

MECHANICAL GENERAL NOTES

BASIC MECHANICAL REQUIREMENTS

- Furnish all labor and materials and perform all operations necessary for the installation of complete and functioning new and existing mechanical systems, as specified and as required by code.
- Contractor shall be responsible for verifying operation of all existing equipment and systems to remain. Contractor shall provide new or repair existing systems or equipment that are missing or malfunctioning to comply with note #1 above.
- Install all mechanical equipment and appurtenances in accordance with manufacturers' recommendations and written instructions, contract documents, and applicable codes and regulations.
- Coordinate and order the progress of mechanical work to conform to the Owner's schedule and the progress of the work of the other trades.
- Coordinate all equipment connections with manufacturers' certified drawings and/or documents. Coordinate and provide all duct and piping transitions required for final equipment connections to furnished equipment. Field verify and coordinate all duct and piping dimensions before fabrication.
- Apply for and pay for all permits, fees, licenses and inspections for this Division of work.
- Comply with state and local code requirements and ordinances. Comply with requirements of the Utility Companies. In the case of differences between these requirements and ordinances, the most stringent shall govern. Call for inspections required by local building inspection authority.
- Submit shop drawings for all materials and specified equipment, in addition submit shop drawings showing any changes required in piping, ducting, electrical wiring, space allocation, etc.
- The location of existing underground/concealed utilities is shown in an approximate way only. The contractor shall determine the exact location of all existing utilities before commencing work. The contractor shall pay for and repair all damages caused by failure to exactly locate and preserve any and all underground utilities.
- Patch and repair to match existing any walls, ceilings, or floors accessed during the installation of ductwork and piping, or during the removal of grilles, equipment, etc.
- Maintain one set of redlined drawings on the job site indicating all changes and deviations from the work shown on the drawings.
- Prior to final acceptance, thoroughly clean all work.
- At completion of Work, deliver completed Project Record Documents marked with field changes to Owner's Representative.
- Provide a written warranty to the Owner covering the entire mechanical work to be free from defective materials, equipment and workmanship for a period of one year after Date of Acceptance.
- Any substitutions of equipment, including but not limited to RTUs, AHU's, VAV's, VVT's, FPB's, etc. shall be approved by Engineer of Record. The contractor is responsible for any additional costs incurred by substituting equipment. Cost shall include additional cost incurred by other trades associated with the substitution. This shall include, but not be limited to, additional engineering, architectural services, electrical, structural, fire, and general contractor requirements.

BASIC MATERIALS AND METHODS

- For all removed equipment contractor shall remove all supports, hangers, controls, piping, utilities, etc.
- The mechanical drawings indicate the general design and arrangement of piping, equipment, systems, etc. Information shown is diagrammatic in character and does not indicate every required offset, fitting, etc.
- The locations of the items shown on the drawings or called for in the specifications that are not definitely fixed by dimensions are approximate only. The exact locations necessary to secure the best conditions and results must be determined by the project site conditions and shall have the approval of the engineer before being installed. DO NOT SCALE THE DRAWINGS (unless noted otherwise).
- Contractor shall field verify locations and sizes of all existing equipment, ductwork, piping, electrical conduit, structural members, etc. prior to bid. Contractor shall notify engineer of any and all discrepancies between field conditions and contract drawings.
- All ductwork, piping and equipment supported from structural steel shall be coordinated with the GC. All attachments to steel bar joists, trusses, or joist girders, shall be at panel points. Provide beam clamps meeting MSS standards. Welding to structural members shall not be permitted. The use of C-clamps shall not be permitted.
- Mechanical equipment, ductwork, and piping shall not be supported from metal deck.
- Boxes shall be provided wherever ducts pass through floor, wall and roof construction.
- Where horizontal ducts pass through walls and vertical ducts pass through floors or roofs, seal off void between opening and duct, with an approved non-combustible material.
- Furnish and install all foundations, bases and supports.
- Test ductwork systems prior to concealment.
- Provide vibration isolation for all mechanical equipment to prevent transmission of vibration to building structure.
- Valves and cleanouts shall be installed as shown on the drawings and as required by code.
- Provide access panels for installation in walls and ceilings, where required, to service dampers, valves, smoke detectors, and other concealed mechanical equipment. Access panels shall be turned over to general contractor for installation.
- All openings in firewalls due to ductwork, piping, conduit, etc., shall be fire stopped with a product similar to 3M or approved equal.
- All air conditioning condensate drain lines from each air handling unit and rooftop unit shall be piped full size of the unit drain outlet, with a P-trap, and piped to nearest drain. Provide a condensate pump if required, field verify.
- All ductwork shall clear doors and windows.

MECHANICAL IDENTIFICATION

- Identify piping, ducts and valves above ceilings, as well as exposed to view except in finished areas. Conform to ASME A13.1.
- Contractor to label appliances in an approved manner that uniquely identifies the appliance and the area it serves, when appliance is remotely located from space it serves.

INSULATION

- Furnish and install insulation for all ductwork systems that are not within the space the duct is serving. All equipment insulation shall include a vapor barrier.
- Ductwork insulation: 1-1/2" exterior duct wrap or 1" duct liner. Minimum R-value shall be R-5, except where local jurisdiction states otherwise.

TEMPERATURE CONTROLS SYSTEMS

- All control work to be per the mechanical equipment list. Provide all necessary transformers for low voltage control circuits. Low voltage (24 V) wiring to be by this contractor. Provide all motor disconnects and contactors.
- Install all thermostats and switches where shown on plans at 54 inches A.F.F. Coordinate locations with the electrical contractor.
- All control wire and conduit shall comply with the National Electric Code.

TESTING, ADJUSTING, AND BALANCING

- Test and balance the environmental systems including but not limited to air distribution systems, hydronic distribution systems, and the equipment and apparatus connected thereto.
- The Mechanical Contractor shall procure the services of an independent testing and balancing firm certified and specializing in this work.
- Air inlets and outlets shall be balanced to within 10 percent of the air quantity specified on the drawings.
- At completion of Work, deliver three copies of the Test and Balance Report to the General Contractor. Report shall list all supply, return, and exhaust air flows, electrical data, temperatures, and pressure drops. G.C. shall deliver one copy to Consulting Engineering for review and approval. One copy shall be for landlord records. One copy shall be on site for final inspection.

AIR DISTRIBUTION SYSTEMS

- Sheet metal duct systems shall be fabricated and installed in accordance with SMACNA HVAC Duct Construction Standards Manual. Supply ductwork shall be low pressure (2" w.g.).
- All round and flat oval ducts exposed to view shall be spiral seam. Concealed round and flat oval ducts may be fabricated with lock type or welded longitudinal seams.
- If ductwork is to be painted, ductwork shall be paintlock type.
- Suspend ducts from structure with proper hangers at a maximum of 8'-0" intervals, at each floor, change of direction and wherever necessary.
- All duct connections to motor driven equipment shall be with flexible connections.
- All ductwork to be of sheet metal construction per SMACNA standards for low pressure distribution. Provide volume dampers at each round duct and 45 degree duct take-off to allow complete balancing of all branches and diffusers.
- Coordinate diffuser and grille locations with ceiling and lighting layout to avoid conflicts.
- Make all radius elbows with radius of one and one half times the diameter or width. Radius elbows are the preferred method for 90° duct turns.
- Attach flexible duct inner liner to duct connectors, diffuser necks, or ductwork with stainless steel worm driven clamp. Tape outer vapor barrier securely over clamp with vapor barrier tape.
- Low and medium pressure flexible duct shall be air duct listed by Underwriters Laboratories, Inc. under UL standard 181 as a Class 1 flexible air duct and complying with NFPA Standards 90A and 90B. Duct shall be GREENGUARD tested and certified. Low permeability outer vapor barrier of fiberglass bi-directional reinforced metalized laminate film shall complete the composite.
- Flexible ductwork hanger supports shall be constructed of durable composite material and shall be 1-1/2" wide to prevent any restriction of the internal diameter of the ductwork when the weight of the supported section rests on the hanger. Hanger supports shall be UL listed for use in return air plenum spaces.
- Maximum length of any section of flexible duct shall be eight feet.
- Certain items such as rises and drops in ductwork, access doors, volume dampers, etc., are indicated on the contract document drawings for clarity for a specific location requirement and shall not be interpreted as the extent of the requirements for these items.
- All ductwork dimensions, as shown on the drawings, are internal clear dimensions and duct size shall be increased to compensate for duct lining thickness.
- Locate all mechanical equipment (single duct, dual duct, variable volume, constant volume and fan powered boxes, fan coil units, cabinet heaters, unit heaters, unit ventilators, coils, steam humidifiers, etc.) for unobstructed access to unit access panels, controls and valving.
- Smoke detectors shall be furnished and wired by the electrical contractor. The mechanical contractor shall be responsible for mounting the smoke detector in ductwork in accordance with manufacturer's printed instructions.

REFRIGERANT PIPING

- Slope refrigerant piping one percent in the direction of oil return. Liquid lines may be installed level.
- Install horizontal refrigerant hot gas discharge piping with 1/2" per 10 feet downward slope away from the compressor.
- Install horizontal refrigerant suction lines with 1/2" per 10 feet downward slope to the compressor, with no long traps or dead ends which may cause oil to separate from the suction gas and return to the compressor in damaging slugs.
- Provide line size liquid indicators in main liquid line leaving condenser or receiver. Install moisture-liquid indicators in liquid lines between filter driers and thermostatic expansion valves and in liquid line to receiver.
- Provide line size strainer upstream of each automatic valve. Provide shutoff valve on each side of strainer.
- Provide permanent filter driers in low temperature systems and systems using hermetic compressors.
- Provide replaceable cartridge filter driers with three-way valve bypass assembly for solenoid valves, adjacent to receivers.
- Provide refrigerant charging valve connections in liquid line between receiver shutoff valve and expansion valve.

SPECIAL NOTICE TO CONTRACTORS

- All contractors (general contractor and sub-contractors) bidding this project are required to visit the job site and verify the existing conditions prior to submitting their bid. Contractors are to carefully review all construction documents and note any discrepancies between the construction documents and the conditions observed at the job site prior to submission of any bid. The building owner representative may be contacted for access to the job site. Prior to construction contractors are responsible for verifying the location and condition of the following:
 - All points of connection to building utilities and/or systems including, but not limited to, gas, water, sewer, vent, electrical, mechanical systems, ductwork, exhaust/outside air, security, fire/life safety, data, and phone.
 - All required connections to the building structure
 - All required building penetrations. It is recommended that the contractor x-ray all penetrations thru concrete and masonry.
- Any discrepancies between the construction documents and the conditions observed shall be brought to the attention, in writing, to the architect and/or engineer prior to proceeding with construction.
- See architectural plans for contact information.

FIRE PROTECTION

- The fire sprinkler system shall be designed and installed by an approved design build contractor.
- Modify the existing automatic wet pipe sprinkler system throughout the entire building, complete in all respects and ready for operation.
- Coordinate sprinkler head locations with the architectural reflected ceiling plans, lighting, and other ceiling items and make minor modifications to suit project.
- Sprinklers installed in ceilings of finished areas shall be symmetrical in relation to ceiling system components and centered in the ceiling tile.

ROOFTOP UNIT SCHEDULE

Item	Manufacturer	Model	Nominal Tonnage	Design CFM	Min O.A. CFM	ESP (IN)	Total CAP (MBH)	SEN CAP (MBH)	E.A.T. DB DEG F	E.A.T. WB DEG F	L.A.T. DB DEG F	O.A.T. Input (°F)	HTG Input (MBH)	HTG Output (MBH)	Elec. Volt/Ph	Elec. MCA	Elec. MOCP	E.E.R./Thermal Eff.	Thermal Eff.	Weight (Lbs)
RTU-1(E)	Carrier	48HCEA06A2A5A0A0A0 & V.I.F.	5.0	2000	500	S.A.E.	S.A.E.	S.A.E.	76.7	62.09	55.2	90.0	115 & V.I.F.	93 & V.I.F.	208/3 & V.I.F.	31 & V.I.F.	45 & V.I.F.	S.A.E.	S.A.E.	S.A.E.
RTU-2(N)	Carrier	48GC14M (OR EQUIVALENT)	12.5	5000	1250	1.0	155.10	115.60	76.7	62.09	55.2	90.0	224	181	208/3	60	80	12.0	81%	1800

Notes for existing RTU

- Existing RTU with all accessories to remain same and to be reused.
- S.A.E. - Same As Existing. V.I.F. : Verify In Field
- Contractor to field verify if all RTU's are working at their 100% rated capacities / loads. Inform to design engineer if any discrepancies are found in performance prior to construction.
- Contractor to field verify exact location and configuration of unit on site.
- Provide new thermostat and temperature sensor compatible with existing rtu. co-ordinate final location of t-sensor with architect / owner.
- Contractor to balance outside air & return air dampers on existing rtu to match values mentioned in above table.
- Replace filters, if required.

Notes for new RTU

- All equipment must be high efficient, meeting or exceeding the brands minimum requirements.
- Electrical connection to be single point and to be through the bottom of the unit.
- Provide disconnect switch and an unpowered GFIC receptacle.
- 14" roof curb - contractor shall field insulate. ship ASAP ahead of the unit.
- Condensate drain with 2" deep vented trap discharge to splash block on roof.
- Cabinet with 1/2" fiberglass insulation.
- Unit shall be complete with gas heating section. gas regulator to receive (5-13) in W.C. gas pressure from main.
- Enthalpy economizer with barometric relief / 25% manual outside air damper assembly with hood, provide fdd.
- Remote sensors shall be provided in space wired back to programmable, 24 hour, 7 day, thermostats.
- Anti short cycle timer.
- Throwaway 2" filters (MERV 8).
- Where required, provide low ambient cooling capability down to 0 degrees f.
- Provide all compressors with 5 year warranty.
- Provide hot gas reheat
- Automatic shutdown smoke detector for unit shall be furnished and installed by mechanical contractor (wired by electrical contractor when a fire alarm is present) the smoke detector shall be installed in main return.
- Provide Unit with a compatible electronic 7-day programmable thermostat with compatible remote sensor.
- Mechanical contractor shall program thermostat prior to job completion.
- Unit shall be field labeled with unit number and area served per plans or field condition.
- All unit shall be interlocked with exhaust fan EF-1(N) & 2(N) to come on when on energized.
- Interlock RTU to override occupancy contact to turn on occupancy mode when CaptiveAir hood turns on.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES, BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID.

MAKE-UP AIR UNIT SCHEDULE

Mark	Manufacturer Model No.	CFM	E. S.P. (in W.C.)	Heating Data			Cooling Data				Compressor Electrical Data			Motor Electrical Data			Weight (Lbs)
				HTG Input (MBH)	HTG Output (MBH)	THERMAL EFF (%)	Nominal Tonnage	Total CAP (MBH)	SEN CAP (MBH)	SEER	Volt./Ph/Hz	MCA (A)	MOCP (A)	Volt./Ph/Hz	MCA (A)	MOCP (A)	
MAU-1(N)	Captive Aire A2-D.250-20D-MPU	2531	0.500	182.2	167.7	92%	5.0	46.3	31.2	14	208-230/3/60	21.4	30.0	208/3/60	7.7	15	1610

Notes for MAU

- MAU-1(N) is a new rooftop mounted supply air fan with cooling that is Hood Suppler furnished and contractor installed. Unit to serve kitchen exhaust hood.
- Unit shall be interlocked with exhaust fan EF-1(N) & 2(N).
- Unit shall include integral Motorized damper.
- Unit shall have non vented curb.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES, BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID.

AIR BALANCE SCHEDULE

Equipment	Supply Air	Return Air	Outside Air	Exhaust Air	Balance
RTU-1(E)	2000	-1500	500	-	500
RTU-2(N)	5000	-3750	1250	-	1250
MAU-1(N)	2531	-	2531	-	2531
EF-1(N)	-	-	-	-1687	-1687
EF-2(N)	-	-	-	-1687	-1687
EF-3(N)	-	-	-	-225	-225
Totals	9531	-5250	4281	-3599	
RESULTING BUILDING PRESSURIZATION (CFM)					+682

AIR CURTAIN SCHEDULE

Mark	Manufacturer Model No.	Length (in)	CFM	Electrical Heat (kW)	Volt/Ph/Hz	Amps (A)
ACH-1(N)	MARS LPV284-2UD-OB	84	2100	-	115/1/60	4.8
ACH-2(N)	MARS LPV242-1UD-OB	42	1050	-	115/1/60	2.4

Notes

- Provide manufacturer recommendation accessories.
- Coordinate with electrical contractor for power requirement.

EXHAUST FAN SCHEDULE

Mark	Manufacturer Model No.	CFM	E.S.P. (in W.C.)	Operating Power (HP)	Volt/Ph	Location	Weight (Lbs)
EF-1(N)	Captive Aire DU180HFA	1687	1.2	1.5	208/1	See Plan	209
EF-2(N)	Captive Aire DU180HFA	1687	1.2	1.5	208/1	See Plan	209
EF-3(N)	Greenheck G-097-VG	225	0.8	1/4	115/1	See Plan	38

Notes

- EF-1(N) & 2(N) is a new rooftop mounted up-blast grease exhaust fan that is Hood Supplier furnished and contractor installed. Unit to serve kitchen exhaust hood.
- EF-1(N) & 2(N) shall be UL 762 listed, with factory vented curb, hinge base kit, grease drain and direct drive.

CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTIONS, WIRE SIZES, BREAKERS, DISCONNECT ETC. PRIOR TO ORDERING AND BID.

DIFFUSER SCHEDULE

CFM	Neck Ø
0 - 125	6"
126 - 250	8"
251 - 350	10"
351 - 550	12"
551 - 700	14"
701 - 850	16"

For any run-out over 20' in length, use next size up on this schedule. Determine length in field.

AIR DISTRIBUTION SCHEDULE

Tag	MFG.	Model	Type	Neck Size	Pattern	Damper	Mounting	Notes
①	Metal Aire	9000 Series	Supply	Note 2	Adjust, 4-way	MVD @ Duct	T-bar, Surface	1,2
②	Metal Aire	7300 Series	Supply	Note 2	Perf	MVD @ Duct	T-bar, Surface	1,2
③	Metal Aire	4004 Series	Supply	16"x6"	None	MVD @ Duct	Duct Mounted	1
④	Metal Aire	9000 Series	Supply	Note 2	Adjust, 4-way	MVD @ Duct	T-bar, Surface	1,2
A	Metal Aire	RH	Return	14"x14"	None	None	T-bar	1
B	Metal Aire	RH	Return	36"x30"	None	None	Surface	1
C	Metal Aire	RH	Exhaust	6"x6"	None	None	T-bar	1

Notes:

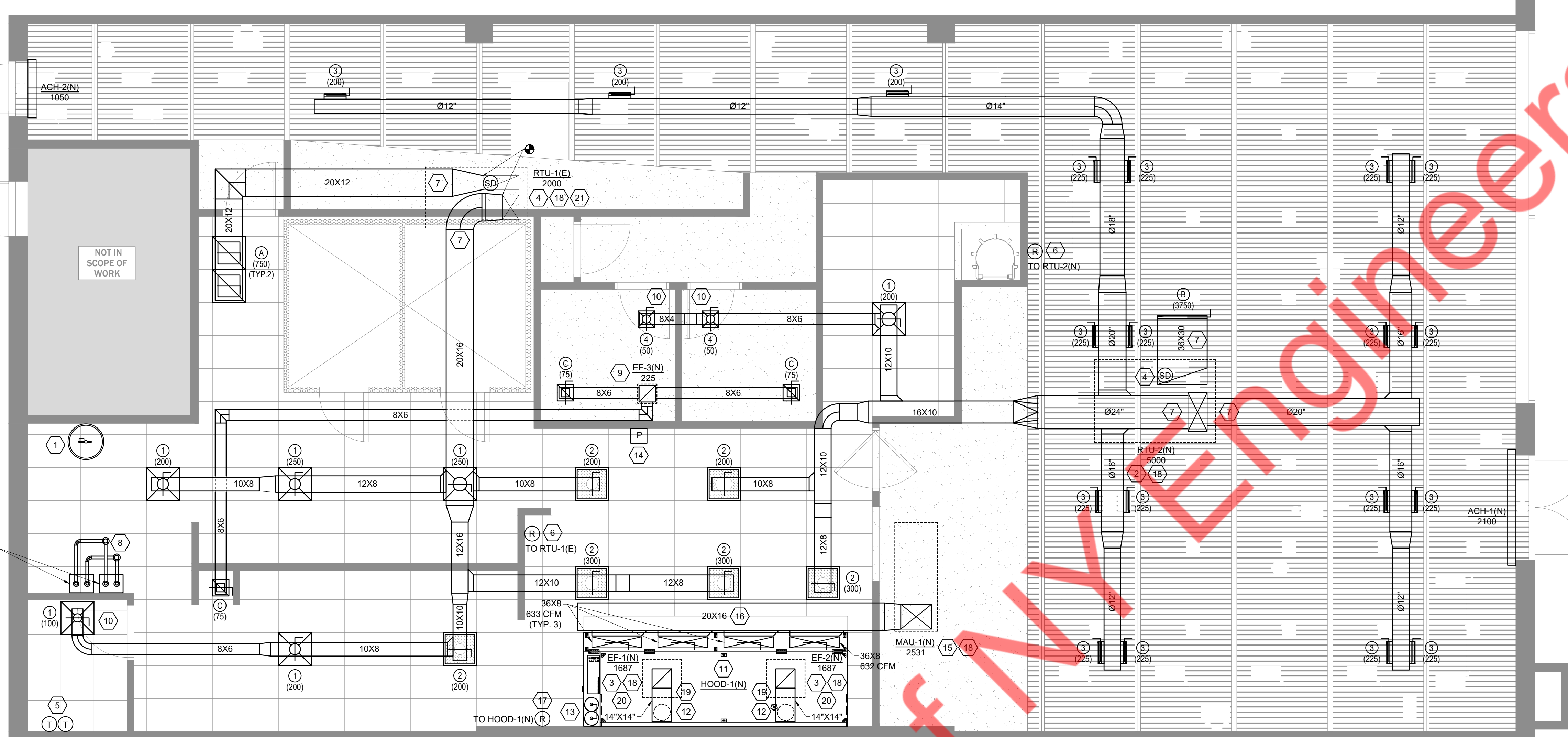
- See Architectural plans for painting.
- See Diffuser Schedule this sheet.

RTU-1(E) & 2(N) OUTDOOR AIR VENTILATION SCHEDULE (NYSMC 2020) CONSTANT VOLUME SYSTEM

ROOM	OCCUPANCY DESCRIPTION	Rp	Az	OCCUPANT DENSITY (#/1000 SQFT.)	Ra	Pz	Ez	CODE TOTAL EXHAUST (CFM)	EXHAUST SPECIFIED ON DRAWINGS	Voz=(Rp*Pz+Ra*Az)/Ez	MINIMUM CFM REQUIRED BASED ON PERCENT OUTSIDE AIR	CFM SPECIFIED ON DRAWINGS
		CFM/PERSON	SQFT.		AREA CFM	# PEOPLE						
DINING	DINING ROOMS	7.5	1890	70	0.18	88	0.8	0	0	1250	5001.00	4200
SALES AREA	SALES	7.5	170	15	0.12	3	0.8	0	0	54	214.50	
OFFICE	OFFICE SPACES	5	35	5	0.06	1	0.8	0	0	9	35.50	100
KITCHEN	KITCHENS	7.5	980	20	0.12	20	0.8	686	3449	335	1338.00	2400
DRY STORAGE	STORAGE	0	145	0	0.12	0	0.8	0	0	22	87.00	200
WOMEN RR	TOILET ROOMS -PUBLIC	0	65	0	0	0	0.8	70	75	0	0.00	50
MEN RR	TOILET ROOMS -PUBLIC	0	65	0	0	0	0.8	70	75	0	0.00	50
TOTAL CFM OUTSIDE AIR REQUIRED										1669	-	-
TOTAL CFM OUTSIDE PERCENT OUTSIDE AIR FOR EQUIPMENT										25.00%	-	-
TOTAL CFM OUTSIDE AIR REQUIRED										1750	TOTAL UNIT CFM	7000

HVAC KEYED NOTES: #

- PROVIDE AND INSTALL A CARBON DIOXIDE (CO2) MONITOR WITH ALARM NEAR CO2 STORAGE TANK FOR BEVERAGE SYSTEM. PROVIDE CO2METER.COM MODEL #RAD-0102 STORAGE SAFETY DUAL ALARM, OR EQUAL. CO2 MONITOR TO ACTIVATE ALARM UPON DETECTION OF CO2 DUE TO LEAK IN SYSTEM. INSTALL PER LOCAL CODE REQUIREMENTS.
- A/C UNIT: PROVIDE AND INSTALL NEW ROOFTOP PACKAGE GAS A/C UNIT. SEE SCHEDULE ON SHEET M1.0 FOR MORE INFORMATION. UNIT SHALL BE PROVIDED WITH TWO SETS OF STANDARD FILTERS. TENANT CONTRACTOR TO PROVIDE DISTRIBUTION DUCTWORK. CONTRACTOR TO REPLACE FILTERS PRIOR TO OPENING OF STORE. FIELD COORDINATE EXACT LOCATION AND UNIT ORIENTATION PRIOR TO STARTING WORK.
- HOOD EXHAUST FAN: HOOD SUPPLIER SHALL PROVIDE AND THIS CONTRACTOR SHALL INSTALL NEW ROOFTOP PACKAGE GAS A/C UNIT. EXHAUST FAN. SEE FAN SCHEDULE ON SHEET M1.0. FOR ADDITIONAL INFORMATION, PROVIDE AND INSTALL TYPE I DUCTWORK PER PLAN. INSTALL CONTROL WIRE FOR CONTROLS AS REQUIRED. ELECTRICAL CONTRACTOR TO INSTALL CONDUIT FOR CONTROL WIRE. VERIFY AND COORDINATE POWER, CONTROL CONDUIT, AND DISCONNECT LOCATIONS WITH ELECTRICAL CONTRACTOR. START-UP, TEST, AND BALANCE FOR PROPER OPERATION.
- SMOKE DETECTOR: PROVIDE AND INSTALL 120V DUCT MOUNTED SMOKE DETECTOR IN THE SUPPLY AIR SYSTEM IN ACCORDANCE WITH LOCAL CODE. DETECTOR INSTALLATION SHALL COMPLY WITH UL 268A AND NFPA 72. INTERLOCK DETECTOR TO SHUT DOWN ALL AIR DISTRIBUTION EQUIPMENT IN ACCORDANCE WITH LOCAL CODE UPON THE DETECTION OF SMOKE. PROVIDE AND INSTALL STROBE HORN WITH MANUAL RESET FOR SMOKE DETECTOR. FIELD COORDINATE WITH CONSTRUCTION MANAGER AND LOCAL CODE OFFICIAL FOR EXACT MOUNTING LOCATION OF STROBE HORN. PROVIDE A STROBE HORN FOR EACH UNIT. MOUNT MANUAL RESET SWITCH FOR DETECTOR BELOW SENSOR FOR UNIT.
- THERMOSTAT: PROVIDE AND INSTALL 7 DAY PROGRAMMABLE THERMOSTAT WITH REMOTE SENSOR CAPABILITY AT MANAGER'S DESK. MOUNT THERMOSTAT 48" A.F.F. COORDINATE EXACT LOCATION WITH OWNER.
- REMOTE SENSOR: PROVIDE AND INSTALL REMOTE SENSOR FOR THERMOSTAT IN THIS LOCATION. MOUNT THERMOSTAT 60" A.F.F. COORDINATE EXACT LOCATION WITH OWNER.
- AIR DISTRIBUTION SYSTEM: PROVIDE AND INSTALL AIR DISTRIBUTION DUCT, DIFFUSERS, REGISTERS, GRILLES PER PLAN. SEE SHEET M1.0 FOR AIR DISTRIBUTION SCHEDULE. PROVIDE FLEXIBLE TAIL PIECE AND MANUAL VOLUME DAMPER AT EACH DIFFUSER FOR AIR BALANCE.
- ROUTE 3"Ø WATER HEATER INTAKE AND VENT FLUE UP THROUGH ROOF.
- RESTROOM AND MOP SINK EXHAUST FAN: TRANSITION 12"X12" EXHAUST DUCT THROUGH ROOF TO ROOFTOP EXHAUST FAN. SEE SHEET M2.1 FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS.
- GENERAL CONTRACTOR TO UNDERCUT DOOR 3/4" ABOVE THRESHOLD FOR TRANSFER AIR.
- EXHAUST HOOD: HOOD SUPPLIER SHALL PROVIDE AND THIS CONTRACTOR SHALL INSTALL TYPE I EXHAUST HOOD. INSTALL STAINLESS STEEL WRAPPER PANELS AT TOP PERIMETER OF HOOD TO ABOVE T-BAR CEILING. SUPPORT HOOD AND DUCT PER MANUFACTURER'S INSTRUCTIONS. PROVIDE AND INSTALL TRANSITION FROM HOOD CONNECTION TO TYPE I DUCT.
- GREASE DUCT: HOOD SUPPLIER SHALL PROVIDE AND THIS CONTRACTOR SHALL INSTALL TYPE I DOUBLE WALL MANUFACTURED GREASE DUCT IN ACCORDANCE WITH LOCAL CODE SIZE DUCT PER PLAN. SEE HOOD DRAWINGS FOR DUCTWORK SPECIFICATION AND DETAILS. SLOPE GREASE DUCT AT 1/4 INCH PER FOOT TO THE HOOD OR APPROVED GREASE COLLECTION RESERVOIR IN ACCORDANCE WITH LOCAL CODE. WHERE HORIZONTAL DUCTS EXCEED 75 FT. SLOPE DUCT AT 1" INCH PER FT.
- FIRE SUPPRESSION SYSTEM: ANSUL R-102 FIRE SUPPRESSION SYSTEM FOR TYPE I KITCHEN HOOD. SYSTEM SHALL BE INCLUDED WITH HOOD FROM HOOD SUPPLIER. SYSTEM TO INCLUDE ANSUL REGULATED RELEASE ASSEMBLY W/ WET CHEMICAL STORAGE TANK, WET CHEMICAL AGENT, DISTRIBUTION PIPING, GAS SOLENOID VALVE, AND PULL STATION ASSEMBLY. TYPE I HOOD COMES PRE-PIPED WITH ANSUL DISCHARGE NOZZLES. COORDINATE INSTALLATION WITH ELECTRICAL AND PLUMBING CONTRACTORS. LOCATE GAS SOLENOID VALVE PER GAS PIPING PLANS. VERIFY EXACT LOCATIONS WITH OWNER. SYSTEM SHALL BE U.L. LISTED AND BE U.L. 300 COMPLIANT.
- FIRE SUPPRESSION PULL STATION: PROVIDE AND INSTALL ANSUL R-102 PULL STATION FOR MANUAL ACTIVATION OF HOOD FIRE SUPPRESSION SYSTEM. LOCATE IN READILY ACCESSIBLE LOCATION IN PATH OF EGRESS.
- MAKE-UP AIR UNIT: HOOD EQUIPMENT SUPPLIER SHALL PROVIDE AND THIS CONTRACTOR SHALL INSTALL WHERE SHOWN ON PLANS A ROOF MOUNTED MAKE UP AIR UNIT. SEE SCHEDULE ON SHEET M1.0 FOR MORE INFORMATION.
- FABRICATE AND INSTALL HOOD SUPPLY DUCT ACCORDING TO ASHRAE LOW PRESSURE STANDARDS. CONTRACTOR SHALL SEE HOOD DRAWINGS FOR SIZE OF SUPPLY AIR INTAKE CONNECTIONS AND TRANSITION DUCTWORK FULL SIZE TO EXHAUST HOOD. VERIFY DUCT SIZE AND COST PRIOR TO BID.
- TEMPERATURE SENSOR PROVIDED BY HOOD SUPPLIER. INSTALL PER HOOD SUPPLIER REQUIREMENTS IN LOCATION SHOWN.
- INTERLOCK: ELECTRICALLY INTERLOCK SUPPLY FANS OF ROOFTOP UNITS (RTU-1(E) & 2(N)), MAKE-UP AIR UNIT (MAU-1(N)) AND EXHAUST FANS (EF-1(N), 2(N)) FOR SIMULTANEOUS OPERATION TO PROVIDE MAKE UP AIR TO HOOD. WHEN EQUIPMENT UNDER HOOD IS INITIALIZED, SUPPLY FANS AND EXHAUST FAN SHALL COME ON AND GO INTO OCCUPIED MODE. COORDINATE INTERLOCK WORK WITH ELECTRICAL CONTRACTOR. LOCATE INTERLOCK ON/OFF SWITCH NEAR HOOD PER OWNER. SUPPLY FANS TO RUN CONTINUOUSLY DURING OCCUPIED HOURS TO MAINTAIN BALANCE. HEATING COOLING SECTION SHALL OPERATE BASED UPON SET POINT OF THERMOSTAT.
- ACCESS PANELS: PROVIDE AND INSTALL APPROVED PROTECTED ACCESS PANELS IN TYPE I GREASE DUCT IN ACCORDANCE WITH LOCAL CODE AT EACH CHANGE IN DIRECTIONS OF THE DUCT.
- GREASE DUCT EXHAUST TERMINATION: TERMINATE GREASE DUCT EXHAUST AIR DUCT UP THRU ROOF IN ACCORDANCE WITH LOCAL CODE. TERMINATE OUTLET AT MINIMUM 10 FT. FROM PROPERTY LINES AND OPERABLE OPENINGS INTO THE BUILDING AND 10 FT. AWAY FROM MECHANICAL AIR INTAKES.
- A/C UNIT: EXISTING ROOF TOP UNIT (RTU-1(E)) TO REMAIN ALONG WITH ALL ACCESSORIES. SEE MECHANICAL SCHEDULE ON M1.0 FOR ADDITIONAL INFORMATION. CONTRACTOR TO REPLACE FILTER IF REQUIRED. FIELD COORDINATE EXACT LOCATION AND UNIT ORIENTATION PRIOR TO STARTING WORK.



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

ABBR	SYMBOL	DESCRIPTION
T-STAT	⊖	THERMOSTAT
P	⊓	PULL DOWN STATION
RS	⊖	REMOTE SENSOR
SD	⊖	SMOKE DETECTOR
MVD	⊖	MANUAL VOLUME DAMPER
SA	⊖	SUPPLY AIR
RA	⊖	RETURN AIR
EA	⊖	EXHAUST AIR
OA	⊖	OUTSIDE AIR
SW	⊖	SIDEWALL GRILLE
DIFF	⊖	4-WAY SUPPLY DIFFUSER
PC	⊖	POINT OF NEW CONNECTION

FIRE SUPPRESSION NOTES:

- INSPECTION: HOODS, GREASE REMOVAL DEVICES, FANS AND APPURTENANCES SHALL BE CLEANED AND INSPECTED AT INTERVALS AS LISTED IN LOCAL CODE.
- GREASE FILTERS: GREASE FILTERS SHALL BE CLASS I AS REQUIRED BY THE STATE FIRE MARSHAL AND LOCAL CODE.
- PORTABLE FIRE EXTINGUISHER: PORTABLE FIRE EXTINGUISHING EQUIPMENT SHALL BE PROVIDED AS SECONDARY PROTECTION AS REQUIRED BY LOCAL CODE.
- MANUAL ACTIVATION: MANUAL ACTIVATION DEVICE OF THE PRIMARY FIRE EXTINGUISHING SYSTEM SHALL BE PROVIDED IN COMPLIANCE WITH LOCAL CODE AND WITHIN DISTANCE AND HEIGHT AS INDICATED IN THAT LOCAL CODE.
- FUEL SHUT-OFF: PROVIDE FOR AUTOMATIC SHUT-OFF OF SOURCES OF FUEL AND ELECTRIC POWER TO COOKING EQUIPMENT UPON ACTIVATION OF THE FIRE SUPPRESSION SYSTEM AS REQUIRED BY LOCAL CODE.

THERMOSTATIC CONTROL NOTES:

- A. C403.4.1 THERMOSTATIC CONTROLS (MANDATORY)
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.
- B. C403.4.1.2 DEADBAND (MANDATORY)
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.
- C. C403.4.1.3 SETPOINT OVERLAP RESTRICTION (MANDATORY)
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 403.4.1.2.
- D. C403.4.2 OFF-HOUR CONTROLS (MANDATORY)
EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.
- E. C403.4.2.1 THERMOSTATIC SETBACK (MANDATORY)
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).
- F. C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN (MANDATORY)
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 MANUAL OPERATED TIMER CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS, OR AN OCCUPANCY SENSOR.
- G. 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.

MECHANICAL PLAN NOTES:

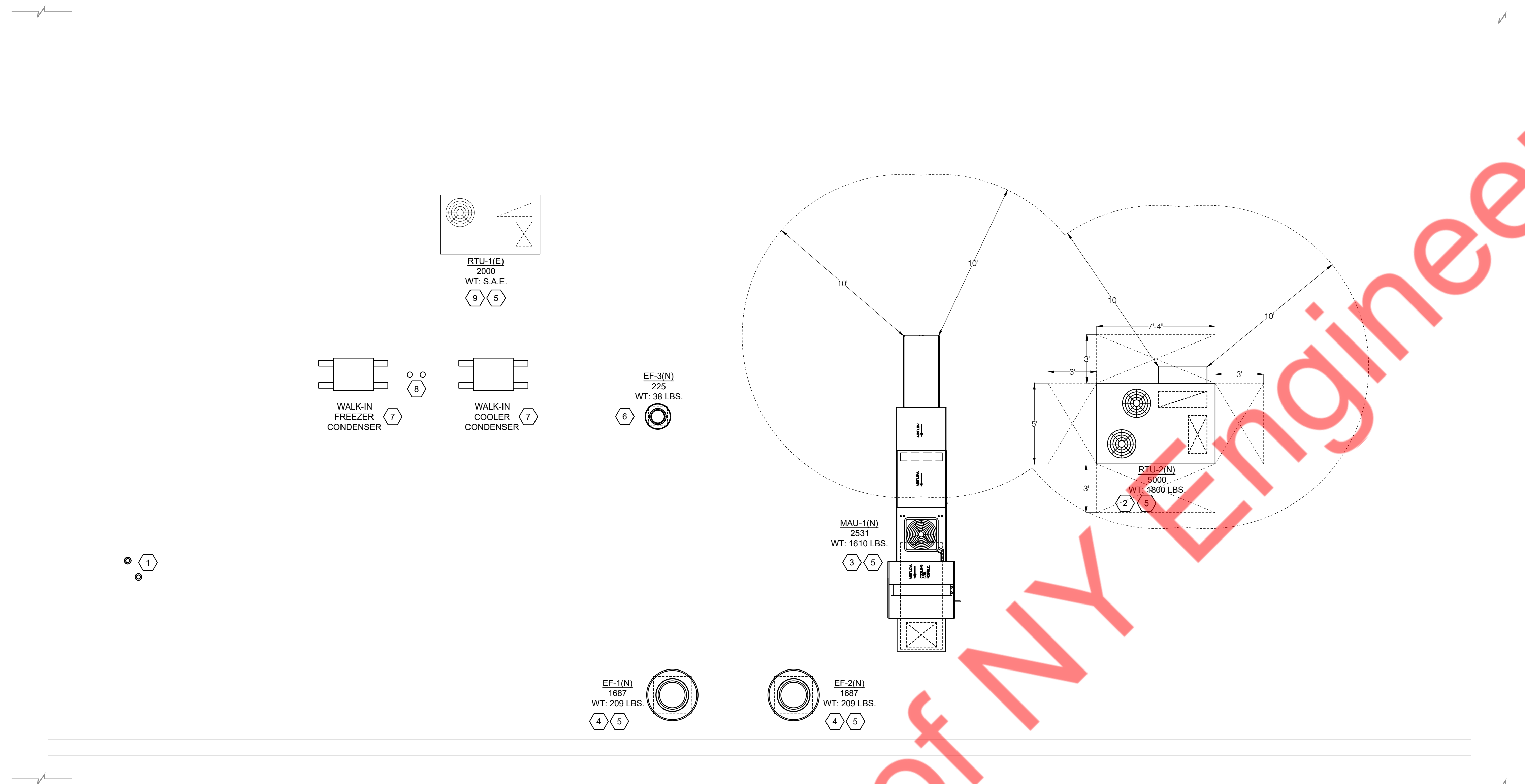
- COORDINATE ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR (IF REQUIRED). PROVIDE AND PAY FOR ANY REQUIRED ROOFING BY ROOFING CONTRACTOR.
- REFER TO ARCHITECTURAL PLANS AND KITCHEN VENDOR DRAWINGS FOR DIMENSIONAL INFORMATION.
- A FINAL REPORT FOR THE TESTING AND ADJUSTING OF ALL NEW SYSTEMS SHALL BE COMPLETED PRIOR TO FINAL APPROVAL BY THE FIELD INSPECTOR. THIS REPORT SHALL BE SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.
- AN OPERATION & SYSTEMS MANUAL SHALL BE PROVIDED TO THE OWNER OR REPRESENTATIVE AND TO THE FIELD INSPECTOR AT THE TIME OF FINAL INSPECTION.
- AN AIR FILTER WITH A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 8 OR HIGHER SHALL BE INSTALLED IN THE MECHANICAL SYSTEM FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY.
- THE HVAC REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL NOT CONTAIN CFC OR HALONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE BUILDING STRUCTURE OR BUILDING UTILITIES CAUSED AS RESULT OF THE CONTRACTOR'S WORK UNDER THIS CONTRACT. IT IS RECOMMENDED THAT MASONRY/CONCRETE FLOORS/WALLS BE X-RAYED PRIOR TO ANY PENETRATIONS.
- PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING MECHANICAL EQUIPMENT THAT SERVING THIS AND NEARBY ADJACENT SPACES AND IS TO REMAIN. CONTRACTOR SHALL VERIFY THE PROPOSED LOCATIONS OF NEW MECHANICAL EQUIPMENT AND DETERMINE IF ANY CONFLICTS (CLEARANCES, ETC) EXIST BETWEEN EXISTING EQUIPMENT AND NEWLY INSTALLED EQUIPMENT. CONTRACTOR SHALL NOTIFY THE ENGINEER IF EQUIPMENT CANNOT BE SUBSTANTIALLY INSTALLED AND LOCATED AS INDICATED BY THESE DRAWINGS.
- CONTRACTOR SHALL BALANCE EACH DEVICE WITH THE CFM SHOWN ON PLAN.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- TEST AND BALANCE AIR SYSTEMS. PROVIDE REPORT TO G.C AND OWNER.
- NEW DUCTWORK IN CONCEALED AREAS MAY BE RECTANGULAR WITH EQUIVALENT CROSS SECTIONAL FLOW AREA.
- PROVIDE FIRE OR FIRE-SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FIRE RATINGS OF THE WALLS COORDINATE WITH ELECTRICAL ENGINEER FOR POWER REQUIREMENT FOR FSD.
- PROVIDE CHORD OPERATED DAMPERS IN INACCESSIBLE CEILING.
- PROVIDE WEATHER PROOF COATING FOR ALL EXTERIOR PIPING INSULATION.
- ALL EQUIPMENT SHALL MAINTAIN MINIMUM CLEARANCE FROM THE COMBUSTIBLE MATERIAL AS PER MANUFACTURE RECOMMENDATION.
- PROVIDE 2 LAYERS OF 1.5" THICK FIRE WRAP TO KITCHEN EXHAUST DUCTS AS PER MANUFACTURERS RECOMMENDATIONS

DUCTWORK SPECIFICATIONS:

- ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA-2006 OR UL 181 AND CONFORM TO THE REQUIREMENTS OF THE LOCAL CODE.
- ALL SUPPLY AND RETURN AIR DUCTS IN UNCONDITIONED SPACES SHALL HAVE R-8 INSULATION.
- ALL CONCEALED LOW PRESSURE (<2"WG) COOLING & HEATING DUCT 20" DIA. OR LESS SHALL BE UL 181 CLASS 1 FACTORY MADE FLEXIBLE ALUMINUM DUCT INSULATED WITH R-8 INSULATION AND SHEATHED WITH A VAPOR PROOF POLYETHYLENE SLEEVE.
- ALL ROUND FLEXIBLE SUPPLY TAIL PIECES SHALL BE UL 181 CLASS 1 FACTORY MADE ACOUSTICAL FLEXIBLE DUCT WITH NYLON LINER AND INSULATED WITH R-8 INSULATION SHEATHED WITH A VAPOR PROOF METALIZED POLYESTER SLEEVE. THE MAXIMUM ALLOWABLE LENGTH OF THE FLEX DUCT SHALL BE 6'-0" AND MAY NOT BE USED AS AN ELBOW.
- ALL EXPOSED LOW PRESSURE (<2"WG) COOLING & HEATING 20" DIA. OR LESS SHALL BE FACTORY MADE GALVANIZED 4-PLY SPIRAL LOCK SEAM DUCT LINED WITH R 8 INSULATION.
- ALL CONCEALED INTERIOR RECTANGULAR COOLING & HEATING DUCT SHALL BE GALVANIZED METAL WRAPPED WITH R-8 INSULATION IN ACCORDANCE WITH LOCAL CODE.
- ALL EXPOSED INTERIOR AND EXTERIOR RECTANGULAR COOLING & HEATING DUCT SHALL BE SMOOTH ROUND GALVANIZED METAL LINED WITH R-8 DUCT LINER IN ACCORDANCE WITH LOCAL CODE.
- ALL ROUND ENVIRONMENTAL EXHAUST AIR DUCT AND OUTSIDE AIR DUCT SHALL BE SMOOTH ROUND GALVANIZED PIPE INSTALLED IN ACCORDANCE WITH CHAPTER LOCAL CODE.
- ALL RECTANGULAR DUCTWORK SERVING TYPE I HOODS SHALL BE CONSTRUCTED OF 0.075 IN CARBON STEEL (16 GA) OR 0.045 STAINLESS STEEL (18 GA) WELDED FOR A LIQUID TIGHT SEAL IN ACCORDANCE WITH LOCAL CODE.
- DUCTWORK SHALL BE CONSTRUCTED AND SUPPORTED IN ACCORDANCE WITH THE LATEST EDITION OF THE HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION INC. (SMACNA).
- NO EXPOSED FLEXIBLE DUCTS SHALL BE USED.
- NO RETURN AIR REGISTERS SHALL BE LOCATED 6'-0" OF A SUPPLY AIR DIFFUSER THAT DIRECTS SUPPLY AIR IN THE DIRECTION OF THE RETURN AIR REGISTER.
- ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTUP OF THE HEATING, COOLING, AND VENTILATING EQUIPMENT.
- GREASE EXHAUST DUCT SYSTEM SHALL HAVE A SLOPE NOT LESS THAN 1/4 INCH PER LINEAR FOOT TOWARD THE HOOD OR TOWARD AN APPROVED GREASE RESERVOIR. WHEN HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 1 INCH PER LINEAR FOOT.

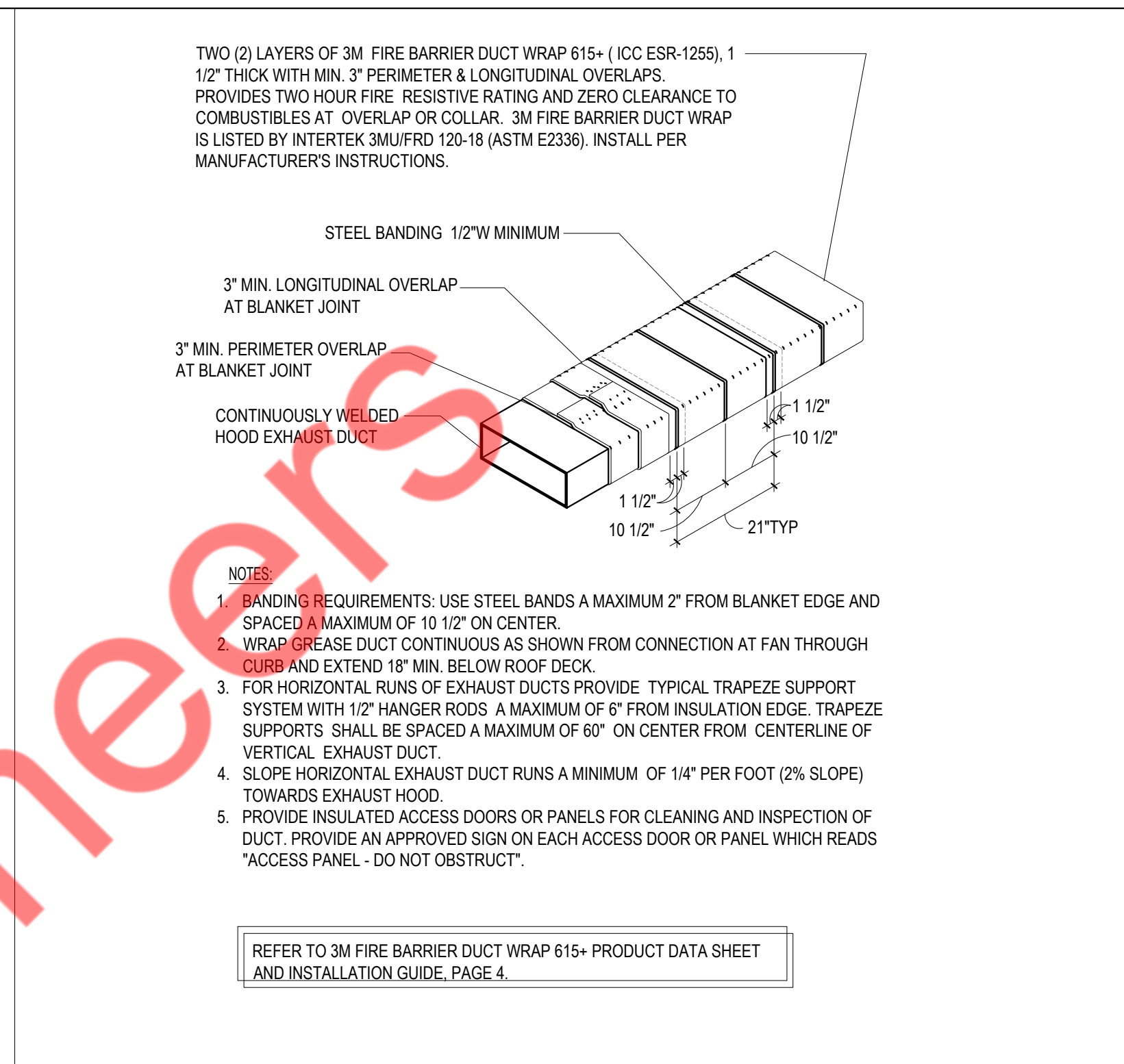
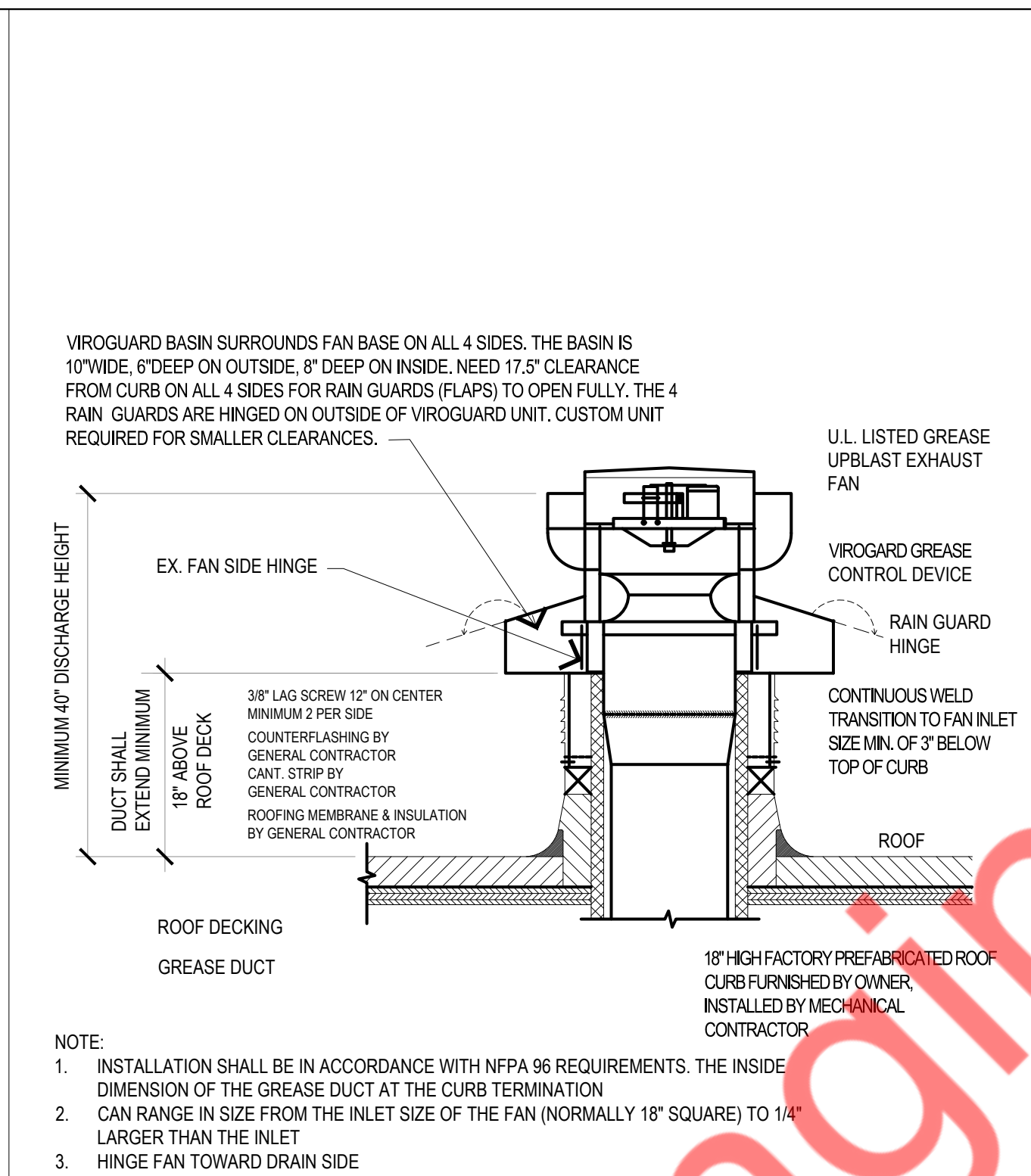
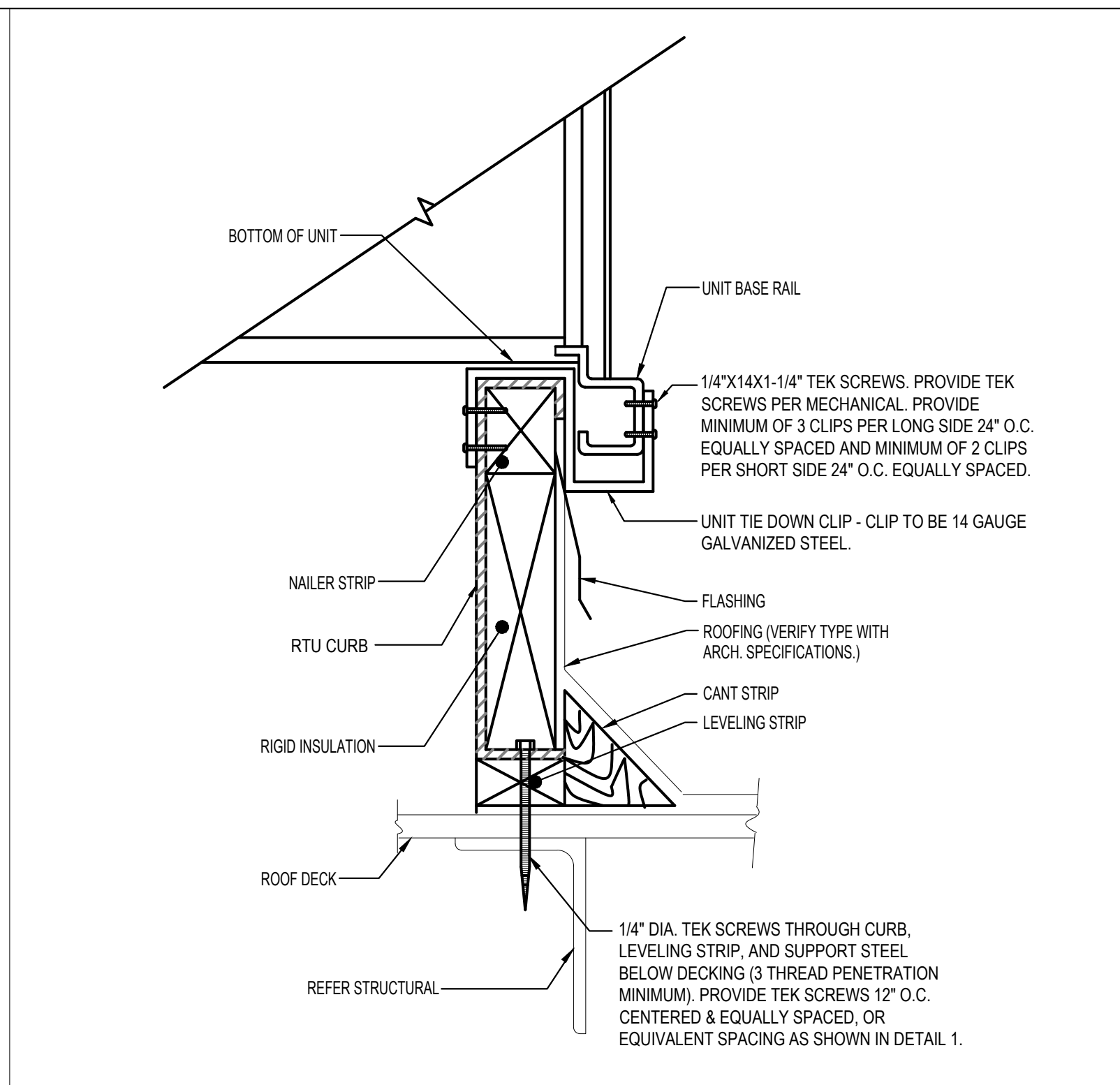
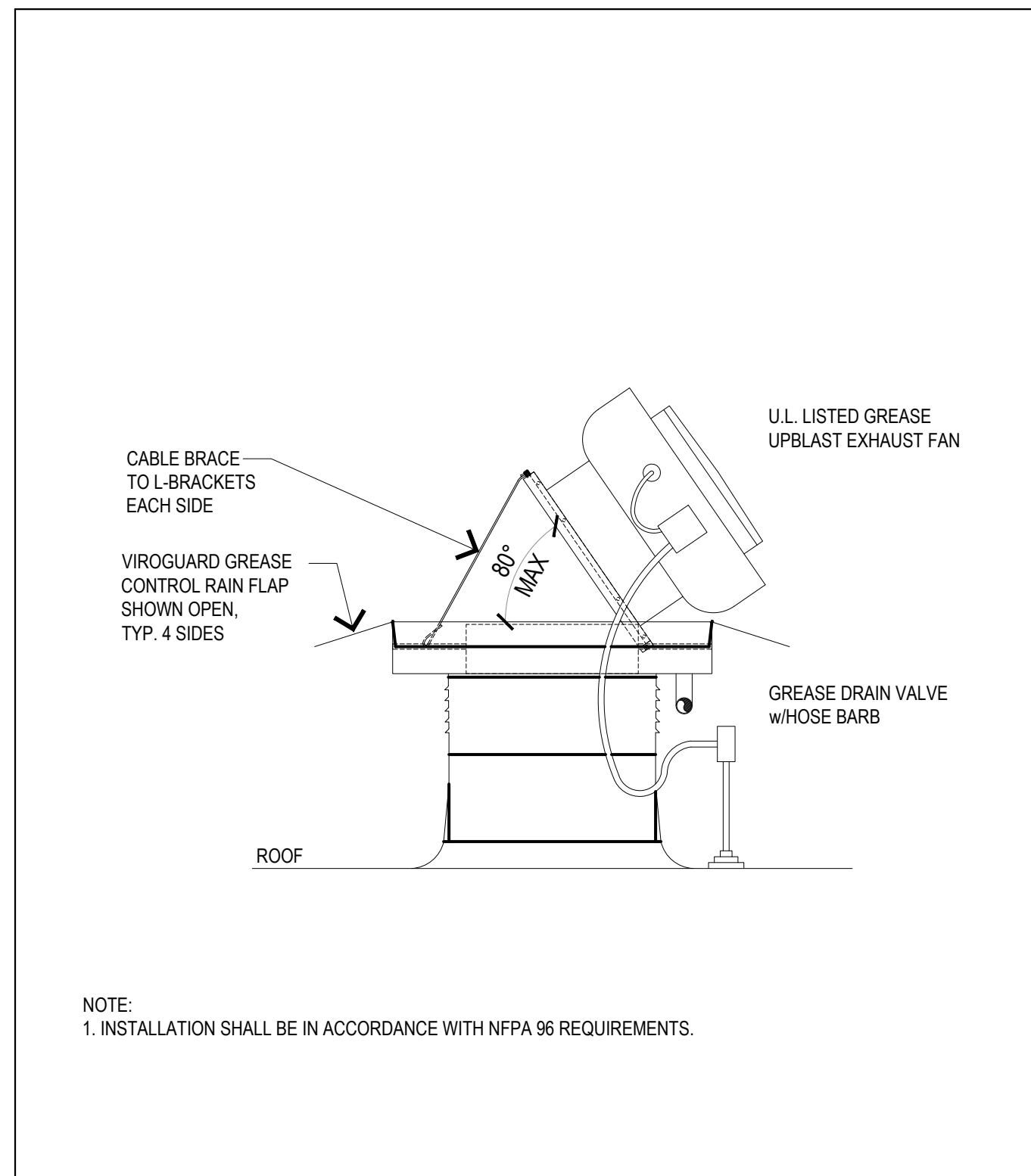
HVAC KEYED NOTES: (#)

1. WATER HEATER CONCENTRIC VENT BY PLUMBING CONTRACTOR. FIELD VERIFY EXACT LOCATION.
2. A/C UNIT: PROVIDE AND INSTALL NEW ROOFTOP PACKAGE GAS A/C UNIT. SEE DETAILS ON M3.0 FOR INSTALLATION INFORMATION. SEE EQUIPMENT SCHEDULE ON SHEET M1.0 FOR ADDITIONAL INFORMATION. UNIT TO BE COMPLETE AND FUNCTIONING PRIOR TO TURNING OVER. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO STARTING WORK.
3. MAKE-UP AIR UNIT: HOOD EQUIPMENT SUPPLIER SHALL PROVIDE AND HVAC CONTRACTOR SHALL INSTALL WHERE SHOWN ON PLANS A ROOF MOUNTED MAKE-UP AIR UNIT. SEE SCHEDULE ON SHEET M1.0 FOR MORE INFORMATION. FIELD COORDINATE EXACT LOCATION WITH STRUCTURE. UNIT TO BE INSTALLED ON FACTORY CURB REF DETAIL ON M3.0. UNIT SHALL INCLUDE AN AUTOMATIC BACK DRAFT DAMPER, FAN AND HOUSING SHALL BE OF ALUMINUM CONSTRUCTION WITH A NON-OVERLOADING FAN WHEEL. UNIT SHALL BE DIRECT DRIVE WITH DRIVES SIZED FOR 125% OF RATED CAPACITY. MOUNTING OF ROOF CURB SHALL BE BY THE THIS CONTRACTOR WITH ALL ROOF CUTTING, FLASHING, ETC. TO BE DONE BY THE ROOFING CONTRACTOR.
4. ROOFTOP EXHAUST FAN: PROVIDE AND INSTALL NEW ROOFTOP UP-BLAST BELT DRIVE EXHAUST FAN ON FACTORY CURB REF DETAIL ON M3.0. SEE FAN SCHEDULE ON SHEET M1.0 FOR ADDITIONAL INFORMATION. VERIFY PITCH OF ROOF AND LEVEL CURB FOR PROPER OPERATION. FIELD COORDINATE EXACT LOCATION WITH STRUCTURE. PROVIDE AND INSTALL GREASE DUCTWORK PER PLAN. INSTALL CONTROL WIRE FOR CONTROLS AS REQUIRED. ELECTRICAL CONTRACTOR TO INSTALL CONDUIT FOR CONTROL WIRE. VERIFY AND COORDINATE POWER CONTROL CONDUIT, AND DISCONNECT LOCATIONS WITH ELECTRICAL CONTRACTOR START-UP, TEST, AND BALANCE FOR PROPER OPERATION.
5. SUPPLY AIR INTERLOCK: ELECTRICALLY INTERLOCK SUPPLY FANS OF RTUS (RTU-1[E] & 2[N]), MAKE-UP AIR UNIT (MAU-1[N]) AND EXHAUST FANS (EF-1[N] & 2[N]) FOR SIMULTANEOUS OPERATION TO PROVIDE MAKEUP AIR FOR HOOD IN ACCORDANCE WITH LOCAL CODES. COORDINATE INTERLOCK WORK WITH ELECTRICAL CONTRACTOR. LOCATE INTERLOCK ON/OFF SWITCH NEAR HOOD PER OWNER.
6. RESTROOM EXHAUST FAN: PROVIDE AND INSTALL ROOFTOP RESTROOM EXHAUST FAN WITH FAN SPEED CONTROL REF DETAIL ON M3.0 AND IN ACCORDANCE WITH LOCAL CODES. EXHAUST FAN TO RUN CONTINUOUSLY DURING OPERATING HOURS. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS. TERMINATE OUTLET A MINIMUM 3 FT. FROM PROPERTY LINES AND OPERABLE OPENINGS INTO THE BUILDING AND 10 FT. AWAY FROM MECHANICAL AIR INTAKES.
7. REMOTE REFRIGERATION CONDENSER: INSTALL OWNER PROVIDED REMOTE REFRIGERATION CONDENSER PER MANUFACTURER'S INSTRUCTIONS. SEE ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. PROVIDE REFRIGERATION LINE-SETS, PLATFORM, AND CONTROLS AS REQUIRED. ELECTRICAL CONTRACTOR TO INSTALL CONDUIT FOR CONTROL WIRE. VERIFY AND COORDINATE POWER, CONTROL CONDUIT, AND DISCONNECT LOCATIONS WITH ELECTRICAL CONTRACTOR. START-UP, TEST AND BALANCE FOR PROPER OPERATION. SEE DETAILS ON SHEET M3.0.
8. REFRIGERANT LINES: PROVIDE AND INSTALL NEW DX REFRIGERATION LINE-SETS FOR WALK-IN COOLER / FREEZER AND ICE MACHINE. LINES SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. VERIFY INSTALLATION WITH MANUFACTURER'S ACCESSORIES (SHUT-OFF VALVE, ACCESS PORT, SUCTION LIE FILTER, FROSTAT) AND LIQUID LINE ACCESSORIES (SHUT-OFF VALVE, FILTER DRIER, ACCESS PORT, SOLENOID VALVE, MOISTURE AND LIQUID INDICATOR AND THERMOSTATIC EXPANSION VALVE). PROVIDE AND INSTALL ALL MANUFACTURER RECOMMENDED COMPONENTS. INSULATE VAPOR LINE IN 1" THICK ELASTOMERIC INSULATION (RUBATEX OR EQUIV.) SECURE REFRIGERANT LINES TO AVOID VIBRATION. SEE DETAILS ON SHEET M3.0.
9. A/C UNIT: EXISTING ROOF TOP UNITS (RTU-1[E]) TO REMAIN ALONG WITH ALL ACCESSORIES CLEAN AND REFURBISH TO LIKE NEW CONDITION. REPAIR/REPLACE ANY ACCESSORIES AS REQUIRED TO PROVIDE A FULLY FUNCTIONING. FIELD VERIFY EXACT LOCATION AND REQUIREMENTS PRIOR TO STARTING WORK.



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

Property of NY Engineers

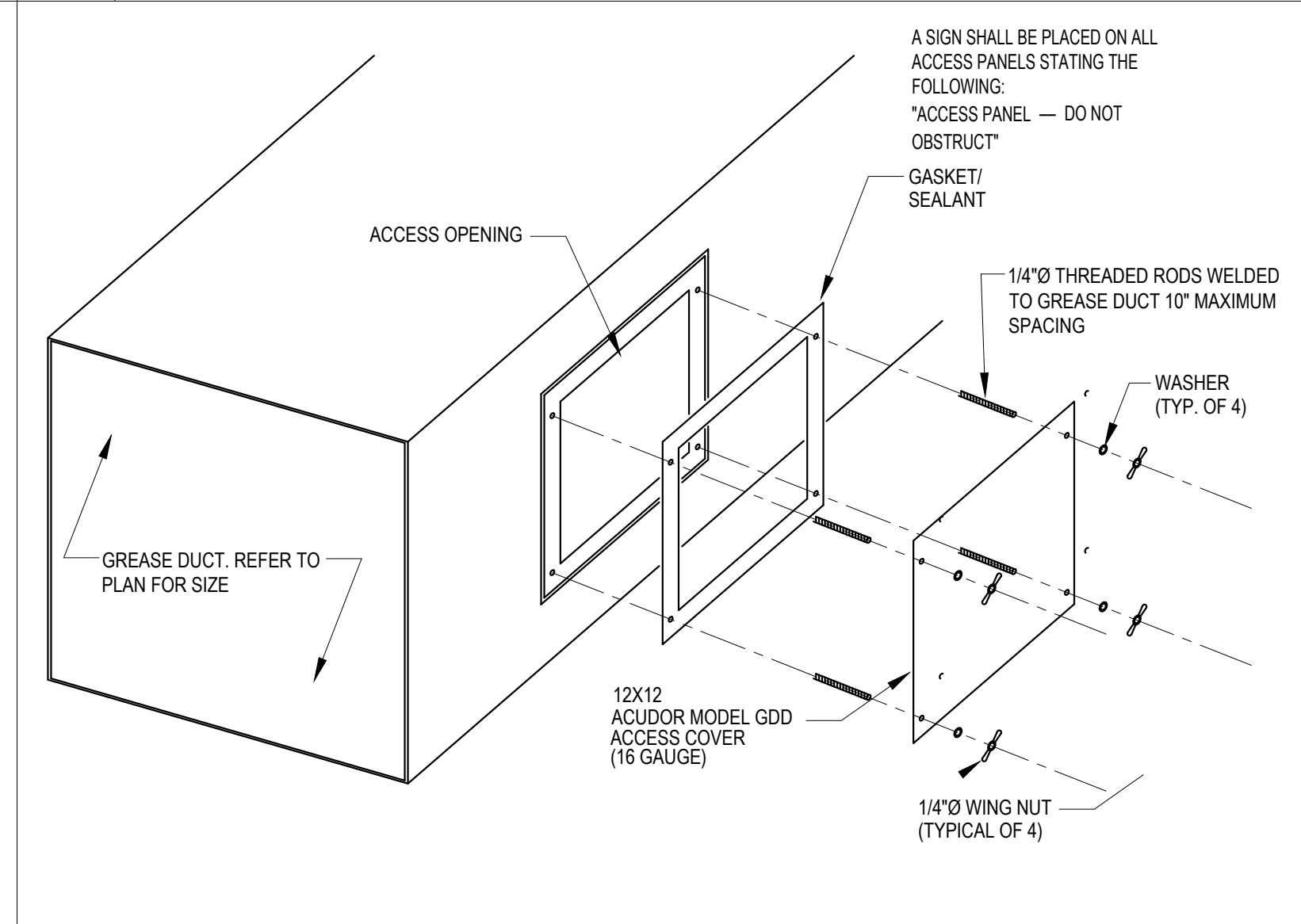
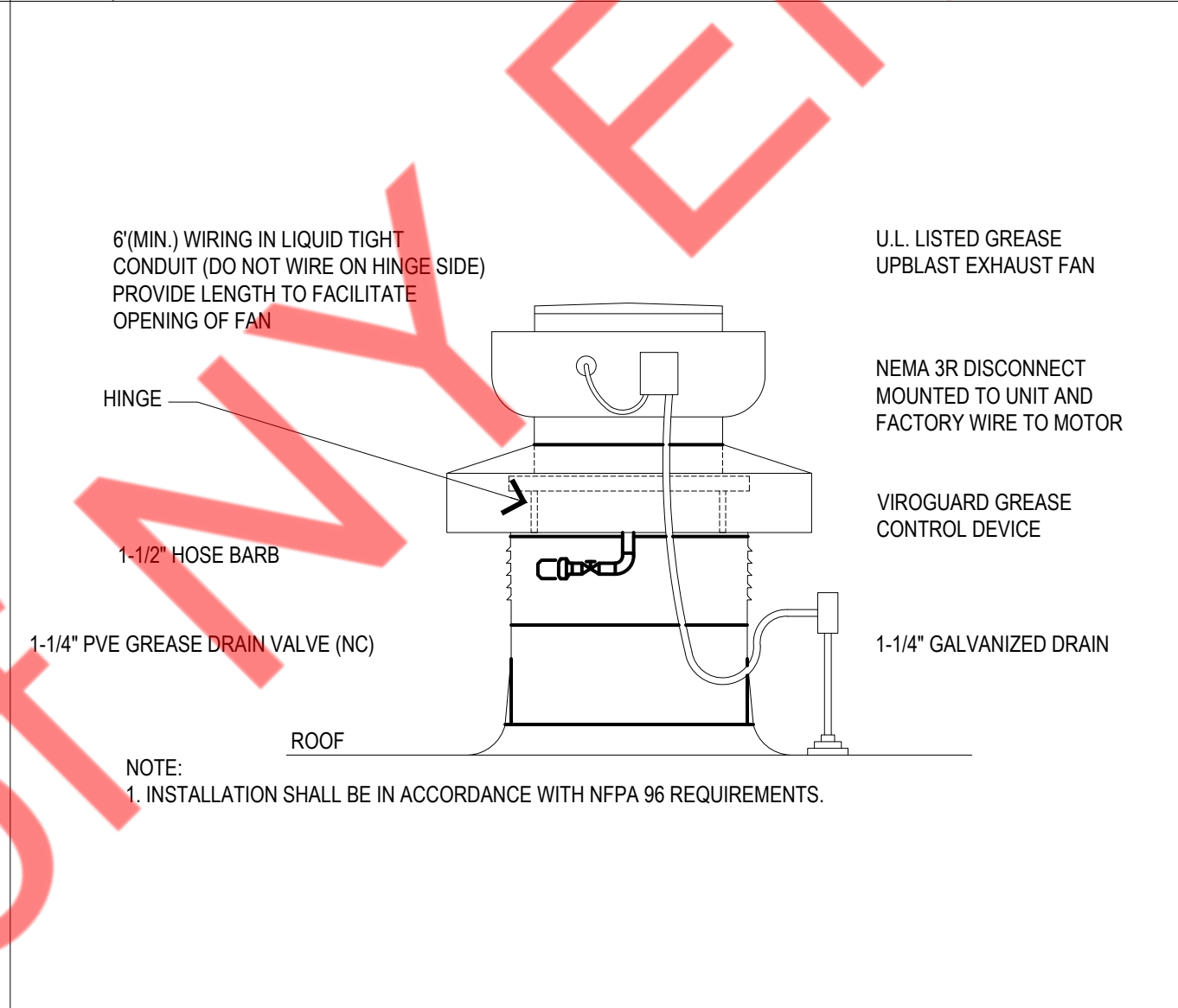
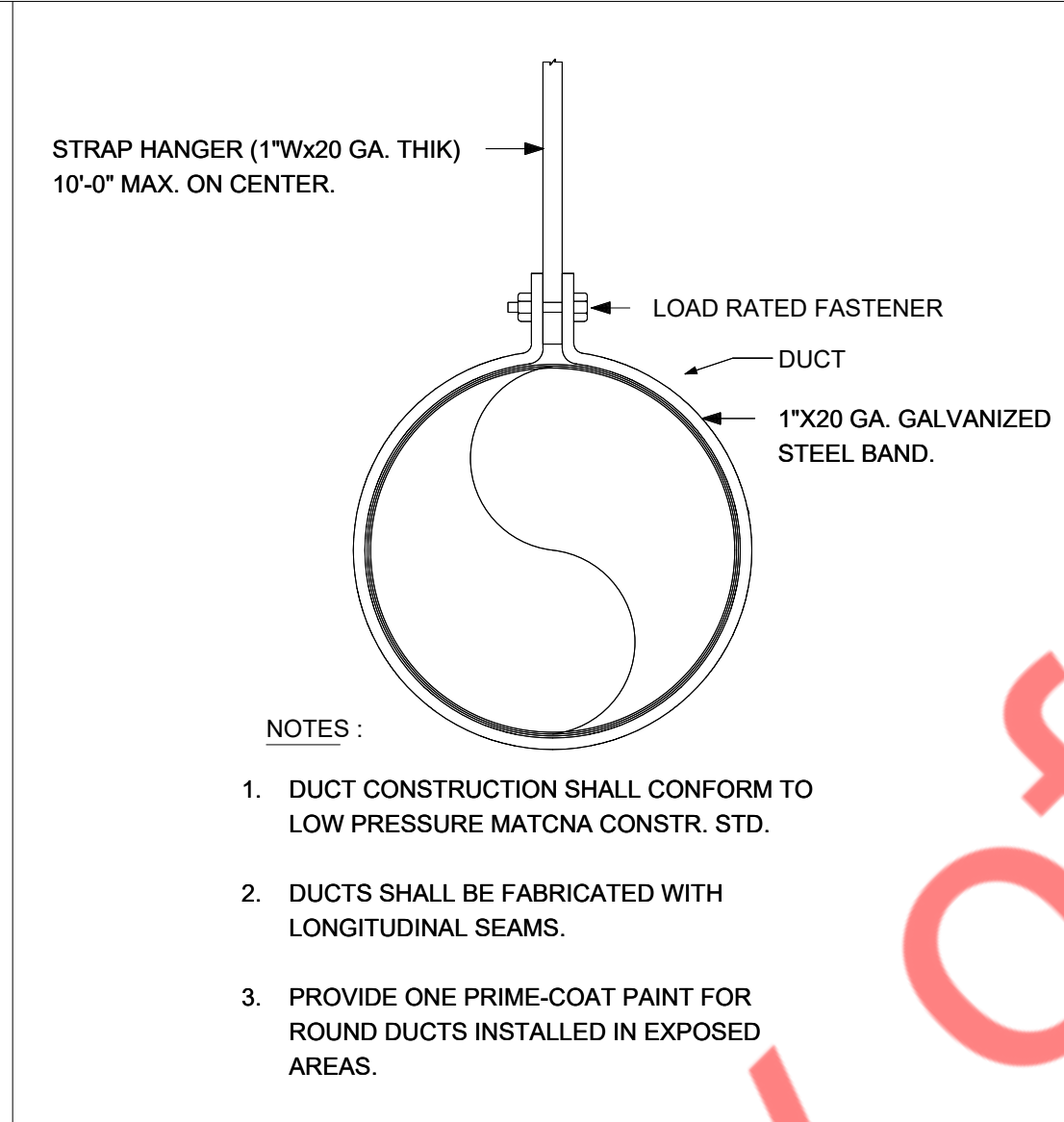
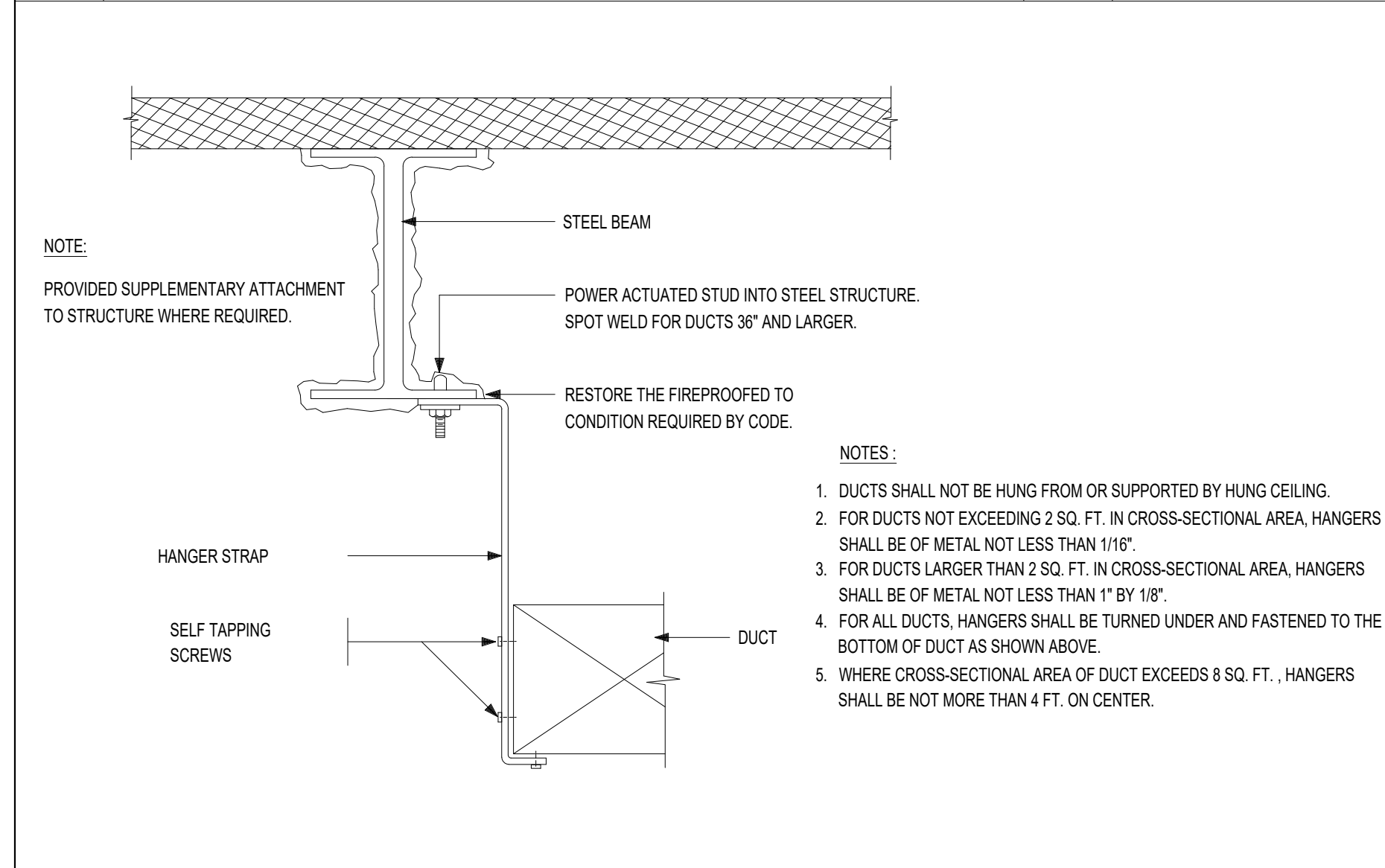


1 GREASE EXHAUST ACCESS N.T.S

2 TYPICAL RTU TIE DOWN CURB DETAIL N.T.S

3 GREASE EXHAUST VIROGUARD DETAIL N.T.S

4 GREASE DUCT DETAIL N.T.S

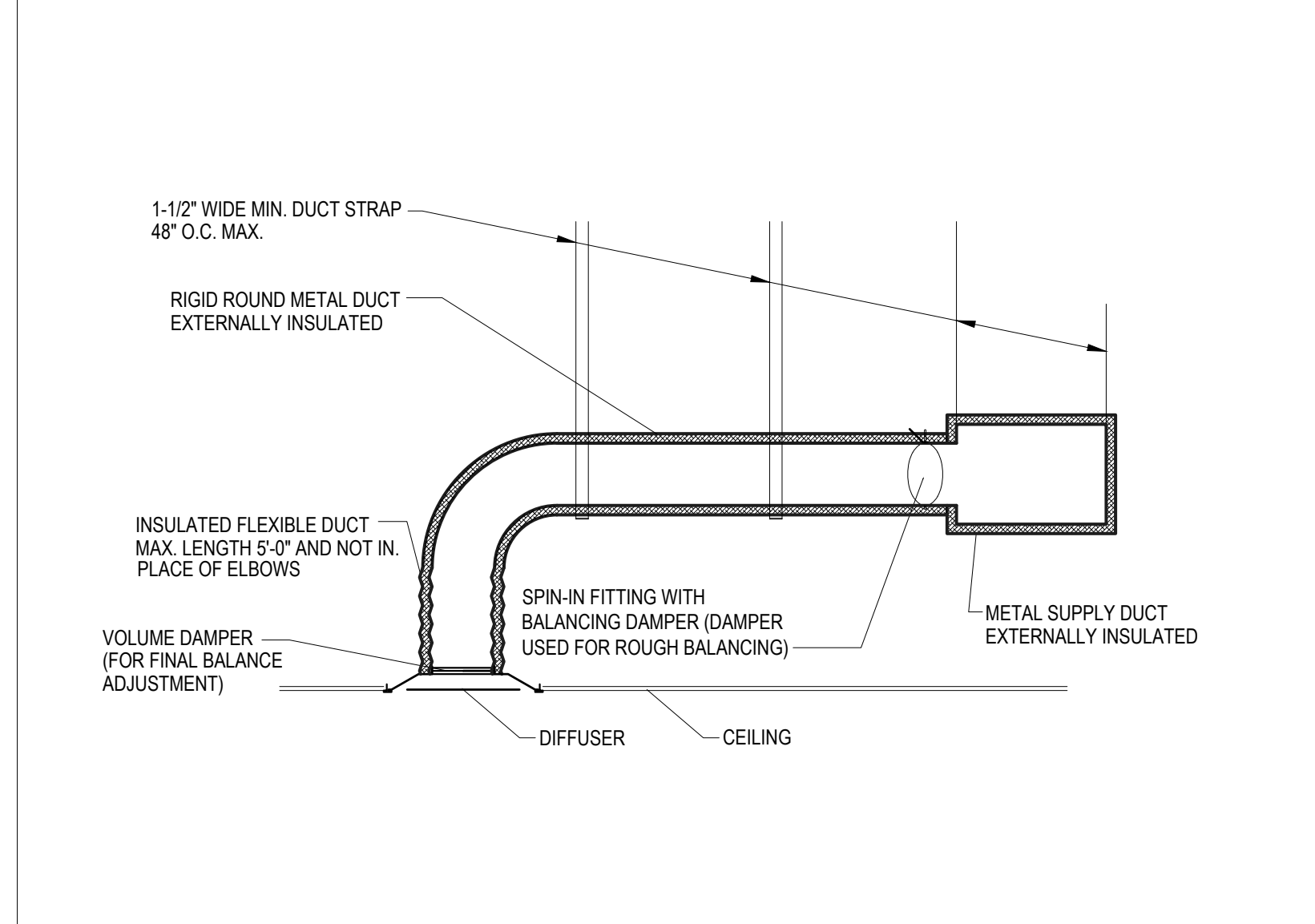
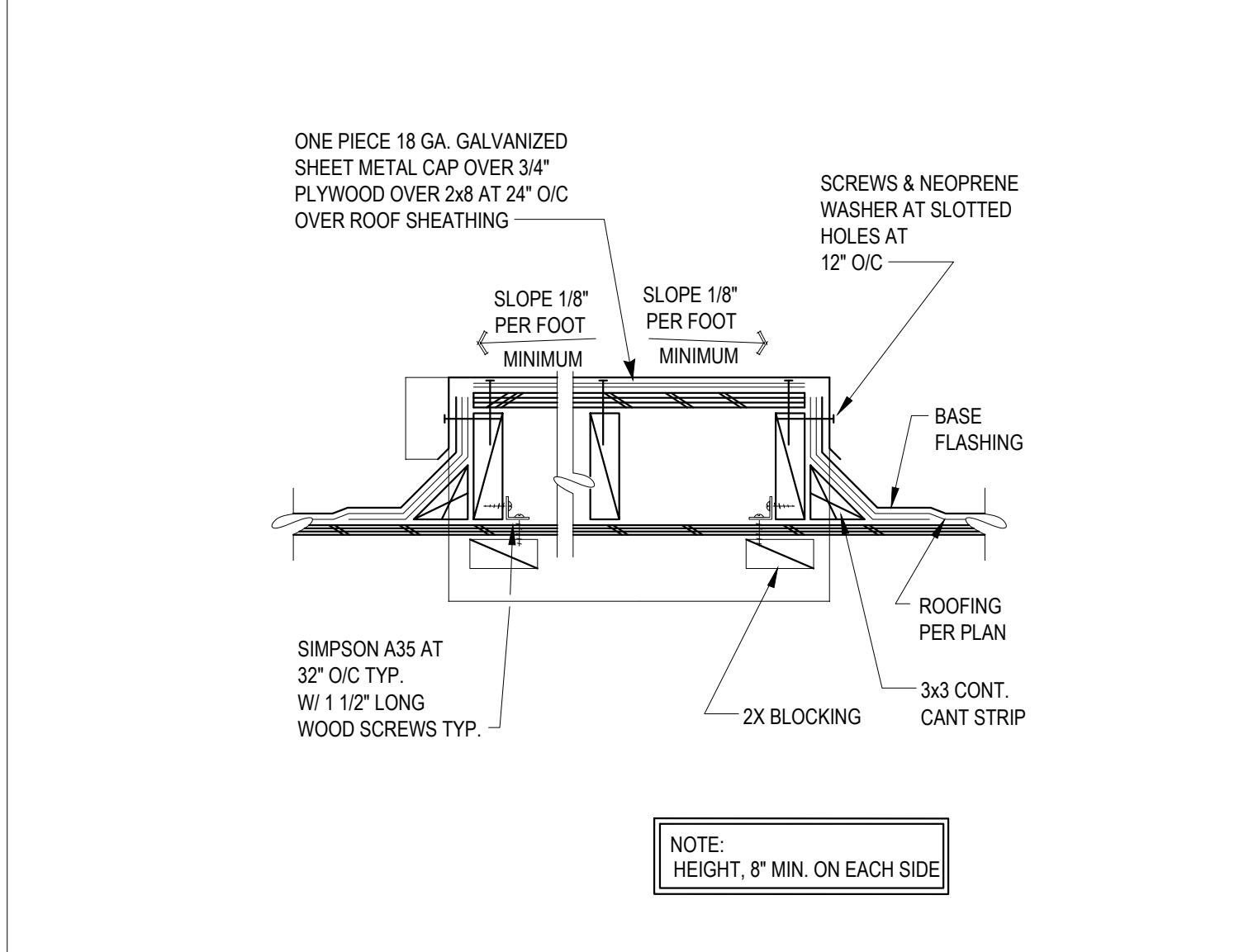
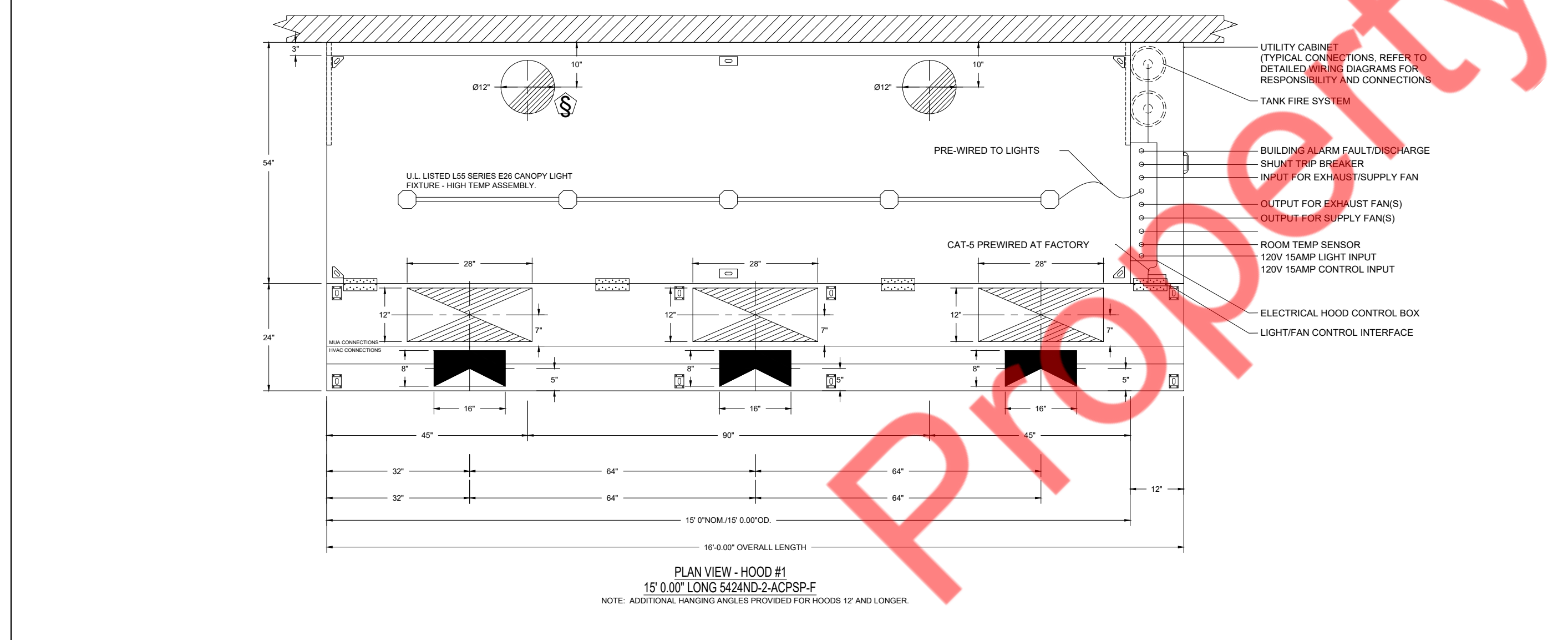


5 RECTANGULAR DUCT HANGER DETAIL N.T.S

6 ROUND DUCT HANGER DETAIL N.T.S

7 GREASE EXHAUST FAN POWER DETAIL N.T.S

8 GREASE DUCT ACCESS PANEL DETAIL N.T.S



9 KITCHEN HOOD PLAN VIEW DETAIL N.T.S

10 ROOF PLATFORM SECTION N.T.S

11 HVAC DUCTWORK DETAIL N.T.S

SEQUENCE OF OPERATIONS

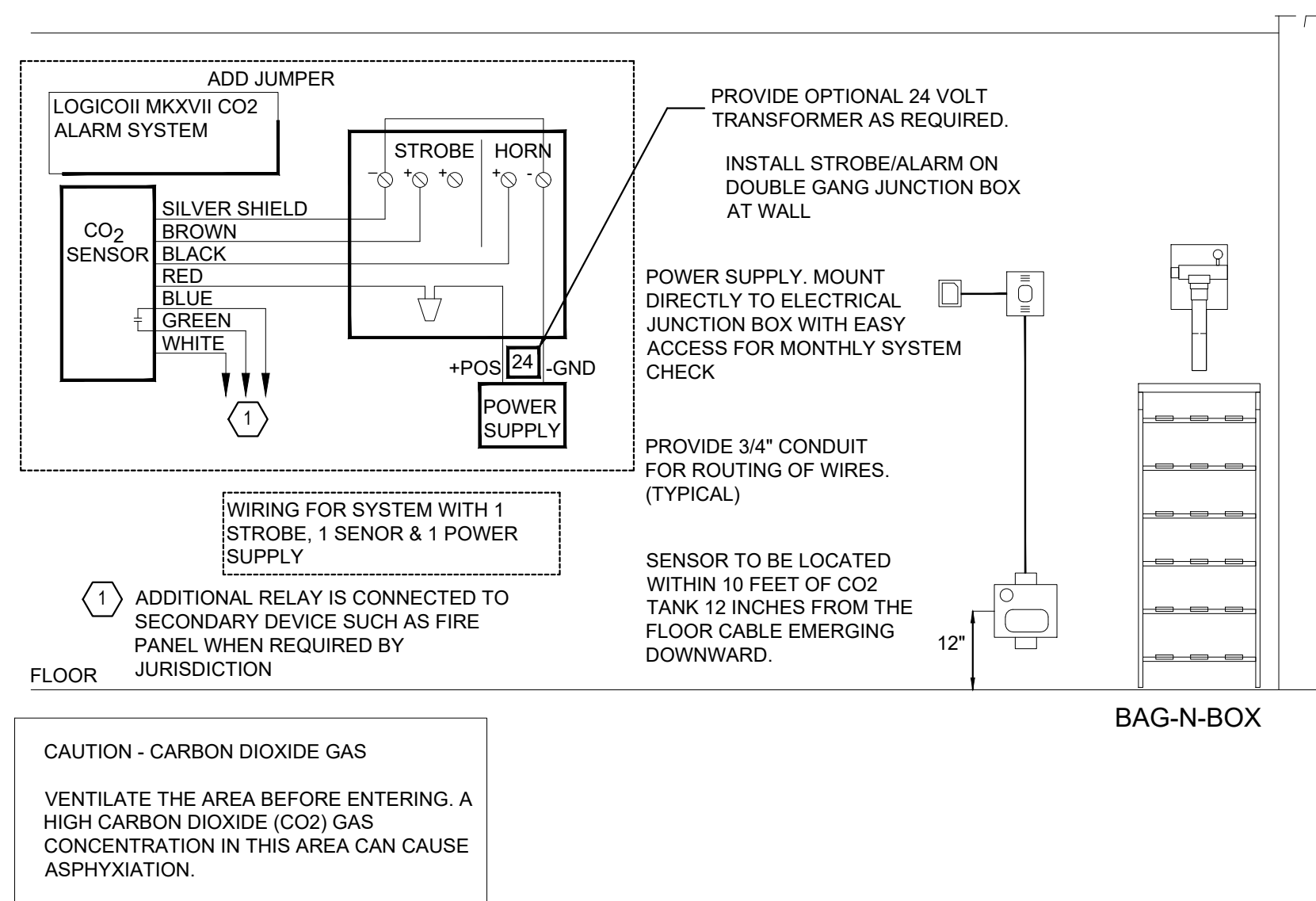
CO2 SENSOR SHALL BE CAPABLE OF TWO TIER DETECTION (5,000 PPM AND 30,000 PPM). AT THE LOWER LEVEL, THE SYSTEM SHALL PROVIDE A LOCAL WARNING/SUPERVISORY SIGNAL WITH VISIBLE, AUDIBLE INDICATION, AND FLOW OF CO2 TO THE PIPING SYSTEM SHALL BE STOPPED. AT THE HIGHER LEVEL, CO2 SENSOR DETECTS CO2 WHICH PROVIDES AN EVACUATION SIGNAL WITH VISIBLE AND AUDIBLE INDICATION. IF THERE IS A FIRE ALARM SYSTEM, CONNECT IN ACCORDANCE WITH FIRE ALARM MANAGER. EMERGENCY PLAN WILL BE INITIATED BY STAFF. PROVIDE EMERGENCY RESPONSE EVACUATION PLAN BY STAFF UPON ACTIVATION OF HIGH LEVEL EVACUATION SIGNAL. POST EVAC PLAN ON WALL OF OFFICE OR NEAR CO2 TANK AND FURNISH A COPY TO LOCAL FIRE DEPARTMENT AT INSPECTION

REQUIRED TESTING

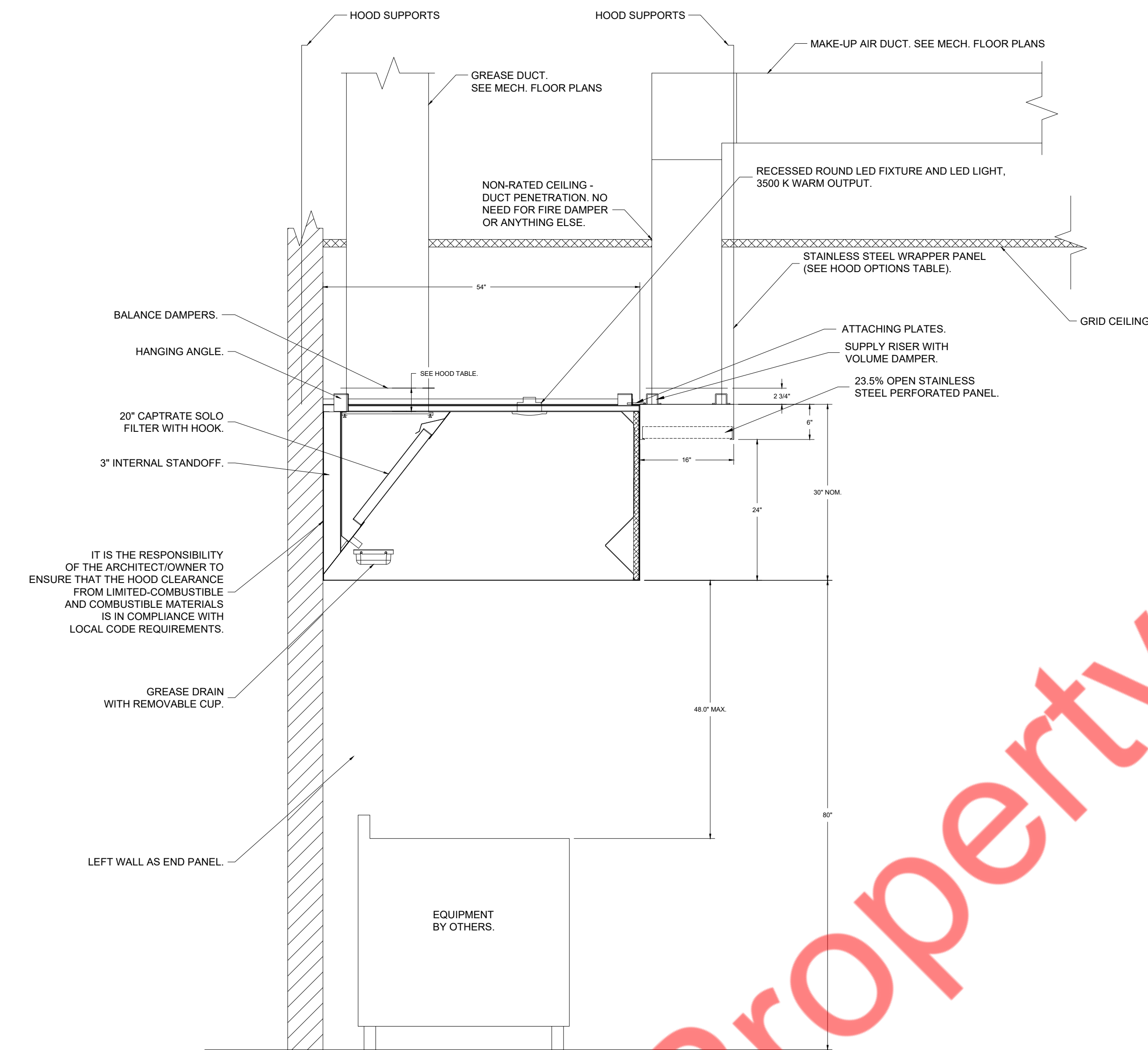
INSTALLING CONTRACTOR SHALL TEST THE DETECTOR IN ACCORDANCE WITH THE MANUFACTURER'S TESTING REQUIREMENTS TO VERIFY DETECTOR AND ALARMS ARE IN PROPER OPERATING ORDER. CONFIRM ALL TESTING REQUIREMENTS WITH LOCAL FIRE DEPARTMENT PRIOR TO COMPLETION.

GENERAL NOTES

- INSTALLATION SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES
- MECHANICAL VENTILATION IS PROVIDED AT A RATE NOT LESS THAN 1 CFM PER SF OF FLOOR AREA OVER THE STORAGE AREA
- FOR LIQUID CO2 SYSTEMS, EXHAUST SHALL BE TAKEN WITHIN 12 INCHES OF THE FLOOR MAKE UP AIR SHALL BE PROVIDED.
- EXHAUST AIR SHALL NOT BE RECIRCULATED TO OCCUPIED AREAS
- SENSORS, CONTROLS, ALARMS, PIPING AND ACCESSORY COMPONENTS TO BE PROVIDED PER THE LOCAL FIRE DEPARTMENT.
- INSTALLATION SHALL BE IN COMPLIANCE WITH NFPA 55 CHAPTER 13.
- PIPING AND FITTINGS TO BE LOCATED AND SUPPORTED TO PROTECT AGAINST DAMAGE. THE GAS DETECTION AND ALARM SYSTEMS SHALL BE INSTALLED, INSPECTED, TESTED, CALIBRATED AND MAINTAINED PER THE MANUFACTURER'S INSTRUCTIONS OR AT A MINIMUM ANNUALLY.
- HAZARD IDENTIFICATION SIGN SHALL BE POSTED AT THE ENTRANCE TO THE ROOM AND INDOOR AREAS WHERE THE CO2 CONTAINERS ARE LOCATED. THE SIGN SHALL BE A MINIMUM 8" WIDE AND 6" HIGH. SIGN DETAIL WITH VERBIAGE SHOWN TO THE RIGHT.

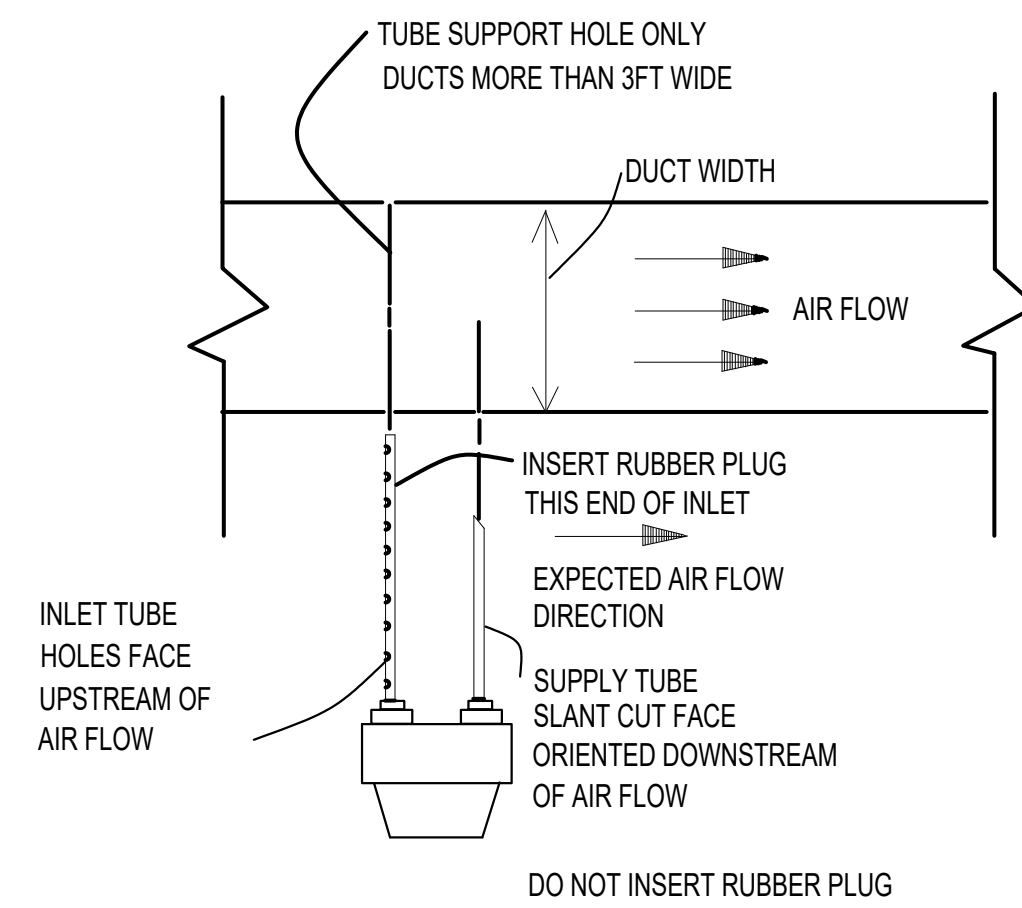


11 CO2 ALARM SYSTEM AND SIGN DETAIL

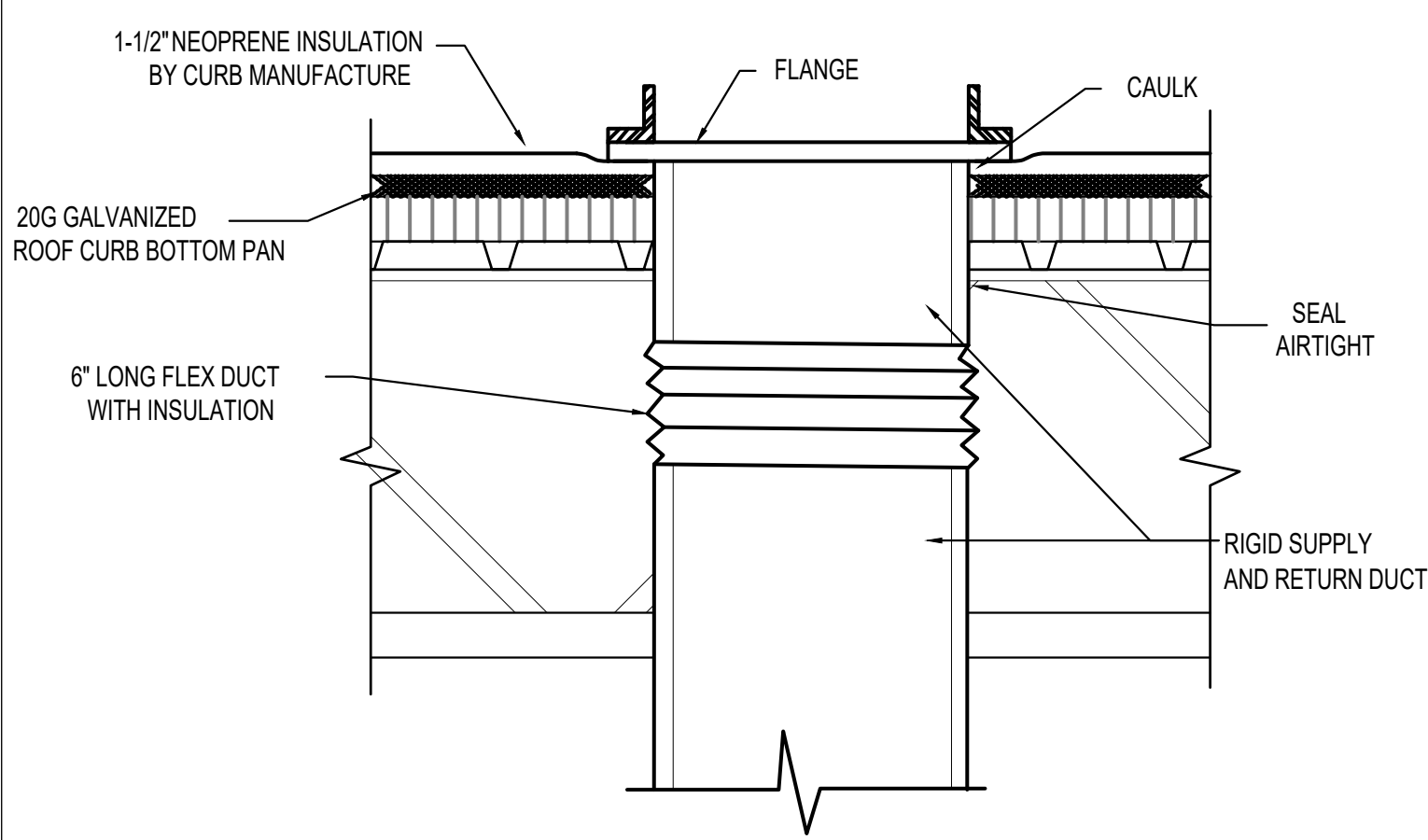


14 ENLARGED SECTION VIEW DETAIL - KITCHEN HOOD

12 DUCT SMOKE DETECTOR DETAIL

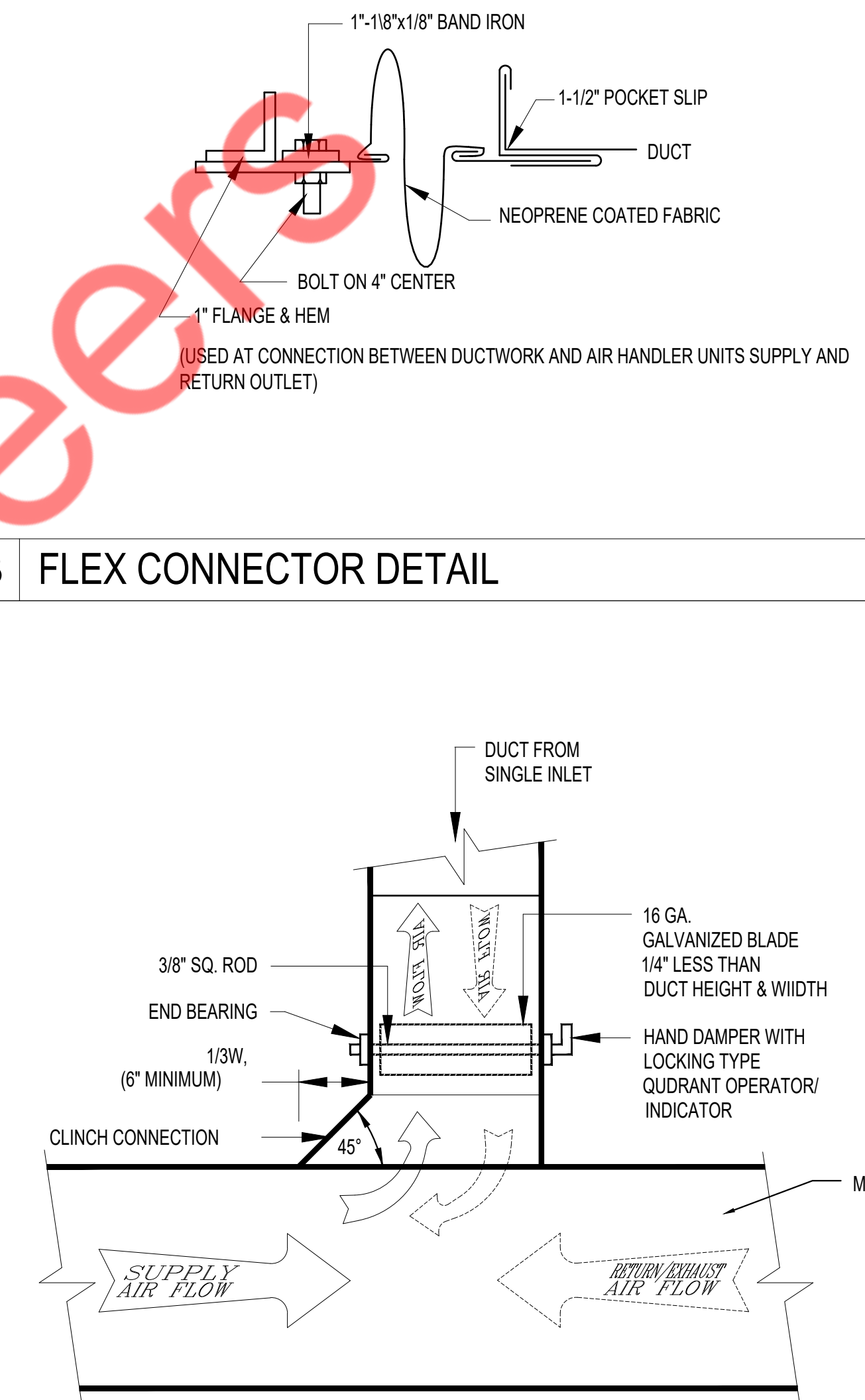


15 DUCTWORK CONNECTION TO ROOFCURB DETAIL

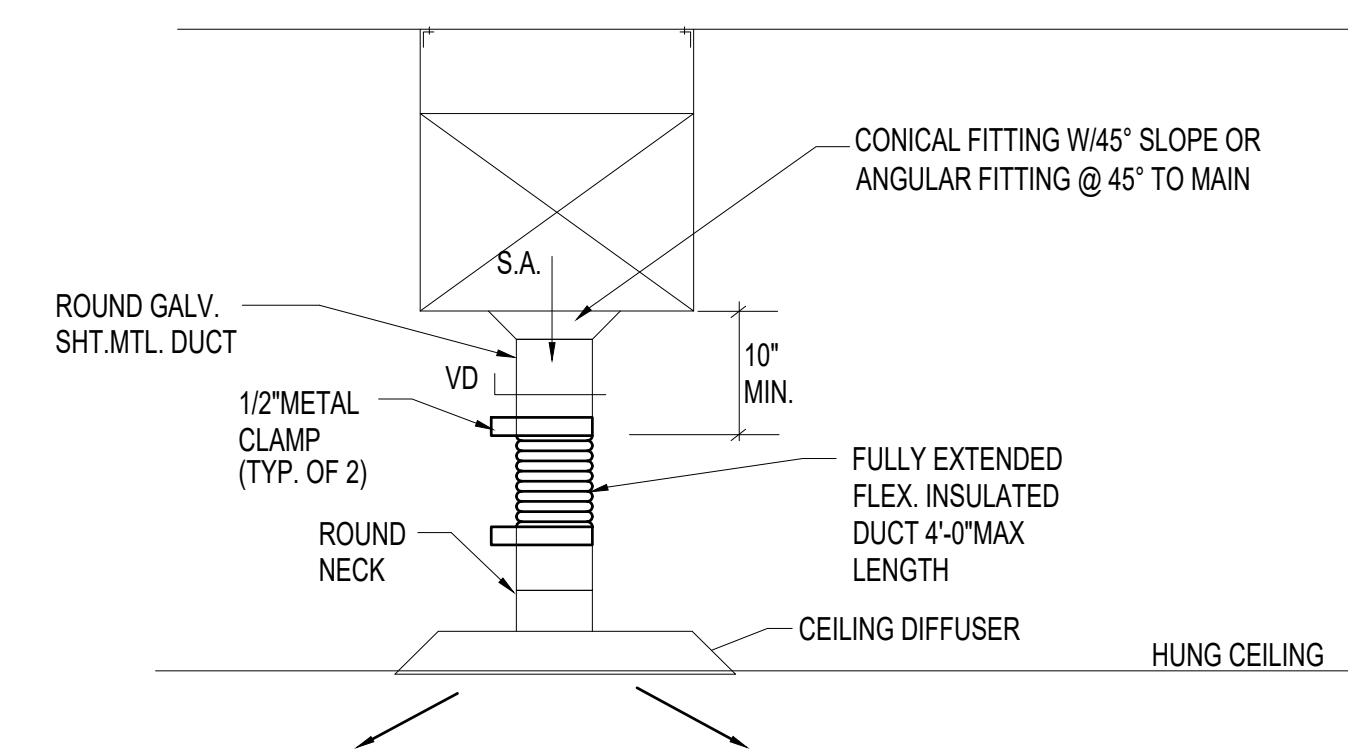


17 DUCT PENETRATION THROUGH ROOF SLAB DETAIL

13 FLEX CONNECTOR DETAIL



16 DUCT TAP DETAIL



18 BOTTOM DUCT DIFFUSER CONNECTION



CEILING LEGEND

T1	2X4 LED FLAT PANEL 5,500 LUMEN - 3500K	*P1	CORD HUNG PENDANT
T2	2X2 LED FLAT PANEL 5,500 LUMEN - 3500K	EXR	THERMOPLASTIC EXIT/EM COMBO RED LETTERS WHITE HOUSING - REMOTE CAPABLE
T3	1X4 LED FLAT PANEL 4,000 LUMEN - 3500K	ER	EXTERIOR RATED REMOTE EMERGENCY HEAD - GREY FINISH
TL	PRO 60 SERIES - 24V LED TAPE - 2700 - 115 LUMENS/FT - REQUIRES POWER SUPPLIES	W-EBU	EMERGENCY LED LIGHT
PA1-W	LED TRACK HEAD 10W 3000K LED CYLINDER - BLACK FINISH	OC	OCCUPANCY SENSOR
		R1W	4" RECESSED WHITE TRIM WITH WHITE REFLECTOR

- ### LIGHTING PLAN GENERAL NOTES:
- FULLY SHADED OR HALF SHADED LUMINAIRES INDICATE NIGHTLIGHT TO BE CIRCUITED AHEAD OF SWITCHING.
 - REFER TO ARCHITECTURAL SET FOR ADDITIONAL INFORMATION.
 - ALL EXTERIOR SIGNS/LIGHTING SHALL BE CONTROLLED VIA TIME CLOCK.
 - UPPER CASE LETTER DESIGNATES LUMINAIRE TYPE, LOWER CASE LETTER INDICATES SINGLE SWITCH FOR ALL LAMPS IN LUMINAIRE.
 - FULLY SHADED OR HALF SHADED LUMINAIRES INDICATE NIGHTLIGHT TO BE CIRCUITED AHEAD OF SWITCHING.
 - INSTALL 2X4 TROFFERS IN SUSPENDED CEILING PER ARCHITECTURAL SET.
 - REFER TO ARCHITECTURAL SET FOR ADDITIONAL INFORMATION.
 - VERIFY ALL PLACEMENTS OF LIGHTS WITH OWNER PRIOR TO INSTALLATION - SEE INTERIOR ELEVATIONS FOR MOUNTING INFORMATION, GC TO CONFIRM ALL MOUNTING HEIGHTS OF ALL FIXTURES, MOUNTING, HARDWARE & CONDUIT
 - ALL CEILING MATERIAL SHALL NOT EXCEED FLAME CLASS II - FLAME SPREAD INDEX 25-75.
 - GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES INVOLVED IN THE CEILING WORK TO ENSURE THAT PROPER CLEARANCES FOR DUCTS, LIGHTS, PIPING, ETC. ARE MET AND THAT THE CEILING HEIGHTS NOTED ON THE DRAWING ARE MAINTAINED
 - GENERAL CONTRACTOR TO VERIFY REQUIREMENTS AND QUANTITIES OF FIRE PROTECTION DEVICES INCLUDING SMOKE DETECTORS, DUCT SMOKE DETECTORS, FIRE ALARMS, RELATED SPEAKERS, STROBES, ETC. LIFE SAFETY INSTALLATIONS TO MEET REQUIREMENTS OF ALL APPLICABLE CODES AND ORDINANCES.
 - ELECTRICAL CONTRACTOR SHALL SUPPLY 10% ADDITIONAL SPARE, OF ALL LAMP TYPE. TO BE LEFT AT JOB SITE AT END OF JOB.
 - G.C. TO SUPPLY (1) UNOPENED CASE OF EACH TYPE OF CEILING TILE USED.
 - ALL LIGHTING SHALL BE 20 FC AT 30" A.F.F., LIGHTING ABOVE FOOD OR UTENSILS SHALL BE SHATTERPROOF.
 - CAULK JOINTS BETWEEN CEILING GRID AND ADJACENT SURFACES.
 - EXISTING CONDITIONS CEILING CONDITIONS WHICH CAUSE A TYPICAL CHANGES MUST BE VERIFIED WITH CLIENT, CORPORATION, AND LIGHTING VENDOR.
 - NOT ALL FIXTURES SHOWN ARE USED. VERIFY WITH CLIENT AND CORPORATION.
 - CONTRACTOR IS ADVISED THAT ADJUSTMENTS TO EMERGENCY AND EXIT LIGHT FIXTURE LOCATIONS/QUANTITIES MAY BE REQUIRED BY AHJ UPON FINAL INSPECTION.
 - E.C. TO UPDATE CIRCUIT NUMBERS IF REQUIRED.
 - E.C. TO COORDINATE WITH ARCHITECT/OWNER FOR EXISTING CONDITION IN FILED.
 - E.C. SHALL VERIFY ALL THE EXISTING CONNECTION IN FIELD. INFORM ENGINEER FOR ANY DISCREPANCY FOUND.
 - E.C. TO VERIFY THE OPERABLE CONDITION OF EXISTING LIGHTING FIXTURE AND LIGHTING CONTROL IN FIELD. E.C. TO ENSURE THAT EXISTING LIGHTING CONTROL IS COMPLYING WITH CODE REQUIREMENTS. UPDATE/PROVIDE NEW CONTROLS AS REQUIRED IF EXISTING CONTROLS NOT OPERABLE/NOT COMPLYING PER LOCAL CODE REQUIREMENT. BASE BID ACCORDINGLY.
 - E.C. TO VERIFY THE CIRCUIT NUMBERS FOR ALL EXISTING & NEWLY ADDED LIGHTING FIXTURE AS PER FIELD CONDITION OF PANEL BOARD.
- NOTE: WHEN INSTALLED, FIRE CONTRACTOR TO COORDINATE WITH OWNER ON MENU LOCATION

1 LIGHTING PLAN - FIRST FLOOR 1/4"=1'-0"

ELECTRICAL LIGHTING PLAN KEYED WORK NOTES: (#)

- WALL MOUNTED OCCUPANCY SENSOR. E.C. SHALL VERIFY THE EXACT LOCATION WITH ARCHITECT/ OWNER.
- EXTERIOR SIGN: PROVIDE WEATHER-PROOF J-BOX AND 20A 1-POLE TOGGLE DISCONNECT FOR EXTERIOR SIGN. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN. ROUTE CIRCUIT THRU TIMECLOCK. SEE STOREFRONT SIGNAGE CONTROL DETAIL D2/E4.0. CONCEAL CONDUIT IN WINDOW MULLION.
- EC TO PROVIDE AND INSTALL EXITRONIX LED EXITRONIX #MLED2-G-WP.
- J-BOX FOR HOOD LIGHTS. HOOD LIGHT FIXTURES BY HOOD SUPPLIER, WIRED BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL COORDINATE AND CONNECT TO CAPTIVE AIRE PROVIDED CONTACTORS ON HOOD CONTROL PANEL.
- HOOD LIGHTS AND SWITCH FACTORY PRE-WIRED WITH SWITCH MOUNTED ON FRONT OF HOOD WITH HOOD CONTROLS. ELECTRICAL CONTRACTOR SHALL VERIFY WITH EQUIPMENT SUPPLIER FOR POWER REQUIREMENTS AND LOCATION OF CONNECTION POINT.
- PROVIDE AND INSTALL J-BOX, SWITCH AND ADDITIONAL VAPOR-PROOF LIGHT FOR FREEZER/COOLER INTERIOR LIGHTING. COMPLETE CIRCUITING AS SHOWN.
- CIRCUIT ALL NIGHT LIGHTS AND EGRESS LUMINAIRES FROM HOT LEG OF CIRCUIT OR UNSWITCHED LEG OF CIRCUIT.
- SEE DETAIL 3/E4.0 FOR AUTOMATIC TIME SWITCH INTERIOR LIGHTING CONTROL. VERIFY ALL LIGHTING CONTROL WITH OWNER.
- APPROXIMATE LOCATION OF SWITCH BANK. SEE ALSO DETAIL 2/E4.0 LOCATION SHOULD GENERALLY BE BEHIND POS STATION WHERE LUMINAIRES BEING OPERATED CAN BE OBSERVED. VERIFY EXACT LOCATION WITH OWNER.

LIGHTING FIXTURE SCHEDULE

QTY.	CODE	DESCRIPTION	MANUFACTURER	FIXTURE MODEL NO.	NOTES
21	T1	2x4 LED FLAT PANEL 5,500 LUMEN 3500K	METALUX	#24CGT5535	ADD FLANGE KIT FOR HARD-LID AREAS
2	T3	1x4 LED FLAT PANEL 4,000 LUMEN 3500K	METALUX	#14CGT4035	ADD FLANGE KIT FOR HARD-LID AREAS
29	PA1-W	LED TRACK HEAD 10W 3000K LED CYLINDER - BLACK FINISH	JUNO	#R605L-30K-SOCR-PDIM-FL-BL	BLACK TRACK HEAD ON BLACK TRACK. MOUNTED @11'-0" A.F.F.
35	P1	CORD HUNG PENDANT	HI-LITE MFG	H-LC-91/CB8-91	BLACK CUP AND CANOPY. MOUNTED @9'-6" A.F.F.
24	R1W	4" RECESSED WHITE TRIM WITH WHITE REFLECTOR	NORA	#NHIC-4LMRAT / NOXTW-431WW	EMERGENCY LIGHT TO HAVE 90 MIN BATTERY BACKUP
5	EXR	THERMOPLASTIC EXIT/EM COMBO RED LETTERS WHITE HOUSING - REMOTE CAPABLE	EXITRONIX EMERGENCY LIGHTING	#VLED-U-WH-EL90-R6*	PROVIDES REMOTE POWER FOR TYPE ER
2	ER	EXTERIOR RATED REMOTE EMERGENCY HEAD - GREY FINISH	EXITRONIX #MLED2-G-WP		REQUIRES TYPE EXR FOR REMOTE POWER

- NOTES:
- GC CONTRACTOR TO FIELD VERIFY CEILING HEIGHTS FOR THE STEM/ CORD MOUNTED FIXTURES.
 - SEE CORPORATE VENDOR LIST FOR APPROVED VENDORS.
 - LUMINAIRES, CONTROLS AND ELECTRICAL DISTRIBUTION EQUIPMENT AS SHOWN ON THE ONE LINE TO BE PURCHASED THROUGH APPROVED VENDOR BY ELECTRICAL CONTRACTOR.
 - ALL FIXTURES MAY NOT BE USED.
 - REFER TO ARCHITECTURAL INTERIOR ELEVATIONS FOR FIXTURE MOUNTING HEIGHTS.
 - THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, STORAGE, INSTALLATION AND WIRING OF LUMINAIRES, CONTROLS AND ELECTRICAL DISTRIBUTION EQUIPMENT AS SHOWN ON THE ONE LINE.
 - THE ELECTRICAL CONTRACTOR SHALL REPORT ANY DAMAGED LUMINAIRES, CONTROLS AND ELECTRICAL DISTRIBUTION EQUIPMENT AS SHOWN ON THE ONE LINE OR MISSING PARTS TO VENDOR WITHIN 48 HOURS OF RECEIPT OF PACKAGE.
 - THE ELECTRICAL CONTRACTOR SHALL INCLUDE A 1 YEAR LABOR WARRANTY FOR LUMINAIRES, CONTROLS AND ELECTRICAL DISTRIBUTION EQUIPMENT AS SHOWN ON THE ONE LINE.
 - U.N.O. ALL FIXTURES ARE CONTRACTOR FURNISHED, CONTRACTOR INSTALLED

NOTE:

1. ALL NEW CIRCUIT BREAKERS INSTALLED IN PANELS SHALL MATCH THE HIGHEST EXISTING AIC RATED CIRCUIT BREAKER WITHIN THAT BOARD.
2. VERIFY SWITCH PLATE AND RECEPTACLE PLATE FINISH WITH OWNER

GENERAL NOTES, POWER PLAN:

1. CONTROL CIRCUIT AND SHUNT TRIP BREAKER(S) TO FIRE CONTROL SYSTEM CONTROL MICRO-SWITCH SHALL BE FURNISHED AND INSTALLED BY ELECTRICIAN. SHUNT TRIP BREAKER(S) TO BE UNDER EXHAUST HOOD. IN CASE OF FIRE, ALL POWER TO EQUIPMENT UNDER HOOD OR PARTIALLY UNDER HOOD WILL BE SHUT OFF. ALL GAS EQUIPMENT LOCATED UNDER HOOD WILL ALSO BE SHUT OFF IN CASE OF FIRE. MUST BE WIRED THAT IN THE EVENT OF POWER FAILURE, FIRE CONTROL SYSTEM WILL NOT BE ACTIVATED AND WHEN POWER IS RESTORED, FIRE SYSTEM WILL NOT DISCHARGE.
2. ALL 120 VOLT OUTLETS NOT DESIGNATED WITH SPECIFIC LOADS TO BE RATED AT 20.0 AMPS.
3. ELECTRICIAN TO CONNECT ALL ELECTRICAL EQUIPMENT AND FIXTURES AND DO ANY INTERNAL WIRING REQUIRED IN THE FIXTURES AS REQUIRED. ALL ELECTRICAL OUTLET COVER PLATES ARE TO BE FURNISHED BY THE ELECTRICIAN, AS WELL AS THE RECEPTACLE, UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS. ALL DISCONNECT SWITCHES, CORDS AND PLUGS REQUIRED ARE TO BE FURNISHED AND INSTALLED BY THE ELECTRICIAN AT TIME OF INSTALLATION.
4. ALL 125 VOLT, SINGLE PHASE 15 AND 20 AMP RECEPTACLES INSTALLED IN KITCHEN SHALL HAVE GFI PROTECTION. USE HOSPITAL GRADE (GREEN DOT) TYPE FOR MOTOR LOADS. ALL GFCI RECEPTACLES ARE TO HAVE DEDICATED NEUTRALS. ALL GFCI CIRCUITS THAT ARE NOT "READILY ACCESSIBLE" ARE TO USE A GFCI BREAKER SUPPLIED BY E.C. VERIFY WITH KITCHEN EQUIPMENT DRAWINGS AND SUPPLIER.
5. RECEPTACLES TO BE MOUNTED AT 24" AFF UNLESS OTHERWISE NOTED.
6. RECEPTACLES SHALL BE BLACK AT THE FRONT OF HOUSE INCLUDING THE TOILET ROOMS. ALL RECEPTACLES IN THE BACK OF HOUSE SHALL BE WHITE INCLUDING THE SERVICE AREA.
7. VERIFY ALL POWER REQUIREMENTS, RECEPTACLE TYPES, CONNECTION TYPES, LOCATIONS AND ELEVATIONS WITH KITCHEN EQUIPMENT DRAWINGS AND SPECIFICATIONS AND OWNER.
8. NO ELECTRICAL TO BE INSTALLED UNDERGROUND UNLESS NO OTHER ACCESS TO EQUIPMENT IS AVAILABLE.
9. E.C. TO VERIFY ALL CIRCUITS RELATED TO THIS PROJECT AND ADJUST AS REQUIRED.
10. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION.
11. REFER TO E2.1 FOR ALL DATA REQUIREMENTS.

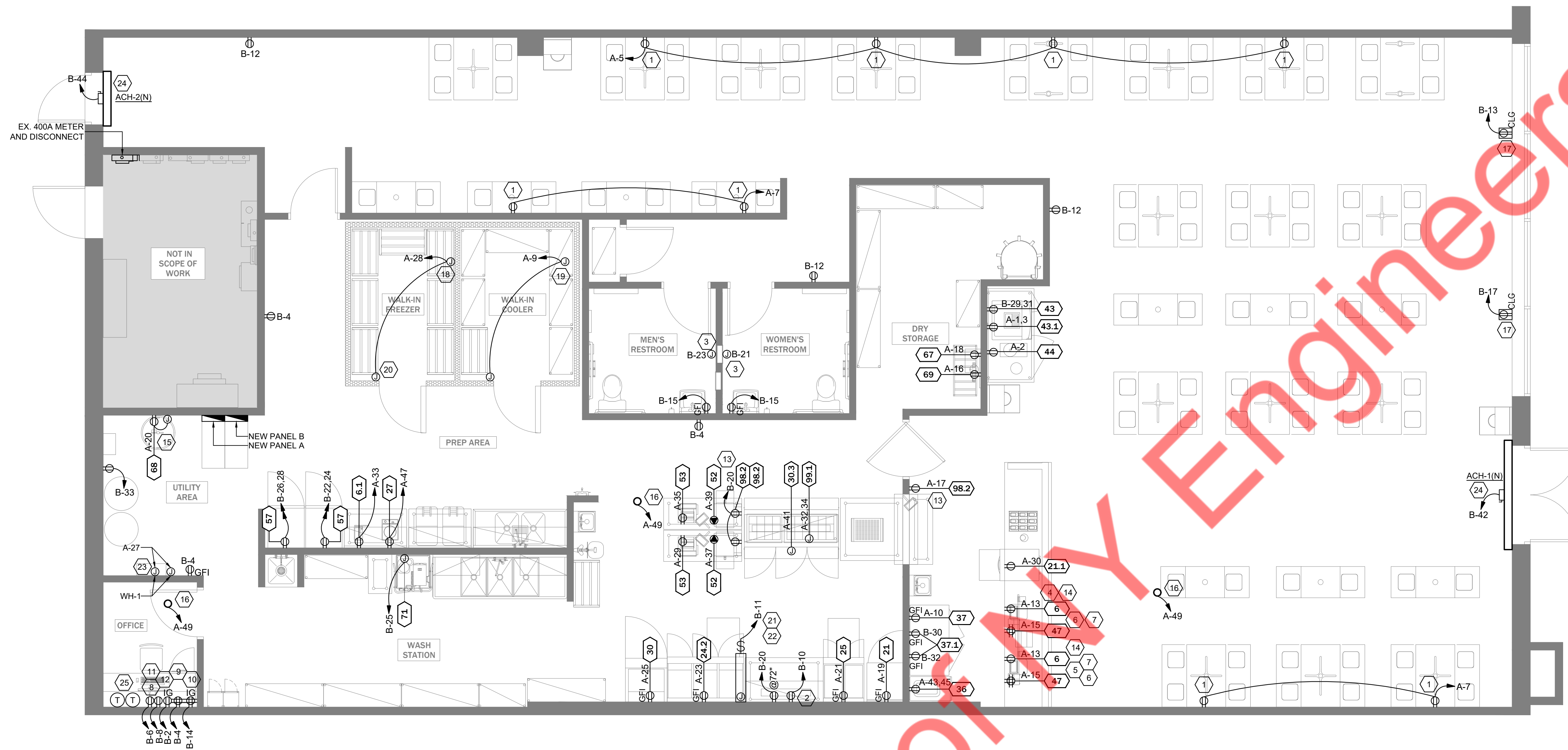
ELECTRICAL LEGEND

	120 VOLT, 20 AMP, DUPLEX RECEPTACLE
	120 VOLT, 20 AMP, GROUND FAULT INTERRUPTER RECEPTACLE
	120 VOLT, 20 AMP, DOUBLE DUPLEX RECEPTACLE
	120 VOLT, 20 AMP, CEILING MOUNTED DUPLEX RECEPTACLE
	SINGLE GANG 20A LIGHTING SWITCH
	THREE WAY 20A LIGHTING SWITCH
	20A DIMMER SWITCH
	20A OCCUPANCY SENSOR LIGHTING SWITCH
	120 VOLT, 20 AMP, JUNCTION BOX
	120 VOLT, 30 AMP, DISCONNECT
	120 VOLT, 60 AMP, DISCONNECT
	120 VOLT, 90 AMP, DISCONNECT

MOUNT ALL NEW LIGHT SWITCHES AT 48" AFF

KITCHEN NOTE:

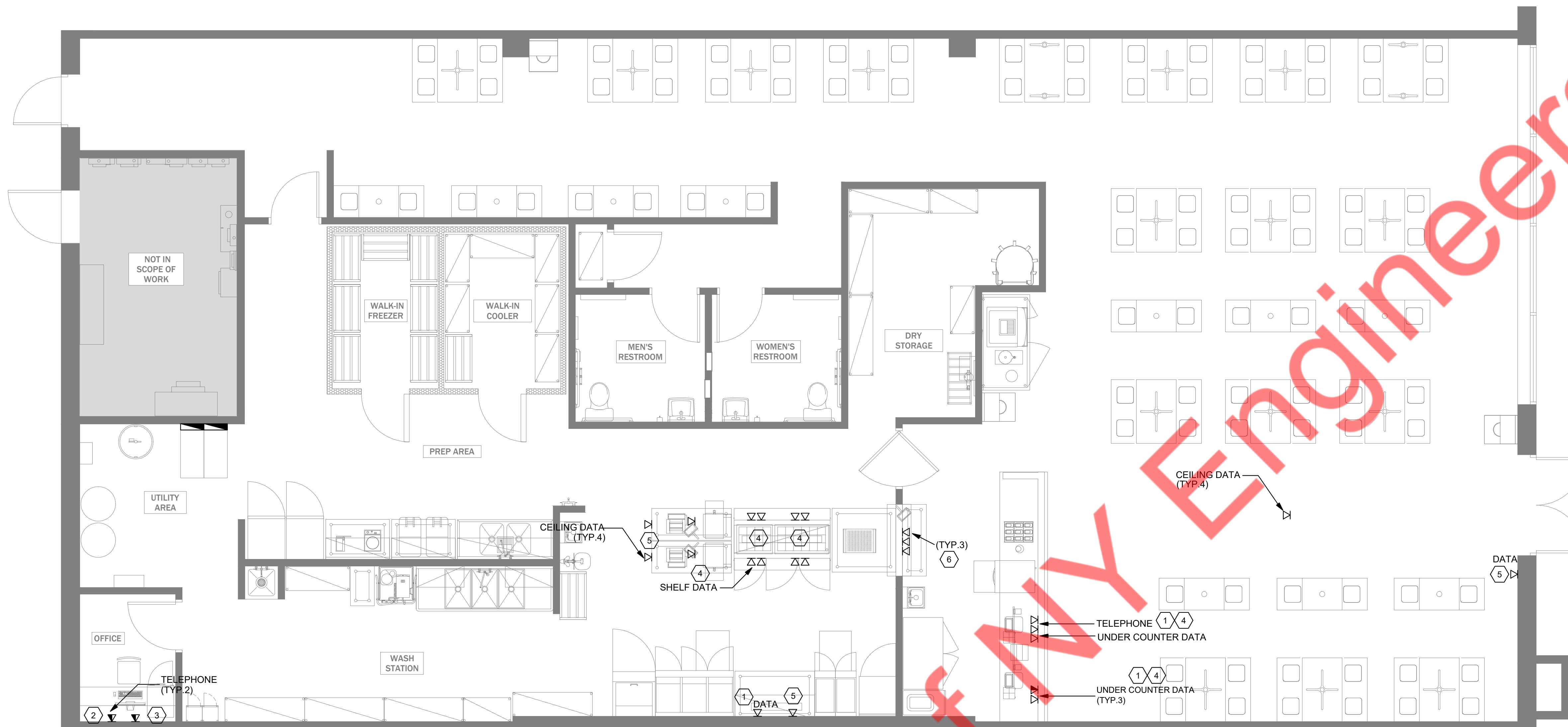
1. ALL SINGLE-PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 50 AMPERES OR LESS AND THREE-PHASE RECEPTACLES RATED 150 VOLTS TO GROUND OR LESS, 100 AMPERES OR LESS IN LOCATIONS PER 2017 N.E.C. 210.8(B) SHALL BE GFCI PROTECTED.
1. ALL GFCI PROTECTED RECEPTACLES SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION, WHERE THE RECEPTACLE IS NOT READILY ACCESSIBLE, PROVIDE REMOTE GFCI "RESET/TEST" BUTTON IN A READILY ACCESSIBLE LOCATION OR PROVIDE GFCI PROTECTED BREAKER TO CIRCUIT FEEDING THE RECEPTACLE.
2. ALL 125V, SINGLE PHASE, 15A & 20A RECEPTACLES INSTALLED WITHIN 6 FEET OF THE OUTSIDE EDGE OF THE SINK SHALL BE PROVIDED WITH GFCI PROTECTION PER NEC 210.8(B)(5).

**1 POWER PLAN - FIRST FLOOR**

1/4"=1'-0"

KEYED NOTES, POWER PLAN: (#)

1. STANDARD CONVENIENCE DUPLEX RECEPTACLE WITH TWO USB CHARGING PLUGS. COOPER ARROWHART TR7746 OR EQUAL: INSTALL 120V DUPLEX RECEPTACLE @ 18" A.F.F.
2. GFCI RECEPTACLE: INSTALL GFCI 120V DUPLEX RECEPTACLE @ 18" A.F.F.
3. JUNCTION BOX FOR HAND DRYER. COORDINATE EXACT REQUIREMENTS WITH ARCHITECT/OWNER/EQUIPMENT SUPPLIER AND MOUNTING HEIGHT TO COMPLY WITH ADA.
4. QUAD-PLEX RECEPTACLE: INSTALL ORANGE NEMA QUAD-PLEX RECEPTACLE @ 18" A.F.F.
5. CORD CONNECTION: GENERAL CONTRACTOR TO PROVIDE CORD HOLE WITH GROMMET IN COUNTERTOP FOR POWER CORD CONNECTION TO UNDER-COUNTER RECEPTACLE.
6. MAIN POS WORKSTATION POWER: PROVIDE ORANGE NEMA QUAD-PLEX ISOLATED GROUND RECEPTACLE FOR POS EQUIPMENT ON DEDICATED CIRCUIT. MOUNT RECEPTACLE @ 18" A.F.F. AND WITHIN 3 FT. OF POS STATION. RECEPTACLE SHALL BE ORANGE AND LABELED "FOR POS ONLY". VERIFY WITH OWNER POS REQUIREMENTS PRIOR TO CONSTRUCTION.
7. MAIN POS WORKSTATION DATA (E2.1): PROVIDE J-BOX WITH TWO RJ45 CAT5E FEMALE CONNECTORS UNDER COUNTER AT AT EACH POS TERMINAL. INSTALL 3/4" CONDUIT WITH TWO CAT5E 24AWG SOLID COPPER CABLES (EIA/TIA 568B PAIR1=BLUE, PAIR2=ORANGE, PAIR3=GREEN, PAIR4=BROWN STRAIGHT THROUGH - NO CROSS-OVER) FROM POS WORKSTATION TO PATCH PANEL LOCATED AT MANAGERS DESK. GENERAL CONTRACTOR TO PROVIDE ACCESS HOLE IN MILLWORK SURFACE WITH GROMMET.
8. INTERNET: INSTALL INTERNET RECEPTACLE PER OWNERS REQUIREMENT.
9. MANAGER'S DESK DATA (E2.1): INSTALL CAT5E PATCH PANEL WITH RJ-45 CAT5E FEMALE CONNECTORS AT MANAGERS STATION. VERIFY PATCH PANEL REQUIREMENT AND MOUNTING HEIGHT W/ POS VENDOR AND OWNER.
10. MANAGER'S DESK POWER: PROVIDE ONE QUAD-PLEX ISOLATED GROUND RECEPTACLE FOR POS EQUIPMENT ON DEDICATED CIRCUIT AND ONE QUAD-PLEX NEMA GFCI RECEPTACLES AT MANAGERS DESK. MOUNT RECEPTACLES 36" A.F.F. ON BACK WALL OF MANAGER'S DESK AREA.
11. PHONE BOARD (E2.1): PROVIDE 24"x12"x3/4" PLYWOOD BOARD FOR PHONE/DATA SERVICE. SECURELY MOUNT TO WALL. PAINT TO MATCH ADJACENT SURFACE. PROVIDE 1" EMPTY CONDUIT WITH PULL-STRING FORM PHONE BOARD TO MANAGER'S DESK AND FRONT SERVICE POS STATIONS. INCLUDE ONE DUPLEX NEMA GFCI RECEPTACLE FOR PHONE/DATA PHONE SYSTEM POWER. VERIFY MOUNTING HEIGHT AND LOCATION WITH OWNER.
12. TIME CLOCKS: PROVIDE AND INSTALL TIME CLOCKS. SEE DETAILS ON SHEET E4.0 FOR ADDITIONAL INFORMATION. PROVIDE ONE DUPLEX NEMA GFCI RECEPTACLE FOR TIME VERIFY MOUNTING HEIGHT W/ OWNER.
13. PRINTER POWER/DATA (E2.1): INSTALL 120 I.G. DUPLEX RECEPTACLE FOR MONITOR/PRINTER POWER AND J-BOX WITH ONE RJ-45 CAT5E FEMALE CONNECTOR FOR PRINTER @ 18" A.F.F., COORDINATE MONITOR MOUNTING HEIGHT WITH LANDLORD REPRESENTATIVE. INSTALL 1/2" CONDUIT WITH ONE CAT5E 24AWG SOLID COPPER CABLES (EIA/TIA 568B PAIR1=BLUE, PAIR2=ORANGE, PAIR3=GREEN, PAIR4=BROWN STRAIGHT THROUGH - NO CROSS-OVER) FROM PRINTER TO PATCH PANEL LOCATED AT MANAGERS DESK. RECEPTACLES TO BE LOCATED ON PONY WALL OR INTERIOR WALL. NOT ON EXTERIOR WALL.
14. E.C. TO PROVIDE AND INSTALL 120V DUPLEX RECEPTACLE AND DATA BOX FOR RECEIPT PRINTER (E2.1).
15. E.C. SHALL PROVIDE 120/1 DOUBLE GANG J-BOX FOR CO2 ALARM SYSTEM - COORDINATE REQUIREMENT FOR 24 VOLT STEP DOWN EQUIPMENT AS NEEDED - WIRING OF CO2 SYSTEM SHALL BE COORDINATE WITH MECH CONTRACTOR.
16. CAMERA SYSTEM: PROVIDE AND INSTALL J-BOXES AND CONDUIT AS REQUIRED BY OWNER FOR CLOSED CIRCUIT CAMERA SYSTEM. PROVIDE 120V POWER CIRCUITS POWER AS REQUIRED BY OWNER.
17. SHOW WINDOW RECEPTACLES TO BE INSTALLED PER N.E.C. ROUTE CIRCUIT THROUGH CONTACTOR FOR ON/OFF CONTROL WITH INTERIOR LUMINAIRE CIRCUIT. SEE LIGHTING CONTROL DETAIL 3, SHEET E4.1.
18. WALK-IN FREEZER EVAPORATOR.
19. WALK-IN COOLER EVAPORATOR.
20. WALK-IN FREEZER LIGHTS & DOOR HEATER: PROVIDE AND INSTALL J-BOX FOR FREEZER DOOR HEATER AND LIGHTS. PROVIDE 1/2" C, 2#12, 1#12 GND.
21. FIRE SUPPRESSION: PROVIDE J-BOX W/ 1-POLE TOGGLE DISCONNECT SWITCH WITH 120V POWER TO KITCHEN HOOD FIRE SUPPRESSIONS SYSTEM CONTROL BOX LOCATED ON SIDE OF HOOD AND ELECTRIC GAS SOLENOID VALVE/MANUAL VALVE RESET RELAY LOCATED IN OVEN. PROVIDE ALL ELECTRICAL CONDUIT, WIRE AND COMPONENTS REQUIRED BY THE MANUFACTURER FOR A COMPLETE AND OPERABLE POWER SYSTEM FOR THE FIRE SUPPRESSION SYSTEM. VERIFY W/ MECHANICAL CONTRACTOR EXACT REQUIREMENT.
22. EXHAUST SYSTEM CONTROL & INTERLOCK: INTERLOCK RTUS WITH EXHAUST FAN EF-1 & 2. FOR SIMULTANEOUS OPERATIONS. INTERLOCK OVEN TO ALLOW OPERATION ONLY. WHEN EXHAUST FAN IS ON, COORDINATE INTERLOCK WITH MECHANICAL CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER. ALL FANSHOODS SHALL BE ACTIVATED BY HOOD SWITCH. VERIFY WITH OWNER EXACT LOCATION
23. APPROXIMATE LOCATION OF WATER HEATER. PROVIDE RECEPTACLE FOR IGNITION. VERIFY LOCATION AND REQUIREMENTS WITH PLUMBING CONTRACTOR.
24. E.C. TO COORDINATE WITH MECHANICAL CONTRACTOR FOR EXACT LOCATION AND POWER REQUIREMENT OF ALL MECHANICAL UNITS IN FIELD. PROVIDE CIRCUIT AND CONTROLS AS REQUIRED.
25. A/C CONTROL CONDUIT: PROVIDE 1/2" CONDUIT WITH PULL STRING FROM FOR THERMOSTAT TO A/C UNIT ON ROOF FOR CONTROL WIRE. CONTROL WIRE BY OTHERS.

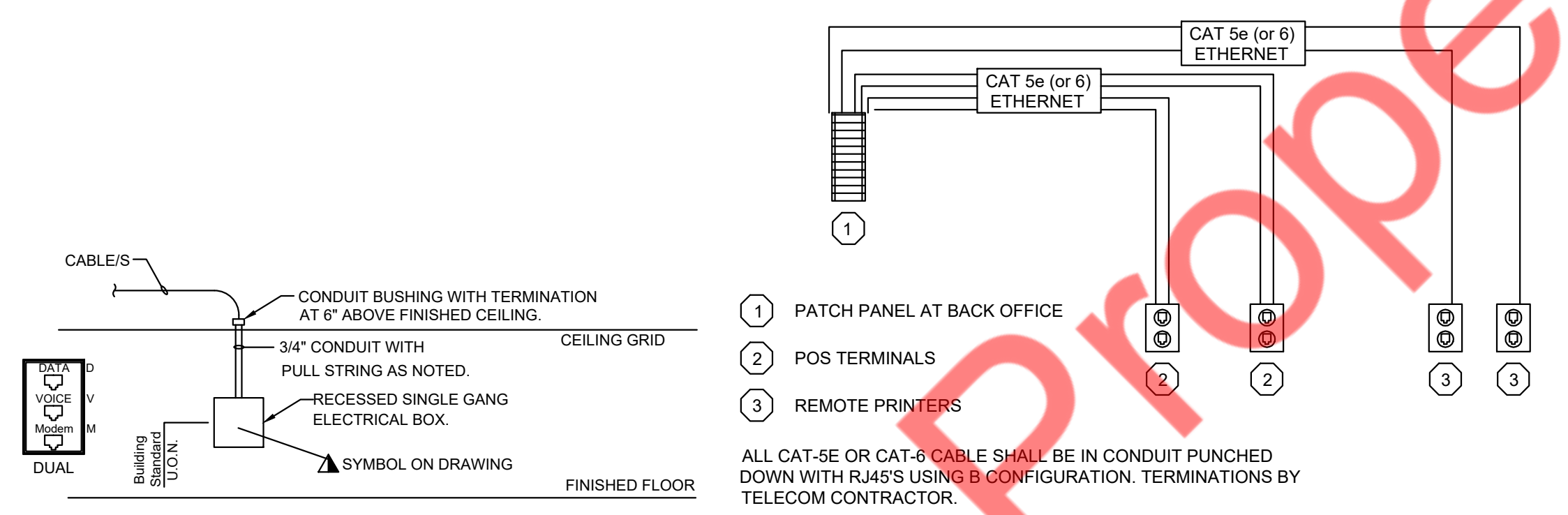


- KEYED NOTES:** (4)
1. MAIN POS WORKSTATION DATA: PROVIDE J-BOX WITH TWO RJ45 CAT5E FEMALE CONNECTORS UNDER COUNTER AT EACH POS TERMINAL. INSTALL 3/4" CONDUIT WITH TWO CAT5E 24AWG SOLID COPPER CABLES (EIA/TIA 568B PAIR1-BLUE, PAIR2-ORANGE, PAIR3-GREEN, PAIR4-BROWN STRAIGHT THROUGH - NO CROSS-OVER) FROM POS WORKSTATION TO PATCH PANEL LOCATED AT MANAGERS DESK. GENERAL CONTRACTOR TO PROVIDE ACCESS HOLE IN MILLWORK SURFACE WITH GROMMET.
 2. MANAGER'S DESK DATA: INSTALL CAT5E PATCH PANEL WITH RJ-45 CAT5E FEMALE CONNECTORS AT MANAGERS STATION. VERIFY PATCH PANEL REQUIREMENT AND MOUNTING HEIGHT W/ POS VENDOR AND OWNER.
 3. PHONE BOARD: PROVIDE 24"x12"x3/4" PLYWOOD BOARD FOR PHONE/DATA SERVICE. SECURELY MOUNT TO WALL. PAINT TO MATCH ADJACENT SURFACE. PROVIDE 1" EMPTY CONDUIT WITH PULL-STRING FORM PHONE BOARD TO MANAGER'S DESK AND FRONT SERVICE POS STATIONS. INCLUDE ONE DUPLEX NEMA GFCI RECEPTACLE FOR PHONE/DATA PHONE SYSTEM POWER. VERIFY MOUNTING HEIGHT AND LOCATION WITH OWNER.
 4. PRINTER POWER/DATA: INSTALL 120 I.G. DUPLEX RECEPTACLE FOR MONITOR/PRINTER POWER AND J-BOX WITH ONE RJ-45 CAT5E FEMALE CONNECTOR FOR PRINTER @ 18" A.F.F. COORDINATE MONITOR MOUNTING HEIGHT WITH LANDLORD REPRESENTATIVE. INSTALL 1/2" CONDUIT WITH ONE CAT5E 24AWG SOLID COPPER CABLES (EIA/TIA 568B PAIR1-BLUE, PAIR2-ORANGE, PAIR3-GREEN, PAIR4-BROWN STRAIGHT THROUGH - NO CROSS-OVER) FROM PRINTER TO PATCH PANEL LOCATED AT MANAGERS DESK. RECEPTACLES TO BE LOCATED ON PONY WALL OR INTERIOR WALL. NOT ON EXTERIOR WALL.
 5. TV RECEPTACLE AND DATA BOX. COORDINATE LOCATION, AND REQUIREMENTS PRIOR TO INSTALLATION.
 6. EC TO PROVIDE AND INSTALL 120V DUPLEX RECEPTACLE AND DATA BOX FOR RECEIPT PRINTER.

LOW VOLTAGE LEGEND

	DATA
	TELEPHONE
	CAMERA
	PRINTER
	POS TERMINAL
	MICROPHONE
	WALL MOUNTED SPEAKER
	WAP WIRELESS ACCESS POINT

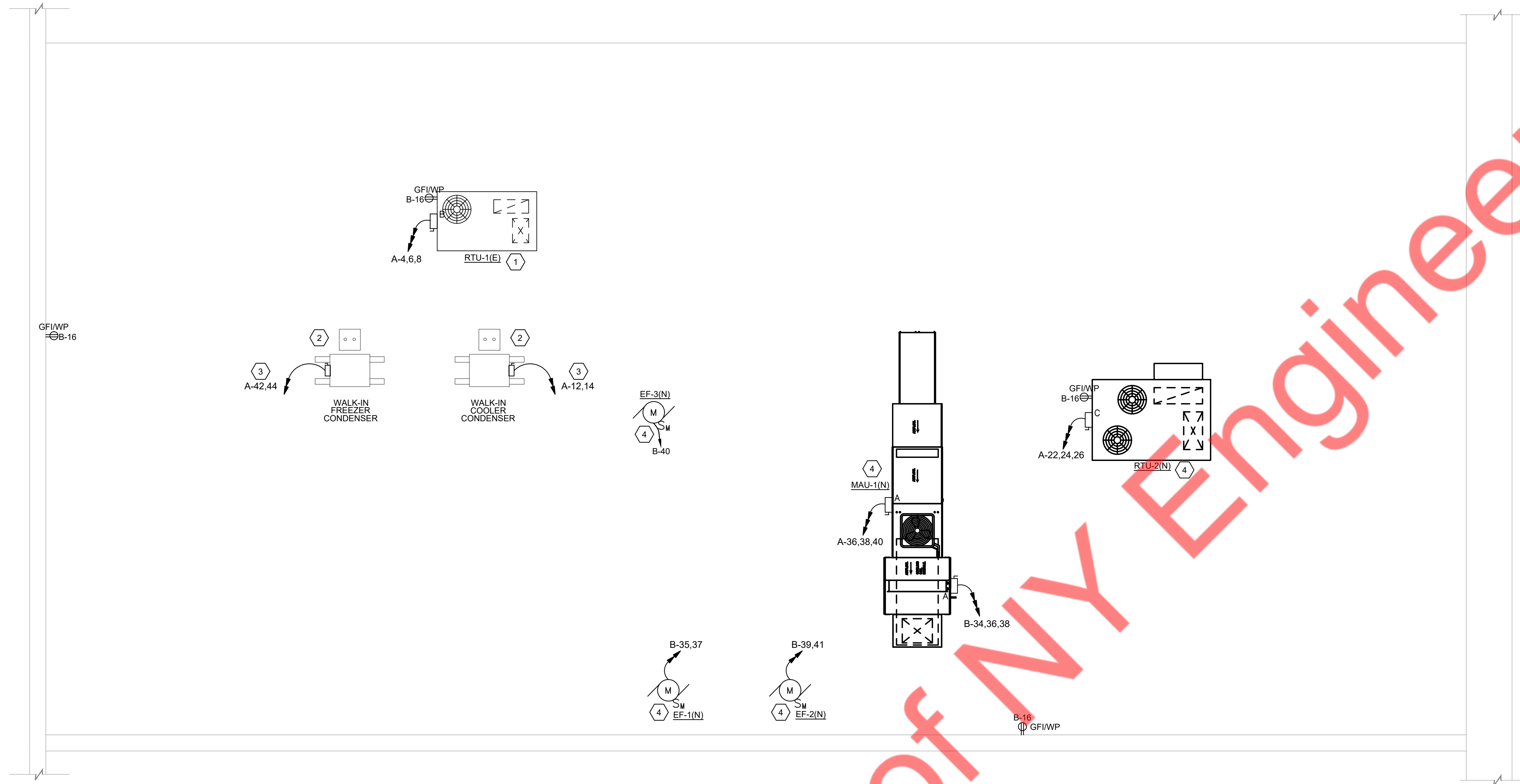
1 LOW VOLTAGE PLAN - FIRST FLOOR
1/4"=1'-0"



2 LOW VOLTAGE DETAILS
N.T.S.

KEYED NOTES, ROOF POWER PLAN:

1. EXISTING MECHANICAL EQUIPMENT SHALL REMAIN. E.C. SHALL REWIRE THE ELECTRICAL CONNECTION AS SHOWN AND COORDINATE WITH MECHANICAL CONTRACTOR FOR ELECTRICAL REQUIREMENTS. INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY PRIOR TO BID.
2. NEW WALK-IN COMPRESSOR. COORDINATE WITH KITCHEN EQ SUPPLIER.
3. CONDUIT FOR CONDENSING UNIT CONTROL, PROVIDE 3/4" CONDUIT FOR LOCATION TO WALK-IN COOLER.
4. E.C. SHALL COORDINATE EXACT LOCATION, DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.



1 ROOF POWER PLAN

1/4"=1'-0"

Property of NY Engineers

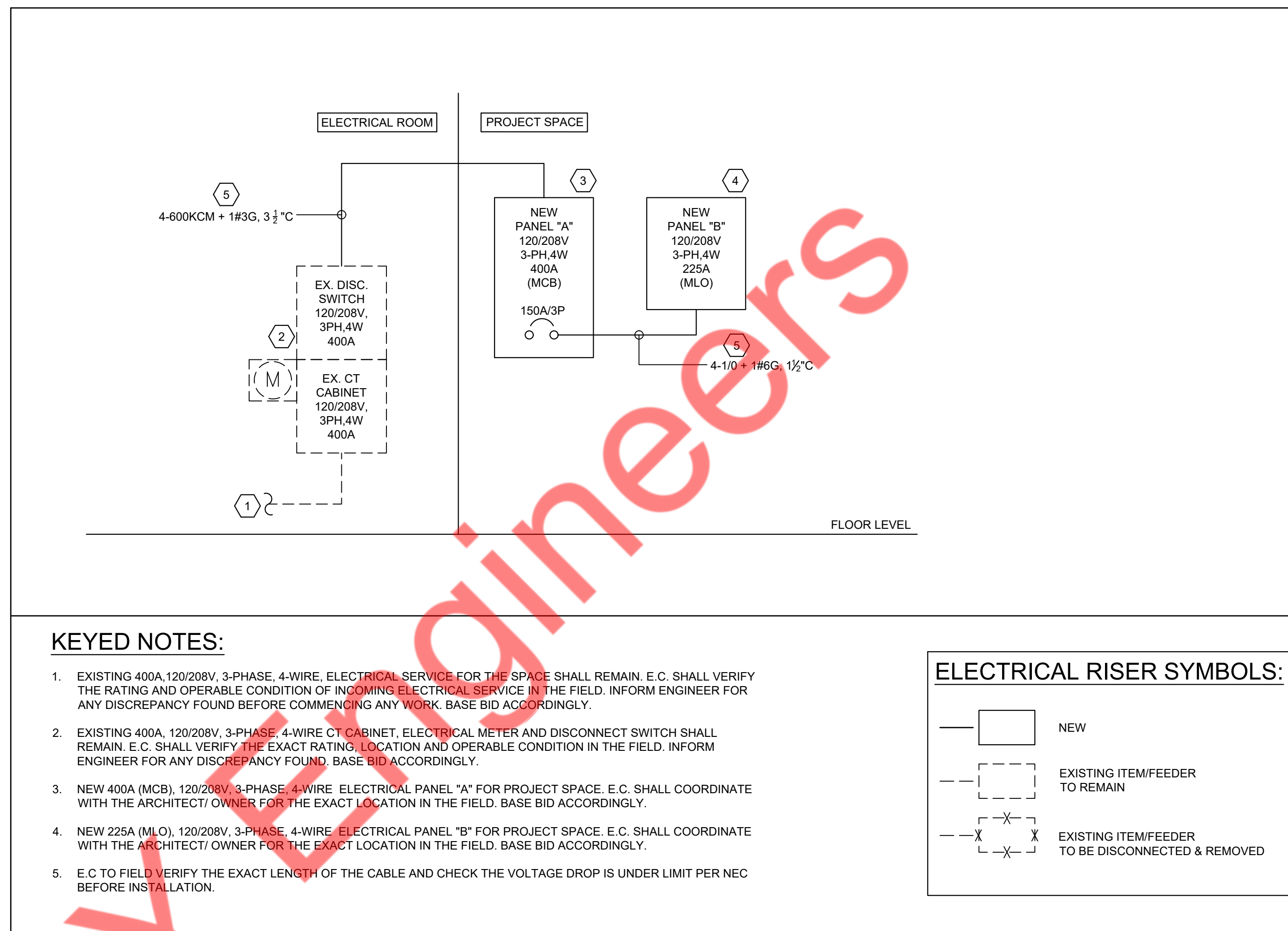
PANEL: A (NEW)										MOUNTING: SURFACE				
120/208Y VOLTS, 3 PHASE 4 WIRE										PANEL LOCATION: UTILITY AREA				
MCB 400A BUS: 400A MIN,										FED FROM: EX. 400A DISC				
NOTE: L : LIGHTING, H : HVAC LOAD, M : MOTOR LOAD, R : RECEPTACLES, O : OTHER/MISC. (TYPICAL)														
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	2P-20	43.1 - ICE MAKER	E	1.46	2#12, #12G, 3/4" C	3.19			2#12, #12G, 3/4" C	1.73	E	44 - TEA BREWER	20	2
3			E	1.46			5.18			3.72	H			4
5	20	GENERAL RECEPTACLES	R	0.72	2#12, #12G, 3/4" C			4.44	3#8, #10G, 3/4" C	3.72	H	RTU-1 (E)	3P-45	6
7	20	GENERAL RECEPTACLES	R	0.72	2#12, #12G, 3/4" C	4.44				3.72	H			8
9	20	COOLER EVAP/LTS	L	0.30	2#12, #12G, 3/4" C		0.52		2#12, #12G, 3/4" C	0.22	E	37- BACKBAR CABINET	20	10
11	20	SPARE						1.13	2#12, #12G, 3/4" C	1.13	H	COOLER CONDENSER	2P-20	12
13	20	6 - PREP. PRINT	R	0.90	2#12, #12G, 3/4" C	2.03				1.13	H			14
15	20	47 - POS TERMINAL	R	0.36	2#12, #12G, 3/4" C		0.46		2#12, #12G, 3/4" C	0.10	E	69 - WATER FILTRATION SYSTEM	20	16
17	20	98.2 - MONITORS	R	0.40	2#12, #12G, 3/4" C			1.00	2#12, #12G, 3/4" C	0.60	E	67 - BAG-IN-BOX	20	18
19	20	21 - HALF HEIGHT FREEZER	E	0.28	2#12, #12G, 3/4" C	0.48			2#12, #12G, 3/4" C	0.20	E	68 - CO2 TANK	20	20
21	20	25 - FRYER	E	1.34	2#12, #12G, 3/4" C		8.54			7.20	H			22
23	20	24.2 - FRYER	E	0.67	2#12, #12G, 3/4" C			7.87	3#4, #8G, 1" C	7.20	H	RTU-2 (N)	3P-80	24
25	20	30 - FOOD PREP REFRIGERATOR	E	0.40	2#12, #12G, 3/4" C	7.60				7.20	H			26
27	20	WH-1	O	0.06	2#12, #12G, 3/4" C		0.56		2#12, #12G, 3/4" C	0.50	R	FREEZER DOOR HTR/EVAP/LTS	20	28
29	20	53 - VERTICAL CONTACT TOASTER	E	1.80	2#12, #12G, 3/4" C			2.04	2#12, #12G, 3/4" C	0.24	E	21.1 - UNDER COUNTER REFRIGERATOR	20	30
31	20	SPARE				1.80			2#12, #12G, 3/4" C	1.80	E			32
33	20	6.1_PREP PRINT	R	0.36	2#12, #12G, 3/4" C		2.16			1.80	E			34
35	20	53 - VERTICAL CONTACT TOASTER	E	1.80	2#12, #12G, 3/4" C			4.37		2.57	H			36
37	20	52 - STEAMER	E	1.80	2#12, #12G, 3/4" C	4.37			3#10, #10G, 3/4" C	2.57	H	MUA COMPRESSOR-1 (N)	3P-30	38
39	20	52 - STEAMER	E	1.80	2#12, #12G, 3/4" C		4.37			2.57	H			40
41	20	30.3 - FOOD PREP REFRIGERATOR	E	0.86	2#12, #12G, 3/4" C			2.70	2#12, #12G, 3/4" C	1.84	H	FREEZER CONDENSER	2P-20	42
43	2P-30	36 - SHAKE MACHINE / FREEZER	E	2.39	2#10, #10G, 3/4" C	4.23				1.84	H			44
45			E	2.39			2.39					SPARE	20	46
47	20	27 - COUNTER TOP WARMER	E	1.25	2#12, #12G, 3/4" C			1.25				SPARE	20	48
49	20	CAMERA SYSTEM	R	0.50	2#12, #12G, 3/4" C	8.67				8.17	O			50
51	20	SPARE					8.17		4#1/0, #6G, 1 1/2" C	8.17	O	PANEL - B	3P-150	52
53	20	SPARE						8.17		8.17	O			54
TOTAL CONNECTED LOAD (KVA)						36.80	32.35	32.98						

PANEL: B (NEW)										MOUNTING: SURFACE				
120/208Y VOLTS, 3 PHASE 4 WIRE										PANEL LOCATION: UTILITY AREA				
MLO 225A BUS: 225A MIN,										FED FROM: PANEL - A				
NOTE: L : LIGHTING, H : HVAC LOAD, M : MOTOR LOAD, R : RECEPTACLES, O : OTHER/MISC. (TYPICAL)														
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20	SPARE				0.20			2#12, #12G, 3/4" C	0.20	O	TIME CLOCK	20	2
3	20	KITCHEN OFFICE LTG	L	0.20	2#12, #12G, 3/4" C		0.56		2#12, #12G, 3/4" C	0.36	R	GENERAL RECEPTACLES	20	4
5	20	SPARE						0.36	2#12, #12G, 3/4" C	0.36	R	OFFICE SAFE	20	6
7	20	DINING ROOM LIGHTING	L	0.20	2#12, #12G, 3/4" C	0.46			2#12, #12G, 3/4" C	0.26	R	PHONE BOARD	20	8
9	20	RESTROOM LTG	L	0.19	2#12, #12G, 3/4" C		0.55		2#12, #12G, 3/4" C	0.36	R	KITCHEN AREA GENERAL RECEP.	20	10
11	20	ANSUL STATION	O	0.30	2#12, #12G, 3/4" C			0.66	2#12, #12G, 3/4" C	0.36	R	DINING AREA RECEPTACLES	20	12
13	20	SHOW WINDOW RECEPTACLE	L	1.80	2#12, #12G, 3/4" C	2.16			2#12, #12G, 3/4" C	0.36	R	MANAGERS OFFICE / POS	20	14
15	20	RESTROOM RECEPTACLE	R	0.36	2#12, #12G, 3/4" C		0.72		2#12, #12G, 3/4" C	0.36	R	ROOF RECEPTACLES	20	16
17	20	SHOW WINDOW RECEPTACLE	L	1.80	2#12, #12G, 3/4" C			2.16	2#12, #12G, 3/4" C	0.36	R	KITCHEN DISPLAY SCREEN	20	18
19	20	HOOD LIGHTS	L	0.30	2#12, #12G, 3/4" C	0.66			2#12, #12G, 3/4" C	0.36	R	98.2 - MONITORS	20	20
21	20	HAND DRYER	M	0.80	2#12, #12G, 3/4" C		1.11		2#12, #12G, 3/4" C	0.31	E			22
23	20	HAND DRYER	M	0.80	2#12, #12G, 3/4" C			1.11	2#12, #12G, 3/4" C	0.31	E	57 - DIGITAL THAWING CABINET	2P-20	24
25	20	71 - DISHWASHER	E	1.44	2#12, #12G, 3/4" C	1.75			2#12, #12G, 3/4" C	0.31	E			26
27	20	EXTERIOR SIGNAGE- FRONT	L	0.50	2#12, #12G, 3/4" C		0.81		2#12, #12G, 3/4" C	0.31	E	57 - DIGITAL THAWING CABINET	2P-20	28
29			E	0.31				0.81	2#12, #12G, 3/4" C	0.50	E	37.1- SLUSHY MACHINE	20	30
31	2P-20	43 - DRINK DISPENSER	E	0.31	2#12, #12G, 3/4" C	0.81			2#12, #12G, 3/4" C	0.50	E	37.1- SLUSHY MACHINE	20	32
33	20	OIL CONTAINMENT TANKS	E	0.36	2#12, #12G, 3/4" C		1.28			0.92	M			34
35			M	1.14				2.07	3#12, #12G, 3/4" C	0.92	M	MUA MOTOR-1 (N)	3P-15	36
37	2P-20	EF-1 (N)	M	1.14	2#12, #12G, 3/4" C	2.07				0.92	M			38
39			M	1.14			1.81		2#12, #12G, 3/4" C	0.67	M	EF-3 (N)	20	40
41	2P-20	EF-2 (N)	M	1.14	2#12, #12G, 3/4" C			1.70	2#12, #12G, 3/4" C	0.55	H	ACH-1 (N)	20	42
43	20	FACP	O	1.00	2#12, #12G, 3/4" C	1.28			2#12, #12G, 3/4" C	0.28	H	ACH-2 (N)	20	44
45	20	SPARE					0.00					SPARE	20	46
47	20	SPARE						0.00				SPARE	20	48
49		SPACE					0.00					SPACE		50
51		SPACE						0.00				SPACE		52
53		SPACE						0.00				SPACE		54
TOTAL CONNECTED LOAD (KVA)						9.39	6.85	8.87						

PANEL SCHEDULE GENERAL NOTES

- ALL CIRCUITING SHOWN IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE EXISTING DEVICES IN FIELD AND INFORM ENGINEER IF ANY DISCREPANCIES. PRIOR TO BID.
- E.C. SHALL PROVIDE NEW CIRCUIT BREAKERS IN PLACE OF EXISTING CIRCUIT BREAKERS WHEREVER NECESSARY TO BE IN LINE WITH THE PANEL SCHEDULE. PRIOR TO BID.
- ELECTRICAL CONTRACTOR SHALL VERIFY EXACT CIRCUIT NUMBER & BREAKER SIZE OF EXISTING DEVICES IN FIELD.

1 PANEL SCHEDULES



2 RISER DIAGRAM

BASIC ELECTRICAL REQUIREMENTS:

1. FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONING NEW ELECTRICAL SYSTEMS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING OPERATION OF ALL NEW EQUIPMENT AND SYSTEMS TO REMAIN. CONTRACTOR SHALL PROVIDE NEW SYSTEMS OR EQUIPMENT THAT ARE MISSING OR MALFUNCTIONING TO COMPLY WITH NOTE #1 ABOVE.
3. INSTALL ALL ELECTRICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND WRITTEN INSTRUCTIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
4. COORDINATE AND ORDER THE PROGRESS OF ELECTRICAL WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES.
5. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS AND/OR DOCUMENTS. COORDINATE AND PROVIDE ALL CONDUIT AND TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT.
6. APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THIS DIVISION OF WORK.
7. COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.
8. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT SHOWING ANY CHANGES REQUIRED IN ELECTRICAL WIRING, SPACE ALLOCATION, ETC.
9. THE LOCATION OF UNDERGROUND/CONCEALED UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL NEW UTILITIES BEFORE COMMENCING THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
10. PATCH AND REPAIR TO NEW WALLS, CEILINGS, OR FLOORS ACCESSED DURING THE INSTALLATION OF CONDUIT AND WIRING.
11. MAINTAIN ONE SET OF REDLINED DRAWINGS ON THE JOB SITE INDICATING ALL CHANGES AND DEVIATIONS FROM THE WORK SHOWN ON THE DRAWINGS.
12. PRIOR TO FINAL ACCEPTANCE, THOROUGHLY CLEAN ALL WORK.
13. AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO OWNER'S REPRESENTATIVE.
14. PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE ELECTRICAL WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE.
15. GENERAL: REFER TO THE ARCHITECTURAL SPECIFICATIONS, THE GENERAL CONDITIONS, BID FORM, SCHEDULE OF COMPLETION, ETC.
16. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CONSTRUCTION DOCUMENTS TO THE LOCAL UTILITY COMPANY FOR REVIEW AND APPROVAL PRIOR TO ORDERING EQUIPMENT.
17. SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO, THE FURNISHING OF LABOR, MATERIAL, TOOLS AND EQUIPMENT REQUIRED TO COMPLETE INSTALLATION AND TESTING OF ALL SYSTEMS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING: LIGHTING, POWER, DATA CONDUIT, TELEPHONE CONDUIT, LIFE SAFETY SYSTEMS.
18. NO EXTRA CHARGE FOR MATERIAL AND LABOR SHALL BE ADDED TO THE CONTRACT FOR OUTLETS MOVED WITHIN 10 FT. FROM THE LOCATION SHOWN ON THE PLANS PRIOR TO ROUGH-IN.
19. UNLESS INSTRUCTED OTHERWISE, ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REMOVAL OR ADDITION OF ALL WIRING.
20. WHERE THE DISTRIBUTION OF POWER AND COMMUNICATION IS THROUGH A FLOOR SYSTEM ELECTRICAL CONTRACTOR SHALL ENSURE ACCESS AT HANDHOLDS AT ALL TIMES. PROVIDE FLOOR PAN COVERS THROUGHOUT THE PREMISES.
21. COORDINATION OF WORK SHALL BE DONE WITH ALL OTHER TRADES ON THE SITE TO THE EXTENT OF PROPERLY LOCATING ALL DEVICES, FIXTURES, EQUIPMENT, PIPING, DUCTWORK, ETC. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ACCURATE DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS AND AT THE SITE.
22. ELECTRICAL DIVISION SHALL SUPPLY ALL STARTERS AND DO ALL CONTROL WIRING UNLESS OTHERWISE NOTED. MECHANICAL DIVISION TO INSTALL STARTERS AND LINE SIDE WIRING AND PROVIDE ALL REQUIRED ISOLATING DISCONNECTS SWITCHES.
23. BASE-BUILDING SYSTEMS SHUT DOWN OR AFFECTED IN ANY WAY MUST BE COORDINATED WITH BUILDING'S OPERATING STAFF TO OBTAIN LANDLORD'S APPROVAL.
24. ACCESS DOORS & PANELS ARE TO BE SUPPLIED BY OTHERS AND LOCATED ON THE SITE BY THIS TRADE WHERE REQUIRED TO SERVICE NEW EQUIPMENT AND/OR SYSTEMS. COORDINATE TO ENSURE INSTALLATION OF SAME.
25. CORE DRILLING OF CONCRETE STRUCTURE IS PERMITTED ONLY WITH USE OF X-RAYING TO DETECT EMBEDDED MATERIALS. PERFORM X-RAYING OUTSIDE NORMAL WORKING HOURS IN COORDINATION WITH BUILDING MANAGEMENT AND TENANTS.
26. MATERIALS REQUIRED FOR THE PERFORMANCE OF THE WORK SHALL BE NEW, OF UNIFORM PATTERN THROUGHOUT, EXCEPT AS NOTED OTHERWISE, ALL MATERIALS SHALL BE EQUAL TO THE BASE-BUILDING MATERIALS.
27. APPROVALS SHALL BE PROVIDED BY THE MANUFACTURER WHERE REQUIRED BY FEDERAL, PROVINCIAL OR LOCAL AUTHORITIES.
28. CONDUCTORS SHALL BE COPPER, TO SUIT LOAD OR BREAKER SIZE INDICATED ON PLANS, BUT NOT LESS THAN #12 AWG. FOR ELECTRIC MOTORS (AIR CONDITIONINGS, HEAT PUMPS, ETC.) MINIMUM CONDUCTOR SIZE SHALL BE #10 AWG.

29. ALL CONDUCTORS SHALL BE INSTALLED IN EMT CONDUIT EXCEPT FOR BRANCH WIRING TO FIXTURES, WHICH SHALL NOT EXCEED 10' IN LENGTH. EXCEPT THAT, BRANCH WIRING TO FIXTURES AND DEVICES NOT EXCEEDING 10' IN LENGTH MAY BE INSTALLED IN ARMORED SHEATHING.
30. CONNECTIONS TO EQUIPMENT THAT PRODUCE NOISE AND OR VIBRATIONS (TRANSFORMERS, MOTORS, GENERATOR SET, DIMMING RACK, ETC.) SHALL BE MADE WITH FLEXIBLE CONDUIT. USE MINIMUM 3 FEET OF FLEXIBLE CABLE WITH SLACK AT EACH DEVICE.
31. EMPTY CONDUITS SHALL BE COMPLETE WITH PULL-STRING. CONDUIT SHALL BE EMT THINWALL WITH STEEL SETSCREW COUPLINGS AND CONNECTORS UNLESS OTHERWISE NOTED. CONDUITS SHALL BE RUN PERPENDICULAR AND PARALLEL TO BUILDING WALLS, BEAMS AND JOISTS WHEN NOT CONCEALED BEHIND WALLS OR CEILINGS.
32. PROVIDE HANGERS, INSERTS (OF A LEAD SHIELD TYPE) AND SUPPORTS, AS REQUIRED. SUPPORT ALL BRANCH CONDUITS FOR POWER AND COMMUNICATIONS FROM BUILDING STRUCTURE; DO NOT CADDIE CLIP TO CEILING HANGERS.
33. PULL BOXES SHALL BE PROVIDED FOR ALL CONDUIT RUNS OF 50' AND/OR MORE THAN THE EQUIVALENT OF 2-90°
34. PROTECTION OF WIRING AND EQUIPMENT SHALL BE BY MEANS OF CIRCUIT BREAKERS, FUSES AND SWITCHES AND OF TYPES AND RATINGS ACCEPTABLE TO THE INSPECTION DEPARTMENT. FOR PROTECTION OF THE PRIMARY SIDE OF DRY TYPE TRANSFORMER AND ELECTRIC MOTORS USE TIME DELAY FUSES, HRCI TYPE, UNLESS INDICATED OTHERWISE.
35. GROUNDING PROVIDE ALL EQUIPMENT GROUNDING AS REQUIRED TO CONFIRM WITH THE APPLICABLE SAFETY CODE. ARRANGE GROUNDS SO UNDER NORMAL OPERATING CONDITIONS NO INJURIOUS AMOUNT OF CURRENT WILL FLOW IN ANY GROUNDING CONDUCTOR. ENSURE CONTINUITY OF EQUIPMENT GROUNDING (CONDUCTORS, CONNECTORS, ACCESSORIES) AND CONNECT TO THE NEW BUILDING SYSTEM AT THE NEAREST LOCATION. CONFORM TO THE REQUIREMENTS OF THE LOCAL AUTHORITY HAVING JURISDICTION. INSULATED GROUNDING CONDUCTORS SHALL BE GREEN.
36. LIGHTING SYSTEM TEMPORARY LIGHTING SHALL BE PROVIDED THROUGHOUT PROJECT IN BOTH HARD CEILINGS AND IN T-BAR CEILING AREAS, BY THIS TRADE WHERE REQUIRED BY GENERAL CONTRACTOR. ALL NEW AND/OR RELOCATED LIGHT FIXTURES MUST BE INDEPENDENTLY SUPPORTED FROM STRUCTURE PER CODE.
37. CIRCUITRY SHOWN ON PLANS IS FOR GROUPING PURPOSES ONLY. EXACT CIRCUITS ARE TO BE DETERMINED ON SITE BASED ON AVAILABILITY. RECORD ON PANEL DIRECTORY AND ON "AS-BUILT" DRAWINGS. NEW CIRCUITRY SHOWN ON PLANS SHALL BE VERIFIED FOR CONTINUITY ON SITE BY THIS CONTRACTOR PRIOR TO COMMENCING NEW WORK. VERIFY THAT NOT MORE THAN SIX DUPLEX RECEPTACLES ARE CONNECTED TO ANY ONE CIRCUIT.
38. CONTRACTOR TO VERIFY AND MAKE NECESSARY ADJUSTMENTS TO ENSURE THAT LOADING ON EACH PHASE IS BALANCED. (UNBALANCED LOAD SHALL BE LESS THAN 10 %). PROVIDE A TYPED CIRCUIT DIRECTORY IN EACH PANEL.
39. PROVIDE LOCK-ON DEVICES ON FIRE ALARM, EMERGENCY LIGHTING, NIGHT-LIGHTS, SECURITY AND EXIT LIGHT CIRCUITS, AS REQUIRED.
40. WHEN A 15A OR 20A CIRCUIT BREAKER IS USED AS THE ONLY SWITCHING DEVICE FOR FLUORESCENT LUMINARIES, THE CIRCUIT BREAKER SHALL BE SUITABLE FOR SWITCHING DUTY AND SHALL BE MARKED "SWD".
41. LIFE SAFETY SYSTEMS WORK SHALL BE PERFORMED BY THE CONTRACTOR.
42. ELECTRICAL CONTRACTOR SHALL TEST ALL EMERGENCY LIGHTING AND SUBMIT LETTER OF CERTIFICATIONS, LISTING THE FLOOR, AND THE DATE TESTED.
43. SMOKE DETECTORS SHALL BE FURNISHED AND WIRED BY THE ELECTRICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MOUNTING THE SMOKE DETECTOR IN DUCTWORK IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
44. FINAL INSPECTION CERTIFICATE SHALL BE SUBMITTED UPON COMPLETION OF CONTRACT. FINAL PAYMENT SHALL BE SUBJECT TO RECEIPT OF THIS CERTIFICATE.
45. IDENTIFICATION SHALL INCLUDE PROVISION OF A LAMACOID LABEL ON EACH ENCLOSURE, RELAY OR OTHER DEVICE. COLOR AND FORMAT ARE TO MATCH BASE - BUILDING. PROVIDE A TYPED CIRCUIT DIRECTORY IN EACH PANEL. TAG ALL CABLING.
46. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS.
47. ALTERNATIVES TO THE MATERIALS SPECIFIED HEREIN AND/OR ON THE DRAWING MAY BE SUBMITTED SEPARATELY SHOWING ANY CHANGE TO THE BASE CONTRACT PRICE FOR THEIR SUBSTITUTION.
48. OPERATING & MAINTENANCE INSTRUCTION PREPARED BY MANUFACTURERS SHALL BE AS INDEXED IN 3-RING BINDERS FOR SUBMISSION IN TRIPLICATE.
49. LANDLORD'S GUIDELINES FOR TENANT CONSTRUCTION SHALL BE STRICTLY ADHERED TO BY THIS CONTRACTOR.
50. MC CABLES CAN BE USED INDOORS OR OUTDOORS FOR FEEDERS, POWER, AND LIGHTING BRANCH CIRCUITS PER NEC 330.10. AS PER 330.12, MC CABLE CAN NOT BE USED IN THE FOLLOWING CONDITIONS UNLESS THE METALLIC SHEATH OF THE CABLE IS RESISTANT OR PROTECTED BY MATERIAL RESISTANT TO THE CONDITIONS.
 - i) WHERE SUBJECT TO PHYSICAL DAMAGE.
 - ii) WHERE EXPOSED TO DESTRUCTIVE CORROSIVE CONDITIONS LIKE
 - a) DIRECTLY BURIED IN THE EARTH OR EMBEDDED IN CONCRETE.
 - b) EXPOSED TO CINDER FILLS, STRONG CHLORIDES, ETC.

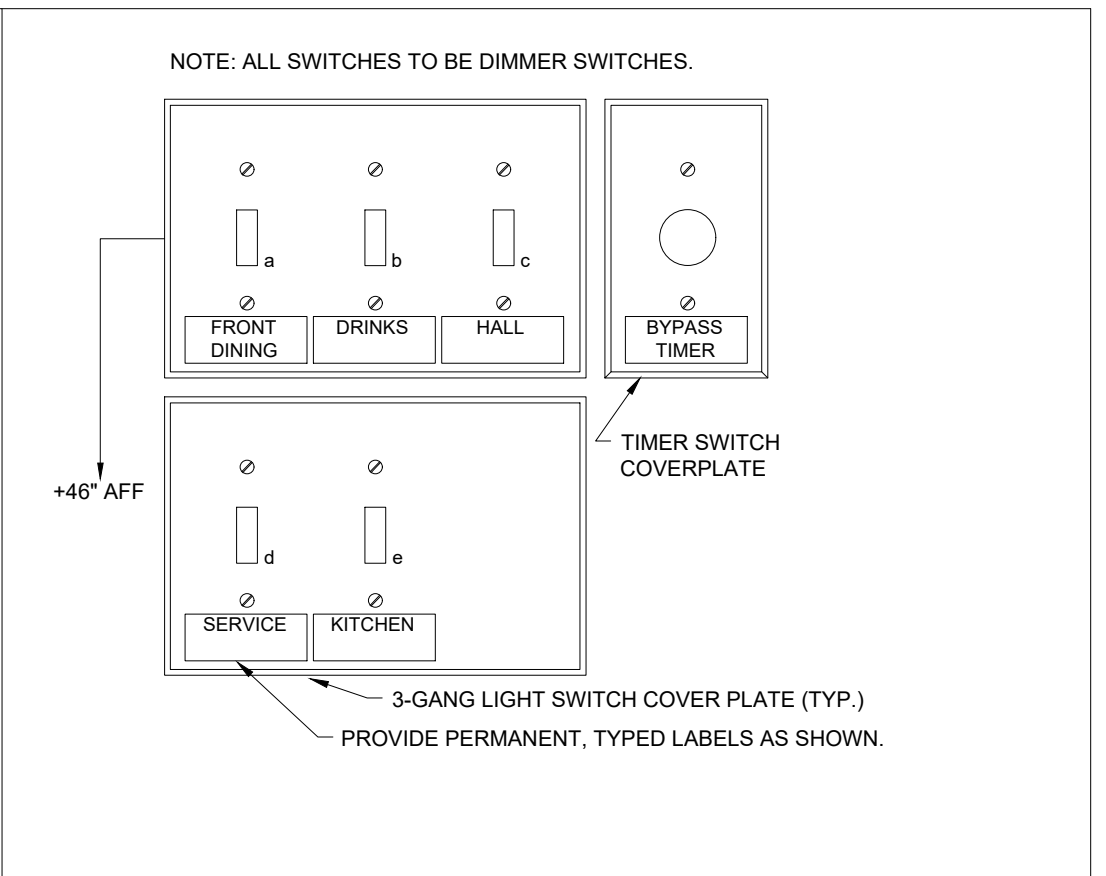
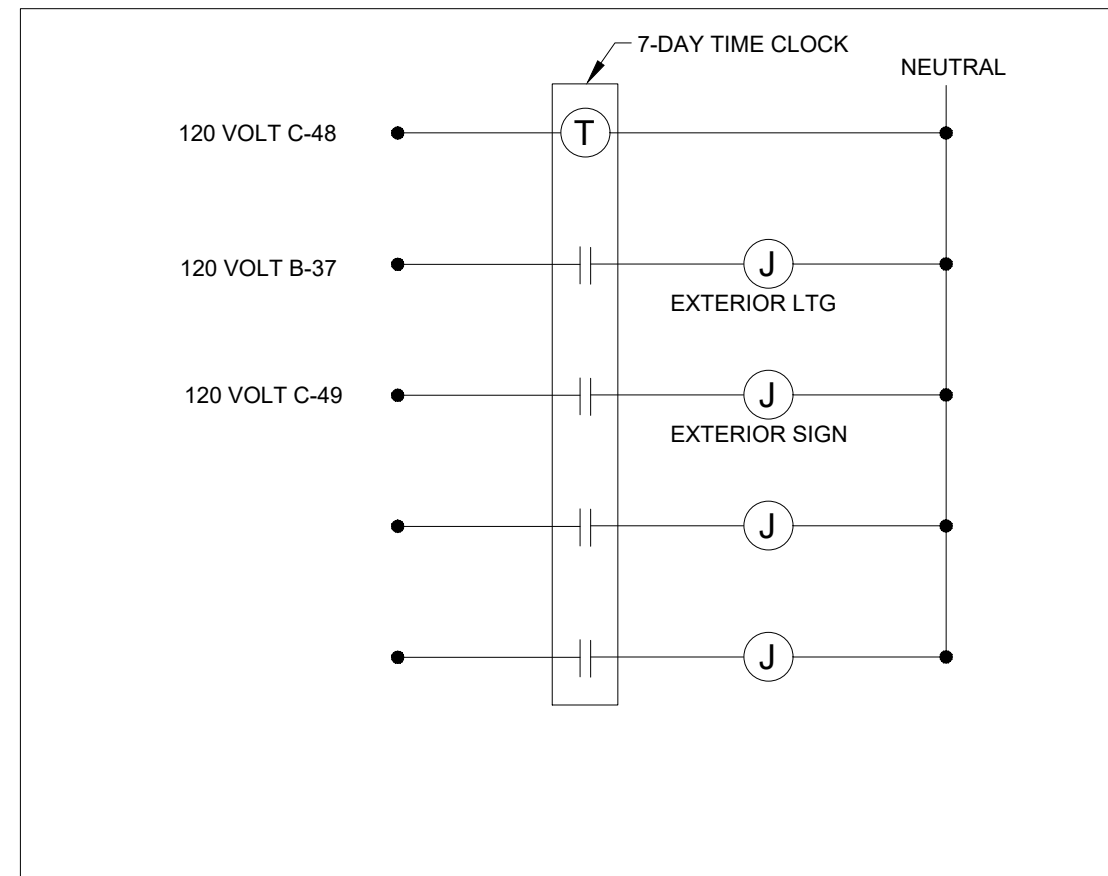
UNLESS THE ABOVE CONDITIONS EXIST FOR THE PROJECT, MC CABLE CAN BE USED.

BASIC MATERIALS AND METHODS

1. THE ELECTRICAL DRAWINGS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF CONDUIT AND WIRING, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT INDICATE EVERY REQUIRED OFFSET, FITTING, ETC.
2. THE LOCATIONS OF THE ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS

NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE THE DRAWINGS (UNLESS NOTED OTHERWISE).

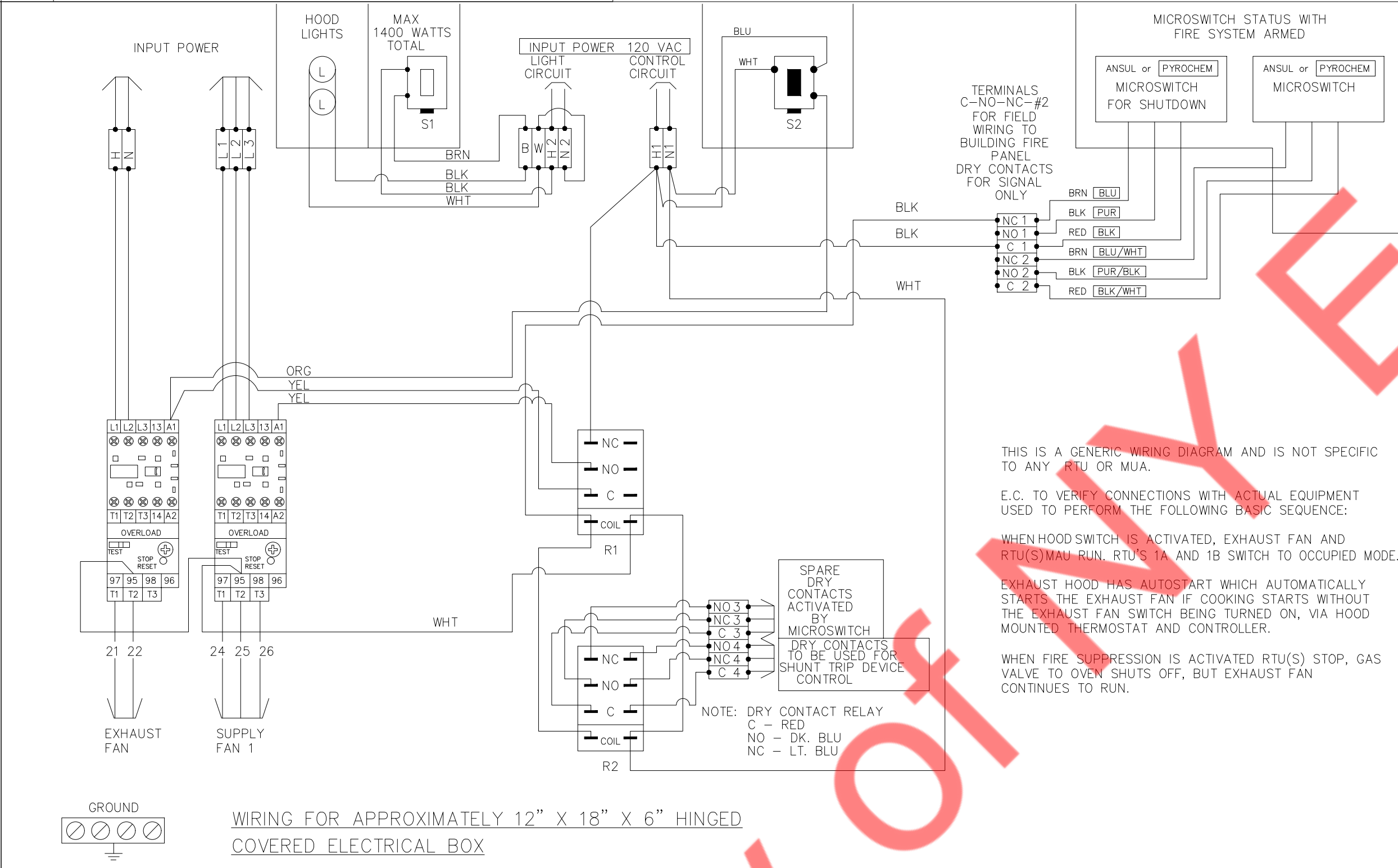
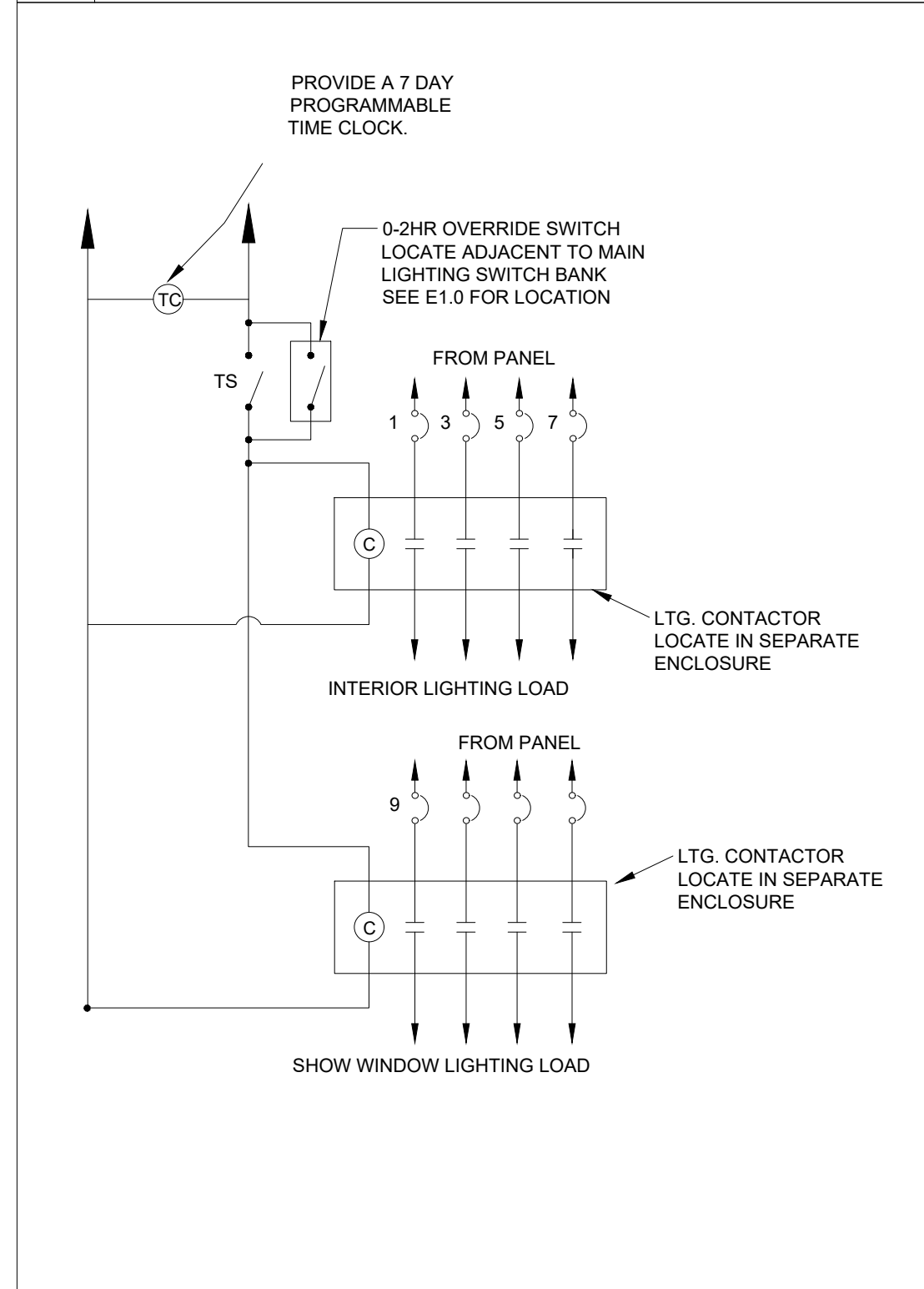
3. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL NEW EQUIPMENT, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC. PRIOR TO BID. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND CONTRACT DRAWINGS.
4. WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH CONDUITS AND WIRING, COORDINATE DUCTWORK AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO FABRICATION OF BEAMS.
5. ALL CONDUIT, WIRING AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GC. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS, SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.
6. ELECTRICAL EQUIPMENT, CONDUIT AND WIRING SHALL NOT BE SUPPORTED FROM METAL DECK.
7. USE ADJUSTABLE PIPE HANGERS ON SUSPENDED CONDUIT. PROVIDE HANGERS TO SUPPORT THE SYSTEMS WITHOUT SAGGING. INCLUDE HANGERS AT EACH OFFSET OR CHANGE IN DIRECTION AND AT ENDS OF BRANCHES OVER FIVE FEET IN LENGTH.
8. SLEEVES AND BOXES SHALL BE PROVIDED WHEREVER CONDUITS PASS THROUGH FLOOR, WALL AND ROOF CONSTRUCTION.
9. WHERE HORIZONTAL CONDUITS AND WIRING PASS THROUGH WALLS AND VERTICAL DUCTS AND PIPES PASS THROUGH FLOORS OR ROOFS, SEAL OFF VOID BETWEEN OPENING AND DUCT OR PIPE AND SLEEVE, WITH AN APPROVED NON-COMBUSTIBLE MATERIAL.
10. INSTALL NICKEL-PLATED FLOOR, WALL AND CEILING ESCUTCHEONS OF ADJUSTABLE TYPE ON CONDUITS PASSING THROUGH WALLS, FLOOR OR CEILING IN FINISHED AREAS. PROVIDE ALL EXCAVATING AND BACKFILLING REQUIRED BY THE WORK IN THIS DIVISION.
11. FURNISH AND INSTALL ALL FOUNDATIONS, BASES AND SUPPORTS.
12. CONCRETE HOUSEKEEPING PADS TO SUIT ELECTRICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE ELECTRICAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 6 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 6 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR (GC). IT SHALL BE THE RESPONSIBILITY OF THE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS WITH GENERAL CONTRACTOR. ELECTRICAL CONTRACTOR TO COORDINATE.
13. REINFORCEMENT, DETAILING, AND PLACEMENT OF CONCRETE SHALL CONFORM TO ASTM 315 AND ACI 318. CONCRETE SHALL CONFORM TO ASTM C94. CONCRETE WORK SHALL CONFORM TO ACI 318, PART ENTITLED "CONSTRUCTION REQUIREMENTS".



NOTES
 1. NOT ALL LOADS AND CONTROLS ARE SHOWN. THIS DIAGRAM IS INTENDED TO PROVIDE GENERAL WIRING AND CONTROL INTENT ONLY.
 2. PROGRAM LIGHTING CONTROL PANEL AS DIRECTED BY OWNER.
 3. MINIMUM INTERRUPTING RATING FOR ALL RELAYS AND CONTACTORS SHALL BE 10,000 A.I.C.

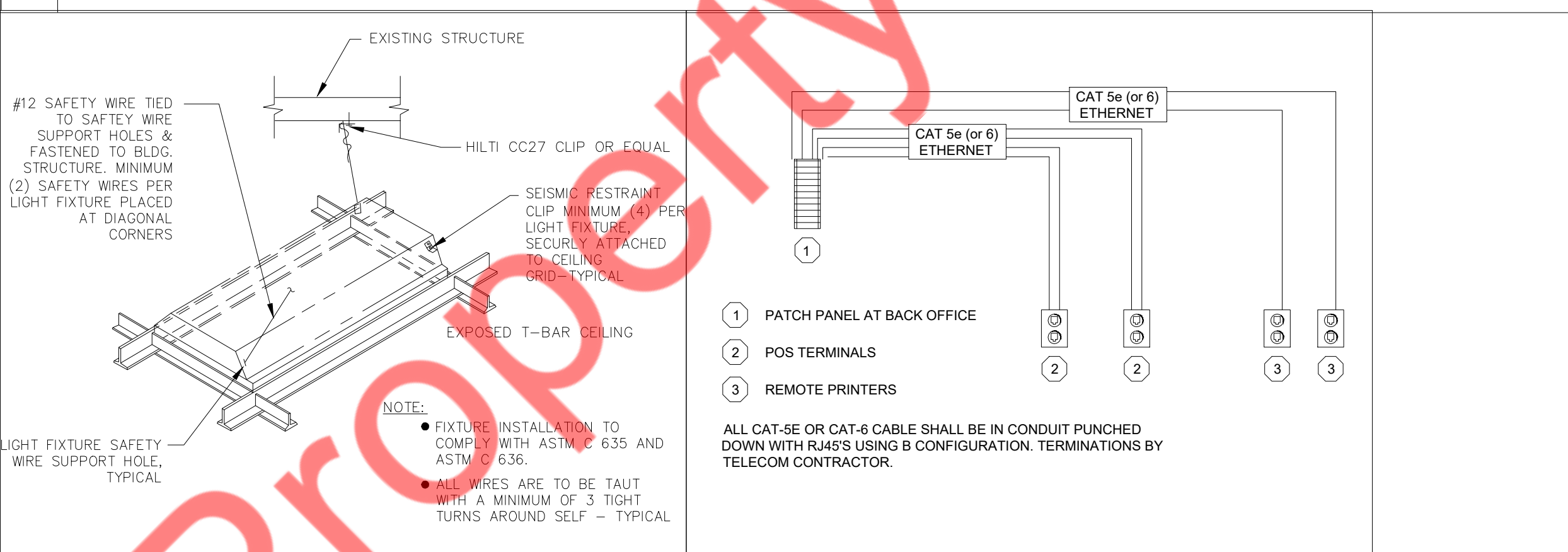
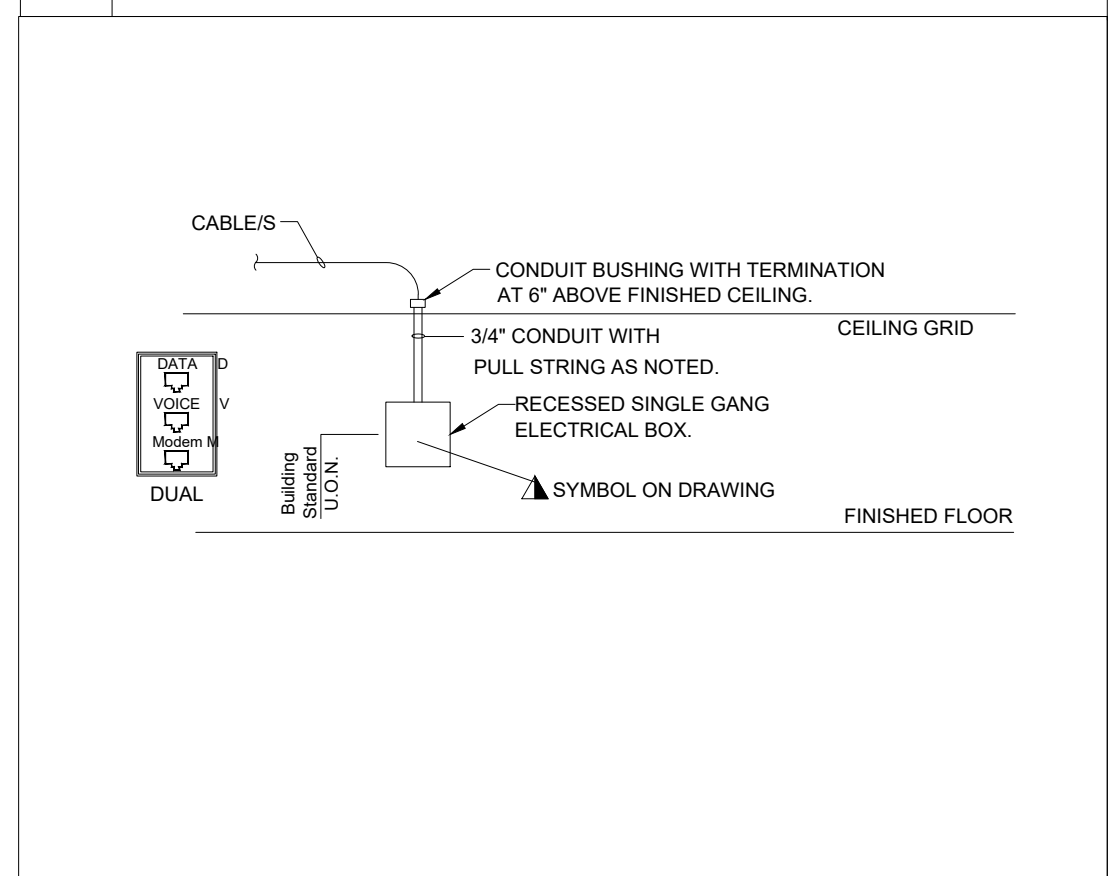
1 EXT LTG & SIGNAGE CONTROL N.T.S.

2 SWITCHING DETAIL N.T.S.



3 STORE LIGHTING DETAIL N.T.S.

4 GENERIC EXHAUST HOOD WIRING DIAGRAM N.T.S.



5 LV CABLING DETAIL N.T.S.

6 RECESSED LIGHT SUPPORT N.T.S.

7 LV CABLING DETAIL

QTY.	TAG	DESCRIPTION	MANUFACTURER	MODEL	REMARKS
1	1.2	Walk-In Freezer	Kolpak	CUSTOM	4'-6" X 15'-9" w/ strip curtain, 4' light globes above door. Includes remote condenser, coordinate location w/ owner
1	3.2	Wire Shelf - Chrome Plated Finish	Metro	1830DR	18"X30" - 86P POSTS
1	3.3	Wire Shelf - Chrome Plated Finish	Metro	1836DR	18"X36" - 86P POSTS
8	3.5	Wire Shelf - Chrome Plated Finish	Metro	1848DR	18"X48" - 86P POSTS
7	3.7	Wire Shelf - Chrome Plated Finish	Metro	1860DR	18"X60" - 86P POSTS
1	4.9	Wire Shelf - Chrome Plated Finish	Metro	2460DR	86P POSTS W/ ONLY TWO SHELVES & ONE FIXED TOP FOR DESKTOP
2	6	Printer	Epson	TM-88III	
1	6.1	Prep N Print			
2	8	Ingredient Bin	Cambro	IBS27	
1	9.1	Faucet - 2-Compartment Sink	T&S Brass	B-0231-BST	
5	9.2	Strainer	T&S Brass	B-3952	
1	10	2-Compartment - Prep Sink	John Boos	2B18244-2D1B	
1	11	3-Compartment - Wash Sink	John Boos	3PB20284-2D20	16 GA. Type 300 S.S. / 14" Bowl Depth / #4 Pol. Satin Fin. Ceiling hang Provide blocking. Includes built in heat lamp.
1	12	Overshelf	John Boos	OSH26FK-24108-CM	
2		Hand Sink	John Boos	PBHS-W-0909-X	
2		Faucet - Hand Sink	John Boos	PBF-4SM-30LF-X	
2	13	Mounting Kit - Hand Sink	John Boos	PB-SMMK-90	
2		Paper Towel Dispenser	San Jamar	T8000TBK	
2		Soap Dispenser	Ecobab/SSDC	NEXA 92223462	
1	15	Drink Display	CAL-MIL	1491-69	COLOR - CLASSIC GRAPHITE
2	16	Rolling Cup Dispenser	John Boos	Z-DAVESHC-MCH	
1	17	French Fry Pan	Marshall Air	245661 Dump Pan	In table
1	20.7	Wall Shelf	John Boos	B1690	
1	20.9	Wall Shelf	John Boos	B1672	
1	20.10	Wall Shelf	John Boos	B1684	
1	21	Half Height Freezer & Work Top	True Food Service EQ.	TW1-27F-HC	
1	21.1	Under Counter Refrigerator	True Food Service EQ.	TUC27D-2-HC	Self cleaning condenser coil standard.
1	23	Length Glass Door Merchandiser	True Food Service EQ.	T-23G-2-HC-FGD01	
1	24.2	Fryer	Pitco	SSH75-3FD	3 vat french fry fryer
1	25	Oil Reclamation Fitting	BK Resources	BKG-GHC-7560-SCK3	
1	25	Fryer	Pitco	SSH60-2FD	2 vat chicken fryer - solid state control
1	27	Oil Reclamation Fitting	BK Resources	BKG-GHC-7560-SCK3	
1	27	Counter Top Warmer	Hatco Corporation	BRW4	
1	29.1	Dryer Rack	SPG Int'l	2IGSL1836-E 2IGSL1836-E	Trax/Traxtop/Traxtop per Layout
1	30	Food Prep Refrigerator	True Food Service Equipment	FPF-32-12M	
1	30.3	Food Prep Refrigerator	True Food Service Equipment	TSSU-72-30M-B-DS-ST-HC	
1	32.2	Work Table	John Boos	ST6R1.5-3084GSK-X	SS Top w/ galvanized legs - 30"X72" w/ 1.5" back splash, w/ under shelf
1	32.4	Work Table	John Boos	ST6-1854SSK	SS steel top w/ SS legs - 18"X54" No back splash, w/ under shelf.
1	32.5	Work Table	John Boos	ST4R5-3660GSK-X	SS steel top w/ SS legs - 36"X72" w/ 5" back splash, w/ under shelf.
2	32.8	Work Table	John Boos	ST6-3048SSK	SS Top w/ SS legs - 30"X48" No back splash, no under shelf
1	32.10	Work Table	John Boos	ST6-4848SSK	SS top w/ SS legs - 48"X48" No back splash, w/ under shelf
1	32.11	Work Table	John Boos	ST6-3024SSK	SS top w/ SS legs - 30"X24" No back splash, w/ under shelf
1	36	Shake Machine/Freezer	Taylor Company	60	
1	38	Pass-Thru Wall Mounted Shelf	John Boos	PTS16K-1854	Air cooled
1	43	Drink Dispenser W/ Ice Bin	Coke	Lancer Sensation	
1	43.1	Ice Maker	Follet	HCC1410AHS	W/ machine stand & ride system
1	44	Tea Brewer	Coke/Gold Peak	Variety Tea Tower	
1	45	Condiment Organizer	Voltrath	CTCPAN9-9	
2	47	POS Terminal	-	-	Cash drawer mounted on undershelf
2	52	Steamer	Antunes	MS-150-9100423	
2	53	Vertical Contact Toaster	Antunes	VCT-2-9210907	
2	57	Digital Thawing Cabinet	Electrolux Professional	727999 (TC617DZXU)	1/3rd HP / R134A refrigerant / 304 AISI MATL. / Casters
2	60	Oil Management Tank	Restaurant Technologies Inc.	RTI TANKS	Fryers to include oil reclamation fittings.
1	66	Trash Can Cabinet	GSW	S-WRA	Stainless steel
1	66.1	Trash Receptacles	-	-	
1	67	Bag-N-Box Carbonator	-	-	
1	68	Bulk CO2 Tank	NucO2	Mizer 450	450lbs capacity
1	69	Water Filtration System	-	VZN_441V-T5 (9700752)	
1	71	Dishwasher	Ecobab	ES-2000	Refer to plumbing drawings
1	97	Mic Stand	-	-	Refer to plumbing drawings
1	98	POS SYSTEM	-	-	
3	98.2	Screen	-	-	
1	99.1	Glo-Ray Infrared Aluminum Strip Heaters with Lights	Hatco	GRAL-96	96" Length. Fix to B.O. Shelf
6	100.1	DUNNAGE RACK	JOHN BOOS	ALJB482012-X	20"X48"
4	A2	Type 1 Stool - "RED METAL"	JBI	-	Install at High Tables
48	A3	Type 1 Chair - "RED METAL"	JBI	-	Install at Low Tables
6	B4	72" STRAIGHT BANQUETTE BENCH	JBI	-	
12	C1	Low 2 - Top Table	JBI	-	
1	C1.1	Low 2 - Top Table	JBI	-	ADA compliant
8	C2	Low 4 - Top Table	JBI	-	
2	E1	High Counter	-	-	4'-0" Length

1 EQUIPMENT SCHEDULE

PLUMBING GENERAL NOTES

BASIC PLUMBING REQUIREMENTS

- 1. FURNISH ALL LABOR AND MATERIALS AND PERFORM ALL OPERATIONS NECESSARY FOR THE INSTALLATION OF COMPLETE AND FUNCTIONING NEW AND EXISTING PLUMBING SYSTEMS, AS SPECIFIED AND AS REQUIRED BY CODE.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING OPERATION OF ALL EXISTING EQUIPMENT AND SYSTEMS TO REMAIN. CONTRACTOR SHALL PROVIDE NEW OR REPAIR EXISTING SYSTEMS OR EQUIPMENT THAT ARE MISSING OR MALFUNCTIONING TO COMPLY WITH NOTE #1 ABOVE.
3. INSTALL ALL PLUMBING EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND WRITTEN INSTRUCTIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
4. COORDINATE AND ORDER THE PROGRESS OF PLUMBING WORK TO CONFORM TO THE OWNER'S SCHEDULE AND THE PROGRESS OF THE WORK OF THE OTHER TRADES.
5. COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURERS' CERTIFIED DRAWINGS AND/OR DOCUMENTS. COORDINATE AND PROVIDE ALL PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND CORRECT ALL PIPING DIMENSIONS BEFORE INSTALLATION.
6. APPLY FOR AND PAY FOR ALL PERMITS, FEES, LICENSES AND INSPECTIONS FOR THIS DIVISION OF WORK.
7. COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AND ORDINANCES. COMPLY WITH REQUIREMENTS OF THE UTILITY COMPANIES. IN THE CASE OF DIFFERENCES BETWEEN THESE REQUIREMENTS AND ORDINANCES, THE MOST STRINGENT SHALL GOVERN. CALL FOR INSPECTIONS REQUIRED BY LOCAL BUILDING INSPECTION AUTHORITY.
8. SUBMIT SHOP DRAWINGS FOR ALL MATERIALS AND SPECIFIED EQUIPMENT. IN ADDITION SUBMIT SHOP DRAWINGS SHOWING ANY CHANGES REQUIRED IN PIPING, DUCTING, ELECTRICAL WIRING, SPACE ALLOCATION, ETC.
9. THE LOCATION OF EXISTING UNDERGROUND/CONCEALED UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ANY DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
10. PATCH AND REPAIR TO MATCH EXISTING ANY WALLS, CEILINGS, OR FLOORS ACCESSED DURING THE INSTALLATION OF DUCTWORK AND PIPING, OR DURING THE REMOVAL OF GRILLES, EQUIPMENT ETC.
11. MAINTAIN ONE SET OF REDLINED DRAWINGS ON THE JOB SITE INDICATING ALL CHANGES AND DEVIATIONS FROM THE WORK SHOWN ON THE DRAWINGS.
12. PRIOR TO FINAL ACCEPTANCE, THOROUGHLY CLEAN ALL WORK.
13. AT COMPLETION OF WORK, DELIVER COMPLETED PROJECT RECORD DOCUMENTS MARKED WITH FIELD CHANGES TO OWNERS REPRESENTATIVE.
14. PROVIDE A WRITTEN WARRANTY TO THE OWNER COVERING THE ENTIRE PLUMBING WORK TO BE FREE FROM DEFECTIVE MATERIALS, EQUIPMENT AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER DATE OF ACCEPTANCE.
15. ANY SUBSTITUTIONS OF EQUIPMENT, INCLUDING BUT NOT LIMITED TO RTUS, AHUS, VAVS, VVTS, FPBS, ETC. SHALL BE APPROVED BY ENGINEER OF RECORD THE CONTRACTOR IS RESPONSIBLE FOR ANY ADDITIONAL COSTS INCURRED BY SUBSTITUTING EQUIPMENT. COSTS SHALL INCLUDE, BUT NOT BE LIMITED TO, ADDITIONAL ENGINEERING, ARCHITECTURAL SERVICES, ELECTRICAL, STRUCTURAL, FIRE, AND GENERAL CONTRACTOR REQUIREMENTS.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL FIELD CONDITIONS AND CONFIRMING THAT THE WORK MAY BE COMPLETED AS SHOWN PRIOR TO THE CONSTRUCTION PRICING AND/OR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER AND/OR ARCHITECT PRIOR TO PROCEEDING WITH THE WORK, OR RELATED WORK, IN QUESTION.
17. ALL REPORTS, PLANS, SPECIFICATIONS, COMPUTER FILES, FIELD DATA, NOTES, AND OTHER DOCUMENTS AND INSTRUMENTS PREPARED BY ENGINEER OF RECORD AS INSTRUMENTS OF SERVICE SHALL REMAIN THE PROPERTY OF THE CONSULTANT. ENGINEER OF RECORD SHALL RETAIN ALL COMMON LAW, STATUTORY AND OTHER RESERVED RIGHTS, INCLUDING THE COPYRIGHT THERE TO.
18. IF ENGINEER OF RECORD FOR ANY REASON IS NOT ALLOWED TO COMPLETE ALL THE SERVICES CALLED FOR BY THESE CONDITIONS, ENGINEER OF RECORD SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY, COMPLETENESS OR CONSTRUCTABILITY OF THE CONSTRUCTION DOCUMENTS PREPARED BY ENGINEER OF RECORD IF USED, CHANGED OR COMPLETED BY THE CLIENT OR BY ANOTHER PARTY. ACCORDINGLY, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS ENGINEER OF RECORD, ITS OFFICERS, DIRECTORS, EMPLOYEES AND SUBCONSULTANTS (COLLECTIVELY, ENGINEER OF RECORD) FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING OR ALLEGEDLY ARISING FROM SUCH USE, CHANGE OR COMPLETION BY ANY OTHER PARTY OF ANY CONSTRUCTION DOCUMENTS PREPARED BY ENGINEER OF RECORD.
19. HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES FURNISHED BY EITHER PARTY SHALL BE SUBJECT TO THE ACCEPTANCE PERIOD OF 60 DAYS DURING WHICH THE RECEIVING PARTY AGREES TO PERFORM APPROPRIATE ACCEPTANCE TESTS. THE PARTY FURNISHING THE HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES SHALL CORRECT ANY DISCREPANCIES OR ERRORS DETECTED AND REPORTED WITHIN THE ACCEPTANCE PERIOD. AFTER THE ACCEPTANCE PERIOD, THE HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES SHALL BE DEEMED TO BE ACCEPTED AND NEITHER PARTY SHALL HAVE ANY OBLIGATION TO CORRECT ERRORS OR MAINTAIN HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES.
20. THE CLIENT AND ENGINEER OF RECORD AGREE THAT ANY HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES FURNISHED BY EITHER PARTY SHALL CONFORM TO THE SPECIFICATIONS, ANY CHANGES TO THE ELECTRONIC SPECIFICATIONS BY EITHER THE CLIENT OR ENGINEER OF RECORD ARE SUBJECT TO REVIEW AND ACCEPTANCE BY THE OTHER PARTY. ADDITIONAL SERVICES BY ENGINEER OF RECORD MADE NECESSARY TO THE HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILE SPECIFICATIONS SHALL BE COMPENSATED FOR AS ADDITIONAL SERVICES.
21. UNDER NO CIRCUMSTANCES SHALL DELIVERY OF ELECTRONIC FILES FOR USE BY THE CLIENT BE DEEMED A SALE BY ENGINEER OF RECORD, AND ENGINEER OF RECORD MAKES NO WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT SHALL ENGINEER OF RECORD BE LIABLE FOR INDIRECT OR CONSEQUENTIAL DAMAGES AS A RESULT OF THE CLIENT'S USE OR REUSE OF THE HARD-COPY CONSTRUCTION DOCUMENTS OR ELECTRONIC FILES IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY ENGINEER OF RECORD WITHOUT OBTAINING ENGINEER OF RECORD'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST ENGINEER OF RECORD AND TO RELEASE ENGINEER OF RECORD FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH CHANGES. IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS ENGINEER OF RECORD FROM ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING FROM SUCH CHANGES. IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO ENGINEER OF RECORD'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF ENGINEER OF RECORD AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH ENGINEER OF RECORD AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

BASIC MATERIALS AND METHODS

- 1. FOR ALL REMOVED EQUIPMENT CONTRACTOR SHALL REMOVE ALL SUPPORTS, HANGERS, CONTROLS, PIPING, UTILITIES, ETC.
2. THE PLUMBING DRAWINGS INDICATE THE GENERAL DESIGN AND ARRANGEMENT OF PIPING, EQUIPMENT, SYSTEMS, ETC. INFORMATION SHOWN IS DIAGRAMMATIC IN CHARACTER AND DOES NOT INDICATE EVERY REQUIRED OFFSET, FITTING, ETC.
3. THE LOCATION OF THE ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT DEFINITELY FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE THE DRAWINGS (UNLESS NOTED OTHERWISE).
4. CONTRACTOR SHALL VERIFY THE LOCATION AND SIZES OF ALL EXISTING EQUIPMENT, DUCTWORK, PIPING, ELECTRICAL CONDUIT, STRUCTURAL MEMBERS, ETC. PRIOR TO BID. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY AND ALL DISCREPANCIES BETWEEN FIELD CONDITIONS AND CONTRACT DRAWINGS.
5. ALL DUCTWORK, PIPING AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GC. ALL ATTACHMENTS TO STEEL BEAM, JOISTS, TRUSSES, OR JOIST GIRDERS, SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.
6. PLUMBING EQUIPMENT, AND PIPING SHALL NOT BE SUPPORTED FROM METAL DECK.
7. USE ADJUSTABLE HANGERS ON SUSPENDED PIPE. PROVIDE HANGERS TO SUPPORT THE SYSTEMS WITHOUT SAGGING. INCLUDE HANGERS AT EACH OFFSET OR CHANGE IN DIRECTION AND AT ENDS OF BRANCHES OVER FIVE FEET IN LENGTH. CONTRACTOR TO PROVIDE AND INSTALL TRAP PRIMERS FOR ALL FLOOR DRAINS AND SINKS THAT DO RECEIVE FLOW DURING OCCUPIED HOURS. WHERE CODE ALLOWS CONTRACTOR MAY ELECT TO USE A WATERLESS TRAP PRIMER PRODUCT.
8. PROTECT ALL INSULATED PIPE AT POINT OF SUPPORT WITH A 360-DEGREE INSULATION INSERT.
9. SLEEVES: SCHEDULED STEEL PIPE SIZED LARGE ENOUGH TO ALLOW FOR MOVEMENT AND FOR CONTINUOUS INSULATION. FIRE STOPPING SLEEVES BY PROSET MAY BE USED IN FIRE-RATED CONSTRUCTION. SHEET METAL SLEEVES ARE NOT PERMITTED. SLEEVES USED BELOW GRADE AND FOR PENETRATION OF WATER PROOFED WALLS SHALL CONTAIN INTEGRAL WATER STOP.
10. SLEEVES AND BOXES SHALL BE PROVIDED WHEREVER PIPES AND DUCTS PASS THROUGH FLOOR, WALL AND ROOF CONSTRUCTION.
12. WHERE HORIZONTAL PIPES PASS THROUGH WALLS AND VERTICAL PIPES PASS THROUGH FLOORS OR ROOFS, SEAL OFF VOID BETWEEN PIPE AND SLEEVE, WITH AN APPROVED NON-COMBUSTIBLE MATERIAL.
13. INSTALL NICKEL PLATED FLOOR, WALL AND CEILING ESCUTCHEONS OF ADJUSTABLE TYPE ON PIPES PASSING THROUGH WALLS, FLOOR OR CEILING IN FINISHED AREAS.
14. PROVIDE SHUT-OFF VALVES AND UNIONS SUITABLY LOCATED TO ISOLATE EACH ITEM OF EQUIPMENT.
15. PROVIDE DIELECTRIC UNIONS FOR CONNECTIONS BETWEEN DISSIMILAR METALS.
16. TEST PIPING SYSTEMS PRIOR TO CONCEALMENT.
17. VALVES AND CLEANOUTS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS AND AS REQUIRED BY CODE.
18. ALL VALVES SHALL BE INSTALLED SO THAT VALVE REMAINS IN SERVICE WHEN EQUIPMENT OR PIPING ON EQUIPMENT SIDE OF VALVE IS REMOVED.
19. ALL BALANCING VALVES AND BUTTERFLY VALVES SHALL BE PROVIDED WITH POSITION INDICATORS AND MAXIMUM ADJUSTABLE STOPS (MEMORY STOPS).
20. ALL VALVES (EXCEPT CONTROL VALVES) AND STRAINERS SHALL BE FULL SIZE OF PIPE BEFORE REDUCING SIZE TO MAKE CONNECTIONS TO EQUIPMENT AND CONTROLS.
21. INSTALL ALL PIPING WITHOUT FORGING OR SPRINGING.
22. ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
23. ALL CLEANOUTS SHALL BE FULL SIZE OF PIPE FOR PIPE SIZES 6 INCHES AND SMALLER AND SHALL BE 6 INCHES FOR PIPE SIZES LARGER THAN 6 INCHES.
24. PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO GENERAL CONTRACTOR FOR INSTALLATION.
25. ALL OPENINGS IN FIREWALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.
26. ALL AIR CONDITIONING CONDENSATE DRAIN LINES FROM EACH AIR HANDLING UNIT AND ROOFTOP UNIT SHALL BE PIPED FULL SIZE OF THE UNIT DRAIN OUTLET, WITH A P-TRAP, AND PIPED TO NEAREST DRAIN. PROVIDE A CONDENSATE PUMP IF REQUIRED. FIELD VERIFY.
27. ALL PIPING SHALL CLEAR DOORS AND WINDOWS.
28. ALL GAS AND WATER SHUT-OFF VALVES SHALL BE LOCATED PER CODE, READILY ACCESSIBLE WITHOUT LADDER, CLEARLY IDENTIFIED, NOT VISIBLE TO CUSTOMERS AND DO NOT POSE A HEALTH DEPARTMENT CLEANING PROBLEM.

PLUMBING IDENTIFICATION

- 1. IDENTIFY PIPING, DUCTS AND VALVES ABOVE CEILINGS, AS WELL AS EXPOSED TO VIEW EXCEPT IN FINISHED AREAS. CONFORM TO CONTRACTOR TO LABEL APPLIANCES IN AN APPROVED MANNER THAT UNIQUELY IDENTIFIES THE APPLIANCE AND THE AREA IT SERVES, WHEN APPLIANCE IS REMOTELY LOCATED FROM SPACE IT SERVES. INSULATION
3. FURNISH AND INSTALL INSULATION FOR ALL PIPING SYSTEMS. ALL COLD PIPING AND EQUIPMENT INSULATION SHALL INCLUDE A VAPOR BARRIER
4. AS PER THE 2020 NYS PC SECTION 305.4 IN AREAS WITH SEASONAL FREEZING OUTDOOR TEMPERATURES, ALL DRAIN PIPING AND WATER PIPING INSTALLED IN EXTERIOR WALLS, ATTICS, AND OTHER AREAS EXPOSED TO OUTDOOR TEMPERATURES SHALL BE PROTECTED FROM FREEZING. IN HEATED SPACES, THE PIPING SHALL BE INSTALLED ON THE HEATED SIDE OF THE BUILDING INSULATION.
5. PIPING INSULATION AS INDICATED IN FOLLOWING TABLE.

Table with 4 columns: Fluid Operating Temperature Range and Usage (F), Insulation Conductivity (BTU-IN / (H FT2 F)), Mean Rating Temperature (F), and Nominal Pipe or Tube Size (Inches). Rows include 141-200, 105-140, and 40-60 temperature ranges.

DOMESTIC PLUMBING

- 1. DOMESTIC WATER PIPING MATERIALS:
AS PER 2020 NYS PC, ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD DRAWN COPPER TUBE.
2. ALL BALL, GATE, GLOBE AND PLUG VALVES ON HOT AND COLD WATER DOMESTIC PLUMBING SHALL MEET NSF-61 FOR LEAD CONTENT ON ALL POTABLE HOT AND COLD APPLICATIONS.
3. SANITARY WASTE AND VENT MATERIALS: ABOVE GRADE PIPING SHALL BE HUBLESS CAST IRON PIPE WITH STAINLESS STEEL COUPLINGS AND ELASTOMERIC GASKETS WITH A MINIMUM NO. OF BANDS PER COUPLING AS PER CISPI 310.12.
4. GAS PIPING MATERIALS: PIPE AND FITTINGS: SCHEDULE 40 BLACK STEEL PIPE AND MALLEABLE IRON FITTINGS.
5. WATER PIPING: RUN PIPING AS DIRECT AS POSSIBLE TO REQUIRED CONNECTIONS, AND SLOPE TO DRAIN VALVES AT LOW POINTS FOR COMPLETE DRAINING OF SYSTEM. LOCATE DRAIN VALVES AT ACCESSIBLE POINTS WITHIN THE SYSTEM.
6. SANITARY WASTE PIPING: ALL SANITARY WASTE PIPING SHALL BE SLOPED AT A MINIMUM 1/4" PER FOOT. HORIZONTAL VENT PIPING SHALL BE GRADED TO DRIP BACK TO THE SOIL OR WASTE PIPE BY GRAVITY.
7. GAS PIPING: SUPPORT ROOF-MOUNTED GAS PIPING A MINIMUM OF 12 INCHES ABOVE ROOF ON METAL STANDS IN PITCH PANS AT 8 FEET ON CENTER.

ENERGY CONSERVATION NOTES:

- 1. ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE RETARDANT, FACTORY-APPLIED JACKET. PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH NYS ENERGY CONSERVATION CODE 2020 SECTION ENERGY C404.4 TABLE C403.11.3.
2. AS PER NYS ENERGY CONSERVATION CODE 2020 SECTION C404.5, HEATED WATER SUPPLY PIPING CONFIRMS TO PIPE LENGTH AND VOLUME REQUIREMENTS. REFER TO SECTION DETAILS.

Table with 4 columns: Fluid Operating Temperature Range and Usage (F), Insulation Conductivity (BTU-IN / (H FT2 F)), Mean Rating Temperature (F), and Nominal Pipe or Tube Size (Inches). Rows include 141-200, 105-140, and 40-60 temperature ranges.

- 3. AS PER NYS ENERGY CONSERVATION CODE 2020 SECTION C404.7, DEMAND RECIRCULATION WATER SYSTEM 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.

PLUMBING FIXTURE SCHEDULE

Table with columns: Tag, Fixture, Cold Water, Hot Water, Waste, Trap, Vent, Water Consumption, and Fixture. Lists fixtures such as Floor Sink, Floor Drain, Carbonated Beverage Backflow Preventer, etc., with their respective specifications and flow rates.

FIXTURE UNITS

Table with columns: Fixture, Qty, Waste (DFU, Total), and Water (WSFU, Total). Lists fixtures like 2-Comp Sink, Dishwasher, Hose Bibb, etc., and their corresponding fixture units.

TOTAL GPM AS PER NYS PC 2020 (IPC 2018) TABLE E103.3(3) 24.9 GPM
PER FIGURE E103.3(3) 1-1/2" DOMESTIC WATER LINE SIZED @ 8 PSI PER 100 FEET PRESSURE DROP CAN SUPPLY APPROX 45 GPM. A 1-1/2" SERVICE LINE WILL BE REQUIRED TO CONNECT TO EXISTING 1-1/2" WATER LINE IN SPACE.

EQUIPMENT RESPONSIBILITY

Table with columns: Tag, Item, Provided By, and Installed By. Lists equipment items like Water Closet, Lavatory Sink, Hand Sink, etc., and identifies the responsible party (PC, OWNER, OWNER).

NOTES: VERIFY W/ ARCHITECTURAL DWGS. PC = PLUMBING CONTRACTOR(E) = EXISTING TO REMAIN AS IS. OWNER = GENERAL CONTRACTOR. LL = LANDLORD. OWNER = DAVE'S HOT CHICKEN.

PLUMBING FIXTURE NOTES

- 1. TWO COMPARTMENT SINK, SODA DISPENSER, AND ICE MACHINE. SHAKE MACHINE SHALL BE INDIRECTLY PLUMBED TO A FLOOR SINK WITH A MIN. 1.5 DIAMETER AIR GAP.
2. THREE COMPARTMENT SINK SHALL DRAIN INDIRECTLY TO THE SEWER SYSTEM. A FLOOR SINK SHALL BE PROVIDED UNDER THE FIXTURE.
3. HAND SINKS SHALL DRAIN DIRECT TO THE SEWER SYSTEM.
4. WHEREVER THE SPECIFICATION "ADA COMPLIANT" APPEARS IT SHALL MEAN THE PRODUCT SHALL BE COMPLIANT WITH ACCESSIBILITY STANDARDS.

GAS LOAD SCHEDULE

Table with columns: Mark, Description, and Gas MBH. Lists gas-consuming fixtures like Gas Fryer, Water Heater, and Roof Top Units with their gas load ratings.

HOT WATER SIZING

Table with columns: Pipe Size, GPM, and various flow rate values for hot water piping.

BASED ON PRESSURE LOSS 8.0 PSI PER 100 FT.

MAXIMUM VELOCITY = 5.0 FPS

COLD WATER SIZING

Table with columns: Pipe Size, GPM, and various flow rate values for cold water piping.

BASED ON PRESSURE LOSS 8.0 PSI PER 100 FT.

MAXIMUM VELOCITY = 8.0 FPS

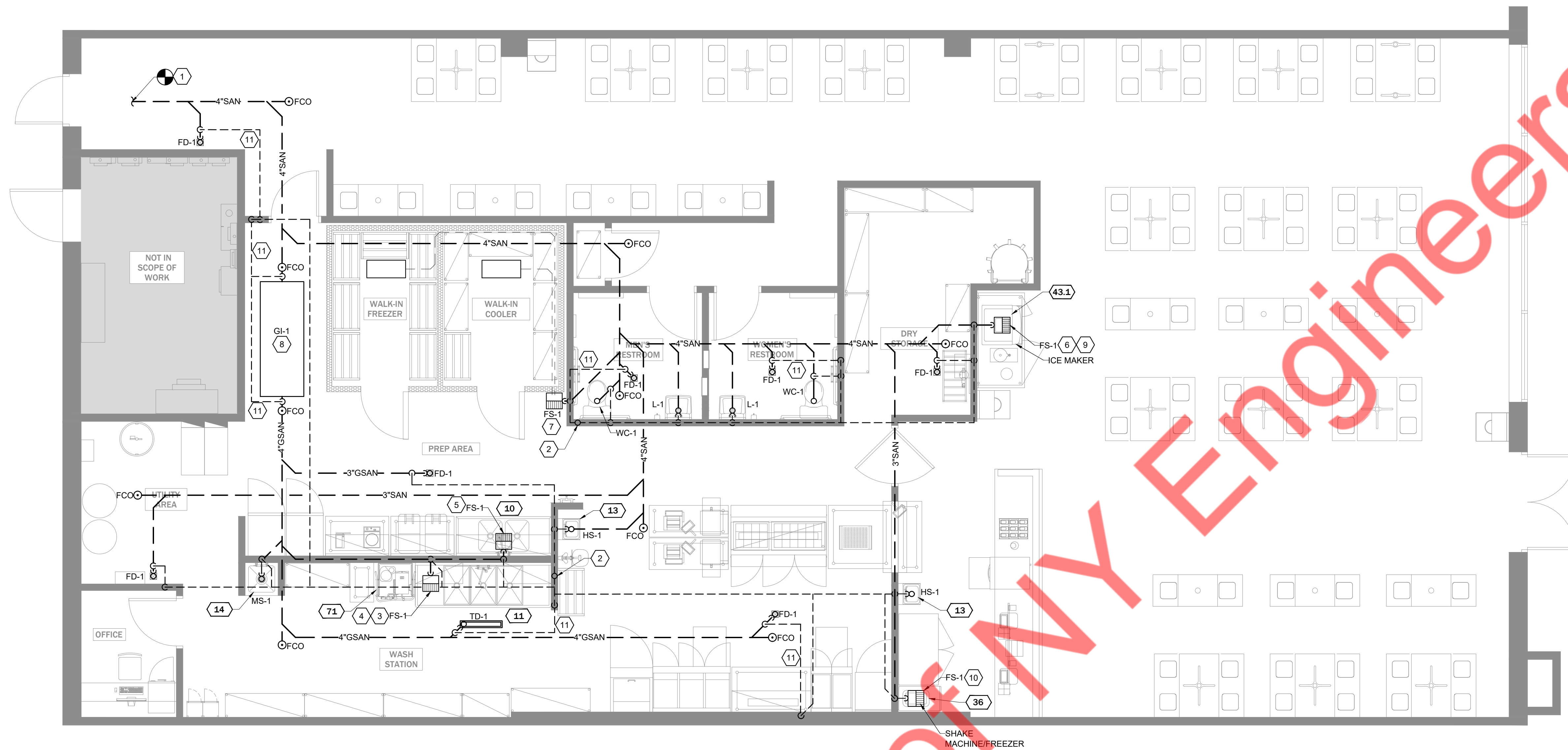
BACK FLOW PREVENTER ASSEMBLY REQUIREMENTS

Table with columns: Tag, Type of Equipment on System, Method of Cross Connection Control, Manufacture and Model Number, and Remarks. Details requirements for various backflow preventers.

- 1. CONTRACTOR SHALL PROVIDE INDIVIDUAL BACKFLOW PREVENTERS FOR EACH PIECE OF EQUIPMENT.
2. EACH BACKFLOW PREVENTER MUST HAVE TESTING PORTS.
3. BRONZE BODIED BACKFLOW PREVENTERS ARE PERMISSIBLE IF ALLOWED BY LOCAL CODES.

GREASE INTERCEPTOR SIZING CALCULATION

Table with columns: Fixture, Quantity, Dimensions (Length, Depth, Volume), and Usage (Percentage, Gallons, Flow Rate). Calculates the required grease trap capacity based on fixture load.



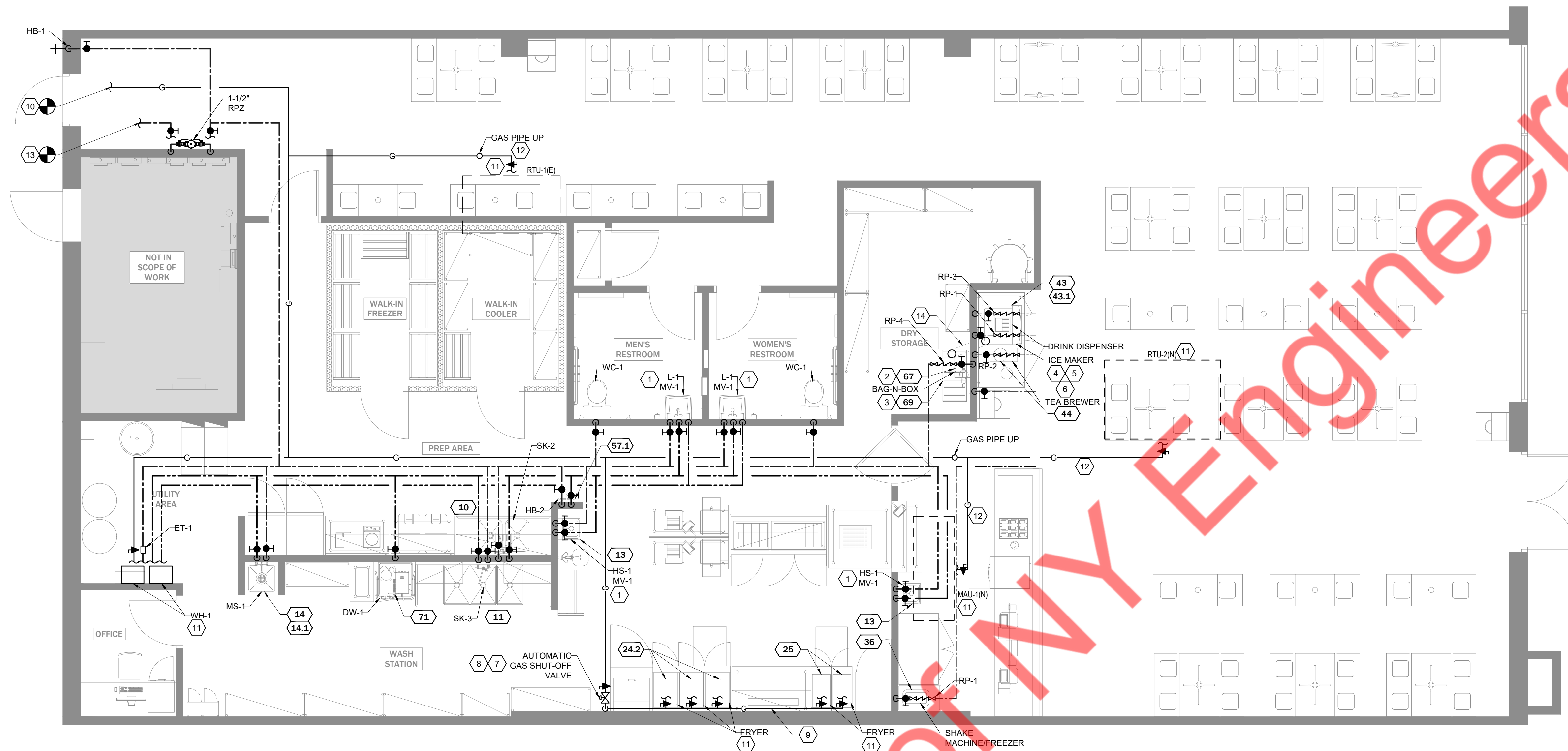
1 PLUMBING FLOOR PLAN WASTE & VENT-FIRST FLOOR
1/4"=1'-0"

WASTE & VENT PLAN KEYED NOTES: (#)

1. CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING SANITARY PIPE. CONTRACTOR TO FIELD VERIFY EXACT SIZE, INVERT AND LOCATION PRIOR TO INSTALLATION.
2. NEW 4" VTR. CONTRACTOR TO MAINTAIN 10 FEET DISTANCE FROM OUTSIDE AIR INTAKE.
3. ROUTE INDIRECT WASTE FROM 3-COMP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
4. DISHWASHER: PROVIDE 2" WASTE FROM DISHWASHER TO FLOOR SINK. ROUTE WASTE LINE TIGHT TO WALL AND TERMINATE WITH AIR GAP 1.5 TIMES DIAMETER.
5. ROUTE INDIRECT WASTE FROM 2-COMP SINK TO FLOOR SINK WITH APPROVED AIR GAP.
6. ROUTE INDIRECT WASTE FROM ICE MACHINE TO FLOOR SINK WITH APPROVED AIR GAP.
7. WALK-IN UNIT CONDENSATE: PROVIDE AND INSTALL 3/4" CONDENSATE DRAIN LINE FROM WALK-IN FREEZER/COOLER TO INDIRECT DRAIN AT APPROVED RECEPTOR. MAINTAIN 1/4" PER FT. SLOPE ON DRAIN LINE AND MIN. AIR GAP AT TERMINATION. INSULATE DRAIN FROM COOLER/FREEZER WITH 1" ELASTOMERIC INSULATION. SEAL PENETRATIONS AT COOLER/FREEZER FOR A WEATHERPROOF PROVIDE TAPE ON CONDENSATE LINE WITHIN THE FREEZER SECTION UNDERNEATH THE ELASTOMERIC INSULATION.
8. GREASE INTERCEPTOR: PROVIDE NEW GB-250 INTERIOR GREASE INTERCEPTOR. CONTRACTOR TO FIELD VERIFY EXACT CONNECTION POINTS AS REQUIRED. PLUMBING CONTRACTOR TO CONFIRM FINAL LOCATION WITH LANDLORD/ARCHITECT AS PER SITE CONDITION.
9. BACKFLOW VALVE DRAIN: PROVIDE 3/8" DRAIN LINE CARBONATED BEVERAGE BACKFLOW PREVENTER TO APPROVED RECEPTOR. PROVIDE INDIRECT CONNECTION WITH MINIMUM AIR GAP PER DETAILS 4/P-502.00.
10. ROUTE INDIRECT WASTE FROM MILKSHAKE MACHINE TO FLOOR SINK WITH APPROVED AIR GAP.
11. VENT LINE RUNNING UNDERGROUND.

WASTE & VENT PLAN NOTES:

1. CONTRACTOR SHALL INSULATE ALL INDIRECT DRAIN LINES (INCLUDING CONDENSATE FROM ALL MECHANICAL COOLING & REFRIGERATION EQUIPMENT, COLD WELLS, ICE TRAYS AND ANY FIXTURE/EQUIPMENT ITEM THAT MAY CONVEY WASTE UNDER 65°F AND/OR CAUSES CONDENSATION ON PIPING SURFACES. INSULATION SHALL BE 1/2" THICK CLOSED CELL ELASTOMERIC (RUBATEX OR EQUIV.).
2. VERIFY WITH GENERAL CONTRACTOR AND KITCHEN EQUIPMENT VENDOR FINAL LOCATION OF ALL FLOOR SINKS AND FLOOR DRAINS. LOCATE FLOOR SINKS AND FLOOR DRAINS TO AVOID LEGS OF KITCHEN EQUIPMENT.
3. REFER TO ARCHITECTURAL PLANS AND KITCHEN VENDOR DRAWINGS FOR DIMENSIONAL INFORMATION.
4. REFER ALL PIPE SIZING ON RISER SHEET.
5. EVERY DRY VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN 6 INCHES ABOVE THE FLOOR RIM LEVEL OF THE HIGHEST TRAP OR TRAPPED FIXTURE BEING VENTED.



1 PLUMBING FLOOR PLAN WATER & GAS-FIRST FLOOR
1/4"=1'-0"

DOMESTIC WATER PLAN KEY NOTES:

1. PROVIDE ASSE 1070 COMPLIANT TEMPERATURE MIXING VALVE, SET AT 110°, ON ALL HAND SINKS AND LAVATORIES.
2. 1/2" WATTS LF7 CHECK BACKFLOW PREVENTER IN SUPPLY LINE IN FILTERED WATER LINE AT THE BAG-N-BOX AND TEA BREWER PER PLAN. VENT SHALL DRAIN TO AN APPROVED WASTE RECEPTOR PER LOCAL CODE. LOCATE IN ACCESSIBLE LOCATION.
3. WATER FILTER MOUNTED ON WALL ABOVE BAG-N-BOX SYSTEM.
4. 1/2" WATTS LF009 RPZ BACKFLOW PREVENTER IN SUPPLY LINE TO ICE MACHINE, MILKSHAKE MACHINE AND ALL EQUIPMENT CONNECTING TO FILTERED WATER. LOCATE IN ACCESSIBLE LOCATION. THE VALVE SHALL DRAIN INDIRECTLY TO AN APPROVED WASTE RECEPTOR WITH AN AIR GAP OF TWICE THE DIAMETER OF THE PIPE DIAMETER OR PER LOCAL CODE.
5. ICE MAKER: PROVIDE 1/2" FW LINE DOWN TO ICE MAKER. PROVIDE #T010S FILTER WITH SCALE CONTROL.
6. WATER HAMMER ARRESTOR: PROVIDE AND INSTALL WATER HAMMER ARRESTOR (WHA) IN THIS LOCATION AND AS REQUIRED PER LOCAL CODE.
7. CONTROL & CHEMICAL BOX: ANSUL R-102 CONTROL & CHEMICAL BOX ABOVE OVEN (BY OTHERS). PULL STATION: FIRE SUPPRESSION SYSTEM PULL STATION INSTALLED BY OTHERS.
8. EMERGENCY SHUT-OFF: OVEN VENDOR PROVIDED GAS AUTOMATIC EMERGENCY SHUT-OFF VALVE CONTROLLED BY HOOD FIRE SUPPRESSION SYSTEM LOCATED IN OVEN. VERIFY LOCATION PRIOR TO INSTALLATION. COORDINATE INSTALLATION WITH ELECTRICAL AND MECHANICAL CONTRACTORS. MOUNT BELOW CEILING IN ACCESSIBLE LOCATION.
9. GAS CONNECTION: PROVIDE GAS APPLIANCE WITH QUICK DISCONNECT FROM GAS HEADER TO APPLIANCE. PROVIDE ENOUGH GAS LINE TO ACCOUNT FOR APPLIANCE STAND OFF. CONTRACTOR TO USE ONLY 1" X 48" HOSE OR 60" X 1-1/4" HOSE TO MAINTAIN ADEQUATE PRESSURE, WITH 48" BEING DEFAULT.
10. CONNECT NEW 3" GAS LINE TO NEW GAS METER. LANDLORD IS RESPONSIBLE TO PROVIDE NEW GAS METER AS PER THE NEW DEMAND. CONTRACTOR TO VERIFY THE FINAL LOCATION WITH LANDLORD.
11. PROVIDE GAS SHUT-OFF VALVE, DIRTEG AND UNION TO GAS FIRED EQUIPMENT RTU-1(E), RTU-2(N), MAU-1(N), WH-1 AND FRYERS.
12. GAS PIPING RUNNING ON ROOF, SHOWN ON PLAN FOR REFERENCE.
13. CONNECT NEW 1-1/2" DOMESTIC WATER PIPE TO EXISTING 1-1/2" WATER LINE WITH EXISTING WATER SUB-METER. PROVIDE NEW BACKFLOW PREVENTER AS SHOWN ON PLAN. CONTRACTOR TO FIELD VERIFY THE LOCATION AND SIZE OF EXISTING WATER PIPING.
14. SODA LINE CONDUIT: PROVIDE AND INSTALL 6"O SCHEDULE 80 PVC CONDUIT UNDER SLAB FOR SODA LINES (BY OTHERS) FROM BEVERAGE ISLAND TO BAG-N-BOX/CARBONATOR. VERIFY WITH KITCHEN EQUIPMENT VENDOR.

DOMESTIC WATER PIPING PLAN NOTES:

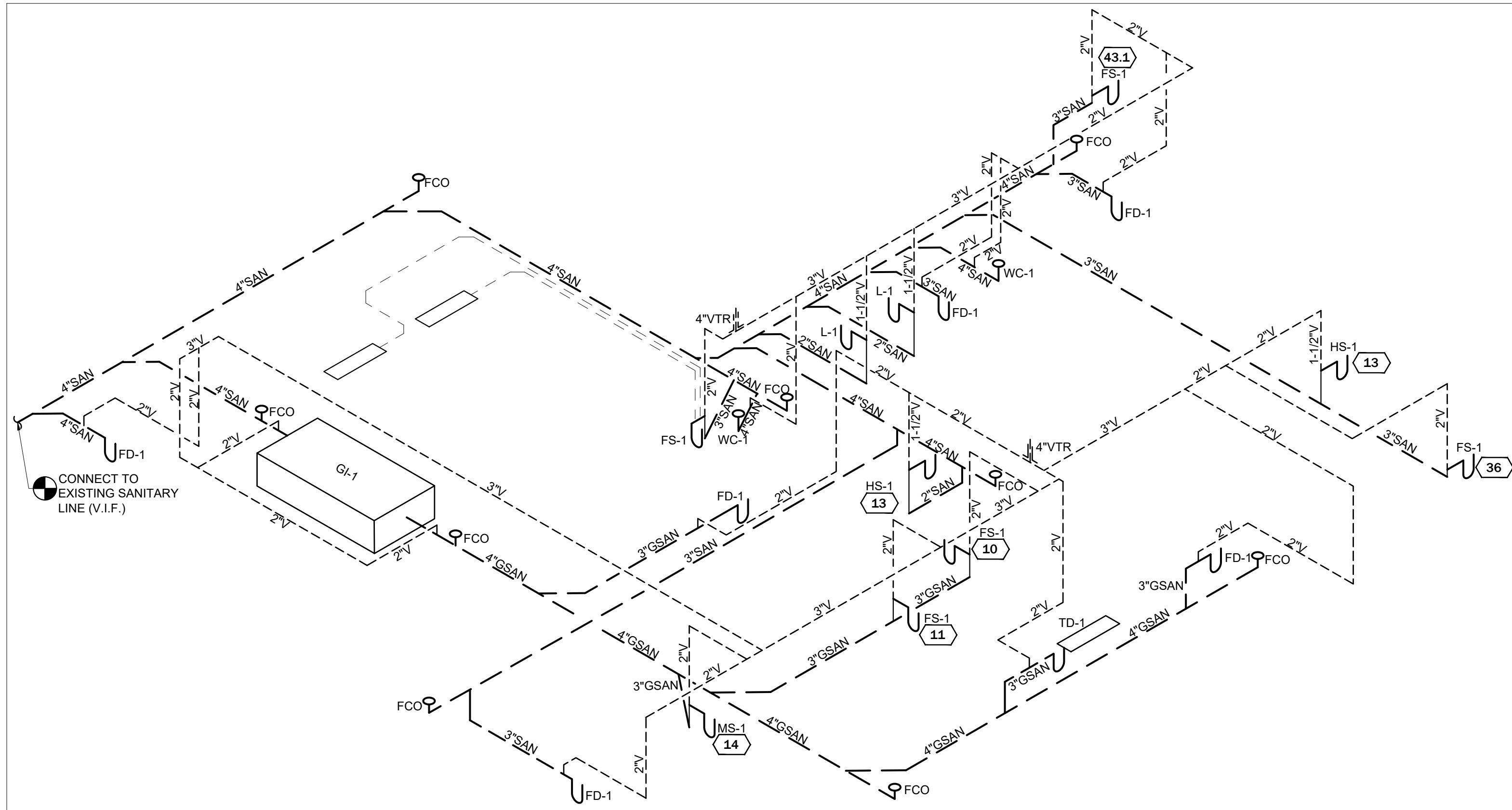
1. COORDINATE ROOF PENETRATIONS WITH THE LANDLORD'S ROOFING CONTRACTOR (IF REQUIRED). PROVIDE AND PAY FOR ANY REQUIRED ROOFING BY LANDLORD'S ROOFING CONTRACTOR.
2. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE BUILDING STRUCTURE OR BUILDING UTILITIES CAUSED AS RESULT OF THE CONTRACTOR'S WORK UNDER THIS CONTRACT. IT IS RECOMMENDED THAT MASONRY/CONCRETE FLOORS/WALLS/ROOF BE X-RAYED PRIOR TO ANY PENETRATIONS.
3. REFER TO ARCHITECTURAL PLANS AND KITCHEN VENDOR DRAWINGS FOR DIMENSIONAL INFORMATION.
4. PROVIDE TRAP PRIMER/ SEAL ON FLOOR DRAIN AS PER LOCAL JURISDICTION.
5. REFER ALL PIPE SIZING ON RISER SHEET.

GAS PIPING INSTALLATION NOTES:

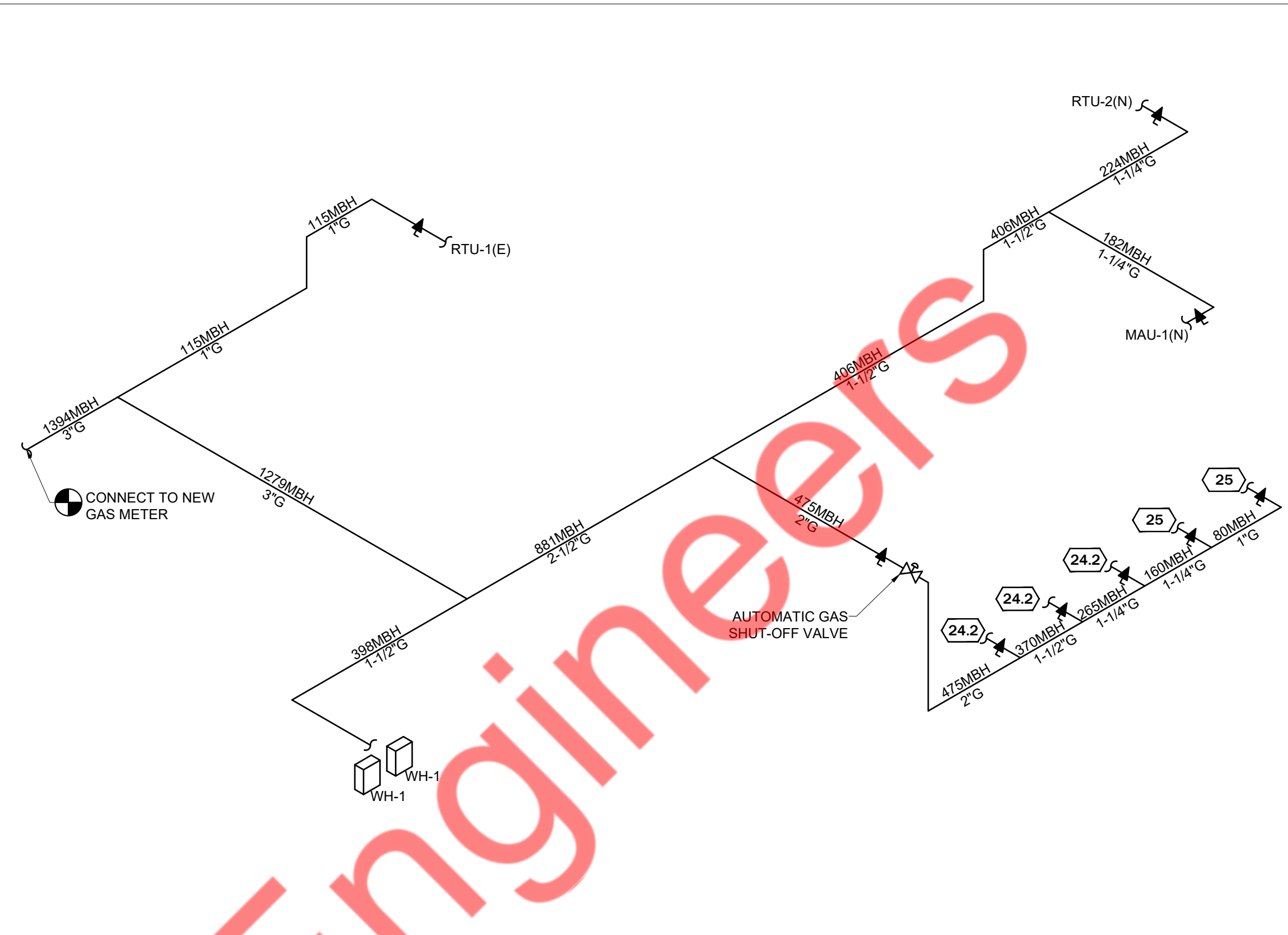
1. GAS SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH STATE AND LOCAL CODES. SUBMIT SHOP DRAWINGS TO ENGINEER SHOWING FINAL ROUTING, MATERIALS, SHUT-OFFS, DETAILS, LINE SIZES FOR A COMPLETE GAS SERVICE TO THIS PROJECT.
2. THE GAS SYSTEM HAS BEEN DESIGNED USING THE LONGEST LINE METHOD WITH THE FOLLOWING CRITERIA:
1,000 BUT/HR = 1 MBH = 1 CFH
SPECIFIC GRAVITY: 0.60
INLET PRESSURE: LESS THAN 2 PSI
PRESSURE DROP: 0.5 IN. W.C.
PIPE SIZING PER TABLE 402.4(2) NYS FUEL GAS CODE 2020 (IFGC 2018)
3. THIS PROJECT REQUIRES 1,394 MBH OF GAS CAPACITY AT 200 FT. T.D.L. CONTRACTOR SHALL VERIFY EXACT GAS REQUIREMENT WITH TENANT PRIOR TO CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE BUILDING STRUCTURE OR BUILDING UTILITIES CAUSED AS RESULT OF THE CONTRACTOR'S WORK UNDER THIS CONTRACT. IT IS RECOMMENDED THAT MASONRY/CONCRETE FLOORS/WALLS/ROOF BE X-RAYED PRIOR TO ANY PENETRATIONS.
5. COORDINATE ROOF PENETRATIONS WITH THE LANDLORD'S ROOFING CONTRACTOR (IF REQUIRED). PROVIDE AND PAY FOR ANY REQUIRED ROOFING BY LANDLORD'S ROOFING CONTRACTOR.
6. VERIFY ALL GAS CONNECTIONS WITH MANUFACTURER'S INSTRUCTIONS PRIOR TO CONSTRUCTION. PROVIDE CABLE RESTRAINTS FOR ALL GAS FIRED EQUIPMENT ON MOVABLE EQUIPMENT

1,394 TOTAL MBH
200' TOTAL DISTANCE AT 7"
WC WITH A PRESSURE DROP
OF 0.5" WC
SIZED ACCORDING TO TABLE 402.4(2) NYS
FUEL GAS CODE 2020 (IFGC 2018)

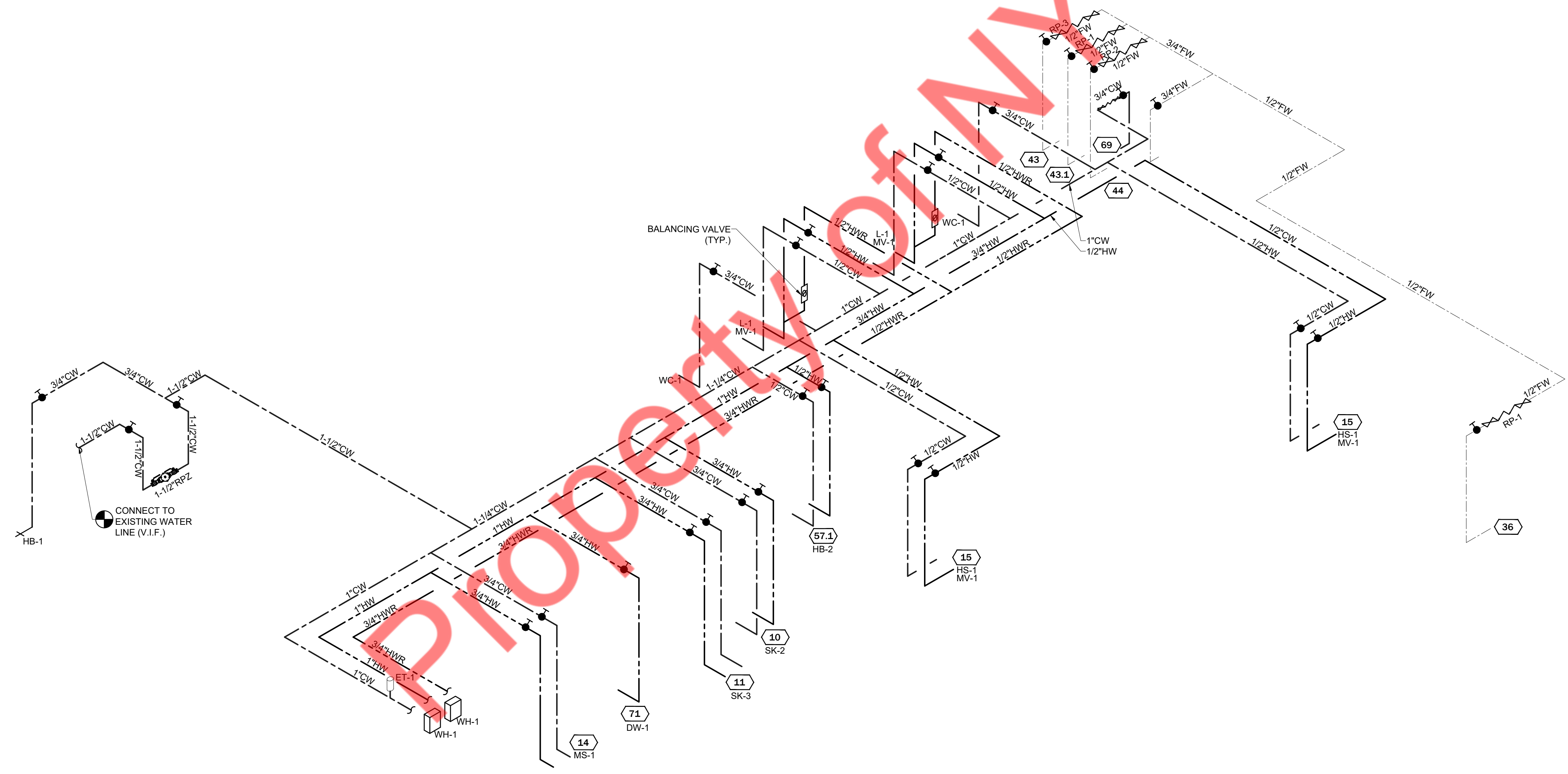
THIS CONTRACTOR IS RESPONSIBLE
FOR VERIFYING ACTUAL DISTANCE
FROM METER TO GAS APPLIANCES AND
TO RESIZE GAS LINES AS REQUIRED.



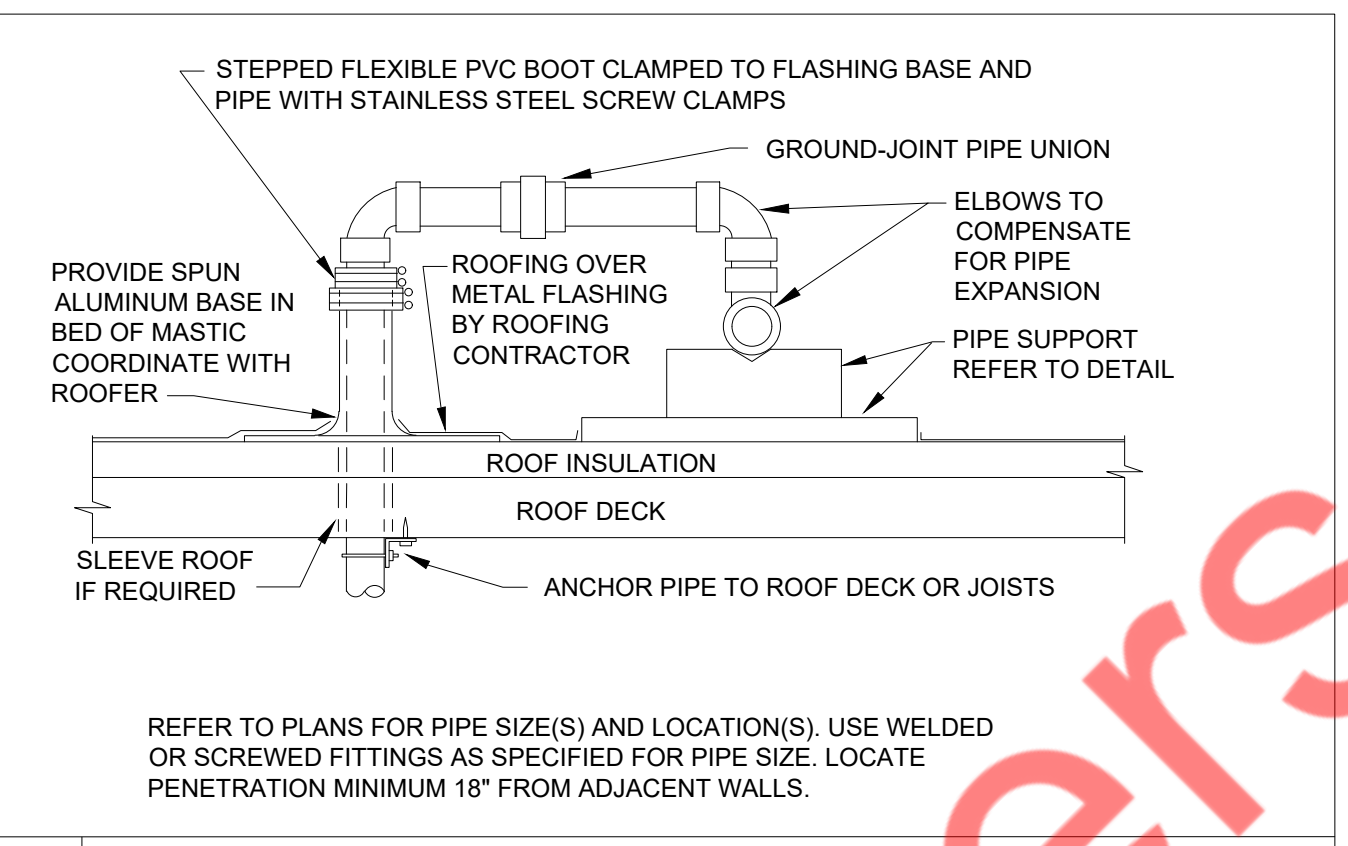
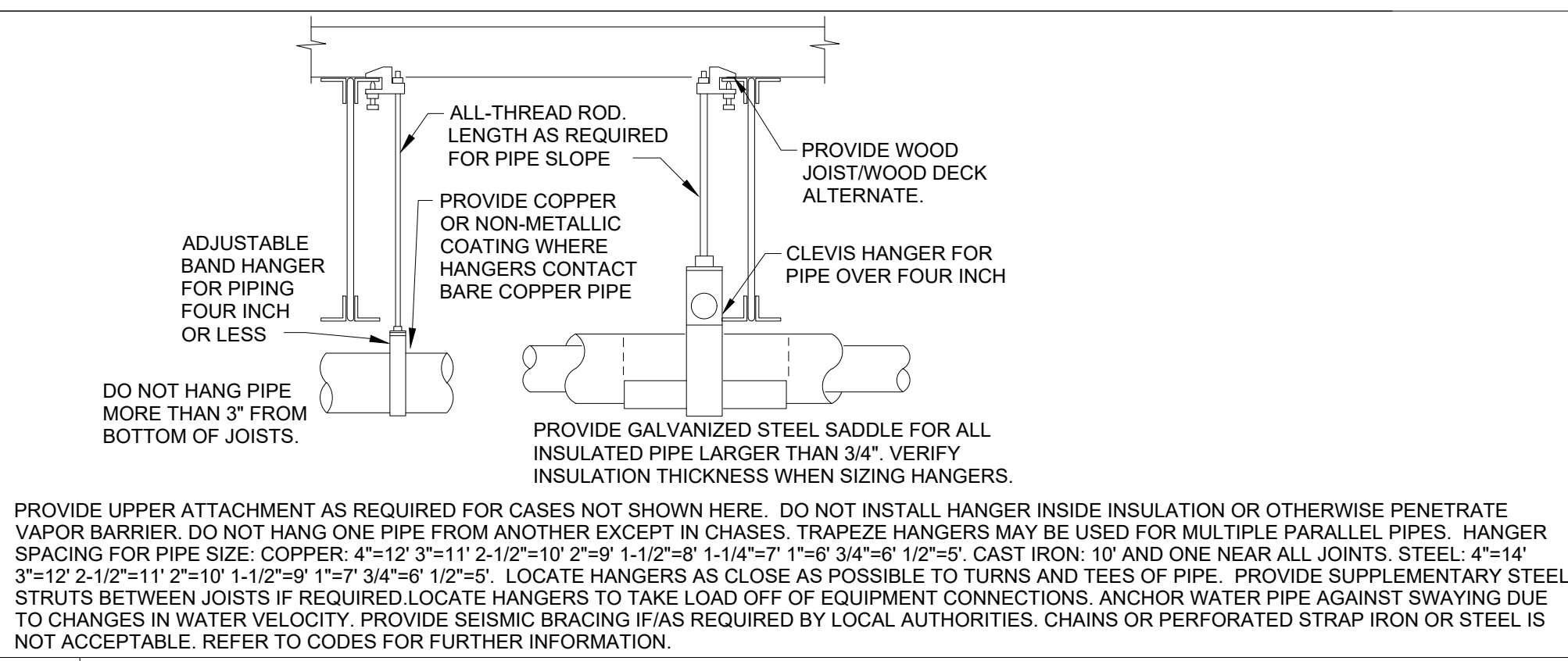
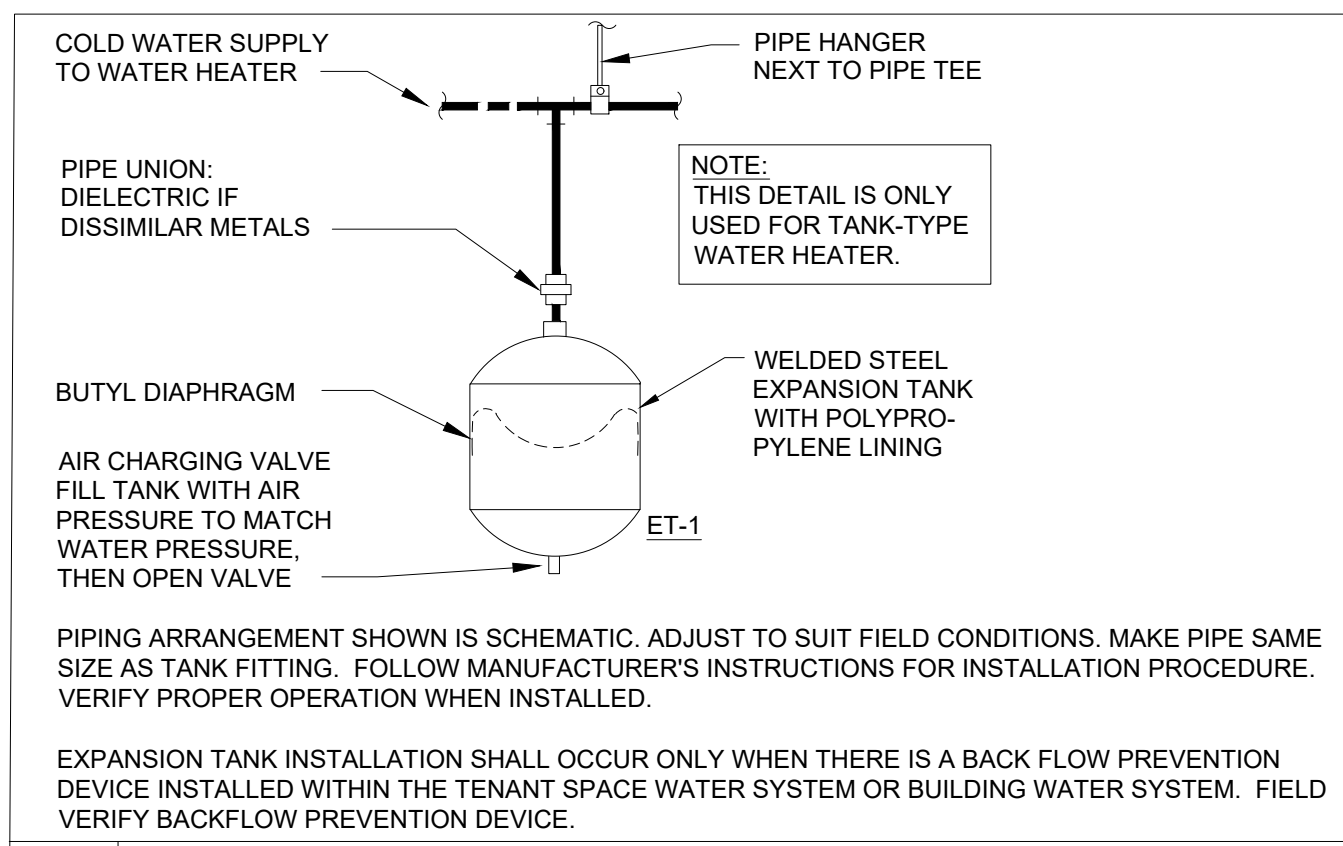
2 WASTE & VENT ISOMETRIC
SCALE: NONE



3 GAS ISOMETRIC
SCALE: NONE



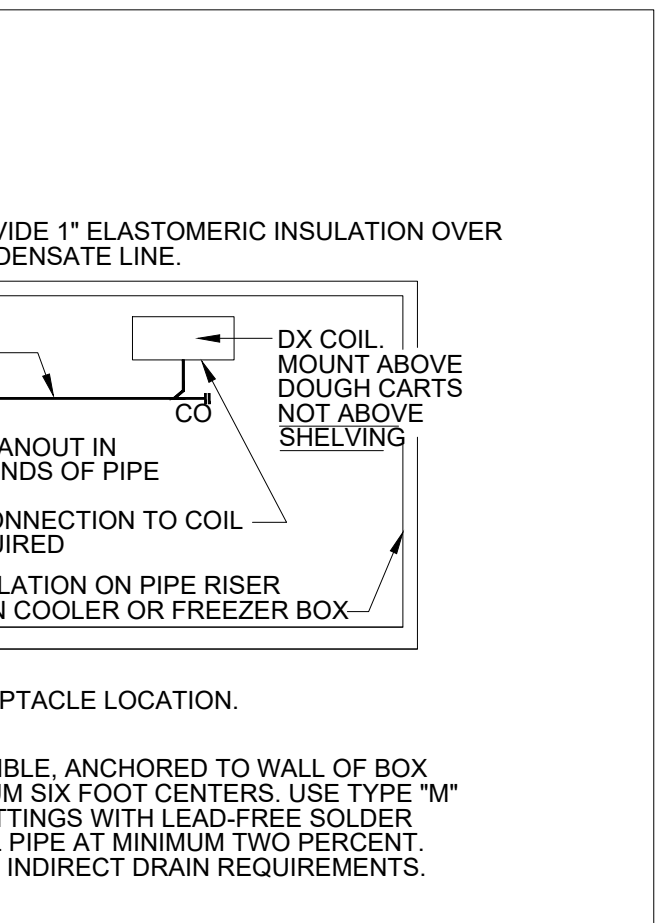
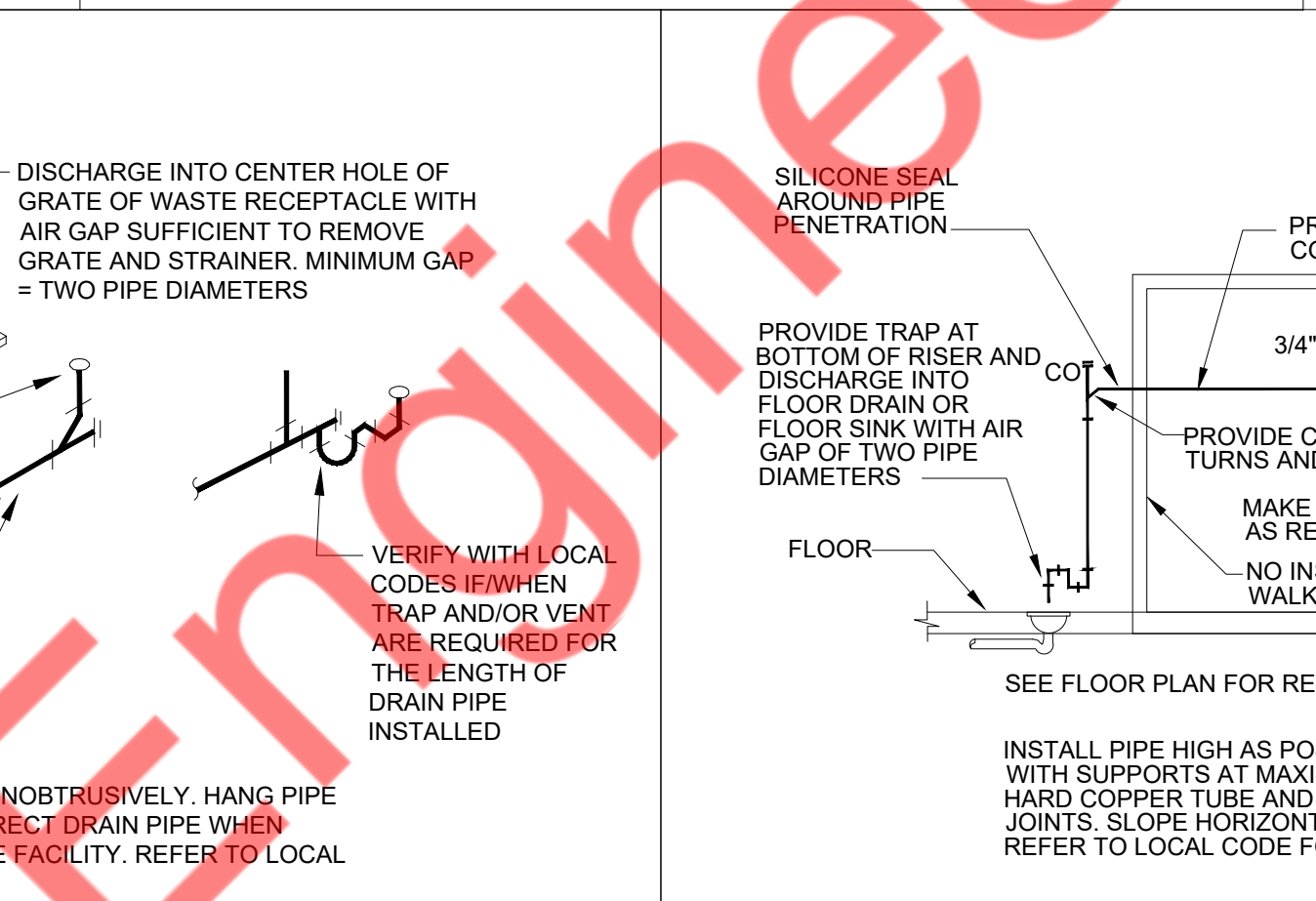
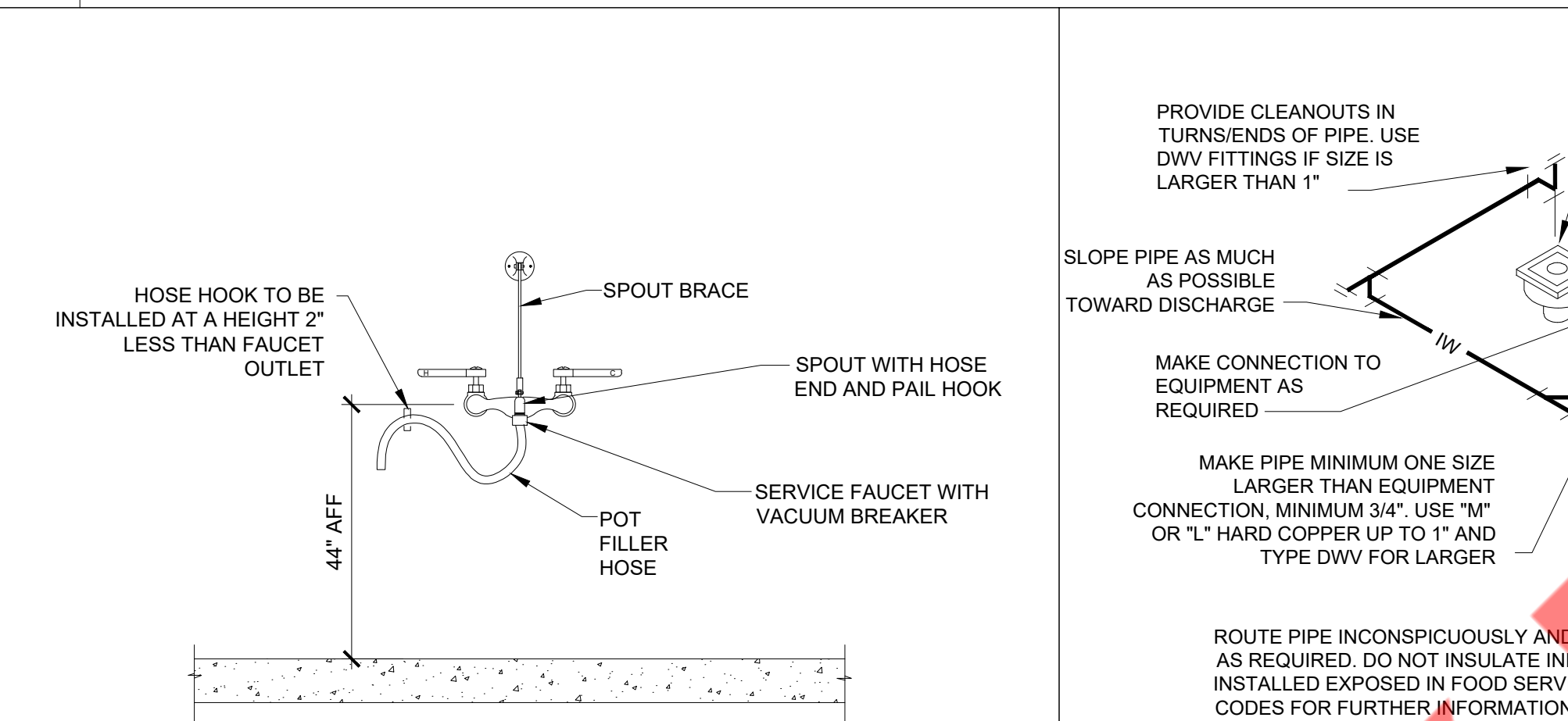
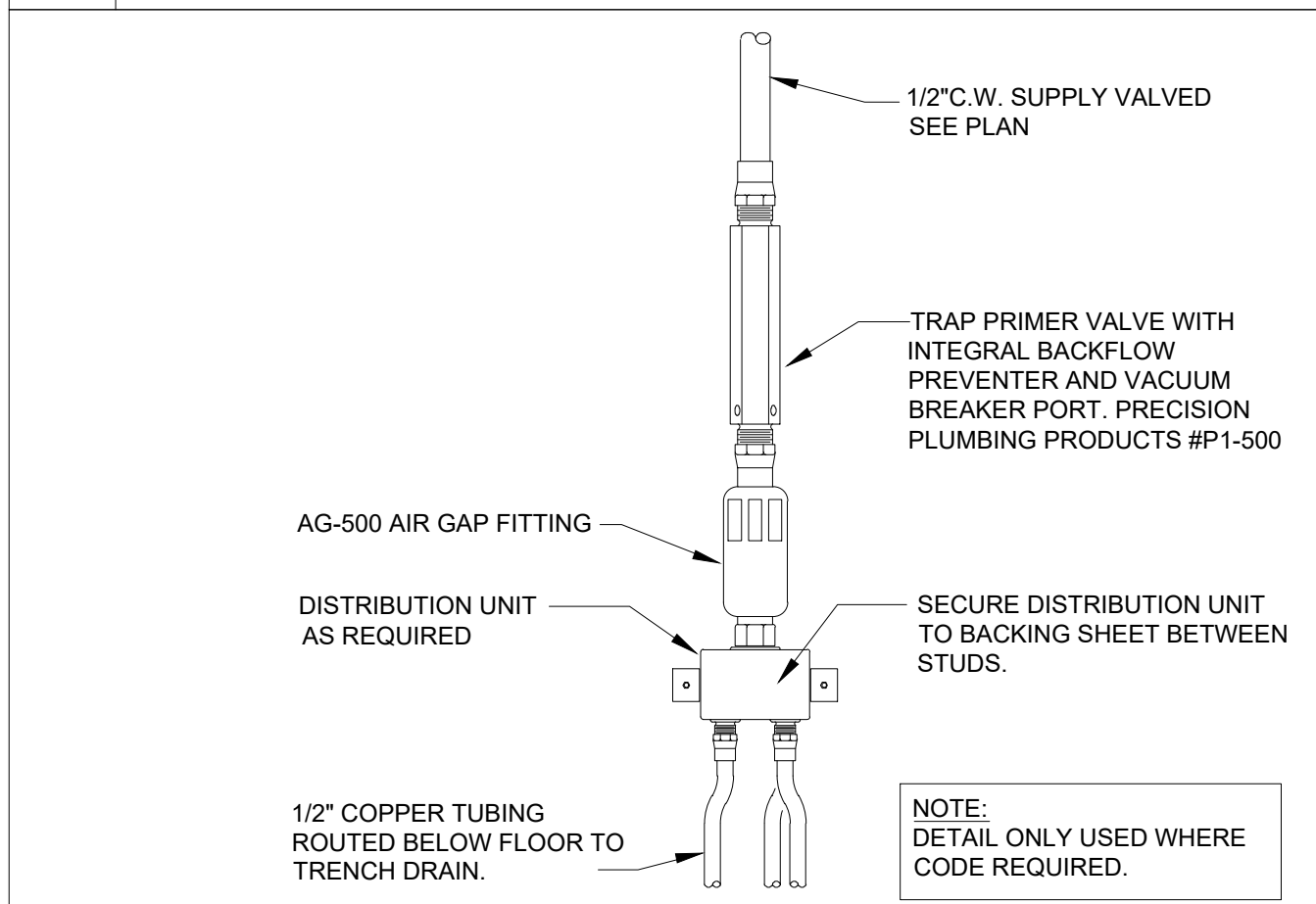
1 DOMESTIC WATER ISOMETRIC
SCALE: NONE



12 EXPANSION TANK NOT TO SCALE

13 PIPE HANGAR NOT TO SCALE

14 ROOF PENETRATION NOT TO SCALE

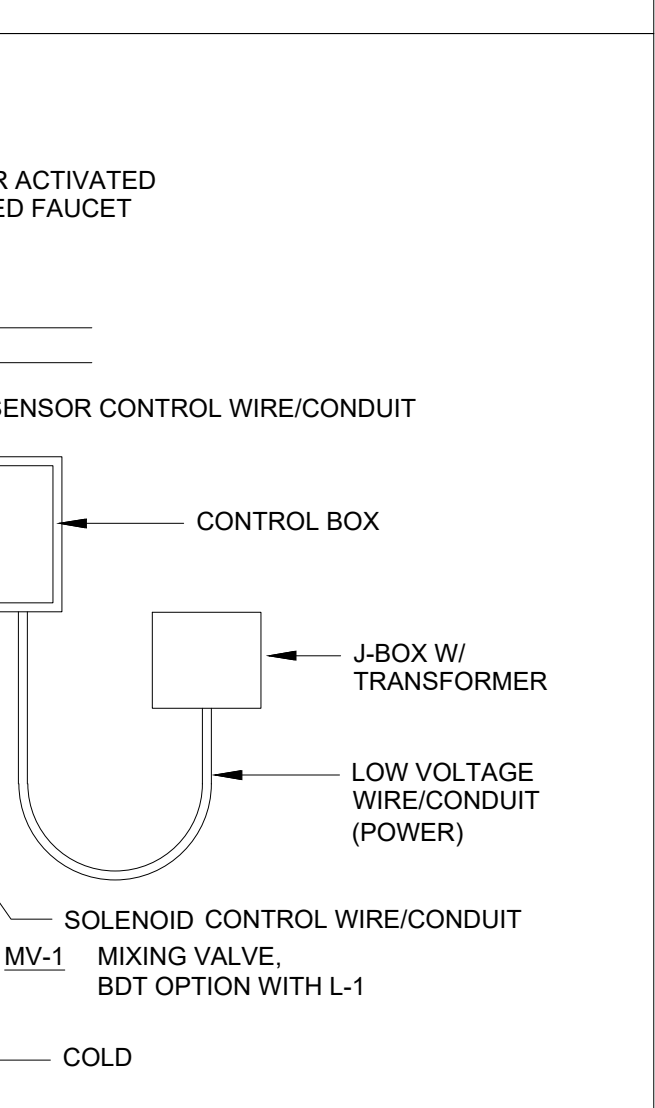
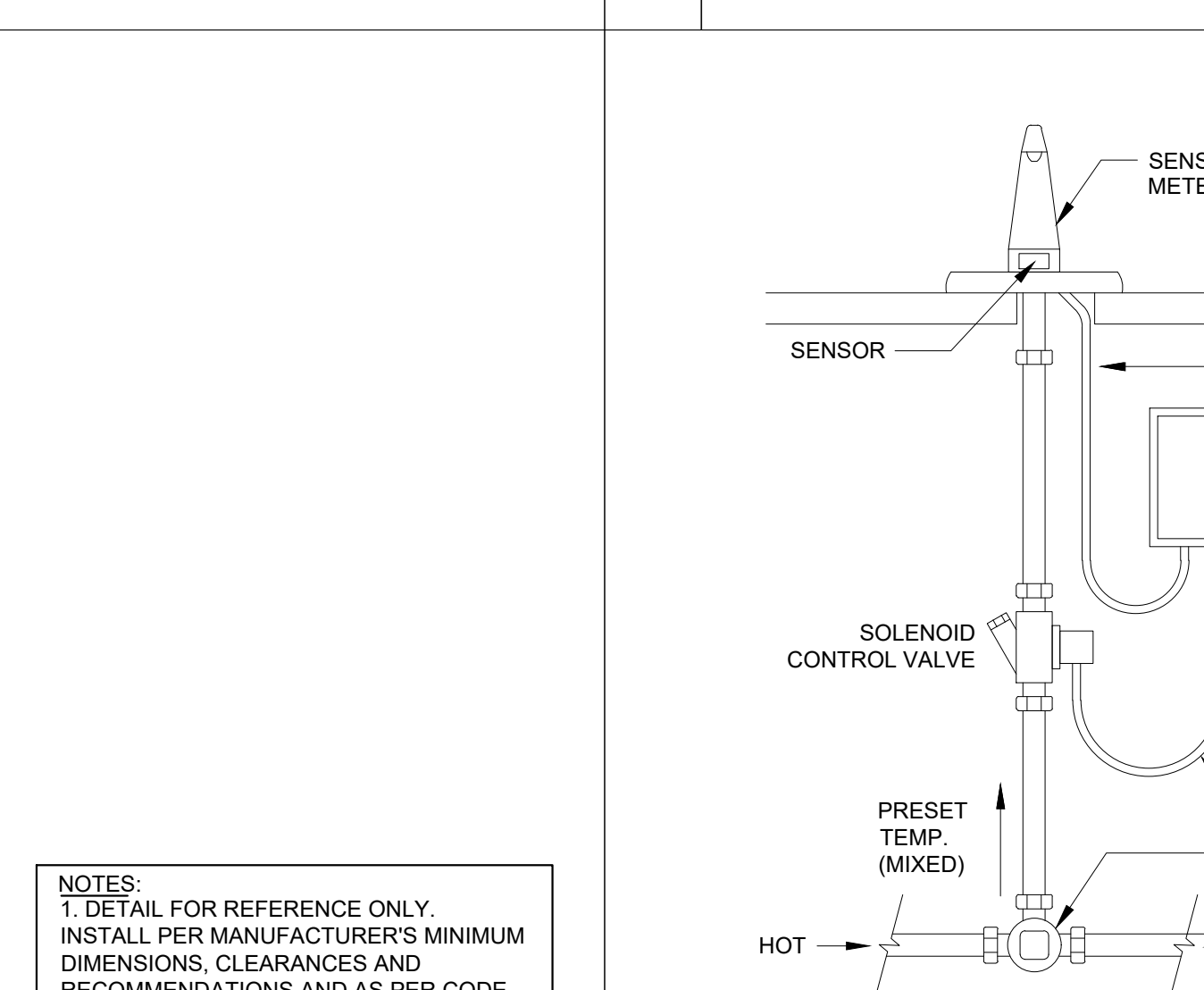
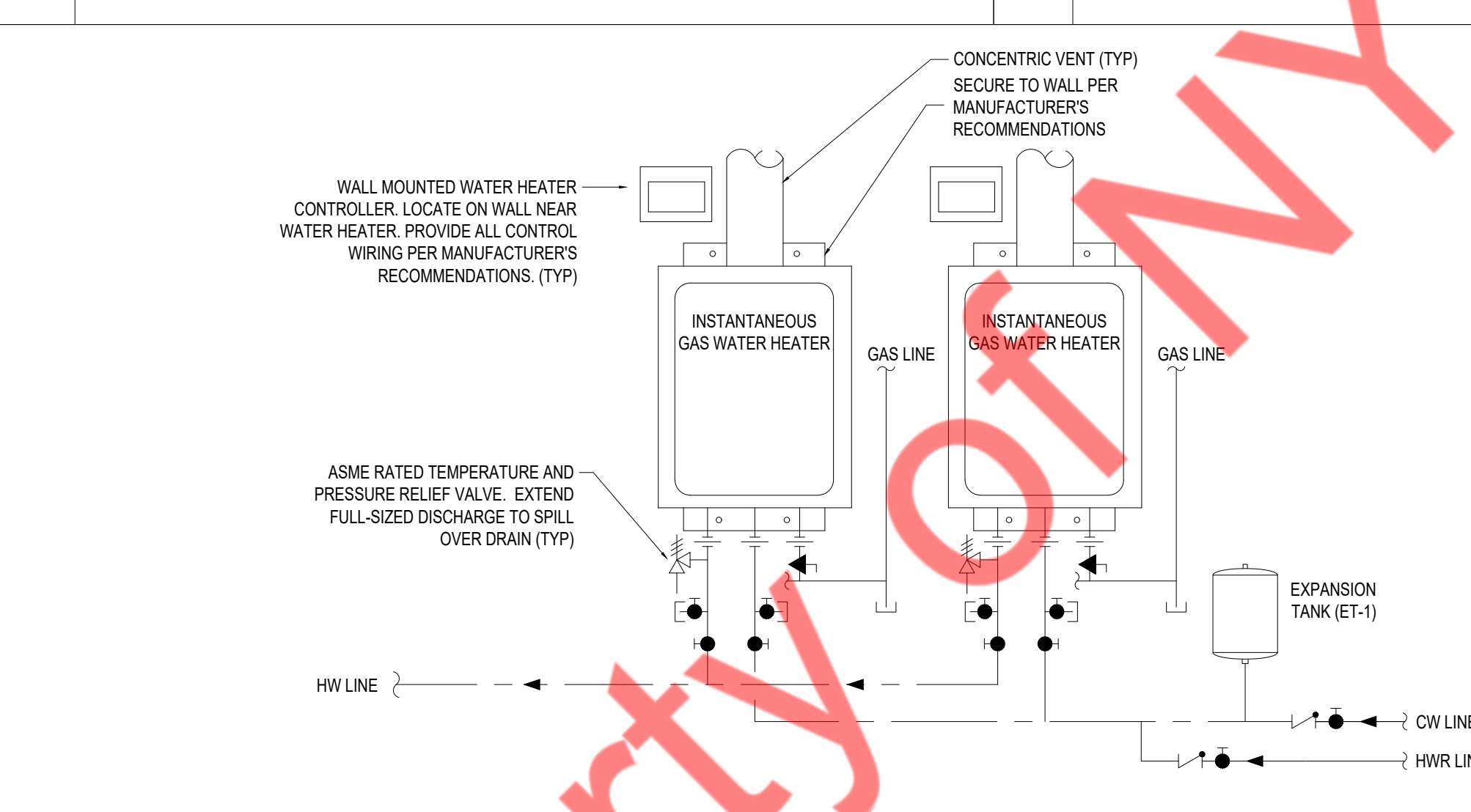
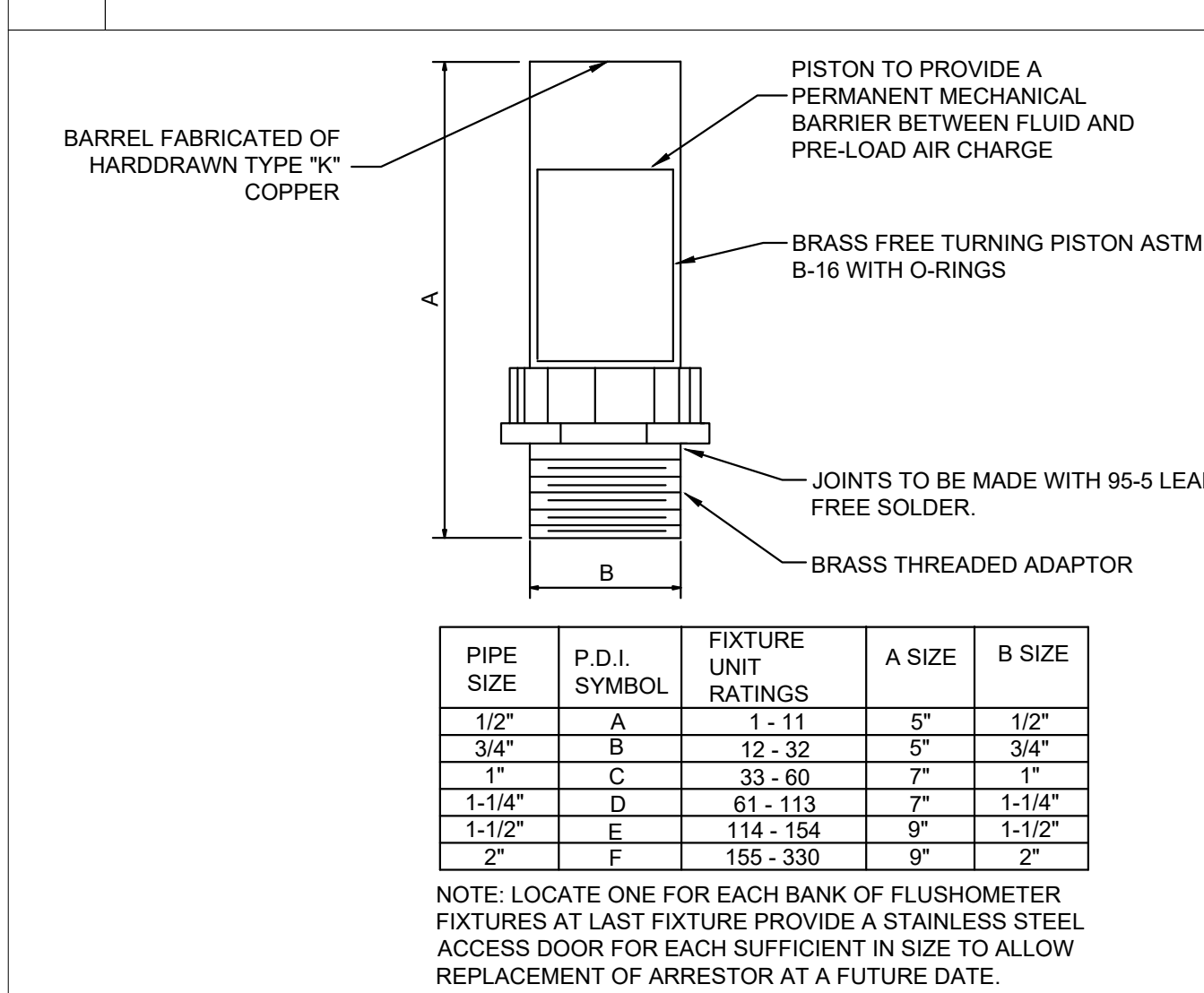


8 TRAP PRIMER NOT TO SCALE

9 POT FILLER FAUCET NOT TO SCALE

10 INDIRECT DRAIN NOT TO SCALE

11 WALK IN CONDENSATE NOT TO SCALE

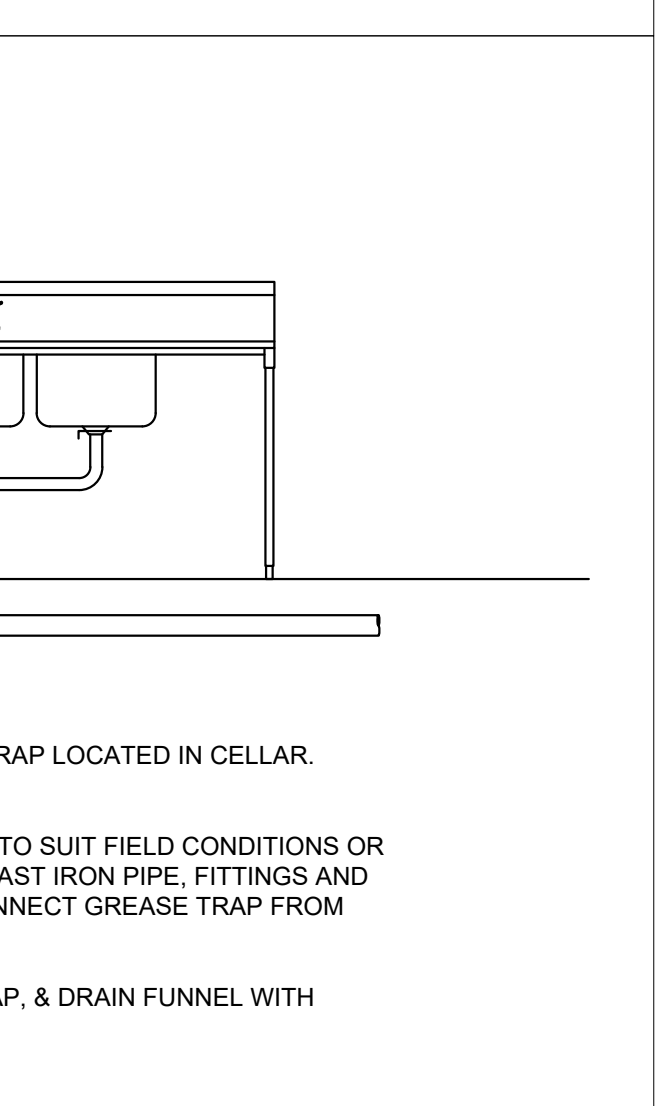
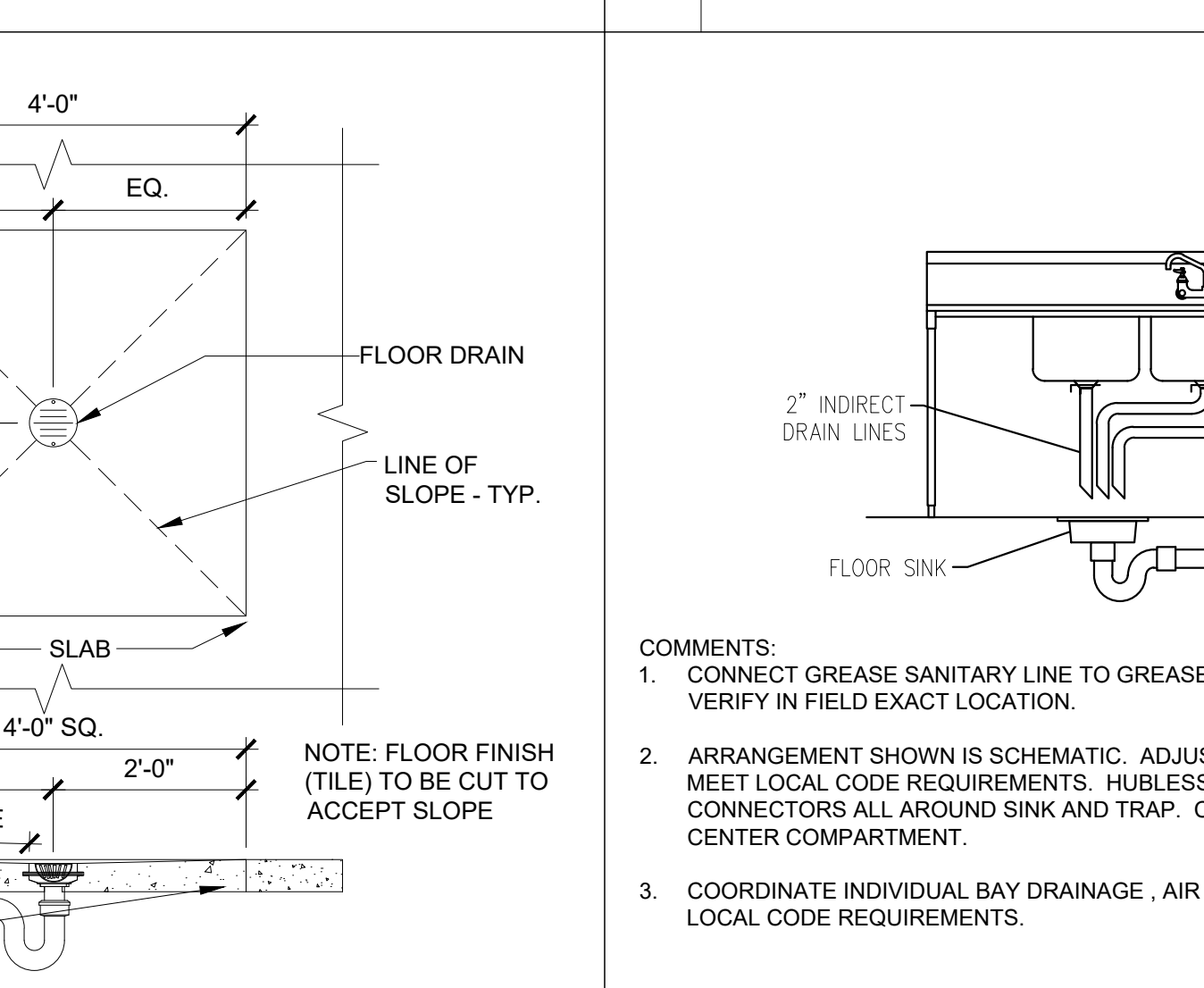
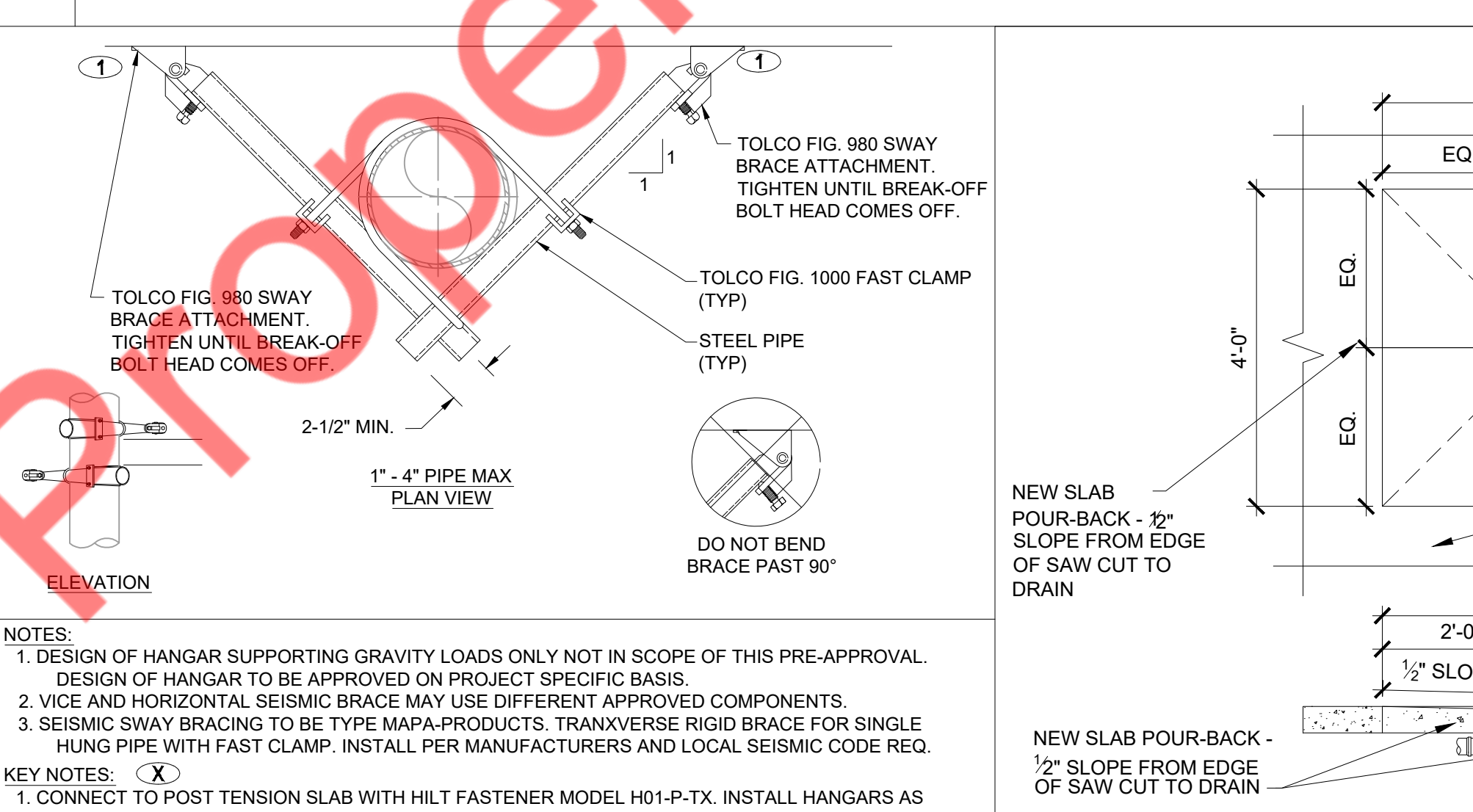
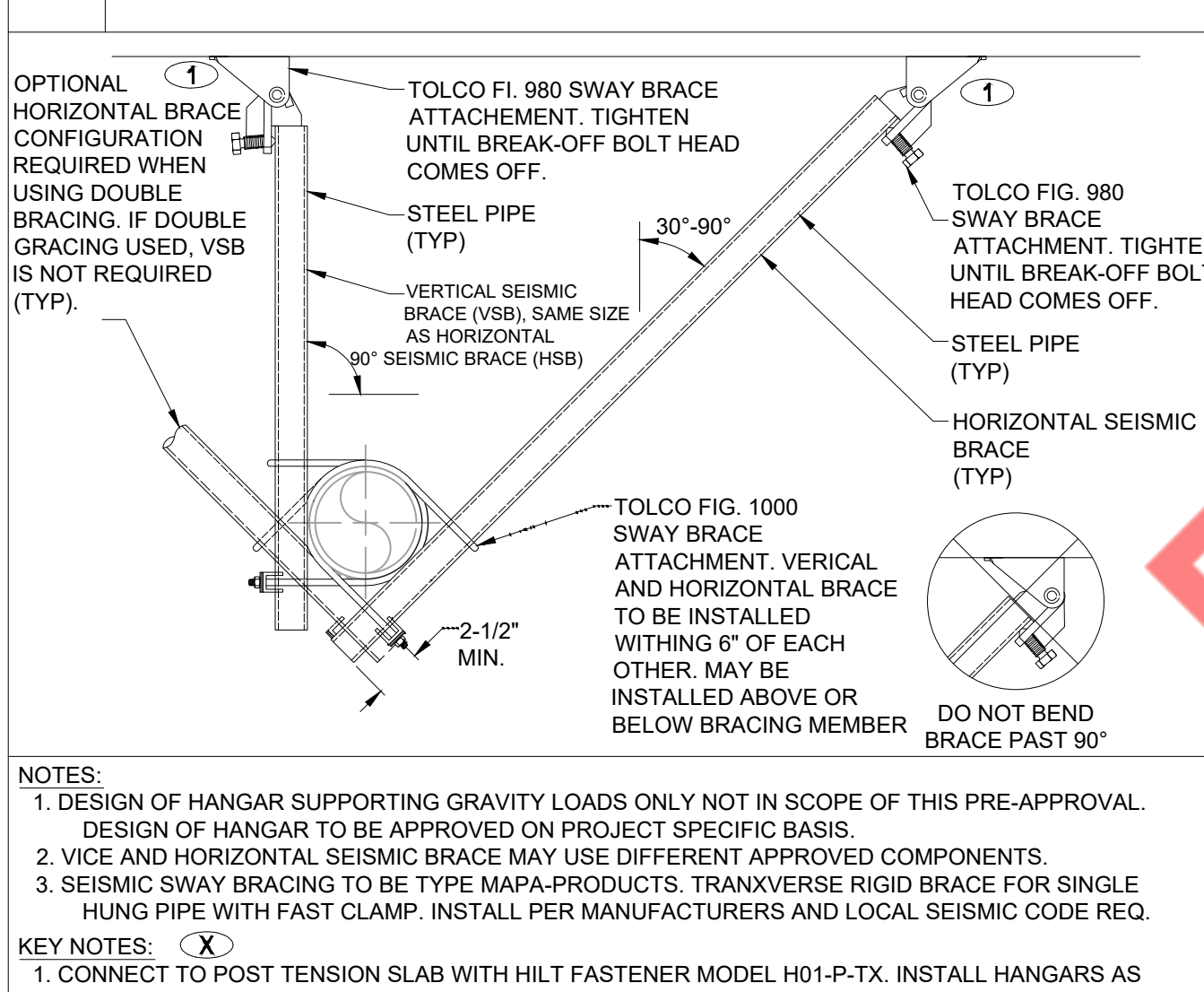


5 WATER HAMMER ARRESTOR

6 WATER HEATER NOT TO SCALE

7 ANTI-SCALD MIXING VALVE NOT TO SCALE

3 COMPARTMENT SINK DETAILS NOT TO SCALE



1 SEISMIC SWAY BRACING DETAIL NOT TO SCALE

2 SEISMIC SWAY BRACING DETAIL NOT TO SCALE

3 FLOOR DRAIN DETAIL NOT TO SCALE

3 COMPARTMENT SINK DETAILS NOT TO SCALE