GENERAL NOTES

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS SET FORTH BY 2015 IBC AND SHALL CONFORM TO ALL OTHER APPLICABLE MUNICIPAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE ILLINOIS ACCESSIBILITY CODE (2018) AND THE AMERICANS WITH DISABILITIES ACT.

1. ALL CONTRACTORS ARE REQUIRED TO VISIT THE SITE AND BE KNOWLEDGEABLE REGARDING EXISTING CONDITIONS AND THEIR EFFECT ON THE PROPOSED WORK. CONTRACTORS SHALL VERIFY AND BE RESPONSIBLE FOR, ANY CONDITIONS REQUIRING MODIFICATION BEFORE PROCEEDING WITH THE PROJECT.
2. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF 72 HOURS PRIOR TO THE INTERRUPTION OF ANY UTILITY.
3. CONTRACTORS AND SUBCONTRACTORS SHALL COORDINATE THEIR WORK WITH THAT OF OTHER TRADES.
4. NO WORK WILL BE PERMITTED TO BE INSTALLED WITHOUT RECEIPT AND SUBSEQUENT REVIEW OF FULL AND COMPLETE SUBMITTALS BY THE ARCHITECT/ENGINEER.
5. DO NOT SCALE DRAWINGS, DIMENSIONS INDICATED TAKE PRECEDENCE OVER SCALE.
6. VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD. WHERE DISCREPANCIES ARE FOUND BETWEEN DIMENSIONS OR ELEVATIONS SHOWN AND ACTUAL FIELD CONDITIONS, NOTIFY ARCHITECT/ENGINEER.
7. DEFINITIONS:
   - 7.1. FURNISH: SUPPLY, DELIVER TO AND UNLOAD AT PROJECT SITE READY FOR ASSEMBLY AND INCORPORATION INTO THE WORK.
   - 7.2. INSTALL: AT THE PROJECT SITE, UNPACK/UNCRATE ASSEMBLE, PLACE, ANCHOR, FINISH, PROTECT, CLEAN, AND PERFORM ALL OTHER SIMILAR OPERATIONS REQUIRED TO FULLY AND PROPERLY INCORPORATE AN ITEM INTO THE WORK. LEGALLY DISPOSE OF OR RECYCLE PACKAGING AND EXTRA MATERIAL OFF-SITE.
   - 7.3. PROJECT SITE: THE SPACE AVAILABLE TO THE CONTRACTOR FOR PERFORMANCE OF CONSTRUCTION ACTIVITIES. THE EXTENT OF THE PROJECT SITE IS THE AREAS TO BE REMODELED AS INDICATED ON THE DRAWINGS, AND EXTENDS TO SUCH AREAS AS CONTAIN TERMINATIONS FOR POWER, DATA AND OTHER SERVICES.
   - 7.4. OFF-SITE: OUTSIDE THE PROPERTY IN WHICH THE PROJECT SITE IS LOCATED.
   - 7.5. PROVIDE: FURNISH AND INSTALL, AS DEFINED ABOVE.
8. WHERE CONFLICTS MAY EXIST BETWEEN THE REQUIREMENTS OF PORTIONS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, HIGHER QUALITY OR MORE STRINGENT REQUIREMENT SHALL GOVERN. THEREFORE, BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT, IF IT RAISED NO QUESTIONS REGARDING SUCH CONFLICTS DURING THE BIDDING PROCESS, AND IN THE ABSENCE OF A CLARIFYING ADDENDUM ISSUED DURING THE BIDDING PROCESS, IT HAS VOLUNTEERED TO COMPLY WITH THE MORE EXPENSIVE REQUIREMENT AS PART OF ITS BASE BID AND IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION TO RESOLVE THE CONFLICT.
9. THE CONTRACT DOCUMENTS REQUIRE THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE PRODUCTS, SYSTEMS AND SERVICES. BY EXECUTING A CONTRACT FOR CONSTRUCTION, THE CONTRACTOR AGREES THAT THE DRAWINGS SET FORTH THE DESIGN INTENT AND, THEREFORE, MAY NOT EXPRESSLY DEPICT EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE. THE CONTRACTOR FURTHER AGREES THAT, AS PART OF ITS BID, IT MUST FURNISH AND INSTALL EVERY LENGTH, SEGMENT, PIECE, PART, COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE AND, CONSEQUENTLY, THE CONTRACTOR IS NOT ENTITLED TO ANY ADDITIONAL COMPENSATION FOR ANY LENGTH, SEGMENT, PIECE, PART COMPONENT OR UNIT OF A PRODUCT, SYSTEM OR SERVICE BECAUSE IT IS NOT EXPRESSLY DEPICTED HEREIN.
10. ARCHITECT SHALL BE NAMED AS ADDITIONAL INSURED ON ALL REQUIRED INSURANCE POLICIES.

B: MISCELLANEOUS AND DEMOLITION NOTES

1. DEFINITIONS:
   - 1.1. DEMOLISH: DISCONNECT FROM SERVICES, UNFASTEN, REMOVE, DISASSEMBLE AND LEGALLY DISPOSE OF OR RECYCLE OFF-SITE.
   - 1.2. SALVAGE: CAREFULLY, SO AS TO PRESERVE INTEGRITY AND USEFULNESS, DISCONNECT FROM SERVICES, UNFASTEN, REMOVE, DISASSEMBLE IF NECESSARY, AND STORE TEMPORARILY FOR REINCORPORATION INTO THE WORK OR FOR DELIVERY/TURN-OVER TO THE OWNER AS INDICATED IN THE CONSTRUCTION DOCUMENTS.
   - 1.3. SALVAGE IN PLACE: PROTECT, RE-USE, CLEAN, RE-CONDITION IF NECESSARTY, REFINISH IF INDICATED IN THE DRAWINGS, EXISTING INSTALLED ITEM/COMPONENT WITHOUT DISCONNECTING, UNFASTENING OR REMOVING FROM THE WORK.
2. BRING ANY UNFORESEEN OR CONFLICTING CONDITIONS TO THE IMMEDIATE ATTENTION OF THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK.
3. REPAIR, PATCH, OR REPLACE FINISH MATERIALS OR VISIBLE ASSEMBLIES THAT ARE SOILED, CUT OR DAMAGED IN ANY FASHION DURING THE COURSE OF THE WORK. PERFORM PATCHING SUCH THAT EDGES BLEND INTO CONTIGUOUS SURFACES SMOOTHLY, MATCHING TEXTURE AND COLOR OF ADJACENT SURFACES.
4. SEAL PENETRATIONS OF DUCTWORK, CONDUIT OR PIPES WITH UL APPROVED MATERIALS TO MAINTAIN THE FIRE RATING OF ASSEMBLIES.
5. APPLY APPROPRIATE & COMPATIBLE SEALANT MATERIALS AS REQUIRED TO SEPARATE DISSIMILAR METALS, FILL GAPS IN EXISTING ASSEMBLIES OR WHERE NEW AND EXISTING ASSEMBLIES MEET OR WHERE OTHERWISE REQUIRED BY THE SPECIFICATIONS.
6. UNTIL PERMANENT LIGHTING IS IN PLACE AND ENERGIZED, PROVIDE AND MAINTAIN TEMPORARY LIGHTING IN THE PROJECT AREAS, TO ACHIEVE A MINIMUM LIGHTING LEVEL OF 2 WATTS PER S.F.
7. OWNER WILL CONTINUE TO OCCUPY AREAS ADJACENT TO THE PROJECT AREAS DURING THE CONSTRUCTION PERIOD. COORDINATE WITH OWNER TO MINIMIZE CONFLICT AND TO FACILITATE OWNER'S OPERATIONS. LIMIT CONDUCT OF ESPECIALLY NOISY OR DISRUPTIVE WORK TO ONLY THOSE TIMES MUTUALLY AGREED TO BY OWNER. REQUEST MUTUALLY AGREEABLE TIME FROM OWNER PRIOR TO CONDUCTING SUCH WORK, AND PROCEED WITH SUCH WORK ONLY AFTER RECEIVING OWNER'S EXPRESS PERMISSION TO DO SO.

C: BIDDING NOTES

1. GENERAL CONTRACTOR TO PROVIDE A $5,000 ALLOWANCE IN HIS/HER BID FOR UNFORSEEN/MISCELLANEOUS CONDITIONS. WHEN FIGURING THIS ALLOWANCE IN THE BID, CONTRACTOR IS TO INCLUDE ALL NECESSARY OVERHEAD AND PROFIT. THIS ALLOWANCE IS NOT FOR THE CONTRACTOR'S BENEFIT, AND IS ONLY AUTHORIZED TO CHARGE AGAINST THIS ALLOWANCE WHEN DIRECTED AND APPROVED BY JOLIET JUNIOR COLLEGE. THE CONTRACTOR WILL BE ALLOWED TO INVOICE FOR MATERIAL AND RAW LABOR COST ONLY.
2. CONSTRUCTION SCHEDULE:

   CONSTRUCTION START AND SUBSTANTIAL COMPLETION IN ACCORDANCE WITH JJC FRONT-END DOCUMENTS.
3. ALL LOUD AND DISRUPTIVE WORK IS TO BE PERFORMED BETWEEN THE HOURS OF 10:00 PM AND 6:00 AM.

STANDARD ABBREVIATIONS

@	– AT	EXP	– EXPANSION	PL	– PLATE
A B	– ANCHOR BOLT	EXP CONST	– EXPOSED CONSTRUCTION	PL LAM	– PLASTIC LAMINATE
ABR	– ABRASIVE	FD	– FLOOR DRAIN	PL	– PLASTER
AT-(1)	– ACOUSTIC TILE CEILING (TYPE)	FDN	– FOUNDATION	PLB'G	– PLUMBING
AFF	– ABOVE FINISH FLOOR	FE	– FIRE EXTINGUISHER	PLB'G CONTR	– PLUMBING CONTRACTOR
AFG	– ABOVE FINISH GRADE	FEC	– FIRE EXTINGUISHER CABINET	PLYWD	– PLYWOOD
ACOUS	– ACOUSTIC	FHC	– FIRE HOSE CABINET	PNT	– PAINT
ADD'N	– ADDITION	FIN	– FINISH	PVC	– POLYVINYL CHLORIDE
ADD'L	– ADDITIONAL	FLR	– FLOOR	PL-(1)	– GYPSUM PLASTER (TYPE)
ADJ	– ADJACENT	FRT	– FIRE RETARDANT TREATED (RATED)	R OR RAD	– RADIUS
ADJT	– ADJUSTABLE	FUR CHN'L	– FURRING CHANNEL	R	– RISER
AL	– ALUMINUM	FTG	– FOOTING	RD	– ROOF DRAIN
ALT	– ALTERNATE	GA	– GAUGE	RO	– ROUGH OPENING
ANCH	– ANCHOR	GALV	– GALVANIZED	RF (1)	– RUBBER FLOORING (TYPE)
AP	– ACCESS PANEL	GEN CONTR	– GENERAL CONTRACTOR	RH	– RIGHT HAND
APPROX	– APPROXIMATE	GC	– GENERAL CONTRACTOR	REF	– REFERANCE
ASPH	– ASPHALT	GL	– GLASS	REINF	– REINFORCING
AUTO	– AUTOMATIC	GYP DB-(1)	– GYPSUM WALL BOARD (DRYWALL)(TYPE)	REQ'D	– REQUIRED
AVG	– AVERAGE	GYP PL-(1)	– GYPSUM PLASTER (TYPE)	RM	– ROOM
BSMT	– BASEMENT	H	– HIGH	SF	– SQUARE FOOT
BD	– BOARD	HD	– HEAVY DUTY	SI	– SQUARE INCH
BITUM	– BITUMINOUS/BITUMASTIC	HD	– HARD	SK	– SINK
BLDG	– BUILDING	HDNR	– HARDENER	SS	– STAINLESS STEEL
BLK'G	– BLOCKING (WOOD)	HD WD-(1)	– HARD WOOD (TYPE)	SSK	– SERVICE SINK
BM	– BEAM	HDWRE	– HARDWARE	SQ	– SQUARE
B.M.	– BENCH MARK	HGT	– HEIGHT	SCHED	– SCHEDULE
BT STL PL	– BENT STEEL PLATE	HM	– HOLLOW METAL	SEAL/HDNR	– SEALER/HARDENER
BRG	– BEARING	HP	– HIGH POINT	SEC	– SECTION
BRKT	– BRACKET	HORIZ	– HORIZONTAL	SHT	– SHEET
BRK	– BRICK	HTG	– HEATING	SIM	– SIMILAR
BTM	– BOTTOM	HVAC	– HEATING/VENTILATING/AIR CONDITIONING	SOG	– SLAB ON GRADE
BTW'N	– BETWEEN	IN	– INCH	SPEC	– SPECIFICATION(S)
CJ	– CONSTRUCTION/CONTRACTION JOINT	ID	– INSIDE DIAMETER	SPC'G	– SPACING
CAB	– CABINET	INCL	– INCLUDE (D)	SPK'R	– SPEAKER
CEM PL-(1)	– CEMENT PLASTER (TYPE)	INSUL	– INSULATION OR INSULATING	STN	– STN
CT PAV-(1)	– CERAMIC PAVER TILE (TYPE)	JT	– JOINT	STD	– STANDARD
CIPC	– CAST- IN- PLACE CONCRETE	KD	– KNOCK DOWN	STD WGT	– STANDARD WEIGHT
CLG	– CEILING	L	– LONG	STL	– STEEL
CLR	– CLEAR	LAM	– LAMINATED	STRUCT	– STRUCTURAL OR STRUCTURE
CO	– CLEAN OUT	LAV	– LAVATORY	SUSP	– SUSPEND(ED)
CMU	– CONCRETE MASONRY UNIT	LH	– LEFT HAND	SYM	– SYMMETRICAL
COL	– COLUMN	LP	– LOW POINT	T	– TREAD
COMB	– COMBINATION	LGT WGT	– LIGHTWEIGHT	T&G	– TONGUE AND GROOVE
COMP	– COMPRESSIBLE	LL	– LIVE LOAD	T/B	– TOP OF BEAM
COMPT'D	– COMPACTED	LLH	– LONG LEG HORIZONTAL	T/C	– TOP OF CURB
CONC	– CONCRETE	LLV	– LONG LEG VERTICAL	T/F	– TOP OF FOUNDATION
CONC OPNG	– CONCRETE OPENING	LVR	– LOUVER	T/S	– TOP OF SLAB
COND	– CONDITION	MO	– MASONRY OPENING	T/STL	– TOP OF STEEL
CONT	– CONTINUOUS	MT	– METAL THRESHOLD	T/W	– TOP OF WALL
CONTR	– CONTRACT (OR)	MAS'Y	– MASONRY	TB (4)	– TACKBOARD (LENGTH)
CPT-(1)	– CARPET (TYPE)	MAT'L	– MATERIAL	TOM	– TOP OF MASONRY
CT-(1)	– CERAMIC TILE (TYPE)	MAX	– MAXIMUM	TYP	– TYPICAL
CTR	– COUNTER	MB-(16)	– MARKERBOARD- (LENGTH)	UNO	– UNLESS NOTED OTHERWISE
CTR SK	– COUNTER SINK	MECH	– MECHANICAL	VBC	– VINYL BASE COVED
CTS	– CENTER(S)	MECH CONTR	– MECHANICAL CONTRACTOR	VBS	– VINYL BASE STRAIGHT
CUH	– CABINET UNIT HEATER	MFR	– MANUFACTURER	VCT	– VINYL COMPOSITION TILE
CUV	– CABINET UNIT VENTILATOR	MIN	– MINIMUM	VEN PL (1)	– VENEER PLASTER (TYPE)
DIA	– DIAMETER	MISC	– MISCELLANEOUS	VERT	– VERTICAL
DIM	– DIMENSION	MSB	– MOP SERVICE BASIN (SINK)	W	– WIDE OR WIDTH
DN	– DOWN	MT(D)	– MOUNT(ED)	W/	– WITH
DR	– DOOR	MTL	– METAL	W/O	– WITHOUT
DWG'S	– DRAWINGS	NIC	– NOT IN CONTRACT	WCG	– WALL CORNER GUARD
DTL	– DETAIL	NOM	– NOMINAL	WD	– WOOD
DWL'S	– DOWELS	NTS	– NOT TO SCALE	WDN	– WINDOW
EA	– EACH	NO	– NUMBER	WGT	– WEIGHT
EJ	– EXPANSION JOINT	OA	– OVERALL	WP	– WATER PROOF
EL	– ELEVATION	OC	– ON CENTER	WWF	– WELDED WIRE FABRIC
ELEC	– ELECTRIC/ELECTRICAL	OD	– OUTSIDE DIAMETER	WSB	– WALL SERVICE BASIN
ELEC CONTR	– ELECTRICAL CONTRACTOR	OF	– OUTSIDE FACE		
ELEV	– ELEVATOR	OPN'G	– OPENING		
EMBED	– EMBEDMENT	OPP	– OPPOSITE		
EMER	– EMERGENCY	OPP HD	– OPPOSITE HAND		
EP PNT	– EPOXY PAINT	PSF	– POUNDS PER SQUARE FOOT		
EQ	– EQUAL	PSI	– POUNDS PER SQUARE INCH		
EW	– EACH WAY	PT	– PRESSURE TREATED		
EWC	– ELECTRIC WATER COOLER	PTN	– PARTITION		
EWH	– ELECTRIC WATER HEATER	PAV'T	– PAVEMENT		
ER-(26)	– EXHIBIT RAIL (LENGTH)	PC	– PIECE		
EXIST	– EXISTING	PFM	– PERMANENT FLOOR MAT		

THE MATERIALS, ABBREVIATIONS, AND DRAFTING SYMBOLS LEGEND ARE EACH AN ALL INCLUSIVE MASTER LIST USED BY THIS FIRM. THE INCLUSION OF THESE LEGENDS INTO THESE DOCUMENTS DOES NOT IMPLY THAT ALL THE SYMBOLS OR MATERIALS INCLUDED IN THESE LEGENDS ARE INCORPORATED INTO THIS PROJECT.

DRAFTING SYMBOLS AND MATERIALS LEGEND

- DETAIL NUMBER / DRAWING NUMBER — 8 / A12.24
- DETAIL NUMBER / DRAWING NUMBER — 23 / A7.19
- DETAIL NUMBER / DRAWING NUMBER — 2, 6, 49.16, 5, 3
- DETAIL NUMBER / DRAWING NUMBER — 1 / A6.05
- COLUMN NUMBER — 26
- LOCATION ELEVATION — T/1ST FLR. 100'-0"
- ROOM NUMBER — 204
- DOOR NO. NEW / DOOR NO. EXISTING — 203.2 / 203.1X
- NOMINAL THICKNESS / CONSTRUCTION TYPE / SPECIAL CONDITION — M8
- KEYNOTE IDENTIFICATION — 15.211
- WINDOW TYPE IDENTIFICATION — X
- TOILET ACCESSORY IDENTIFICATION — A
- SPOT ELEVATION — T/1ST FLR. 100'-0"
- CONCRETE
- BRICK MASONRY IN PLAN
- CONCRETE MASONRY IN PLAN (RUNNING BOND)
- CONCRETE MASONRY IN PLAN (STACK BOND)
- STONE MASONRY IN PLAN
- RAKED JOINT IN PLAN / CTRL./EXP. JOINT IN PLAN
- BRICK MASONRY IN SECTION DETAIL
- CONCRETE MASONRY IN SECTION DETAIL
- STONE MASONRY IN SECTION DETAIL
- STEEL IN SECTION DETAIL
- DISCONTINUOUS WOOD BLOCKING IN SECTION
- CONTINUOUS WOOD BLOCKING IN SECTION
- FINISHED WOOD IN SECTION DETAIL
- RIGID BOARD INSULATION
- RIGID BOARD INSULATION (ROOFING)
- BATT INSULATION
- GYPSUM BOARD
- ACOUSTICAL CEILING PANEL
- BITUMINOUS CONCRETE (ASPHALT) PAVING IN SECTION
- AGGREGATE BALLAST, FILL OR BACKFILL IN SECTION
- UNDISTURBED EARTH
- EARTH BACKFILL

PROJECT

BUILDING J HVAC UNIT REPLACEMENT
JOLIET JUNIOR COLLEGE
1215 HOUBOLT ROAD
JOLIET, IL 60431

OWNER

JOLIET JUNIOR COLLEGE
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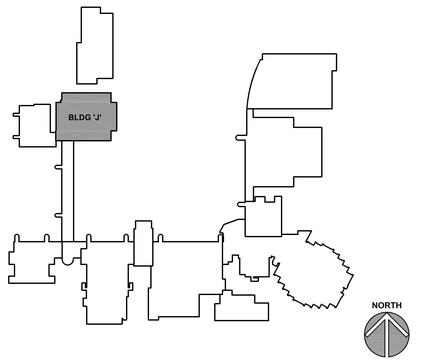

INDEX OF DRAWINGS

BUILDING CODE DATA

2015 INTERNATIONAL BUILDING CODE
2014 ILLINOIS STATE PLUMBING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL FUEL AND GAS CODE
2015 INTERNATIONAL ENERGY CODE
2015 INTERNATIONAL FIRE PREVENTION CODE
2018 IL ACCESSIBILITY CODE
2014 NATIONAL ELECTRIC CODE
LOCAL AMENDMENTS TO THE ABOVE CODES

SEALS & CERTIFICATES

I HAVE PREPARED, OR CAUSED TO BE PREPARED UNDER MY DIRECT SUPERVISION, THE ATTACHED PLANS AND SPECIFICATIONS AND STATE THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND TO THE EXTENT OF MY CONTRACTUAL OBLIGATION, THEY ARE IN COMPLIANCE WITH IBC 2009 EDITION, THE ENVIRONMENTAL BARRIERS ACT AND THE ILLINOIS ACCESSIBILITY CODE.

KLUBER, INC. ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE #184-001284

ARCHITECT'S SEAL	MECHANICAL ENGINEER'S SEAL	ELECTRICAL ENGINEER'S SEAL
"G" SERIES "M" SERIES	"G" SERIES "M" SERIES	"G" SERIES "E" SERIES

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BUILDING J HVAC UNIT REPLACEMENT
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JOLIET, ILLINOIS 60431

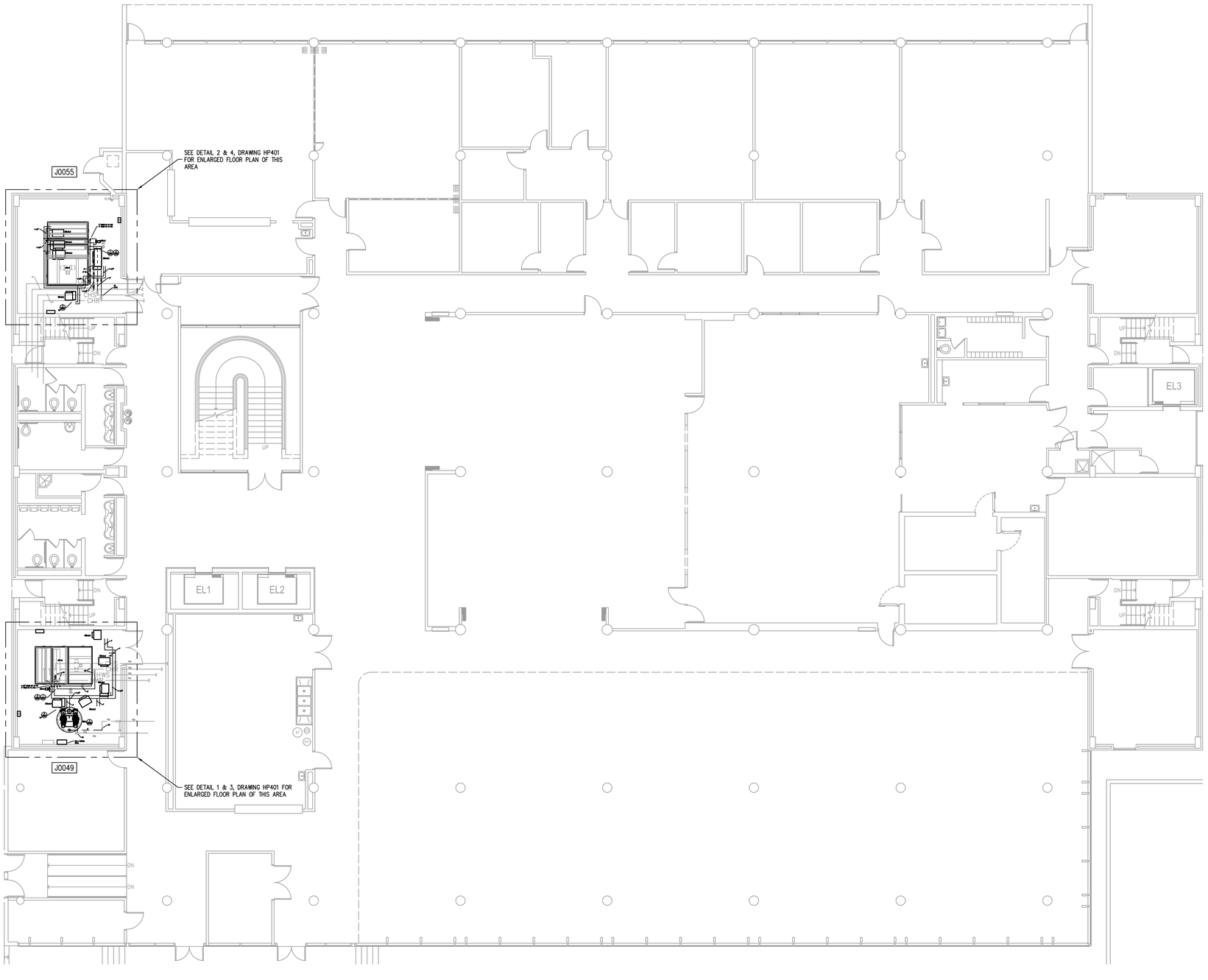
ISSUED
BID DOCUMENTS 03/25/19

JOB NO. 18-292-1226
DRAWN BWG
CHECKED DDW
APPROVED DDW

SHEET TITLE
COVER SHEET, GENERAL NOTES, SYMBOLS AND DRAWING INDEX

SHEET NUMBER
G100

P:\1226 - CDS - JJC - Building J AHU1 Upgrades\3D_Design\Design\CD-CD - JJC01_Gen1226G0100.dwg, 3/25/2019 10:42:41 AM, dtw



BUILDING J GROUND FLOOR HEATING PLAN

1

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

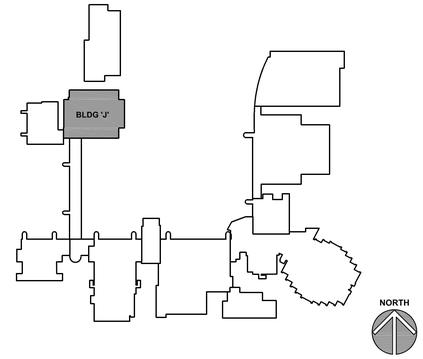
KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
3. ALL EXISTING DUCTWORK IS INSULATED WITH A ONE INCH DUCT LINER. ALL DIMENSIONS SHOWN ARE NET INSIDE DIMENSIONS.
4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5° F DEADBAND.
6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
7. SPACE ALLOCATION, COORDINATION WITH ELECTRICAL, ARCHITECTURAL & OTHER MECHANICAL COMPONENTS HAVE BEEN MADE WITH RESPECT TO ALL EQUIPMENT SCHEDULED ON THESE DRAWINGS AND IN THE SPECIFICATIONS OF THE FIRST NAMED MANUFACTURER ONLY. OTHER MANUFACTURERS ARE ACCEPTABLE PROVIDED THEY MEET PERFORMANCE REQUIREMENTS AND AFOREMENTIONED COORDINATION.
8. DO NOT CUT THROUGH STRUCTURAL ELEMENTS WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.

KEY PLAN



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ISSUED
03/25/19 BID DOCUMENTS

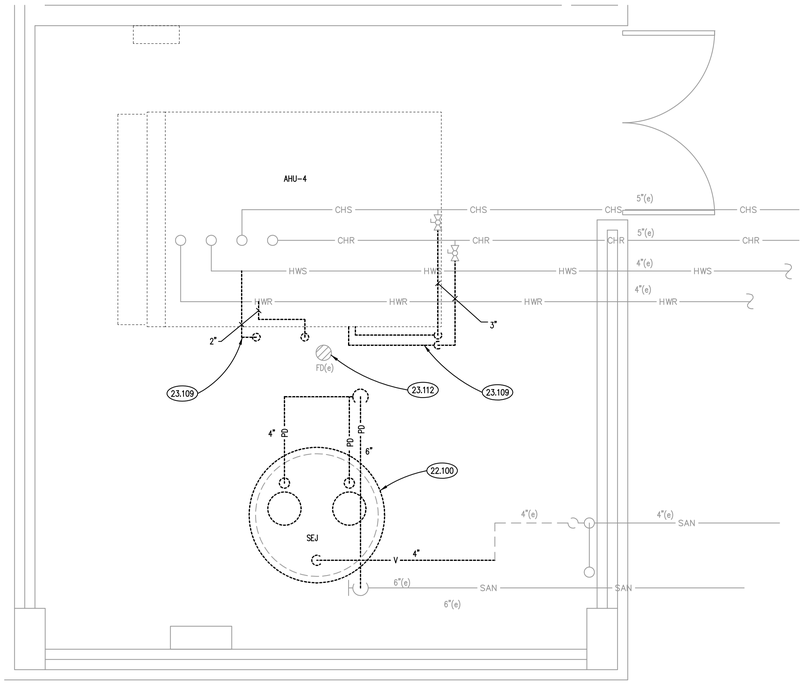
JOB NO.	18-292-1226
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW

SHEET TITLE

BUILDING J GROUND FLOOR HEATING PLAN

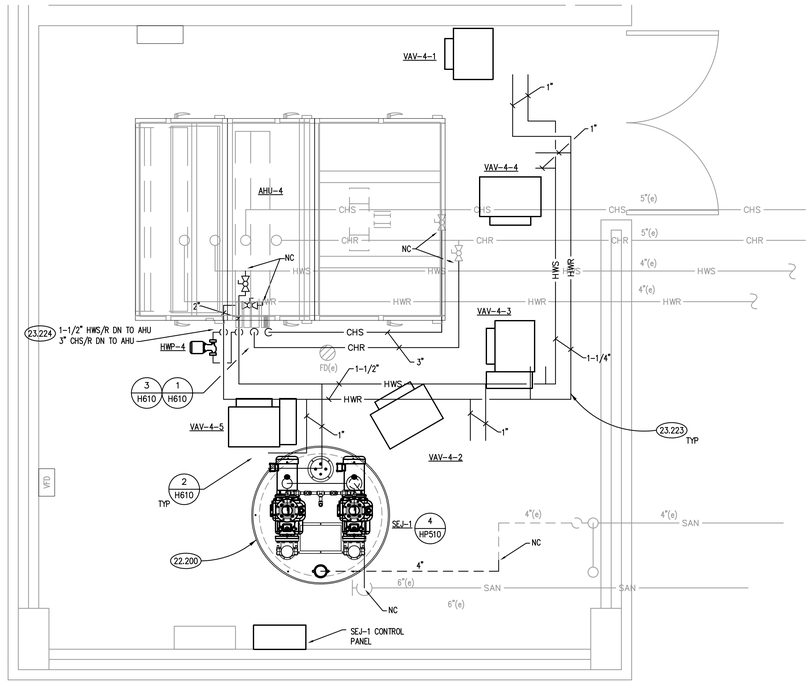
SHEET NUMBER

H300



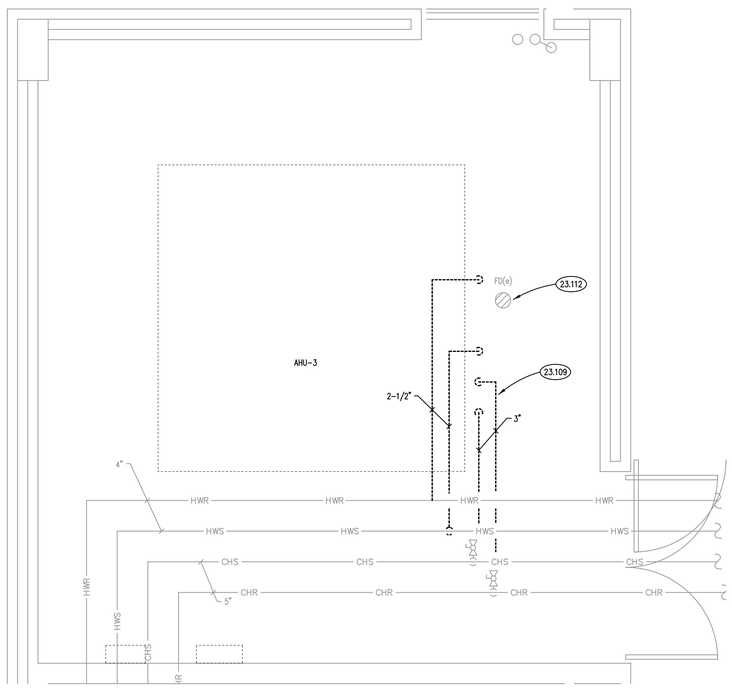
ROOM J0049 HEATING DEMOLITION PLAN (3)

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



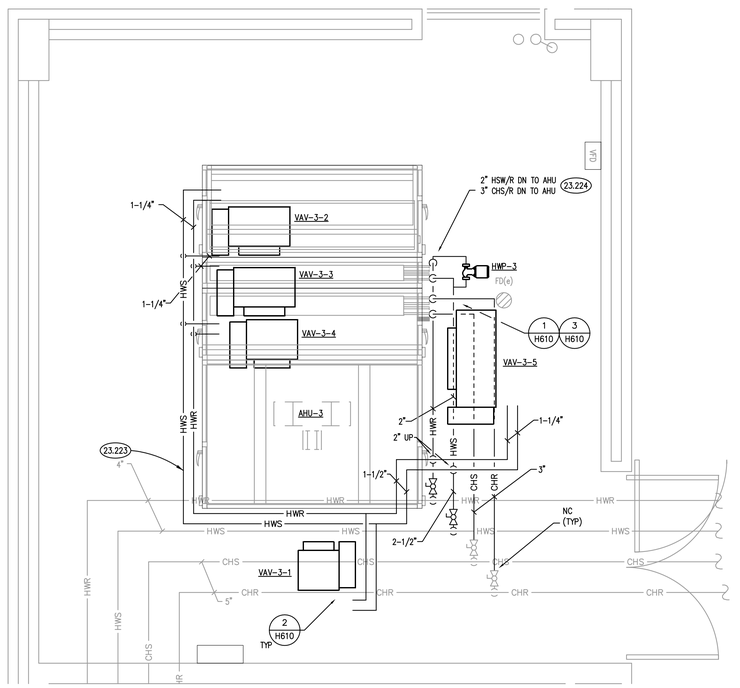
ROOM J0049 HEATING PLAN (1)

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



ROOM J0055 HEATING DEMOLITION PLAN (4)

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



ROOM J0055 HEATING PLAN (2)

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

KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

22.100 REMOVE DUPLEX SEWAGE PUMPS, CONTROLS, LID AND PIPING TO LOCATION SHOWN. EXISTING BASIN TO REMAIN AND BE REUSED. PROVIDE TEMPORARY CAP ON PIPES AND BASIN FOR NEW WORK.

22.200 PROVIDE SELF PRIMING DUPLEX SEWAGE PUMP SYSTEM WITH ALL CONTRROLS AND PIPING TO CONNECT TO EXISTING BUILDING SERVICES. NEW BASIN LID SHALL BE AIR TIGHT.

23.109 REMOVE HOT WATER AND CHILLED WATER PIPING BACK TO MAIN AS SHOWN. PROVIDE TEMPORARY CAP FOR NEW CONNECTION.

23.112 DISCONNECT AND PROTECT TRAP PRIMER POLY TUBING TO FLOOR DRAIN. REINSTALL TUBING WHEN CONSTRUCTION IS COMPLETE.

23.223 PROVIDE HWS/R PIPING AND ASSOCIATED SPECIALITIES FOR VAV BOXES.

23.224 PROVIDE HWS/R & CHS/R PIPING AND ASSOCIATED SPECIALITIES TO AHU.

GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
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3. ALL EXISTING DUCTWORK IS INSULATED WITH A ONE INCH DUCT LINER. ALL DIMENSIONS SHOWN ARE NET INSIDE DIMENSIONS.
4. ALL TAPES AND MASTICS USED TO SEAL DUCTWORK LISTED AND LABELED IN ACCORDANCE WITH UL 181A SHALL BE MARKED ACCORDINGLY. ALL TAPES AND MASTICS USED TO SEAL FLEXIBLE DUCTS AND AIR CONNECTORS SHALL COMPLY WITH UL 181B AND MARKED ACCORDINGLY.
5. THERMOSTATIC CONTROLS OF EQUIPMENT SHALL HAVE A 5° F DEADBAND.
6. GENERALLY, SMALL DIAMETER PIPE RUNS FROM DRIPS, CONDENSATE PANS AND OTHER SERVICES ARE NOT SHOWN BUT MUST BE PROVIDED.
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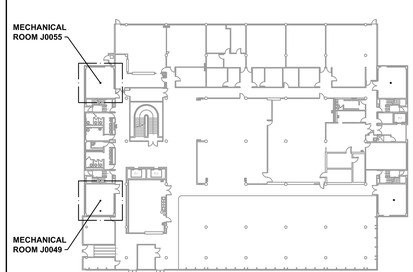
8. DO NOT CUT THROUGH STRUCTURAL ELEMENTS WHEN INSTALLING OPENINGS REQUIRED FOR ALL DUCTWORK, PIPING, CONDUITS OR OTHER WORK. CONTRACTOR CUTTING THROUGH OR OTHERWISE DAMAGING THESE ELEMENTS WILL BE RESPONSIBLE FOR ALL ASSOCIATED ENGINEERING FEES AND SUBSEQUENT RETRO-FIT/REINFORCING DEEMED NECESSARY TO REINSTATE THE CONTINUITY OF THE DISRUPTED ELEMENTS.

KEY PLAN



GROUND FLOOR BUILDING J

NORTH

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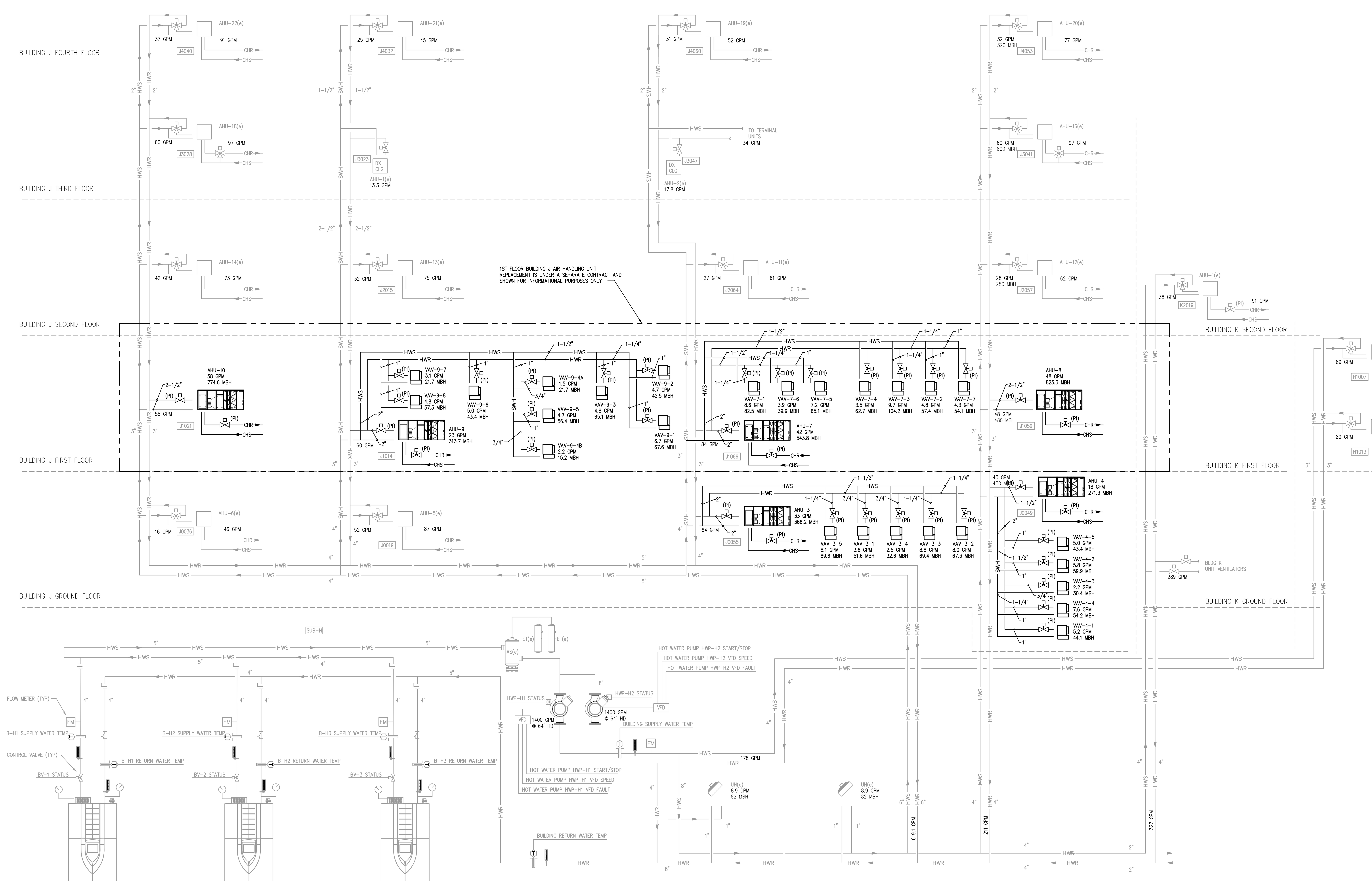
APPROVED	DDW

SHEET TITLE

GROUND FLOOR ENLARGED HEATING AND PLUMBING FLOOR PLANS

SHEET NUMBER

HP401



BOILER SCHEDULE

MARK	TYPE	WATER FLOW RATE (GPM)	MAX PRESS DROP (FT)	GAS INPUT (MBH)	GAS OUPUT (MBH)	EWT / LWT (°F)	ELECTRICAL (V/PH/HZ)	EFFICIENCY	MODEL	LOCATION	NOTES
B-H1(e)	CONDENSING	480	7.6	5,000	4,800	180 / 160	480/3/60	96.0	FBN-5000	SUB H	1
B-H2(e)	CONDENSING	480	7.6	5,000	4,800	180 / 160	480/3/60	96.0	FBN-5000	SUB H	1
B-H3(e)	CONDENSING	480	7.6	5,000	4,800	180 / 160	480/3/60	96.0	FBN-5000	SUB H	1

NOTES
1. BOILERS ARE SHOWN FOR INFORMATION PURPOSES ONLY. ALL BOILERS ARE EXISTING.

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APPROVED DDW

SHEET TITLE
BUILDING J PIPING SCHEMATIC

SHEET NUMBER
H510

PUMP SCHEDULE

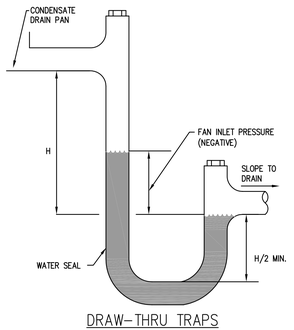
MARK	WATER FLOW RATE (GPM)	HEAD (FT)	TYPE	MOTOR POWER (HP)	ELECTRICAL (V/PH/HZ)	MOTOR SPEED (RPM)	SERVICE	MODEL	NOTES
HWP-3	10	10	INLINE	1/6	115/1/60	1725	AHU-3	SERIES HV	1
HWP-4	10	10	INLINE	1/6	115/1/60	1725	AHU-4	SERIES HV	1

NOTES
1. MODEL BASED ON BELL AND GOSSETT.

SEWAGE EJECTOR SCHEDULE

MARK	SEJ-1
PUMP MODEL	45MPC750
WATER FLOW RATE (GPM)	250
HEAD (FT)	25
TYPE	SELF-PRIMING
MOTOR SIZE (HP)	7-1/2
ELECTIRCAL (V/PH/HZ)	460/3/60
MOTOR SPEED (RPM)	1750
SERVICE	SANITARY
REMARKS	1, 2, 3

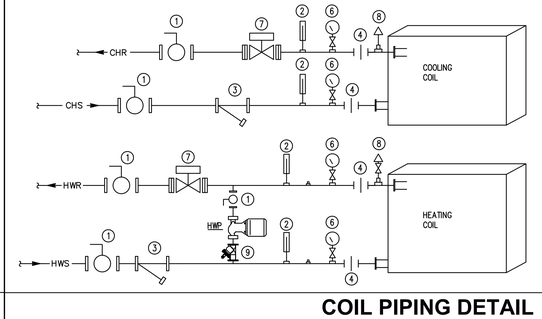
NOTES
1. MODEL BASED ON METROPOLITAN METRO-PRIME.
2. SYSTEM SHALL HAVE DUPLEX, SELF-PRIMING PUMPS WITH REMOVABLE ACCESS COVERS.
3. PROVIDE SYSTEM WITH CONTROLLER, NEW BASIN COVER AND INDICATORS/ALARMS AS SPECIFIED.



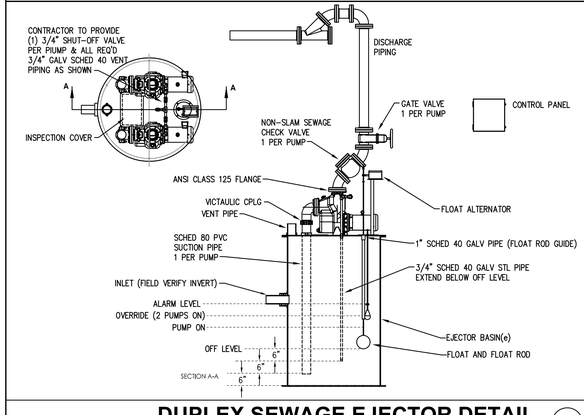
COOLING COIL CONDENSATE TRAP DETAILS (3)
SCALE: NTS

NOTES:
1. SEPARATE PIPING SPECIALITIES ARE SHOWN. MODULAR COMPONENTS ARE ACCEPTABLE.
2. AHU-3, 4, 5, 6 & 9 HOT WATER COIL RECIRC. PIPING = 1-1/4"
3. AHU-7, 8 & 10 HOT WATER COIL RECIRC. PIPING = 1-1/2"

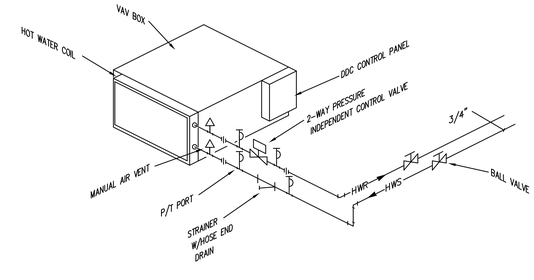
ITEM	DESCRIPTION
1	BALL VALVE
2	THERMOMETER
3	STRAINER
4	UNION
5	NOT USED
6	PRESSURE GAGE
7	TWO WAY PRESSURE INDEPENDENT CONTROL VALVE
8	MANUAL AIR VENT
9	TRIPLE DUTY VALVE



COIL PIPING DETAIL (1)
SCALE: NTS



DUPLEX SEWAGE EJECTOR DETAIL (4)
SCALE: NTS



NOTES:
1. PIPING TO ALL REHEAT COILS SHALL BE MINIMUM 3/4" UNLESS OTHERWISE NOTED.
2. SEPARATE PIPING SPECIALITIES ARE SHOWN. MODULAR COMPONENTS ARE ACCEPTABLE.

REHEAT COIL PIPING DETAIL (2)
SCALE: NTS

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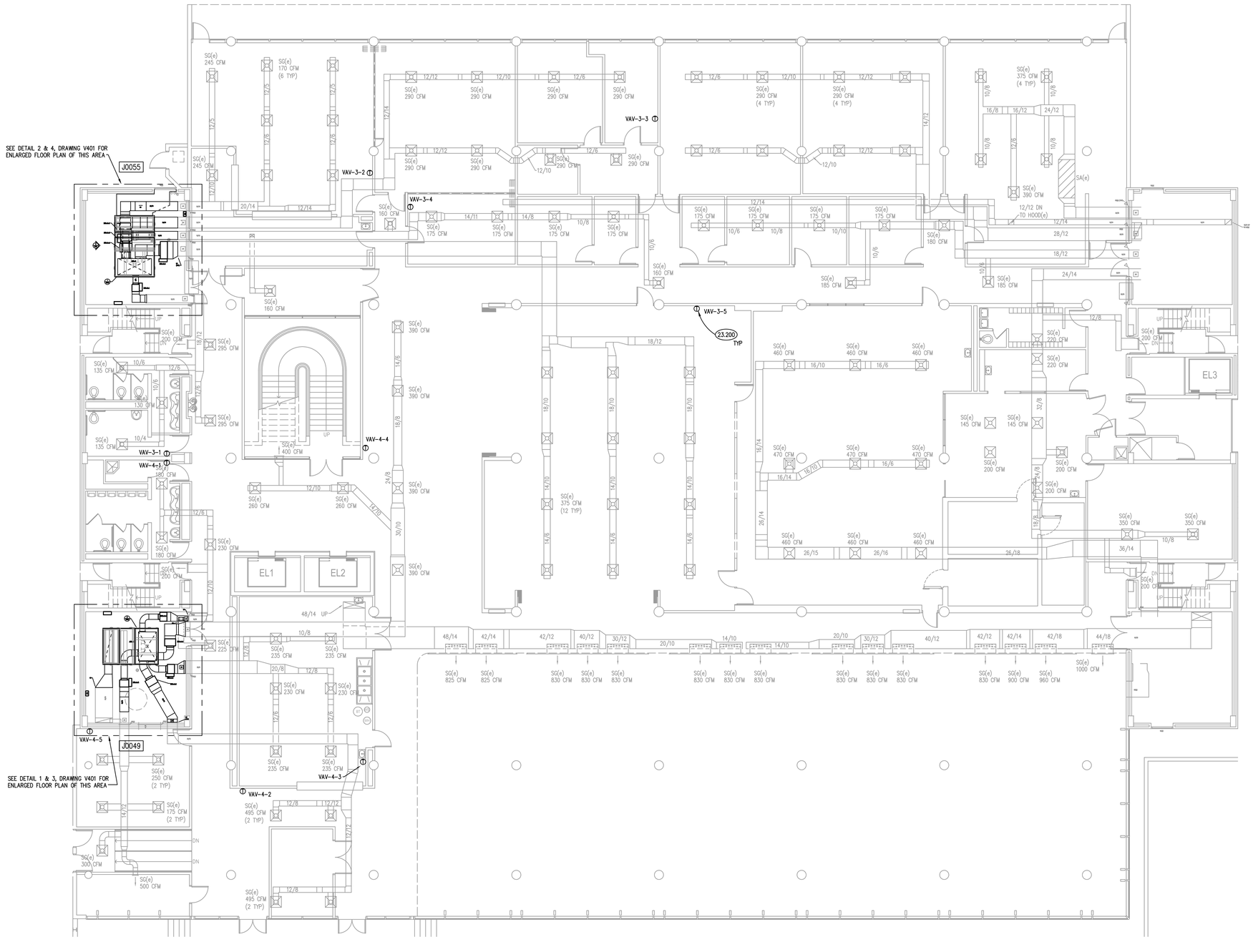
SHEET TITLE
HEATING AND PLUMBING SCHEDULES AND DETAILS

SHEET NUMBER
HP610



BUILDING J GROUND FLOOR VENTILATION PLAN (1)

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

KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

23.200 TEMPERATURE CONTROL CONTRACTOR TO REMOVE OLD PNEUMATIC THERMOSTAT AND PROVIDE NEW THERMOSTAT FOR VAV BOX.

GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. ALL PIPING AND DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL REQUIRED FITTINGS, OFFSETS, DROPS AND RISES. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL MATERIAL AND LABOR FOR A COMPLETE AND WORKING SYSTEM. COORDINATE WITH OTHER TRADES FOR SPACE AVAILABLE AND RELATIVE LOCATIONS OF EQUIPMENT, PIPING, DUCTWORK, ETC.
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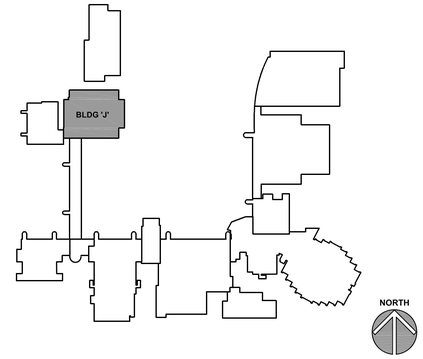
KEY PLAN



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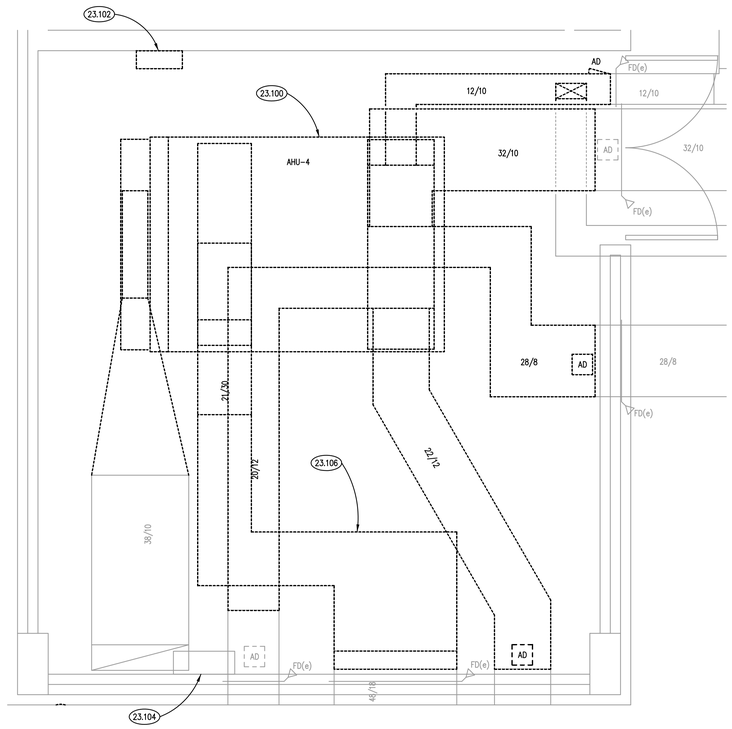
SHEET TITLE

BUILDING J GROUND FLOOR VENTILATION PLAN

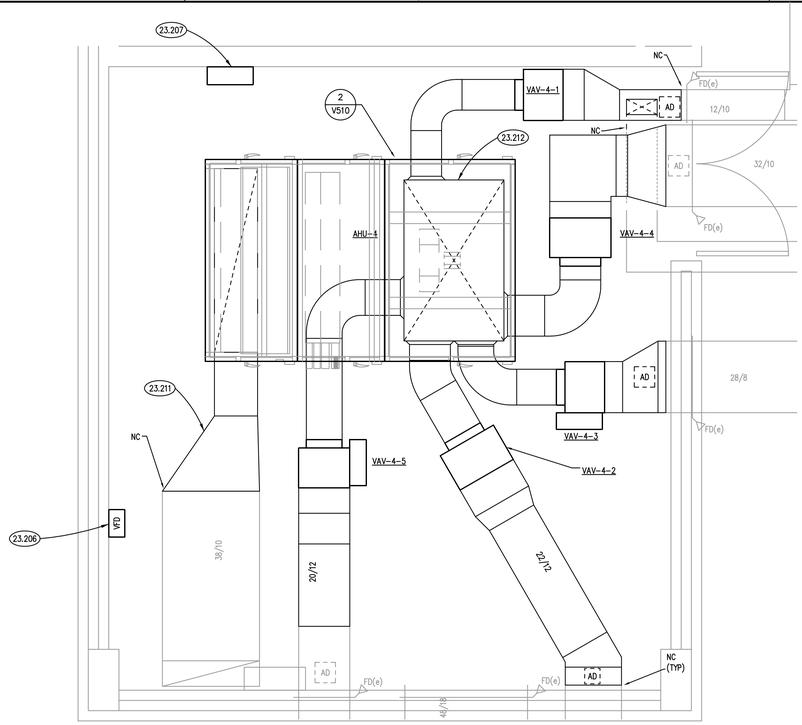
SHEET NUMBER

V300



ROOM J0049 VENTILATION DEMOLITION PLAN (3)

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



ROOM J0049 VENTILATION PLAN (1)

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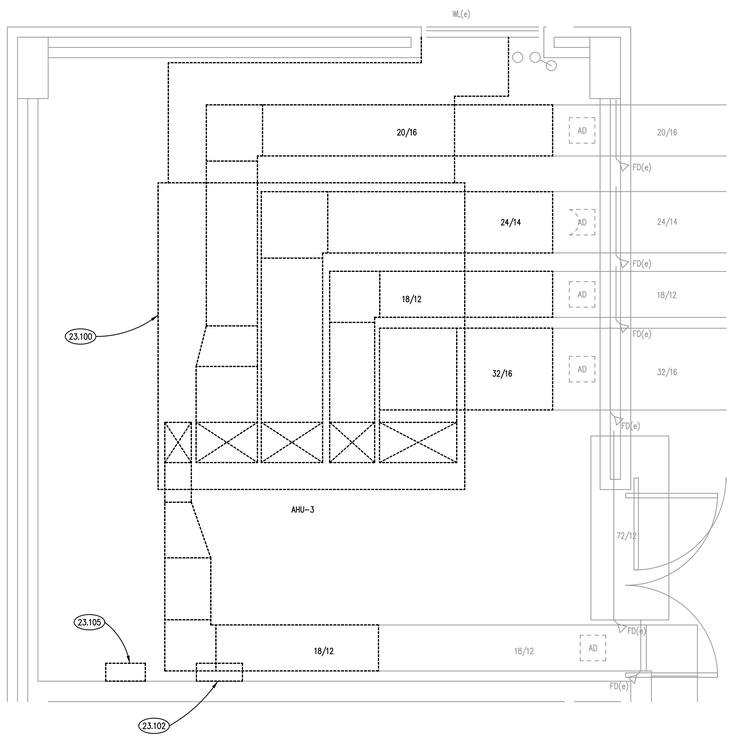
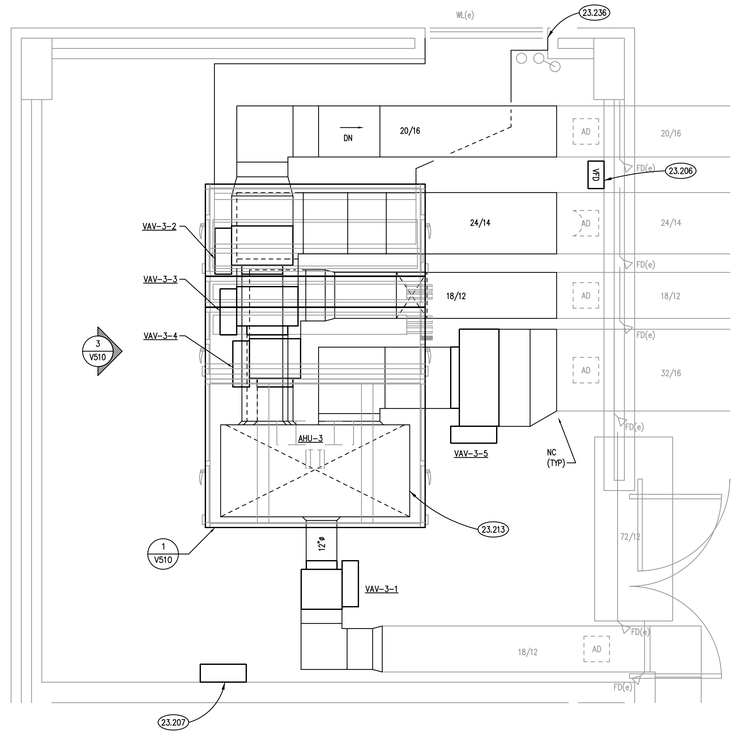


ROOM J0055 VENTILATION DEMOLITION PLAN (4)

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



ROOM J0055 VENTILATION PLAN (2)

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

KEYNOTES

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23.100 REMOVE AIR HANDLING UNIT AND ASSOCIATED DUCTWORK AS SHOWN.
23.102 TEMPERATURE CONTROL CONTRACTOR TO REMOVE PNEUMATIC CONTROL PANEL AND ALL ASSOCIATED END DEVICES. VERIFY ONLY POINTS IN PANEL ARE ASSOCIATED WITH THE AIR HANDLING UNIT IN THIS ROOM. IF OTHER CONTROLS ARE IN PANEL AFFECTING OTHER EQUIPMENT NOTIFY OWNER. COORDINATE WITH OWNER FOR REMOVAL OF ANY GRAPHICS IN JCI SYSTEM.
23.104 EXISTING JCI FPU PANEL TO REMAIN.
23.105 TEMPERATURE CONTROL CONTRACTOR TO REMOVE JCI METASYS CONTROLLER AND TURN OVER TO OWNER. MIGRATE ALL POINTS INTO NEW DDC CONTROLLER.
23.106 REMOVE RETURN DUCTWORK BACK TO WALL. LEAVE OPENING FOR RETURN PLENUM.

23.206 TEMPERATURE CONTROL CONTRACTOR TO PROVIDE VARIABLE FREQUENCY DRIVE FOR AHU.
23.207 TEMPERATURE CONTROL CONTRACTOR TO PROVIDE NEW DDC CONTROLLER FOR AIR HANDLING UNIT. PROVIDE GRAPHICS AND INTERFACE INTO CAMPUS BUILDING AUTOMATION SYSTEM.
23.211 PROVIDE CONNECTION BETWEEN AIR HANDLING UNIT AND EXISTING OUTSIDE AIR DUCTWORK.
23.212 PROVIDE 64" X 40" PLENUM BOX FOR AIR HANDLING UNIT. PROVIDE ALL CONNECTIONS TO VAV BOXES AS SHOWN. PLENUM BOX TO BE INSTALLED AS HIGH AS POSSIBLE TO MAKE THE CONNECTIONS TO EXISTING SUPPLY DUCTWORK.
23.213 PROVIDE 74" X 36" PLENUM BOX FOR AIR HANDLING UNIT. PROVIDE ALL CONNECTIONS TO VAV BOXES AS SHOWN. PLENUM BOX TO BE INSTALLED AS HIGH AS POSSIBLE TO MAKE THE CONNECTIONS TO EXISTING SUPPLY DUCTWORK.
23.236 PROVIDE 102" X 48" CONNECTION AT WALL LOUVER AND CONNECT TO AIR HANDLING UNIT. BLANK OFF ANY UNUSED PORTIONS WITH INSULATED PANEL.

GENERAL NOTES

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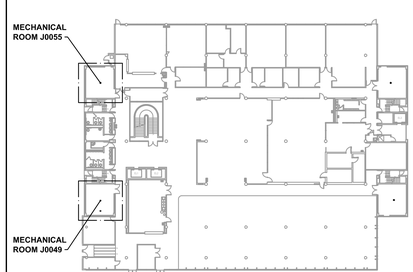

GROUND FLOOR BUILDING J

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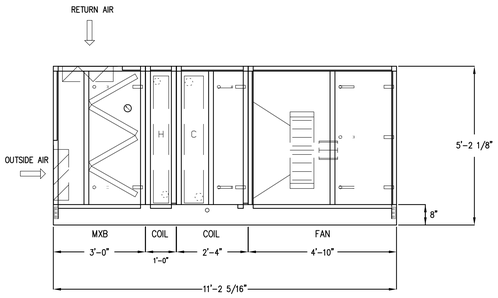
APPROVED	DDW

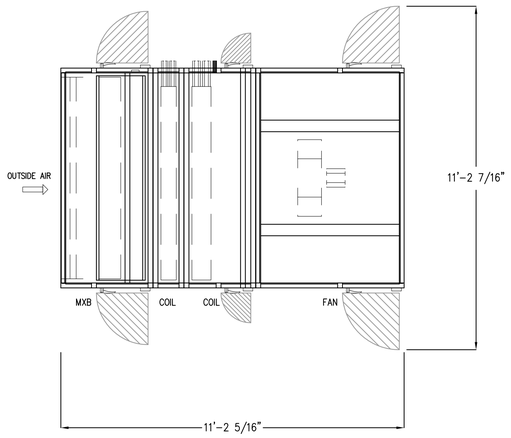
SHEET TITLE
GROUND FLOOR ENLARGED VENTILATION FLOOR PLANS

SHEET NUMBER
V401

SIDE VIEW

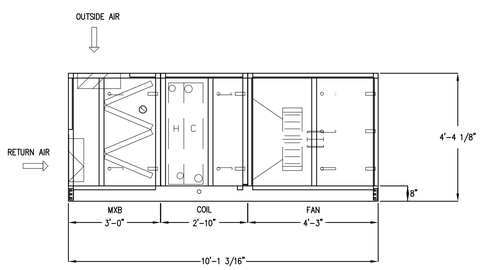


PLAN VIEW

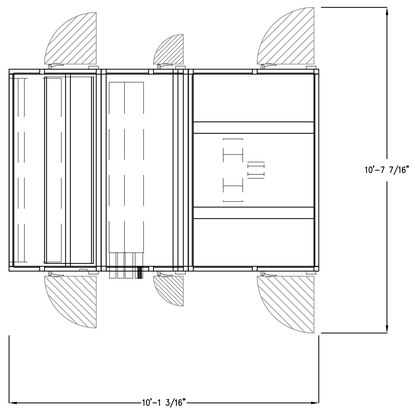


AIR HANDLING UNIT (AHU-3) DETAIL (1)
SCALE: NTS

SIDE VIEW



PLAN VIEW



AIR HANDLING UNIT (AHU-4) DETAIL (2)
SCALE: NTS

AIR HANDLING UNIT SCHEDULE

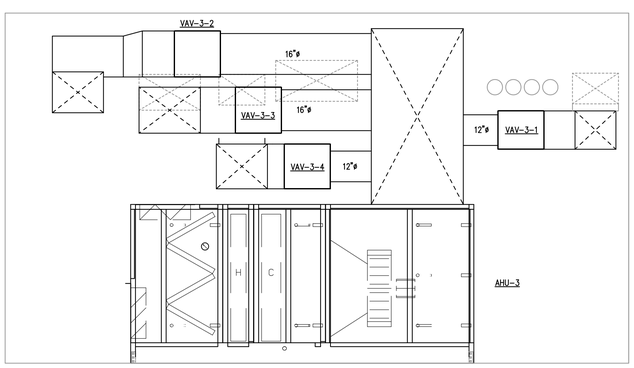
MARK	AIR FLOW (CFM)	MINIMUM OA (CFM)	COOLING							HEATING						SUPPLY FAN (HP)	EXTERNAL STATIC PRESS (IN WG)	ELECTRICAL		MODEL	NOTES
			ENT AIR TEMP (db / wb °F)	LVG AIR TEMP (db / wb °F)	EWT / LWT (°F)	SENS CAP (MBH)	TOTAL CAP (MBH)	WATER FLOW RATE (GPM)	WATER PRES DROP (FT)	HTG AIRFLOW (CFM)	TOTAL CAP (MBH)	EWT / LWT (°F)	EAT / LAT (°F)	WATER FLOW RATE (GPM)	WATER PRESS DROP (FT)			V/PH/HZ	MCA		
AHU-3	11,560	4,500	82.8 / 70.0	56.4 / 56.2	45.0 / 53.6	321.8	492.4	125	9.7	7,400	366.2	150 / 127.4	24.4 / 66.3	33	3.0	10	1.5	460/3/60	17.9	39MN-25W	1, 2
AHU-4	8,375	3,450	83.2 / 70.0	56.2 / 56.2	45.0 / 54.5	357.6	238.1	82	6.0	5,400	271.3	150 / 119.3	22.1 / 64.4	18	1.4	7.5	1.5	460/3/60	13.8	39MN-17W	1, 2

1. MODEL BASED ON CARRIER.
2. COOLING COIL BASED ON 30% EG.

VARIABLE AIR VOLUME BOX SCHEDULE

MARK	AIR FLOW (CFM)	MIN AIR FLOW (CFM)	INLET SIZE (IN)	REHEAT COIL								NOTES
				AIR FLOW (CFM)	MAX APD (IN WG)	EAT / LAT (°F)	WATER (GPM)	EWT/LWT (°F)	MAX WPD (FT)	CAPACITY (MBH)	ROWS / FPI	
VAV-3-1	1190	1190	12	1190	0.36	55 / 95	3.6	150 / 121.1	0.67	51.6	3 / 10	1
VAV-3-2	2210	730	16	1550	0.29	55 / 95	8.0	150 / 132.8	1.02	67.3	2 / 12	1
VAV-3-3	2320	775	16	1600	0.31	55 / 95	8.8	150 / 133.9	1.22	69.4	2 / 12	1
VAV-3-4	1500	500	2E	750	0.18	55 / 95	2.5	150 / 123.2	0.32	32.6	2 / 10	1
VAV-3-5	4500	1500	24 / 16	2250	0.43	55 / 95	8.1	150 / 125.5	1.41	97.6	2 / 12	1
VAV-4-1	1015	1015	2E	1015	0.1	55 / 95	5.2	150 / 132.8	1.14	44.1	2 / 10	1, 2
VAV-4-2	1980	660	16	1380	0.24	55 / 95	5.8	150 / 129.0	0.56	59.9	2 / 12	1, 2
VAV-4-3	1400	460	2E	700	0.16	55 / 95	2.2	150 / 122.2	0.28	30.4	2 / 10	1
VAV-4-4	2480	825	16	1250	0.31	55 / 95	7.6	150 / 135.5	0.94	54.2	2 / 10	1, 2
VAV-4-5	1650	500	14	1000	0.21	55 / 95	5.0	150 / 132.3	1.05	43.4	2 / 10	1

NOTES
1. MODEL BASED ON TITUS.
2. PROVIDE WITH BOTTOM CONTROL CABINET.



AHU-3 ELEVATION DETAIL (3)
SCALE: NTS

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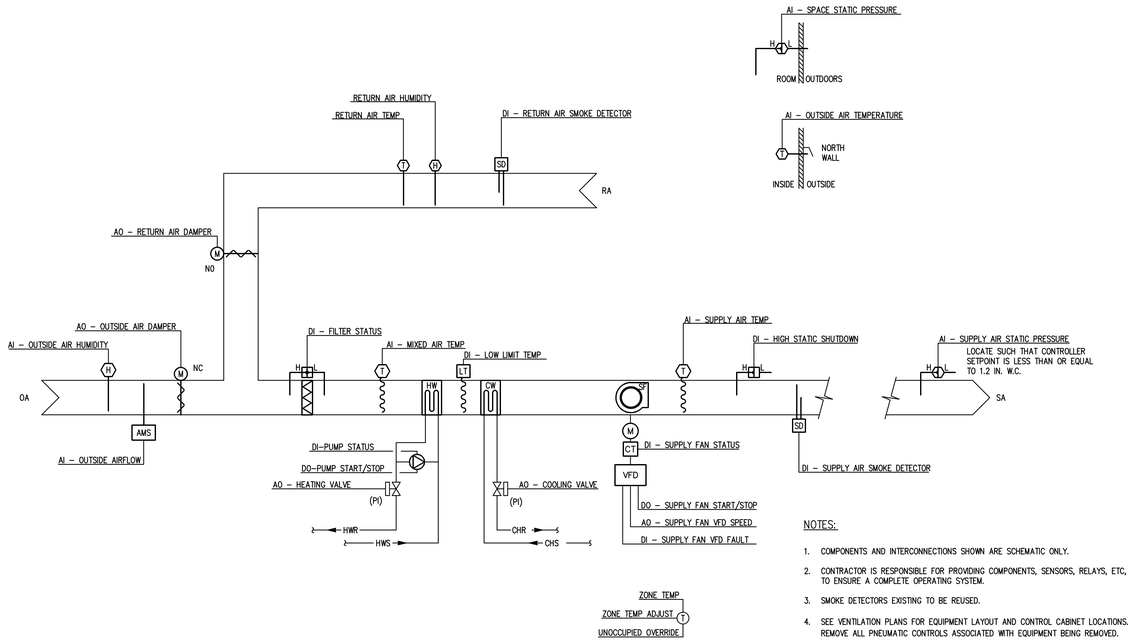
CHECKED	DDW
APPROVED	DDW

SHEET TITLE
VENTILATION SCHEDULES AND DETAILS

SHEET NUMBER
V510

AHU-3, -4, TEMPERATURE CONTROL SCHEMATIC



NOTES:

1. COMPONENTS AND INTERCONNECTIONS SHOWN ARE SCHEMATIC ONLY.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING COMPONENTS, SENSORS, RELAYS, ETC, TO ENSURE A COMPLETE OPERATING SYSTEM.
3. SMOKE DETECTORS EXISTING TO BE REUSED.
4. SEE VENTILATION PLANS FOR EQUIPMENT LAYOUT AND CONTROL CABINET LOCATIONS. REMOVE ALL PNEUMATIC CONTROLS ASSOCIATED WITH EQUIPMENT BEING REMOVED.
5. ALL CONTROLS AND ELECTRICAL WIRING/CONDUITS SHALL BE ACCOMPLISHED BY ELECTRICAL CONTRACTOR. JCI TO COORDINATE SCOPE REQUIREMETS.

POINTS LIST

AIR HANDLING UNIT (AHU-3, -4)	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
OCCUPIED/UNOCCUPIED MODE			X		X			X
SUPPLY FAN START/STOP				X	X			
SUPPLY FAN STATUS			X				X	X
SUPPLY FAN VFD SPEED		X				X		X
SUPPLY FAN VFD FAULT			X				X	
OUTSIDE AIR TEMPERATURE	X					X		X
SUPPLY AIR TEMPERATURE	X					X		X
RETURN AIR TEMPERATURE	X					X		X
MIXED AIR TEMPERATURE	X					X		X
OUTSIDE AIR HUMIDITY	X					X		X
RETURN AIR HUMIDITY	X					X		X
LOW LIMIT TEMPERATURE			X				X	X
OUTSIDE AIR DAMPER		X					X	X
OUTSIDE AIR AIRFLOW MEASUREMENT	X					X		X
RETURN AIR DAMPER		X				X	X	X
HOT WATER COIL CONTROL VALVE		X				X		X
CHILLED WATER COIL CONTROL VALVE		X				X		X
FILTER STATUS			X				X	X
RETURN AIR SMOKE DETECTOR STATUS			X				X	X
SUPPLY AIR SMOKE DETECTOR STATUS			X				X	X
PUMP STATUS			X					
PUMP START/STOP				X			X	X
ECONOMIZER STATUS			X				X	X
DUCT STATIC PRESSURE	X					X		X
DUCT STATIC PRESSURE SETPOINT	X					X		X
HIGH STATIC PRESSURE SHUTDOWN			X				X	X
SPACE STATIC PRESSURE	X					X		X

NOTES:

1. HEATING CONTROL VALVE SHALL HAVE SPRING RETURN ACTUATORS TO FAIL OPEN DURING LOSS OF POWER.
2. OUTSIDE AIR DAMPERS SHALL HAVE SPRING RETURN ACTUATORS TO FAIL IN CLOSE POSITION DURING LOSS OF POWER.

SEQUENCE OF OPERATIONS

AIR HANDLING UNIT (AHU-3, -4):

THE OCCUPIED/UNOCCUPIED MODE SCHEDULING SHALL BE MADE AT THE BUILDING AUTOMATION SYSTEM. PROVISIONS SHALL BE MADE FOR MANUAL SHUTDOWN OF EQUIPMENT. ALL SETPOINTS SHALL BE ADJUSTABLE. UNOCCUPIED SPACE TEMPERATURE SETPOINTS SHALL BE 80 DEGREES F COOLING AND 65 DEGREES F HEATING.

SUPPLY FAN – THE SUPPLY FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE. THE SUPPLY FAN VARIABLE FREQUENCY DRIVE SHALL MODULATE THE SPEED OF THE FAN TO MAINTAIN THE DUCT STATIC PRESSURE SETPOINT. IF AIRFLOW IS NOT DETECTED WITHIN TWO MINUTES AFTER A START COMMAND THE FAN MOTOR SHALL BE DE-ENERGIZED AND AN AUDIBLE ALARM SHALL BE ACTIVATED. IF A HIGH STATIC PRESSURE IS SENSED IN THE SUPPLY AIR THE SUPPLY FAN SHALL BE DE-ENERGIZED AND SIGNAL AN ALARM CONDITION.

STATIC PRESSURE/SUPPLY AIR TEMPERATURE RESET – THE SUPPLY FAN VFDs SHALL MODULATE THE FANS TO MAINTAIN A DUCT STATIC PRESSURE SETPOINT. THE BAS SHALL CONTROL SUPPLY FAN SPEED TO MAINTAIN A CRITICAL STATIC PRESSURE SETPOINT. UPON FAILURE OF COMMUNICATION THE AHUs SHALL OPERATE ON THEIR OWN STATIC PRESSURE CONTROL IN STAND ALONE MODE. THE SETPOINT SHALL RESET TO OPTIMIZE FAN SPEED AS FOLLOWS;

1. THE BUILDING AUTOMATION SYSTEM SHALL MONITOR THE DAMPER POSITION OF ALL VAV TERMINAL UNITS AND DETERMINE THE CRITICAL ZONE (CZ), WHICH IS THE VAV TERMINAL UNIT THAT IS WIDEST OPEN.
2. WHEN THE CZ IS MORE THAN 95% OPEN, THE SUPPLY FAN DISCHARGE STATIC PRESSURE SETPOINT SHALL BE RESET DOWNWARD 10% OF THE PREVIOUS SETPOINT A FREQUENCY OF 10 MINUTES UNTIL THE CZ IS MORE THAN 97% OPEN OR THE STATIC PRESSURE SETPOINT HAS RESET DOWNWARD TO THE SYSTEM MINIMUM SETTING.
3. WHEN THE CZ IS LESS THAN 95% OPEN AND THE STATIC PRESSURE SETPOINT IS AT THE MINIMUM SETTING, THE DISCHARGE AIR TEMPERATURE SETPOINT SHALL BE RESET UPWARD IN INCREMENTS OF 0.5° F AT A FREQUENCY OF 10 MINUTES AND THE STATIC PRESSURE SETPOINT HELD CONSTANT UNTIL THE CZ IS MORE THAN 97% OPEN OR THE DISCHARGE AIR TEMPERATURE IS RESET TO IT'S MAXIMUM SETTING OF 10° F (ADJ) ABOVE THE DISCHARGE AIR TEMPERATURE SETPOINT.
4. THE REVERSE CONTROL SEQUENCE SHALL OCCUR WHEN THE CZ IS 98% OPEN UNTIL THE DISCHARGE AIR TEMPERATURE AND STATIC TEMPERATURE SETPOINTS ARE A THEIR DESIGN SETPOINT.

SMOKE DETECTORS – UPON DETECTION OF SMOKE THE FANS SHALL BE DE-ENERGIZED, CLOSE OUTSIDE AIR DAMPER, AND SIGNAL ALARM LOCALLY AND AT FIRE ALARM PANEL.

OA/RA DAMPERS – AN AIRFLOW MEASURING STATION/DAMPER SENSOR SHALL MODULATE THE OUTSIDE AIR DAMPERS TO MAINTAIN THE MINIMUM OUTSIDE AIR CFM SETPOINT. AN ECONOMIZER SHALL MODULATE THE DAMPERS BASED ON DIFFERENTIAL ENTHALPY OF THE RETURN AIR AND OUTSIDE AIR TO MAINTAIN A SUPPLY AIR TEMPERATURE OF 55 DEGREES F. IN UNOCCUPIED MODE THE OUTSIDE AIR DAMPER SHALL BE FULLY CLOSED. THE OUTSIDE AIR DAMPER SHALL REMAIN CLOSED AND RETURN AIR DAMPER OPEN DURING OPTIMIZED START.

ECONOMIZER – AN ECONOMIZER SHALL MODULATE THE DAMPERS BASED ON DIFFERENTIAL ENTHALPY OF THE RETURN AIR AND THE OUTSIDE AIR TO MAINTAIN A SUPPLY AIR TEMPERATURE 55 DEGREES F. THE ECONOMIZER SHALL HAVE FAULT AND DETECTION DIAGNOSTICS (FDD). THE FDD SHALL ALARM WITH ANY OF THE FOLLOWING FAULTS:

1. AIR TEMPERATURE SENSOR FAILURE/FAULT
2. NOT ECONOMIZING WHEN THE UNIT SHOULD BE ECONOMIZING
3. ECONOMIZING WHEN THE UNIT SHOULD NOT BE ECONOMIZING
4. DAMPER NOT MODULATING
5. EXCESS OUTDOOR AIR

COOLING MODE – THE COOLING COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN A SUPPLY AIR TEMPERATURE OF 55 DEGREES F WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 60 DEGREES F. THE AHU SHALL BEGIN A MORNING COOL-DOWN AT LEAST ONE HOUR BEFORE OCCUPIED MODE.

HEATING MODE – THE HOT WATER COIL CONTROL VALVE SHALL MODULATE TO MAINTAIN A DISCHARGE TEMPERATURE SETPOINT OF 65 DEGREES F WHEN IN THE OCCUPIED MODE. THE AHU SHALL BEGIN A MORNING WARM-UP AT LEAST ONE HOUR BEFORE OCCUPIED MODE. AFTER SPACE TEMPERATURE REACHES 70 DEGREES F IN ALL ZONES THE AHU SHALL OPERATE IN OCCUPIED MODE.

HWP-X, PUMP CONTROL – THE PUMP SHALL RUN CONTINUOUSLY WHEN THE OUTSIDE AIR IS BELOW 40 DEG F (ADJ.). ABOVE 40 DEG F OUTSIDE AIR TO THE PUMP SHALL BE OFF.

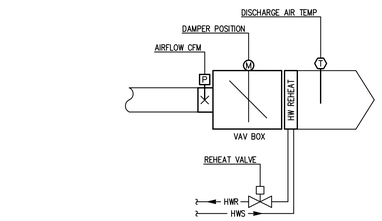
OPTIMIZED START – THE AHU SHALL BEGIN A MORNING WARM-UP/COOL DOWN BEFORE OCCUPIED MODE AS CALCULATED BY THE BAS FOR THE SPACE TO BE AT OCCUPIED TEMPERATURE SETPOINT AT THE START OF THE OCCUPIED MODE. AFTER SPACE TEMPERATURE REACHES THE OCCUPIED SETPOINT THE AHU SHALL OPERATE IN OCCUPIED MODE.

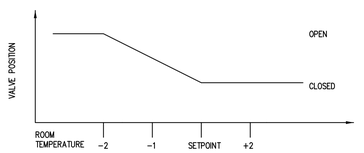
MISCELLANEOUS EQUIPMENT CONTROLS

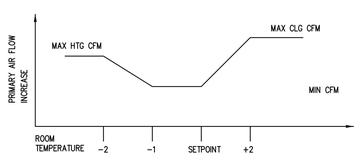
POINTS LIST

SEWAGE EJECTOR SYSTEM	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
PUMP 1 FAILURE			X				X	
PUMP 2 FAILURE			X				X	
HIGH WATER ALARM			X				X	

VARIABLE AIR VOLUME BOX CONTROL SCHEMATIC







MODULATE PRIMARY VALVE FULLY OPEN WHEN ROOM AIR TEMPERATURE IS 2 DEGREES ABOVE SETPOINT.
MODULATE PRIMARY AIR VALVE AND HEATING VALVE AS REQUIRED TO MAINTAIN 95 DEGRESS F DISHARGE AIR TEMPERATURE.

NOTES:

SEE VENTILATION FLOOR PLANS FOR EQUIPMENT LAYOUT AND CONTROL CABINET LOCATIONS.

SEQUENCE OF OPERATIONS

PRESSURE INDEPENDENT AIR TERMINAL SHALL MAINTAIN ZONE TEMPERATURE H'EAT/COOL SETPOINTS OF 72/75 DEGREES F (ADJ) AND UNOCCUPIED COOL/HEAT SETPOINTS OF 80/65 DEGREES F. ALL SETPOINTS SHALL BE ADJUSTABLE.

OCCUPIED MODE:
COOLING – THE TERMINAL UNIT DAMPER SHALL MODULATE TO MAINTAIN THE ZONE COOLING TEMPERATURE SETPOINT BY MODULATING SUPPLY AIR FLOW. WHEN THE ZONE TEMPERATURE IS ABOVE SETPOINT THE DAMPER SHALL MODULATE TO THE MAXIMUM COOLING CFM POSITION. WHEN THE ZONE TEMPERATURE IS BELOW SETPOINT THE DAMPER SHALL MODULATE TO THE MINIMUM CFM POSITION.

HEATING – WHEN THE TERMINAL UNIT DAMPER HAS REACHED THE MINIMUM CFM POSITION AND THE ZONE TEMPERATURE IS BELOW SETPOINT THE VALVE SHALL MODULATE OPEN TO PROVIDE A DISCHARGE AIR TEMPERATURE OF 95 DEGREES F. IF THE ZONE CONTINUES TO REMAIN BELOW SETPOINT THE TERMINAL UNIT DAMPER SHALL MODULATE OPEN TO THE HEATING CFM MAXIMUM CFM. THE VALVE SHALL MODULATE IN UNISON WITH THE DAMPER TO MAINTAIN A 95° F DISCHARGE AIR TEMPERATURE. AS THE ZONE TEMPERATURE INCREASES THE DAMPER AND VALVE SHALL REACT IN A REVERSE MANNER.

UNOCCUPIED MODE:
THE TERMINAL UNIT DAMPER AND REHEAT SHALL OPERATE AS DESCRIBED ABOVE WHEN THE ASSOCIATED AIR HANDLING UNIT IS ENERGIZED. THE UNIT SHALL OPERATE TO MAINTAIN THE UNOCCUPIED HEATING/COOLING SETPOINTS.

ZONE THERMOSTAT SHALL HAVE PLUS/MINUS 2° F TEMPERATURE SETPOINT ADJUSTMENT OF THE SETPOINT SET AT THE BAS AND TIMED UNOCCUPIED OVERRIDE BUTTON.

POINTS LIST

VARIABLE AIR VOLUME BOX	HARDWARE				SOFTWARE			
	AI	AO	DI	DO	SCHED	TREND	ALARM	GRAPHIC
DISCHARGE AIR TEMPERATURE	X					X		X
ZONE AIR TEMPERATURE	X					X		X
ZONE TEMPERATURE ADJUSTMENT	X					X		X
HEATING SETPOINT		X						X
COOLING SETPOINT		X						X
DAMPER POSITION		X						X
AIRFLOW CFM	X					X		X
MINIMUM AIRFLOW SETPOINT		X						X
MAXIMUM COOLING AIRFLOW SETPOINT		X						X
MAXIMUM HEATING AIRFLOW SETPOINT		X						X
ZONE HIGH TEMPERATURE ALARM			X				X	X
ZONE LOW TEMPERATURE ALARM			X				X	X
REHEAT COIL 2-WAY VALVE		X				X		X
UNOCCUPIED MODE OVERRIDE			X					X

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JOLIET, ILLINOIS 60431

ISSUED	
03/25/19	BID DOCUMENTS

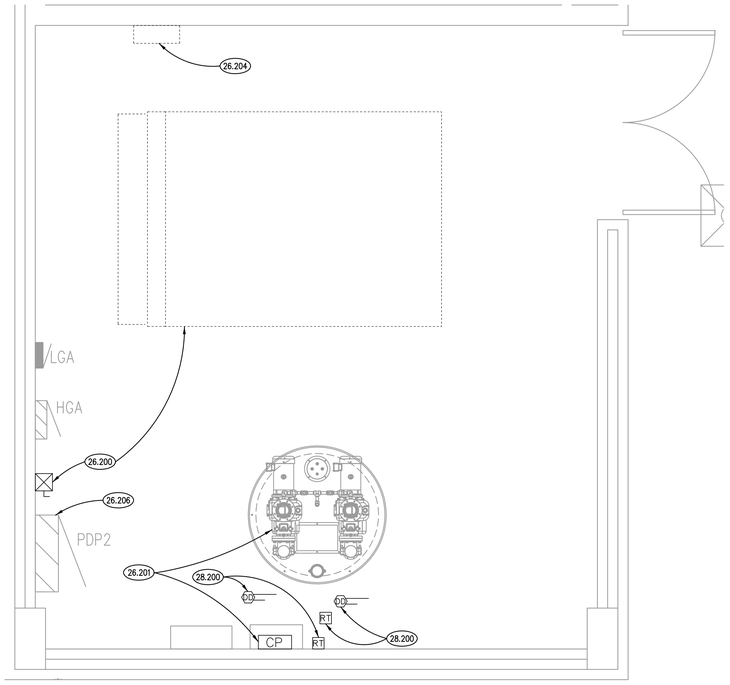
JOB NO.	18-292-1226
DRAWN	BWG
CHECKED	DDW
APPROVED	DDW

SHEET TITLE

TEMPERATURE CONTROLS

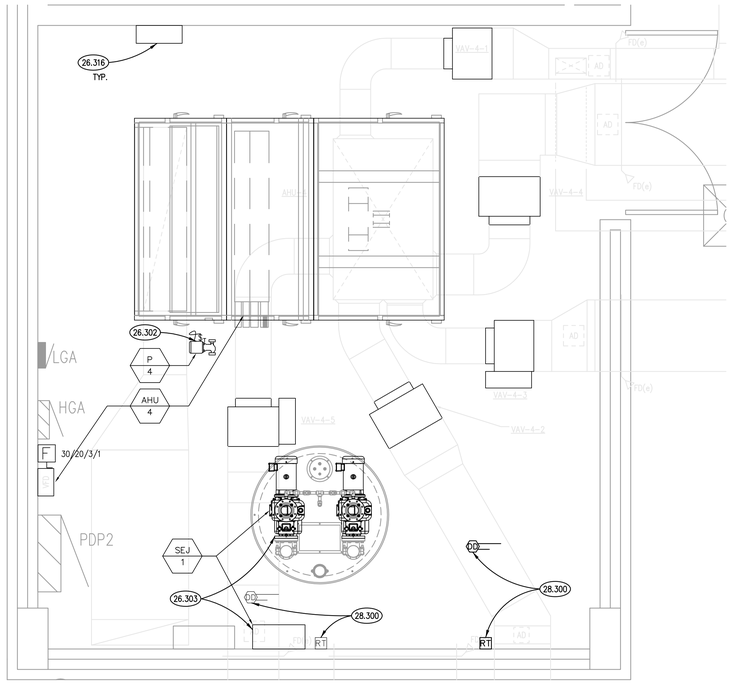
SHEET NUMBER

TC310



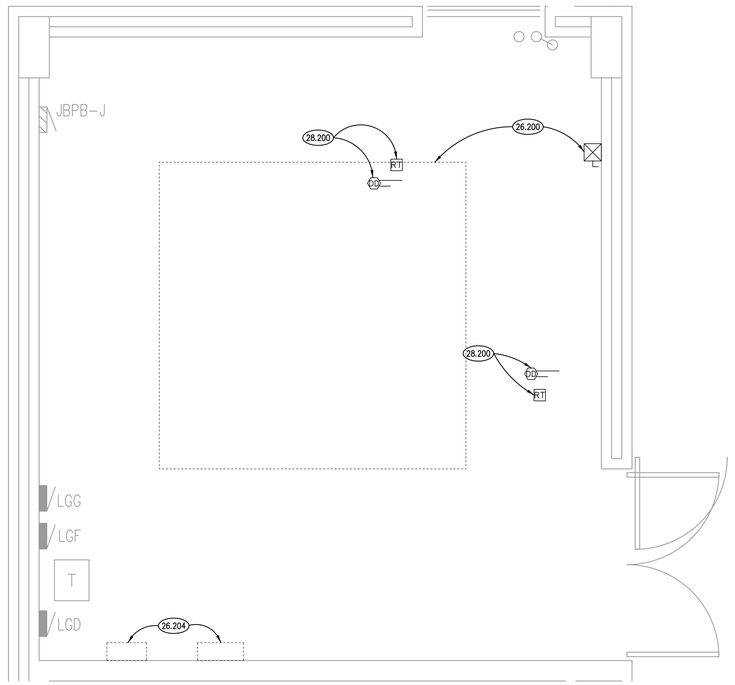
ROOM J0049 ELECTRICAL DEMOLITION PLAN 3

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



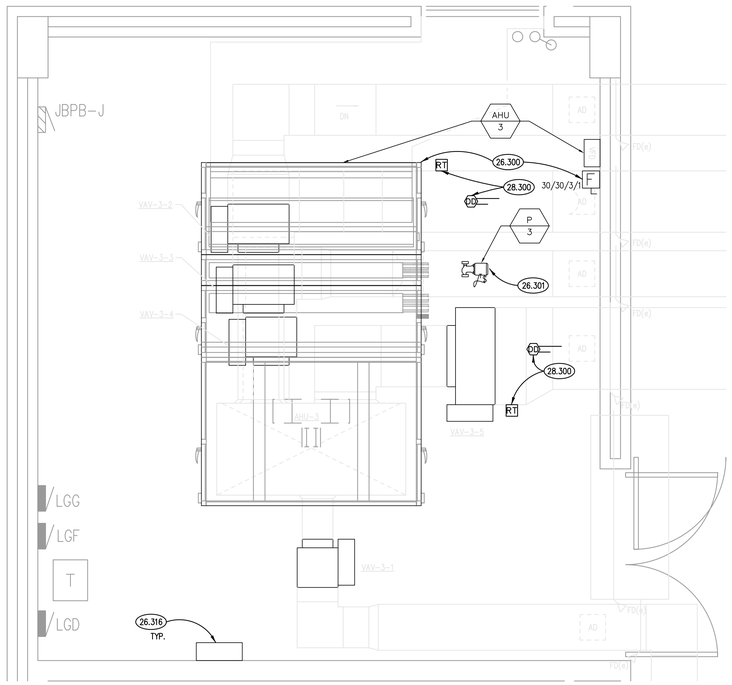
ROOM J0049 ELECTRICAL PLAN 1

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



ROOM J0055 ELECTRICAL DEMOLITION PLAN 4

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



ROOM J0055 ELECTRICAL PLAN 2

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

KEYNOTES

KEYNOTES ARE TYPICALLY NOT DUPLICATED WITHIN A GIVEN DETAIL. AN UN-KEYNOTED ITEM IN A DETAIL IS THE SAME AS A KEYNOTED ITEM HAVING THE SAME APPEARANCE WITHIN THE SAME DETAIL.

26.200 DEMOLISH EXISTING COMBINATION MOTOR STARTER. DISCONNECT AND PROTECT EXISTING BRANCH CIRCUITRY TO COMBINATION MOTOR STARTER TO BE REUSED FOR CONNECTION TO NEW AIR HANDLING UNIT. DEMOLISH EXISTING ELECTRICAL CONNECTION TO AIR-HANDLING UNIT TO BE REMOVED.

26.201 DISCONNECT, PRESERVE AND PROTECT EXISTING ELECTRICAL CONNECTION TO SEWAGE EJECTOR TO BE REMOVED AND REPLACED.

26.204 EXISTING TEMPERATURE CONTROLS TO BE REMOVED AND REPLACED BY TEMPERATURE CONTROL CONTRACTOR.

26.206 DEMOLISH EXISTING CIRCUIT BREAKERS IN POWER DISTRIBUTION PANEL (PDP) AS SHOWN ON ONE LINE RISER DIAGRAM SHEET E610.

26.300 EXTEND EXISTING FEEDER TAP TO NEW FUSED DISCONNECT AS SHOWN (3#12,#12G,1"C). PROVIDE CONNECTION FROM FUSED DISCONNECT (SIZE AS SHOWN) TO VARIABLE FREQUENCY DRIVE (PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR). PROVIDE ELECTRICAL CONNECTION FROM VARIABLE FREQUENCY DRIVE TO AIR-HANDLING UNIT.

26.301 PROVIDE ELECTRICAL CONNECTION TO NEW PUMP (P-3). PROVIDE NEW 15 AMPERE, SINGLE POLE BREAKER IN PANEL LGF(LOCATED THIS ROOM). HOMERUN 2#12,#12G,1/2"C VIA RELAY AT TEMPERATURE CONTROL CABINET.

26.302 PROVIDE ELECTRICAL CONNECTION TO NEW PUMP (P-4). PROVIDE SPLICE AND COMBINE EXISTING CIRCUITS IN PANEL LGA TO CREATE SPACE FOR NEW PUMP CONNECTION. PROVIDE NEW 15 AMPERE, SINGLE POLE BREAKER IN PANEL LGA. HOMERUN 2#12,#12G,1/2"C VIA RELAY AT TEMPERATURE CONTROL CABINET.

26.303 PROVIDE ELECTRICAL CONNECTION TO NEW SEWAGE EJECTOR. EXTEND AND RECONNECT EXISTING BRANCH CIRCUITRY AS NECESSARY TO NEW SEWAGE EJECTOR CONTROLLER TO ENSURE A COMPLETE AND OPERATIONAL SYSTEM.

26.316 ELECTRICAL CONTRACTOR TO PROVIDE ALL TEMPERATURE CONTROL WIRING. COORDINATE WITH TEMPERATURE CONTROLS CONTRACTOR (JOHNSON CONTROLS) FOR ALL WIRE SIZING AND CONNECTION REQUIREMENTS. REFER TO TEMPERATURE CONTROL DRAWINGS (TC310, TC311) AND TEMPERATURE CONTROL SPECIFICATIONS (SECTIONS 23 09 13, 23 09 23) FOR MORE INFORMATION. JOHNSON CONTROLS INC.: JIM PIERSON – 708-418-2268.

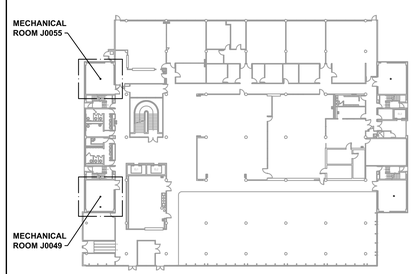
28.200 DISCONNECT AND PROTECT EXISTING DUCT-MOUNTED SMOKE DETECTORS INCLUDING ALL WIRING.

28.300 RELOCATE EXISTING DUCT-MOUNTED SMOKE DETECTOR TO NEW LOCATION AS SHOWN. RELOCATE EXISTING REMOTE TEST STATION AS SHOWN. VERIFY EXACT MOUNTING AND LOCATION REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN AND INSTALLATION. EXTEND EXISTING WIRING AS NECESSARY TO DEVICES AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

ELECTRICAL GENERAL NOTES

1. REFER TO DRAWING G100 FOR PROJECT GENERAL NOTES.
2. PERFORM SELECTIVE DEMOLITION AS NECESSARY TO ACHIEVE DESIGN INTENT. REMOVE ABANDONED BRANCH CIRCUITRY TO SOURCE OF SUPPLY.
3. PATCH ALL WALLS AFFECTED BY DEMOLITION AND REMODELING. CUT AND PATCH WALLS TO CONCEAL CONDUIT IN NEW CONSTRUCTION AND REMODELING. CUT AND PATCH FLOOR AS NEEDED FOR DEMOLITION OF PEDESTAL POWER AND DATA RECEPTACLES.
4. INTENT OF DRAWINGS: THESE DRAWINGS ARE INTENDED TO RELAY TO CONTRACTOR A DESIGN INTENT. INCLUDE IN BID ALL LABOR AND MATERIALS NECESSARY FOR A COMPLETE AND OPERATIONAL SYSTEM AS REASONABLY INFERABLE, AS DETERMINED BY ARCHITECT, TO ACCOMPLISH THE INTENT OF THESE DRAWINGS.
5. REFER TO ARCHITECTURAL, VENTILATION, HEATING, TEMPERATURE CONTROLS, FIRE PROTECTION PLANS, SHOP DRAWINGS AND MANUFACTURERS INSTALLATION INSTRUCTIONS FOR ADDITIONAL INFORMATION ON EXACT POWER, WIRING & ROUGH-IN REQUIREMENTS AND LOCATIONS OF DEVICES.
6. COMPLETELY REMOVE ALL DISCONNECTED AND ABANDONED LOW VOLTAGE WIRING.
7. UNLESS NOTED OTHERWISE, ALL HOMERUNS SHALL CONSIST OF A MAXIMUM OF 3 CIRCUITS (PHASE A, B & C, 3 NEUTRALS & GROUND) IN 3/4"C. MINIMUM WIRE SIZE SHALL BE #12 AWG. WIRE SIZE FOR RECEPTACLE HOMERUN CIRCUITS SHALL BE 3#12, 3#12N & 1#12G.) PROVIDE LARGER SIZE WIRE FOR VOLTAGE DROP WHERE REQUIRED.
8. ELECTRICAL CONTRACTOR TO PROVIDE ALL TEMPERATURE CONTROL WIRING. COORDINATE WITH TEMPERATURE CONTROLS CONTRACTOR FOR ALL WIRE SIZING AND CONNECTION REQUIREMENTS. REFER TO TC310 & TC311 DRAWINGS, SPECIFICATION SECTION 23 09 13 – INSTRUMENTS AND CONTROL ELEMENTS, AND SPECIFICATION SECTION 23 09 23 – DIRECT DIGITAL CONTROL SYSTEM FOR HVAC.

KEY PLAN



GROUND FLOOR BUILDING J

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JOB NO.	18-292-1226
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CHECKED	MTK
APPROVED	MTK

SHEET TITLE

BUILDING J GROUND FLOOR ENLARGED ELECTRICAL PLANS

SHEET NUMBER

E401

A

A	AMPS
AC	ABOVE COUNTER
AF	AMPERE FRAME/AMPERE FUSE
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CURRENT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAGE

B

BKR	BREAKER
BOL	BUILT–IN OVERLOAD
BWE	BAKED WHITE ENAMEL
BTU	BRITISH THERMAL UNIT

C

C	CONDUIT
CATV	CABLE TELEVISION SYSTEM
C/B	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CU	COPPER

D

DPDT	DOUBLE–POLE, DOUBLE–THROW
DPST	DOUBLE–POLE, SINGLE–THROW
DS	DOWNSPOUT

E

EBH	ELECTRIC BASEBOARD HEATER
EC, E.C.	ELECTRICAL CONTRACTOR
ECH	ELECTRIC CABINET HEATER
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER

F

F	FUSED
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FC	FUSE CLIP SIZE
FPB	FAN POWERED BOX
FBO	FURNISHED BY OTHERS
FLA	FULL LOAD AMPS
FLR	FLOOR
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOAT SWITCH
FVNR	FULL–VOLTAGE, NON–REVERSING

G

GC	GENERAL CONTRACTOR
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
GRS	GALVANIZED RIGID STEEL

H

HOA	HAND–OFF–AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HVAC	HEATING AND VENTILATING CONTRACTOR
HWGC	HEAVY WALL GALVANIZED CONDUIT

I

IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
INC	INCANDESCENT
INT	INTEGRAL
IR	IN ROOM
IU	IN UNIT

J

JB	JUNCTION BOX

K

Kcmil	1000 CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT–AMPS
KVAR	KILOVOLT–AMPS REACTIVE
KW	KILOWATT
KWH	KILOWATT–HOUR

L

LP	LOW PRESSURE
LV	LOW–VOLTAGE
LVT	LOW–VOLTAGE THERMOSTAT

M

MAG	MAGNETIC MOTOR STARTER
MAN	MANUAL MOTOR STARTER W/THERMAL OVERLOAD PROTECTION
MC	MECHANICAL CONTRACTOR
MCA	MAXIMUM CURRENT AMPACITY
MCB	MAIN CIRCUIT BREAKER

M (cont.)

MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	METAL HALIDE
MLO	MAIN LUG ONLY
MNS	MASS NOTIFICATION SYSTEM
MOCP	MINIMUM OVERCURRENT PROTECTION
MS	MANUAL SWITCH
MSBD	MAIN SWITCH BOARD
MTD	MOUNTED
MUA	MAKE–UP AIR UNIT

N

N/A	NOT APPLICABLE
N.C.	NORMALLY CLOSED
NF	NON–FUSED
N.I.C.	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
N.T.S., NTS	NOT TO SCALE
NU	NEAR UNIT

O

O.H.	OVERHEAD
OU	ON UNIT
OCPD	OVERCURRENT PROTECTION DEVICE

P

PB	PUSH BUTTON
PC	PLUMBING CONTRACTOR
PDU	POWER DISTRIBUTION UNIT
PH	PHASE
PNL	PANEL
PROVIDE	FURNISHED, INSTALLED, WIRED AND CONNECTED COMPLETE BY CONTRACTOR
PVC	POLYVINYL CONDUIT
PW	PRE–WIRED

Q

QTY.	QUANTITY

R

REQ'D	REQUIRED
RTU	ROOF TOP UNIT

S

SC	SEPARATE CIRCUIT
SD	SMOKE DETECTOR
SF	SQUARE FEET
SPDT	SINGLE–POLE, DOUBLE–THROW
SPST	SINGLE–POLE, SINGLE–THROW
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD

T

T	THERMOSTAT
TELE	TELEPHONE
TC	TIME CLOCK
TCP	TEMPERATURE CONTROL PANEL
TS	TOGGLE SWITCH
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TWU	THRU WALL AIR CONDITIONING UNIT
TYP.	TYPICAL

U

UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
U.N.O.	UNLESS NOTED OTHERWISE
UM	UNIT MANUFACTURER
UPS	UNINTERRUPTIBLE POWER SUPPLY

V

V	VOLT
VA	VOLT–AMPERES
VAC	VOLT ALTERNATING CURRENT
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE

W

W	WATT
W/	WITH
W/O	WITHOUT
WG	WIRE GUARD
WP	WEATHER PROOF

X

X	EXISTING EQUIPMENT
XFMR	TRANSFORMER
XP	EXPLOSION–PROOF

FIRE ALARM, EMERGENCY EVACUATION/COMMUNICATION SYSTEM	
DD DD	FIRE ALARM DUCT SMOKE DETECTOR WITH FAN SHUT DOWN RELAY.
RT	REMOTE INDICATING LIGHT WITH TEST SWITCH.
POWER EQUIPMENT & DEVICES	
□F □F	SAFETY SWITCH. N=NON–FUSED (AMPS/POLES/ENCLOSURE). F=FUSED (AMPS/FUSE/POLES/ENCLOSURE).
⊠	MAGNETIC MOTOR STARTER. NEMA SIZE AS NOTED.
⊠F	COMBINATION MAGNETIC MOTOR STARTER AND FUSED DISCONNECT SW. (AMPS/FUSE/POLES/NEMA SIZE).
HP HP HP	MOTOR. HP= HORSE–POWER RATING.
	PANEL 240V & BELOW.
	PANEL ABOVE 240V.
T T T	TRANSFORMER. TYPE AND RATINGS ARE AS SHOWN.
CP	EQUIPMENT CONTROL PANEL
	FLEXIBLE CONDUIT CONNECTION.
	WIRING IN CONDUIT CONCEALED ABOVE CEILING, IN WALL AND UNDER FLOOR OR UNDERGROUND.
	WIRING IN CONDUIT EXPOSED ON CEILING OR WALL.
	BRANCH CIRCUIT WIRING IN CONDUIT HOMERUN TO PANEL. ONE ARROW PER HOMERUN. SLASHES INDICATE NUMBER OF CONDUCTORS.
	INDICATES GROUND CONDUCTOR.
	INDICATES ISOLATED GROUND CONDUCTOR.
MISCELLANEOUS	
RTU 1	HVAC EQUIPMENT IDENTIFICATION
16.01	KEYNOTE IDENTIFICATION
1 E7.1 — DETAIL NUMBER / DRAWING NUMBER	DETAIL IDENTIFICATION
DEMOLITION	
N	NEW DEVICE OR EQUIPMENT.
D	EXISTING ELECTRICAL OUTLET OR EQUIPMENT TO BE DEMOLISHED COMPLETE INCLUDING BRANCH CIRCUITRY TO SOURCE.
X	EXISTING ELECTRICAL OUTLET OR EQUIPMENT TO REMAIN. (CIRCUIT # = REROUTE EXISTING CIRCUIT TO NEW CIRCUIT NUMBER)
R	EXISTING ELECTRICAL OUTLET OR EQUIPMENT RELOCATED. (NEW LOCATION)
XR	EXISTING ELECTRICAL OUTLET OR EQUIPMENT TO BE REMOVED & RELOCATED(OLD LOCATION).

KEYNOTES

KEYNOTES ARE NOT ALWAYS REPEATED ACROSS ALL DRAWINGS ON THIS SHEET. AN UN–KEYNOTED ITEM ON THIS SHEET IS THE SAME AS A KEYNOTED ITEM ON THIS SHEET HAVING THE SAME GRAPHIC APPEARANCE.

26.000 WORK TO BE COMPLETED UNDER SEPARATE CONTRACT. COORDINATE WITH OWNER.

26.200 DEMOLISH EXISTING COMBINATION MOTOR STARTER. DISCONNECT AND PROTECT EXISTING BRANCH CIRCUITRY TO COMBINATION MOTOR STARTER TO BE REUSED FOR CONNECTION TO NEW AIR HANDLING UNIT. DEMOLISH EXISTING ELECTRICAL CONNECTION TO AIR–HANDLING UNIT TO BE REMOVED.

26.300 EXTEND EXISTING FEEDER TAP TO NEW FUSED DISCONNECT AS SHOWN (3#12,#12G,1/2"C). PROVIDE CONNECTION FROM FUSED DISCONNECT (SIZE AS SHOWN) TO VARIABLE FREQUENCY DRIVE (PROVIDED BY TEMPERATURE CONTROLS CONTRACTOR). PROVIDE ELECTRICAL CONNECTION FROM VARIABLE FREQUENCY DRIVE TO AIR–HANDLING UNIT.

ELECTRICAL ABBREVIATIONS & SYMBOLS LIST 6

SCALE: N.T.S.

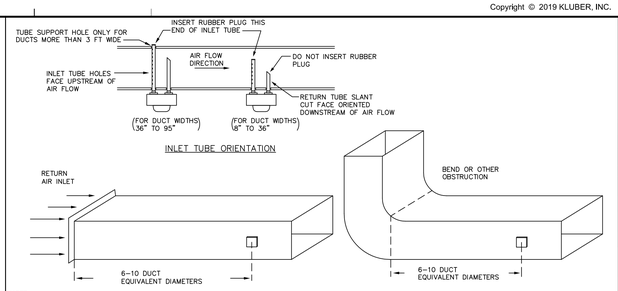
MECHANICAL EQUIPMENT SCHEDULE

NO.	DESCRIPTION	FLA	KW	HP	VOL	PH	CCT NO.	DISC. FURN BY	CONNECTION/RECEPTACLE	CIRCUIT WIRING	NOTE
AHU-3	AIR HANDLING UNIT	14.3	-	-	480	3	EXISTING PDP2	EC	FUSED DISCONNECT (30/30/3/1), VFD(MC)	3#12,#12G,1/2"C	
AHU-4	AIR HANDLING UNIT	11	-	-	480	3	EXISTING PDP2	EC	FUSED DISCONNECT (30/20/3/1), VFD(MC)	3#12,#12G,1/2"C	
P-3	PUMP	-	-	1/6	120	1	LGF-17	EC	TEMPERATURE CONTROLS RELAY	2#12,#12G,1/2"C	
P-4	PUMP	-	-	1/6	120	1	LGA	EC	TEMPERATURE CONTROLS RELAY	2#12,#12G,1/2"C	

NOTES:

MECHANICAL EQUIPMENT SCHEDULE 2

SCALE: N.T.S.



NOTE:

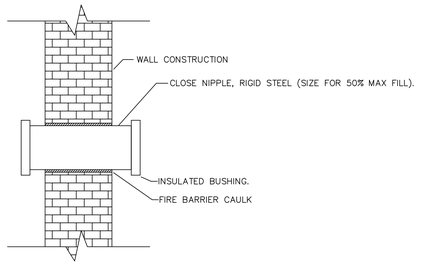
1. PROVIDE DUCT SMOKE DETECTORS FOR EACH MAIN SUPPLY & RETURN BRANCH DUCTS. SUPPLY SIDE DETECTORS SHALL BE LOCATED ON DOWNSTREAM SIDE OF FILTERS. ALL DETECTOR LOCATION SHALL BE MINIMUM 6 DUCT WIDTHS AWAY FROM ANY INLET,TURN, OR ANY OTHER TURBULENCE CAUSING OBSTRUCTION.
2. PROVIDE REMOTE TEST SWITCH & REMOTE INDICATOR FOR EACH DUCT SMOKE DETECTOR. REMOTE INDICATOR SHALL BE MOUNTED IN A CLEARLY VISIBLE LOCATION, AND SHALL BE BE REALILY ACCESSIBLE FOR MAINTENANCE AND TESTING. VERIFY EXACT LOCATION IN FIELD.

NOT USED

SCALE: N.T.S.

DUCT SMOKE MOUNTING DETAIL 5

SCALE: N.T.S.

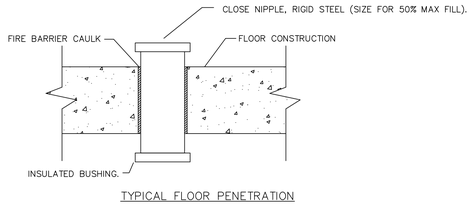


NOTES:

1. NEATLY CORE ALL MASONRY AND BLOCK WALLS.
2. RIGIDLY SUPPORT ALL RACEWAYS.
3. PROVIDE FIRE BARRIER CAULK AT FLOOR, CORRIDOR AND FIRE SEPARATION WALLS.

TYP. WALL PENETRATION DETAIL 4

SCALE: N.T.S.



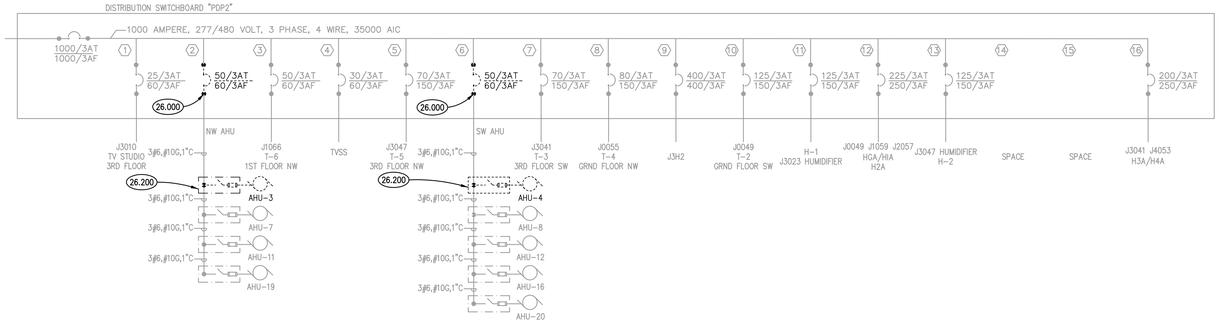
NOTES:

1. NEATLY CORE ALL MASONRY AND BLOCK WALLS.
2. RIGIDLY SUPPORT ALL RACEWAYS.
3. PROVIDE FIRE BARRIER CAULK AT FLOOR, CORRIDOR AND FIRE SEPARATION WALLS.

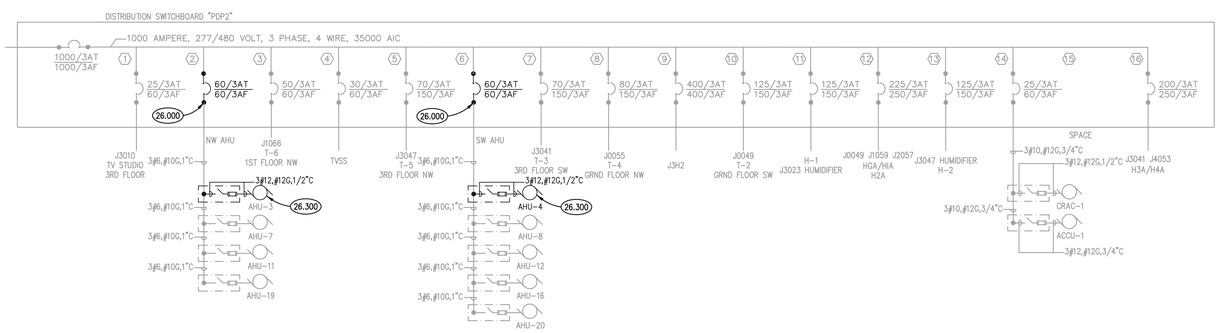
TYP. FLOOR PENETRATION DETAIL 3

SCALE: N.T.S.

EXISTING/DEMO



NEW



PARTIAL ELECTRICAL ONE LINE RISER DIAGRAM - PDP2 1

SCALE: N.T.S.

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ISSUED	
03/25/19	BID DOCUMENTS

JOB NO.	18-292-1226
DRAWN	ATR
CHECKED	MTK
APPROVED	MTK

SHEET TITLE

ELECTRICAL DIAGRAMS & DETAILS

SHEET NUMBER

E610