

HVAC ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
AMB	AMBIENT
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
C.O.	CLEAN OUT
DIA	DIAMETER
(E)	EXISTING
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB TEMPERATURE
EF	EXHAUST FAN
(E)RTU	EXISTING ROOF TOP UNIT FAN
ESP	EXTERNAL STATIC PRESSURE
EWB	ENTERING WET BULB TEMPERATURE
*F	DEGREE FAHRENHEIT
FLA	FULL LOAD AMPS
FBM	FEET PER MINUTE
FT	FOOT OR FEET
HP	HORSEPOWER
KW	KILOWATT
HZ	HERTZ
IN	INCH
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB TEMPERATURE
LRA	LOCKED ROTOR AMPS
LWB	LEAVING WET BULB TEMPERATURE
MAX	MAXIMUM
MBH	1,000 BTU'S PER HOUR
MCA	MAXIMUM CIRCUIT AMPACITY
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
(N)	NEW
N T S	NOT TO SCALE
OA	OUTSIDE AIR
PH	PHASE
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SHC	SENSIBLE HEAT CAPACITY
SQ. FT.	SQUARE FEET
T	THERMOSTAT
TA	TRANSFER AIR
UC	UNDERCUT

HVAC GENERAL NOTES

- ALL DRAWINGS ARE CONCEPTUAL AND SCHEMATIC AND ARE INTENDED FOR USE AS A DESIGN/BUILD GUIDELINE. THE CONTRACTORS ARE RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS AND ADJUSTING OR MODIFYING THE SPECIFIC ELEMENTS OF THEIR WORK AS REQUIRED TO MEET THE DESIGN INTENT. THE CONTRACTORS ARE RESPONSIBLE FOR THE FOLLOWING:
 - COORDINATION WITH OTHER TRADES.
 - PROVIDING ADDITIONAL DRAWINGS, CALCULATIONS AND OTHER DOCUMENTATION REQUIRED FOR THE BUILDING DEPARTMENT. THE MECHANICAL CONTRACTOR SHALL DOCUMENT THE INSTALLATION AND PROVIDE ALL TESTS REQUIRED TO SUBSTANTIATE CODE COMPLIANCE AS REQUIRED BY THE BUILDING DEPARTMENT AND LOCAL INSPECTOR. CONTRACTOR SHALL SUBMIT FINAL AS-BUILT DRAWINGS TO BUILDING DEPARTMENT FOR RECORD AT COMPLETION.
- MECHANICAL PLANS ARE DIAGRAMMATIC IN NATURE, NOT SHOWING EVERY ITEM IN EXACT LOCATION OR DETAIL. MEASUREMENTS AND LOCATIONS SHALL BE FIELD VERIFIED AND COORDINATED WITH ARCHITECTURAL, HVAC, FIRE PROTECTION, STRUCTURAL, ELECTRICAL AND OTHER BUILDING DRAWINGS.
- CONTRACTOR TO INCLUDE IN BID ALL COSTS TO MAKE FIELD COORDINATION AND ADJUSTMENT TO DUCTWORK FOR FIT INTO EXISTING STRUCTURE. CONTRACTOR SHALL VERIFY AND FIELD COORDINATE FINAL LOCATION OF MECHANICAL EQUIPMENT.
- FURNISH ALL LABOR, MATERIALS, TOOLS, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE A COMPLETE HEATING, VENTILATING, AIR CONDITIONING SYSTEM. INCLUDE ANY LABOR AND MATERIAL NOT SPECIFICALLY MENTIONED, BUT NECESSARY TO PROVIDE A COMPLETE AND OPERATING SYSTEM. ALL WORK SHALL BE INSTALLED IN A PROFESSIONAL MANNER AND SHALL MEET ALL THE REQUIREMENTS OF THE STATE BUILDING CODE, CITY BUILDING CODE, SAFETY AND HEALTH CODES, NFPA CODES AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. ALL COSTS FOR SAID REQUIREMENTS SHALL BE INCLUDED IN THIS CONTRACTORS BID PRICE.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS AND PERFORM ALL TESTS CALLED FOR OR REQUIRED AS A PART OF HIS WORK. FURNISHED APPROVED CERTIFICATE OF FINAL INSPECTION, AND TURN OVER TO OWNER AT COMPLETION OF PROJECT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES, LANDLORD REQUIREMENTS, CEILING HEIGHTS AND EXISTING STRUCTURAL CONDITIONS PRIOR TO FABRICATION OF ANY DUCTWORK OR ORDERING OF ANY EQUIPMENT.
- ALL INSTALLATION OF THE MECHANICAL EQUIPMENT SHALL COMPLY WITH THE MANUFACTURER'S SPECIFICATION AND CLEARANCE REQUIREMENTS.
- ALL HVAC WORK SHALL BE IN ACCORDANCE WITH NFPA 90A, 90B, 96, 54 AND NRC 101. LIFE SAFETY CODE.
- INSTALLATION SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES, AND WITH LATEST ASHRAE PUBLICATIONS. WORK SHALL BE NEAT AND WORKMANSHIP SHALL BE ACCEPTABLE TO BUILDING STANDARDS.
- CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE TEMPERATURE CONTROL SYSTEM TO INCLUDE: PANELS, MODULES, RELAYS, WIRING, THERMOSTATS, SENSORS, DAMPERS, ACTUATORS AND ALL MISCELLANEOUS ITEMS AS REQUIRED TO FULFILL THE DESIGN INTENT AS INDICATED ON THE PLANS AND IN THE CODED NOTES. THERMOSTATS AND SENSORS SHALL BE LOCATED GENERALLY AS SHOWN BUT THEIR EXACT LOCATION SHALL BE FIELD COORDINATED TO AVOID INTERFERENCE WITH WALL MOUNTED WORK.
- DURING THE BIDDING PERIOD, EACH CONTRACTOR SHALL VISIT THE SITE TO DETERMINE CONDITIONS AFFECTING THE WORK. BIDS SHALL SERVE AS EVIDENCE OF KNOWLEDGE OF EXISTING CONDITIONS AND ANY MODIFICATIONS WHICH ARE REQUIRED TO MEET THE INTENT OF THE DRAWINGS AND SPECIFICATIONS. FAILURE TO VISIT THE SITE DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY IN PERFORMANCE OF WORK REQUIRED CONDITIONS IN EVIDENCE THEREBY SHALL NOT BE JUSTIFICATION FOR ADDITIONAL COMPENSATION.
- THE EQUIPMENT SHALL BE LOCATED TO ALLOW FOR EASY ACCESS FOR SERVICING, ADJUSTING OR MAINTENANCE AND SPACE FOR REMOVAL OF INTERNAL ASSEMBLIES. PROVIDE MINIMUM CLEARANCES FOR ALL EQUIPMENT PER THE MANUFACTURERS RECOMMENDATIONS.
- PROVIDE ALL CONTROL EQUIPMENT, MOTOR STARTERS, RELAYS, LINE VOLTAGE CONTROLS, TRANSFORMERS, LOW VOLTAGE CONTROLS, AND DEVICES NECESSARY FOR THE COMPLETE OPERATION OF THE HEATING AND AIR CONDITIONING AND VENTILATING SYSTEM.
- ALL LOW VOLTAGE WIRING AND CONDUIT REQUIRED FOR MECHANICAL EQUIPMENT SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.
- SMOKE DETECTORS WIRED BY DIVISION 16.
- IN THE EVENT OF FAN SHUT DOWN, ALL DUCT MOUNTED DETECTORS SHALL REMAIN IN OPERATION.
- ALL WORK SHALL BE IN STRICT ACCORDANCE WITH STATE AND LOCAL CODES AND ORDINANCES AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PRIOR TO PURCHASING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON THE CONTRACT DOCUMENTS. PRIOR TO THE SUBMITTAL THE CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS MUST BE REVIEWED BY THE ENGINEER AND ARCHITECT.
- ALL THE BARE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING, BUT NOT LIMITED TO, ANGLE FRAMING, UNIT SUPPORTS, MOUNTING HARDWARE, ETC. ANY PAINTING OF DUCTWORK SHALL BE VERIFIED WITH ARCHITECT.
- CONTRACTOR TO PROVIDE TENANT WITH AS-BUILT DRAWINGS OF ALL CHANGES OR MODIFICATIONS MADE IN THE FIELD, TO THE ORIGINAL SET OF CONSTRUCTION DOCUMENTS. FOR TURN-OVER TO THE ARCHITECT/ENGINEER UPON COMPLETION OF THE PROJECT, PROVIDE ALL EQUIPMENT SHOP DRAWINGS, INFORMATION ON CONTROL DEVICES, CONTROL WIRING DIAGRAMS AND OTHER PERTINENT INFORMATION AT COMPLETION OF PROJECT.
- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE MECHANICAL EQUIPMENT INSTALLED ARE INSTALLED AT LOCATIONS AND ELEVATIONS WHICH MAKE THEM READILY ACCESSIBLE FOR ROUTINE MAINTENANCE WITHOUT REQUIRING ANY EXTRAORDINARY MEASURES.

SHEET LIST

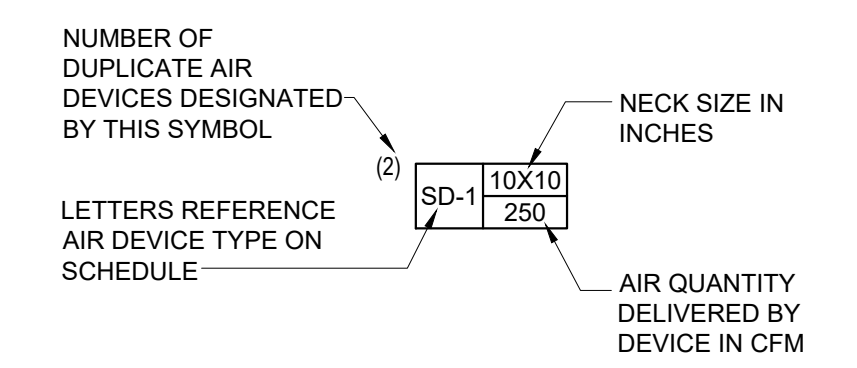
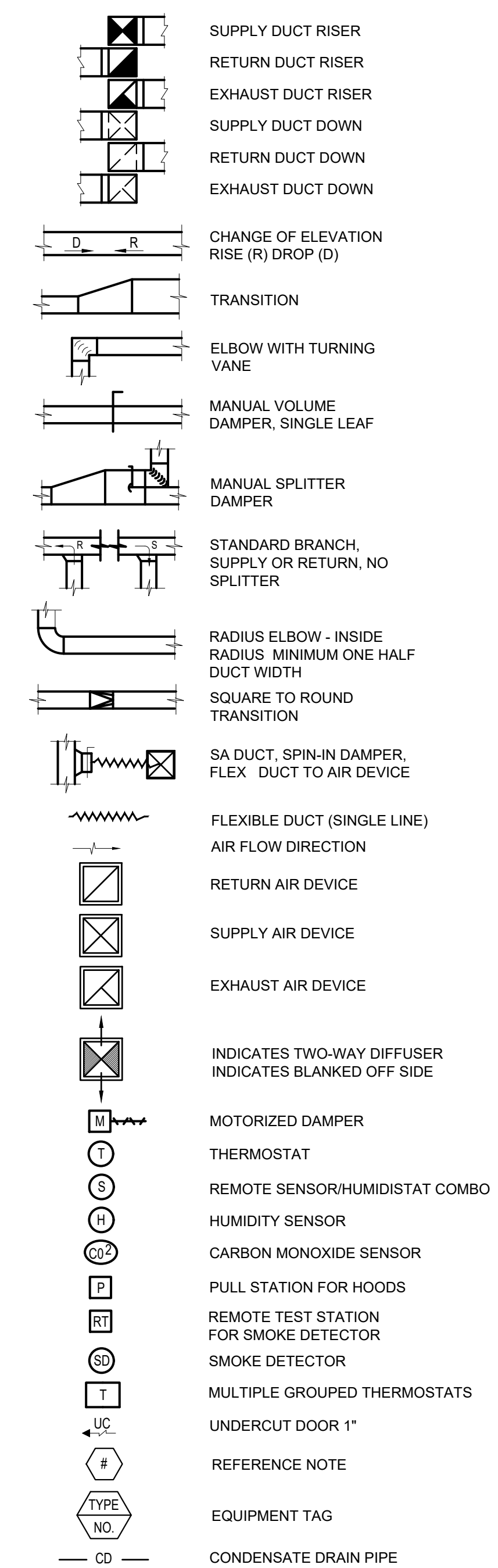
SHEET NUMBER	SHEET TITLE
MECHANICAL	
M0.0	GENERAL NOTES AND LEGEND
M1.0	HVAC FLOOR PLAN
M2.0	HVAC ROOF PLAN
M4.0	MECHANICAL SCHEDULE
M5.0	MECHANICAL DETAILS (1 of 2)
M5.1	MECHANICAL DETAILS (2 of 2)
M6.0	HOOD DETAILS (1 OF 5)
M6.1	HOOD DETAILS (2 OF 5)
M6.2	HOOD DETAILS (3 OF 5)
M6.3	HOOD DETAILS (4 OF 5)
M6.4	HOOD DETAILS (5 OF 5)
M7.0	MECHANICAL COMPLIANCE (1 OF 2)
M7.1	MECHANICAL COMPLIANCE (2 OF 2)
M8.0	MECHANICAL SPECIFICATIONS (1 OF 2)
M8.1	MECHANICAL SPECIFICATIONS (2 OF 2)

HOOD & GREASE EXHAUST DUCT NOTES

- EXHAUST HOODS SHALL BE CONSTRUCTED OF 16 GAUGE GALVANIZED OR 18 GA. STAINLESS STEEL WITH ALL EXTERNAL SEAMS AND JOINTS CONTINUOUSLY WELDED 100% LIQUID TIGHT. EXHAUST HOODS SHALL MEET OR EXCEED THE REQUIREMENTS OF NFPA 96. ALL LOCAL CODES AND SHALL BEAR THE NSF SEAL OF APPROVAL. SEE CAPTIVEAIRE HOOD DRAWING FOR INFORMATION.
- ALL LIGHTS USED IN THE HOODS SHALL BE U.L. LISTED FOR CANOPY HOOD USE AND OF THE INCANDESCENT TYPE AND SHALL BE WIRED TO COME ON THRU A SWITCH LOCATED ON THE HOOD FACE.
- THE EXHAUST HOODS SHALL HAVE ALL STAINLESS STEEL BAFFLE FILTERS AND SHALL HAVE A FIRE ACTUATED DAMPER IN THE MAKE-UP AIR COLLAR.
- THE EXHAUST HOODS SHALL HAVE PREPARED AUTOMATIC U.L. ANSUL FIRE EXTINGUISHING SYSTEMS FOR PROTECTION OF THE EXHAUST PLENUM & DUCT AND COOKING SURFACES. FIRE CONTROL CABINETS SHALL ALSO BE PROVIDED AS SHOWN AND SHALL HAVE MICRO SWITCHES FURNISHED AS REQUIRED FOR EQUIPMENT SHUT OFF. THERE SHALL BE A MANUAL PULL STATION NEAR THE EXIT DOOR AND MINIMUM OF 10'-0" FROM THE HOOD. (MUST BE FLUSH MOUNTED, CONDUIT RUN IN THE WALL).
- THE SUPPLY FAN SWITCHES, 40 VA TRANSFORMERS, SUPPLY & EXHAUST FAN STARTERS, THERMAL OVERLOADS AND MECHANICAL GAS VALVE SHALL BE FURNISHED BY THE HOOD MANUFACTURER, AND SUPPLY FAN SWITCHES SHALL BE MOUNTED ON THE HOOD FACES. THE 40 VA TRANSFORMERS AND FAN STARTERS SHALL BE MOUNTED IN THE FIRE CONTROL CABINETS AND THE MECHANICAL GAS VALVE SHALL BE INSTALLED AS SHOWN ON THE PLUMBING DRAWINGS.
- ALL EXHAUST COLLARS AND EXHAUST DUCTWORK ARE SIZED TO MAINTAIN BETWEEN 1500 AND 2000 FPM EXHAUST AIR VELOCITY. ALL GREASE EXHAUST DUCTWORK SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH NFPA-96. GREASE EXHAUST DUCTWORK SHALL HAVE ALL SEAMS, JOINTS AND PENETRATIONS CONTINUOUSLY WELDED LIQUID TIGHT.
- ALL HORIZONTAL RUNS OF GREASE EXHAUST DUCT SHALL SLOPE BACK TOWARD THE HOOD AT A SLOPE OF 1/4" PER FOOT. PROVIDE A RESIDUE TRAP AT THE BASE OF EACH VERTICAL RISER.
- PROVIDE U.L. LISTED CLEANOUTS IN GREASE EXHAUST DUCTWORK AT A MINIMUM OF 10'-0" INTERVALS, AT EACH CHANGE OF DIRECTION AND AT EACH RESIDUE TRAP.
- THE DISCHARGE OF THE GREASE EXHAUST FANS SHALL BE A MINIMUM OF 10'-0" FROM ANY OUTSIDE AIR INTAKE.
- ALL GREASE EXHAUST DUCTWORK SHALL HAVE STANDARD OR RADIUS ELBOWS.
- THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WARRANTIES.
- THE FOLLOWING EQUIPMENT SHALL BE PURCHASED & INSTALLED BY THE HVAC SUB CONTRACTOR PROVIDED THROUGH CAPTIVEAIRE SYSTEMS. CONTRACTOR TO PROVIDE FINAL ELECTRICAL, PLUMBING AND MECHANICAL CONNECTIONS:
 - STAINLESS STEEL HOODS AS SPECIFIED ABOVE WITH FIRE PROTECTION SYSTEMS, CONTROLS, STARTERS, FIRE CONTROL CABINETS CLOSURE STRIP AND MECH. GAS VALVE.
 - ALL HOODS, HOOD SUPPLY AND EXHAUST FANS WITH ROOF CURBS. PROVIDE ALL HOOD EXHAUST FANS WITH GREASE GUARDS SUPPLIED BY CAPTIVEAIRE.
 - WIRING BETWEEN HOODS, FANS AND FIRE SYSTEM - INSTALLED BY GC.
- KITCHEN HOOD TEST AND BALANCE REPORT SHALL BE SUBMITTED TO BUILDING DEPARTMENT PRIOR TO FINAL INSPECTION.
- UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRIC POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. ACTIVATION OF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM MUST IMMEDIATELY SHUT OFF GAS AND ELECTRIC SUPPLY TO ALL APPLIANCES UNDER THE PROTECTED HOOD. THE PLUMBING CONTRACTOR SHALL PROVIDE A MASTER SOLENOID VALVE IN GAS LINE TO DISCONNECT ALL GAS APPLIANCES. MANUAL GAS AND ELECTRIC RESETS ARE REQUIRED.
- ALL REMOTE MANUAL OPERATING DEVICES SHALL BE IDENTIFIED AS THE "HAZARD PROTECTED" PROVIDE PLAQUE AND SIGN AS REQUIRED BY LOCAL JURISDICTION.
- ONE PLENUM NOZZLE SHALL BE PROVIDE FOR EVERY 10 FEET OF HOOD. REFER TO HOOD DRAWINGS FOR EXACT LOCATION.
- THE HOOD INSTALLING CONTRACTOR SHALL PROVIDE THE LATEST SYSTEM MANUAL AS PROVIDED BY THE MANUFACTURER TO VERIFY THE SYSTEM INSTALLATION.
- A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THE RATE OF EXHAUST AIRFLOW REQUIRED BY CODE. MAKEUP AIR FLOW REQUIRED CODE AND PROPER OPERATION AS REQUIRED BY LOCAL CODE. THE PERMIT HOLDER SHALL THE NECESSARY TEST EQUIPMENT AND DEVICES REQUIRED.
- THE PERMIT HOLDER SHALL VERIFY CAPTURE AND CONTAINMENT PERFORMANCE OF THE EXHAUST SYSTEM. THIS FIELD TEST SHALL BE CONDUCTED WITH ALL APPLIANCES UNDER THE HOOD AT OPERATING TEMPERATURES, WITH ALL SOURCES OF OUTDOOR AIR PROVIDING MAKEUP AIR FOR THE HOOD OPERATING AND WITH ALL SOURCES OF RECIRCULATED AIR PROVIDING CONDITIONING FOR THE SPACE IN WHICH THE HOOD IS LOCATED OPERATING. CAPTURE AND CONTAINMENT SHALL BE VERIFIED VISUALLY BY OBSERVING SMOKE OR STEAM PRODUCED BY ACTUAL OR SIMULATED COOKING, SUCH AS WITH SMOKE CANDLES, SMOKE PUFFERS AND SIMILAR MEANS.

NOTE:
EACH HOOD SHALL BEAR THE FOLLOWING APPROVALS:
NSF #1362, SBCCI #8469, U.L. CLASSIFICATION #916G, NFPA #90A, 90B, 96-101

HVAC SYMBOLS LEGEND



FIELD VERIFY ALL CONDITIONS

NOTE:
AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.



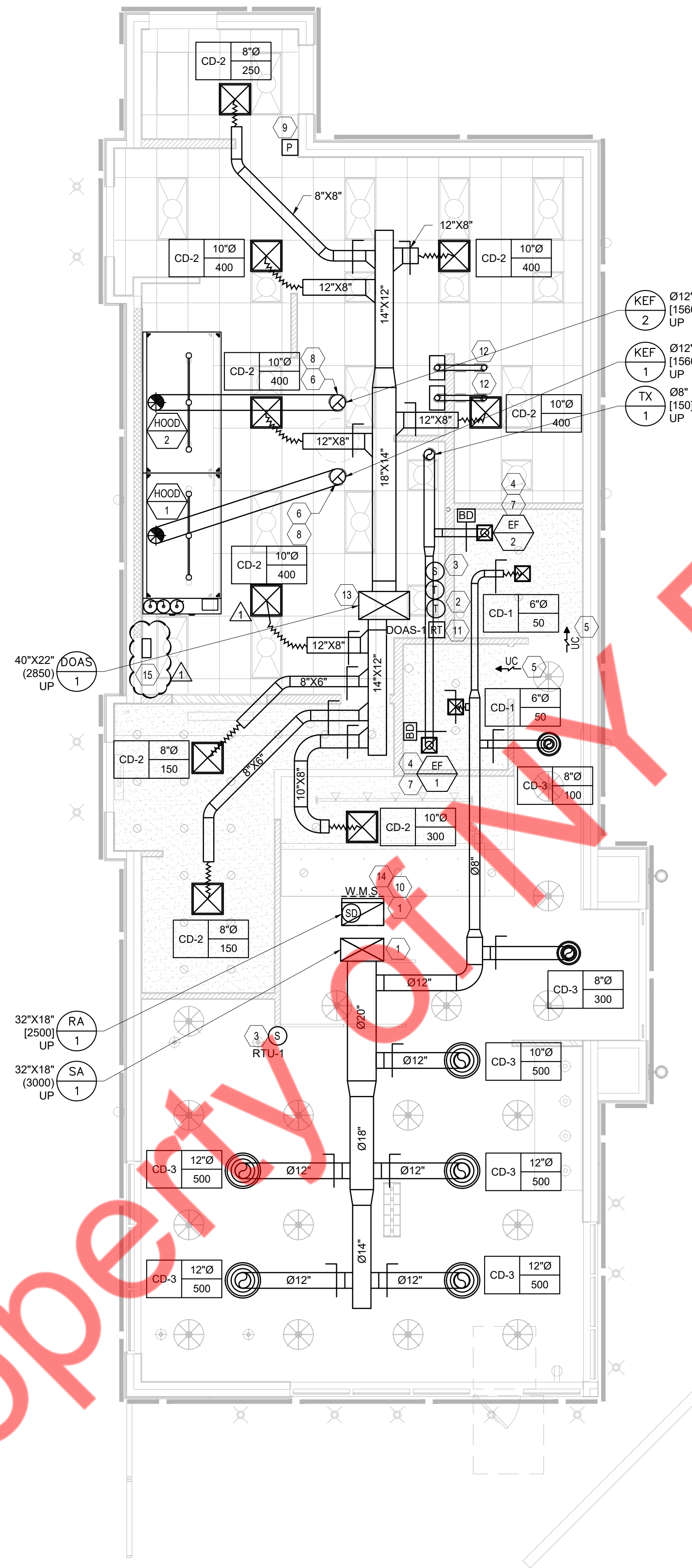
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NO	REVISIONS	DESC.	BY	DATE
0	PERMIT SET		NYE	07/31/24
1	BD COMMENTS		NYE	08/30/24

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GENERAL NOTES

- A. ALL WORK SHALL COMPLY WITH ALL LOCAL AND STATE CODES AND AUTHORITIES HAVING JURISDICTION.
- B. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND ARRANGE ALL REQUIRED INSPECTIONS.
- C. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER CONTRACTORS AND TRADES.
- D. THESE DRAWINGS, AS PREPARED, ARE DIAGRAMMATIC BUT SHALL BE FOLLOWED AS CLOSELY AS CONSTRUCTION OF THE PROJECT AND THE WORK OF THE TRADES WILL PERMIT. EQUIPMENT LOCATIONS INDICATED ARE APPROXIMATE. COORDINATE EXACT LOCATIONS AND REQUIRED CLEARANCES WITH EQUIPMENT SUPPLIER AND ALL TRADES PRIOR TO INSTALLATION.
- E. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL THE EQUIPMENT INDICATED WITHIN THE MECHANICAL DRAWINGS UNLESS OTHERWISE NOTED. ALL EQUIPMENT SHALL BE UL LISTED. VERIFY LOCATION AND DIMENSIONS IN THE FIELD PRIOR TO FABRICATION AND / OR INSTALLATION.
- F. EACH UNIT GENERATING CONDENSATE SHALL BE PROVIDED WITH A CONDENSATE DRAIN WITH EXTERNAL 4" DEEP P-TRAP. EXTEND DRAIN TO A ROOF MOUNTED SPLASH PAD OR AN ACCEPTABLE LOCATION REQUIRED BY CODE.
- G. DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSION.
- H. ALL METAL DUCT AND AIR DISTRIBUTION DEVICES SHALL BE INSULATED WITH R-6, 75 DENSITY FOIL-BACKED INSULATION WITH FIRE AND SMOKE RATING 25-50.
- I. ALL DUCTWORK SHALL BE FABRICATED, INSTALLED, SEALED, AND INSULATED PER THE LATEST ISSUE OF SMACNA LOW-VELOCITY DUCT MANUAL.
- J. ALL FLEX DUCT SHALL BE UL LISTED, R-6, FOIL-BACKED, CLASSIFIED AS A CLASS 1 AIR DUCT. MAXIMUM LENGTH IS TO BE 5'-0" PER DROP OR PER LOCAL CODE.
- K. THE CONTRACTOR SHALL COORDINATE DIFFUSER LOCATIONS ON SITE WITH THE MOST RECENT REFLECTED CEILING PLAN.
- L. THE CONTRACTOR IS TO MAKE ALL LOW-VOLTAGE WIRING CONNECTIONS FOR ALL HVAC EQUIPMENT INCLUDING TEMPERATURE CONTROLS, ROOF TOP UNITS, SMOKE DETECTORS AND CONTRACTOR PANEL.
- M. PROVIDE AND INSTALL SMOKE DUCT DETECTORS IN EACH AIR CONDITIONING UNIT RETURN DUCT GREATER THAN 2000 CFM. CONTRACTOR SHALL PROVIDE INTERCONNECTION AND WIRE TO THE FIRE ALARM CONTROL PANEL IF REQUIRED. DUCT DETECTORS SHALL HAVE REMOTE TEST STATIONS LOCATED IN THE OFFICE NEAR THE RESPECTIVE THERMOSTATS. VERIFY CODE REQUIREMENTS FOR DUCT DETECTORS IN BOTH THE SUPPLY AND RETURN AIR STREAMS.
- N. THE ENTIRE INSTALLATION SHALL BE GUARANTEED FREE OF DEFECTS AND CONTRACTOR SHALL REPAIR AND / OR REPLACE ANY DEFECTIVE MATERIALS OR EQUIPMENT AT NO COST TO THE OWNER FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE BY ARCHITECT OR ENGINEER.
- O. ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE AND APPROVAL OF THE ARCHITECT AND OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY AND ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- P. THE CONTRACTOR SHALL, UPON COMPLETION OF PROJECT, PERFORM A COMPLETE TEST AND BALANCE OF ALL EQUIPMENT. PROVIDE A WRITTEN REPORT TO THE ARCHITECT. ALL CAPACITIES MUST BE SET TO WITHIN ±10% OF AMOUNTS INDICATED ON THE FLOOR PLAN AND SCHEDULES.
- Q. PROVIDE FIRE OR FIRE-SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/ BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS/ROOFS.
- R. CONTRACTOR TO PROVIDE CORD OPERATED DAMPERS IN INACCESSIBLE CEILINGS.
- S. COORDINATE WITH ALL TRADES FOR MATERIALS IN RATED AND PLENUM SPACES.



HVAC FLOOR PLAN
 3/16" = 1'-0"
 NORTH

KEYED NOTES

1. SUPPLY AND RETURN DUCT UP TO NEW RTU ON ROOF TRANSITION AS REQUIRED. FIELD VERIFY ALL DUCT ROUTING PRIOR TO FABRICATION. PROVIDE FLEX CONNECTION FOR VIBRATION ISOLATION.
2. CONTRACTOR SHALL PROVIDE A 7-DAY DIGITAL PROGRAMMABLE THERMOSTAT IN MANAGERS OFFICE MOUNTED 48" AFF TO TOP OF DEVICE. MOUNT THERMOSTAT AT 46" IF ADA REQUIREMENTS APPLY. COORDINATE EXACT LOCATION WITH TENANT CONSTRUCTION MANAGER. THE ENTIRE CONTROL SYSTEM SHALL BE PROVIDED COMPLETE IN EVERY RESPECT BY THE MECHANICAL CONTRACTOR. REMOTE SENSORS TO BE CONNECTED TO 7-DAY PROGRAMMABLE THERMOSTAT. WIRE TO HVAC EQUIPMENT PER MANUFACTURER'S PRINTED INSTRUCTIONS.
3. PROVIDE REMOTE TEMPERATURE/HUMIDITY SENSORS ON WALL AS SHOWN AT 66" AFF. COORDINATE EXACT LOCATION WITH TENANT CONSTRUCTION MANAGER AND DO NOT MOUNT ON EXTERIOR WALL. THE ENTIRE CONTROL SYSTEM SHALL BE PROVIDED COMPLETE IN EVERY RESPECT BY THE MECHANICAL CONTRACTOR. REMOTE SENSORS TO BE CONNECTED TO 7-DAY PROGRAMMABLE THERMOSTAT. WIRE TO HVAC EQUIPMENT PER MANUFACTURER'S PRINTED INSTRUCTIONS.
4. INTERLOCK RESTROOM EXHAUST FAN WITH KITCHEN LIGHTS. EXHAUST FAN SHALL ENGAGE DURING KITCHEN OPERATIONAL HOURS. RESTROOM EXHAUST DUCT SHALL BE MINIMUM 25 GA. PROVIDE WITH INTEGRAL BIRD SCREEN, BACKDRAFT DAMPER, AND ACCESSORIES AS REQUIRED INCLUDING SPEED CONTROLLER CONCEALED AND ACCESSIBLE.
5. UNDERCUT DOOR 1" FOR AIR PASSAGE. COORDINATE WITH ARCHITECT.
6. EXHAUST DUCT DOWN FROM KITCHEN EXHAUST FAN ON ROOF. TRANSITION AND OFFSET AS REQUIRED TO SIZE SHOWN ON PLAN. ROUTE DUCTWORK TO HOOD(S) EXHAUST OPENING AND TRANSITION AS REQUIRED. FIELD VERIFY ROUTING PRIOR TO BID AND FABRICATION. SEE HOOD DRAWING FOR HOOD OPENING SIZES.
7. PROVIDE A CABINET STYLE EXHAUST FAN. INTERLOCK EXHAUST FAN WITH LIGHT SWITCH. RESTROOM EXHAUST DUCT SHALL BE GALVANIZED STEEL. PROVIDE SIDEWALL VENT WITH SCREEN AND FLAPPER DAMPER, CROWN MODEL 349 OR EQUAL. EXHAUST FAN SHALL MAINTAIN 10' CLEARANCE FOR ANY OUTSIDE AIR INTAKE. MUST MEET LOCAL CODE REQUIREMENTS. FIELD VERIFY ALL ROUTING AND REQUIREMENTS PRIOR TO BID. SEAL ALL PENETRATION WEATHER TIGHT.
8. GREASE DUCT CLEANOUTS LOCATED ON HORIZONTAL SECTIONS OF DUCTS SHALL BE SPACED NOT MORE THAN 20 FEET APART. THE CLEANOUTS SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5 INCHES ABOVE THE BOTTOM OF THE DUCT, AND NOT LESS THAN 1 INCH BELOW THE TOP OF THE DUCT. MINIMUM OPENING SHALL 12 1/2 INCHES. CONTRACTOR SHALL VERIFY ALL REQUIREMENTS TO MEET LOCAL CODES PRIOR TO BID AND INSTALLATION.
9. A MANUAL ACTUATION DEVICE (PULL STATION) SHALL BE LOCATED AT OR NEAR A MEANS OF EGRESS FROM THE COOKING AREA A MINIMUM OF 10 FEET (3048 MM) AND A MAXIMUM OF 20 FEET (6096 MM) FROM THE KITCHEN EXHAUST SYSTEM. THE MANUAL ACTUATION DEVICE SHALL BE INSTALLED NOT MORE THAN 48 INCHES (1200 MM) NOR LESS THAN 42 INCHES (1067 MM) ABOVE THE FLOOR AND SHALL CLEARLY IDENTIFY THE HAZARD PROTECTED. THE MANUAL ACTUATION SHALL REQUIRE A MAXIMUM FORCE OF 40 POUNDS (178 N) AND A MAXIMUM MOVEMENT OF 14 INCHES (356 MM) TO ACTUATE THE FIRE SUPPRESSION SYSTEM.
10. SMOKE DETECTOR (IN RETURN AIR DUCT) SHALL BE FURNISHED/INSTALLED BY MECHANICAL CONTRACTOR AND WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING RTU UNDER ALARM CONDITIONS. ALL WIRING SHALL BE IN CONDUIT PER N E C.
11. PROVIDE REMOTE TEST STATION FOR SMOKE DETECTORS WITH AUDIBLE AND VISUAL ALARM WITH KEYS RESET. MOUNT TEST STATION 48 INCHES AFF. MOUNT AUDIBLE AND VISUAL ALARM IN CONSTANTLY ATTENDED LOCATION.
12. FURNISH AND INSTALL MANUFACTURER PROVIDED CONCENTRIC VENT FOR WATER HEATER. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION AND ALL APPLICABLE LOCAL AND STATE CODES. CONCENTRIC VENT SHALL BE LOCATED A MINIMUM OF 10' FROM ALL OUTDOOR INTAKES.
13. SUPPLY DUCT UP TO NEW DOAS-1 ON ROOF TRANSITION AS REQUIRED. FIELD VERIFY ALL DUCT ROUTING PRIOR TO FABRICATION. PROVIDE FLEX CONNECTION FOR VIBRATION ISOLATION.
14. FULL SIZE RETURN AIR DUCT WITH WIRE MESH SCREEN.
15. HOOD CONTROL PANEL AND FIRE SUPPRESSION SYSTEM FURNISHED BY HOOD SUPPLIER AND INSTALLED ON WALL BY HVAC CONTRACTOR. HOOD FIRE SUPPRESSION SYSTEM FURNISHED AND INSTALLED BY LICENSED FIRE SUPPRESSION CONTRACTOR. F.S. CONTRACTOR TO SUBMIT PLAN AND OBTAIN APPROVAL UNDER SEPARATE PERMIT APPLICATION PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR TO COORDINATE & CONFIRM FINAL LOCATION OF CONTROL & FIRE SUPPRESSION PANEL ON FIELD.

NOTE:
 UPON ACTIVATION OF ANY FIRE EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRIC POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. ACTIVATION OF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM MUST IMMEDIATELY SHUT OFF GAS AND ELECTRIC SUPPLY TO ALL APPLIANCES UNDER THE PROTECTED HOOD. THE PLUMBING CONTRACTOR SHALL PROVIDE A MASTER SOLENOID VALVE IN GAS LINE TO DISCONNECT ALL GAS APPLIANCES. MANUAL GAS AND ELECTRIC RESETS ARE REQUIRED. ALL MAKEUP AIR FANS AND KITCHEN ROOFTOP UNITS SHALL DE-ENERGIZE UPON ACTIVATION OF FIRE/ANSUL HOOD SYSTEM.

NOTE TO TENANT:
 HOOD EXHAUST FANS AND RESTROOMS EXHAUST FANS SHOULD NOT BE ENGAGED AFTER RESTAURANT OPERATION HOURS. TO AVOID HIGH HUMIDITY PROBLEMS. IF FAN IS ENGAGED WITHOUT PROPER MAKEUP AIR HUMIDITY WILL BE DRAWN IN TO THE BUILDING.



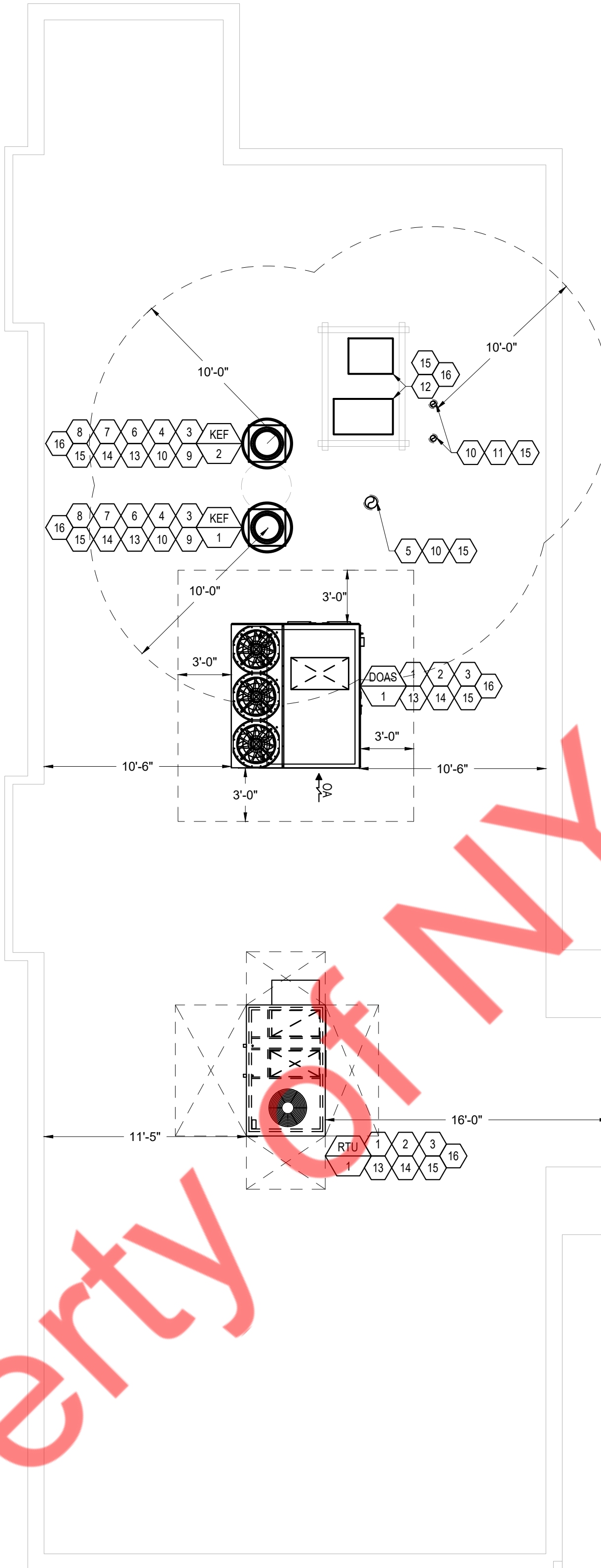
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GENERAL NOTES

- COORDINATE LOCATIONS AND SIZES OF ROOF OPENINGS WITH OWNER AND STRUCTURAL ENGINEERS.
- EQUIPMENT SIZES, DIMENSIONS AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.
- TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO GENERAL CONTRACTOR AND OWNER.
- MAU WEIGHT IS INCLUDING ROOF CURBS AND/OR ADAPTERS.



KEYED NOTES #

- PROVIDE NEW ROOFTOP UNIT ON NEW PRE-FABRICATED MINIMUM 14 INCH HIGH INSULATED ROOF CURB. PROVIDE REQUIRED CLEARANCE. MAINTAIN MINIMUM HEIGHT OF 8" FROM ROOF SURFACE. FIELD COORDINATE SIZE WITH MANUFACTURER REQUIREMENTS PRIOR TO BID.
- MECHANICAL CONTRACTOR TO PROVIDE AND INSTALL AQUAGUARD AG-3180E MICRO PAN SENSOR (OVERFLOW SWITCH) INSIDE ROOFTOP UNIT DRAIN PAN. ON DOWN-FLOW UNITS AND ALL OTHER COILS THAT DO NOT HAVE A SECONDARY DRAIN AND DO NOT HAVE A MEANS TO INSTALL AN AUXILIARY DRAIN PAN, A WATER-LEVEL MONITORING DEVICE SHALL BE INSTALLED INSIDE THE PRIMARY DRAIN PAN. THIS DEVICE SHALL SHUT OFF THE EQUIPMENT SERVED IN THE EVENT THAT THE PRIMARY DRAIN BECOMES RESTRICTED. EXTERNALLY INSTALLED DEVICES AND DEVICES INSTALLED IN THE DRAIN LINE SHALL NOT BE PERMITTED. AQUAGUARD PH 888-708-6622.
- COORDINATE ROOFTOP EQUIPMENT LOCATION AND OPENING IN THE ROOF WITH THE STRUCTURAL MEMBERS PRIOR TO CUTTING DECK.
- PROVIDE ALL NEW GREASE EXHAUST FANS WITH PRE-FABRICATED MINIMUM 20 INCH HIGH ROOF CURBS. PROVIDE 40° MINIMUM CLEARANCE TO ROOF SURFACE (SEE DETAIL ON HOOD SHEETS). PROVIDED BY CAPTIVEAIRE INSTALLED BY GC.
- 8"Ø EXHAUST UP FROM RESTROOMS. PROVIDE BACKDRAFT DAMPER, RAIN CAP, AND 1/4 SQ. NON CORROSIVE WIRE MESH.
- PROVIDE TIE DOWNS OF THE FAN TO THE ROOF DECK OR SUPPORTING STRUCTURE. THE TIE DOWN POINTS HELP PROTECT AGAINST HIGH WINDLOADS.
- PROVIDE LOREN COOK, CAPTIVEAIRE, OR EQUAL HINGED BASE KIT. LOCKABLE, HINGED CONNECTION BETWEEN THE FAN AND CURB. THIS ALLOWS EASY ACCESS TO THE WHEEL AND INLET OF THE FAN AS WELL AS THE INTERIOR DUCTWORK. THE KIT INCLUDES TWO HINGE PLATES, TWO LATCH PLATES, HINGE BOLTS, AIRCRAFT CABLE AND CLAMPS.
- PROVIDE GREASE TROUGH FOR COLLECTION OF GREASE. THE LID IS REMOVABLE FOR CLEANING. TO PROVIDE FOR MORE THOROUGH PERIODIC CLEANING, THE GREASE TROUGH SHOULD BE MOUNTED TO THE UNIT FOR EASY REMOVAL.
- DUCT-TO-EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS; AND SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR IN-LINE FANS. GASKET AND SEALING MATERIALS SHALL BE RATED FOR CONTINUOUS DUTY AT A TEMPERATURE OF NOT LESS THAN 1500°F (816°C).
- MAINTAIN 10 FOOT CLEARANCE FROM ANY FRESH AIR INTAKE. FIELD VERIFY EXACT REQUIREMENTS. PRIOR TO BID AND INSTALLATION. IF EXHAUST FAN FALLS WITHIN 10 FOOT OF ANY FRESH AIR INTAKE, THE EXHAUST DISCHARGE OPENING SHALL BE EXTENDED BY MEANS OF A SHROUD ON ROUND FANS AND DUCTWORK ON UTILITY FANS. TO MEET THE 3'-0" VERTICAL CLEARANCE REQUIREMENTS, SHROUD CAN BE PROVIDED BY CAPTIVEAIRE. FIELD VERIFY EXACT REQUIREMENTS PRIOR TO ORDERING, INSTALLATION AND BID. G.C. TO COORDINATE WITH CAPTIVEAIRE.
- CONCENTRIC VENT/ COMBUSTION PIPING DOWN TO WATER HEATERS. CONTRACTOR TO VERIFY EXACT SIZE AND ROUTING. SLOPE 1/4 INCH PER FOOT BACK TOWARD WATER HEATER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. VERIFY ALL REQUIREMENTS PRIOR TO BID.
- APPROXIMATE LOCATION OF REFRIGERATION EQUIPMENT CONDENSING UNIT. COORDINATE WITH FOOD SERVICE, ARCHITECTURAL AND ELECTRICAL DRAWINGS. PROVIDE RAILS FOR CONDENSING UNITS. COORDINATE RAIL SYSTEM WITH MANUFACTURERS REQUIREMENTS AND STRUCTURAL ENGINEERS. CONTRACTOR INSTALLING REMOTE CONDENSERS SHALL VERIFY EXACT SIZE OF CONDENSER STAND. SEE DETAIL ON M5.1.
- CONTRACTOR SHALL REVIEW ELECTRICAL POWER REQUIREMENTS FOR MECHANICAL EQUIPMENT THAT ARE SCHEDULED ON THE ELECTRICAL DRAWINGS AND VERIFY THAT THEY MATCH PRIOR TO ORDERING EQUIPMENT. DO NOT PURCHASE MOTORS OR ELECTRICAL EQUIPMENT UNTIL POWER CHARACTERISTICS AVAILABLE AT BUILDING HAVE BEEN CONFIRMED BY CONTRACTOR.
- INSTALLATION OF EQUIPMENT SHALL COMPLY WITH EQUIPMENT MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS TO ALLOW FOR INSPECTION, SERVICE, REPAIR OR REPLACEMENT.
- ALL NEW ROOF WORK SHALL BE DONE BY LANDLORDS ROOFING CONTRACTOR AT TENANTS EXPENSE. CONTRACTOR SHALL COORDINATE ALL NEW ROOF WORK TO CONFORM TO LANDLORDS ROOFING STANDARDS AND PER LOCAL CODE REQUIREMENTS. FIELD VERIFY ALL ROOF WORK PRIOR TO BID.
- CONTRACTOR TO VERIFY WEIGHT LIMITS AND STRUCTURAL CONDITION PRIOR TO SETTING NEW ROOFTOP EQUIPMENT. PROVIDE ADDITIONAL BRACING AND STRUCTURE AS REQUIRED TO MEET DUNNAGE OF NEW UNITS. (TYPICAL ALL UNITS). CONSULT TENANT'S CONSTRUCTION MANAGER IF THERE ARE ANY STRUCTURAL CONCERNS.

NOTE:

MECHANICAL EQUIPMENT, APPLIANCES AND SUPPORTS THAT ARE EXPOSED TO WIND SHALL BE DESIGNED AND INSTALLED TO RESIST THE WIND PRESSURES ON THE EQUIPMENT AND THE SUPPORTS AS DETERMINED IN ACCORDANCE WITH THE BUILDING CODE. ROOF MOUNTED MECHANICAL UNITS AND SUPPORTS SHALL BE SECURED TO THE STRUCTURE. THE USE OF WOOD "SLEEPERS" SHALL NOT BE PERMITTED.

REFRIGERANT PIPING NOTES

ALL REFRIGERATION PIPE INSULATION SHALL BE A MINIMUM OF 1.5" THICK BASED ON ASHRAE 6.8.3B. CONTRACTOR SHALL VERIFY WITH LOCAL CODE REQUIREMENTS PRIOR TO BID.

ALL REFRIGERATION PIPE INSULATION WHICH IS LOCATED OUTDOORS, MUST INCORPORATE A WEATHER RESISTANT PROTECTIVE FINISH, SUCH AS ARMACELL ARMAFLEX FINISH.

ALL REFRIGERATION PIPING INSTALLED OUTDOORS (EXPOSED TO AMBIENT) SHALL BE INSTALLED IN PVC JACKETS. RIC SHALL SUPPORT AND PROTECT REFRIGERATION PIPING AS REQUIRED. PVC JACKETS TO BE PROVIDED AND INTALLED BY THE RIC.

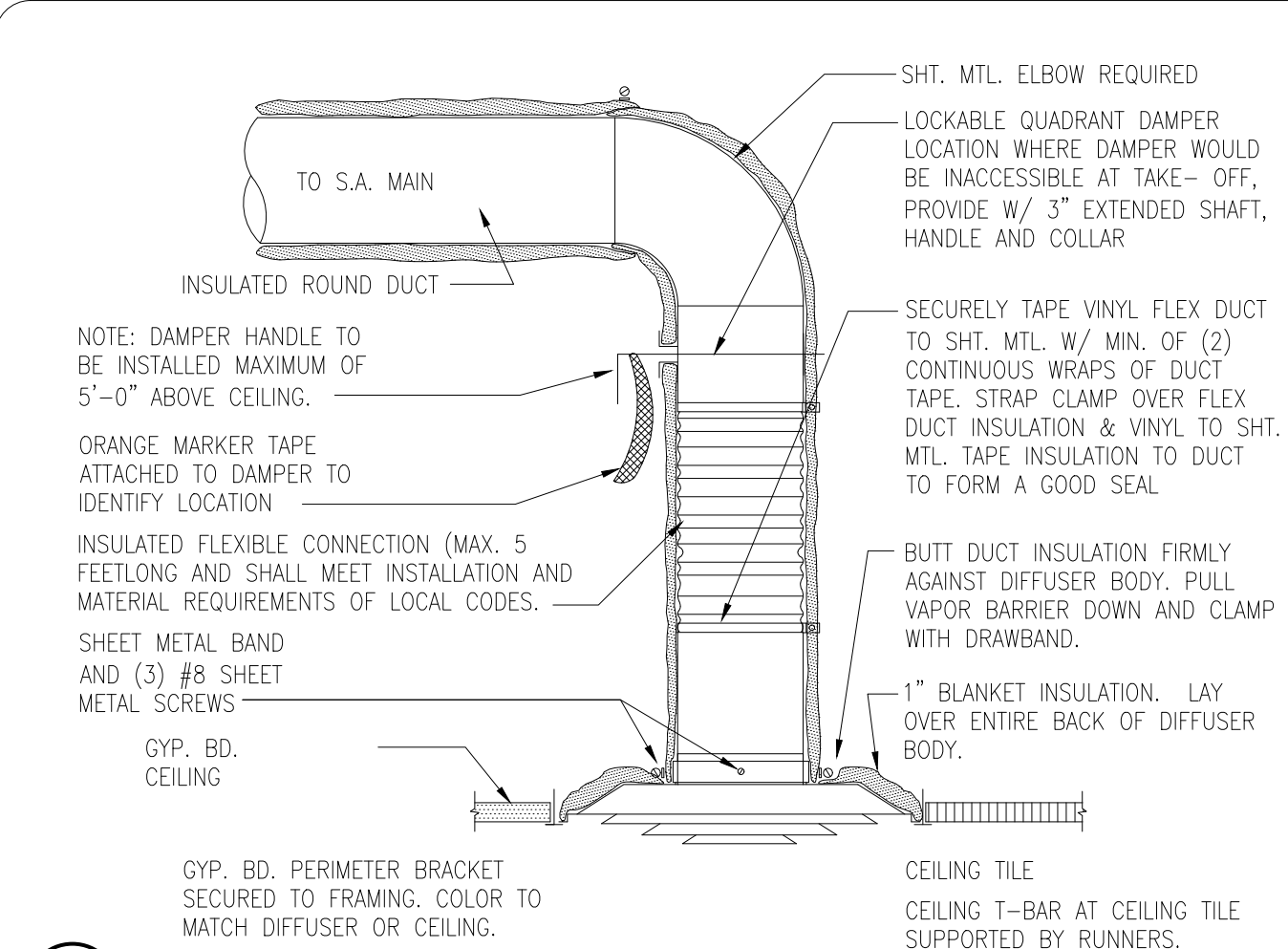


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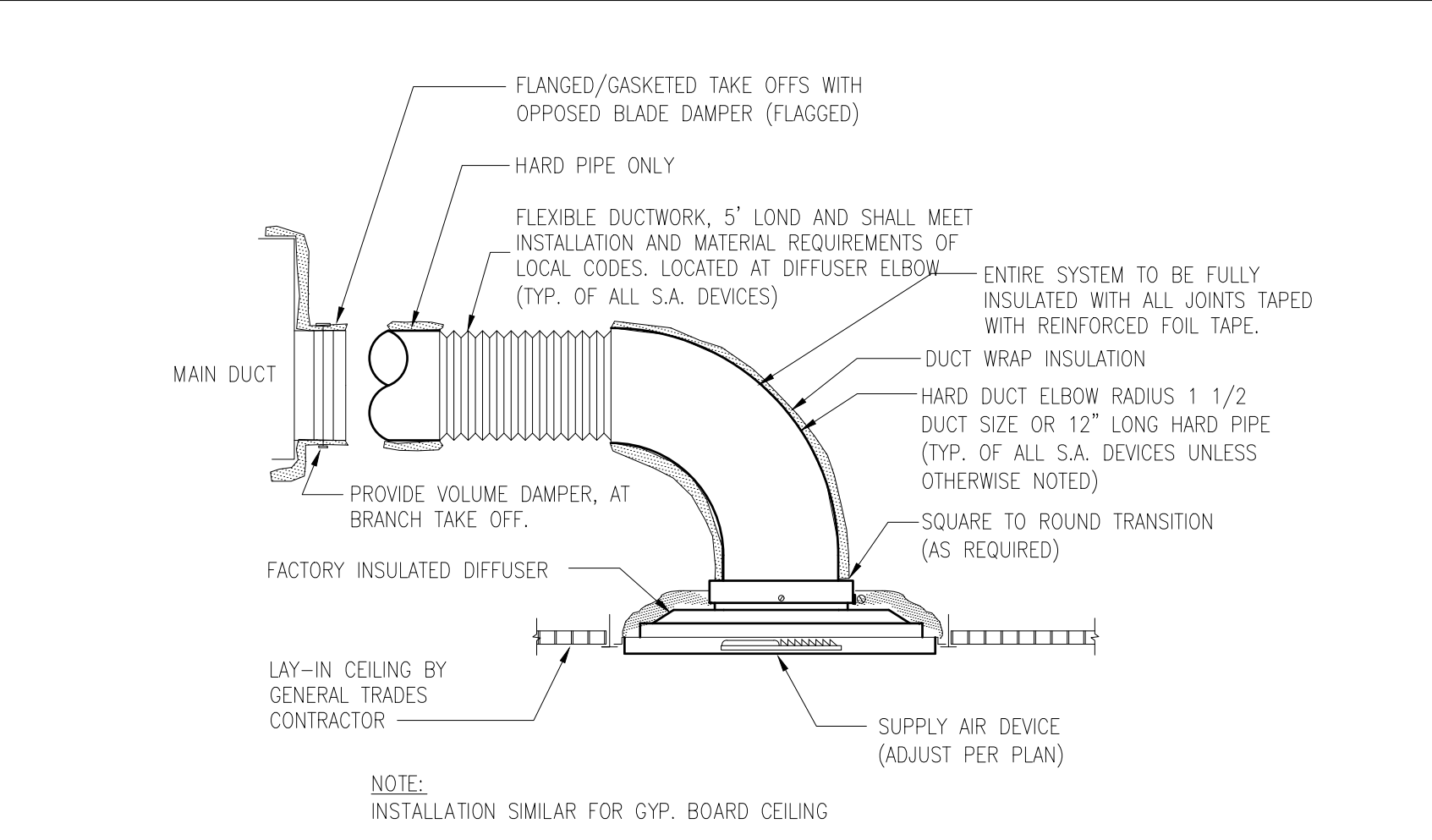
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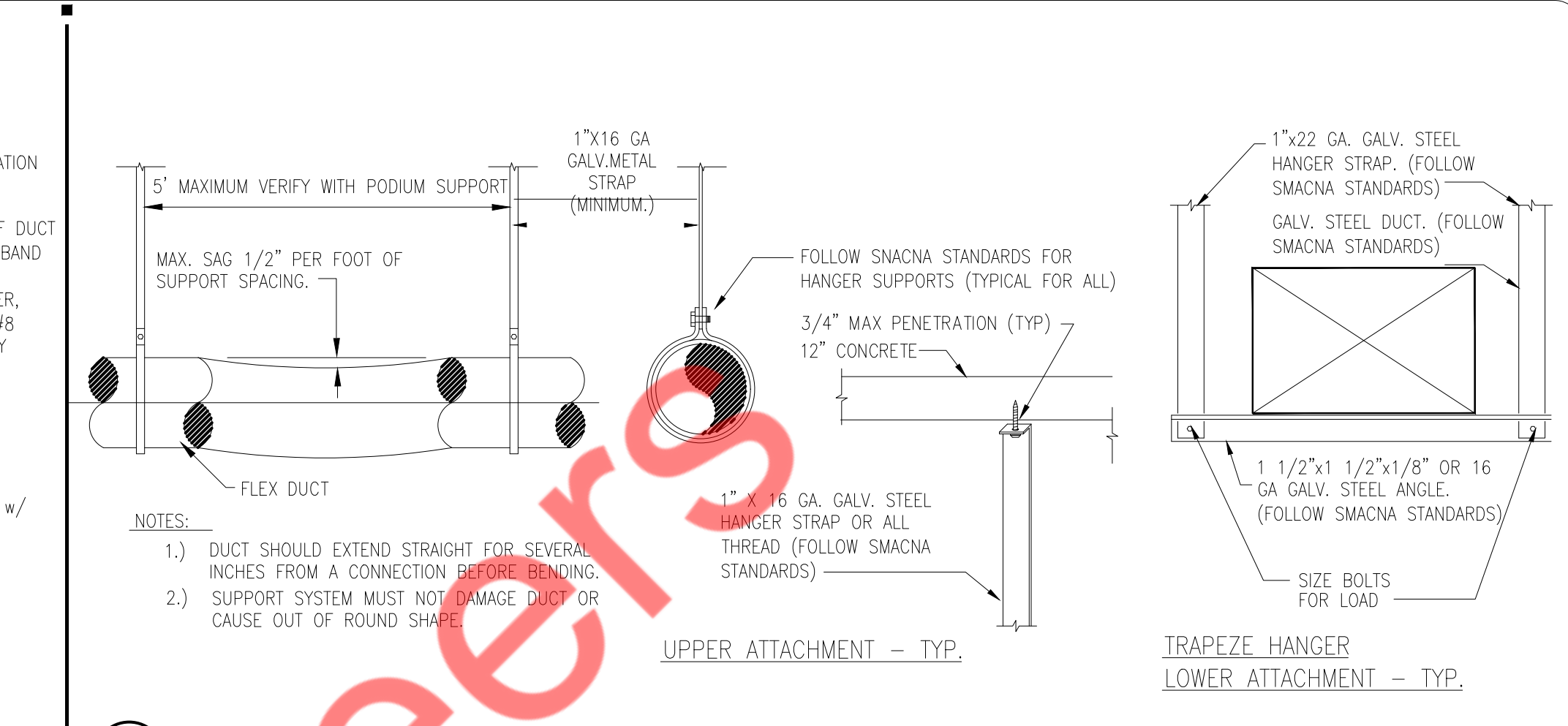
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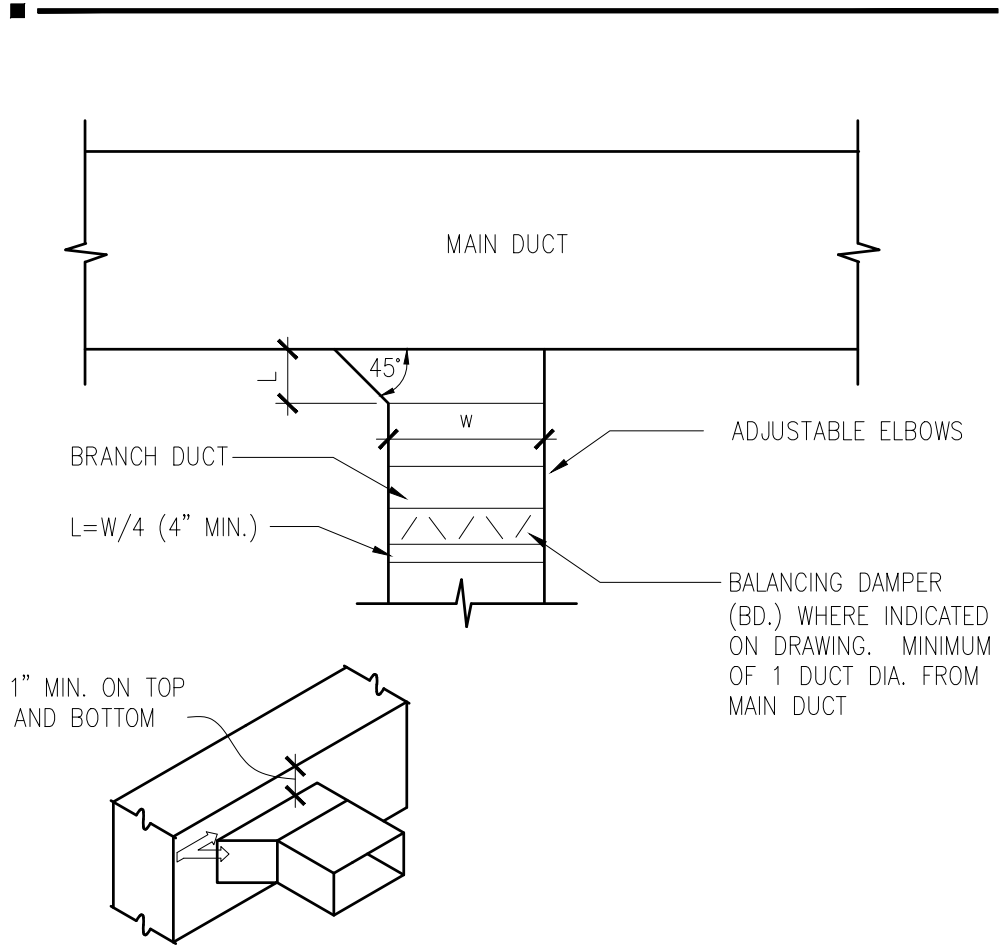
3 CONNECTION DIFFUSER DETAIL NTS



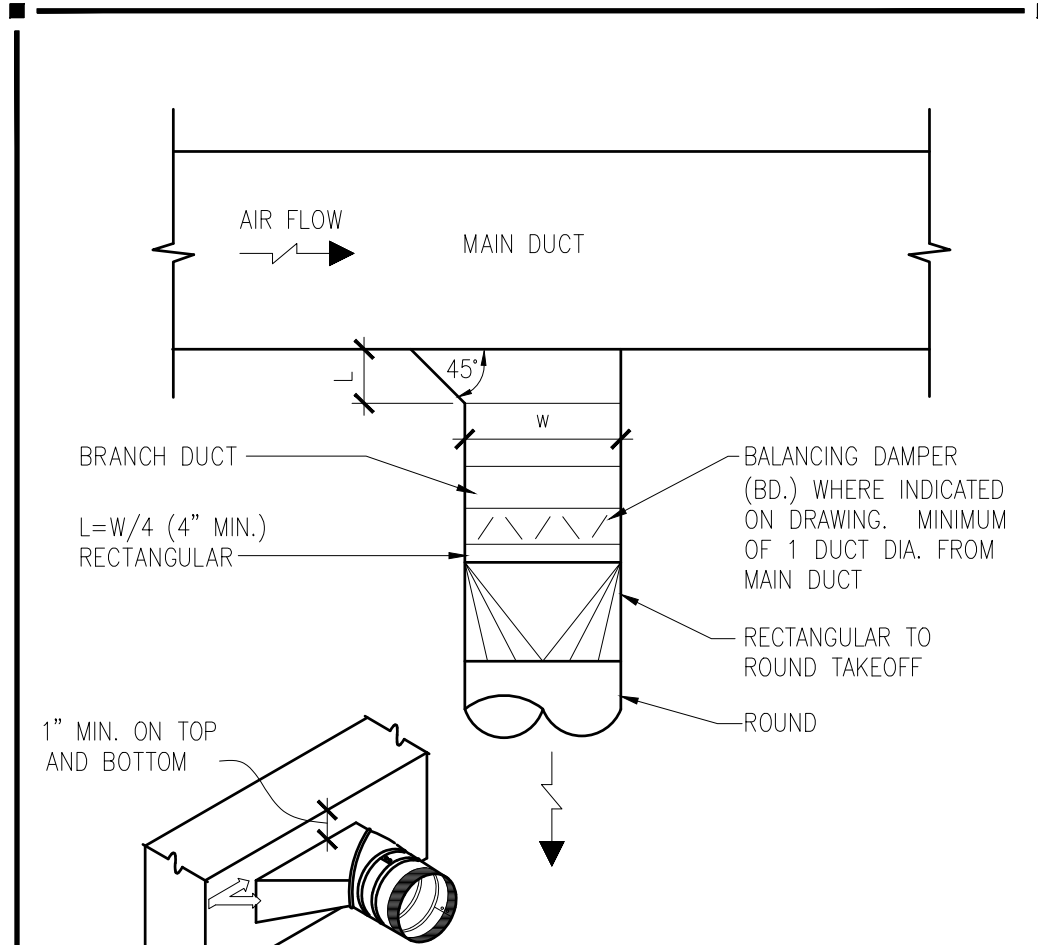
2 CONNECTION DUCT FITTING DETAIL NTS



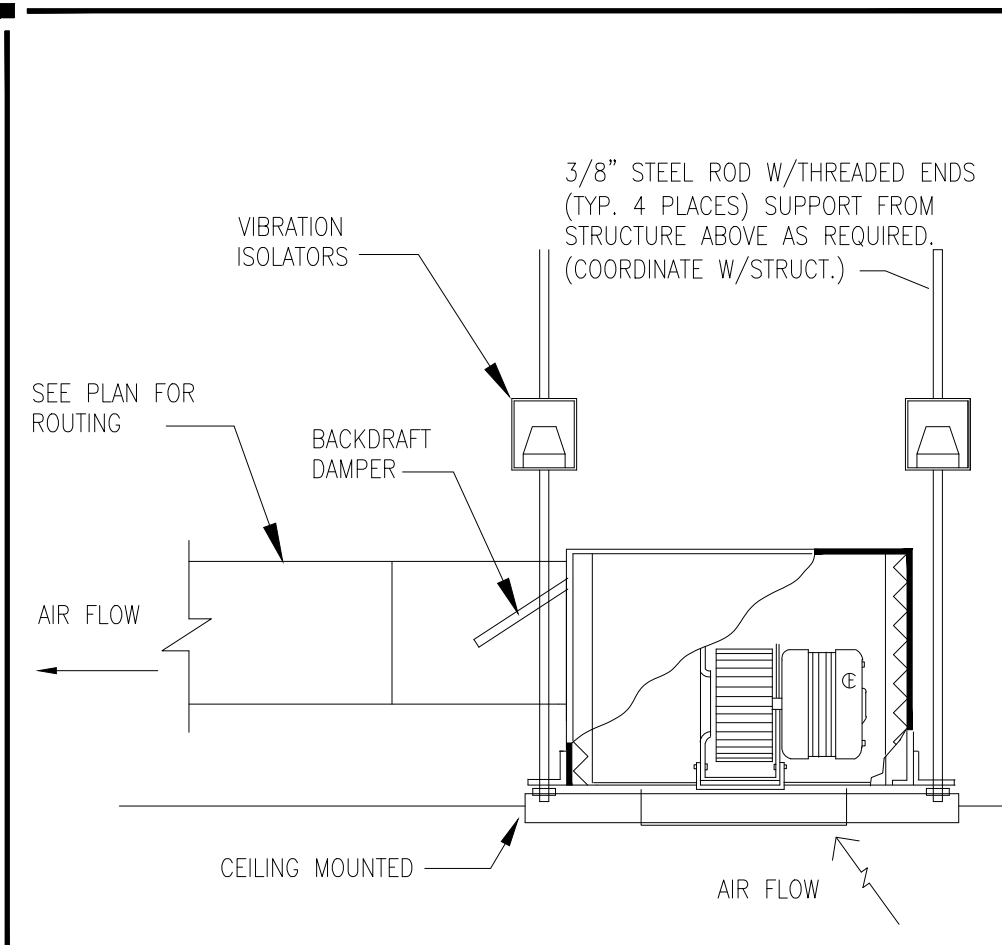
1 TYPICAL DUCT HANGING DETAIL NTS



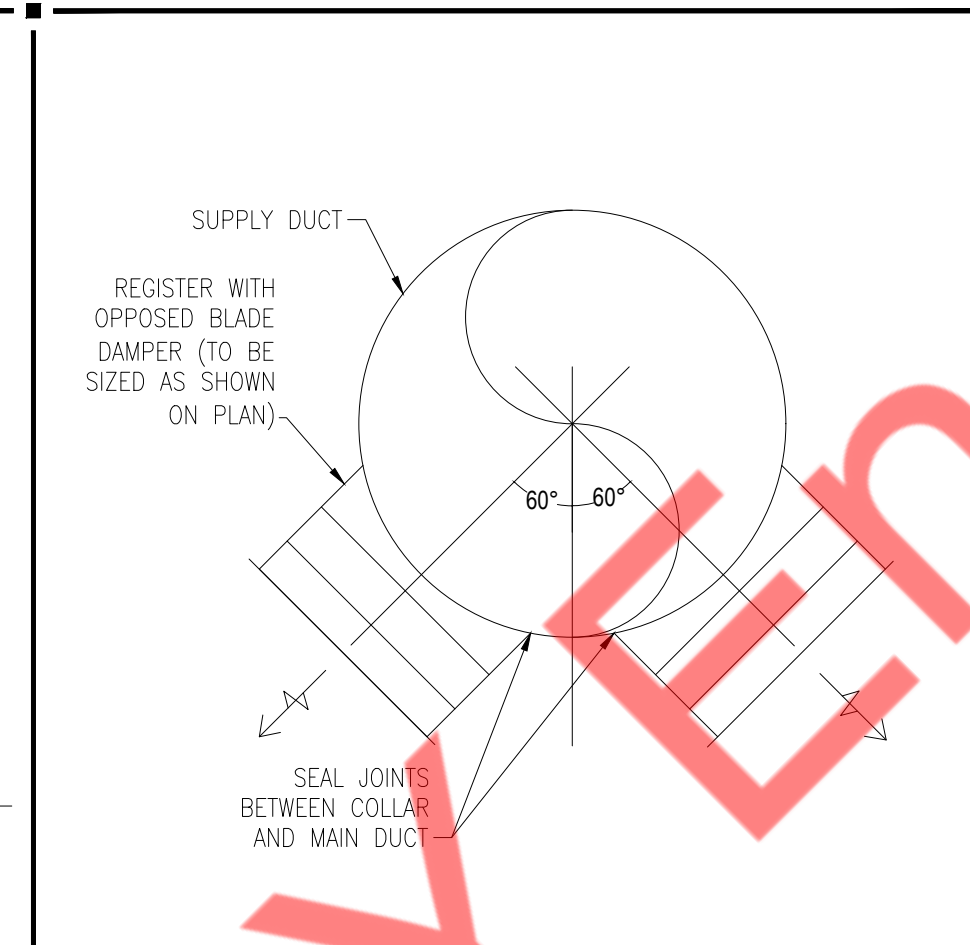
8 RECTANGULAR BRANCH CONNECT NTS



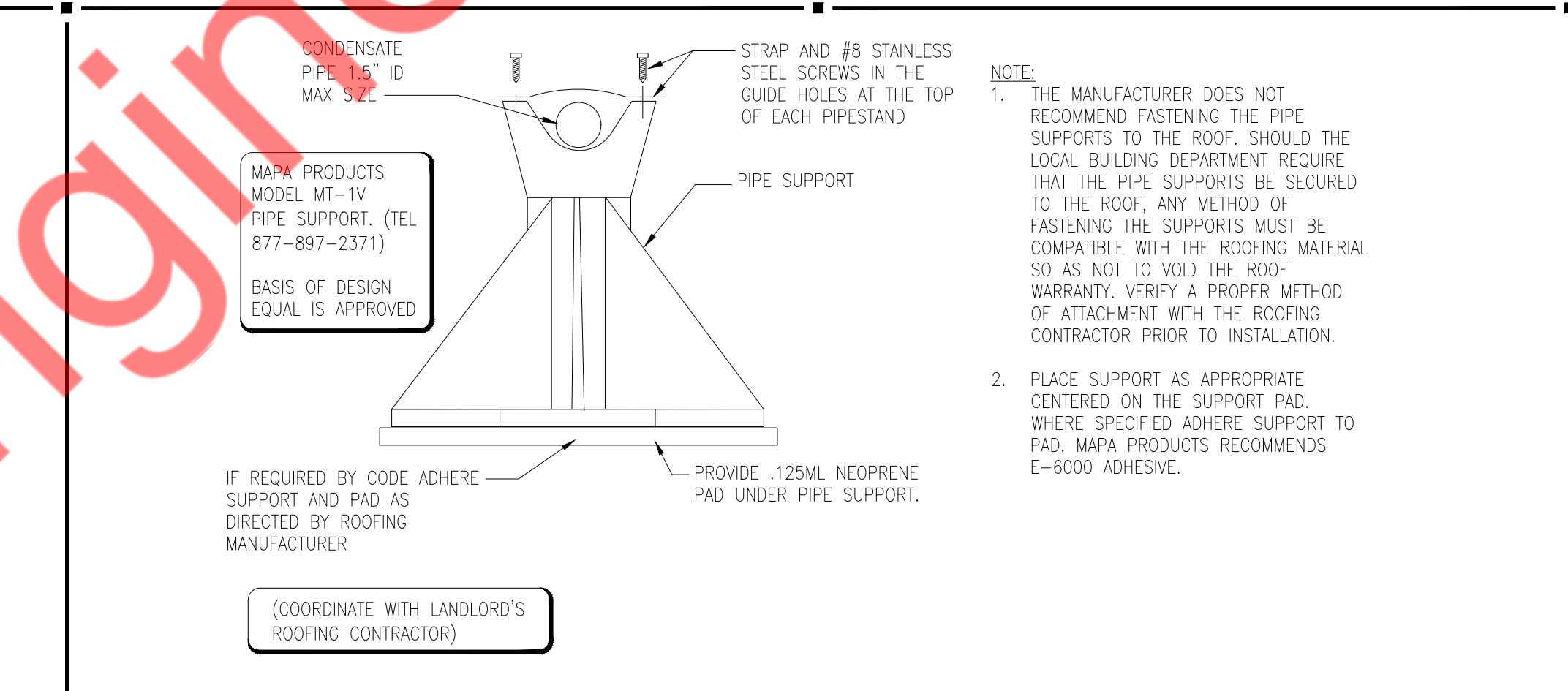
7 ROUND BRANCH CONNECTION DETAIL NTS



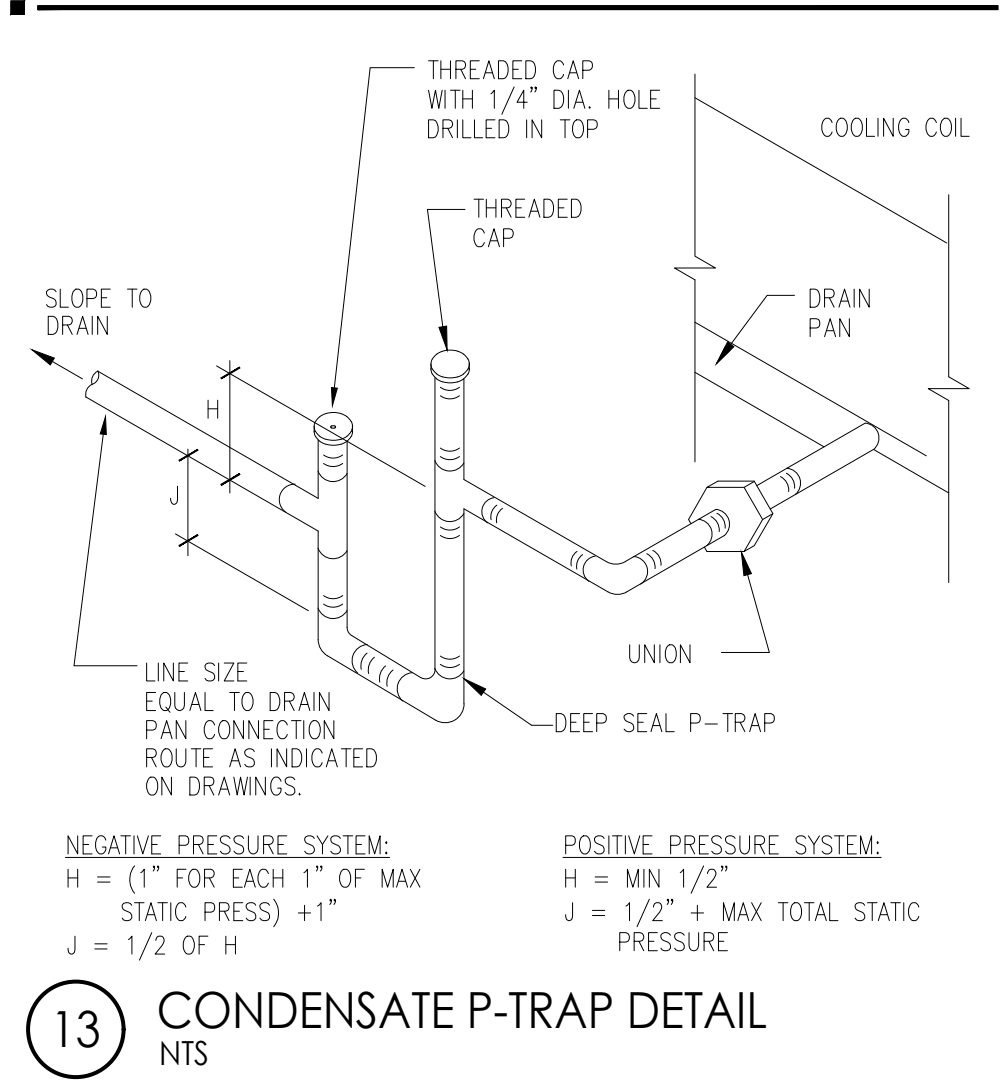
6 CABINET EXHAUST FAN DETAIL NTS



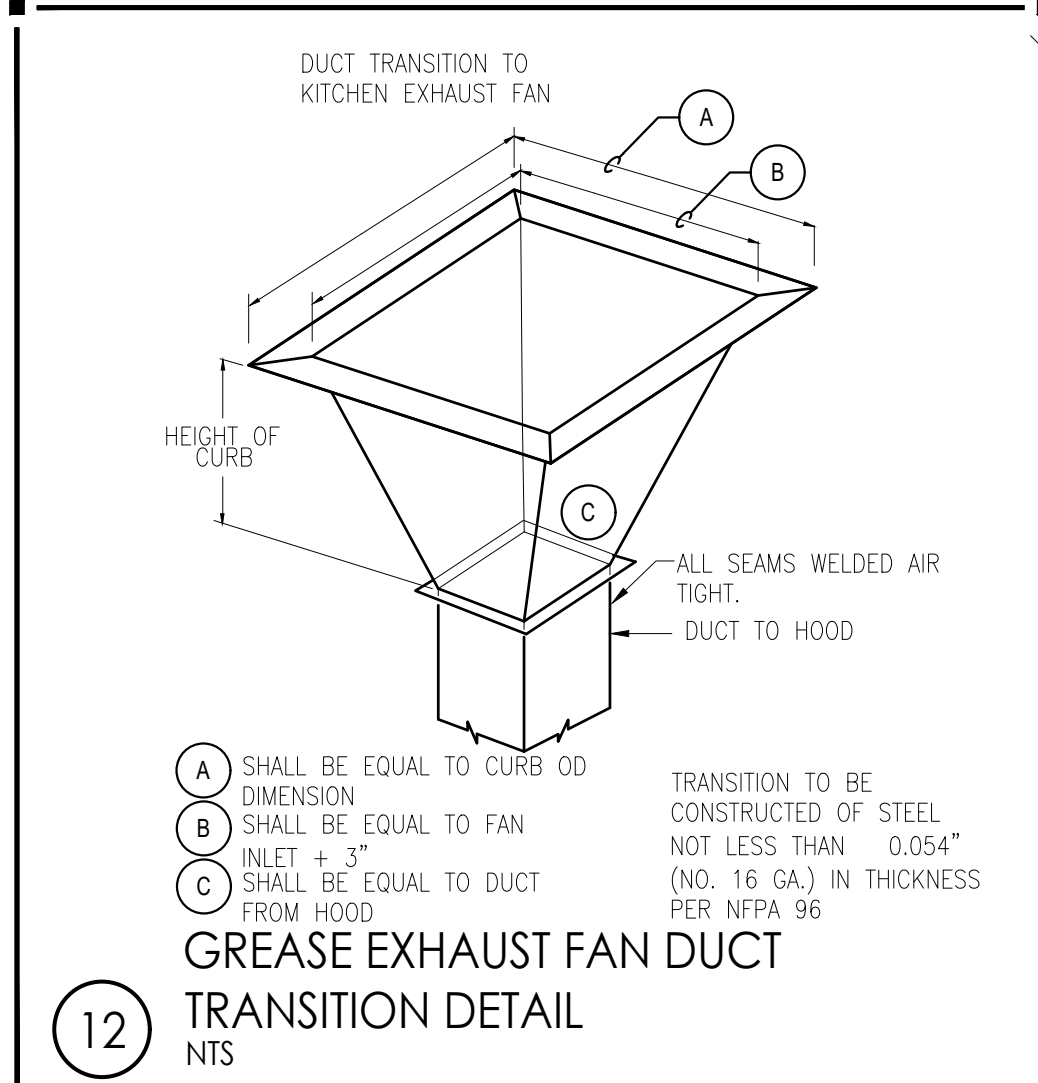
5 ANGLED REGISTER DETAIL NTS



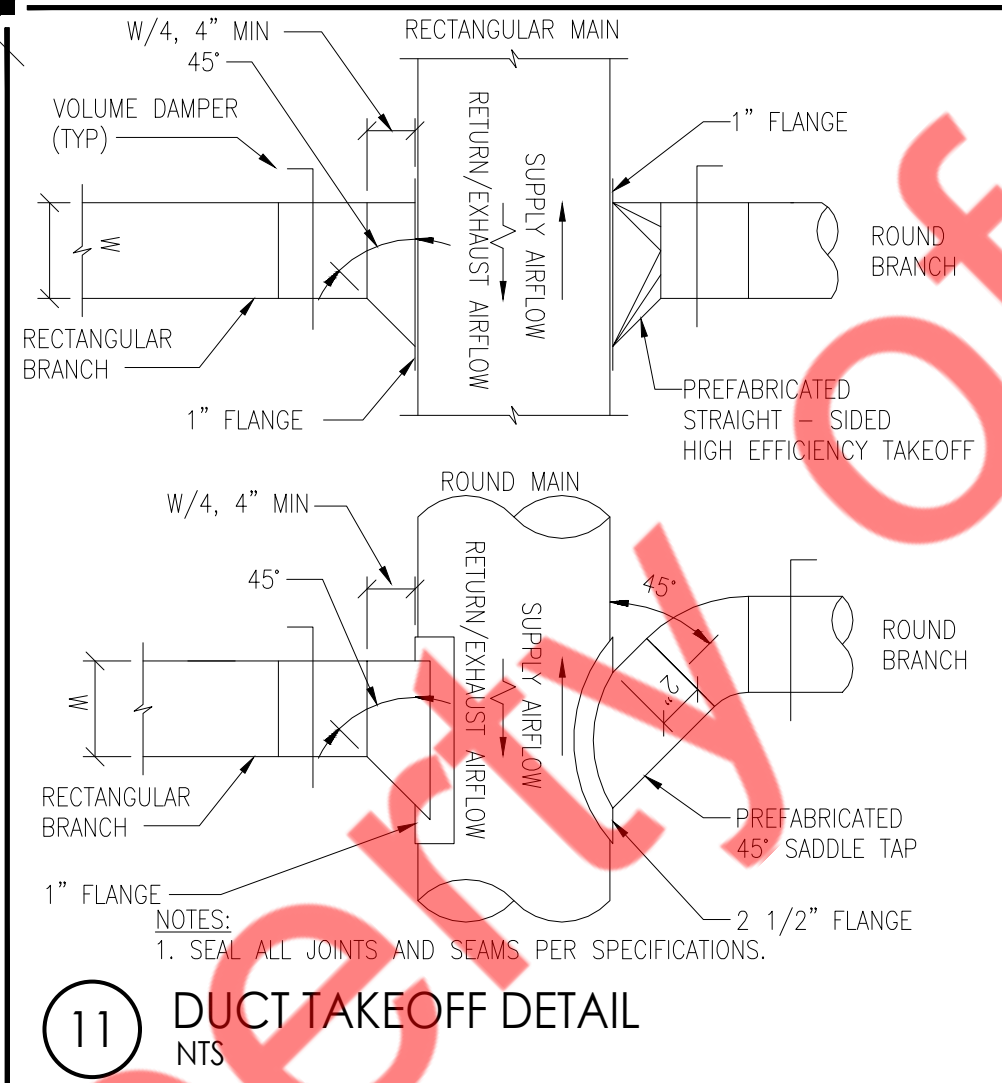
4 CONDENSATE PIPE SUPPORT DETAIL NTS



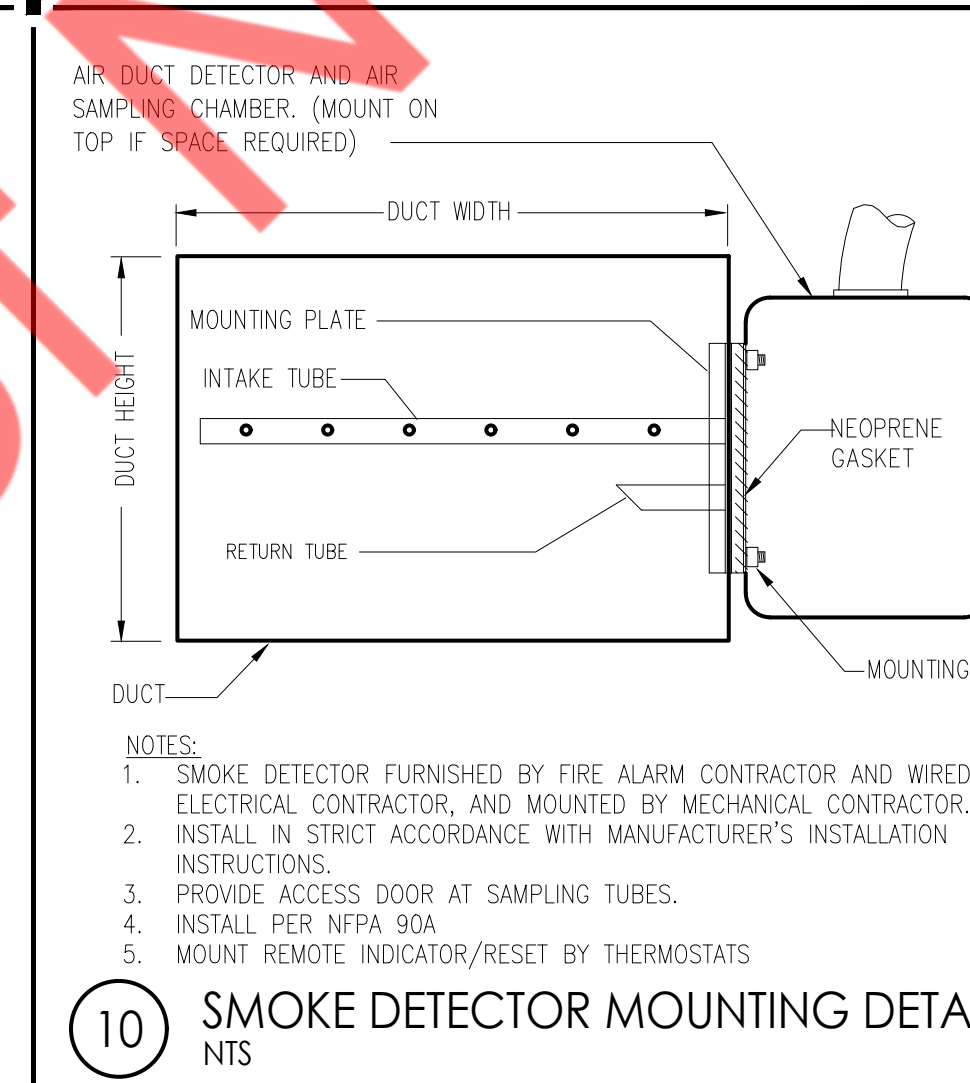
13 CONDENSATE P-TRAP DETAIL NTS



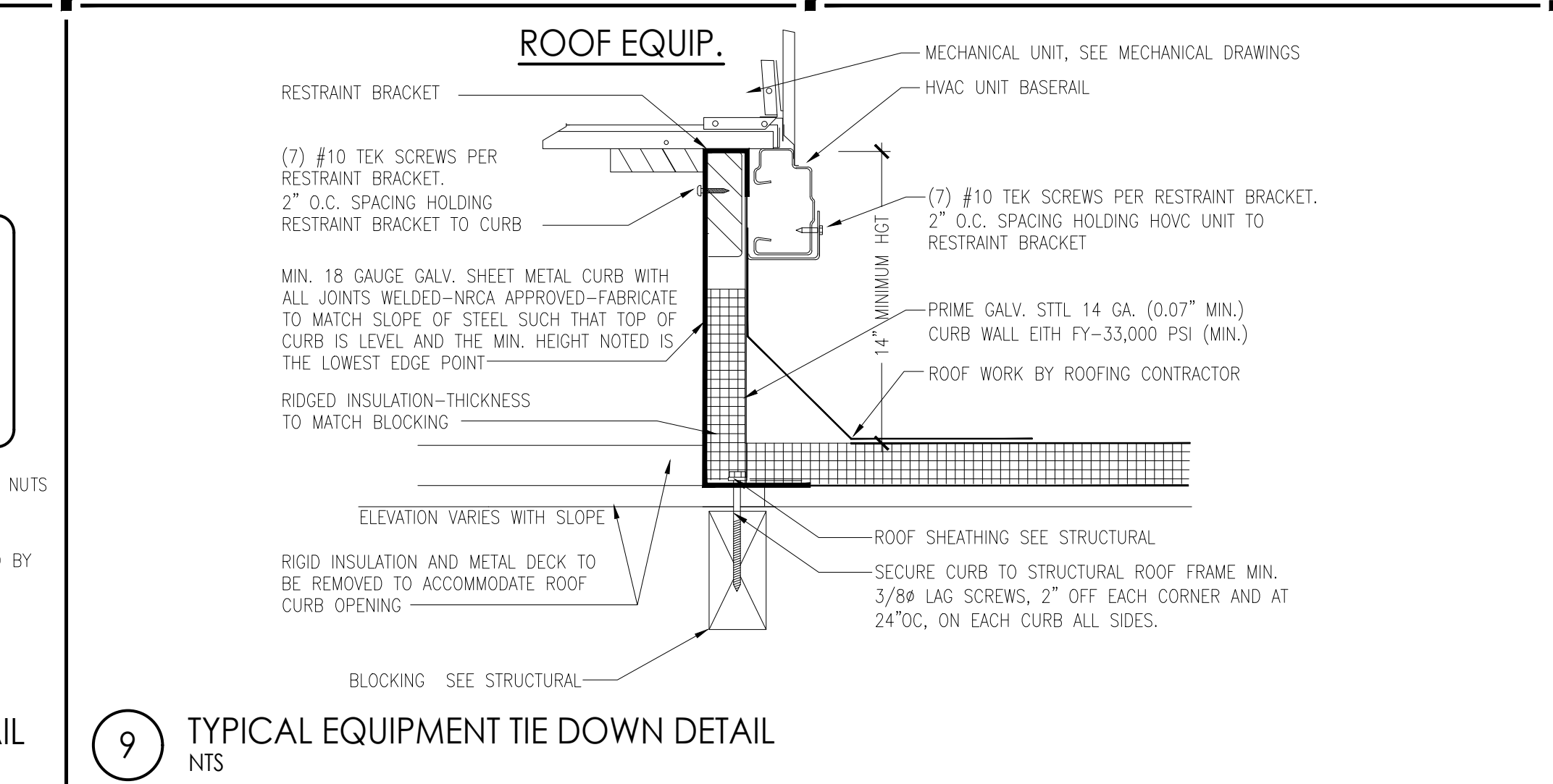
12 TRANSITION DETAIL NTS



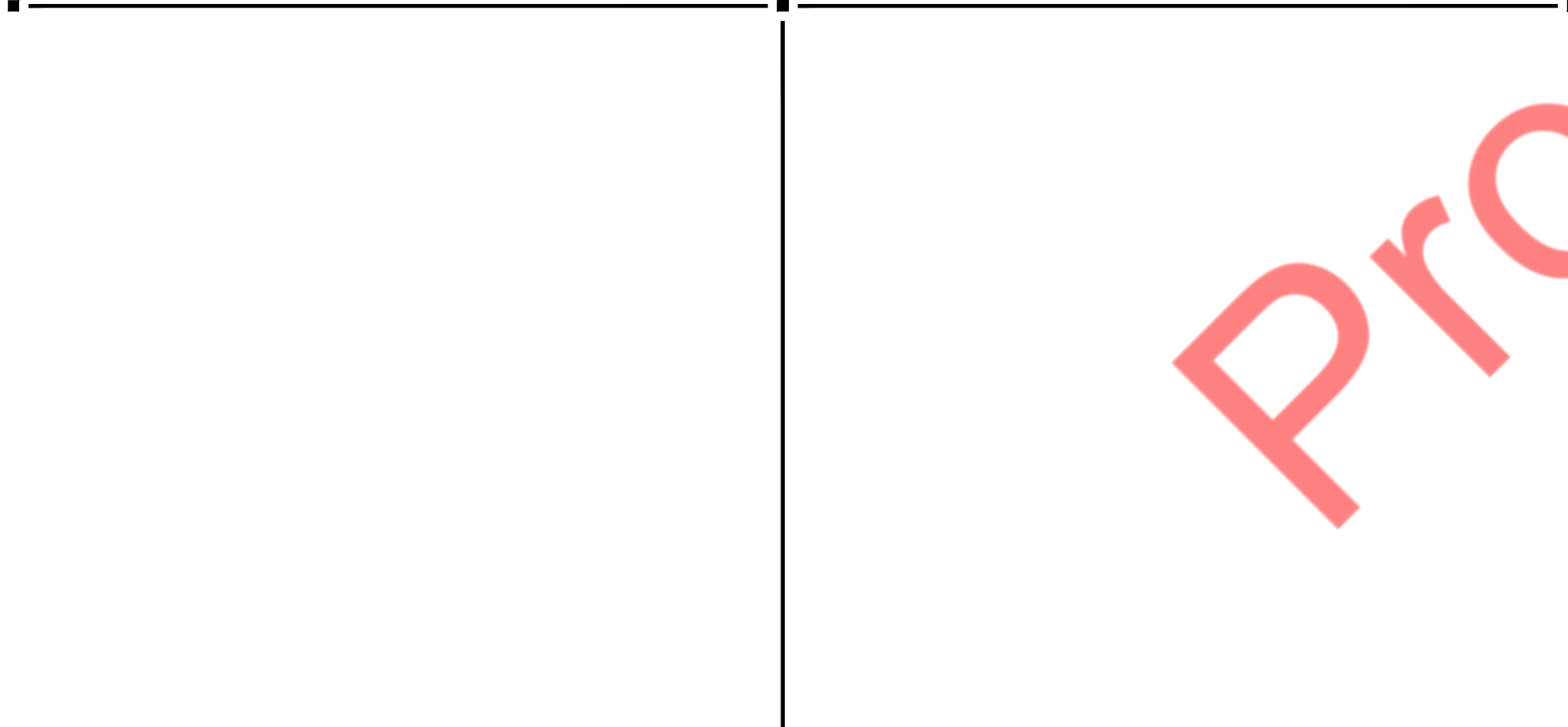
11 DUCT TAKEOFF DETAIL NTS



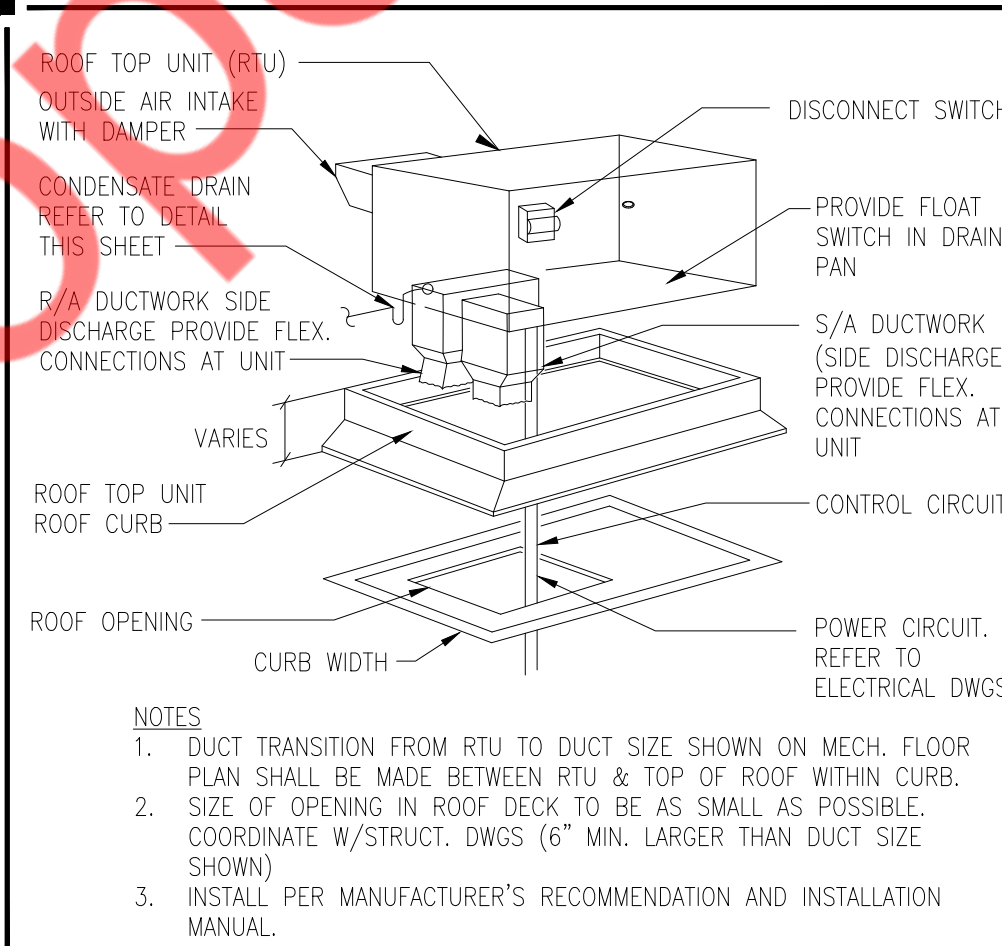
10 SMOKE DETECTOR MOUNTING DETAIL NTS



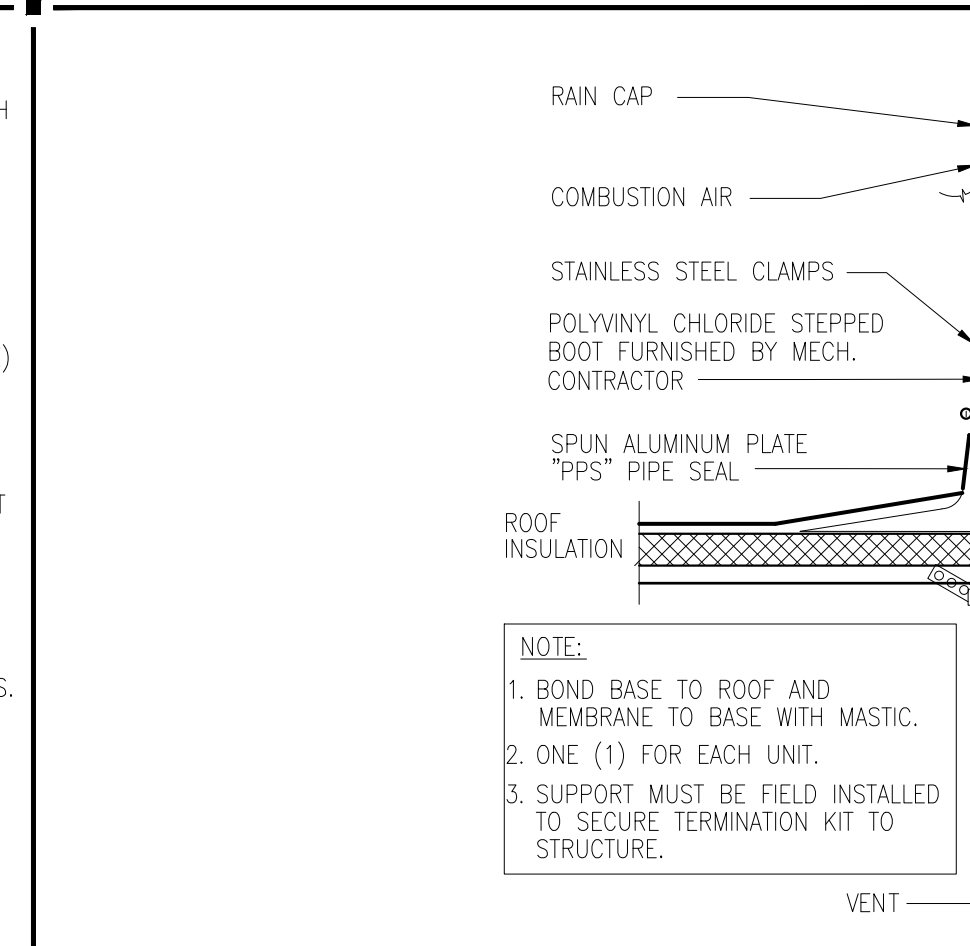
9 TYPICAL EQUIPMENT TIE DOWN DETAIL NTS



16 ROOF TOP UNIT MOUNTING DETAIL NTS



15 CONCENTRIC VENT/ COMBUSTION AIR ROOF PENETRATION DETAIL NTS



14 FLOAT SWITCH IN RTU DETAIL NTS



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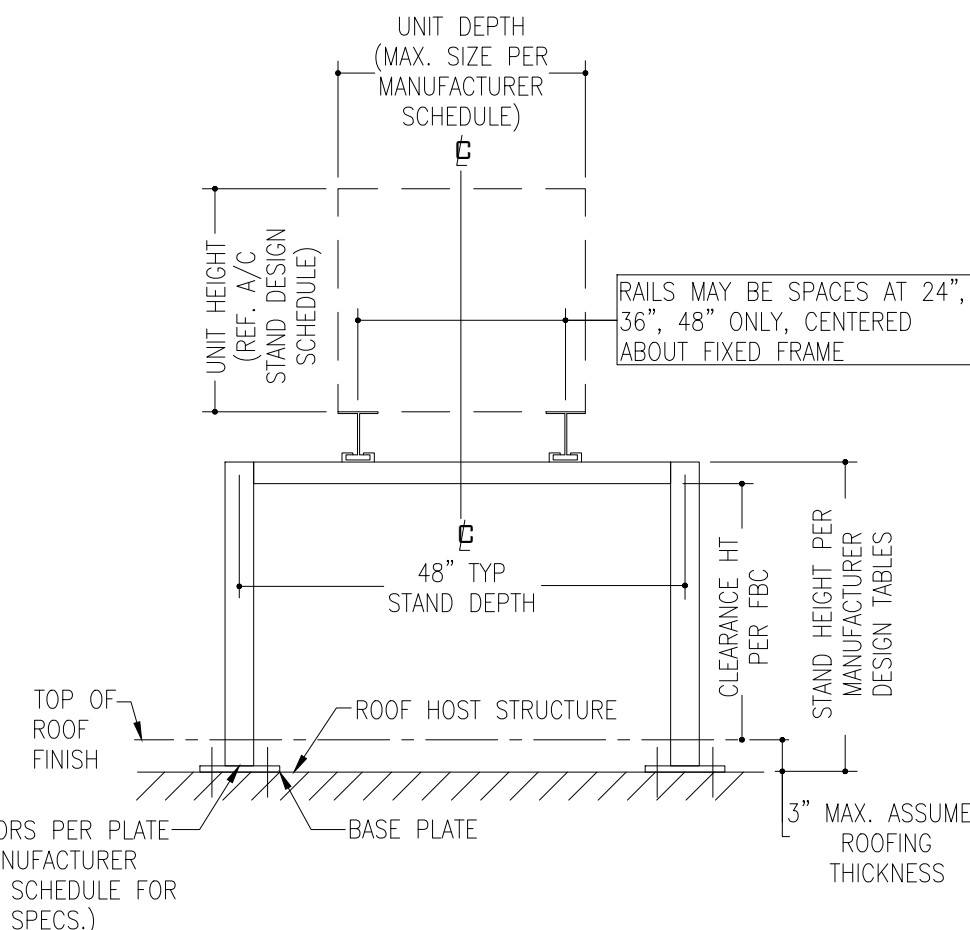
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STAND TO BE MANUFACTURED BY PRECISION ALUMINUM PRODUCTS, INC 1339 SW 1ST WAY DEERFIELD BEACH, FL 33442 (954) 480-6919 SRF471@ATTBI.COM

"FIXED HD" STAND BY PRECISION ALUMINUM PRODUCTS, INC. INSTALL PER MANUFACTURER RECOMMENDATION.

VERIFY THE SIZE OF EQUIPMENT FURNISHED WITH THE APPROVED SHOP DRAWINGS.

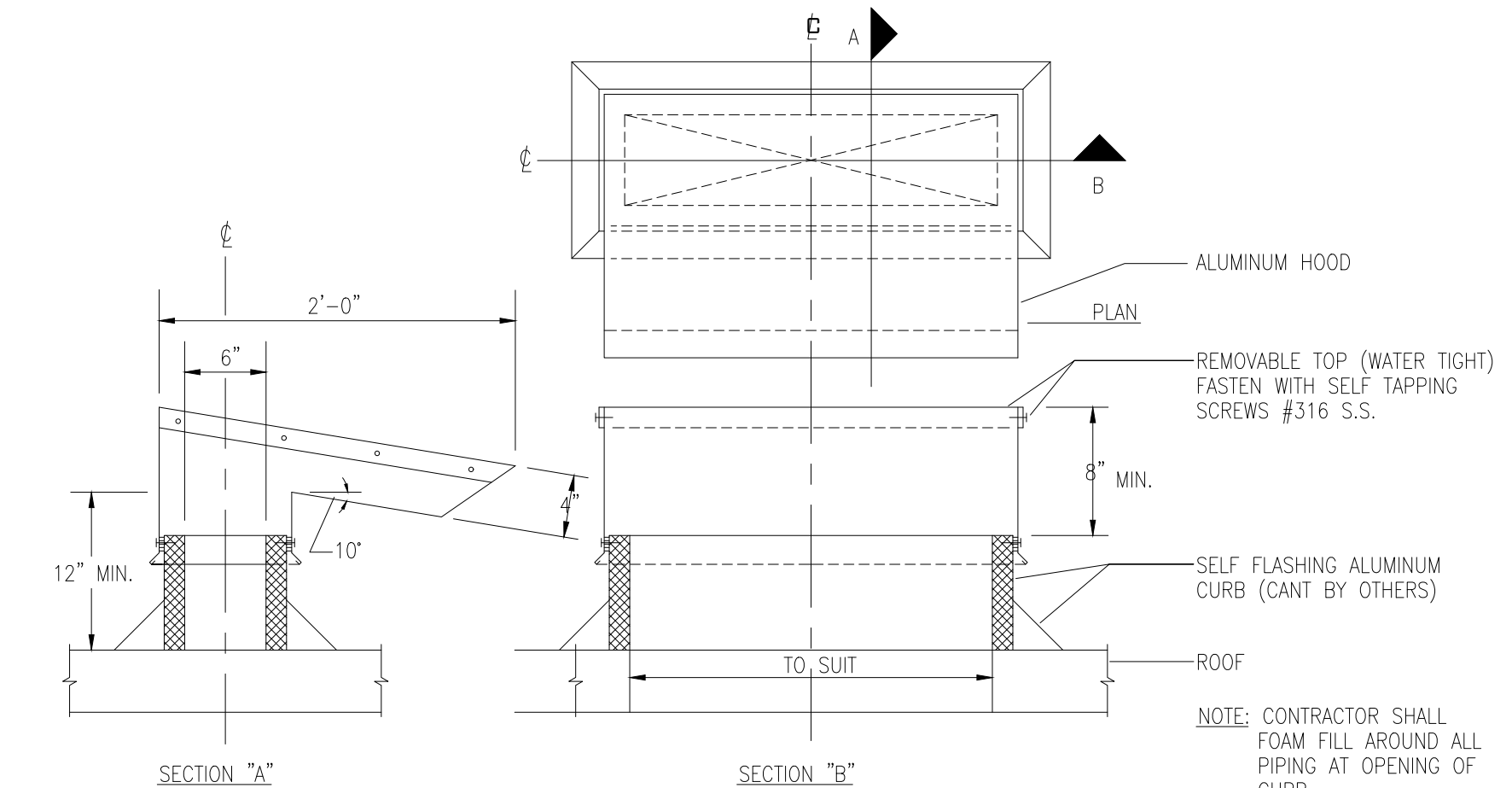
REFER TO FL PRODUCT APPROVAL NUMBER #FL16921-R4



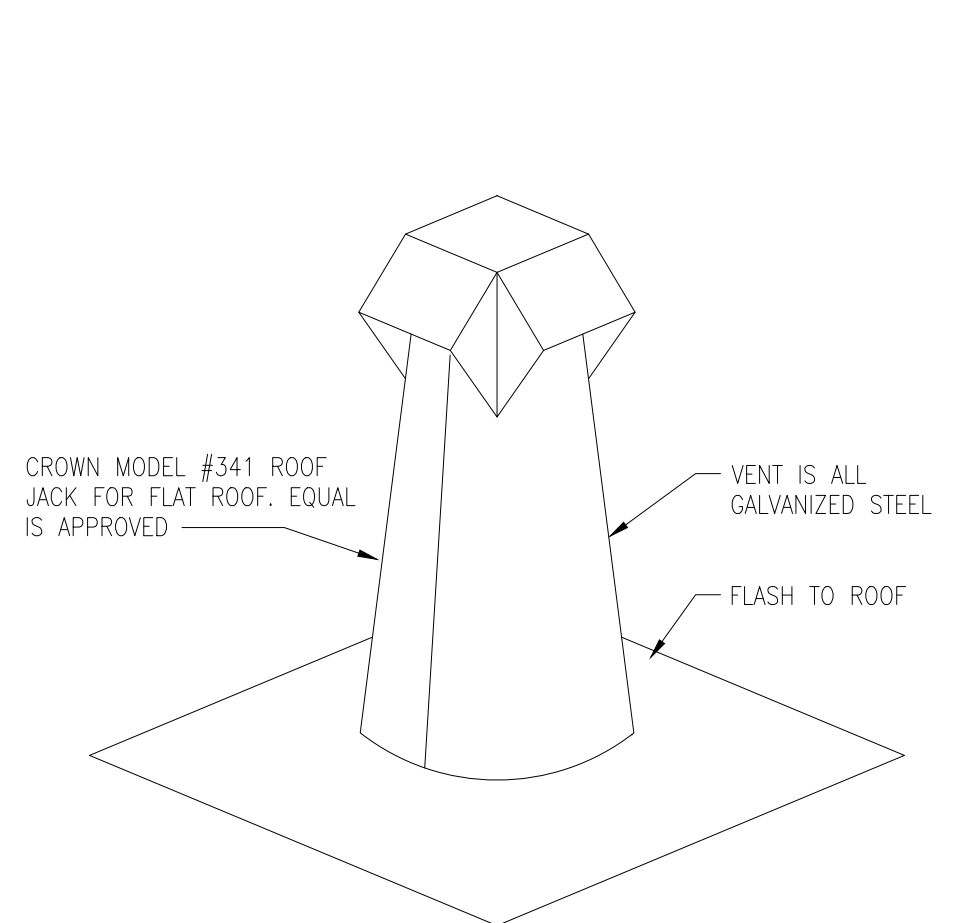
- GENERAL NOTES:
- THIS SYSTEM HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE STRUCTURAL PROVISIONS OF THE FLORIDA BUILDING CODE SIXTH EDITION (2017) & THE 2015 INTERNATIONAL BUILDING CODE FOR USE WITHIN AND OUTSIDE OF THE HIGH VELOCITY HURRICANE ZONE.
 - CONTRACTOR SHALL ENSURE THAT EACH INSTALLATION ASSEMBLY MEET MINIMUM CLEARANCE HEIGHT PER FBC SECTION 1510.10 FOR NON-HVHZ APPLICATION AND SECTION 1522 FOR HVHZ APPLICATIONS.
 - ALL FASTENERS TO BE #10 OR GREATER SAE GRADE 5, UNLESS NOTED OTHERWISE, CADMIUM PLATED OR OTHERWISE CORROSION RESISTANT MATERIAL AND SHALL COMPLY WITH ANY APPLICABLE FEDERAL, STATE, AND LOCAL CODES. PROVIDE (5) PITCHES MIN PAST THREAD PLANE.
 - ALL EXTRUDED MEMBERS SHALL BE ALUMINUM ALLOY TYPED 6061-T6 OR 6005-T5.
 - ALUMINUM WELDING SHALL BE PERFORMED IN ACCORDANCE WITH FBC SECTION 2003.8.1.4. WITH WELD FILLER ALLOYS MEETING ANS/AWS A5.10 STANDARDS TO ACHIEVE ULTIMATE DESIGN STRENGTH IN ACCORDANCE WITH THE ALUMINUM DESIGN MANUAL, TABLE A.3.6 WELD FILLER: 5383 ELECTRODES. ALL ALUMINUM CONSTRUCTION SHALL BE IN CONFORMANCE WITH THE TOLERANCE, QUALITY AND METHODS OF CONSTRUCTION AS SET FORTH IN FBC SECTION 2003.2 AND THE AMERICAN WELDING SOCIETY'S STRUCTURAL WELDING CODE-ALUMINUM. MINIMUM WELD IS 1/8" THROAT FULL PERMETER FILLET WELD UNLESS OTHERWISE NOTED.
 - THE CONTRACTOR IS RESPONSIBLE TO INSULATE MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
 - ALL MECHANICAL SPECIFICATIONS (CLEAR SPACE, TONNAGE, ETC.) SHALL BE PER MANUFACTURER RECOMMENDATION AND ARE THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR.
 - AC STANDS SHALL BE LABELED CONTAINING: PRECISION ALUMINUM PRODUCTS, INC DEERFIELD BEACH, FL FLORIDA PRODUCT APPROVAL NUMBER

REFER TO MANUFACTURER DRAWINGS FOR COMPLETE SPECIFICATIONS AND REQUIREMENTS.

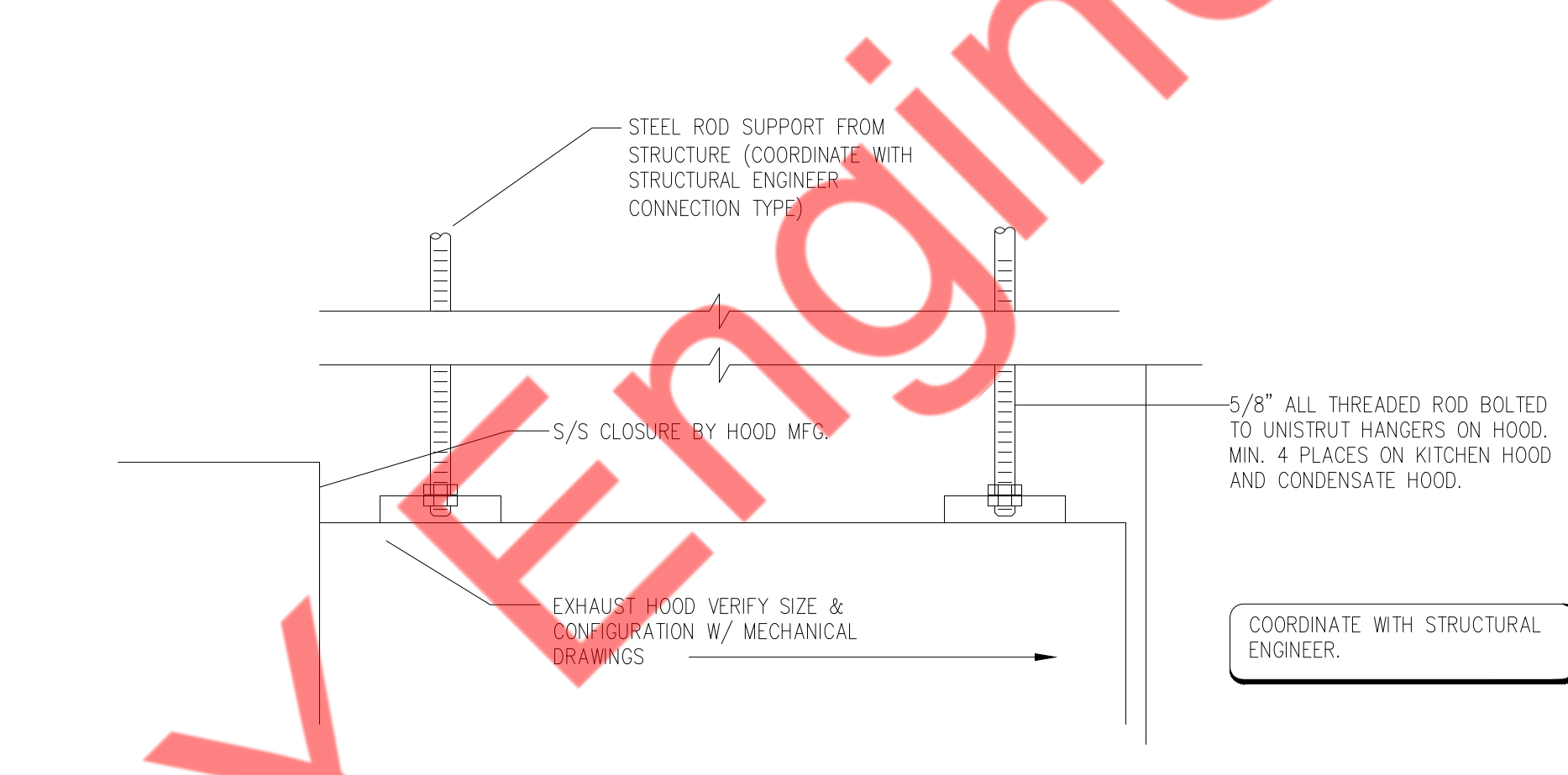
2 REFRIGERATION SYSTEM FRAMING SUPPORT NTS



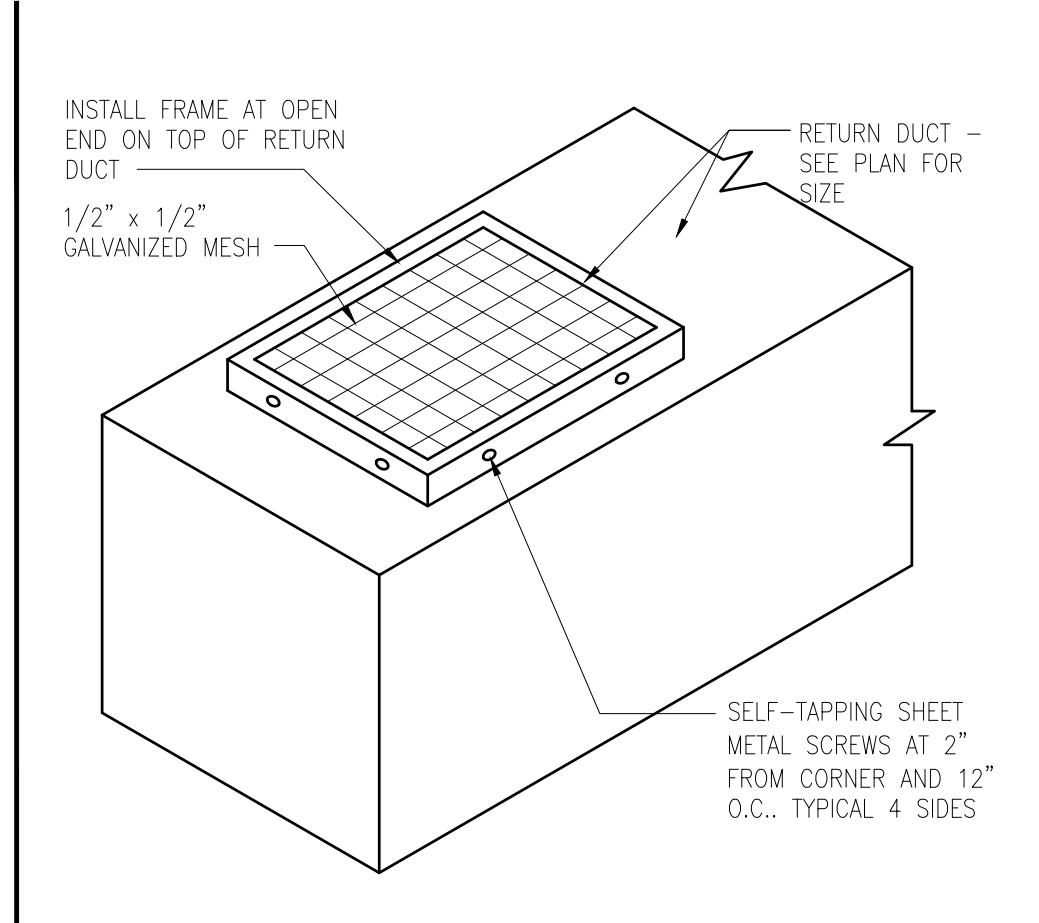
6 REFRIGERANT PIPING CURB DETAIL NTS



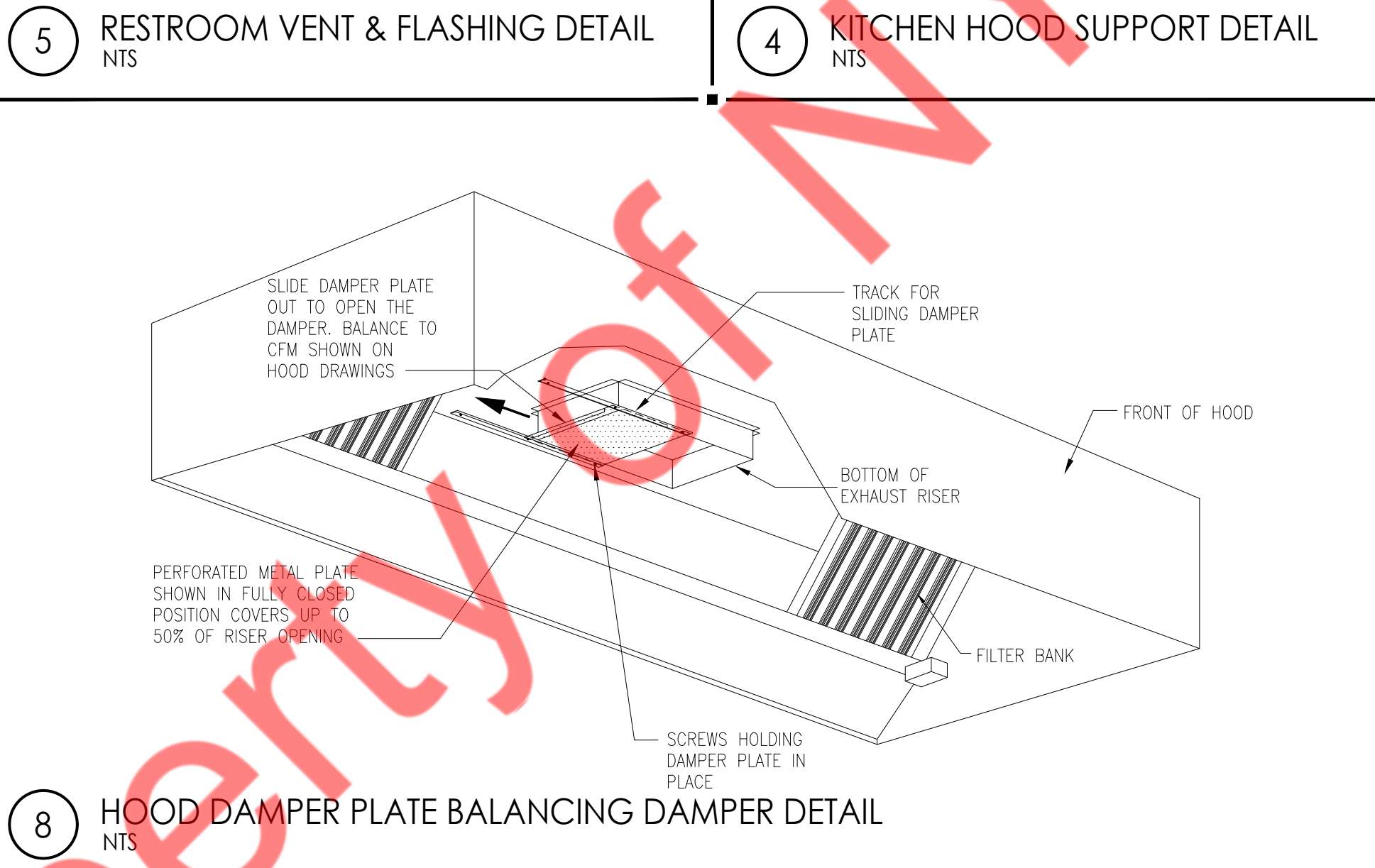
5 RESTROOM VENT & FLASHING DETAIL NTS



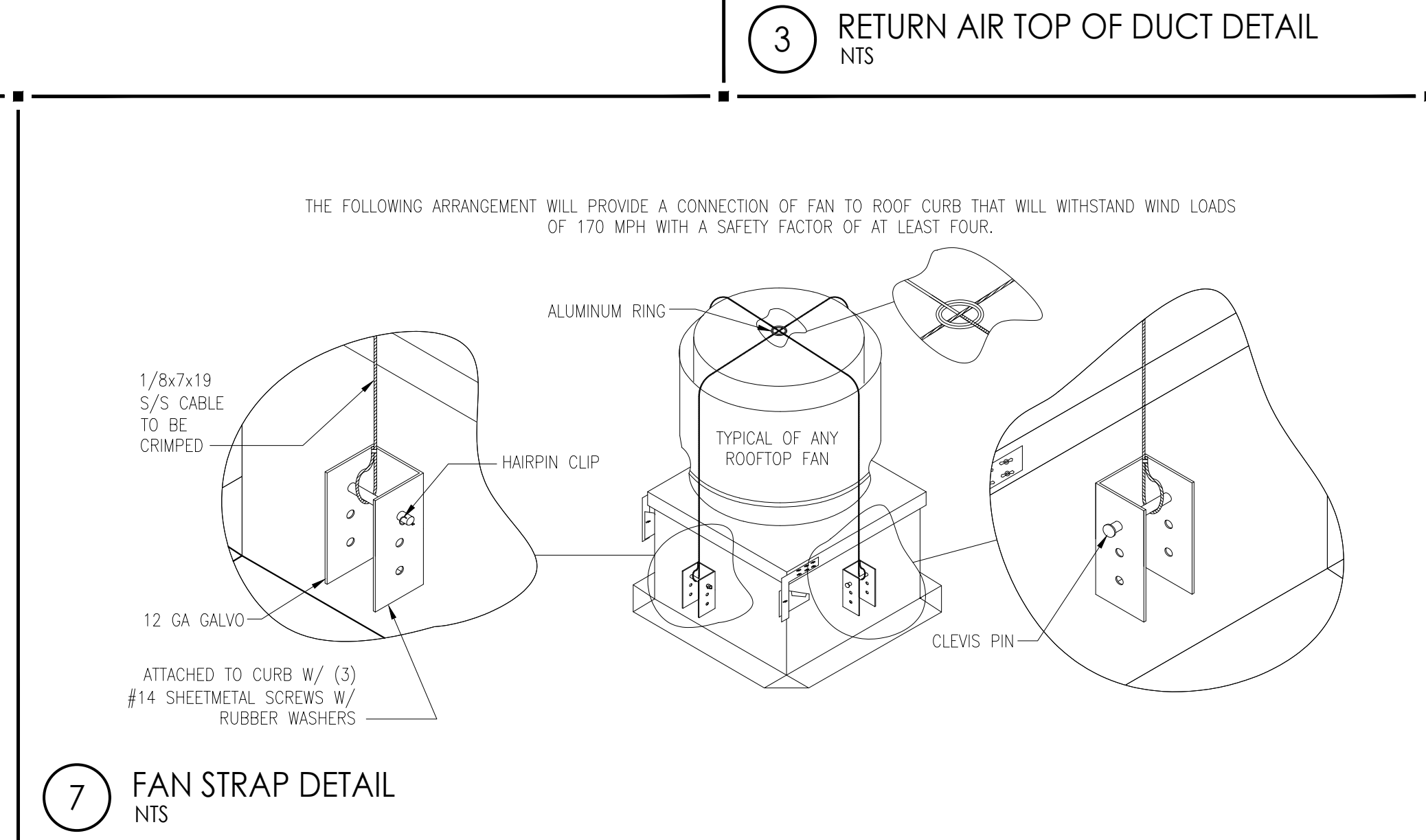
4 KITCHEN HOOD SUPPORT DETAIL NTS



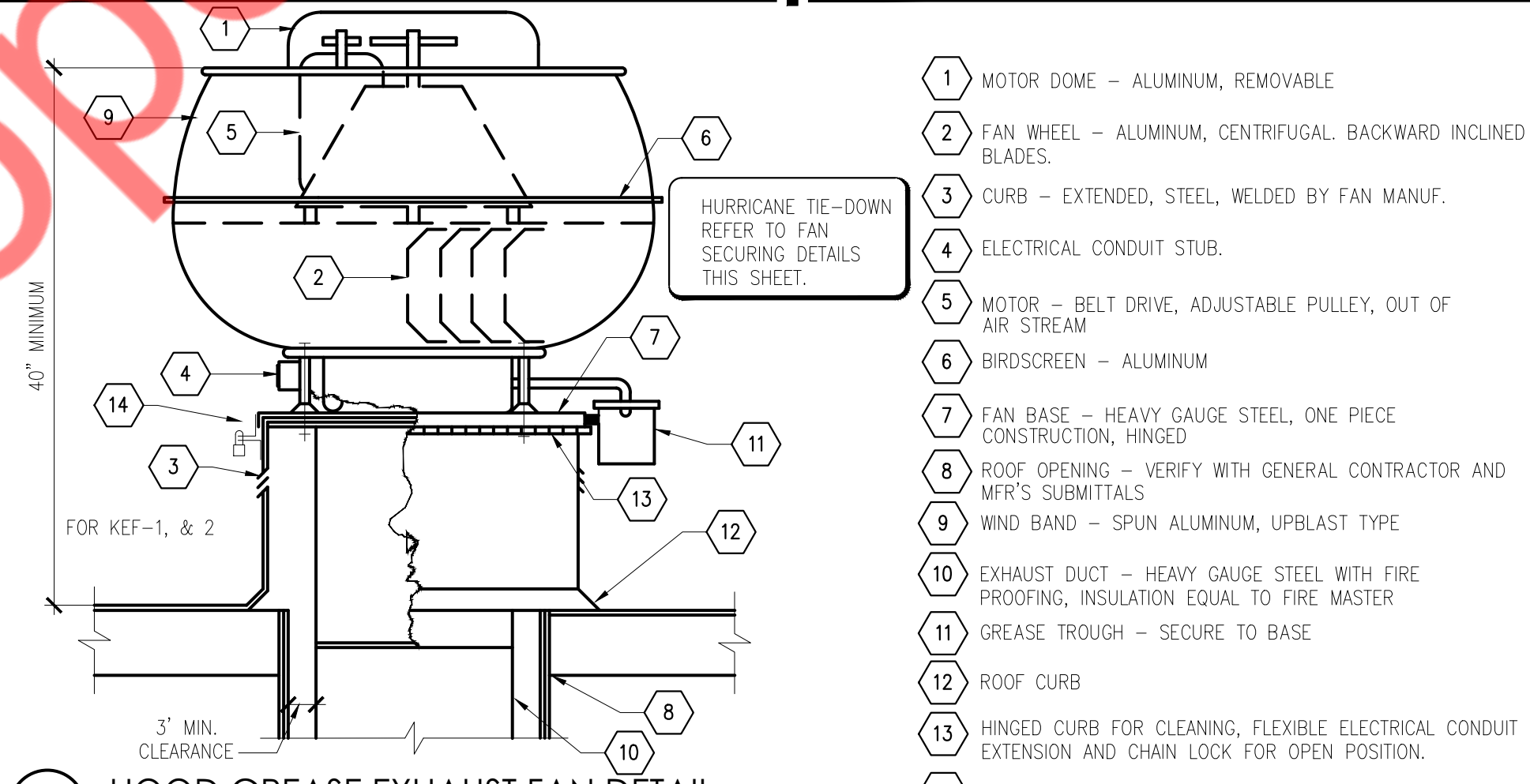
3 RETURN AIR TOP OF DUCT DETAIL NTS



8 HOOD DAMPER PLATE BALANCING DAMPER DETAIL NTS

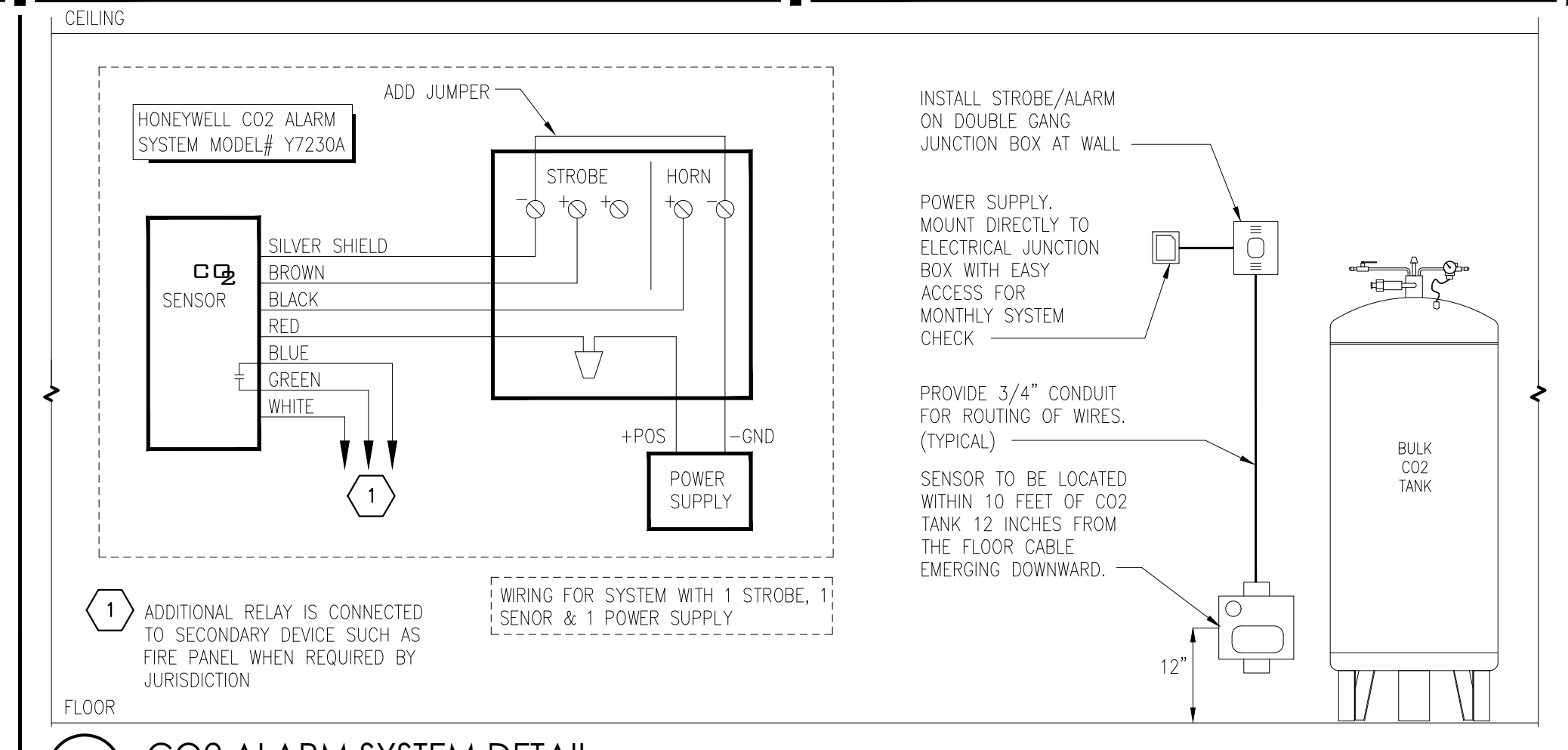


7 FAN STRAP DETAIL NTS



- MOTOR DOME - ALUMINUM, REMOVABLE
- FAN WHEEL - ALUMINUM, CENTRIFUGAL BACKWARD INCLINED BLADES.
- CURB - EXTENDED, STEEL, WELDED BY FAN MANUF.
- ELECTRICAL CONDUIT STUB.
- MOTOR - BELT DRIVE, ADJUSTABLE PULLEY, OUT OF AIR STREAM
- BIRDSCREEN - ALUMINUM
- FAN BASE - HEAVY GAUGE STEEL, ONE PIECE CONSTRUCTION, HINGED
- ROOF OPENING - VERIFY WITH GENERAL CONTRACTOR AND MFR'S SUBMITTALS
- WIND BAND - SPUN ALUMINUM, UPBLAST TYPE
- EXHAUST DUCT - HEAVY GAUGE STEEL WITH FIRE PROOFING, INSULATION EQUAL TO FIRE MASTER
- GREASE TROUGH - SECURE TO BASE
- ROOF CURB
- HINGED CURB FOR CLEANING, FLEXIBLE ELECTRICAL CONDUIT FOR EXTENSION AND CHAIN LOCK FOR OPEN POSITION.
- PROVIDE LOREN COOK HINGED BASE KIT OR EQUAL. THE HINGED BASE KIT IS A FIELD INSTALLED

10 HOOD GREASE EXHAUST FAN DETAIL NTS



9 CO2 ALARM SYSTEM DETAIL NTS



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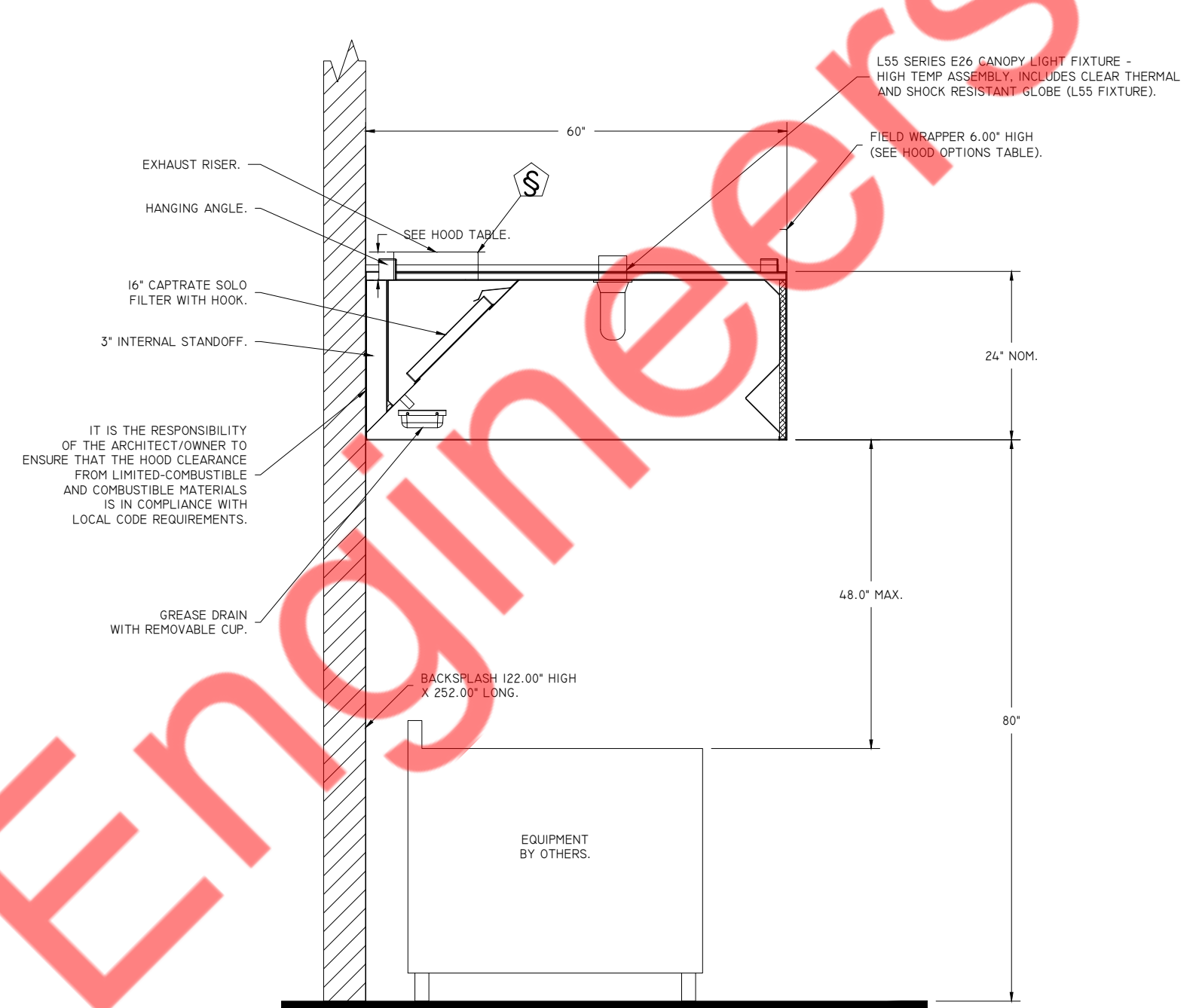
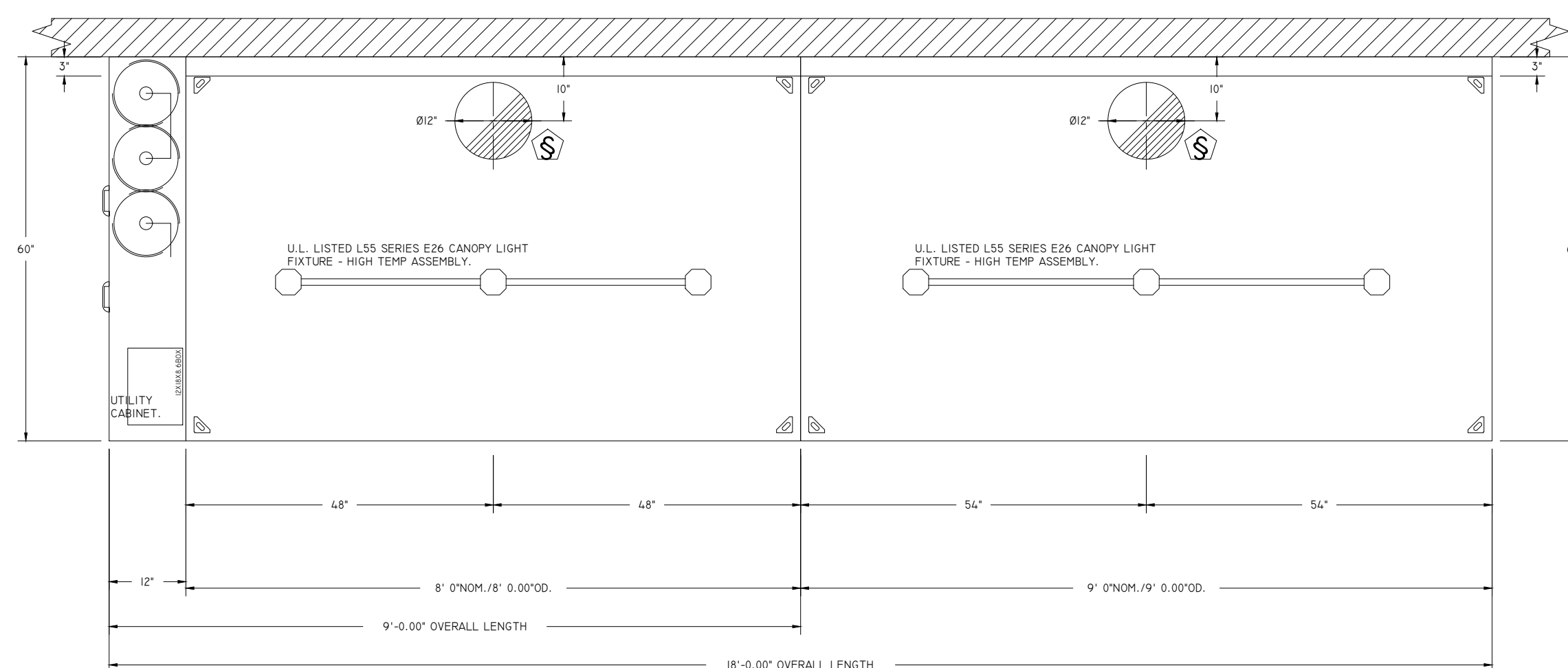
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HOOD INFORMATION - JOB#6838609

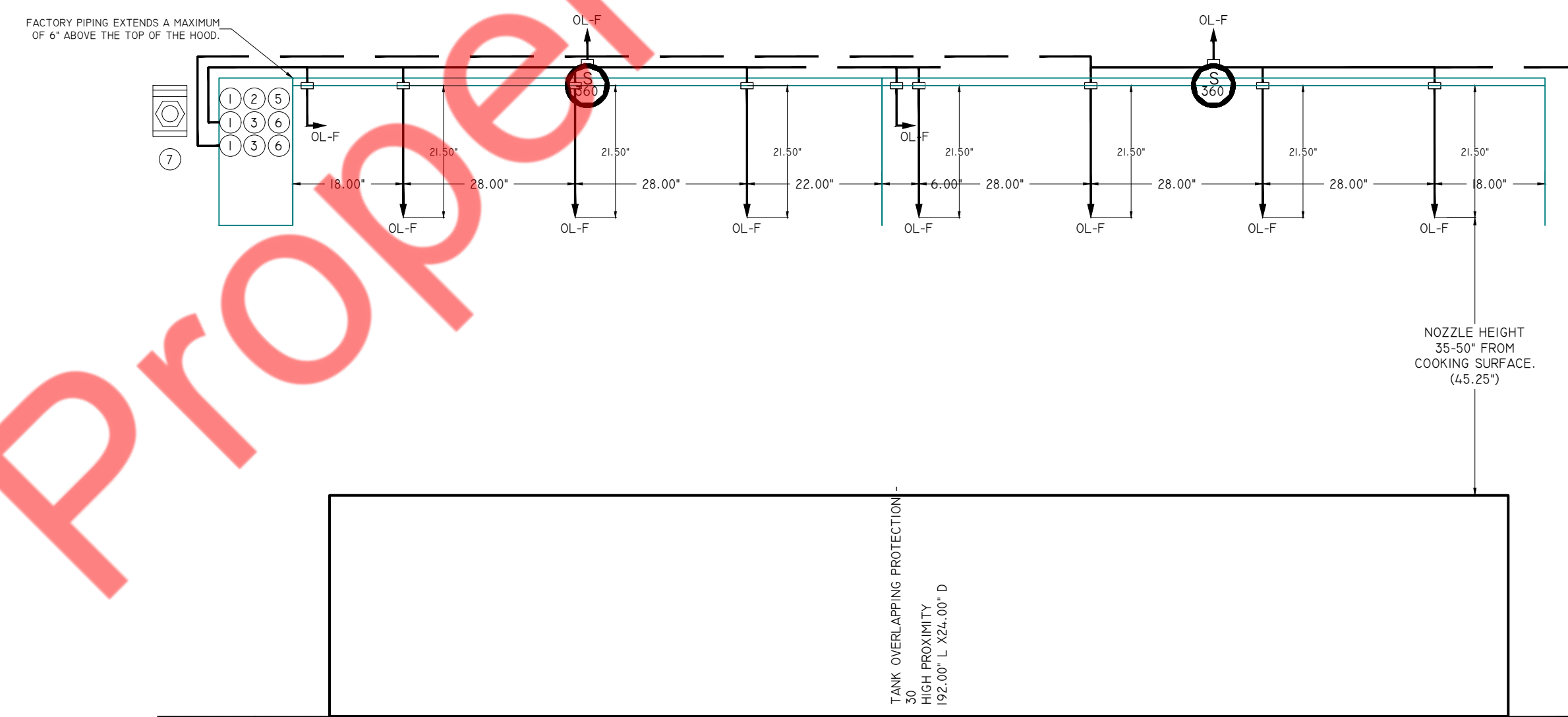
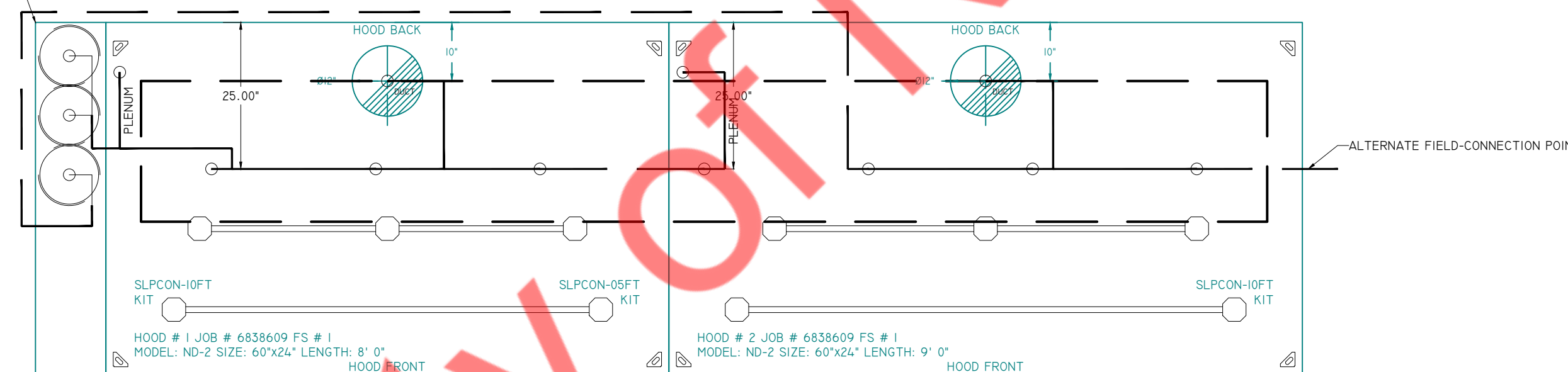
HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM (RISERS)				HOOD CONSTRUCTION	HOOD CONFIG		
										WIDTH	LENG	HEIGHT	DIA		CFM	VEL	SP
1		602L AH-ND-2	ADVANCED HOOD	8' 0"	450 DEG	I	MEDIUM	170	1360	4"	12"	1360	1732	-0.756"	430 SS WHERE EXPOSED	LEFT	ALONE
2		602L AH-ND-2	ADVANCED HOOD	9' 0"	450 DEG	I	MEDIUM	170	1530	4"	12"	1530	1948	-0.924"	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S)			FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
												TYPE	SIZE	ELECTRICAL MODEL #		
1		CAPTRATE SOLO FILTER	5	16"	16"	85% SEE FILTER SPEC	3	L55 SERIES E26	NO	LEFT	12"x60"x24"	TANK FS	4.0/4.0/4.0		YES	775 LBS
2		CAPTRATE SOLO FILTER	6	16"	16"	85% SEE FILTER SPEC	3	L55 SERIES E26	NO						YES	410 LBS



* 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 13 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS.



FIRE SYSTEM INFORMATION - JOB#6838609

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	51	FIRE CABINET LEFT	LEFT, HOOD 1

FOR QUESTIONS, CALL THE
ADVANCED HOODS SYSTEMS, LLC
REGION I&O
PHONE: 407-269-4813
EMAIL: SCOTT@ADVANCEDHOODSYSTEMS.COM

REVISIONS	
NO	DESCRIPTION

ADVANCED HOODS SYSTEMS
HOOD SYSTEMS
Advanced Hoods Systems, LLC
FL PHONE: FAX: 9192275974 EMAIL: scott@advancedhoodsystems.com

** HUEY MAGOOS SPRINGFIELD MO
2252 EAST SUNSHINE STREET,
SPRINGFIELD, MO, 65804

DATE: 6/4/2024
DWG.#: 6838609
DRAWN BY: SPT
SCALE: 3/4" = 1'-0"
MASTER DRAWING
SHEET NO. 1



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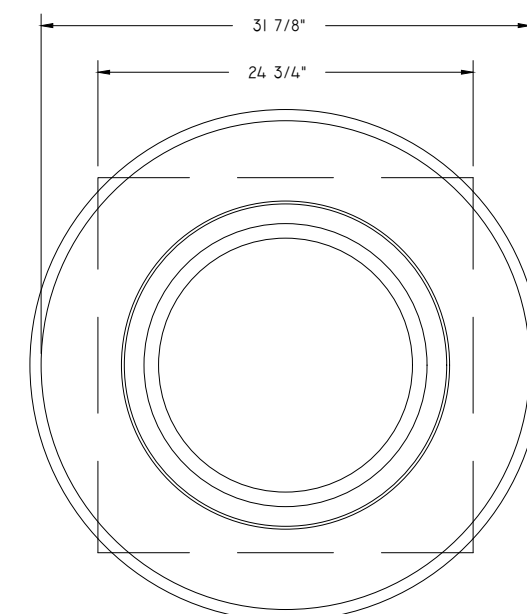
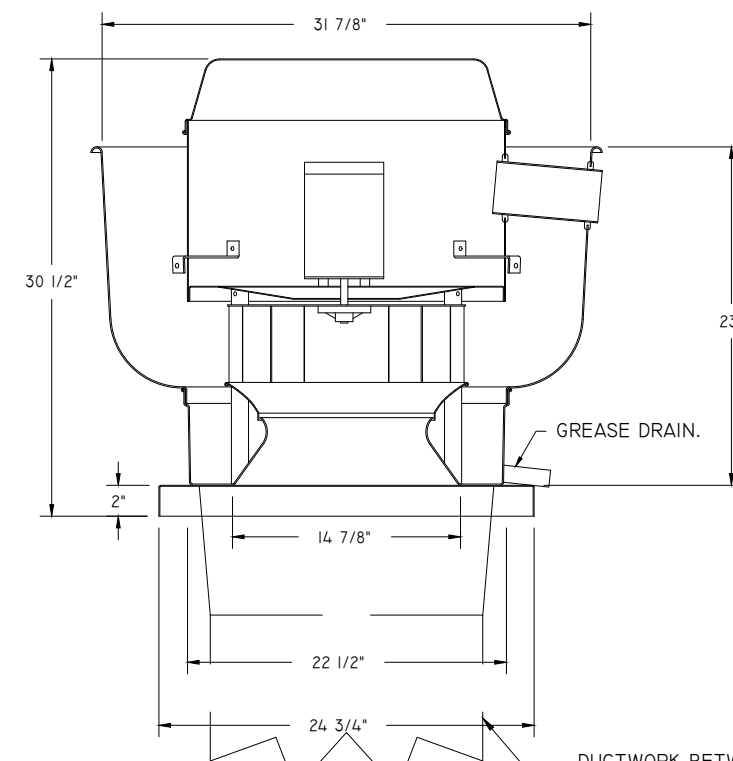
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1	BD COMMENTS	NYE	08/30/24

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M6.0
FILE#: JDS
DATE: 05/29/24
PM: NYE
CM: NYE

EXHAUST FAN INFORMATION - JOB#6838609

FAN UNIT NO.	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
2		1	AH-DUBSHFA	ADVANCED HOOD	1560	1.500	1459	ODP	0.750	0.5380	3	208	2.6	430 FPM	107	13.3
3		1	AH-DUBSHFA	ADVANCED HOOD	1530	1.350	1445	ODP	0.750	0.5220	3	208	2.6	484 FPM	96	13

FAN #2 AH-DUBSHFA - EXHAUST FAN



TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL767 AND ILC-5645
- 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.

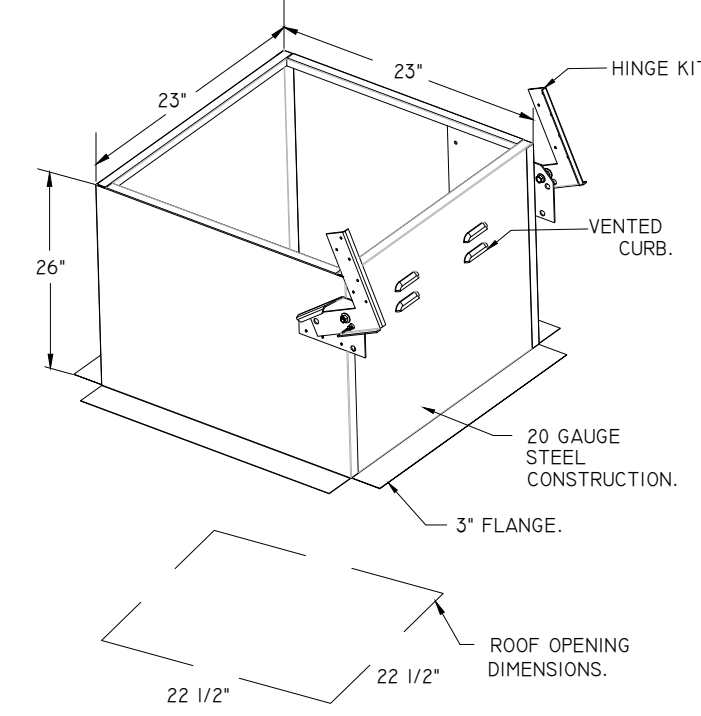
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

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.

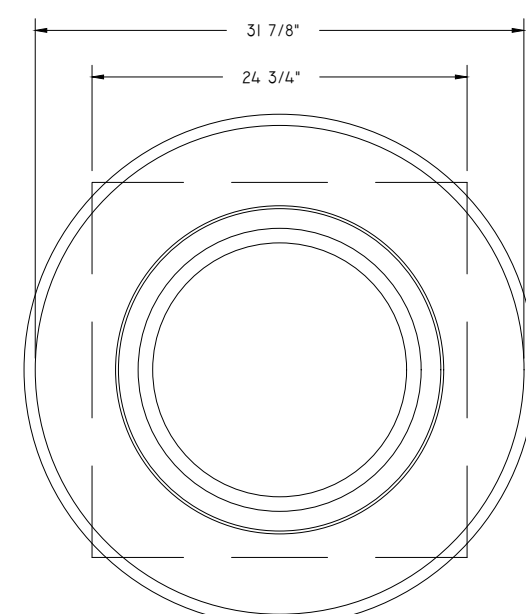
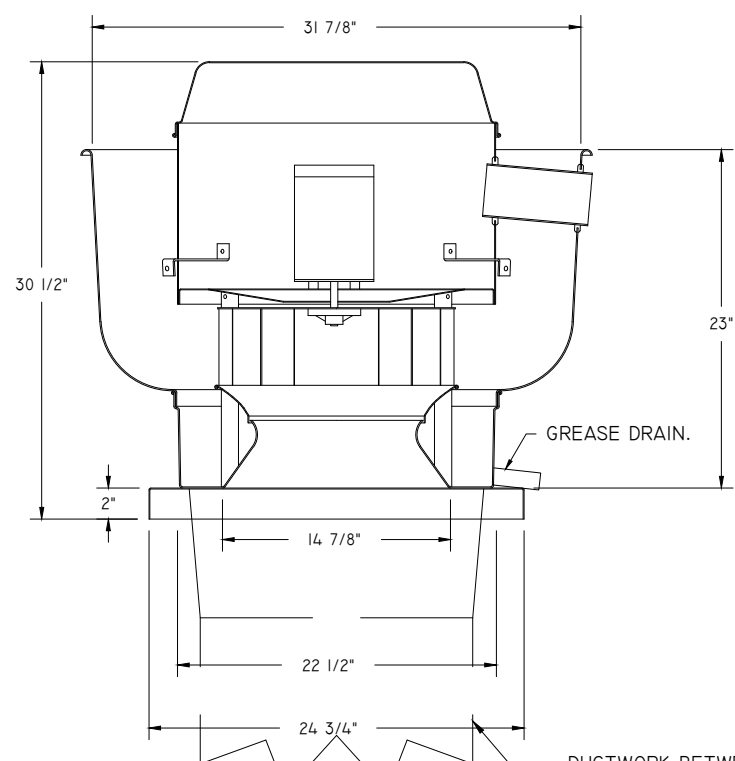
OPTIONS:

- GREASE BOX.
- FAN BASE CERAMIC SEAL - DUORSHFA
- INSTALLED AT PLANT - FOR GREASE DUCTS.
- UNIT MOUNTED WFD FOR USE WITH ECMPDS.
- WFD MOUNTING BRACKET FOR DU 50 & 85.
- 2 YEAR PARTS WARRANTY.

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



FAN #3 AH-DUBSHFA - EXHAUST FAN



TOP VIEW

FEATURES:

- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL767 AND ILC-5645
- 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.

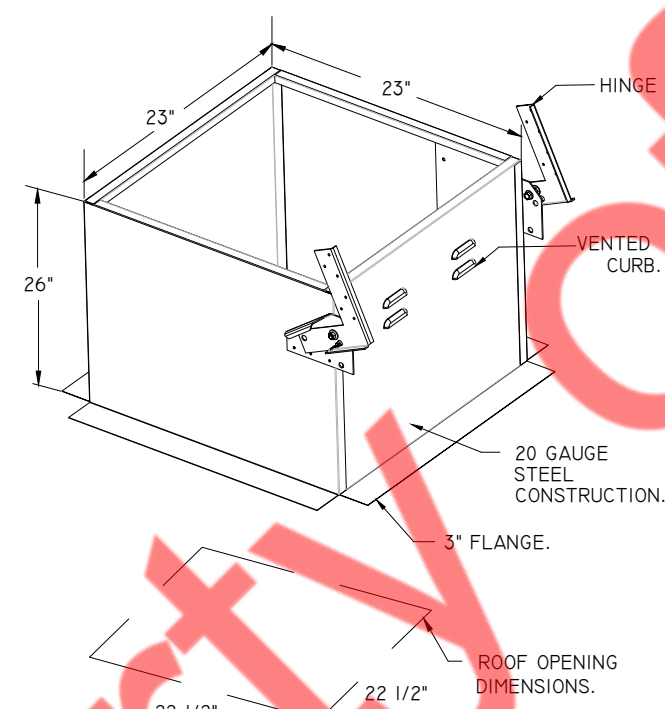
NORMAL TEMPERATURE TEST
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM, AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

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.

OPTIONS:

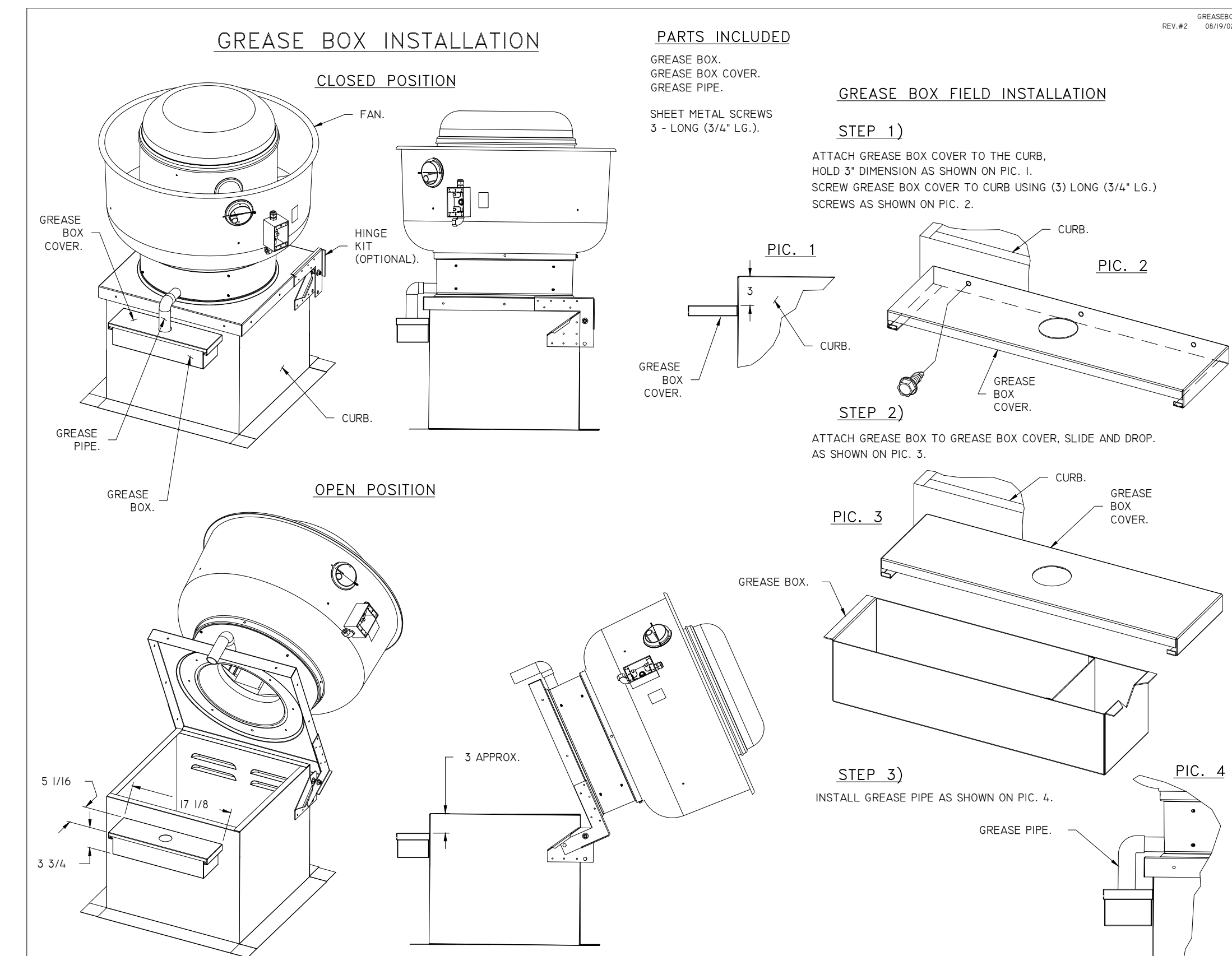
- GREASE BOX.
- FAN BASE CERAMIC SEAL - DUORSHFA
- INSTALLED AT PLANT - FOR GREASE DUCTS.
- 2 YEAR PARTS WARRANTY.

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



Property of NY Engineers

FOR QUESTIONS, CALL THE
ADVANCED HOODS SYSTEMS, LLC
REGION 140
PHONE: 407-269-4810
EMAIL: SCOTT@ADVANCEDHOODSYSTEMS.COM



REVISIONS

NO.	DESC.	DATE

ADVANCEEE HOOD SYSTEMS
Advanced Hoods Systems, LLC
11 FL. PHONE: FAX: 9192275974 EMAIL: scott@advancedhoodsystems.com

** HUEY MAGOOS SPRINGFIELD MO
2252 EAST SUNSHINE STREET,
SPRINGFIELD, MO, 65804

DATE: 6/4/2024
DWG.#: 6838609
DRAWN BY: SPT
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 2



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FILE#: JDS
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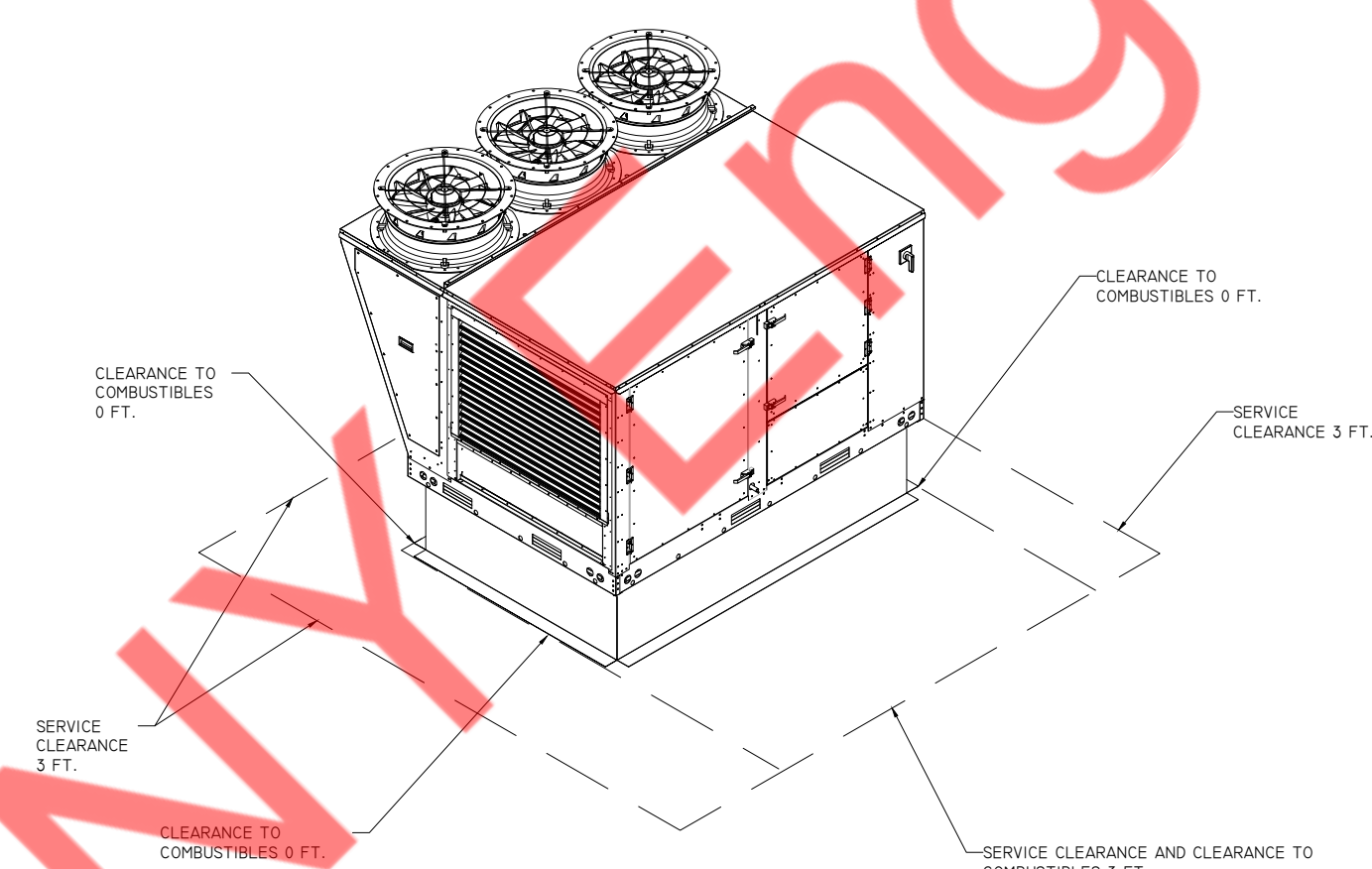
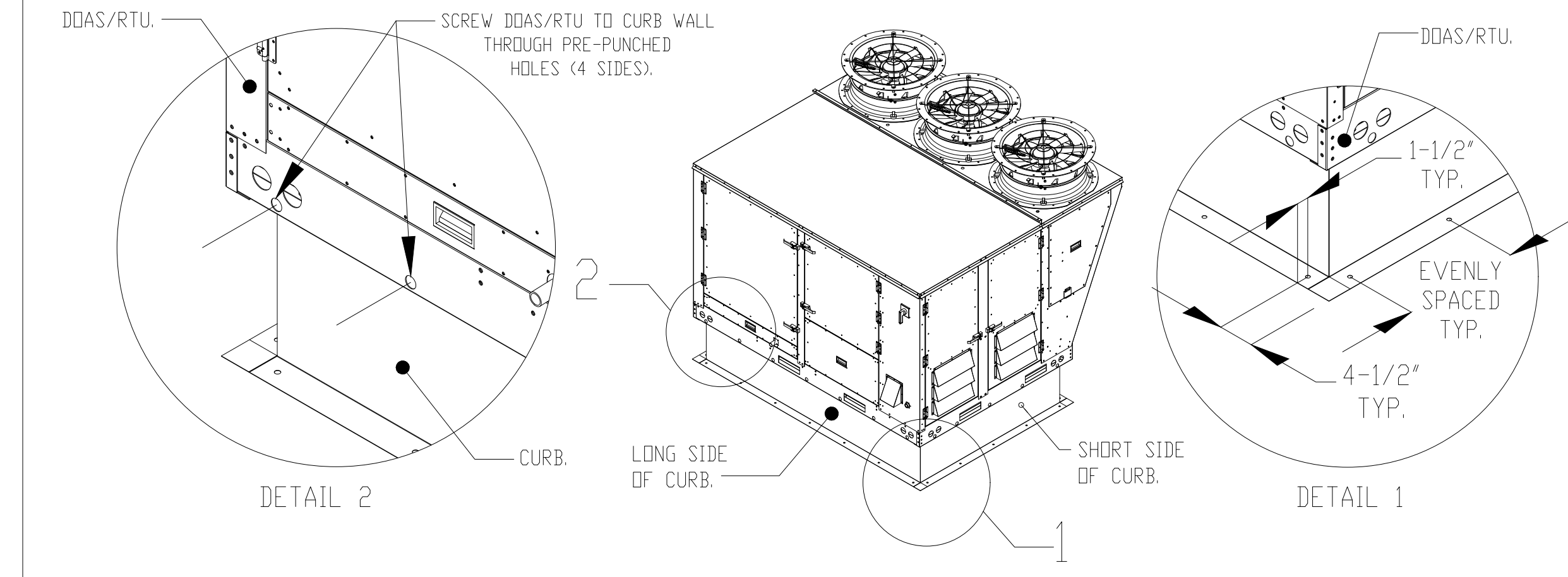
DOAS/RTU FAN SCHEDULE - JOB#6838609

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	MOCP	OUTSIDE AIR DB	WB	DB	WB	DP	TOTAL CAPACITY	SENS.	IEER	ISMRE	DISCHARGE DB	WB	DESIRED CAPACITY	MAX	MOISTURE REMOVAL RATE		GAS TYPE	INPUT BTUS	OUTPUT BTUS	TEMP RISE	REQUIRED INPUT GAS PRESSURE
1		1	AHRTU3-1300-18-20T-DOAS	ADVANCED HOOD	18P-3	0	2850	2850	2621	1.000	2.00	3	208	79.1A	80A	95.3°F	74.1°F	44.3°F	44.3°F	44.4°F	241.0 MBH	145.6 MBH	18.2	6.0	70.0°F	55.5°F	80 MBH	129.6 MBH	87.5 LBS/HR	NATURAL	261214	21583	64°F	7 IN. W.C. - 14 IN. W.C.	1,2,3,4,5,6,7,8,9,10,11,12,13,14

- NOTES:
- INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
 - DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
 - INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
 - REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
 - EC MOTOR CONDENSING FANS
 - ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
 - SUCTION LINE ACCUMULATOR
 - FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
 - AVERAGING INTAKE, EXHAUST AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
 - 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 1/4GA BASE
 - 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
 - SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
 - FULLY MODULATING HOT GAS REHEAT
 - DOWN DISCHARGE/NO RETURN

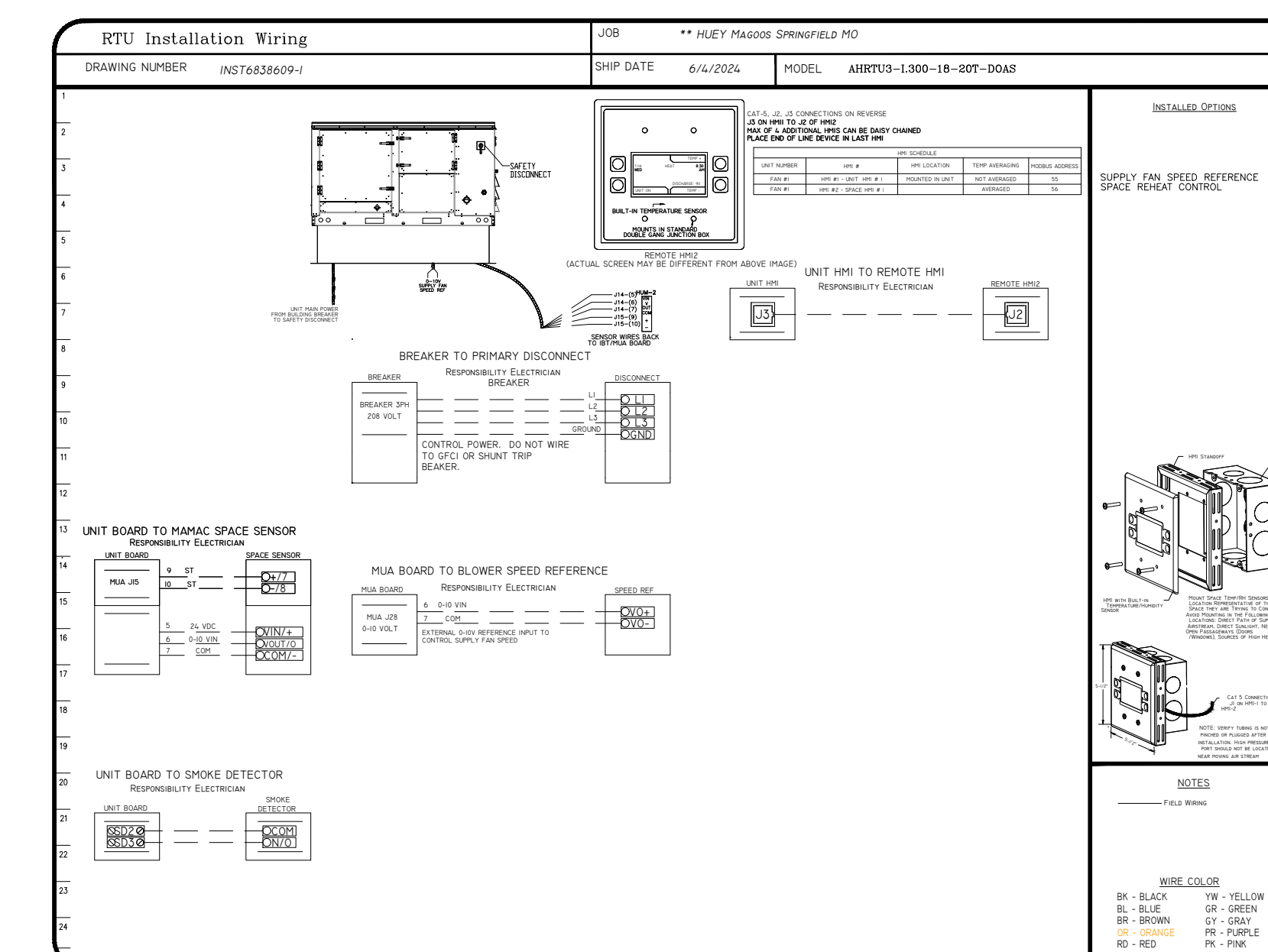
TYPICAL DOAS/RTU ROOF MOUNTING INSTALLATION INSTRUCTIONS

- 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.
- 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.



FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	TOTAL CFM MONITORING
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU, 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #28, #47, #MA, OR #E2 PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	RTU DOWN DISCHARGE
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4)
		1	OVERHEAT STAT
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	RTU3 NO RETURN - 100% OA
		1	REMOTE TEMPERATURE AND HUMIDITY SPACE SENSOR
		1	RTU3 CURB DUCT HANGER
		1	COMMERCIAL SMOKE DETECTOR/ALARM INTERLOCK - ALARM SUPPLIED BY OTHERS
		1	OCCUPIED SCHEDULING
		1	20 TON MODULATING COOLING OPTION, 208/230V. R410A REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	20 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL - R410A
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 260°F
2		1	UNIT MOUNTED VFD CONFIGURED FOR DCV
		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	GREASE BOX
		1	FAN BASE CERAMIC SEAL - DU/DR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	UNIT MOUNTED VFD FOR USE WITH ECPM03
3		1	VFD MOUNTING BRACKET FOR DU 50 & 85
		1	2 YEAR PARTS WARRANTY
		1	GREASE BOX
4		1	FAN BASE CERAMIC SEAL - DU/DR8SHFA - INSTALLED AT PLANT - FOR GREASE DUCTS
		1	2 YEAR PARTS WARRANTY



FOR QUESTIONS, CALL THE
 ADVANCED HOODS SYSTEMS, LLC
 REGION I/CO
 PHONE: 407-269-4813
 EMAIL: SCOTT@ADVANCEDHOODSYSTEMS.COM

REVISIONS	
NO.	DESCRIPTION

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 Advanced Hoods Systems, LLC
 . . FL . . PHONE: FAX: 9192275974 EMAIL: scott@advancedhoodsystems.com



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 382 NE 191ST STREET SUITE
 49674, MIAMI, FL 33179
 PH-914.257.3455
 WWW.NY-ENGINEERS.COM

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0	PERMIT SET	NYE	07/31/24
1	BD COMMENTS	NYE	08/30/24

** HUEY MAGOOS SPRINGFIELD MO
 2252 EAST SUNSHINE STREET,
 SPRINGFIELD, MO, 65804

DATE: 6/4/2024
 DWG.#: 6838609
 DRAWN BY: SPT
 SCALE: 3/4" = 1'-0"
 MASTER DRAWING

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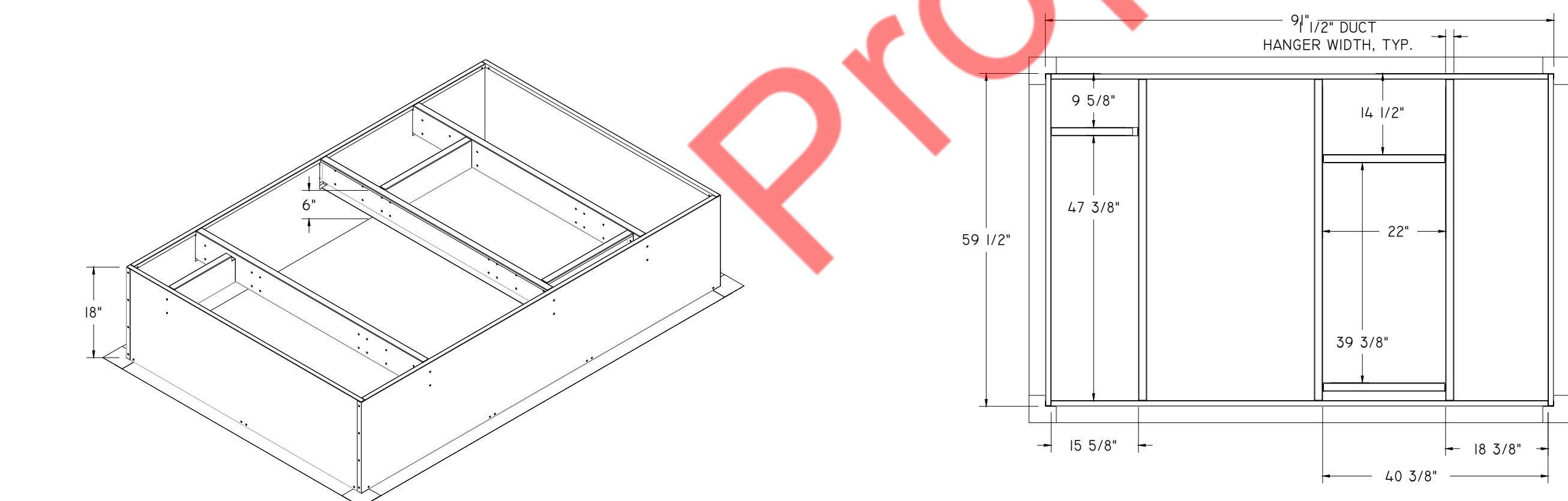
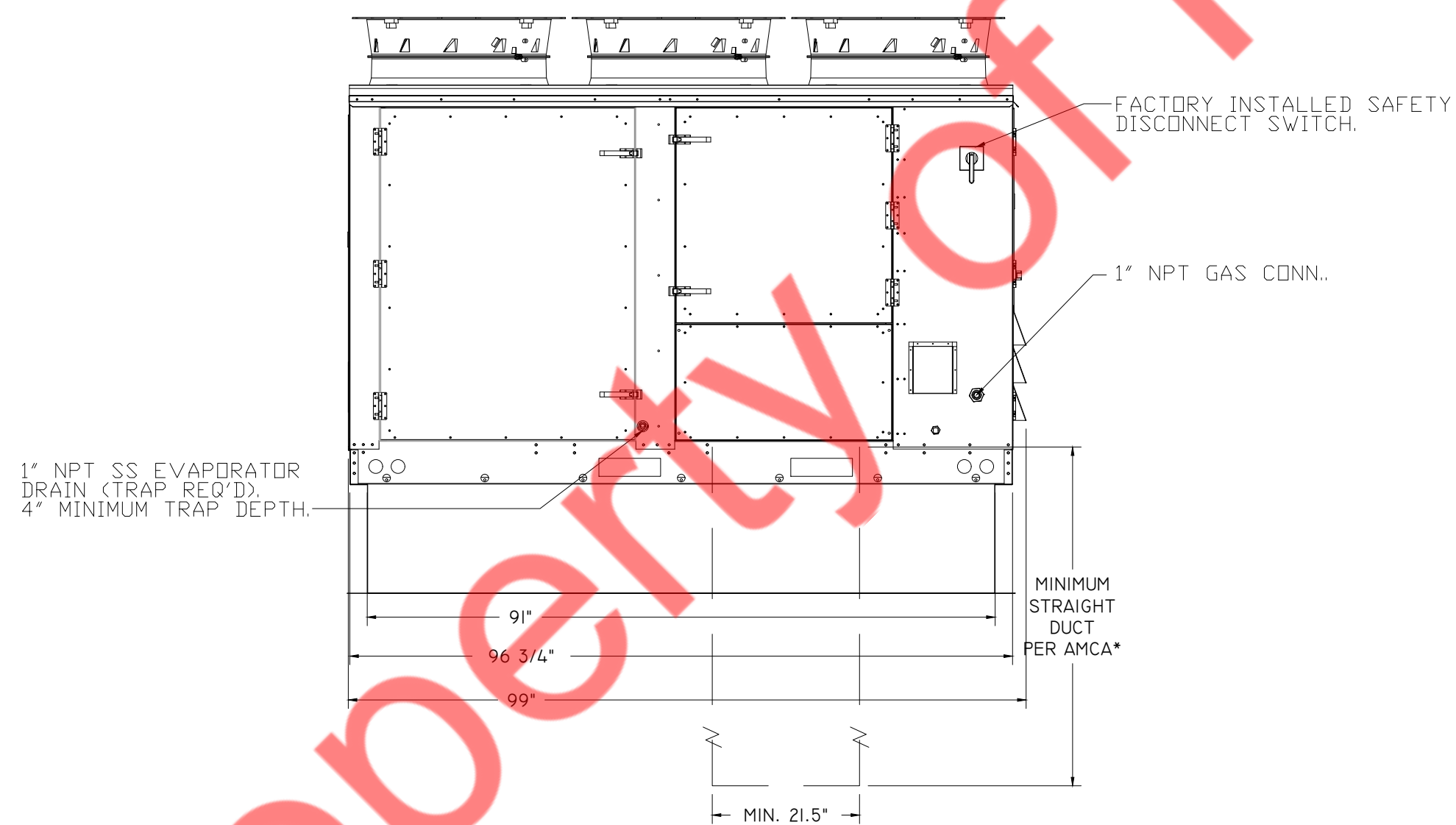
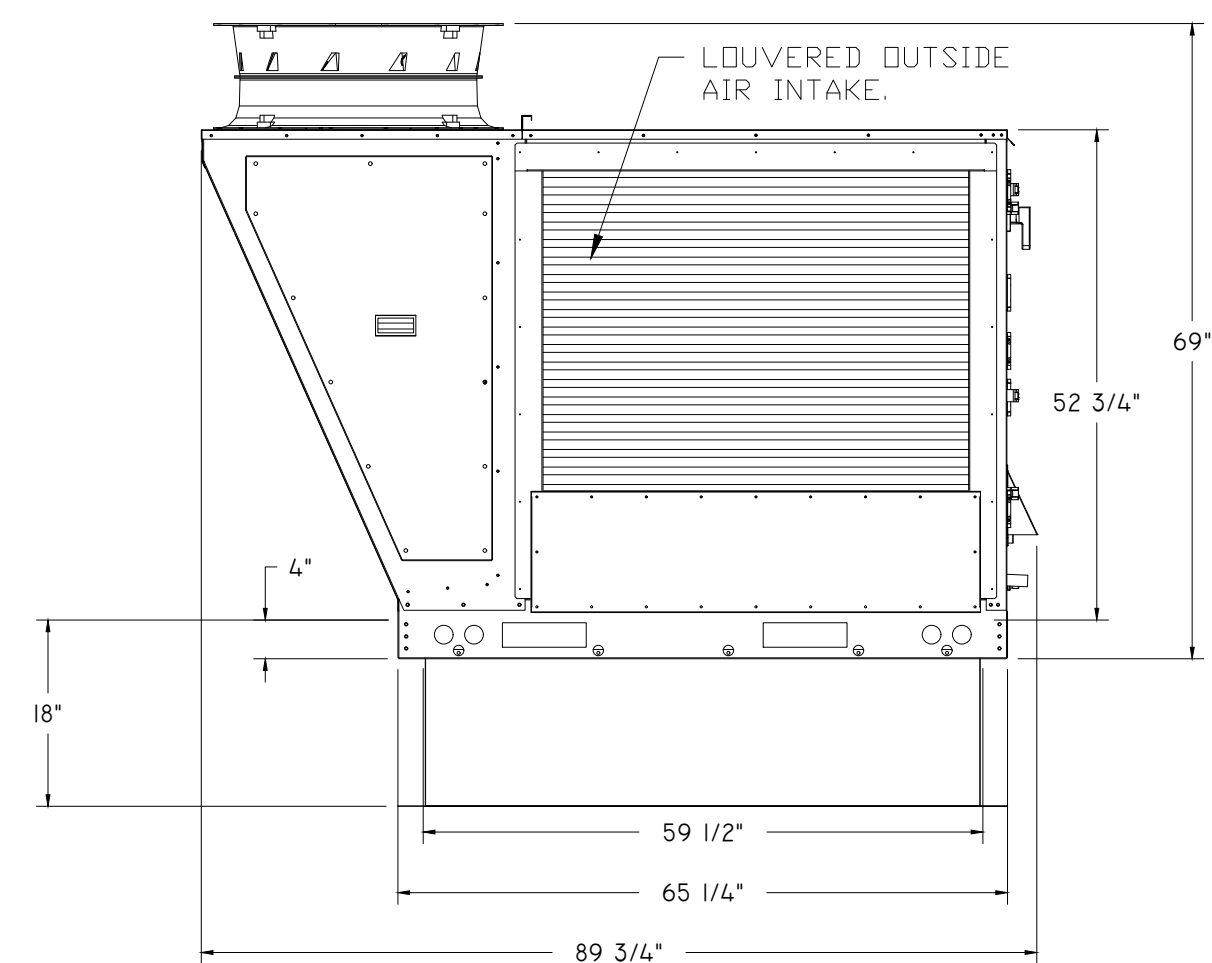
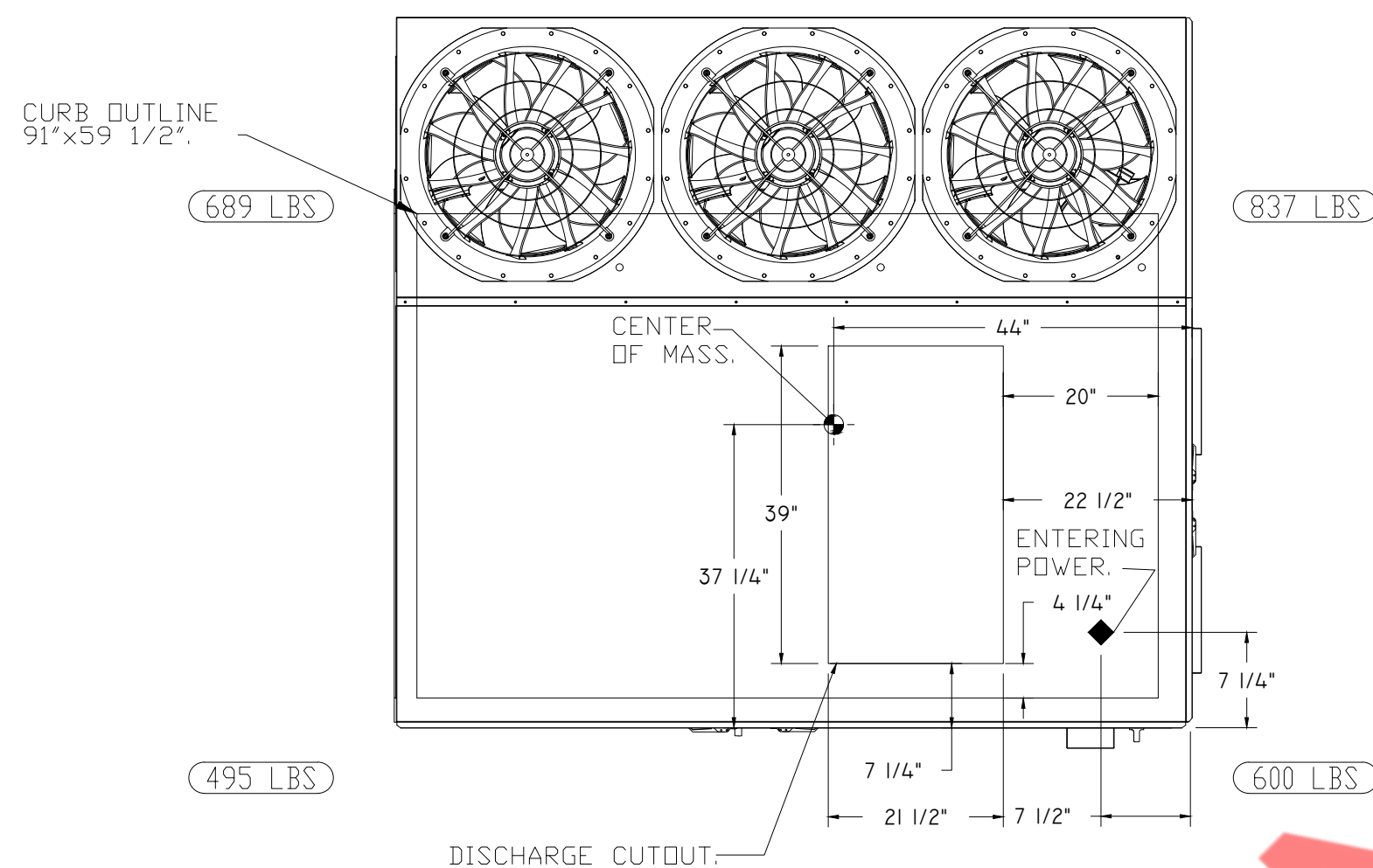
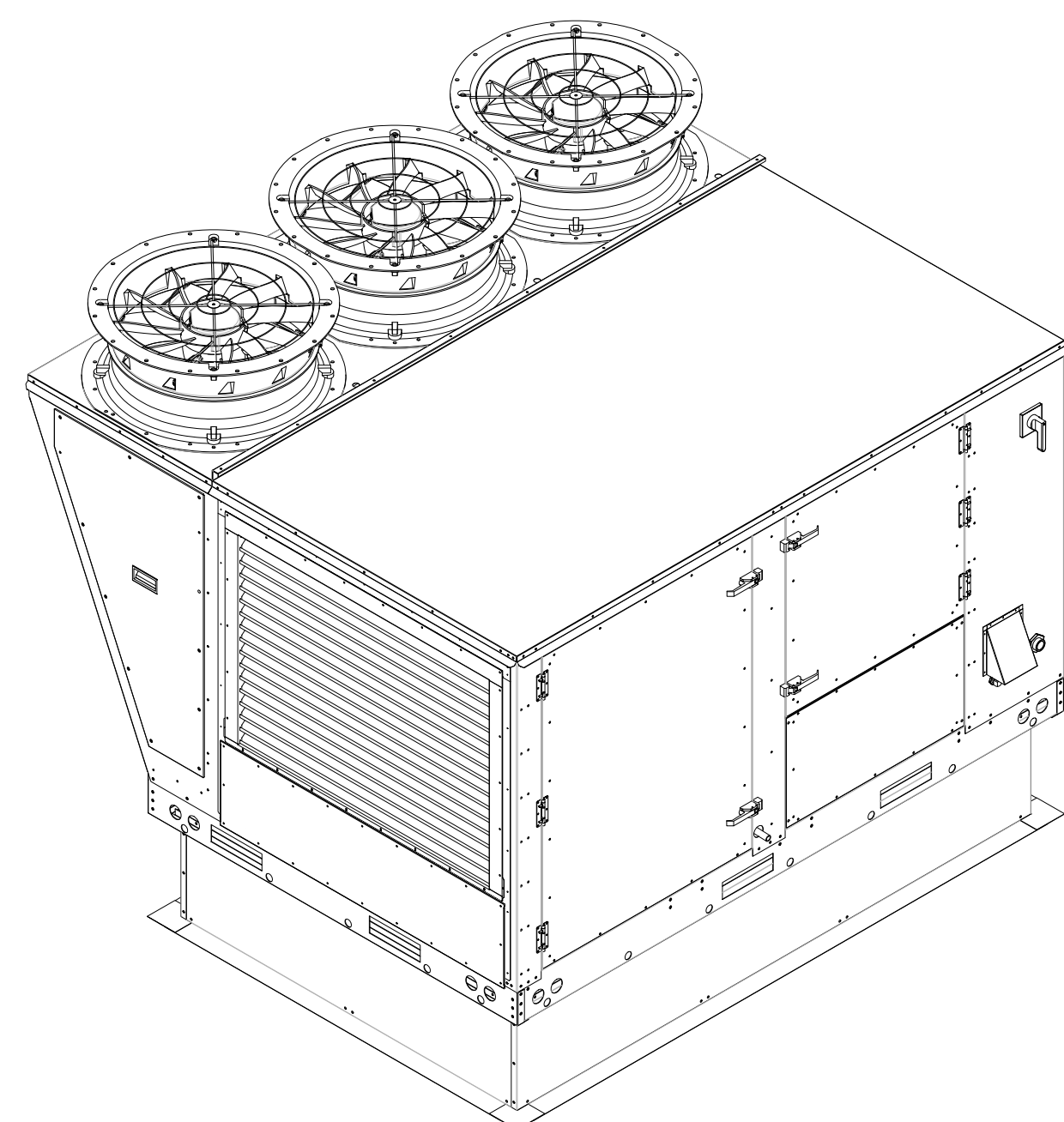
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 FILE#: JDS
 DATE: 05/29/24
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 CM: NYE

FAN #1 AHRTU3-1.300-18-20T-DOAS - HEATER

NOTES:

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
- Ø 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.

*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 21.5" x 39".



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Advanced Hoods Systems, LLC
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SPRINGFIELD, MO, 65804

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SHEET
M6.3
FILE#: JDS
DATE: 05/29/24
PM: NYE
CM: NYE

ELECTRICAL PACKAGE - JOB#6838609

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	Φ	HP	VOLT	FLA
1		SC-3211010A	WALL MOUNT IN SS BOX	SS WALL MOUNT BOX	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY	SUPPLY	3	2.000	208	8.3
					1 FAN		EXHAUST	3	0.750	208	2.6
							EXHAUST	3	0.750	208	2.6

FOR QUESTIONS, CALL THE
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NO	DESCRIPTION



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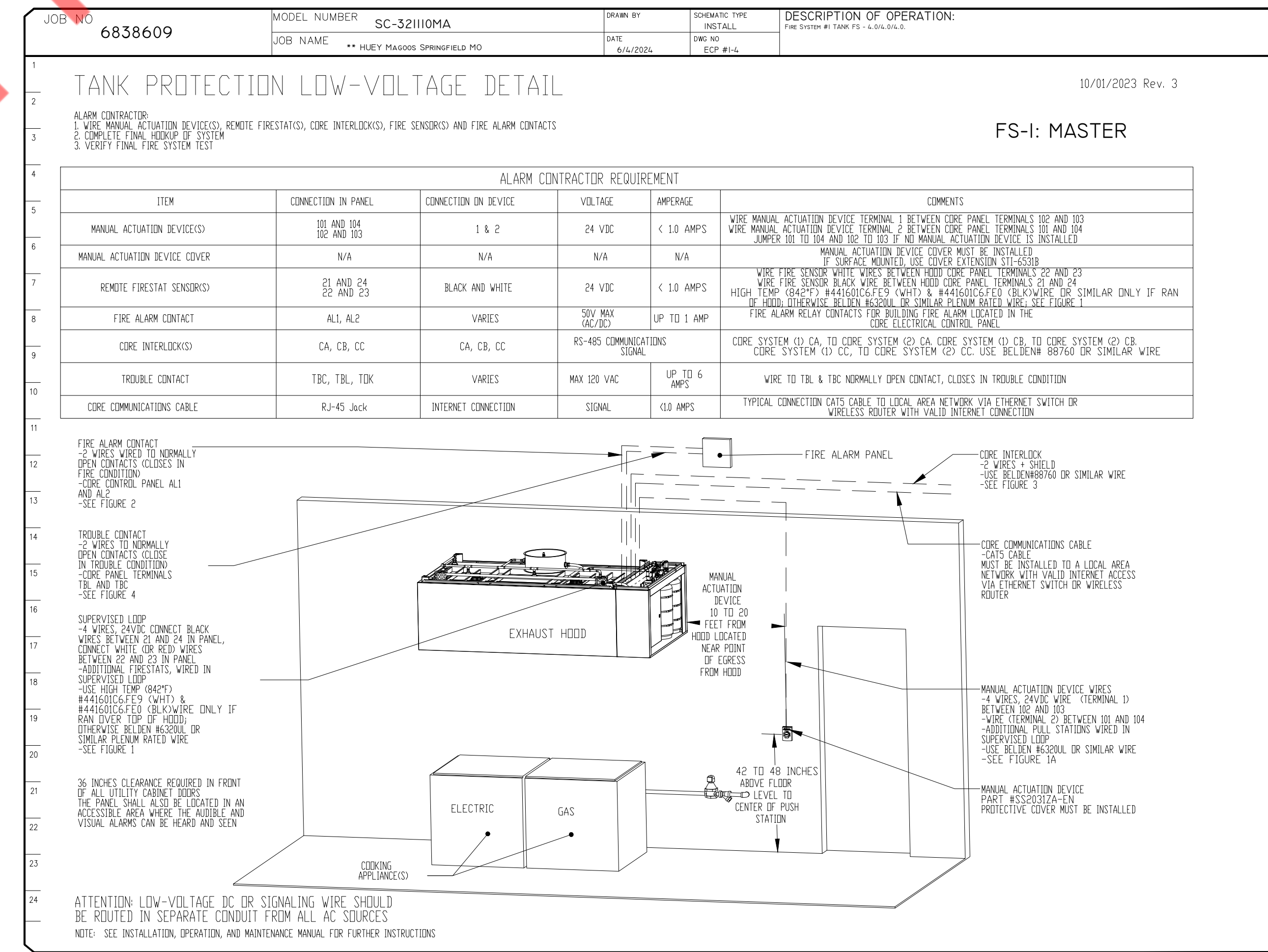
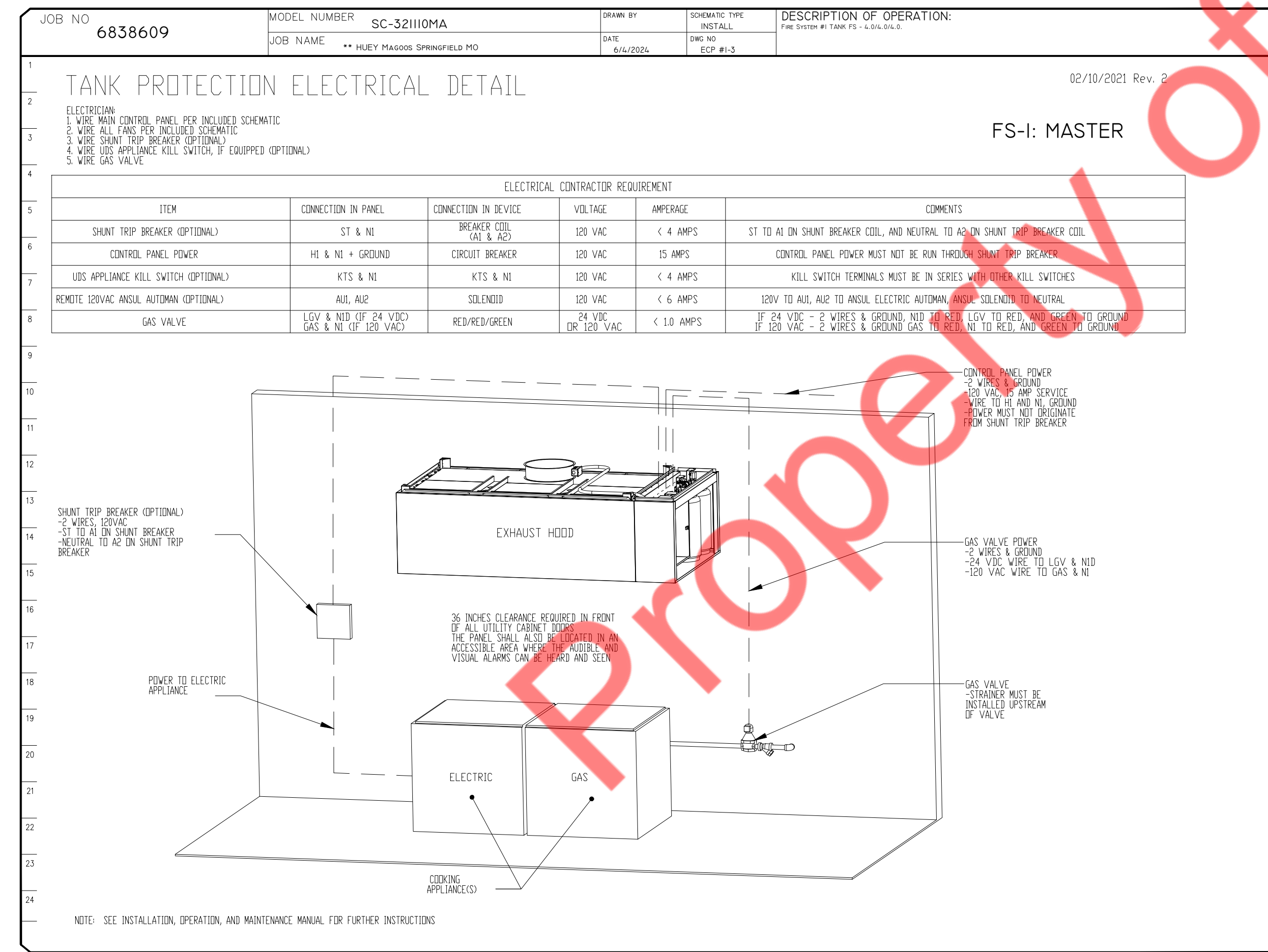
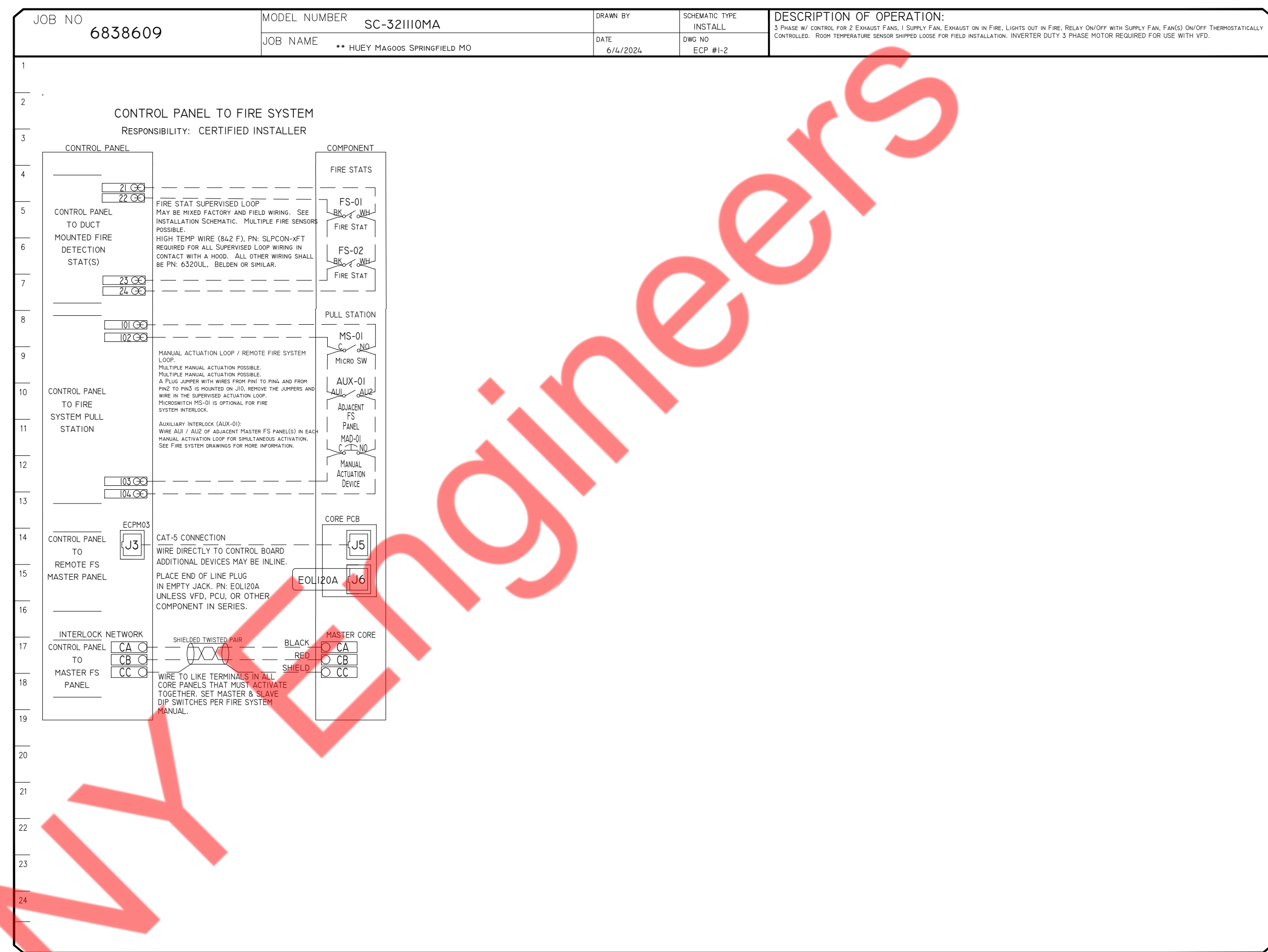
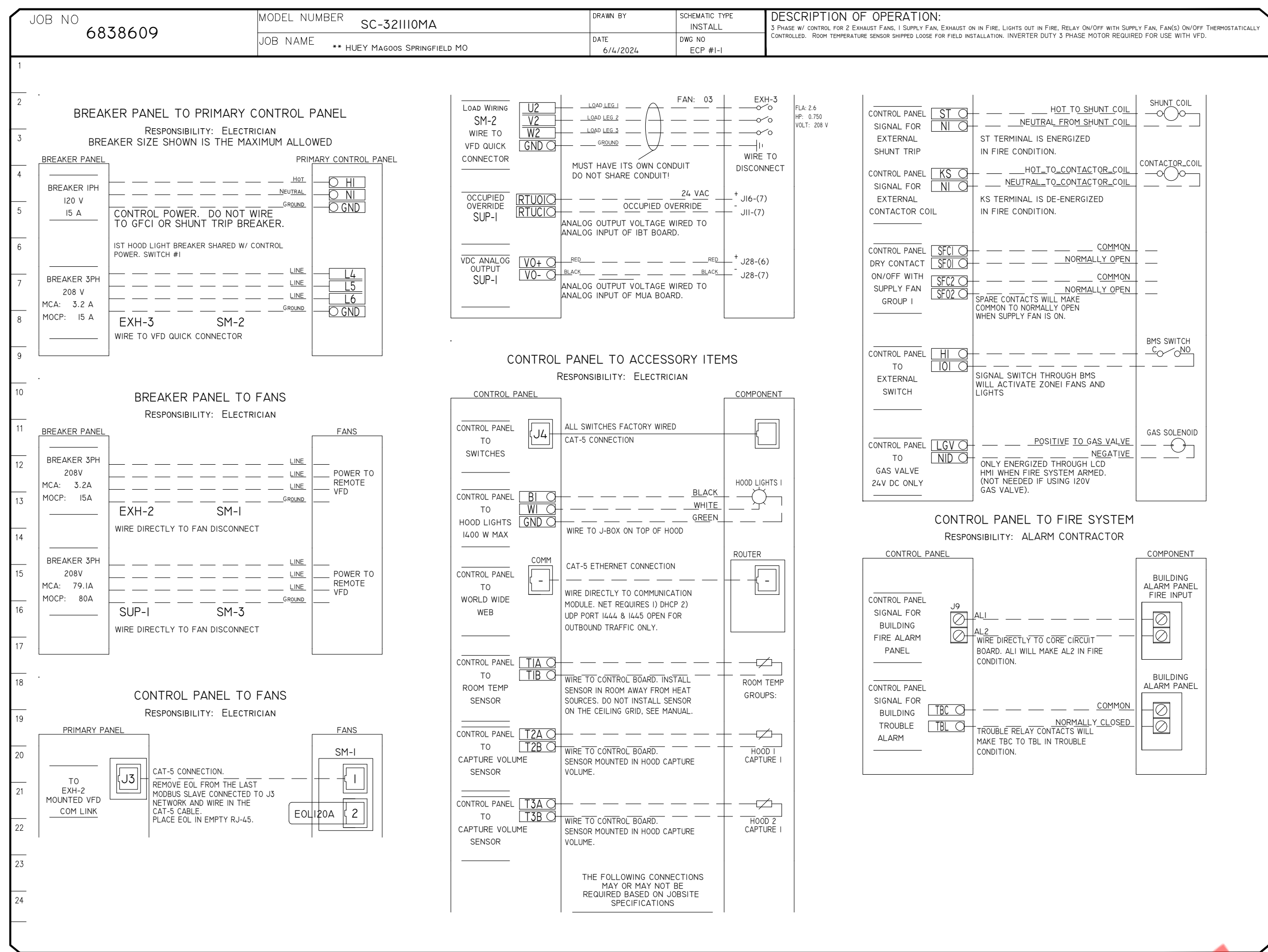
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SHEET NO. 5

SHEET
M6.4
 FILE#: JDS
 DATE: 05/29/24
 PM: NYE
 CM: NYE





COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code: 2018 IECC
Project Title: HUEY MAGOOS - SPRINGFIELD
Location:
Climate Zone: 4a
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
NY ENGINEERS
382 NE 191ST ST.
SUITE 49674
MIAMI, FL 33179

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

Mechanical Systems List

Quantity System Type & Description

- 1 RTU-1 (Single Zone):
Heating: 1 each - Central Furnace, Gas, Capacity = 120 kBtu/h
Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et or 80% AFUE
Cooling: 1 each - Single Package DX Unit, Capacity = 94 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 12.10 EER, Required Efficiency = 11.00 EER
Proposed Part Load Efficiency = 16.60 IEER, Required Part Load Efficiency = 12.60 IEER
- 1 DOAS-1 (Unknown):
Heating: 1 each - Central Furnace, Gas, Capacity = 261 kBtu/h
Proposed Efficiency = 81.00% Et, Required Efficiency: 80.00 % Et
Cooling: 1 each - Single Package DX Unit, Capacity = 241 kBtu/h, Air-Cooled Condenser, Air Economizer
Proposed Efficiency = 9.90 EER, Required Efficiency = 9.80 EER
Proposed Part Load Efficiency = 18.20 IEER, Required Part Load Efficiency = 11.40 IEER

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS 07/31/2024
Name - Title Signature Date



Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 07/03/24
Data filename: Page 1 of 9

Section # & Req. ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] ¹	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.6.3 [PL7] ³	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.7 [PL8] ³	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 07/03/24
Data filename: Page 4 of 9



COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR2] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9] ¹	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 07/03/24
Data filename: Page 2 of 9

Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41] ¹	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.8.1 [ME65] ¹	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Individual exhaust fans with motor nameplate horsepower less than 1 hp. See the Mechanical Systems list for values.
C403.8.3 [ME117] ¹	Fans have efficiency grade (IEG) >= 67. The total efficiency of the fan at the design point of operation <= 15% of maximum total efficiency of the fan.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Fans integral to equipment listed under Section C403.2.3.
C403.12.1 [ME71] ²	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME113] ¹	Fault detection and diagnostics installed with economizer unitary DX units having economizers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [ME59] ¹	Natural or mechanical ventilation is provided in accordance with Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.7.1 [ME59] ¹	Demand control ventilation provided for spaces >500 ft ² and >25 people/1000 ft ² occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.2 [ME115] ¹	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.6 [ME141] ¹	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.4 [ME57] ¹	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.5 [ME116] ¹	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 07/03/24
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Section # & Req. ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C403.12.2 [FO9] ¹	Snow/ice melting system and freeze protection systems have sensors and controls configured to limit service for pavement temperature and outdoor temperature. Future connection to controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

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Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.11.1 [ME60] ²	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5, C403.5.1, C403.5.2 [ME62] ¹	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME124] ¹	Air economizers automatically reduce minimum outdoor air quantity when outdoor air intake will not reduce cooling energy usage. See Table C403.5.3.3 for applicable device types and climate zones.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME125] ¹	System capable of relieving excess outdoor air during air economizer operation to prevent overpressurizing the building. The relief air outlet located to avoid recirculation into the building.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.5.3 [ME126] ¹	Return, exhaust/relief and outdoor air dampers used in economizers have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Reference section C403.7.7 for details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1 [ME63] ²	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45°F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60°F and cooling setpoint >= 80°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.3.3 [ME35] ¹	HVAC hot gas bypass limited to: <=240 kBtu/h - 50% >240 kBtu/h - 25%	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.2 [ME53] ¹	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.5, C403.5.1, C403.5.2 [ME123] ¹	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) 2 | Medium Impact (Tier 2) 3 | Low Impact (Tier 3)

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CM: NYE

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26]²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.7 [EL27]²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.8.2.1 [EL28]²	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.9 [EL29]²	Total voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.3 [F18]¹	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.2 [F127]¹	HVAC systems and equipment capacity does not exceed calculated loads.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.1 [F147]¹	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.4.1.2 [F138]¹	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.1.3 [F120]¹	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.2 [F139]¹	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C403.2.4.2.1, C403.2.4.2.2 [F140]¹	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406.4 [F154]¹	Enhanced digital lighting controls efficiency package: Interior lighting has following enhanced lighting controls in accordance with Section C405.2.2: Luminaires capable of continuous dimming and being addressed individually, <= 8 luminaires controlled in combination in a daylight zone, digital control system for fixtures, "Sequence of Operations" documentation, and functional testing per Section C408.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.1.1 [F157]¹	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.1 [F128]¹	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

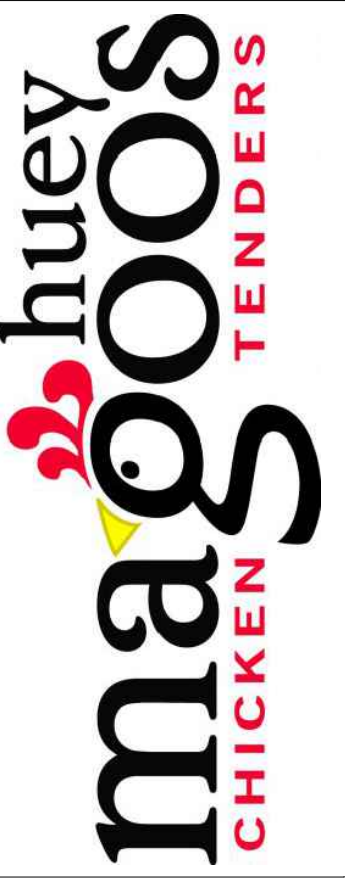
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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.3.1 [F131]¹	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3.2 [F110]¹	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.3.3 [F132]¹	Economizers have been tested to ensure proper operation.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.4 [F129]¹	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C408.2.5.1 [F17]¹	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5.3 [F143]¹	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.2.5.4 [F130]¹	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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SECTION 233713 - DIFFUSERS, REGISTERS, AND GRILLES

1.1 PRODUCTS

- A. DIFFUSERS, REGISTERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS. ALL REGISTERS AND DIFFUSERS SHALL BE PRIME COATED STEEL OR EXTRUDED ALUMINUM FINISHED UNLESS OTHERWISE NOTED IN BAKED WHITE ENAMEL.
- B. MANUFACTURERS: METALAIR
 - 1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING:
 - a. CARNES.
 - b. HART & COOLEY INC.
 - c. KRUEGER.
 - d. TITUS, INC.
 - e. NAILOR INDUSTRIES INC.
 - f. RUSKIN
- C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.
- D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

THERMOSTATIC CONTROLS:

C403.4.1 THERMOSTATIC CONTROLS
 THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, NOT FEWER THAN ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES, GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED THAT BOTH OF THE FOLLOWING CONDITIONS ARE MET:

THE PERIMETER SYSTEM INCLUDES NOT FEWER THAN ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN ± 45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15 240 MM).

THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.4.1.2 DEADBAND
 WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:

THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.

OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C403.4.1.3 SETPOINT OVERLAP RESTRICTION
 WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE CONFIGURED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

EXCEPTION: CONTROL OF HEATING OR COOLING PROVIDED BY SITE-RECOVERED ENERGY OR TRANSFER AIR THAT WOULD OTHERWISE BE EXHAUSTED.

C403.4.2 OFF-HOUR CONTROLS
 EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.

EXCEPTIONS:

ZONES THAT WILL BE OPERATED CONTINUOUSLY.

ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTU/H (2 KW) AND HAVING A MANUAL SHUTOFF SWITCH LOCATED WITH READY ACCESS.

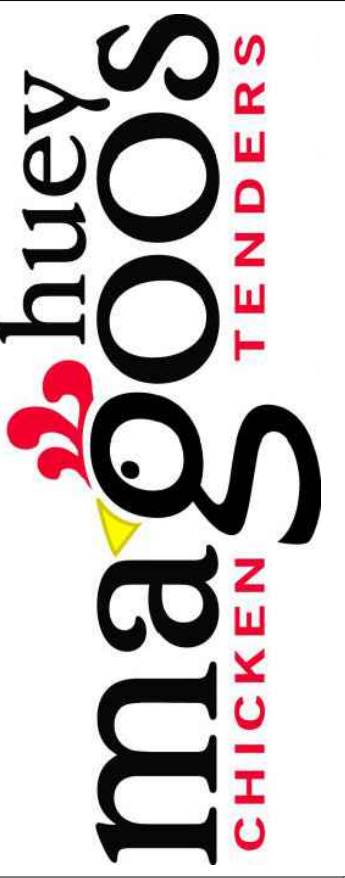
C403.4.2.1 THERMOSTATIC SETBACK
 THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN
 AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR NOT FEWER THAN 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.4.2.3 AUTOMATIC START (MANDATORY)

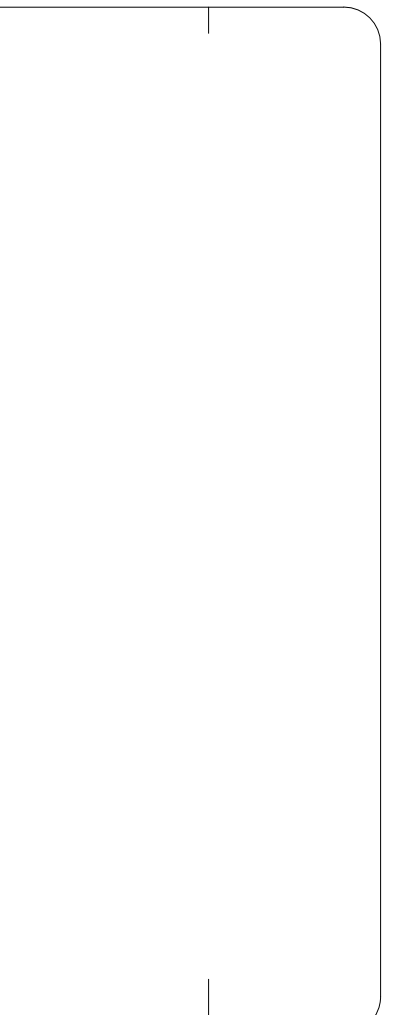
AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CONFIGURED TO AUTOMATICALLY ADJUST THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

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LEGEND: (NOT ALL SYMBOLS ARE USED WITHIN THIS SET OF DRAWINGS)

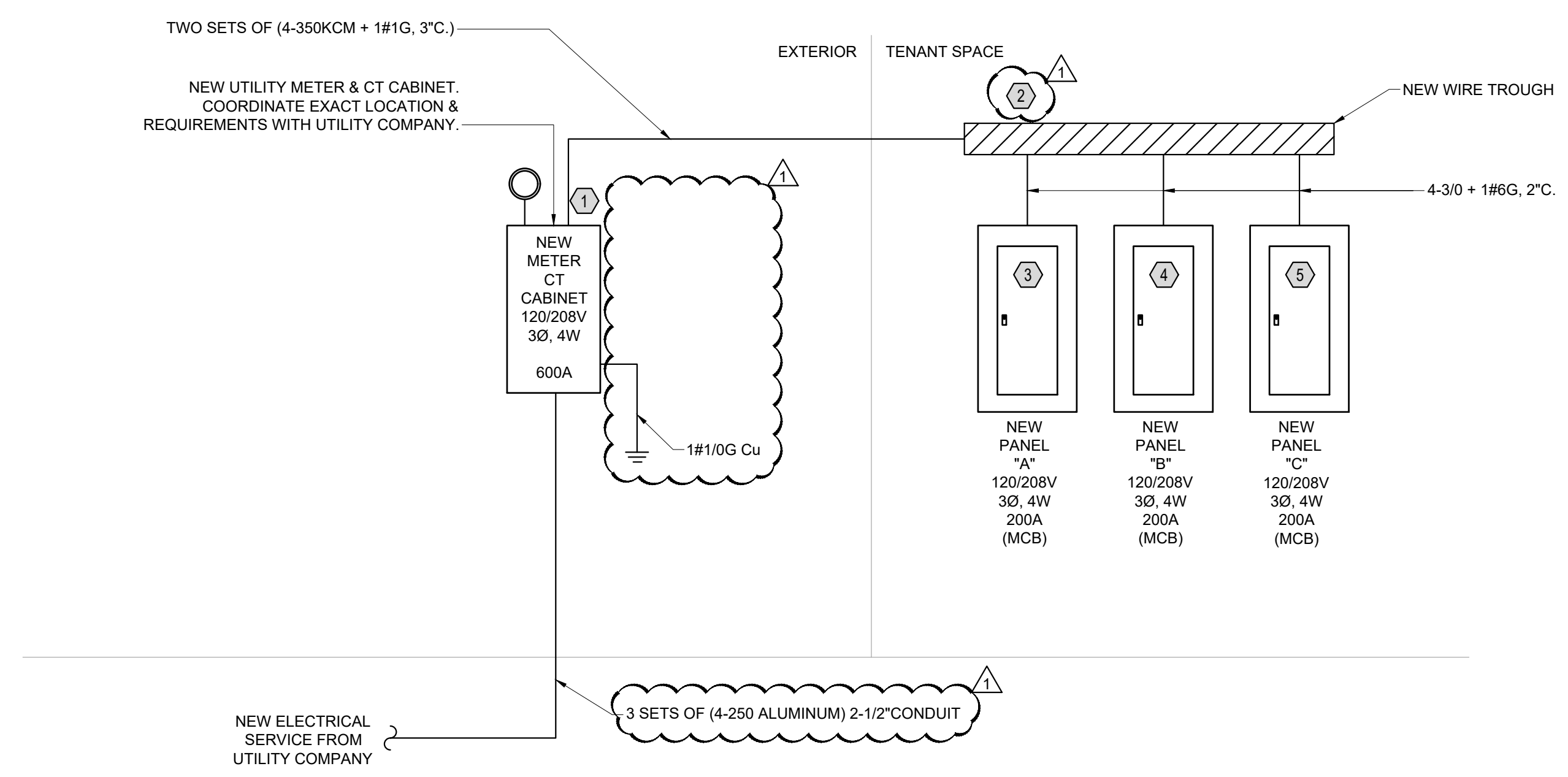
- LIGHTING**
- ⊗ EXIT LIGHT (HATCHING DENOTES FACE)
 - ↖ SURFACE MOUNTED OR RECESSED EMERGENCY LIGHTING FIXTURE
 - ⊕ SWITCH (P) PILOT LIGHT (R) ROTARY SWITCH
 - ⊕ MOTOR RATED SWITCH
 - ⊕ SWITCH (X) DENOTES CONTROL LABEL, (D) DENOTES DIMMER
 - ⊕ OCCUPANCY SENSOR
 - ⊕ WALL SWITCH, OCCUPANCY SENSOR COMBINATION
 - ⊕ PHOTOCELL OR DAYLIGHT SENSOR
 - ⊕ TIMECLOCK
 - ⊕ SPEAKER
- POWER**
- ⊕ SINGLE RECEPTACLE
 - ⊕ DUPLEX RECEPTACLE
 - ⊕ QUADRUPLUX RECEPTACLE
 - ⊕ CEILING MOUNTED RECEPTACLE
 - ⊕ LINE THRU CENTER OF RECEPTACLE DENOTES ABOVE COUNTER
 - ⊕ CENTER SHADING IN RECEPTACLE DENOTES ISOLATED GROUND
 - ⊕ TOP SHADING IN RECEPTACLE DENOTES GFCI PROTECTED
 - ⊕ SPECIAL PURPOSE RECEPTACLE (AS NOTED)
 - ⊕ TELEPHONE OUTLET
 - ⊕ DATA OUTLET
 - ⊕ VOICE/DATA COMBINATION OUTLET
 - ⊕ JUNCTION BOX
 - ⊕ MOTOR, FAN, PUMP OR AIR CONDITIONING UNIT
 - ▨ PANELBOARD
 - ⊕ FUSED DISCONNECT SWITCH, RATING AS NOTED.
 - ⊕ NON-FUSED DISCONNECT SWITCH, RATING AS NOTED.
- LOW VOLTAGE**
- ⊕ TELEPHONE OUTLET
 - ⊕ DATA OUTLET
 - ⊕ VOICE/DATA COMBINATION OUTLET
 - ⊕ SECURITY CAMERA, COORDINATE EXACT LOCATION WITH SECURITY VENDOR.
 - ⊕ WAP WIRELESS ACCESS POINT, PROVIDE CAT6 CABLE

ABBREVIATIONS

WP	WEATHERPROOF
AFF	ABOVE FINISHED FLOOR
UNO	UNLESS NOTED OTHERWISE
GFI	GROUND FAULT INTERRUPT
O.C	ON CENTER
ETR	EXISTING TO REMAIN
TR	TAMPER RESISTANT

STANDARD MOUNTING HEIGHTS

A.F.F. (IN.)	DESCRIPTION
84"	AUDIBLE APPLIANCES
48"	ALARMS
48"	ANNUNCIATOR PANELS
84"	CLOCK OUTLETS (CENTERLINE)
48"	CONTROLS (CENTERLINE)
80"	EXIT SIGNS (WALL MOUNTED, BOTTOM)
60"	FIRE ALARM ANNUNCIATOR PANEL (DISPLAY)
120"	FIRE ALARM BELL (EXTERIOR)
60"	FIRE ALARM CONTROL PANEL/UNIT (DISPLAY)
36"	INTERCOM (AREA ONLY)
48"	INTERCOMS
72"	PANELS/PANELBOARDS (TOP)
48"	PULL STATIONS (TOP OF BOX)
144"	PHOTOCELLS
18"	RECEPTACLES (CENTERLINE)
24"	RECEPTACLES (EXTERIOR)
28"	RECEPTACLES (GARAGES)
48"	RECEPTACLES IN EQUIPMENT ROOMS
48"	REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)
CEILING	REMOTE INDICATING LIGHT (FINISHED AREAS)
48"	SAFETY SWITCHES
48"	STARTERS
48"	SWITCHES (TOP OF BOX)
18@48" 1@36"	TELEPHONES (PUBLIC)
18"	TELEPHONE DATA OUTLETS (CENTERLINE)
6"	TELEPHONE TERMINAL BOARD (BOTTOM)
18"	TELEVISION OUTLETS
84"	VISIBLE APPLIANCES (CENTERLINE)



1
E0.0 **ELECTRICAL RISER DIAGRAM**
N.T.S

GENERAL NOTES:

- EXIT SIGNS AND EMERGENCY LIGHTS SHALL HAVE THEIR OWN SELF-CONTAINED STANDBY BATTERY POWER SUPPLY. IF LOCAL CODE REQUIRES A DIRECT TAP BEFORE ANY CIRCUIT BREAKERS THEN INCORPORATE INTO THE FEEDER DIAGRAM.
- LUMINAIRES INSTALLED IN CONTINUOUS ROWS SHALL BE GROUNDED WITH A CONDUCTOR ROUTED FROM LUMINAIRE TO LUMINAIRE, MOUNTED TO EACH WITH GROUNDING LUG OR SCREW. ALIGNING CLIPS ARE NOT ACCEPTABLE. LUMINAIRE GROUNDING SHALL BE INSTALLED IN COMPLIANCE WITH NATIONAL ELECTRICAL CODE, ARTICLE 410-21.
- CEILING LIGHTS ARE TO BE WIRED TO THE BAR JOIST MEMBERS AT THE DIAGONAL CORNERS.
- COORDINATE LIGHTING WITH SPRINKLER & MECHANICAL DRAWINGS.
- REFERENCE TO HEIGHT OF OUTLET OR RECEPTACLE SHALL BE MEASURED FROM FINISHED FLOOR TO CENTER OF OUTLET OR RECEPTACLE.
- ALL RECEPTACLES AND SWITCHES SHALL HAVE TWO (2) REVOLUTIONS OF ELECTRICAL TAPE (SCOTCH 33+) OVER ALL THE TERMINALS, TO PREVENT ACCIDENTAL CONTACT WITH THE JUNCTION BOX OR OUTLET BOX.
- CONDUIT SIZE TO BE PER NEC. PVC CONDUIT AND FITTINGS ARE ACCEPTABLE ONLY BELOW SUBBASE MATERIAL OF GROUND BEARING FLOOR SLABS WHERE SUCH USE IS ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
- ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX AND CONDUIT STUB-UP ABOVE CEILING FOR ALL LOW VOLTAGE CABLING.
- DIMENSION IS FROM FINISHED WALL, SEE ARCHITECTURAL FOR WALL THICKNESS.
- FIELD COORDINATE EXACT LOCATION OF OUTLETS AS DETERMINED BY THE ACTUAL FURNITURE LAY OUT. VERIFY WITH FIXTURE PLAN.
- COORDINATE WITH OTHER DISCIPLINES FOR ELECTRICAL REQUIREMENTS OF EQUIPMENT NOT SHOWN ON DETAILS (i.e. ROOF-TOP UNITS, UNIT HEATERS, FANS, ETC.).
- EC SHALL VERIFY IN FIELD ALL KITCHEN EQUIPMENT CONNECTIONS AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION OF DEVICES. VERIFY ALL DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH FOOD SERVICE CONTRACTOR. EC SHALL MAKE ADJUSTMENTS IN FIELD TO MATCH ACTUAL EQUIPMENT BEING INSTALLED, AS DIRECTED BY THE FOOD SERVICE CONTRACTOR.
- CONTRACTOR IS REQUIRED TO INSTALL STANDARD RECEPTACLES FOR CIRCUITS DEDICATED TO SPECIFIC EQUIPMENT. SUBJECT TO THE APPROVAL OF CODE ENFORCING AGENCY.
- ALL 125V, SINGLE PHASE 15 AMP AND 20 AMP RATED RECEPTACLES INSTALLED IN THE LOCATIONS SPECIFIED IN NEC ART 210.8 (B)(1) - (B) SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION.
- NOTE THAT THE ISOLATED GROUNDING TYPE RECEPTACLES AND CLOCK TYPE RECEPTACLES LOCATED IN THE KITCHEN/SERVING AREA SHALL BE PROTECTED BY GROUND FAULT TYPE CIRCUIT BREAKERS RATHER THAN GROUND FAULT TYPE RECEPTACLES SINCE THESE RECEPTACLES ARE NOT AVAILABLE AS GROUND-FAULT TYPE RECEPTACLES. GFCI BREAKERS REQUIRE A DEDICATED NEUTRAL (NOT SHARED) TO OPERATE PROPERLY.
- SERVICE CONDUCTORS ARE DESIGNED BASED ON THE SERVICE DISTANCE OF 100' TO MEET THE 2% VOLTAGE DROP PER NEC. IF SERVICE CONDUCTOR IS BETWEEN:
 - 100' TO 150' - E.C. SHALL INCREASE THE CONDUCTOR BY ONE SIZE(S) LARGER THAN DESIGN
 - 150' TO 200' - E.C. SHALL INCREASE THE CONDUCTOR BY TWO SIZE(S) LARGER THAN DESIGN
 - 200' TO 250' - E.C. SHALL INCREASE THE CONDUCTOR BY THREE SIZE(S) LARGER THAN DESIGN
- BRANCH CONDUCTORS ARE DESIGNED BASED ON A DISTANCE OF 100' TO MEET THE 3% VOLTAGE DROP PER NEC. IF BRANCH CONDUCTOR IS BETWEEN:
 - 100' TO 150' - E.C. SHALL INCREASE THE CONDUCTOR BY ONE SIZE(S) LARGER THAN DESIGN
 - 150' TO 200' - E.C. SHALL INCREASE THE CONDUCTOR BY TWO SIZE(S) LARGER THAN DESIGN
 - 200' TO 250' - E.C. SHALL INCREASE THE CONDUCTOR BY THREE SIZE(S) LARGER THAN DESIGN
- E.C. IS TO VERIFY WITH LOCAL AHJ FOR REQUIREMENT OF EXTERIOR EMERGENCY EGRESS LIGHTING AND ADJUST BID TO INCORPORATE AS NEEDED.
- A.I.C OF PANELS AND SERVICE ENTRANCE EQUIPMENT IS BASED ON TYPICAL TRANSFORMER SPECIFICATIONS. CONTRACTOR SHALL FIELD VERIFY EXACT UTILITY A.I.C RATING AND MAKE EQUIPMENT ADJUSTMENTS AS REQUIRED IN THE FIELD AT NO EXTRA COST TO OWNER. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY FIELD CHANGES BASED ON UTILITY EQUIPMENT DATA.

KEYED NOTES:

- NEW 600AMP, 120/208VOLT, 3-PHASE METER & CT CABINET FOR THE PROJECT SPACE. E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD WITH UTILITY/OWNER.
- NEW WIRE TROUGH FOR THE PROJECT SPACE. E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER.
- NEW 200AMP, 120/208VOLT, 3-PHASE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE. E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER.
- NEW 200AMP, 120/208VOLT, 3-PHASE ELECTRICAL PANEL "B" FOR THE PROJECT SPACE. E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER.
- NEW 200AMP, 120/208VOLT, 3-PHASE ELECTRICAL PANEL "C" FOR THE PROJECT SPACE. E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD WITH ARCHITECT/OWNER.

FIELD VERIFY ALL CONDITIONS:

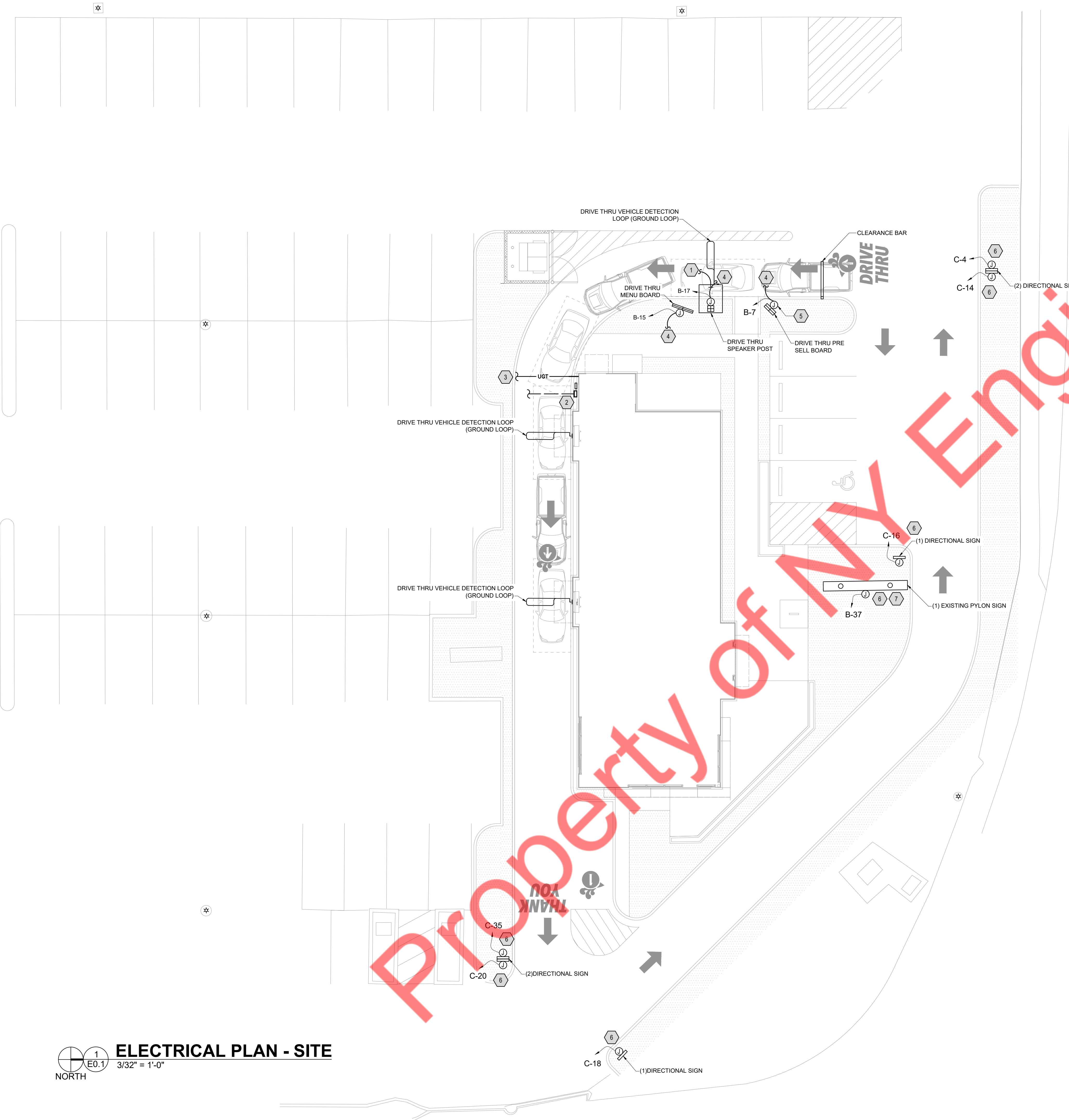
NOTE! ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT A THOROUGHLY REVIEWED AND COORDINATION OF ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE PROVIDER TO THE SATISFACTION OF THE OWNER AND/OR ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN THE BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF ALL CODES, REGULATIONS, UTILITY REQUIREMENTS, LAWS AND ORDINANCES APPLICABLE TO THIS SITE AND SHALL INCLUDE IN THE BID THE COSTS FOR ALL WORK PROVIDED IN STRICT ACCORDANCE WITH THESE GOVERNING ITEMS, THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER AND/OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT FOR DIRECTIONS.

SHEET LIST

SHEET NUMBER	SHEET TITLE
ELECTRICAL	
E0.0	LEGENDS, GENERAL NOTES AND RISER DIAGRAM
E0.1	ELECTRICAL PLAN - SITE
E1.0	ELECTRICAL PLAN - LIGHTING
E2.0	ELECTRICAL PLAN - POWER
E2.1	ELECTRICAL PLAN - ROOF
E3.0	ELECTRICAL PLAN - LOW VOLTAGE
E4.0	ELECTRICAL DETAILS
E5.0	ELECTRICAL SCHEDULES
E7.0	LIGHTING COMPLIANCE
E8.0	ELECTRICAL SPECIFICATIONS
E8.1	ELECTRICAL SPECIFICATIONS
E8.2	ELECTRICAL SPECIFICATIONS
E9.0	PHOTOMETRIC LAYOUT



- KEYED NOTES #
- 1" CONDUIT WITH PULL STRING TO RIS SYSTEM. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 - NEW ELECTRICAL SERVICE, ELECTRICAL METER & CT CABINET, E.C. SHALL VERIFY THE EXACT LOCATION IN FIELD IN COORDINATION WITH UTILITY/OWNER.
 - ONE 4" UNDERGROUND PVC CONDUIT WITH PULL STRING PER TELEPHONE UTILITY COMPANY'S SPECIFICATIONS AND REQUIREMENTS FOR TELEPHONE SERVICE. COORDINATE EXACT ROUTING AND STUB-UP LOCATION WITH THE TELEPHONE UTILITY COMPANY AND CLEARLY MARK STUB-UP LOCATION. STUB-UP LOCATIONS INDICATED ARE BASED ON INFORMATION THAT WAS AVAILABLE DURING DESIGN. SUBMIT A LINEAL FOOT UNIT PRICE WITH THE BID FOR ADDITIONAL CONDUIT, OF EACH SIZE AND TYPE INDICATED. IN THE EVENT THE FINAL UTILITY COMPANY DIRECTED STUB-UP LOCATION DIFFERS FROM WHAT IS INDICATED ON THE PLAN.
 - PROVIDE 1" U.G. CONDUIT AND DATA WIRING FOR EXTERIOR MENU BOARD/CANOPY. EXTEND CONDUIT AND DATA FROM DRIVE THRU SYSTEM EQUIPMENT ON INTERIOR OF BUILDING, RUN CONDUIT WIRING DOWN INSIDE INTERIOR WALL, STUB OUT OF BUILDING, AND EXTEND CONDUIT INTO TRENCH TO MENU BOARD. CONDUIT STUB-UP AT MENU BOARD SHALL BE INSIDE FOOTING/SUPPORT POST OF MENU BOARD, OR OTHER APPROVED LOCATION. PROVIDE ALL REQUIRED DATA WIRING AS DIRECTED BY DRIVE THRU SYSTEM EQUIPMENT PROVIDER/INSTALLER. FINAL CONNECTION TO MENU BOARD, DETECTOR LOOP AND OTHER ASSOCIATED EQUIPMENT SHALL BE MADE BY DRIVE THRU SYSTEM EQUIPMENT PROVIDER/INSTALLER. MENU BOARD CIRCUIT SHALL BE ROUTED THRU EXTERIOR TIME CLOCK/CONTACTOR INSIDE BUILDING. PROVIDE UNSWITCHED HOT CONDUCTOR TO FOR SPEAK AND DETECTOR LOOP POWER.
 - NOT USED.
 - ALL EXTERIOR DIRECTIONAL SIGNAGE SHALL BE CONTROLLED WITH EXTERIOR MOUNTED PHOTOCELL/TIME CLOCK. PROVIDE WEATHER PROOF JUNCTION BOX FOR THE DIRECTIONAL SIGNAGE. PROVIDE MINIMUM 3/4" CONDUIT AND (2)#10 AND (1)#10 GROUND TO SIGNAGE. COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER AND CIVIL DRAWINGS. PROVIDE ELECTRICAL CONNECTION & CIRCUITRY FROM THE ELECTRICAL PANELS. BASE BID ACCORDINGLY.
 - EXISTING PYLON SIGNAGE SHALL REMAIN. E.C. SHALL REROUTE THE ELECTRICAL CIRCUIT VIA NEW ELECTRICAL PANEL.

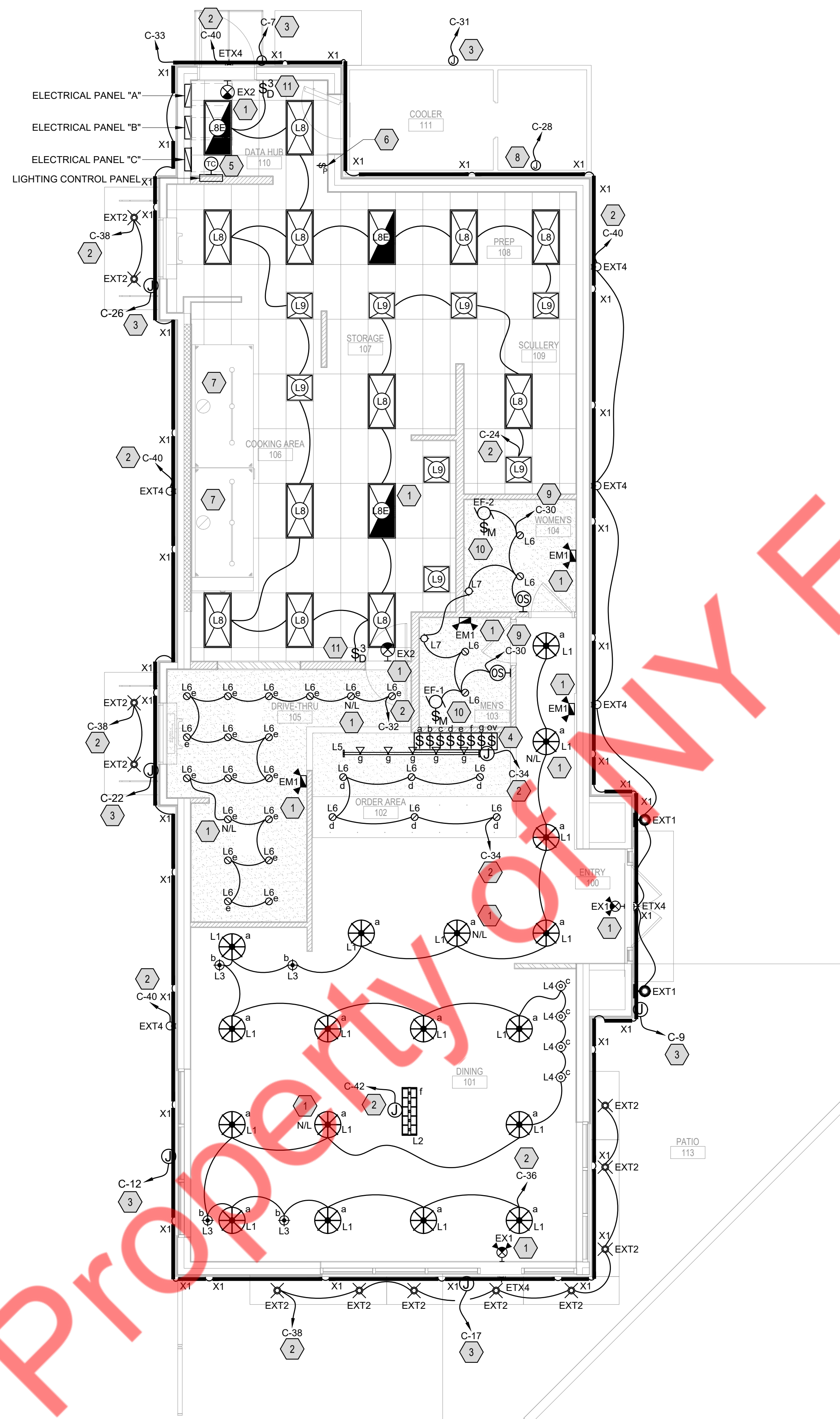
ELECTRICAL PLAN - SITE
 3/32" = 1'-0"
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GENERAL NOTES

- A. REFER SHEET E5.0 FOR LIGHT FIXTURE SCHEDULE, MOUNTING AND FIXTURE LOCATION.
- B. CONTRACTOR IS ADVISED THAT ADJUSTMENTS TO EMERGENCY AND EXIT LIGHT FIXTURE LOCATIONS/QUANTITIES MAY BE REQUIRED BY AHJ UPON FINAL INSPECTION.
- C. ALL EXTERIOR LIGHTING (FACADE LIGHTING, BUILDING SIGNAGE, DIRECTIONAL SIGNAGE, PYLON LIGHT, LED STRIP, CANOPY LIGHTS ETC.) SHALL BE CONTROLLED BY TIME CLOCK/PHOTOCELL.

KEYED NOTES #

- 1. EMERGENCY EGRESS/EXIT/NL FIXTURES SHALL BE ON A NON-SWITCHED LEG OF LOCAL AREA CIRCUIT. CIRCUIT BREAKERS CLEARLY MARKED WITH THE INTENDED USE AND HAVE A LOCK-ON DEVICE INSTALLED.
- 2. CIRCUIT VIA LIGHTING CONTACTOR AND TIME CLOCK.
- 3. PROVIDE JUNCTION BOX FOR EXTERIOR SIGNAGE FIELD VERIFY EXACT MOUNTING LOCATION OF JUNCTION BOX WITH SIGNAGE INSTALLER/OWNER PRIOR TO ROUGH-IN. JUNCTION BOX SHALL BE MOUNTED CENTERED BEHIND SIGN, HIGH UP ON THE INTERIOR OF THE BUILDING, ON THE EXTERIOR WALL. EXTERIOR SIGNAGE INSTALLATION BY SIGNAGE VENDOR INSTALLER. FINAL CONNECTION FROM JUNCTION BOX TO SIGNAGE SHALL BE COORDINATE WITH SIGNAGE INSTALLER AND PROVIDED IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS. CONTRACTOR TO CIRCUIT EXTERIOR SIGNAGE AS INDICATED.
- 4. APPROXIMATE LOCATION OF SWITCHBANK. SEE DETAIL 6/E4.0. COORDINATE EXACT LOCATION AND SWITCH CONFIGURATION WITH OWNER. (NOTE: CONTRACTOR TO PROVIDE A PILOT LIGHT INDICATOR TYPE WALL SWITCH, FOR ALL SWITCHES, WHERE LIGHTS BEING CONTROLLED BY SAID SWITCH ARE NOT VISIBLE FROM SWITCH BANK LOCATION.)
- 5. APPROXIMATE LOCATION TIMECLOCK AND LIGHTING CONTACTORS, SEE LIGHTING CONTROL DIAGRAM 8/E4.0 FOR MORE INFORMATION.
- 6. SWITCH TO WALK-IN COOLER LIGHTING SHALL BE ILLUMINATED.
- 7. CONTRACTOR TO PROVIDE LAMPS (AS NEEDED) IN KITCHEN EXHAUST HOOD PER MANUFACTURER'S SPECIFICATION. SEE DETAIL 5/E4.0 FOR CIRCUIT/HOOD CONTROL INFORMATION. REFER TO HOOD DRAWINGS FOR ADDITIONAL INFORMATION.
- 8. LIGHT FIXTURE IS MOUNTED INSIDE OF WALK-IN COOLER/FREEZER. LIGHTING FIXTURE PROVIDED WITH WALK-IN UNIT, MAKE FINAL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS.
- 9. CIRCUIT RESTROOM LIGHTING INDEPENDENT OF INTERIOR TIMECLOCK LIGHTING CONTROLS.
- 10. 1P20A MOTOR SWITCH FOR RESTROOM EXHAUST FAN. CONTRACTOR TO CIRCUIT RESTROOM EXHAUST FAN WITH RESTROOM LIGHTING FOR SIMULTANEOUS OPERATION.
- 11. COORDINATE EXACT LOCATION OF SWITCH WITH ARCHITECT/OWNER PRIOR TO ROUGH-IN.



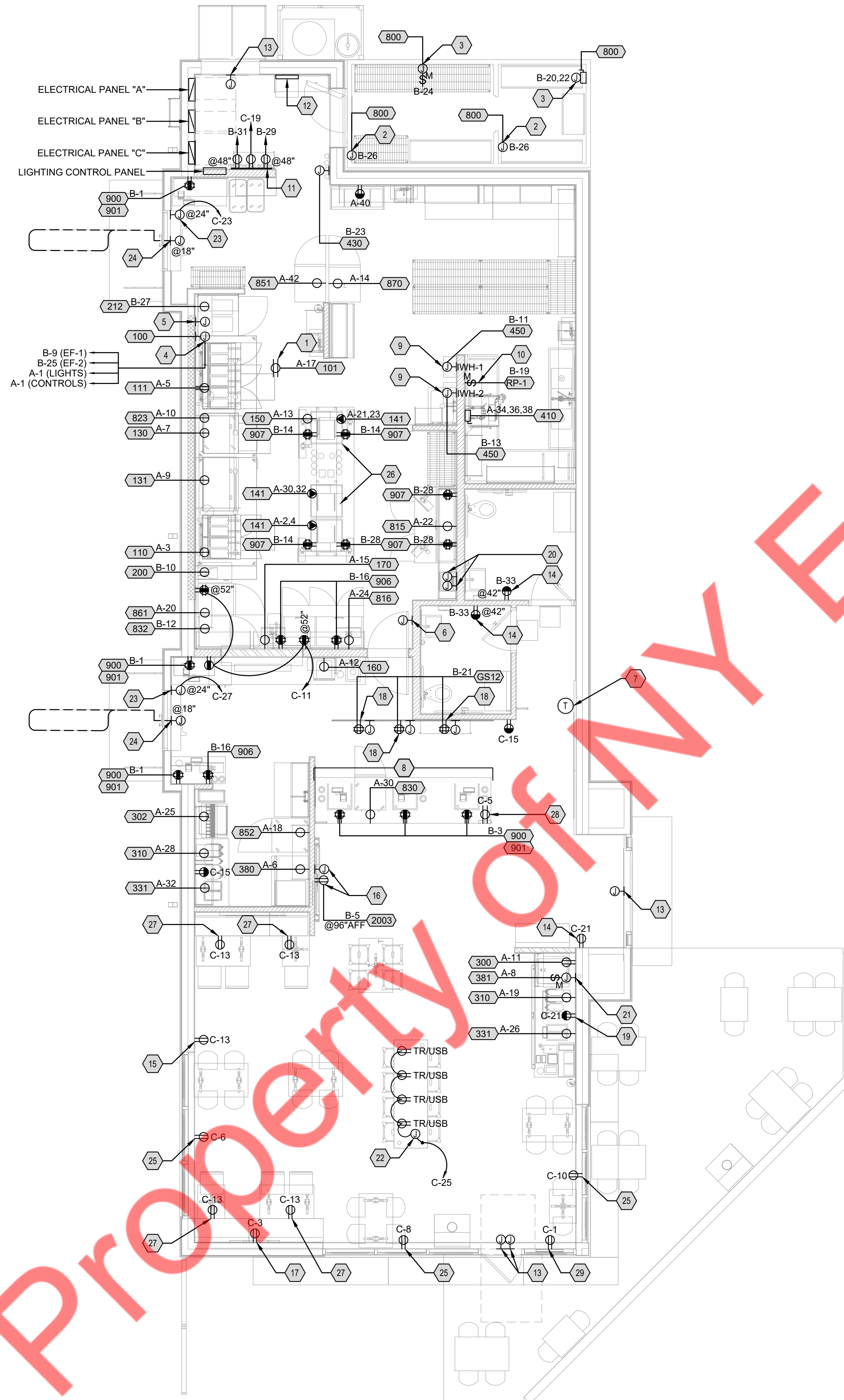
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ELECTRICAL PLAN - LIGHTING
 1
 E1.0
 3/16" = 1'-0"
 NORTH

GENERAL NOTES

- A. E.C. SHALL VERIFY IN FIELD ALL KITCHEN EQUIPMENT CONNECTIONS AND REQUIREMENTS PRIOR TO ROUGH-IN AND INSTALLATION OF DEVICES. VERIFY ALL DEVICE LOCATIONS AND MOUNTING HEIGHTS WITH FOOD SERVICE CONTRACTOR. E.C. SHALL MAKE ADJUSTMENTS IN FIELD TO MATCH ACTUAL EQUIPMENT BEING INSTALLED, AS DIRECTED BY THE FOOD SERVICE CONTRACTOR.
- B. CONTRACTOR IS REQUIRED TO INSTALL STANDARD RECEPTACLES FOR CIRCUITS DEDICATED TO SPECIFIC EQUIPMENT. SUBJECT TO THE APPROVAL OF CODE ENFORCING AGENCY.
- C. ALL SINGLE-PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPERES OR LESS AND THREE PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPERES OR LESS INSTALLED IN THE FOLLOWING LOCATIONS SPECIFIED IN NEC. ART 210.8 (B)(1) - (8) SHALL HAVE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION.
- D. NOTE THAT THE ISOLATED GROUNDING TYPE RECEPTACLES AND CLOCK TYPE RECEPTACLES LOCATED IN THE KITCHEN/SERVING AREA SHALL BE PROTECTED BY GROUND FAULT TYPE CIRCUIT BREAKERS RATHER THAN GROUND FAULT TYPE RECEPTACLES SINCE THESE RECEPTACLES ARE NOT AVAILABLE AS GROUND-FAULT TYPE RECEPTACLES. GFCI BREAKERS REQUIRE A DEDICATED NEUTRAL (NOT SHARED) TO OPERATE PROPERLY.



ELECTRICAL PLAN - POWER
 1
 E2.0
 3/16" = 1'-0"

KEYED NOTES

1. PROVIDE A FLUSH MOUNTED CEILING RECEPTACLE, FOR FRYER TIMER MOUNTED TO THE FRONT OF HOOD. FIELD VERIFY EXACT MOUNTING LOCATION.
2. J-BOX FOR CONNECTION TO HEAT TRACE AND LIGHTING MOUNTED ABOVE WALK-IN COOLER/FREEZER BOX. CONTRACTOR SHALL INSTALL WIRE AND PROVIDE LAMPS FOR WALK-IN COOLER AND FREEZER LIGHTS. COORDINATE REQUIREMENTS WITH MANUFACTURER SPECIFICATIONS.
3. PROVIDE J BOX & CONDUIT THROUGH SEALED OPENING FOR CONTROL WIRING TO CONDENSER ON ROOF. SEE SHEET E2.1 ADDITIONAL INFORMATION.
4. HOOD CONTROL PANEL BOX. SEE HOOD DRAWINGS FOR EXHAUST FAN MAKE UP AIR UNIT INTERLOCK HOOD CONTROLS. REMOVE HOOD CONTROL CABINET & PRE-WIRE PACKAGE DETAILS. PROVIDE ALL FIELD WIRING (PER MANUFACTURER'S SPECIFICATIONS) TO HOOD CONTROL PANEL, HOOD CONTROLS & HOOD ROOM SENSOR. COORDINATE WITH MECHANICAL CONTRACTOR.
5. PROPOSED LOCATION OF HOOD SHUNT TRIP CONTACTOR, IN A NEMA 1 ENCLOSURE, MOUNTED ABOVE THE CEILING (VERIFY EXACT MOUNTING LOCATION IN FIELD). HOOD SHUNT TRIP CONTACTOR SHALL BE CONNECTED TO HOOD FIRE SUPPRESSION SYSTEM CONTROLS. SEE HOOD SHUNT TRIP CONTACTOR DETAIL 5/E4.9 FOR MORE INFORMATION.
6. J-BOX (FLUSH MOUNTED) FOR ANSUL SYSTEM PULL STATION. MAKE CONNECTIONS AS REQUIRED.
7. COORDINATE THERMOSTAT & LOCATIONS W/ MECHANICAL CONTRACTOR. PROVIDE CONDUIT, WIRE & FINAL CONNECTIONS (AS REQUIRED). SEE MECHANICAL DRAWING FOR ADDITIONAL INFORMATION.
8. COORDINATE INSTALLATION OF DEVICE AND CONDUIT WITH MILLWORK INSTALLER AND ARCHITECT PRIOR TO ROUGH-IN. ALL CONDUIT AND DEVICES SHALL BE CONCEALED FROM VIEW.
9. CONTRACTOR TO PROVIDE HARDWIRED CONNECTION TO WATER HEATER, PER MANUFACTURER'S SPECIFICATION. FIELD VERIFY EXACT MOUNTING LOCATION WITH PLUMBING CONTRACTOR. PROVIDE LOCK-OUT/TAG-OUT DEVICE TO CIRCUIT BREAKER SERVING EQUIPMENT. CIRCUIT AS INDICATED.
10. CIRCULATION PUMP WITH INTEGRATED TIMELOCK FOR PUMP CONTROL. FIELD VERIFY EXACT MOUNTING HEIGHT/LOCATION WITH PLUMBING INSTALLER PRIOR TO ROUGH-IN. INSTALL PER N.E.C.
11. PROVIDE 3'X4'X3/4" PAINTED PLYWOOD BACKBOARD FOR TELEPHONE SYSTEM AT 6'-0". CONNECT #10 AWG COPPER GROUND WIRE FROM TELEPHONE SYSTEM TO GROUND BUS AT PANEL "B".
12. ALARM SYSTEM CONTROL PANEL FINAL CONNECTION BY ALARM CONTRACTOR. STACK ALARM PANEL ABOVE TELEPHONE PANEL. COORDINATE OUTLET MOUNTING HEIGHT.
13. ROUTE 2" CONDUIT WITH PULL STRING TO ACCESSIBLE SPACE. COORDINATE ALARM J-BOX LOCATIONS WITH SECURITY CONTRACTOR.
14. CONVENIENCE RECEPTACLE (TAMPER-RESISTANT, 5-20R), RECEPTACLE & COVERPLATE TO MATCH WALL DECOR. VERIFY REQUIREMENTS.
15. CONVENIENCE RECEPTACLE PROVIDE A DUPLEX/USB COMBINATION RECEPTACLE (LEVITON #5832 OR APPROVED EQUAL) RECEPTACLE & COVERPLATE TO MATCH WALL DECOR. VERIFY REQUIREMENT.
16. PROVIDE A RECEPTACLE & JUNCTION BOX FOR DINING ROOM TELEVISION. FIELD VERIFY EXACT MOUNTING LOCATION OF RECEPTACLE/JUNCTION BOX WITH TELEVISION/MOUNTING BRACKET IN FIELD. RECEPTACLE & JUNCTION BOX SHALL BE INSTALLED BEHIND TELEVISION CONCEALED FROM VIEW AS MUCH AS POSSIBLE.
17. PROVIDE RECEPTACLE FOR DINING ROOM ILLUMINATED "G" SIGN. FIELD VERIFY EXACT RECEPTACLE MOUNTING LOCATION/HEIGHT WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN. RECEPTACLE SHALL BE CIRCUITED VIA INTERIOR TIME CLOCK/CONTACTOR FOR AUTOMATIC ON/OFF CONTROL.
18. PROVIDE A RECEPTACLE AND JUNCTION BOX FOR FUTURE DIGITAL MENU BOARD. RECEPTACLE AND JUNCTION BOX SHALL BE MOUNTED BEHIND NON POWERED MENU BOARD PANELS, CONCEALED FROM VIEW. FIELD VERIFY EXACT MOUNTING LOCATION WITH CONSTRUCTION MANAGER.
19. CONTRACTOR TO PROVIDE AND INSTALL A SURFACE MOUNTED CO2 METER MODEL RAD-0102 CARBON DIOXIDE DETECTOR WITH REMOTE DISPLAY RAD-0103. SENSOR UNIT TO BE INSTALLED 18" ABOVE FLOOR IN LOCATION SHOWN. INSTALL IP65 CASE OVER SENSOR UNIT. COORDINATE EXACT REQUIREMENTS WITH MANUFACTURER. PROVIDE WITH RAD-0102-24VDC TRANSFORMER TO PLUG INTO WALL. SET ALARM TO 5000 PPM TO COMPLY WITH LOCAL CODES. REUSE NEARBY RECEPTACLE IF APPLICABLE.
20. REMOTE DISPLAY FOR CO2 METER. SECURELY MOUNT REMOTE SENSOR ON WALL AT 48" A.F.F. REMOTE UNIT MAXIMUM LENGTH FROM SENSOR IS 25'-0". FIELD VERIFY TOTAL LENGTH. IF REMOTE PLACEMENT DESTINATION IS GREATER THAN 25'-0", INSTALL UNIT ON CLOSEST WALL ADJACENT TO UNIT WITHIN PUBLIC & EMPLOYEE VIEW.
21. CONTRACTOR TO EXTEND ICE MAKER CIRCUIT TO ICE MAKER REMOTE CONDENSER (MOUNTED ON ROOF). REMOTE ICE MAKER CONDENSER POWERED FROM ICE MAKER CIRCUIT, NO ADDITIONAL CIRCUIT REQUIRED FOR ICE MAKER REMOTE CONDENSER. SEE SHEET E2.1 FOR ADDITIONAL INFORMATION. CONTRACTOR TO PROVIDE A LOCK-OUT/TAG-OUT DEVICE (INSTALLED IN PANEL) ON CIRCUIT BREAKER FEEDING ICE MAKER/REMOTE CONDENSER CIRCUIT. PROVIDE ALL NECESSARY DEVICES AND MAKE ALL FINAL CONNECTIONS PER MANUFACTURER'S SPECIFICATIONS. ROUTING OF CONDUIT SHALL BE DETERMINED IN FIELD.
22. PROVIDE POWER FOR COMMUNITY TABLE. PROVIDE
23. PROVIDE JUNCTION BOX FOR ELECTRICAL CONNECTION TO DRIVE THRU WINDOW. VERIFY EXACT MOUNTING LOCATION AND ELECTRICAL REQUIREMENTS WITH POWERED DRIVE THRU WINDOW MANUFACTURER.
24. PROVIDE DRIVE THRU DETECTOR LOOP. VERIFY EXACT REQUIREMENTS WITH DRIVE THRU EQUIPMENT INSTALLER.
25. PROVIDE RECEPTACLE 6" ABOVE WINDOW FOR SHOW WINDOW AS REQUIRED BY CODE. VERIFY WITH LOCAL AGENCY. VERIFY EXACT LOCATION WITH ARCHITECT.
26. PROVIDE DROP CORD ASSEMBLY FOR KITCHEN EQUIPMENT AT MAKE LINE TABLE. COORDINATE REQUIREMENTS WITH OWNER AND KITCHEN EQUIPMENT INSTALLER.
27. PROVIDE A DUPLEX/USB COMBINATION RECEPTACLE (LEVITON #5832 OR APPROVED EQUAL) RECEPTACLE & COVER PLATE AT FRONT OF BANQUETTES. COORDINATE REQUIREMENTS WITH MILL WORK INSTALLER PRIOR TO BID, ROUGH-IN AND CONSTRUCTION. RECEPTACLE AND COVER PLATES ARE TO BE BLACK.
28. PROVIDE RECEPTACLE FOR ILLUMINATED "TO-GO" SIGN. FIELD VERIFY EXACT RECEPTACLE LOCATION WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN. RECEPTACLE SHALL BE CIRCUITED VIA INTERIOR TIMECLOCK/CONTACTOR FOR AUTOMATIC ON/OFF CONTROL.
29. PROVIDE RECEPTACLE 6" ABOVE WINDOW FOR "OPEN FOR TENDERS" SIGN. FIELD VERIFY EXACT RECEPTACLE LOCATION WITH CONSTRUCTION MANAGER PRIOR TO ROUGH-IN. RECEPTACLE SHALL BE CIRCUITED VIA INTERIOR TIMECLOCK/CONTACTOR FOR AUTOMATIC ON/OFF CONTROL.

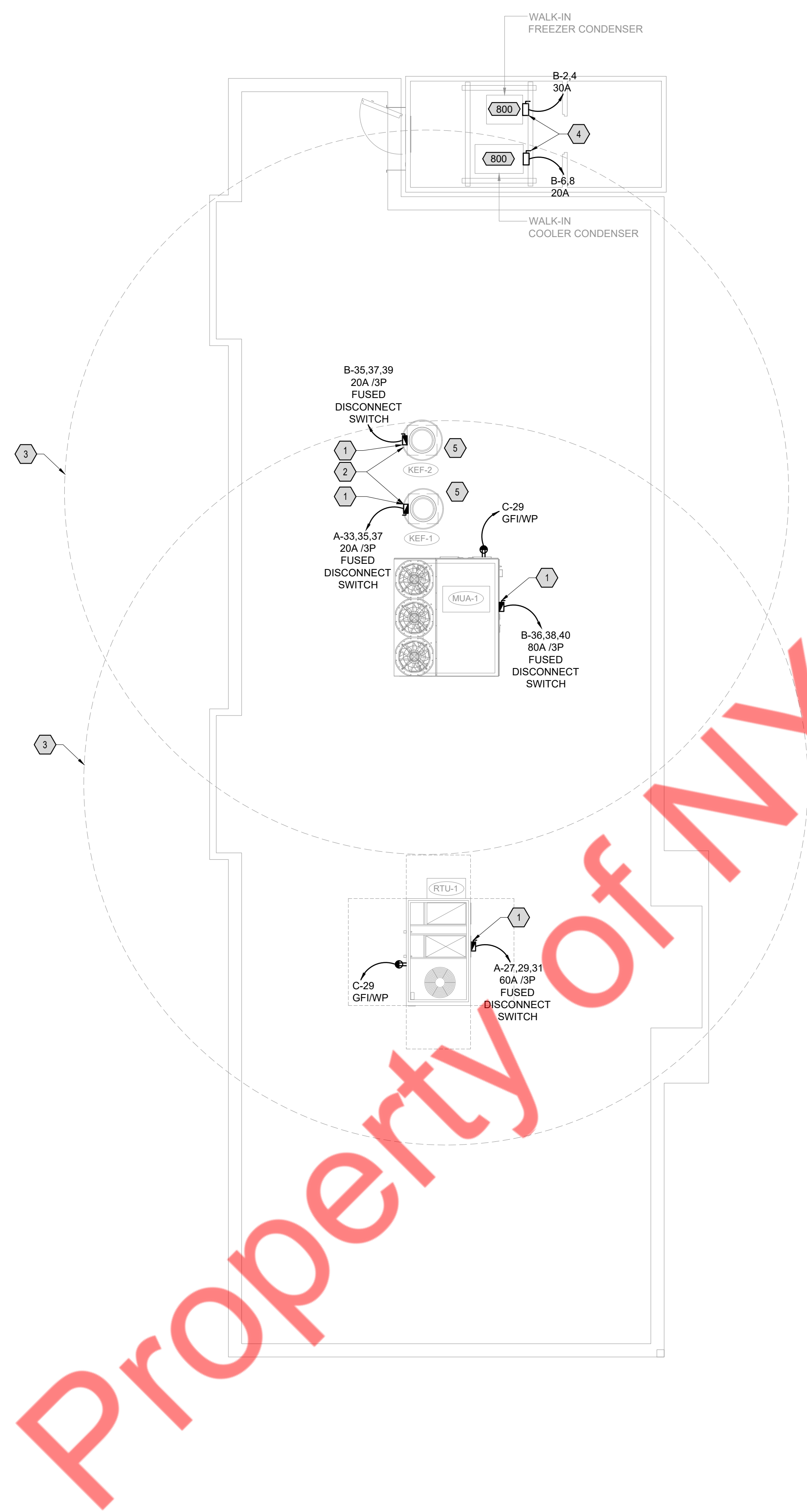


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KEYED NOTES

1. PROVIDE NEMA 3R DISCONNECT SWITCH (SIZE AS NOTED); FUSE PER MANUFACTURER'S NAMEPLATE. PROVIDE & COORDINATE EXACT ELECTRICAL REQUIREMENTS WITH MECHANICAL CONTRACTOR & MANUFACTURER. BASE BID ACCORDINGLY.
2. INTERLOCK WITH HOOD CONTROL CABINET BELOW. COORDINATE ELECTRICAL REQUIREMENTS WITH HOOD MANUFACTURER'S SPECIFICATIONS. BASE BID ACCORDINGLY.
3. RADIUS TO SHOW CODE REQUIRED WP/GFI MAINTENANCE RECEPTACLE WITHIN 25' OF ROOF TOP EQUIPMENT.
4. PROVIDE NEMA 3R NF DISCONNECT SWITCH. INTERLOCK WITH COOLER EVAPORATOR FAN BELOW. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT MANUFACTURER'S SPECIFICATIONS.
5. EXHAUST FANS FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR. E. C. SHALL COORDINATE FOR SWITCHING AND CONTROLS AND PROVIDE ALL NECESSARY WIRING REQUIRED

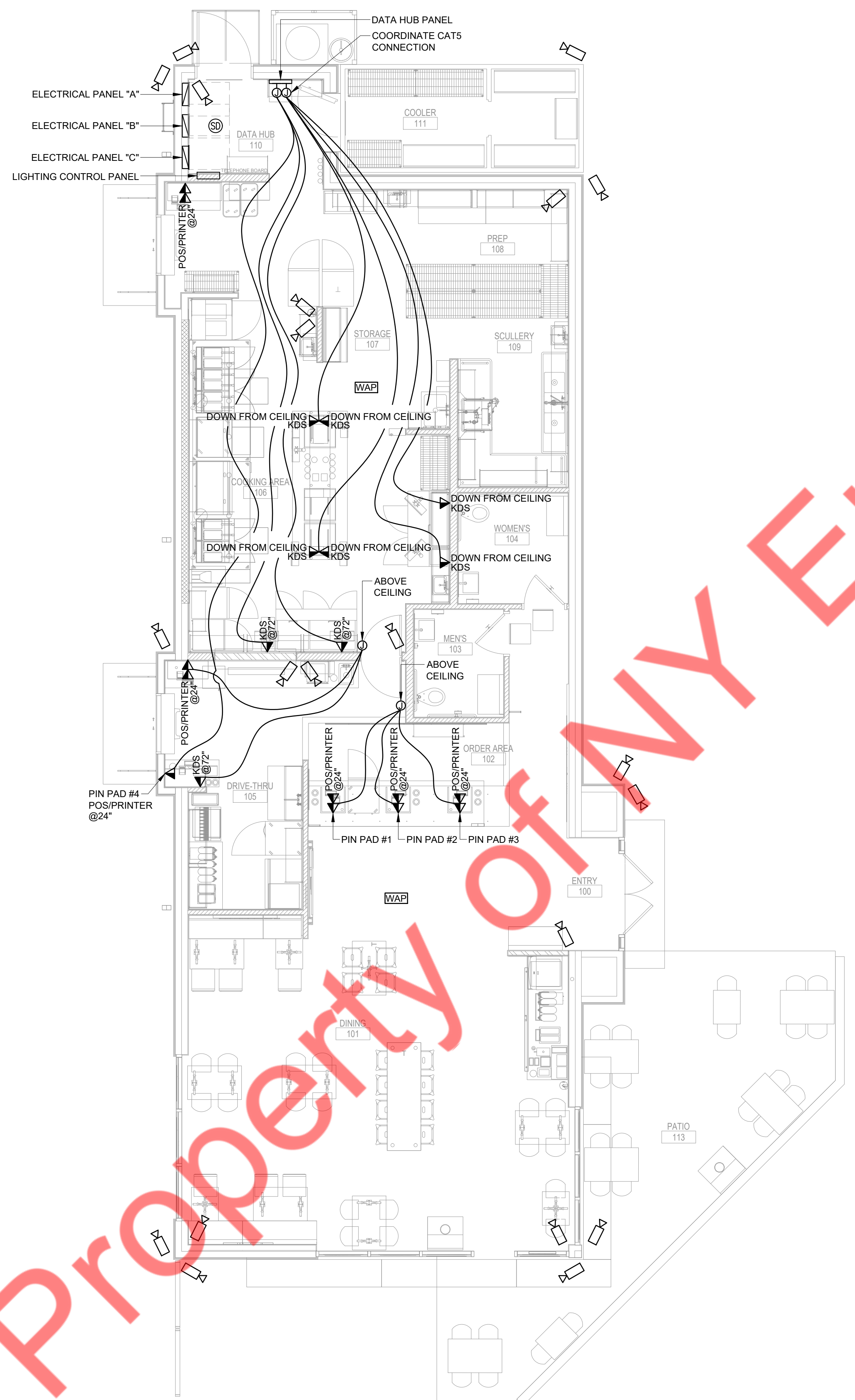
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- GENERAL NOTES
- A. ROUTE ALL CONDUIT CONCEALED ABOVE CEILING, WITHIN WALL, OR BELOW FLOOR.
 - B. PROVIDE 1" C WITH PULL STRING FROM INTERNET MODEM, CABLE AND PHONE SHELF TO P.O.S.
 - C. ALL LOW VOLTAGE WIRING SHALL BE PROVIDED AND INSTALLED BY THE LOW VOLTAGE CONTRACTOR.
 - D. FIELD VERIFY ALL REQUIREMENTS PRIOR TO ROUGH IN AND INSTALLATION.
 - E. ELECTRICAL CONTRACTOR IS TO PROVIDE ALL TRANSFORMERS, RELAYS AND CONTACTORS TO ENSURE ROOF TOP UNITS SHUT DOWN WITH ACTIVATION OF FIRE ALARM/SMOKE DETECTORS.

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1
ELECTRICAL PLAN - LOW VOLTAGE PLAN
 3/16" = 1'-0"

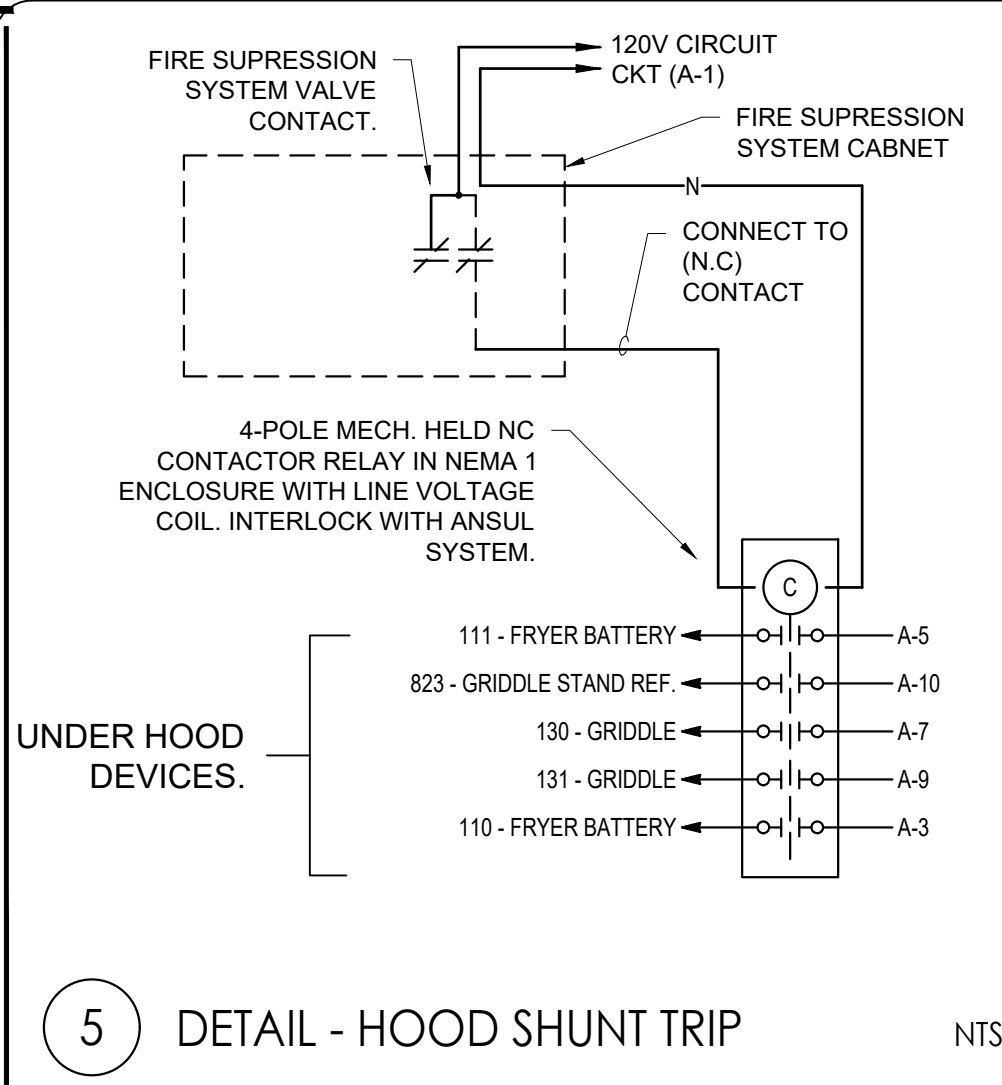


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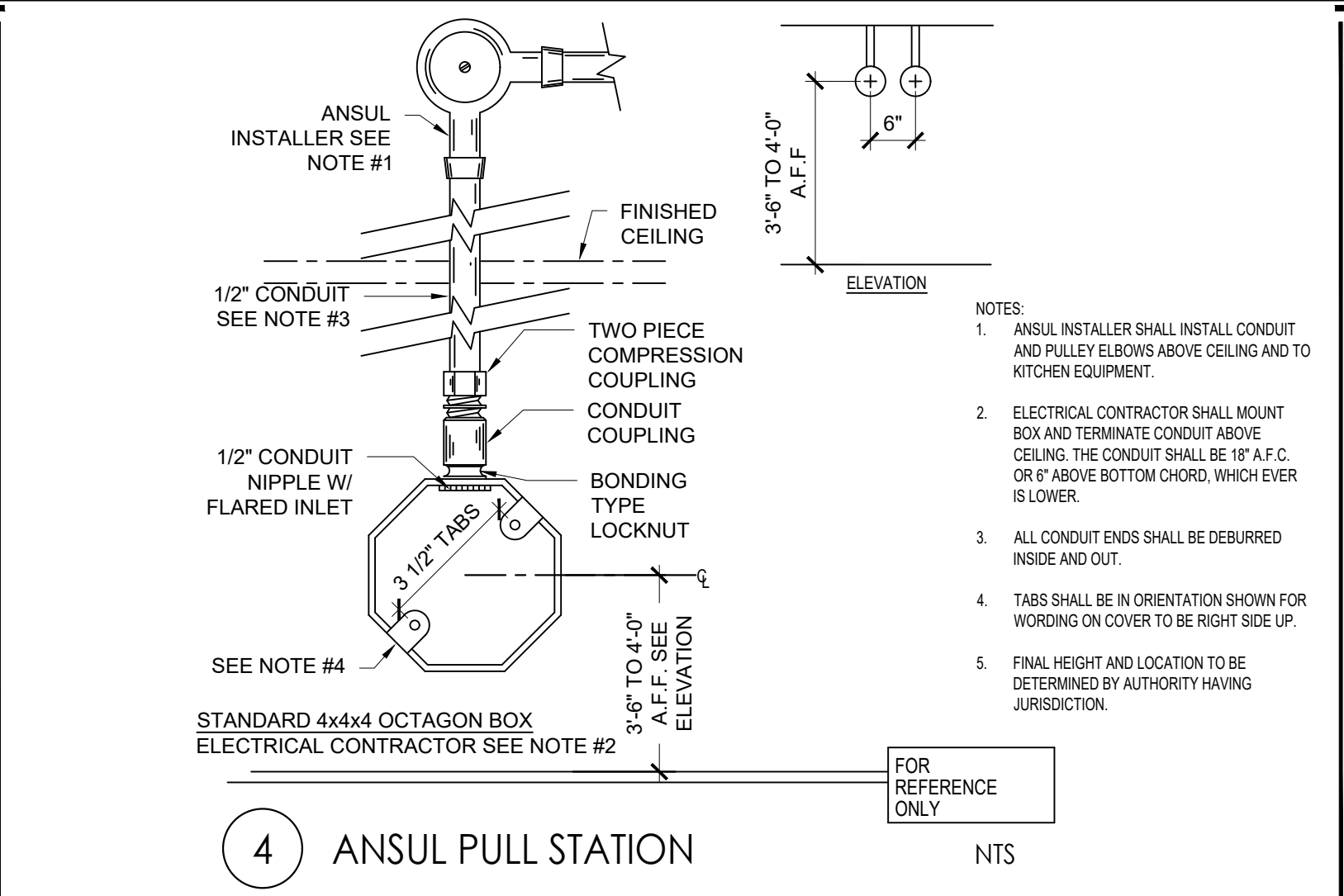
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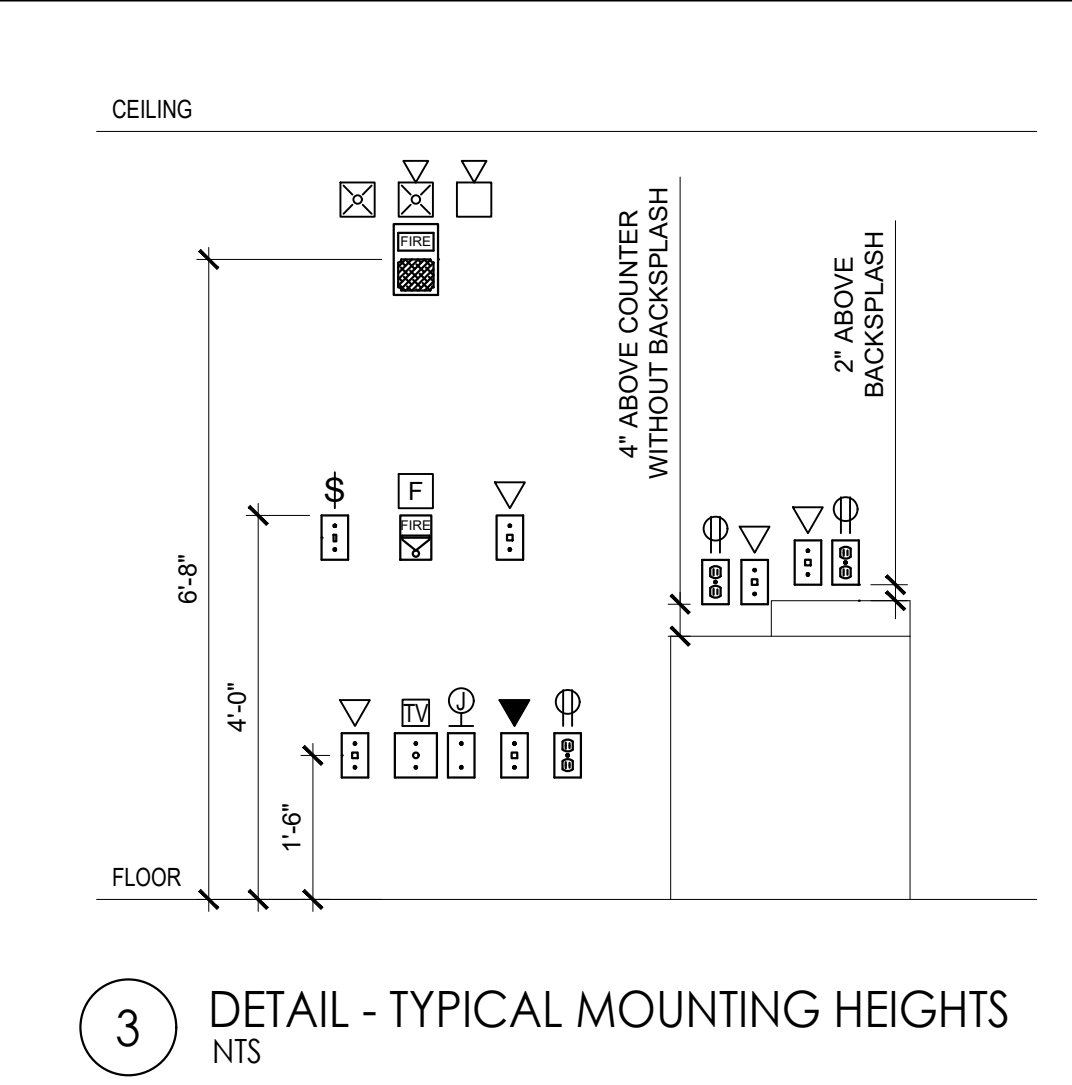
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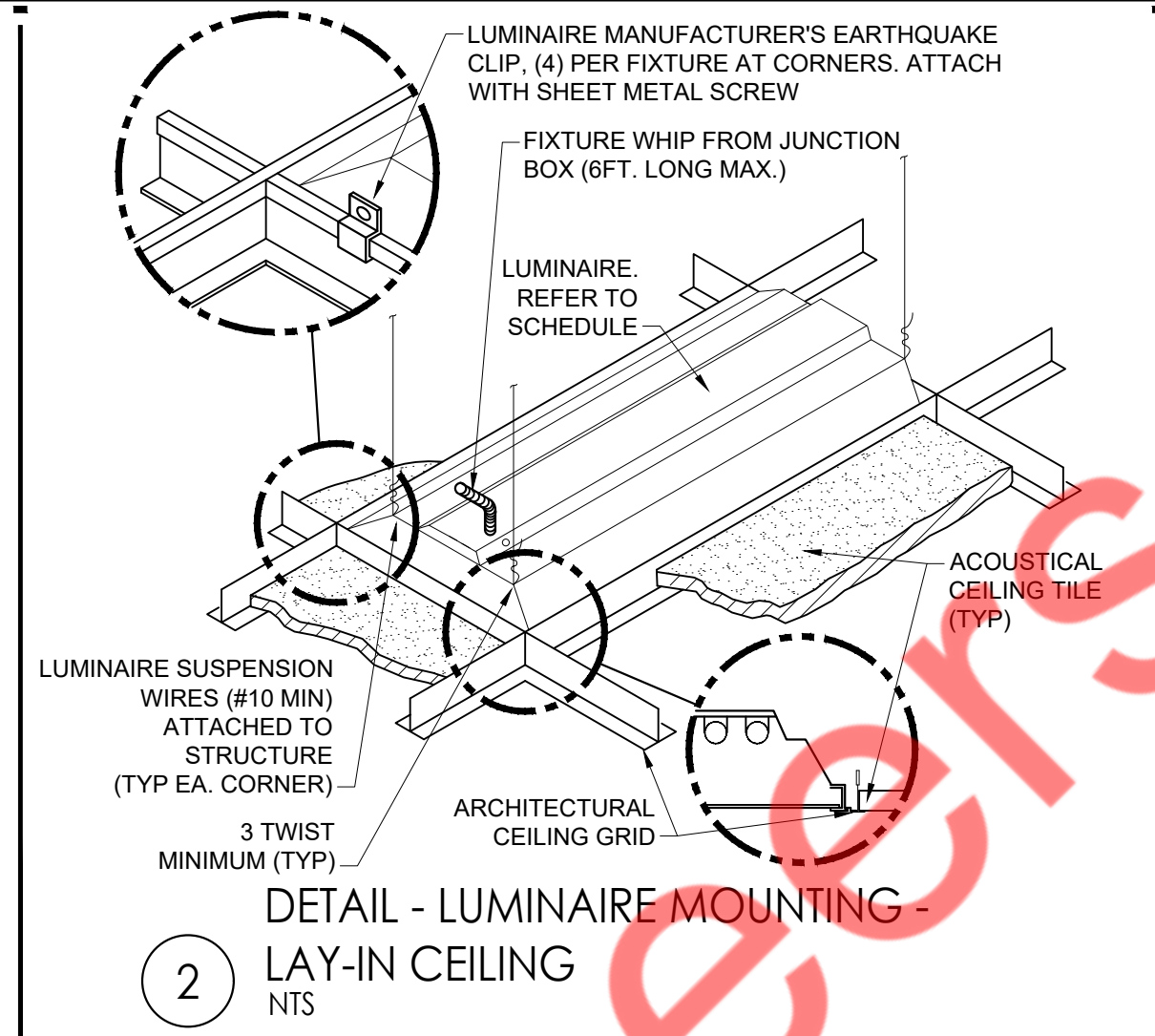
5 DETAIL - HOOD SHUNT TRIP NTS



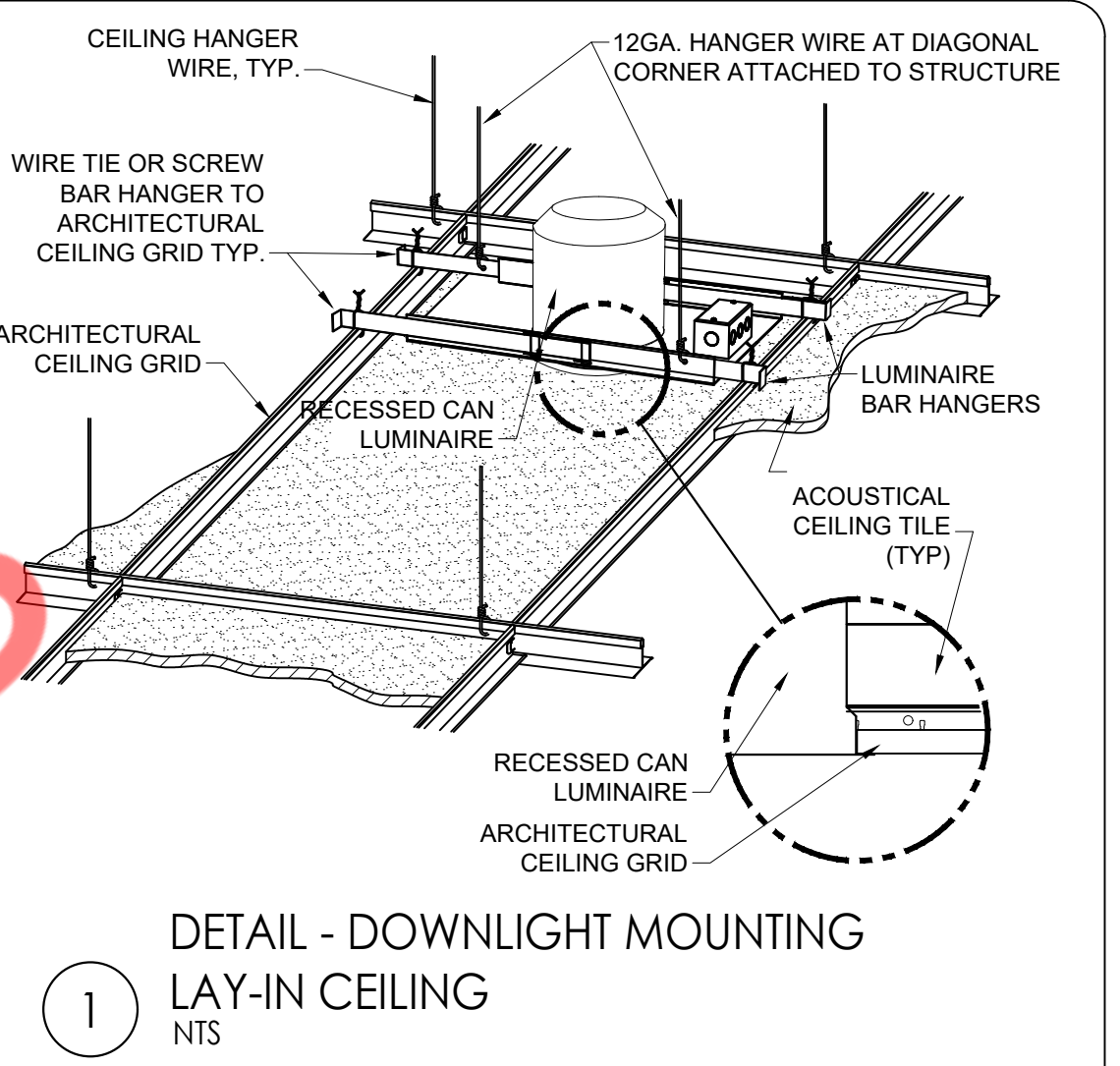
4 ANSUL PULL STATION NTS



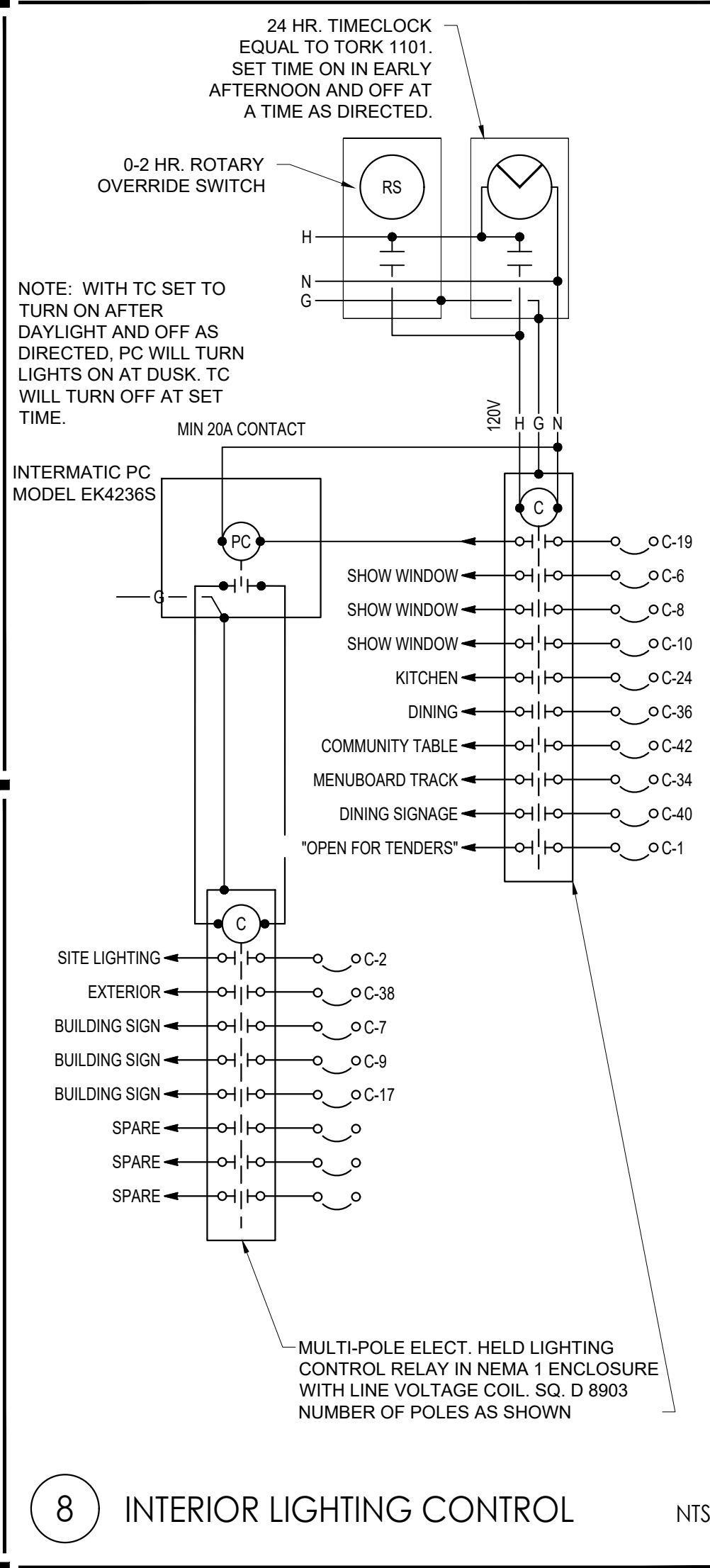
3 DETAIL - TYPICAL MOUNTING HEIGHTS NTS



2 DETAIL - LUMINAIRE MOUNTING - LAY-IN CEILING NTS



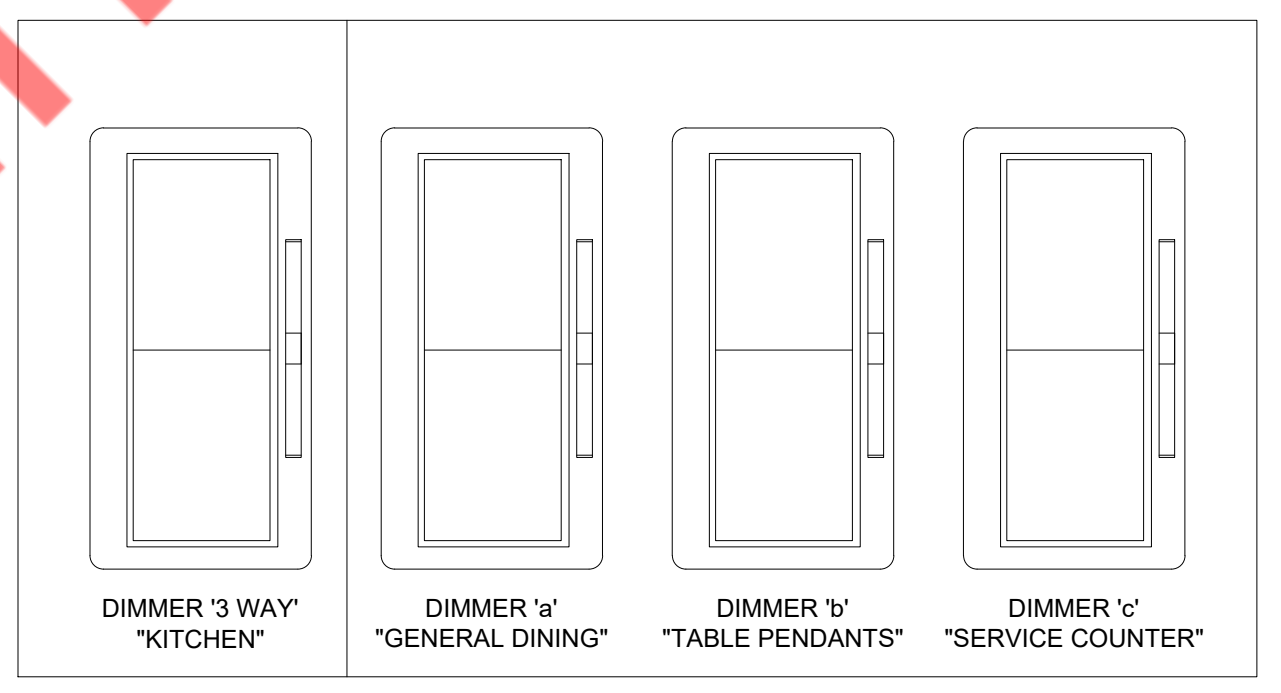
1 DETAIL - DOWNLIGHT MOUNTING - LAY-IN CEILING NTS



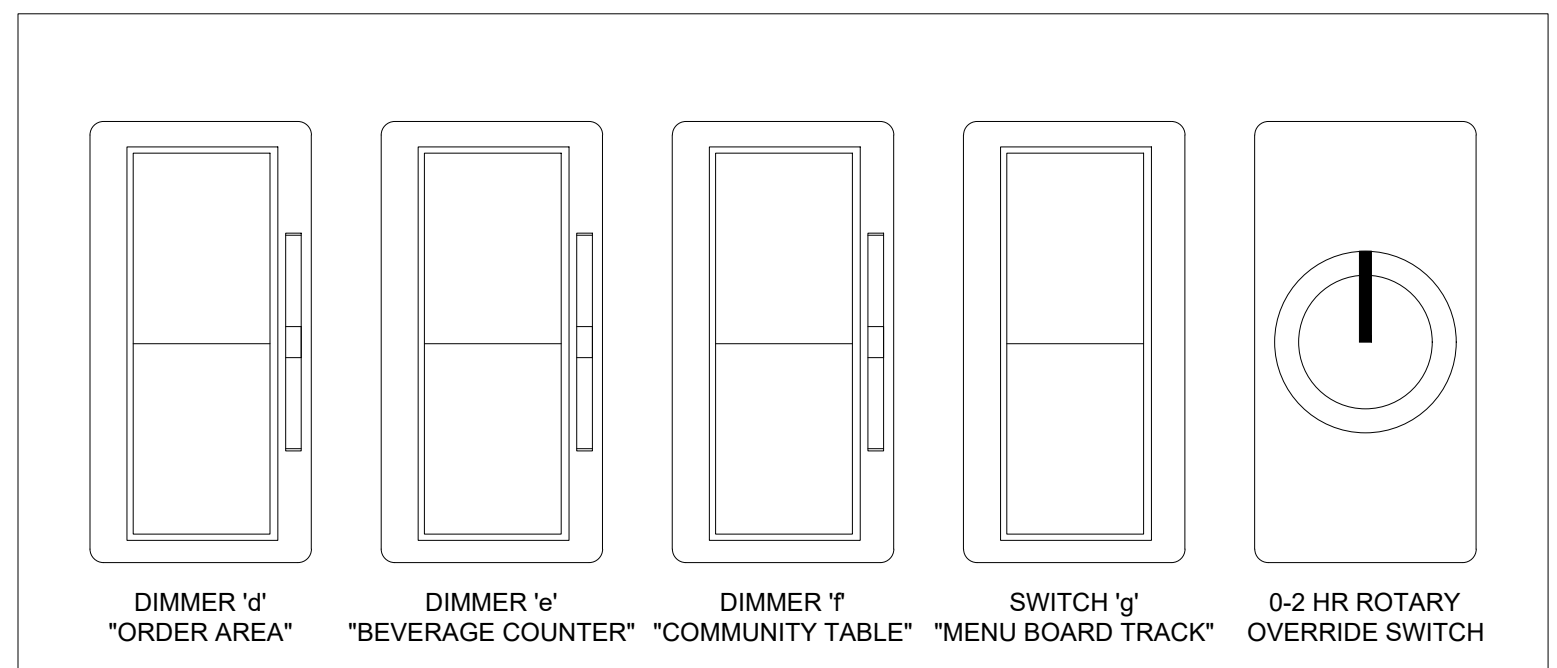
8 INTERIOR LIGHTING CONTROL NTS

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7 NOT USED NTS



6 DETAIL - SWITCH BANK NTS



DIMMER NOTES

1. PROVIDE DIMMER COMPATIBLE WITH THE FIXTURE AND/OR LAMP CONTROLLED.
2. PROVIDE LED PILOT LIGHT WITH ALL SWITCHES NOT IN LINE-OF-SIGHT OF LIGHT FIXTURES.



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COMcheck Software Version 4.1.5.5 Interior Lighting Compliance Certificate

Project Information
Energy Code: 2018 IECC
Project Title: HUEY MAGOOS - SPRINGFIELD
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
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SUITE 49674
MIAMI, FL 33179

Credits: 1.0 Required 1.0 Proposed
Enhanced Interior Lighting Controls, 1.0 credit

Allowed Interior Lighting Power table with columns: Area Category, Floor Area (ft2), Allowed Watts / ft2, Allowed Watts (B X C)

Proposed Interior Lighting Power table with columns: Fixture ID, Description / Lamp / Wattage Per Lamp / Ballast, Lamps/Fixture, # of Fixtures, Fixture Watt, (C X D)

Interior Lighting PASSES: Design 3% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application.

MICHAEL TOBIAS
Signature
08/30/2024
Date

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 1 of 8

COMcheck Software Version 4.1.5.5 Exterior Lighting Compliance Certificate

Project Information
Energy Code: 2018 IECC
Project Title: HUEY MAGOOS - SPRINGFIELD
Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:
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SUITE 49674
MIAMI, FL 33179

Allowed Exterior Lighting Power table with columns: Area/Surface Category, Quantity, Allowed Watts / Unit, Tradable Wattage, Allowed Watts (B X C)

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 500 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power table with columns: Fixture ID, Description / Lamp / Wattage Per Lamp / Ballast, Lamps/Fixture, # of Fixtures, Fixture Watt, (C X D)

Exterior Lighting PASSES: Design 70% better than code

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application.

MICHAEL TOBIAS
Signature
08/30/2024
Date

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 2 of 8

COMcheck Software Version 4.1.5.5 Inspection Checklist

Energy Code: 2018 IECC
Requirements: 100.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen.

Inspection Checklist table with columns: Section # & Req.ID, Plan Review, Complies?, Comments/Assumptions

Additional Comments/Assumptions:

Additional Comments/Assumptions table with columns: Section # & Req.ID, Final Inspection, Complies?, Comments/Assumptions

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 3 of 8

Inspection Checklist table with columns: Section # & Req.ID, Rough-In Electrical Inspection, Complies?, Comments/Assumptions

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 4 of 8

Inspection Checklist table with columns: Section # & Req.ID, Rough-In Electrical Inspection, Complies?, Comments/Assumptions

Additional Comments/Assumptions:

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 5 of 8

Inspection Checklist table with columns: Section # & Req.ID, Final Inspection, Complies?, Comments/Assumptions

Additional Comments/Assumptions:

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 6 of 8

Inspection Checklist table with columns: Section # & Req.ID, Final Inspection, Complies?, Comments/Assumptions

Additional Comments/Assumptions:

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
Page 7 of 8

Inspection Checklist table with columns: Section # & Req.ID, Rough-In Electrical Inspection, Complies?, Comments/Assumptions

Additional Comments/Assumptions:

Project Title: HUEY MAGOOS - SPRINGFIELD
Report date: 08/30/2024
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REVISIONS table with columns: NO, DESC, BY, DATE

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DIVISION 26 - ELECTRICAL SPECIFICATIONS

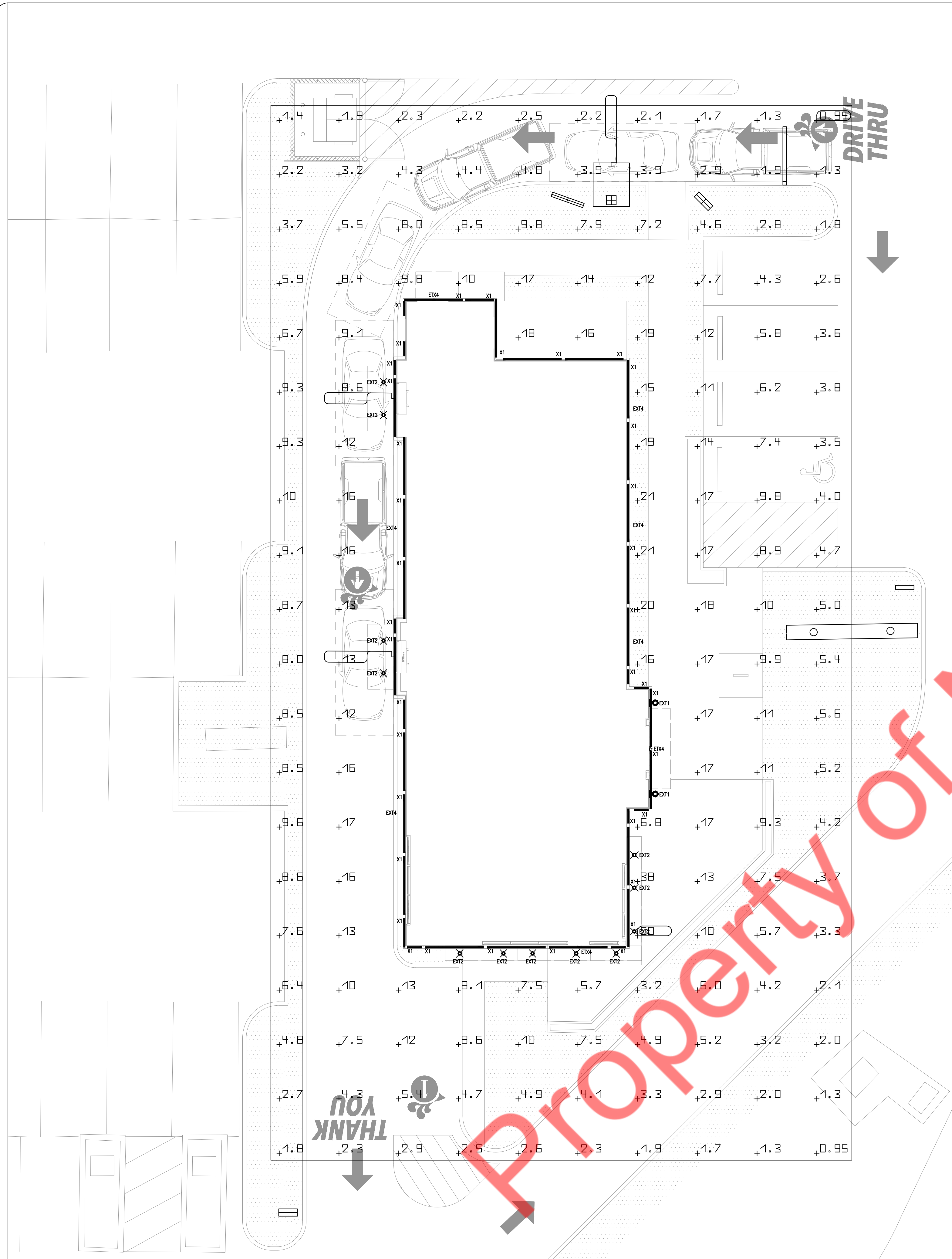
Main table of electrical specifications with columns for item number, description, and quantity. Includes sections for documentation, shop drawings, and installation details.



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Table with columns: NO, DESC, BY, DATE, PERMIT SET, NYE, BD COMMENTS, NYE. Contains revision tracking information.

SHEET E8.0 FILE#: JDS DATE: 05/29/24 PM: NYE CM: NYE



PHOTOMETRIC DATA						
#	Name	Parameter	Min	Max	Average	Mean/Min
1	Parking Area & Drive Through	Horizontal illuminance	0.94 fc	50.1 fc	8.23 fc	8.71
						52.98

LIGHTING FIXTURE SCHEDULE								
FOR NATIONAL ACCOUNT QUOTATION, PLEASE CALL MIKE KREINER AT HERMITAGE LIGHTING NATIONAL ACCOUNTS AT 224-250-1561 OR EMAIL MKREINER@GOHERMITAGE.COM. SUBSTITUTIONS NOT ALLOWED.								
MARK	MANUFACTURER	CATALOG NUMBER	QTY.	ELECTRICAL DATA			DESCRIPTION	MOUNTING
				TYPE	VOLTS	DIMMING		
EXT1	SHADES OF LIGHT	OL19134BK	2	BULBRIGHT #776801	120	NO	5	RUGGED RIVER OUTDOOR SCOFFER, LARGE, BLACK FINISH WITH LED LAMP
EXT2	ELITE	CR6T-825L-40K-12-E26GU24 TRIM: CR6T-TRMBKBB-1 HOUSING: RC6-GU24	12	LED	120	NO	11	6" 825 LUMEN DOWNLIGHT WITH HOUSING
EXT4	SHADES OF LIGHT	OL18089	5	BULBRIGHT #776801	120	NO	5	SLEEK MINIMALIST LED WALL SCOFFER WITH LED LAMP
X1	SAYLITE	LT8ABP48L18W2250LXXK	37'FT	LED	120	YES	18	LED COVE LIGHT

1
E9.0
3/16" = 1'-0"
NORTH

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SHEET
E9.0
FILE#: JDS
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PM: NYE
CM: NYE

GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY FITTINGS AS REQUIRED BY ALL APPLICABLE CODES AND GOVERNING AUTHORITIES.
- CONTRACTOR SHALL VERIFY AND CORRECT AS REQUIRED TO MEET ALL CODES AND REGULATIONS ANY POSSIBLE DISCREPANCIES BETWEEN TYPE AND SIZE OF CONNECTION SPECIFIED IN PLUMBING FIXTURE SCHEDULE AND FIXTURES ACTUALLY INSTALLED ON THE SITE.
- ALL SANITARY 1/8" AND GREASE WASTE PIPING SHALL HAVE A 1/4" PER FOOT SLOPE UNLESS OTHERWISE NOTED OR PER LOCAL CODE.
- VENT PIPING SHOWN ON FLOOR PLANS IS ONLY INDICATIVE EXCEPT FOR VTR LOCATIONS.
- VALVES AND FITTINGS SHALL BE OF SAME SIZE OF LINE ON WHICH THEY ARE LOCATED, UNLESS OTHERWISE INDICATED ON DRAWINGS.
- CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER TRADES.
- CONTRACTOR SHALL FIELD VERIFY ALL GIVEN MEASUREMENTS PRIOR TO LAYING AND CONNECTING ALL SANITARY AND WASTE PIPING AND NOTIFY ARCHITECT OF ANY DISCREPANCIES.
- AIR CHAMBERS SHALL NOT BE CONSIDERED AN EQUAL TO WATER ARRESTORS AS SPECIFIED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING FIRE RATING AND WEATHERPROOFING INTEGRITY OF ALL PIPING AND PENETRATIONS.
- ALL WATER SUPPLY AND SANITARY LINES SHALL BE RUN AS CLOSE TO PLANS AS POSSIBLE WITH NO CHANGES IN SIZING.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY SUPPORTING DEVICES FOR ALL FIXTURES INCLUDED IN CONTRACT OR HEREIN SPECIFIED OR OTHERWISE.
- CHANGES IN THE DIRECTION OF SANITARY PIPING SHALL NOT BE MADE WITH FITTINGS WHICH WILL CAUSE EXCESSIVE REDUCTION IN THE VELOCITY OF FLOW OR CREATE ANY OTHER ADVERSE EFFECT UNLESS PHYSICALLY IMPOSSIBLE (IE. USE OF SANITARY TEE IN A HORIZONTAL CONNECTION, USE OF A DOUBLE SANITARY TEE IN A VERTICAL STACK, IN GENERAL, USE OF SHORT-RADIUS FITTINGS FOR BRANCH TO HOUSE DRAIN OR STACK CONNECTION).
- ALL DRAINAGE PIPING SHALL BE MARKED WITH THE SEAL OF APPROVAL OF THE NATIONAL SANITATION FOUNDATION.
- PROVIDE ACCESS PANELS TO ALL VALVES WITHIN CHASES OR ABOVE NONACCESSIBLE CEILINGS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
- SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF PLUMBING FIXTURE MOUNTING HEIGHTS, AND DIMENSIONS.
- CONTRACTOR SHALL VERIFY INVERT ELEVATIONS OF SANITARY AND GREASE TRAPS TO WHICH NEW SEWER LINES ARE TO BE CONNECTED BEFORE INSTALLATION OF NEW SEWER LINE.
- ALL VENTS THROUGH ROOF SHALL BE MIN. 10'-0" FROM ANY AIR INTAKES.
- CONTRACTOR SHALL INSTALL DIELECTRIC UNIONS AT CONNECTIONS OF DISSIMILAR METALS.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS (INCLUDING PIPE ROUTING AND EQUIPMENT LOCATIONS) TO ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE INSTALLATION OR PURCHASING OF ANY PIPING AND/OR EQUIPMENT.
- PROVIDE 3/4" H.W. SUPPLY WITH ANGLE STOP AND FLEXIBLE SUPPLY TO DISHWASHER MACHINE, AT HEIGHT REQUIRED BY MANUFACTURER OF EQUIPMENT INSTALLED IF APPLICABLE IN THE RESPECTIVE PROJECT.
- CLEANOUTS SHALL BE PROVIDED AT THE LOCATIONS INDICATED AND A MINIMUM WHERE REQUIRED BY CODE. FLOOR CLEANOUTS SHALL BE A MINIMUM OF 4" AND SHALL BE COMPLETE WITH A FLUSH PLUG AND REMOVABLE SCORRIATED BRONZE FLOOR PLATE, PROVIDE CARPET BUTTONS IN CARPETED AREAS.

FOOD SERVICE NOTES

- ALL SERVICE LINES FOR WATER AND GAS SIZED TO PROVIDE FULL FLOW VOLUME FOR ALL ITEMS SUPPLIED ON RESPECTIVE MAINS AND BRANCHES. IDENTIFY ALL LINES WITH PERMANENT LABELS FOR THE SERVICE THEY PROVIDE.
- FUEL GAS SERVICES SHALL BE SIZED TO SUPPLY THE REQUIRED BTUH INDICATED AT THE EQUIPMENT AT LOW PRESSURE OF APPROXIMATELY 7"-11" WATER COLUMN. PROVIDE PRESSURE REGULATORS AS REQUIRED.
- ALL HOT AND COLD WATER SERVICE LINES, EXCEPT SHORT BRANCHES EXTENDED AND CONNECTED TO FIXTURES, SHALL BE INSULATED. ALL EXPOSED INSULATED LINES SHALL BE COVERED WITH PROTECTIVE COVERING TO SUIT THE APPLICATION.
- ALL HORIZONTAL PIPING LINES EXTENDED AND CONNECTED TO EQUIPMENT, BELOW EQUIPMENT, SHALL BE RUN AT THE HIGHEST POSSIBLE ELEVATION ABOVE FLOOR, TO PROVIDE CLEARANCE FOR CLEARING. NO LINES SHALL LAY ON FLOOR.
- ALL PIPING ROUTED THROUGH OR NEAR EQUIPMENT OR COUNTERS SHALL NOT INTERFERE WITH THE INTENDED USE OF, OR SERVICING OF, EQUIPMENT OR COUNTERS.
- ALL EXPOSED PIPING AND FITTINGS SHALL BE CHROME PLATED OR STAINLESS STEEL. TAIL PIECES FOR SINKS SHALL BE 17 GAUGE CHROME PLATED FLARED BRASS TUBING FOR CONNECTION TO 1-1/2" P.S. MALE THREAD FITTINGS. "P" TRAPS SHALL BE CHROME PLATED BRASS, UNIFORM CODE PATTERN.
- STOPS SHALL BE FURNISHED AND INSTALLED ON ALL HOT AND COLD WATER LINES AT EQUIPMENT. PROVIDE ALL REQUIRED SHUT-OFF VALVES, CHROME FINISH.
- KITCHEN EQUIPMENT DIVISION SHALL PROVIDE ALL FOOD SERVICE EQUIPMENT FAUCETS. PLUMBING CONTRACTOR SHALL INSTALL AND CONNECT EQUIPMENT SINKS ARE PROVIDED WITH 1-1/2" WASTE CONNECTIONS.
- ALL WASTES, DIRECT OR INDIRECT, SHALL BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR EXCEPT AS NOTED ON UTILITY PLANS.
- MINIMUM SIZE INDIRECT WASTES SHALL BE 1", REGARDLESS OF SIZE OF CONNECTION AT EQUIPMENT.
- ADEQUATE CLEAN-OUT PROVISION SHALL BE MADE FOR ALL WASTE LINES BY MEANS OF PLUGGED "T" FITTING EXTENDED TO ACCESSIBLE POSITION.
- PLUMBING CONTRACTOR SHALL FURNISH AND INSTALL DRAIN LINES FROM COLD STORAGE ROOM EVAPORATORS TO DRAIN LOCATIONS WITH MINIMAL PITCH AND "P" TRAP IN END OVER FLOOR RECEPTOR DRAIN LINES SHALL BE 1" MINIMUM. EACH EVAPORATOR SHALL HAVE A SEPARATE DRAIN LINE.
- GAS AND WATER SERVICES FOR PORTABLE AND COUNTER TOP APPLIANCES SHALL BE CONNECTED TO EQUIPMENT WITH STAINLESS STEEL FLEXIBLE HOSES AND QUICK DISCONNECT FITTINGS. GAS FITTINGS AND HOSES SHALL BE A.G.A. APPROVED FOR COMMERCIAL KITCHEN EQUIPMENT. GAS AND WATER HOSES SHALL BE COVERED WITH A THICK FIRE RESISTANT PLASTIC OR POLY COATING.
- PLUMBING CONTRACTOR SHALL COORDINATE WITH KITCHEN CONSULTANT DRAWINGS FOR ROUGH IN LOCATIONS, SIZES AND HOOK-UP REQUIREMENTS FOR ALL KITCHEN EQUIPMENT. ROUGH IN EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS.

SHEET LIST

SHEET NUMBER	SHEET TITLE
PLUMBING	
P0.0	GENERAL NOTES AND LEGEND
P1.0	SANITARY & VENT PLAN
P2.0	WATER SUPPLY PLAN
P2.1	GAS PLAN
P2.2	ROOF GAS PLAN
P4.0	PLUMBING SCHEDULES
P5.0	PLUMBING DETAILS (1 OF 2)
P5.1	PLUMBING DETAILS (2 OF 2)
P6.0	RISER DIAGRAMS
P7.0	PLUMBING ENERGY COMPLIANCE FORMS
P8.0	PLUMBING SPECIFICATIONS (1 OF 2)
P8.1	PLUMBING SPECIFICATIONS (2 OF 2)

FIELD VERIFY ALL CONDITIONS

NOTE! AS NOTED IN THE SPECIFICATIONS, ALL WIRING LAYOUTS, PIPING LAYOUTS AND DUCT LAYOUTS ARE SCHEMATIC. EXACT LOCATIONS SHALL BE DETERMINED BY THE CONSTRUCTION AND STRUCTURE OF THE BUILDING AND SHALL BE VERIFIED AND COORDINATED IN THE FIELD. EACH TRADE CONTRACTOR SHALL VERIFY WITH THE GENERAL CONTRACTOR THAT HE HAS THOROUGHLY REVIEWED AND COORDINATED ALL LOCATIONS AND ROUTINGS WITH ALL OTHER TRADES PRIOR TO FABRICATION OF CONDUITS, DUCTS, OR PIPING, AND START OF INSTALLATION OF SAME (INCLUDING SPRINKLER PIPING WHEN PRESENT ON JOB). ANY INSTALLATION OR CONSTRUCTION CONFLICTS WHICH OCCUR IN THE FIELD SHALL BE RESOLVED BY THE TRADE CONTRACTOR TO THE SATISFACTION OF THE OWNER AND ARCHITECT AND AT NO EXPENSE TO THE OWNER, ARCHITECT AND/OR GENERAL CONTRACTOR.

THE CONTRACTOR SHALL CONTACT THE ARCHITECT, ENGINEER OR OWNER PRIOR TO BIDDING FOR INTERPRETATIONS AND CLARIFICATIONS OF THE DESIGN AND INCLUDE IN HIS BID ALL COSTS TO MEET THE DESIGN INTENT. CLARIFICATIONS MADE BY THE ARCHITECT, ENGINEER OR OWNER AFTER BIDDING WILL BE FINAL AND SHALL BE IMPLEMENTED AT CONTRACTORS COST.

BIDDING CONTRACTORS SHALL HAVE A WORKING KNOWLEDGE OF LOCAL CODES AND ORDINANCES AND SHALL INCLUDE IN THEIR BIDS THE COSTS FOR ALL WORK INSTALLED IN STRICT ACCORDANCE WITH GOVERNING CODES. THE PLANS AND SPECIFICATIONS NOT WITHSTANDING, THE CONTRACTOR SHALL ALERT ARCHITECT, ENGINEER OR OWNER OF ANY APPARENT DISCREPANCIES BETWEEN GOVERNING CODES AND DESIGN INTENT.

PLUMBING LEGEND

	DIRECTION OF FLOW IN PIPE
	PITCH PIPE DOWN IN DIRECTION OF ARROW
	PIPE UP
	PIPE DOWN
	BALL VALVE
	CHECK VALVE / SECONDARY BFP
	BALANCING VALVE
	GAS COCK VALVE
	GAS ISOLATION VALVE
	BALANCING VALVE
	VALVE IN VERTICAL
	UNION
	PRESSURE REDUCING VALVE
	HOSE END VALVE
	SANITARY SEWER (BELOW GRADE)
	DOMESTIC COLD WATER (CWS)
	DOMESTIC HOT WATER (HWS)
	DOMESTIC HOT WATER RETURN (HWR)
	DOMESTIC TEMPERED HOT WATER
	CONDENSATE DRAIN (BELOW GRADE)
	CONDENSATE DRAIN (ABOVE GRADE)
	GREASE WASTE (BELOW GRADE)
	GREASE WASTE (ABOVE GRADE)
	FILTERED WATER
	VENT
	GAS LINE (ABOVE GRADE)
	POINT OF CONNECTION NEW TO EXISTING
	HOSE BIB
	FS-1 (FLOOR SINK 1/2 GRATE)
	FS-2 (WITH FUNNEL DRAIN)
	FS-3 (FLOOR SINK DISHWASHER, 1/2 GRATE)
	FLOOR DRAIN
	HUB DRAIN
	TRENCH DRAIN
	FLOOR CLEANOUT
	EXTERIOR CLEANOUT
	HORIZONTAL CLEANOUT

ABBREVIATIONS

CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
GW	GREASE WASTE
V	VENT
AFF/AFG	ABOVE FINISHED FLOOR/GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFP	BACKFLOW PREVENTER
ETR	EXISTING TO REMAIN
FCO	FLOOR CLEANOUT
GC	GENERAL CONTRACTOR
IW	INDIRECT WASTE
PC	PLUMBING CONTRACTOR
WCO	WALL CLEANOUT
IWH	INSTANTANEOUS WATER HEATER
ET	EXPANSION TANK
RCP	RE CIRCULATION PUMP
FD	FLOOR DRAIN
HD	HUB DRAIN
FS	FLOOR SINK
TD	TRENCH DRAIN
F	FRANCHISE
EV	EQUIPMENT VENDOR
CC	CONTRACTORS CHOICE
OC	OWNERS CHOICE
VLL	VERIFY WITH LANDLORD
SPS	SEE PLUMBING SCHEDULE
FCO	FLOOR CLEANOUT
GAL	GALLONS
GPH	GALLON PER HOUR
GPM	GALLON PER MINUTE
HB	HOSE BIBB
CD	CONDENSATE DRAIN
FW	FILTER WATER
NTS	NOT TO SCALE
TYP	TYPICAL



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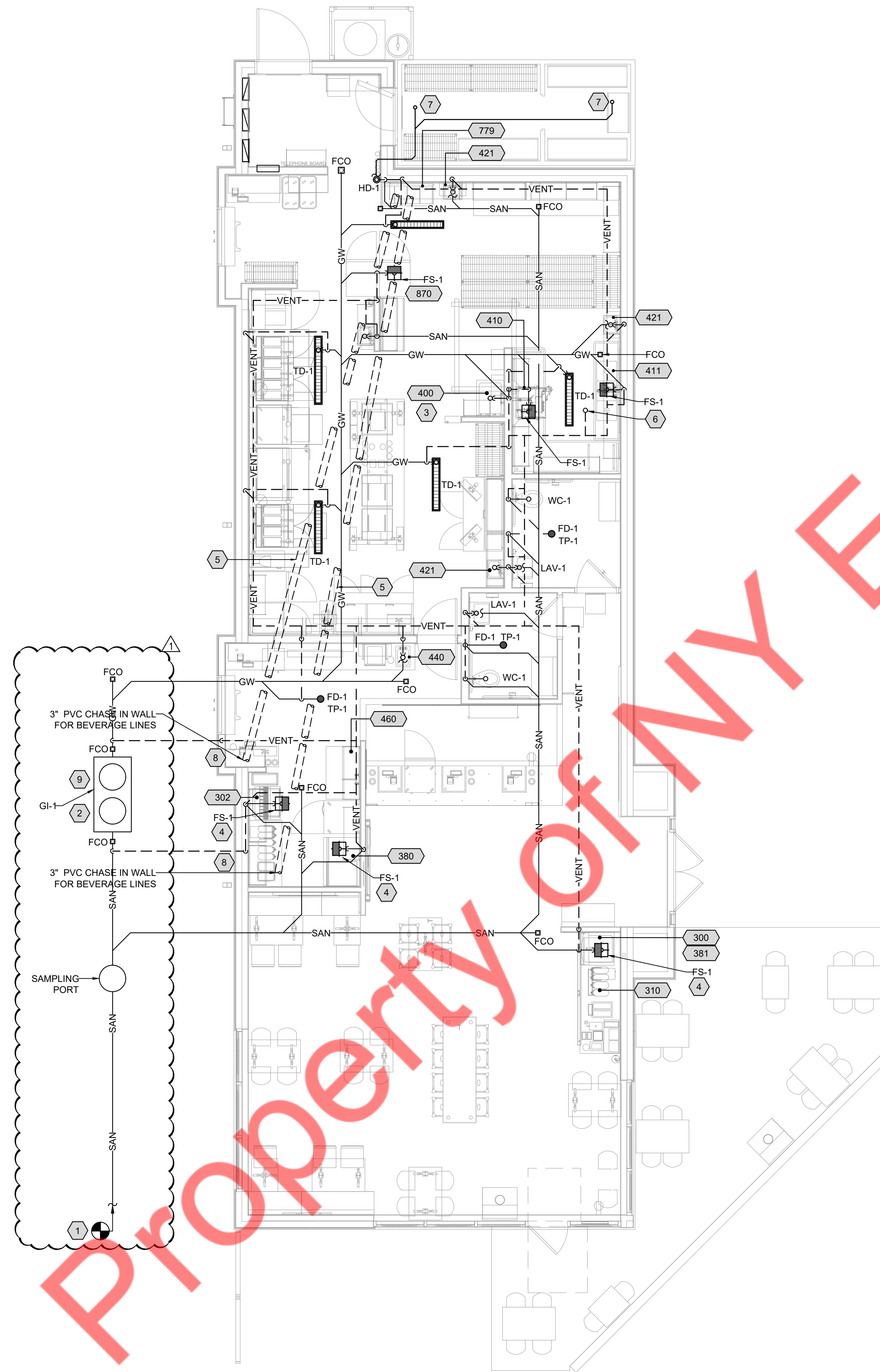
CM: NYE

KEYED NOTES #

1. FIELD LOCATE AND TIE INTO THE SEWER MAINS. PLUMBING CONTRACTOR SHALL FIELD VERIFY LOCATION OF SEWER MAINS, VERIFY SIZE AND INVERT. NOTIFY THE ENGINEER IF INVERT CAN NOT BE MET.
2. CONNECT 4" GREASE WASTE LINE TO NEW 250 GALLON CONCRETE GREASE INTERCEPTOR. PROVIDE SAMPLING PORT 6" MIN DEPTH DOWN STREAM OF G.I. FIELD VERIFY & COORDINATE WITH CIVIL ENGINEER & JURISDICTION FOR LOCATION AND REQUIREMENTS OF SAMPLING PORT.
3. ROUTE WATER HEATER T&P DRAIN LINES TO MOP SINK WITH AIR GAP.
4. FLOOR SINKS RECEIVING SODA WASTE SHALL BE ACID RESISTANT WASTE PIPING FROM THESE FLOOR SINKS SHALL BE ACID RESISTANT PIPING TO THE POINT THEY CONNECT WITH THE MAIN WASTE LINE AND ARE DILUTED BY OTHER LIQUID WASTES.
5. KITCHEN VENDOR TO PROVIDE UNDERGROUND 6" MINIMUM PVC CONDUIT TO SODA SYSTEM AS SHOWN. USE LONG RADIUS ELBOWS ONLY. SEE KITCHEN CONSULTANT DRAWINGS FOR MORE DETAIL ON SODA PVC.
6. PROVIDE 3" V.T.R THRU ROOF.
7. CONTRACTOR TO ROUTE 1" CONDENSATE LINES FROM COOLER/FREEZER EVAPORATORS TO HUB DRAIN WITH PROPER AIR GAP. PROVIDE WITH HEAT TRACE TAPE. CONNECT TO SANITARY LINE.
8. ROUTE GREASE INTERCEPTOR VENT LINES UNDERGROUND AND UP EXTERIOR WALL.
9. INTERCEPTOR LOCATION SHOWN IN THE DRAWING APPROX. CONTRACTOR CO-ORDINATE WITH CIVIL DRAWINGS AND LOCAL AHJ FOR GREASE INTERCEPTOR LOCATIONS AND INSTALLATIONS.

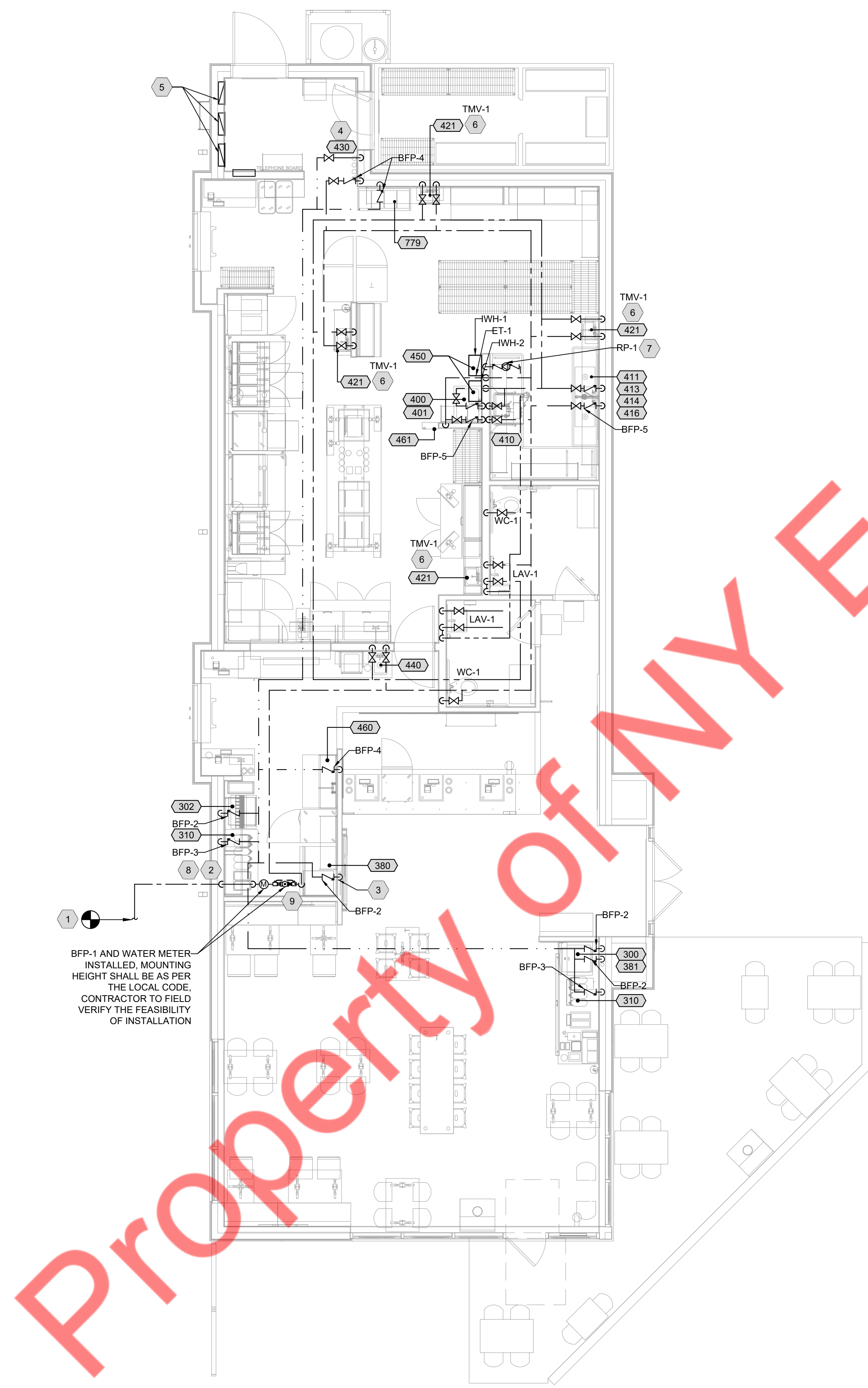
GENERAL NOTES

1. ALL PIPING SHALL BE SNAKE CLEAN PRIOR TO CONNECTION.
2. ALL DRAIN, WASTE AND VENT FITTINGS SHALL BE CAST IRON PIPE.
3. PLUMBING IS NOT PERMITTED IN ANY DEMISING PARTITIONS. FURROUT THE WALL AS NECESSARY.
4. EXHAUST AND PLUMBING VENTS SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ANY OUTSIDE AIR INTAKE, AND 5'-0" FROM ANY DEMISING WALL VERTICAL PLANE.
5. ALL FLOOR DRAINS ARE REQUIRED TO HAVE TRAP PRIMERS.
6. ALL FLOOR PENETRATIONS MUST BE CORE BORED, SLEEVED, GROUTED, SEALED AND MADE WATERPROOF. SLEEVES MUST EXTEND A MINIMUM OF 4" AFF.
7. IF NOT ALREADY EXISTING, INSTALL A SHUT OFF VALVE ON DOMESTIC WATER LINE INSIDE SPACE.
8. TENANT IS REQUIRED TO INSTALL A WATERPROOF MEMBRANE IN ALL WET AREAS OF THE SPACE. TENANT SHALL USE A 30 MIL POLYETHYLENE CLEAVAGE MEMBRANE (EQUAL TO NOBLESEAL TS) INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND ANSI A108. MEMBRANE MUST BE EXTENDED UP THE WALL A MINIMUM OF 6" OR EQUAL TO THE HEIGHT OF THE FLOOR BASE.
9. SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT FOR SANITARY & 1/4" PER FOOT OF RUN FOR GREASE WASTE FOR PIPE 3" AND ABOVE. 1/4" PER FOOT OF RUN FOR PIPE LESS THAN 3". VENT PIPING SHALL BE PITCHED TO DRAIN.
10. PROVIDE ACCESS PANEL FOR CLEANOUTS AND ALL CONCEALED EQUIPMENTS THAT REQUIRE MAINTENANCE ACCESS. CONTRACTOR TO COORDINATE WITH ARCHITECT FOR LOCATION.
11. PROVIDE WALL CLEANOUTS WHEREVER POSSIBLE FOR EACH CHANGE IN DIRECTION OF MORE THAN 45 DEG.
12. REFER RISER DIAGRAMS FOR PIPE SIZES.



SANITARY AND VENT PLAN
1
P1.0
3/16" = 1'-0"
NORTH

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BFP-1 AND WATER METER-
 INSTALLED. MOUNTING
 HEIGHT SHALL BE AS PER
 THE LOCAL CODE.
 CONTRACTOR TO FIELD
 VERIFY THE FEASIBILITY
 OF INSTALLATION

KEYED NOTES #

1. CONNECT NEW 2" CW SERVICE TO WATER MAINS. FIELD VERIFY LOCATION OF EXISTING WATER MAINS. PROVIDE NEW RPZ AND NEW WATER METER AS REQUIRED BY LOCAL AND STATE CODES. NOTIFY ARCHITECT OF ANY CONFLICTS.
2. ROUTE WATER LINE DOWN IN WALL AND UNDERGROUND.
3. 1/2" CW TO ICE MACHINE. MINIMUM PRESSURE REQUIRED FOR THE ICE MACHINES IS 40 PSI.
4. ROUTE CW DOWN IN WALL. STUB OUT TO WATER FILTER CONNECTION. PIPE FILTER WATER TO FIXTURES INDICATED ON PLAN.
5. NO NEW PIPING SHALL BE INSTALLED ABOVE THE PROPOSED LOCATION OF INTERIOR ELECTRICAL PANEL(S).
6. PROVIDE MIXING VALVE WATT'S SERIES TO LAVATORIES AND HAND SINK FAUCETS CONFORMING TO ASSE 1070 (TMV-1).
7. RE-CIRCULATION PUMP SHALL BE LOCATED IN AN ACCESSIBLE LOCATION ABOVE THE CEILING. PROVIDE TIME CLOCK FOR RECIRCULATING PUMP BASED ON HOURS OF OPERATION FOR TENANT. INCLUDE RETURN WATER TEMPERATURE SENSOR TO PAUSE PUMP WHEN RETURN WATER IS HOT. PROVIDE BALL VALVES, CHECK VALVE, AND BALANCING VALVE (CIRCUIT SETTER CALIBRATED BALANCE VALVE).
8. NO TAP OFF TO BE TAKEN BEFORE RPZ.
9. TERMINATE BFP-1 DRAIN TO THE NEAREST FLOOR SINK BELOW WITH CODE REQUIRED AIR-GAP.

GENERAL NOTES

1. ANY WORK SHOWN ON THE DRAWINGS AND NOT PARTICULARLY DESCRIBED IN THE SPECIFICATIONS OR DETAILS, OR ANY WORK WHICH MAY BE DEEMED NECESSARY TO COMPLETE THE CONTRACT SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THIS CONTRACT.
2. CW/ HW PIPING TO BE PROVIDED WITH INSULATION AS PER INTERNATIONAL ENERGY CONSERVATION CODE 2018, TABLE C403.11.3.
3. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF FLOOR SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.
4. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
5. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
6. FOR HAND SINK & LAVATORIES PROVIDE HOT WATER AT 110°F. PROVIDE POINT OF USE MIXING VALVE IF REQUIRED.
7. PROVIDE MINIMUM PRESSURE REQUIRED FOR WATER LINES AT EXTREME FIXTURE AS PER TABLE NO 604.3 FROM INTERNATIONAL PLUMBING CODE 2018. PROVIDE BRANCH PRV IF PRESSURE INCREASES 80 PSI.
8. PROVIDE HOT WATER RETURN AS PER MAXIMUM PIPE LENGTH TABLE FROM INTERNATIONAL ENERGY CONSERVATION CODE 2018, TABLE C404.5.1.
9. REFER BACKFLOW PREVENTERS DEVICE SCHEDULE IN SHEET P-4.0 FOR SECONDARY BFP LOCATIONS.

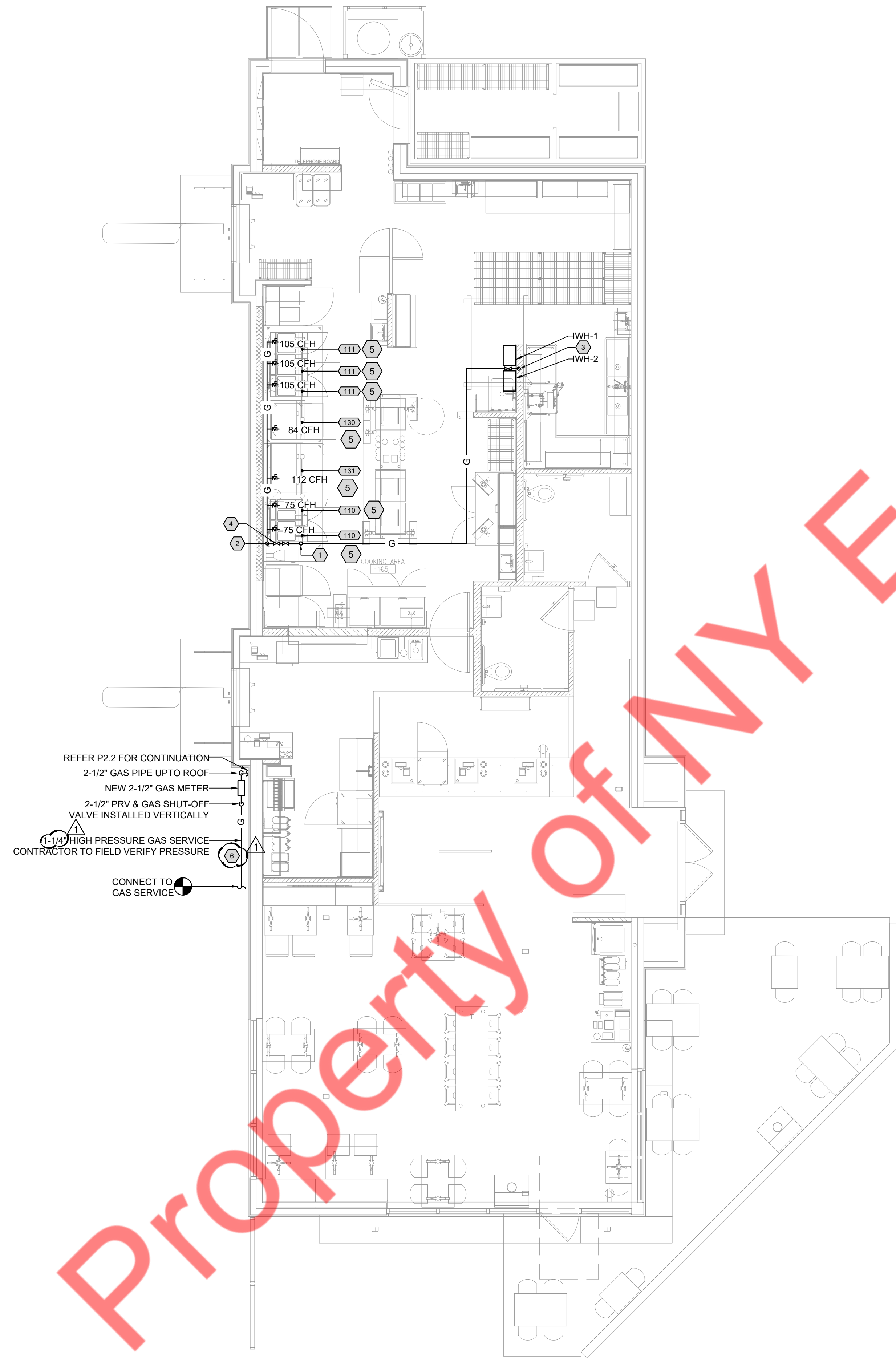


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P2.0

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REFER P2.2 FOR CONTINUATION
 2-1/2" GAS PIPE UPTO ROOF
 NEW 2-1/2" GAS METER
 2-1/2" PRV & GAS SHUT-OFF VALVE INSTALLED VERTICALLY
 1-1/4" HIGH PRESSURE GAS SERVICE CONTRACTOR TO FIELD VERIFY PRESSURE
 CONNECT TO GAS SERVICE

KEYED NOTES #

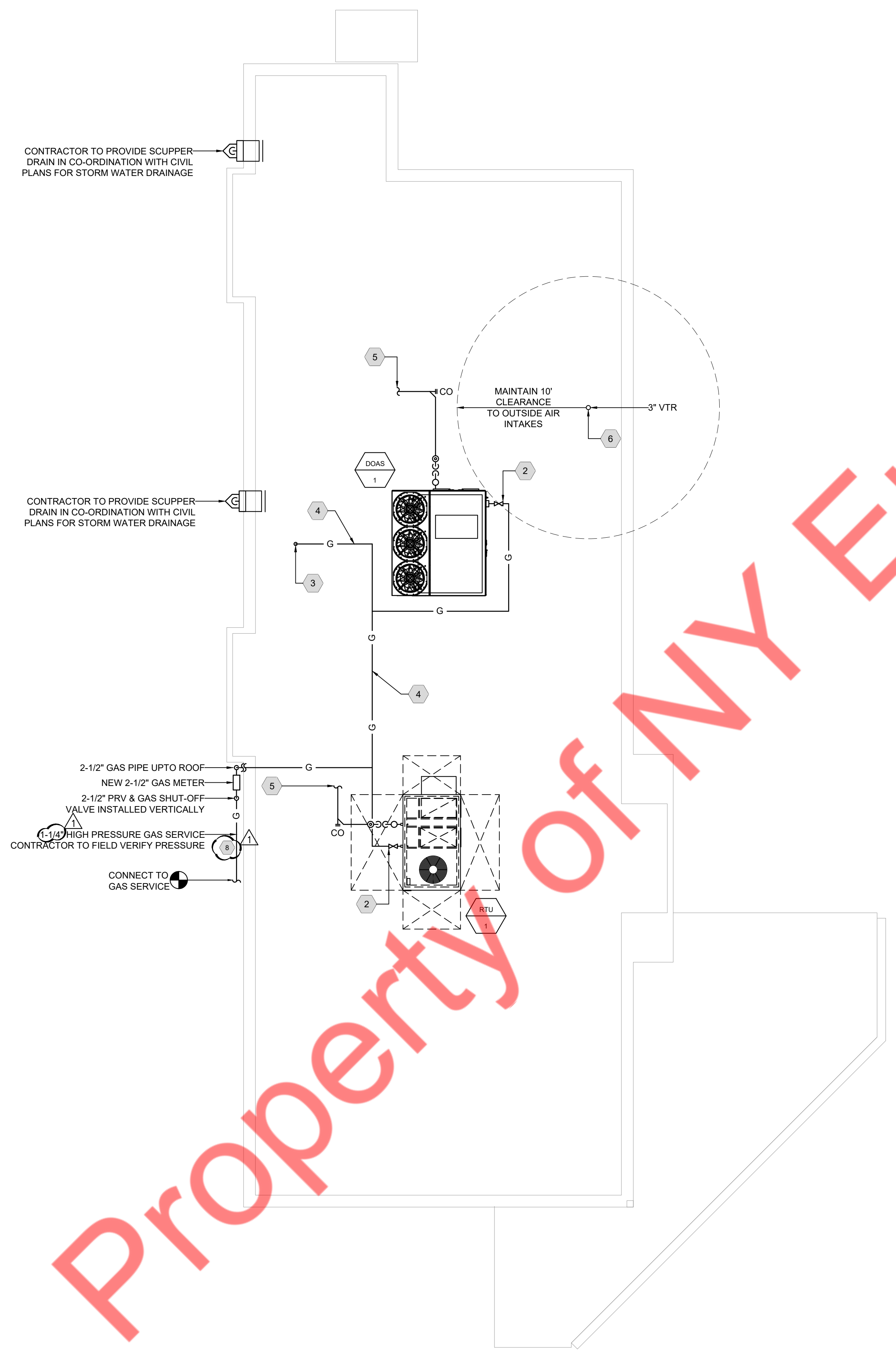
1. GAS PIPE DOWN FROM ROOF ABOVE.
2. ROUTE GAS LINE ABOVE CEILING AS SHOWN. DOWN TO COOKING EQUIPMENTS. COORDINATE EXACT LOCATION AND SIZE PRIOR TO BID.
3. ROUTE GAS LINE ABOVE CEILING AS SHOWN. DOWN TO WATER HEATERS. COORDINATE EXACT LOCATION AND SIZE PRIOR TO BID. MAKE CONNECTION WITH GAS COCK AND DIRT LEG.
4. PROVIDE LINE SIZE SOLENOID SHUT-OFF BELOW CEILING. INTERLOCK WITH HOOD FIRE SUPPRESSION SYSTEM. COORDINATE EXACT VALVE LOCATION. PROVIDE MANUAL SHUT-OFF VALVE BEFORE SOLENOID VALVE.
5. KITCHEN CONTRACTOR TO PROVIDE SINGLE SWIVEL MAX/SNAPFAST QUICK DISCONNECT ASSEMBLY FOR CONNECTION TO KITCHEN GAS EQUIPMENT. PLUMBING CONTRACTOR TO PROVIDE SUPPLY PIPING AND SHUT OFF VALVE WITH STUB TO LOCATION SHOWN. COORDINATE EXACT REQUIREMENTS WITH KITCHEN CONSULTANT PRIOR TO BID.
6. CONTRACTOR TO FIELD VERIFY AND MAINTAIN 5 FEET OF HORIZONTAL SEPARATION FROM ALL OTHER UTILITIES PARALLEL TO NATURAL GAS SERVICE.

GENERAL NOTES

1. GAS PIPING OPERATING AT PRESSURE HIGHER THAN 1LB. WHERE INSTALLED IN BUILDING SHALL HAVE WELDED JOINTS, PIPING BELOW 1LB. PRESSURE SHALL HAVE THREADED CONNECTION.
2. GAS PIPING SHALL BE STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE. PIPE SHALL BE THREADED OR WELDED AS DIRECTED BY LOCAL GAS COMPANY AND STATE AND LOCAL PLUMBING CODES.
3. PROVIDE GAS PIPING COMPLETE WITH ALL REQUIRED FITTINGS, STRAPS, HANGERS, SUPPORTS, ETC. OBTAIN ALL REQUIRED INSPECTIONS AND APPROVALS. GAS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 54 AND ANY APPLICABLE STATE AND LOCAL CODES OR REGULATIONS.
4. GAS PIPING ROUTED ON ROOF SHALL BE SUPPORTED BY ROOF PIPE SUPPORT AS PER CODE.
5. PAINT GAS PIPING EXPOSED TO WEATHER WITH (2) COATS OF 'RUSTOLEUM' OR EQUAL PAINT. COLOR TO BE SELECTED BY OWNER OR GENERAL CONTRACTOR AND PER REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
6. MAKE FINAL CONNECTIONS TO GAS FIRED EQUIPMENT. PROVIDE GAS SHUT-OFF VALVE AND 6" DIRT LEG AT EACH CONNECTION.
7. INSTALL AND CONNECT FLEXIBLE GAS PIPING PROVIDED WITH GAS FIRED OVEN EQUIPMENT AND MAKE FINAL CONNECTIONS TO OVEN.
8. PAINT GAS PIPING EXPOSED IN STORE BELOW CEILING SILVER.

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KEYED NOTES #

1. PROVIDE NEW GAS METER AND GAS PIPING. COORDINATE WITH GAS COMPANY TOTAL LENGTH: ±125'-0". SYSTEM PRESSURE: LESS THAN 2 PSI. AND TOTAL LOAD: 1,441 CFH PRIOR TO BID AND CONSTRUCTION. ROUTE GAS PIPING UP WALL AND ONTO ROOF.
2. GAS CONNECTION TO HVAC EQUIPMENT ON ROOF. PROVIDE WITH GAS COCK, DIRT LEG, AND SHUTOFF VALVE. COORDINATE EXACT ROUTING OF GAS PIPING WITH OTHER TRADES PRIOR TO BID.
3. ROUTE PIPING DOWN THRU ROOF. PROVIDE WITH WEATHERPROOF PENETRATION. COORDINATE WITH HOLDER OF ROOF WARRANTY FOR THIS WORK.
4. GAS PIPING ROUTED ON ROOF DECK. PROVIDE SUPPORTS AS REQUIRED. SEE DETAILS FOR ADDITIONAL INFORMATION. EXPOSED GAS PIPING ON ROOF TO BE PAINTED BLACK.
5. ROUTE CONDENSATE LINES AS SHOWN ACROSS ROOF WITH SUPPORT AS REQUIRED. DRAIN TO ROOF DRAIN/SCUPPER. COORDINATE EXACT LOCATION OF DRAIN/SCUPPER PRIOR TO CONSTRUCTION. PROVIDE WITH AIR GAP.
6. 3" VENT THRU ROOF. MAINTAIN 10'-0" SEPARATION BETWEEN OUTSIDE AIR INTAKES AND VENT LOCATIONS.
7. GAS METER LOCATION SHOWN IN PLAN IS APPROXIMATE. CONTRACTOR TO FIELD VERIFY AND COORDINATE WITH UTILITY PROVIDER FOR GAS METER LOCATION AND PRESSURE. NOTIFY THE ENGINEER IF ANY DISCREPANCIES.
8. CONTRACTOR TO FIELD VERIFY AND MAINTAIN 5 FEET OF HORIZONTAL SEPARATION FROM ALL OTHER UTILITIES PARALLEL TO NATURAL GAS SERVICE.

GENERAL NOTES

1. GAS PIPING OPERATING AT PRESSURE HIGHER THAN 1LB. WHERE INSTALLED IN BUILDING SHALL HAVE WELDED JOINTS, PIPING BELOW 1LB. PRESSURE SHALL HAVE THREADED CONNECTION.
2. GAS PIPING SHALL BE STANDARD WEIGHT SCHEDULE 40 BLACK STEEL PIPE. PIPE SHALL BE THREADED OR WELDED AS DIRECTED BY LOCAL GAS COMPANY AND STATE AND LOCAL PLUMBING CODES.
3. PROVIDE GAS PIPING COMPLETE WITH ALL REQUIRED FITTINGS, STRAPS, HANGERS, SUPPORTS, ETC. OBTAIN ALL REQUIRED INSPECTIONS AND APPROVALS. GAS PIPING SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 54 AND ANY APPLICABLE STATE AND LOCAL CODES OR REGULATIONS.
4. GAS PIPING ROUTED ON ROOF SHALL BE SUPPORTED BY ROOF PIPE SUPPORT AS PER CODE.
5. PAINT GAS PIPING EXPOSED TO WEATHER WITH (2) COATS OF "RUSTOLEUM" OR EQUAL PAINT. COLOR TO BE SELECTED BY OWNER OR GENERAL CONTRACTOR AND PER REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
6. MAKE FINAL CONNECTIONS TO GAS FIRED EQUIPMENT. PROVIDE GAS SHUT-OFF VALVE AND 6" DIRT LEG AT EACH CONNECTION.
7. PAINT GAS PIPING EXPOSED IN STORE BELOW CEILING SILVER.

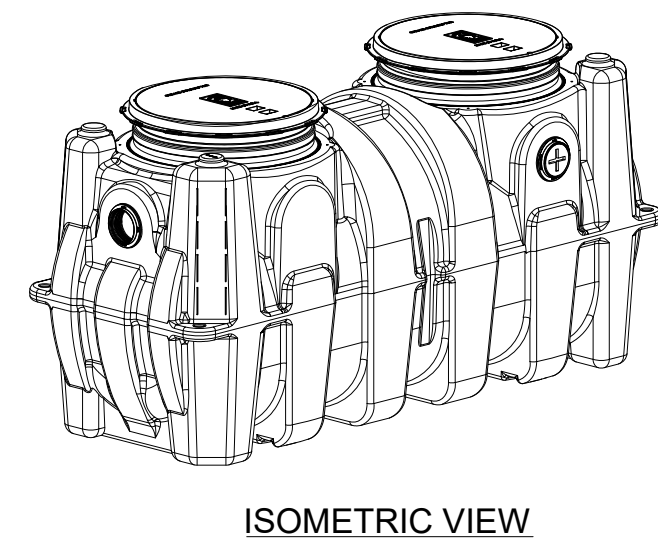
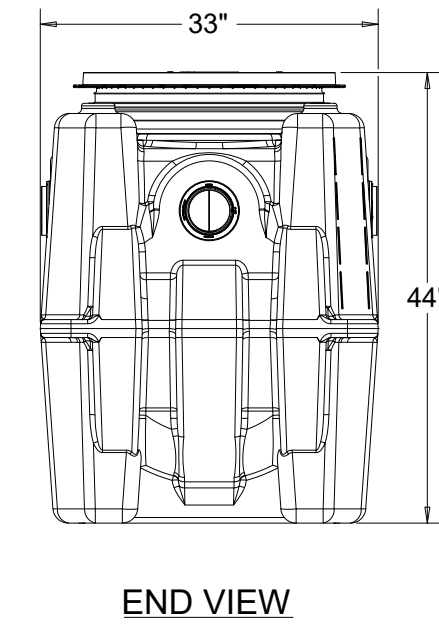
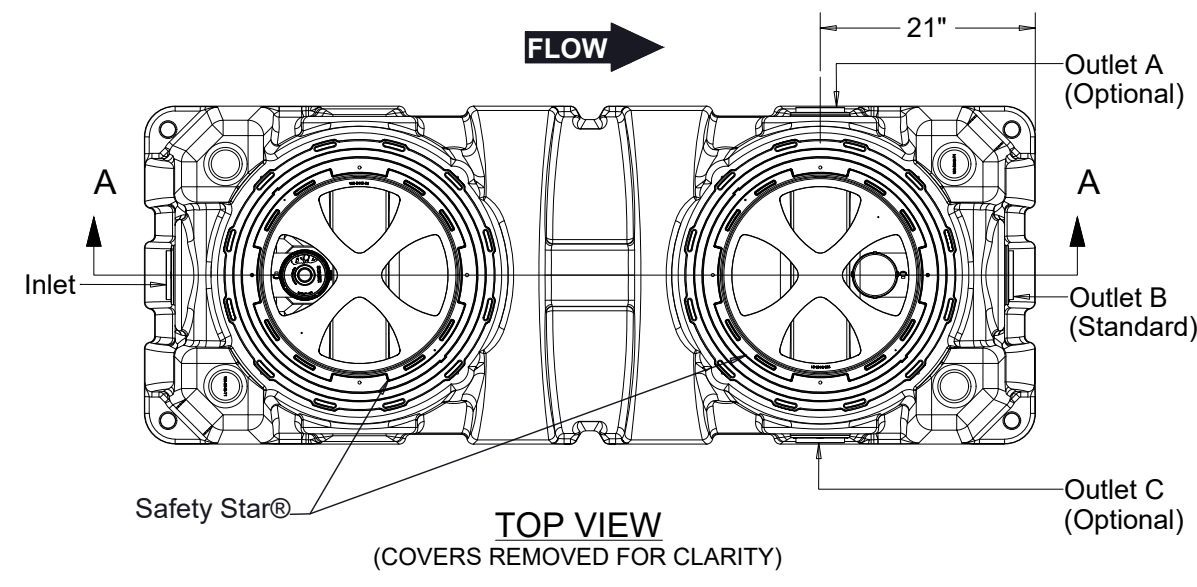
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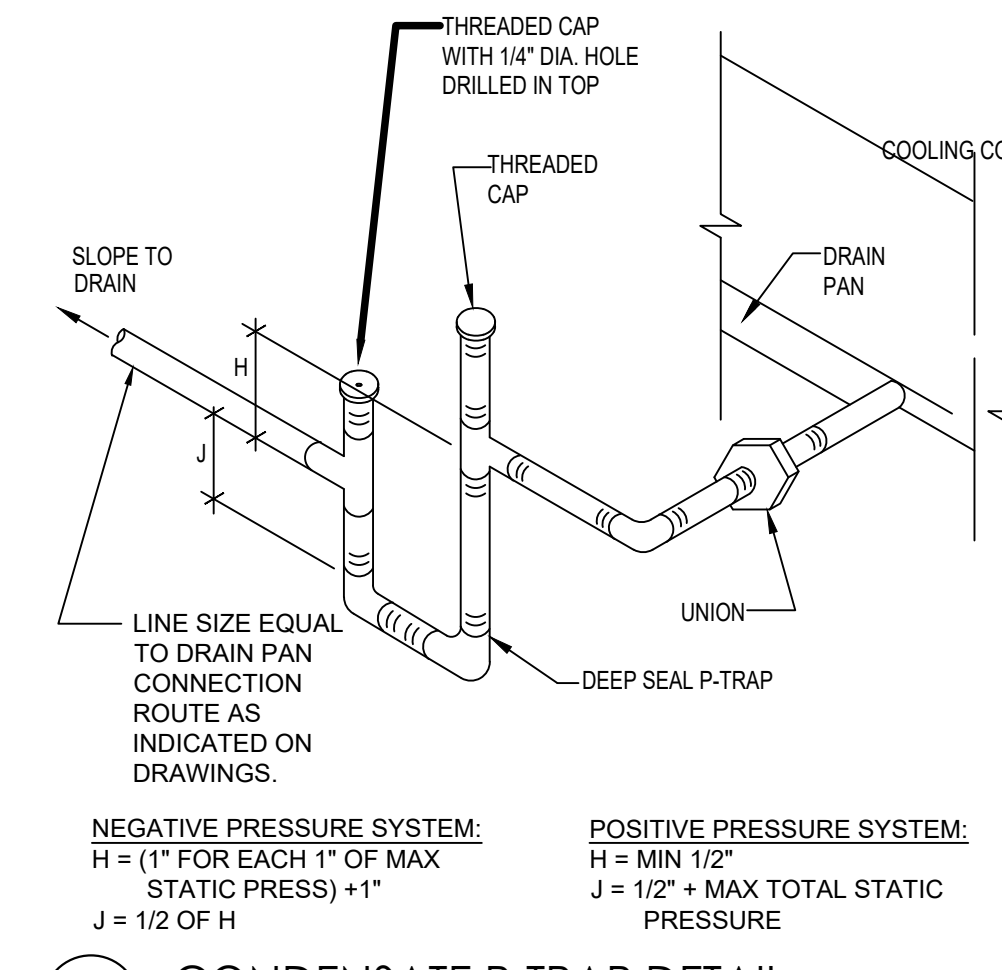
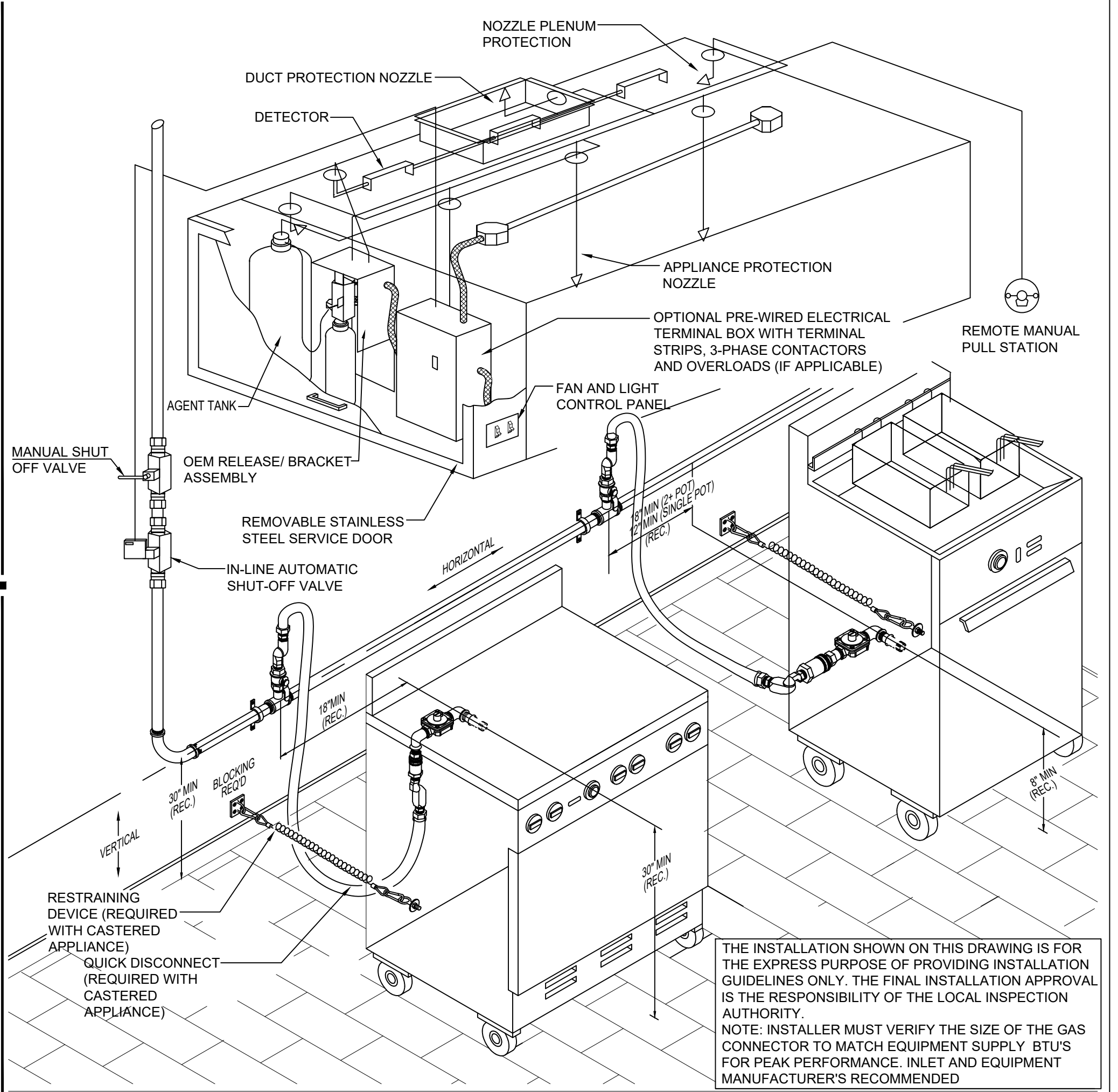
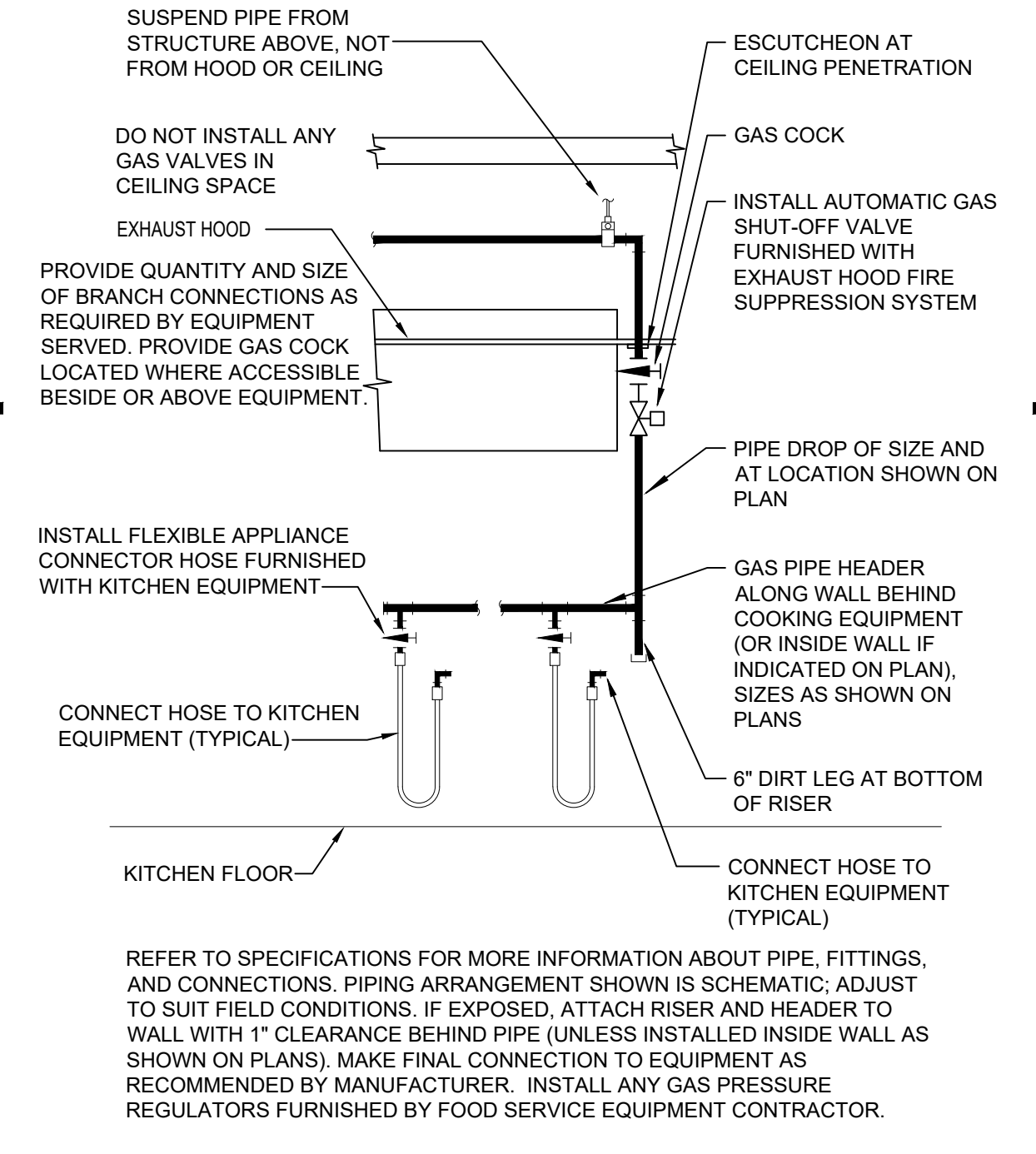
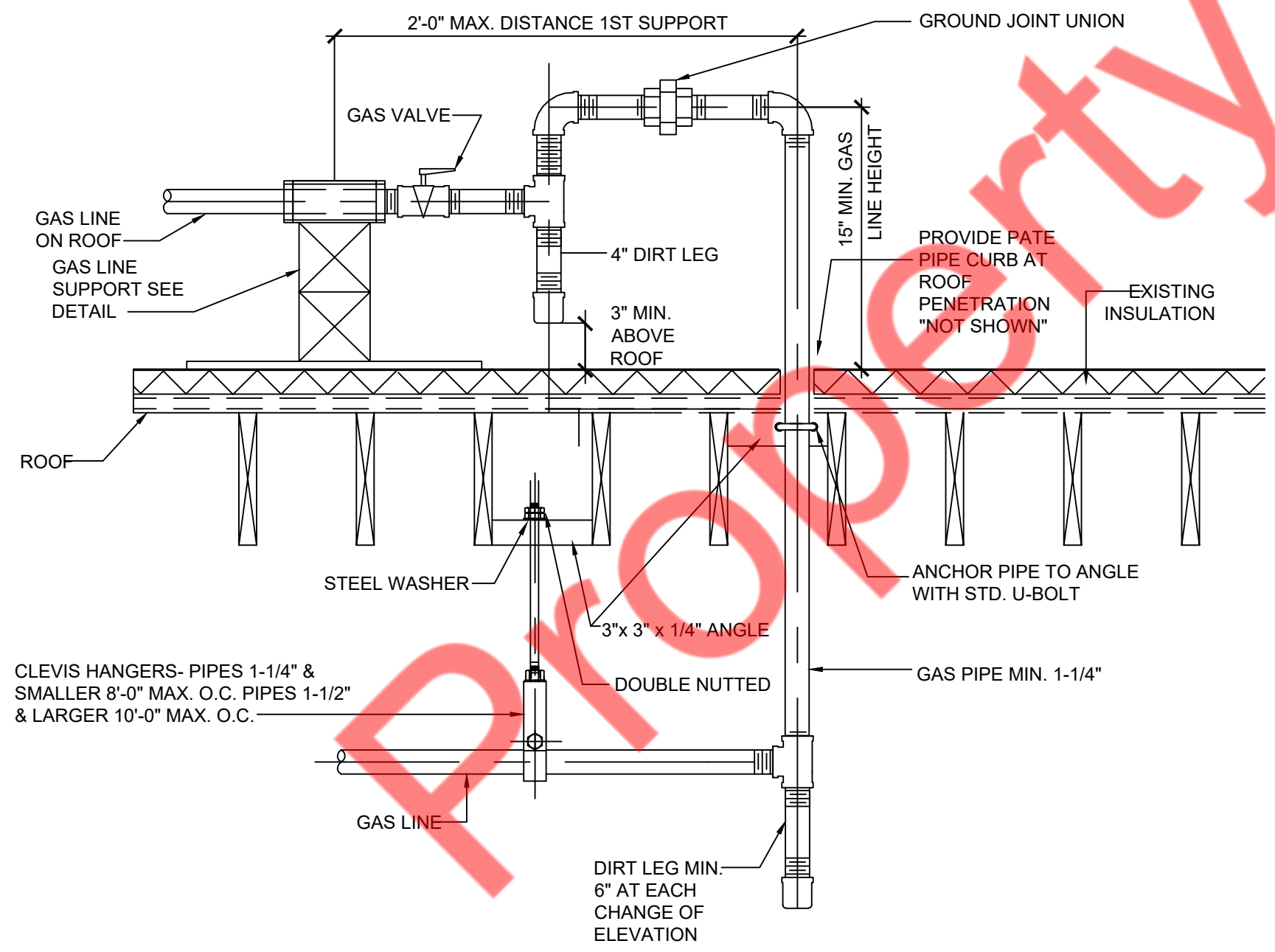
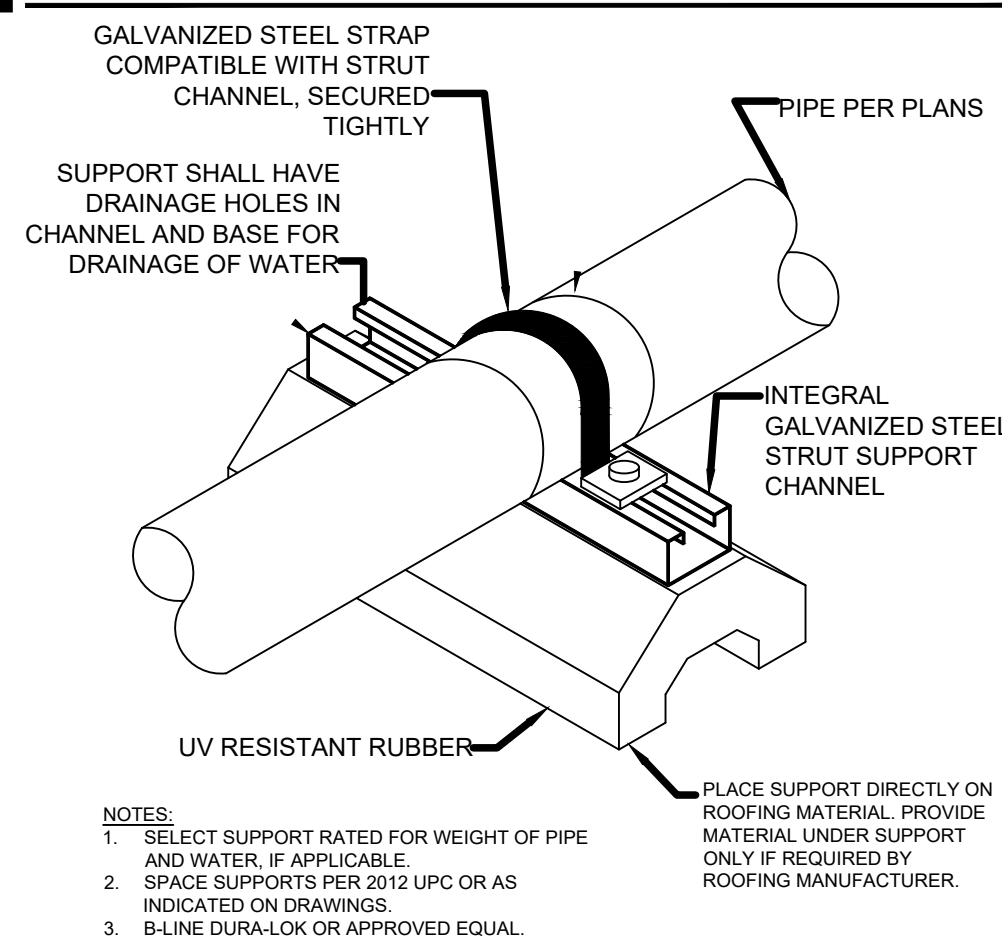
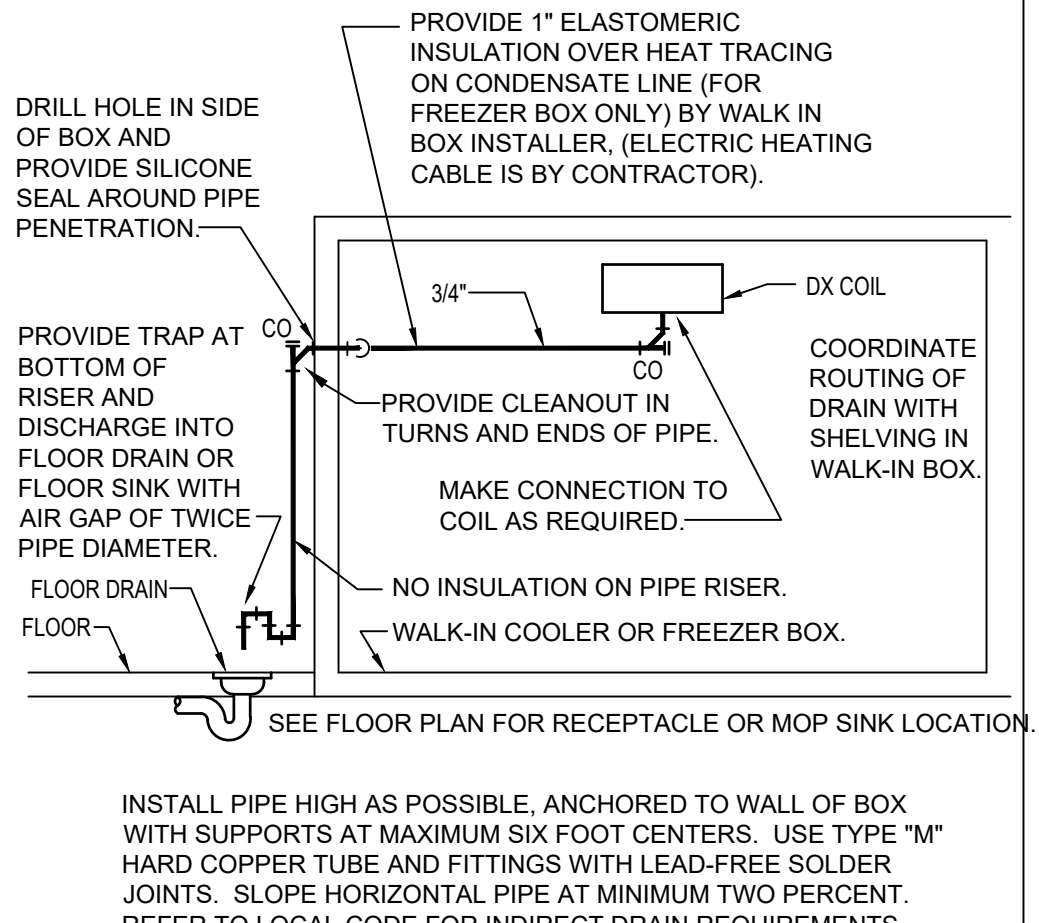
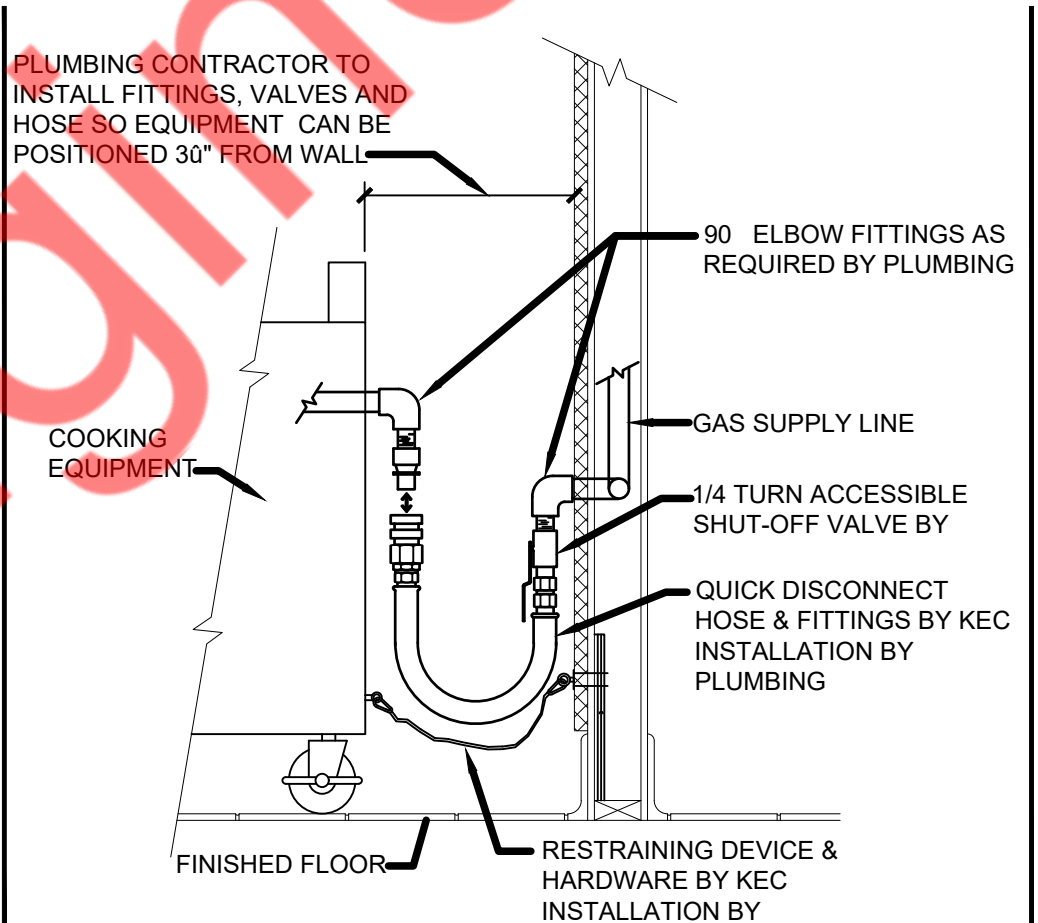
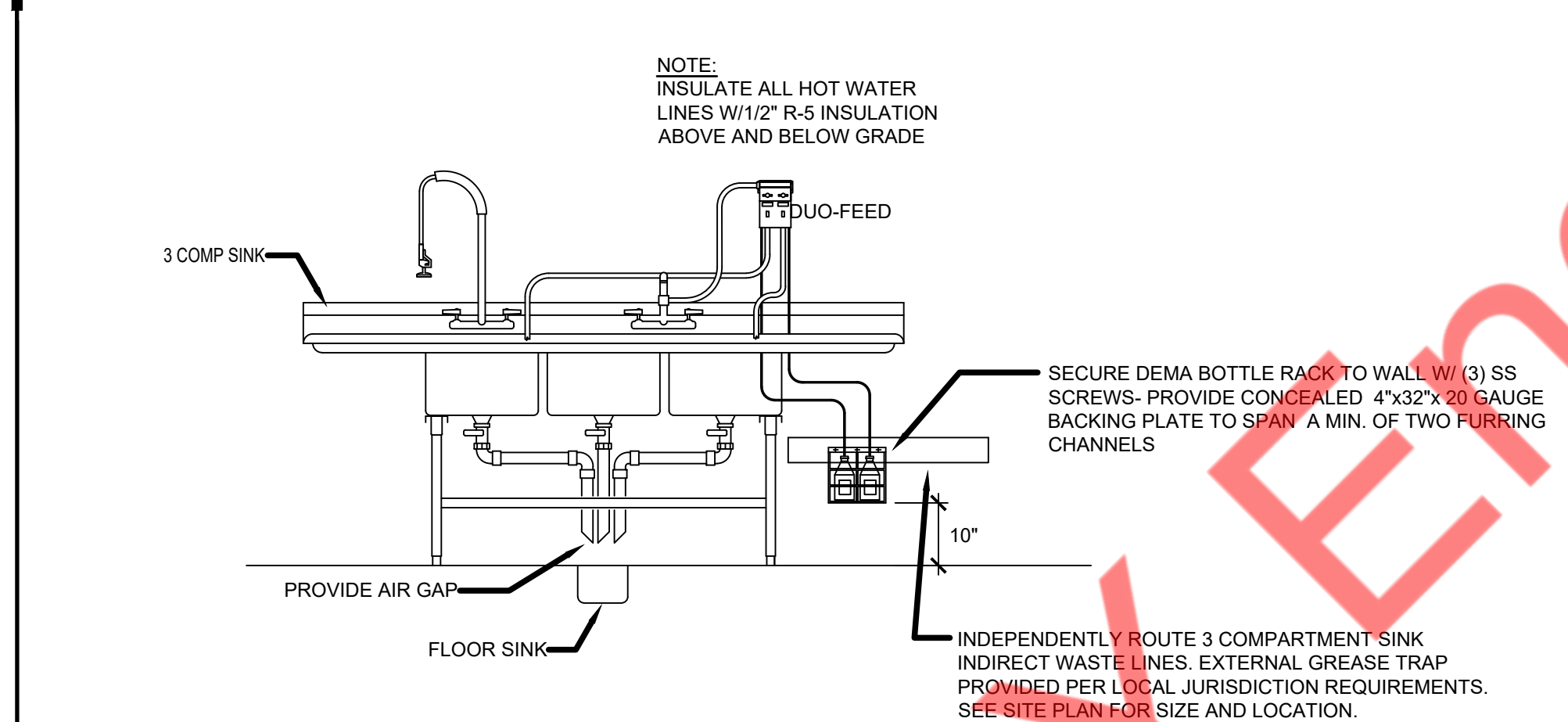
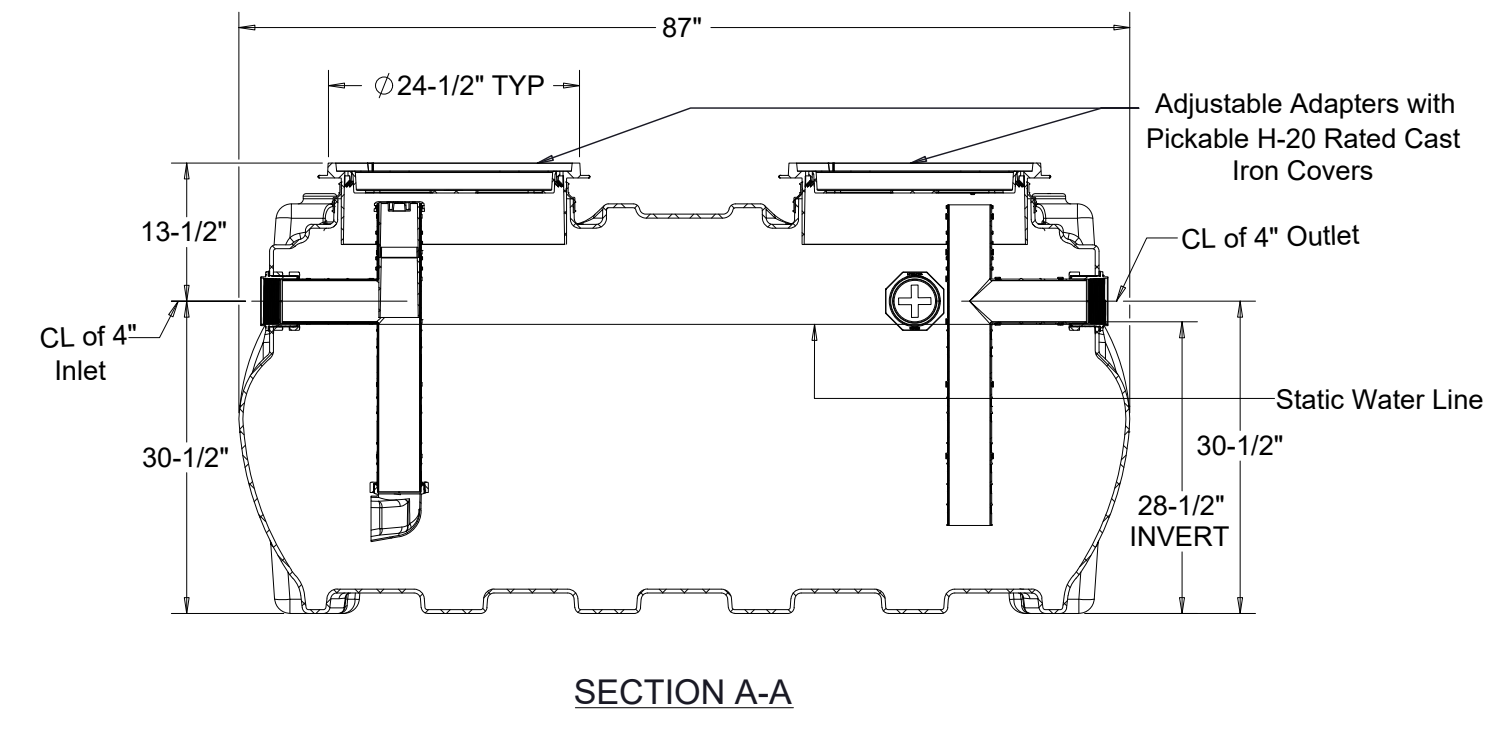
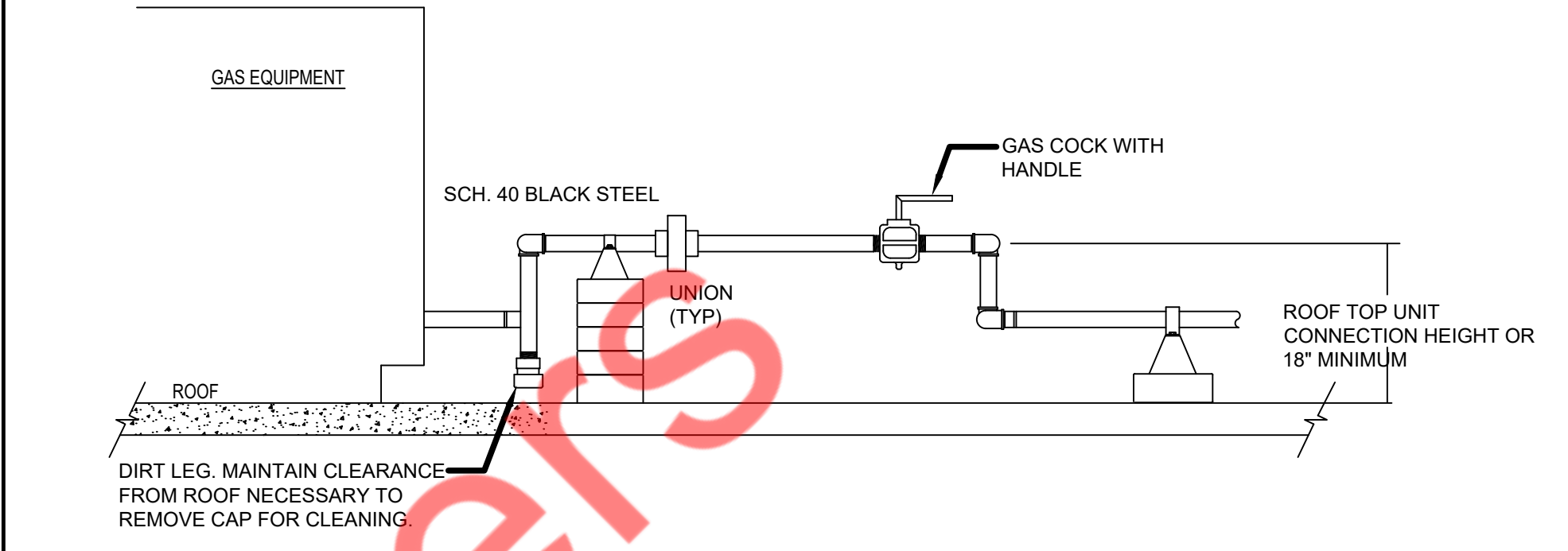
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ROOF GAS PLAN
3/16" = 1'-0"
NORTH



- SPECIFICATIONS**
- Notes:
- 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet.
 - Unit weight - w/ cast iron covers: 376 lbs. (For wet weight add 2,310 lbs.)
 - Maximum operating temperature: 150° F continuous
 - Capacities - Liquid: 277 gal.
Grease: 1,895 lbs. (260 gal.) @100GPM
Grease: 1,196 lbs. (164 gal.) @200GPM
Solids: 69 gal.
 - This unit does not require flow control for 100 GPM applications. Built-in flow control is provided for 200 GPM applications. For series installations, only install flow control on the first unit in the series if necessary.
 - For gravity drainage applications only.
 - Do not use for pressure applications.
 - Cover placement allows full access to tank for proper maintenance.
 - Vent not required unless per local code.
 - Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
 - Integral air relief / Anti-siphon / Sampling access.
 - Adjustable cover adapters provide up to 4" of additional height.
 - Designed for below-grade, above-grade, indoor or outdoor installations.
 - Safety Star® access restrictor built into each cover adapter, prevents accidental entry to tanks (450 lb rating).



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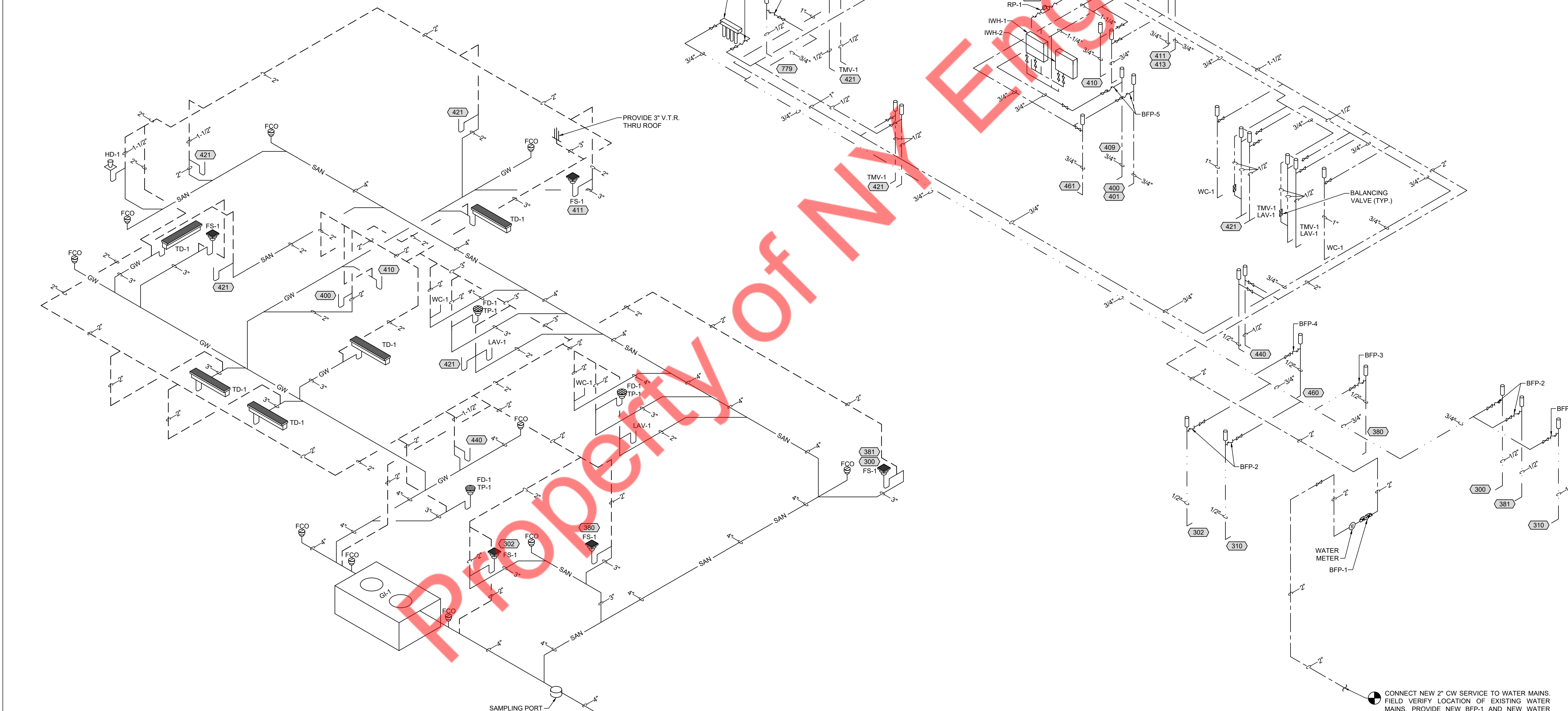
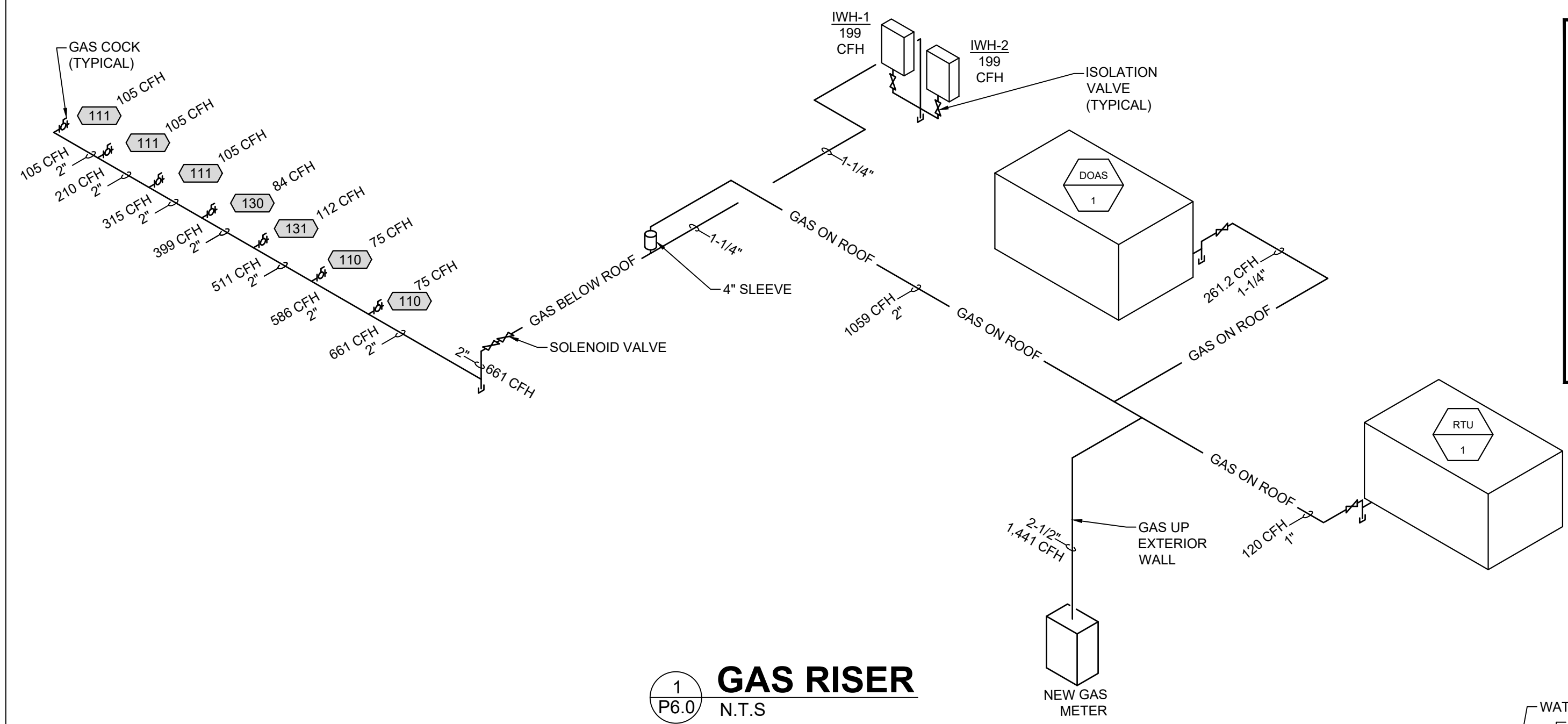
GAS PIPING SIZED PER INTERNATIONAL FUEL GAS CODE 2018 EDITION TABLE #402.4(1):
 FOR GAS PRESSURE LESS THAN 2 PSI.
 PRESSURE DROP: 0.3" W.C., SPECIFIC GRAVITY: 0.60
 TOTAL NEW GAS LOAD: 1,441,000 BTU/HR. MAXIMUM DISTANCE: 125'-0" (V.I.F.)

NOTE:
 CONTRACTOR SHALL VERIFY EXACT DEVELOPED DISTANCE FROM EXISTING GAS METER TO FARTHEST GAS LINE POINT. ADJUST GAS SIZES AND METER CAPACITY ACCORDINGLY.

CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR MECHANICAL EQUIPMENTS.

PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION.

CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.



2 SANITARY & GREASE WASTE RISER DIAGRAM
P6.0 N.T.S

FIELD LOCATE AND TIE INTO THE SEWER MAINS. PLUMBING CONTRACTOR SHALL FIELD VERIFY LOCATION OF SEWER MAINS. VERIFY SIZE AND INVERT. NOTIFY THE ENGINEER IF INVERT CAN NOT BE MET.

CONNECT NEW 2" CW SERVICE TO WATER MAINS. FIELD VERIFY LOCATION OF EXISTING WATER MAINS. PROVIDE NEW BFP-1 AND NEW WATER METER AS REQUIRED BY LOCAL AND STATE CODES. NOTIFY ARCHITECT OF ANY CONFLICTS.

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COMcheck Software Version 4.1.5.5
Mechanical Compliance Certificate

Project Information

Energy Code: 2018 IECC
 Project Title: HUEY MAGOOS - SPRINGFIELD
 Location: 4a
 Climate Zone: 4a
 Project Type: New Construction

Construction Site: _____ Owner/Agent: _____ Designer/Contractor: NY ENGINEERS
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 MIAMI, FL 33179

Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed
 Enhanced Interior Lighting Controls, 1.0 credit

Mechanical Systems List

Quantity System Type & Description

2 IWH-1 & IWH-2
 Gas Instantaneous Water Heater, Capacity: 0 gallons, Input Rating: 199 kBtu/h w/ Circulation Pump
 No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

MICHAEL TOBIAS 08/30/2024
 Name - Title Signature Date



Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
 Page 1 of 7

Section # & Req. ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41] ³	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.2 [ME115] ¹	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.7.5 [ME116] ¹	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.4.1.4 [ME63] ²	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C408.2.2.1 [ME53] ³	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C403.5.1, C403.5.2 [ME123] ³	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.5.1 and refrigeration compressor systems that comply with C403.5.2.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
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COMcheck Software Version 4.1.5.5
Inspection Checklist
 Energy Code: 2018 IECC

Requirements: 100.0% were addressed directly in the COMcheck software
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req. ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR3] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C406 [PR9] ²	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
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Section # & Req. ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.6 [EL26] ²	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.7 [EL27] ²	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.8.2.1 [EL28] ²	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C405.9 [EL29] ²	Voltage drop across the combination of feeders and branch circuits <= 5%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
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Section # & Req. ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6] ¹	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.1, C404.6.2 [PL3] ²	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.3 [PL7] ²	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.7 [PL8] ²	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user or a future occupancy and limits the temperature of the water entering the cold-water piping to 104°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
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Section # & Req. ID	Final Inspection	Complies?	Comments/Assumptions
C404.3 [F11] ²	Heat traps installed on supply and discharge piping of non-circulating systems.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C404.4 [F125] ²	All piping insulated in accordance with section details and Table C403.11.3.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C404.6.1 [F112] ²	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
C406.7, C406.7.1 [F15] ²	Enhanced Service Water Heat System efficiency package. One of the following SWH system enhancements must satisfy 60 percent of buildings annual hot water requirements, or 100 percent if the building requirements otherwise comply with heat recovery per Section C403.9.5. Waste heat recovery from SWH, process equipment, OR on-site renewable water-heating.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
C408.1.1 [F157] ²	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)
 Project Title: HUEY MAGOOS - SPRINGFIELD Report date: 06/14/24
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 CM: NYE

SECTION 22400

PLUMBING FIXTURES AND TRIM

- 1.0 **GENERAL**
 - 1.01 **DESCRIPTION**
 - A. ALL WORK SPECIFIED IN THIS SECTION IS GOVERNED BY THE MECHANICAL GENERAL SECTION 22010.
 - B. THIS SECTION 22400 AND THE ACCOMPANYING DRAWINGS COVER THE PROVISIONS OF ALL LABOR, FIXTURES, EQUIPMENT, APPLIANCES AND MATERIALS, AND PERFORMING ALL OPERATIONS IN CONNECTION WITH THE CONSTRUCTION AND INSTALLATION OF THE PLUMBING FIXTURES AND TRIM AS SPECIFIED HEREIN AND AS SHOWN.
 - C. ALL EXPOSED PIPING, VALVES, STOPS, P-TRAPS, ETC. SHALL BE CHROME-PLATED. ALSO, ALL EXPOSED PIPING PENETRATIONS THROUGH WALLS, FLOORS OR CEILINGS SHALL BE PROVIDED WITH CHROME-PLATED BRASS ESCUTCHEONS.
 - D. ALL P-TRAPS SHALL BE MINIMUM 17-GAUGE BRASS.
 - E. FLUSH VALVES SHALL HAVE NON-HOLD OPEN FEATURE, VACUUM BREAKERS AND COVER CAP ON ANGLE-TYPE STOP.
 - F. PROVIDE ALL FINAL CONNECTIONS TO ALL EQUIPMENT AND FIXTURES FURNISHED BY OWNER.
 - G. UNLESS OTHERWISE SPECIFIED IN AN INDIVIDUAL FIXTURE DESCRIPTION, ALL ENAMELED CAST-IRON AND PORCELAIN FIXTURES SHALL BE WHITE.
 - 1.02 **INTENT**
 - A. IT IS THE INTENT OF THIS SECTION OF THE SPECIFICATIONS TO PROVIDE COMPLETE, OPERABLE, ADJUSTED, CLEAN PLUMBING FIXTURES AS SHOWN AND SPECIFIED, WHICH ARE FREE OF LEAKS, NOISE, AIR, VIBRATION AND WATERFLOW FLUCTUATIONS.
 - 1.03 **BASIS OF DESIGN**
 - A. THE BASIS OF DESIGN IS AS OUTLINED FOR EACH FIXTURE IN THE 2.0 PRODUCTS SUBSECTION. ANY PROPOSED SUBSTITUTIONS SHALL BE PROVEN EQUAL IN ALL RESPECTS TO THE EQUIPMENT SPECIFIED AS THE BASIS OF DESIGN.
 - 1.04 **ACCEPTABLE MANUFACTURERS**
 - A. ACCEPTABLE FIXTURE MANUFACTURERS ARE AMERICAN STANDARD, ELIER AND KOHLER PROVIDED THAT THEIR UNITS ARE EQUAL IN ALL RESPECTS FOR THIS SPECIFIC PROJECT. FAUCETS AND TRIM MAY BE EQUAL PRODUCTS AS MANUFACTURED BY CHICAGO, DELANY, ZURN, T&S BRONZE, BRASS WORKS OR SPEAKMAN.
 - B. FLUSH VALVES MAY BE EQUAL PRODUCTS BY ZURN OR DELANY. STAINLESS STEEL SINKS AND DRINKING FOUNTAINS SHALL BE AS MANUFACTURED BY THOSE COMPANIES SPECIFIED FOR EACH SPECIFIC ITEM OUTLINED UNDER SUBSECTION 2.0 PRODUCTS.
 - 2.0 **PRODUCTS**
(SEE FIXTURE SCHEDULE ON PLUMBING DRAWINGS)
 - 3.0 **EXECUTION**
 - 3.01 **INSTALLATION**
 - A. UNITS SHALL BE INSTALLED AS INDICATED AND IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. COORDINATE THE ACTUAL UNITS TO BE PROVIDED WITH ALL TRADES.
 - B. ALL PLUMBING FIXTURES SHALL BE FREE OF LEAKS, PROVIDED COMPLETELY FINISHED, TRIMMED, AND ADJUSTED, CLEANED AND READY FOR USE. THEY SHALL BE PROPERLY SECURED TO THE STRUCTURE BY THE USE OF THRU-BOLTING, BACKPLATES, CARRIERS, EXPANSION SHIELDS (FOR FLOOR MOUNTING ONLY) OR TOGGLE BOLTS.
 - C. FIXTURES ON STEEL STUD WALLS SHALL HAVE A 1/2" X 4" WIDE STEEL BACKPLATE WIRED WITH 1/16" STEEL WIRE TO THE STUDS. BOLTS NOT LESS THAN 3/8" SHALL SECURE THE FIXTURES THROUGH THE FIXTURE HANGER AND THE BACKPLATE.
 - D. ALL MOUNTING HOLES PROVIDED IN FIXTURES SHALL BE USED FOR SUPPORT. IN ADDITION TO THE MAIN HANGERS, 1/2" TOGGLE BOLTS SHALL SECURE THE BOTTOM OF ALL WALL HUNG FIXTURES AT EACH DRILLING PROVIDED FOR THIS PURPOSE.
 - E. MOUNT WALL-HUNG FIXTURES AT THE HEIGHTS INDICATED ON THE ARCHITECTURAL DRAWINGS OR AS PRESCRIBED BY LOCAL CODE. SPECIAL ATTENTION IS CALLED TO THE INSTALLATION REQUIREMENTS OF THE ANSI OR ANY OTHER ADA HANDICAP CODE.
 - 3.02 **CLEANING AND ADJUSTMENT**
 - A. THE UNIT SHALL BE CLEANED, TESTED AND FIELD-ADJUSTED TO PROVIDE OPTIMUM FLOW AND DRAINAGE.
- END OF SECTION

- 3.02 **UNDERGROUND WATER PIPING**
 - A. ALL UNDERGROUND DOMESTIC WATER PIPING SHALL HAVE A MINIMUM COVER OF 3'-0".
 - B. PROVIDE CONCRETE THRUST BLOCKS AT ALL CHANGES OF DIRECTION AND SECURE ALL MECHANICAL JOINTS WITH RESTRAINING RODS.
 - C. ALL UNDERGROUND COPPER WATER LINES SHALL BE PROTECTED FROM CORROSION WITH A CONTINUOUS PLASTIC SHEATHING OR COATING AND WRAPPING. THIS SHEATHING OR COATING AND WRAPPING SHALL BE EXTENDED 6" TO 12" ABOVE FINISHED FLOOR.
 - 3.03 **MINIMUM HANGER SPACING**
 - A. PIPE HANGERS OR SUPPORTS SHALL BE PROVIDED WITHIN 18" OF EACH HORIZONTAL FITTING, EQUIPMENT CONNECTION, VALVE, ETC. AND AT NOT MORE THAN 10 FT. SPACINGS ALONG HORIZONTAL RUNS OF STRAIGHT COPPER PIPING EQUAL TO OR GREATER THAN 1/2" DIAMETER, 6 FT. SPACINGS FOR COPPER PIPING EQUAL TO OR LESS THAN 1/2" DIAMETER, AND 4 FT. SPACING FOR PVC PIPING IN ACCORDANCE WITH TABLE 308.5 IN THE IPC. FOLLOW MIDSTORY GUIDE FOR MAXIMUM VERTICAL SPACING OF PVC PIPE 2 INCHES AND SMALLER.
 - B. RISER CLAMPS SHALL BE PROVIDED AT EACH FLOOR PENETRATION.
 - 3.04 **INSULATION INSTALLATION**
 - A. PROVIDE BLANKET INSULATION OVER ALL HORIZONTAL ROOF DRAIN PIPING.
 - 1. ALL JOINTS AND TEARS SHALL BE SEALED WITH MATCHING WHITE VAPOR BARRIER TAPE.
 - B. PROVIDE INSULATION OVER ALL ABOVE GROUND HOT AND COLD WATER PIPING, EXCEPT THAT NO INSULATION IS REQUIRED ON COLD WATER LINES INSTALLED INSIDE INTERIOR PLUMBING CHASES (THOSE CHASES WITH NO EXTERIOR WALL).
 - 1. ALL JOINTS AND TEARS SHALL BE SEALED WITH MATCHING WHITE VAPOR BARRIER TAPE.
- END OF SECTION

SECTION 22424
WATER HEATERS AND ACCESSORIES

- 1.0 **GENERAL**
 - 1.01 **DESCRIPTION**
 - A. ALL WORK SPECIFIED IN THIS SECTION IS GOVERNED BY THE PLUMBING GENERAL SECTION 22010.
 - B. THIS SECTION 22424 AND THE ACCOMPANYING DRAWINGS COVER THE PROVISIONS OF ALL LABOR, EQUIPMENT, APPLIANCES, AND MATERIALS AND PERFORMING ALL OPERATIONS IN CONNECTION WITH THE CONSTRUCTION OF THE WATER HEATING SYSTEMS AS SPECIFIED HEREIN AND AS SHOWN. THESE SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - 1. WATER HEATERS
 - 2. HOT WATER CIRCULATOR
 - 2.0 **PRODUCTS**
 - 2.01 **TANKLESS INSTANTANEOUS WATER HEATER**
 - A. THE TANKLESS WATER HEATER SHALL BE UL LISTED FOR THE US AND NSF CERTIFIED.
 - B. UNIT SHALL BE PROTECTED BY A SHEET METAL HOUSING. HEAT EXCHANGER SHALL BE RATED FOR MAXIMUM WORKING PRESSURE NOT LESS THAN 150 PSIG.
 - C. ALL ASPECTS OF INSTALLATION OF WATER HEATER PLANT SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. MATERIALS SHALL CONFORM TO ALL MANUFACTURER RECOMMENDATION INCLUDING ELECTRICAL CONNECTIONS AND WIRING.
 - D. WATER HEATER PIPING SHALL BE FIELD CONSTRUCTED OF MATERIALS AS SPECIFIED. WATER HEATER SHALL BE INSTALLED WITH INDIVIDUAL ISOLATING SHUTOFF VALVES FOR SERVICE AND MAINTENANCE.
 - 2.09 **HOT WATER CIRCULATOR**
 - A. IN-LINE PUMP: SINGLE STAGE VOLUTE TYPE PUMP SHALL BE MADE OF CAST IRON OR FORGED LEAD-FREE BRONZE IMPELLER.
 - B. THE PUMP SHALL HAVE A GROUND AND POLISHED STEEL SHAFT WITH A HARDENED INTEGRAL THRUST COLLAR. THE SHAFT SHALL BE SUPPORTED BY TWO HORIZONTAL SLEEVE BEARINGS DESIGNED TO CIRCULATE OIL. THE PUMPS ARE TO BE EQUIPPED WITH A MECHANICAL SEAL WITH CARBON SEAL FACE ROTATING AGAINST CERAMIC SEAT. THE MOTOR SHALL BE NON-OVERLOADING AT ANY POINT ON PUMP CURVE.
 - C. DIRECT CONNECT PUMP TO ELECTRIC MOTOR WITH FLEXIBLE COUPLING. THE MOTOR SHALL BE OF THE DRIP-PROOF, SLEEVE- BEARING, QUIET OPERATING, RUBBER-MOUNTED CONSTRUCTION. EQUIPMENT MOTOR WITH BUILT-IN THERMAL OVERLOAD PROTECTION.
 - D. INSTALL IN-LINE CIRCULATING PUMPS BETWEEN PIPE FLANGES IN PIPING SYSTEMS. INSTALL OVERHEAD PIPE SUPPORTS, BOTH SIDES OF IN-LINE PUMPS, INSTALLED IN HORIZONTAL PIPING RUNS.
 - 3.0 **EXECUTION**
 - 3.01 **INSTALLATION**
 - A. THE WATER HEATERS AND ACCESSORIES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND THE CONTRACT DOCUMENTS.
 - B. ALL TEMPERATURE AND PRESSURE RELIEF VALVES SHALL BE PIPED FULL SIZE TO AN INDIRECT WASTE SUCH AS THE NEAREST FLOOR DRAIN, SERVICE SINK, SINK TAILPIECE, ETC.
- END OF SECTION

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