

SEAL

PROJECT



CAVA_NORTH BRUNSWICK_NJ

222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/24	PRESCREEN COMMENTS
11/26/24	PERMIT SET
01/27/25	PERMIT ADDENDUM / CONSTRUCTION SET

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Captive Air

Date Modified: 02/28/24
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Scale: 3482-24-05
Project No.: FA
Drawn By: CAD File: 3482-250121- Construction Set_AB.vwx

REVISIONS

DESCRIPTION	DATE

Maryland Office
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Cava - North Brunswick, NJ
2300 U.S. 1,
North Brunswick Township, NJ 08902

DATE: 7/15/2024

DWG.#: 6917126

DRAWN BY: AJP-32

SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

FOR QUESTIONS, CALL THE Maryland Office REGION 32 PHONE: (800) 988-1081 EMAIL: reg32@econair.com

PATENT NUMBERS
AC-PSP (UNITED STATES) - US PATENT 7963830 B2.
AC-PSP WALL (CANADA) - CA PATENT 2820509.
AC-PSP ISLAND (CANADA) - CA PATENT 2520330.

HOOD INFORMATION - JOB#6917126

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)					MUA CFM	AC CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM				VEL	SP
1	33	6030 EX-2-ACPPSP-F	ECON-AIR	11' 7"	600 DEG	I	HEAVY	225	2606	4'	18'	2606	1475	-0.725'	2163	728	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT		
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	FIRE SYSTEM TYPE	SIZE			ELECTRICAL MODEL #	SWITCHES QUANTITY
1	33	CAPTRATE SOLO FILTER	8	20"	16"	85% SEE FILTER SPEC	6	L55 SERIES E26	ND	LEFT	12"x60"x30"	TANK FS	4.0/4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1249 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	33	FIELD WRAPPER 10.00' HIGH FRONT, LEFT. RIGHT END STANDOFF (FINISHED) 1' WIDE 60" LONG INSULATED. INSULATION FOR BACK OF HOOD. LEFT WIDE VERTICAL END PANEL 42" TOP WIDTH, 36" BOTTOM WIDTH, 80" HIGH INSULATED 430 SS. RIGHT WALL AS END PANEL.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							MUA	LENG	DIA	CFM	SP
1	33	Front	152'	24'	6'	MUA	12'	28"	721	0.196'	
						MUA	12'	28"	721	0.196'	
						MUA	12'	28"	721	0.196'	
						AC	6'	28"	364	0.090'	
						AC	6'	28"	364	0.090'	

GREASE DUCT & CHIMNEY SPECIFICATIONS:
PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.

IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

ECON-AIR RECOMMENDS THE USE OF LISTED, PRE-FABRICATED ROUND GREASE EXHAUST DUCT TO REDUCE STATIC PRESSURE IN THE SYSTEM, MINIMIZE INSTALLATION AND INSPECTION TIMES, AND ENSURE DUCT IS LIQUID TIGHT

HVAC DISTRIBUTION NOTE
HIGH VELOCITY DIFFUSERS OR HVAC RETURNS SHOULD NOT BE PLACED WITHIN TEN (10) FEET OF THE EXHAUST HOOD. PERFORATED DIFFUSERS ARE RECOMMENDED.

VERIFY CEILING HEIGHT
____' - ____"
HEIGHT REQUIRED TO VERIFY THAT HOOD FITS SPACE AND TO SIZE THE ENCLOSURE PANELS

CUSTOMER APPROVAL TO MANUFACTURE:

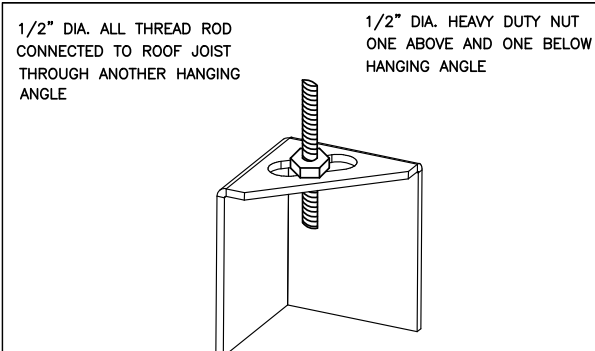
APPROVED AS NOTED

APPROVED WITH NO EXCEPTION TAKEN

REVISE AND RESUBMIT

SIGNATURE _____ DATE _____

YOUR TITLE _____



*ROD AND NUTS TO BE SUPPLIED BY INSTALLING CONTRACTOR HANGING ANGLE IS PRE-PUNCHED AT FACTORY

HANGING ANGLE DETAILS

HOOD STYLE / MODEL	450 DEGREES cfm/ft.	600 DEGREES cfm/ft.	700 DEGREES cfm/ft.
CANOPY ND2	150	200	250
WITH END PANELS (15% reduction)	127.5	170	212.5
SLOPED SND-2	228	294	-
ISLAND ND-2WI	269	300	350
NDI	346	422	475

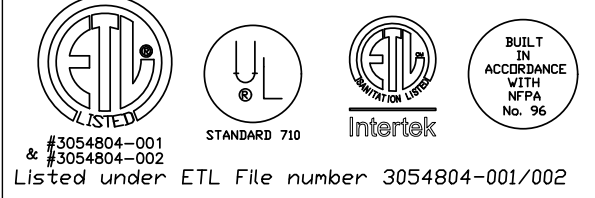
ETL HOOD LISTING DETAIL

EXHAUST CFM=LENGTH OF HOOD X CFM/LIN.FT. (LOAD)
SUPPLY CFM=EXHAUST CFM X PERCENTAGE REQUIRED
TOTAL DUCT AREA=144 X CFM(FPM)
DUCT LENGTH= TOTAL DUCT AREA DUCT DEPTH

*CAPTIVE-AIRE VENTILATOR DUCT SIZES ARE CALCULATED USING AN EXHAUST VELOCITY OF 1500-1800 FPM AND A SUPPLY VELOCITY OF 1000 FPM

CALCULATIONS UTILIZED

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:



3054804-001
3054804-002
Listed under ETL File number 3054804-001/002

BUILDING CODES

CAPTIVE-AIRE HOODS HAVE OPTIONAL CLEARANCE REDUCTION SYSTEMS AVAILABLE AS FOLLOWS:

MATERIAL	CLEARANCE REDUCTION SYSTEM
NON-COMBUSTIBLE	NONE REQUIRED
LIMITED-COMBUSTIBLE	3" UNINSULATED STANDOFF
COMBUSTIBLE	1" INSULATED STANDOFF

CLEARANCE TO COMBUSTIBLES

INSTALLATION

- ALL ELECTRICAL "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY ELECTRICAL CONTRACTORS.
- ALL PLUMBING "FIELD" CONNECTIONS AND RELATED INTERCONNECTIONS BY PLUMBING CONTRACTORS.
- HANGING BRACKETS LOCATED AND WELDED AS SHOWN ON PLANS. ALL OTHER HANGER MATERIALS PROVIDED BY INSTALLING CONTRACTORS.
- ALL CONNECTIONS FROM CAPTIVE-AIRE DUCT PER MECHANICAL CONTRACTOR'S PLANS.
- COOKING EQUIPMENT TO SHUTOFF IN EVENT OF FIRE.
- EXHAUST FANS TO TURN ON IN EVENT OF FIRE.
- ALL LIGHTS FIXTURE SHOWN INSTALLED BY CAPTIVE-AIRE ARE FACTORY PROVIDED. INTERCONNECTIONS BETWEEN HOODS AND TO SWITCHES BY ELECTRICAL CONTRACTORS.
- LAMPS FOR LIGHT FIXTURES BY INSTALLING CONTRACTORS.
- SEALING RESISTANCE ARE RESPONSIBILITY OF INSTALLING CONTRACTOR.
- INSTALLING CONTRACTORS ASSUME ALL RELATED RESPONSIBILITY FOR VERIFICATION OF DIMENSIONAL DATA CONTAINED ON THESE DOCUMENTS FOR ACCURACY, INTEGRATION, AND ADMINISTRATION OF CODE REQUIREMENTS IN EFFECT PRIOR TO AN RELEASE FOR PRODUCTION OF EQUIPMENT SHOWN.

BALANCE

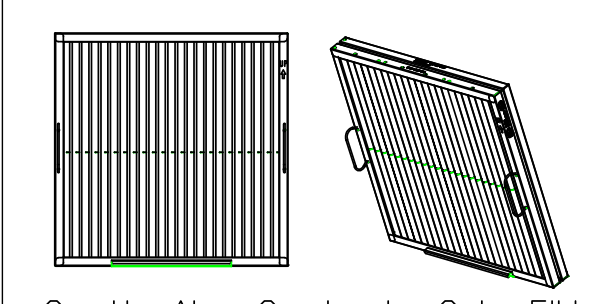
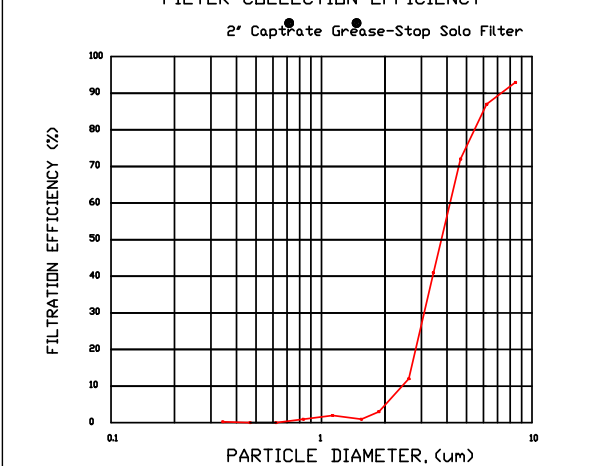
- KITCHEN HOODS MUST BE BALANCED WITH KITCHEN.
- KITCHEN SHALL BE NEGATIVE WITH RESPECT TO DINING AREA.
- RESTAURANT SHALL BE POSITIVE WITH RESPECT TO AMBIENT PRESSURE.

ADDITIONAL

- WRITTEN HOOD DIMENSIONS HAVE PRECEDENCE OVER SCALE.
- SCOPE AND "LIMITS" OF THIS DOCUMENT MUST BE RECEIVED BY THE FACTORY PRIOR TO COMMENCEMENT OF FABRICATION.

GENERAL NOTES

FILTER COLLECTION EFFICIENCY



CaptiveAir Captrate Solo Filter
ETL Listed Grease Extracting Filters
Made From 430 Stainless Steel

FILTER DETAIL

SECTION 23 00 00 - MECHANICAL GENERAL REQUIREMENTS

- PART 1 - GENERAL
1. THE TERM "TENANT," "TENANT'S CONSTRUCTION MANAGER," "OWNER," OR "OWNER'S CONSTRUCTION MANAGER" SHALL REFER TO CAVA.
 2. THE TERM "FURNISH" MEANS TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
 3. THE GENERAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM AND AS DESCRIBED IN THESE DRAWINGS.
 4. THE GENERAL CONTRACTOR SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS. EACH SUB-CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF DRAWINGS ON SITE DURING THE CONSTRUCTION PROCESS.
 5. COORDINATE WORK AS REQUIRED WITH THE LANDLORD. THE GENERAL CONTRACTOR SHALL UTILIZE LANDLORD-REQUIRED CONTRACTORS AT THE GENERAL CONTRACTOR'S EXPENSE.
- PART 2 - PRODUCTS
1. PRODUCTS SHALL BE AS DESCRIBED IN THE DRAWINGS AND AS REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM.

- PART 3 - EXECUTION
1. UNLESS DIMENSIONS HAVE BEEN PROVIDED, THE DRAWINGS ARE DIAGRAMMATIC IN NATURE, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND REQUIRED EQUIPMENT. THEY SHALL NOT BE SCALED. COORDINATE WITH THE ARCHITECTURAL DRAWINGS, TENANT VENDORS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CUTSHEETS AS REQUIRED.
 2. COMPLETE ALL WORK IN COMPLIANCE WITH THE CODES LISTED ON THE ARCHITECTURAL SHEETS INCLUDING ALL LOCAL AMENDMENTS, ALL RELEVANT NFPA CODES AND STANDARDS AND SMACNA STANDARDS.
 - A. VERIFY ALL CODE REQUIREMENTS AND LOCAL AMENDMENTS WITH THE AUTHORITY HAVING JURISDICTION PRIOR TO BID.
 - B. WHEN THERE IS A DISCREPANCY BETWEEN THE ADOPTED CODES AND THESE DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
 3. PROVIDE FIRESTOPPING AND SLEEVES AT ALL COMPONENTS PENETRATING RATED WALLS TO MAINTAIN THE FIRE RATING OF THE EXISTING SHELL SYSTEMS.
 4. COORDINATE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AS NECESSARY. PURCHASE PERMITS ASSOCIATED WITH THE WORK AND ARRANGE ALL INSPECTIONS AS REQUIRED.
 5. COORDINATE WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, THE REQUIREMENTS OF THE OWNER AND OF THE EXISTING CONDITIONS AT THE PROJECT SITE.
 6. MAINTAIN A CLEAN CONSTRUCTION SITE DURING CONSTRUCTION. CLEAN SCRAP MATERIAL AND REMOVE FROM SITE DAILY AND MAINTAIN WORKING AREA IN AN ORDERLY FASHION.
 - A. ALL SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE TENANT'S CONSTRUCTION MANAGER.
 - B. SHOP DRAWINGS SHALL BE SUBMITTED TO ALLOW FOR FIVE BUSINESS DAYS OF REVIEW TIME WITHOUT IMPACT TO THE PROJECT SCHEDULE.
 7. PROVIDE SUBMITTALS AS NOTED IN THESE SPECIFICATIONS AND AS REQUESTED BY THE TENANT'S CONSTRUCTION MANAGER.
 - A. REQUESTS FOR INFORMATION SHALL PROVIDE A DETAILED DESCRIPTION OF THE SITE CONDITION OR DISCREPANCY AND THE CONTRACTORS PROPOSED REMEDY.
 - B. REQUESTS FOR INFORMATION SHALL BE SUBMITTED TO ALLOW FOR FIVE BUSINESS DAYS OF REVIEW TIME.
 8. UPON COMPLETION OF WORK, THE GENERAL CONTRACTOR SHALL PROVIDE THE TENANT'S CONSTRUCTION MANAGER WITH A BOUND RECORD OF ALL MECHANICAL EQUIPMENT UTILIZED IN THE JOB. THE GENERAL CONTRACTOR SHALL PROVIDE THE SAME INFORMATION IN AN ELECTRONIC FORMAT AS DIRECTED BY THE OWNER. THE BINDER SHALL CONTAIN:
 - A. COVER SHEET INDICATING THE PROJECT NAME, ADDRESS AND TURNOVER DATE.
 - B. COMPANY NAME AND CONTACT INFORMATION OF THE CONTRACTORS UTILIZED FOR THE MECHANICAL SCOPE OF WORK.
 - C. CUTSHEETS, INSTALLATION MANUALS AND MAINTENANCE REQUIREMENTS FOR ALL MECHANICAL EQUIPMENT.
 9. UPON COMPLETION OF WORK, THE GENERAL CONTRACTOR SHALL PROVIDE THE TENANT'S CONSTRUCTION MANAGER A FULL SET OF DRAWINGS WITH ANY DEVIATIONS FROM THE DRAWINGS INDICATED IN RED INK.

(END OF SECTION 23 00 00)

SECTION 23 05 93 - TESTING, ADJUSTING AND BALANCING FOR HVAC

- PART 1 - GENERAL
1. QUALITY ASSURANCE: ALL TESTING AND BALANCING WORK SHALL BE COMPLETED BY AN INDEPENDENT CONTRACTOR AT THE GENERAL CONTRACTOR'S EXPENSE, CERTIFIED BY NEBB OR TABS AS A TABS TECHNICIAN. BALANCE THE SYSTEM IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING STANDARDS.
- PART 2 - PRODUCTS: N/A
- PART 3 - EXECUTION
1. AIR SYSTEMS
 - A. PROVIDE ALL LABOR AND MATERIALS REQUIRED TO BALANCE THE SYSTEM AS NOTED ON THE PLANS.
 - B. FAN SYSTEMS SHALL BE ADJUSTED SUCH THAT THE LOWEST FAN SPEED IS UTILIZED TO DELIVER THE REQUIRED CFM TO THE AIR TERMINALS.
 - C. ADJUST DAMPERS AS REQUIRED TO BALANCE THE SUPPLY, RETURN AND EXHAUST DEVICES TO 10% OF THE DESIGN RATES. ADJUST THE OUTSIDE AIR DAMPER AS REQUIRED TO OBTAIN THE MINIMUM OUTSIDE AIR REQUIREMENTS AS NOTED IN THE SCHEDULES.
 - D. RECORD THE OPERATING VOLTAGE, AMPACITY, SUPPLY/RETURN SYSTEM STATIC PRESSURES, SUPPLY/MIXED AIR TEMPERATURES (BOTH HEATING AND COOLING) AND FINAL FAN RPM.
 - E. VERIFY SYSTEM CONTROLS ARE FUNCTIONING AS INTENDED.
 - A. PROVIDE ALL LABOR AND MATERIALS REQUIRED TO BALANCE THE SYSTEM AS NOTED ON THE PLANS.
 - B. ADJUST BALANCING VALVES AS REQUIRED TO ACHIEVE A WATER FLOW WITHIN 5% OF THE DESIGN VALUE.
 - C. RECORD THE OPERATING FLOW RATE, WATER SUPPLY/RETURN TEMPERATURE CONDITIONS AND PRESSURE DROP ACROSS THE COIL.
 - D. VERIFY SYSTEM CONTROLS ARE FUNCTIONING AS INTENDED.
 2. REPORTING
 - A. THE TEST AND BALANCE AGENT SHALL PREPARE A REPORT INCLUDING THE FINAL VALUES OF THE AIR AND WATER SYSTEM BALANCING, SYSTEM DIAGRAMS, AND SYSTEM NOTES.
 - B. THE GENERAL CONTRACTOR SHALL REVIEW THE FINAL BALANCE REPORT PRIOR TO SENDING TO THE TENANT'S CONSTRUCTION MANAGER.
 - C. PROVIDE TABS REPORT TO THE LANDLORD AND THE AUTHORITY HAVING JURISDICTION AS REQUIRED.

(END OF SECTION 23 05 93)

SECTION 23 07 13 - DUCT INSULATION

- PART 1 - GENERAL
1. INSULATION SHALL BE PROVIDED ON THE FOLLOWING DUCT SERVICES:
 - A. INDOOR, CONCEALED SUPPLY AND OUTDOOR AIR.
 - B. INDOOR, CONCEALED RETURN.
 - C. INDOOR, CONCEALED OVEN AND WAREWASH EXHAUST FROM AIR TERMINAL TO PENETRATION OF BUILDING EXTERIOR.
 - D. INDOOR, CONCEALED GENERAL EXHAUST FROM AIR TERMINAL TO PENETRATION OF BUILDING EXTERIOR.
 - E. OUTDOOR, SUPPLY AND RETURN.
 2. QUALITY ASSURANCE
 - A. INSULATION INSTALLED INDOORS SHALL HAVE A FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS.
 - B. INSULATION INSTALLED OUTDOORS SHALL HAVE A FLAME-SPREAD INDEX OF 75 OR LESS, AND SMOKE-DEVELOPED INDEX OF 150 OR LESS.
- PART 2 - PRODUCTS
1. INTERIOR DUCTWORK SHALL HAVE FLEXIBLE FIBERGLASS DUCT WRAP LAMINATED TO FOIL REINFORCED KRAFT VAPOR BARRIER FACING WITH 2" STAPLING FLANGE AND AN INSTALLED THICKNESS OF 1-1/2" WITH AN R-VALUE OF 8.0.
 2. EXTERIOR DUCTWORK SHALL BE INSULATED WITH 2" THICK RIGID INSULATION WITH A MINIMUM R-VALUE OF 12.0, PROTECTED WITH ROOFING MEMBRANE.
- PART 3 - EXECUTION
1. PREPARATION: CLEAN AND DRY SURFACES. REMOVE MATERIALS THAT WILL ADVERSELY AFFECT INSULATION APPLICATION.
 2. GENERAL INSTALLATION REQUIREMENTS:
 - A. INSTALL INSULATION ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - B. INSTALL INSULATION AND ACCESSORIES AND FINISHES WITH SMOOTH, STRAIGHT AND EVEN SURFACES; FREE OF VOIDS THROUGHOUT THE LENGTH OF DUCT AND FITTINGS.
 - C. INSTALL ACCESSORIES COMPATIBLE WITH INSULATION MATERIALS AND SUITABLE FOR THE SERVICE. ACCESSORIES SHALL NOT CORRODE, SOFTEN OR OTHERWISE ATTACK INSULATION OR JACKET IN EITHER WET OR DRY STATE.
 - D. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP OF HORIZONTAL RUNS. LONGITUDINAL SEAMS AND END JOINTS SHALL BE TIGHT. BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MANUFACTURER TO MAINTAIN VAPOR BARRIER INTEGRITY.
 - E. APPLY ADHESIVES, MASTICS AND SEALANTS AT MANUFACTURER'S RECOMMENDED COVERAGE RATE.
 - F. CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT ITS NOMINAL THICKNESS.
 3. PENETRATIONS
 - A. ROOF PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH ROOF PENETRATIONS. FOR APPLICATIONS REQUIRING ONLY INDOOR INSULATION, TERMINATE INSULATION ABOVE ROOF SURFACE AND SEAL WITH JOINT SEALANT. FOR APPLICATIONS REQUIRING INDOOR AND OUTDOOR INSULATION, INSTALL INSULATION FOR OUTDOOR APPLICATIONS TIGHTLY JOINED TO INDOOR INSULATION ENDS. SEAL JOINT WITH JOINT SEALANT.
 - B. WALL PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH WALL PENETRATIONS. FOR APPLICATIONS REQUIRING ONLY INDOOR INSULATION, TERMINATE INSULATION OUTSIDE OF WALL SURFACE AND SEAL WITH JOINT SEALANT. FOR APPLICATIONS REQUIRING INDOOR AND OUTDOOR INSULATION, INSTALL INSULATION FOR OUTDOOR APPLICATIONS TIGHTLY JOINED TO INDOOR INSULATION ENDS. SEAL JOINT WITH JOINT SEALANT.
 - C. INTERIOR WALLS: INSTALL INSULATION CONTINUOUSLY THROUGH WALLS AND PARTITIONS THAT ARE NOT FIRE RATED. TERMINATE INSULATION AT FIRE DAMPER SLEEVES FOR FIRE-RATED WALL AND PARTITION PENETRATIONS. EXTERNALLY INSULATE THE DAMPER SLEEVES TO MATCH ADJACENT INSULATION AND OVERLAP DUCT INSULATION AT LEAST 2 INCHES.

(END OF SECTION 23 07 13)

SECTION 23 31 13 - METAL DUCTS

- PART 1 - GENERAL
1. SECTION INCLUDES
 - A. RECTANGULAR DUCTS AND FITTINGS
 - B. ROUND DUCTS AND FITTINGS
 - C. DOUBLE-WALL DUCTWORK AND FITTINGS
 - D. FLAT-OVAL DUCTS AND FITTINGS
 - E. SHEET METAL MATERIALS
 - F. SEALANTS AND GASKETS
 - G. HANGERS AND SUPPORTS
 2. PERFORMANCE REQUIREMENTS
 - A. DUCT CONSTRUCTION, INCLUDING SHEET METAL THICKNESS, SEAM AND JOINT CONSTRUCTION, REINFORCEMENTS AND HANGERS/SUPPORTS SHALL COMPLY WITH THE LATEST VERSION OF SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
 - B. DUCT HANGERS AND SUPPORTS SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS UNDER CONDITIONS DESCRIBED IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
 - C. SURFACES IN CONTACT WITH THE AIRSTREAM SHALL COMPLY WITH REQUIREMENTS IN ANSIASHRAE 62.1.
 3. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.
- PART 2 - PRODUCTS
1. RECTANGULAR DUCTS AND FITTINGS:
 - A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" BASED ON INDICATED STATIC-PRESSURE CLASS UNLESS NOTED OTHERWISE.
 - B. TRAVERSE JOINTS: SELECT JOINT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-1 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 - C. LONGITUDINAL SEAMS: SELECT SEAM TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 2-2 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 2. ROUND DUCTS AND FITTINGS:
 - A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 3. FLAT-OVAL DUCTS AND FITTINGS:
 - A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 4. DOUBLE-WALL DUCTWORK AND FITTINGS:
 - A. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 5. ELBOWS, TRANSITIONS, OFFSETS, BRANCH CONNECTIONS, AND OTHER DUCT CONSTRUCTION: SELECT TYPES AND FABRICATE ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 4 FOR STATIC-PRESSURE CLASS. APPLICABLE SEALING REQUIREMENTS, MATERIALS INVOLVED, DUCT SUPPORT INTERVALS AND OTHER PROVISIONS AS REQUIRED.
 6. MATERIALS: GALVANIZED SHEET STEEL, COMPLY WITH ASTM A 653/A 653M. G90 COATING DESIGNATION.
 7. SEALANTS AND GASKETS:
 - A. MAXIMUM FLAME-SPREAD INDEX: 25 (WHEN TESTED ACCORDING TO UL 723).
 - B. MAXIMUM SMOKE-DEVELOPED INDEX: 50 (WHEN TESTED ACCORDING TO UL 723).
 - C. TWO-PART TAPE SEALING SYSTEM: PROVIDE 3" TAPE CONSTRUCTED OF WOVEN COTTON FIBER IMPREGNATED WITH MINERAL GYPSUM AND MODIFIED ACRYLIC/SILICONE TO FORM A HARD, DURABLE AIRTIGHT SEAL. SEALANT SHALL BE A MODIFIED STYRENE ACRYLIC, COMPATIBLE WITH GALVANIZED SHEET STEEL, WATER, MOLD AND MILDEW RESISTANT, VOC CONTENT OF 250g/L OR LESS.
 - D. WATER BASED JOINT AND SEAM SEALANT: BRUSH ON WITH MINIMUM OF 85% SOLIDS CONTENT, MINIMUM SHORE A HARDNESS OF 20, COMPATIBLE WITH GALVANIZED SHEET STEEL, WATER, MOLD AND MILDEW RESISTANT, VOC CONTENT OF 75g/L (LESS WATER).
6. HANGERS AND SUPPORT:
- A. RECTANGULAR DUCTWORK: HANGER RODS SHALL BE CADMIUM-PLATED STEEL RODS AND NUTS. STRAP AND ROD SIZE SHALL COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," TABLE 5-1. SECURE TO DUCT WITH SHEET METAL SCREWS COMPATIBLE WITH DUCT MATERIALS.
 - B. ROUND DUCTWORK: SUPPORT WITH AIRCRAFT CABLE COMPLYING WITH ASTM A 603. CONNECT ENDS WITH CADMIUM-PLATED STEEL ASSEMBLIES WITH BRACKETS, SWIVEL AND BOLTS DESIGNED FOR DUCT HANGER SERVICE.
 - C. EXTERIOR DUCTWORK SHALL BE PROVIDED WITH DUCT SUPPORTS, SPACED PER THE MANUFACTURER'S RECOMMENDATIONS.
- PART 3 - EXECUTION
1. INSTALLATION
 - A. DRAWING PLANS, SCHEMATICS AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DUCTWORK ROUTING. COORDINATE INSTALLATION WITH WORK OF ALL OTHER TRADES AND EXISTING CONDITIONS. ACCOMMODATE DUCT HANGER, RODS, INSULATION AND OTHER REQUIREMENTS AS REQUIRED.
 - B. DUCT DIMENSIONS ON PLANS INDICATE DIMENSIONS OF THE INTERNAL FREE AREA.
 - C. INSTALL DUCTS ACCORDING TO SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" IN MAXIMUM PRACTICAL LENGTHS WITH FEWEST POSSIBLE JOINTS.
 - D. UNLESS NOTED OTHERWISE, INSTALL DUCTS PARALLEL AND PERPENDICULAR TO BUILDING LINES.
 - E. INSTALL DUCTS WITH SLEEVES AS REQUIRED TO ACCOMMODATE THE INSTALLATION OF INSULATION.
 - F. INSTALLATION OF EXPOSED DUCTWORK: PROTECT DUCTWORK FROM DAMAGE. REPAIR/REPLACE ALL DAMAGED SECTIONS AND FINISHED WORK. TRIM SEALANTS FLUSH WITH METAL. CREATE A SMOOTH AND UNIFORM EXPOSED BEAD. DO NOT USE TWO-PART TAPING SYSTEM. MAINTAIN CONSISTENCY, SYMMETRY AND UNIFORMITY IN THE INSTALLATION.
 - G. ALL DUCT COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING COOLING AND VENTILATION EQUIPMENT.
 2. DUCT SEALING: CONSTRUCT DUCTS WITH 2 INCH POSITIVE AND NEGATIVE DUCT PRESSURE CLASSIFICATIONS. CONSTRUCT TO SMACNA SEAL CLASS A.
 3. HANGER AND SUPPORT INSTALLATION: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," CHAPTER 5. HANGERS EXPOSED TO VIEW SHALL BE AIRCRAFT IN ACCORDANCE WITH THE MECHANICAL DETAILS.
 4. CONNECTIONS: MAKE CONNECTIONS TO EQUIPMENT WITH FLEXIBLE CONNECTORS COMPLYING WITH SECTION 23 33 00 "AIR DUCT ACCESSORIES." COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR BRANCH, OUTLET AND INLET, AND TERMINAL UNIT CONNECTIONS.
 5. CLEANING: CLEAN ALL EXISTING DUCTWORK TO REMAIN PRIOR TO TESTING, ADJUSTING AND BALANCING. REMOVE ALL SURFACE CONTAMINANTS AND DEPOSITS ON AIR OUTLETS AND INLETS PRIOR TO PUNCH.
 6. PROVIDE AIR BALANCE IN ACCORDANCE WITH SECTION 23 05 93 "TESTING, ADJUSTING, AND BALANCING FOR HVAC."
 7. DUCT ELBOWS
 - A. RECTANGULAR: PROVIDE MITERED ELBOWS WITH HOLLOW-FORMED, DOUBLE-THICKNESS TURNING VANES OR RADIUSED ELBOWS WITH INSIDE RADIUS NO SMALLER THAN 1/2 OF THE DUCT WIDTH.
 - B. ROUND DUCT ELBOWS: PROVIDE RADIUSED ELBOWS WITH AN INSIDE RADIUS NO SMALLER THAN 1/2 OF THE DUCT WIDTH.
 8. BRANCH CONFIGURATION
 - A. RECTANGULAR: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 4-6. RECTANGULAR MAIN TO RECTANGULAR BRANCH SHALL BE A 45-DEGREE ENTRY. RECTANGULAR MAIN TO ROUND BRANCH SHALL BE A SPIN-IN FITTING.
 - B. ROUND: COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," FIGURE 3-5 AND FIGURE 3-6. PROVIDE 90 DEGREE TAP.

(END OF SECTION 23 31 13)

SECTION 23 33 00 - AIR DUCT ACCESSORIES

- PART 1 - GENERAL
1. SECTION INCLUDES
 - A. BACKDRAFT AND PRESSURE RELIEF DAMPERS
 - B. MANUAL VOLUME DAMPERS
 - C. CONTROL DAMPERS
 - D. FIRE DAMPERS
 - E. TURNING VANES
 - F. FLEXIBLE CONNECTORS
 - G. DUCT ACCESSORY HARDWARE
 2. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.
- PART 2 - PRODUCTS
1. COMPLY WITH NFPA 90A AND WITH NFPA 90B.
 2. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, THICKNESS AND DUCT CONSTRUCTION METHODS UNLESS NOTED OTHERWISE. SHEET METAL MATERIALS SHALL BE FREE FROM PITTING, SEAM MARKS, ROLLER MARKS, STAINS, DISCOLORATIONS AND OTHER IMPERFECTIONS.
 3. GALVANIZED SHEET STEEL: COMPLY WITH ASTM A 653/A 653M. G90 COATING DESIGNATION.
 4. BACKDRAFT AND PRESSURE RELIEF DAMPERS: GRAVITY BALANCED, AS SPECIFIED ON THE PLANS.
 5. MANUAL VOLUME DAMPERS: STANDARD LEAKAGE RATING WITH LINKAGE OUTSIDE OF AIRFRAME. SUITABLE FOR HORIZONTAL OR VERTICAL APPLICATIONS
 - A. FRAME: HAT SHAPED WITH MITERED AND WELDED CORNERS. FLANGELESS FRAMES FOR INSTALLING IN DUCTS.
 - B. BLADES: RECTANGULAR DAMPERS SHALL BE MULTIPLE BLADES WITH OPPOSED-BLADE DESIGN. ROUND DAMPERS SHALL BE SINGLE BLADE.
 - C. BLADE AXLES: GALVANIZED STEEL.
 - D. BEARINGS: MOLDED SYNTHETIC.
 - E. TIE BARS AND BRACKETS: GALVANIZED STEEL.
 - F. JACKSHAFT: 1/2" DIAMETER CONSTRUCTED OF GALVANIZED STEEL WITHIN PIPE-BEARING ASSEMBLY WITH SUPPORTS. LENGTH AND NUMBER OF MOUNTINGS AS REQUIRED.
 - G. HARDWARE: ZINC-PLATED, DIE CAST CORE WITH DIAL HANDLE AND A LOCKING NUT.
 6. CONTROL DAMPERS
 - A. FRAME: HAT SHAPED WITH MITERED AND WELDED CORNERS. FLANGELESS FRAMES FOR INSTALLING IN DUCTS.
 - B. BLADES: RECTANGULAR DAMPERS SHALL BE MULTIPLE BLADES WITH OPPOSED-BLADE DESIGN. ROUND DAMPERS SHALL BE SINGLE BLADE. BLADE EDGING SHALL BE REPLACEABLE RUBBER SEALS.
 - C. BLADE AXLES: 1/2" DIAMETER. BLADE LINKAGE HARDWARE OF ZINC-PLATED STEEL AND BRASS; ENDS SEALED AGAINST BLADE BEARING.
 - D. BEARINGS: MOLDED SYNTHETIC.
 7. FIRE DAMPERS
 - A. TYPE: DYNAMIC, RATED AND LABELED ACCORDING TO UL 555.
 - B. CLOSING RATINGS IN DUCTS UP TO 4" STATIC PRESSURE CLASS AND MAXIMUM 2,000 FPM VELOCITY.
 - C. FIRE RATING: 1-1/2 HOURS, OR AS NOTED IN THE SCHEDULES.
 - D. FRAME: CURTAIN TYPE WITH BLADES INSIDE AIRSTREAM. CONSTRUCTED OF GALVANIZED STEEL.
 - E. MOUNTING SLEEVE: FACTORY FURNISHED.
 - F. MOUNTING ORIENTATION: AS NOTED ON PLANS.
 - G. BLADES: INTERLOCKING, CONSTRUCTED OF GALVANIZED STEEL.
 - H. HEAT-RESPONSIVE DEVICE: 165 DEGREE F RATED FUSIBLE LINK OR AS NOTED IN THE SCHEDULES.
 8. TURNING VANES: CURVED BLADES OF GALVANIZED SHEET STEEL PROVIDED WITH SUPPORT BARS PERPENDICULAR TO BLADE SET SUITABLE FOR DUCT MOUNTING. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE," SINGLE WALL CONSTRUCTION.
 9. FLEXIBLE CONNECTORS: CONSTRUCTED OF FLAME-RETARDANT OR NONCOMBUSTIBLE FABRIC. FABRIC SHALL BE A GLASS FABRIC, DOUBLE COATED WITH NEOPRENE. COMPLY WITH UL 181 CLASS 1. FACTORY-FABRICATED WITH A FABRIC STRIP 3-1/2 INCHES WIDE ATTACHED TO TWO STRIPS OF 2-3/4 INCH THICK GALVANIZED SHEET STEEL.
- PART 3 - EXECUTION
1. INSTALLATION
 - A. INSTALL DUCT ACCESSORIES ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE."
 - B. INSTALL VOLUME DAMPERS AT POINTS NOTED ON PLANS AND AS REQUIRED FOR SYSTEM BALANCING. WHERE DAMPERS ARE INSTALLED IN DUCTS WITH DUCT LINER, INSTALL DAMPERS WITH HAT CHANNELS OF SAME DEPTH AS LINER AND TERMINATE LINER WITH NOSING AT HAT CHANNEL.
 - C. WHERE DAMPERS ARE INSTALLED IN WRAPPED DUCT, PROVIDE INSULATION STAND-OFFS AS REQUIRED.
 - D. SET DAMPERS TO FULLY OPEN POSITION BEFORE TESTING, ADJUSTING AND BALANCING.
 - E. INSTALL TEST HOLES AT FAN INLETS AND OUTLETS AND WHERE REQUIRED FOR TESTING AND BALANCING PURPOSES.
 - F. INSTALL FIRE DAMPERS ACCORDING TO UL LISTING.
 - G. INSTALL FLEXIBLE CONNECTORS TO CONNECT DUCTS TO EQUIPMENT.
 2. TESTS AND INSPECTIONS
 - A. OPERATE DAMPERS TO VERIFY FULL RANGE OF MOVEMENT.
 - B. OPERATE FIRE DAMPERS TO VERIFY FULL RANGE OF MOVEMENT AND VERIFY THAT PROPER HEAT-RESPONSE DEVICE IS INSTALLED.
 - C. INSPECT TURNING VANES FOR PROPER AND SECURE INSTALLATION.

(END OF SECTION 23 33 00)

SECTION 23 33 46 - FLEXIBLE DUCTS

- PART 1 - GENERAL
1. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.
- PART 2 - PRODUCTS
1. COMPLY WITH NFPA 90A AND NFPA 90B.
 2. COMPLY WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE" FOR ACCEPTABLE MATERIALS, MATERIAL THICKNESS AND DUCT CONSTRUCTION METHODS UNLESS NOTED OTHERWISE.
 3. COMPLY WITH ASTM E 98E 90A.
 4. INSULATED, FLEXIBLE DUCT UL 181, CLASS 1. FACTORY FABRICATED AND INSULATED. PROVIDED WITH INTERIOR LINER, FIBROUS-GLASS INSULATION AND VAPOR-BARRIER FILM.
 - A. PRESSURE RATING: 10" W.G. POSITIVE.
 - B. MAXIMUM VELOCITY: 4,000 FPM.
 - C. INSULATION R-VALUE: R6.0
 5. FLEXIBLE DUCT CONNECTORS SHALL BE NYLON STRAPS IN SIZES 3 THROUGH 18 INCHES TO SUIT DUCT SIZE.
- PART 3 - EXECUTION
1. INSTALLATION
 - A. INSTALL FLEXIBLE DUCTS ACCORDING TO APPLICABLE DETAILS IN SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE."
 - B. INSTALL IN INDOOR APPLICATIONS ONLY. FLEXIBLE DUCTWORK IS ONLY PERMITTED TO CONNECT TO SUPPLY-AIR GRILLES, REGISTERS AND DIFFUSERS. MAXIMUM LENGTH SHALL BE 60 INCHES.
 - C. CONNECT FLEXIBLE DUCTS TO METAL DUCTS WITH DRAW BANDS AND TAPE.
 - D. MAXIMUM VELOCITY: 4,000 FPM.
 - E. DO NOT BEND DUCTS ACROSS SHARP CORNERS.
 - F. BENDS OF FLEXIBLE DUCTING SHALL NOT EXCEED A MINIMUM OF ONE DUCT DIAMETER.
 - G. AVOID CONTACT WITH METAL FIXTURES, WATER LINES, PIPES, ADJACENT DUCTWORK OR CONDUIT.
 - H. INSTALL FLEXIBLE DUCTS IN A DIRECT LINE, WITHOUT SAGS, TWISTS OR TURNS.
 - I. SUSPEND FLEXIBLE DUCTS WITH BANDS 1-1/2 INCHES WIDE AND SPACED A MAXIMUM OF 48 INCHES APART. PROVIDE ADDITIONAL SUPPORT AT BENDS. DUCTS MAY REST ON CEILING JOISTS OR TRUSS SUPPORTS. SPACING BETWEEN THESE ELEMENTS SHALL NOT EXCEED 48 INCHES.

(END OF SECTION 23 33 46)

SECTION 23 34 01 - CEILING AND INLINE FANS

- PART 1 - GENERAL
1. SECTION REQUIREMENTS
 - A. SUBMITTALS: PROVIDE SHOP DRAWINGS INDICATING THE DIMENSIONS, WEIGHTS, REQUIRED CLEARANCES, COMPONENTS, ELECTRICAL CHARACTERISTICS.
 - B. WARRANTY: SUBMIT A WRITTEN WARRANTY, SIGNED BY THE MANUFACTURER AGREEING TO REPAIR OR REPLACE COMPONENTS OF FANS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN THE MANUFACTURER'S STANDARD WARRANTY PERIOD.
- PART 2 - PRODUCTS
1. DESCRIPTION
 - A. HIGH-CAPACITY FAN CAPABLE OF BEING MOUNTED IN THE CEILING OR INLINE ORIENTATION.
 2. MANUFACTURERS: AS NOTED IN THE MECHANICAL SCHEDULES. NO SUBSTITUTIONS SHALL BE PERMITTED.
 3. CHARACTERISTICS: PROVIDED WITH:
 - A. FAN: CONSTRUCTED OF GALVANIZED STEEL, FORWARD CURVED AND DIRECT DRIVE.
 - B. HOUSING: CONSTRUCTED OF 20 GAUGE GALVANIZED STEEL WITH 1/2" THICK ACOUSTIC INSULATION. PROVIDED WITH AN AUTOMATIC BACKDRAFT DAMPER ON THE DISCHARGE SIDE OF THE FAN LOCATED WITHIN THE DUCT CONNECTOR. PROVIDED WITH TWO 8-POSITION MOUNTING BRACKETS.
 - C. WHEEL: FORWARD CURVED, DYNAMICALLY BALANCED, POLYMERIC CENTRIFUGAL WHEEL ATTACHED TO THE MOTOR SHAFT WITH SET SCREWS.
 - D. MOTOR: OPEN DRIP MOTOR, PERMANENTLY LUBRICATED, RATED FOR CONTINUOUS DUTY, THERMALLY PROTECTED AND MOUNTED ON VIBRATION ISOLATORS. DISCONNECT SHALL BE INTERNAL AND OF THE PLUG TYPE.
 - E. ACCESSORIES: AS NOTED ON THE MECHANICAL SCHEDULES.
- PART 3 - EXECUTION
1. INSTALLATION
 - A. INSTALL CEILING-MOUNTED UNITS LEVEL, PLUMB AND SQUARE WITH CEILINGS AND WALLS.
 - B. SUPPORT CEILING-MOUNTED UNITS SO THEY WILL NOT FALL OR SAG. SUPPORT SUCH THAT THAT THE CEILING WILL NOT BE DEFORMED AFTER MAINTENANCE.
 - C. INSTALL INLINE UNITS PER THE MANUFACTURER'S INSTRUCTIONS.
 2. CONNECTIONS
 - A. COMPLY WITH DUCT INSTALLATION REQUIREMENTS SPECIFIED IN OTHER HVAC SECTIONS. DRAWINGS INDICATE GENERAL ARRANGEMENTS OF DUCTS.
 - B. WHERE INSTALLING ADJACENT TO OTHER BUILDING SYSTEMS, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
 - C. CONNECT DUCTWORK TO FAN WITH FLEXIBLE DUCT CONNECTORS.
 - D. CONNECT ELECTRICAL WIRING IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 3. FIELD QUALITY CONTROL
 - A. AFTER INSTALLING FANS, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.
 - B. CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATIONS.
 - C. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.

(END OF SECTION 23 34 01)

SECTION 23 34 02 - POWER VENTILATORS

- PART 1 - GENERAL
1. SECTION REQUIREMENTS
 - A. UNITS FURNISHED BY OWNER, INSTALLED BY GENERAL CONTRACTOR.
- PART 2 - PRODUCTS
1. DESCRIPTION: UNITS FURNISHED BY OWNER, INSTALLED BY GENERAL CONTRACTOR.
- PART 3 - EXECUTION
1. INSTALLATION: GENERAL CONTRACTOR TO INSTALL.
 - A. ROOF CURB: INSTALL ON ROOF STRUCTURE, LEVEL, SECURE, PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - B. UNIT SUPPORT: INSTALL UNIT LEVEL ON STRUCTURAL CURBS PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 2. CONNECTIONS
 - A. COMPLY WITH DUCT INSTALLATION REQUIREMENTS SPECIFIED IN OTHER HVAC SECTIONS. DRAWINGS INDICATE GENERAL ARRANGEMENTS OF DUCTS.
 - B. INSTALL DUCTS TO TERMINATION TO TOP OF ROOF CURB. REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB. CONNECT TO FANS WITH FLEXIBLE DUCT CONNECTORS.
 - C. WHERE INSTALLING PIPING ADJACENT TO FANS, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
 - D. CONNECT ELECTRICAL WIRING IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - E. GROUND EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 3. FIELD QUALITY CONTROL
 - A. AFTER INSTALLING FANS, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.
 - B. INSPECT OR AND REMOVE SHIPMENT BOLTS, BLOCKS AND TIE-DOWN STRAPS.
 - C. CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATIONS.
 - D. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
 - E. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.

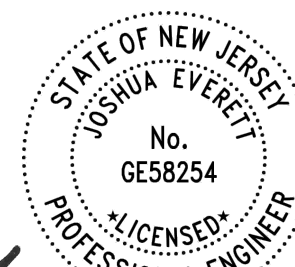
(END OF SECTION 23 34 02)

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SEAL



PROJECT

CAVA

CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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MECHANICAL SPECIFICATIONS

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Scale:	AS NOTED
Project No.:	240003
Drawn By:	KLM
Checked By:	JAE

M010

SECTION 23 34 33 - AIR CURTAINS

- PART 1 - GENERAL
- SECTION REQUIREMENTS
 - SUBMITTALS: PROVIDE SHOP DRAWINGS INDICATING THE HEATING WATTAGE, ELECTRICAL CHARACTERISTICS, AIRFLOW CHARACTERISTICS, DIMENSIONS, WEIGHTS AND ACCESSORIES.
 - WARRANTY: PROVIDE MANUFACTURER'S WARRANTY EFFECTIVE FOR FIVE YEARS FOR UNHEATED UNITS, AND TWO YEARS FOR HEATED UNITS. THE GENERAL CONTRACTOR SHALL PROVIDE A 12 MONTH WARRANTY ON ALL WORKMANSHIP.
- PART 2 - PRODUCTS
- MANUFACTURERS: AS NOTED IN THE MECHANICAL SCHEDULES.
 - CHARACTERISTICS, PROVIDED WITH:
 - CABINET: ALUMINIZED STEEL CABINET WITH STAINLESS STEEL RIVETED CONSTRUCTION AND WHITE POWDER COATED FINISH.
 - MOUNTING: PROVIDE WALL OR SUSPENDED MOUNTING AS REQUIRED.
 - SERVICE ACCESS: REMOVABLE SCREEN AND REMOVABLE BOTTOM ACCESS PANEL.
 - MOTORS: DIRECT DRIVE, RESILIENT MOUNTED, RATED FOR CONTINUOUS DUTY WITH INTERNAL THERMAL-OVERLOAD PROTECTION AND PERMANENTLY LUBRICATED SEALED BALL BEARINGS.
 - FANS: BALANCED, FORWARD CURVED CROSS FLOW MADE OF ALUMINUM.
 - DISCHARGE NOZZLES: PROVIDE UNIFORM VELOCITY ACROSS WIDTH OF AIR CURTAIN.
 - INLET: PROVIDED WITH PERFORATED PATTERN SCREEN.
 - HEATING ELEMENTS (WHEN NOTED ON PLANS): UL-APPROVED, FACTORY-MOUNTED, FACTORY WIRED, THERMALLY PROTECTED, IN GALVANIZED STEEL FRAME. HELICAL COIL DESIGN WITH THERMAL CUTOFF.
 - CONTROLS:
 - PROVIDE ALL ACCESSORIES AS NOTED IN THE SCHEDULES.
 - MANUAL SWITCH: FACTORY INSTALLED "FAN-OFF-FAN & HEAT" AND "HIGH-LOW" SWITCHES.
 - CONTROL PACKAGE: AIR CURTAIN SHALL TURN ON WHEN DOOR IS OPENED AND SHUT OFF WHEN DOOR IS CLOSED.
 - OUTDOOR AIR TEMPERATURE SENSOR (WHEN PROVIDED) WITH A HEATING ELEMENT AND INDICATED ON PLANS).
- PART 3 - EXECUTION
- INSTALLATION
 - INSTALL AIR CURTAIN WHERE INDICATED ON DRAWINGS IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE CLEARANCE TO PERMIT SERVICING AND MAINTENANCE.
 - INSTALL LEVEL, PLUMB AND AS CLOSE AS PRACTICAL TO TOP OF OPENING AND FACE OF WALL.
 - INSTALL ALL ACCESSORIES.
 - CONNECTIONS
 - CONNECT ELECTRICAL WIRING IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - GROUND EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - FIELD QUALITY AND CONTROL
 - TEST AND OPERATE AIR CURTAIN TO VERIFY PERFORMANCE AS INDICATED.
 - ADJUSTING
 - ADJUST MOTOR AND FAN SPEED TO PERFORM AS INDICATED.
 - ADJUST NOZZLES TO DEFLECT AIR OUTWARD UNLESS NOTED OTHERWISE.

(END OF SECTION 23 34 33)

SECTION 23 37 13 - GRILLES, REGISTERS & DIFFUSERS

- PART 1 - GENERAL
- SECTION REQUIREMENTS
 - SUBMITTALS: NONE REQUIRED.
- PART 2 - PRODUCTS
- GRILLES: MANUFACTURER, MODEL, MATERIAL, FINISH, MOUNTING AND ACCESSORIES SHALL BE AS NOTED IN THE MECHANICAL SCHEDULES. NO SUBSTITUTIONS SHALL BE PERMITTED.
 - REGISTERS: MANUFACTURER, MODEL, MATERIAL, FINISH, MOUNTING AND ACCESSORIES SHALL BE AS NOTED IN THE MECHANICAL SCHEDULES. NO SUBSTITUTIONS SHALL BE PERMITTED.
 - DIFFUSERS: MANUFACTURER, MODEL, MATERIAL, FINISH, MOUNTING AND ACCESSORIES SHALL BE AS NOTED IN THE MECHANICAL SCHEDULES. NO SUBSTITUTIONS SHALL BE PERMITTED, UNLESS OTHERWISE NOTED. ALL CEILING DIFFUSERS SHALL BE FOUR-WAY.
- PART 3 - EXECUTION
- INSTALLATION
 - INSTALL GRILLES, REGISTERS & DIFFUSERS LEVEL AND PLUMB.
 - INSTALL GRILLES, REGISTERS & DIFFUSERS AS INDICATED. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION.
 - INSTALL GRILLES, REGISTERS & DIFFUSERS WITH AIRTIGHT CONNECTIONS TO DUCTS AND TO ALLOW SERVICE AND MAINTENANCE OF DAMPERS, EXTRACTORS AND OTHER ACCESSORIES.
 - ALL AIR DEVICE COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC OR SHEET METAL UNTIL THE FINAL START-UP OF THE HEATING COOLING AND VENTILATION EQUIPMENT.
 - WHEN INDICATED ON THE PLANS, PAINT THE GRILLES, REGISTERS & DIFFUSERS PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH AN ENAMEL PAINT, COLOR AS INDICATED.
 - AFTER INSTALLATION, ADJUST REGISTERS & DIFFUSERS TO AIR PATTERNS (IF NOTED) OR AS DIRECTED BY THE TENANT'S CONSTRUCTION MANAGER PRIOR TO STARTING AIR BALANCING.

(END OF SECTION 23 37 13)

SECTION 23 74 16 - PACKAGED ROOFTOP AIR-CONDITIONING UNITS

- PART 1 - GENERAL
- SECTION REQUIREMENTS
 - UNITS FURNISHED BY OWNER; INSTALLED BY GENERAL CONTRACTOR.
- PART 2 - PRODUCTS
- DESCRIPTION
 - UNITS FURNISHED BY OWNER; INSTALLED BY GENERAL CONTRACTOR.
- PART 3 - EXECUTION
- INSTALLATION
 - ROOF CURB: INSTALL ON ROOF STRUCTURE, LEVEL, SECURE, PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - UNIT SUPPORT: INSTALL UNIT LEVEL ON STRUCTURAL CURBS PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - PROVIDE LABELING FOR ALL HVAC EQUIPMENT USING ENGRAVED PHENOLIC PLATES OR AS REQUIRED BY THE LANDLORD.
 - CONNECTIONS
 - COMPLY WITH DUCT INSTALLATION REQUIREMENTS SPECIFIED IN OTHER HVAC SECTIONS. DRAWINGS INDICATE GENERAL ARRANGEMENTS OF DUCTS.
 - INSTALL DUCTS TO TERMINATION TO TOP OF ROOF CURB. REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB. CONNECT SUPPLY AND RETURN DUCTS TO RTUS WITH FLEXIBLE DUCT CONNECTORS.
 - INSTALL CONDENSATE DRAIN WITH TRAP AND INDIRECT CONNECTION AS NOTED ON THE PLANS.
 - WHERE INSTALLING PIPING ADJACENT TO RTUS, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
 - CONNECT GAS PIPING TO BURNER, FULL SIZE OF GAS TRAIN INLET. CONNECT WITH UNION, SHUTOFF VALVE AND DIRT LEG WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.
 - CONNECT ELECTRICAL WIRING IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - GROUND EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - FIELD QUALITY CONTROL
 - AFTER INSTALLING RTUS, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.
 - INSPECT AND REMOVE SHIPPING BOLTS, BLOCKS, TIE-DOWN STRAPS AND ANY OTHER SHIPPING RELATED MATERIALS INSIDE OR OUTSIDE OF THE UNIT PRIOR TO OPERATION.
 - CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATIONS.
 - TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
 - OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
 - CLEAN FILTER HOUSINGS AND CHANGE FILTERS PRIOR TO AIR BALANCE AND IMMEDIATELY PRIOR TO TURNOVER.

(END OF SECTION 23 74 16)

SECTION 23 74 30 - ROOF-MOUNTED MAKEUP AIR UNIT

- PART 1 - GENERAL
- SECTION REQUIREMENTS
 - UNITS FURNISHED BY OWNER; INSTALLED BY GENERAL CONTRACTOR.
- PART 2 - PRODUCTS
- DESCRIPTION
 - UNITS FURNISHED BY OWNER; INSTALLED BY GENERAL CONTRACTOR.
- PART 3 - EXECUTION
- INSTALLATION
 - ROOF MOUNTING: INSTALL ON ROOF STRUCTURE, LEVEL, SECURE, PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - UNIT SUPPORT: INSTALL UNIT LEVEL ON STRUCTURAL CURBS, MOUNTING RAIN AND STANDS PER STRUCTURAL DETAILS AND PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - CONNECTIONS
 - COMPLY WITH DUCT INSTALLATION REQUIREMENTS SPECIFIED IN OTHER HVAC SECTIONS. DRAWINGS INDICATE GENERAL ARRANGEMENTS OF DUCTS.
 - INSTALL DUCTS TO TERMINATION TO TOP OF ROOF CURB. REMOVE ROOF DECKING ONLY AS REQUIRED FOR PASSAGE OF DUCTS. DO NOT CUT OUT DECKING UNDER ENTIRE ROOF CURB. CONNECT SUPPLY DUCT TO UNIT WITH FLEXIBLE DUCT CONNECTORS.
 - WHERE INSTALLING PIPING ADJACENT TO UNIT, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
 - CONNECT GAS PIPING TO BURNER, FULL SIZE OF GAS TRAIN INLET. CONNECT WITH UNION, SHUTOFF VALVE AND DIRT LEG WITH SUFFICIENT CLEARANCE FOR BURNER REMOVAL AND SERVICE.
 - CONNECT ELECTRICAL WIRING IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - GROUND EQUIPMENT IN ACCORDANCE WITH THE ELECTRICAL SPECIFICATIONS.
 - FIELD QUALITY CONTROL
 - AFTER INSTALLING UNIT, TEST UNITS FOR COMPLIANCE WITH REQUIREMENTS.
 - INSPECT OR AND REMOVE SHIPPING BOLTS, BLOCKS AND TIE-DOWN STRAPS.
 - CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATIONS.
 - TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
 - OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
 - CLEAN FILTER HOUSINGS AND CHANGE FILTERS PRIOR TO AIR BALANCE AND IMMEDIATELY PRIOR TO TURNOVER.

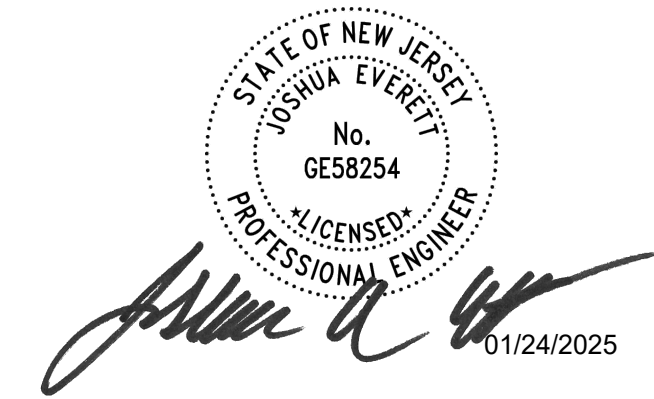
(END OF SECTION 23 74 30)

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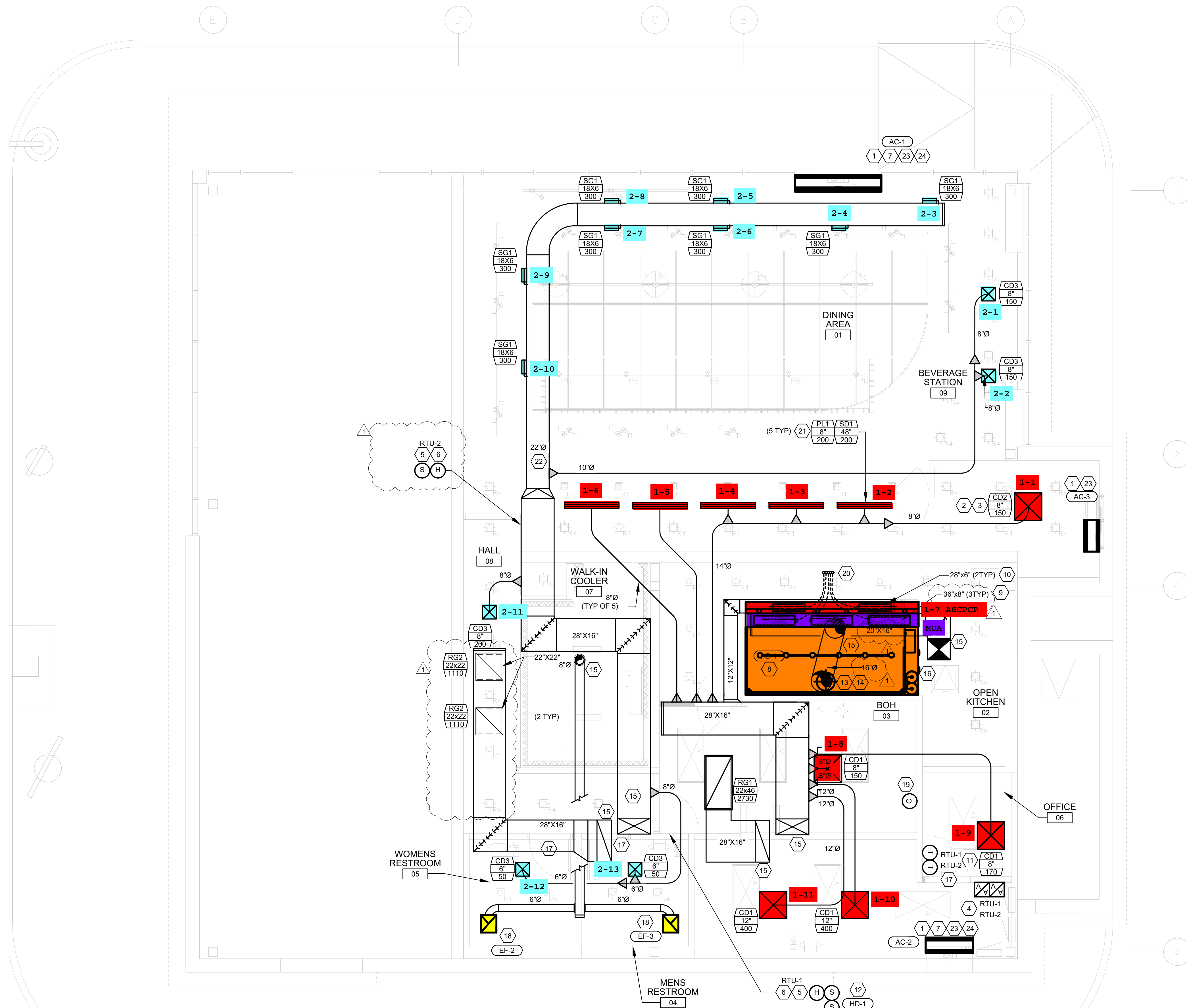
DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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MECHANICAL SPECIFICATIONS

Date Modified:	07/26/2024
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Project No.:	240003
Drawn By:	KLM
Checked By:	JAE

M011



1 MECHANICAL PLAN
1/4" = 1'-0"

CODED NOTES

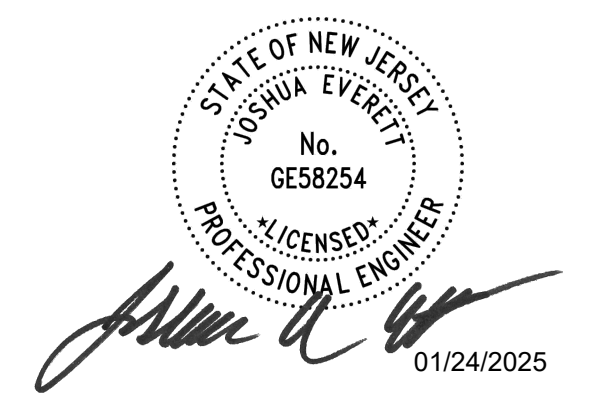
1. PROVIDE EQUIPMENT PER MANUFACTURER'S INSTALLATION INSTRUCTION AND PER THE STRUCTURAL DETAILS.
2. PROVIDE SUPPLY DIFFUSER CONNECTION PER DETAIL 6/M300.
3. REFER TO THE ARCHITECTURAL RCP FOR CEILING MOUNTED EQUIPMENT LOCATION. TYPICAL.
4. PROVIDE AUDIO/VISUAL REMOTE SMOKE DETECTOR ANNUNCIATOR WITH REMOTE KEY OPERATED RESET. WIRE A UNIT BACK TO EACH SMOKE DETECTOR. MOUNT UNIT 60" AFF. TYPICAL.
5. PROVIDE A REMOTE TEMPERATURE SENSOR FOR THE HVAC EQUIPMENT NOTED AT THIS LOCATION AT 5'-0" AFF. COORDINATION LOCATION WITH EQUIPMENT AND WALL-MOUNTED FIXTURES AS REQUIRED SUCH THAT THE SENSOR IS NOT BLOCKED. ADJUST THE SENSOR FOR A DEADBAND TO ENERGIZE HOT GAS REHEAT WHEN THE HUMIDITY EXCEEDS 60% RELATIVE HUMIDITY AND TO DE-ENERGIZE WHEN THE HUMIDITY DROPS BELOW 50%.
6. ADJUST THE DOOR SWITCH SO THAT THE AIR CURTAIN'S FAN REMAINS ENERGIZED FOR TWO SECONDS AFTER THE DOOR IS SHUT.
7. INSTALL TYPE I KITCHEN HOOD FURNISHED BY THE KITCHEN EQUIPMENT SUPPLIER. SUPPORT PER THE MANUFACTURER'S INSTRUCTIONS AND PER THE STRUCTURAL DRAWINGS. INSTALL HOOD IN ACCORDANCE WITH THE REQUIREMENTS OF ITS LISTING AND IN ACCORDANCE WITH THE NFPA AND ALL APPLICABLE BUILDING CODES. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR AND SHALL AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR SYSTEMS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCTWORK SHALL BE FACTORY-MANUFACTURED, WATER AND AIR TIGHT OR WELDED STEEL. UPON INSTALLATION OF THE SYSTEM, PROVIDE GREASE DUCT TEST IN ACCORDANCE WITH SECTION 506.3.2.5 OF THE MECHANICAL CODE.
8. PROVIDE DUCT DROP FOR MAKEUP AIR AND CONNECT TO THE HOOD'S INTEGRAL MAKEUP AIR PLENUM.
9. PROVIDE DUCT DROP FOR CONDITIONED AIR AND CONNECT TO THE HOOD'S INTEGRAL AC PLENUM CONNECTION.
10. PROVIDE A HONEYWELL WIFI VISION PRO 8000 TOUCHSCREEN 7-DAY PROGRAMMABLE WITH AUTO-CHANGEOVER AND AUTOMATIC STATE CAPABILITY SERIES THERMOSTATS, COMPATIBLE WITH THE HVAC EQUIPMENT AT THIS LOCATION AT 48" A.F.F. ADJUST THE SETPOINT OVERLAP, DEADBAND AND OPTIMUM START SETTINGS AS REQUIRED PER THE ENERGY CODE. COORDINATE WITH ELECTRICAL DEVICES AND ARCHITECTURAL ELEMENTS IN THE AREA. EXTEND THE CONTROLS WIRING TO THE MECHANICAL EQUIPMENT AND ASSOCIATED SENSORS AS REQUIRED. COORDINATE LOCATION SO THAT THERMOSTATS ARE NOT BLOCKED. COORDINATE FINAL INSTALLATION LOCATION OF THERMOSTAT WITH OWNER'S REPRESENTATIVE. COORDINATE WITH CAVA REPRESENTATIVE FOR PASSWORD AND LOCKING THERMOSTAT.
11. INSTALL THE REMOTE TEMPERATURE SENSOR FOR THE HOOD, HD-1 AT THIS LOCATION AT 5'-0" AFF. PROVIDE CABLING TO THE HOOD CONTROL PANEL AS NOTED IN THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
12. ROUTE CUSTOM FABRICATED UL-1978 AND UL-2221 LISTED DOUBLE-WALL GREASE DUCT TYPE I KITCHEN EXHAUST DUCT FROM EXHAUST HOOD, UP THROUGH ROOF ABOVE AND CONNECT TO KITCHEN EXHAUST FAN. REFER TO SHEET M200 FOR CONTINUATION. COORDINATE WITH KES AND CAPTIVE AIRE DRAWINGS. SEAL WEATHER TIGHT. CONTRACTOR SHALL PROVIDE CLEANOUT EVERY 10' AND AT EVERY CHANGE OF DIRECTION IN TYPE I EXHAUST DUCT WITH MINIMUM OF 3 FEET OF CLEARANCE IN FRONT OF CLEAN-OUT. INSTALL EXHAUST DUCT PER MANUFACTURER'S INSTRUCTIONS. COORDINATE ROUTING OF DUCTWORK WITH OWNER'S CAPTIVEAIRE REPRESENTATIVE.
13. ALL GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE, BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
14. DUCTWORK TO/FROM ROOF. REFER TO THE HVAC ROOF PLAN FOR CONTINUATION.
15. HOOD CONTROL PANEL WITH INTEGRAL FIRE SUPPRESSION CABINET. COORDINATE EXACT MOUNTING LOCATION, FIRE SUPPRESSION PIPING AND ALL OTHER REQUIREMENTS WITH THE KITCHEN EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN.
16. UNDERCUT DOOR 1" FOR TRANSFER AIR.
17. PROVIDE CEILING MOUNTED EXHAUST FAN. TRANSITION FROM FAN DISCHARGE TO DUCT SIZE SHOWN AND EXTEND UP THROUGH ROOF.
18. PROVIDE CO2 MEASUREMENT SPECIALISTS RAD-0102-6 REMOTE CO2 STORAGE SAFETY ALARM (OR EQUAL). INSTALL PER MANUFACTURER'S RECOMMENDATIONS ON WALL.
19. REMOTE BALANCING DAMPER, TYPICAL FOR BALANCING DAMPERS IN HARD CEILING APPLICATIONS.
20. MOUNT SLOT DIFFUSER IN HORIZONTAL FACE AS SHOWN AND PER THE ARCHITECTURAL REFLECTED CEILING PLAN. PROVIDE BLANK OFF PLATES WHERE NO PLENUM IS SHOWN.
21. PROVIDE EXPOSED DUCTWORK AS SHOWN, PER THE SPECIFICATIONS AND PER DETAIL 1/M300. MOUNT EXPOSED DUCT TIGHT TO BOTTOM OF STRUCTURE.
22. PROVIDE AIR CURTAIN. MOUNT UNIT ON WALL DIRECTLY ABOVE DOOR PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
23. PROVIDE TEMPERATURE SENSOR ON THE EXTERIOR OF THE BUILDING TO SERVE THE AIR CURTAIN. INTERLOCK THE SENSOR WITH THE EQUIPMENT SUCH THAT THE HEATER SHALL BE DE-ENERGIZED WHEN THE OUTDOOR AIR TEMPERATURE IS GREATER THAN 60°F, FAN TO CONTINUE TO ENERGIZE UPON DOOR OPEN.

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DATE	DESCRIPTION
11/01/2024	LL CHANGES
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MECHANICAL PLAN

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Drawn By:	KLM
Checked By:	JAE

M100

CODED NOTES

- COORDINATE MOUNTING LOCATION OF THE WALK-IN COOLER CONDENSING UNIT WITH THE KITCHEN EQUIPMENT SUPPLIER AND INSTALL THE WALK-IN COOLER CONDENSING UNIT, CU-1 ON THE ROOF. ENSURE ALL CLEARANCE REQUIREMENTS FOR THE UNIT ARE MAINTAINED THROUGH CONSTRUCTION. COORDINATE ALL INSTALLATION REQUIREMENTS WITH THE KITCHEN EQUIPMENT SUPPLIER AS NOTED.
- MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCE ZONES. NO DUCTWORK, PIPING, CONDUIT OR OTHER SYSTEMS SHALL BE PERMITTED IN THIS AREA. COORDINATE WITH SITE CONDITIONS AND WORK OF OTHER TRADES AS REQUIRED. TYPICAL.
- INSTALL THE HVAC EQUIPMENT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND ALL STRUCTURAL DETAILS.
- DUCTWORK TO/FROM SPACE. REFER TO THE HVAC MECHANICAL PLAN FOR CONTINUATION.
- EXTEND EXHAUST DUCT UP THROUGH ROOF. PROVIDE A ROOF JACK, STORM COLLAR, AND ALL-WEATHER CAP.
- EXHAUST DISCHARGE SHALL BE NO LESS THAN 10'-0" FROM ALL MECHANICAL INTAKES AND OPERABLE OPENINGS INTO THE BUILDING.
- INSTALL EXHAUST FAN EF-1 PER DETAIL 4/M300 AND AS DETAILED IN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER FLUE TERMINATION AND OUTSIDE AIR INTAKES. MAINTAIN 10' CLEARANCE BETWEEN WATER HEATER COMBUSTION AIR INTAKE AND EXHAUST FAN EF-1 DISCHARGE. SEE PLUMBING DRAWINGS FOR MORE INFORMATION ON WATER HEATER FLUE AND COMBUSTION AIR TERMINATIONS.
- SMOKE DETECTOR INTEGRAL TO THE RETURN AIR OF THE UNIT. UPON DETECTION OF SMOKE THE SUPPLY AIR FAN SHALL DE-ENERGIZE.

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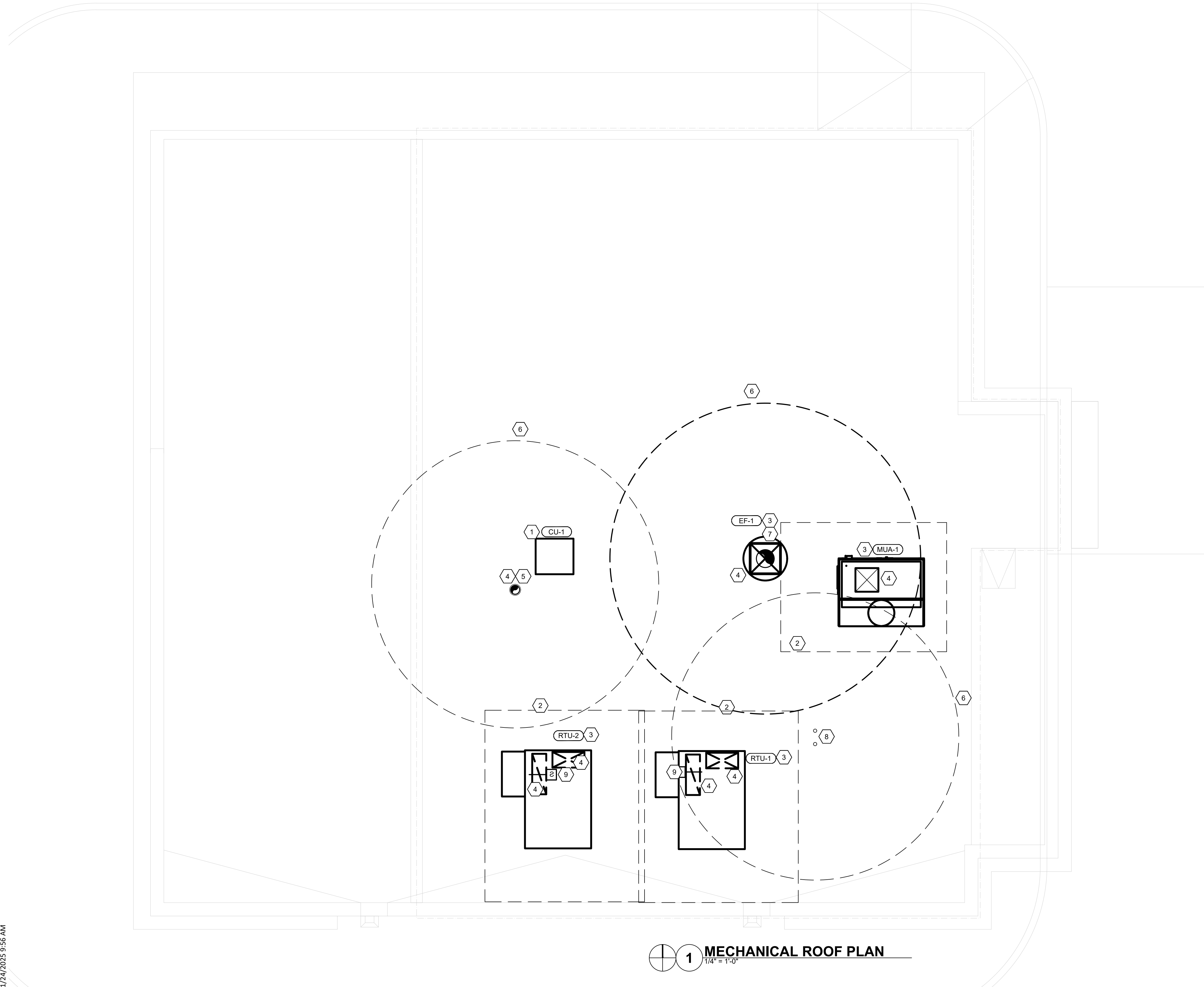
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MECHANICAL ROOF PLAN

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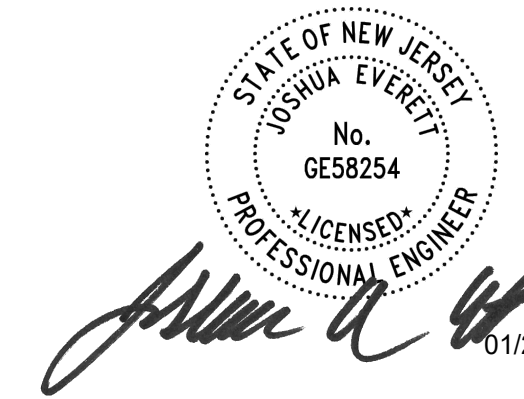
M200



1 MECHANICAL ROOF PLAN
1/4" = 1'-0"



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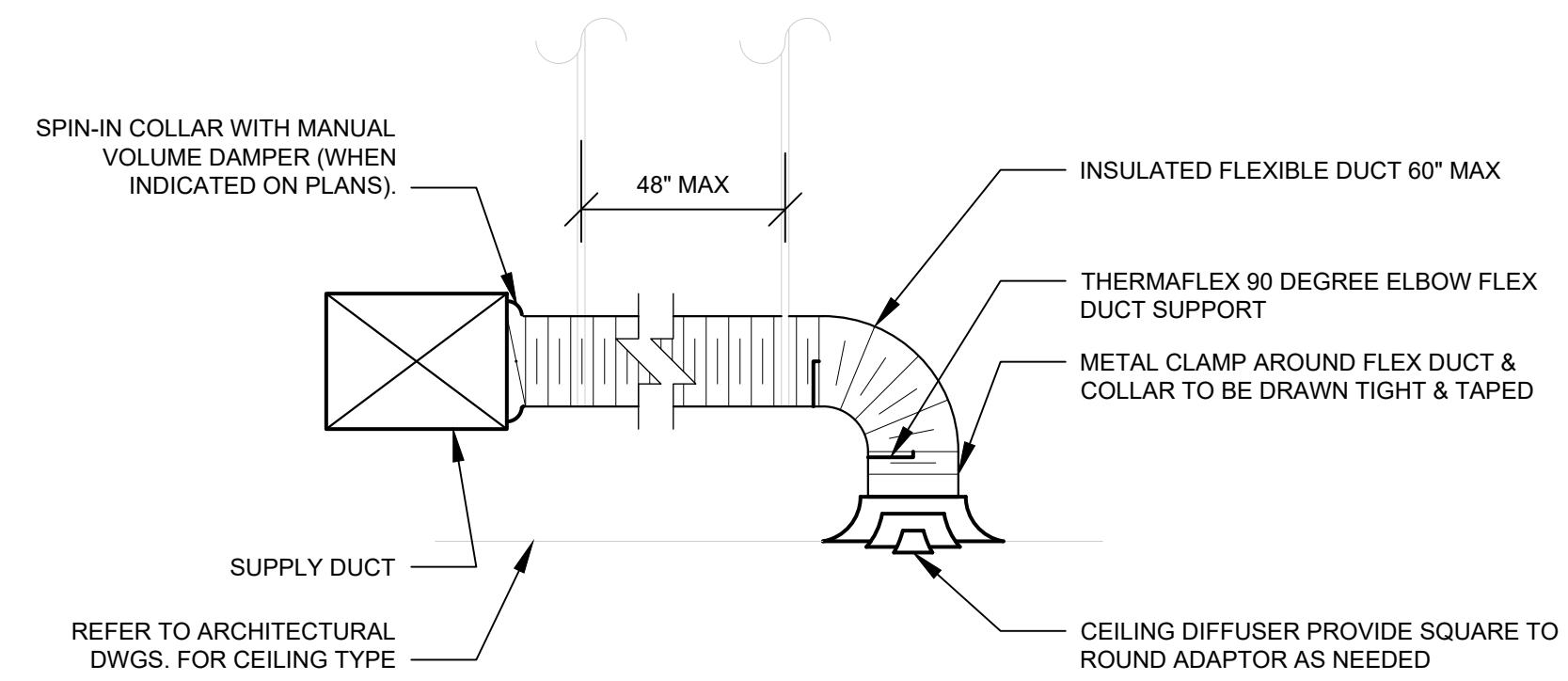
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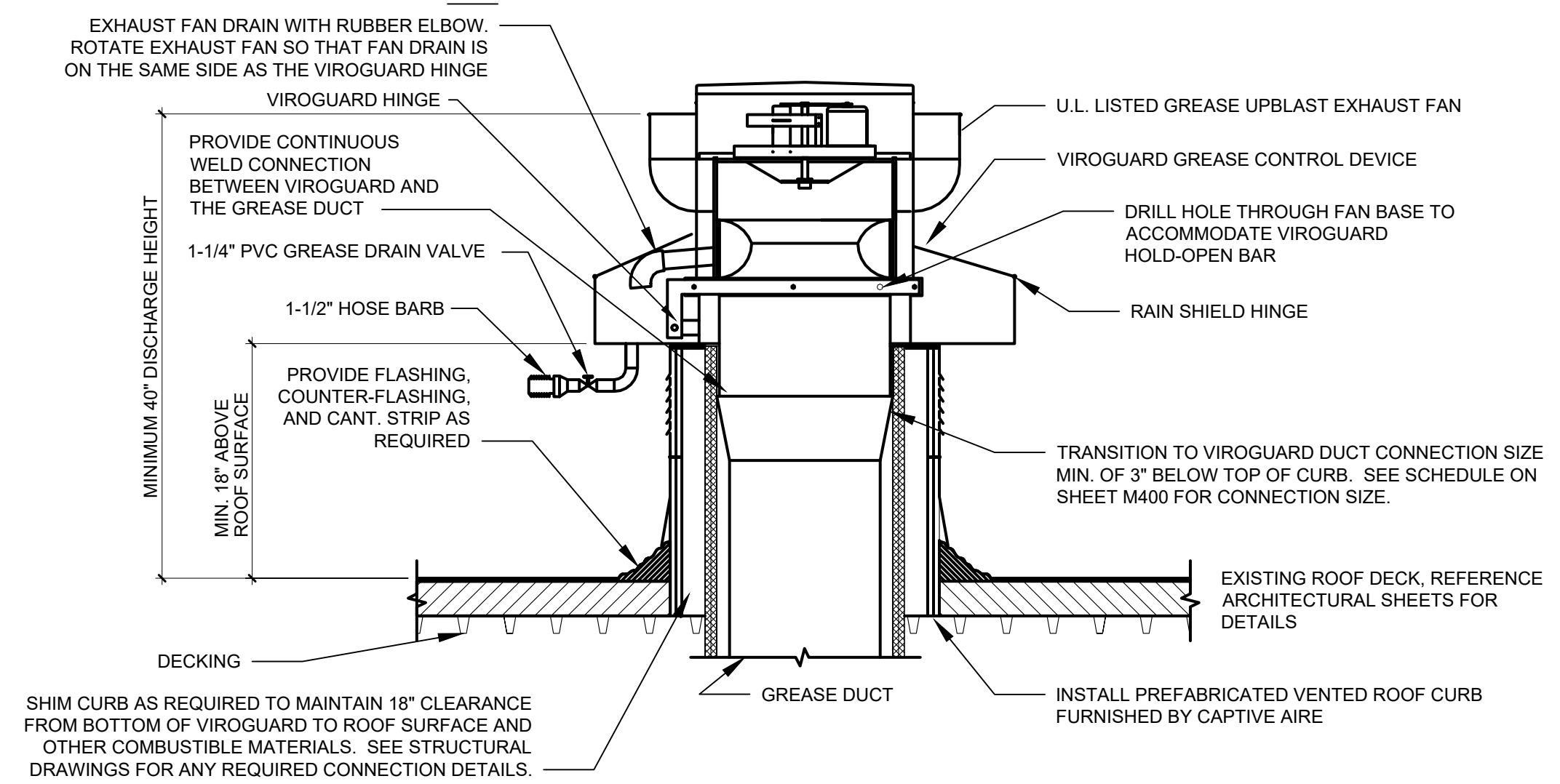
M300



NOTE:
1. METHOD OF INSTALLATION FOR AIRTIGHT SEAL IS TYPICAL FOR ALL FLEX CONNECTIONS TO AIR DISTRIBUTION DEVICES.

6 DIFFUSER CONNECTION

N.T.S.

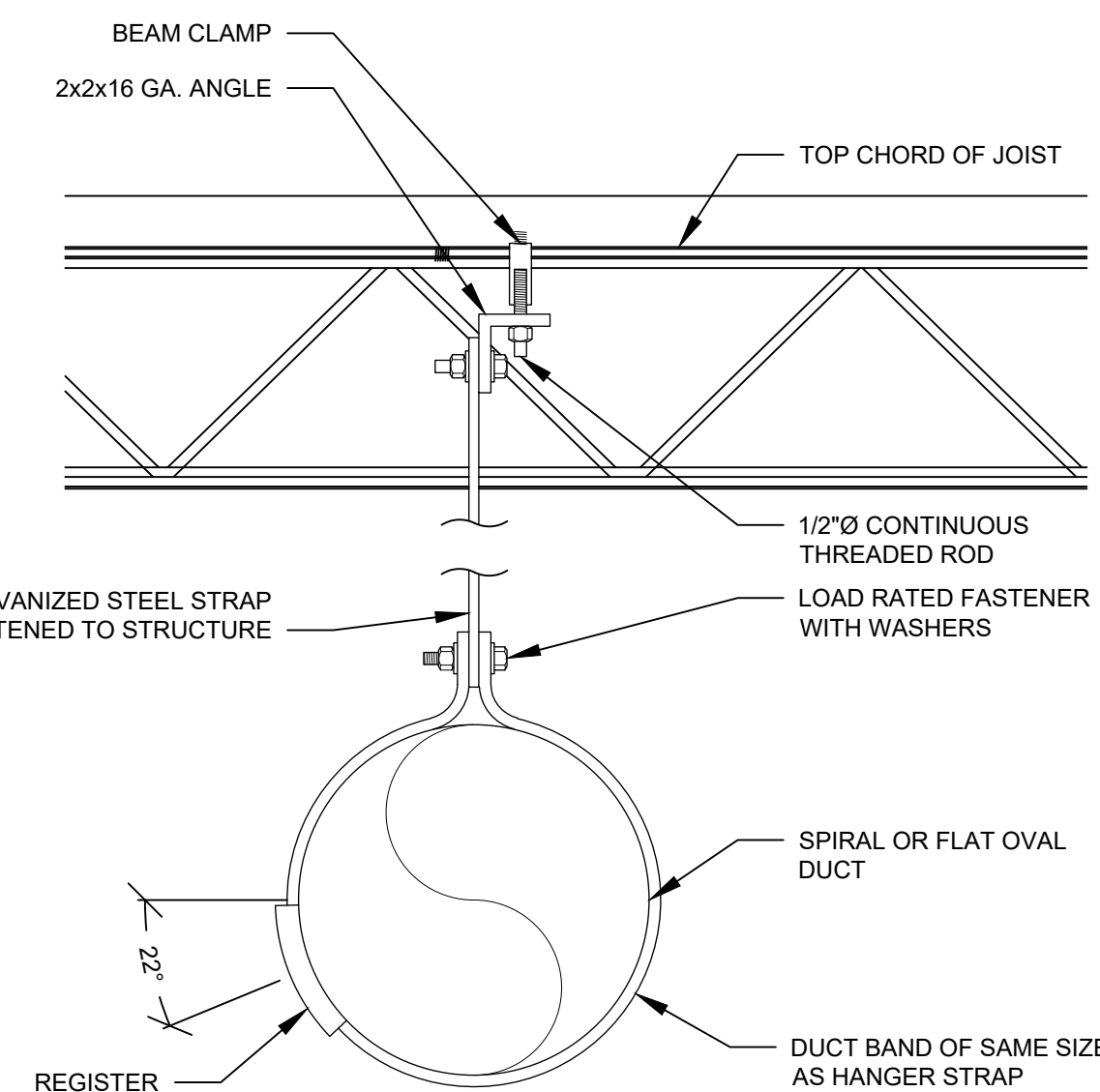


NOTES:

- INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS.
- CUT AND PATCH EXISTING ROOFING AS REQUIRED FOR NEW CURB INSTALLATION.
- CURB SHALL BE TAPERED TYPE AND MATCH THE PITCH OF THE ROOF.
- CONTRACTOR TO PROVIDE TREATED WOOD BLOCKINGS AND SHIM FLAT ROOF CURB TILL LEVEL FOR ALL EXHAUST FANS AND TO ACHIEVE ROOF CURB HEIGHTS. PROVIDE ROOF CURB EXTENSION IF REQUIRED.
- HINGE FAN SO IT TIPS BACK TOWARD FAN DRAIN AND TOWARD VIROGUARD DRAIN.

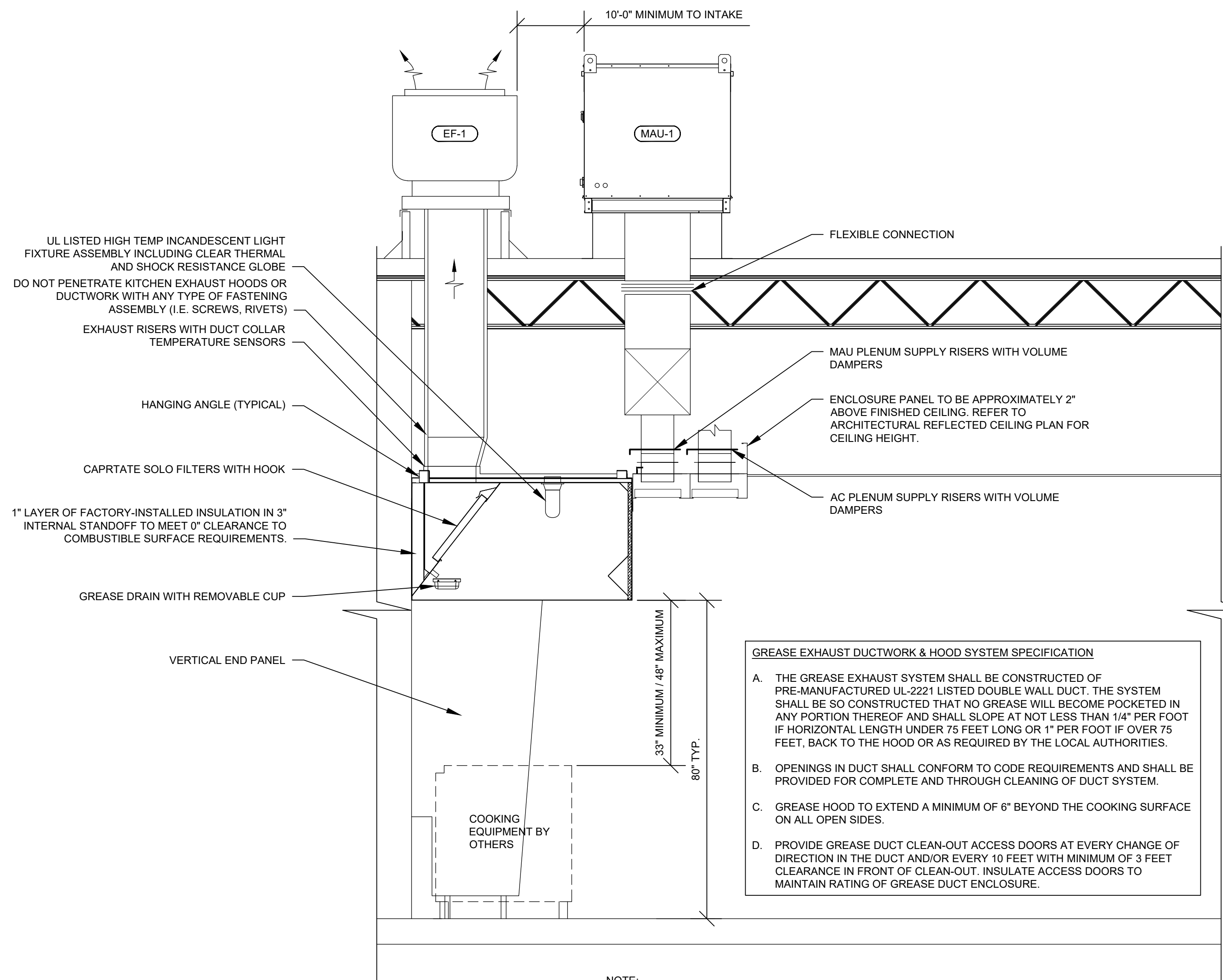
4 ROOF MOUNTED GREASE EXHAUST FAN DETAIL

N.T.S.



1 SPIRAL DUCT SUPPORT DETAIL

N.T.S.



GREASE EXHAUST DUCTWORK & HOOD SYSTEM SPECIFICATION

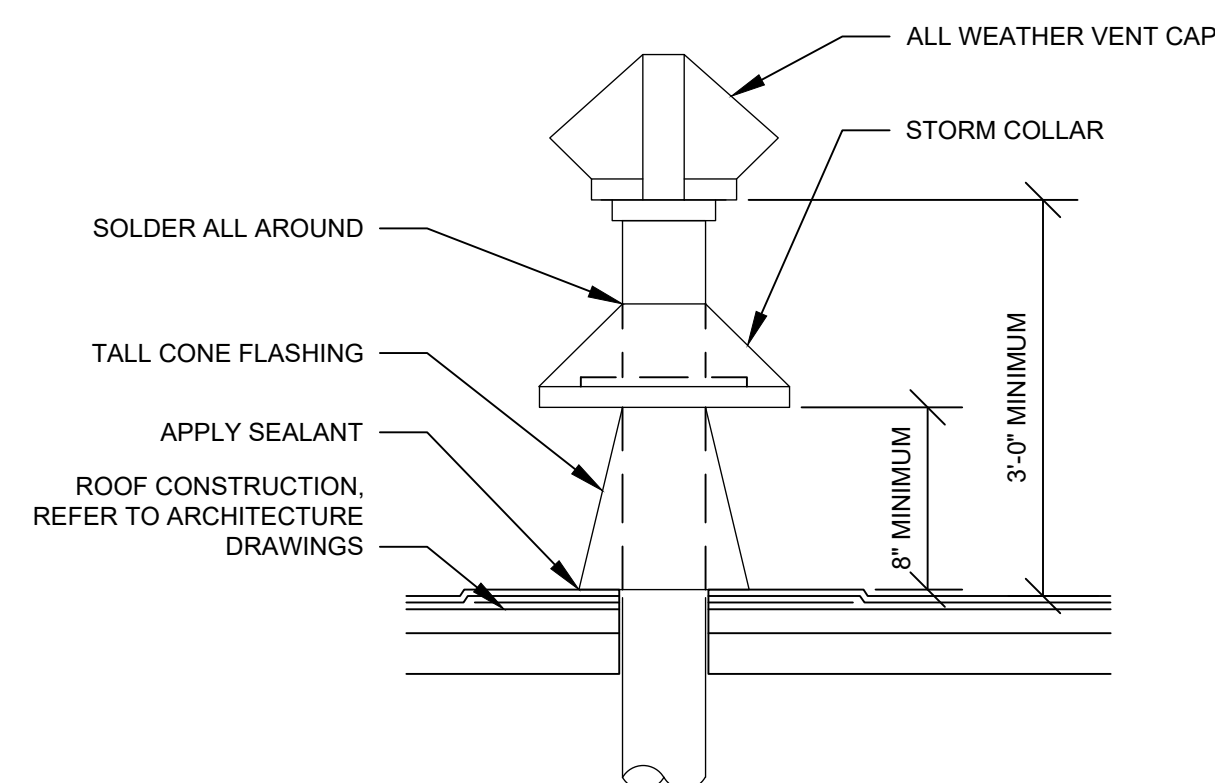
- THE GREASE EXHAUST SYSTEM SHALL BE CONSTRUCTED OF PRE-MANUFACTURED UL-2221 LISTED DOUBLE WALL DUCT. THE SYSTEM SHALL BE SO CONSTRUCTED THAT NO GREASE WILL BECOME POCKETED IN ANY PORTION THEREOF AND SHALL SLOPE AT NOT LESS THAN 1/4\"/>
- OPENINGS IN DUCT SHALL CONFORM TO CODE REQUIREMENTS AND SHALL BE PROVIDED FOR COMPLETE AND THROUGH CLEANING OF DUCT SYSTEM.
- GREASE HOOD TO EXTEND A MINIMUM OF 6\"/>
- PROVIDE GREASE DUCT CLEAN-OUT ACCESS DOORS AT EVERY CHANGE OF DIRECTION IN THE DUCT AND/OR EVERY 10 FEET WITH MINIMUM OF 3 FEET CLEARANCE IN FRONT OF CLEAN-OUT. INSULATE ACCESS DOORS TO MAINTAIN RATING OF GREASE DUCT ENCLOSURE.

NOTE:

- INSTALL UL LISTED TYPE 1 EXHAUST HOOD.
- THE GREASE HOOD SHALL MEET THE REQUIREMENTS OF THE MECHANICAL CODE, NSF AND NFPA FOR A TYPE I HOOD.
- FIRE DEPARTMENT APPROVAL SHALL BE REQUIRED ON FIRE PROTECTION SYSTEM FOR GREASE HOODS AND DUCTS AS REQUIRED BY THE MECHANICAL CODE AND AS REQUIRED BY THE FIRE CODE.
- INTEGRAL CHEMICAL FIRE SUPPRESSION SYSTEM AS REQUIRED BY NFPA 17A.
- PERFORM SMOKE TEST ON TYPE I HOOD SYSTEM PER THE REQUIREMENTS OF LOCAL CODE AUTHORITIES.

3 KITCHEN HOOD SCHEMATICS

N.T.S.



3 DUCT THROUGH ROOF

N.T.S.

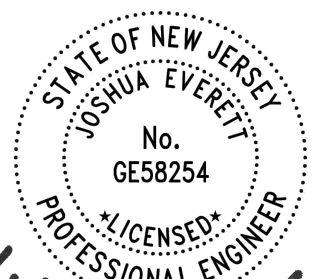
2 NOT USED

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Joshua Everj
11/24/2025

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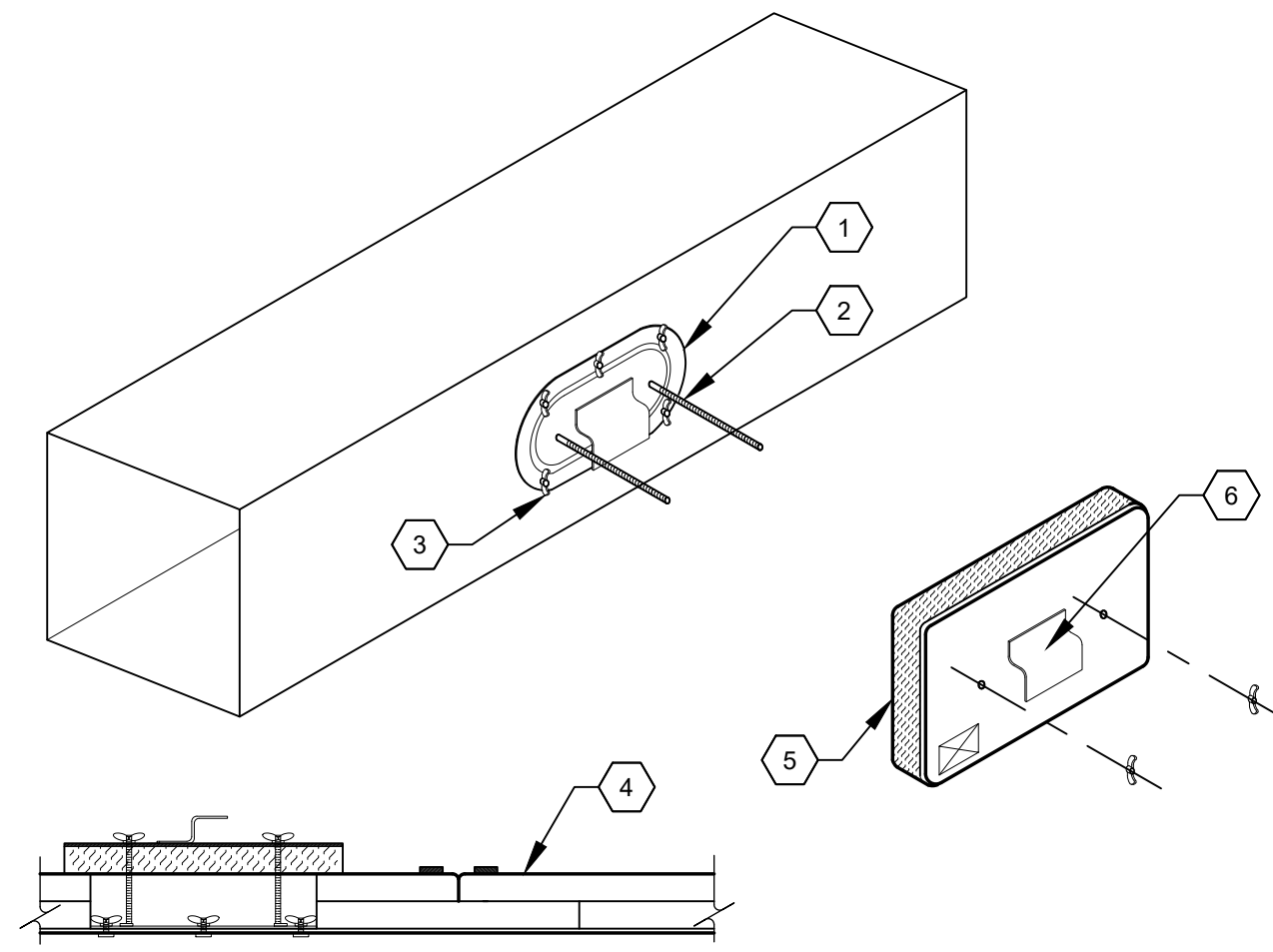
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M301



CODED NOTES:

1. UL LISTED FASTDOOR XL ACCESS PANEL.
2. ALL THREAD RODS AND WING NUTS PER THE MANUFACTURER'S INSTRUCTIONS.
3. RETAINER CLIPS WITH THREADED NUTS AND WING BOLTS.
4. INSULATION LAYERS AS REQUIRED BY THE UL LISTING.
5. FASTDOOR XL, 1-1/2" THICK SINGLE LAYER INSULATION.
6. PROVIDE THE FOLLOWING SIGN ON THE ACCESS PANEL: "ACCESS PANEL. DO NOT OBSTRUCT."

GENERAL NOTES:

- A. DETAIL SHALL APPLY TO FIELD-FABRICATED DUCTWORK ONLY.
- B. THE ACCESS PANEL SHALL HAVE A FIRE-RESISTIVE PROTECTION EQUAL TO THAT OF THE ENCLOSURE.

4 GREASE DUCT CLEANOUT DETAIL (FIELD-FABRICATED DUCTWORK)

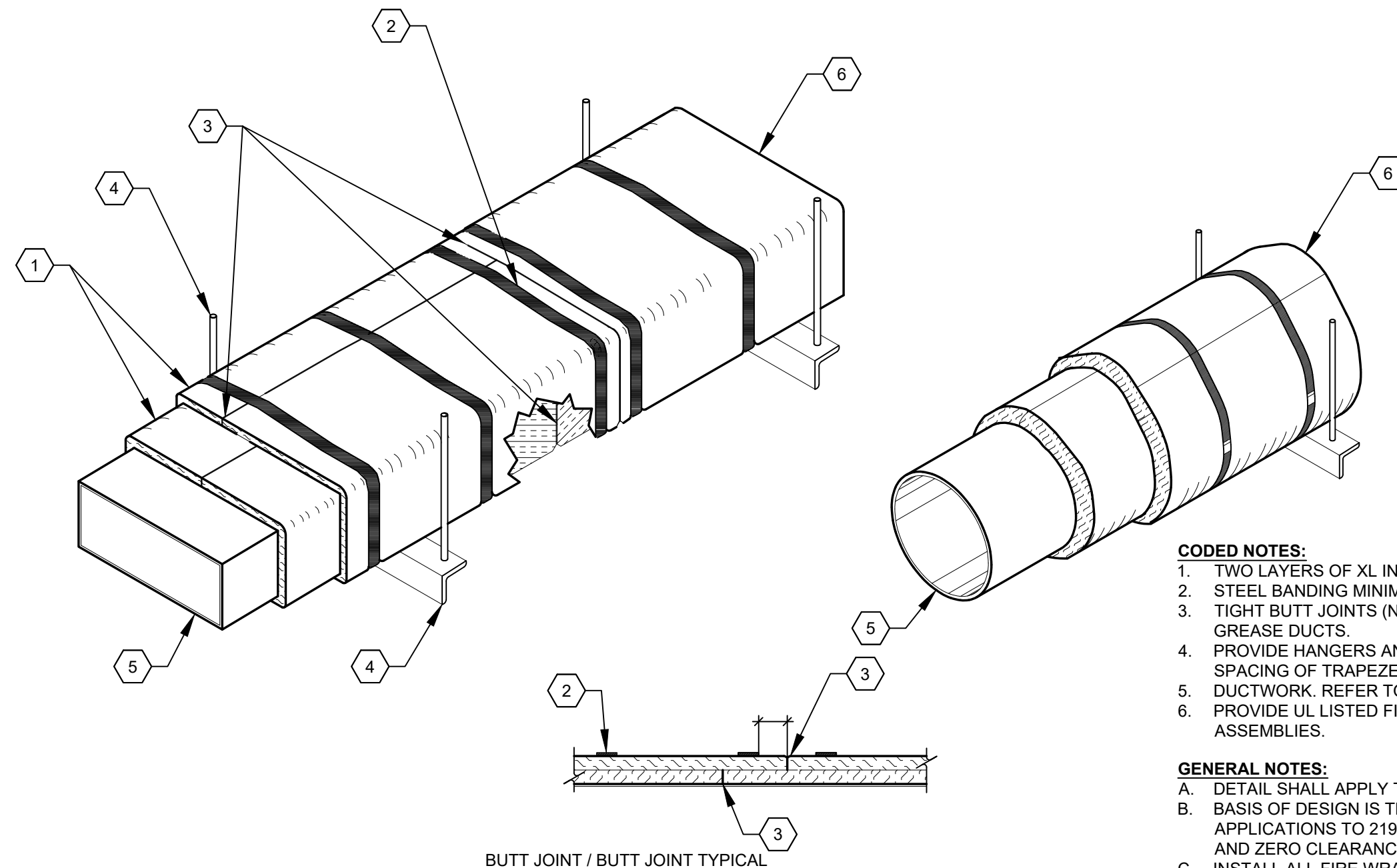
N.T.S.

AIR BALANCE SCHEDULE					
TAG	SUPPLY FLOW (CFM)	RETURN FLOW (CFM)	OUTSIDE AIRFLOW (CFM)	EXHAUST FLOW (CFM)	SUBTOTAL (CFM)
EF-1	0	0	0	2,315	-2,315
EF-2	0	0	0	75	-75
EF-3	0	0	0	75	-75
MAU-1	1,855	0	1,855	0	1,855
RTU-1	3,000	2,695	305	0	305
RTU-2	3,000	2,220	780	0	780
NET PRESSURE (CFM)					475

VENTILATION SCHEDULE, RTU-2								
PER TABLE 403.3.1.1 OF THE INTERNATIONAL MECHANICAL CODE								
CATEGORY	AREA	OCCUPANT DENSITY (PPL / 1000 SF)	OCCUPANT LOAD (PEOPLE)	AIR RATE		EFFECTIVENESS	VENTILATION REQUIRED (CFM)	VENTILATION PROVIDED (CFM)
				CFM / PERSON	CFM / SF			
DINING ROOM	900.0	70.00	55	7.50	0.18	0.8	718.1	770
CORRIDOR	133.0	0.00	0	0.00	0.06	0.8	10.0	10

VENTILATION SCHEDULE, RTU-1								
PER TABLE 403.3.1.1 OF THE INTERNATIONAL MECHANICAL CODE								
CATEGORY	AREA	OCCUPANT DENSITY (PPL / 1000 SF)	OCCUPANT LOAD (PEOPLE)	AIR RATE		EFFECTIVENESS	VENTILATION REQUIRED (CFM)	VENTILATION PROVIDED (CFM)
				CFM / PERSON	CFM / SF			
KITCHEN	980.0	20.00	15	7.50	0.12	0.8	287.6	290.0
OFFICE	56.0	5.00	1	5.00	0.06	0.8	10.5	15.0

EXHAUST SCHEDULE						
PER TABLE 403.3.1.1 OF THE INTERNATIONAL MECHANICAL CODE						
CATEGORY	AREA	NUMBER OF FIXTURES	AIR RATE		EXHAUST REQUIRED (CFM)	EXHAUST PROVIDED (CFM)
			CFM / SF	CFM / FIXTURE		
KITCHEN	980.0	0	-0.70	0.00	-686.0	-2605.0
RESTROOM 04	62.0	1	0.00	-50.00	-50.0	-75.0
RESTROOM 05	62.0	1	0.00	-50.00	-50.0	-75.0



CODED NOTES:

1. TWO LAYERS OF XL INSULATION FOR ASTM E2336 GREASE DUCT ENCLOSURES.
2. STEEL BANDING MINIMUM OF 1/2" WIDE BY 0.015" THICK.
3. TIGHT BUTT JOINTS (NO OVERLAP) AT PERIMETER AND LONGITUDINAL JOINTS, BOTH LAYERS FOR GREASE DUCTS.
4. PROVIDE HANGERS AND TRAPEZE SUPPORTS PER THE MANUFACTURER'S RECOMMENDATIONS. SPACING OF TRAPEZE SUPPORTS SHALL NOT EXCEED 60" ON CENTER.
5. DUCTWORK REFER TO PLANS FOR SIZE.
6. PROVIDE UL LISTED FIRESTOP SYSTEM WITH EQUAL F AND T-RATING AT PENETRATIONS OF RATED ASSEMBLIES.

GENERAL NOTES:

- A. DETAIL SHALL APPLY TO FIELD-FABRICATED DUCTWORK ONLY.
- B. BASIS OF DESIGN IS THERMAL CERAMICS FIREMASTER FASTWRAP XL, CLASSIFIED FOR APPLICATIONS TO 2192°F. UL LISTED FOR 1 AND 2 HOUR FIRE RESISTIVE ENCLOSURE PROTECTION AND ZERO CLEARANCE FOR KITCHEN EXHAUST DUCT.
- C. INSTALL ALL FIRE WRAP PER THE MANUFACTURER'S INSTRUCTIONS AND IN ACCORDANCE WITH ITS UL LISTING.
- D. ALL INSULATION SHALL BE APPLIED IN TWO LAYERS WITH TIGHT COMPRESSION JOINTS.
- E. DUCT WRAP SHALL BE INSTALLED DIRECTLY ONTO THE DUCT, APPLIED FROM THE HOOD CONNECTION TO THE CONNECTION TO ANY MECHANICAL EQUIPMENT.

BUTT JOINT / BUTT JOINT TYPICAL

3 DUCT WRAP DETAIL (FIELD-FABRICATED DUCTWORK)

N.T.S.

COMMISSIONING REQUIREMENTS

THE GENERAL CONTRACTOR SHALL PROVIDE COMMISSIONING OF THE FOLLOWING EQUIPMENT IN ACCORDANCE WITH SECTION 408 OF THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE:

- RTU-1
- RTU-2
- MAU-1

EQUIPMENT FUNCTIONAL TESTING SHALL DEMONSTRATE THE OPERATION OF COMPONENTS, SYSTEMS, INTERFACING RELATIONSHIPS SUCH THAT THE OPERATION, FUNCTION AND MAINTENANCE SERVICEABILITY FOR THE COMMISSIONED SYSTEMS IS CONFIRMED. TESTS SHALL INCLUDE ALL MODES AND SEQUENCE OF OPERATION, INCLUDING FULL-LOAD, PART-LOAD AND THE FOLLOWING EMERGENCY CONDITIONS.

- ALL MODES DESCRIBED IN THE SEQUENCE OF OPERATIONS
- AUTOMATIC BACK-UP MODES AS DESCRIBED BY THE MANUFACTURER
- PERFORMANCE OF ALARMS.
- MODE OF OPERATION UPON A LOSS OF POWER AND RESTORATION OF POWER.

THE HVAC CONTROL SYSTEMS SHALL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS AND EQUIPMENT SYSTEMS ARE CALIBRATED AND ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.

AIR ECONOMIZERS SHALL UNDERGO FUNCTIONING TESTING TO DETERMINE THAT THEY OPERATE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

THE GENERAL CONTRACTOR SHALL PROVIDE A PRELIMINARY COMMISSIONING REPORT INDICATING THE TEST PROCEDURES AND RESULTS. THIS REPORT SHALL INDICATE THE FOLLOWING:

ITEMIZED LIST OF DEFICIENCIES FOUND DURING TESTING THAT HAVE NOT BEEN CORRECTED AT THE

TIME OF THE REPORT PREPARATION.

- DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT BECAUSE OF CLIMATIC CONDITIONS.
- CLIMATIC CONDITIONS REQUIRED FOR THE PERFORMANCE OF DEFERRED TESTS.
- RESULTS OF FUNCTIONAL TESTS.
- FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

THE SPACE SHALL NOT BE CONSIDERED AS ACCEPTABLE FOR FINAL INSPECTION UNTIL THE CODE OFFICIAL HAS RECEIVED THE PRELIMINARY COMMISSIONING REPORT.

WITHIN 90 DAYS OF THE RECEIPT OF THE CERTIFICATE OF OCCUPANCY, THE GENERAL CONTRACTOR SHALL PROVIDE A FINAL COMMISSIONING REPORT AND SHALL INCLUDE THE FOLLOWING:

- RESULTS OF THE PERFORMANCE TESTS.
- DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING THE DETAILS OF CORRECTIVE MEASURES USED OR PREPARED.
- FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.
- DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT PREPARATION DUE TO CLIMATIC CONDITIONS ARE NOT REQUIRED AS PART OF THIS REPORT.

2 COMMISSIONING REQUIREMENTS

N.T.S.

SEQUENCE OF OPERATIONS EF-2 & EF-3

OCCUPIED MODE:

FAN OPERATION: WHEN SCHEDULED BY THE TIMECLOCK TO BE IN OCCUPIED MODE, THE EXHAUST FANS ARE TO START AND RUN CONTINUOUSLY.

UNOCCUPIED MODE:

FAN OPERATION: WHEN SCHEDULED BY THE TIMECLOCK TO BE IN UNOCCUPIED MODE, THE EXHAUST FANS SHALL REMAIN OFF

EMERGENCY MODE:

FAN/DAMPER OPERATION: UPON A SIGNAL FROM THE FIRE ALARM SYSTEM, THE FANS SHALL STOP.

SEQUENCE OF OPERATIONS EF-1 & MAU-1

STANDARD OPERATION

FAN OPERATION: WHEN ACTIVATED BY A BUTTON PRESS ON THE HOOD CONTROL PANEL, OR WHEN COOKING TEMPERATURES ARE DETECTED, THE EXHAUST FAN SHALL START. THE MOTORIZED DAMPER SERVING THE MAKEUP AIR UNIT SHALL OPEN AND THE MAKEUP AIR UNIT FAN SHALL START. INTERLOCK ROOFTOP UNITS SO THAT THE PACKAGED ROOFTOP UNIT FANS START AND THE OUTSIDE AIR DAMPERS POWER OPEN WHEN THE EXHAUST FAN BECOMES ENERGIZED.

EMERGENCY MODE:

FAN/DAMPER OPERATION: UPON A SIGNAL FROM THE FIRE ALARM SYSTEM, THE FAN SHALL STOP AND ALL DAMPERS SHALL CLOSE.

1 SEQUENCE OF OPERATIONS

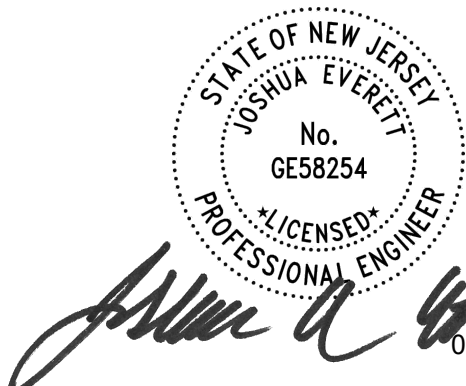
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SEAL



PROJECT

CAVA

CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

GRILLES, REGISTERS & DIFFUSERS SCHEDULE

TAG	DESCRIPTION	FACE SIZE	MATERIAL	FINISH	MOUNTING	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
								MANUFACTURER	MODEL	
CD1	PERFORATED CEILING DIFFUSER	24"x24"	STEEL	TO MATCH CEILING	LAY-IN CEILING	GC	GC	TITUS	PAS	
CD2	PLAQUE FACE DIFFUSER	24"x24"	STEEL	TO MATCH CEILING	GYP CEILING	GC	GC	TITUS	OMNI	PROVIDE WITH OBD
CD3	PLAQUE FACE DIFFUSER	12"x12"	STEEL	TO MATCH CEILING	GYP CEILING	GC	GC	TITUS	OMNI	PROVIDE WITH OBD.
PL1	SLOT DIFFUSER PLENUM	HEIGHT: 2" LENGTH: 48"	STEEL	TO MATCH CEILING/ MILLWORK	FIXTURE	GC	GC	TITUS	FBP-20	FURNISH WITH FACE-OPERATED INLET DAMPER
SD1	LINEAR SLOT DIFFUSER	WIDTH = 2"	ALUMINUM	TAPE & SPACKLE	GYP CEILING	GC	GC	TITUS	FL-20-22	FURNISH WITH JET THROW PATTERN
SG1	DIRECT SPIRAL DUCT MOUNTED LOUVERED SUPPLY GRILLE	REFER TO NECK SIZE	ALUMINUM	TO MATCH DUCT	DUCT MOUNT	GC	GC	TITUS	S300FS	PROVIDE WITH NECK MOUNTED OBD. PROVIDE MODEL ASD, AIR SCOOP DEVICE
RG1	LOUVERED RETURN GRILLE. BLADES PARALLEL TO LONG DIMENSION	REFER TO NECK SIZE	STEEL	TO MATCH CEILING	LAY-IN CEILING	GC	GC	TITUS	350RL	
RG2	LOUVERED RETURN GRILLE. BLADES PARALLEL TO SHORT DIMENSION	REFER TO NECK SIZE	STEEL	TO MATCH CEILING	SURFACE	GC	GC	TITUS	350RL	

VIROGUARD SCHEDULE

TAG	DESCRIPTION	DUCT CONNECTION SIZE	FAN	FURNISHED BY	INSTALLED BY	MANUFACTURER	REMARKS
VG-1	VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM	16" X 16"	DU85HFA	OWNER	GC	ENVIROMATIC	GC TO INSTALL ON EF-1. ENVIROMATIC VIROGUARD HOOD EXHAUST FAN ROOFTOP CONTAINMENT SYSTEM.

FAN SCHEDULE

TAG	DESCRIPTION	EXHAUST AIRFLOW (CFM)	E.S.P. (IN. W.C.)	DRIVE TYPE	MOTOR POWER (HP)	WEIGHT (LB)	ELECTRICAL			FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL	REMARKS
							MCA (A)	MOCPP (A)	V/PH					
EF-1	UPBLAST EXHAUST FAN	2,315	1.0	DIRECT	1.0	100.0	11.6 FLA	20	120/1/60	OWNER	GC	CAPTIVEAIRE	DU85HFA	UL762 FAN, FURNISHED WITH VARIABLE SPEED CONTROL, GREASE DRAIN AND CURB. VENTED ROOF CURB AND NEMA 3R DISCONNECT SWITCH. GC TO INSTALL ENVIROMATIC VIROGUARD.
EF-2 EF-3	CEILING MOUNTED EXHAUST FAN	75	0.3	DIRECT	-	15.0	0.4	15	120/1/60	GC	GC	LOREN COOK	GC-148	FURNISHED WITH DISCONNECT SWITCH, BACKDRAFT DAMPER, BIRDSCREEN, SPEED CONTROLLER AND WHITE ALUMINUM GRILLE

MATERIAL SCHEDULE

CATEGORY	APPLICATION	ALLOWABLE MATERIAL
DUCT	CONCEALED SUPPLY	RECTANGULAR OR ROUND. INSULATED
	CONCEALED RETURN	RECTANGULAR OR ROUND. INSULATED
	CONCEALED GENERAL EXHAUST	RECTANGULAR OR ROUND. INSULATED
	CONCEALED, TYPE I HOOD EXHAUST	FACTORY-BUILT, COMMERCIAL KITCHEN, DOUBLE-WALL GREASE DUCT WITH 0" CLEARANCE TO COMBUSTIBLES. LISTED AND LABELED IN ACCORDANCE WITH UL1978/UL2221 AND INSTALLED IN ACCORDANCE WITH THE MECHANICAL CODE AND THE MANUFACTURER'S UL LISTING OR WELDED RECTANGULAR 16 GAUGE STEEL WITH ZERO CLEARANCE TO COMBUSTIBLE DUCT WRAP.
	EXPOSED SUPPLY	DOUBLE-WALL INSULATED ROUND OR OVAL AS NOTED

AIR CURTAIN SCHEDULE

TAG	DESCRIPTION	NOZZLE WIDTH (INCHES)	AIRFLOW			HEATER KW	ELECTRICAL				FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
			MAX VELOCITY (FPM)	AVERAGE VELOCITY (FPM)	AIRFLOW (CFM)		MOCPP (A)	MCA (A)	V/PH	MANUFACTURER			MODEL		
AC-1	PRIMARY DINING ROOM DOOR	84.00	2,317	1,728	2,268	15	60	43.3	208/3/60	GC	GC	BERNER	AI08-E-2084E	FURNISHED WITH MAGNETIC DOOR SWITCH INTERLOCKED WITH DOOR. PROVIDE DISCONNECT SWITCH. PROVIDE THERMOSTAT TO TURN ON AIR CURTAIN HEATER WHEN TEMPERATURE IS BELOW 45 DEG.	
AC-2	KITCHEN REAR DOOR	42.00	2,317	1,728	1,134	5.6	25	18	208/3/60	GC	GC	BERNER	AI08-E-1042E	FURNISHED WITH MAGNETIC DOOR SWITCH INTERLOCKED WITH DOOR. PROVIDE DISCONNECT SWITCH. PROVIDE THERMOSTAT TO TURN ON AIR CURTAIN HEATER WHEN TEMPERATURE IS BELOW 45 DEG.	
AC-3	DRIVE THRU WINDOW	24.50	2,800	1,045	200	--	15	2.2	120/1/60	GC	GC	BERNER	DTU03-2026A	FURNISHED WITH FACTORY-INSTALLED FAN/HEAT SWITCH, BRACKET SYSTEM, POWER CORD AND THERMAL OVERLOAD PROTECTION.	

MAKEUP AIR UNIT SCHEDULE

TAG	DESCRIPTION	AIRFLOW (CFM)	E.S.P. (IN. W.C.)	HEATING			COOLING				ELECTRICAL				WEIGHT (LB)	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS
				EAT (DEG. F)	GAS INPUT (MBH)	OUTPUT (MBH)	EAT		TOTAL COOLING CAPACITY		MOTOR POWER (HP)	V/PH	MCA (A)	MOCPP (A)				MANUFACTURER	MODEL	
							DB (DEG. F)	WB (DEG. F)	TOTAL (MBH)	SENSIBLE (MBH)										
MAU-1	GAS FIRED MAKEUP AIR UNIT WITH AIR CONDITIONING	1,855	0.50	10.0	168.830	136.752	93.0	74.0	64.0	40.7	2.0	208/3/60	28.4	30	1,300	OWNER	GC	ECON-AIR	EARTU1-1.200-15-5T-MPU	FURNISHED WITH DISCONNECT, FULLY MODULATING GAS RE-HEAT, ROOF CURB, SCREEN INTAKE AND WASHABLE ALUMINUM FILTERS.

KITCHEN HOOD SCHEDULE

TAG	DESCRIPTION	MAX COOKING TEMP. (DEG. F)	MATERIAL	EXHAUST PLENUM				PERFORATED SUPPLY PLENUMS										NO. OF LIGHT FIXTURES	WEIGHT (LB)	FURNISHED BY	INSTALLED BY	BASIS FOR DESIGN		REMARKS		
				AIRFLOW (CFM)	E.S.P. (IN. W.C.)	DUCT COLLARS		LENGTH (IN.)	WIDTH (IN.)	MAU PLENUM			AC PLENUM			MANUFACTURER	MODEL									
						NO.	DIAMETER (IN.)			AIRFLOW (CFM)	NO.	WIDTH (IN.)	LENGTH (IN.)	NO.	WIDTH (IN.)							LENGTH (IN.)				
				NO.	DIAMETER (IN.)	LENGTH (IN.)	WIDTH (IN.)	AIRFLOW (CFM)	NO.	WIDTH (IN.)	LENGTH (IN.)															
HD-1	TYPE 1 CANOPY HOOD WITH PERFORATED MAU AND AC SUPPLY PLENUMS	600	4030 STAINLESS STEEL	2,315	0.725	1	16	139.00	57.00	152.00	24.00	1,855	3	36	8	730	2	28	6	6	1,250	OWNER	GC	CAPTIVEAIRE	6030 ND-2-ACPPSP-F	FURNISHED WITH FIELD WRAPPER, RIGHT VERTICAL END PANEL, LEFT VERTICAL END PANEL, VAPORPROOF INCANDESCENT LIGHT FIXTURES, STAINLESS STEEL FILTERS, INTEGRAL UTILITY CABINET, TANK FIRE SUPPRESSION SYSTEM AND DUCT COLLAR TEMPERATURE SENSOR

ROOFTOP UNIT SCHEDULE

TAG	DESCRIPTION	COOLING CAPACITY (TONS)	EER (IEER)	AIRFLOW			COOLING					HEATING			NUMBER OF COMPRESSORS	NUMBER OF CIRCUITS	REFRIGERANT CHARGE (LB)	WEIGHT (LB)	ELECTRICAL			FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL	REMARKS	
				TOTAL (CFM)	RETURN (CFM)	OA (CFM)	E.S.P. (IN. W.C.)	GROSS TOTAL (MBH)	GROSS SENSIBLE (MBH)	EAT DB (DEG. F)	EAT WB (DEG. F)	O.A.T. (DEG. F)	INPUT (MBH)	OUTPUT (MBH)					EAT (DEG. F)	MOCPP (A)	MCA (A)						V/PH
RTU-1	KITCHEN ROOFTOP UNIT	8.5	11.2 (15.0)	3,000	2,730	270	0.80	99.3	67.6	75.5	65.2	98.0	180	148	64.3	2	1	21	1,200	50	41	208/3/60	OWNER	GC	CARRIER	48FCEN09	FURNISHED WITH HOT GAS REHEAT. PROVIDE REMOTE HUMIDISTAT, COMPARATIVE ENTHALPY ECONOMIZER WITH FAULT DETECTION AND DIAGNOSTICS. SMOKE DETECTOR IN RETURN AIR STREAM, BAROMETRIC RELIEF, HINGED PANELS, MERV 8 FILTERS, HAIL GUARD, MULTI-SPEED FAN, AND 14" TALL ROOF CURB
RTU-2	DINING ROOM ROOFTOP UNIT	8.5	11.2 (15.0)	3,000	2,220	780	0.80	99.3	67.6	77.9	66.5	98.0	180	148	55.1	2	1	21	1,200	50	41	208/3/60	OWNER	GC	CARRIER	48FCEN09	FURNISHED WITH HOT GAS REHEAT. PROVIDE REMOTE HUMIDISTAT, COMPARATIVE ENTHALPY ECONOMIZER WITH FAULT DETECTION AND DIAGNOSTICS. SMOKE DETECTOR IN RETURN AIR STREAM, BAROMETRIC RELIEF, HINGED PANELS, MERV 8 FILTERS, HAIL GUARD, MULTI-SPEED FAN, AND 14" TALL ROOF CURB

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MECHANICAL SCHEDULES

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Date Created: 07/26/2024
Scale: AS NOTED
Project No.: 240003
Drawn By: KLM
Checked By: JAE

M400

PLUMBING SYMBOLS & ABBREVIATIONS

	ELBOW UP
	ELBOW DOWN
	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRC.
	DOMESTIC FILTERED COLD WATER
	NATURAL GAS
	NATURAL GAS (ON ROOF)
	SANITARY WASTE
	GREASE WASTE
	SANITARY VENT
	CONDENSATE DRAIN
	UNION
	VALVE
	BALANCE VALVE
	CHECK VALVE
	PRESSURE REDUCING VALVE
	GAS METER
	WATER METER
	WATER SUB-METER
	WATER IRRIGATION METER
	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
	FLOOR DRAIN
	FLOOR SINK
	CLEANOUT (FLOOR, WALL)
	EQUIPMENT TAG; SEE SCHEDULES FOR MORE INFORMATION
	CODED NOTE (SEE SAME SHEET FOR NOTE MEANING)
	CONNECT TO EXISTING

KITCHEN EQUIPMENT NOTES:

- A. INSTALL KITCHEN EQUIPMENT PIPING AND ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR SPECIFIC DIRECTION AT INDIVIDUAL ITEMS.
- B. SEE KITCHEN EQUIPMENT DOCUMENTATION FOR ADDITIONAL INFORMATION PERTAINING TO KITCHEN EQUIPMENT PLUMBING REQUIREMENTS, INCLUDING UTILITIES REQUIRED, CONNECTION SIZES AND ROUGH-IN LOCATIONS FOR SPECIFIC ITEMS (SUPPLY AND DRAIN). COORDINATE FINAL INSTALLATION WITH THE KITCHEN EQUIPMENT AS ACTUALLY INSTALLED. LOCATIONS OF FLOOR DRAINS, FLOOR SINKS AND OTHER ASSEMBLIES UTILIZED FOR INDIRECT DRAINAGE FROM FOOD SERVICE EQUIPMENT, ARE TO BE DETERMINED FROM THE KITCHEN EQUIPMENT LAYOUT PLANS. THE PLUMBING CONTRACTOR SHALL EXTEND PIPING BELOW COUNTERS, IN CASEWORK OR STRUCTURE AS REQUIRED FROM DROP OR RISE POINTS INDICATED ON PLANS TO EQUIPMENT CONNECTION POINTS.
- C. COORDINATE INSTALLATION OF ALL ITEMS AND VERIFY CONDITIONS IN ADVANCE WITH THE KITCHEN EQUIPMENT CONTRACTOR.

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SEAL



PROJECT

CAVA

CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

PLUMBING ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
A.F.F.	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
A.O.R.	ARCHITECT OF RECORD
B.F.F.	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
FCO	FLOOR CLEANOUT
CW	COLD WATER
DFU	DRAINAGE FIXTURE UNIT
DW	DISHWASHER
DWH	DOMESTIC WATER HEATER
WH	WATER HEATER
E.O.R.	ENGINEER OF RECORD
ET	EXPANSION TANK
FD	FLOOR DRAIN
FS	FLOOR SINK
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HD	HUB DRAIN
HW	HOT WATER
IE	INVERT ELEVATION
KES	KITCHEN EQUIPMENT SUPPLIER
LAV	LAVATORY
MBH	THOUSANDS OF BTU PER HOUR
MFR	MANUFACTURER
MS	MOP SINK
P	PUMP
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
REQ'D	REQUIRED
S	SHOWER
SK	SINK
SOV	SHUT OFF VALVE
SPEC	SPECIFICATION OR SPECIFIED
SAN	SANITARY SEWER
S.S.	STAINLESS STEEL
TD	TRENCH DRAIN
TD	TRAP PRIMER
UNO	UNLESS NOTED OTHERWISE
UR	URINAL

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PLUMBING COVER SHEET

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Project No.:	240003
Drawn By:	BRW
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P000

SECTION 22 00 00 - PLUMBING GENERAL REQUIREMENTS

PART 1 - GENERAL

1. THE TERM "TENANT" - TENANTS' CONSTRUCTION MANAGER, "OWNER" OR "OWNER'S CONSTRUCTION MANAGER" SHALL REFER TO CAVA.
2. THE TERM "FURNISH" MEANS TO SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING, ASSEMBLY, INSTALLATION, AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR THE INTENDED USE.
3. THE GENERAL CONTRACTOR SHALL PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE WORKING SYSTEM AND AS DESCRIBED IN THESE DRAWINGS.
4. THE GENERAL CONTRACTOR SHALL REVIEW A COMPLETE SET OF THE CONSTRUCTION DOCUMENTS. EACH SUB-CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF DRAWINGS ON SITE DURING THE CONSTRUCTION PROCESS.
5. COORDINATE WORK AS REQUIRED WITH THE LANDLORD. THE GENERAL CONTRACTOR SHALL UTILIZE LANDLORD-REQUIRED CONTRACTORS AT THE GENERAL CONTRACTOR'S EXPENSE.

PART 2 - PRODUCTS

1. PRODUCTS SHALL BE AS DESCRIBED IN THE DRAWINGS AND AS REQUIRED FOR A COMPLETE AND FUNCTIONING SYSTEM.

PART 3 - EXECUTION

1. PLUMBING FIXTURES, ACCESSORIES AND MATERIALS PROVIDED FOR DOMESTIC WATER USE SHALL BE LEAD FREE.
2. WHEN CORE-DRILLING IS REQUIRED, COORDINATE ALL REQUIREMENTS WITH THE LANDLORD PRIOR TO START OF WORK. COORDINATE WITH THE SHELL TEAM AS REQUIRED AND PROVIDE ALL SCANS, PAY REVIEW FEES AND COMPLETE ALL REQUIREMENTS OF THE LANDLORD PRIOR TO DRILLING.
3. UNLESS DIMENSIONS HAVE BEEN PROVIDED, THE DRAWINGS ARE DIAGRAMATIC IN NATURE, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT AND REQUIRED EQUIPMENT. THEY SHALL NOT BE SCALED. COORDINATE WITH THE ARCHITECTURAL DRAWINGS, TENANT VENDORS AND MANUFACTURER'S INSTALLATION INSTRUCTIONS AND CUTSHEETS AS REQUIRED.
4. COMPLETE ALL WORK IN COMPLIANCE WITH THE CODES LISTED ON THE ARCHITECTURAL SHEETS INCLUDING ALL LOCAL AMENDMENTS, ALL RELEVANT NFPA CODES AND STANDARDS AND SMACNA STANDARDS.
 - A. VERIFY ALL CODE REQUIREMENTS AND LOCAL AMENDMENTS WITH THE AUTHORITY HAVING JURISDICTION PRIOR TO BID.
 - B. WHEN THERE IS A DISCREPANCY BETWEEN THE ADOPTED CODES AND THESE DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.
5. PROVIDE FIRESTOPPING AND SLEEVES AT ALL COMPONENTS PENETRATING RATED ASSEMBLIES TO MAINTAIN THE FIRE RATING OF THE EXISTING SELL SYSTEMS.
6. COORDINATE WITH THE LOCAL AUTHORITY HAVING JURISDICTION AS NECESSARY. PURCHASE PERMITS ASSOCIATED WITH THE WORK AND ARRANGE ALL INSPECTIONS AS REQUIRED.
7. MAINTAIN A CLEAN CONSTRUCTION SITE DURING CONSTRUCTION. CLEAN SCRAP MATERIAL AND REMOVE FROM SITE DAILY AND MAINTAIN WORKING AREA IN AN ORDERLY FASHION.
8. PROVIDE SUBMITTALS AS NOTED IN THESE SPECIFICATIONS AND AS REQUESTED BY THE TENANT'S CONSTRUCTION MANAGER.
 - A. ALL SHOP DRAWINGS SHALL BE REVIEWED AND STAMPED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE TENANT'S CONSTRUCTION MANAGER.
 - B. SHOP DRAWINGS SHALL BE SUBMITTED TO ALLOW FOR FIVE BUSINESS DAYS OF REVIEW TIME.
9. PROVIDE REQUESTS FOR INFORMATION TO THE TENANT'S CONSTRUCTION MANAGER.
 - A. ALL SHOP DRAWINGS SHALL PROVIDE A DETAILED DESCRIPTION OF THE SITE CONDITION OR DISCREPANCY AND THE CONTRACTOR'S PROPOSED REMEDY.
 - B. REQUESTS FOR INFORMATION SHALL BE SUBMITTED TO ALLOW FOR FIVE BUSINESS DAYS OF REVIEW TIME WITHOUT IMPACTING THE CONSTRUCTION SCHEDULE.
10. UPON COMPLETION OF WORK, THE GENERAL CONTRACTOR SHALL PROVIDE THE TENANT'S CONSTRUCTION MANAGER WITH A BOUND RECORD OF ALL PLUMBING EQUIPMENT UTILIZED IN THE JOB. THE GENERAL CONTRACTOR SHALL PROVIDE THE SAME INFORMATION IN AN ELECTRONIC FORMAT AS DIRECTED BY THE OWNER. THE BINDER SHALL CONTAIN:
 - A. COVER SHEET INDICATING THE PROJECT NAME, ADDRESS AND TURNOVER DATE.
 - B. COMPANY NAME AND CONTACT INFORMATION OF THE CONTRACTORS UTILIZED FOR THE PLUMBING SCOPE OF WORK.
 - C. CUTSHEETS, INSTALLATION MANUALS AND MAINTENANCE REQUIREMENTS FOR ALL FINISHING EQUIPMENT.
11. UPON COMPLETION OF WORK, THE GENERAL CONTRACTOR SHALL PROVIDE THE TENANT'S CONSTRUCTION MANAGER A FULL SET OF DRAWINGS WITH ANY DEVIATIONS FROM THE DRAWINGS INDICATED IN RED INK.

(END OF SECTION 22 00 00)

SECTION 22 05 23 - VALVES

PART 1 - GENERAL

1. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.

PART 2 - PRODUCTS

1. BALL VALVES
 - A. CWP RATING: 400 PSIG
 - B. BODY DESIGN: TWO-PIECE BRONZE. THREADED ENDS WITH PTFE SEATS, BRONZE OR BRASS STEM, CHROME-PLATED BRASS BALL AND SOLDERED ENDS.
 - C. PORT: REGULAR
2. CHECK VALVES
 - A. CWP RATING: CLASS 125
 - B. BODY DESIGN: CLASS 125 SWING CHECK VALVE WITH BRONZE DISK, HORIZONTAL FLOW, CONSTRUCTED OF ASTM B 62 BRONZE, PTFE DISK AND SOLDERED ENDS.
3. PLUG VALVES
 - A. CWP RATING: 200 PSIG
 - B. BODY DESIGN: CLASS 125, LUBRICATED PLUG VALVE CONSTRUCTED OF CAST IRON WITH LUBRICATION-SEALING SYSTEM, REGULAR PATTERN, CAST IRON PLUG WITH SEALANT GROOVE AND THREADED ENDS.

PART 3 - EXECUTION

1. GENERAL
 - A. UTILIZE BALL AND CHECK VALVES IN DOMESTIC WATER PIPING WHERE SHOWN ON THE PLANS AND AS REQUIRED BY THE CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
 - B. UTILIZE PLUG VALVES IN NATURAL GAS PIPING WHERE SHOWN ON THE PLANS AND AS REQUIRED BY THE CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION.
 - C. DO NOT ATTEMPT TO REPAIR DEFECTIVE VALVES. REPLACE WITH NEW VALVES.
 - D. IF VALVES WITH CWP RATINGS INDICATED ARE UNAVAILABLE, THE SAME TYPES OF VALVES WITH HIGHER CWP RATINGS MAY BE SUBSTITUTED.
2. INSTALLATION:
 - A. INSTALL VALVES WITH UNIONS TO ALLOW SERVICE AND MAINTENANCE.
 - B. LOCATE VALVES FOR EASY ACCESS AND PROVIDE SEPARATE SUPPORT WHERE NECESSARY.
 - C. INSTALL VALVES IN HORIZONTAL PIPING WITH STEM AT OR ABOVE CENTER OF PIPE AND WHERE FULLY ACCESSIBLE.
 - D. INSTALL VALVES IN POSITION TO ALLOW FULL STEM MOVEMENT.
 - E. INSTALL SWING CHECK VALVES FOR PROPER DIRECTION OF FLOW IN HORIZONTAL POSITION WITH HINGE PIN LEVEL.

(END OF SECTION 22 05 23)

SECTION 22 07 19 - PLUMBING PIPING INSULATION

PART 1 - GENERAL

1. QUALITY ASSURANCE: FLAME-SPREAD INDEX OF 25 OR LESS, AND A SMOKE DEVELOPED INDEX OF 50 OR LESS IN ACCORDANCE WITH ASTM E 84.
1. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.

PART 2 - PRODUCTS

1. INSULATION MATERIALS
 - A. GLASS FIBER PIPE INSULATION: COMPLY WITH ASTM C 547, TYPE I, GRADE A WITH FACTORY APPLIED JACKET WITH VAPOR RETARDER
 - B. POLYOLEFIN PIPE INSULATION: UNICELLULAR, POLYETHYLENE PIPE INSULATION, COMPLY WITH ASTM C 534 OR ASTM C 1427, TYPE I, GRADE 1
2. PROTECTIVE SHELDING PIPE COVERS: MANUFACTURER'S MASTIC WRAPS FOR COVERING PLUMBING FIXTURE HOT AND COLD WATER SUPPLIES AND TRAP AND DRAIN PIPING. COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS.

PART 3 - EXECUTION

1. PREPARATION: CLEAN AND DRY SURFACES. REMOVE MATERIALS THAT WILL ADVERSELY AFFECT INSULATION APPLICATION
2. GENERAL
 - A. INSTALL INSULATION ACCORDING TO MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PER THE PIPE INSULATION DETAIL.
 - B. INSTALL INSULATION AND ACCESSORIES AND FINISHES WITH SMOOTH, STRAIGHT AND EVEN SURFACES. FREE OF VOIDS THROUGHOUT THE LENGTH OF PIPE INCLUDING FITTINGS, VALVES AND SPECIAL TIES.
 - C. INSTALL INSULATION OVER FITTINGS, VALVES, STRAINERS, FLANGES, UNIONS AND OTHER SPECIALTIES UNLESS NOTED OTHERWISE.
 - D. INSULATE PIPE ELBOWS USING PREFORMED FITTING INSULATION OR INTERED FITTINGS.
 - E. INSTALL VAPOR BARRIERS ON ALL COLD WATER AND CONDENSATE SYSTEMS.
 - F. INSTALL INSULATION WITH LONGITUDINAL SEAMS AT TOP OF HORIZONTAL RUNS. LONGITUDINAL SEAMS AND END JOINTS SHALL BE TIGHT, BOND SEAMS AND JOINTS WITH ADHESIVE RECOMMENDED BY INSULATION MANUFACTURER TO MAINTAIN VAPOR BARRIER INTEGRITY.
 - G. WHERE VAPOR BARRIER IS REQUIRED, SEAL JOINTS, SEAMS AND PENETRATIONS IN INSULATION AT HANGERS, SUPPORTS, ANCHORS AND OTHER PROJECTIONS WITH VAPOR-BARRIER MASTIC.
 - H. COVER JOINTS AND SEAMS WITH TAPE, ACCORDING MANUFACTURER'S INSTRUCTIONS TO MAINTAIN ALL VAPOR SEALS.
 - I. APPLY ADHESIVES, MASTICS AND SEALANTS AT MANUFACTURER'S RECOMMENDED COVERAGE RATE AND THICKNESS.
 - J. CUT INSULATION IN A MANNER TO AVOID COMPRESSING INSULATION MORE THAN 75 PERCENT ITS NOMINAL THICKNESS.
 - K. PROVIDE A ONE FOOT LENGTH OF NONCOMPRESSIBLE INSULATION AT ALL PIPE HANGERS AND SUPPORTS.
3. PENETRATIONS
 - A. INSULATION AT ABOVE GROUND EXTERIOR WALL PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH WALL PENETRATIONS.
 - B. INSULATION AT INTERIOR WALL AND PARTITION PENETRATIONS (NOT FIRE RATED): INSTALL INSULATION CONTINUOUSLY THROUGH WALL AND PARTITIONS.
 - C. INSULATION AT FLOOR PENETRATIONS: INSTALL INSULATION CONTINUOUSLY THROUGH FLOOR PENETRATIONS.
4. INDOOR PIPING INSULATIONS THICKNESS REQUIREMENTS
 - A. DOMESTIC HOT, COLD & RECIRCULATION WATER: REFER TO THE INSULATION SCHEDULE FOR PIPE INSULATION THICKNESS.
 - B. CHILLED /HOT WATER FOR HVAC: REFER TO THE INSULATION SCHEDULE FOR PIPE INSULATION THICKNESS.
 - C. ROOF DRAIN AND OVERFLOW DRAIN PIPING AND BODIES: 1" THICK.
 - D. EXPOSED SANITARY DRAINS, DOMESTIC WATER AND STOPS FOR PLUMBING FIXTURES FOR PEOPLE WITH DISABILITIES: 1/2"THICK.
 - E. SANITARY WASTE PIPING WITH HEAT TRACE: 2" THICK.

(END OF SECTION 22 07 19)

SECTION 22 11 16 - DOMESTIC WATER PIPING

PART 1 - GENERAL

1. PERFORMANCE REQUIREMENTS: MINIMUM PRESSURE REQUIREMENTS FOR WATER PIPING ARE AS FOLLOWS
 - A. DOMESTIC WATER SUPPLY ENTRANCE: 100 PSIG.
 - B. DOMESTIC WATER PIPING: 80 PSIG.
2. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.

PART 2 - PRODUCTS

1. GENERAL
 - A. PORTABLE-WATER PIPING AND COMPONENTS SHALL COMPLY WITH NSF 14 AND NSF 61 ANNEX G.
 - B. COMPLY WITH NSF STANDARD 372 FOR LOW LEAD.
2. COPPER TUBE AND FITTINGS
 - A. HARD COPPER TUBE: ASTM B 88, TYPE L WATER TUBE, DRAWN TEMPER.
 - B. CAST-COPPER, SOLDER-JOINT FITTINGS: ASME B16.18, PRESSURE FITTINGS.
 - C. WROUGHT-COPPER, SOLDER JOINT FITTINGS: ASME B16.22, WROUGHT-COPPER PRESSURE FITTINGS.
 - D. BRONZE FLANGES: ASME B16.24, CLASS 150, WITH SOLDER-JOINT ENDS.
 - E. COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES AND SOLDER-JOINT OR THREADED ENDS.
3. PEX TUBE AND FITTINGS
 - A. PEX MATERIAL: PEX SILANE CROSS-LINKED, HIGH DENSITY POLYETHYLENE PLASTIC ACCORDING TO ASTM F876, ASTM F877 AND CSA B 137.5 WITH A CHLORINE RESISTANCE RATING OF 5 AND CERTIFIED FOR FLOOR AND WALL ASSEMBLIES, FLAME-SPREAD INDEX OF 25 OR LESS, SMOKE-DEVELOPED INDEX OF 50 OR LESS.
 - B. BRONZE FITTINGS (1" AND SMALLER): PRESS FITTINGS MANUFACTURED FROM COPPER ALLOY, MEETING THE REQUIREMENTS OF ASTM F877 WHEN TESTED AS A SYSTEM WITH MANUFACTURER'S PEX TUBING.
 - C. POLYMER FITTINGS (1" AND SMALLER): PRESS FITTINGS MANUFACTURED FROM POLYMER MEETING THE REQUIREMENTS OF ASTM F877 WHEN TESTED AS A SYSTEM WITH THE MANUFACTURER'S PEX TUBING.
 - D. METAL INSERT AND COPPER CRIMP-RINGS: ASTM F1807.
 - E. PRESSURE/TEMPERATURE RATING (2" AND SMALLER): PEX, HIGH-DENSITY, CROSS LINKED POLYETHYLENE TUBING SHALL BE CAPABLE OF WITHSTANDING 180°F AT 100 PSI.
4. STAINLESS STEEL PIPING
 - A. TUBE MATERIALS: ASTM A 312/A 312M, SCHEDULE 40
 - B. ASTM A312/A 312M FITTINGS
 - C. FITTINGS FOR GROOVED-END PIPE SHALL BE STAINLESS-STEEL CASTING WITH DIMENSIONS MATCHING STAINLESS-STEEL PIPE.
 - D. MECHANICAL COUPLINGS FOR GROOVED-END STAINLESS-STEEL PIPE SHALL BE AWWA C608 FOR STAINLESS STEEL PIPE DIMENSIONS, STAINLESS-STEEL HOUSING SECTIONS, STAINLESS-STEEL BOLTS AND NUTS, EPDM-RUBBER GASKETS SUITABLE FOR HOT AND COLD WATER WITH A 250 PSIG MINIMUM PRESSURE RATING.
5. DIELECTRIC FITTINGS
 - A. DIELECTRIC UNIONS: ASSE 1079 WITH A PRESSURE RATING OF 125 PSIG MINIMUM AT 180 DEG F WITH SOLDER-JOINT COPPER ALLOY AND THREADED FERROUS END CONNECTIONS.

PART 3 - EXECUTION

1. PIPING INSTALLATION
 - A. DRAWING PLANS, SCHEMATIC AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF DOMESTIC WATER PIPING ROUTING. COORDINATE INSTALLATION WITH WORK OF ALL OTHER TRADES. ACCOMMODATE HANGERS, INSULATION AND OTHER REQUIREMENTS AS REQUIRED.
 - B. INSTALL DOMESTIC WATER PIPING LEVEL AND PLUMB. PIPING SHALL BE FREE OF SAGS AND BENDS.
 - C. USE ECCENTRIC REDUCER FITTINGS TO MAKE REDUCTIONS IN PIPE SIZES. INSTALL FITTINGS WITH LEVEL SIDE DOWN.
 - D. ROUGH-IN DOMESTIC WATER PIPING INSTALLATION ACCORDING TO THE UTILITY COMPANY'S REQUIREMENTS.
 - E. INSTALL PIPING CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS UNLESS NOTED OTHERWISE.
 - F. ALL EXPOSED PIPING SHALL BE INSTALLED AT RIGHT ANGLES AND PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS NOTED OTHERWISE.
 - G. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
 - H. INSTALL PIPING TO PERMIT VALVE OPERATION AND SERVICING.
 - I. INSTALL NIPPLES, UNIONS, SPECIAL FITTINGS AND VALVES WITH PRESSURE RATINGS THE SAME AS OR HIGHER THAN THE SYSTEM PRESSURE RATING.
 - J. INSTALL UNIONS IN COPPER TUBING AT FINAL CONNECTION TO EACH WATER HEATER AND SPECIALTY.
 - K. INSTALL PEX TUBING WITH A LOOP AT EACH CHANGE OF DIRECTION OF MORE THAN 90 DEGREES.
 - L. INSTALL SLEEVES FOR PIPING PENETRATIONS OF WALLS, CEILINGS AND FLOORS.
 - M. INSTALL SLEEVE SEALS FOR PIPING PENETRATIONS OF CONCRETE WALLS AND SLABS.
 - N. INSTALL ONE-PIECE ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS AND CEILINGS.
 - O. WHEN INSTALLING PIPING ADJACENT TO EQUIPMENT, ALLOW SPACE FOR SERVICE AND MAINTENANCE.
 - P. PIPING INSTALLED IN EXTERIOR WALLS SHALL BE INSTALLED BETWEEN THE INSULATION AND THE INTERIOR WALL FINISHING MATERIAL.
2. JOINT CONSTRUCTION
 - A. REAM ENDS OF PIPE AND TUBES AND REMOVE BURRS.
 - B. REMOVE SCALE, SLAG, DIRT AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPES.
 - C. SOLDER JOINTS FOR COPPER TUBING.
 - D. JOIN PEX PIPING ACCORDING TO THE FOLLOWING STANDARDS: ASTM F877 FOR BRONZE AND POLYMER INSERT PEX PRESS FITTINGS.
3. DIELECTRIC FITTING INSTALLATION
 - A. INSTALL DIELECTRIC FITTINGS IN PIPING AT CONNECTIONS OF DISSIMILAR METAL PIPING AND TUBING.
4. HANGER AND SUPPORT INSTALLATION
 - A. INSTALL HANGERS AND SUPPORTS FOR COPPER PIPING AS REQUIRED BY THE PLUMBING CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND AS RECOMMENDED BY THE PIPE MANUFACTURER.
 - B. INSTALL HANGERS AND SUPPORTS FOR HORIZONTAL PEX TUBING AS REQUIRED BY THE PLUMBING CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND AS RECOMMENDED BY THE PIPE MANUFACTURER. INSTALL HANGERS FOR VERTICAL PEX TUBING EVERY 48 INCHES.
5. CONNECTIONS
 - A. WHERE THE SUPPLY LINE SHOWN ON THE PLUMBING DIAGRAMS DIFFERS FROM THE FIXTURE OR EQUIPMENT CONNECTION SIZE, PROVIDE LINE SIZE PIPE TO WITHIN 6" OF THE FIXTURE OR EQUIPMENT CONNECTION SIZE.
 - B. WHEN INSTALLING PIPING ADJACENT TO EQUIPMENT AND MACHINES, ALLOW SPACE FOR SERVICE MAINTENANCE.
 - C. PROVIDE TRANSITIONS FROM PEX TO COPPER PIPING AS REQUIRED IN MANUFACTURER'S INSTALLATION INSTRUCTIONS.
6. INSPECTING AND CLEANING
 - A. FILL DOMESTIC WATER PIPING, CHECK COMPONENTS TO DETERMINE THAT THEY ARE NOT AIR BOUND AND THAT PIPING IS FULL OF WATER.
 - B. TEST FOR LEAKS AND DEFECTS IN NEW PIPING AND PARTS OF EXISTING PIPING THAT HAVE BEEN ALTERED, EXTENDED OR REPAIRED.
 - C. CAP AND SUBJECT PIPING TO STATIC WATER PRESSURE OF 90 PSIG ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING THE PRESSURE RATING OF THE PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW IT TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE A DEFECT THAT MUST BE REPAIRED.
 - D. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING UNTIL SATISFACTORY RESULTS ARE OBTAINED.
 - E. INSPECT AND TEST PIPING SYSTEMS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
 - F. USE PURGING AND DISINFECTING PROCEDURES PRESCRIBED BY THE AUTHORITY HAVING JURISDICTION.

(END OF SECTION 22 11 16)

SECTION 22 11 23 - NATURAL-GAS PIPING

PART 1 - GENERAL

1. COMPLY WITH NFPA 54 AND THE FUEL-GAS CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION FOR THE INSTALLATION AND PURGING OF NATURAL-GAS PIPING.
2. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.

PART 2 - PRODUCTS

1. PERFORMANCE REQUIREMENTS
 - A. PIPING AND VALVES: 100 PSIG MINIMUM UNLESS NOTED OTHERWISE.
2. PIPES, TUBES AND FITTINGS
 - A. STEEL PIPE: ASTM A 53/A 53M, BLACK STEEL, SCHEDULE 40, TYPE S, GRADE B.
 - B. MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN.
 - C. WROUGHT-STEEL WELDING FITTINGS: ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.
 - D. UNIONS: ASME B16.39, CLASS 150, MALLEABLE IRON WITH BRASS-TO-IRON SEAT, GROUND JOINT AND THREADED ENDS.
3. BRONZE PLUG VALVES
 - A. BRONZE BODY COMPLYING WITH ASTM B 584 WITH A BRONZE PLUG WITH SQUARE HEAD WITH TAMPERPROOF FEATURE WHERE EASILY ACCESSIBLE. 125 PSIG PRESSURE CLASS OR SUITABLE FOR NATURAL-GAS SERVICE.
4. GAS VALVES
 - A. CAST IRON OR BRONZE BODY COMPLYING WITH ASTM A 128, CLASS B WITH A BRONZE PLUG WITH SQUARE HEAD WITH TAMPERPROOF FEATURE WHERE EASILY ACCESSIBLE. 125 PSIG PRESSURE CLASS, SUITABLE FOR NATURAL-GAS SERVICE.
5. LINE PRESSURE REGULATORS
 - A. COMPLY WITH ANSI Z21.80, SINGLE STAGE PRESSURE REGULATOR SUITABLE FOR NATURAL GAS WITH STEEL JACKET AND CORROSION RESISTANT COMPONENTS. PROVIDED WITH ELEVATION COMPENSATOR AND FACTORY-MOUNTED ATMOSPHERIC VENT. REFER TO PLANS FOR INLET PRESSURE, OUTLET PRESSURE AND FLOW VOLUME.
6. APPLIANCE PRESSURE REGULATORS
 - A. COMPLY WITH ANSI Z21.18, SINGLE STAGE PRESSURE REGULATOR SUITABLE FOR NATURAL GAS WITH STEEL JACKET AND CORROSION RESISTANT COMPONENTS. PROVIDED WITH ELEVATION COMPENSATOR AND FACTORY-MOUNTED ATMOSPHERIC VENT. REFER TO PLANS FOR INLET PRESSURE, OUTLET PRESSURE AND FLOW VOLUME.
7. DIELECTRIC FITTINGS
 - A. DIELECTRIC UNIONS: ASSE 1079 WITH A PRESSURE RATING OF 125 PSIG MINIMUM AT 180 DEG F WITH SOLDER-JOINT COPPER ALLOY AND THREADED FERROUS END CONNECTIONS.

PART 3 - EXECUTION

1. PIPING INSTALLATION
 - A. DRAWING PLANS, SCHEMATIC AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF NATURAL-GAS PIPING ROUTING. COORDINATE INSTALLATION WITH WORK OF ALL OTHER TRADES. ACCOMMODATE HANGERS, INSULATION AND OTHER REQUIREMENTS AS REQUIRED.
 - B. INSTALL FITTINGS AS REQUIRED FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. USE ECCENTRIC REDUCER FITTINGS TO MAKE REDUCTIONS IN PIPE SIZES. INSTALL FITTINGS WITH LEVEL SIDE DOWN.
 - C. INSTALL PIPING FREE OF SAGS AND BENDS.
 - D. INSTALL NATURAL-GAS PIPING AT UNIFORM GRADE OF 2 PERCENT DOWN TOWARD DRIP AND SEDIMENT TRAPS.
 - E. INSTALL PIPING CONCEALED FROM VIEW AND PROTECTED FROM PHYSICAL CONTACT BY BUILDING OCCUPANTS UNLESS NOTED OTHERWISE.
 - F. ALL EXPOSED PIPING SHALL BE INSTALLED AT RIGHT ANGLES AND PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS NOTED OTHERWISE.
 - G. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
 - H. DRIPS AND SEDIMENT TRAPS: PROVIDE SEDIMENT TRAP AT EACH PIECE OF EQUIPMENT AND AT THE BOTTOM OF VERTICAL SECTIONS OF PIPING. PROVIDE DRIPS AT POINTS WHERE CONDENSATE MAY COLLECT. LOCATE WHERE ACCESSIBLE TO PERMIT CLEANING AND EMPTYING. DO NOT INSTALL WHERE CONDENSATE IS SUBJECT TO FREEZING.
 - I. EXTEND RELIEF VENT CONNECTIONS FOR REGULATORS TO OUTDOORS AND TERMINATE WITH WEATHERPROOF VENT CAP.
 - J. INSTALL UNIONS IN PIPES 2" AND SMALLER, ADJACENT TO EACH VALVE AND AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT.
 - K. DO NOT USE NATURAL-GAS PIPING AS GROUNDING ELECTRODE.
 - L. INSTALL STRAINER ON INLET OF EACH LINE-PRESSURE REGULATOR.
 - M. INSTALL ONE-PIECE ESCUTCHEONS FOR PIPING PENETRATING WALLS AND CEILINGS.
 - N. PAINT EXPOSED NATURAL-GAS PIPING WITH PRIMER AND ONE FINAL COAT OF EXTERIOR ENAMEL. COLOR SHALL MATCH SURROUNDING FINISHES OR AS REQUIRED BY THE LOCAL JURISDICTION.
2. VALVE INSTALLATION
 - A. INSTALL MANUAL GAS SHUTOFF VALVE FOR EACH GAS APPLIANCE.
 - B. ALLOW MAINTENANCE ACCESS FOR ALL VALVES AND REGULATORS.
 - C. LOCATE VALVES FOR EASY ACCESS, PROTECTED FROM DAMAGE.
3. HANGER AND SUPPORT INSTALLATION
 - A. INSTALL HANGERS AND SUPPORTS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION AND AS RECOMMENDED BY THE PIPE MANUFACTURER.
4. CONNECTIONS
 - A. WHERE THE SUPPLY LINE SHOWN ON THE PLUMBING DIAGRAMS DIFFERS FROM THE FIXTURE OR EQUIPMENT CONNECTION SIZE, PROVIDE LINE SIZE PIPE TO WITHIN 6" OF THE FIXTURE OR EQUIPMENT BEFORE TRANSITIONING TO THE CONNECTION SIZE.
 - B. CONNECT TO THE UTILITY'S GAS MAIN ACCORDING TO THE UTILITY'S PROCEDURES AND REQUIREMENTS.
 - C. INSTALL NATURAL-GAS PIPING ELECTRICALLY CONTINUOUS, AND BONDED TO GAS APPLIANCE EQUIPMENT GROUNDING CONDUCTOR OF THE CIRCUIT POWERING THE APPLIANCE ACCORDING TO NFPA 70.
 - D. CONNECT PIPING TO APPLIANCES USING MANUAL GAS SHUTOFF VALVES AND UNIONS. INSTALL VALVE WITHIN 72 INCHES OF EQUIPMENT. INSTALL UNION BETWEEN THE VALVE AND EQUIPMENT.
 - E. SEDIMENT TRAPS: INSTALL TEE FITTINGS WITH CAPPED NIPPLE IN BOTTOM TO FORM DRIP, AS CLOSE AS PRACTICAL TO INLET OF EACH APPLIANCE.

(END OF SECTION 22 11 23)

SECTION 22 13 16 - SANITARY WASTE AND VENT PIPING

PART 1 - GENERAL

1. PERFORMANCE REQUIREMENTS: MINIMUM PRESSURE REQUIREMENTS FOR SOIL, WASTE AND VENT PIPING: 10-FOOT HEAD OF WATER.
2. SECTION REQUIREMENTS
 - A. SUBMITTALS: NONE REQUIRED.

PART 2 - PRODUCTS

1. GENERAL
 - A. COMPLY WITH THE REQUIREMENTS IN THE PIPING SCHEDULE FOR APPLICATIONS OF PIPE AND TUBE FOR SPECIFIC SERVICES AND SERVICE LOCATIONS
2. HUB AND SPIGOT, CAST IRON SOIL PIPE AND FITTINGS
 - A. COMPLY WITH CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK"
 - B. PIPE AND FITTINGS: ASTM A 74 SERVICE CLASS.
 - C. GASKETS: ASTM C 564 RUBBER.
3. PVC PIPE AND FITTINGS
 - A. COMPLY WITH NSF 14, "PLASTICS PIPING SYSTEMS COMPONENTS AND RELATED MATERIALS" FOR PLASTIC PIPING COMPONENTS.
 - B. SOLID WALL SCHEDULE 40 PVC PIPE: ASTM D 2685, DRAIN, WASTE AND VENT.
 - C. PVC SOCKET FITTINGS: ASTM D 2665, MADE TO ASTM D 3311, DRAIN, WASTE AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE.
4. STAINLESS-STEEL PIPE AND FITTINGS
 - A. COMPLY WITH ASME A112.3.1 AND APPLICABLE PLUMBING CODES.
 - B. PIPE AND FITTINGS: ASME A112.3.1, DRAINAGE PATTERN WITH SOCKET AND SPIGOT ENDS.
 - C. INTERNAL SEALING RINGS: ELASTOMERIC GASKETS SHAPED TO FIT SOCKET GROOVE.

PART 3 - EXECUTION

1. PIPING INSTALLATION
 - A. DRAWING PLANS, SCHEMATIC AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF SANITARY WASTE AND VENT PIPING ROUTING. COORDINATE INSTALLATION WITH WORK OF ALL OTHER TRADES. ACCOMMODATE HANGER OTHER REQUIREMENTS AS REQUIRED.
 - B. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS NOTED OTHERWISE.
 - C. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.
 - D. INSTALL PIPING AT INDICATED SLOPES.
 - E. INSTALL PIPING FREE OF SAGS AND BENDS.
 - F. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS AS REQUIRED PER THE PREVAILING PLUMBING CODE.
 - G. PROVIDE 1/4" PER FOOT SLOPE TO ALL HORIZONTAL SANITARY WASTE PIPING DOWNWARD IN THE DIRECTION OF FLOW.
 - H. PROVIDE 1/10" PER FOOT SLOPE TO VENT PIPING DOWN TOWARDS FIXTURE VENTS.
 - I. INSTALL CLEANOUTS WHERE INDICATED ON THE PLANS AND AS REQUIRED PER THE LOCAL AUTHORITY HAVING JURISDICTION.
 - J. INSTALL ONE-PIECE ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS AND CEILINGS.
 - K. PROVIDE TRAPS ON INDIRECT DRAINS AS REQUIRED BY THE PLUMBING CODE AND THE LOCAL AUTHORITY HAVING JURISDICTION.
2. JOINT CONSTRUCTION
 - A. JOIN HUB-AND-SPIGOT, CAST IRON SOIL PIPING WITH GASKET JOINTS ACCORDING TO CISPI'S "CAST IRON SOIL PIPE AND FITTINGS HANDBOOK"
 - B. JOIN PVC PIPING ACCORDING TO ASTM D 2855 AND ASTM 2 2665 APPENDICES.
 - C. JOIN STAINLESS-STEEL PIPE AND FITTINGS WITH GASKETS ACCORDING TO ASME A112.3.1.
3. HANGER AND SUPPORT INSTALLATION
 - A. INSTALL HANGERS AND SUPPORTS AS REQUIRED BY THE PLUMBING CODE ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND AS RECOMMENDED BY THE PIPE MANUFACTURER.
4. CONNECTIONS
 - A. PLUMBING FIXTURES AND EQUIPMENT: CONNECT WASTE PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE.
 - B. PLUMBING FIXTURES AND EQUIPMENT: CONNECT ATMOSPHERIC VENT PIPING IN SIZES INDICATED, BUT NOT SMALLER THAN REQUIRED BY PLUMBING CODE.
5. INSPECTING AND CLEANING
 - A. INSPECT AND TEST PIPING SYSTEMS AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

(END OF SECTION 22 13 16)

SECTION 22 34 00 - DOMESTIC WATER HEATER, INSTANTANEOUS

PART 1 - GENERAL

1. ENERGY REQUIREMENTS
 - A. COMPLY WITH ALL REQUIREMENTS OF THE ENERGY CODE, AND ALL REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
2. SECTION REQUIREMENTS
 - A. SUBMITTALS: PROVIDE SUBMITTALS FOR ALL INSTANTANEOUS WATER HEATERS.

PART 2 - PRODUCTS

1. FACTORY INSTALLED OPTIONS
 - A. DIRECT VENT WATER HEATER CONSTRUCTED TO ANSI STANDARD Z21.10.3/CSA 4.3, RATED FOR 150 PSI WORKING PRESSURE WITH A GAS SUPPLY PRESSURE BETWEEN 3.5" TO 10.5" WATER COLUMN, PROVIDED WITH A STEEL CASE, DUAL STAINLESS STEEL HEAT EXCHANGERS, PREMIXED BURNER, NEGATIVE PRESSURE GAS VALVE, DUAL VENTURI GAS CONNECTION, 1.2 GALLON WATER HOLDING CAPACITY, CONDENSATE COLLECTOR, AN INTEGRAL CIRCULATION PUMP AND 0.5 GALLON BUFFER TANK.
 - B. THE UNIT SHALL HAVE ADJUSTMENTS FOR INSTALLATION AT HIGH ELEVATIONS AND TEMPERATURE LOCKOUTS.
 - C. THE UNIT SHALL BE CONTROLLED BY AN INTERNAL CIRCUIT BOARD WITH FLAME SENSOR SYSTEM, HIGH-LIMIT SENSORS, OVERHEAT PROTECTION DEVICE, FREEZE PROTECTION MODE AND FAN MOTOR ROTATION DETECTOR.
2. CHARACTERISTICS
 - A. REFER TO WATER HEATER SCHEDULE FOR GAS INPUT CAPACITY, MANUFACTURER AND MODEL.
3. EXECUTION
 - A. MAINTAIN MANUFACTURER'S RECOMMENDED CLEARANCES.
 - B. INSTALL WATER HEATER LEVEL AND PLUMB.
 - C. ARRANGE UNIT SUCH THAT CONTROLS AND DEVICES THAT REQUIRE SERVICING ARE ACCESSIBLE.
 - D. INSTALL COMBINATION TEMPERATURE-AND-PRESSURE RELIEF VALVES AND EXTEND COPPER PIPING AS NOTED IN THE WATER HEATER DETAIL.
 - E. INSTALL DRAIN PIPING AS NOTED IN THE WATER HEATER DETAIL.

(END OF SECTION 22 34 00)

SECTION 22 42 16 - PLUMBING FIXTURES

PART 1 - GENERAL

1. COMPLY WITH THE FOLLOWING STANDARDS
 - A. VITREOUS-CHINA FIXTURES: ASME A112.19.2
 - B. CAST-IRON FIXTURES: ASME A112.6.3
 - C. PVC FIXTURES: ASME A112.6.3
 - D. FLUSH VALVES: ASME A112.19.5
2. COMPLY WITH ALL FLOW REQUIREMENTS SET FORTH BY THE LOCAL AUTHORITY HAVING JURISDICTION.
3. SECTION REQUIREMENTS
 - A. SUBMITTALS: PROVIDE SUBMITTALS FOR ALL PLUMBING FIXTURES.

PART 2 - PRODUCTS

1. AS NOTED IN THE PLUMBING FIXTURE SCHEDULE

PART 3 - EXECUTION

1. INSTALLATION
 - A. INSTALL FIXTURES LEVEL AND PLUMB. INSTALL AT HEIGHTS COMPLIANT WITH THE AMERICANS WITH DISABILITIES ACT WHERE REQUIRED.
 - B. INSTALL WALL CARRIERS AND ACCESSORIES AS NOTED IN THE SCHEDULE REMARKS AND AS REQUIRED, WHERE NO CARRIERS ARE INDICATED, PROVIDE ADDITIONAL SUPPORT BUILT INTO WALL.
 - C. INSTALL ONE-PIECE ESCUTCHEONS AT ALL PIPING WALL PENETRATIONS.
 - D. INSTALL PROTECTIVE SHELDING PIPE COVERS AND ENCLOSURES ON EXPOSED PIPING OF ACCESSIBLE LAVATORIES.
 - E. INSTALL FLOOR-MOUNTED FIXTURES TO BUILDING SUBSTRATE.
 - F. SEAL ALL JOINTS BETWEEN FIXTURES/ESCUTCHEONS AND THE WALL/FLOOR USING SANITARY-TYPE, ONE-PART, MILDEW-RESISTANT SILICONE SEALANT.
 - G. INSTALL FLOOR DRAINS, FLOOR SINKS AND TRENCH DRAINS FLUSH WITH FINISHED FLOOR UNLESS NOTED OTHERWISE.
 - H. PROVIDE TRAP PRIMERS FOR ALL FLOOR DRAINS.
 - I. INSTALL FLASHING COLLARS OR FLANGE SO NO LEAKAGE OCCURS BETWEEN DRAIN AND ADJOINING FLOORING. MAINTAIN INTEGRITY OF WATERPROOF MEMBRANES WHERE PENETRATED.
2. CONNECTIONS
 - A. CONNECT FIXTURES WITH WATER SUPPLIES, QUARTER-TURN STOPS, BRAIDED STAINLESS RISERS, TRAPS, SANITARY AND WASTE PIPING AS REQUIRED.
 - B. PROVIDE QUARTER-TURN ANGLE STOPS IN AN ACCESSIBLE LOCATION BELOW THE FIXTURE, WHERE STOPS ARE NOT USED (FLUSH VALVE WATER CLOSETS, URINALS, MOP SINKS, ETC) PROVIDE ISOLATION VALVE IN AN ACCESSIBLE LOCATION ABOVE THE CEILING AT THE FIXTURE.
 - C. REFER TO PLUMBING FIXTURE SCHEDULE FOR CONNECTION LOCATIONS. USE SIZE FITTINGS AS REQUIRED TO MATCH FIXTURES.
3. ADJUSTING
 - A. OPERATE AND ADJUST FIXTURES AND CONTROLS TO ACHIEVE PROPER FLOW AND FUNCTION. REPLACE BATTERIES AND DEFECTIVE ITEMS PRIOR TO TURNOVER.

(END OF SECTION 22 42 16)

CONSULTANT:



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SEAL



PROJECT

CAVA

CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE DESCRIPTION

11/01/2024

CODED NOTES

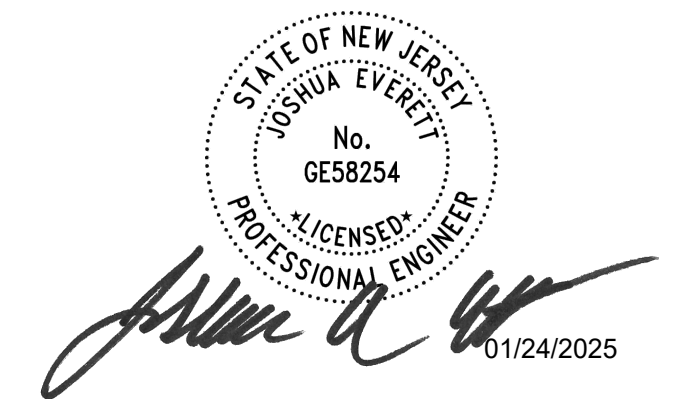
1. CONNECT TO EXISTING 2" DOMESTIC COLD WATER LINE. FIELD VERIFY EXACT LOCATION.
2. PROVIDE ACCESSIBLE VALVE IN WATER SUPPLY TO FIXTURE AS SHOWN.
3. INSTALL THE GAS MECHANICAL VALVE FURNISHED BY HOOD MANUFACTURER AND INSTALLED 6" BELOW CEILING FOR COOKING EQUIPMENT PER DETAIL 10/P201. INTERLOCK WITH ANSUL FIRE PROTECTION SYSTEM AT HOOD. COORDINATE WITH HOOD MANUFACTURER.
4. ROUTE GAS PIPING THROUGH ROOF PER DETAIL 2/P202. REFER TO SHEET P120 FOR CONTINUATION.
5. PROVIDE DOMESTIC WATER ROUGH-INS FOR THE MOP BASIN FAUCET AT 36" AFF.
6. PROVIDE GAS CONNECTIONS TO THE COOKING EQUIPMENT PER DETAIL 6/P201.
7. PROVIDE WATER HEATERS PER DETAIL 1/P201.
8. CONNECT TO EXISTING GAS PIPING. FIELD VERIFY EXACT LOCATION.
9. REFER TO ARCHITECTURAL DRAWINGS FOR PAINTING OF INTERIOR AND EXTERIOR EXPOSED GAS PIPE.
10. PROVIDE DOMESTIC COLD WATER ROUGH-IN FOR ICE MAKER WATER FILTER (K-23) AT 72" AFF. PROVIDE 1/2" BRAIDED STAINLESS STEEL LINE FROM THE FILTER TO THE ICE MAKER PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND PER DIRECTION OF THE KITCHEN EQUIPMENT SUPPLIER.
11. PROVIDE DOMESTIC WATER SUPPLY CONNECTION TO THE WAREWASH SINK PER DETAIL 1/P202.
12. PROVIDE 3/4" HOT WATER TO THE DISH MACHINE, MAKING FINAL CONNECTION USING CONNECTION BRAIDED STAINLESS STEEL HOSE (18" MAXIMUM). PROVIDE WATER PRESSURE REGULATOR AND SET LEAVING PRESSURE TO 25 PSI. PROVIDE WATER HAMMER ARRESTOR ON HOT WATER LINE. PROVIDE AN ACCESSIBLE SHUTOFF VALVE ADJACENT TO THE DISH MACHINE (COORDINATE LOCATION SUCH THAT THE VALVE IS NOT BLOCKED AFTER MACHINE IS INSTALLED) AND INSTALL A STRAINER IN AN ACCESSIBLE LOCATION AT THE CONNECTION TO THE UNIT.
13. PROVIDE ACCESSIBLE ISOLATION VALVE IN WATER SUPPLY TO ROOF HYDRANT. SUPPORT ROOF HYDRANT. REFER TO SHEET P120 FOR CONTINUATION.
14. FILTERED WATER LINES CONCEALED IN SOFFIT.
15. PROVIDE PIPING FROM THE WATER FILTER ASSEMBLY TO THE WATER DISPENSER AND ICE DISPENSER AS NOTED IN DETAIL 6/P202. CONTRACTOR SHALL PROVIDE WATTS SD-3 DUAL CHECK BACKFLOW DEVICE PRIOR TO FINAL CONNECTION OF EACH PIECE OF EQUIPMENT, ASSE 1022 COMPLIANT.
16. PROVIDE ASSE 1070 POINT-OF-USE THERMOSTATIC MIXING VALVE, WATTS LFMV-UT-M1, ON WATER SUPPLY TO KITCHEN HAND SINKS. PROVIDE ANGLE STOP BELOW SINK, FASTEN MIXING VALVE TO WALL, AND MAKE FINAL CONNECTION FROM ANGLE STOPS TO MIXING VALVE AND FROM MIXING VALVE TO FAUCET USING BRAIDED STAINLESS STEEL HOSE. ADJUST MIXING VALVE FOR A MAXIMUM DISCHARGE TEMPERATURE OF 110°F.
17. PROVIDE ACCESSIBLE TRAP PRIMER ABOVE LAY-IN CEILING AS SHOWN. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS WITH A SERVICE VALVE AT THE TRAP PRIMER INLET. REFER TO DETAIL 4/P202. PROVIDE 1/2" DISTRIBUTION PIPE(S) TO FLOOR DRAIN TRAP PRIMER CONNECTION(S) AS SHOWN. HORIZONTAL DISTRIBUTION PIPING SHALL HAVE CONTINUOUS SLOPE TO THE FLOOR DRAIN(S). ROUTE 1" COLD WATER DOWN IN WALL TO WATER FILTERS. INSTALL THE OWNER-FURNISHED WATER FILTERS ON THE WALL ABOVE THE BAG-IN-BOX. REFER TO DETAIL 6/P202 FOR MORE INFORMATION.
19. DO NOT ROUTE ANY PIPING ABOVE ELECTRICAL PANELS.
20. TWO WEEKS PRIOR TO THE SCHEDULED DATE OF THE MAINE ROOT INSTALLATION, THE GENERAL CONTRACTOR SHALL FIELD-VERIFY THE AVAILABLE WATER PRESSURE AT THE CARBONATOR WHILE FILTERED WATER IS FLOWING AT THE BEVERAGE STATION THRU BOTH K-73 AND K-66. IF PRESSURE IS LESS THEN 40 PSI AT CARBONATOR BACKFLOW PREVENTION INLET, PROVIDE A BOOSTER PUMP TO ENSURE MINIMUM OF 40 PSI FILTERED WATER PRESSURE IS AVAILABLE TO CARBONATOR AT ALL TIMES. COORDINATE THE EXACT REQUIREMENTS WITH THE MAINE ROOT VENDOR PRIOR TO PURCHASING PUMP. INSTALL PER MAINE ROOT VENDOR REQUIREMENTS.
21. ECOLAB VENDOR IS TO INSTALL ALL ECOLAB EQUIPMENT WITH CHECK VALVES OR BACKFLOW PREVENTION DEVICES AS APPLICABLE OR REQUIRED BY CODE.

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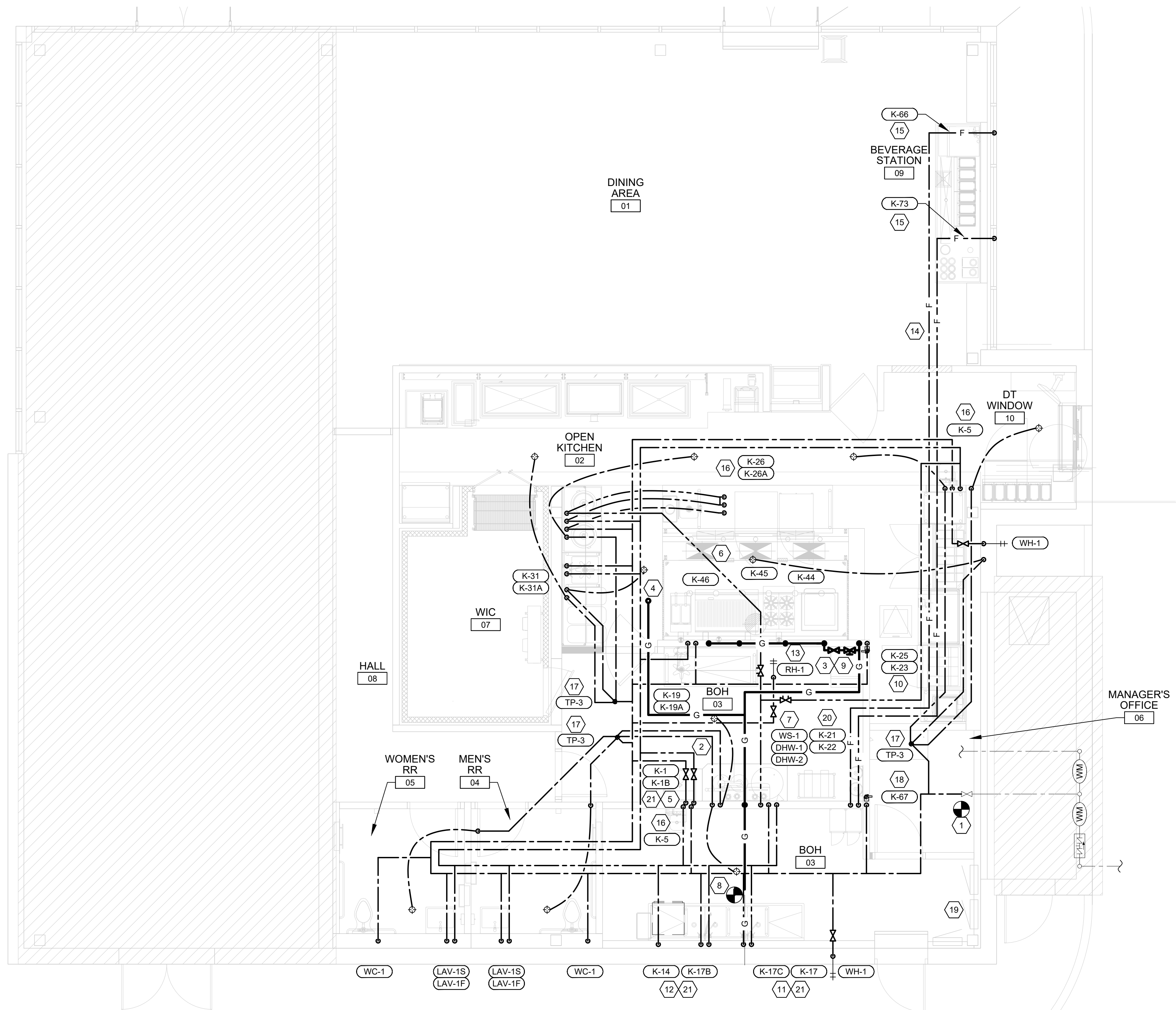
DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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PLUMBING SUPPLY PLAN

Date Modified:	07/26/2024
Date Created:	07/26/2024
Scale:	AS NOTED
Project No.:	240003
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Checked By:	JAE

P100



1 PLUMBING SUPPLY PLAN
1/4" = 1'-0"

CODED NOTES

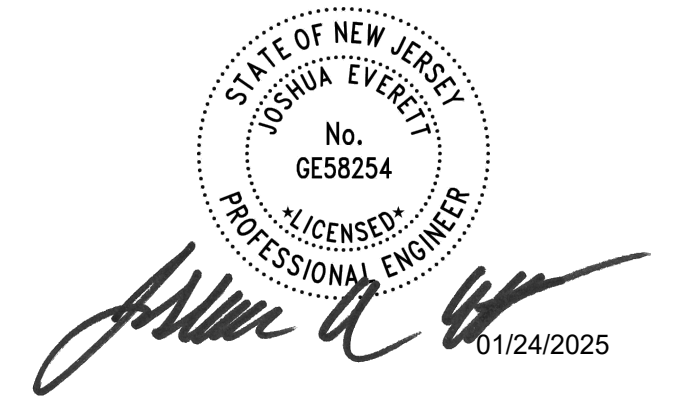
1. SUPPORT THE GAS PIPE ON THE ROOF PER DETAIL 5/P202. WOOD BLOCKING IS NOT AN ACCEPTABLE METHOD OF SUPPORTING THE GAS PIPE.
2. PROVIDE ACCESSIBLE LINE-SIZED GAS VALVE, DIRT LEG, AND UNION AT GAS CONNECTION TO EQUIPMENT PER DETAIL 7/P202.
3. ROUTE GAS PIPING THROUGH ROOF PER DETAIL 2/P202. REFER TO SHEET P100 FOR CONTINUATION.
4. WATER HEATER FLUE THROUGH ROOF.
5. WATER HEATER COMBUSTION AIR INTAKE.
6. PROVIDE ROOF HYDRANT (RH-1) WITH BOTTOM OF NOZZLE INSTALLED 24" ABOVE THE BOTTOM OF THE ROOF DECK. PROVIDE ACCESSIBLE ISOLATION VALVE IN WATER SUPPLY TO ROOF HYDRANT. SUPPORT ROOF HYDRANT PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. REFER TO SHEET P100 FOR CONTINUATION.
7. PROVIDE CONDENSATE DRAIN FROM THE MECHANICAL EQUIPMENT TO A SPLASH BLOCK ON THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. ROUTE SUCH THAT THE DRAIN DOESN'T BLOCK ACCESS TO ANY ACCESS PANELS TO THE EQUIPMENT. TYPICAL OF ROOF TOP UNITS AND MAKEUP AIR UNIT.
8. SANITARY VENT THROUGH ROOF.

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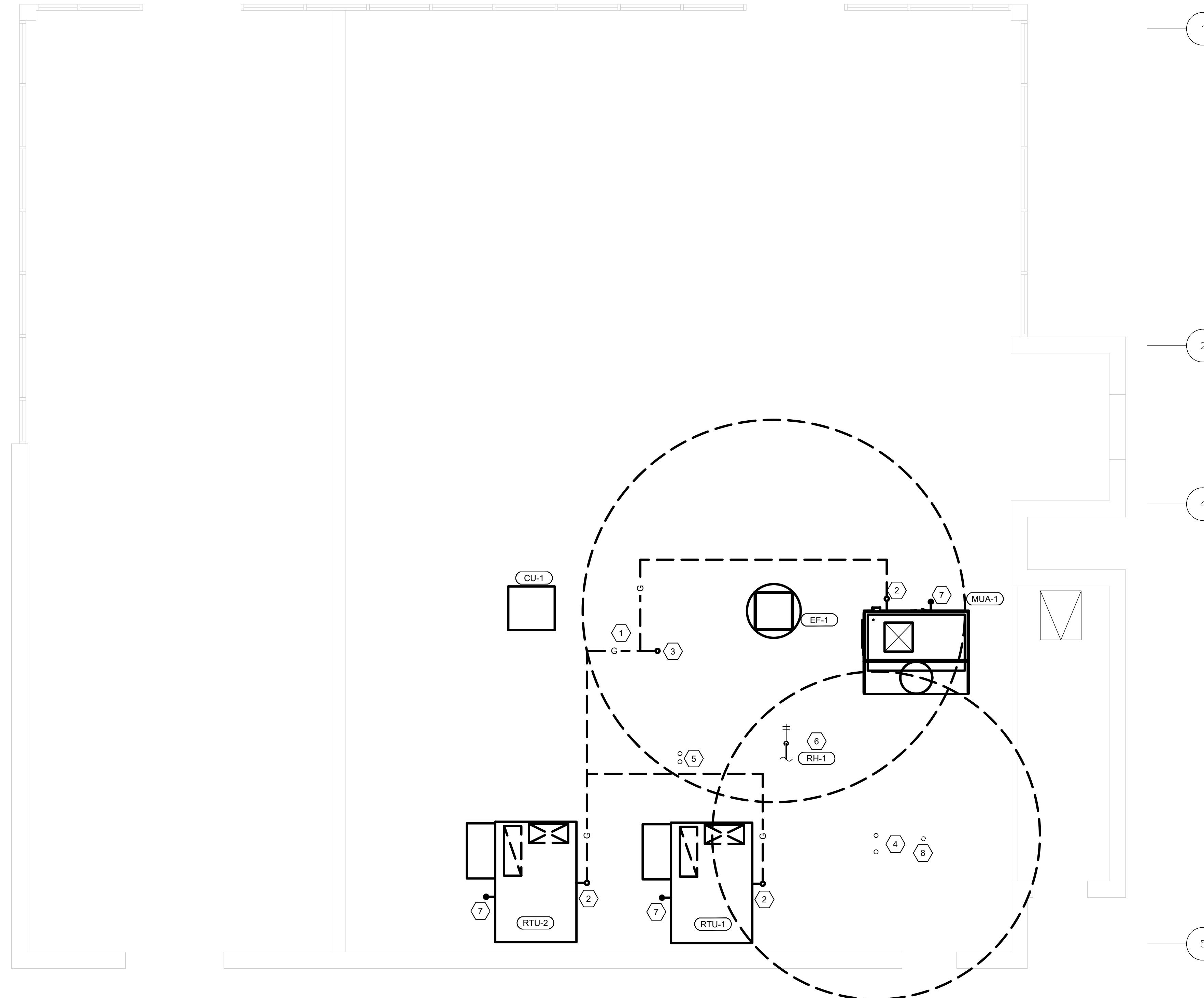
DATE	DESCRIPTION
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PLUMBING SUPPLY ROOF PLAN

Date Modified:	07/26/2024
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Scale:	AS NOTED
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Drawn By:	BRW
Checked By:	JAE

P120



1 PLUMBING ROOF PLAN
1/4" = 1'-0"

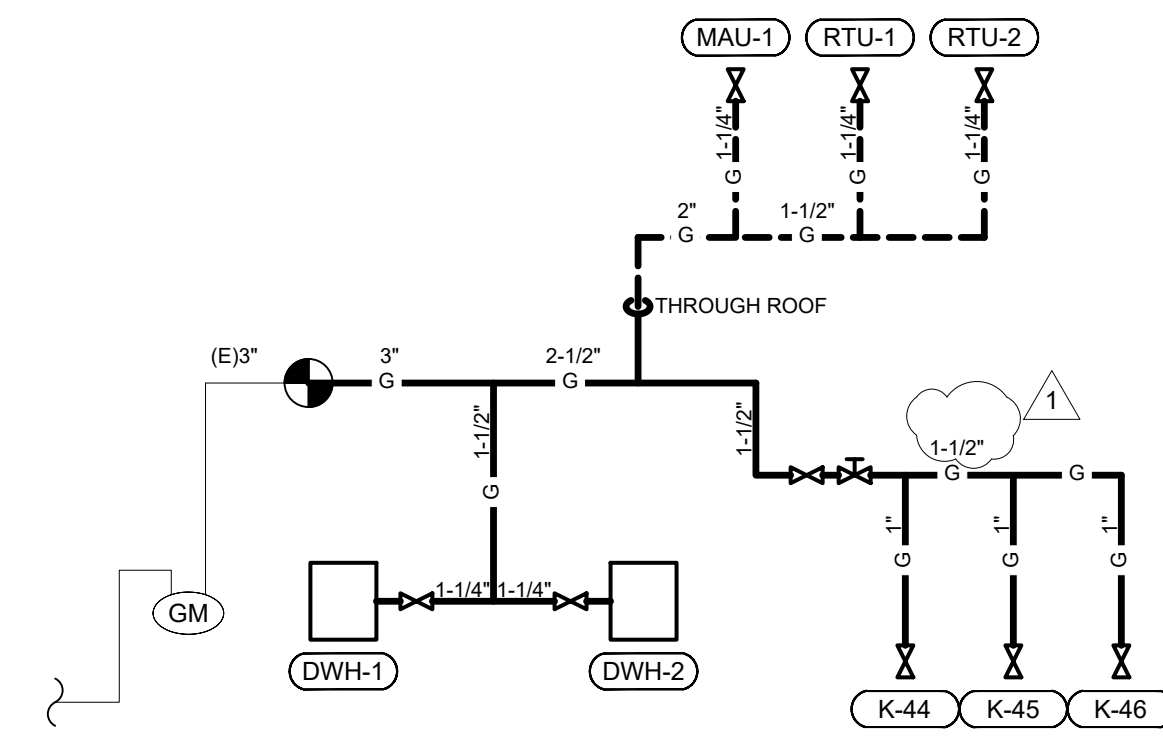


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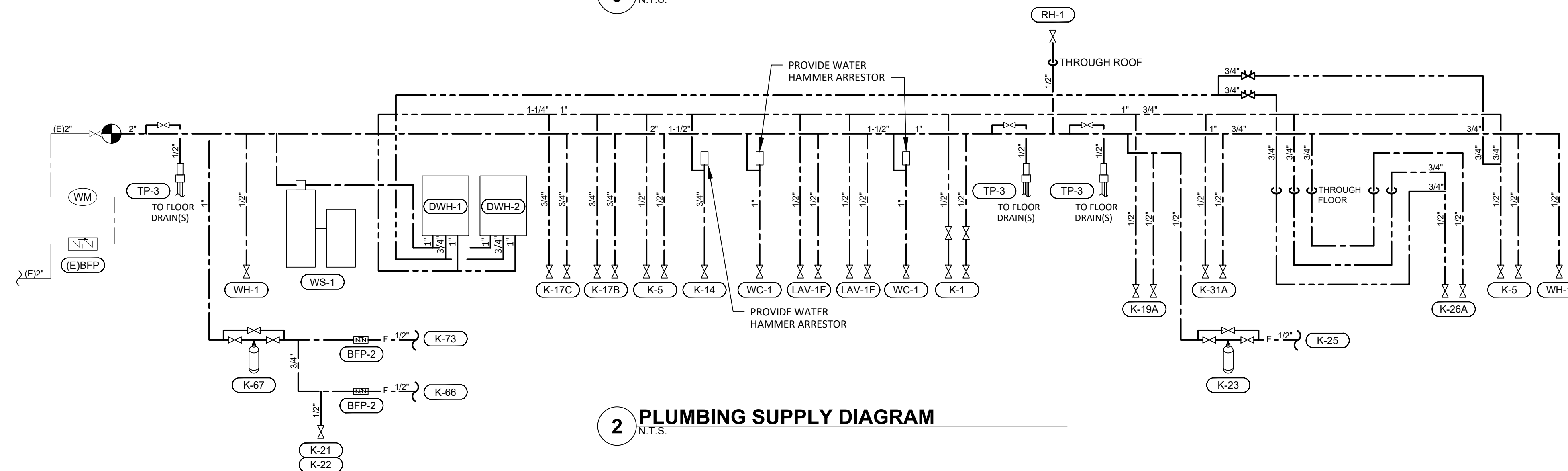
PLUMBING GAS CONNECTIONS

TAG	DESCRIPTION	EQUIVALENT LENGTH	INPUT (BTU/H)
DWH-1	WATER HEATER (GAS TANKLESS)	70'-0"	199,900
DWH-2	WATER HEATER (GAS TANKLESS)	70'-0"	199,900
K-44	GAS RANGE	100'-0"	120,000
K-45	48" GAS GRIDDLE	105'-0"	112,000
K-46	GAS FRYER	110'-0"	120,000
MAU-1	MAKE-UP AIR UNIT	100'-0"	168,830
RTU-1	KITCHEN ROOFTOP UNIT	105'-0"	180,000
RTU-2	DINING ROOFTOP UNIT	100'-0"	180,000
GRAND TOTAL			1,280,630

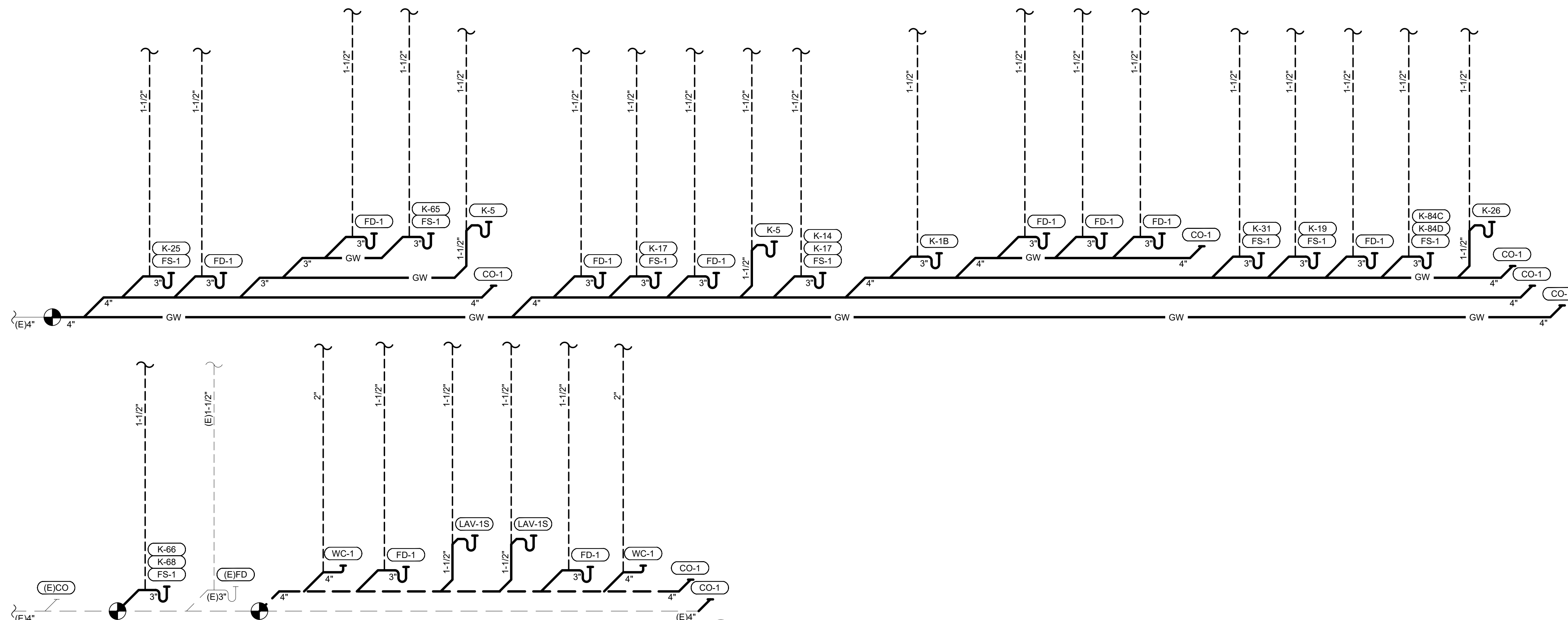
- NOTES:
- FIELD-VERIFY ALL LENGTHS PRIOR TO ROUGH-IN.
 - CALCULATIONS HAVE BEEN COMPLETED BASED ON A 7" WATER COLUMN SUPPLY PRESSURE AND A PRESSURE DROP OF 0.3" WATER COLUMN.
 - COORDINATE SUPPLY PRESSURE, METER INSTALLATION REQUIREMENTS AND ALL OTHER DETAILS WITH THE UTILITY PROVIDER PRIOR TO ROUGH-IN.



3 PLUMBING GAS DIAGRAM
N.T.S.

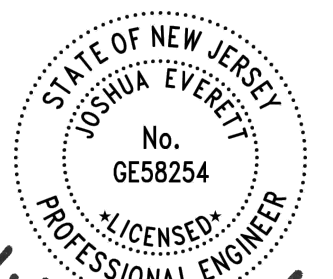


2 PLUMBING SUPPLY DIAGRAM
N.T.S.



1 PLUMBING WASTE DIAGRAM
N.T.S.

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Joshua Everj
01/24/2025

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12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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PLUMBING DIAGRAMS

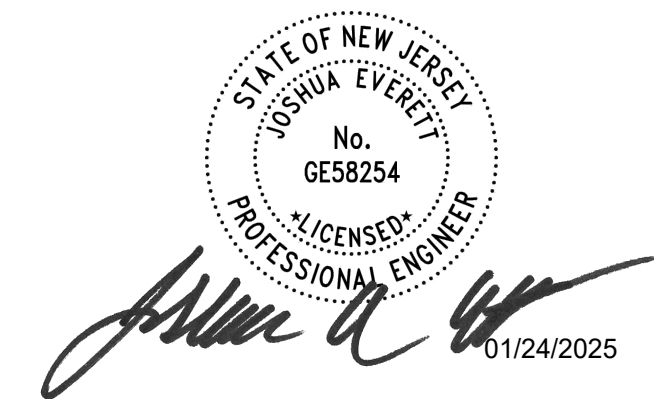
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DATE DESCRIPTION

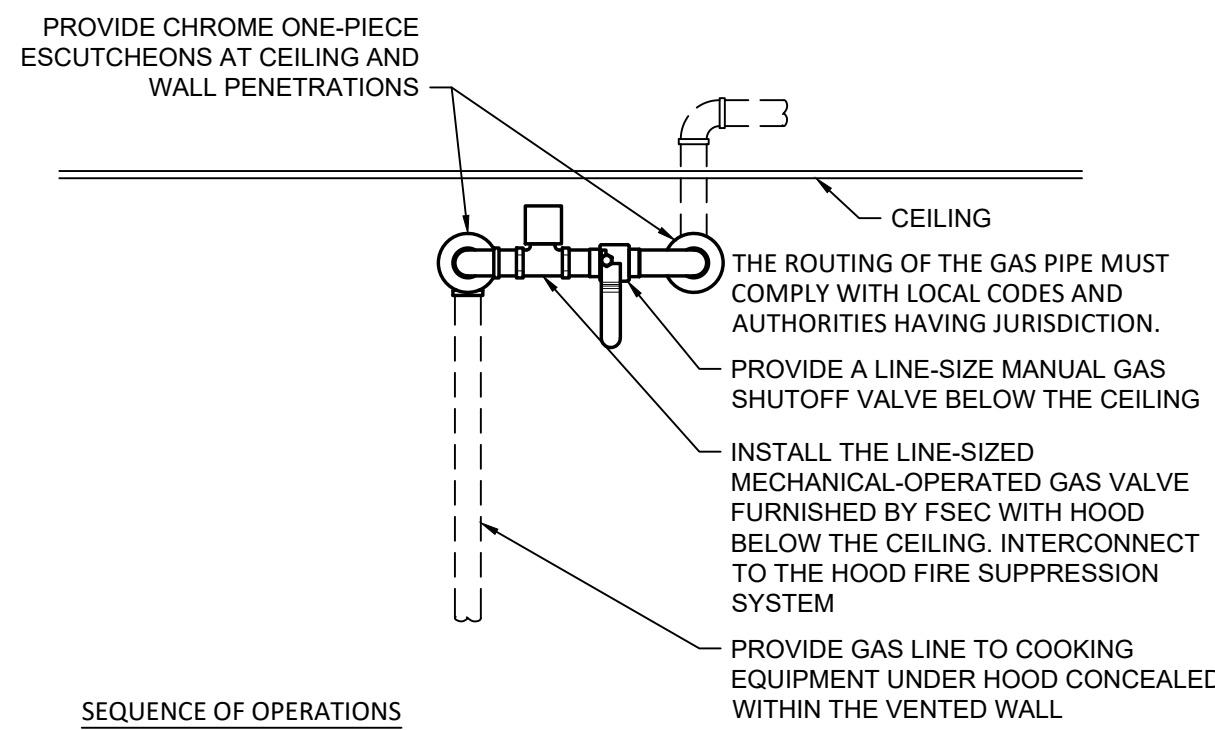
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PLUMBING DETAILS

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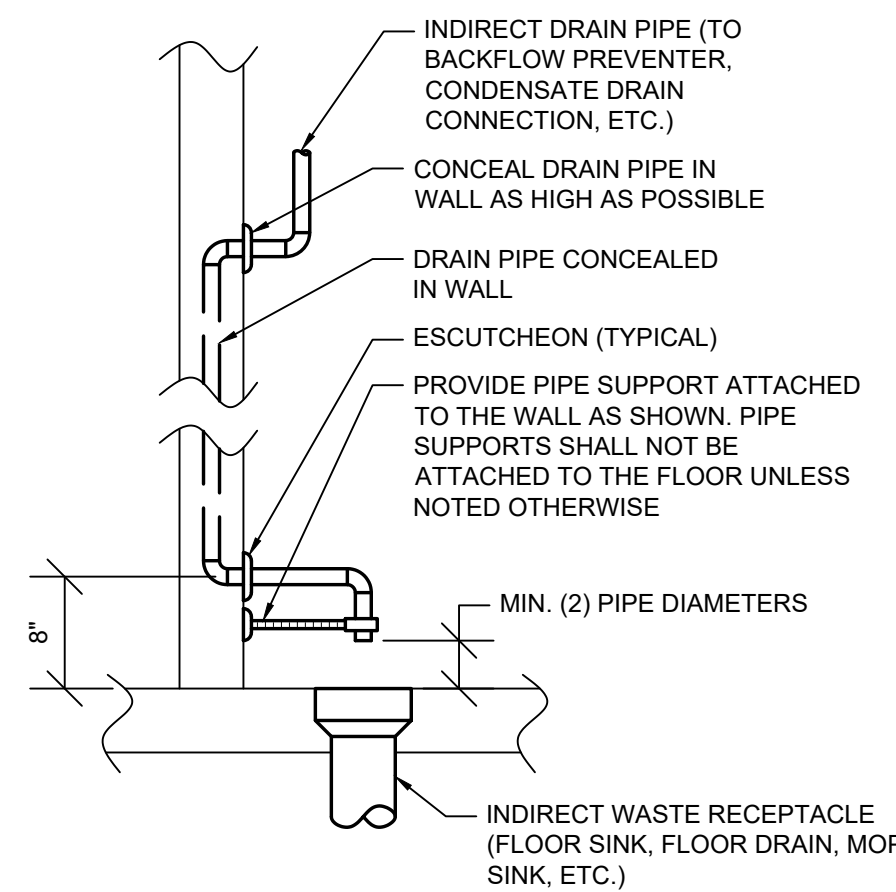
P201



SEQUENCE OF OPERATIONS

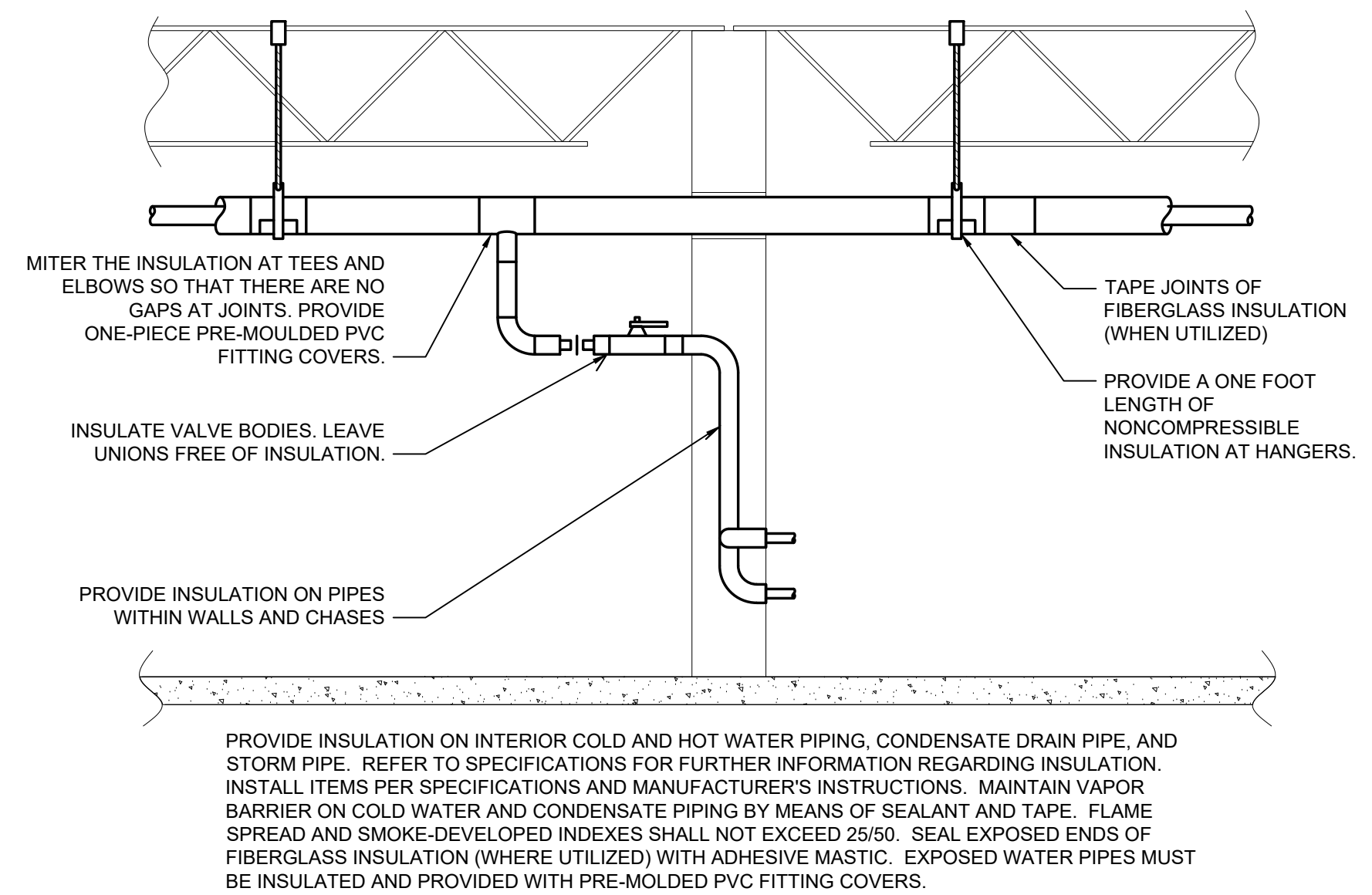
- NORMAL MODE:**
- DURING NORMAL OPERATION THE GAS SHUT-OFF VALVE SHALL BE OPEN.
- EMERGENCY MODE:**
- UPON ACTUATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE GAS SHUT-OFF VALVE SHALL CLOSE.

10 KITCHEN GAS SHUTOFF (AT CEILING)
N.T.S.

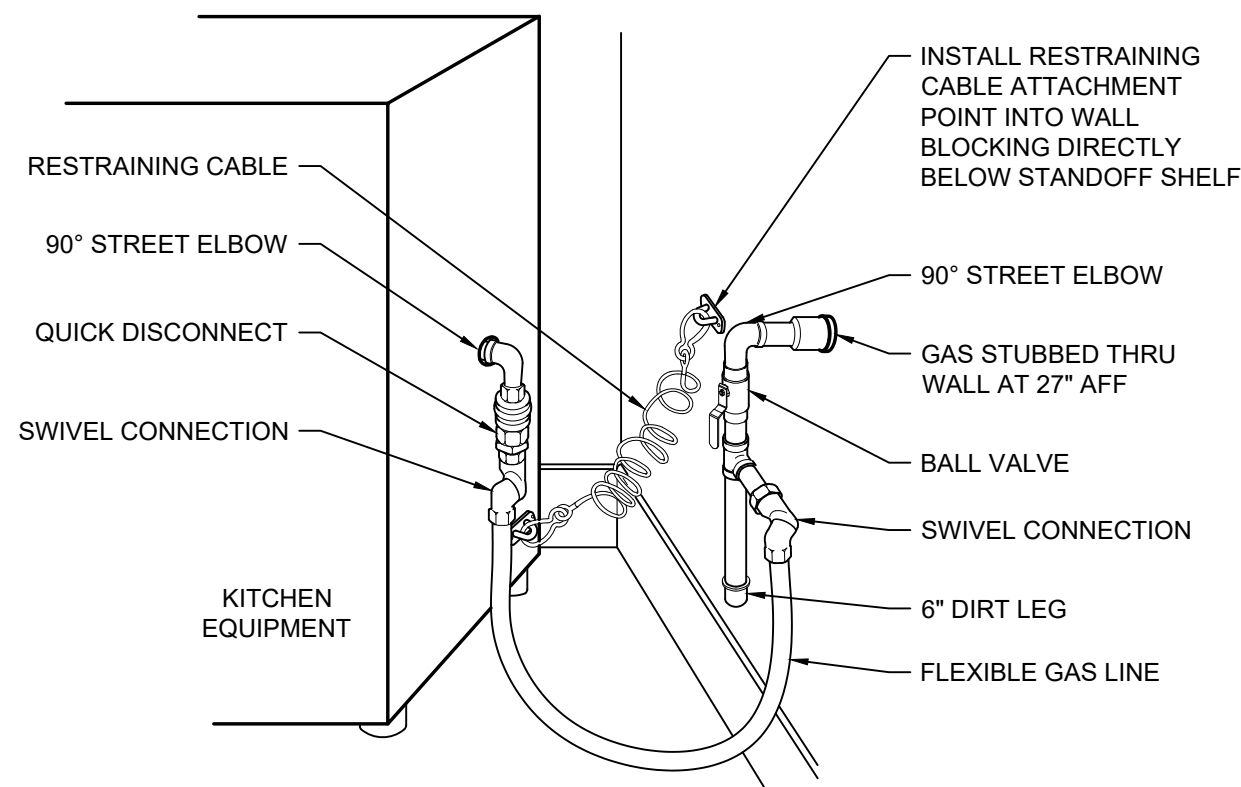


9 INDIRECT DRAIN
N.T.S.

8 NOT USED
N.T.S.



7 PIPE INSULATION DETAIL
N.T.S.

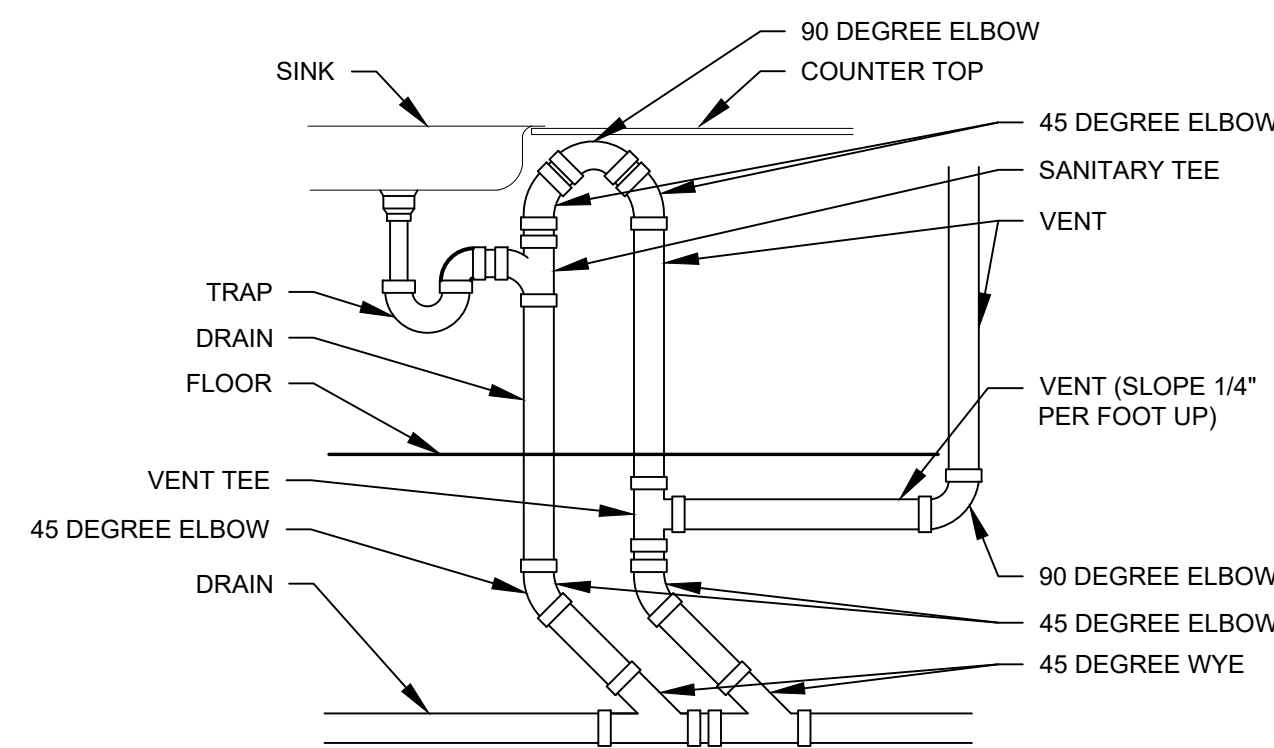


ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONNECTIONS. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION.

SPECIFICATION:

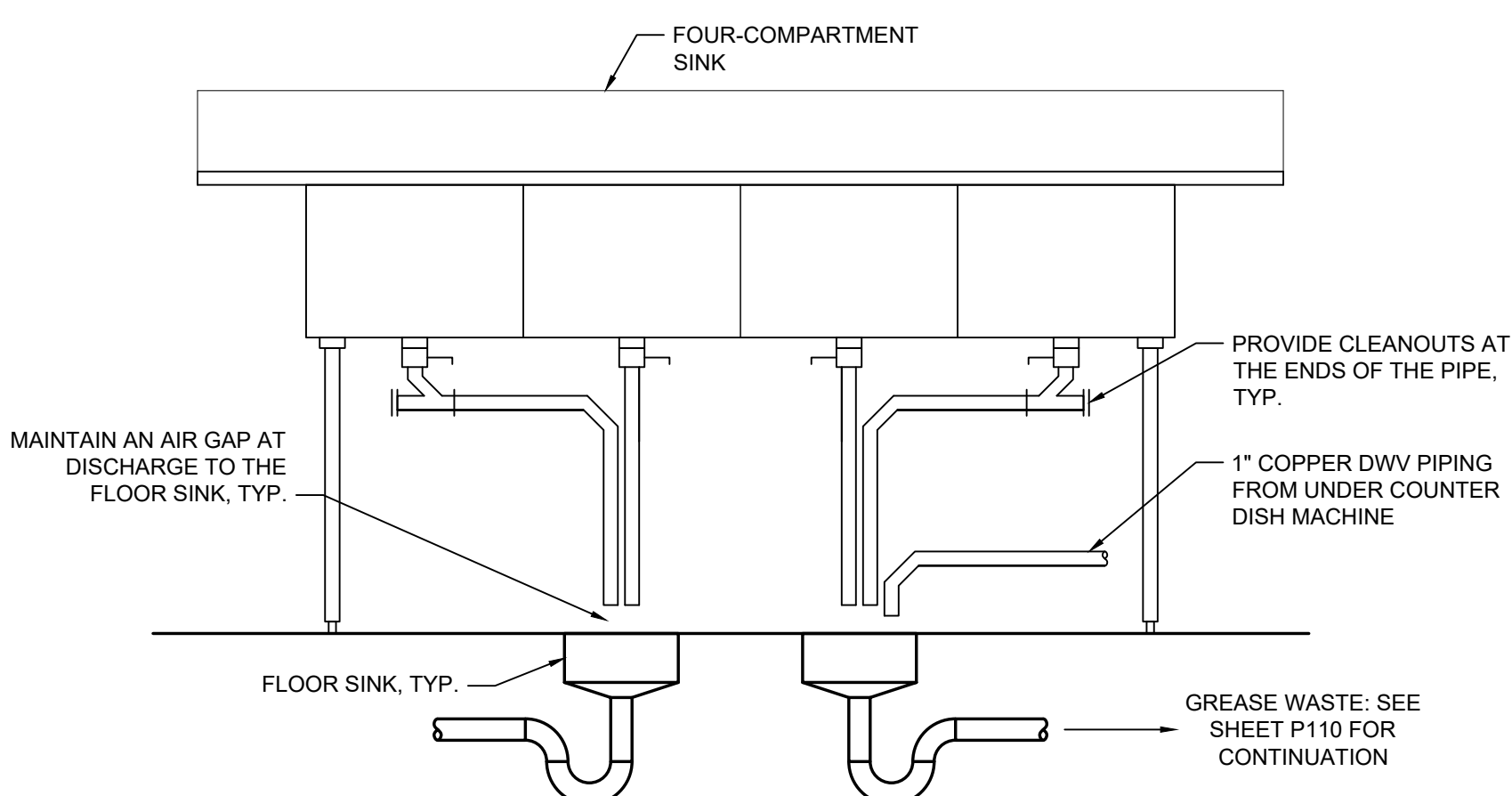
DORMONT 1675KIT2548
DORMONT BLUE HOSE MOVABLE GAS CONNECTOR KIT, 3/4" INSIDE DIA., 48" LONG, COVERED WITH STAINLESS STEEL BRAID, COATED WITH BLUE ANTIMICROBIAL PVC, (1) SNAPFAST QD, (2) SWIVEL MAX, (1) FULL PORT VALVE, COILED RESTRAINING CABLE WITH HARDWARE 160 MBH MINIMUM FLOW CAPACITY, LIMITED WARRANTY. PURCHASED BY CAVA AND INSTALLED BY GC.

6 KITCHEN GAS EQUIPMENT
N.T.S.



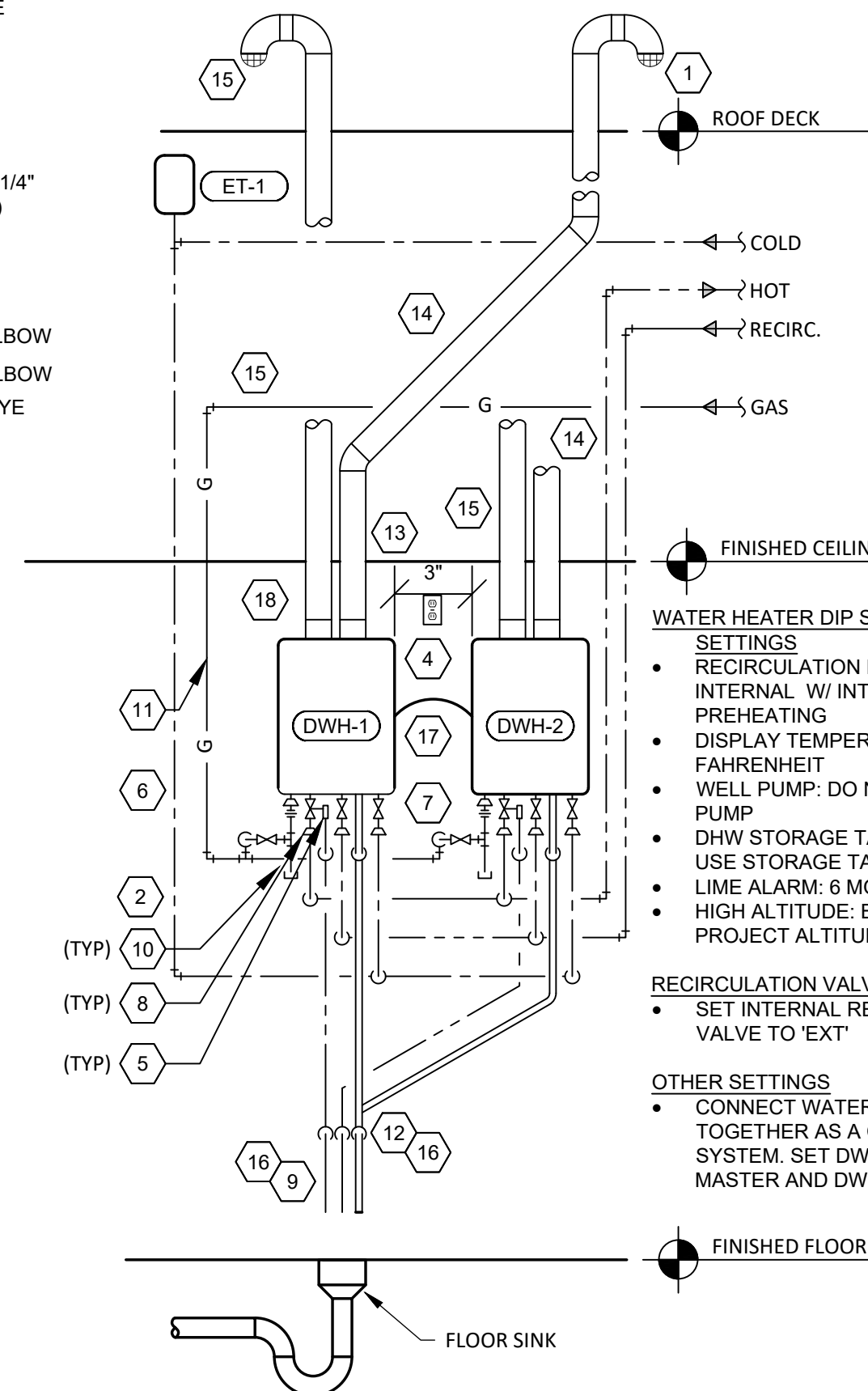
4 ISLAND LOOP VENT DETAIL
N.T.S.

5 NOT USED
N.T.S.



3 WARE WASH SINK
N.T.S.

2 NOT USED
N.T.S.



WATER HEATER DIP SWITCH SETTINGS

- RECIRCULATION MODE: INTERNAL W/ INTELLIGENT PREHEATING
- DISPLAY TEMPERATURE UNIT: FAHRENHEIT
- WELL PUMP: DO NOT USE WELL PUMP
- DHW STORAGE TANK: DO NOT USE STORAGE TANK
- LIME ALARM: 6 MONTH ALERT
- HIGH ALTITUDE: BASED ON PROJECT ALTITUDE

RECIRCULATION VALVE SETTING

- SET INTERNAL RECIRCULATION VALVE TO 'EXT'

OTHER SETTINGS

- CONNECT WATER HEATERS TOGETHER AS A CASCADE SYSTEM. SET DWH-1 AS MASTER AND DWH-2 AS SLAVE.

WATER HEATER DETAIL NOTES

- PROVIDE TWO 90° ELBOWS AND A SCREEN FOR THE FLUE TERMINATION THROUGH THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- ROUGH-IN COLD, HOT AND RECIRC PIPES AT 64" AND GAS PIPE AT 61" BELOW THE FINISHED CEILING.
- PROVIDE EXPANSION TANK ET-1 AS SHOWN. SUPPORT FROM WALL OR STRUCTURE ABOVE.
- PROVIDE WATER HEATER RECEPTACLE WITHIN 12" OF THE FINISHED CEILING. FASTEN CORD TIGHT TO THE WALL.
- PROVIDE PRESSURE RELIEF VALVE. PIPE PRESSURE RELIEF VALVE TO POINT OF DISCHARGE.
- CONCEAL WATER PIPING WITHIN THE WALL AS SHOWN. INSULATE CONCEALED WATER PIPING. DO NOT PROVIDE INSULATION ON EXPOSED WATER PIPING AT WATER HEATER.
- INSTALL "PLUMB EASY VALVE SET" EXPOSED AT THE COLD AND HOT WATER CONNECTION TO THE WATER HEATER AS SHOWN.
- IF THE PIPE SIZES AS SHOWN ON THE PLUMBING PLANS IS LARGER THAN THE WATER HEATER CONNECTION SIZES, PROVIDE REDUCERS WITHIN 6" OF THE WATER HEATER.
- PIPE PRESSURE RELIEF VALVE DISCHARGE AND FLUE CONDENSATE DRAIN TO THE POINT OF DISCHARGE. DRAIN THROUGH AN AIR GAP.
- PROVIDE AN EXPOSED DROP LEG AND LINE-SIZED GAS VALVE ON THE GAS SERVICE TO THE WATER HEATER.
- CONCEAL GAS PIPING IN THE WALL AS SHOWN.
- PROVIDE 1/2" PVC PIPE FROM THE FLUE CONDENSATE CONNECTION TO THE POINT OF DISCHARGE. DRAIN THROUGH AN AIR GAP.
- INSTALL THE TANKLESS WATER HEATER WITH THE TOP OF THE WATER HEATER BETWEEN 9" AND 12" OF THE FINISHED CEILING.
- PROVIDE A 3" PVC PIPE FROM THE TANKLESS WATER HEATER TO THE POINT OF DISCHARGE. SLOPE HORIZONTAL SECTION OF THE FLUE 1/4" PER FOOT TOWARDS THE WATER HEATER.
- PROVIDE A SCREENED AIR INTAKE WITH TWO 90° ELBOWS ABOVE THE ROOF PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- CONCEAL DRAIN LINES IN WALL PER DETAIL 9/P201.
- PROVIDE COMMUNICATION CABLE CONCEALED IN WALL BETWEEN WATER HEATERS.
- IF WATER HEATERS ARE INSTALLED WITH A COMMON VENT SYSTEM THEN PROVIDE A NAVIEN COMMON VENT COLLAR KIT WITH BACK-DRAFT DAMPER PER THE MANUFACTURER'S INSTALLATION MANUAL.

WATER HEATER GENERAL NOTES

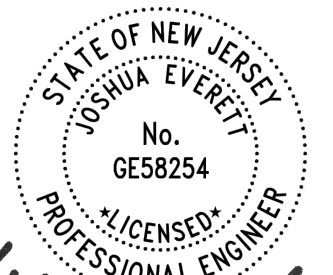
- CLEAN INLET STRAINERS AFTER CONSTRUCTION HAS BEEN COMPLETED AND PRIOR TO TURNOVER OF THE BUILDING TO THE TENANT.
- INSTALL PIPING WITH AS FEW ELBOWS AS POSSIBLE.
- MAINTAIN REQUIRED CLEARANCE TO COMBUSTIBLE MATERIALS.
- ADJUST WATER HEATER TO A SETPOINT OF 140° F.

1 WATER HEATER (TANKLESS)
N.T.S.



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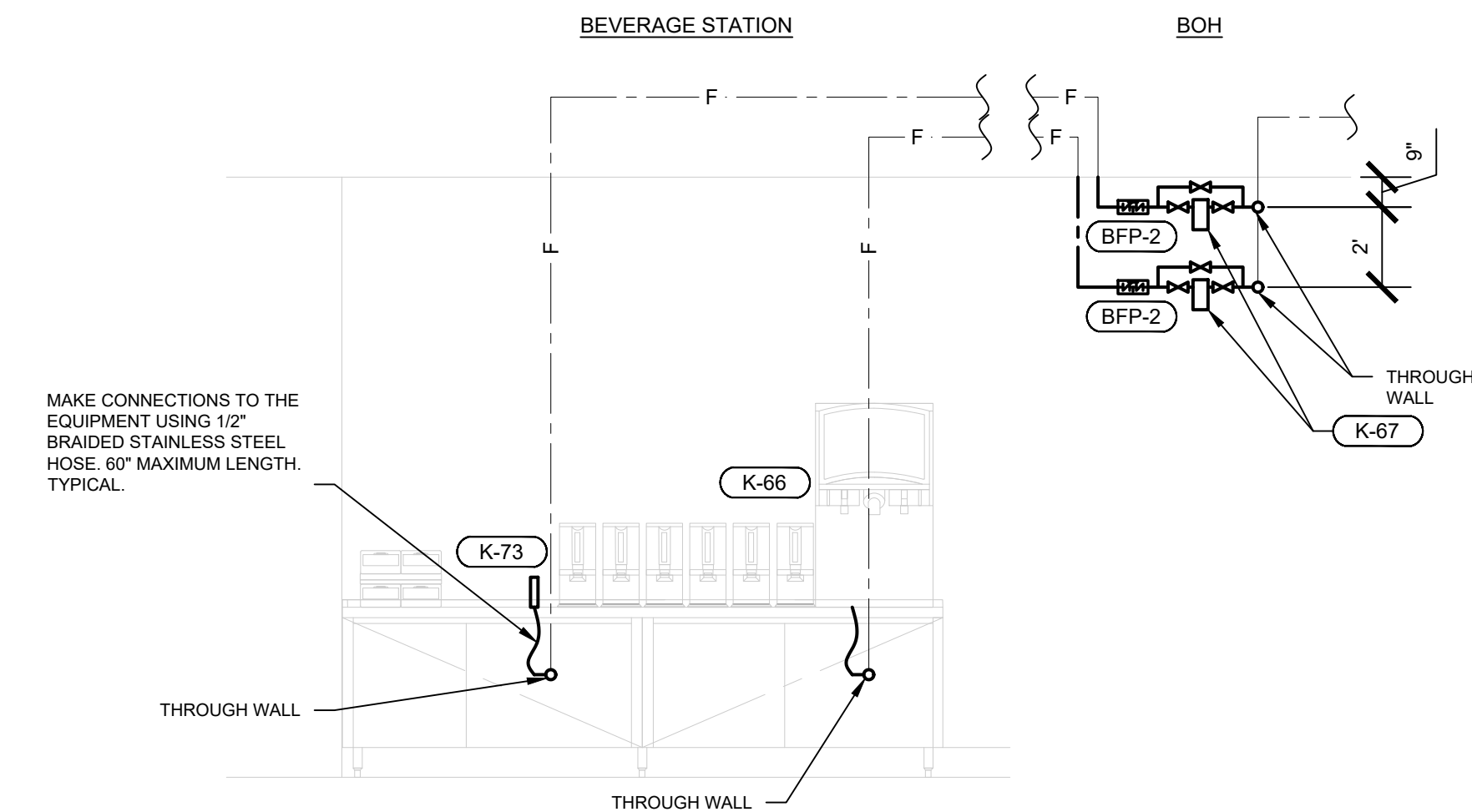
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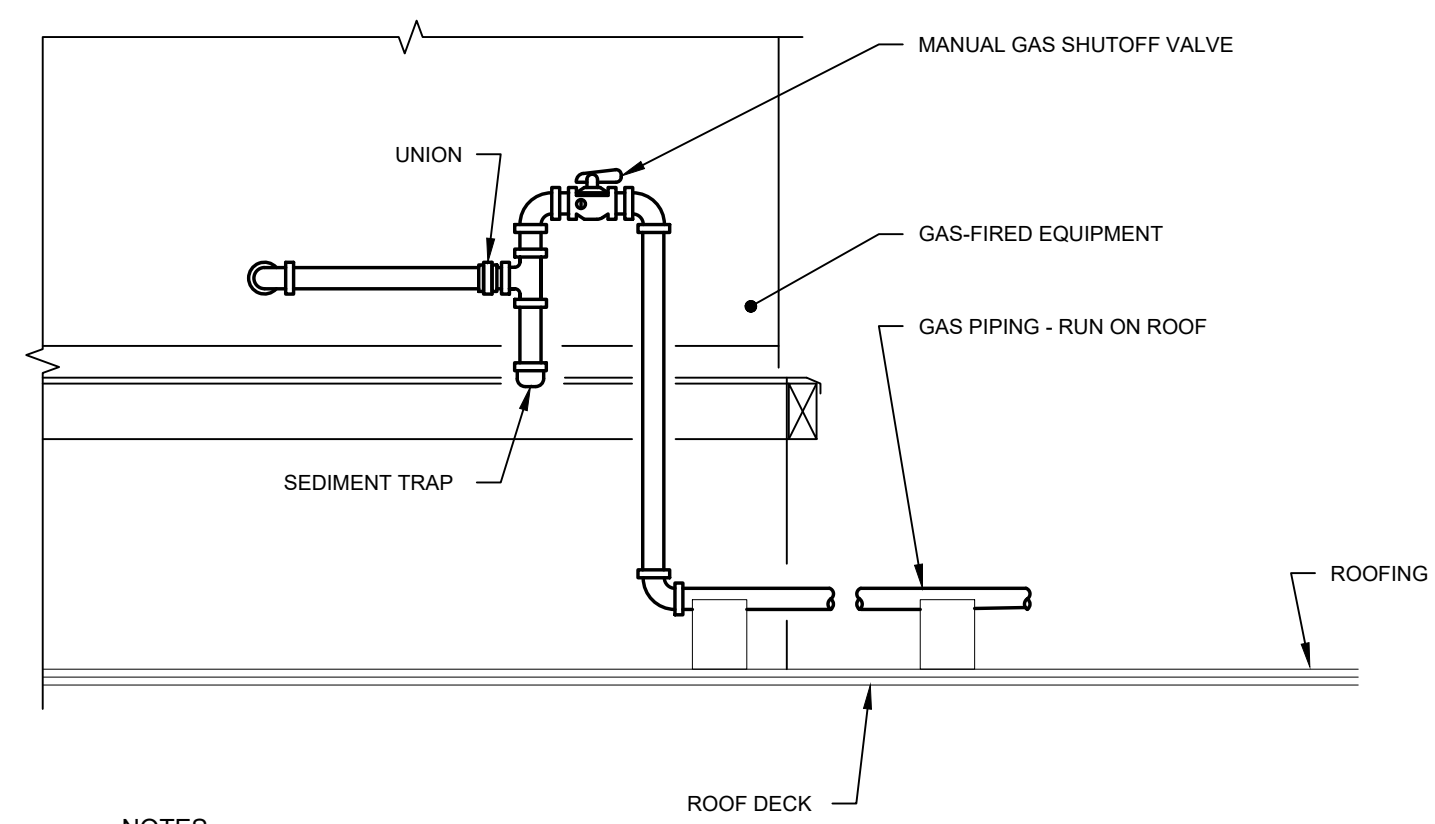
PLUMBING DETAILS

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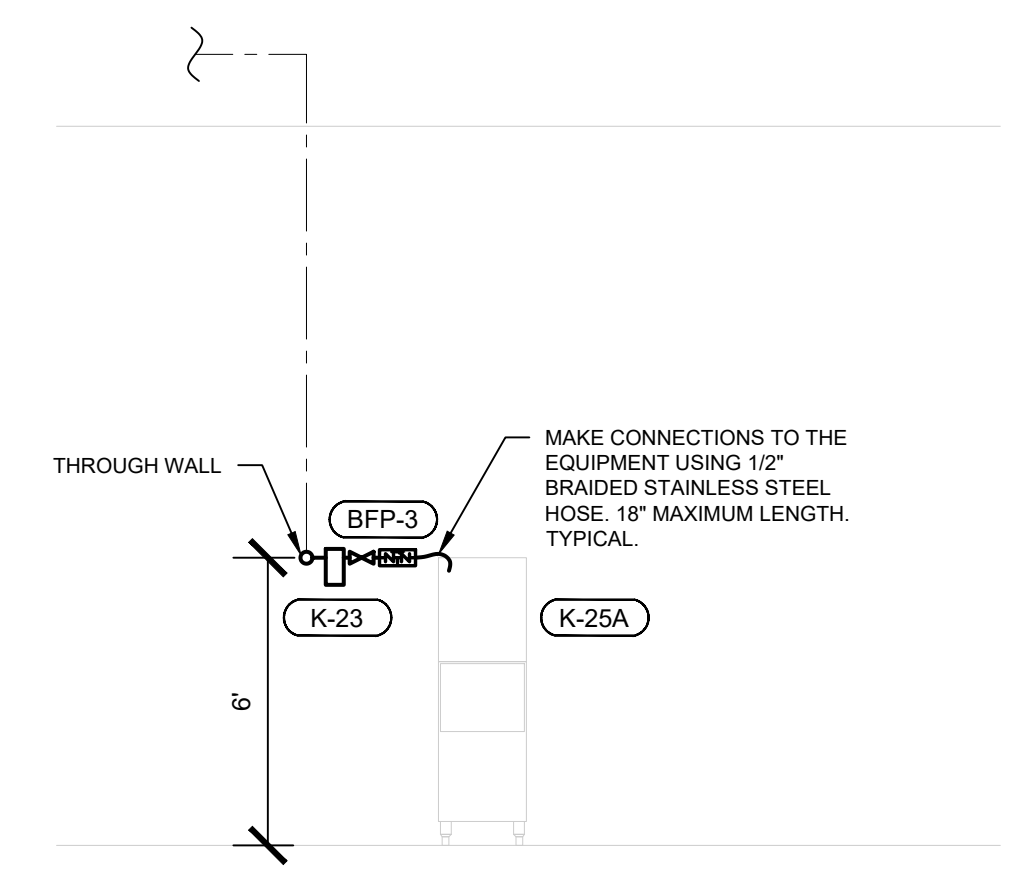
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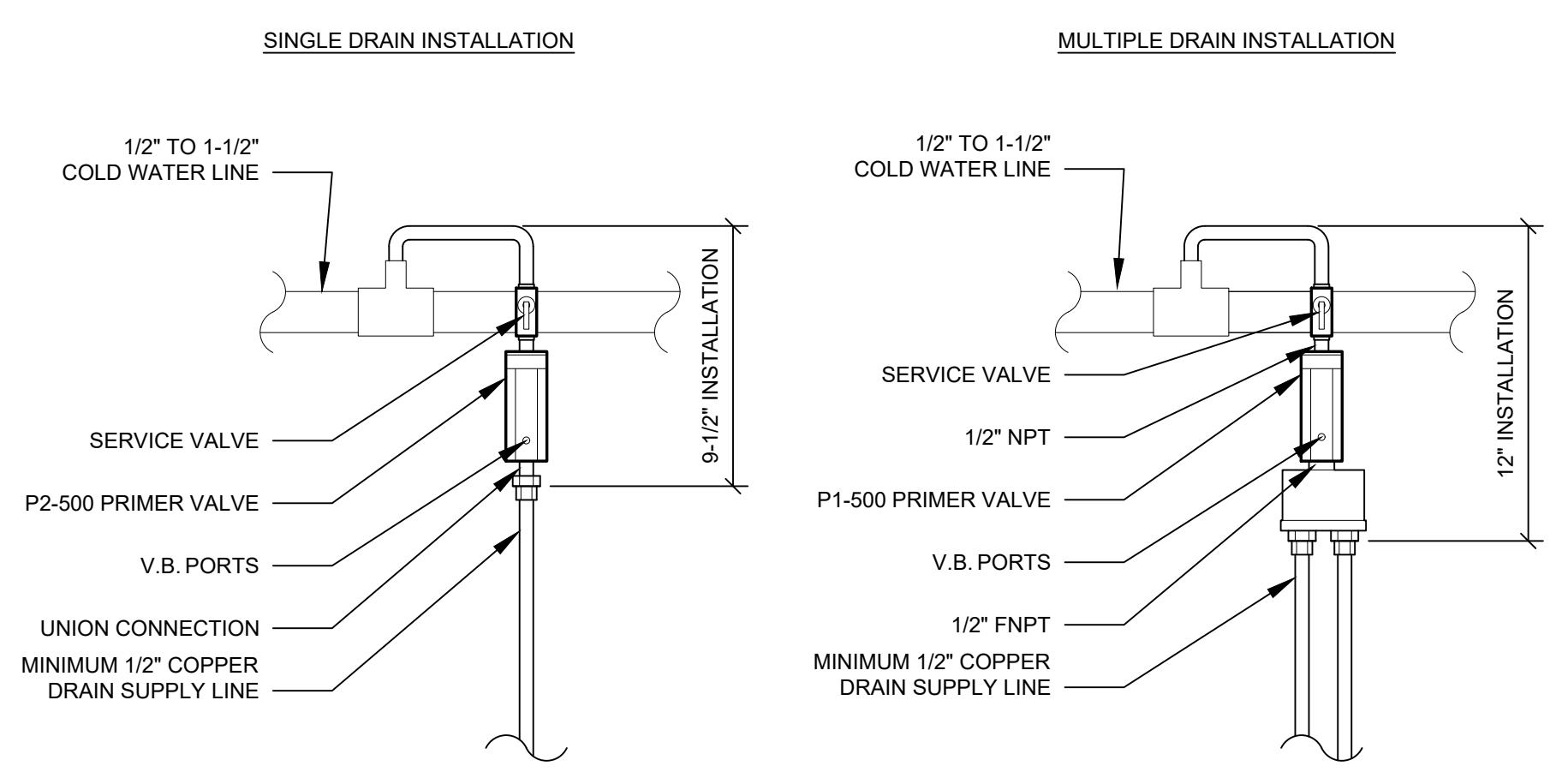
6 BEVERAGE STATION ELEVATION
N.T.S.



7 GAS PIPING CONNECTION DETAIL
N.T.S.

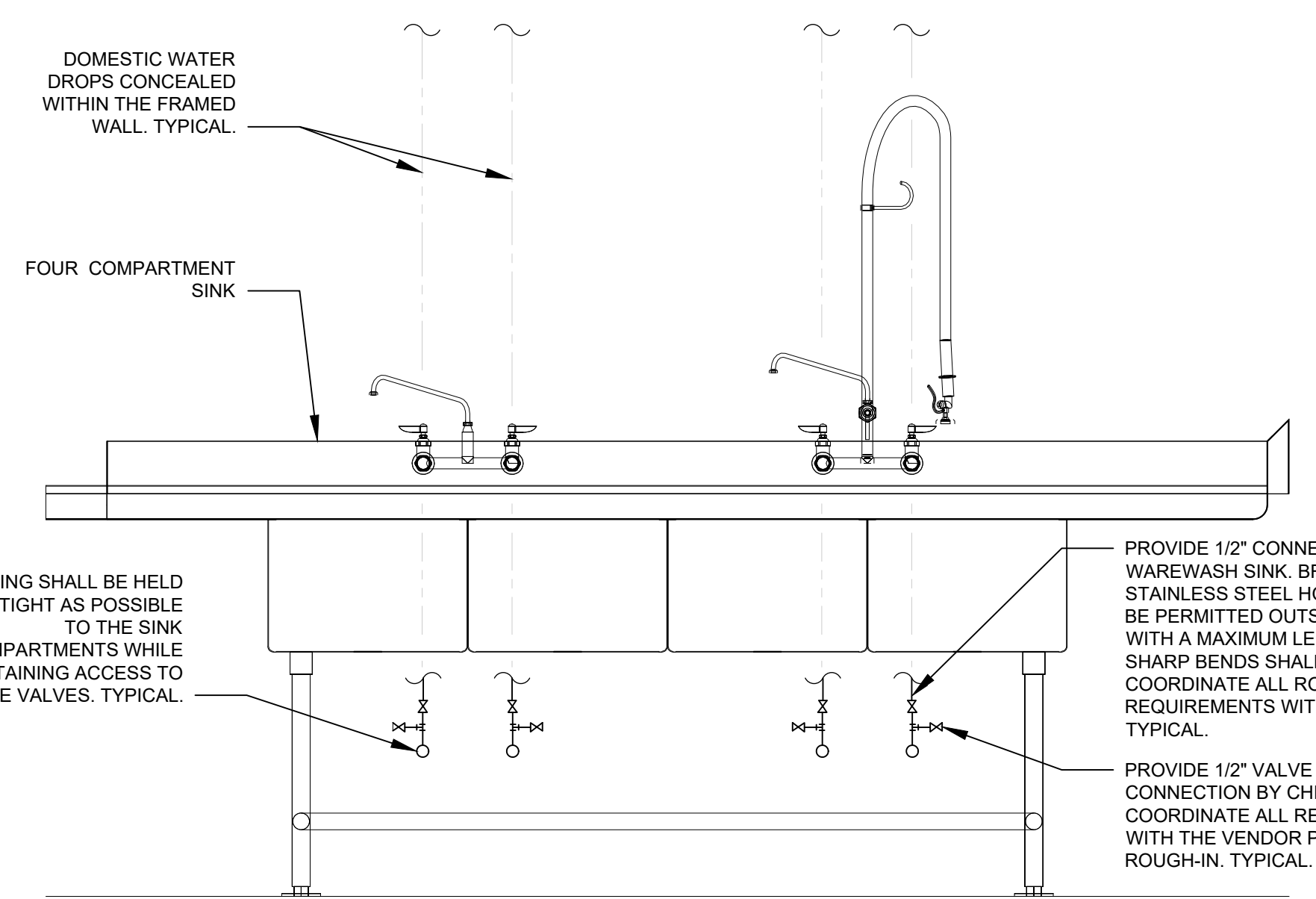


7 ICE MAKER ELEVATION
N.T.S.

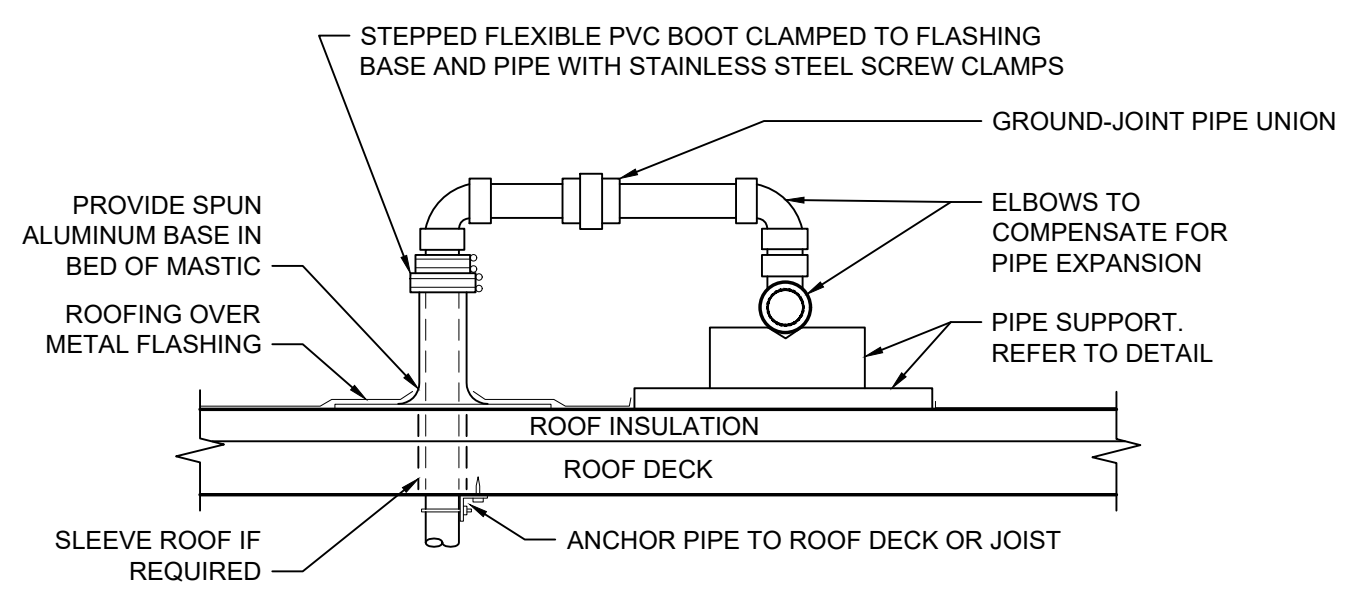


- NOTE:**
1. VALVE IS DESIGNED TO BE INSTALLED ON A 1/2" TO 1-1/2" COLD WATER LINE, FEEDING A FLUSH VALVE OR OTHER OPEN AND CLOSING VALVE SUPPLY LINE THAT IS FREQUENTLY USED.
 2. TRAP PRIMER VALVE MAKEUP LINE TO FLOOR DRAIN IS RECOMMENDED TO BE A MINIMUM OF 12" OFF THE FINISHED FLOOR BEFORE A 90 DEGREE ELBOW CAN BE INSTALLED.
 3. THE FURTHEST RECOMMENDED DISTANCE OF MAKEUP LINE IS 20' TO THE FLOOR DRAIN.
 4. TRAP PRIMER MAKE UP LINE MUST HAVE CONTINUOUS SLOPE TO THE FLOOR DRAIN (CONSULT LOCAL CODE REQUIREMENTS).
 5. INSTALL WITH A SHUT OFF VALVE FOR SERVICING ON THE INLET SIDE AND A UNION CONNECTION ON THE OUTLET SIDE.
 6. THE VALVE MUST BE INSTALLED LEVEL.
 7. IF USING THE DISTRIBUTION UNIT THE CLEAR PLASTIC COVER MUST BE USED.
 8. DO NOT SUBJECT THE VALVE TO ROUGH IN PRESSURE TEST.

4 TRAP PRIMER DETAIL
N.T.S.

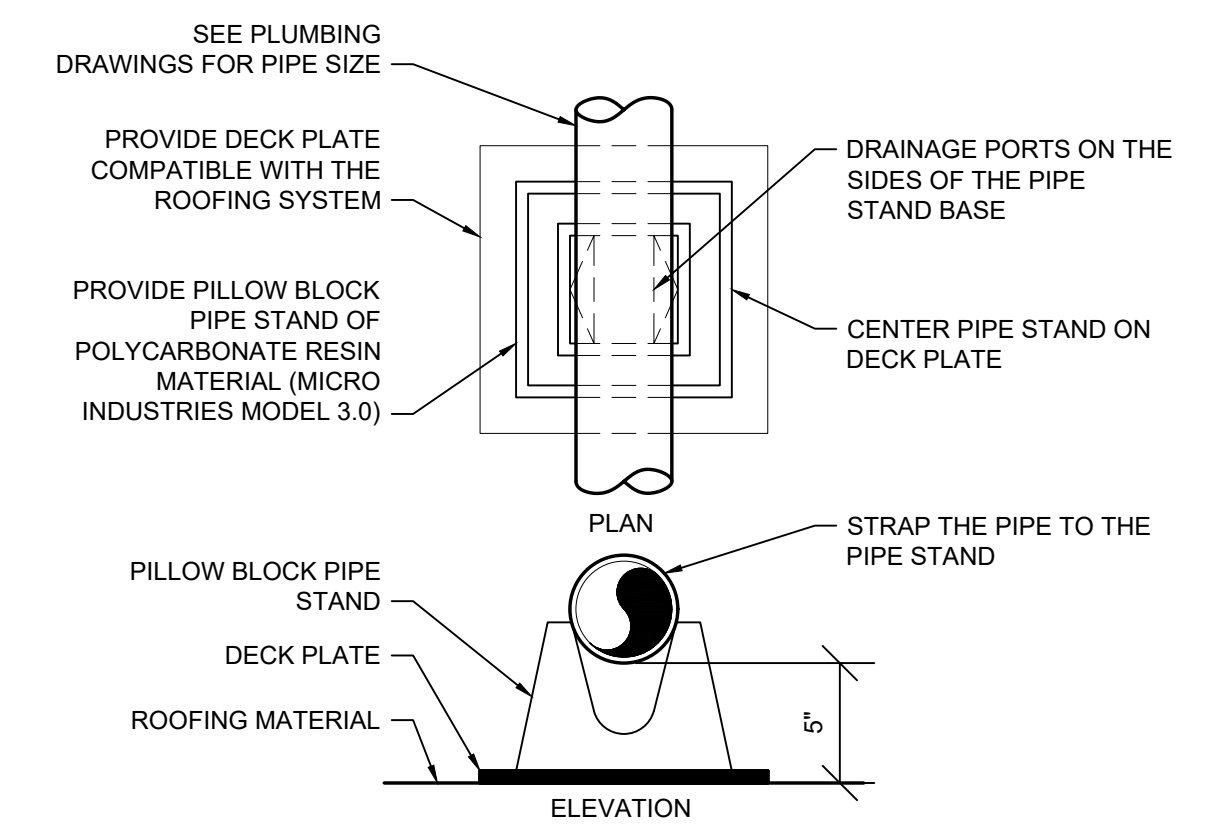


1 WARE-WASHING SINK SUPPLY DETAIL
N.T.S.



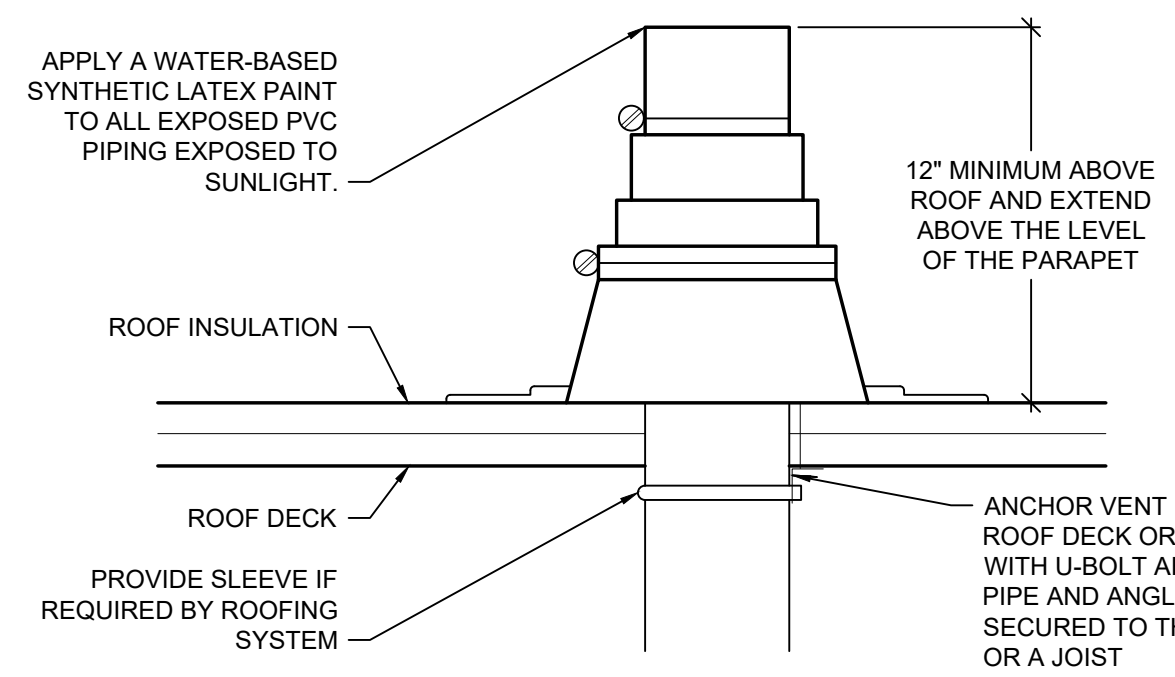
REFER TO PLANS FOR PIPE SIZE(S) AND LOCATION(S). USE WELDED OR SCREWED FITTINGS AS SPECIFIED FOR PIPE SIZE. LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS.

2 ROOF PENETRATIONS
N.T.S.



PROVIDE PIPE STANDS AS SHOWN FOR STEEL PIPE FROM 1/2" TO 1-1/2" DIAMETER. SUPPORT SPACING FOR PIPE SIZE: 1/2"-6"; 3/4"-1"-8"; 1 1/4" AND LARGER=10'; PROVIDE DECK PLATES ON ROOFING AND SET PIPE STAND FREE ON DECK PLATES. STACK PIPE STAND WHERE REQUIRED TO ELEVATE PIPING. INSTALL GAS PIPE TO ALLOW FOR EXPANSION AND CONTRACTION. PRIMER COAT AND PAINT EXTERIOR GAS PIPE. GAS PIPE ON THE ROOF SHALL BE PAINTED YELLOW AND GAS PIPE INSTALLED EXPOSED ON EXTERIOR WALLS SHOULD BE PAINTED TO MATCH THE WALL FINISH.

5 ROOFTOP PIPING SUPPORT
N.T.S.



REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. FLASHING AND COUNTER FLASHING ARE TO BE COMPATIBLE WITH THE ROOFING SYSTEM.

3 VENT THROUGH ROOF
N.T.S.

MATERIAL SCHEDULE

CATEGORY	APPLICATION	ALLOWABLE MATERIAL
SANITARY WASTE & VENT PIPING	ABOVE GROUND, CONCEALED	PVC DWV PIPE AND FITTINGS
	ABOVE GROUND PREP SINK AND WARE WASHING SINK DRAINS	COPPER DWV PIPE AND FITTINGS
	ABOVE GROUND HAND SINK DRAINS	BRASS WITH CHROME FINISH
	BELOW SLAB	PVC DWV PIPE AND FITTINGS
WATER SUPPLY PIPE	ABOVE GRADE	TYPE L COPPER TUBE WITH FIBERGLASS INSULATION
NATURAL GAS	CONCEALED	SCHEDULE 40 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS
	EXPOSED	SCHEDULE 40 STEEL PIPE, MALLEABLE IRON THREADED FITTINGS
CONDENSATE DRAINS	EXTERIOR	SCHEDULE 40 PVC PIPE AND FITTINGS

PIPING INSULATION THICKNESS SCHEDULE

PER TABLE C403.12.3 OF THE 2021 INTERNATIONAL ENERGY CONSERVATION CODE.

FLUID TEMPERATURE (°F)	INSULATION CONDUCTIVITY (BTU-IN / (H*SF*°F))	<1"	1" TO <1-1/2"	1-1/2" TO <4"
105 - 140	0.21 - 0.28	1"	1"	1-1/2"
81 - 104	0.21 - 0.27	1/2"	1/2"	1"
40 - 60	0.21 - 0.27	1/2"	1/2"	1"
<40	0.20 - 0.26	1/2"	1"	1"

COMMISSIONING REQUIREMENTS

THE GENERAL CONTRACTOR SHALL PROVIDE COMMISSIONING OF THE FOLLOWING EQUIPMENT IN ACCORDANCE WITH SECTION 408 OF THE 2021 IECC:

- DWH-1
- DWH-2

EQUIPMENT FUNCTIONAL TESTING SHALL DEMONSTRATE THE OPERATION OF COMPONENTS, SYSTEMS, INTERFACING RELATIONSHIPS SUCH THAT THE OPERATION, FUNCTION AND MAINTENANCE SERVICEABILITY FOR THE COMMISSIONED SYSTEMS IS CONFIRMED. TESTS SHALL INCLUDE ALL MODES AND SEQUENCE OF OPERATION, INCLUDING FULL-LOAD, PART-LOAD AND THE FOLLOWING EMERGENCY CONDITIONS:

- AUTOMATIC BACK-UP MODES AS DESCRIBED BY THE MANUFACTURER
- PERFORMANCE OF ALARMS.
- MODE OF OPERATION UPON A LOSS OF POWER AND RESTORATION OF POWER.

THE WATER HEATER CONTROL SYSTEMS SHALL BE TESTED TO DOCUMENT THAT CONTROL DEVICES, COMPONENTS AND EQUIPMENT SYSTEMS ARE CALIBRATED AND ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.

THE GENERAL CONTRACTOR SHALL PROVIDE A PRELIMINARY COMMISSIONING REPORT INDICATING THE TEST PROCEDURES AND RESULTS. THIS REPORT SHALL INDICATE THE FOLLOWING:

- ITEMIZED LIST OF DEFICIENCIES FOUND DURING TESTING THAT HAVE NOT BEEN CORRECTED AT THE TIME OF THE REPORT PREPARATION
- DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT BECAUSE OF CLIMATIC CONDITIONS.
- CLIMATIC CONDITIONS REQUIRED FOR THE PERFORMANCE OF DEFERRED TESTS.
- RESULTS OF FUNCTIONAL TESTS.
- FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.

THE SPACE SHALL NOT BE CONSIDERED AS ACCEPTABLE FOR FINAL INSPECTION UNTIL THE CODE OFFICIAL HAS RECEIVED THE PRELIMINARY COMMISSIONING REPORT.

WITHIN 90 DAYS OF THE RECEIPT OF THE CERTIFICATE OF OCCUPANCY, THE GENERAL CONTRACTOR SHALL PROVIDE A FINAL COMMISSIONING REPORT AND SHALL INCLUDE THE FOLLOWING:

- RESULTS OF THE PERFORMANCE TESTS.
- DISPOSITION OF DEFICIENCIES FOUND DURING TESTING, INCLUDING THE DETAILS OF CORRECTIVE MEASURES USED OR PREPARED.
- FUNCTIONAL PERFORMANCE TEST PROCEDURES USED DURING THE COMMISSIONING PROCESS INCLUDING MEASURABLE CRITERIA FOR TEST ACCEPTANCE.
- DEFERRED TESTS THAT CANNOT BE PERFORMED AT THE TIME OF THE REPORT PREPARATION DUE TO CLIMATIC CONDITIONS ARE NOT REQUIRED AS PART OF THIS REPORT.

WATER HEATER SCHEDULE

TAG	FIXTURE	FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL	NATURAL GAS	ELECTRICAL	DESCRIPTION	ACCESSORIES/OPTIONS
						INPUT (BTU/H)	V/PH		
DWH-1	WATER HEATER (GAS TANKLESS)	GC	GC	NAVIEV	NPE-240A2	199,900	120/1/60	RATED FLOW RATE: 3.9 GPM @ 100°F RISE; THERMAL EFFICIENCY: 96%	FURNISHED WITH CASCADE CABLE, "PLUMB EASY VALVE SET," AND CONDENSATE NEUTRALIZER.
DWH-2	WATER HEATER (GAS TANKLESS)	GC	GC	NAVIEV	NPE-240A2	199,900	120/1/60	RATED FLOW RATE: 3.9 GPM @ 100°F RISE; THERMAL EFFICIENCY: 96%	FURNISHED WITH CASCADE CABLE, "PLUMB EASY VALVE SET," AND CONDENSATE NEUTRALIZER.

PLUMBING FIXTURE SCHEDULE

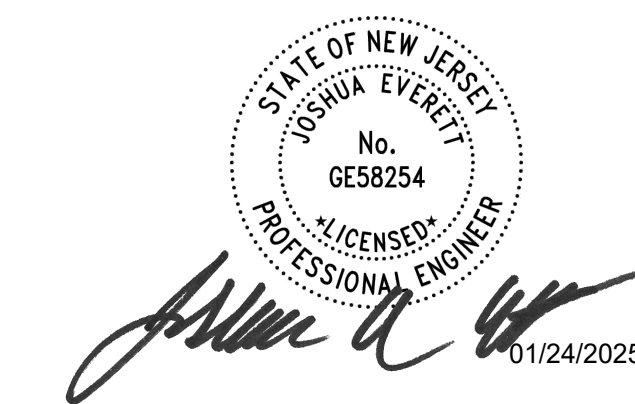
TAG	FIXTURE	FURNISHED BY	INSTALLED BY	MANUFACTURER	MODEL	DESCRIPTION	CONNECTION SIZES		
							CW	HW	SAN
BFP-2	DUAL CHECK VALVE	GC	GC	WATTS	SD2	ASSE 1032 DUAL CHECK VALVE BACKFLOW PREVENTER CERTIFIED TO ANSI/SNF STANDARD 18. CONSTRUCTED OF 316 STAINLESS STEEL.	3/8"		
BFP-3	DUAL CHECK VALVE	GC	GC	WATTS	LF9D	ASSE 1012 DUAL CHECK VALVE WITH ATMOSPHERIC VENT.	1/2"		
CO-1	FLOOR CLEAN OUT	GC	GC	SIoux CHIEF FINISHLINE	834-3DNRZ	ON-GRADE ADJUSTABLE CLEANOUT WITH INTERNAL THREADED CLEANOUT PLUG AND ROUND NICKEL-BRONZE RING AND COVER (OR APPROVED EQUAL WITH INTERNAL THREADED CLEANOUT PLUG)			4"
ET-1	EXPANSION TANK	GC	GC	RHEEM-RUUD	RRT-12	4.4 GALLON CAPACITY.	3/4"		
FD-1	FLOOR DRAIN	GC	GC	SIoux CHIEF FINISHLINE	833-23DNRB	CAST IRON DRAIN WITH NICKEL BRONZE STRAINER. PROVIDE WITH 1/2" TRAP PRIMER CONNECTED AND MEMBRANE FLASHING CLAMP. PROVIDE PROVENT SYSTEMS TRAP GUARD OR APPROVED EQUAL. PROVIDE OUTLET WITH P-TRAP AND CLEAN AND POLISH STRAINER TOP AFTER INSTALLATION.	1/2"		3"
FS-1	FLOOR SINK	GC	GC	SIoux CHIEF	861-24XF2WC	CAST IRON BODY. FLASHING CLAMP. ACID RESISTANT COATED INTERIOR AND CAST IRON GRATE. 8" SQUARE. PROVIDE WITH 1/2 GRATE AND ALUMINUM SEDIMENT BUCKET. PROVIDE OUTLET WITH P-TRAP. PROVIDE WITH GUARDIAN DOME-D-LOCK GDL-DOME-300 AND DUO 2-IN-1 BASKET SYSTEM (GDL-DUO-4500-BSK-S).			3"
LAV-1S	LAVATORY	GC	GC	KOHLER	K-1997-1N "BRENHAM"	WALL MOUNTED, WHITE VITREOUS CHINA. PROVIDE GRID STRAINER DRAIN WITH TAILPIECE, CHROME-PLATED CAST BRASS P-TRAP WITH CLEANOUT AND ZURN Z1231 EZ UNIVERSAL WALL CARRIER.			1 1/2"
LAV-1F	LAVATORY FAUCET	GC	GC	KOHLER	K-7514	POLISHED CHROME LAVATORY FAUCET WITH 0.5 GALLON PER MINUTE FLOW RATE AND 30 YEAR HYBRID ENERGY CELL. PROVIDE WITH WATTS LFMMV-UT-M1. ADJUST TO A MAXIMUM TEMPERATURE OF 110°F.	1/2"	1/2"	
RH-1	FREEZE PROOF ROOF HYDRANT	GC	GC	HOEPTNER	2131R	AUTOMATIC DRAINING, FREEZELESS ROOF HYDRANT WITH ANTI-SIPHON VACUUM BREAKER	3/4"		
TP-3	TRAP PRIMER	GC	GC	PRECISION PLUMBING	P1-500 WITH DU-U	ALL BRASS BODY TRAP PRIMER VALVE, PRESSURE DROP OF 5-10 PSIG OPENS VALVE, OPERATING RANGE: 35-75 PSIG, 1/2" MALE NPT INLET CONNECTION, 1/2" FEMALE NPT OUTLET CONNECTION. PROVIDE ON ALL FLOOR DRAINS.	1/2"		
WC-1	WATER CLOSET	GC	GC	KOHLER	K-96057-0	FLOOR MOUNTED WHITE VITREOUS CHINA FLUSH VALVE WATER CLOSET WITH ELONGATED BOWL. MANUAL FLUSH VALVE, 1.6 GPF, 16-1/2" RIM HEIGHT. PROVIDE HEAVY-DUTY PLASTIC OPEN FRON SEAT LESS COVER, OLSONITE 95CTSS. PROVIDE CHROME PLATED BRASS LOOSE KEY ANGLE STOP WITH CHROME PLATED FLEXIBLE COPPER SUPPLY RISER, MCGUIRE 2166LK. PROVIDE FLUSH VALVE WITH LEVER ON WIDE SIDE OF ROOM, MOEN 8310M16. INSTALLATION TO COMPLY WITH ADA ACCESSIBILITY REQUIREMENTS.	1/2"		4"
WH-1	WALL HYDRANT	GC	GC	WATTS	HY-330-3	ANTI-SIPHON, AUTOMATIC DRAINING QUARTER TURN WALL HYDRANT. NON-FREEZE WITH INTEGRAL VACUUM BREAKER. BRONZE INTERIOR PARTS AND KEY OPERATED. MOUNT 18" ABOVE FINISHED GRADE.	3/4"		
WHA-1	WATER HAMMER ARRESTOR	GC	GC	WATTS	LF15M2		1/2"		
WS-1	WATER SOFTENER	GC	GC	CUNO	CFSM1254E	POINT OF ENTRY HIGH CAPACITY WATER TREATMENT SYSTEM. PROVIDE STARTUP PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.	1"		
K-1	MOP SINK FAUCET	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	COMMERCIAL SERVICE, WALL-MOUNTED FAUCET WITH BUCKET HOOK. ROUGH CHROME FINISH. FURNISHED WITH INTEGRAL QUARTER TURN CERAMIC DISC VALVE.	1/2"	1/2"	
K-1B	MOP SINK	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	24"x24" MOLDED STONE MOP BASIN WITH STAINLESS STEEL DRAIN BODY AND DOME STRAINER/LINT BASKET.			3"
K-3A	EVAPORATOR COIL, COOLER	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	EQUIPMENT INSTALLED BY VENDOR. CONDENSATE DRAIN BY GC.			3/4"
K-5	HAND SINK	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	STAINLESS STEEL HAND SINK WITH FAUCET.	1/2"	1/2"	1 1/2"
K-14	UNDER COUNTER WAREWASHER, LOW TEMP	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	LOW TEMPERATUER UNDER-COUNTER DISHWASHER. 140°F HOT WATER TEMPERATURE INLET		3/4"	1"
K-17	SCULLERY SINK, 4 COMPARTMENTS	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	FOUR COMPARTMENT WAREWASH SINK WITH FOUR 46"x23"x14 COMPARTMENTS.			1 1/2"
K-17B	PRE-RINSE FAUCET, WALL MOUNT	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	WALL-MOUNTED PRE-RINSE ASSEMBLY WITH BUILT-IN BACKFLOW PREVENTER, QUARTER TURN VALVES, AND SPRAY HEAD.	1/2"	1/2"	
K-17C	FAUCET, WALL MOUNT	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	WALL-MOUNTED FAUCET FOR WAREWASH SINK.	1/2"	1/2"	
K-19	WORK TABLE WITH DROP-IN SINK	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	STAINLESS STEEL WORK TABLE WITH INTEGRAL 18"x20"x14" SINK.			1 1/2"
K-19A	DECK-MOUNTED FAUCET	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	DECK-MOUNTED FAUCET WITH 6" GOOSENECK SPOUT AND POLISHED CHROME FINISH.	1/2"	1/2"	
K-21	BAG-N-BOX	VENDOR	GC	REFER TO ARCH	REFER TO ARCH		1/2"		
K-22	CARBONATOR	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	SODA CARBONATOR(S) SHALL HAVE AN INTEGRAL ASSE 1022-RATED CARBONATED BEVERAGE BACKFLOW PREVENTION DEVICE.	1/2"		
K-23	WATER FILTRATION SYSTEM, FOR ICE MACHINE	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	EVERPURE INSURICE SINGLE - 4SI SYSTEM	1/2"		
K-25	ICE MAKER	VENDOR	GC	REFER TO ARCH	REFER TO ARCH		1/2"		3/4"
K-31	PREP TABLE WITH DROP-IN SINK	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	PREP TABLE WITH INTEGRAL 20"x20"x12" SINK.			1 1/2"
K-31A	FAUCET, DECK-MOUNT	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	DECK-MOUNTED FAUCET	1/2"	1/2"	
K-26	PREP TABLE WITH DROP IN SINK	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	STAINLESS STEEL WORK TABLE WITH INTEGRAL 14"x14"x6" SINK.			1 1/2"
K-26A	DECK-MOUNT FAUCET	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	DECK-MOUNTED FAUCET WITH 6" GOOSENECK SPOUT AND POLISHED CHROME FINISH.	1/2"	1/2"	
K-65	PICKUP BEVERAGE COUNTER	VENDOR	GC	REFER TO ARCH	REFER TO ARCH				1/2"
K-66	ICE DISPENSER W/ BEVERAGE HEADS	VENDOR	GC	REFER TO ARCH	REFER TO ARCH		1/2"		3/4"
K-67	WATER FILTRATION SYSTEM, FOR BEVERAGE COUNTER	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	CONNECT FILTERED WATER SUPPLY TO K-66	1/2"		
K-68	BEVERAGE COUNTER	VENDOR	GC	REFER TO ARCH	REFER TO ARCH				1/2"
K-73	WATER DISPENSER FAUCET	VENDOR	GC	REFER TO ARCH	REFER TO ARCH	WATER DISPENSER	1/2"		
K-84C	COLD WELL	VENDOR	GC	REFER TO ARCH	REFER TO ARCH				1"
K-84D	COLD WELL	VENDOR	GC	REFER TO ARCH	REFER TO ARCH				1"

CONSULTANT:



EVERJ ENGINEERING, INC.
1509 BUCK TRAIL LANE
WORTHINGTON, OH 43085
614-349-8054
www.everjengineering.com

SEAL



PROJECT

CAVA

CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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PLUMBING SCHEDULES

Date Modified:	07/26/2024
Date Created:	07/26/2024
Scale:	AS NOTED
Project No.:	240003
Drawn By:	BRW
Checked By:	JAE

P300

GENERAL NOTES

- A. FIRE PROTECTION WORK SHALL BE DONE IN ACCORDANCE WITH THE BUILDING CODE, NFPA 13, LOCAL FIRE DEPARTMENT STANDARDS, AND THE AUTHORITY HAVING JURISDICTION. REFER TO THE ARCHITECTURAL SHEETS FOR THE PREVAILING CODES.
- B. MODIFY THE EXISTING SPRINKLER HEAD AND FIRE ALARM DEVICE LAYOUT AND FIRE ALARM SYSTEM IN THE SPACES SHOWN TO SUIT THE FLOOR PLAN. PROVIDE NEW HEADS AND DEVICES AS NECESSARY FOR A COMPLETE SYSTEM. PROVIDE HYDRAULIC CALCULATIONS FOR REVISED FIRE PROTECTION SYSTEM AND BATTERY CALCULATIONS FOR THE REVISED FIRE ALARM SYSTEM.
- C. COORDINATE HEAD AND DEVICE LAYOUT WITH EXPOSED DUCTWORK, LIGHT FIXTURES, HVAC EQUIPMENT, STRUCTURAL CONDITIONS AND ARCHITECTURAL CEILING ELEMENTS. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR MORE INFORMATION. PROVIDE HEADS AND FIRE ALARM DEVICES IN LAY-IN CEILINGS AT ONE FOOT, TWO FEET OR THREE FEET ALONG THE LONG DIMENSION OF THE CEILING GRID. IN OTHER LOCATIONS, HEADS AND FIRE ALARM DEVICES SHALL BE PROVIDED ALONG CENTERLINES AND CENTERED BETWEEN OTHER CEILING-MOUNTED EQUIPMENT WHERE APPLICABLE. SUBMIT HEAD LAYOUT SHOP DRAWINGS TO ARCHITECT PRIOR TO SUBMITTING FOR PERMIT APPROVAL.
- D. OBTAIN PERMITS, APPROVALS, AND INSPECTIONS FOR REVISED FIRE PROTECTION AND ALARM SYSTEMS.
- E. CEILING HEIGHTS AND CEILING FIXTURE PLACEMENTS SHOWN ARE APPROXIMATE. SEE ARCHITECTURAL RCP FOR EXACT CEILING HEIGHTS AND CEILING FIXTURE DIMENSIONS.
- F. SUBMIT FIRE PROTECTION AND FIRE ALARM SHOP DRAWINGS SHOWING HEAD AND DEVICE LAYOUT TO ARCHITECT PRIOR TO SUBMITTING FOR PERMIT APPROVAL.
- G. THE TERM "FURNISH" MEANS SUPPLY AND DELIVER TO THE PROJECT SITE, READY FOR UNLOADING, UNPACKING ASSEMBLY, INSTALLATION AND SIMILAR OPERATIONS. THE TERM "INSTALL" DESCRIBES THE OPERATIONS AT THE PROJECT SITE INCLUDING THE ACTUAL UNLOADING, UNPACKING, ASSEMBLY, ERECTING, PLACING, ANCHORING, APPLYING, WORKING TO DIMENSION, FINISHING, CURING, PROTECTING, CLEANING, AND SIMILAR OPERATIONS. THE TERM "PROVIDE" MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.
- H. FOR REFERENCE ONLY, FIRE PROTECTION AND ALARM SYSTEMS ARE TO BE DESIGNED AND PERMITTED BY THE GENERAL CONTRACTOR.
- I. THE GENERAL CONTRACTOR SHALL COORDINATE ALL FIRE ALARM AND FIRE SPRINKLER TIE-IN REQUIREMENTS WITH THE LANDLORD PRIOR TO BID. WHEN APPLICABLE, LANDLORD-REQUIRED VENDORS SHALL BE UTILIZED AT THE GENERAL CONTRACTOR'S EXPENSE.
- J. PAINT ALL EXPOSED SPRINKLER PIPING TO MATCH CEILING UNLESS PROHIBITED BY THE AUTHORITY HAVING JURISDICTION. TYPICAL.
- K. FIELD-VERIFY CONDITION AND FUNCTION OF ALL EXISTING HEADS TO REMAIN. REPAIR/REPLACE AS NECESSARY.
- L. PROVIDE PROTECTIVE CASES FOR SPRINKLER HEADS IN THE WALK-IN COOLER WHERE PERMITTED BY THE LOCAL AHJ.

CONSULTANT:



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FIRE PROTECTION SCHEDULE

ROOM #	DESCRIPTION	CEILING	HEIGHT	HAZARD
01	DINING AREA	EXPOSED STRUCTURE	VARIES	LIGHT
02	OPEN KITCHEN	GYPSUM BOARD	10'-0"	ORD. HAZ. 1
03	BOH	LAY-IN	9'-0"	ORD. HAZ. 1
04	MEN'S RR	GYPSUM BOARD	8'-0"	LIGHT
05	WOMEN'S RR	GYPSUM BOARD	8'-0"	LIGHT
06	MANAGER'S OFFICE	LAY-IN	10'-0"	ORD. HAZ. 1
07	WIC	INTEGRAL	8'-0"	ORD. HAZ. 1
08	HALLWAY	GYPSUM BOARD	9'-0"	LIGHT
09	BEVERAGE STATION	GYPSUM BOARD	10'-0"	LIGHT
10	DT WINDOW	GYPSUM BOARD	10'-0"	ORD. HAZ. 1

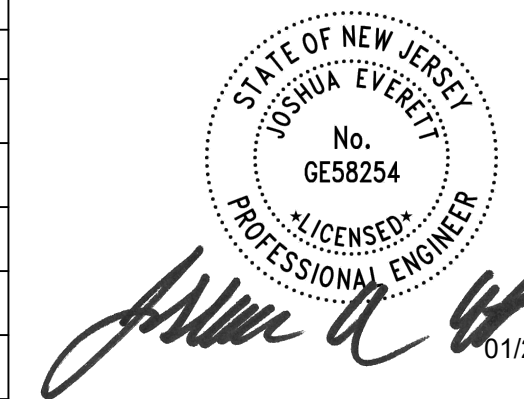
MATERIAL SCHEDULE

CATEGORY	APPLICATION	ALLOWABLE MATERIAL
SPRINKLER HEAD	EXPOSED STRUCTURE CEILING	WHITE UPRIGHT
	GYPSUM BOARD CEILING	WHITE CONCEALED PENDENT WITH WHITE COVER PLATE
	LAY-IN CEILING	WHITE RECESSED PENDENT WITH WHITE ESCUTCHEON
FIRE ALARM DEVICES	WALK-IN COOLER	FREEZE-PROOF PENDANT
	WALL-MOUNTED HORN AND/OR STROBE	WHITE WITH RED LETTERING
	CEILING-MOUNTED HORN AND/OR STROBE	WHITE WITH RED LETTERING
	PULL STATION	RED WITH WHITE LETTERING

FIRE ALARM / SPRINKLER ABBREVIATIONS

(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
A.F.F.	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
A.O.R.	ARCHITECT OF RECORD
B.F.F.	BELOW FINISHED FLOOR
BOH	BACK OF HOUSE
CLG	CEILING
E.O.R.	ENGINEER OF RECORD
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
GC	GENERAL CONTRACTOR
LL	LANDLORD
NTS	NOT TO SCALE
UNO	UNLESS NOTED OTHERWISE

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CAVA - NORTH BRUNSWICK, NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
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FIRE PROTECTION PLAN

Date Modified:	07/26/2024
Date Created:	07/26/2024
Scale:	AS NOTED
Project No.:	240003
Drawn By:	BRW
Checked By:	JAE

**FOR REFERENCY ONLY:
FIRE PROTECTION AND ALARM SYSTEMS ARE TO BE
DESIGNED BY THE GENERAL CONTRACTOR**

F100

1 FIRE PROTECTION PLAN
1/4" = 1'-0"

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222 GRAND AVE.
 NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/24	PRESCREEN COMMENTS
11/26/24	PERMIT SET
01/27/25	PERMIT ADDENDUM / CONSTRUCTION SET

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Captive Air

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 Date Created: AS SHOWN
 Scale: 3482-24-05
 Project No.: FA
 Drawn By: 3482-250121- Construction Set_AB.vwx
 CAD File:

REVISIONS

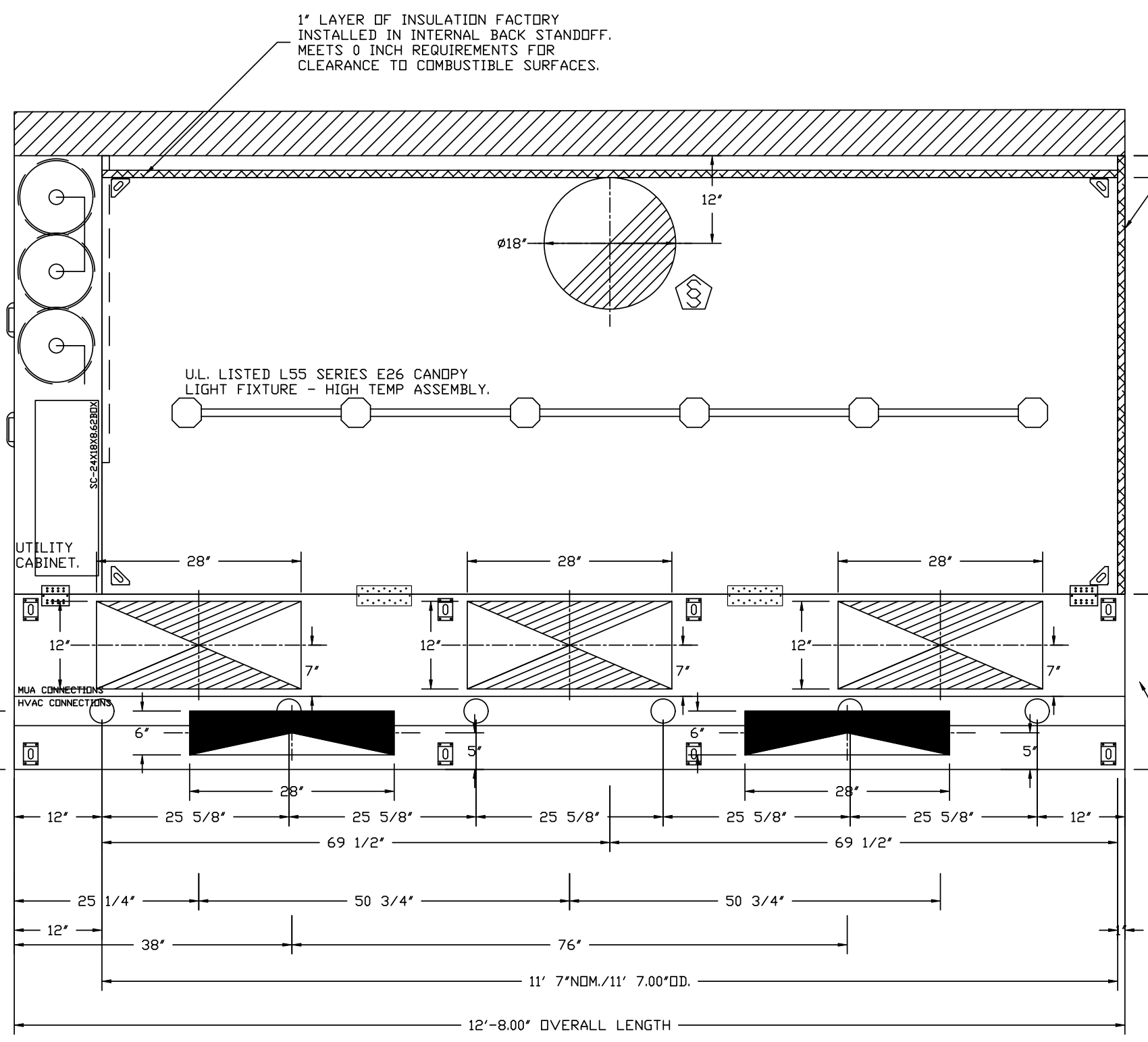
DESCRIPTION	DATE

recon-air
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 2300 U.S. 1,
 North Brunswick Township, NJ 08902

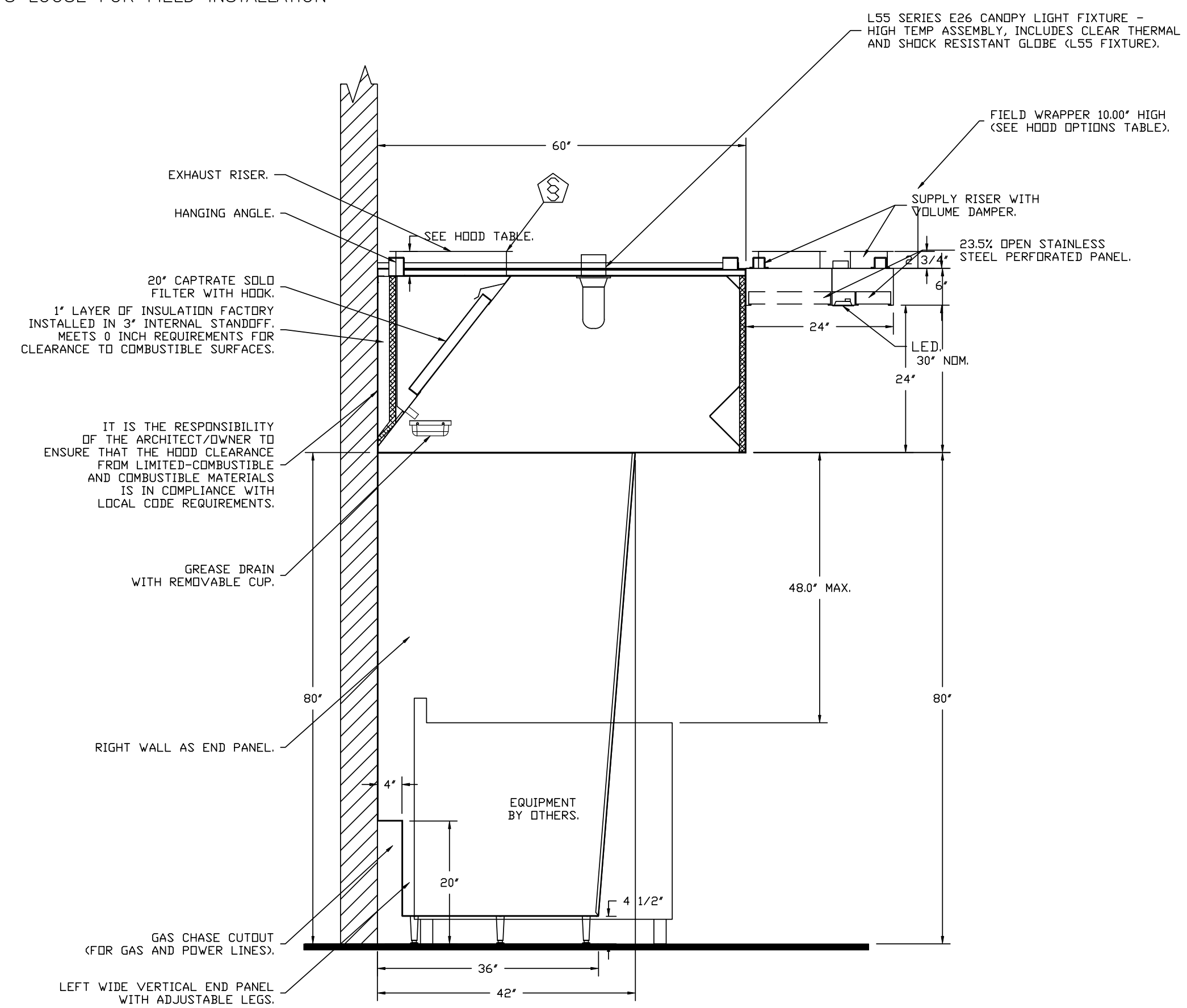
DATE: 7/15/2024
DWG.#: 6917126
DRAWN BY: AJP-32
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
 2

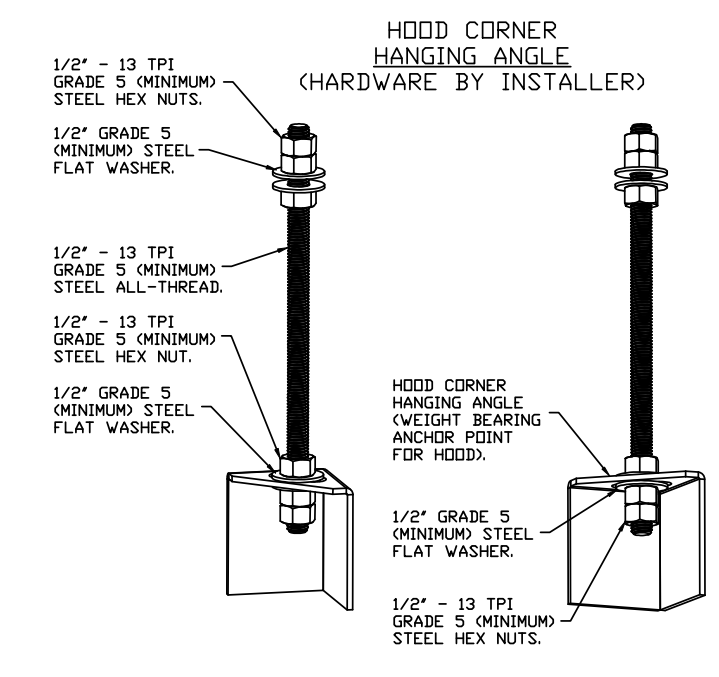


PLAN VIEW - HOOD #1 (33)
 11' 7.00" LONG 6030EX-2-ACPSP-F

ACPSP SHIPS LOOSE FOR FIELD INSTALLATION



SECTION VIEW - MODEL 6030EX-2-ACPSP-F
 HOOD - #1 (33)



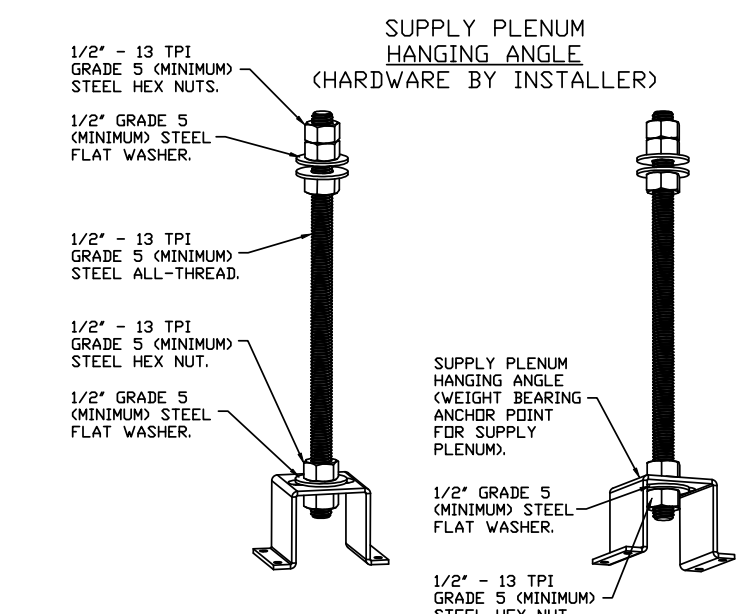
ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	*CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	0"
	LEFT	0"
	RIGHT	0"

- *0" CLEARANCE TO COMBUSTIBLES CONFORMS TO UL710 STANDARD.
 - HOOD MOUNTED UTILITY CABINETS REQUIRE 36" SERVICE CLEARANCE.



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD. SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION ABOVE CEILING ANCHORS. SINGLE HEX NUT BENEATH HANGING ANGLE IS ACCEPTABLE FOR PSP HANGING ANGLES. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

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Captive Air

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Project No.:	3482-24-05
Drawn By:	FA
CAD File:	3482-250121- Construction Set_AB.vwx

A9.3

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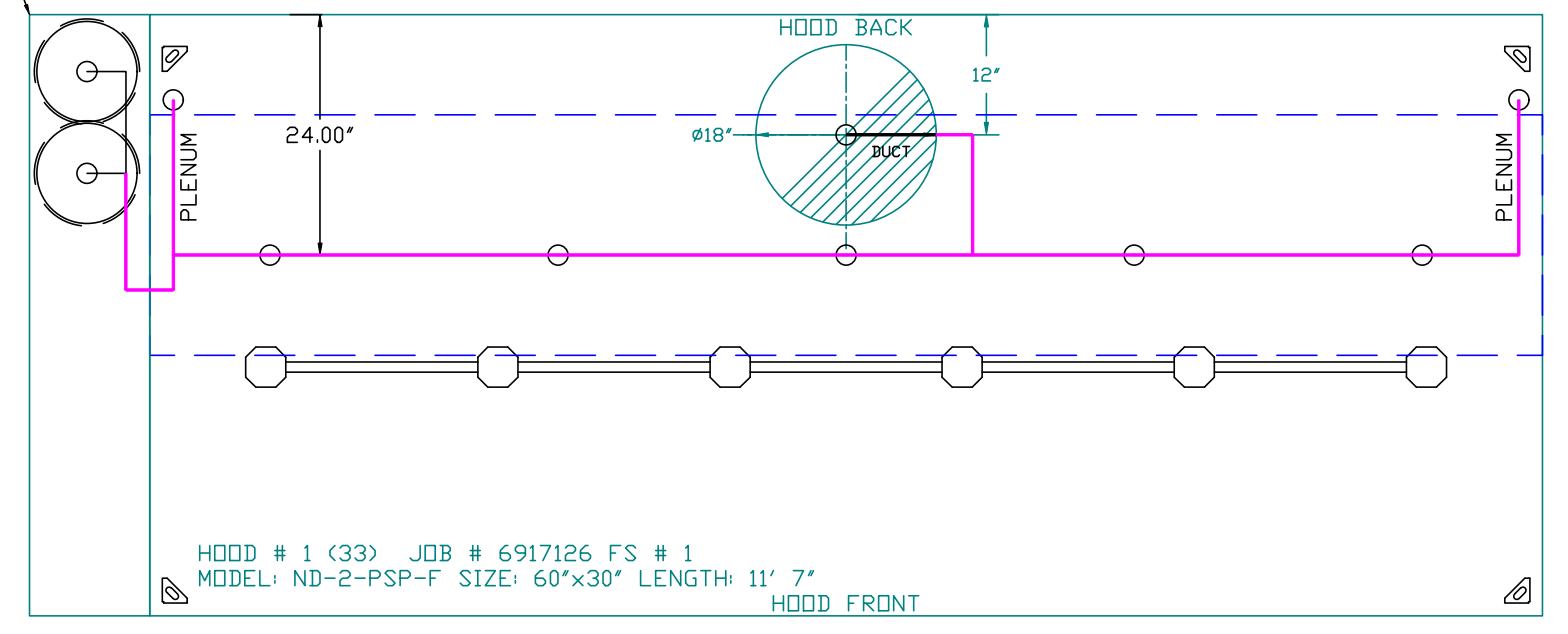
DATE: 7/15/2024
DWG.#: 6917126
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SCALE: 3/4" = 1'-0"
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3

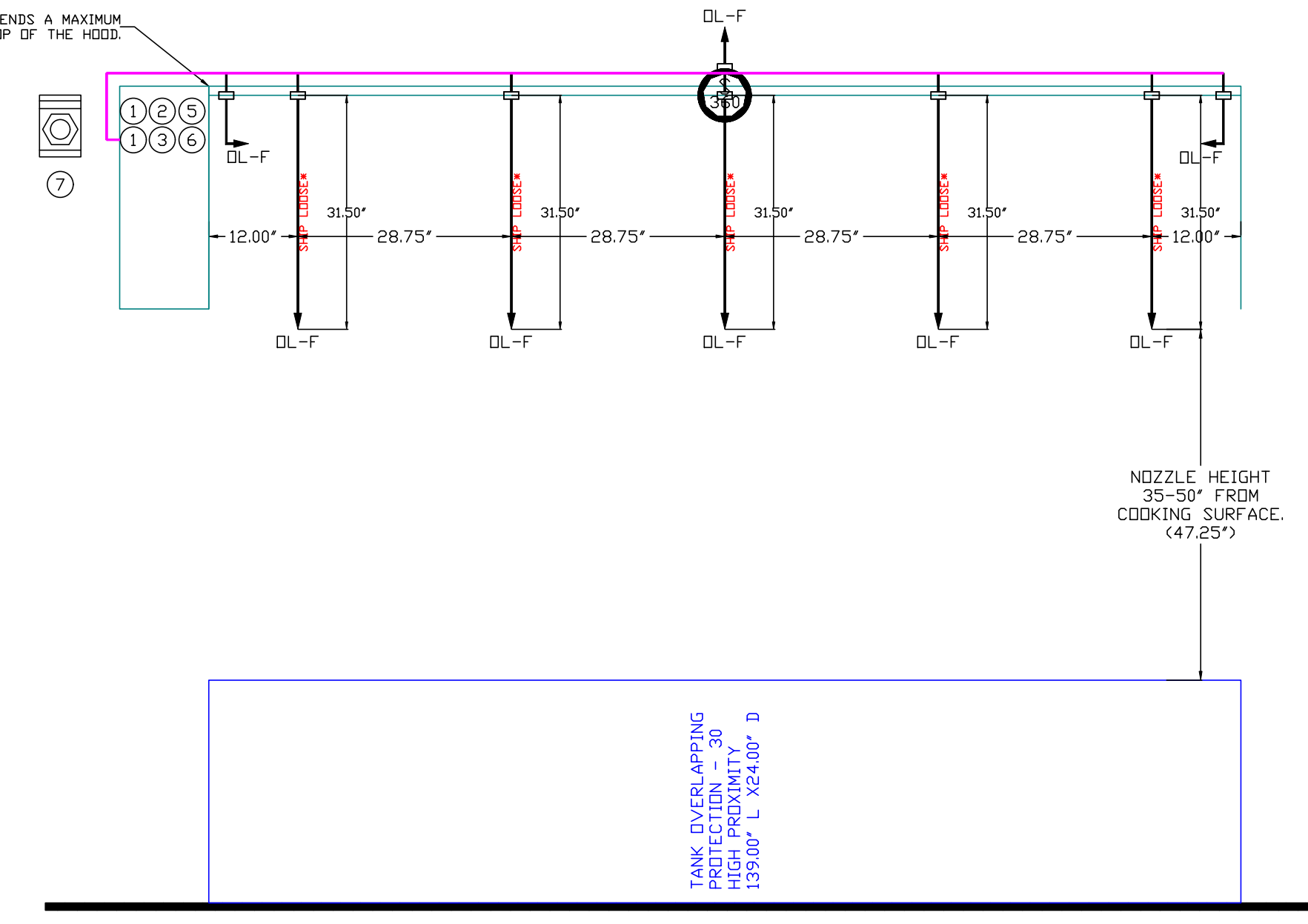
FIRE SYSTEM INFORMATION - JOB#6917126

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	60	37	FIRE CABINET LEFT	LEFT, HOOD 1

- SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.3 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS



FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.



FIRE SYSTEM PARTS LIST KEY

FIRE SYSTEM NO	TAG	KEY NUMBER - PART DESCRIPTION	QTY BY FACTORY	QTY BY DIST
0	0	TANK FIRE SUPPRESSION POST-DISCHARGE PROCEDURE UTILITY CABINET LABEL SHEET.	1	0
0	0	TANK FIRE SUPPRESSION MAINTENANCE GUIDE UTILITY CABINET LABEL SHEET.	1	0
0	0	12-F28821-3544-0T-360 DUCT FIRE THERMOSTAT WITH 12 FOOT WIRE LEADS. NO. CLDSE ON TEMP RISE AT 360°F. (6003430)	1	0
0	0	32-00002 QUIK SEAL - 1/2" OUL.	1	0
0	0	4429K153 1/2" MALE NPT TO 1/2" FEMALE NPT ELBOW, BRASS.	3	0
0	0	4429K428 1/2" X 1/4" BRASS REDUCING BUSHING.	2	0
0	0	79525 1/2" 90 PRO-PRESS ELBOW WITH 1/2" NPT FEMALE CONNECTION, VIEGA.	2	0
0	0	79580 1/2" X 1/2" PRO-PRESS TEE X 1/2" NPT FEMALE CONNECTION, VIEGA.	3	0
0	0	87-120042-000 SECONDARY ACTUATOR VALVE (SVA) - SINGLE ACTUATOR, REQUIRES PRIMARY RELEASE ACTUATOR, TANK FIRE SUPPRESSION.	2	0
0	0	87-120045-000 HDSE, SECONDARY ACTUATOR HDSE, 7.5' BRAIDED STAINLESS STEEL, TANK FIRE SUPPRESSION.	2	0
0	0	87-30001-000 TANK - PRESSURIZED TANK USED FOR TANK FIRE SUPPRESSION.	3	0
0	0	87-30003-000 PRIMARY ACTUATOR KIT (PAK) - ACTUATOR AND RELEASE SOLENOID ASSEMBLY, ONE NEEDED PER FIRE SYSTEM, SUPERVISED, TANK FIRE SUPPRESSION.	1	0
0	0	87-30015-000 HARDWARE, SVA BOLTS, TANK FIRE SUPPRESSION.	12	0
0	0	9095459PC PRO PRESS 1/2 PRESS X PRESS 90 ELBOW L.B.	6	0
0	0	9097200PC PRO PRESS PC611 1/2 PRESS TEE L.B.	7	0
0	0	986944115 HARDWARE, DATANKLOCK LOCKING BRACKET SQUARE NUTS 5/16" ZINC, TANK FIRE SUPPRESSION.	6	0
0	0	A034332 JUNCTION BOX FOR MANUAL PULL STATION, 1.5" DEEP BACK BOX, RED COLOR.	1	0
0	0	A31484 1/4" NPT SCHRAEDER VALVE AND CAP, JB INDUSTRIES, 1/4" FLARE X 1/4" NPT HALF UNION USED ON TANK SERVICE PORT.	2	0
0	0	B1145 3/8" BLACK IRON 90 ELL.	3	0
0	0	DATANKLOCK DISCHARGE ADAPTER TANK LOCKING PLATE FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
0	0	TANK STRAP TANK STRAP - USED FOR TANK FIRE SUPPRESSION.	9	0
0	0	TFS-UCTANKBRACKET TANK BRACKET FOR FIRE SYSTEM TANK INSTALLATION IN UTILITY CABINETS, TANK FIRE SUPPRESSION.	3	0
0	0	WK-283952-000 DISCHARGE ADAPTER, TANK FIRE SUPPRESSION.	3	0
16	16	79210 1/2" X 3/8" NPT MALE ADAPTER, VIEGA.	8	0
16	16	16-F NEZZLE - TANK PROTECTION APPLIANCE COVERAGE NOZZLE (INCLUDES METAL BLDW OFF CAP, LANYARD, USED WITH CHROME-PLATED PIPE).	8	0
26	26	OSA-3/8 QUIK SEAL - 3/8" OUL.	8	0
26	26	A003431 24VDC SINGLE ACTION MANUAL ACTUATION DEVICE (PUSH/PULL STATION) WITH PROTECTIVE COVER, ONE (1) NORMALLY OPEN CONTACT, RED COLOR.	1	0

NOTES

- FIELD PIPE DROPS AS SHOWN
- PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
- FIELD INSTALLED DROP; FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
- SHIP LOOSE DROP; FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED
- SHIPPED LOOSE TO BE FIELD-INSTALLED.
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
- IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH UL 300 REQUIREMENTS.

- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 6917126.
 JOB NAME: CAVA - NORTH BRUNSWICK, NJ.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 37, MAXIMUM FP: 40.
 HOOD # 1 11' 7.00" LONG X 60" WIDE X 30" HIGH.
 RISER # 1 SIZE: 18" DIA.
 HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

AGENT DISTRIBUTION PIPING LIMITATIONS	
PIPE SECTION	MAX PIPE LENGTH (FT)
MAX SUPPLY LINE TO FIRST OVERLAPPING NOZZLE	42
OVERLAPPING NOZZLE APPLIANCE BRANCH	10
DEDICATED NOZZLE APPLIANCE BRANCH	10

LEGEND - FIRE CABINET TANK SYSTEM

- 4 GALLON TANK.
- PRIMARY ACTUATOR RELEASE.
- SECONDARY ACTUATOR RELEASE.
- PRESSURE SUPERVISION SWITCH.
- PRIMARY HOSE ASSEMBLY.
- SECONDARY HOSE ASSEMBLY.
- REMOTE MANUAL ACTUATION DEVICE.

INCLUDES: FIELD INSTALLATION AND HOOKUP DURING NORMAL BUSINESS HOURS BY CERTIFIED INSTALLERS ONLY IN THE LOCATION NOTED ABOVE. TWO SITE VISITS ONLY (ONE VISIT TO SET PULL STATION & SYSTEM HOOKUP AND ONE VISIT FOR ONE TEST); ADDITIONAL VISITS WILL RESULT IN ADDITIONAL CHARGES, ONE MECHANICAL OR ELECTRICAL GAS VALVE PER SYSTEM AT A MAXIMUM SIZE OF 2". PERMIT, AND SYSTEM TEST.
 EXCLUDES: UNION LABOR & PREVAILING WAGE (LABOR & WAGES WILL BE ADDED IF APPLICABLE), GAS VALVE INSTALLATION, ELECTRICAL HOOKUP AND CONNECTIONS, HANGING OF FIRE CABINET, SHUNT TRIP, HANDHELD EXTINGUISHER(S), ON-SITE RE-PIPING DUE TO EQUIPMENT LAYOUT CHANGES.

SEAL

PROJECT



CAVA_NORTH BRUNSWICK_NJ

222 GRAND AVE.
 NORTH BRUNSWICK, NJ 08902

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DOAS/RTU FAN SCHEDULE - JOB#6917126

FAN INFORMATION										ELECTRICAL INFORMATION					COOLING INFORMATION						REHEAT INFORMATION				GAS HEAT INFORMATION				NOTES													
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MDCP	OUTSIDE AIR DB	OUTSIDE AIR WB	MIXED AIR DB	MIXED AIR WB	LEAVING AIR DB	LEAVING AIR WB	DP	TOTAL	SENS.	IEER	ISMRE	DISCHARGE DB	DISCHARGE WB		CAPACITY DESIRED	CAPACITY MAX	MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTU _s	OUTPUT BTU _s	TEMP RISE	REQUIRED INPUT GAS PRESSURE					
2	MUA-1	1	EARTU1-1200-15-ST-MPU	ECON-AIR	15P-1	0	2163	2163	1190	0.500	2.00	3	208	28.4A	30A	90.0°F	74.0°F	90.0°F	74.0°F	72.2°F	65.4°F	62.0°F	66.0	MBH	40.2	MBH	17.9	6.1	90.0°F	70.9°F	41.3	MBH	0.2	MBH	23.5	LBS/HR	NATURAL	196968	159544	62°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14

NOTES:
 1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL.
 2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE.
 3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER.
 4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE.
 5. EC MOTOR CONDENSING FANS.
 6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE.
 7. SUCTION LINE ACCUMULATOR.
 8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER.
 9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT).
 10. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP.
 11. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE.
 12. FULLY MODULATING HOT GAS REHEAT.
 13. 1" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-4.3 INSULATION-MINIMUM 24GA EXTERIOR W/ 18GA BASE.
 14. DOWN DISCHARGE/NO RETURN.

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1	KEF-1	1	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR180HFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY
		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	TOTAL CFM MONITORING
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	SHIP LOOSE GAS STRAINER 3/4"
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	2" MERV 13 FILTERS FOR RTU1 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU1 (QTY. 4)
		1	RTU1 DOWN DISCHARGE
		1	RTU1 CURB DUCT HANGER
2	MUA-1	1	5 TON MODULATING COOLING OPTION, 208/230V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, DL ECM CONDENSING FAN
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	120V FIRE INPUT
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU1. 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, #A4, OR #E2 PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	RTU1 NO RETURN - 100% DA - MPU
		1	RTU1 FIXED 100% DA INTAKE CONTROL
		1	UNIT MOUNTED VFD CONFIGURED FOR DCV
		1	LOAD REACTOR MOUNTED IN FAN
		1	1BT ONLY REHEAT
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIR SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

EXHAUST FAN INFORMATION - JOB#6917126

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1	KEF-1	1	EADU180H	ECON-AIR	2606	1.500	1252	TEFC,PREMIUM	2.000	1.3520	3	208	7.3	602 FPM	200	17.5

GREASE DUCT & CHIMNEY SPECIFICATIONS:
 PROVIDE GREASE DUCT EQUAL TO ECON-AIR MODEL "EDW" ROUND 20 GAUGE 430 STAINLESS STEEL DUCTWORK. MODEL "EDW" IS LISTED TO UL-1978 AND IS INSTALLED USING "V" CLAMP LOCKING CONNECTIONS SEALED WITH 3M FIRE BARRIER 2000 PLUS. MODEL "EDW" DOES NOT REQUIRE WELDING PROVIDING IT HAS BEEN INSTALLED PER THE MANUFACTURES INSTALLATION GUIDE.
 PROVIDE RATED ACCESS DOORS AT EVERY CHANGE IN DIRECTION AND EVERY 12' ON CENTER. PER MANUFACTURES LISTING MODEL "EDW" HORIZONTAL RUNS LESS THAN 75 FT. CAN BE SLOPED 1/16" PER 12", HORIZONTAL RUNS MORE THAN 75 FT. CAN BE SLOPED 3/16" PER 12". DUCT SHOULD BE SLOPED AS MUCH AS POSSIBLE TO REDUCE THE CHANCE OF GREASE ACCUMULATION IN HORIZONTAL RUNS.
 IF THE DUCT OR CHIMNEY IS WITHIN 18 INCHES OF COMBUSTIBLE MATERIAL, PROVIDE UL-2221 OR UL-103 HT LISTED DOUBLE WALL GREASE DUCT OR DOUBLE WALL CHIMNEY EQUAL TO ECON-AIR MODEL "EDW- 2R, 2R TYPE HT, 3R, OR 3Z" ROUND 20 GAUGE 430 STAINLESS INNER DUCT INSULATED WITH A 24 GAUGE 430 STAINLESS OUTER SHELL.

CUSTOMER APPROVAL TO MANUFACTURE:

APPROVED AS NOTED	<input type="checkbox"/>
APPROVED WITH NO EXCEPTION TAKEN	<input type="checkbox"/>
REVISE AND RESUBMIT	<input type="checkbox"/>

SIGNATURE _____
 YOUR TITLE _____ DATE _____

FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST			SUPPLY			
		GREASE CUP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT
1	KEF-1	YES						

CURB ASSEMBLIES

NO	DN FAN	TAG	WEIGHT	ITEM	SIZE
1	# 1	KEF-1	34 LBS	CURB	26.500"W X 26.500"L X 26.000"H VENTED HINGED.
2	# 2	MUA-1	103 LBS	CURB	41.000"W X 71.000"L X 20.000"H INSULATED.

HMI SCHEDULE

UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT	HMI # 1 MOUNTED IN UNIT	NOT AVERAGED	55
FAN #2	HMI #2 - SPACE	HMI # 1 KITCHEN	AVERAGED	56

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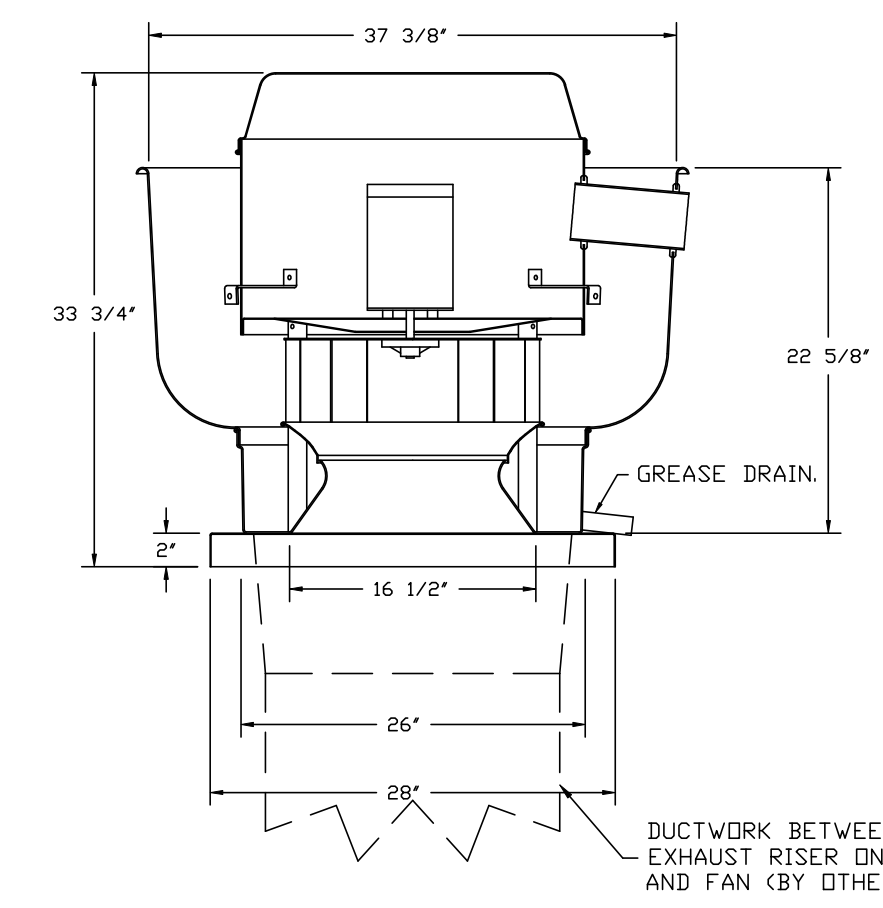
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SHEET NO.
5

FAN #1_FADU180H - EXHAUST FAN (KEF-1)



FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

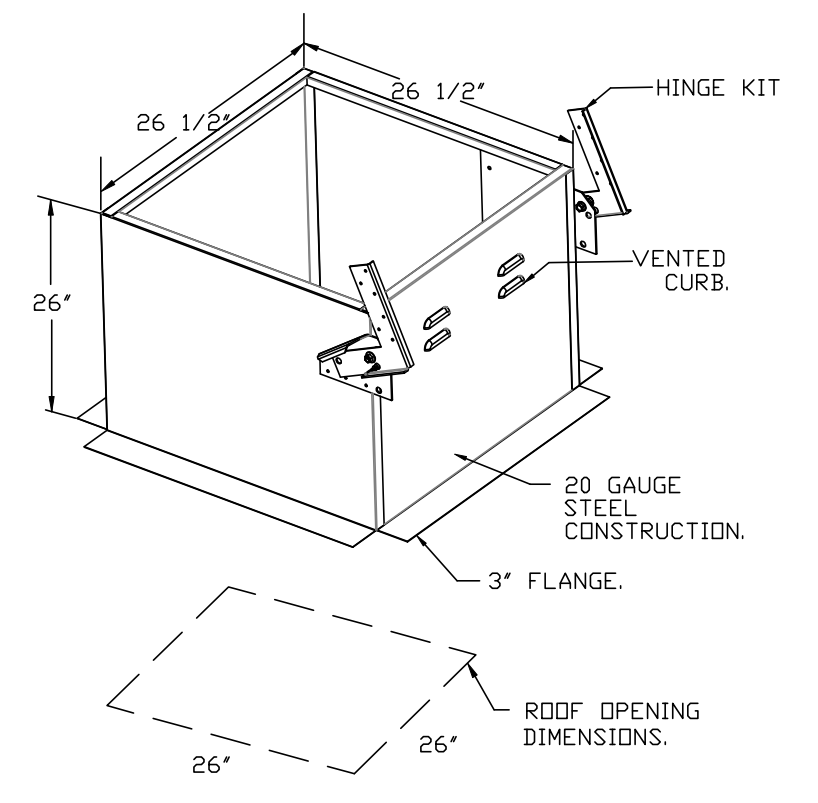
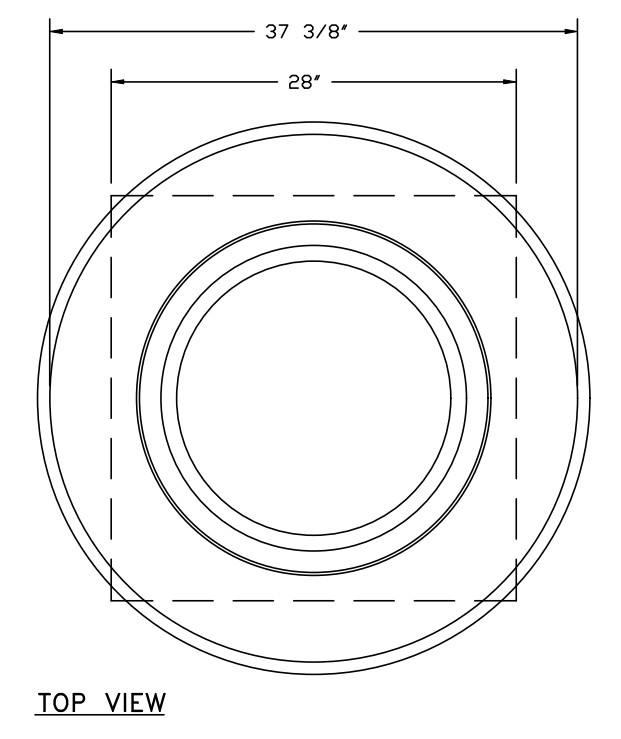
NORMAL TEMPERATURE TEST
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

DETAILS

- GREASE BOX.
- FAN BASE CERAMIC SEAL - DU/DR180HFA
- INSTALLED AT PLANT - FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.

DUCTWORK BETWEEN EXHAUST RISER ON HOOD AND FAN (BY OTHERS).



GREASE BOX INSTALLATION

CLOSED POSITION

OPEN POSITION

PARTS INCLUDED

- GREASE BOX.
- GREASE BOX COVER.
- GREASE PIPE.
- SHEET METAL SCREWS 3 - LONG (3/4" LG.).

GREASE BOX FIELD INSTALLATION

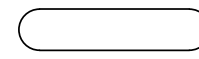
STEP 1)
 ATTACH GREASE BOX COVER TO THE CURB, HOLD 3" DIMENSION AS SHOWN ON PIC. 1. SCREW GREASE BOX COVER TO CURB USING (3) LONG (3/4" LG.) SCREWS AS SHOWN ON PIC. 2.

STEP 2)
 ATTACH GREASE BOX TO GREASE BOX COVER, SLIDE AND DROP AS SHOWN ON PIC. 3.

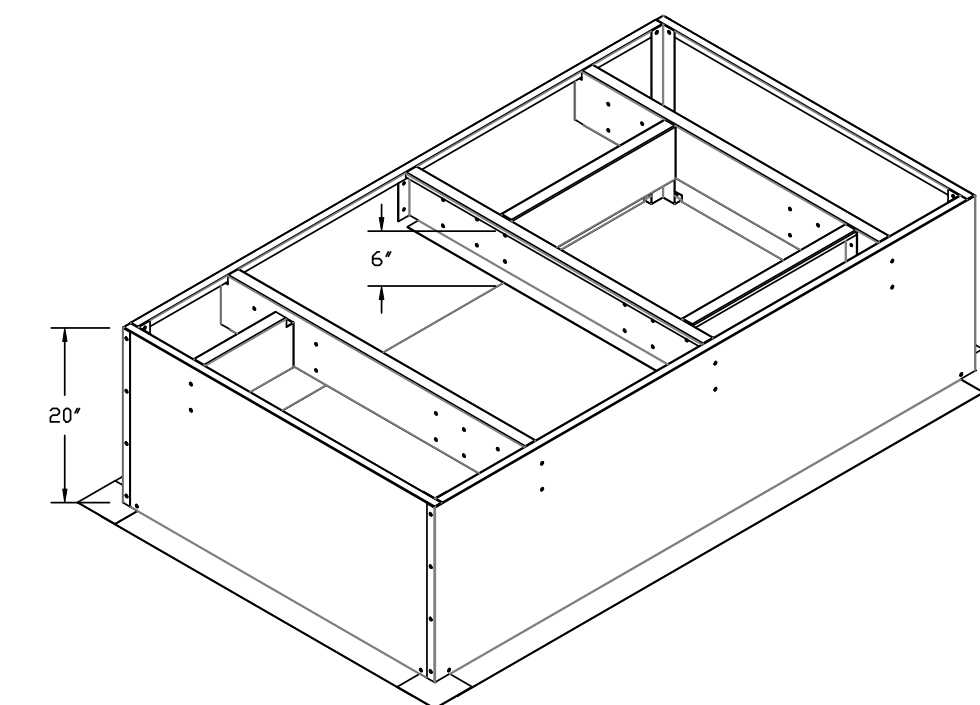
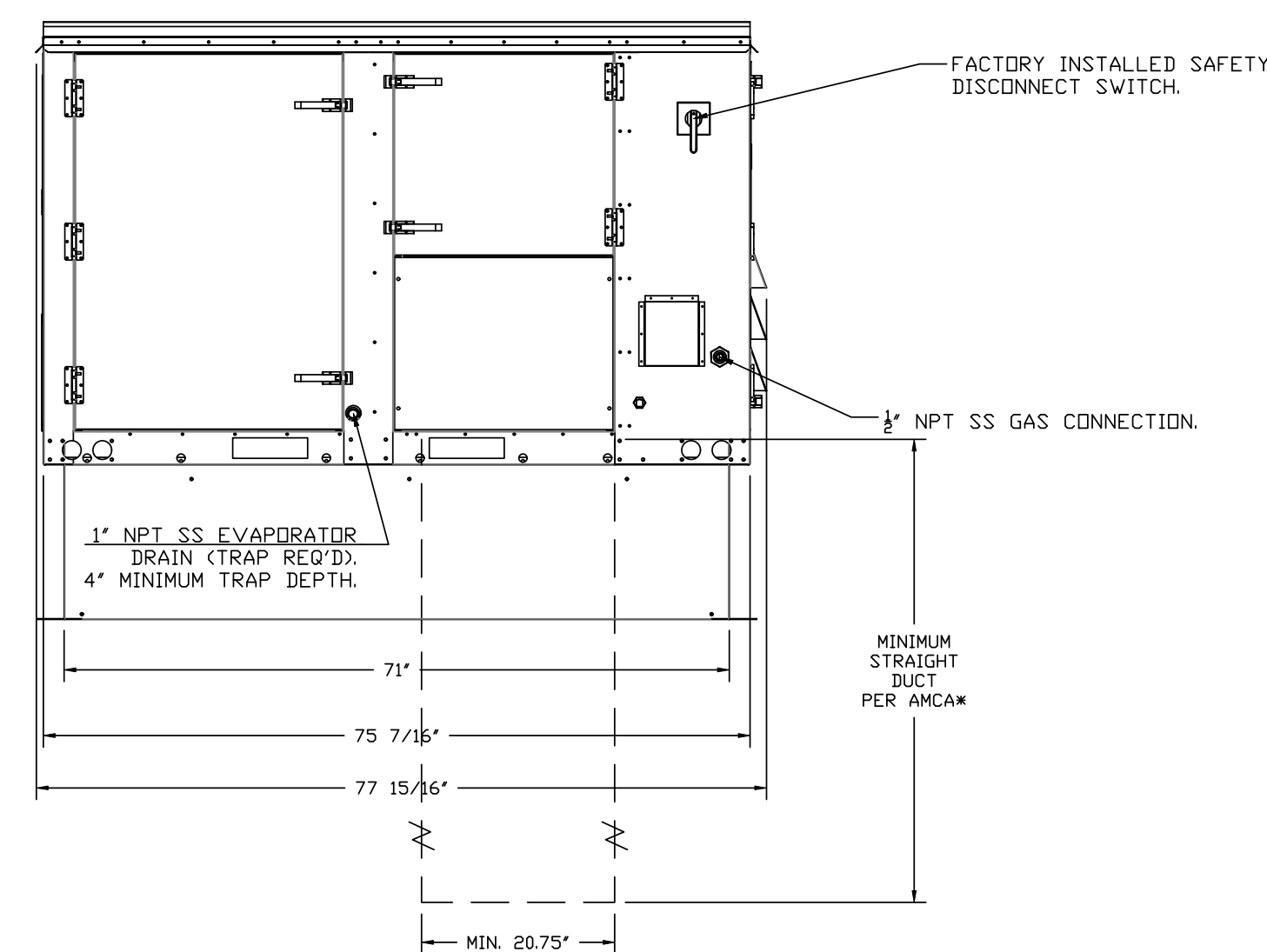
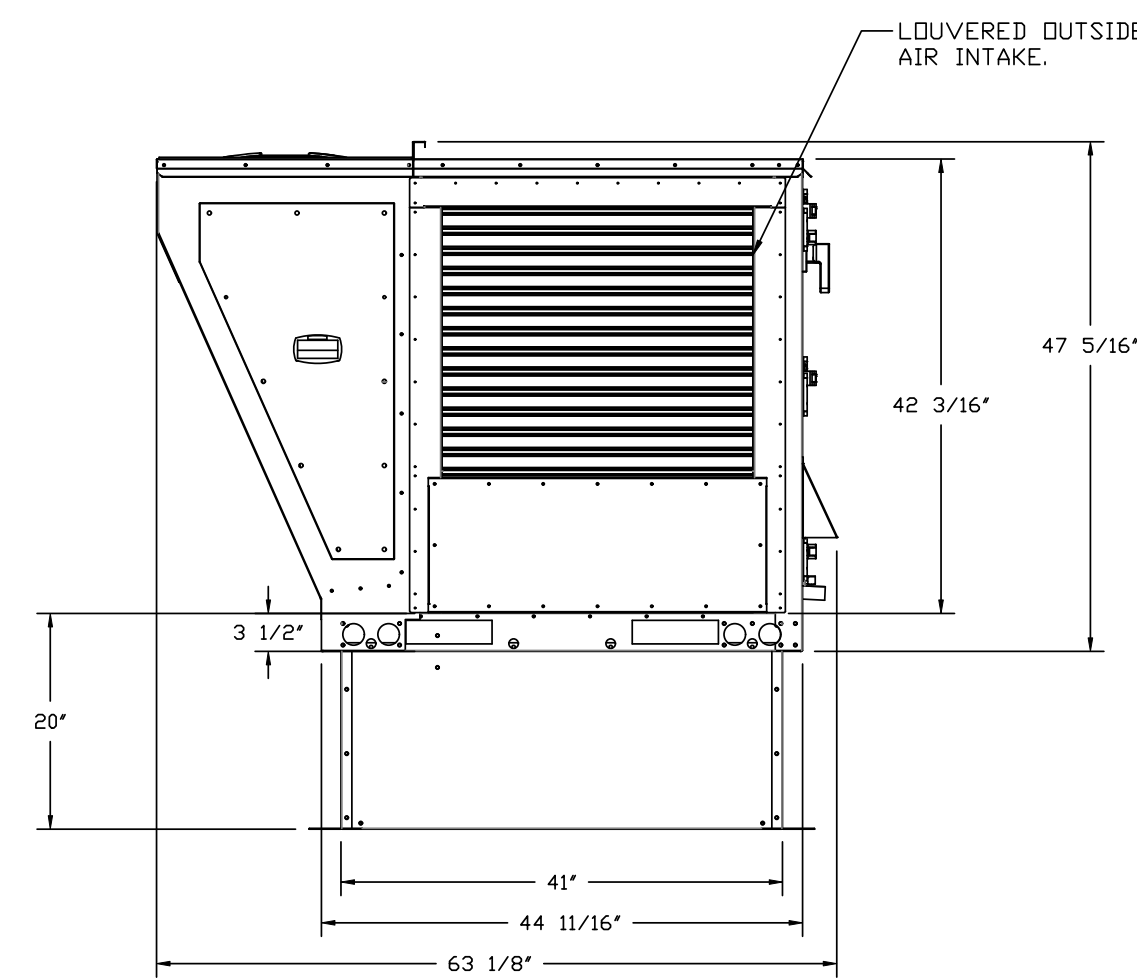
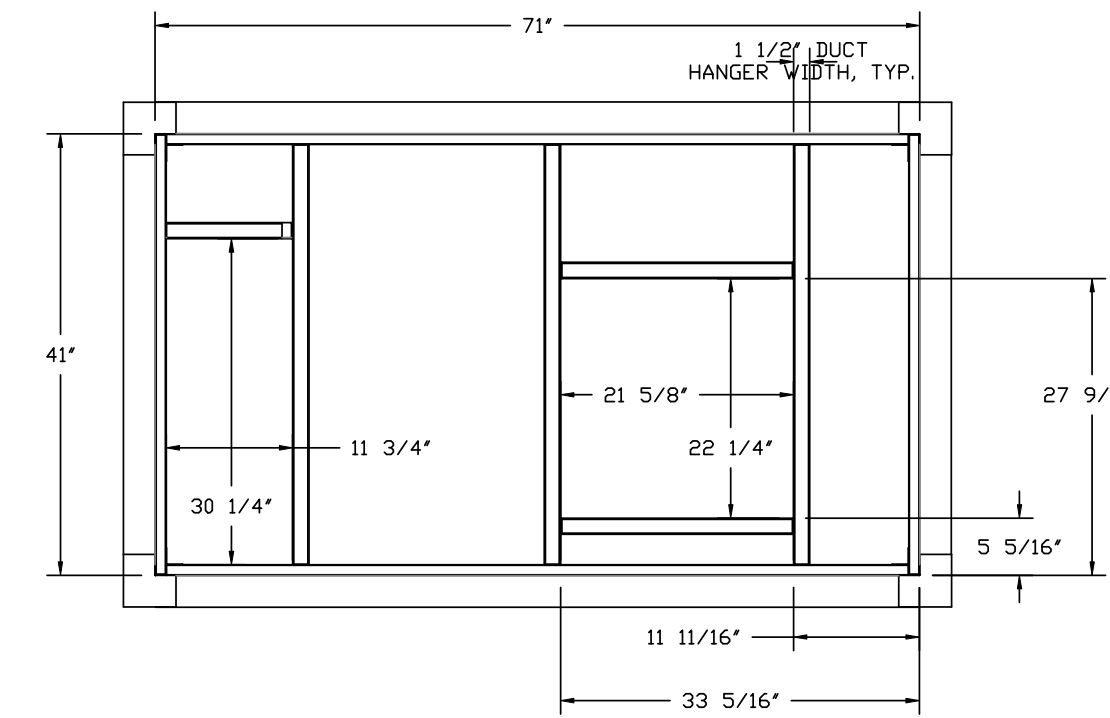
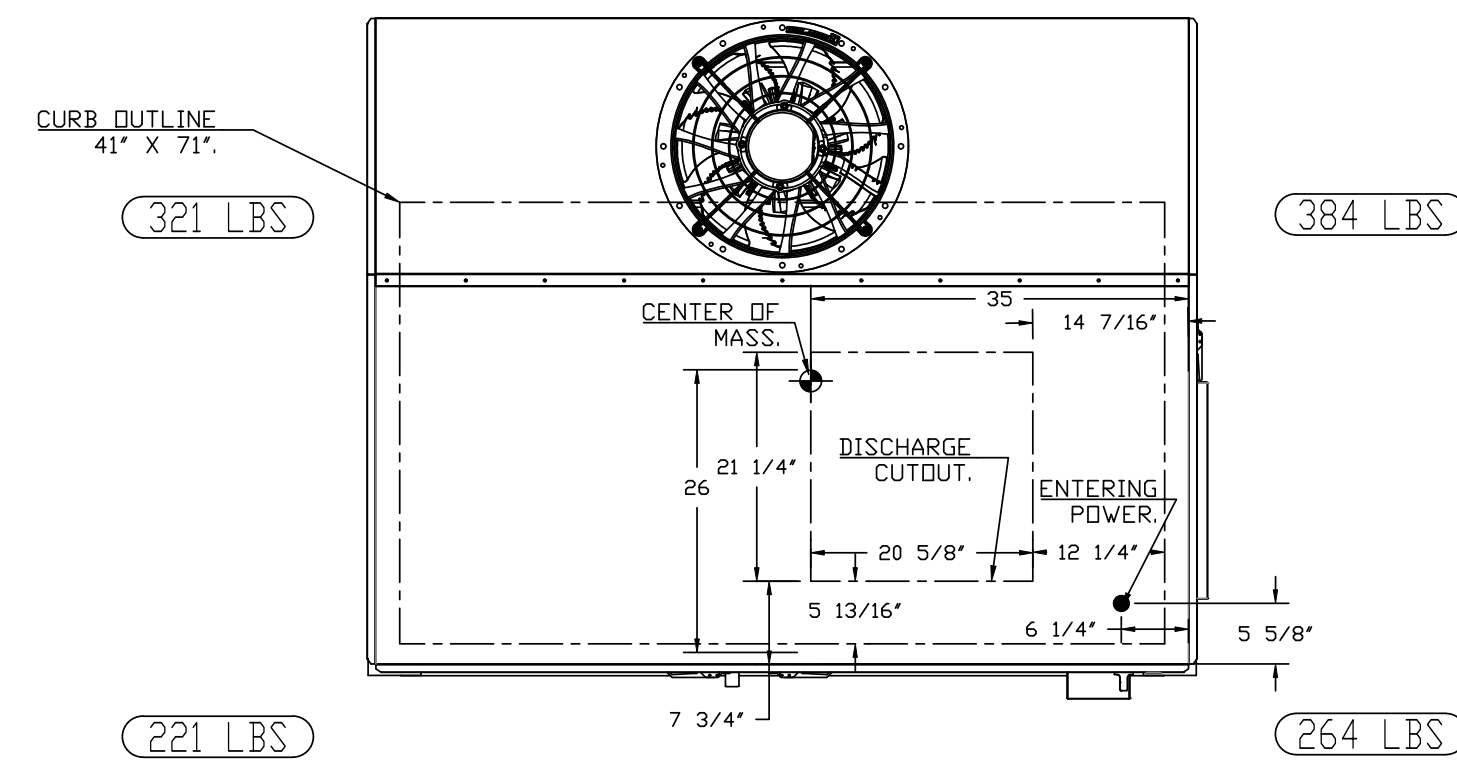
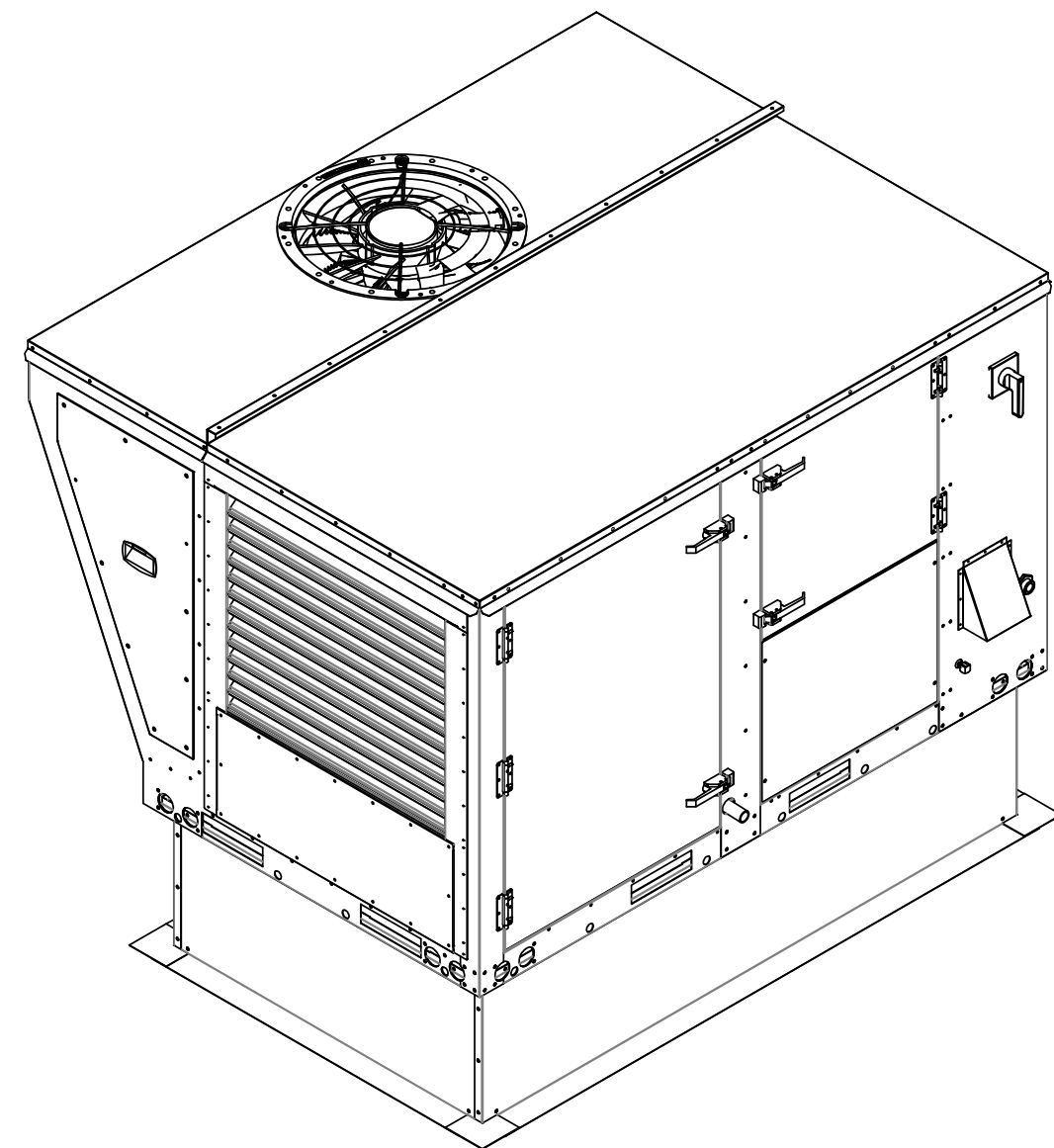
STEP 3)
 INSTALL GREASE PIPE AS SHOWN ON PIC. 4.

***NOTE: UL 705 INSTALL.**

FAN #2 EARTU1-I,200-15-5T-MPU - HEATER (MUA-1)

- NOTES:
- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
 -  DENOTES CORNER WEIGHT.
 - ROOF OPENING MUST BE 2" SMALLER THAN CURB DIMENSIONS IN BOTH DIRECTIONS.
 - CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
 - EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20.75" x 21.5".



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 DWG.#: 6917126
 DRAWN BY: AJP-32
 SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
 6

SEAL

PROJECT



CAVA_NORTH BRUNSWICK_NJ

222 GRAND AVE.
 NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/24	PRESCREEN COMMENTS
11/26/24	PERMIT SET
01/27/25	PERMIT ADDENDUM / CONSTRUCTION SET

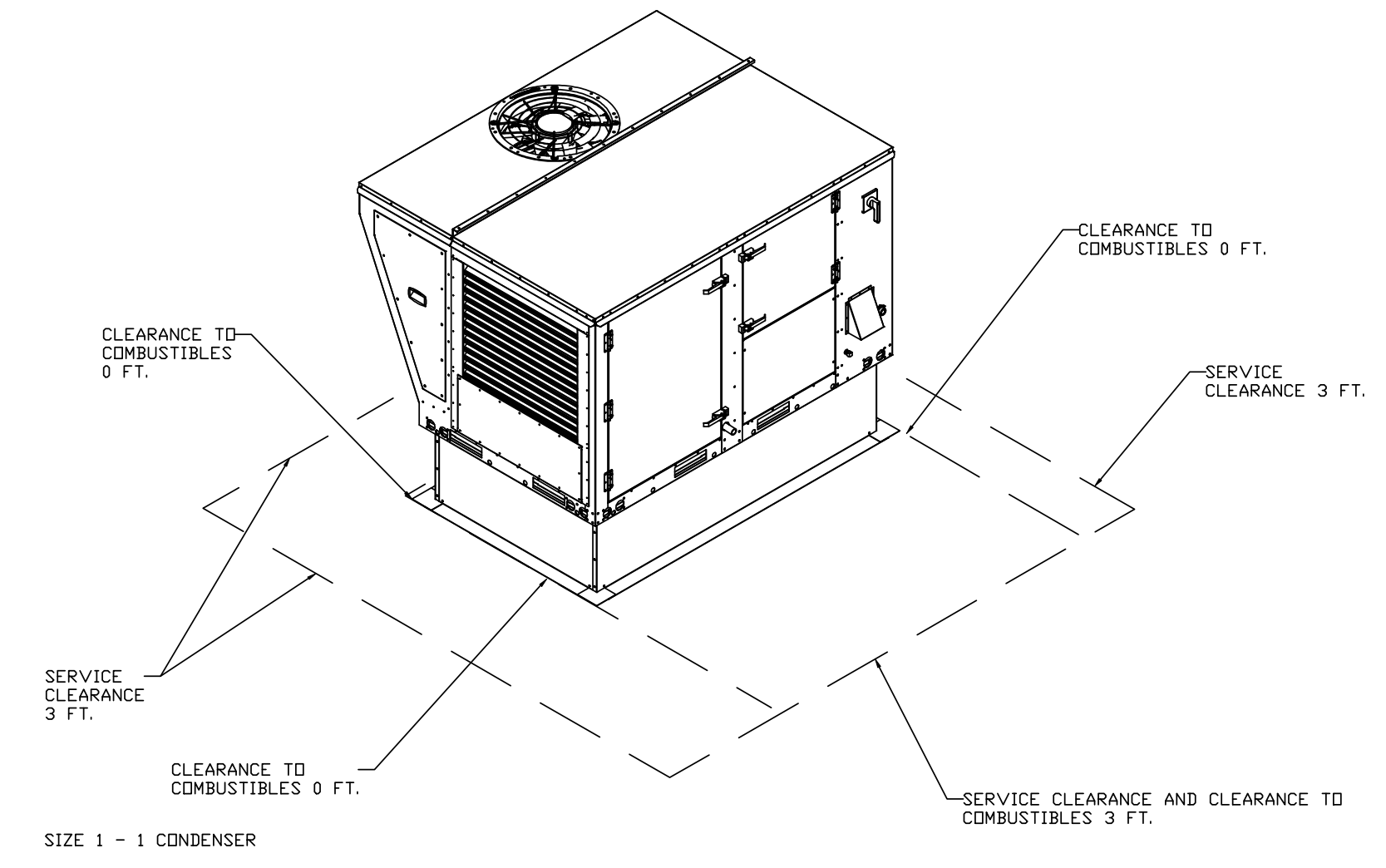
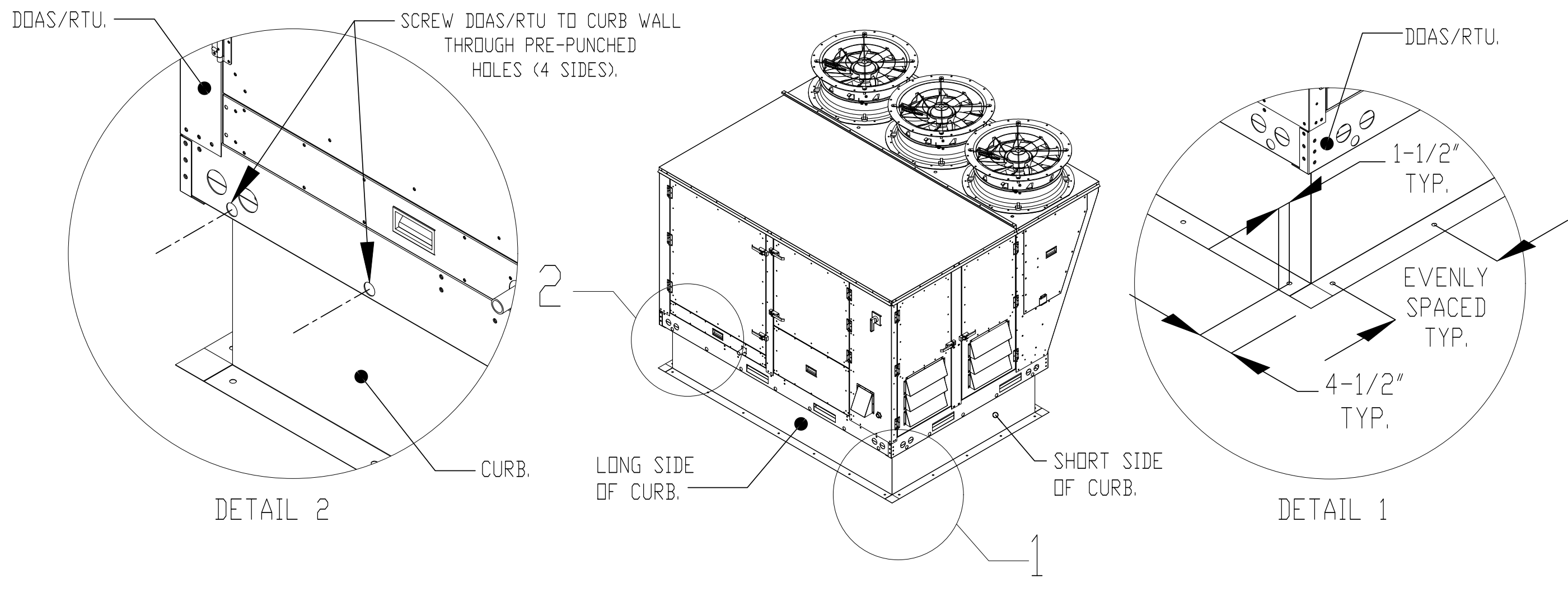
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Date Modified: 02/28/24
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 Project No.: FA
 Drawn By: 3482-250121- Construction Set_AB.vwx
 CAD File:

TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS

1. SECURE THE CURB TO THE ROOF FRAMING MEMBERS BY DRILLING 1/4" PILOT HOLES IN THE CURB FLANGES AT LOCATIONS SHOWN IN THE DIAGRAM BELOW. USING 3/8" X 2" ZINC PLATED STEEL LAG BOLTS, AND ZINC PLATED WASHERS, SCREW THROUGH THE CURB FLANGES AND INTO THE ROOF FRAMING MEMBERS. A MINIMUM OF (5) LAG BOLTS ON EACH SHORT SIDE, AND (7) LAG BOLTS ON EACH LONG SIDE IS REQUIRED.
2. SECURE THE UNIT BASE TO THE SIDE WALLS OF THE CURB USING (24) 1/4"-14 X 2" SELF-DRILLING, STEEL ZINC PLATED SCREWS. PRE-PUNCHED HOLES HAVE BEEN PROVIDED FOR EACH SCREW LOCATION.



REVISIONS

NO.	DESCRIPTION	DATE
1	PERMIT ADDENDUM / CONSTRUCTION SET	01/27/25
2	PERMIT SET	11/26/24
3	PRESCREEN COMMENTS	11/01/24

Secon-air
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 8120 Woodmont Avenue, Suite 720, Bethesda, MD, 20814 PHONE: (800) 988-0881 FAX: 9192279931 EMAIL: reg32@econair.com

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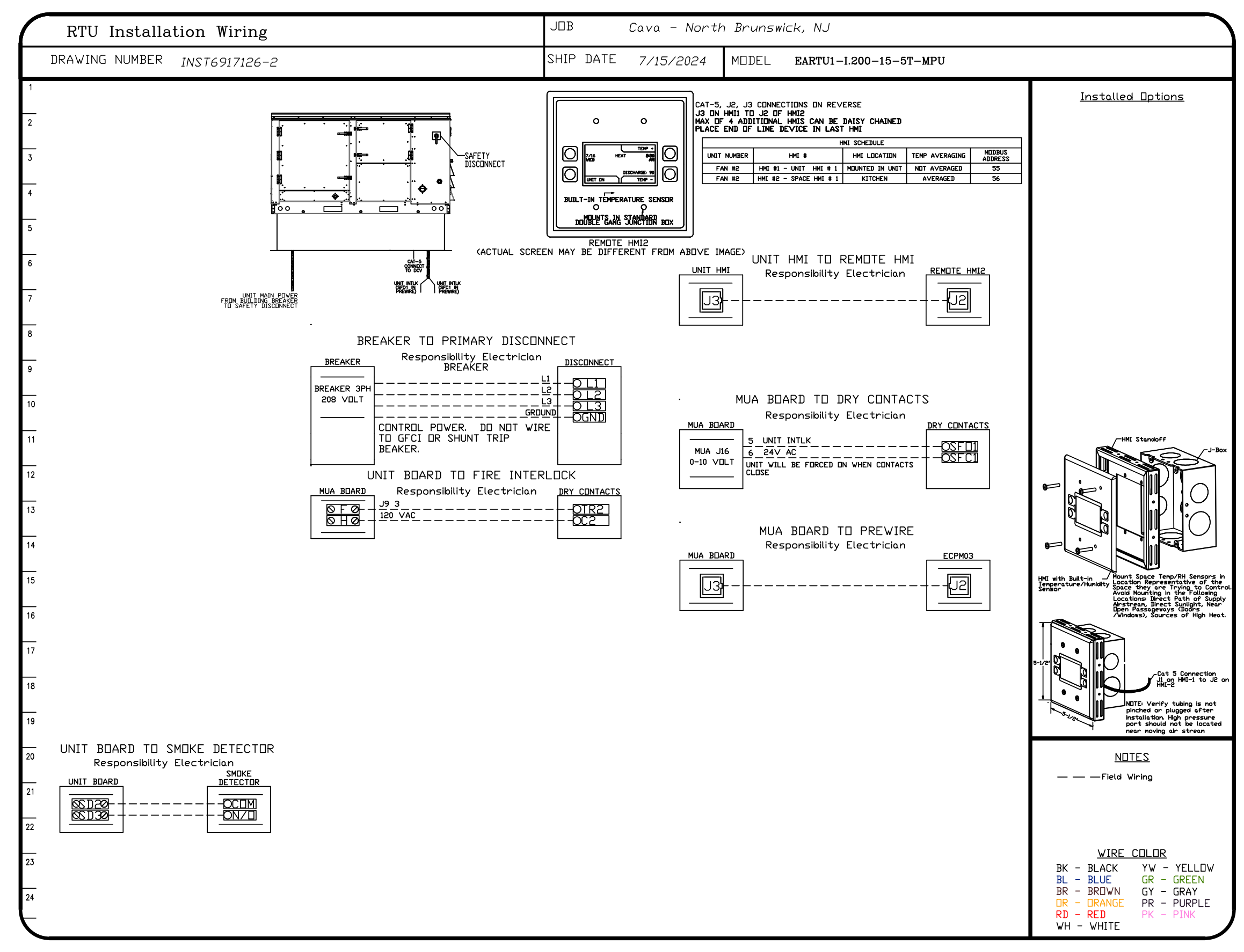
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CAVA

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 NORTH BRUNSWICK, NJ 08902

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Cava - North Brunswick, NJ
 2300 U.S. 1,
 North Brunswick Township, NJ 08902

DATE: 7/15/2024
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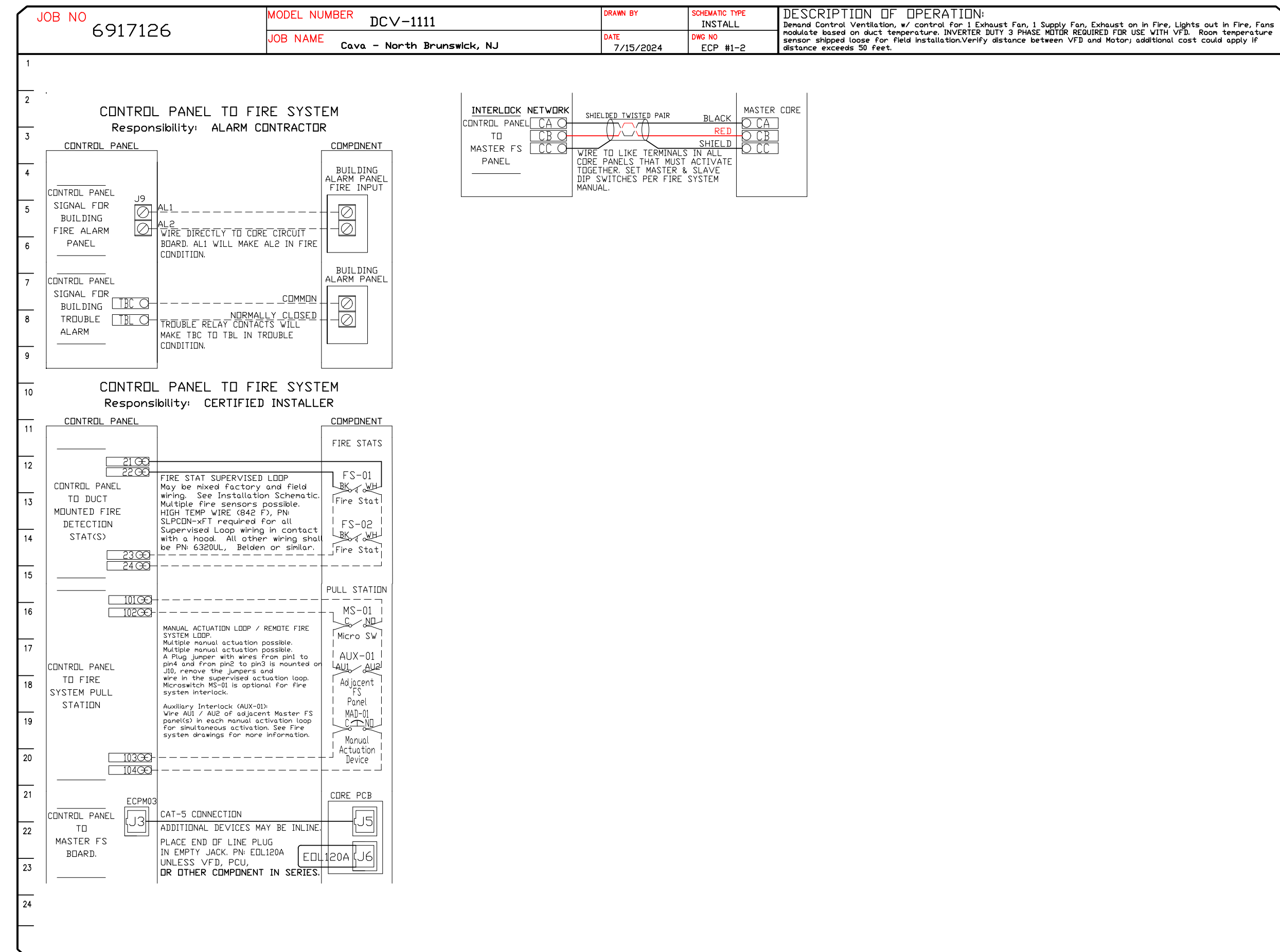
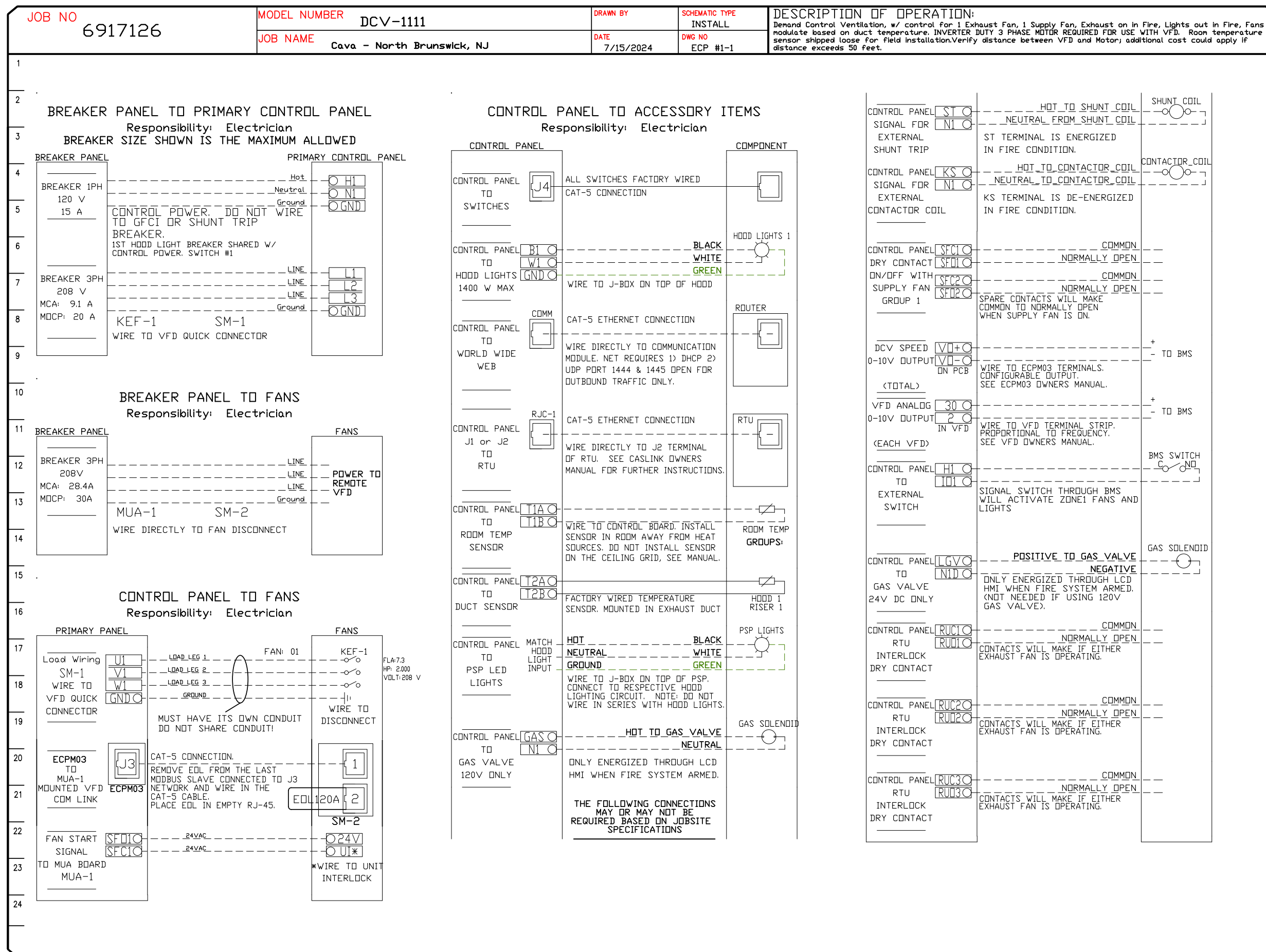
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ELECTRICAL PACKAGE - JOB#6917126

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED											
				LOCATION	QUANTITY		FAN TAG	TYPE	#	HP	VOLT	FLA						
1		DCV-1111	UTILITY CABINET LEFT	UTILITY CABINET LEFT HOOD # 1	1 LIGHT	SMART CONTROLS DCV	KEF-1	EXHAUST	3	2,000	208	7.3	MUA-1	SUPPLY	3	2,000	208	6.1



SEAL

PROJECT



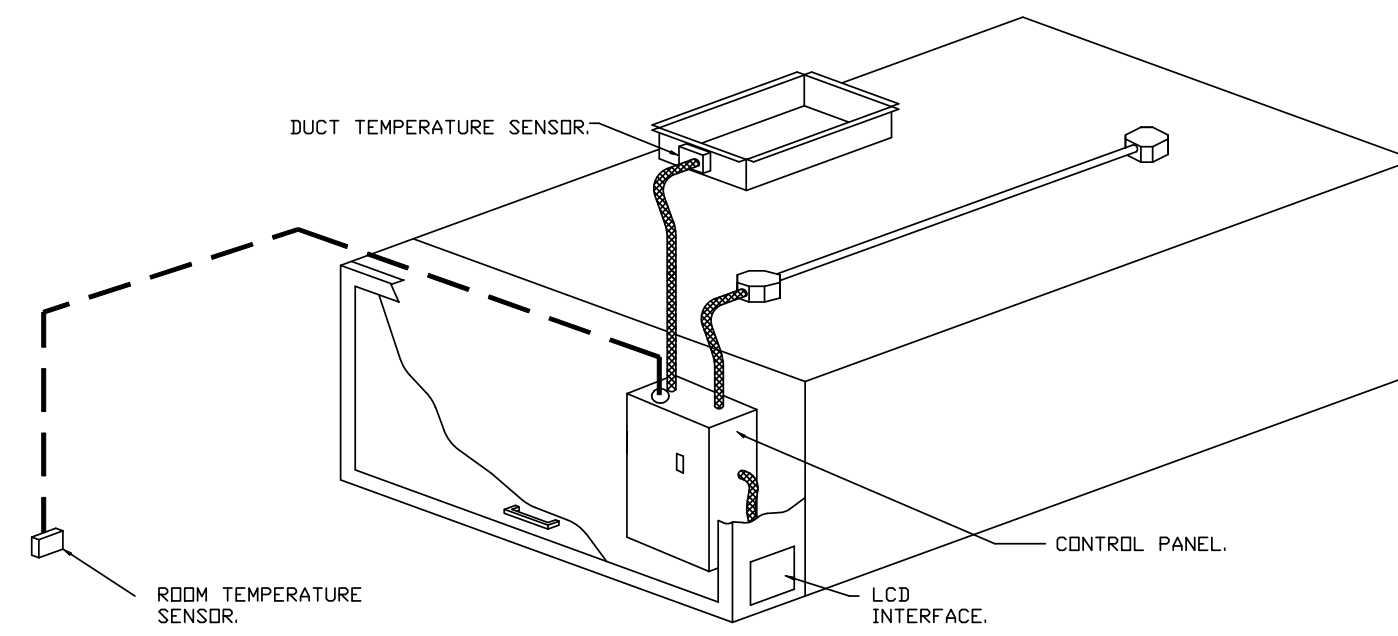
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DATE	DESCRIPTION
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DEMAND CONTROL VENTILATION HOOD CONTROL PANEL SPECIFICATIONS:

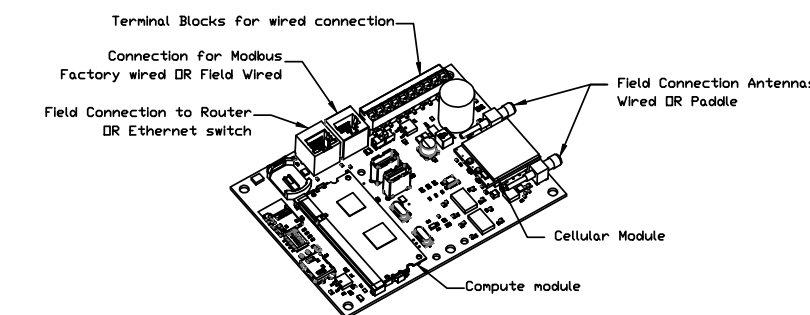
- CONTROLS SHALL BE LISTED BY ETL (UL 508A) AND SHALL COMPLY WITH DEMAND VENTILATION SYSTEM TURNDOWN REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
- THE CONTROL ENCLOSURE SHALL BE NEMA 1 RATED AND LISTED FOR INSTALLATION INSIDE OF THE EXHAUST HOOD UTILITY CABINET. THE CONTROL ENCLOSURE MAY BE CONSTRUCTED OF STAINLESS STEEL OR PAINTED STEEL.
- TEMPERATURE PROBE(S) LOCATED IN THE EXHAUST DUCT RISER(S) SHALL BE CONSTRUCTED OF STAINLESS STEEL.
- A DIGITAL CONTROLLER SHALL BE PROVIDED TO ACTIVATE THE HOOD EXHAUST FANS DYNAMICALLY BASED ON A FIXED DIFFERENTIAL BETWEEN THE AMBIENT AND DUCT TEMPERATURES SENSORS. THIS FUNCTION SHALL MEET THE REQUIREMENTS OF IMC 507.1.1.
- A DIGITAL CONTROLLER SHALL PROVIDE ADJUSTABLE HYSTERESIS SETTINGS TO PREVENT CYCLING OF THE FANS AFTER THE COOKING APPLIANCES HAVE BEEN TURNED OFF AND/OR THE HEAT IN THE EXHAUST SYSTEM IS REDUCED.
- A DIGITAL CONTROLLER SHALL PROVIDE AN ADJUSTABLE MINIMUM FAN RUN-TIME SETTING TO PREVENT FAN CYCLING.
- VARIABLE FREQUENCY DRIVES (VFDS) SHALL BE PROVIDED FOR FANS AS REQUIRED. THE DIGITAL CONTROLLER SHALL MODULATE THE VFDS BETWEEN A MINIMUM SETPOINT AND A MAXIMUM SETPOINT ON DEMAND. THE DUCT TEMPERATURE SENSOR INPUT(S) TO THE DIGITAL CONTROLLER SHALL BE USED TO CALCULATE THE SPEED REFERENCE SIGNAL.
- THE VFD SPEED RANGE OF OPERATION SHALL BE FROM 0% TO 100% FOR THE SYSTEM, WITH THE ACTUAL MINIMUM SPEED SET AS REQUIRED TO MEET MINIMUM VENTILATION REQUIREMENTS.
- AN INTERNAL ALGORITHM TO THE DIGITAL CONTROLLER SHALL MODULATE SUPPLY FAN VFD SPEED PROPORTIONAL TO ALL EXHAUST FANS THAT ARE LOCATED IN THE SAME FAN GROUP AS THE SUPPLY FAN.
- THE SYSTEM SHALL OPERATE IN PREP MODE DURING LIGHT COOKING LOAD OR COOL DOWN MODE WHEN SUFFICIENT HEAT REMAINS UNDERNEATH THE HOOD SYSTEM AFTER COOKING OPERATIONS HAVE COMPLETED. OPERATION DURING EITHER OF THESE PERIODS WILL DISABLE THE SUPPLY FANS AND PROVIDE AN EXHAUST FAN SPEED THAT IS EQUAL TO THE MINIMUM VENTILATION REQUIREMENT.
- A DIGITAL CONTROLLER SHALL DISABLE THE SUPPLY FAN(S), ACTIVATE THE EXHAUST FAN(S), ACTIVATE THE APPLIANCE SHUNT TRIP, AND DISABLE AN ELECTRIC GAS VALVE AUTOMATICALLY WHEN FIRE CONDITION IS DETECTED ON A COVERED HOOD.
- A DIGITAL CONTROLLER SHALL ALLOW FOR EXTERNAL BMS FAN CONTROL VIA DRY CONTACT (EXTERNAL CONTROL SHALL NOT OVERRIDE FAN OPERATION LOGIC AS REQUIRED BY CODE).
- AN LCD INTERFACE SHALL BE PROVIDED WITH THE FOLLOWING FEATURES:
 - ON/OFF PUSH BUTTON FAN & LIGHT SWITCH ACTIVATION.
 - INTEGRATED GAS VALVE RESET FOR ELECTRONIC GAS VALVES (NO RESET RELAY REQUIRED).
 - VFD FAULT DISPLAY WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - DUCT TEMPERATURE SENSOR FAILURE DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - MIS-WIRED DUCT TEMPERATURE SENSOR DETECTION WITH AUDIBLE & VISUAL ALARM NOTIFICATION.
 - A SINGLE LOW VOLTAGE CAT-5 RJ45 WIRING CONNECTION.
 - AN ENERGY SAVINGS INDICATOR THAT UTILIZES MEASURED KWH FROM THE VFDS.



TYPICAL HOOD CONTROL PANEL INSTALLATION

SEQUENCE OF OPERATIONS:

- THE HOOD CONTROL PANEL IS CAPABLE OF OPERATING IN ONE OR MORE OF THE FOLLOWING STATES AT ANY GIVEN TIME:
 - **AUTOMATIC:** THE SYSTEM OPERATES BASED ON THE DIFFERENTIAL BETWEEN ROOM TEMPERATURE AND THE TEMPERATURE AT THE HOOD CAVITY OR EXHAUST DUCT COLLAR. FANS ACTIVATE AT A CONFIGURABLE TEMPERATURE DIFFERENTIAL THRESHOLD. DEPENDING ON THE JOB CONFIGURATION EACH FAN ZONE CAN BE CONFIGURED AS STATIC OR DYNAMIC. THESE TERMS REFER TO WHETHER A VARIABLE MOTOR (SUCH AS EC MOTORS OR VFD DRIVEN MOTORS) MODULATE WITH TEMPERATURE. IF THE PANEL IS EQUIPPED WITH VARIABLE SPEED FANS AND THE ZONE IS DEFINED AS "DYNAMIC", THESE WILL MODULATE WITHIN A USER-DEFINED RANGE BASED ON THE TEMPERATURE DIFFERENTIAL. PANELS EQUIPPED WITH VARIABLE SPEED FANS AND A FAN ZONE DEFINED AS "STATIC", FANS WILL RUN AT A SET SPEED CALCULATED FOR THE DRIVE. DEMAND CONTROL VENTILATION SYSTEMS ARE CAPABLE OF MODULATING EXHAUST AND MAKE UP AIR FAN SPEEDS PER THE REQUIREMENTS OUTLINED IN IECC 403.7.5 (2021).
 - **MANUAL:** THE SYSTEM OPERATES BASED ON HUMAN INPUT FROM AN HMI.
 - **SCHEDULE:** A WEEKLY SCHEDULE CAN BE SET TO RUN FANS FOR A SPECIFIED PERIOD THROUGHOUT THE DAY. THERE ARE THREE OCCUPIED TIMES PER DAY TO ALLOW FOR THE USER TO SET UP A TIME THAT IS SUITABLE TO THEIR NEEDS. ANY TIME THAT IS WITHIN THE DEFINED OCCUPIED TIME, THE SYSTEM WILL RUN AT MODULATION MODE AND FOLLOW THE FAN PROCEDURE ALGORITHM BASED ON TEMPERATURE DURING THIS TIME. DURING UNOCCUPIED TIME, THE SYSTEM WILL HAVE AN EXTRA OFFSET TO PREVENT UNINTENDED ACTIVATION OF THE SYSTEM DURING A TIME WHERE THE SYSTEM IS NOT BEING OCCUPIED.
 - **OTHER:** THE SYSTEM OPERATES BASED ON THE INPUT FROM AN EXTERNAL SOURCE (DDC, BMS OR HARD-WIRED INTERLOCK).
 - **FIRE:** UPON ACTIVATION OF THE HOOD FIRE SUPPRESSION SYSTEM, THE EXHAUST FAN WILL COME ON OR CONTINUE TO RUN, THE HOOD MAKEUP AIR WILL SHUTDOWN, AND A SIGNAL WILL BE SENT FOR ACTIVATING THE SHUNT TRIP BREAKER PROVIDED BY THE ELECTRICIAN. FUEL GAS WILL SHUT OFF VIA A MECHANICAL/ELECTRICAL GAS VALVE ACTUATED BY THE HOOD FIRE SUPPRESSION SYSTEM.



CASlink Monitor and Control

- Hood control panel to support communications to cloud-based Building Management System.
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.
- Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

MONITORING AND CONTROL POINTS LIST

ACV Packages	Function	SC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR	MUA Discharge Temperature	MONITOR
Return, RTU Discharge Temperature	MONITOR	Return, RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Controller Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	PCU Faults	MONITOR
Controller Faults	MONITOR	PCU Filter Clog Percentages	MONITOR
Fan Faults	MONITOR	Fire Condition	MONITOR
Fan Status	MONITOR	CORE Fire System	MONITOR
PCU Faults	MONITOR	Building Pressures	MONITOR
PCU Filter Clog Percentages	MONITOR	Fume Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Lights Button(s)	MONITOR & CONTROL
CORE Fire System	MONITOR	Flush Button	MONITOR & CONTROL
Building Pressures	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fume Button	MONITOR & CONTROL		
Lights Button	MONITOR & CONTROL		
Flush Button	MONITOR & CONTROL		

SYSTEM DESIGN VERIFICATION (SDV)

IF ORDERED, CAS SERVICE WILL PERFORM A SYSTEM DESIGN VERIFICATION (SDV) ONCE ALL EQUIPMENT HAS HAD A COMPLETE START UP PER THE OPERATION AND INSTALLATION MANUAL. TYPICALLY, THE SDV WILL BE PERFORMED AFTER ALL INSPECTIONS ARE COMPLETE.

ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, THE GENERAL CONTRACTOR WILL BE NOTIFIED AND BILLED FOR THE WORK. SHOULD A RETURN TRIP BE REQUIRED DUE TO ANY FIELD RELATED DISCREPANCY THAT CANNOT BE RESOLVED DURING THE SDV, THERE WILL BE ADDITIONAL TRIP CHARGES.

DURING THE SDV, CAS SERVICE WILL ADDRESS ANY DISCREPANCY THAT IS THE FAULT OF THE MANUFACTURER. SHOULD A RETURN TRIP BE REQUIRED, THE GENERAL CONTRACTOR AND APPROPRIATE SALES OFFICE WILL BE NOTIFIED. THERE WILL BE NO ADDITIONAL CHARGES FOR MANUFACTURER DISCREPANCIES.

REVISIONS

DESCRIPTION	DATE

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 www.econair.com
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 PHONE: (800) 988-0881 FAX: 9192275931 EMAIL: reg22@econair.com

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ELECTRICAL SYMBOLS & ABBREVIATIONS

	CONDUIT CONCEALED ABOVE THE CEILING, IN A WALL OR IN A RACEWAY
	CONDUIT CONCEALED BELOW THE SLAB
	LOW VOLTAGE WIRING
	HOME RUN TO PANELBOARD AND CIRCUIT NUMBER SHOWN
	JUNCTION BOX
	ELECTRICAL PANEL BOARD
	SINGLE-POLE, SINGLE-THROW LIGHT SWITCH
	WEATHERPROOF SWITCH
	NEMA 5-20R 1-PLEX RECEPTACLE
	NEMA 5-20R DUPLEX RECEPTACLE
	NEMA 5-20R DUPLEX RECEPTACLE WITH USB
	NEMA 5-20R DOUBLE-DUPLEX RECEPTACLE
	NEMA 5-20R DUPLEX RECEPTACLE, ISOLATED GROUND OR GFI
	OTHER RECEPTACLE - SEE PLAN FOR RATING AND TYPE
	NEMA 5-20R CEILING MOUNTED DUPLEX RECEPTACLE
	WALL-MOUNTED OCCUPANCY SENSOR
	WALL-MOUNTED VACANCY SENSOR
	DAYLIGHT SENSOR
	JUNCTION BOX FOR RJ-45 OUTLET. REFER TO PLAN FOR JACK QUANTITY.
	DISCONNECT SWITCH: X = SWITCH RATING Y = FUSE SIZE (NF=NON-FUSED) Z = NUMBER OF POLES
	PLAN NOTE (SEE PLAN NOTES LISTED ON THE SAME SHEET FOR MEANING)
	CONNECT TO EXISTING
	EQUIPMENT TAG. REFER TO THE SCHEDULES FOR MORE INFORMATION

ELECTRICAL ABBREVIATIONS

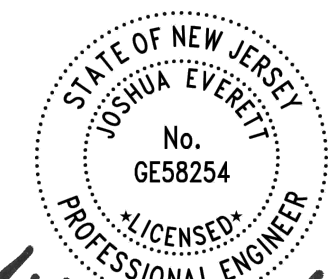
(D)	DEMOLISHED
(E)	EXISTING
(R)	RELOCATED
A	AMPERE
A.F.F.	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
A.O.R.	ARCHITECT OF RECORD
B.F.F.	BELOW FINISHED FLOOR
C	CONDUIT
C.L.	CURRENT LIMITER
E.O.R.	ENGINEER OF RECORD
G	GROUND
GC	GENERAL CONTRACTOR
GFCI	GROUND FAULT CURRENT INTERRUPT
IG	ISOLATED GROUND
JB	JUNCTION BOX
KES	KITCHEN EQUIPMENT SUPPLIER
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MOC	MAXIMUM OVERCURRENT PROTECTION
NL	NIGHT LIGHT
REQ'D	REQUIRED
S	SURFACE MOUNTED
SPEC	SPECIFICATION OR SPECIFIED
UNO	UNLESS NOTED OTHERWISE
V	VOLT
WP	WEATHERPROOF

CONSULTANT:



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Joshua Everj
11/24/2025

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CAVA

CAVA - NORTH BRUNSWICK_NJ
222 GRAND AVE.
NORTH BRUNSWICK, NJ 08902

DATE	DESCRIPTION
11/01/2024	LL CHANGES
12/02/2024	DINING SENSOR MOVED
01/27/2025	PERMIT ADDENDUM/CONST SET

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ELECTRICAL COVER SHEET

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Checked By:	JAE

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