MECHANICAL SYMBOL LIST

VERSION 1

NOTE: THIS IS A MASTER SCHEDULE. NOT ALL SYMBOLS CONTAINED HEREIN MAY APPEAR ON THE DRAWINGS.

- ITEM TO BE REMOVED
- POINT OF CONNECTION/DISCONNECTION
- SHEET NOTE
- REVISION NUMBER
- EQUIPMENT MARK (TAG / UNIT)
- DIFFUSER TAG (TAG / CFM)
- ACCESS PANEL
- SUPPLY AIR DUCT UP/DOWN
- RETURN AIR DUCT UP/DOWN
- EXHAUST AIR DUCT UP/DOWN
- RETURN GRILLE
- EXHAUST GRILLE
- 4-WAY THROW SUPPLY DIFFUSER
- 3-WAY THROW SUPPLY DIFFUSER
- 2-WAY THROW SUPPLY DIFFUSER
- 1-WAY THROW SUPPLY DIFFUSER
- AIRFLOW DIRECTION
- --"ø ROUND DUCTWORK (INCHES)
- --"X--" RECTANGULAR DUCTWORK (INCHES)
- X"/X"ø OVAL DUCTWORK (INCHES)
- ROUND FLEXIBLE DUCT
- SQUARE TO ROUND TRANSITION
- SINGLE LINE RIGID DUCT
- SINGLE LINE RIGID DUCT (ACOUSTICALLY LINED)
- DOUBLE LINE RIGID DUCT
- DOUBLE LINE RIGID DUCT (ACOUSTICALLY LINED)
- EXISTING DUCTWORK
- FD FIRE DAMPER
- SD SMOKE DAMPER
- FSD FIRE/SMOKE DAMPER
- MOTORIZED DAMPER (OPPOSED BLADE TYPE)
- MOTORIZED DAMPER (PARALLEL BLADE TYPE)
- BACKDRAFT DAMPER
- MANUAL VOLUME DAMPER
- MVD REMOTE VOLUME DAMPER
- SD SMOKE DETECTOR
- T THERMOSTAT
- H HUMIDISTAT
- S SENSOR (TEMPERATURE)
- C CARBON DIOXIDE SENSOR
- E CARBON MONOXIDE SENSOR
- U DOOR UNDERCUT
- L DOOR LOUVER

- CHR CHILLED WATER RETURN PIPING
- CHS CHILLED WATER SUPPLY PIPING
- CR CONDENSER WATER RETURN PIPING
- CS CONDENSER WATER SUPPLY PIPING
- HWR HEATING WATER RETURN PIPING
- HWS HEATING WATER SUPPLY PIPING
- RL REFRIGERANT LIQUID PIPING
- RS REFRIGERANT SUCTION PIPING
- CD CONDENSATE DRAIN PIPING
- PC PUMPED CONDENSATE DRAIN PIPING
- CALIBRATED BALANCING VALVE
- DYNAMIC BALANCING VALVE
- 2-WAY TWO POSITION CONTROL VALVE
- 3-WAY TWO POSITION CONTROL VALVE
- 2-WAY MODULATING CONTROL VALVE
- 3-WAY MODULATING CONTROL VALVE
- SOLENOID VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- BALL VALVE
- GLOBE VALVE
- HOSE END DRAIN VALVE
- PRESSURE REDUCING VALVE
- RELIEF VALVE
- TEMPERATURE PRESSURE RELIEF VALVE
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER, TOP OR BOTTOM FLAT
- CHANGE IN PIPE SIZE
- THERMOMETER
- PRESSURE GAUGE WITH BALL VALVE
- MANUAL AIR VENT
- PRESSURE TEMPERATURE PORT
- Y-STRAINER
- Y-STRAINER WITH BLOWDOWN
- PIPE GUIDE
- UNION
- PIPE ANCHOR
- FLEXIBLE CONNECTOR
- PIPE CAP/STUB-OUT
- DIRECTION OF FLOW
- PIPE DOWN
- PIPE UP
- PIPE TEE UP
- PIPE TEE DOWN
- FM ULTRASONIC FLOW METER
- FM MAGNETIC FLOW METER
- FM INSERTION FLOW METER

MECHANICAL ABBREVIATIONS

VERSION 1

NOTE: THIS IS A MASTER SCHEDULE. NOT ALL ABBREVIATIONS CONTAINED HEREIN MAY APPEAR ON THE DRAWINGS.

AABC	AMERICAN AIR BALANCE COUNCIL	HD	HEAD	RPM	REVOLUTIONS PER MINUTE
ACD	AUTOMATIC CONTROL DAMPER	HP	HORSEPOWER	RPPA	REDUCED PRESSURE PRINCIPAL ASSEMBLY
AFF	ABOVE FINISHED FLOOR	HR	HOUR		
AP	ACCESS PANEL	HSPF	HEATING SEASONAL PERFORMANCE FACTOR	RVD	REMOTE VOLUME DAMPER
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION, AND AIR CONDITIONING ENGINEERS	HWR	HEATING HOT WATER RETURN	RJB	RELAY IN A BOX
		HWS	HEATING HOT WATER SUPPLY	SA	SUPPLY AIR
ASPE	AMERICAN SOCIETY OF PLUMBING ENGINEERS	IBC	INTERNATIONAL BUILDING CODE	SD	SMOKE DAMPER
		IMC	INTERNATIONAL MECHANICAL CODE	SEER	SEASONAL ENERGY EFFICIENCY RATIO
BAS	BUILDING AUTOMATION SYSTEM	IN	INCHES	"SP	STATIC PRESSURE (INCHES OF)
BFD	BACKFLOW PREVENTION DEVICE	IPC	INTERNATIONAL PLUMBING CODE	SPECS	SPECIFICATIONS
BFF	BELOW FINISHED FLOOR	KW	KILOWATT	SQ	SQUARE
BHP	BRAKE HORSE POWER	LAT	LEAVING AIR TEMPERATURE	SQFT	SQUARE FEET
BMS	BUILDING MANAGEMENT SYSTEM	LBS	POUNDS	SS	STAINLESS STEEL
BTUH	BRITISH THERMAL UNIT PER HOUR	LWT	LEAVING WATER TEMPERATURE	T	TEMPERATURE
CFM	CUBIC FEET PER MINUTE	MAX	MAXIMUM	TAB	TEST AND BALANCE WORK AND REPORT
CHAR	CHARACTERISTICS	MBH	ONE THOUSAND BTUH	TSP	TOTAL STATIC PRESSURE
CHR	CHILLED WATER RETURN	MCA	MINIMUM CIRCUIT AMPS	TYP	TYPICAL
CHS	CHILLED WATER SUPPLY	MIN	MINIMUM	UBC	UNIFORM BUILDING CODE
CR	CONDENSER WATER RETURN	MOCP	MAXIMUM OVER CURRENT PROTECTION	UMC	UNIFORM MECHANICAL CODE
CS	CONDENSER WATER SUPPLY	MVD	MANUAL VOLUME DAMPER	UON	UNLESS OTHERWISE NOTED
D	DRAIN	N/A	NOT APPLICABLE	UPC	UNIFORM PLUMBING CODE
DB	DRY BULB TEMPERATURE	NC	NORMALLY CLOSED	V/PH/HZ	VOLTAGE/PHASE/HERTZ
DDC	DIRECT DIGITAL CONTROL	NEBB	NATIONAL ENVIROMENTAL BALANCING BUREAU	VFD	VARIABLE FREQUENCY DRIVE
DIA	DIAMETER			W	WATT
DN	DOWN	NEC	NATIONAL ELECTRIC CODE	WB	WET BULB TEMPERATURE
DPS	DIFFERENTIAL PRESSURE SENSOR	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	WG	WATER GAUGE
DX	DIRECT EXPANSION			WMS	WIRE MESH SCREEN
(E)	EXISTING TO REMAIN	NIC	NOT IN CONTRACT	(X)	EXISTING TO BE REMOVED
EA	EXHAUST AIR	NO	NORMALLY OPEN		
EAT	ENTERING AIR TEMPERATURE	NPSHR	NET POSITIVE SUCTION HEAD REQUIRED		
ECM	ELECTRICALLY COMMUTATED MOTOR	NTS	NOT TO SCALE		
EER	ENERGY EFFICIENCY RATIO	OA	OUTSIDE AIR		
EFF	EFFICIENCY	OAT	OUTSIDE AIR TEMPERATURE		
ELEC	ELECTRICAL	OBD	OPPOSED BLADE DAMPER		
ESP	EXTERNAL STATIC PRESSURE	OED	OPEN END DUCT		
EWT	ENTERING WATER TEMPERATURE	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED		
°F	FAHRENHEIT				
FD	FIRE DAMPER	PD	PRESSURE DROP		
FMS	FACILITIES MANAGEMENT SYSTEM	PRV	PRESSURE REDUCING VALVE		
FPM	FEET PER MINUTE	PSI	POUNDS PER SQUARE INCH		
FSD	FIRE/SMOKE DAMPER	PSIA	POUNDS PER SQUARE INCH ABSOLUTE		
FT	FEET	PSID	POUNDS PER SQUARE INCH DIFFERENTIAL		
GA	GAGE OR GAUGE				
GAL	GALLONS	PSIG	POUNDS PER SQUARE INCH GAUGE		
GPM	GALLONS PER MINUTE	(R)	EXISTING TO BE RELOCATED		
GR	GLYCOL RETURN	RA	RETURN AIR		
GS	GLYCOL SUPPLY	RH	RELATIVE HUMIDITY		
GUI	GRAPHICAL USER INTERFACE	RL/S	REFRIGERANT LIQUID/SUCTION		

23-00-DRAWING INDEX - AREA E RESTROOMS (120)

SHEET NUMBER	SHEET NAME	120 - PERMIT SET 06/06/2022
120-M-000	MECHANICAL SYMBOLS AND ABBREVIATIONS	•
120-M-001	MECHANICAL GENERAL NOTES	•
120-M-020	MECHANICAL DETAILS	•
120-M-030	MECHANICAL SCHEDULES	•
120-MD-112	MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 OVERALL	•
120-MD-112E	MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 AREA E	•
120-M-112	MECHANICAL HVAC PLAN - FLOOR 1 OVERALL	•
120-M-112E	MECHANICAL HVAC PLAN - FLOOR 1 AREA E	•
120-M-113	MECHANICAL HVAC PLAN - FLOOR 2 OVERALL	•
120-M-113E	MECHANICAL HVAC PLAN - FLOOR 2 AREA E	•
120-M-120	MECHANICAL OVERALL ROOF PLAN	•
120-M-120E	MECHANICAL HVAC PLAN - ROOF AREA E	•
120-M-420	ENLARGED MECHANICAL PLANS - FOH RESTROOMS	•

Grand total: 13

"These plans and specifications have been prepared (reviewed) by or under (my ~~or our~~) personal supervision and, to the best of (my ~~or our~~) knowledge and belief, they comply with all City requirements. We are (~~are not~~) generally administrating the work."

Engineer _____

License Number 23318

HARRAH's NOLA CIP

AREA E RESTROOMS (120)

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120 - PERMIT SET 6/06/2022

SEP 20 2022

ISSUE	6/06/2022
JOB	V21009
DRAWN	Author
SCALE	12" = 1'-0"

REVISIONS

MECHANICAL SYMBOLS AND ABBREVIATIONS

120-M-000

6/5/2022 2:34:15 PM DRAWING PRINTED FULL SIZE (100%) = 30"x42" DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15"x21" WITH 1.0" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (33.3%) = 11.25"x15.75" WILL FIT TODAY'S VON 17"x11" INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 4 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT 11"x17" (1/8) WILL BE 3/64"=1'-0". FOR SCALES AT 1/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVELANT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT 11"x17" (3/16) WILL BE NEARLY TO 1/4"=1'-0"

MECHANICAL GENERAL NOTES

PART ONE - GENERAL

1. CODE USED IN DESIGN: IBC 2015, IMC 2015, IPC-2015, IECC-2015, IFGC 2015, S & WB PLUMBING CODE
2. THE OWNER HAS CONTRACT LANGUAGE THAT NEEDS TO BE READ PRIOR TO BID SUBMISSION AS THERE ARE ITEMS THAT MAY SUPPLEMENT OR SUPERSEDE ITEMS NOTED HEREIN. THE OWNER'S CONTRACT DOCUMENTS HAS INFORMATION ON HOW WORK IS TO BE PERFORMED, HOW DOCUMENT SUBMITTALS ARE PROVIDED, RECORD DOCUMENTS ARE SUBMITTED, ETC. SEE THE ARCHITECTURAL DOCUMENTS FOR ADDITIONAL DIVISION 1 INFORMATION.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADOPTED EDITIONS OF THE APPLICABLE INTERNATIONAL BUILDING CODE (IBC), LOCAL MECHANICAL CODE (IMC, ETC.), LOCAL PLUMBING CODE (IPC, ETC.), S & WB PLUMBING CODE, NATIONAL ELECTRIC CODES (NEC) AND ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS.
4. THE CONTRACTOR MUST ARRANGE A VISIT TO THE WORK SITE PRIOR TO BID SUBMISSION TO FULLY UNDERSTAND THE EXISTING CONDITIONS. THE DRAWINGS ARE DIAGRAMMATIC AND SHOW THE WORK INTENT BUT NOT NECESSARILY ALL EXISTING OBSTRUCTIONS, PIPE OR DUCT BENDS. DETERMINING SITE CONDITIONS AND ADJUSTING THE INSTALLATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL PROVIDE THE WORK SHOWN ON THE DRAWINGS AND SPECIFIED FOR THEIR INDIVIDUAL SECTIONS OF WORK. THE WORD "WORK" SHALL MEAN ALL LABOR, TRANSPORTATION, MATERIAL, EQUIPMENT, TOOLS, INSTALLATION, SUPERVISION AND ANY OTHER INCIDENTAL ITEMS OR SERVICES NECESSARY FOR THE PROPER INSTALLATION AND OPERATION OF THE COMPLETE SYSTEMS, WHICH SHALL BE PROVIDED WHETHER OR NOT SPECIFICALLY INDICATED OR NOTED.
6. ALL GENERAL CONDITIONS, SPECIAL REQUIREMENTS OR GENERAL REQUIREMENTS OF THE CONSTRUCTION SPECIFICATIONS ARE MADE PART OF THIS SPECIFICATION AND HAVE THE SAME FORCE AND EFFECT AS IF COMPLETELY REPRODUCED.
7. THE WORD "PROVIDE" SHALL MEAN FURNISH AND INSTALL, MAKE ALL FINAL CONNECTIONS AND LEAVE IN AN APPROVED COMPLETE OPERATING CONDITION.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYING ALL FEES AND OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK.
9. THE CONTRACTOR SHALL CAREFULLY EXAMINE ALL CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COORDINATE THE WORK WITH ALL OTHER TRADES INCLUDING, BUT NOT LIMITED TO, THE CONTRACT DOCUMENTS, SHOP DRAWINGS, ETC. FOR ALL GENERAL CONSTRUCTION, STRUCTURAL, MECHANICAL, ELECTRICAL AND SPECIALTY CONTRACTOR WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF MATERIAL INTO THE BUILDING AS PLANNED, WITHOUT INTERFERENCE WITH OTHER WORK, AND SHALL MAKE REASONABLE MODIFICATIONS IN THE LAYOUTS NEEDED TO PREVENT CONFLICT WITH OTHER TRADES, TO PROVIDE ACCESS AND FOR THE PROPER EXECUTION OF THE WORK.
10. DRAWINGS ARE DIAGRAMMATIC AND SCHEMATIC IN NATURE, AND INDICATE THE TYPE, SIZE, ARRANGEMENT AND LOCATION OF MATERIALS AND EQUIPMENT. WORK INCLUDES CERTAIN COMPONENTS, APPURTENANCES AND RELATED SPECIALTIES THAT MAY NOT BE SHOWN. CONTRACTOR SHALL PROVIDE ALL NECESSARY ITEMS TO COMPLETE THE WORK ACCORDING TO INDUSTRY STANDARDS. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS TO CALL OUT FOR FINISHED WORK, TESTED AND READY FOR OPERATION. DO NOT SCALE DRAWINGS. ARRANGEMENT OF EQUIPMENT AND ROUTING OF PIPES AND DUCTWORK, ETC. INDICATED ON DRAWINGS SHALL BE ROUTED PLUMB AND AT RIGHT ANGLES TO BUILDING CONSTRUCTION AND MAY REQUIRE MODIFICATION DUE TO UNFORESEEN CONDITIONS AND REQUIRE ON SITE REVISIONS DURING CONSTRUCTION. (SEE ALSO "BIDDING"). WITH THE DRAWINGS BEING DIAGRAMMATIC THEY DO NOT ILLUSTRATE POTENTIAL WORKING PLATFORMS FOR EQUIPMENT SERVICE THAT MAY BE REQUIRED TO SATISFY OSHA COMPLIANCE - THESE PLATFORMS ARE TO BE PROVIDED BY THE CONTRACTOR.
11. ALL WORK REQUIRED FOR IDENTICAL/SIMILAR ITEMS SHOWN ON THE DRAWINGS SHALL BE PROVIDED, ALTHOUGH EACH SPECIFIC IDENTICAL/SIMILAR ITEM MAY NOT BE SHOWN IN DETAIL.
12. THE CONTRACTOR SHALL SUBMIT ELECTRONIC PDF SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR ALL EQUIPMENT AND MATERIALS SPECIFIED HEREIN TO THE ENGINEER. THE ENGINEER SHALL REVIEW SHOP DRAWINGS AND TECHNICAL DATA SHEETS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND ISSUE A WRITTEN ASSESSMENT TO THE OWNER PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING FEES NECESSARY TO CHANGE PERMIT DOCUMENTS BASED ON ALTERNATE SUBMITTAL PACKAGES/EQUIPMENT SUBSTITUTIONS.
13. SPECIFIED EQUIPMENT SHALL BE CONSIDERED BASE BID. ANY APPROVED ALTERNATE MANUFACTURERS PRODUCT SHALL BE LISTED AS A FEE ADDITION/REDUCTION AS A SEPARATE LINE ITEM AT BID. A WRITTEN DESCRIPTION OF PRODUCT DIFFERENCES MUST BE PROVIDED FOR EVALUATION OR THE ALTERNATE PRODUCT WILL BE REJECTED. THE REQUIREMENTS OF PARA. 14.1 BELOW APPLIES TO PRE-APPROVED ALTERNATE MANUFACTURER EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING FEES NECESSARY TO CHANGE PERMIT DOCUMENTS BASED ON ALTERNATE SUBMITTAL PACKAGES/EQUIPMENT SUBSTITUTIONS.
14. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION PRIOR TO BIDDING. THE PROPOSED SUBSTITUTE PRODUCT SHALL BE LISTED AS A FEE ADDITION/REDUCTION. A WRITTEN DESCRIPTION OF PRODUCT AND INSTALLATION DIFFERENCES MUST BE PROVIDED FOR EVALUATION OR THE SUBSTITUTE PRODUCT WILL BE REJECTED. THE OWNER'S REPRESENTATIVE SHALL PRE-APPROVE ANY PROPOSED SUBSTITUTION IN WRITING. IF APPROVED, THE PRODUCT FALLS UNDER THE RULES OF PARA. 13 ABOVE.
   - 14.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS ASSOCIATED WITH SUBSTITUTED EQUIPMENT OR MATERIALS WITH OTHER BUILDING TRADES, INCLUDING, BUT NOT LIMITED TO, ELECTRICAL, STRUCTURAL, OR ARCHITECTURAL ELEMENTS. SUBSTITUTED EQUIPMENT, ANYTHING DIFFERENT FROM SPECIFIED ON THE DOCUMENTS, MUST BE IDENTIFIED AS SUCH DURING THE SUBMITTAL PROCESS. THE CONTRACTOR SHALL IDENTIFY AND ANNOTATE ALL REVISED REQUIREMENTS PER BUILDING TRADE ON THE SHOP DRAWINGS. THE CONTRACTOR SHALL ALSO IDENTIFY ALL COSTS, DEBITS OR CREDITS, IN WRITING FOR THE PROPOSED CHANGES PER BUILDING TRADE.
15. SHOP DRAWING REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM BASE BID, ALTERNATE OR SUBSTITUTE EQUIPMENT COORDINATION REQUIREMENTS.
16. UPON COMPLETION OF CONSTRUCTION,
   - 16.1. THE CONTRACTOR SHALL SUPPLY THE ENGINEER WITH AN ELECTRONIC CAD AND PDF SET OF AS-BUILT DOCUMENTS ACCURATELY SHOWING THE MATERIALS AND EQUIPMENT AS INSTALLED.
   - 16.2. THE CONTRACTOR SHALL PROVIDE THE BUILDING OWNER OR REPRESENTATIVE WITH AN ELECTRONIC (PDF) MANUAL WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS FOR EACH PIECE OF EQUIPMENT PROVIDED, WITH CONTENT MEETING THE REQUIREMENTS NOTED BELOW:
     - 16.2.1. SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS.
     - 16.2.2. MANUFACTURER'S OPERATION MANUALS AND MAINTENANCE MANUALS. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
     - 16.2.3. NAME, ADDRESS AND CONTACT NUMBER FOR AT LEAST ONE SERVICE AGENCY.
     - 16.2.4. HVAC AND SERVICE HOT WATER CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD DETERMINED SET-POINTS SHALL BE PERMANENTLY RECORDED ON A CONTROLS DRAWING AT CONTROL DEVICES OR IN SYSTEM PROGRAMMING INSTRUCTIONS.
     - 16.2.5. A NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING RECOMMENDED SET-POINTS.
     - 16.2.6. COPIES OF GUARANTIES AND/OR WARRANTIES.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A MINIMUM OF ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. REFRIGERATION COMPRESSORS SHALL BE GUARANTEED FOR A MINIMUM OF FIVE (5) YEARS FROM DATE OF OWNER'S ACCEPTANCE. IN ADDITION, THE CONTRACTOR SHALL GUARANTEE THAT THE INSTALLATION WHEN OPERATED IN ACCORDANCE WITH THE CONTRACTOR'S INSTRUCTIONS WILL DEVELOP CAPACITY AND CHARACTERISTICS AS SPECIFIED AND WILL FULFILL EACH AND EVERY REQUIREMENT OF THE DRAWINGS AND SPECIFICATIONS. SHOULD THE INSTALLATION IN ANY WAY FAIL TO DO SO, THE CONTRACTOR WILL, WITHOUT DELAY AND WITHOUT COST TO THE OWNER, PROVIDE WHATEVER ADDITIONAL EQUIPMENT, MATERIAL, AND LABOR REQUIRED TO CORRECT THE DEFICIENCY AND COMPLY WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
18. CONTRACTOR SHALL CHECK AND VERIFY ALL SIZES, DIMENSIONS, AND CONDITIONS BEFORE STARTING ANY WORK. ANY DEVIATIONS OR PROBLEMS SHALL BE TRANSMITTED TO THE ENGINEER FOR REVIEW.
19. PROVIDE BASE AND COUNTER FLASHING FOR ITEMS PENETRATING THE ROOF OR EXTERIOR WALLS.
20. STARTERS, VFDs, DISCONNECT SWITCHES AND CONTROLS FOR MOTORS IF NOT UNIT MOUNTED AND/OR SUPPLIED BY THE EQUIPMENT MANUFACTURER, UNLESS NOTED SPECIFICALLY OTHERWISE SHALL FOLLOW:
   - 20.1. VFDs TO BE SUPPLIED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR. FINAL LOCATIONS COORDINATED WITH THE ENGINEER. WIRING BETWEEN THE VFD AND THE MOTOR SHALL BE SHIELDED POWER CABLE DESIGNED FOR VFD APPLICATIONS, GROUNDED AT BOTH ENDS.
   - 20.2. UNLESS NOTED OTHERWISE, LOOSE MOTOR STARTERS, COMBINATION STARTERS, DISCONNECT SWITCHES, MOTOR RATED SWITCHES, TOGGLE SWITCHES, ETC. TO BE SUPPLIED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
   - 20.3. CONTROL AND INTERLOCKING WIRING SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR PERFORMING CONTROLS WORK. (SEE AUTOMATIC TEMPERATURE CONTROLS SECTION FOR ADDITIONAL INFORMATION WITH REGARD TO THIS WIRING RULE.)
21. ALL WORK SHOWN IS NEW UNLESS NOTED OTHERWISE.
22. MAINTAIN OCCUPANCY AND FIRE WALL SEPARATION INTEGRITY AS REQUIRED. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS OF ALL OCCUPANCY/FIREWALL SEPARATIONS AND SPECIFIC DETAILS FOR CONSTRUCTION. PROVIDE ALL NECESSARY FIRE AND SMOKE FIRE DAMPERS, ACCESS DOORS, CAULKING, ETC. FOR APPROVED INSTALLATION.

COORDINATION DRAWINGS

1. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR CREATING "ALL TRADES" COORDINATION DRAWINGS. THIS WORK APPLIES TO ABOVE CEILINGS, IN SHAFTS AND ON THE ROOF. THESE DRAWINGS ARE TO BE PREPARED IN 3D OR REVIT. 2D AUTOCAD DRAWINGS WILL BE AVAILABLE FROM THE DESIGN TEAM AND CAN BE UTILIZED TO ASSIST IN THE PREPARATION OF THE COORDINATION DRAWINGS. THESE DRAWINGS SHALL BE COMPLETED PRIOR TO WORK BEING INSTALLED IN THE FIELD FOR THE LOCATIONS NOTED ABOVE. AS-BUILT DOCUMENTS ARE NOT AVAILABLE FOR THE WORK LOCATION. THE CONTRACTOR WILL NEED TO PERFORM FIELD WORK TO LOCATE STRUCTURAL CONSTRAINTS AND EXISTING SERVICES THAT ARE REQUIRED TO REMAIN SO THAT ACCURATE DOCUMENTS CAN BE CREATED. THE ENGINEER WILL ASSIST WHERE NEEDED TO HELP IDENTIFY EQUIPMENT THAT NEEDS TO STAY WITHIN THE CEILING SPACE TO SERVICE OTHER SPACES. EACH TRADE INVOLVED IS TO PROVIDE THEIR DOCUMENTS, IN AUTOCAD FORMAT, TO THE MECHANICAL CONTRACTOR FOR INSERTION TO THE COMMON FILE. (DURING THE BID PROCESS THE MECHANICAL CONTRACTOR IS TO ENSURE THE GC IS AWARE OF THIS WORK WHERE THEY HAVE RESPONSIBLE CHARGE.) THE OWNER MAY PRE-PURCHASE THE SERVICES OF A FIRE SPRINKLER AGENCY, BUT THE INSTALLATION OF THE SPRINKLER PIPING WITH REGARD TO SCHEDULE, LOCATION AND INSTALLATION WILL FALL UNDER THE DIRECTION OF THE GC AND SPRINKLER PIPING MUST BE INCLUDED IN THE COORDINATION DOCUMENTS. AT A MINIMUM THE FOLLOWING TRADES ARE TO BE INVOLVED IN THE COORDINATION DRAWINGS: MECHANICAL, PLUMBING, ELECTRICAL, LOW VOLTAGE, BAS, SPRINKLER, CARPENTRY, ANY OTHER TRADE THAT WILL WORK IN THE AFFECTED AREAS.

BIDDING

1. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING A BID TO BECOME FAMILIAR WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL COMPARE THE WORK SPECIFIED IN THE CONTRACT DOCUMENTS WITH THE EXISTING CONDITIONS. THE CONTRACTOR SHALL IDENTIFY AND NOTATE ALL WORK OR CONDITIONS THAT ARE DIFFERENT FROM THE CONTRACT DOCUMENTS OR THEIR INTENT. THE CONTRACTOR SHALL, UPON DISCOVERY, IMMEDIATELY NOTIFY AND REPORT, IN WRITING, ANY DISCREPANCIES TO THE ENGINEER. NO EXTRAS OR CHANGE ORDERS WILL BE ALLOWED FOR FAILURE TO PERFORM THE PRE-BID SITE VISIT.
2. BASE PROPOSAL ON MANUFACTURER NAMES LISTED UNLESS "OR EQUAL" IS INDICATED. PROVIDE SUBSTITUTION REQUESTS A MINIMUM OF FIVE (5) BUSINESS DAYS PRIOR TO BID DATE CLOSING TO ALLOW TIME FOR DUE CONSIDERATION OF PROPOSED ALTERNATE. DETERMINATION OF SUBSTITUTION OF EQUALITY RESTS SOLELY WITH THE ENGINEER.

PART TWO - PRODUCTS

HVAC EQUIPMENT

1. PROVIDE HVAC EQUIPMENT AS SPECIFIED AND/OR SCHEDULED HEREIN AND IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. EQUIPMENT SHALL OPERATE ACCORDING TO THE MANUFACTURER'S "OWNER'S OPERATING AND MAINTENANCE MANUAL" TROUBLE-FREE PRIOR TO STARTING TEST AND BALANCE (TAB) WORK.

DUCTWORK

1. DUCTWORK, UNLESS LISTED OTHERWISE IN THIS SECTION, SHALL BE ASTM A653/A653M GALVANIZED SHEET METAL, LOCK-FORMING QUALITY HAVING A ZINC COATING OF 0.90 OZ PER SQ. FT. (G90) EQUALLY APPLIED TO EACH SURFACE, TESTED PER ASTM A90. DUCTWORK IS TO BE INSTALLED ACCORDING TO ASHRAE RECOMMENDATIONS AND SMACNA DUCT CONSTRUCTION STANDARDS. NO SHEETMETAL DUCTWORK TO BE LESS THAN 26 GA.
2. ROUND DUCTWORK: 8"∅ AND UNDER CAN BE SPIRAL OR SNAP-LOCK, >8"∅ TO BE SPIRAL CONSTRUCTION.
3. PROVIDE MANUAL VOLUME DAMPERS WITH LOCKING QUADRANTS AND IDENTIFYING RIBBONS AT DAMPER HANDLES FOR AIR BALANCING EACH BRANCH DUCT TAKE-OFF OR PIECE OF AIR DISTRIBUTION EQUIPMENT. NOT ALL DAMPERS MAY BE INDICATED ON THE DOCUMENTS.
4. SEAL ALL DUCT PENETRATIONS THROUGH WALLS, FLOOR AND ROOF. SEAL ALL TRANSVERSE DUCT SEAMS WITH APPROVED MASTIC. DUCT TAPES SHALL NOT BE ALLOWED FOR RIGID DUCTWORK.
5. SUPPLY, OUTSIDE AIR AND RETURN DUCTWORK SHALL BE INSULATED WITH FLEXIBLE GLASS FIBER INSULATION MEETING ANSI/ASTM C612, MAXIMUM 'K' VALUE OF 0.29 AT 75° F, WITH FOIL-KRAFT FLAME RESISTANT VAPOR BARRIER, MINIMUM 3/4 #/CUFT. DENSITY. BELOW ARE MINIMUM R VALUES FOR DUCTWORK INSULATION WHERE NOT OTHERWISE SPECIFICALLY SPECIFIED, PER ASHRAE 90.1-2016.

5.1. SUPPLY/RETURN - HEATING & COOLING

CLIMATE ZONE	EXTERIOR, ATTICS, PARKING GARAGE, CRAWL SPACE.	UNCONDITIONED & BURIED DUCTS	INDIRECTLY CONDITIONED, RETURN AIR PLENUM. (C) (NO INSUL. ON RETURN)
0 TO 4	R-8	R-6	R-1.9
5 TO 8	R-12	R-6	R-1.9

5.2. SUPPLY/RETURN - HEATING ONLY

CLIMATE ZONE	EXTERIOR, ATTICS, PARKING GARAGE, CRAWL SPACE.	UNCONDITIONED & BURIED DUCTS	INDIRECTLY CONDITIONED, RETURN AIR PLENUM. (C) (NO INSUL. ON RETURN)
0 TO 1	NONE	NONE	NONE
2 TO 4	R-6	R-6	R-1.9
5 TO 8	R-12	R-6	R-1.9

5.3. SUPPLY/RETURN - COOLING ONLY

CLIMATE ZONE	EXTERIOR, ATTICS, PARKING GARAGE, CRAWL SPACE.	UNCONDITIONED & BURIED DUCTS	INDIRECTLY CONDITIONED, RETURN AIR PLENUM. (C) (NO INSUL. ON RETURN)
0 TO 6	R-8	R-6	R-1.9
7 TO 8	R-1.9	R-1.9	R-1.9

5.4. GENERAL NOTES
   - A. INTERIOR RETURN DUCTWORK, IN INDIRECTLY CONDITIONED RETURN AIR PLENUM SPACE - NO INSULATION REQUIRED.
   - B. EXTERIOR DUCTWORK TO BE INSULATED WITH URETHANE OR POLYSTYRENE FOIL FACED RIGID BOARD, TOP OF DUCT TO HAVE A WATERSHED DESIGN, A WEATHER PROOF COVER IS TO BE APPLIED USING MFM FLEXCLAD-400 (ALUMINIUM).
   - C. SUPPLY DUCTWORK TO HAVE A MINIMUM OF 1.5" OF INSTALLED THICKNESS INSULATION REGARDLESS OF LOCATION.

6. ALL DUCTWORK SIZES SHOWN ARE FREE AREA DIMENSIONS. EXHAUST DUCTWORK SHALL BE UNINSULATED.
7. THE INTERIOR OF SUPPLY AND RETURN DUCTWORK VISIBLE BEHIND DEVICES (GRDs), SHALL BE PAINTED FLAT BLACK.
8. LINE DUCTWORK FIFTEEN FEET UPSTREAM AND DOWNSTREAM OF ALL FANS AND WHERE INDICATED WITH 1" THICK, 1.5# DENSITY DUCT LINER. LINING SHALL BE APPLIED TO DUCTWORK WITH FIRE RESISTANT ADHESIVES, (FOSTER 85-10 OR EQUAL) AND COPPER OR CADMIUM PLATED MECHANICAL FASTENERS, (GRAHAM, OMARK OR EQUAL). ALL DUCT SIZES INDICATED ARE CLEAR INSIDE.
9. FLEXIBLE DUCTWORK WHERE INDICATED ON THE DRAWINGS SHALL BE INSULATED, WITH PLASTIC VAPOR BARRIER AT INTERIOR AND EXTERIOR, STEEL WIRE COIL REINFORCED. JOINTS SHALL BE BAND-CLAMPED, MASTIC-DUCT SEALER AND TAPE SEALED TO MAINTAIN INTEGRITY OF VAPOR BARRIER. FLEXIBLE INSTALLATION SHALL BE SUPPORTED TO ELIMINATE SAGS. FLEXIBLE GLASS FIBER INSULATION SHALL HAVE A MAXIMUM 0.23 K VALUE AT 75°F. INSTALLATION SHALL MEET ASHRAE & SMACNA STANDARDS. UNLESS NOTED OTHERWISE MAXIMUM LENGTH IS 5'-0" AND TWO 45° BENDS.
10. FIRE DAMPERS SHALL BE DYNAMIC (RATED FOR SYSTEM VELOCITY) AND MEET UL 555 AND SHALL HAVE BLADES OUT OF AIR STREAM IN COILED POSITION. FUSIBLE LINK SHALL BE RATED AT 165°F.
11. COMBINATION FIRE/SMOKE DAMPERS SHALL BE DYNAMIC (RATED TO SYSTEM VELOCITY) MEET UL 555S.
12. EXTERIOR GALVANIZED OR BLACK IRON DUCTWORK: WHEN NOT INSULATED, PER MANUFACTURERS INSTRUCTIONS APPLY AN ENAMEL PAINT, IN WHITE. GALVANIZED DUCTWORK MUST BE CLEANED OF ANY PROTECTIVE LAYER AND THE PASSIVATOR MUST BE REMOVED PRIOR TO PAINTING.
13. DUCTWORK TO BE CONSTRUCTED TO SMACNA AND ASHRAE DUCT CONSTRUCTION STANDARDS.

DUCTWORK SYSTEMS: (4)	SMACNA CLASS PRESSURE (3)	SMACNA CLASS SEAL	LEAKAGE CLASS (5) ROUND	LEAKAGE CLASS (5) RECT.
CONSTANT VOLUME	2	A	2	4
VARIABLE VOLUME (1)	1	A	2	4
VARIABLE VOLUME (2)	3	A	2	4
RETURN	2	B	4	8
EXHAUST	2	B	4	8
EXHAUST (POSITIVE)	3	A	2	4

PRESSURE CLASS OPTIONS: 1/2", 1", 2", 3", 4", 6" 10"
NOTE (1): DOWNSTREAM OF VAV BOX
NOTE (2): UPSTREAM OF VAV BOX
NOTE (3): THESE ARE MINIMUMS, REFER TO EQUIPMENT SCHEDULES & SUBMITTAL DOCUMENTS, IF ESP MEETS OR EXCEEDS THESE FIGURES, INCREASE PRESSURE CLASS TO NEAREST CLASS THAT IS 0.5" W.C. OVER THE LISTED ESP. WHERE INFORMATION IS NOT PROVIDED THE CONTRACTOR MUST SUBMIT A RFI.
NOTE (4): WHEN USED AS PART OF A SMOKE CONTROL OR REMOVAL SYSTEM SHALL, AT A MINIMUM, BE SMACNA PRESSURE CLASS 3, SEAL CLASS A
NOTE (5): LEAKAGE CLASS IS CFM LEAKAGE/100 SQ.FT. @ 1" H/2O

DUCTWORK ELBOWS:

ROUND: FPM	MINIMUM RADIUS/DIA RATIO
TO 1000	0.75
1,001 TO 1,500	1
1,500+	1.5(2)

RECTANGULAR: ASPECT RATIO, W/D

R/D	0.25	0.5	1	2	3	4
0.0 (3)	(1)	(1)	(1)	(1)	(1)	(1)
0.5	(1)	(1)	(1)	(1)	(1)	(1)
1	(1)	(1)	(1)	(1)	(1)	(1)
1.5 (2), (5)	(1)	(1)	(4)	(4)	(4)	(4)
2	(1)	(4)	(4)	(4)	(4)	(4)
3	(1)	(4)	(4)	(4)	(4)	(4)

NOTE (1): MUST HAVE AIRFOIL TURNING VALVES
NOTE (2): STANDARD/DEFAULT CENTERLINE RADIUS
NOTE (3): MITRED ELBOW
NOTE (4): TURNING VANES NOT REQUIRED
NOTE (5): THIS R/D MUST BE USED FOR TYPE I GREASE DUCTS, TURNING VANES NOT ALLOWED

MECHANICAL PRODUCTS

1. DIFFUSERS, REGISTERS AND GRILLES: MAXIMUM SOUND PRESSURE LEVELS SHALL NOT EXCEED NC 30. COORDINATE FINISH AND MOUNTING TYPE WITH ARCHITECT. ACCEPTABLE MANUFACTURERS: TITUS, NAILOR, KRUEGER, TUTTLE AND BAILEY, PRICE, METALAIRE.
2. CONTROL DAMPERS: LEAKAGE CLASS 1A/1. EQUAL TO RUSKIN CD-60 (CD-50 IN WET LOCATIONS)
3. DUCT MOUNTED SMOKE DETECTORS:
   - 3.1. WHEN THE DUCT TYPE SMOKE DETECTOR IS REQUIRED TO BE PART OF THE DESIGN BUILD FIRE ALARM SYSTEM: SHALL BE FURNISHED BY THE FIRE ALARM CONTRACTOR, INSTALLED BY THE MECHANICAL CONTRACTOR AND WIRED BY THE FIRE ALARM CONTRACTOR.
   - 3.2. WHEN THE DUCT TYPE DETECTOR IS NOT PART OF THE FIRE ALARM SYSTEM: THE DUCT MOUNTED SMOKE DETECTORS SHALL BE FURNISHED, INSTALLED AND WIRED BY THE MECHANICAL CONTRACTOR. (NORMALLY PROVIDED AT 24 VAC.)
   - 3.3. DUCT MOUNTED SMOKE DETECTORS SHALL BE INSTALLED ON AIR MOVING EQUIPMENT THAT EXCEEDS 2,000 CFM AND ON AIR MOVING EQUIPMENT UNDER 2,000 CFM THAT SUPPLIES A COMMON SPACE AND THE TOTAL CFM CAPACITY OF THE EQUIPMENT SERVING THE SPACE EXCEEDS 2,000 CFM.
   - 3.4. DUCT MOUNTED DETECTORS SHALL BE WIRED TO SHUT DOWN THE ASSOCIATED AIR MOVING EQUIPMENT ON ALARM.
   - 3.5. DETECTORS TO BE MOUNTED IN THE RETURN AIR DUCTWORK UPSTREAM OF ANY FILTERS, EXHAUST OR OUTSIDE AIR CONNECTIONS.
4. FANS, ACCEPTABLE MANUFACTURERS: GREENHECK, COOK, TWIN CITY, ACME, PENN-BERRY. FAN DESIGN RPM MUST BE LESS THAN 80% OF MAXIMUM SPEED.
5. VAV BOXES, ACCEPTABLE MANUFACTURERS: PRICE, TITUS, KRUGER, TRANE, ENVIROTECH.
6. SOUND ATTENUATOR: ACCEPTABLE MANUFACTURERS VIBRO-ACOUSTICS, IAC OR COMMERCIAL ACOUSTICS.

AUTOMATIC TEMPERATURE CONTROLS

1. THE MECHANICAL CONTRACTOR SHALL PROVIDE A COMPLETE SYSTEM OF AUTOMATIC TEMPERATURE CONTROLS (INTEGRATED INTO THE EXISTING) - BUILDING AUTOMATION SYSTEM (BAS, BMS, ATC, DDC). THIS SYSTEM SHALL INCLUDE BUT NOT BE LIMITED TO: TEMPERATURE SENSORS, CONTROLLERS, TRANSFORMERS, EQUIPMENT INTERFACE DEVICES AND ALL REQUIRED RELAYS, WIRING AND CONDUIT - REGARDLESS OF VOLTAGE.
2. THE MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL, IN ACCORDANCE WITH THE NEC AND THIS PROJECT ELECTRICAL SPECIFICATIONS, ALL CONDUIT, WIRE, JUNCTION BOXES, THERMOSTAT BACK BOXES AND CIRCUIT BREAKERS REQUIRED FOR A FULLY OPERATIONAL ATC SYSTEM. 120V POWER, IF NOT PROVIDED, SHALL BE OBTAINED FROM LOCATIONS PROVIDED ON THE ELECTRICAL DESIGN DOCUMENTS - IF NO INFORMATION IS PROVIDED THE CONTRACTOR MUST ISSUE AN RFI DURING THE BID PROCESS TO CLARIFY.
3. WHERE AN EXISTING OR NEW BAS SYSTEM IS UTILIZED THE CONTRACTOR SHALL PROVIDE A GUI PAGE FOR EACH SYSTEM. GRAPHICS MUST MATCH OR EXCEED THE EXISTING FOR DETAIL AND INFORMATION PROVIDED.
4. SUBMIT SHOP DRAWINGS OF TEMPERATURE CONTROL WIRING, LOCATION OF DEVICES AND INSTALLATION DATA FOR REVIEW PRIOR TO INSTALLATION.

TEST AND BALANCE (TAB)

1. BALANCE ALL DUCTS, DIFFUSERS, AND GRILLES TO OBTAIN THE AIR QUANTITIES AS SHOWN ON PLANS. TEST AND BALANCE WORK SHALL BE PERFORMED BY AN INDEPENDENT, APPROVED, AND CERTIFIED AABC OR NEBB CONTRACTOR.
2. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING DIFFUSER THROWS. LINEAR DIFFUSERS IN A HORIZONTAL CEILING SYSTEM WILL GENERALLY THROW AIR HORIZONTAL - SEE DWGS FOR DIRECTION ARROW. IF NO DIRECTION ARROW IS ILLUSTRATED THE CONTRACTOR MUST DIRECT AN RFI TO THE ENGINEER TO OBTAIN PROPER THROW DIRECTIONS.
3. THE TEST AND AIR BALANCE (TAB) REPORT SHALL INCLUDE DESIGN AIR QUANTITIES AND AIR QUANTITIES AFTER ADJUSTMENTS. FURNISH OWNER'S REPRESENTATIVE WITH A PDF COPY OF THE FINAL TAB REPORT.

NOTES

1. DIELECTRIC FITTINGS SHALL BE USED WHEREVER DISSIMILAR METALS ARE JOINED.
2. PROVIDE ACCESS PANELS IN CEILINGS & WALLS TO ACCESS MECHANICAL/PLUMBING EQUIPMENT AND APPURTENANCES WHERE REQUIRED. DRYWALL CEILINGS: GFRG OR BAUCO•PLUS II. DRYWALL WALLS: BAUCO•PLUS II. RATED DRYWALL WALLS OR CEILINGS: ACUDOR FW-5050-DW. MINIMUM SIZE FOR ACCESS OF EQUIPMENT: 24"x24" OR PER LOCAL CODE, WHICH EVER IS LARGER.
3. PROVIDE A "LINK-SEAL" WHERE PIPES PASS THROUGH EXTERIOR WALLS.
4. GAUGES: TEMPERATURE: INTERIOR - WEISS VARI-ANGLE DIGITAL WITH 316 SS THERMOWELL, EXTERIOR WITH DCV-4 OUTDOOR WATERPROOF COVER. PRESSURE: WEISS DIGITAL DUGY3-xxx-2L (PG - RFI FOR RANGE PER APPLICATION)
5. WHERE VICTAULIC SYSTEMS ARE APPROVED ON A PER-PROJECT BASIS, "ROUST-A-BOUT" FITTINGS ARE NOT ALLOWED.
6. ALL EQUIPMENT SHALL BE RATED IN EXCESS OF THE AVAILABLE FAULT CURRENT AT THE POINT OF CONNECTION.
7. WHERE VFDs (VSDs) AND MOTORS ARE PROVIDED BY THE MECHANICAL OR PLUMBING CONTRACTOR: VFD DRIVES SHALL MEET THE FOLLOWING MINIMUM STANDARDS - BUILT-IN BACNET MS/TP COMMUNICATIONS. PROVIDE WITH AN INTEGRAL FUSED DISCONNECT OR 100% RATED AIC CIRCUIT BREAKER. ALLOW FOR A/C POWER FLUCTUATIONS OF - SURGE TO 525V FROM 480V, SAG TO 375V FROM 480V, FREQUENCY DEVIATION FROM 50 TO 65Hz, VOLTAGE SPIKES UP TO 2X NORMAL INCOMING VOLTAGE FOR 1 MILLISECOND, ACCEPT A 2% VOLTAGE IMBALANCE. VFDs TO BE DANFOSS VLT HVAC DRIVE FC102, ABB ACH550, YASKAWA Z1000, MITSUBISHI FR-F800. EXTERIOR DRIVES RATED TO 50°C WITHOUT DE-RATING. INTERIOR DRIVES RATED TO 40°C WITHOUT DE-RATING. DRIVES MUST HAVE A dv/dt OUTPUT FILTER. BI-DIRECTIONAL COASTING MOTOR RESTART CAPABILITY. BROKEN BELT/LOAD ABNORMALITY DETECTION. ENCLOSURES TO BE RATED FOR THE INSTALLED LOCATION.
   - 7.1. OPTIONS:
     - 7.0.1. MANUAL BYPASS CONTROL
     - 7.0.2. AUTOMATIC BYPASS CONTROL
     - 7.0.3. COMPATIBLE WITH IPM (INTERIOR PERMANENT MAGNET) AND SPM (SURFACE PERMANENT MAGNET) MOTORS.
8. ELECTRIC MOTORS - MOTORS ON VFD SERVICE, TO HAVE A SHAFT GROUNDING DEVICE, OVER 100 HP TO HAVE A SHAFT GROUNDING DEVICE AND AN INSULATED BEARING ON THE NON-DRIVEN END OF THE MOTOR. (OPPOSITE END OF THE MOTOR RELATIVE TO WHERE THE SHAFT GROUNDING DEVICE IS LOCATED.) MOTORS TO COMPLY WITH NEMA MG-1. MOTORS TO BE RATED FOR THE INSTALLED LOCATION.

PART THREE - EXECUTION

9. THE CONTRACTOR SHALL PROVIDE ALL SLEEVES, OPENINGS, CUTTING AND PATCHING NECESSARY FOR THE INSTALLATION OF THE WORK. CUTTING AND PATCHING SHALL BE DONE BY WORKMEN SKILLED IN THE TRADES REQUIRED AND PAID BY THE CONTRACTOR REQUIRING THE WORK COMPLETED. SYSTEMS PASSING THROUGH WATER PROOFING OR DAMP PROOFING SHALL BE WATER TIGHT. SYSTEMS PASSING THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRE PROOFED WITHER MATERIAL APPROVED FOR THE FIRE AND TEMPERATURE RATING OF THE ASSEMBLY AND U.L. LISTED. (IF THE ARCHITECT HAS NOT PROVIDED A STANDARD DRAWING/ASSEMBLY FOR AN APPLICATION AND ONE IS NOT AVALIABLE, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN AN "ENGINEERING JUDGEMENT" AND ASSOCIATED DRAWING FOR THE APPLICATION.)
10. THE CONTRACTOR SHALL PROVIDE ALL RIGGING, HANDLING OF MATERIALS AND EQUIPMENT, AND THE NECESSARY PROTECTION FOR MATERIALS AND EQUIPMENT.
11. THE CONTRACTOR WILL PROTECT THE WORK AND MATERIAL AGAINST DIRT, THEFT, INJURY OR DAMAGE UNTIL ACCEPTED BY OWNER. ALL WORK SHALL BE TURNED OVER TO OWNER CLEAN AND IN NEW CONDITION.
12. WHERE PIPES ARE INSTALLED THAT PASS THROUGH FLOORS THAT ARE NOT SLAB-ON-GRADE AND THE FLOOR IS A FIRE RATED ASSEMBLY, PER CODE, THE OPENING CREATED TO ACCEPT THE PIPING ASSEMBLY THROUGH THE FLOOR MUST USE A LISTED SYSTEM TO BE TEMPERATURE AND FIRE RATED TO MATCH THE RATING OF THE FLOOR (MIN 2 HOUR).
13. EQUIPMENT CONDENSATE DRAINS: FAN COIL, AHU AND OTHER SIMILAR EQUIPMENT CONDENSATE DRAINS MAY OR MAY NOT BE DOCUMENTED ON THE PROJECT DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE CONDENSATE DRAINS TO AN APPROVED RECEPTOR, SIZE DRAIN TO MATCH OR EXCEED CODE MINIMUMS. PROVIDE A CONDENSATE PUMP WHERE REQUIRED (IE: LITTLE GIANT NXTGEN)
14. EACH CONTRACTOR SHALL PROVIDE ALL FOUNDATIONS, HANGERS, AND SUPPORTS FOR ALL EQUIPMENT SUPPLIED AND/OR INSTALLED UNDER THEIR WORK. ANY EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH VIBRATION ISOLATION AND FLEXIBLE CONNECTIONS TO PIPING AND OR DUCTWORK IF APPLICABLE. MISCELLANEOUS STEEL AND ANCHORS REQUIRED FOR THE INSTALLATION OF THE CONTRACTORS EQUIPMENT IS THE RESPONSIBILITY OF THE CONTRACTOR AND THE RETENTION OF A STRUCTURAL ENGINEER OR OTHER DESIGN DISCIPLINE TO COMPLETE THE WORK IS THE RESPONSIBILITY OF THE CONTRACTOR. EG: THE USE OF CONCRETE ANCHORS WILL REQUIRE DOCUMENTATION APPROVAL FROM A STRUCTURAL ENGINEER RETAINED BY THE CONTRACTOR.
15. WHERE PIPES OR CONDUITS PASS THROUGH WALLS, FLOORS, OR CEILINGS IN FINISHED AREAS, THEY SHALL BE FURNISHED WITH ESCUTCHEON PLATES (COLOR PER ARCHITECT AND/OR INTERIOR DESIGNER).
16. PIPES AND/OR CONDUITS PASSING THROUGH WALL, FLOORS AND PARTITIONS SHALL BE PROVIDED WITH SLEEVES. SLEEVES PASSING THROUGH WATER PROOFING OR DAMP PROOFING SHALL BE WATER TIGHT. SLEEVES/PIPES PASSING THROUGH FIRE RATED CONSTRUCTION SHALL BE FIRE PROOFED WITH MATERIAL APPROVED FOR THE FIRE AND TEMPERATURE RATING OF THE ASSEMBLY AND U.L. LISTED. (IF THE ARCHITECT HAS NOT PROVIDED A STANDARD DRAWING/ASSEMBLY FOR AN APPLICATION AND ONE IS NOT AVAILABLE, THE CONTRACTOR IS RESPONSIBLE TO OBTAIN AN "ENGINEERING JUDGEMENT" AND ASSOCIATED DRAWING FOR THE APPLICATION.)
17. AT THE CONCLUSION OF THE JOB, EACH PIECE OF EQUIPMENT, VALVE, SWITCH, STARTER, PANEL, PIPE LINE, CONDUIT, DUCT, ETC., SHALL BE CLEARLY IDENTIFIED WHETHER EXPOSED OR CONCEALED, COVERED OR UNCOVERED, IN ACCORDANCE WITH OSHA AND ANSI REGULATIONS. IDENTIFY PIPES NEAR EACH VALVE WITH "BRANDY-PERMA' CODE PIPE TAPE" OR T. & B. WESTLINE "TEL-A-PIPE" INDICATING DIRECTION OF FLOW, SERVICE, ZONE, AND SIZE. TAPE SHALL BE APPLIED TO PIPE, CONDUIT, OR COVERING. VALVES, CONTROLS, AND DAMPERS SHALL BE IDENTIFIED BY 2-INCH LACQUERED BRASS TAGS WITH STAMPED LETTERS FASTENED WITH "S" HOOKS OR CHAINS. EQUIPMENT IS TO BE IDENTIFIED AS TO FUNCTION AND PURPOSE BY MEANS OF PERMANENTLY ATTACHED LAMINATED ENGRAVED PHENOLIC NAMEPLATES WITH BEVELED EDGES, AND WHITE LETTERS ON BLACK BACKGROUND. (NO ADHESIVE LABELS ALLOWED).
18. AT THE CONCLUSION OF THE WORK, ALL EQUIPMENT AND SYSTEMS SHALL BE BALANCED, ADJUSTED, AND TESTED TO PROVIDE A QUIET-OPERATING, STABLE, AND SAFELY OPERATING SYSTEM(S). DEMONSTRATE OPERATION OF ALL SYSTEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE. THE TEST AND BALANCE WORK SHALL BE PERFORMED IN ACCORDANCE WITH NEBB OR AABC STANDARDS, BY INDEPENDENT, APPROVED, AND CERTIFIED TEST AND BALANCE PERSONNEL. THE TEST AND BALANCE SUBCONTRACTOR IS TO PROVIDE INSTRUMENT TEST PORT COVERS AT ALL TEST LOCATIONS ON OUTDOOR AIR HANDLING UNITS AND AT ALL OTHER OUTDOOR AIR HANDLING EQUIPMENT. TEST PORT COVERS SHALL BE VENTLOK MODEL #699, OR APPROVED EQUAL.
19. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF GRILLES, REGISTERS AND DIFFUSERS.
20. PIPE HANGERS: PIPE SIZES 1/2" TO 1 1/2" - 5'-0" MAX SPACING, 3/8" MIN. ROD DIAMETER; PIPE SIZES 2" TO 3" - 8'-0" MAX SPACING, 1/2" MIN. ROD DIAMETER; PIPE SIZES 4 TO 6"-10'-0" MAX SPACING, 5/8" MIN. ROD DIAMETER.
21. WATER PROOFING AND FLASHING OF PIPE PENETRATIONS THROUGH THE EXTERIOR WALL AND ROOF SHALL BE THE RESPONSIBILITY OF THE INSTALLING MECHANICAL/PLUMBING CONTRACTOR. THE CONTRACTOR SHALL COORDINATE LOCATIONS, MEANS AND METHODS WITH GENERAL CONTRACTOR/OWNER FOR THE VARIOUS BUILDING SYSTEMS. ROOFING MEMBRANE PENETRATIONS MUST BE PERFORMED BY A CONTRACTOR THAT IS WARRANTY APPROVED FOR THE SPECIFIC ROOFING SYSTEM.
22. CONTRACTOR SHALL OBTAIN FROM THE ARCHITECT THE EXACT LOCATION OF EQUIPMENT AND ANY OTHER APPARATUS SPECIFIED IN THESE DRAWINGS.
23. INSTALL CONDENSATE PIPING, WITH P-TRAP, FULL SIZE FROM EQUIPMENT TO FLOOR SINK, MOP SINK OR TAILPIECE (3/4" MAXIMUM CONDENSATE DRAIN LINE SIZE FOR TAILPIECE).

HARRAH's NOLA CIP

AREA E RESTROOMS (120)

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120 -
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6/06/2022

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REGISTERED PROFESSIONAL ENGINEER IN MECHANICAL ENGINEERING

SEP 20 2022

ISSUE 6/06/2022
JOB V21009
DRAWN Author
SCALE 12" = 1'-0"
REVISIONS

MECHANICAL GENERAL NOTES

120-M-001

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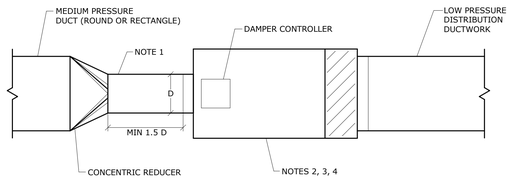
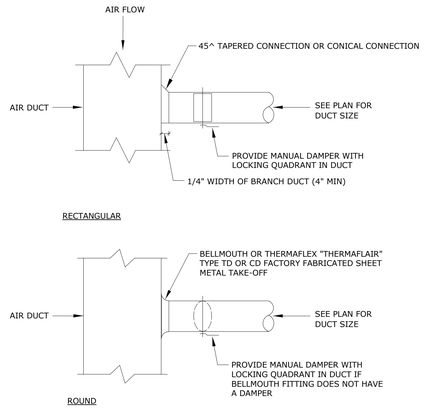
DRAWING PRINTED FULL SIZE (100%) = 30"x42"; DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 18"x24" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES; DRAWING PRINTED NEARLY THIRD SIZE (37.5%) = 11.25"x15.75" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 8 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (37.5%) WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVELANT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (37.5%) WILL BE NEAREST TO 1/4"=1'-0".



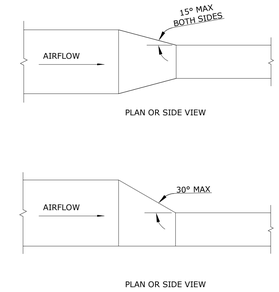
NOTES:

1. DUCT INTAKE SHALL BE MINIMUM OF 1.5 D. IF FLEX DUCT CONNECTION IS USED, DUCT CONNECTION SHALL NOT SAG MORE THAN 1/2" OVER THE 1.5 D RUN. IF STRAIGHT RUN CAN NOT BE MAINTAINED, PROVIDE FLOW STRAIGHTENER AT BOX INLET.
2. PROVIDE HANGER SUPPORTS AS REQUIRED.
3. PROVIDE MINIMUM 36" CLEARANCE FOR ACCESS TO CONTROL PANEL.
4. INSTALL UNIT PER MANUFACTURERS RECOMMENDATIONS.

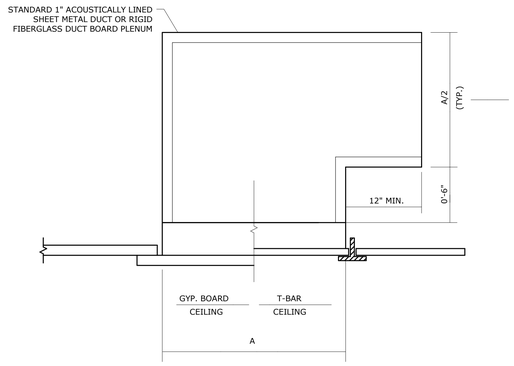
A TERMINAL BOX
120-M-020 NTS



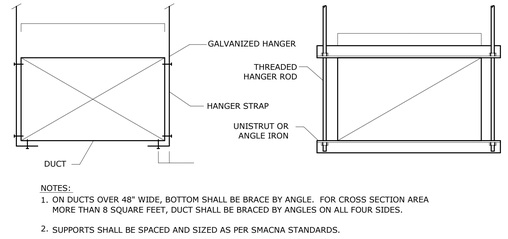
B TYPICAL BRANCH DUCT TAKE-OFF
120-M-020 NTS



C DUCT TRANSITION
120-M-020 NTS



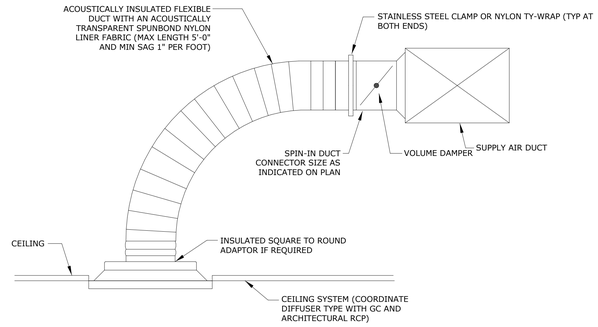
D KITCHEN HOOD EXHAUST FAN
120-M-020 NTS



NOTES:

1. ON DUCTS OVER 48" WIDE, BOTTOM SHALL BE BRACE BY ANGLE. FOR CROSS SECTION AREA MORE THAN 8 SQUARE FEET, DUCT SHALL BE BRACED BY ANGLES ON ALL FOUR SIDES.
2. SUPPORTS SHALL BE SPACED AND SIZED AS PER SMACNA STANDARDS.

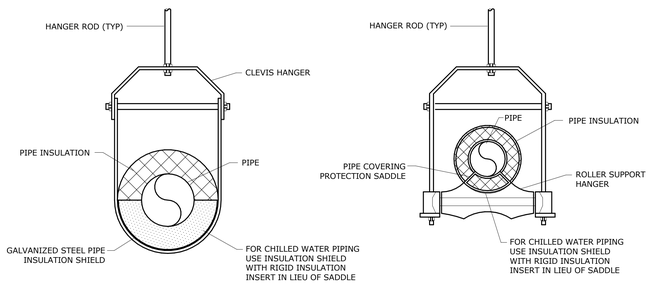
E DUCT HANGER SUPPORT
120-M-020 NTS



NOTES:

1. USE WORM DRIVE CLAMPS OR DRAW BANDS FOR CONNECTING FLEXIBLE AIR DUCT TO DIFFUSER AND BRANCH DUCT. SPLICES IN FLEXIBLE AIR DUCT SHALL NOT BE ALLOWED.

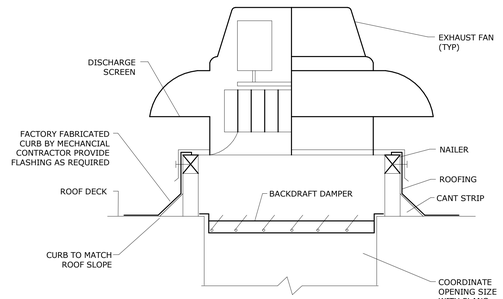
F CEILING DIFFUSER WITH FLEX DUCT
120-M-020 NTS



NOTES:

1. USE CLEVIS HANGER FOR 1/2" UP TO 4".
2. USE ROLL SUPPORT HANGER FOR 6" TO 8".
3. PIPE 10" AND LARGER SHALL HAVE ROLLER SUPPORT HANGER WITH DUAL RODS.

G PIPE HANGER FOR INSULATED PIPING
120-M-020 NTS



H ROOF EXHAUST FAN
120-M-020 NTS

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Project Director: Ryan Worrell

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120 -
PERMIT SET
6/06/2022

SEP 20 2022

ISSUE	6/06/2022
JOB	V21009
DRAWN	Author
SCALE	1/8" = 1'-0"
REVISIONS	

MECHANICAL DETAILS

120-M-020

DRAWING PRINTED FULL SIZE (100%) - IF "ATHZ" DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 18"x24" WITH 1 1/2" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (33.3%) = 11"(H) X 17"(V) WILL FIT TIGHTLY ON 11"x17" INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 4 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (1/3*1)/4) WILL BE 3/4"=1'-0" FOR SCALES AT 3/4", 3/8" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVELANT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (3*1)/4) WILL BE NEARBY TO 1"=1'-0"

6/5/2022 2:34:17 PM

TERMINAL BOX SCHEDULE

MARK	MANUFACTURER MODEL	AIR FLOW (CFM)			INLET DIA (IN)	VAV AIR PRESSURE DROP (IN WG)	NC RATING @ 1" SP		REHEAT COIL (HEATING WATER)							OPERATING WEIGHT (LBS)	REMARKS
		MAX.	COOLING MIN.	HEATING MIN.			DISCHARGE	RADIATED	MBH	GPM	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)	PD (FT)	ROWS	
VAV-17	PRICE SDV5	1325	0	-	12	0.16	23	23	-	-	-	-	-	-	-	-	50	1, 2, 3, 4, 5, 6

1. WITH HANGER BRACKETS
2. CONTROLS AND ACTUATOR BY BAS CONTRACTOR

INSTALLATION NOTES:
3. MINIMUM 3 DUCT DIAMETERS OF STRAIGHT RIGID DUCT ON INLET.
4. DUCT TO INLET - MIN ONE (EVEN) DUCT SIZE LARGER THAN LISTED INLET. IF OVER 15 FOOT RUN OR MORE THAN TWO 90° ELBOWS-MIN. TWO DUCT SIZES LARGER.
5. MINIMUM INLET SP: 1"
6. MINIMUM DOWNSTREAM SP: 0.25"

EXHAUST FAN SCHEDULE

MARK	GENERAL DATA			FAN					ELECTRICAL				OPERATING WEIGHT (LBS)	REMARKS
	MANUFACTURER MODEL	LOCATION	SERVICE	TYPE	CFM	ESP (IN WG)	RPM	SOUND (dBA)	BHP	HP	V/PH/HZ	GENERATOR POWER		
EF-1	GREENHECK GB-140-7	CASINO ROOF	AREA E RESTROOM	CENTRIF. FAN	1975	1.0	1457	64	0.69	3/4	460/3/60	NO	150	1, 2, 3, 4, 5

1. PROVIDE HIGH WIND RATED ROOF CURB.
2. PROVIDE MOTOR WITH THERMAL OVERLOADS.
3. PROVIDE DISCONNECT SWITCH.
4. PROVIDE WITH VFD.
5. FAN TO RUN CONTINUOUSLY. TIE INTO EXISTING BAS SYSTEM FOR CONTROL.

AIR DISTRIBUTION SCHEDULE

MARK	MANUFACTURER MODEL	AIRFLOW RANGE	SERVICE TYPE	MAX NC	NECK SIZE	PANEL SIZE	REMARKS
D-1 CFM	TITUS MCD	0-100	CEILING SUPPLY	30	6"X6"	8"X8"	1, 2, 3
D-2 CFM	TITUS MCD	201-340	CEILING SUPPLY	30	10"X10"	12"X12"	1, 2, 3
EX-1 CFM	TITUS 50F	0-100	EXHAUST CEILING	30	6"X6"	8"X8"	1
EX-2 CFM	TITUS 50F	101-200	EXHAUST CEILING	30	8"X8"	10"X10"	1

1. COORDINATE BORDER, COLOR, FINISH AND EXACT LOCATION WITH ARCHITECT
2. WHERE A BALANCING DAMPER IS SHOWN IN THE DUCTWORK TAKEOFF - NO OBD REQUIRED.
3. PROVIDE SQUARE TO ROUND TRANSITION FROM FACTORY.

DRAWING PRINTED FULL SIZE (30"H) x 42"x42" DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 18"x24" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (37.5%) WILL BE 3/64"=1'-0" AT (37.5%) WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 8 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (37.5%) WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (37.5%) WILL BE NEAREST TO 1/4"=1'-0"

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HARRAH's NOLA CIP

AREA E RESTROOMS (120)

Jazz Casino Company LLC
Harrah's Casino
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STATE OF LOUISIANA
BENJAMIN L YEUNG
REG. No. 32818
REGISTERED
PROFESSIONAL ENGINEER
IN
MECHANICAL ENGINEERING

SEP 20 2022

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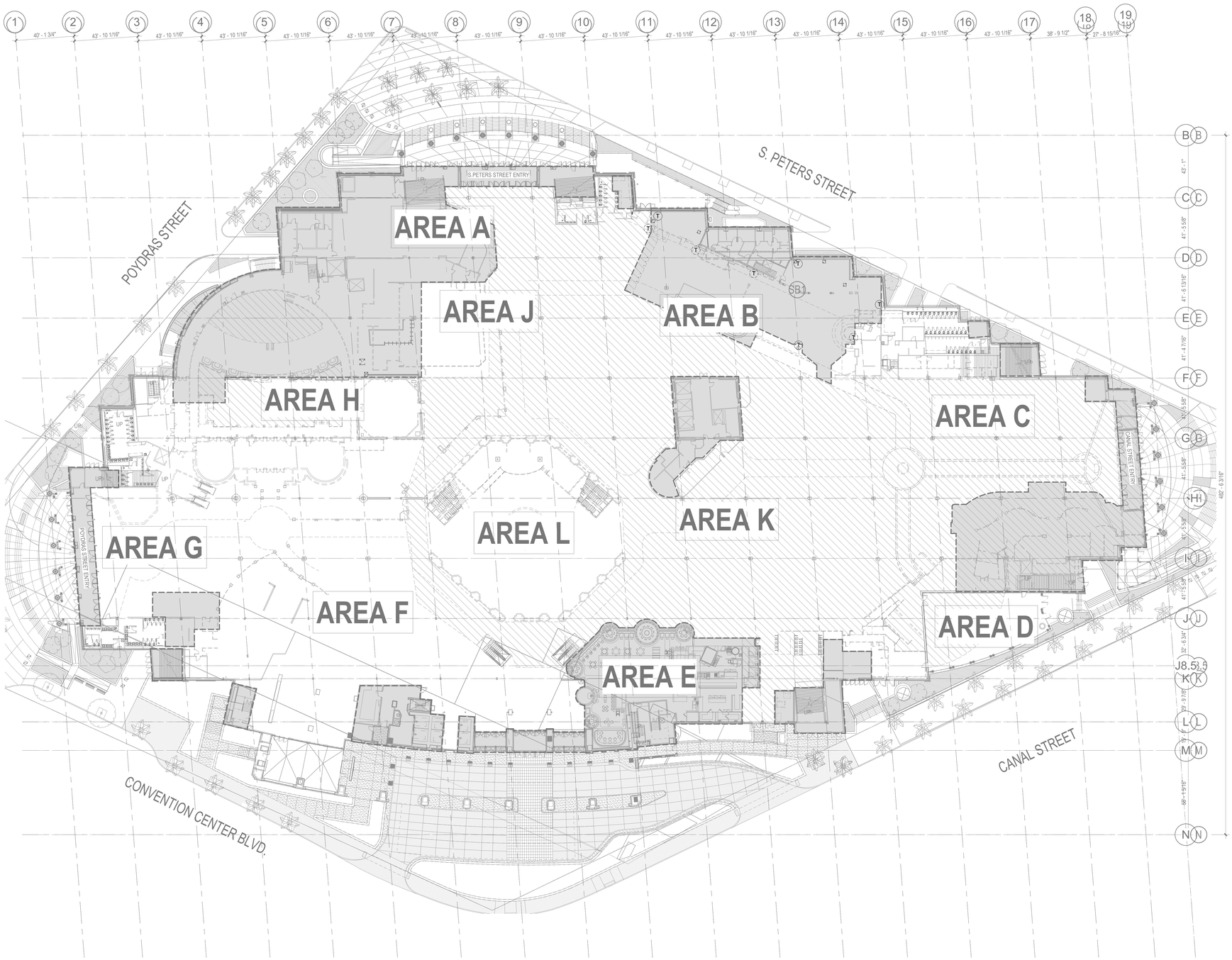
REVISIONS

MECHANICAL SCHEDULES

120-M-030



MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 OVERALL

1 / 120-MD-112 — 1" = 30'-0"

NORTH

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KEY PLAN

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MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 OVERALL

120-MD-112

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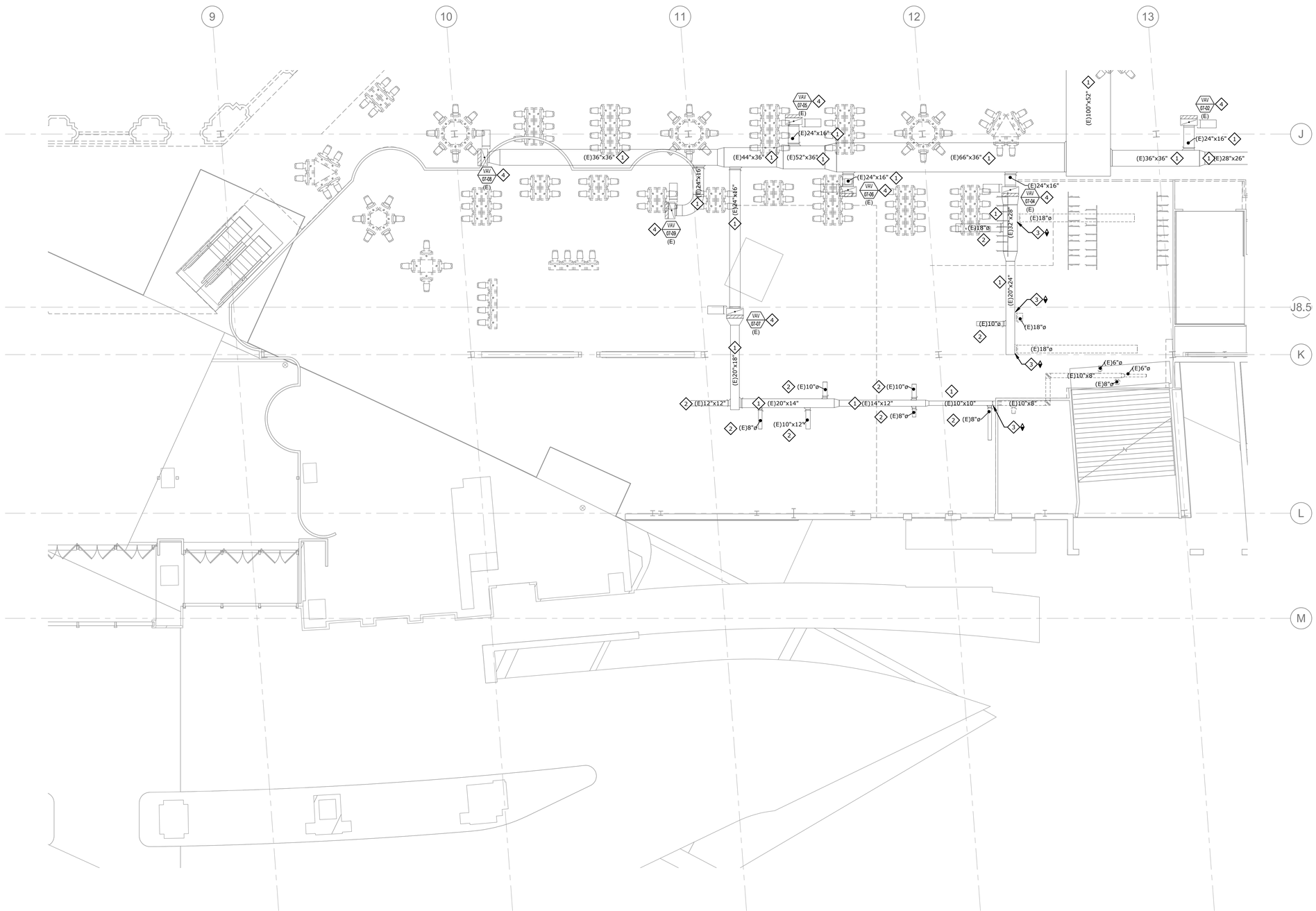
DRAWING PRINTED FULL SIZE (100%) - 30"x42". DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 18"x24" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (33.3%) = 11.25"x15.75" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 2 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (1/3") WILL BE 3/64"=1'-0" FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (1/3") WILL BE NEARLEST TO 1/4"=1'-0"

GENERAL NOTES:

1. EQUIPMENT AND PIPING LOCATIONS SHOWN FROM BEST AVAILABLE INFORMATION. CONTRACTOR SHALL FIELD VERIFY SIZES AND LOCATIONS.
2. EQUIPMENT THAT IS BEING REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE, EXCEPT EQUIPMENT SELECTED BY OWNER. CONTRACTOR TO COORDINATE FIXTURE/EQUIPMENT OWNERSHIP WITH OWNER PRIOR TO COMMENCING WORK. OWNER SELECTED EQUIPMENT WILL BE TAGGED AND SHALL BE MOVED BY CONTRACTOR TO OWNER'S STORAGE ON SITE.
3. WHERE PIPING OR DUCTWORK IS TO BE CUT OFF AT A POINT, IT SHALL BE CAPPED OR BLANKED OFF AT THAT POINT. INSULATION ON REMAINING PIPE OR DUCT TO BE REPAIRED TO NEW CONDITION.
4. PIPING CONNECTED TO EQUIPMENT THAT IS BEING REMOVED SHALL BE CUT AND CAPPED IN WALLS, FLOORS OR CEILING SO AS NOT TO INTERFERE WITH NEW CONSTRUCTION OR EQUIPMENT.
5. CONTRACTOR TO COORDINATE WHAT TIME OF DAY THE WORK IS TO OCCUR, HOW MANY SHIFTS PER DAY, IF WEEKENDS, NIGHTS, HOLIDAYS ARE REQUIRED PRIOR TO SUBMITTING BID.
6. CONTRACTOR TO GIVE WRITTEN NOTIFICATION OF ANY INTERRUPTION OF SERVICES A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCING WORK.
7. CONTRACTOR TO COORDINATE MAINTAINING CONTINUITY OF EXISTING SYSTEMS DURING CONSTRUCTION, PRIOR TO COMMENCING WORK.

SHEET NOTES:

1. EXISTING DUCTWORK TO REMAIN.
2. EXISTING DUCTWORK AND CORRESPONDING DIFFUSER(S) TO REMAIN.
3. REMOVE EXISTING DUCTWORK AND DIFFUSER(S) BACK TO POINT OF DISCONNECTION, AND CAP.
4. EXISTING VAV BOX AND ASSOCIATED DUCTWORK TO REMAIN, UNLESS NOTED OTHERWISE.



1 MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 AREA E
120-MD-112E 1/8" = 1'-0"

NORTH

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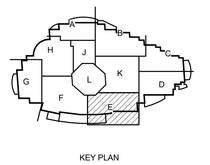

KEY PLAN

120 -
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6/06/2022

SEP 20 2022

ISSUE	6/06/2022
JOB	V21009
DRAWN	Author
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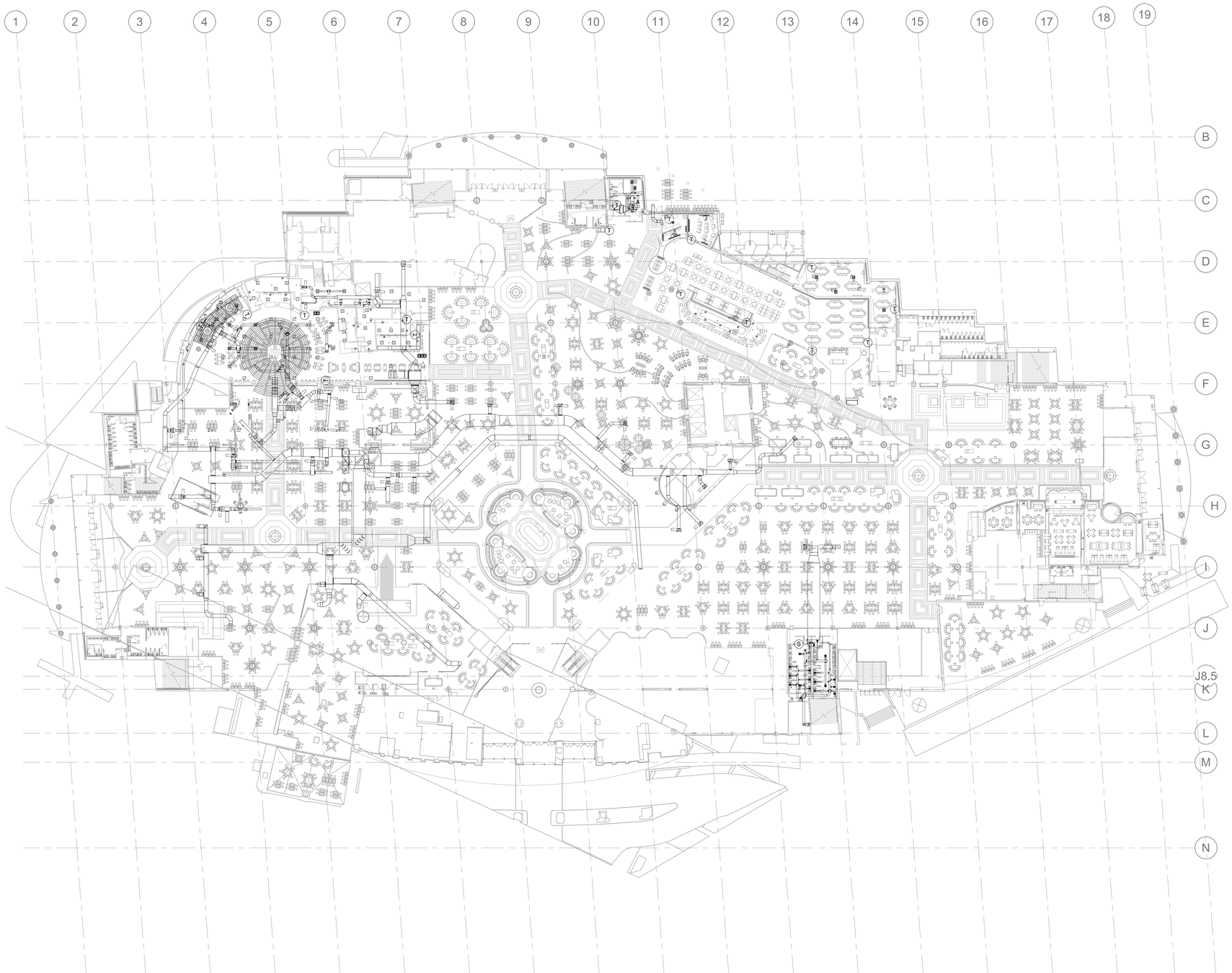
REVISIONS	

MECHANICAL HVAC DEMOLITION PLAN - FLOOR 1 AREA E

120-MD-112E

6/6/2022 2:35:03 PM

DRAWING PRINTED FULL SIZE (30"H) x 30"x42" DRAWING PRINTED HALF SIZE (30%) WILL FIT ON A SHEET 18"x24" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (37.5%) = 11.25"x15.75" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 8 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT 37.5% WILL BE 3/64"=1'-0" FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT 37.5% WILL BE NEARLY TO 1/4"=1'-0"



1 MECHANICAL HVAC PLAN - FLOOR 1 OVERALL
120-M-112 1" = 30'-0"

NORTH

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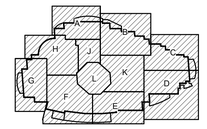

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MECHANICAL HVAC PLAN - FLOOR 1 OVERALL

120-M-112

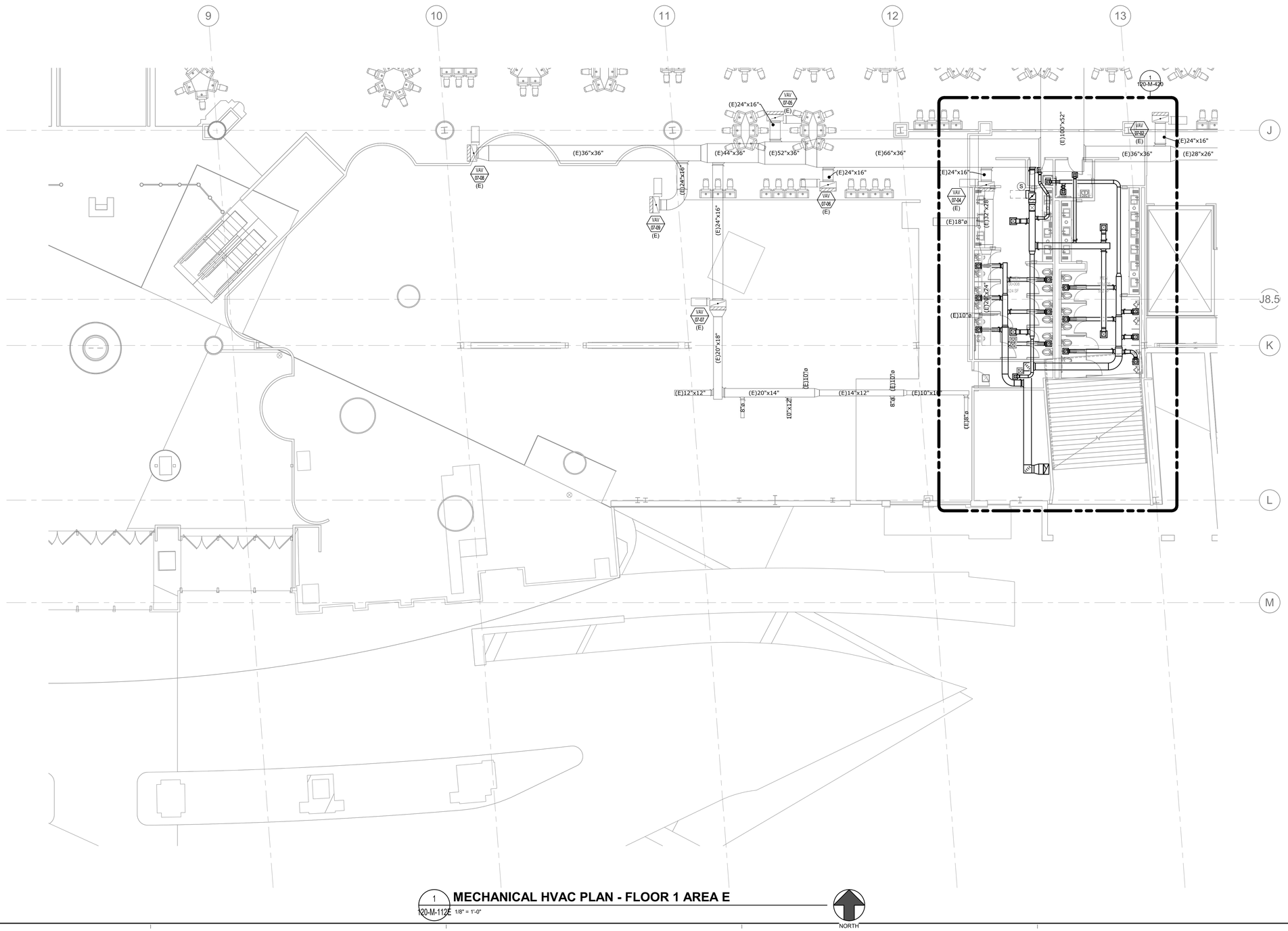
DRAWING PRINTED FULL SIZE (100%) = 30"x42". DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15"x21" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED AS ANY THIRD SIZE (27.5%) = 11.25"x15.5" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 3/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 2 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT 27.5% WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT 27.5% WILL BE NEAREST TO 1/4"=1'-0"

6/5/2022 2:34:31 PM

6/5/2022 2:34:34 PM DRAWING PRINTED FULL SIZE (100%) = 30"x42". DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15"x20" WITH 1.5" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (33%) = 11.25"x15.5" WILL FIT TIGHTLY ON 11"x17" INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 8 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT 11"x17" (1/3 SIZE) 3/4"=1'-0" AT 11"x17" (1/3 SIZE) WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT 11"x17" (1/3 SIZE) WILL BE NEARLY TO 1/4"=1'-0"

GENERAL NOTES:

1. REMOTE VOLUME DAMPERS (RVD) ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS. COORDINATE EXACT LOCATION OF ALL RVDS WITH ARCHITECT PRIOR TO INSTALLATION.
2. VERIFY LOCATION OF ALL THERMOSTATS/SENSORS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS/SENSORS @48" A.F.F. IN ACCORDANCE WITH ADA STANDARDS (COORDINATE WITH ARCHITECTURAL DRAWINGS).
3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING. COORDINATE AIR DEVICE FINISHES WITH ARCHITECT.
4. DUCT SIZES SHOWN ARE THE CLEAR INSIDE DIMENSIONS.
5. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
10. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
11. CONTRACTOR TO COORDINATE WHAT TIME OF DAY THE WORK IS TO OCCUR, HOW MANY SHIFTS PER DAY, IF WEEKENDS, NIGHTS, HOLIDAYS ARE REQUIRED PRIOR TO SUBMITTING BID.
12. CONTRACTOR TO GIVE WRITTEN NOTIFICATION OF ANY INTERRUPTION OF SERVICES A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCING WORK.



1 120-M-112E **MECHANICAL HVAC PLAN - FLOOR 1 AREA E** 1/8" = 1'-0"

NORTH

HARRAH's NOLA CIP

AREA E RESTROOMS (120)

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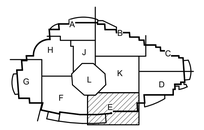

KEY PLAN

120 -
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SEP 20 2022

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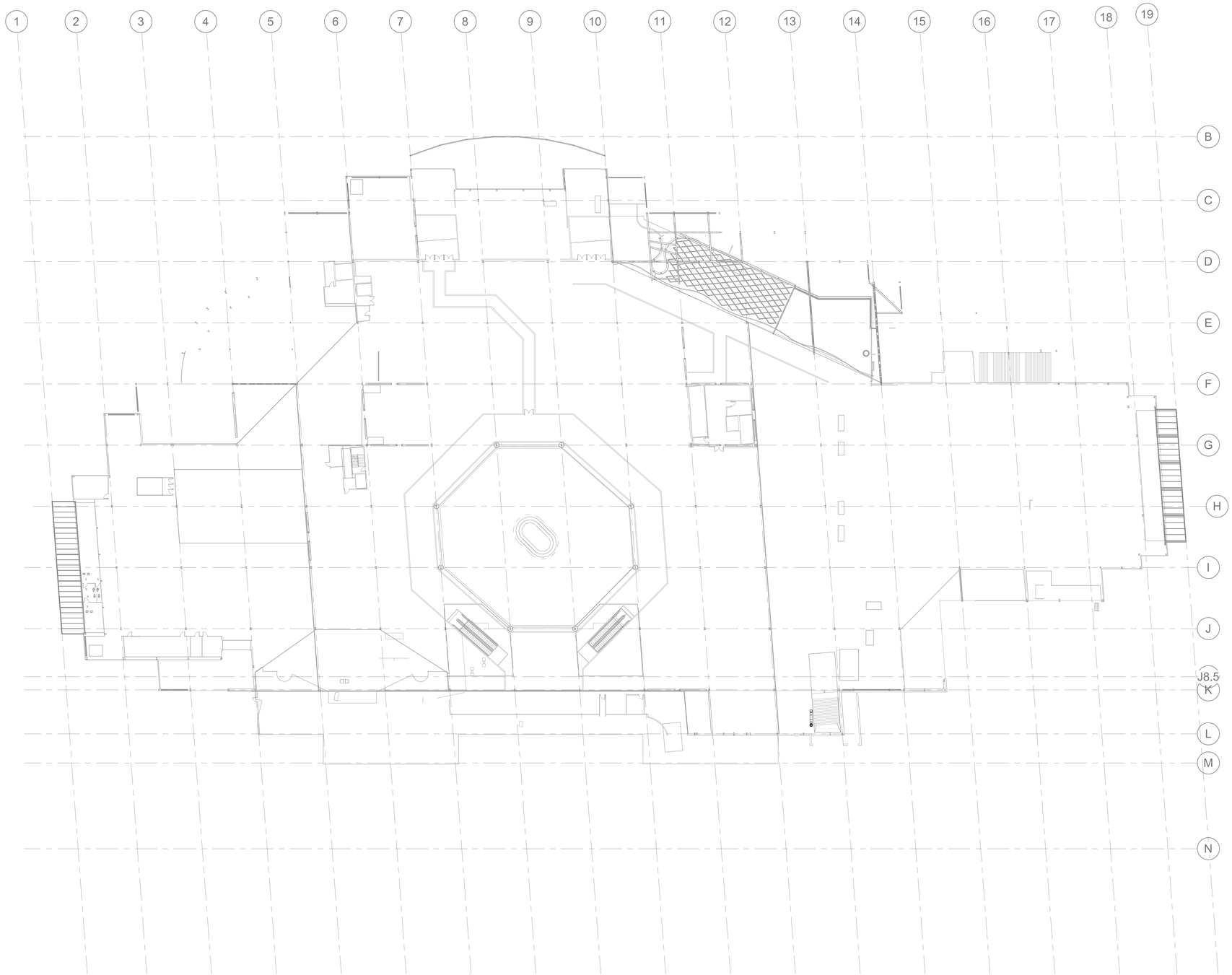
REVISIONS

MECHANICAL HVAC PLAN - FLOOR 1 AREA E

120-M-112E



1 MECHANICAL HVAC PLAN - FLOOR 2 OVERALL
120-M-113 1" = 30'-0"

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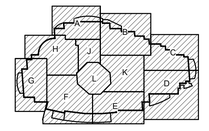

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MECHANICAL HVAC PLAN - FLOOR 2 OVERALL

120-M-113

6/5/2022 2:34:38 PM

GENERAL NOTES:

1. REMOTE VOLUME DAMPERS (RVD) ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS. COORDINATE EXACT LOCATION OF ALL RVDS WITH ARCHITECT PRIOR TO INSTALLATION.
2. VERIFY LOCATION OF ALL THERMOSTATS/SENSORS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS/SENSORS @48" A.F.F. IN ACCORDANCE WITH ADA STANDARDS (COORDINATE WITH ARCHITECTURAL DRAWINGS).
3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING. COORDINATE AIR DEVICE FINISHES WITH ARCHITECT.
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6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
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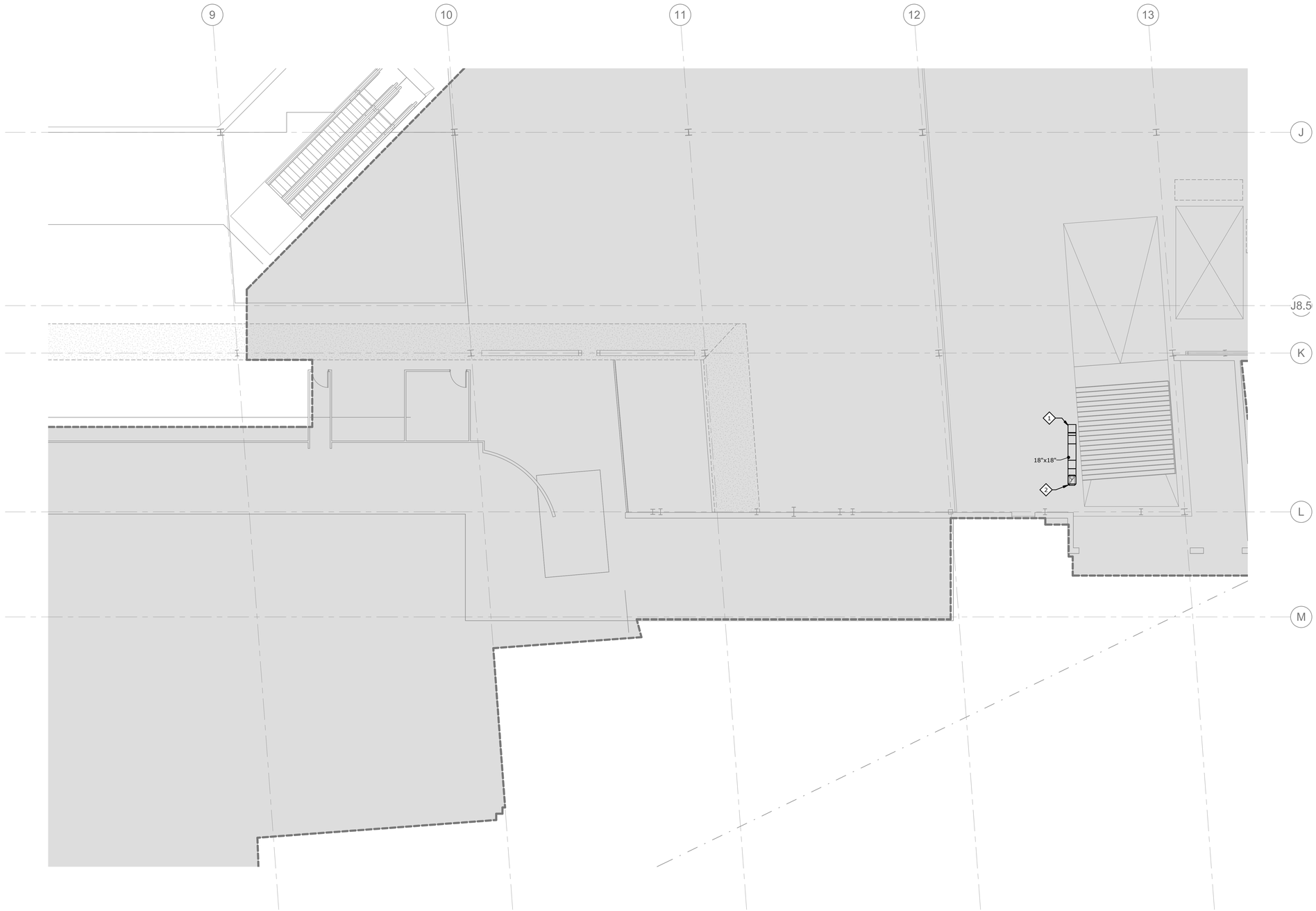
12. CONTRACTOR TO GIVE WRITTEN NOTIFICATION OF ANY INTERRUPTION OF SERVICES A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCING WORK.

SHEET NOTES:

1. ROUTE 18"X18" E/A DUCT UP THRU ROOF TO EF-1.
2. ROUTE 24"X12" E/A DUCT DOWN TO FLOOR 1.



1 MECHANICAL HVAC PLAN - FLOOR 2 AREA E
120-M-113E 1/8" = 1'-0"

NORTH

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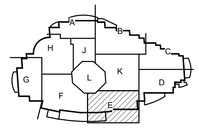

KEY PLAN

120 -
PERMIT SET
6/06/2022

SEP 20 2022

ISSUE	6/06/2022
JOB	V21009
DRAWN	Author
SCALE	1/8" = 1'-0"

REVISIONS

MECHANICAL HVAC PLAN - FLOOR 2 AREA E

120-M-113E

DRAWING PRINTED FULL SIZE (100%) = 30"x42". DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15"x20" WITH 1 1/2" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED NEARLY THIRD SIZE (27.5%) = 11.25"x15.75" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 4 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (27.5%) WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (27.5%) WILL BE NEAREST TO 1/4"=1'-0"

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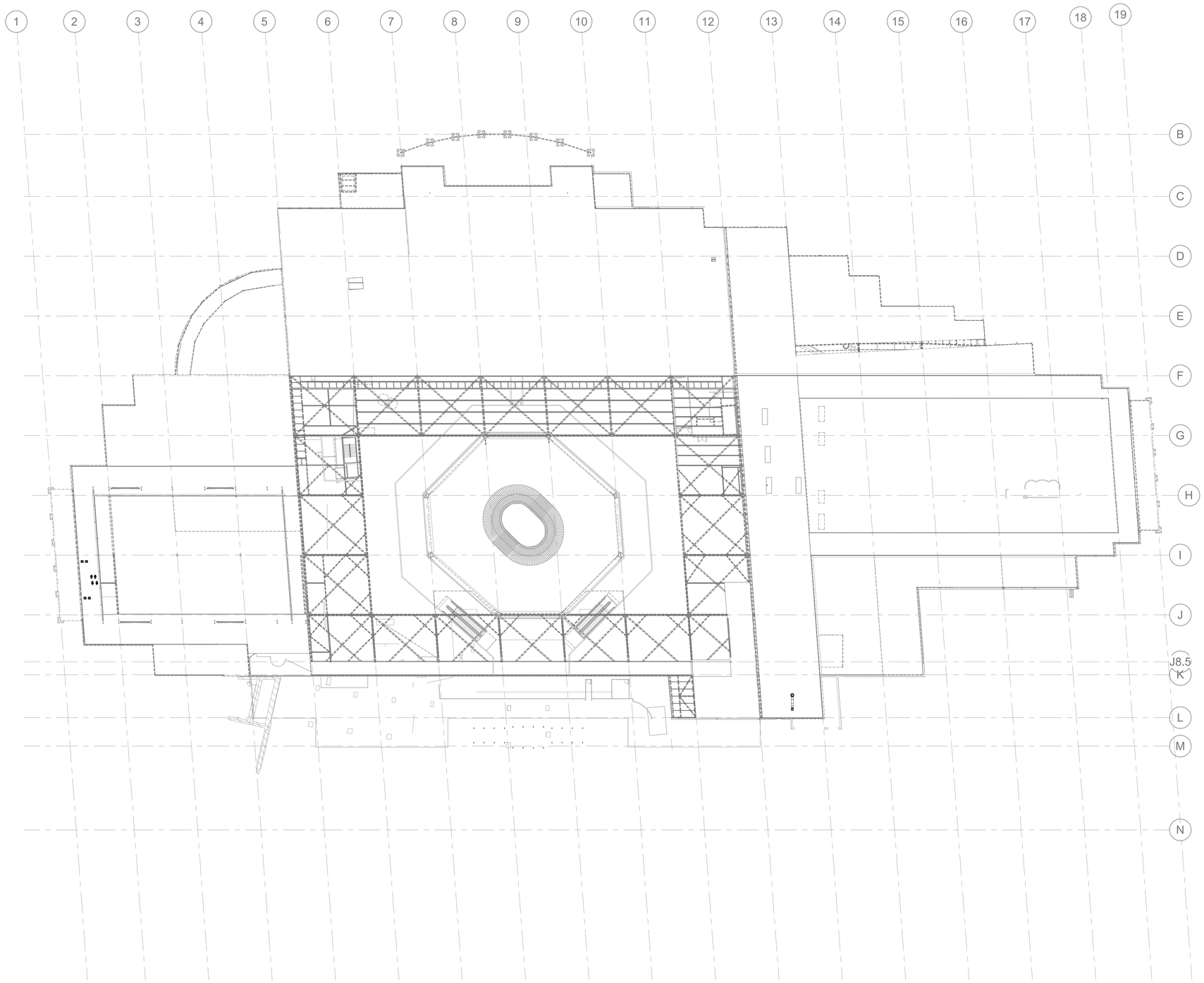

1 120-M-120 **MECHANICAL OVERALL ROOF PLAN**
1" = 30'-0"

NORTH

HARRAH's NOLA CIP

AREA E RESTROOMS (120)

Jazz Casino Company LLC
Harrah's Casino
8 Canal Street
New Orleans, Louisiana 70130
Project Director: Ryan Worrell

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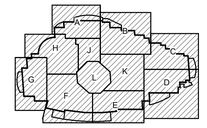

KEY PLAN

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DRAWN	Author
SCALE	1" = 30'-0"

REVISIONS

MECHANICAL OVERALL ROOF PLAN

120-M-120

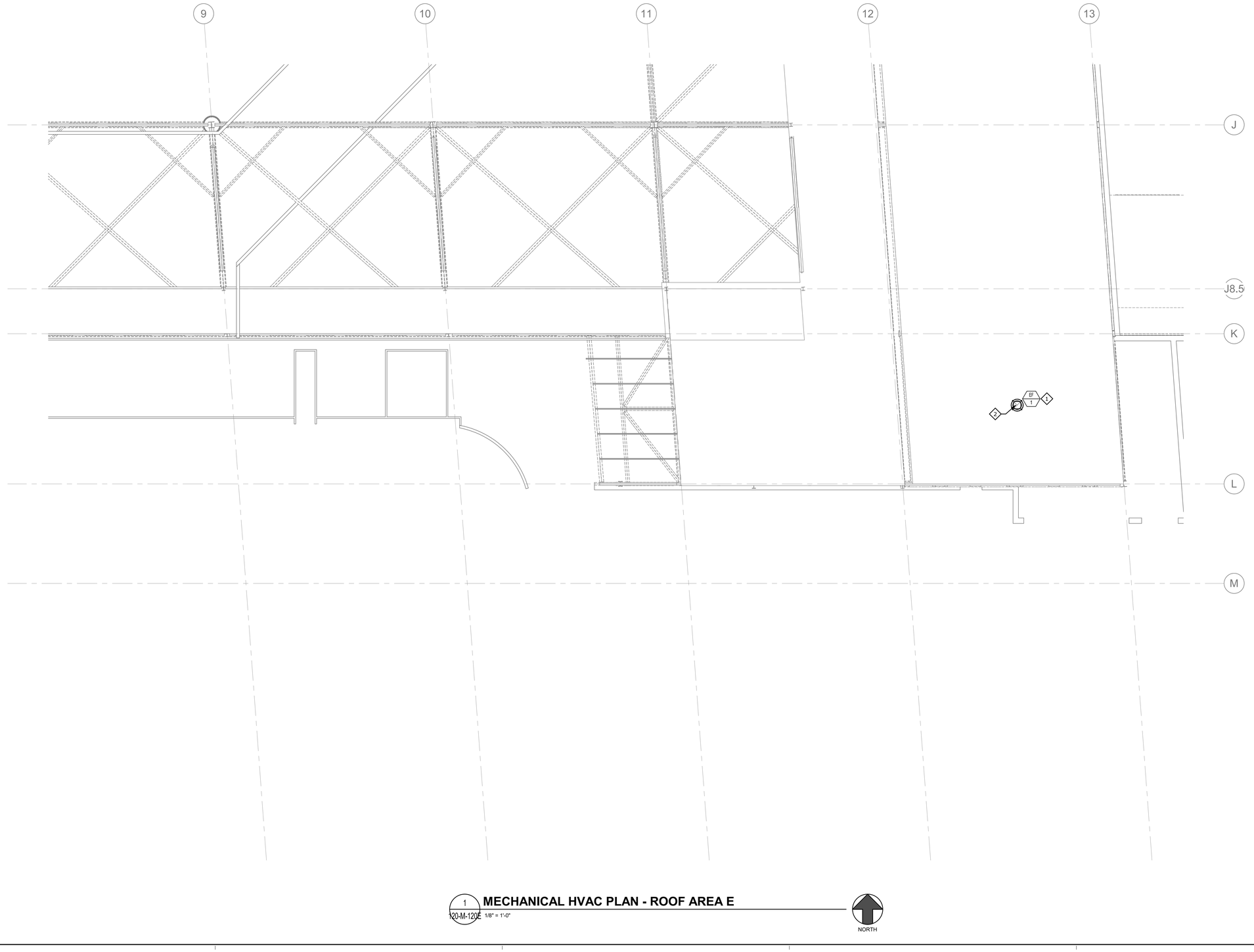
6/5/2022 2:34:45 PM DRAWING PRINTED FULL SIZE (100%) = 30"x42"; DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15" OF EXTRA SPACE ON ALL FOUR SIDES; DRAWING PRINTED NEARLY THIRD SIZE (27.5%) = 11.25"x15.5" WILL FIT TIGHTLY ON 11"x17"; INDIVIDUAL 1/2", 1/4", 1/8", 1/16" AND 1/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 2 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT (27.5%) WILL BE 3/64"=1'-0". FOR SCALES AT 3/4", 3/8", AND 3/32" TAKE THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT (27.5%) WILL BE NEARLY TO 1/4"=1'-0"

GENERAL NOTES:

1. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
2. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
3. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
4. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
6. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
7. CONTRACTOR TO COORDINATE WHAT TIME OF DAY THE WORK IS TO OCCUR, HOW MANY SHIFTS PER DAY, IF WEEKENDS, NIGHTS, HOLIDAYS ARE REQUIRED PRIOR TO SUBMITTING BID.
8. CONTRACTOR TO GIVE WRITTEN NOTIFICATION OF ANY INTERRUPTION OF SERVICES A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCING WORK.

SHEET NOTES:

1. CENTRIFUGAL EXHAUST FAN. INSTALL PER MANUFACURER'S INSTALLATION RECOMMENDATIONS. FIELD VERIFY EXACT LOCATION.
2. ROUTE 18"X18" E/A DUCT DOWN TO FLOOR 2.



1 MECHANICAL HVAC PLAN - ROOF AREA E
120-M-120E 1/8" = 1'-0"

NORTH

HARRAH's NOLA CIP

AREA E RESTROOMS (120)

Jazz Casino Company LLC
Harrah's Casino
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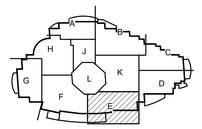

KEY PLAN

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REVISIONS

MECHANICAL HVAC PLAN - ROOF AREA E

120-M-120E

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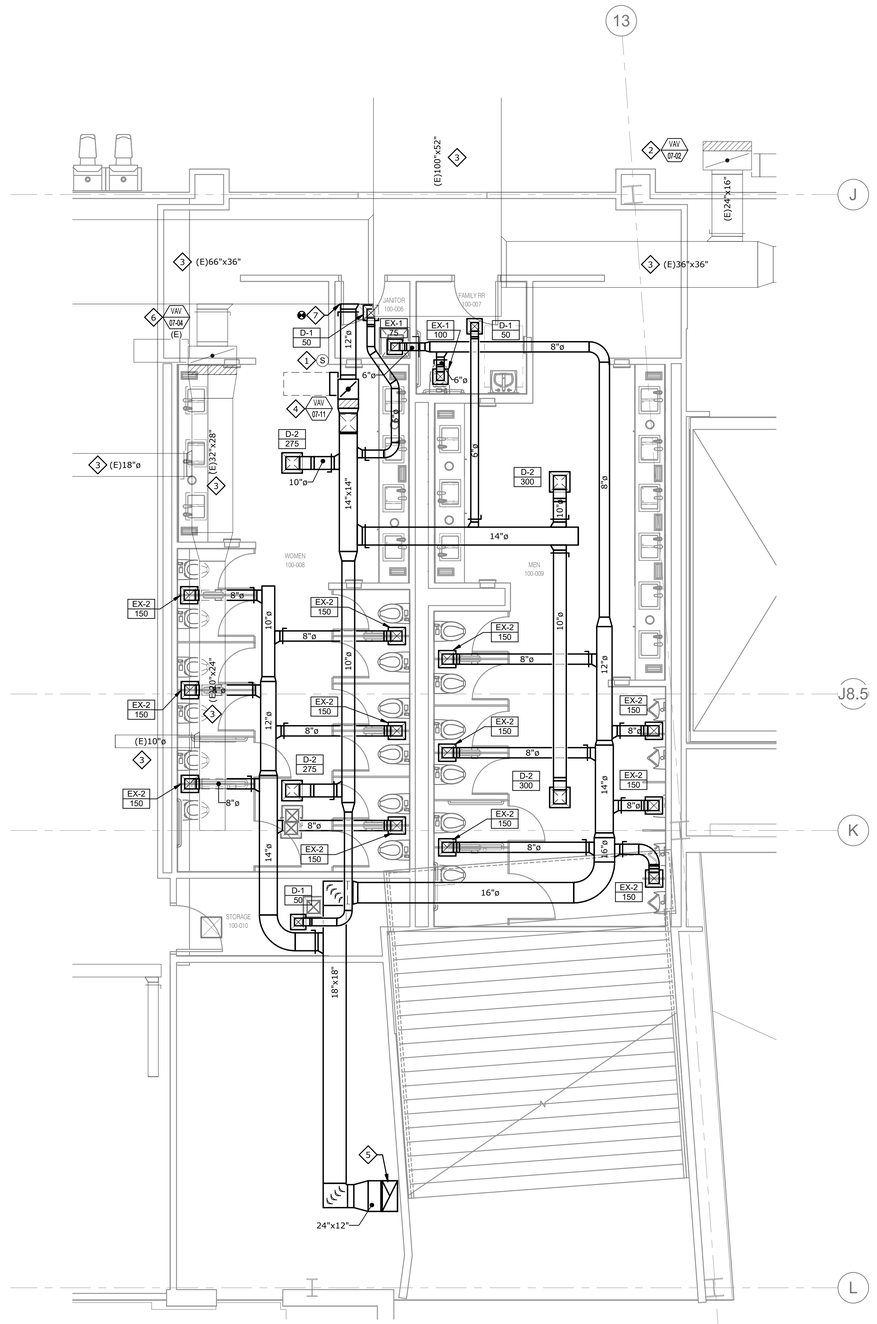

1 120-M-420 **ENLARGED MECHANICAL HVAC PLAN - FLOOR 1 AREA E**

1/4" = 1'-0"

NORTH

GENERAL NOTES:

1. REMOTE VOLUME DAMPERS (RVD) ARE REQUIRED FOR ALL DAMPERS INSTALLED ABOVE INACCESSIBLE CEILINGS. COORDINATE EXACT LOCATION OF ALL RVDS WITH ARCHITECT PRIOR TO INSTALLATION.
2. VERIFY LOCATION OF ALL THERMOSTATS/SENSORS WITH ARCHITECT PRIOR TO INSTALLATION. MOUNT ALL THERMOSTATS/SENSORS @48" A.F.F. IN ACCORDANCE WITH ADA STANDARDS (COORDINATE WITH ARCHITECTURAL DRAWINGS).
3. VERIFY AND COORDINATE FRAME AND BORDER TYPE REQUIREMENTS FOR AIR DEVICES WITH ARCHITECTURAL CEILING PLANS PRIOR TO ORDERING. COORDINATE AIR DEVICE FINISHES WITH ARCHITECT.
4. DUCT SIZES SHOWN ARE THE CLEAR INSIDE DIMENSIONS.
5. THE MECHANICAL CONTRACTOR SHALL VERIFY THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT AND ROOF PENETRATIONS WITH ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO COMMENCING WORK.
6. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATION AND ROUTING OF HVAC EQUIPMENT AND DUCTWORK WITH OTHER TRADES PRIOR TO COMMENCING WORK.
7. ALL EXHAUST OUTLETS SHALL BE LOCATED MIN. OF 10'-0" FROM ANY OUTSIDE AIR INTAKES.
8. THE CUTTING, NOTCHING AND BORING OF HOLES IN FLOOR JOIST AND WALL STUDS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE INTERNATIONAL BUILDING CODE.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING AS REQUIRED TO ACCOMMODATE HIS WORK.
10. REFER TO THE MECHANICAL DIAGRAMS THAT APPLY TO THE WORK ON THIS DRAWING. THESE DIAGRAMS PROVIDE GUIDANCE AS TO INSTALLATION INTENT AND DO NOT NECESSARILY SHOW ALL COMPONENTS REQUIRED.
11. CONTRACTOR TO COORDINATE WHAT TIME OF DAY THE WORK IS TO OCCUR, HOW MANY SHIFTS PER DAY, IF WEEKENDS, NIGHTS, HOLIDAYS ARE REQUIRED PRIOR TO SUBMITTING BID.
12. CONTRACTOR TO GIVE WRITTEN NOTIFICATION OF ANY INTERRUPTION OF SERVICES A MINIMUM OF THREE WORKING DAYS PRIOR TO COMMENCING WORK.

SHEET NOTES:

1. PROVIDE TEMPERATURE SENSOR AND WIRING (IN CONDUIT) TO UNIT INDICATED AND TO BUILDING AUTOMATION SYSTEM.
2. EXISTING VAV BOX TO REMAIN.
3. EXISTING DUCTWORK TO REMAIN.
4. NEW VAV BOX. INSTALL PER MANUFACTURER'S INSTRUCTIONS, AND VERIFY ACCESS PANEL LOCATION WITH ARCHITECT.
5. ROUTE 24"X12" E/A UP TO FLOOR 2. FIELD VERIFY EXACT ROUTING, PRIOR TO COMMENCING WORK.
6. EXISTING VAV BOX TO REMAIN, AND TO BE REBALANCED UNDER FUTURE CASINO PACKAGE (100) PHASE.
7. CONNECT NEW DUCTWORK TO EXISTING AT POINT OF CONNECTION AS INDICTED. FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING, PRIOR TO COMMENCING WORK.

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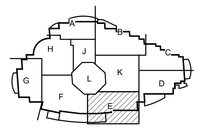

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REVISIONS

ENLARGED MECHANICAL PLANS - FOH RESTROOMS

120-M-420

DRAWING PRINTED FULL SIZE (100%) = 30"x42" | DRAWING PRINTED HALF SIZE (50%) WILL FIT ON A SHEET 15"x21" WITH 1 1/2" OF EXTRA SPACE ON ALL FOUR SIDES. DRAWING PRINTED MEANY THIRD SIZE (33 1/3%) = 11.22"x15.57" WILL FIT TIGHTLY ON 11"x17". INDIVIDUAL 1/2", 1/4", 1/8", 3/16", AND 3/32" VIEW SCALES WILL TRANSLATE BY MULTIPLYING THE DENOMINATOR BY 2 AND MAKING THE NUMERATOR 3. FOR EXAMPLE 1/8"=1'-0" AT 13"x19" WILL BE 3/64"=1'-0" FOR SCALES AT 3/4", 3/8", 3/16" AND 3/32" THE TRANSLATION IS CLOSE ENOUGH TO USE THE DENOMINATOR EQUIVALENT AND CHANGE THE NUMERATOR TO 1. EXAMPLE 3/4"=1'-0" AT 13"x19" WILL BE NEARLY TO 1/4"=1'-0"

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