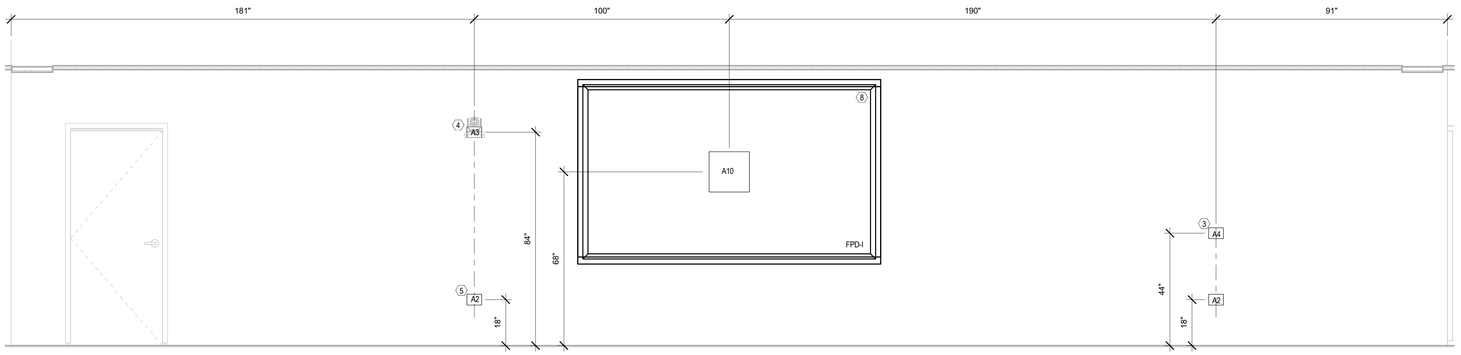
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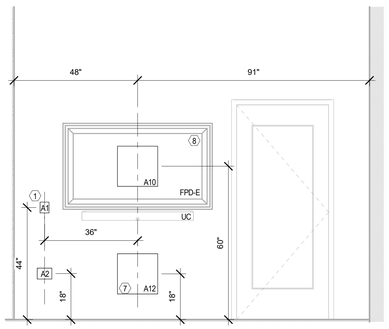
INFRASTRUCTURE ELEVATION SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
P1	DUPLEX CONVIENCE OUTLET	-
P2	DUPLEX OUTLET FOR AV EQUIPMENT	-
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	-
P4	RECESSED CLOCK OUTLET	-
P8	POWER PULL BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-

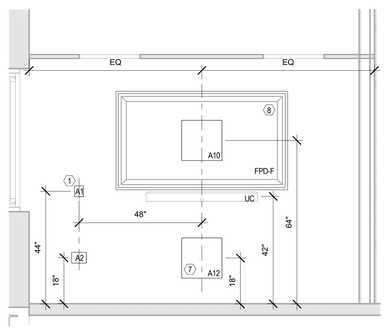
KEYNOTE LEGEND	
1	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 2 DATA DROPS WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 6 DATA DROPS AT AV EQUIPMENT RACK LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	BACKING TO SUPPORT FIVE TIMES WEIGHT OF DISPLAY AND MOUNT



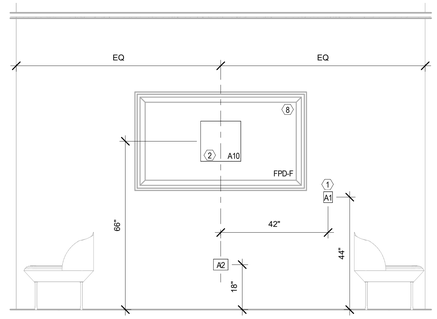
1 THE OVERLOOK 2004
1/2" = 1'-0"



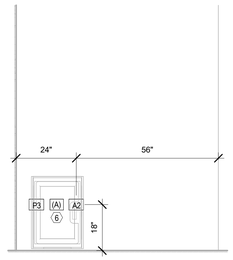
2 MEETING 2007
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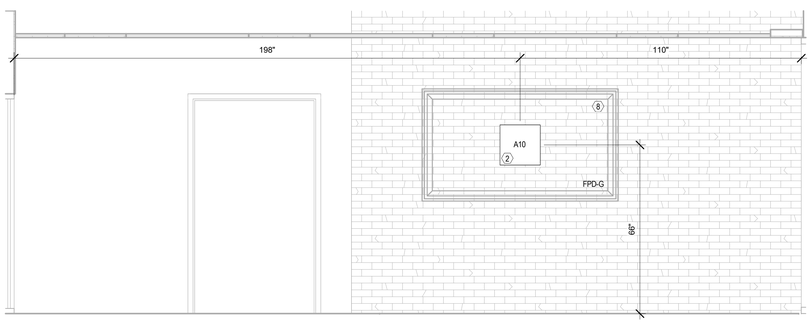
3 CA CONF RM 2014D
1/2" = 1'-0"



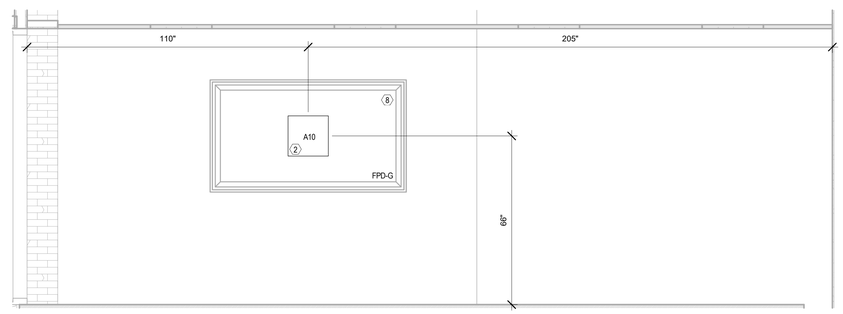
4 THE DEN 2005
1/2" = 1'-0"



5 STORAGE 2002
1/2" = 1'-0"



6 THE OVERLOOK 2004
1/2" = 1'-0"



7 THE OVERLOOK 2004
1/2" = 1'-0"

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Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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TA-602
AUDIOVISUAL ELEVATIONS

November 16, 2026
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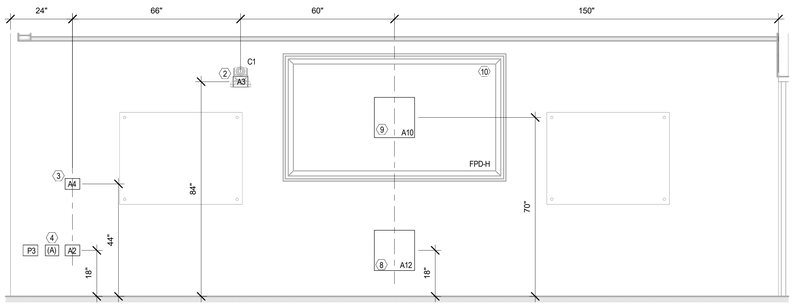
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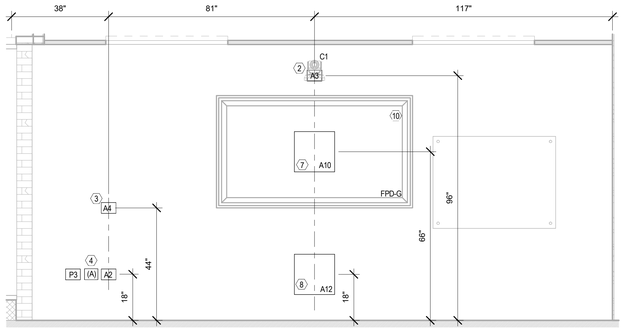
INFRASTRUCTURE ELEVATION SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
P1	DUPLEX CONVIENCE OUTLET	-
P2	DUPLEX OUTLET FOR AV EQUIPMENT	-
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	-
P4	RECESSED CLOCK OUTLET	-
P8	POWER PULL BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-

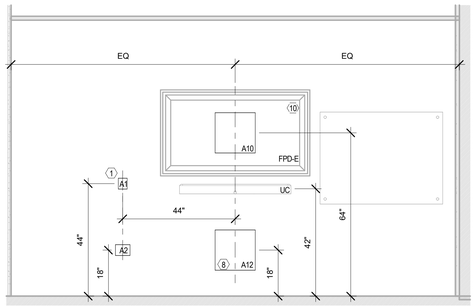
KEYNOTE LEGEND	
1	PROVIDE 1 DATA DROP WITH A1 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 4 DATA DROPS WITHIN A11 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 4 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 2 DATA DROPS WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
9	PROVIDE 2 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
10	BACKING TO SUPPORT FIVE TIMES WEIGHT OF DISPLAY AND MOUNT



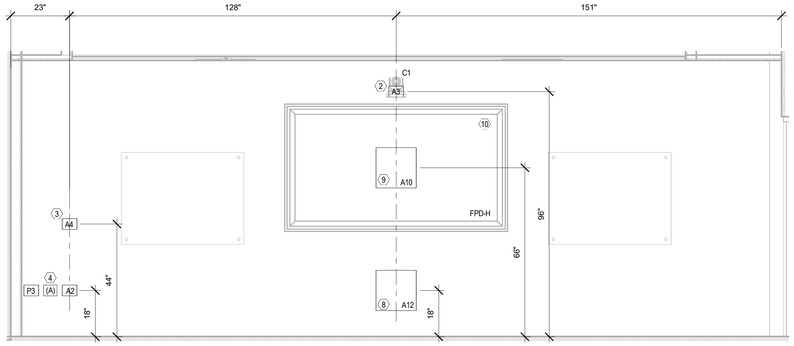
1 STUDENT CLUB MTG RM 2016
1/2" = 1'-0"



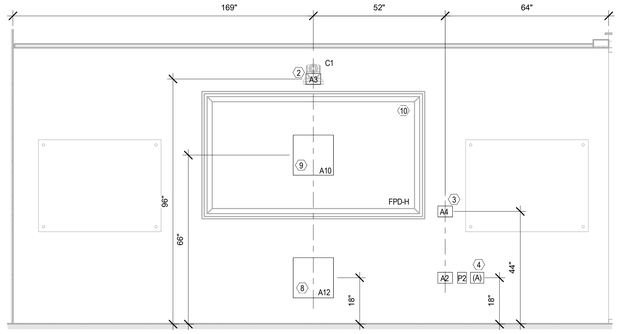
2 STUDENT VOICE OFFICE 2024
1/2" = 1'-0"



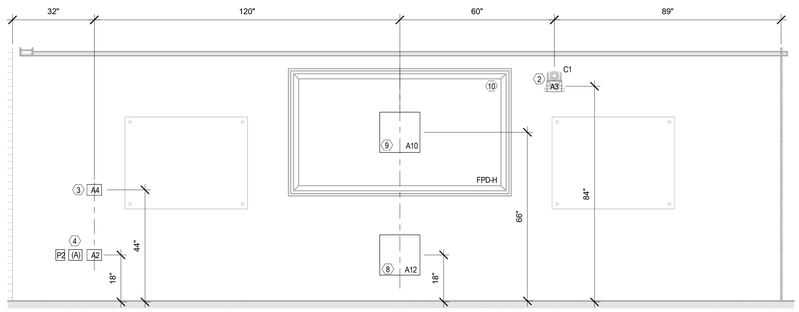
3 MEETING RM 2015
1/2" = 1'-0"



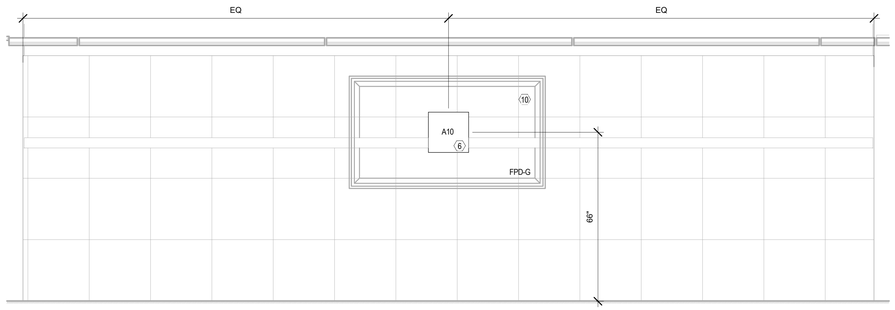
4 MEETING RM 2017
1/2" = 1'-0"



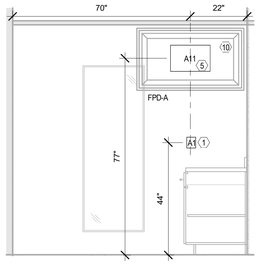
5 MEETING RM 3015
1/2" = 1'-0"



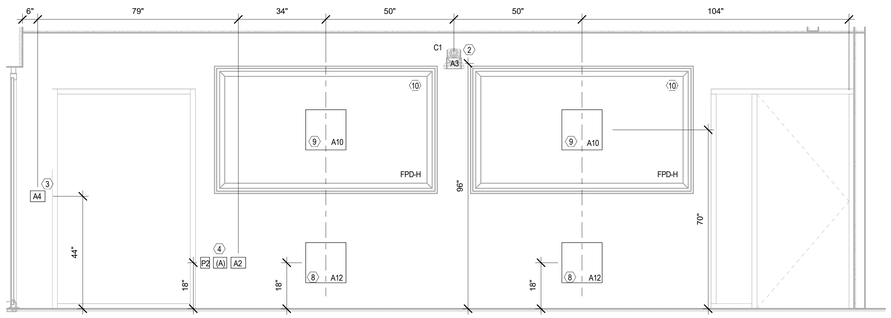
6 MEETING RM 3016
1/2" = 1'-0"



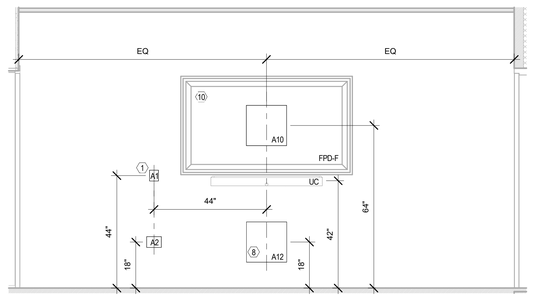
7 FOYER 3000B
1/2" = 1'-0"



8 GREEN RM 3004
1/2" = 1'-0"



9 THE NEST 3001
1/2" = 1'-0"



10 CONF/HEARING 4009
1/2" = 1'-0"

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EXPIRES 12-31-27
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11/16/2026

Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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Revisions

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SWBR Project Number

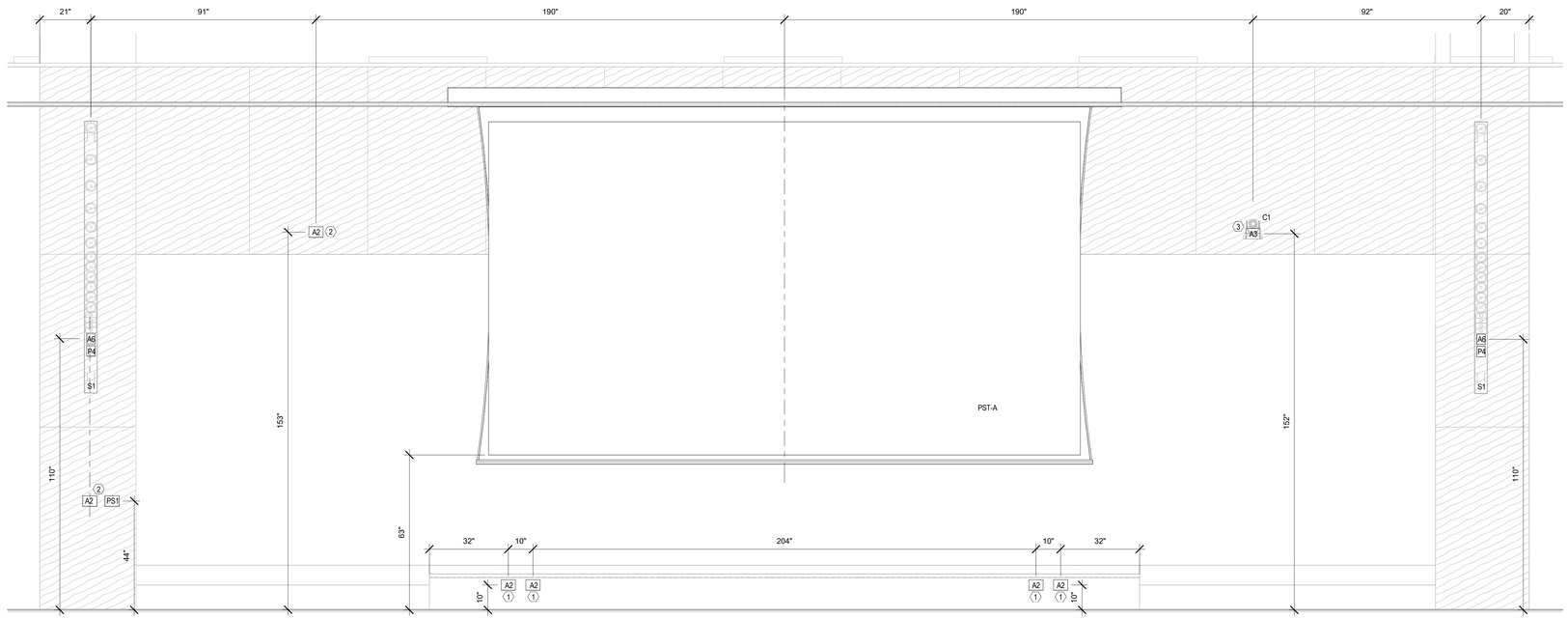
SUNY CORTLAND
SUCF Project No. 041046-00

TA-603
AUDIOVISUAL ELEVATIONS

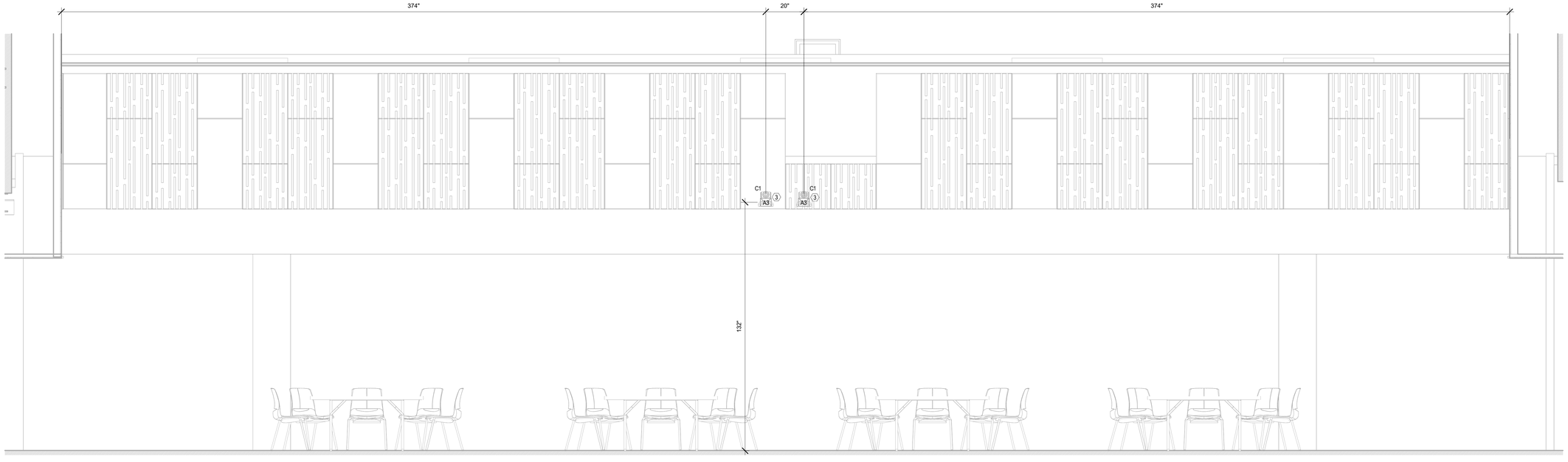
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1 THE GREAT HALL 3002 (NORTH)
1/2" = 1'-0"



2 THE GREAT HALL 3002 (SOUTH)
1/2" = 1'-0"

INFRASTRUCTURE ELEVATION SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
P1	DUPLEX CONVIENCE OUTLET	-
P2	DUPLEX OUTLET FOR AV EQUIPMENT	-
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	-
P4	RECESSED CLOCK OUTLET	-
P8	POWER PULL BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-

KEYNOTE LEGEND	
1	PROVIDE 2 DATA DROPS WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 1 DATA DROP WITH A2 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.

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William Mcintosh
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EXPIRES 12-31-27
RCDD

11/16/2026

Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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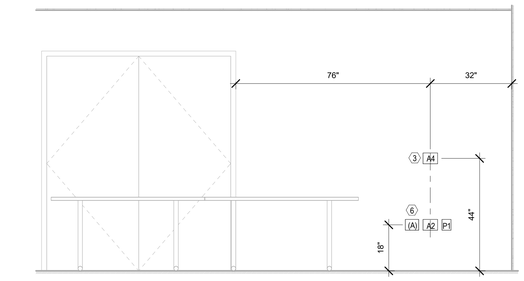
SUNY CORTLAND
SUCF Project No. 041046-00

TA-604
AUDIOVISUAL ELEVATIONS

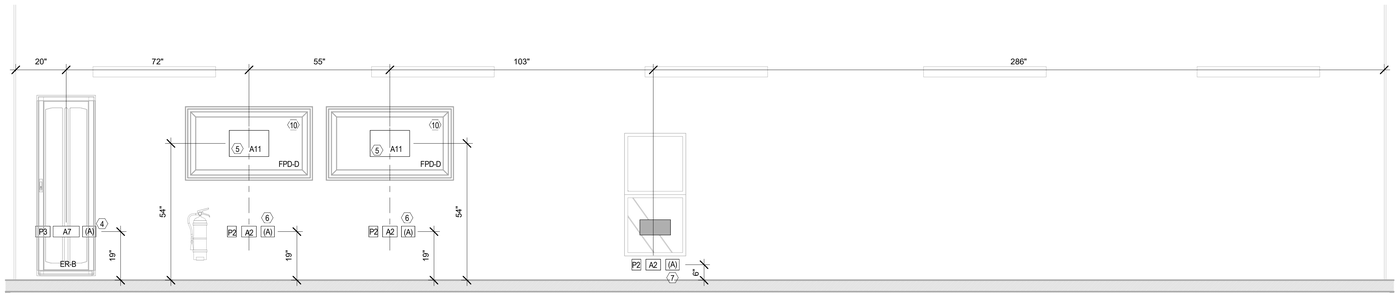
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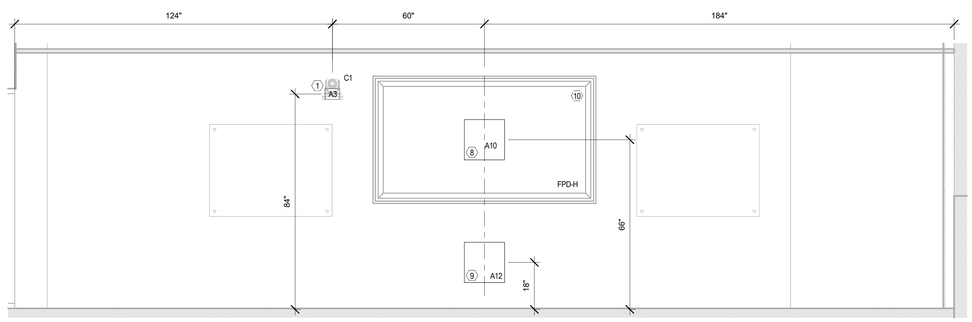
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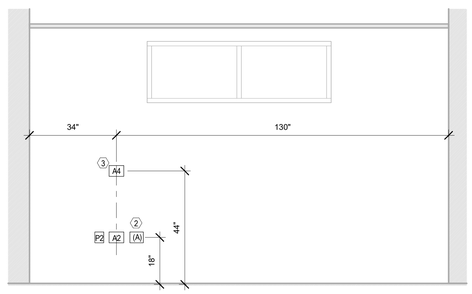
1 THE GREAT HALL (WEST)
1/2" = 1'-0"



2 MECHANICAL 4020
1/2" = 1'-0"



3 MEETING RM 1017
1/2" = 1'-0"



4 MEETING RM 1017
1/2" = 1'-0"

INFRASTRUCTURE ELEVATION SCHEDULE

TYPE	FUNCTION	DETAIL
A1	1 GANG AV BACK BOX FOR CONTROL PANEL	-
A2	2 GANG AV BACK BOX	-
A3	2 GANG AV BACK BOX FOR CAMERA	-
A4	2 GANG AV BACK BOX FOR TOUCH PANEL	
A6	1 GANG AV BACK BOX FOR WALL MOUNT SPEAKER	-
A7	4 GANG AV BACK BOX	-
A10	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A11	IN-WALL AV STORAGE BOX W/TELECOM & POWER	-
A12	IN-WALL AV STORAGE BOX W/TELECOM & POWER - COVER INCLUDED	-
C2	2 GANG AV CEILING BACK BOX	-
P1	DUPLEX CONVIENCE OUTLET	-
P2	DUPLEX OUTLET FOR AV EQUIPMENT	-
P3	QUADRUPLEX OUTLET FOR AV EQUIPMENT	-
P4	RECESSED CLOCK OUTLET	-
P8	POWER PULL BOX	-
PS1	1 GANG PROJECTION SCREEN SWITCH	-

KEYNOTE LEGEND	
1	PROVIDE 1 DATA DROP WITH A3 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
2	PROVIDE 6 DATA DROPS FOR INSTRUCTOR STATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
3	PROVIDE 1 DATA DROP WITH A4 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
4	PROVIDE 6 DATA DROPS AT AV EQUIPMENT RACK LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
5	PROVIDE 4 DATA DROPS WITHIN A11 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
6	PROVIDE 4 DATA DROPS FOR AV TRANSPORT, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
7	PROVIDE 2 DATA DROPS AT PROJECTOR LOCATION, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
8	PROVIDE 2 DATA DROPS WITHIN A10 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
9	PROVIDE 4 DATA DROPS WITHIN A12 BACK BOX, REFER TO ELECTRICAL DRAWINGS FOR FURTHER INFORMATION.
10	BACKING TO SUPPORT FIVE TIMES WEIGHT OF DISPLAY AND MOUNT

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Drawn By:	CS
Checked By:	AS
Project Manager:	BMA

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SUCF Project No. 041046-00

TA-605
AUDIOVISUAL ELEVATIONS

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HVAC SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	EXISTING WORK TO BE REMOVED	A	COMPRESSED AIR
	POINT OF CONNECTION	V	VENT
		BBD	BOILER BLOW DOWN
	POINT OF DISCONNECTION	CS	CONDENSER WATER SUPPLY
		CR	CONDENSER WATER RETURN
(X)	DRAWING KEYNOTE	CWS	CHILLED WATER SUPPLY
		CWR	CHILLED WATER RETURN
X	DEMOLITION KEYNOTE	D	DRAIN
		FOF	FUEL OIL FILL
MBH	THOUSAND BTU/HOUR	FOG	FUEL OIL GAUGE
NTS	NOT TO SCALE	FOS	FUEL OIL SUPPLY
(E)	EXISTING	FOR	FUEL OIL RETURN
(L)	ACOUSTIC THERMAL LINING - 1-1/2" THICK	FOV	FUEL OIL TANK VENT
(2L)	ACOUSTIC THERMAL LINING - 2" THICK	G	GAS
(DBL)	DOUBLE WALL LINED DUCT	GS	GLYCOL SUPPLY
FPM	FEET PER MINUTE	GR	GLYCOL RETURN
CFM	CUBIC FEET PER MINUTE	HPWS	HEAT PUMP WATER SUPPLY
OBVD	OPPOSED BLADE VOLUME DAMPER	HPWR	HEAT PUMP WATER RETURN
AFF	ABOVE FINISHED FLOOR	HWS	HOT WATER SUPPLY
AD	ACCESS DOOR	HWR	HOT WATER RETURN
W/W	WALL TO WALL	LPS	LOW PRESSURE STEAM
G.C.	GENERAL CONTRACTOR	LPC	LOW PRESSURE CONDENSATE
M.C.	MECHANICAL CONTRACTOR	MPS	MEDIUM PRESSURE STEAM
P.C.	PLUMBING CONTRACTOR	MPC	MEDIUM PRESSURE CONDENSATE
E.C.	ELECTRICAL CONTRACTOR	HPS	HIGH PRESSURE STEAM
N.O.	NORMALLY OPEN	HPC	HIGH PRESSURE CONDENSATE
N.C.	NORMALLY CLOSED	PC	PUMPED CONDENSATE
	FLEXIBLE DUCTWORK	RD	REFRIGERANT DISCHARGE
AxB FO	DUCT SECTION - FLAT OVAL (FO)	RL	REFRIGERANT LIQUID
		RS	REFRIGERANT SUCTION
12"	ROUND DUCT - IN INCHES	HG	HOT GAS
		VAC	VACUUM
	DUCT SECTION - SUPPLY	CW	DOMESTIC COLD WATER
		TD	TRIPLE DUTY VALVE
	DUCT SECTION - RETURN		GLOBE VALVE
			BALL VALVE
A B	WIDTH A x DEPTH B		GATE VALVE
			CONTROL VALVE
	TRANSITION SQUARE TO ROUND		THREE WAY CONTROL VALVE
R	RISE IN DUCT - IN DIRECTION OF AIRFLOW		CHECK VALVE
			BALANCING VALVE
D	DROP IN DUCT - IN DIRECTION OF AIRFLOW		BUTTERFLY VALVE
			RELIEF VALVE
DN 24x12 UP	SUPPLY DUCT TURNING UP OR DOWN	PRV	PRESSURE REDUCING VALVE
			PRESSURE/TEMPERATURE TEST PLUG
DN 24x12 UP	RETURN DUCT TURNING UP OR DOWN		SINGLE LINE PIPE CONTINUED
24x12 6" BOOT TAP 14x8	SUPPLY/RETURN RECTANGULAR MAIN RECTANGULAR BRANCH		DOUBLE LINE PIPE OR ROUND DUCT CONTINUED
			DOUBLE LINE RECTANGULAR DUCT CONTINUED
24x12 6" BOOT TAP 14"	SUPPLY/RETURN RECTANGULAR MAIN ROUND BRANCH		AIR FLOW
			PIPE ANCHOR
			PIPE GUIDE
			EXPANSION COMPENSATOR WITH GUIDES
18" CONICAL TEE 14"	SUPPLY/RETURN ROUND MAIN ROUND BRANCH		PRE-FAB EXPANSION LOOP
			STRAINER
			PRESSURE GAUGE
18" LATERAL 14"	SUPPLY/RETURN ROUND MAIN ROUND BRANCH		THERMOMETER
			UNION
		V	AIR VENT
		TT	THERMOSTATIC TRAP
	MITERED ELBOW WITH TURNING VANES	FT	FLOAT & THERMOSTATIC TRAP
		TD	THERMODYNAMIC TRAP
		BT	BUCKET TRAP
			DIRECTION OF FLOW
	SUPPLY DIFFUSER, REGISTER OR GRILLE		REDUCER
			CAP OR PLUG
	RETURN REGISTER		ELBOW DOWN
			ELBOW UP
	EXHAUST GRILLE		BOTTOM TAP
		AAD	AUTOMATIC AIR DAMPER
	FIN TUBE RADIATION	FD	FIRE DAMPER
	VALANCE	SD	SMOKE DAMPER
		FSD	COMBINATION FIRE/SMOKE DAMPER
A B C	REGISTER, GRILLE OR DIFFUSER TAG A = TYPE B = NECK SIZE C = CFM	BDD	BACK DRAFT DAMPER
		FC	FLEX CONNECTOR - DUCTWORK
		MD	MOTORIZED DAMPER
A B C D	LINEAR DIFFUSER TAG A = TYPE B = NECK SIZE C = DIFFUSER LENGTH D = CFM	BG	BLAST GATE
			VOLUME DAMPER
		SD	SUCTION DIFFUSER
			FLEXIBLE CONNECTOR - PIPING
FT-A B C D	FIN TUBE RADIATION TAG FT-A = TYPE B = FIN TUBE LENGTH C = ENCLOSURE LENGTH D = GPM		DRAIN VALVE WITH HOSE CONNECTION, CAP AND CHAIN
		FS	WATER FLOW SENSOR
		TS	WATER TEMPERATURE SENSOR
A B C	RADIANT CEILING PANEL TAG A = TYPE B = LENGTH C = GPM	SP	STATIC PRESSURE SENSOR
		H	HUMIDISTAT
		T	TEMPERATURE SENSOR
A B C D	VALANCE TAG A = TYPE B = COIL SIZE C = COOLING GPM D = HEATING GPM	C	CARBON DIOXIDE SENSOR
		CO	CARBON MONOXIDE SENSOR
		N	NITROGEN DIOXIDE SENSOR
		G	GAS SENSOR
	AIR TERMINAL UNIT AND TAG (OPTION 1)	T E	PNEUMATIC/ELECTRIC THERMOSTAT
		T G	THERMOSTAT/SENSOR WITH GUARD
A B C	AIR TERMINAL UNIT TAG (OPTION 2) A = UNIT NO. B = MAXIMUM CFM C = MINIMUM CFM		DUPLEX RECEPTACLE
		DSD	DUCT SMOKE DETECTOR

CONTROLS SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
DI	DIGITAL INPUT (GENERAL)	DSD	DUCT SMOKE DETECTOR
DO	DIGITAL OUTPUT (GENERAL)	CT	CURRENT TRANSDUCER
AI	ANALOG INPUT (GENERAL)	I/P	ELECTRIC/PNEUMATIC TRANSDUCER
AO	ANALOG OUTPUT (GENERAL)	I/E	ELECTRONIC/ELECTRIC TRANSDUCER
	THERMOWELL		ELECTRICAL INTERFACE
A	ALARM	S	START/STOP
E	ELECTRIC ACTUATOR	O/C	OPEN/CLOSE
FZ	FREEZE-STAT	E/D	ENABLE/DISABLE
H	HUMIDIFIER		HARD WIRE INTERFACE
R	RELAY	I	ELECTRONIC INTERFACE
S	STATUS		PNEUMATIC CONTROL VALVE (3-WAY)
M	FLOW METER		PNEUMATIC CONTROL VALVE (2-WAY)
BTU	BTU ENERGY METER	E	ELECTRIC/ELECTRONIC CONTROL VALVE (3-WAY)
	AIR FLOW MEASURING STATION	E	ELECTRIC/ELECTRONIC CONTROL VALVE (2-WAY)
	AVERAGING SENSOR	S	SOLENOID VALVE
H	HUMIDITY SENSOR (DUCT MOUNTED)		THERMOSTATIC EXPANSION VALVE
T	TEMPERATURE SENSOR (DUCT OR PIPE MOUNTED)		AUTOMATIC AIR DAMPER (PARALLEL BLADE)
CO2	CARBON DIOXIDE SENSOR (DUCT MOUNTED)		AUTOMATIC AIR DAMPER (OPPOSED BLADE)
S	SPACE TEMPERATURE SENSOR (WALL MOUNTED)		PNEUMATIC ACTUATOR
H	SPACE HUMIDITY SENSOR (WALL MOUNTED)	M	MAIN TEMPERATURE CONTROL AIR SOURCE
C	CARBON DIOXIDE ROOM SENSOR (WALL MOUNTED)	EA	EXHAUST AIR
CO	CARBON MONOXIDE ROOM SENSOR (WALL MOUNTED)	OA	OUTSIDE AIR
N	NITROGEN DIOXIDE ROOM SENSOR (WALL MOUNTED)	RA	RETURN AIR
T	PNEUMATIC THERMOSTAT	SA	SUPPLY AIR
T E	LINE VOLTAGE THERMOSTAT	SF	SUPPLY FAN
OS	OCCUPANCY SENSOR	SC	SMOKE CONTROL FAN
M	MOISTURE SENSOR	RF	RETURN AIR FAN
	PROBE SENSOR	EF	EXHAUST AIR FAN
FS	FLOW SENSOR/SWITCH		FILTER
ES	END SWITCH		BASE MOUNTED PUMP
S M	MANUAL SWITCH		IN LINE PUMP
DP	DIFFERENTIAL STATIC PRESSURE SWITCH	ASD	ADJUSTABLE SPEED DRIVE
DP	DIFFERENTIAL STATIC PRESSURE SENSOR	C C	COOLING COIL
E/P	ELECTRIC/PNEUMATIC SWITCH OR RELAY	H C	HEATING COIL
P/E	PNEUMATIC/ELECTRIC SWITCH OR RELAY	HR C	HEAT RECOVERY COIL
F	FLOW TRANSMITTER TRANSDUCER	R134a	REFRIGERANT R134a SENSOR (WALL MOUNTED)
P	PRESSURE SENSOR		

GENERAL NOTES:

A. ALL DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL RISES, DROPS, OFFSETS, AND/OR ROUTING TO AVOID OBSTRUCTIONS. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF ALL WORK AND ANY ADDITIONAL MATERIAL QUANTITIES REQUIRED BASED ON FIELD CONDITIONS. REFER TO ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS FOR EXACT LOCATIONS OF BUILDING STRUCTURAL ELEMENTS.

B. THE EXTENT OF EXISTING CONDITIONS INDICATED IS BASED ON INFORMATION PROVIDED BY THE OWNER, SITE DOCUMENTS AVAILABLE AT TIME OF DESIGN, AND FIELD OBSERVATIONS AND ARE NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF WORK. ANY DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE INDICATED WITHIN THESE DRAWINGS ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT, OWNER 'S REPRESENTATIVE, AND ENGINEER IN WRITING AS SOON AS DISCREPANCIES ARE DISCOVERED.

C. ALL TAGGING OF EQUIPMENT WITHIN THIS DRAWING SET SHALL BE USED FOR THE PURPOSE OF IDENTIFYING EQUIPMENT AND ELEMENTS WITHIN THESE DOCUMENTS. COORDINATE WITH THE SITE FACILITIES STAFF AND FOLLOW ANY EXISTING SITE LABELLING NOMENCLATURE FOR EQUIPMENT IDENTIFICATION. THOSE SHALL BE USED FOR THE FINAL PHYSICAL TAGGING OF EQUIPMENT IN CONSTRUCTION. PROVIDE A SCHEDULE FOR ALL EQUIPMENT WITHIN THE SCOPE OF WORK WITH BOTH THE DESIGN TAG AS SHOWN WITHIN THESE PLANS, AND THE TAG TO BE USED IN CONSTRUCTION TO THE ENGINEER AND ARCHITECT FOR REVIEW.

D. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL SHUTDOWNS OF EFFECTED SYSTEMS, AND/OR INTERRUPTION OF UTILITIES SERVICE WITH THE OWNER'S REPRESENTATIVE AND GC FOR NEW TIE INS AS NECESSARY. THE CONTRACTOR SHALL ASSIST THE OWNER 'S FACILITY PERSONNEL IN SHUTTING DOWN, DRAINING, VENTING, ETC. OF THE SYSTEMS TO FACILITATE THE INTENDED WORK AS REQUIRED.

E. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DISPOSE OF ALL REMOVALS DEBRIS AND MATERIALS OFF SITE IN A PROPER LEGAL MANNER.

F. REFER TO MECHANICAL DETAILS SHEET(S) WHETHER THEY ARE SPECIFICALLY REFERENCED ON PLANS OR NOT.

G. INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE APPLICABLE MANUFACTURER'S RECOMMENDATIONS. MECHANICAL SYSTEMS INSTALLATIONS SHALL MEET ALL APPLICABLE STATE AND LOCAL CODES.

H. COORDINATE ALL EQUIPMENT LOCATIONS, CONCEALMENT, AND SURFACE FINISH TREATMENTS CAREFULLY WITH WORK OF ALL TRADES. IN ANY CASE OF DISCREPANCY BETWEEN THE PLANS, OR IN ANY CASE WHERE SUCH ISSUES REQUIRE CLARIFICATION, NOTIFY THE ENGINEER IN WRITING.

I. ALL SURFACE MOUNTED EQUIPMENT SHALL BE FASTENED WITH ANCHORS OR FASTENERS AS SPECIFIED BY THE EQUIPMENT MANUFACTURER FOR THE SUBSTRATE BEING MOUNTED TO.

J. ALL INSTALLATIONS SHALL MAINTAIN SERVICE ACCESS AND COIL PULL CLEARANCES AS REQUIRED BY MANUFACTURER'S RECOMMENDATIONS FOR ALL NEW EQUIPMENT AND ADJACENT EXISTING EQUIPMENT. CONFIRM LOCATIONS AND SERVICEABILITY PRIOR TO EQUIPMENT/MATERIAL ORDER.

K. VERIFY THAT ALL FURNISHED EQUIPMENT UNDER THIS CONTRACT MATCHES AVAILABLE FIELD VOLTAGE. COORDINATE WITH THE EC FOR REQUIREMENTS PRIOR TO EQUIPMENT ORDER.

L. UNLESS OTHERWISE NOTED, PROVIDE DRAINS AT ANY LOW POINTS OF PIPING SYSTEMS. DRAINS SHALL BE CONSTRUCTED WITH 3/4" BALL VALVE WITH HOSE CONNECTION AND END CAP.

M. UNLESS OTHERWISE NOTED, PROVIDE VENTS AT ANY HIGH POINTS OF PIPING SYSTEMS. VENTS SHALL BE CONSTRUCTED WITH 1/2" BALL VALVE WITH HOSE CONNECTION AND END CAP.

N. DO NOT SCALE DRAWINGS.

O. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES AND REPAIRS TO ALL UTILITIES, PUBLIC AND PRIVATE ROADWAYS, SIDEWALKS, AND STRUCTURES INCLUDING SIGNS, RESULTING FROM THEIR OPERATION.

P. EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.

Q. THE EXISTING UNDERGROUND UTILITIES WERE PLOTTED BASED UPON MAPPING PROVIDED BY OTHERS. THE ARCHITECT MAKES NO WARRANTY AS TO THE LOCATION, SIZE, TYPE, ELEVATION AND/OR NUMBER OF EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE HORIZONTAL AND VERTICAL LOCATION OF THE UTILITIES IN THE VICINITY OF THE NEW INFRASTRUCTURE.

R. STORAGE OF EQUIPMENT AND MATERIALS SHALL BE WITHIN A SPECIFIED AND SECURED AREA AS DETERMINED IN THE CONTRACT DOCUMENTS, SHOWN ON THE PLANS, OR AS SPECIFIED BY THE OWNERS ON SITE REPRESENTATIVE.

S. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AWAY FROM BUILDINGS AND WITHIN THE PROJECT AREA. THIS MAY REQUIRE INTERIM GRADING, SHIMMING OF PAVEMENTS THAT IS NOT SPECIFICALLY SHOW ON THE PLANS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

T. SITE CLEARING SHALL BE LIMITED TO THE BOUNDARIES OR WITHIN THE WORK LIMIT AREA AS SHOWN ON THE PLAN. TREES AND OBJECTS DESIGNATED FOR REMOVAL SHALL BE COORDINATED AND FIELD VERIFIED WITH PROJECT ON SITE REPRESENTATIVE. ALL MATERIALS SHALL BE LEGALLY DISPOSED OF OFFSITE OR RETURNED TO THE OWNER AS DIRECTED BY THE CONTRACT DOCUMENTS. ALL ITEMS NOT SPECIFICALLY CALLED OUT TO BE REMOVED SHALL REMAIN.

U. EXISTING UTILITIES ARE NOT SHOWN. CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR 'S EXPENSE.

BORE FIELD TEST INFORMATION AND DESIGN CRITERIA

DESIGN CRITERIA

A. FORMATION THERMAL CONDUCTIVITY TESTING SHALL BE PERFORMED TO DETERMINE THE AVERAGE THERMAL CONDUCTIVITY OF THE FORMATION TO THE COMPLETED BORE DEPTH. MINIMUM DURATION OF FORMATION THERMAL CONDUCTIVITY TESTING SHALL BE 40 HOURS CONTINUOUS FROM INITIAL STARTING TIME.
B. MINIMUM ELAPSED TIME BETWEEN THE COMPLETION OF BOREHOLE GROUTING AND THE START OF THE THERMAL CONDUCTIVITY TESTING SHALL BE:
   a. FIVE (5) DAYS FOR AIR ROTARY-DRILLED WELLS OR FOR SOILS HAVING A CONDUCTIVITY OF LESS THAN 1.0 BTU/HR-FT-°F.
   b. THREE (3) DAYS FOR MUD ROTARY-DRILLED WELLS OR FOR SOILS HAVING A CONDUCTIVITY OF MORE THAN 1.0 BTU/HR-FT-°F.
C. THE TESTING DEVICE SHALL PROVIDE A CONSTANT RATE OF HEATED WATER TO THE U-BEND ASSEMBLY. THE HEAT RATE SHALL BE NO LESS THAN 51 BTU/HR. AND NO GREATER THAN 85 BTU/HR. PER FOOT OF BORE. THE STANDARD DEVIATION OF INPUT POWER SHALL BE LESS THAN ± 1.5% OF THE AVERAGE VALUE AND PEAKS LESS THAN ± 10% OR RESULTING TEMPERATURE VARIATION OF LESS THAN ± 0.5°F.
   a. THE ACCURACY OF THE TEMPERATURE MEASUREMENT AND RECORDING DEVICES SHALL BE ±0.5°F.
   b. THE ACCURACY OF THE POWER TRANSDUCER AND RECORDING DEVICE SHALL BE ± 2% OF THE READING.
   c. FLOW RATES ARE TO BE IN THE RANGE TO PROVIDE A DIFFERENTIAL LOOP TEMPERATURE OF 6 TO 12°F.
D. THE INITIAL GROUND TEMPERATURE MEASUREMENT SHALL BE MADE AT THE END OF THE WAITING PERIOD BY DIRECT INSERTION OF A PROBE INSIDE A LIQUID FILLED GROUND HEAT EXCHANGER OR BY MEASUREMENT OF TEMPERATURE AS THE LIQUID EXITS THE LOOP DURING THE PERIOD IMMEDIATELY FOLLOWING START-UP.
E. PROVIDE AUTOMATIC COLLECTION OF THE FOLLOWING DATA AT INTERVALS OF NO MORE THAN FIVE (5) MINUTES:
   a. TEMPERATURE OF WATER INTO THE "U" BEND ASSEMBLY.
   b. TEMPERATURE OF WATER OUT OF THE "U" BEND ASSEMBLY.
   c. AMBIENT AIR TEMPERATURE WITHIN THE TEST COMPARTMENT.
   d. AMBIENT OUTDOOR TEMPERATURE.
   e. WATTS POWER INPUT INTO THE TEST DEVICE.
   f. WATER FLOW RATE THROUGH THE "U" BEND ASSEMBLY.
F. THE TESTING DEVICE SHALL BE ARRANGED TO MINIMIZE ENVIRONMENTAL HEAT LOSS AS MUCH AS POSSIBLE. TUBING AND CONNECTIONS BETWEEN THE "U" BEND ASSEMBLY AND THE TESTING DEVICE SHALL BE INSULATED WITH A MINIMUM ½" CLOSED CELL INSULATION OR EQUIVALENT. TEST RIGS SHALL BE ENCLOSED IN A SEALED CABINET THAT IS INSULATED WITH A MINIMUM OF 1" FIBERGLASS INSULATION OR EQUIVALENT.

TEST WELL INFORMATION / THERMAL CONDUCTIVITY REPORT

A. BOREHOLE 1:
   a. THERMAL CONDUCTIVITY: 1.42
   b. THERMAL DIFFUSIVITY: 1.12 FT2/DAY
   c. AVERAGE UNDISTURBED GROUND TEMP: 51.3 °F
B. BOREHOLE 2:
   a. THERMAL CONDUCTIVITY: 1.65
   b. THERMAL DIFFUSIVITY: 1.30 FT2/DAY
   c. AVERAGE UNDISTURBED GROUND TEMP: 52.2 °F

TEST BOREHOLE PROFILES

A. BOREHOLE 1:
   a. BEDROCK ENCOUNTERED AT 325 FT. BOREHOLE DRILLED TO 725 FT. AIR ROTARY WAS ATTEMPTED BUT DRILLER NOTED IT WAS DESTABILIZING THE FORMATION AND CASING TO BEDROCK WAS DIFFICULT, SO THEY SWITCHED TO A MUD ROTARY DRILL.
      • WATER YIELD: UNKNOWN
      • FORMATION LOSS WITH GROUTING: UNKNOWN
B. BOREHOLE 2:
   a. NO DRILLING LOG PROVIDED, BUT THE FOLLOWING DETAILS WERE REPORTED.
      • MUD ROTARY DRILLING
      • CASED TO APPROX. 40FT
      • WATER YIELD: UNKNOWN
      • FORMATION LOSS WITH GROUTING: UNKNOWN

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SUNY Cortland
SUCF Project No. 04106-00

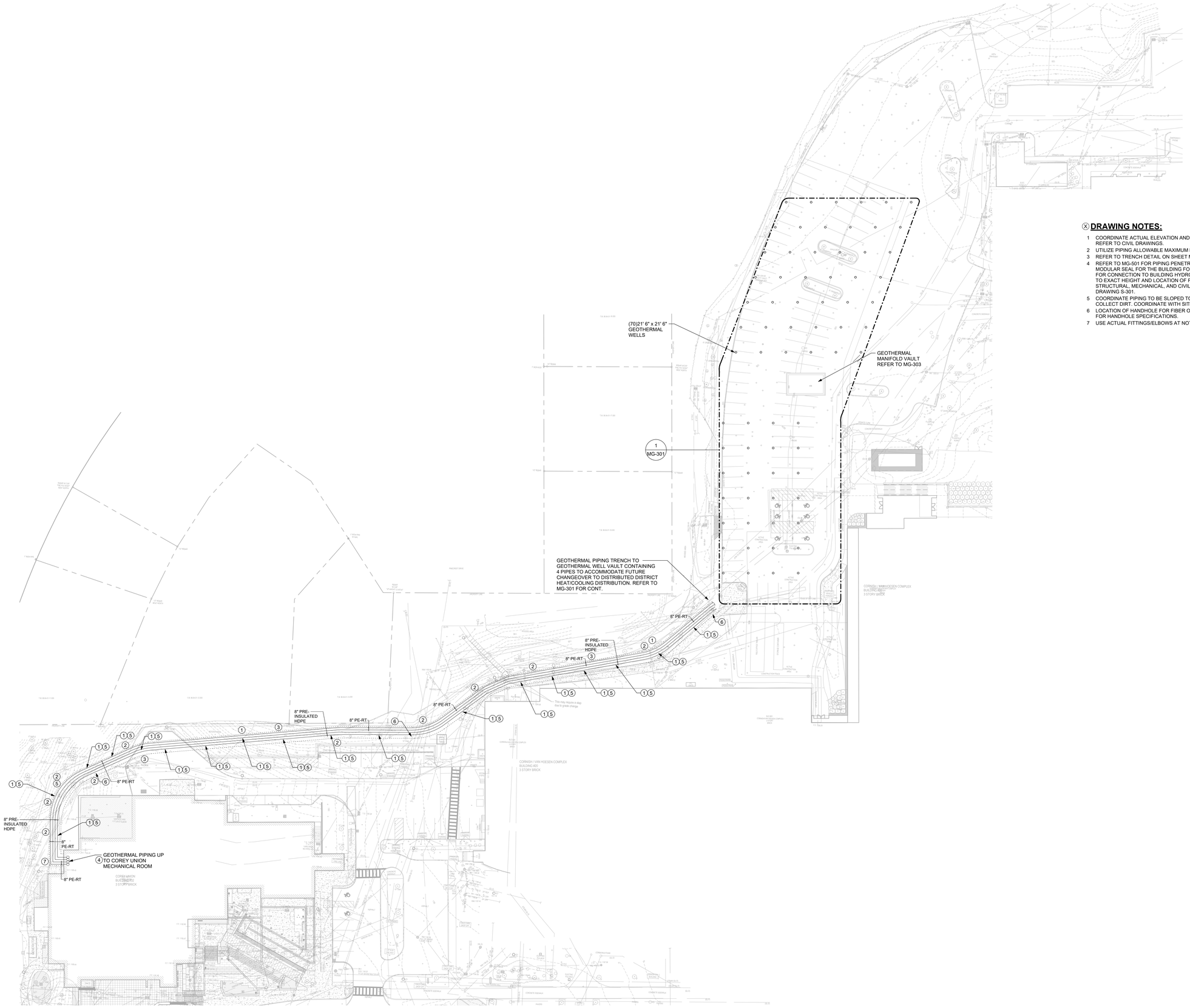
MG-001

SYMBOLS LIST - GEOTHERMAL

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ⓧ DRAWING NOTES:

1. COORDINATE ACTUAL ELEVATION AND LOCATION OF PIPING WITH SITE UTILITIES. REFER TO CIVIL DRAWINGS.
2. UTILIZE PIPING ALLOWABLE MAXIMUM BEND RADIUS OF 45'
3. REFER TO TRENCH DETAIL ON SHEET MG-501.
4. REFER TO MG-501 FOR PIPING PENETRATION DETAIL. PROVIDE MECHANICAL MODULAR SEAL FOR THE BUILDING FOUNDATION. PROVIDE A FLANGE CONNECTION FOR CONNECTION TO BUILDING HYDRONIC INSIDE THE MECHANICAL ROOM. REFER TO EXACT HEIGHT AND LOCATION OF PIPING CONNECTION TO THE BUILDING WITH STRUCTURAL, MECHANICAL, AND CIVIL DRAWINGS. REFER TO STRUCTURAL DRAWING S-301.
5. COORDINATE PIPING TO BE SLOPED TO NOT CREATE ANY LOW POCKETS THAT CAN COLLECT DIRT. COORDINATE WITH SITE UTILITIES AND CIVIL DRAWINGS.
6. LOCATION OF HANDHOLE FOR FIBER OPTICS AND CONDUIT. REFER TO DIVISION 26 FOR HANDHOLE SPECIFICATIONS.
7. USE ACTUAL FITTINGS/ELBOWS AT NOTED LOCATIONS.

1 GEOTHERMAL SITE PLAN - NEW
1/32" = 1'-0"

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MG-201
SITE PLAN - GEOTHERMAL

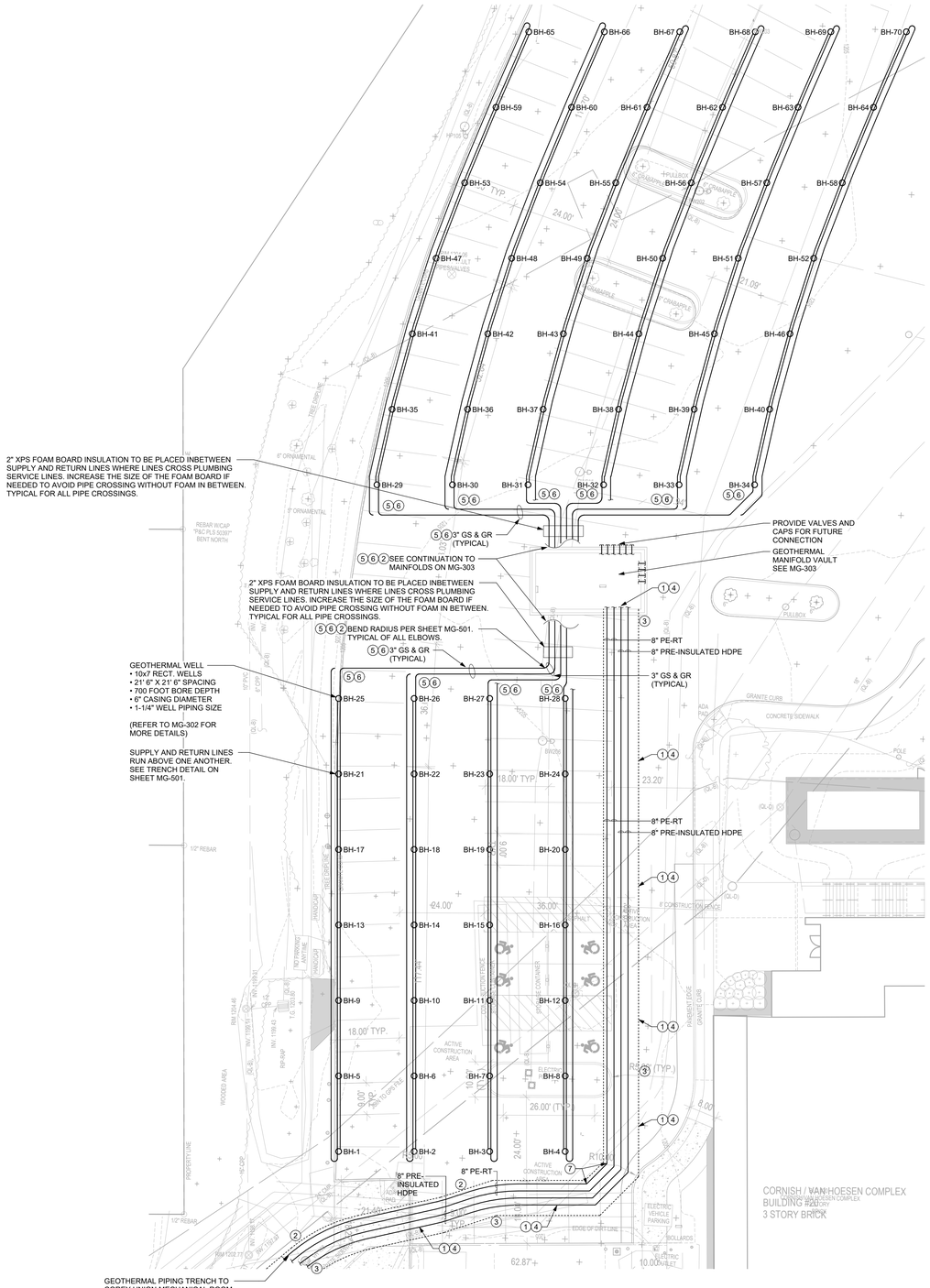
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ⓧ DRAWING NOTES:

1. COORDINATE ACTUAL ELEVATION AND LOCATION OF PIPING WITH SITE UTILITIES. REFER TO CIVIL DRAWINGS.
2. UTILIZE PIPING ALLOWABLE MAXIMUM BEND RADIUS OF 45'.
3. REFER TO TRENCH DETAIL ON SHEET MG-501.
4. COORDINATE PIPING TO BE SLOPED TO NOT CREATE ANY LOW POCKETS THAT CAN COLLECT DIRT. COORDINATE WITH SITE UTILITIES AND CIVIL DRAWINGS.
5. PIPE WELL FIELD BETWEEN BOREHOLES IN A REVERSE RETURN MANNER.
6. WELL FIELD PIPING SIZES REFER TO MG-302.
7. USE ACTUAL FITTINGS/ELBOWS AT NOTED LOCATIONS.



1 ENLARGED SITE PLAN - GEOTHERMAL
1/16" = 1'-0"

0' 8' 16' 32'

NORTH

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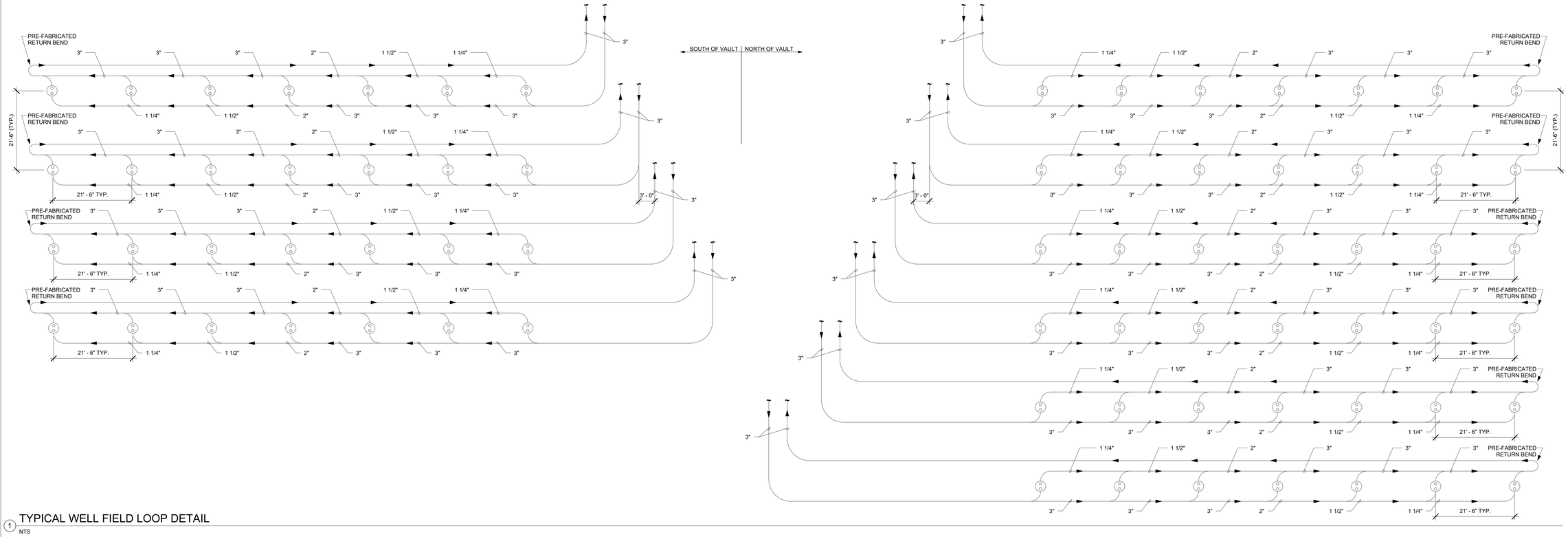
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SUCF Project No. 04106-00

MG-301
ENLARGED SITE PLAN - GEOTHERMAL

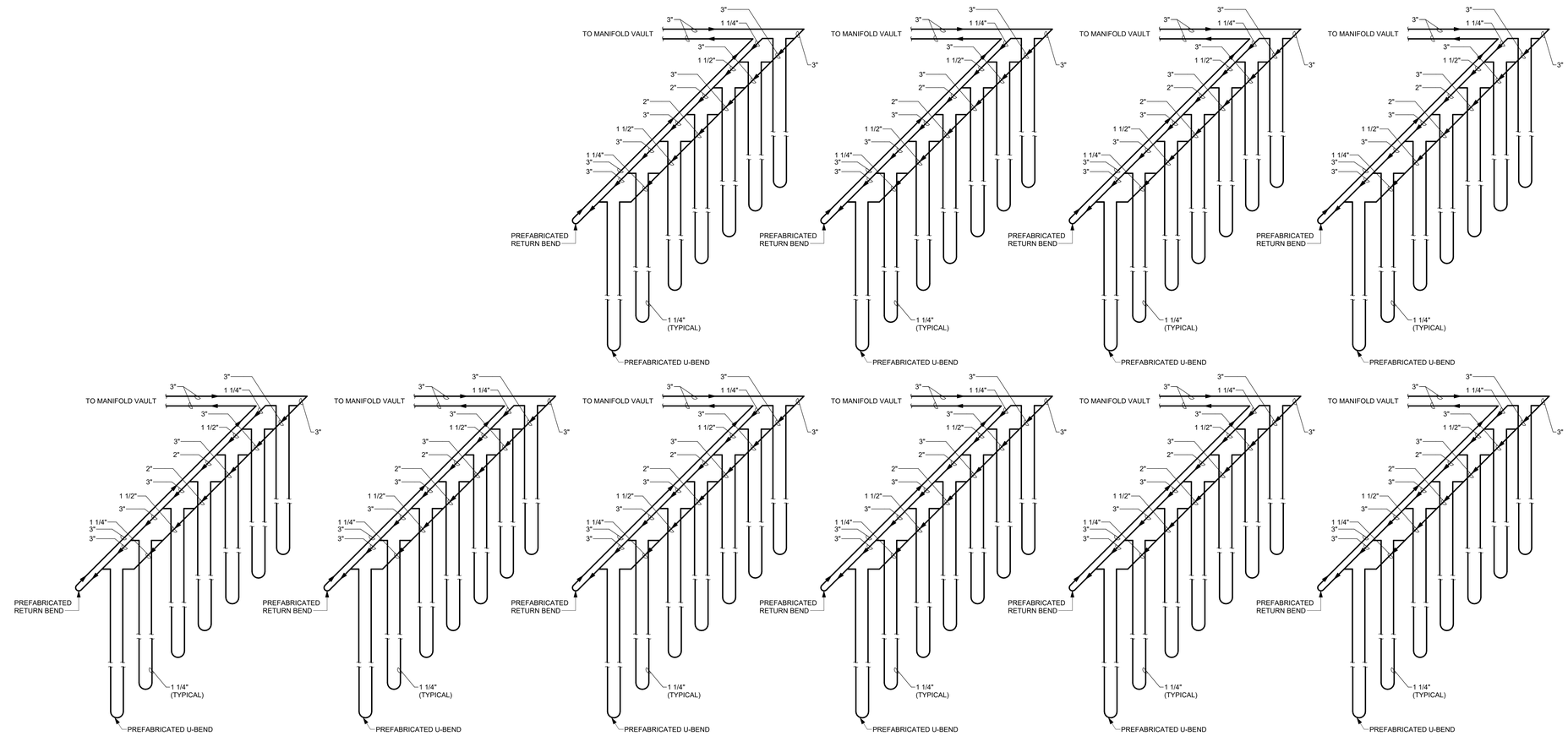
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1 TYPICAL WELL FIELD LOOP DETAIL

NTS



NOTE:
- 10x7 RECTANGULAR VERTICAL BOREHOLES(10 LOOPS WITH 7 WELLS PER LOOP)
- 700FT DEPTH & 21' 6" SEPERATION DISTANCE
- 6" BOREHOLE DIAMETER
- 10 GPM/WELL
- 25% PROPYLENE GLYCOL / WATER
- REVERSE RETURN PIPING CONFIGURATION FOR EACH LOOP

2 GEOTHERMAL WELLFIELD PIPING SCHEMATIC

NTS

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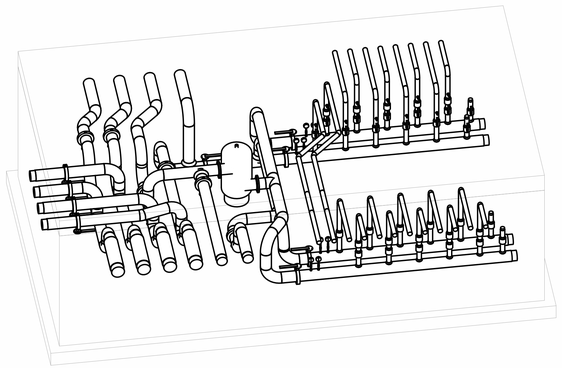
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MG-302

GEOTHERMAL WELLFIELD DETAILS

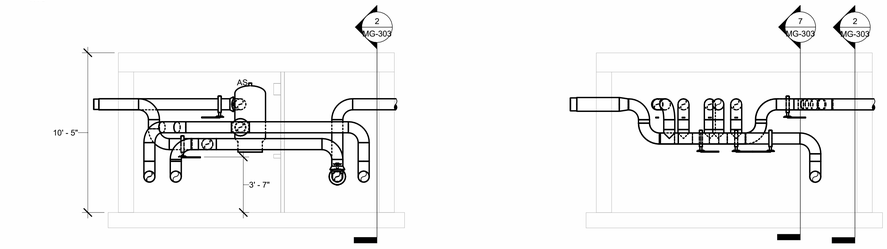
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5 GEOTHERMAL VAULT - PIPING MANIFOLD ISOMETRIC

NTS



3 GEOTHERMAL VAULT - PIPING MANIFOLD SECTION 2

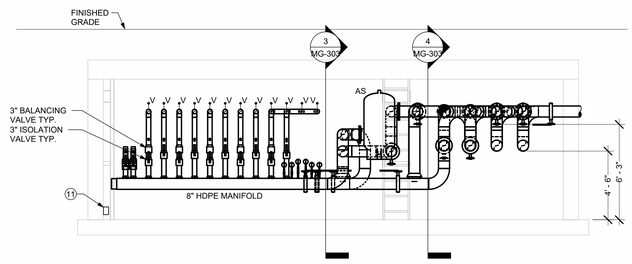
1/4" = 1'-0"

0' 2' 4' 8'

4 GEOTHERMAL VAULT - PIPING MANIFOLD SECTION 3

1/4" = 1'-0"

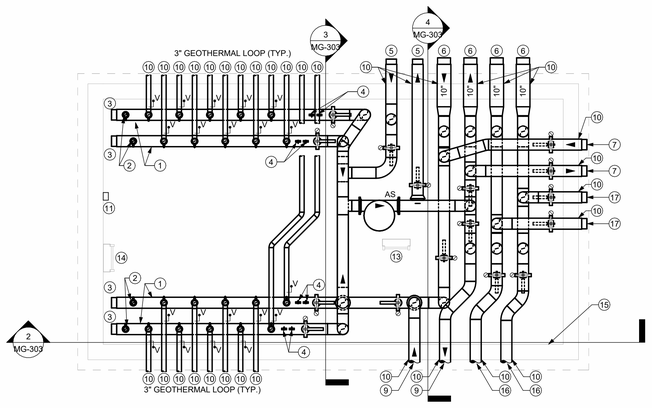
0' 2' 4' 8'



2 GEOTHERMAL VAULT - PIPING MANIFOLD SECTION 1

1/4" = 1'-0"

0' 2' 4' 8'



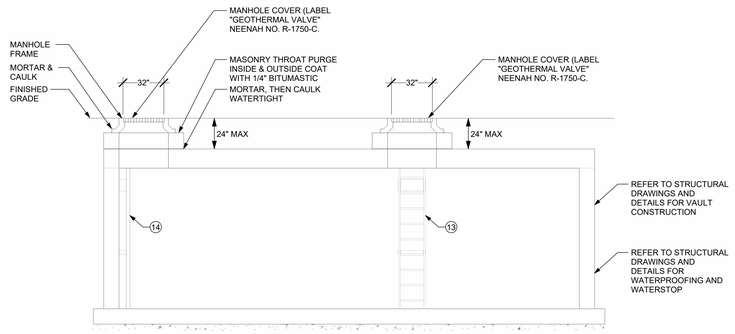
1 GEOTHERMAL VAULT - PIPING MANIFOLD PLAN VIEW

1/4" = 1'-0"

0' 2' 4' 8'

ⓧ DRAWING NOTES:

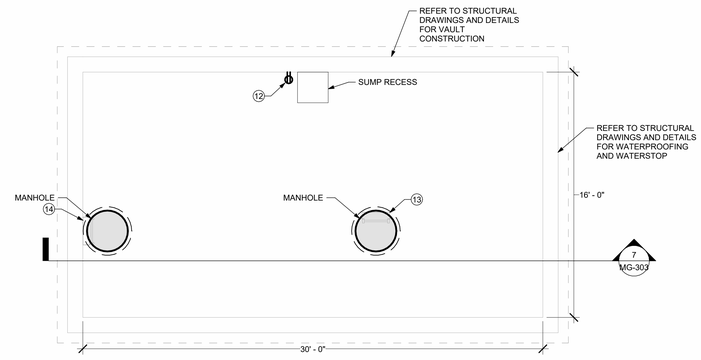
1. 8" HDPE SDR11 GEOTHERMAL MANIFOLD.
2. 3" FLUSHING CONNECTION WITH ISOLATION BALL VALVE AND CAP.
3. CAP THE END OF THE MANIFOLD WITH A BLIND FLANGE.
4. PRESSURE AND TEMPERATURE GAUGES FOR EACH MANIFOLD.
5. 8" PIPING CONNECTION FOR FUTURE GEOTHERMAL WELLFIELD. CAP OPEN ENDED PIPING.
6. 10" PE-RT PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR BOTH CVH AND COREY UNION BUILDINGS. CAP OPEN ENDED PIPING.
7. 8" PE-RT PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR CVH BUILDING. CAP OPEN ENDED PIPING.
8. 8" PE-RT PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR COREY UNION BUILDING. FOR CONTINUATION SEE SITE PLAN DRAWINGS.
9. 8" PE-RT PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR COREY UNION BUILDING. FOR CONTINUATION SEE SITE PLAN DRAWINGS. THIS SET OF PIPES WILL BE USED FOR CURRENT WELL-FIELD GEOTHERMAL WATER TO HEAT PUMPS IN THE COREY UNION BUILDING.
10. PROVIDE LINK-SEAL AT THE VAULT WALL PIPING PENETRATIONS. SLEEVE ALL PENETRATIONS. REFER TO THE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
11. WATER LEAK DETECTION SENSOR. PROVIDE AUTOMATED LOGIC WATER LEAK DETECTOR NSB-LDT4-PS-BB-A. MOUNT 4" ABOVE FINISHED VAULT FLOOR. REFER TO DIVISION 23 SPECIFICATIONS.
12. REFER TO ELECTRICAL VAULT DETAIL AND DIVISION 26 FOR RECEPTACLE.
13. PROVIDE LANE INTERNATIONAL CORP POLYPROPYLENE VAULT LADDER WITH RADIUS WALL BRACKETS AND VERTICAL RAILS.
14. PROVIDE LANE INTERNATIONAL CORP POLYPROPYLENE VAULT LADDER WITH WALL BRACKETS.
15. TERMINE TRACER WIRE FOR FIBER OPTIC CABLE INSIDE VAULT. ISOLATE TRACER WIRE.
16. 8" HDPE PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR COREY UNION BUILDING. FOR CONTINUATION SEE SITE PLAN DRAWINGS.
17. 8" HDPE PRE-INSULATED PIPING FOR FUTURE DISTRICT 4-PIPE LOW HEATING AND CHILLED WATER TEMPERATURE FOR CVH BUILDING. CAP OPEN ENDED PIPING.



7 GEOTHERMAL VAULT ELEVATION VIEW

1/4" = 1'-0"

0' 2' 4' 8'



6 GEOTHERMAL VAULT FOUNDATION PLAN VIEW

1/4" = 1'-0"

0' 2' 4' 8'

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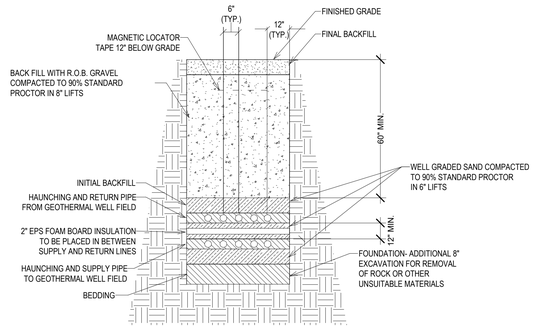
MG-303

GEOTHERMAL VAULT DETAILS

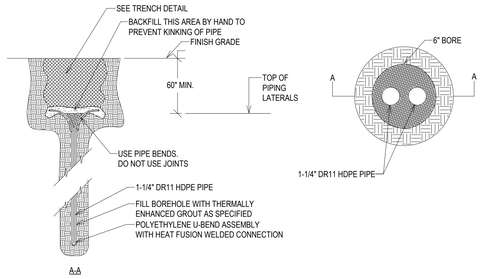
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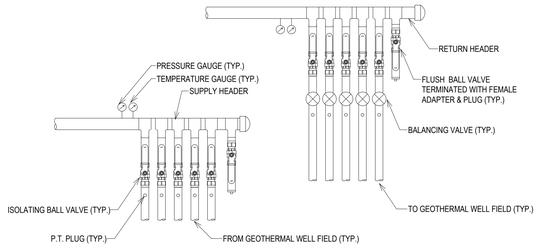
1 TYPICAL GEOTHERMAL TRENCH DETAIL
NOT TO SCALE



NOTES:

1. GEOTHERMAL LOOP HEAT EXCHANGER PIPING MUST BE PRESSURE TESTED PRIOR TO INSTALLATION IN WELL. REFER TO SPECIFICATIONS FOR REQUIREMENTS.
2. BORE HOLES SHALL NOT REMAIN UNGROUTED FOR MORE THAN 24 HOURS AFTER COMPLETION, BUT GROUTING SHOULD BEGIN AS SOON AS PRACTICAL AFTER COMPLETION.

2 GEOTHERMAL WELL BORE DETAIL
NOT TO SCALE

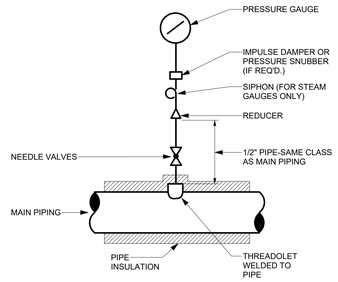


ELEVATION VIEW

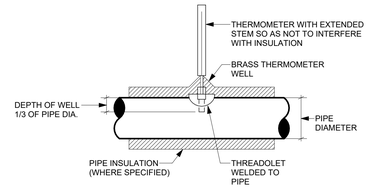
3 MANIFOLD PIPING DETAIL
NOT TO SCALE

MIMIMUM BENDING RADIUS FOR COLLECTION PIPING	
PIPE DIAMETER	BEND RADIUS
3/4"	20"
1"	30"
1-1/4"	36"
1-1/2"	40"
2"	50"
3"	50"

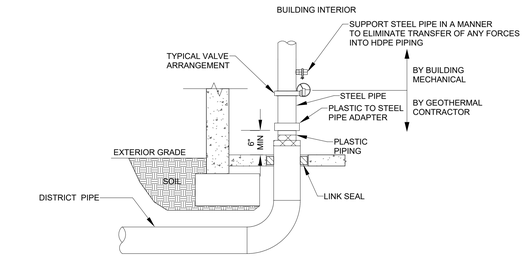
4 HDPE DR11 GEOTHERMAL PIPING BENDING RADIUS
NOT TO SCALE



5 PRESSURE GAUGE INSTALLATION DETAIL
NOT TO SCALE



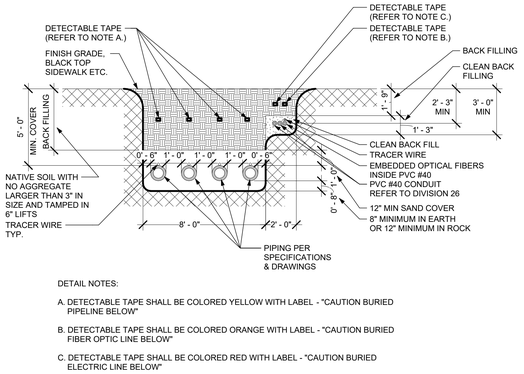
6 THERMOMETER INSTALLATION DETAIL
NOT TO SCALE



NOTES:

1. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL DETAILS ON SPACING OF PENETRATIONS, REINFORCEMENT NEEDED, RESTORATION, ETC.
2. IF POURABLE INSULATION IS USED FOR BURIED PIPING THEN THE PIPE MUST BE FIELD INSULATED.

7 TYPICAL BELOW GRADE FLOOR PENETRATION
NOT TO SCALE



DETAIL NOTES:

A. DETECTABLE TAPE SHALL BE COLORED YELLOW WITH LABEL - "CAUTION BURIED PIPELINE BELOW"

B. DETECTABLE TAPE SHALL BE COLORED ORANGE WITH LABEL - "CAUTION BURIED FIBER OPTIC LINE BELOW"

C. DETECTABLE TAPE SHALL BE COLORED RED WITH LABEL - "CAUTION BURIED ELECTRIC LINE BELOW"

8 PIPE BEDDING DETAIL
1/4" = 1'-0"

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Project Manager:	MDS

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Revisions

Renovate Corey Union
103 PROSPECT TERRACE
CORTLAND, NY 13045
SWBR Project Number 23132.00

SUNY Cortland
SUCF Project No. 04106-00

MG-501
GENERAL DETAILS - GEOTHERMAL

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GEOTHERMAL BOREHOLE MONITORING SYSTEM:

A. PROVIDE 120V/60HZ POWER TO THE DTS INTEGRATOR IN THE MECHANICAL ROOM AT COREY UNION BUILDING.

B. FIBER OPTICS CABLE FROM THE VAULT TO THE COREY UNION BUILDING SHALL RUN INSIDE A CONDUIT IN THE SAME TRENCH WITH THE PIPING.

C. PROVIDE BACNET MS/TP AND DATA CONNECTIONS TO THE INTEGRATOR INSIDE THE MECHANICAL ROOM IN COREY UNION BUILDING.

D. THE DTS SYSTEM PROVIDER SHALL PROVIDE INTEGRATION WITH BUILDING MANAGMENT SYSTEM CONTROL TO REPLICATE ALL THE MONITORING FUNCTIONS ON THE BMS FRONT END. THIS INTEGRATION SHOULD BE COORDINATED WITH THE BMS CONTROL CONTRACTOR.

E. FIBER OPTICS CABLES SHALL BE LOOSE TUBE, GEL-FREE, SINGLE-JACKET, SINGLE-ARMORED CABLES AND DESIGNED FOR DIRECT-BURIED INSTALLATIONS. THE CABLES SHALL BE DESIGNED AND TESTED TO ANSI/ICEA S-87-640.

F. DTS SYSTEM SHALL BE RESPONSIBLE FOR DESIGNING, PROVIDING, INSTALLATION, STARTUP AND COMMISSIONING THE SYSTEM.

G. THE DTS SYSTEM PROVIDER SHALL BE INTEGRATED WITH THE BUILDING BMS THROUGH BACNET MS/TP.

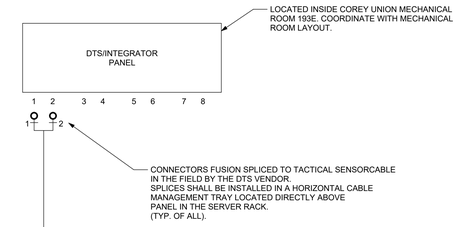
H. THE DTS SYSTEM PROVIDER SHALL BE RESPONSIBLE FOR TRAINING THE OWNER ON USING THE SYSTEM AND PROVIDE ONE YEAR OF ANY REQUIRED CLOUD SUBSCRIPTION IF ANY.

I. THE DTS PROVIDER SHALL BE RESPONSIBLE TO PROVIDE MINIMUM OF 3 YEARS FOR PARTS & LABOR.

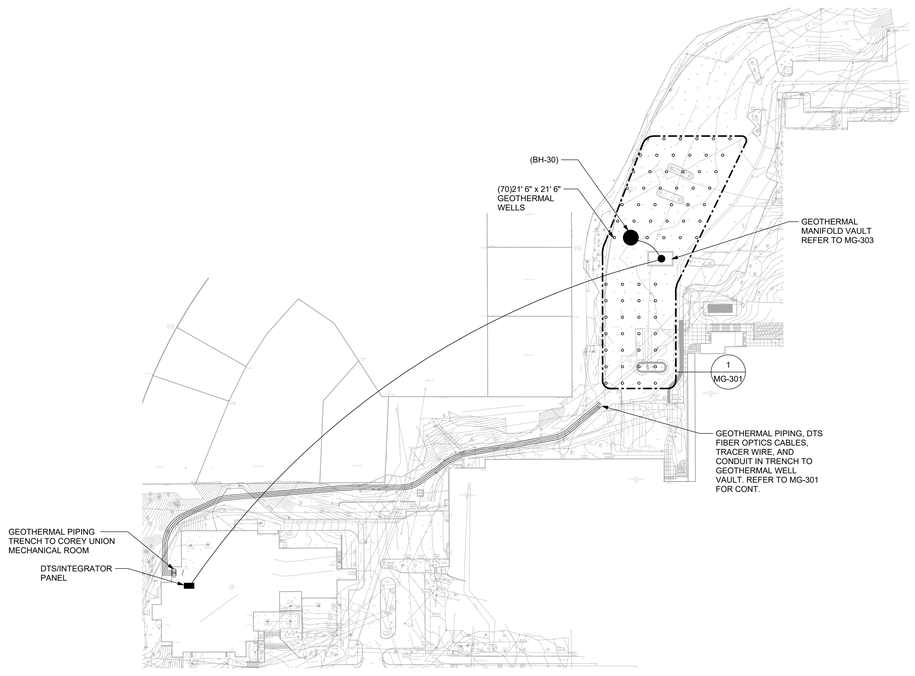
J. PROVIDE A UPS SYSTEM CAPABLE OF SUPPLYING CONTINUOUS POWER FOR 20 MINUTES OF BATTERY BACKUP.

K. DTS SYSTEM ACCEPTABLE MANUFACTURER/PROVIDER:
   a. FEBUS
   b. SILIXA
   c. OPTASENSE

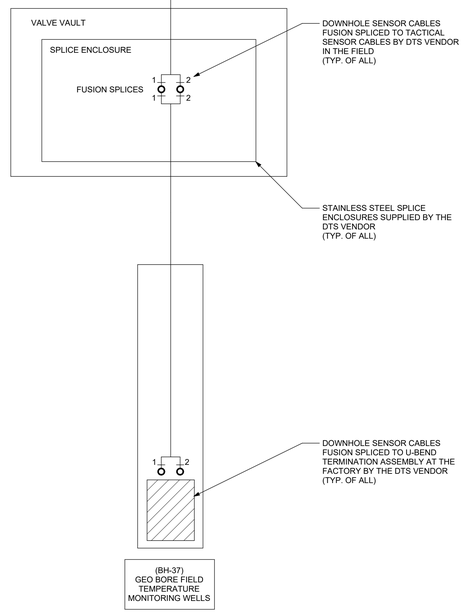
COREY UNION BUILDING - MECHANICAL ROOM 193E



DETAIL 1. DTS FIBER CABLE ROUTING



GEO BORE FIELDS



1 TEMPERATURE MONITORING CONTROLS
NTS

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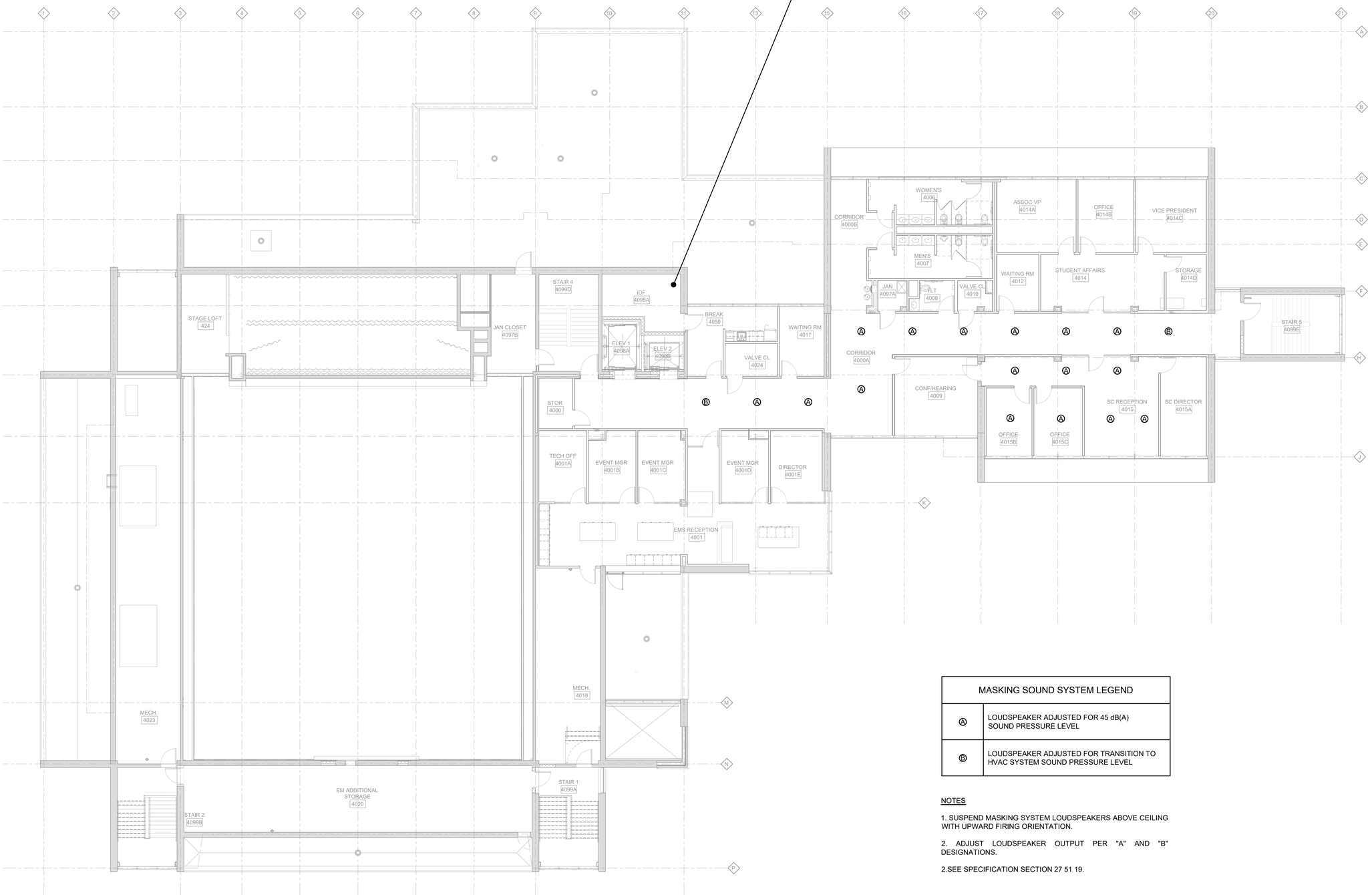
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MG-601

CONTROLS - DISTRIBUTION TEMPERATURE SYSTEM

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1 FOURTH FLOOR - SOUND MASKING SYSTEM PLAN
1/8" = 1'-0"

MASKING SOUND SYSTEM LEGEND	
Ⓐ	LOUDSPEAKER ADJUSTED FOR 45 dB(A) SOUND PRESSURE LEVEL
Ⓑ	LOUDSPEAKER ADJUSTED FOR TRANSITION TO HVAC SYSTEM SOUND PRESSURE LEVEL

NOTES

1. SUSPEND MASKING SYSTEM LOUDSPEAKERS ABOVE CEILING WITH UPWARD FIRING ORIENTATION.

2. ADJUST LOUDSPEAKER OUTPUT PER "A" AND "B" DESIGNATIONS.

2.SEE SPECIFICATION SECTION 27 51 19.

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Project Manager: BMA

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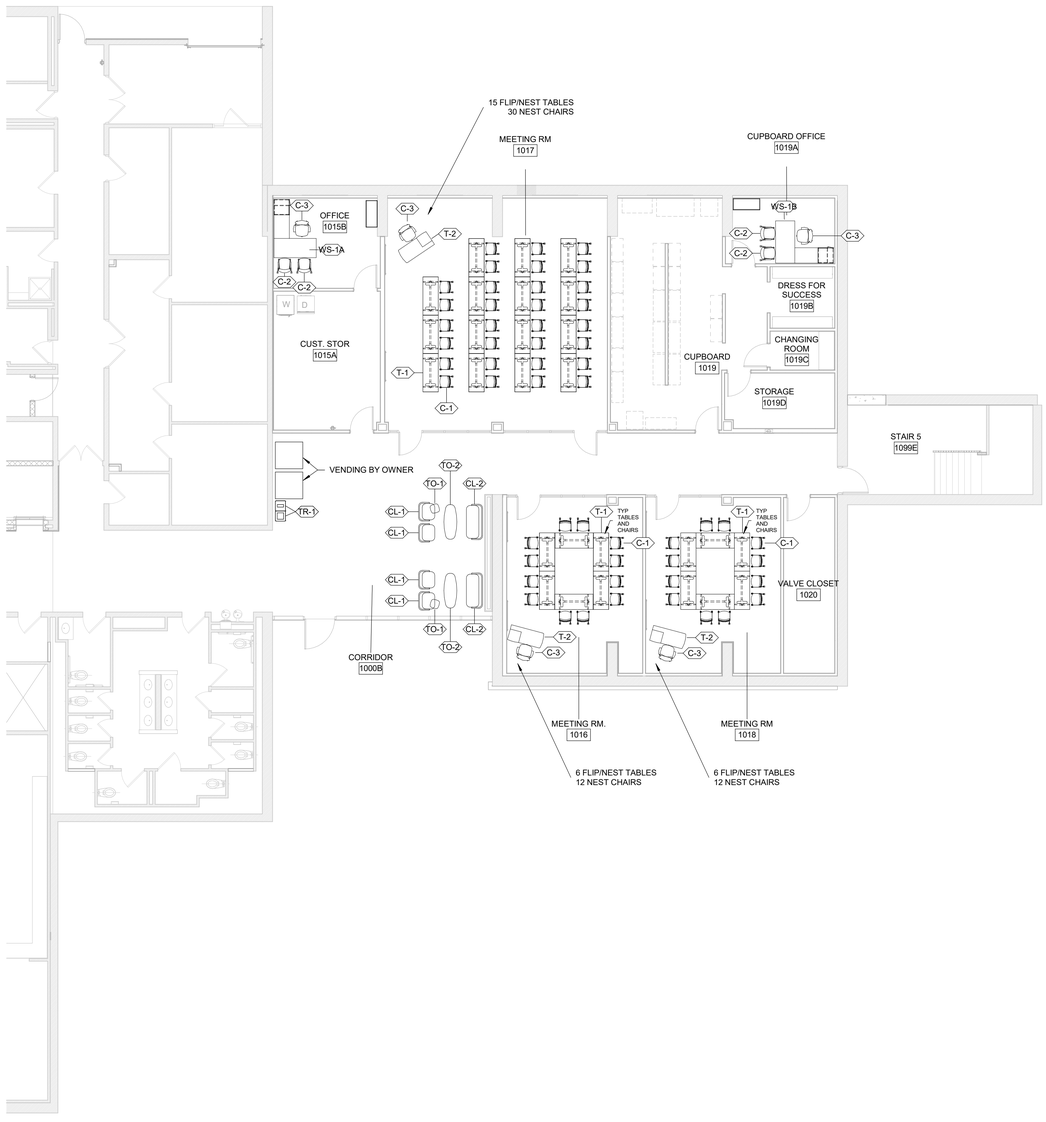
SUNY CORTLAND
SUCF PROJECT No. 041046-00

SM-101

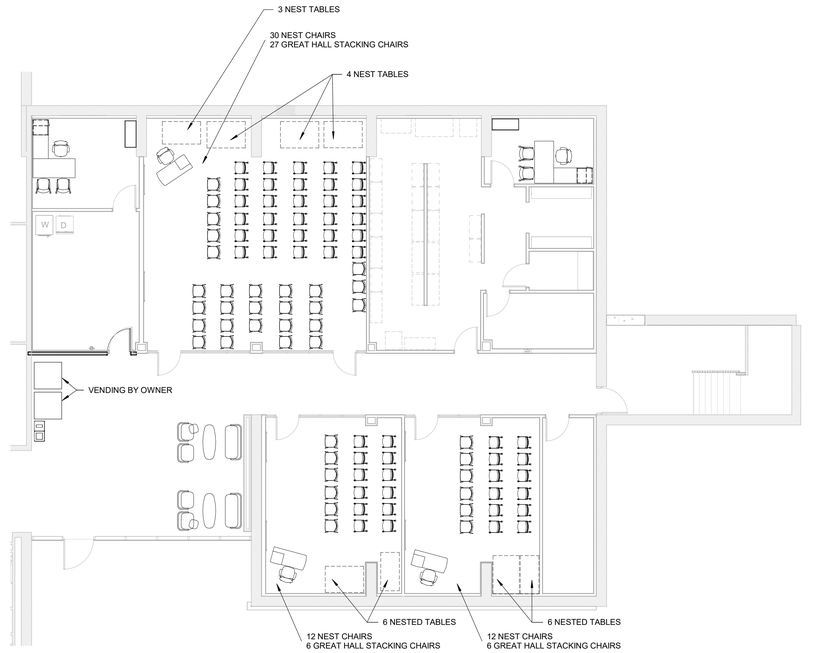
FOURTH FLOOR SOUND MASKING PLAN

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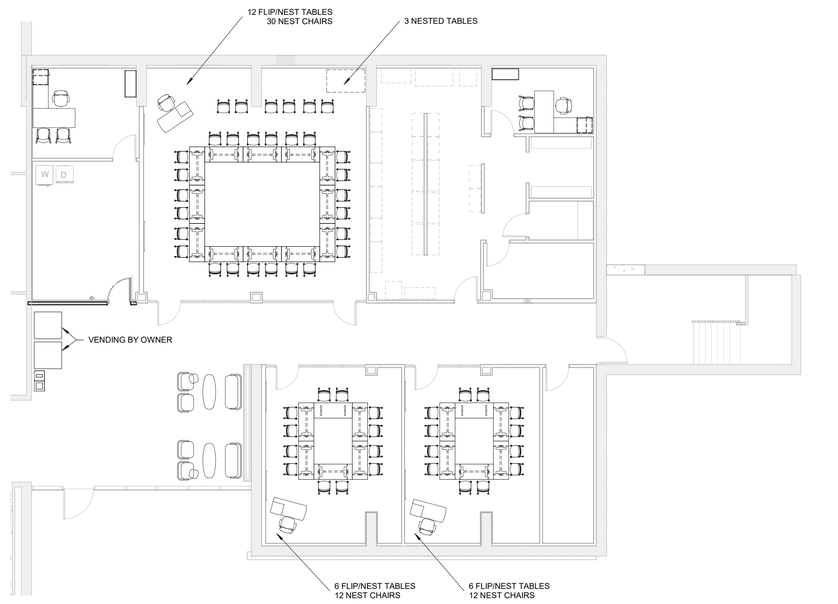
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1 FIRST FLOOR PARTIAL FURNITURE PLAN
1/8" = 1'-0"



3 FIRST FLOOR MEETING ROOM FURNITURE LAYOUT - ORIENTATION
1/8" = 1'-0"



2 FIRST FLOOR MEETING ROOM FURNITURE LAYOUT - MEETING
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO FURNITURE SPECIFICATION FOR DETAILED INFORMATION REGARDING LAYOUTS, COMPONENTS AND FINISHES
2. SINGLE OCCUPANT OFFICE FILING TO BE KEYED ALIKE
3. MULTIPLE OCCUPANT OFFICES FILING TO BE KEYED PER STATION
4. COORDINATE WITH AV CONTRACTOR ON INSTALLATION OF EQUIPMENT AND ACCESSORIES AT CONFERENCE TABLES, MEDIA CREDENZAS, AND CLASSROOM PODIUMS
5. FEE TO BE PURCHASED THROUGH SEPERATE CONTRACT FROM BUILDING

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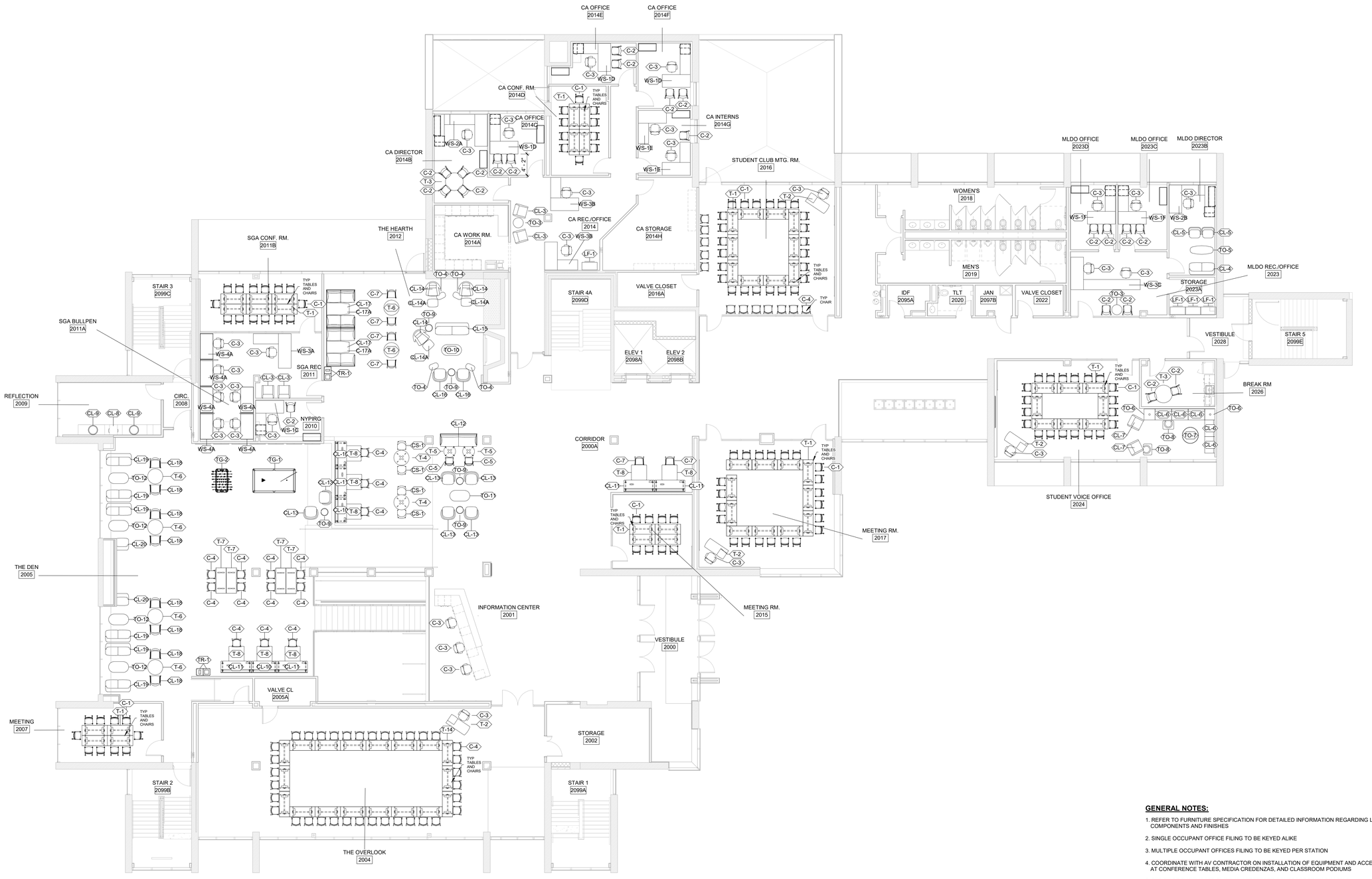
I-101

FURNITURE PLAN - FIRST FLOOR (FOR REFERENCE ONLY)

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1 SECOND FLOOR FINISH PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO FURNITURE SPECIFICATION FOR DETAILED INFORMATION REGARDING LAYOUTS, COMPONENTS AND FINISHES
2. SINGLE OCCUPANT OFFICE FILING TO BE KEYED ALIKE
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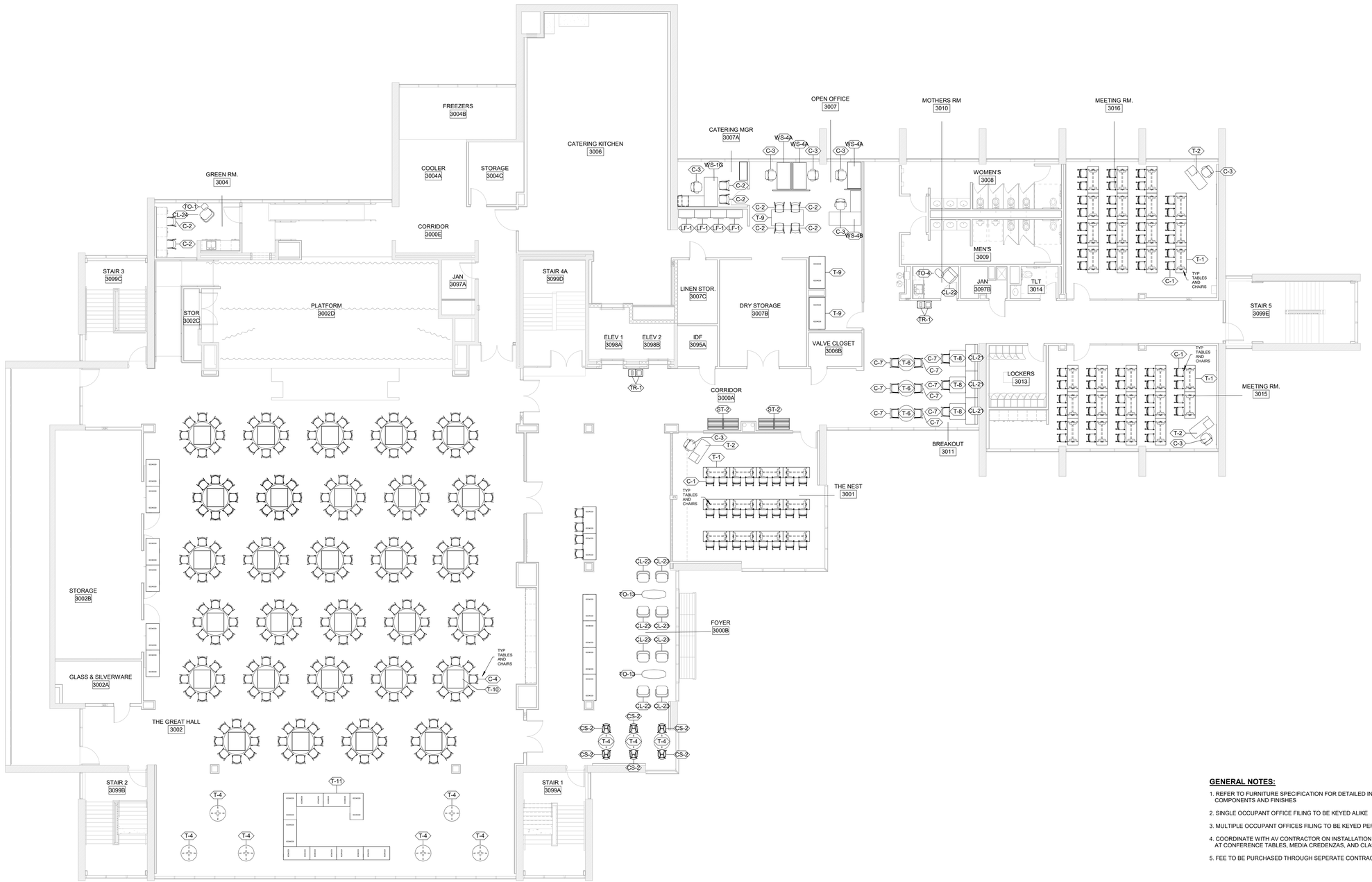
I-102

FURNITURE PLAN - SECOND FLOOR (FOR REFERENCE ONLY)

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1 THIRD FLOOR FINISH PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO FURNITURE SPECIFICATION FOR DETAILED INFORMATION REGARDING LAYOUTS, COMPONENTS AND FINISHES
2. SINGLE OCCUPANT OFFICE FILING TO BE KEYED ALIKE
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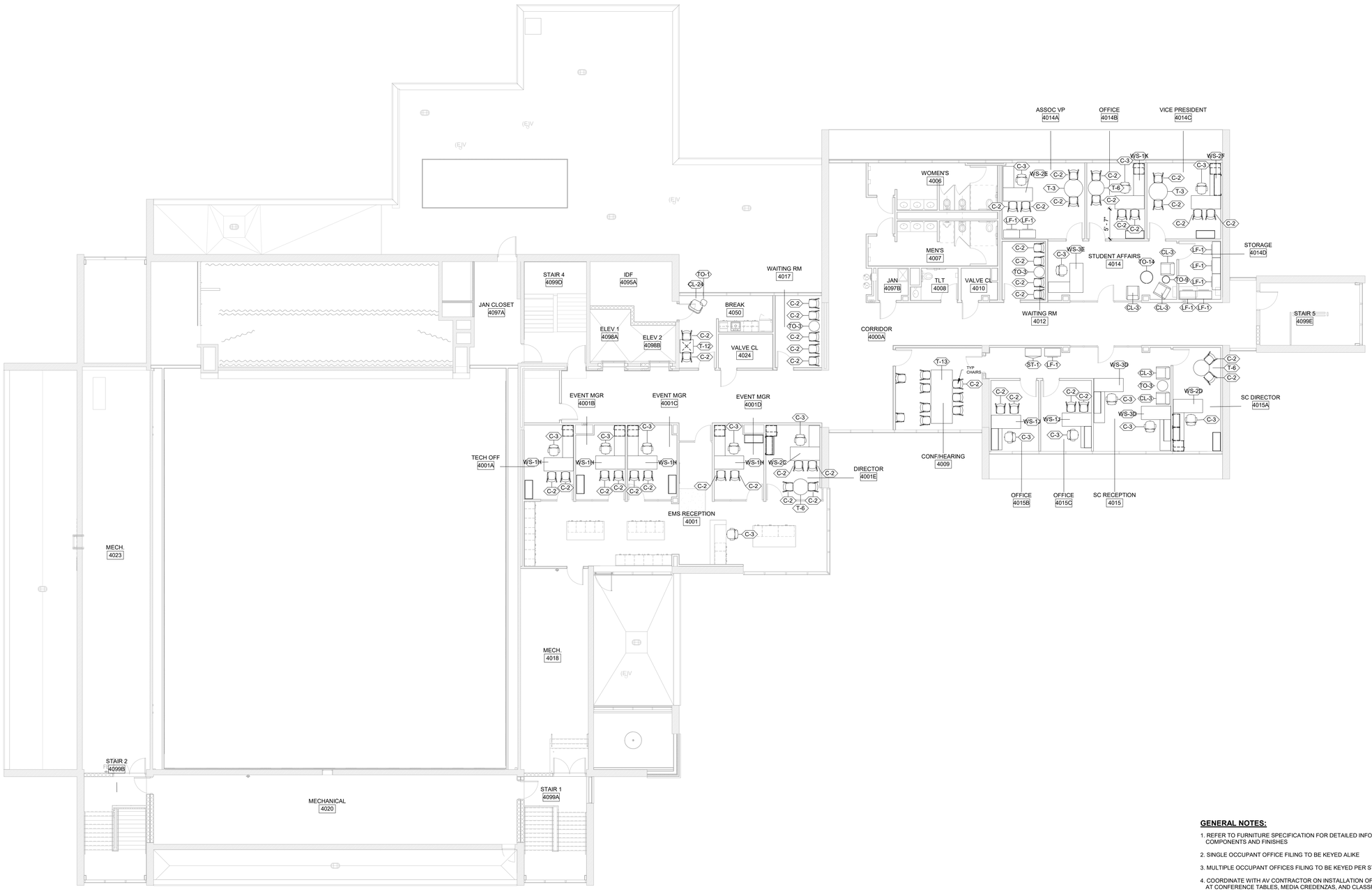
I-103

FURNITURE PLAN - THIRD FLOOR (FOR REFERENCE ONLY)

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1 FOURTH FLOOR FINISH PLAN
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO FURNITURE SPECIFICATION FOR DETAILED INFORMATION REGARDING LAYOUTS, COMPONENTS AND FINISHES
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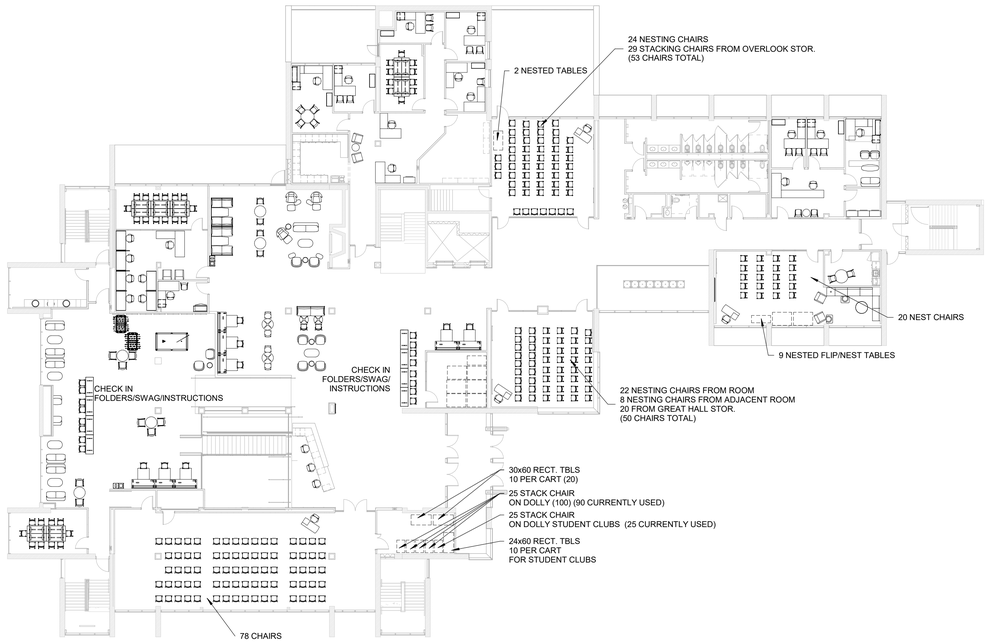
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FURNITURE PLAN - FOURTH FLOOR (FOR REFERENCE ONLY)

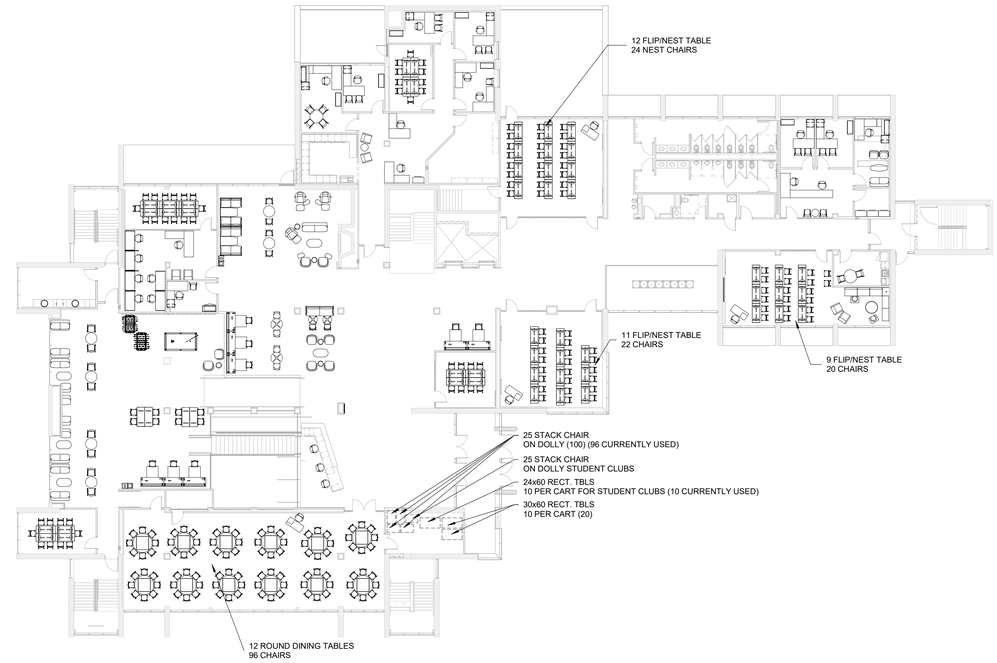
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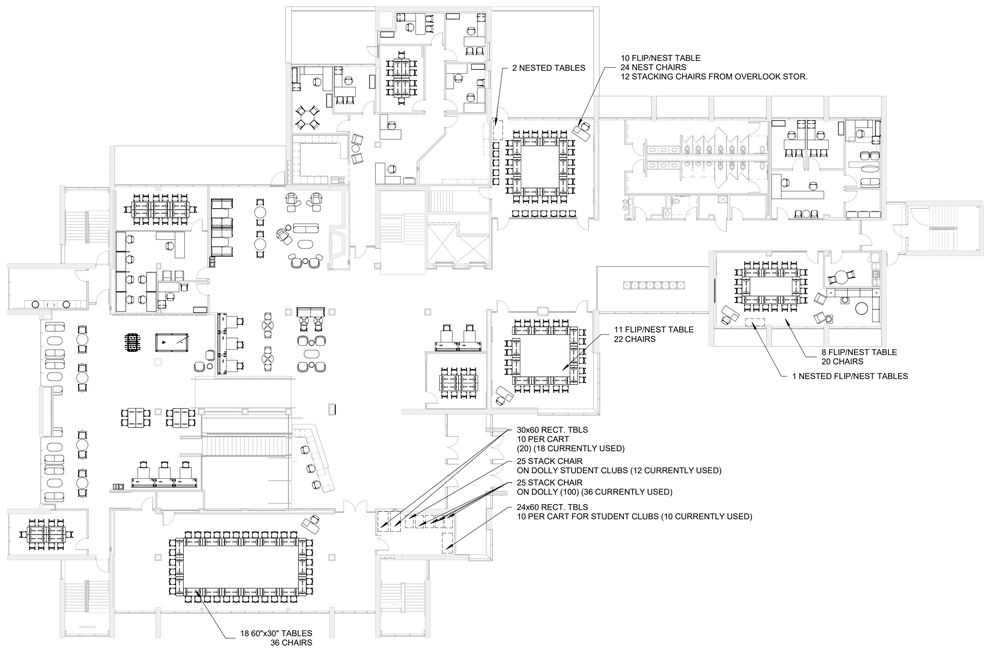
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2 OVERLOOK LAYOUT -ORIENTATION
1/16" = 1'-0"



1 OVERLOOK LAYOUT - LEARNING & BANQUET
1/16" = 1'-0"



3 OVERLOOK LAYOUT - MEETING
1/16" = 1'-0"

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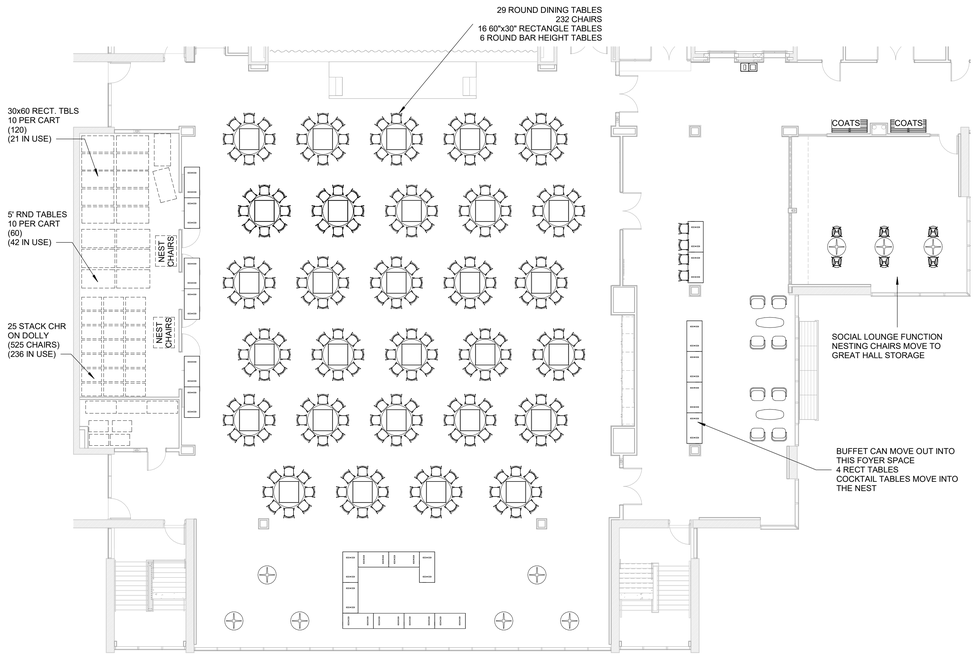
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FURNITURE PLAN - SECOND FLOOR LAYOUTS (FOR REFERENCE ONLY)

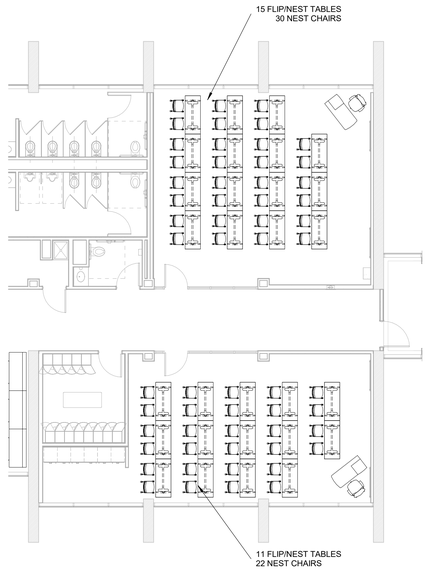
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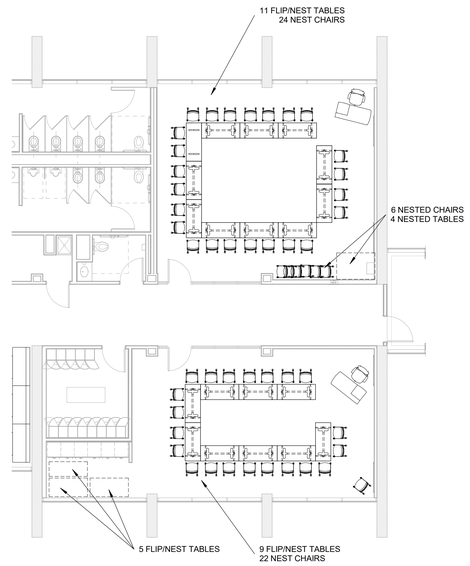
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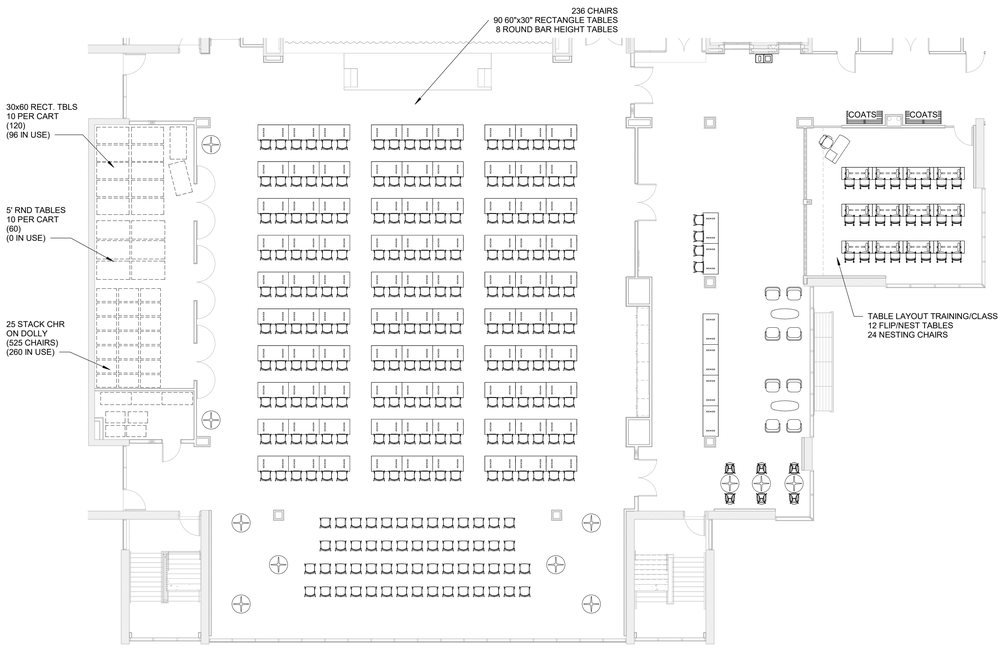
2 THE GREAT HALL LAYOUT - BANQUET
1" = 10'-0"



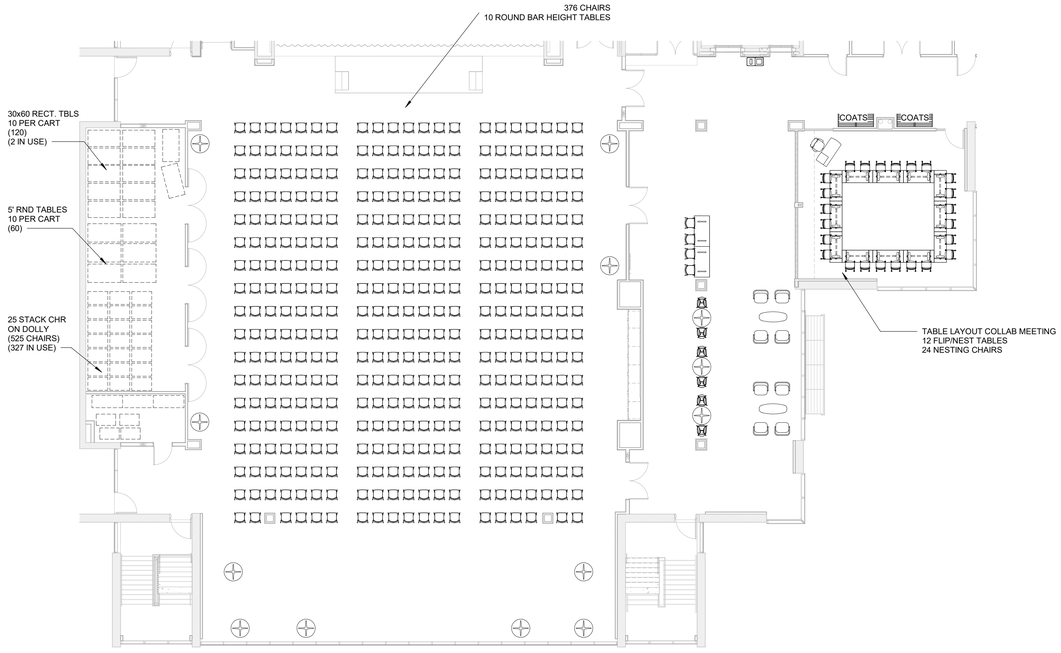
4 THIRD FLOOR MEETING ROOMS LEARNING LAYOUT
1/8" = 1'-0"



5 THIRD FLOOR MEETING ROOMS - MEETING LAYOUT
1/8" = 1'-0"



1 THE GREAT HALL LAYOUT RECTANGLE TABLES
1" = 10'-0"



3 THE GREAT HALL LAYOUT - CHAIRS ONLY
1" = 10'-0"

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LICENSED ARCHITECT
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Issue Date: 11/16/26
Registration Expires: 11/30/27

Drawn By:	AR
Checked By:	CAF
Project Manager:	BMA

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SUCF PROJECT No. 041046-00

I-106

FURNITURE PLAN - THIRD FLOOR LAYOUTS (FOR REFERENCE ONLY)

November 16, 2026
BID DOCUMENTS

FILE PATH: Autodesk Docs://23132.00 SUCF SUNY Cortland Corey Union 2023/23132.00 SUNY Cortland Corey Union Furniture.rvt