

NEW JERSEY BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF INTERNATIONAL BUILDING CODE 2021 WITH AMENDMENTS OF BUILDING CODE 2021 OF NEW JERSEY AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.

- THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.
- TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS. THE TESTS WILL SHOW COMPLIANCE WITH BUILDING CODE REQUIREMENTS AS OUTLINES IN SECTION [BC 1704].
- THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
- TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2021 INTERNATIONAL MECHANICAL CODE WITH AMENDMENTS (MECHANICAL CODE 2021 OF NEW JERSEY):
 - VENTILATION SYSTEM MC 403.3
 - VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES – MC 507.6
 - REFRIGERATION SYSTEMS – MC 1110
 - GREASE DUCT TEST, 506.3.2.5
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - STANDARDS OF HEATING
 - NOISE CONTROL CODE
 - DUCT CONSTRUCTION AND INSTALLATION– MC 603
 - AIR INTAKES, EXHAUSTS AND RELIEFS – MC 401.5
 - AIR FILTERS – MC 605
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG.FAHRENHEIT.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH MC 401.
- A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY IMC 2021 (MECHANICAL CODE 2021 OF NEW JERSEY), SECTION 403.3.
- THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- SMOKE DETECTOR SHALL MEET UL268A.
- ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.
- THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
- MECHANICAL SYSTEMS SHALL BE COMMISSIONED PER ASHRAE 90.1 (2019). FINAL COMMISSIONING REPORT SHALL BE DUE WITHIN 90 DAYS OF RECEIPT OF CERTIFICATE OF OCCUPANCY.
- A PRELIMINARY REPORT OF COMMISSIONING TEST PROCEDURES AND RESULTS SHALL BE COMPLETED AND CERTIFIED BY THE LICENSED DESIGN PROFESSIONAL, ELECTRICAL ENGINEER, MECHANICAL ENGINEER OR APPROVED AGENCY AND PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT AS PER ASHRAE 90.1 (2019)
- SMOKE DETECTION SYSTEMS SHALL BE INSTALLED AND SEQUENCED TO FOLLOW CONTROLS OPERATIONS WITH THE REQUIREMENTS OF SECTION MC 606 TO CLOSE DAMPERS AND AUTOMATICALLY STOP THE FAN.
- COMMISSIONING PLAN SHALL BE DEVELOPED BY A LICENSED DESIGN PROFESSIONAL, MECHANICAL ENGINEER OR APPROVED AGENCY.
- COMMISSIONING SHALL BE PERFORMED AS STATED IN SECTIONS 5.9.2, 6.9.2, 7.9.2, 8.9.2, 9.9.2, 10.9.2, 11.2(D), AND G1.2.1(C). COMMISSIONING MUST UTILIZE ASHRAE/IES STANDARD 202 OR OTHER GENERALLY ACCEPTED ENGINEERING STANDARDS ACCEPTABLE TO THE BUILDING OFFICIAL. FPT AND VERIFICATION REQUIREMENTS FOR COMMISSIONING ARE AS STATED IN SECTION 4.2.5.1. COMMISSIONING SHALL DOCUMENT COMPLIANCE OF THE BUILDING SYSTEMS, CONTROLS, AND BUILDING ENVELOPE WITH REQUIRED PROVISIONS OF THIS STANDARD. COMMISSIONING REQUIREMENTS SHALL BE INCORPORATED INTO THE CONSTRUCTION DOCUMENTS.

NOTE FOR CONTRACTOR

- THE WORK UNDER CONTRACT INCLUDES ALL LABOR, MATERIALS AND APPLIANCES NECESSARY FOR THE FURNISHING, INSTALLING AND TESTING, COMPLETE AND READY FOR SAFE OPERATION OF THE SYSTEMS AS DESCRIBED IN THE SPECIFICATIONS, FLOOR PLAN(S) DESIGN, DETAIL DRAWINGS, NOTES, RFT'S, ETC. FOR THIS PROJECT. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.
- THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE DEPARTMENT HAVING JURISDICTION, OBTAIN PERMITS OR LICENSES NECESSARY TO CARRY OUT THIS WORK AND PAY ALL FEES THEREFORE. THE CONTRACTOR SHALL ARRANGE FOR INSPECTION AND TESTS OF ANY OR ALL PARTS OF THE WORK IF SO REQUIRED BY AUTHORITIES AND PAY ALL CHARGES FOR SAME. THE CONTRACTOR SHALL PAY ALL COSTS FOR, AND FURNISH TO THE OWNER BEFORE FINAL BILLING, ALL CERTIFICATES NECESSARY AS EVIDENCE THAT THE WORK INSTALLED CONFORMS WITH ALL REGULATIONS WHERE THEY APPLY TO THIS WORK.
- THE CONTRACTOR SHALL FURNISH A WRITTEN GUARANTEE TO REPLACE OR REPAIR PROMPTLY AND ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR ANY WORKMANSHIP AND EQUIPMENT IN WHICH DEFECTS DEVELOP WITHIN ONE YEAR FROM THE DATE OF FINAL CERTIFICATE FOR PAYMENT AND/OR FROM DATE OR ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. THIS WORK SHALL BE DONE AS DIRECTED BY THE OWNER. THIS GUARANTEE SHALL ALSO PROVIDE THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED IN REPAIRING AND REPLACING WORK OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REPLACEMENTS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.

SCOPE OF WORK

- SCOPE OF WORK INCLUDES SUPPLY AND INSTALLATION OF ALL HVAC WORKS AS PER DRAWINGS, SCHEDULE AND SPECIFICATION WITH ASSOCIATED DUCTING AND REFRIGERANT PIPING WORK.
- GREASE EXHAUST FAN (KXF-1) TO BE INSTALLED AT ROOF AND TO BE CONNECTED TO HOOD BY GREASE EXHAUST DUCT.
- MAKE-UP AIR UNIT (MAU-1) TO BE INSTALLED AT ROOF AND TO BE CONNECTED TO KITCHEN HOOD.
- TOILETS TO BE VENTILATED WITH EXHAUST AIR GRILLES & FANS AS PER DRAWINGS.
- KITCHEN HOOD TO BE VENTILATED BY USING MAU AND KITCHEN EXHAUST FAN.
- EXISTING ROOF TOP UNIT (RTU-1) TO BE USED TO CATER HEATING AND COOLING REQUIREMENT OF THE DINNING AREA.
- NEW ROOFTOP UNIT (RTU-2) TO BE INSTALLED AT ROOF. RTU-2 TO BE USED TO CATER HEATING AND COOLING REQUIREMENT OF THE KITCHEN AND BACK KITCHEN AREA.
- NEW TOILET EXHAUST FANS TO BE PROVIDED FOR THE TOILET VENTILATION AS SHOWN ON PLAN.
- DUCT WORK WITH INSULATION & SUPPORTS WITH AIR TERMINALS INSTALLATION SHALL BE AS PER DRAWING AND SPECIFICATION.

- FURNISH AND INSTALL ALL NECESSARY LABOR AND MATERIALS FOR A COMPLETE SYSTEM, ANY APPLIANCES OR MATERIALS OBVIOUSLY A PART OF THE SYSTEM AND NECESSARY FOR ITS PROPER OPERATION, ALTHOUGH NOT SPECIFICALLY MENTIONED HEREIN, SHALL BE FURNISHED AND INSTALLED AS IF CALLED FOR IN DETAIL.
- WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
- ATTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES.
- DRAWINGS ARE GENERALLY DIAGRAMMATIC AND DO NOT NECESSARILY SHOW FITTING AND DETAIL. INSTALL DUCTS, EQUIPMENT, PIPING, ETC., IN A NEAT WORKMANLIKE MANNER, AND IN ACCORDANCE WITH GOOD PRACTICE FOR A COMPLETE WORKABLE INSTALLATION, AVOID CONFLICT WITH OTHER WORK; MAKE ADEQUATE PROVISIONS FOR PREVENTING NOISE AND VIBRATION.ARRANGE EQUIPMENT INTO THE AVAILABLE SPACE IN A MANNER TO MAKE ALL WORKING PARTS ACCESSIBLE FOR MAINTENANCE AND SERVICE.
- MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AGAINST DEFECTS FOR ONE YEAR.
- PROTECT ALL MATERIALS AND EQUIPMENT FROM DAMAGE.
- CONSTRUCT AIR DUCTS IN ACCORDANCE WITH SMACNA DUCT MANUALS LATEST EDITION.
- HVAC WORK INDICATED DIAGRAMMATICALLY. EXACT LOCATION OF ALL COMPONENTS ARE TO BE DETERMINED IN THE FIELD AND BY THE ACTUAL BUILDING CONDITIONS.
- ALL WORK SHALL BE COORDINATED WITH ALL OTHER TRADES BEFORE ANY INSTALLATION IS MADE.
- ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH STATE CODES, MANUFACTURERS APPROVED PUBLISHED LITERATURE, AND AUTHORITIES HAVING JURISDICTION. A COPY OF THE MFR'S INSTALLATION INSTRUCTIONS SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
- INSTALLATION OF ALL EQUIPMENT SHALL PERMIT ACCESSIBILITY FOR SERVICE AND/OR REPLACEMENT, A PERMANENT MEANS OF ACCESS IS REQUIRED FOR EQUIPMENT INSTALLED ON ROOFS OR ELEVATED STRUCTURES EXCEEDING 16'-0".
- COORDINATE VOLTAGE AND PHASE OF EACH PIECE OF EQUIPMENT WITH ELECTRICAL CONTRACTOR BEFORE ORDERING.
- FLEXIBLE DUCT RUN OUTS TO CEILING DIFFUSERS SHALL BE INSTALLED FREE OF KINKS AND SAGS, MAXIMUM LENGTH OF FLEXIBLE DUCT SHALL BE 3'-0".
- COMPLETION AND TESTS SHALL INCLUDE CLEANING AND LUBRICATION OF ALL EQUIPMENT, AND ADJUSTMENTS FOR PROPER OPERATION, ADJUST DAMPERS,REGISTERS AND DIFFUSERS FOR PROPER AIR DISTRIBUTION, CHECK SYSTEM UNDER ACTUAL OPERATING CONDITIONS AND MAKE ADJUSTMENTS FOR A UNIFORM TEMPERATURE THROUGH THE CONDITIONED SPACE.
- LOCATIONS SHOWN FOR EQUIPMENT ARE APPROXIMATE LOCATIONS.CONTRACTOR SHALL COORDINATE WITH THE FIELD CONDITIONS FOR THE EXACT LOCATION AND MODIFY DUCTS/PIPES ACCORDINGLY.
- CONTRACTOR SHALL FIELD VERIFY AVAILABLE SPACE FOR DUCTWORK BEFORE FABRICATING, CONTRACTOR SHALL MODIFY DUCTWORK TO FIT AVAILABLE FIELD CONDITIONS.
- SIZE REFRIGERANT PIPING PER MANUFACTURERS RECOMMENDATIONS FOR ACTUAL LINE LENGTHS AND VERTICAL LIFT REQUIRED.
- ALL EXTERIOR WALL AND ROOF PENETRATIONS SHALL SE SEALED WATERPROOF.
- PROVIDE FIRESTOP WHERE PIPES, CONDUITS, BUS DUCTS, WIRES, DUCTS, AND SIMILAR BUILDING SERVICE EQUIPMENT PENETRATING RATED FLOORS AND WALLS.
- ALL CEILING EQUIPMENT SHALL BE INSTALLED IN SUCH A WAY THAT LIGHTS, PIPING, AND DUCTWORK DO NOT BLOCK ACCESS TO UNITS AND RELATED ACCESSORIES.
- ALL DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
- PROVIDE INSTRUMENT TEST HOLES WITH CAPS IN AIR DISTRIBUTION SYSTEMS WHEREVER VOLUME DAMPER ARE SHOWN.
- ALL MISCELLANEOUS STRUCTURAL SUPPORTS REQUIRED FOR HVAC EQUIPMENT INSTALLATIONS SHALL BE PROVIDED BY HVAC CONTRACTOR.
- ALL TRANSFER DUCT SHALL BE INTERNALLY LINED.
- ALL THE MITERED ELBOWS SHALL BE PROVIDED WITH TURNING VANES, ALL THE ROUND ELBOWS SHALL A CENTER TO FACE OF 1.5 X THE DUCT WIDTH.
- CONTRACTOR SHALL FURNISH TESTING & BALANCING REPORT TO ENGINEER & OWNER PRIOR TO FINAL INSPECTION TO VERIFY REQUIRED PERFORMANCE HAS ACHIEVED,TESTING AND BALANCING SHALL BE PERFORMED BY AN INDEPENDENT AGENCY THAT IS AABC OR NEBB CERTIFIED.
- ALL PIPING AND DUCTS IN FINISHED ROOMS OR SPACES SHALL BE CONCEALED IN FURRED CHASES OR SUSPENDED CEILINGS UNLESS OTHERWISE NOTED.
- ACCESS PANELS IN SUSPENDED CEILINGS ARE REQUIRED FOR ALL VALVES, DAMPERS, CONTROLS, ETC., AND SHALL BE FURNISHED UNDER ARCHITECTURAL SPECIFICATIONS.

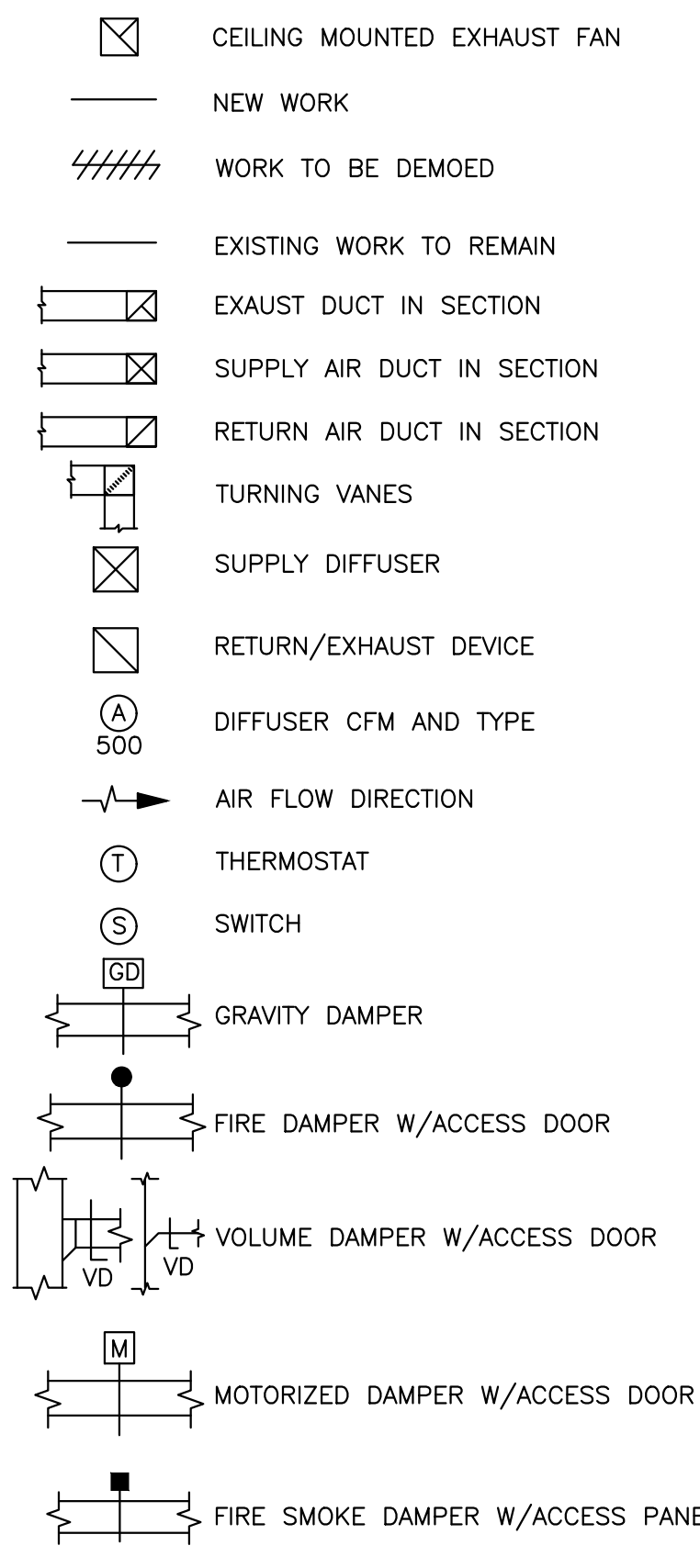
3 SPECIFICATIONS - MECHANICAL NOT TO SCALE

- REFER TO 2021 NJ BUILDING CODE, ASCE 7, ASHRAE, SMACNA REQUIREMENTS.
- BUILDING SHALL BE SEISMICALLY PROTECTED FOR SEISMIC DESIGN CATEGORY LISTED IN ARCHITECTURAL OR STRUCTURAL DRAWINGS.
- SEISMIC RESTRAINTS SHALL NOT BE REQUIRED FOR THE FOLLOWING INSTALLATIONS:
 - PIPING IN MECHANICAL ROOMS (EXCEPT GAS PIPING) LESS THAN 1-1/4 INCH INSIDE DIAMETER.
 - ALL OTHER PIPING (EXCEPT GAS PIPING, SPRINKLER) LESS THAN 2-1/2 INCH INSIDE DIAMETER.
 - ALL RECTANGULAR DUCTS LESS THAN 6 SQ. FT. IN GROSS-SECTIONAL AREA.
 - ALL ROUND DUCTS LESS THAN 28 INCHES IN DIAMETER.
 - ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.
 - ALL DUCTS SUSPENDED BY HANGERS 12 INCHES OR LESS IN LENGTH FROM THE TOP OF THE DUCT TO THE BOTTOM OF THE SUPPORT FOR THE HANGER.
- WHERE REQUIRED, DUCTS SHALL BE SEISMICALLY BRACED TRANSVERSELY AT EVERY 30 FEET AND LONGITUDINAL AT EVERY 60 FEET.
- WHERE REQUIRED, HVAC PIPING SHALL BE SEISMICALLY GRACED TRANSVERSELY AT EVERY 40 FEET AND LONGITUDINAL AT EVERY 80 FEET.

4 SEISMIC NOTES - MECHANICAL NOT TO SCALE

SA	SUPPLY AIR	A.F.F.	ABOVE FINISHED FLOOR
SA	SUPPLY AIR DUCT	CFM	CUBIC FEET PER MINUTE
SAG	SUPPLY AIR GRILLE	TYP	TYPICAL
RA	RETURN AIR	Ø	ROUND DUCTWORK
RAD	RETURN AIR DUCT	10X6	RECTANGULAR AIR DUCT (WIDTH X DEPTH)
RAG	RETURN AIR GRILLE	PLG	PLUMBING
OA	OUTSIDE AIR	MFR	MANUFACTURER
OAD	OUTSIDE AIR DUCT	TSTAT	THERMOSTAT
EA	EXHAUST AIR	LPG	LOW PRESSURE NATURAL GAS
EAD	EXHAUST AIR DUCT	HPG	HIGH PRESSURE NATURAL GAS
EAG	EXHAUST AIR GRILLE	EF-1	EXHAUST FAN
TAD	TRANSFER AIR DUCT	WH	WATER HEATER
TAG	TRANSFER AIR GRILLE	UH-1	UNIT HEATER
DN	DOWN	RTU-1	PACKAGED ROOFTOP UNIT
LAT	LEAVING AIR TEMP	MAU-1	MAKE-UP AIR UNIT
EAT	ENTERING AIR TEMP	KEF-1	KITCHEN EXHAUST FAN
DX	DIRECT EXPANSION	H-1	KITCHEN HOOD
ESP	EXTERNAL STATIC PRESSURE	KSF-1	KITCHEN SUPPLY FAN
MCA	MINIMUM CURRENT AMPS	-1E	EXISTING UNIT
MOCP	MINIMUM CURRENT AMPS		

1 ABBREVIATIONS - MECHANICAL NOT TO SCALE



2 SYMBOLS - MECHANICAL NOT TO SCALE

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NUMBER	DATE	REVISION	TABLE	DESCRIPTION
01	2023-02-28	NYE	LL	REVIEW SET
02	2023-03-21	NYE	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
 RESTAURANT FIT OUT FOR:
GARBANZO
 MEDITERRANEAN FRESH

DATE:	02-01-2023
DRAWN BY:	NYE
SCALE:	AS NOTED
JOB #:	
SHEET:	M001

HVAC DUCTWORK – SHEET METAL

- 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.
- CONTRACTOR TO CHECK AND CORRECT ANY AND ALL DEFICIENCIES IN EXISTING DUCTS. ALL NEW DUCTWORK WILL COMPLY WITH THE LATEST SMACNA GUIDELINES AND CONFORM WITH REQUIREMENTS OF THE LATEST HANDBOOKS PUBLISHED BY ASHRAE.
- PROVIDE VOLUME DAMPER AT EACH TAP TO MAIN DUCT AND WHERE NECESSARY TO PROPERLY BALANCE SYSTEM.
- SUPPLY AND RETURN DUCTWORK 20" FROM ALL AC UNITS SHALL BE LINED WITH 1.5" ACOUSTICAL LINING.
- RE-INSULATE ALL DUCTWORK AND PIPING IN WHICH INSULATION HAS BEEN REMOVED OR DAMAGED WITH INSULATION EQUAL TO THE EXISTING INSULATION.
- CONTRACTOR SHALL SUPPLY AND INSTALL ALL NECESSARY SUPPLY DIFFUSERS AND RETURN AIR REGISTERS WHERE INDICATED ON THE DRAWING. COORDINATE LOCATION OF DIFFUSERS AND REGISTERS WITH REFLECTED CEILING PLAN.
- IN CORRIDORS WHERE CEILING SPEAKERS AND AIR DIFFUSERS ARE INDICATED BETWEEN THE SAME LIGHT FIXTURES, INSTALL BOTH DEVICES AT THE QUARTER POINTS BETWEEN THE FIXTURES.
- UNLESS OTHERWISE SHOWN, LOCATE ALL ROOM THERMOSTATS AND HUMIDISTAT 4'-0" (CENTER LINE) ABOVE THE FINISHED FLOOR. NOTIFY THE ENGINEER OF ANY ROOMS WHERE THE PRECEDING LOCATION CANNOT BE MAINTAINED OR WHERE THERE IS A QUESTION ON LOCATION.
- ALL DUCTWORK SHALL CLEAR DOORS AND WINDOWS.
- ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
- PROVIDE ALL 90-DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. ELBOWS IN DISHWASHER, KITCHEN, AND LAUNDRY EXHAUSTS SHALL BE OF UN-VAINED SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1-1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.
- COORDINATE DIFFUSER, REGISTER, AND GRILL LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING, AND OTHER CEILING ITEMS AND MAKE MINOR DUCT MODIFICATIONS TO SUIT.
- FIELD-ERECTED AND FACTORY-ASSEMBLED AIR HANDLING UNIT COILS SHALL BE ARRANGED FOR REMOVAL FROM THE UPSTREAM SIDE WITHOUT DISMANTLING SUPPORTS. PROVIDE GALVANIZED STRUCTURAL STEEL SUPPORTS FOR ALL COILS (EXCEPT THE LOWEST COIL) IN BANKS OVER TWO COILS HIGH TO PERMIT THE INDEPENDENT REMOVAL OF ANY COIL.
- ALL AIR HANDLING UNITS SHALL OPERATE WITHOUT MOISTURE CARRYOVER.
- 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.
- PROVIDE FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS (SUPPLY, RETURN, AND EXHAUST) CONNECTED TO AIR HANDLING UNITS, FANS, AND OTHER EQUIPMENT THAT REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
- UNLESS OTHERWISE NOTED, ALL DUCTWORK IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE, WITH SPACE FOR INSULATION IF NEEDED.
- RUNS OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FT.
- ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, HUMIDIFIERS, COILS, AND OTHER ITEMS LOCATED IN THE DUCTWORK THAT REQUIRE SERVICE AND/OR INSPECTION.
- PROVIDE ACCESS DOORS IN DUCTWORK FOR THE OPERATION, ADJUSTMENT, AND MAINTENANCE OF ALL FANS, VALVES, AND MECHANICAL EQUIPMENT.
- ALL DUCTS SHALL BE GROUNDED ACROSS FLEXIBLE CONNECTIONS WITH FLEXIBLE COPPER GROUNDING STRAPS. GROUNDING STRAPS SHALL BE BOLTED OR SOLDERED TO BOTH THE EQUIPMENT AND THE DUCT.
- TERMINATE GAS VENTS FOR UNIT HEATERS, WATER HEATERS, HIGH-PRESSURE PARTS WASHERS, HIGH-PRESSURE CLEANERS, AND OTHER GAS APPLIANCES A MINIMUM OF 30 IN. ABOVE THE ROOF WITH RAIN CAP (EDIT ANY APPLIANCES AND THE HEIGHT ABOVE THE ROOF TO MEET THE CODE AND SUIT PROJECT REQUIREMENTS).
- SEE SPECIFICATIONS FOR DUCTWORK GAUGES, BRACING, HANGERS, AND OTHER REQUIREMENTS.
- EXTERIOR LOUVERS ARE INDICATED FOR SIZE, GENERAL LOCATION AND PERFORMANCE ONLY. DETAILED LOUVER DESCRIPTIONS ARE PROVIDED IN THE ARCHITECTURAL SPECIFICATIONS.

PIPING

- PROVIDE ALL MATERIALS AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE PIPING SYSTEMS AS INDICATED ON THE DRAWINGS AND AS SPECIFIED AND REQUIRED BY CODE.

- UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO THE UNDERSIDE OF THE STRUCTURE OR SLAB, WITH SPACE FOR INSULATION IF REQUIRED.
- UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES, AND IN LONG PIPING RUNS (100 FT. OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.
- INSTALL ALL PIPING WITHOUT FORCING OR SPRINGING.
- ALL PIPING SHALL CLEAR DOORS AND WINDOWS.
- ALL VALVES SHALL BE ADJUSTED FOR SMOOTH AND EASY OPERATION.
- ALL PIPING SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO EQUIPMENT WHICH REQUIRE VIBRATION, ISOLATION. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE OR AS INDICATED ON THE DRAWINGS.
- SLOPED REFRIGERANT PIPING 1% IN THE DIRECTION OF OIL RETURN. LIQUID LINES MAY BE INSTALLED LEVEL.
- INSTALL HORIZONTAL REFRIGERANT HOT GAS DISCHARGE PIPING WITH 1/2" PER 10 FT. DOWNWARD SLOPE AWAY FROM THE COMPRESSOR.
- INSTALL HORIZONTAL REFRIGERANT SUCTION LINES WITH 1/2" PER 10 FT. DOWNWARD SLOPE TO THE COMPRESSOR, WITH NO LONG TRAPS OR DEAD ENDS THAT MAY CAUSE OIL TO SEPARATE FROM THE SUCTION GAS AND RETURN TO THE COMPRESSOR IN DAMAGING SLUGS.
- PROVIDE LINE SIZE LIQUID INDICATORS IN THE MAIN LIQUID LINE LEAVING THE CONDENSER OR RECEIVER. INSTALL MOISTURE-LIQUID INDICATORS IN LIQUID LINES BETWEEN FILTER DRYERS AND THERMOSTATIC EXPANSION VALVES, AND IN LIQUID LINE TO RECEIVER.
- PROVIDE A LINE SIZE STRAINER UPSTREAM OF EACH AUTOMATIC VALVE. PROVIDE A SHUT-OFF VALVE ON EACH SIDE OF A STRAINER.
- PROVIDE PERMANENT FILTER DRYERS IN LOW-TEMPERATURE SYSTEMS AND SYSTEMS USING HERMETIC COMPRESSORS.
- PROVIDE REPLACEABLE CARTRIDGE FILTER DRYERS WITH A THREE-VALVE BYPASS ASSEMBLY FOR SOLENOID VALVES, ADJACENT TO RECEIVERS.
- PROVIDE REFRIGERANT CHARGING VALVE CONNECTIONS IN THE LIQUID LINE BETWEEN THE RECEIVER SHUT-OFF VALVE AND THE EXPANSION VALVE.

TESTING AND BALANCING

- AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF FANS AND BRANCH DAMPERS FOR MAJOR ADJUSTMENTS. ADJUSTMENT OF TERMINAL DAMPERS AND DEVICES SHALL BE FOR TRIM OR MINOR ADJUSTMENT ONLY. THIS SHALL BE DONE TO PERMIT THE LEAST NOISE GENERATION IN THE TERMINAL AREAS AND UTILIZE MINIMUM FAN ENERGY.
- THE CONTRACTOR SHALL PROVIDE ALL LABOR, PRESSURE GAUGES, FLOW METERS, SHEAVES, AND BELTS REQUIRED TO BALANCE SYSTEMS.
- BALANCING REPORT SHALL BE PROVIDED ON AABC-TYPE FORMS.
- FANS, AIR HANDLING UNITS, PUMPS, AND COILS SHALL BE BALANCED TO WITHIN +5% OF THEIR DESIGN CAPACITIES. ALL OTHER AIR AND WATER QUANTITIES SHALL BE BALANCED TO WITHIN +10% OF THE DESIGN QUANTITIES.
- BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY ONE OF THE FOLLOWING INDEPENDENT FIRMS SPECIALIZING IN TESTING AND BALANCING:
 - INDEPENDENT TESTING AND BALANCING, INC.
 - AIR CONDITIONING TEST AND BALANCING CORP.
 - CFM TESTING AND BALANCING CO.

- THE PERFORMANCE AND CAPACITY OF ALL SYSTEMS AND EQUIPMENT TO BE DEMONSTRATED BY THE CONTRACTOR.

- AFTER OCCUPANCY OF THE SPACE, AND APPROVAL OF THE BALANCE REPORTS, THE AIR BALANCE COMPANY SHALL RETURN TO PROVIDE COMFORT BALANCE SERVICES. THE AIR BALANCE COMPANY SHALL ADJUST VOLUME DAMPERS AND MINIMUM SETTINGS IN RESPONSE TO THE OCCUPANTS REQUIREMENTS. ALLOW ONE HALF DAY MINIMUM PER FLOOR AND UP TO THREE DAYS ON SITE FOR COMFORT BALANCE SERVICES.

SPECIFICATIONS

SECTION 0001 – NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

- THE BIDDER BY MAKING A BID REPRESENTS THAT: THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS, TO THE EXTENT THAT SUCH DOCUMENTATION RELATES TO THE WORK FOR WHICH THE BID IS SUBMITTED, AND FOR OTHER PORTIONS OF THE PROJECT, IF ANY, BEING BID CONCURRENTLY OR PRESENTLY UNDER CONSTRUCTION.
- THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS.
- THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE FOR THE MATERIAL AND LABOR.
- SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS, THE ITEM OR ITEMS IN DISPUTE THAT REPRESENT THE GREATER COST SHALL PREVAIL IN THE FINAL BID.
- THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

- THE BIDDER HAS VISITED THE SITE, BECOME FAMILIAR WITH LOCAL CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND HAS CORRELATED THE BIDDER'S PERSONAL OBSERVATIONS WITH THE REQUIREMENTS OF THE PROPOSED BIDDING DOCUMENTS.
- THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED.

1.3 RESPONSIBILITIES

- THE BIDDER UNDERSTANDS THAT ANY CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE TIMELY COMPLETION AND ACCEPTANCE OF THEIR WORK AND THAT ANY ITEMS DAMAGED, LOST OR STOLEN DURING TIME OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED WITHOUT ANY ADDITIONAL COST TO THE OWNER.
- THE BIDDER UNDERSTANDS THAT ANY PROPOSED WORK IN OCCUPIED TENANT SPACES SHALL BE PERFORMED DURING TIMES OF NON-TENANT OCCUPANCY OR AS SCHEDULED OR DIRECTED BY THE BUILDING MANAGER.
- THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT-DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE-ARRANGED WITH THE BUILDING MANAGER AND THAT SUCH SHUT-DOWNS ARE TO BE KEPT TO A MINIMUM.
 - LATEX SEALANT
 - SILICONE SEALANT
 - INTUMESCENT WRAP STRIPS
 - MORTAR
 - SILICONE FOAM
 - PILLOWS/BAGS
 - INTUMESCENT WRAP STRIPS
 - INTUMESCENT COMPOSITE SHEET

END OF SECTION 0001

SECTION 0101 – QUALITY OF WORK

1.1 WORKMANSHIP

- ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
- ALL DEFECTS WHICH DEVELOP OR ARE DISCOVERED WITHIN THIS PERIOD SHALL BE REPAIRED BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT OR BUILDING MANAGER AT NO ADDITIONAL COST TO THE OWNER.
- UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

- ALL WORK SHALL MEET ALL STATE AND LOCAL CODES HAVING JURISDICTION.

END OF SECTION 0101

SECTION 0102 – REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

- A SET OF PRINTS FOR ANY MECHANICAL WORK INCLUDING BUT NOT LIMITED TO, DUCTWORK AND PIPING LAYOUT SHALL BE SUBMITTED FOR APPROVAL TO THE ENGINEER PRIOR TO CONSTRUCTION OR PURCHASE OF MATERIALS.

1.2 SUBMITTALS

- EQUIPMENT SUBMITTALS OF ALL PROPOSED MECHANICAL AND ANCILLARY EQUIPMENT INCLUDING ALL ACCESSORIES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. ALL PERTINENT MODELS, SIZES, ACCESSORIES AND CHOICES SHALL BE CLEARLY CHECKED, PRINTED OR OTHERWISE INDICATED ON THE SUBMITTALS.

1.3 RECORD DRAWINGS

- UPON COMPLETION OF THE WORK, A RECORD DRAWING SHALL BE SUBMITTED TO THE OWNER DEPICTING ALL SUBSEQUENT CHANGES, ADDITIONS AND OR CORRECTIONS TO THE CONTRACT DRAWINGS AND OR CONTRACT SCOPE MADE DURING CONSTRUCTION. THIS DRAWING SHALL REPRESENT A COMPLETE RECORD OF THE WORK INSTALLED.

1.4 EQUIPMENT OPERATING INSTRUCTIONS

- ON COMPLETION AND ACCEPTANCE OF WORK, THIS CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS, EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
- THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE-RING

BINDERS WITH CLEAR ACETATE COVERS. THE CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE ELECTRONIC COPY TO THE ENGINEER.

END OF SECTION 0102

SECTION 078413 – PENETRATION FIRE – STOPPING

1.1 QUALITY ASSURANCE

- INSTALLER QUALIFICATIONS: AN FM GLOBAL-APPROVED FIRE-STOP CONTRACTOR OR A UL-QUALIFIED FIRE-STOP CONTRACTOR.
- FIRE-TEST-RESPONSE CHARACTERISTICS: UL, INTERTEK ETL SEMKO OR FM GLOBAL
- PENETRATIONS IN FIRE-RESISTANCE-RATED WALLS: F-RATINGS PER ASTM E 814 OR UL 1479.
- PENETRATIONS IN HORIZONTAL ASSEMBLIES: F- AND T-RATINGS PER ASTM E 814 OR UL 1479;
- PENETRATIONS IN SMOKE BARRIERS: L-RATINGS PER UL 1479.
- W-RATINGS: PER UL 1479.

1.3 INSTALLATION

- IDENTIFICATION: PREPRINTED METAL OR PLASTIC LABELS.

1.4 FIELD QUALITY CONTROL

- INSPECTION OF INSTALLED FIRE-STOPPING: BY OWNER-ENGAGED AGENCY ACCORDING TO ASTM E 2174.

1.5 THROUGH-PENETRATION FIRESTOP SYSTEM SCHEDULE WHERE UL-CLASSIFIED SYSTEMS ARE INDICATED, THEY REFER TO SYSTEM NUMBERS IN UL'S "FIRE RESISTANCE DIRECTORY" UNDER PRODUCT CATEGORY XHEZ.

FOR THE FOLLOWING SYSTEMS:

- METALLIC AND NON-METALLIC PIPES, CONDUIT, OR TUBING, ELECTRICAL CABLES, CABLE TRAYS WITH ELECTRIC CABLES, MISCELLANEOUS ELECTRICAL PENETRANTS, INSULATED PIPES, GROUPINGS OF PENETRANTS, USE ON OR MORE THE FOLLOWING MATERIALS:

- LATEX SEALANT
- SILICONE SEALANT
- INTUMESCENT WRAP STRIPS
- MORTAR
- SILICONE FOAM
- PILLOWS/BAGS
- INTUMESCENT WRAP STRIPS
- INTUMESCENT COMPOSITE SHEET

END OF SECTION 078413

SECTION 230529 – HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS

- DELEGATED DESIGN: DESIGN TRAPEZE PIPE HANGERS AND EQUIPMENT SUPPORTS, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.
- STRUCTURAL PERFORMANCE: HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT SHALL WITHSTAND THE EFFECTS OF GRAVITY LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED ACCORDING TO ASCE/SEI 7.

- DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER.
- DESIGN EQUIPMENT SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS AND COMPONENTS.
- DESIGN SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

1.2 SUBMITTALS

- SHOP DRAWINGS: SIGNED AND SEALED BY A PROFESSIONAL ENGINEER

1.3 QUALITY ASSURANCE

- AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE – STEEL."

1.4 COMPONENTS

- METAL PIPE HANGERS AND SUPPORTS: CARBON OR STAINLESS STEEL
- TRAPEZE PIPE HANGERS: CARBON OR STAINLESS STEEL
- FIBERGLASS PIPE HANGERS: –CLEVIS, CENTURY COMPOSITOS, COOPER B-LINE
- METAL FRAMING SYSTEMS: MFMA MANUFACTURER
- FIBERGLASS STRUT SYSTEMS: COOPER B-LINE
- THERMAL-HANGER SHIELD INSERTS:
- FASTENER SYSTEMS: POWDER-ACTUATED FASTENERS OR MECHANICAL-EXPANSION ANCHORS
- PIPE STANDS: COMPACT, LOW TYPE, SINGLE PIPE, HIGH TYPE, SINGLE PIPE, HIGH TYPE, MULTIPLE PIPES, CURB-MOUNTED TYPE
- EQUIPMENT SUPPORTS.

END OF SECTION 230529

SECTION 230548 – VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 – GENERAL

1.1 PERFORMANCE REQUIREMENTS

- VIBRATION ISOLATORS:
 - ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS
 - MOUNTS: DOUBLE-DEFLECTION TYPE.
 - RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST-DUCTILE-IRON HOUSING.
 - SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE, OPEN-SPRING TYPE.
 - RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN-SPRING TYPE WITH SEISMIC RESTRAINT.
 - HOUSED SPRING MOUNTS: DUCTILE-IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS.
 - ELASTOMERIC HANGERS: DOUBLE-DEFLECTION TYPE.
 - SPRING HANGERS: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION.
 - SPRING HANGERS WITH VERTICAL-LIMIT STOP: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRING AND INSERT IN COMPRESSION AND WITH VERTICAL-LIMIT STOP.

1.2 FIELD QUALITY CONTROL

- TESTING: BY EITHER: OWNER-ENGAGED AGENCY, CONTRACTOR-ENGAGED AGENCY, OR CONTRACTOR.

PART-2 PRODUCTS

- 1.4 VIBRATION ISOLATORS
 - AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
 - ACE MOUNTINGS CO., INC.
 - AMBER/BOOTH COMPANY, INC.
 - CALIFORNIA DYNAMICS CORPORATION.
 - COOPER B-LINE, INC.; A DIVISION OF COOPER INDUSTRIES.
 - HILTI, INC.
 - ISOLATION TECHNOLOGY, INC.
 - KINETICS NOISE CONTROL.
 - LOOS & CO.; CABLEWARE DIVISION.
 - MASON INDUSTRIES.
 - TOLCO INCORPORATED; A BRAND OF NIBCO INC.
 - UNISTRUT; TYCO INTERNATIONAL, LTD.
 - VIBRATION ELIMINATOR CO., INC.
 - VIBRATION ISOLATION.
 - VIBRATION MOUNTINGS & CONTROLS, INC.

END OF SECTION 230548

SECTION 230593 – TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

- TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:
 - AIR SYSTEMS: CONSTANT-VOLUME
 - CONDENSING UNITS.

1.2 QUALITY ASSURANCE

- THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS. THE TAB AGENT SHALL HAVE THE FOLLOWING QUALIFICATIONS: AABC, NEBB OR TABB CERTIFIED.
- THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS.
- PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN.
- THE CONTRACTOR SHALL HAVE FURNISH AND INSTALL ALL ADDITIONAL BALANCING EQUIPMENT, PRESSURE TAPS, GAUGES AND OTHER EQUIPMENT AS REQUIRED FOR A PROPERLY BALANCED SYSTEM AT NO ADDITIONAL COST TO THE OWNER. SUCH ADDITIONAL EQUIPMENT SHALL ADHERE IN STRICT ACCORDANCE WITH THE RESPECTIVE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS SECTION WITH THE BUILDING MANAGER. BALANCING WORK SHALL NOT CONFLICT WITH OTHER WORK SO AS TO MAINTAIN COMPLETION WITHIN THE SPECIFIED TIME.
- ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED.
- TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES.
- INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT.
- ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

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REVISION TABLE		DESCRIPTION
NUMBER	DATE	REVISION BY
01	2023-02-28	NYE
02	2023-03-21	NYE
		PERMIT SET

NOTES:

PROJECT DESCRIPTION:

RESTAURANT FIT OUT FOR:



DATE: 02-01-2023

DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

M002

SECTION 230713 – DUCT INSULATION

1.1 QUALITY ASSURANCE

SURFACE-BURNING CHARACTERISTICS: ALL INSULATION SHALL HAVE COMPOSITE (INSULATION JACKET OR FACING AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) A FLAME-SPREAD INDEX OF 25, AND SMOKE-DEVELOPED INDEX OF 50 FOR INSULATION INSTALLED INDOOR, 75, AND SMOKE-DEVELOPED INDEX OF 150 FOR INSULATION INSTALLED OUTDOORS; ACCORDING TO ASTM E 84.

1.2 FIELD QUALITY CONTROL

A. FIELD INSPECTIONS: BY OWNER-ENGAGED AGENCY.
1.3 INDOOR DUCT AND PLENUM INSULATION SCHEDULE;

A. CONCEALED, RECTANGULAR, ROUND AND FLAT-OVAL, SUPPLY-RETURN, OUTDOOR-AND EXHAUST-AIR DUCT AND AIR PLENUM INSULATION:

B. FLEXIBLE ELASTOMERIC, MINERAL-FIBER BLANKET, MINERAL-FIBER BOARD OR POLYOLEFIN WITH MINIMUM INSTALLED THERMAL RESISTANCE AS FOLLOWS:
UNCONDITIONED SPACES WITHIN BUILDING: R-6
WITHIN BUILDING ENVELOPE ASSEMBLY: R-6
OUTSIDE OF BUILDING: R-8

1.4 ITEMS NOT INSULATED:

1. FIBROUS-GLASS DUCTS.
2. METAL DUCTS WITH DUCT LINER OR SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE ANDASHRAE/IESNA 90.1.
3. FACTORY-INSULATED FLEXIBLE DUCTS.
4. FACTORY-INSULATED PLENUMS AND CASINGS.
5. FLEXIBLE CONNECTORS.
6. VIBRATION-CONTROL DEVICES.
7. FACTORY-INSULATED ACCESS PANELS AND DOORS.
8. DUCTS THAT HAVE INTERNAL ACOUSTICAL LINING.

1.5 PRODUCTS

A. THE FOLLOWING INSULATION MANUFACTURERS WILL BE ACCEPTABLE:

1. JOHNS-MANVILLE
2. OWENS-CORNING

1.6 ACOUSTICAL TREATMENT

1. WHERE SHOWN ON THE DRAWINGS, LOW PRESSURE DUCTWORK SHALL BE LINED WITH 1.5" THICK R-6 AS MANUFACTURED BY DUCTMATE, 1-1/2 POUND MINIMUM DENSITY, NEOPRENE COATED, FLEXIBLE FIBERGLASS DUCT LINER. LINING SHALL COMPLY WITH NFPA 90A AND SHALL HAVE A FLAME SPREAD CLASSIFICATION OF NOT MORE THAN 25 AND A SMOKE DEVELOPED RATING NOT MORE THAN 50. DUCT SIZES WHERE LINING IS INDICATED ON PLANS ARE MINIMUM INSIDE CLEAR DIMENSIONS REQUIRED.

END OF SECTION 230713

SECTION 233113 – METAL DUCTS

1.1 CONSTRUCTION

A. EACH DUCT SYSTEM SHALL BE CONSTRUCTED FOR THE SPECIFIC SMACNA DUCT PRESSURE CLASSIFICATIONS SHOWN ON THE CONTRACT DRAWINGS. WHERE NO PRESSURE CLASSES ARE SPECIFIED BY THE DESIGNER, THE SMACNA 2-1/2 INCH WG PRESSURE CLASS IS THE BASIS OF COMPLIANCE WITH THESE STANDARDS, REGARDLESS OF THE VELOCITY IN THE DUCT.

B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 2" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:

1. DUCTWORK SHALL BE TRANSVERSELY JOINTED BY CONNECTING SEAMS OF COMPANION ANGLES, FORMED FROM 1-1/2"x1-1/2"x1/8" GALVANIZED STEEL, TACK-WELDED OR RWETED TO THE DUCT. THE ANGLE FRAME SHALL BE CONTINUOUSLY FLANGED UP INTO UPRIGHT OF ANGLE AND EACH CORNER SHALL BE FILLED IN AND GROUND SMOOTH. JOINTS SHALL BE GASKETED WITH 1/8" THICK REINFORCED GASKET, OVERLAPPED AT CORNERS, GASKET SIMILAR TO 3M-1202 OR APPROVED EQUAL.
2. RECTANGULAR FITTINGS AND ALL TRANSITION PIECES FROM RECTANGULAR TO ROUND SHALL BE NO. 16 GAUGE ALL WELDED CONSTRUCTION.
3. HORIZONTAL DUCTS SHALL BE SUPPORTED ON NOT MORE THAN 6' CENTERS. VERTICAL RISERS SHALL BE SUPPORTED AT EACH FLOOR.
4. LONGITUDINAL SEAMS FOR RECTANGULAR DUCTWORK SHALL BE PITTSBURGH LOCK SEAMS WITH SEALING COMPOUND, EQUAL TO BENJAMIN FOSTER NO. 30-03 INSERTED INTO SEAM. ALL SEAMS SHALL BE BRUSHED WITH NO. 30-02 AND COVERED WITH APPROVED SEALING TAPE.
5. RECTANGULAR DUCTWORK 18 GAUGE AND HEAVIER, FILLER RODS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR IRON AND STEEL GAS WELDING RODS, ASTM 215; AWG A5.2.
6. ALL FITTINGS SUCH AS ELBOWS, TEES, ETC., SHALL BE NO. 20 GAUGE ZINC COATED STEEL. ELBOWS SHALL BE OF FIVE (5) PIECE WELDED AIRTIGHT CONSTRUCTION.

C. WHERE LATEST EDITION OF SMACNA DOES NOT CLEARLY STATE GAUGES AND/OR STIFFENERS TO BE USED OR, WHERE SMACNA STANDARDS REQUIRE INTERPRETATION, THE FOLLOWING MINIMUM METAL GAUGES AND BRACING SHALL BE USED:

USG	MAX. SIDE INCHES	TRANSVERSE JOINTS AND BRACING
-----	------------------	-------------------------------

22	UP TO 12	S SLIP, DRIVE SLIP, ONE INCH POCKET LOCK ON 8 FOOT CENTERS
22	13 TO 24	1"x1"x1/8" ANGLES ON 4 FOOT CENTERS
20	25 TO 35	1"x1"x1/8" ANGLES ON 2 FOOT CENTERS

D. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK, AND AS PER SMACNA FLAT OVAL DUCT CONSTRUCTION STANDARDS SHOWN IN FIG. 3-6 AND AS SHOWN IN FIG. 3-1 AND 3-2 FOR ROUND DUCTWORK.

E. ALL DUCTWORK SHALL BE SEALED TO CLASS "A" AND LEAK TESTED TO MEET SMACNA CLASS 6 FOR RECTANGULAR AND CLASS 3 FOR ROUND DUCTS.

1.2 MATERIALS

A. SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS.
B. DOUBLE-WALL RECTANGULAR DUCTS AND FITTINGS.

1. FIBROUS-GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.
2. PERFORATED INNER DUCT.

C. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.

D. DOUBLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS.

1. FIBROUS-GLASS OR FLEXIBLE ELASTOMERIC DUCT LINER FOR INTERSTITIAL INSULATION.

2. PERFORATED INNER DUCT.

E. SHEET METAL MATERIALS:

1. GALVANIZED SHEET STEEL.

F. DUCT LINER:

1. FIBROUS GLASS, TYPE I, FLEXIBLE.
o. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING.

2. FLEXIBLE ELASTOMERIC.

3. NATURAL FIBER.

G. SEALANT MATERIALS:

1. TWO-PART TAPE SEALING SYSTEM.
2. WATER-BASED JOINT AND SEAM SEALANT.
3. SOLVENT-BASED JOINT AND SEAM SEALANT.
4. FLANGED JOINT SEALANT.
5. FLANGE GASKETS.
6. ROUND DUCT JOINT O-RING SEALS.

1.4 DUCT CLEANING

A. CLEAN EXISTING DUCT SYSTEM(S) BEFORE TESTING, ADJUSTING, AND BALANCING.
B. CLEAN THE FOLLOWING ITEMS:

1. AIR OUTLETS AND INLETS.
2. SUPPLY, RETURN, AND EXHAUST FANS.
3. AIR-HANDLING UNITS.
4. COILS AND RELATED COMPONENTS.
5. RETURN-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.
6. SUPPLY-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.

1.5 DUCT SCHEDULE

A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS:

1. COMMERCIAL KITCHEN HOOD EXHAUST DUCTS:
a. EXPOSED TO VIEW: 12 GAUGE WELDED BLACK IRON IN COMPLIANCE TO NFPA96 SHEET, NO. 4 OR NO. 3 FINISH.
b. CONCEALED: 12 GAUGE WELDED BLACK IRON IN COMPLIANCE TO NFPA96, SHEET NO. 2D FINISH
c. WELDED SEAMS AND JOINTS.
2. WELDED SEAMS AND FLANGED JOINTS WITH WATERTIGHT EPDM GASKETS..

KITCHEN EXHAUST DUCTWORK:

A. GREASE DUCTS SERVING TYPE I HOODS SHALL BE CONSTRUCTED OF STEEL HAVING A MINIMUM THICKNESS OF 0.0575 INCH (1.463 MM) (NO.16 GAGE) OR STAINLESS STEEL NOT LESS THAN 3/16 INCH (1.14 MM) (NO.18 GAGE) IN THICKNESS. FOR KITCHEN EXHAUST APPLICATION WITH ETL LISTED TO UL 1978 AND UL 2221 SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND LOCAL CODES. ALL SEAMS AND JOINTS SHALL HAVE A LIQUID TIGHT US EXTERNAL WELD AS PER NFPA 96 FOR BLACK IRON DUCTWORK. THE EXTERIOR OF ALL KITCHEN RANGE BLACK IRON EXHAUST DUCTS SHALL HAVE 1-1/2" X 1-1/2" X 1/8" WELDED ANGLES, PUNCHED FOR SECURING BLOCK INSULATION, WHERE KITCHEN RANGE BLACK IRON EXHAUST DUCT RISER PASSED VERTICALLY THROUGH FLOORS OF THE BUILDING, PROVIDE ANGLE CLIPS WELDED TO THE DUCT OF REQUIRED SIZES TO SUPPORT THE WEIGHT OF THE RISER SECTIONS ON THE BUILDING STRUCTURE AT EACH OF THE FLOOR LEVELS. PROVIDE AND INSTALL ALL SUPPLEMENTARY STRUCTURAL STEEL IN SHAFTS TO PROPERLY SUPPORT EXHAUST DUCTWORK FROM BUILDING CONSTRUCTION. PROVIDE MINIMUM 12"x12" ACCESE DOOR ON SIDE OF HORIZONTAL DUCTS AT 12' SPACING. ACCESS DOORS SHALL BE SIMILAR TO DESCRIPTION IN "ACCESS DOORS IN SHEET METAL WORK WORK" EXCEPT THAT DOOR GAUGE SHALL BE THE SAME AS DUCT GAUGE. ALL HORIZONTAL DUCTS SHALL BE PITCHED BACK TO HOODS 1/4" PER FOOT OR MAXIMUM PITCH ATTAINABLE. THIS TRADE SHALL DRILL OR CUT ALL REQUIRED OPENING AS REQUIRED BY THE DUCTS EXTINGUISHING SYSTEM AND AS COORDINATED WITH THE TRADE SUPPLYING THE EXTINGUISHING SPRAY HEADS. MAINTAIN 6" CLEARANCE BETWEEN SHEET METAL DUCT AND ANY SURFACE SUCH AS SLAB, BEAM OR SHAFT ENCLOSURE.

B. ALL EXHAUST DUCT WORK FROM DISHWASHERS, POT SINKS, OVENS, OR OTHER KITCHEN APPARATUS EMITTING HEAT OR VAPOR (OTHER THEN RANGE HOOD EXHAUST) SHALL BE CONSTRUCTED OF ALUMINUM WITH WELDED JOINTS (USING SMACNA STANDARDS) AND MADE WATERTIGHT. THIS INCLUDES ALL DUCTWORK FROM THE EQUIPMENTS TO THE EXHAUST FAN AND FROM THE EXHAUST FAN TO THE DISCHARGE AIR LOUVERS. THE DUCTS SHALL PITCH BACK TO THE DISHWASHER FROM THE VERTICAL RISER OR WHERE THE RUN OF DUCT IS TOO LONG SHALL CHANGE PITCH TO DRAIN TO THE BOTTOM OF THE RISER. WHERE DUCTS LEAVE SHAFT TO ENTER THE EXHAUST FAN THEY SHALL ALSO BE PITCHED TO A LOW POINT AWAY FROM THE RISER. WELD 3/4" DRAINS AT ALL LOW POINTS AND RUN TO THE NEAREST DRAIN. THIS TRADE SHALL BE HELD RESPONSIBLE TO PROVIDE A WATERTIGHT AND DRAINED SYSTEM, REGARDLESS OF THE QUANTITY OF STEAM OR WATER VAPOR LEAVING THE EQUIPMENTS.

END OF SECTION 233113

INSULATION – GENERAL REQUIREMENTS

A. ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE, COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E-84), (ASA A2.5-1963). FLAMESPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAMEPROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.

B. DEFINITIONS:
1) EXPOSED: INDOOR DUCTS, PIPING OR EQUIPMENT LOCATED IN MECHANICAL EQUIPMENT ROOMS AND IN AREAS WHICH WILL BE VISIBLE WITHOUT REMOVING CEILINGS OR OPENING ACCESS PANELS.
2) CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT WHICH IS NOT EXPOSED.
3) OUTDOOR: DUCTS, PIPING OR EQUIPMENT WHICH IS EXPOSED TO THE WEATHER.

A) DUCTWORK INSULATION

A. INSULATE ALL DUCTWORK IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.

INSULATION SCHEDULE – DUCTWORK

SERVICE	LOCATION	THICKNESS	TYPE	FINISH
SUPP/RET	CONCEALED	1.5"	D-1	VAPORSEAL
INTAKE	ALL	2"	D-3	VAPORSEAL
SUPP/RET	EXPOSED	1.5"	D-2	VAPORSEAL

KITCHEN EXHAUST DUCT:
A MINIMUM INSULATION COVERING OF 2 INCHES (51 MM) OF MAGNESIUM OR CALCIUM SILICATE BLOCK, WITH STAGGERED JOINTS, ATTACHED WITH GALVANIZED STEEL WIRE OR MATERIAL ASSEMBLY EQUIVALENT IN INSULATING AND FIRE-RESISTANT QUALITIES WHICH CANNOT BE PENETRATED BY GREASE SHALL BE APPLIED TO ALL KITCHEN EXHAUST DUCTS INSIDE THE BUILDING.

A. NON-INSULATED DUCTWORK:

- 1) WHERE SOUND LINING IS OF MINIMUM THICKNESS SPECIFIED FOR INSULATION.
- 2) KITCHEN EXHAUST DUCT RUNNING OUTDOOR SHALL BE PROTECTED BY PAINT OR OTHER WEATHERPROOF PROTECTIVE COATING. STAINLESS STEEL DUCTS SHALL NOT REQUIRE PAINT OR WEATHERPROOF PROTECTIVE COATING.

B. MATERIAL:

- 1) TYPE D-1: MINIMUM 1-LB DENSITY FIBERGLASS BLANKET, MAXIMUM 0.28 K-FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY-APPLIED FOIL-SKRIM-KRAFT FACING SIMILAR TO MANVILLE MICROLITE.
- 2) TYPE D-2: 3 LB. FIBERGLASS BOARD. THE MAXIMUM K FACTOR SHALL BE 0.23 AT 75 DEG F MEAN TEMPERATURE WITH A MINIMUM DENSITY OF 3 LB. THE INSULATION SHALL BE PROVIDED WITH A FACTORY-APPLIED PURPOSE OR ALL SERVICE FACING. THE INSULATION SHALL BE EQUAL TO MANVILLE TYPE 814 SPIN-GLAS AP.
- 3) TYPE D-3: INIMUM 6 LB FIBERGLASS BOARD. MAXIMUM 0.22 K-FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY APPLIED ALL PURPOSE OR ALL SERVICE FACING. SIMILAR TO MANVILLE 817 SPIN-GLAS AP.

C. INSTALLATION:

- 1) FIBERGLASS BLANKET: 2 IN. LAP STRIPS AT ALL SEAMS. SECURE BOTTOM OF ALL DUCTS OVER 24 IN. WIDE WITH MIN. 2 ROWS OF WELD PINS 12 IN. ON CENTER. SECURE ALL SEAMS WITH FOIL VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE.
- 2) FIBERGLASS BOARD: SEAL JOINTS AND BREAKS IN FACING WITH 3 IN. WIDE TAPE TO MATCH FACING AND ADHERE WITH VAPOR SEAL ADHESIVE. APPLY 5 IN. WIDE TAPE AT CORNERS, WELD PINS ON TOP, SIDES AND BOTTOM.

B) PIPING INSULATION

A. INSULATE ALL PIPING IN ACCORDANCE WITH INSULATION SCHEDULE EXCEPT AS OTHERWISE NOTED.

SERVICE	INSULATION SCHEDULE – PIPING	SIZE	THICKNESS	MATERIAL	FINISH
REFRIGERANT PIPING		1.5"		P-6	
CONDENSER DRAIN PIPING		1.0"		P-6	

B. PIPING, VALVES AND FITTINGS TO BE INSULATED:
1) LOW TEMPERATURE PIPING SYSTEMS – 0 TO 60 DEG F INCLUDING:
a. CONDENSATE DRAIN PIPING.

3) PROTECTIVE COVERINGS SHALL BE INSTALLED ON AREAS OF INSULATION THAT ARE EXPOSED TO WEATHER OR SUBJECT TO MECHANICAL DAMAGE. THE PROTECTIVE COVERING SHALL BE:
a. ARMA-CHEK SILVER MULTI-LAYER LAMINATE OF ALUMINUM, COATED WITH A UV PROTECTIVE FILM AND BACKED WITH A FLEXIBLE PVC FILM. THE MATERIAL SHOULD BE ADHERED WITH ARMAFLEX 520 ADHESIVE OR EQUIVALENT, AND ALL JOINS AND SEAMS SECURED WITH ARMA-CHEK SILVER TAPE. INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS.
OR
b. HIGH DENSITY RUBBER CLADDING OF THE ARMA-CHEK R TYPE BONDED USING AN APPROPRIATE FULL CONTACT ADHESIVE WITH A MINIMUM 50 MM OVERLAP AT ALL BUTT JOINTS AND LONGITUDINAL SEAMS. A WEATHER-PROOF MASTIC SEALANT SHALL BE APPLIED OVER ALL SEAMS AND JOINTS. ALL MATERIAL SHALL BE OVERLAPPED AND STAGGERED IN SUCH A WAY AS TO ENSURE A WATERSHED IS ALWAYS PROVIDED. INSTALLATION SHALL BE IN ALL CASES TO THE MANUFACTURER'S RECOMMENDATIONS. ALL EXCESS ADHESIVE VISIBLE ON THE SURFACE OF THE COMPLETED ASSEMBLY SHALL BE REMOVED USING AN APPROPRIATE CLEANING MATERIAL.

OR
c. METAL CLADDING, COMPRISED OF COATED SHEET METAL, WITH ALL EXTERNAL JOINTS AND FIXING MADE WEATHER-PROOF WITH SILICONE SEALANT.

C. MATERIAL:

- 1) TYPE P-1: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS, MAXIMUM 0.24 K-FACTOR AT 75 DEG F MEAN TEMPERATURE WITH FACTORY-APPLIED FIRE-RETARDANT FOIL-SKRIM-KRAFT FACING. ALL SERVICE JACKET. SIMILAR TO OWENS-CORNING 650 ASJ.
- 2) TYPE P-3: MINIMUM 4 LB DENSITY MOLDED FIBERGLASS FITTING, MAXIMUM 0.23 K-FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO EPOLUX HMFAB MOLDED FITTINGS.
- 3) TYPE P-4: MINIMUM 1 LB DENSITY FIBERGLASS FITTING INSERTS, MAXIMUM 0.27 K-FACTOR AT 75 DEG F MEAN TEMPERATURE SIMILAR TO MANVILLE HI-LO TEMP INSULATION INSERTS.
- 4) TYPE P-6: MINIMUM 6 LB MOLDED FOAMED PLASTIC, MAXIMUM 0.27 K-FACTOR AT 75 DEG F MEAN TEMPERATURE, MAXIMUM 0.17 PERMEANCE. SIMILAR TO ARMSTRONG ARMAFLEX II.

D. FINISH:

- 1) TYPE F-1: FITTING COVER, MOLDED WHITE PVC JACKET, UL CLASS 1, MAXIMUM PERMEANCE 0.05 SIMILAR TO MANVILLE ZESTRON.
- 2) TYPE F-2: WHITE VAPOR BARRIER COATING WITH 10X10 OR 20X20 MESH WHITE GLASS, POLYESTER OR NYLON CLOTH REINFORCING MEMBRANE, MINIMUM 31 MIL DRY FILM THICKNESS, SIMILAR TO FOSTER TITE-FIT, UL LABEL.
- 3) TYPE F-4: ALUMINUM JACKETING WITH MINIMUM 0.016 IN. WALL THICKNESS AND LONGITUDINAL JOINTS WITH LOCK SEAMS.
- 4) TYPE F-6: WHITE FINISHING AND INSULATING CEMENT APPLIED OVER HEXAGONAL WIRE MESH. CEMENT SIMILAR TO KEENE SUPERSLOK.

E. INSTALLATION:

- 1) BEFORE APPLYING INSULATION ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED.
- 2) ALL INSULATION SHALL BE BUTTED FIRMLY TOGETHER. PROVIDE 2 IN. LAMP STRIPS AT ALL SEAMS SECURED WITH ADHESIVE. USE VAPOR BARRIER TAPE AND VAPORSEAL ADHESIVE WHERE REQUIRED. STAPLES NOT PERMITTED. REFRIGERANT PIPING INSULATION SHALL HAVE MITERED FITTINGS.
- 3) ALL INSULATION AND VAPOR BARRIERS SHALL BE CONTINUOUS PASSING THROUGH SLEEVES, HANGERS, ETC., OR OTHER OPENINGS. PROVIDE SADDLES OR SHIELDS FOR PROTECTION AT ALL HANGINGS.
- 4) INSULATION FOR STRAINERS OR OTHER FITTINGS OR ACCESSORIES REQUIRING SERVICING OR INSPECTION SHALL HAVE INSULATION REMOVABLE AND REPLACEABLE WITHOUT DAMAGE.

SPECIFICATIONS:

FANS:

MODEL SP

CEILING EXHAUST FANS ARE DESIGNED FOR CLEAN AIR APPLICATIONS WHERE LOW SOUND LEVELS ARE DESIRED. FAN/LIGHT COMBINATIONS ARE AVAILABLE ON A WIDE RANGE OF SP, SP-A AND SP-B MODELS. SP MODELS ARE THE MOST ENERGY EFFICIENT OPTION FEATURING AN EC MOTOR AND THE LOWEST SOUND VALUES OF <0.3 AT 0.1 IN. WG OF STATIC PRESSURE. THE PERFORMANCE CAPABILITIES ARE 30 CFM TO 110 CFM AND UP TO 0.625 IN. WG OF STATIC PRESSURE. SP-A MODELS ARE PREMIUM ULTRA LOW SOUND EXHAUST FANS WITH PERFORMANCE CAPABILITIES OF 50 CFM TO 1,607 CFM AND UP TO 0.75 IN. WG OF STATIC PRESSURE. SP-B MODELS ARE DELUXE EXHAUST FANS THAT HAVE A GOOD BALANCE BETWEEN PRICE AND SOUND WITH PERFORMANCE CAPABILITIES OF 50 CFM TO 200 CFM AND UP TO 0.75 IN. WG OF STATIC PRESSURE.

THERMOSTATIC CONTROLS

A. GENERAL:

THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE INDIVIDUALLY CONTROLLED BY THERMOSTATIC CONTROLS RESPONDING TO TEMPERATURE WITHIN THE ZONE. FOR THE PURPOSES OF THIS SECTION, A DWELLING UNIT SHALL BE PERMITTED TO BE CONSIDERED A SINGLE ZONE.
EXCEPTION:
INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE LOADS SHALL BE PERMITTED TO SERVE ONE OR MORE ZONES ALSO SERVED BY AN INTERIOR SYSTEM, PROVIDED THAT

1. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING WALLS FACING ONLY ONE ORIENTATION FOR 50 CONTIGUOUS FEET OR MORE AND

2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

EXTERIOR WALLS AND SEMIEXTERIOR WALLS ARE CONSIDERED TO HAVE DIFFERENT ORIENTATIONS IF THE EXPOSURES THEY FACE DIFFER BY MORE THAN 45 DEGREES.

B. DEAD BAND:

WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF AND CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEAD BAND OF AT LEAST 5° WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.
EXCEPTIONS:
1. THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
2. SPECIAL OCCUPANCY OR SPECIAL APPLICATIONS WHERE WIDE TEMPERATURE RANGES ARE NOT ACCEPTABLE (SUCH AS RETIREMENT HOMES, PROCESS APPLICATIONS, MUSEUMS, SOME AREAS OF HOSPITALS) AND ARE APPROVED BY THE AUTHORITY HAVING JURISDICTION.

C. SET-POINT OVERLAP RESTRICTION:

WHERE HEATING AND COOLING TO A ZONE ARE CONTROLLED BY SEPARATE ZONE THERMOSTATIC CONTROLS LOCATED WITHIN THE ZONE, MEANS (SUCH AS LIMIT SWITCHES; MECHANICAL STOPS; OR, FOR DDC SYSTEMS, SOFTWARE PROGRAMMING) SHALL BE PROVIDED TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT, MINUS ANY APPLICABLE PROPORTIONAL BAND.

D. AUTOMATIC SHUTDOWN:

HVAC SYSTEMS SHALL BE EQUIPPED WITH AT LEAST ONE OF THE FOLLOWING.
a. CONTROLS THAT CAN START AND STOP THE SYSTEM UNDER DIFFERENT TIME SCHEDULES FOR SEVEN DIFFERENT DAY TYPES PER WEEK ARE CAPABLE OF RETAINING PROGRAMMING AND TIME SETTING DURING LOSS OF POWER FOR A PERIOD OF AT LEAST TEN HOURS, AND INCLUDE AN ACCESSIBLE MANUAL OVERRIDE OR EQUIVALENT FUNCTION THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO TWO HOURS.

b. AN OCCUPANT SENSOR THAT IS CAPABLE OF SHUTTING THE SYSTEM OFF WHEN NO OCCUPANT IS SENSED FOR A PERIOD OF UP TO 30 MINUTES.

c. A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO TWO HOURS.

d. AN INTERLOCK TO A SECURITY SYSTEM THAT SHUTS THE SYSTEM OFF WHEN THE SECURITY SYSTEM IS ACTIVATED.

E. SETBACK CONTROLS:

HEATING SYSTEM SHALL BE EQUIPPED WITH CONTROLS CAPABLE OF AND CONFIGURED TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES ABOVE AN ADJUSTABLE HEATING SET POINT AT LEAST 10°F BELOW THE OCCUPIED HEATING SET POINT. COOLING SYSTEMS SHALL BE EQUIPPED WITH CONTROLS CAPABLE OF AND CONFIGURED TO AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE MECHANICAL COOLING SYSTEM AS REQUIRED TO MAINTAIN ZONE TEMPERATURES BELOW AN ADJUSTABLE COOLING SET POINT AT LEAST 5°F ABOVE THE OCCUPIED COOLING SETPOINT OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.
EXCEPTION:
RADIANT HEATING SYSTEMS CAPABLE OF AND CONFIGURED WITH A SETBACK HEATING SET POINT AT LEAST 4°F BELOW THE OCCUPIED HEATING SET POINT.

COMBINATION FIRE SMOKE DAMPER-INSTALLATION MATRIX

TASK	MECHANICAL CONTRACTOR	ELECTRICAL CONTRACTOR	FIRE ALARM VENDOR
FURNISH & INSTALL DAMPER	X		
FURNISH & INSTALL DUCT/SMOKE DETECTOR	X		
INSTALL LINE VOLTAGE WIRING AND CONDUITS		X	
INSTALL FIRE ALARM CABLING			X
PROGRAMMING FIRE ALARM DEVICES			X
TESTING OF FIRE SMOKE DAMPER ASSEMBLY	X	X	X

NOTES:
1. THIS CHART IS PROVIDED AS A GUIDELINE. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO COORDINATE AMONG THE SUB CONTRACTORS TO ENSURE COMPLETE UNDERSTANDING OF THE SYSTEMS, INCLUDING HOW AND BY WHOM THEY SHALL BE INSTALLED.

SEQUENCE OF OPERATIONS

- 1) FIRE AND SMOKE DAMPER
o) SMOKE DETECTION/TEST/POWER FAILURE OPERATION
WHEN SMOKE IS DETECTED (VIA A SMOKE DETECTOR), DURING TESTING OR IF POWER FAILURE OCCURS, THE DAMPER WILL CLOSE AND REMAIN CLOSED. WHEN THE SMOKE SIGNAL CEASES (SMOKE DETECTOR RESET), THE TEST IS COMPLETED OR POWER IS RESTORED THE DAMPER WILL AUTOMATICALLY RESET TO THE OPEN POSITION. THE DAMPER AUTOMATICALLY RESETS IF NUISANCE ALARMS OCCUR AND THE SYSTEM IS RESET.

b) FIRE OPERATION
WHEN TEMPERATURES IN EXCESS OF 165°F/74°C (212°F/100°C, 250°F/121°C OR 350°F/177°C OPTIONAL) ARE DETECTED, THE DAMPER WILL CLOSE AND LOCK. AT NO TIME SHALL THE DAMPER BE DISENGAGED FROM THE ACTUATOR. UPON CESSATION OF THE FIRE CONDITIONS, THE DAMPER CAN BE REOPENED BY PRESSING THE RESET BUTTON LOCATED ON THE DAMPER ASSEMBLY.

2) FANS: TURNED ON OR OFF THROUGH ON-OFF SWITCH AND SHALL OPERATE CONTINUOUSLY. WHERE THERE ARE DAMPERS (MOTORIZED OR FSD) IN THE DUCTWORK SYSTEM SERVED BY THE FAN, THEY SHALL BE INTERLOCKED WITH THE FAN TO OPEN WHEN THE FAN IS OPERATING ONLY. IF FSD IS INSTALLED IN THE SYSTEM, THE FAN SHALL SHUT DOWN WHENEVER THE FSD CLOSURES ON AN ALARM CONDITION.

a. TRANSFER FANS: FANS SHALL BE CONTROLLED BY A LOCAL WALL MOUNTED SWITCH.

b. OUTSIDE AIR FANS: FANS SHALL BE INTERCONNECTED WITH AC UNITS SERVED. FANS SHALL RUN WHENEVER EITHER BUILDING AIR HANDLER IS OPERATIONAL.

c. OUTSIDE AIR FANS SHALL BE INTERCONNECTED TO THEIR RESPECTIVE OUTSIDE AIR MOTORIZED DAMPER SO THAT THE DAMPER OPENS WHENEVER THE OA FAN IS OPERATING. OA FAN SHALL START RUNNING AFTER DAMPER IS PROOFED OPEN.

3) AC UNITS: UNIT SHALL BE STARTED AND STOPPED BY WALL MOUNTED PROGRAMMABLE THERMOSTAT. DURING "ON" MODE UNIT THERMOSTAT SHALL ENERGIZE COMPRESSOR(S) AND SUPPLY FAN TO MAINTAIN ROOM SET POINT OF 75°F ADJUSTABLE; WHEN ROOM TEMPERATURE DROPS BELOW SET POINT COMPRESSOR(S) SHALL DE-ENERGIZE AND FAN SHALL REMAIN ON.

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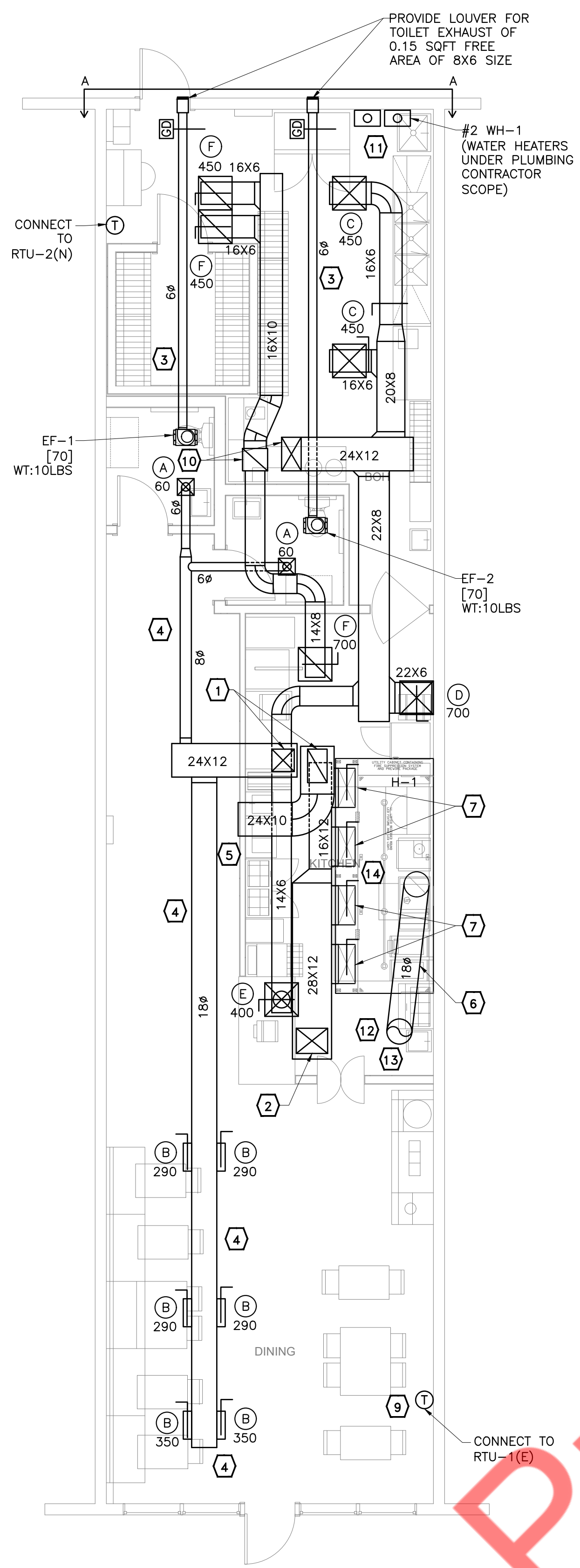
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REVISION TABLE	DESCRIPTION
NUMBER	DATE
01	2023-02-28
02	2023-03-21

REVISION DATE: 01 2023-02-28
REVISION DATE: 02 2023-03-21

REVISION DESCRIPTION: N/A
RE



1 FLOOR PLAN - MECHANICAL
3/16" = 1'-0"

GENERAL NOTES:

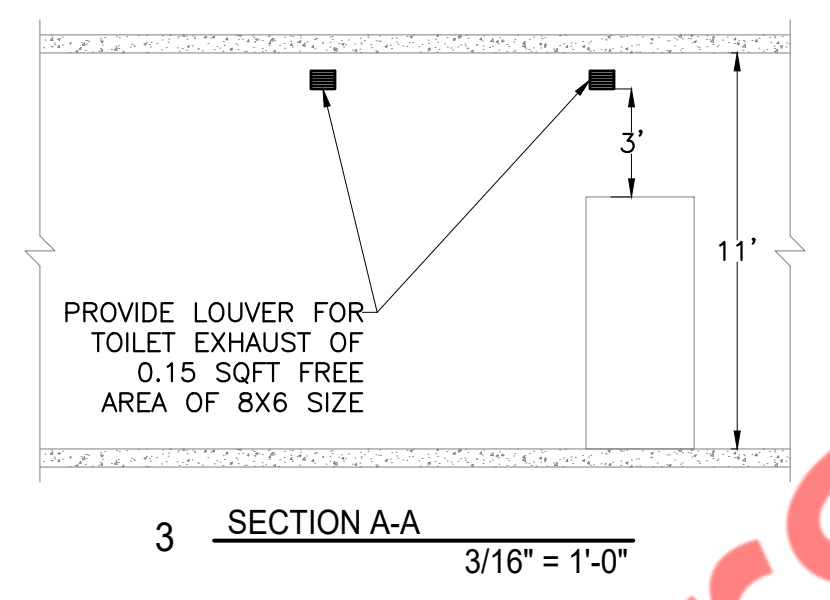
- CONTRACTOR TO VERIFY T-STAT LOCATIONS WITH OWNER PRIOR TO ROUGH-IN.
- ALL UNITS TO BE MORE THAN 10'-0" FROM EDGE OF ROOF SO AS TO NOT REQUIRE GUARDRAILS AND HANDRAILS. MODIFY/EXTEND DUCTWORK AS REQUIRED.
- COORDINATE ALL CEILING EQUIPMENT WITH ARCHITECTURAL CEILING, LIGHTS, STRUCTURE, ETC.
- ALL OA INTAKES TO BE A MINIMUM OF 10'-0" FROM ANY EXHAUST TERMINATIONS. MODIFY/EXTEND DUCT AS REQUIRED.
- INSTALL KITCHEN HOOD, MAU, KXF AND ALL ASSOCIATED DUCT, ETC. PER NFPA 96.
- COORDINATE ALL NEW WORK WITH EXISTING CONDITIONS PRIOR TO ORDERING/FABRICATING NEW WORK. OFFSET/EXTEND NEW WORK AS REQUIRED TO AVOID CONFLICTS WITH EXISTING CONDITIONS.
- PAINT ALL NEW EXPOSED DUCT AND PIPING PER THE ARCHITECT EXCEPT ON ROOF.
- PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
- GREASE DUCT SYSTEM SHALL SLOPE NOT LESS THAN ONE-FOURTH UNIT VERTICAL IN 12 UNITS HORIZONTAL (2-PERCENT SLOPE) TOWARD THE HOOD OR GREASE RESERVOIR. PROVIDE GREASE RESERVOIR IN DUCTS, WHERE HORIZONTAL DUCT RUN EXCEEDS 75 FEET. COORDINATE WITH ARCHITECT FOR GREASE RESERVOIR LOCATION AND ACCESS.
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL FIELD VERIFY THE CLEAR HEIGHT AVAILABLE ABOVE THE FALSE CEILING. UNDER THE ENGINEER'S DIRECTION, MODIFY THE DUCT ROUTING AS NECESSARY BASED ON THE SITE CONDITIONS.

KEY NOTES:

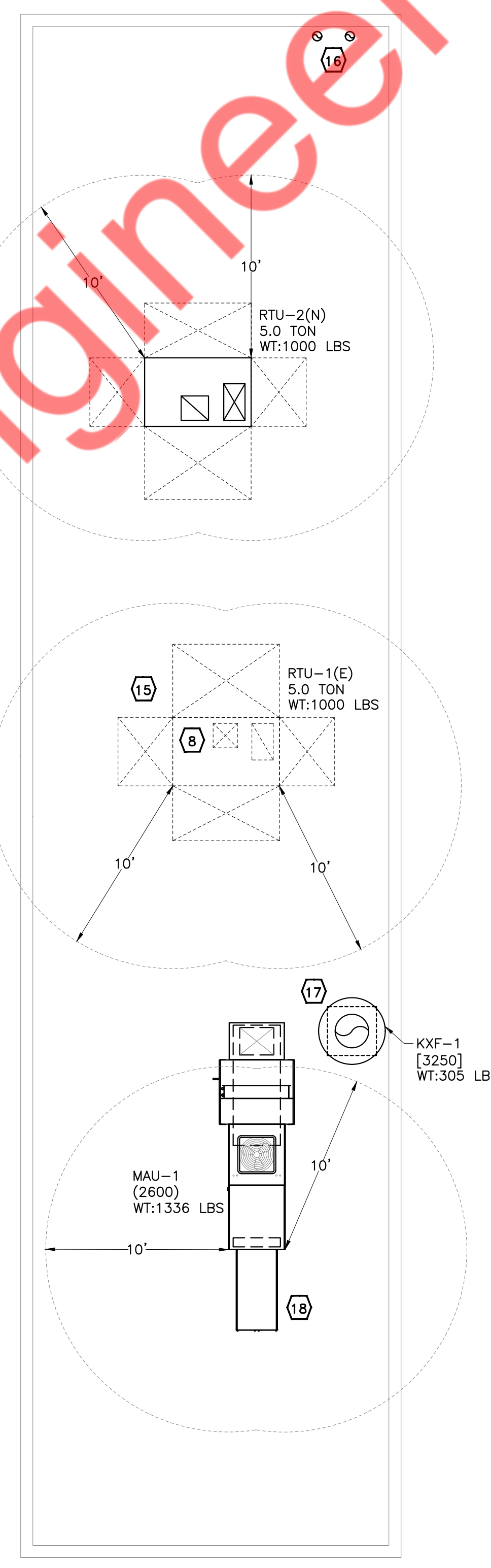
- ROUTE SAD AND RAD FULL SIZE OF UNIT SA AND RA OPENING DN AND CONNECT TO TOP OF SAD AND RAD MAIN. PROVIDE FLEXIBLE CANVAS CONNECTIONS AT UNIT CONNECTIONS.
- ROUTE OAD FULL SIZE OF UNIT OPENING DN AND CONNECT TO TOP OF OAD MAIN. PROVIDE FLEXIBLE CANVAS CONNECTIONS AT UNIT CONNECTIONS.
- ROUTE 6" EAD FROM EF TO WALL CAP IN EXTERIOR WALL. WALL CAP TO BE PAINTED PER THE ARCHITECT. PROVIDE FLEXIBLE CANVAS CONNECTION AT FAN CONNECTIONS.
- EXPOSED SAD TO BE DOUBLE WALL SPIRAL EQUAL TO LINDAB. MOUNT SAG'S 45 DEG FROM BOTTOM OF DUCT.
- PROVIDE 1/2" MESH SCREEN OVER INLET.
- ROUTE 18" WELDED STAINLESS STEEL EAD UP FROM HOOD TO KXF-1 ON ROOF. SLOP ALL EAD DN FROM KXF TO HOOD. INSTALL ALL DUCT PER CODE AND MANUFACTURER'S RECOMMENDATIONS.
- ROUTE OAD FULL SIZE OF HOOD CONNECTION SIDE FROM OAD MAIN AND CONNECT TO HOOD PER THE MANUFACTURER'S RECOMMENDATIONS.
- BALANCE EXISTING RTU FOR 400 CFM OA. PROVIDE INTAKE HOOD AND DAMPERS AS REQUIRED IN ORDER TO BALANCE UNIT AS PER AIR BALANCING SCHEDULE.
- EXISTING THERMOSTAT TO BE RE-USED AND RELOCATED AS SHOWN IN DRAWING. CONTRACTOR TO VERIFY IN FIELD, REPLACE IN KINDS IF DAMAGED.
- ROUTE SAD AND RAD FULL SIZE OF UNIT. SA AND RA OPENING DN AND CONNECT TO SAD AND RAD AS SHOWN. PROVIDE FLEXIBLE CANVAS CONNECTIONS AT UNIT CONNECTIONS.
- PROVIDE CONCENTRIC VENT FOR EACH WATER HEATER (WATER HEATERS UNDER PLUMBING CONTRACTOR SCOPE) AS PER MANUFACTURER RECOMMENDATIONS. FOR ADDITIONAL INFORMATION REFER DETAIL #7 ON SHEET M201.
- CLEAN-OUT OPENINGS SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION. TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. OPENING DOOR ASSEMBLIES SHALL HAVE A GASKET OR SEALANT THAT IS NON-COMBUSTIBLE AND LIQUID TIGHT, AND SHALL NOT HAVE FASTENERS THAT PENETRATE THE DUCT. THE OPENING DIMENSIONS SHALL BE 12X12 INCHES ON ACCESSIBLE SIDE OF DUCT. SPACING BETWEEN CLEAN OUT OPENING SHALL NOT BE MORE THAN 12 FEET. WHERE LOCATED IN THE BOTTOM OF THE DUCT, CLEAN-OUT OPENINGS SHALL BE DESIGNED TO PROVIDE INTERNAL DAMMING AROUND THE OPENING. SHALL BE PROVIDED WITH GASKETING TO PRECLUDE GREASE LEAKAGE. SHALL PROVIDE DRAINAGE OF GREASE DOWN THE DUCT AROUND THE DAM, AND SHALL BE APPROVED FOR THE APPLICATION. PROVIDE CLEAN OUTS FOR ROUND DUCTS AS PER CODE AND MANUFACTURER RECOMMENDATION.
- PROVIDE GREASE TRAP AT THE BASE OF VERTICAL RISER OF GREASE EXHAUST DUCT FOR CLEANOUT. IN ACCORDANCE WITH NFPA 96. COORDINATE WITH ARCHITECT FOR ACCESS DOOR.
- INSTALL KITCHEN HOOD(HD-1). SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL HOOD ACCORDING TO THE REQUIREMENTS OF ITS LISTING. IN COMPLIANCE WITH NFPA 96, THE BUILDING CODE, AND AUTHORITIES HAVING JURISDICTION. HOOD SHALL HAVE AN INTEGRAL DUCT COLLAR TEMPERATURE SENSOR TO AUTOMATICALLY ENERGIZE THE EXHAUST AND MAKEUP AIR FANS IF COOKING TEMPERATURES ARE DETECTED. EXHAUST DUCT SYSTEM TO BE WELDED OR FACTORY-MANUFACTURED WATER AND AIR TIGHT.
- EXISTING MECHANICAL ROOFTOP UNIT TO REMAIN. CLEAN AND REFURBISH TO "LIKE-NEW" CONDITION. REPAIR/REPLACE ANY ACCESSORIES AS REQUIRED TO PROVIDE A FULLY FUNCTIONING UNIT. VERIFY IN FIELD PRIOR TO BID ENSURE UNIT IS BALANCED TO 2000CFM PER EXISTING AS-BUILT CONDITIONS AND BALANCE OUTSIDE AIR DAMPER TO 400 CFM. NOTIFY ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO BID AND START OF WORK.
- WATER HEATER CONCENTRIC VENTS TO BE TERMINATE ON ROOF AS PER MANUFACTURER RECOMMENDATIONS.
- KITCHEN EXHAUST TO BE TERMINATED AT NOT LESS THAN 40 INCHES (1016 MM) ABOVE THE ROOF SURFACE. PROVIDE CURB HEIGHT ACCORDINGLY.
- PROVIDE MOTORIZED DAMPER TO MAU AT OA INTAKE IF NOT PROVIDED BY MANUFACTURER. SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".

KITCHEN EXHAUST NOTES:

- PROVIDE CLEAN OUT AT ALL ELBOWS AND BOTTOM OF RISER AND EVERY 12 FEET HORIZONTAL KITCHEN EXHAUST DUCT.
- COMMERCIAL KITCHEN GREASE DUCTS SHALL BE DESIGNED FOR THE TYPE OF COOKING APPLIANCE AND HOOD SERVED. COMMERCIAL KITCHEN GREASE DUCTS SHALL BE OF 16 GAUGE MINIMUM BLACK IRON OR PREFABRICATED SINGLE WALL GREASE DUCT WITH UL 1978 AND UL 2221 LISTING.
- JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID TIGHT WELD OR BRAZE MADE IN THE EXTERNAL SURFACE IF THE DUCT SYSTEMS.
- DUCT TO EXHAUST FAN CONNECTIONS SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR INLINE FANS. APPROVED FLEXIBLE CONNECTIONS MAY BE PROVIDED.
- A VIBRATION ISOLATION CONNECTOR FOR CONNECTING A DUCT TO A FAN SHALL CONSIST OF NON-COMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED FOR THE APPLICATION. VIBRATION ISOLATION CONNECTORS SHALL BE INSTALLED ONLY AT THE CONNECTION OF A DUCT TO A FAN INLET OR OUTLET.
- PRIOR TO THE USE OR CONCEALMENT OF ANY PORTION OF A GREASE DUCT SYSTEM, A LEAKAGE TEST SHALL BE PERFORMED AS PER NJMC 2021 SECTION 506.3.2.5. DUCT SHALL BE CONSIDERED TO BE CONCEALED WHERE INSTALLED IN SHAFTS OR COVERED BY COATINGS OR WRAPS THAT PREVENT THE DUCTWORK FROM VISUALLY INSPECTED ON ALL SIDE. THE DUCT INSTALLER SHALL BE RESPONSIBLE FOR PROVIDING THE NECESSARY EQUIPMENT AND PERFORMING THE GREASE DUCT LEAKAGE TEST. THE DUCT LEAKAGE TEST SHALL BE PERFORMED FOR ALL THE DUCT SYSTEMS, INCLUDING THE DUCT-TO-DUCT CONNECTION. THE DUCTWORK SHALL BE PERMITTED TO BE TESTED IN SECTIONS, PROVIDED THAT EVERY JOINT IS TESTED (IF TEST IS FAILED, CONTRACTOR TO PROVIDE NEW KITCHEN EXHAUST DUCT).
- PROVIDE SMOKE TEST TO PROOF TIGHTNESS OF THE GREASE DUCT.
- GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NON-COMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LOADS WITHIN THE STREET LIMITATIONS OF THE NEW YORK CITY BUILDING CODE. BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.
- A RESIDUE TRAP SHALL BE PROVIDED AT THE BASE OF EACH VERTICAL RISER WITH PROVISION FOR CLEANOUT IN ACCORDANCE WITH NFPA 96.
- CLEANOUT OPENINGS SHALL BE PROVIDED AT EVERY CHANGE IN DIRECTION, AND WITHIN 3 FEET OF THE EXHAUST FAN.
- CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOOR ASSEMBLIES SHALL HAVE A GASKET OR SEALANT THAT IS NON-COMBUSTIBLE AND LIQUID TIGHT AND SHALL NOT HAVE FASTENERS THAT PENETRATED THE DUCT.
- A GREASE DUCT SERVING THE TYPE-1 HOOD THAT PENETRATED A CEILING, WALL OR FLOOR SHALL BE ENCLOSED FROM THE FIRE POINT OF PENETRATION TO THE OUTLET TERMINAL DUCT ENCLOSURES SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT OF THE FIRE-RESISTANCE RATED ASSEMBLY PENETRATED BUT NEED NOT EXCEED 2 HOURS.
- PROVIDE MINIMUM 2HR INSULATION COVERING OF 2 INCHES OF MAGNESIUM OR CALCIUM SILICATE BLOCK, WITH STAGGERED JOINTS.



3 SECTION A-A
3/16" = 1'-0"



2 ROOF PLAN - MECHANICAL
3/16" = 1'-0"

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REVISION TABLE	NUMBER	DATE	REVISION BY	DESCRIPTION
	01	2023-02-28	NYE	LL REVIEW SET
	02	2023-03-21	NYE	PERMIT SET

PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:
GARBANZO
MEDITERRANEAN FRESH

DATE: 02-01-2023

DRAWN BY: NYE

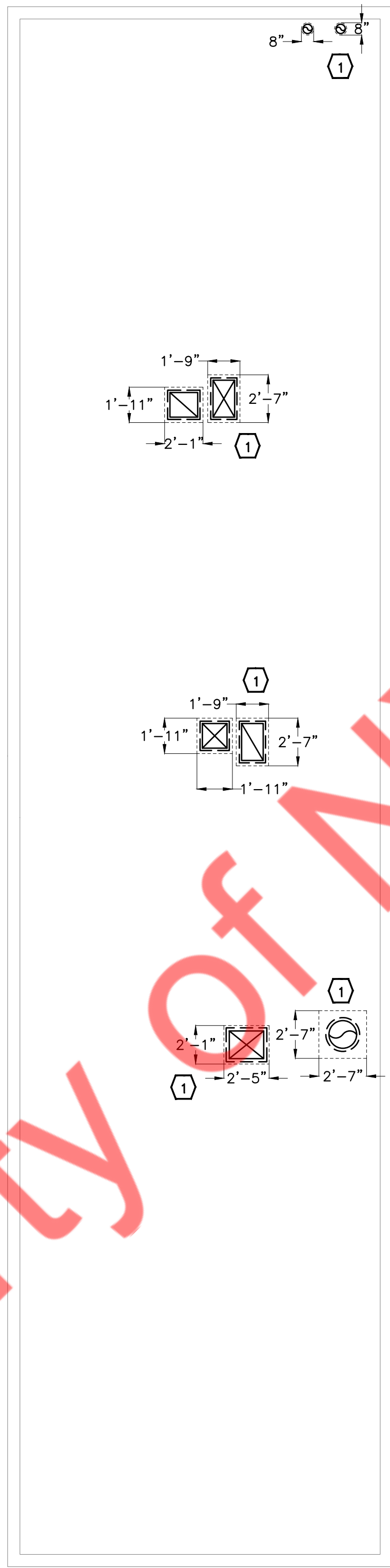
SCALE: AS NOTED

JOB #:

SHEET:

M101

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KEY NOTES:

① A ROOF OPENING TO BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH MANUFACTURER RECOMMENDATION AND OF THE DIMENSIONS AS SHOWN. ALL ROOF PENETRATIONS, OPENINGS, REPAIRS, PATCHING TO BE COORDINATED WITH LANDLORD ROOFING VENDOR. PROVIDE GREASE PROTECTION AT ROOF AS NECESSARY. CONTRACTOR TO VERIFY EQUIPMENT LOAD WITH STRUCTURAL ENGINEER AND INSTALL ALL EQUIPMENTS SUPPORTED FROM ROOF STRUCTURAL MEMBER.

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NUMBER	DATE	REVISION TABLE	REVISOR	DESCRIPTION
01	2023-02-28	NYE	LL	REVIEW SET
02	2023-03-21	NYE	NYE	PERMIT SET

NOTES:

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RESTAURANT FIT OUT FOR:



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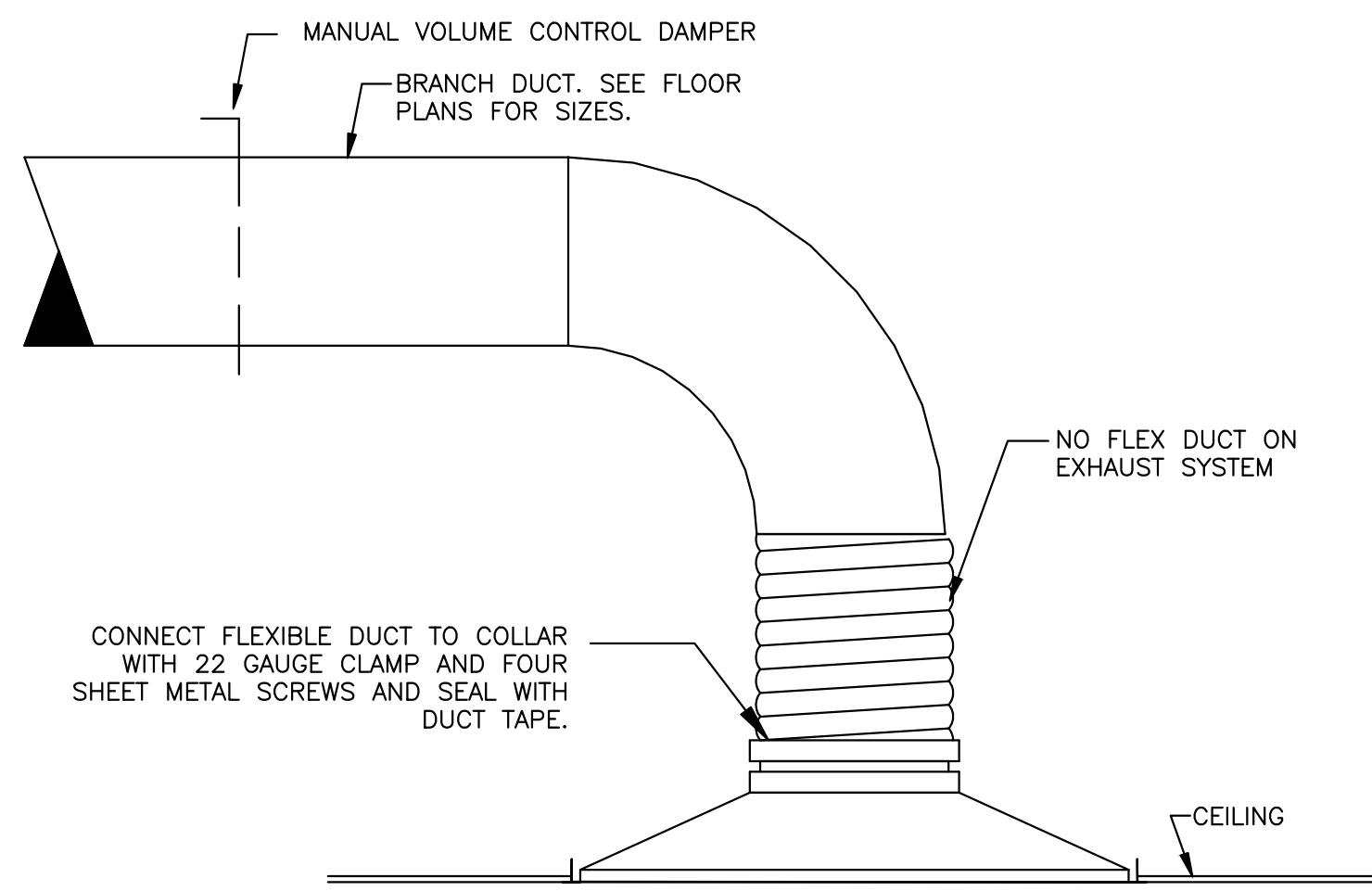
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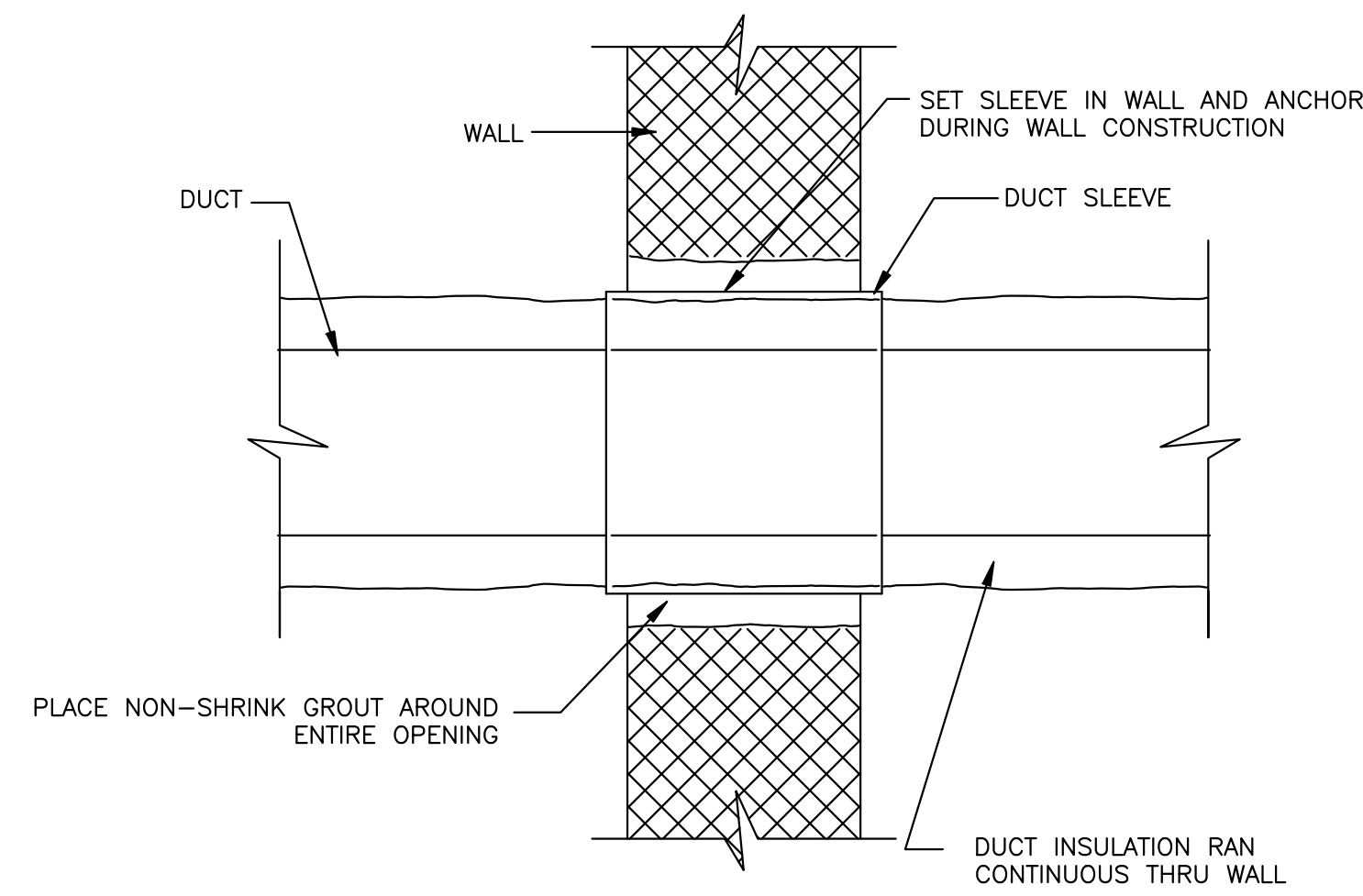
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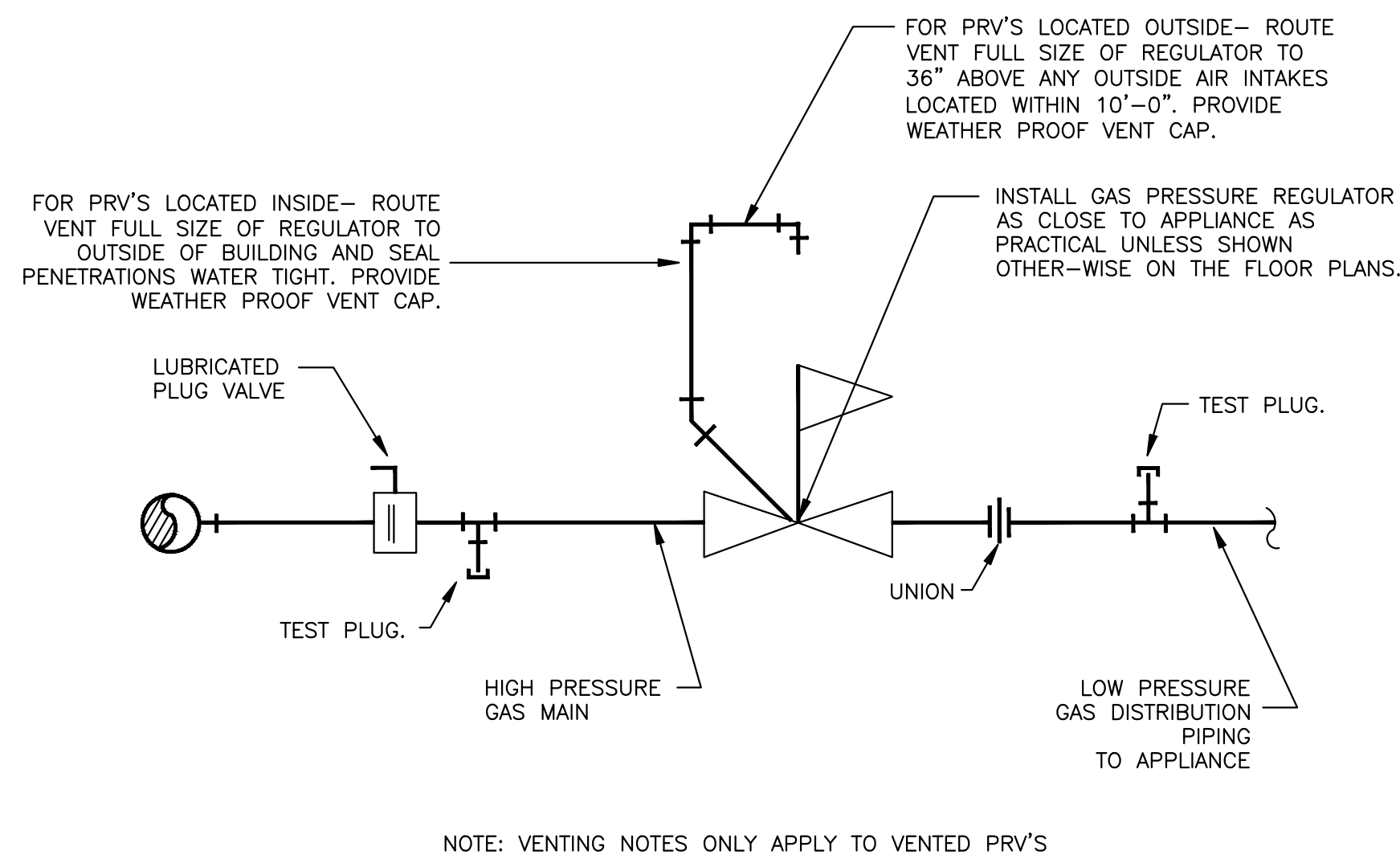
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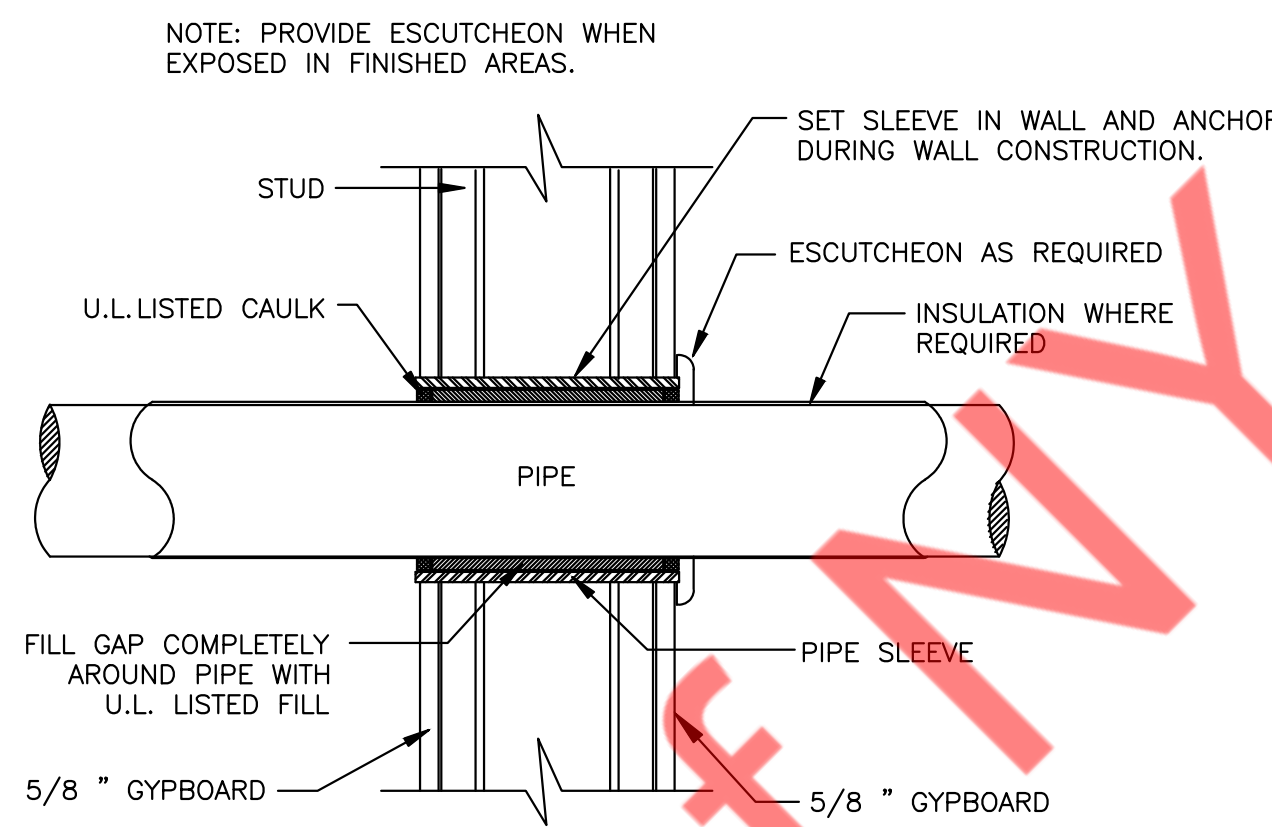
1 DIFFUSER CONNECTION DETAIL
NOT TO SCALE



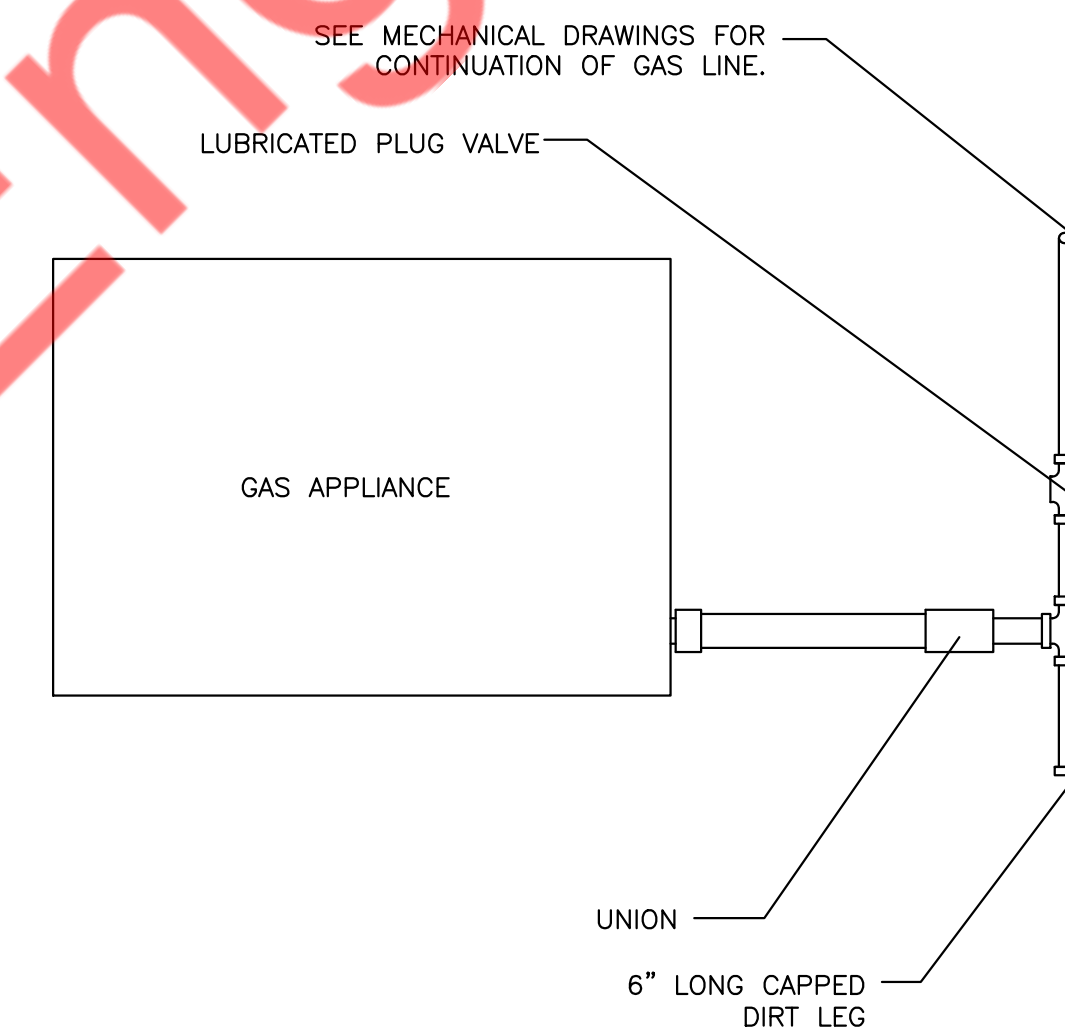
2 EXTERNALLY INSULATED DUCT THRU WALL DETAIL
NOT TO SCALE



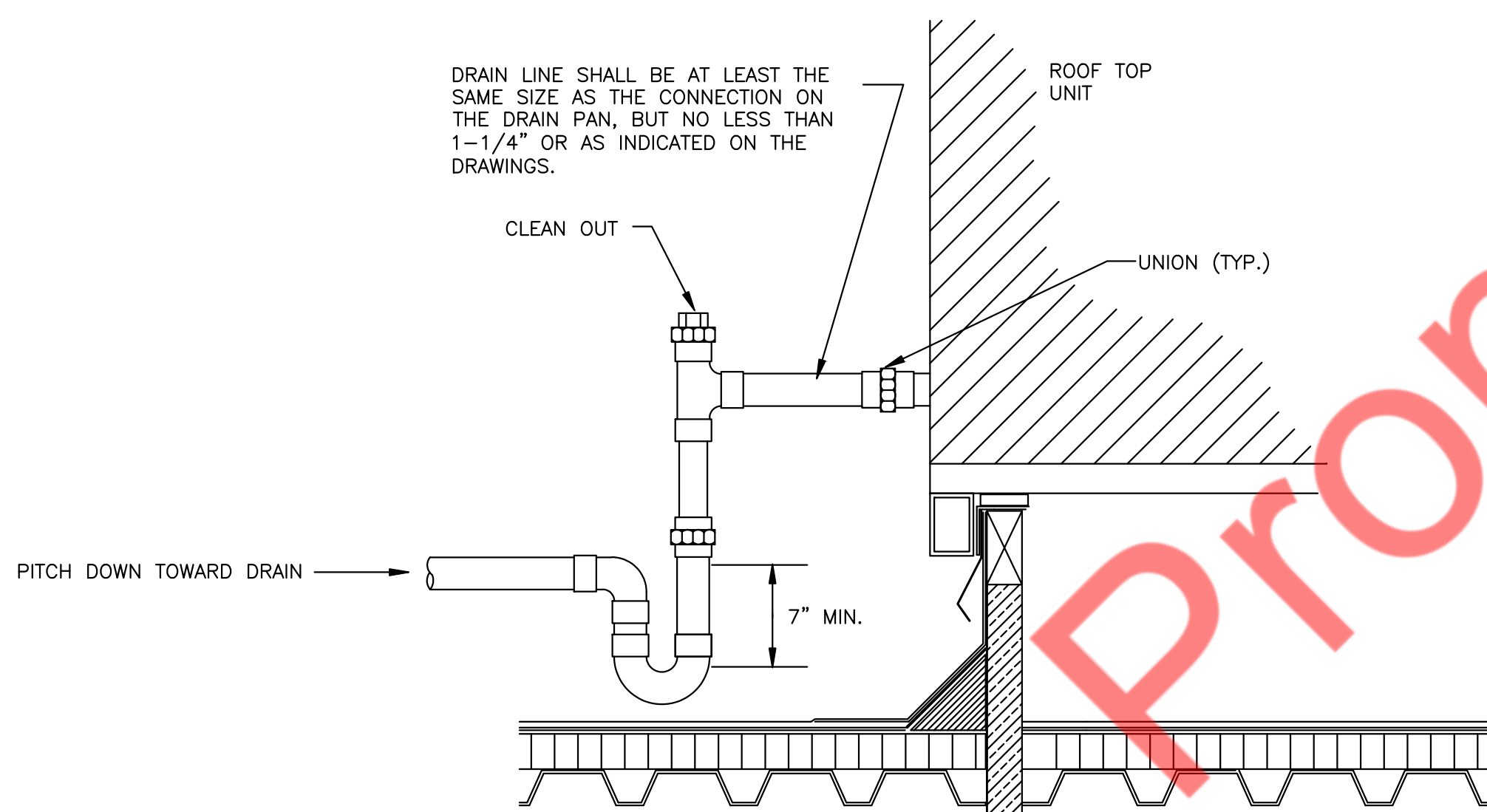
3 GAS PRESSURE REGULATOR DETAIL
NOT TO SCALE



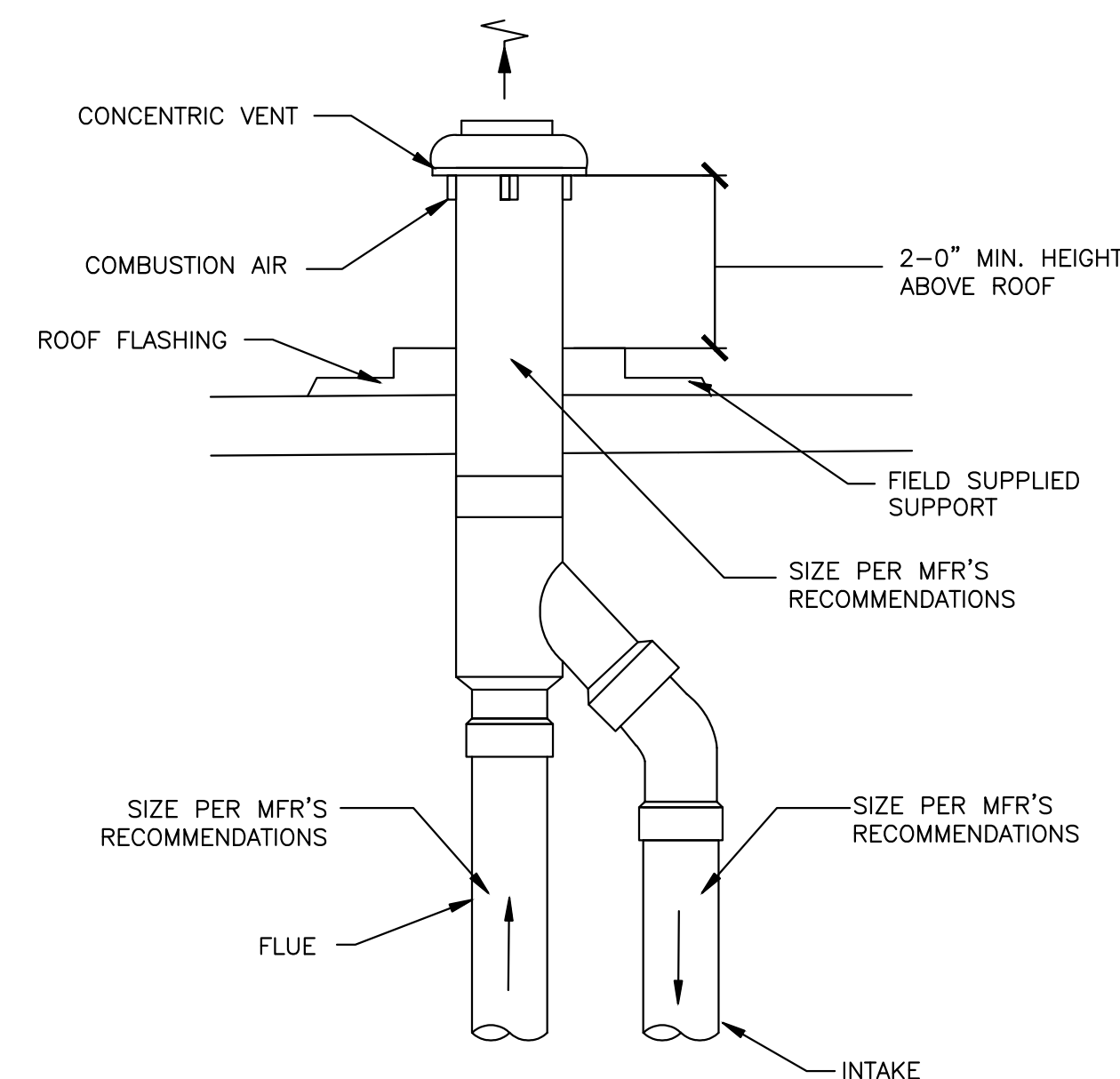
4 PIPE PENETRATION THRU NON-RATED WALL DETAIL
NOT TO SCALE



5 GAS APPLIANCE CONNECTION DETAIL
NOT TO SCALE



6 ROOFTOP EQUIPMENT CONDENSATE DRAIN TRAP DETAIL
NOT TO SCALE



7 CONCENTRIC VENT DETAIL
NOT TO SCALE

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NOTES:

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RESTAURANT FIT OUT FOR:
GARBANZO
MEDITERRANEAN FRESH

DATE: 02-01-2023

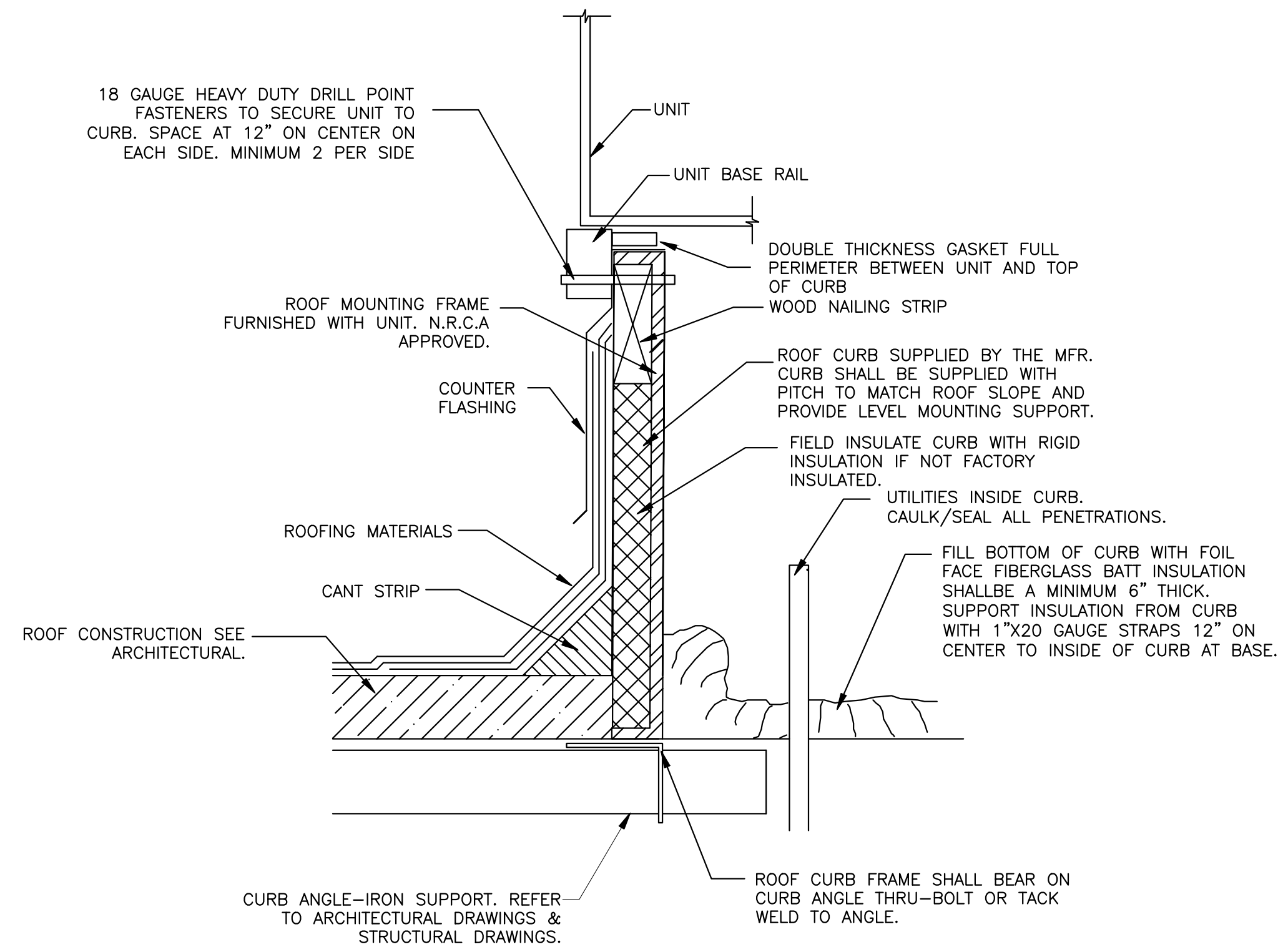
DRAWN BY: NYE

SCALE: AS NOTED

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SHEET:

M201



NOTE:
ALL ROOF PENETRATIONS/OPENINGS/REPAIRS/PATCHING TO BE COORDINATED WITH LANDLORD ROOFING VENDOR.

1 ROOF CURB DETAIL
NOT TO SCALE

KITCHEN AREA BALANCING SCHEDULE	
KITCHEN HOOD EXHAUST	(3250)
OUTSIDE AIR	400
MAKE-UP AIR	2600
TOTAL	(250)

2 KITCHEN CALCULATIONS
NOT TO SCALE

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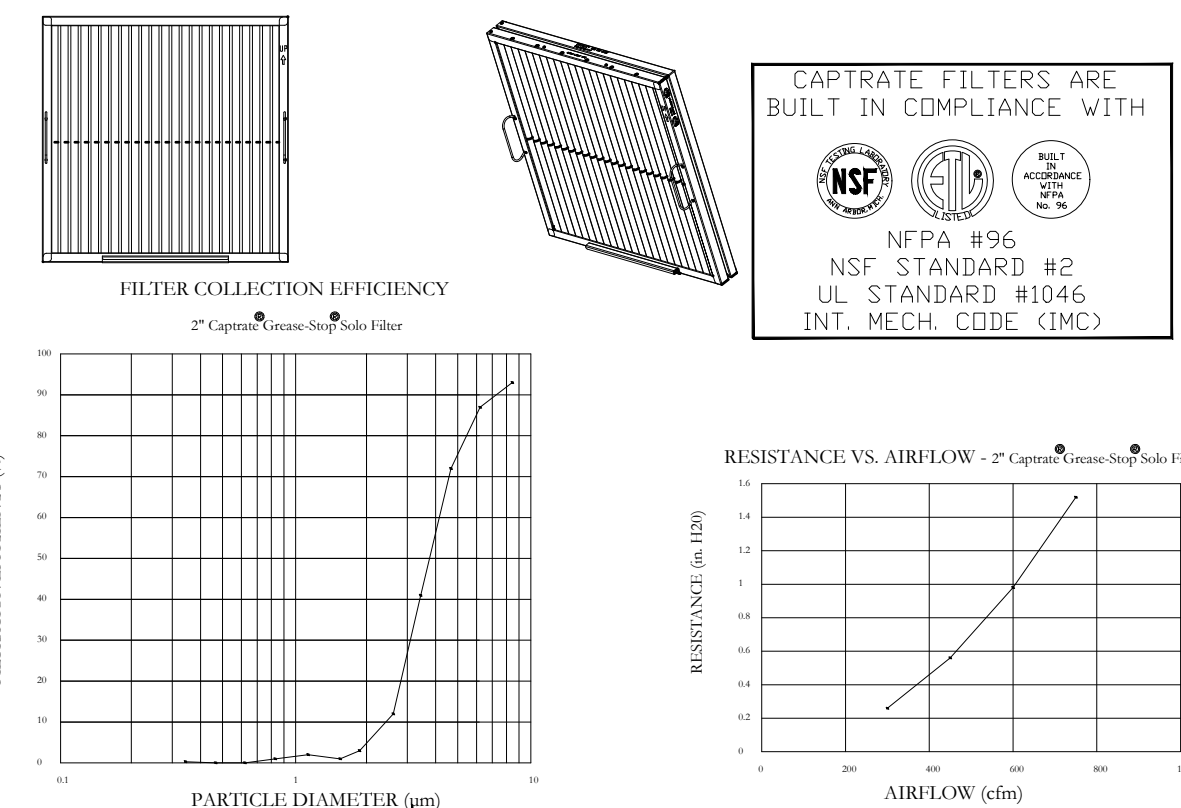
SCALE: AS NOTED

JOB #:

SHEET:

M202

CAPTRATE SOLO FILTERS



CAPTRATE FILTERS ARE BUILT IN COMPLIANCE WITH

NSF
NFA #96
NSF STANDARD #2
UL STANDARD #1046
INT. MECH. CODE (IMC)

SPECIFICATION: CAPTRATE® GREASE-STOP® SOLO FILTER

THE CAPTRATE GREASE-STOP SOLO FILTER IS A SINGLE-STAGE FILTER FEATURING A UNIQUE S-Baffle DESIGN IN CONJUNCTION WITH A SLOTTED REAR BAFFLE DESIGN TO DELIVER EXCEPTIONAL FILTRATION EFFICIENCY.

FILTER IS CONSTRUCTED OF 430 STAINLESS STEEL, AND SIZED TO FIT INTO STANDARD 2-INCH DEEP HOOD CHANNEL(S).

UNITS SHALL INCLUDE STAINLESS STEEL HANDLES AND A FASTENING DEVICE TO SECURE THE TWO COMPONENTS WHEN ASSEMBLED.

***GREASE EXTRACTION EFFICIENCY PERFORMANCE SHALL REMOVE AT LEAST 75% OF GREASE PARTICLES FIVE MICRONS IN SIZE, AND 90% GREASE PARTICLES SEVEN MICRONS IN SIZE AND LARGER, WITH A CORRESPONDING PRESSURE DROP NOT TO EXCEED 1.0 INCHES OF WATER GAUGE.

FILTER INFORMATION - CAPTRATE® GREASE-STOP® SOLO

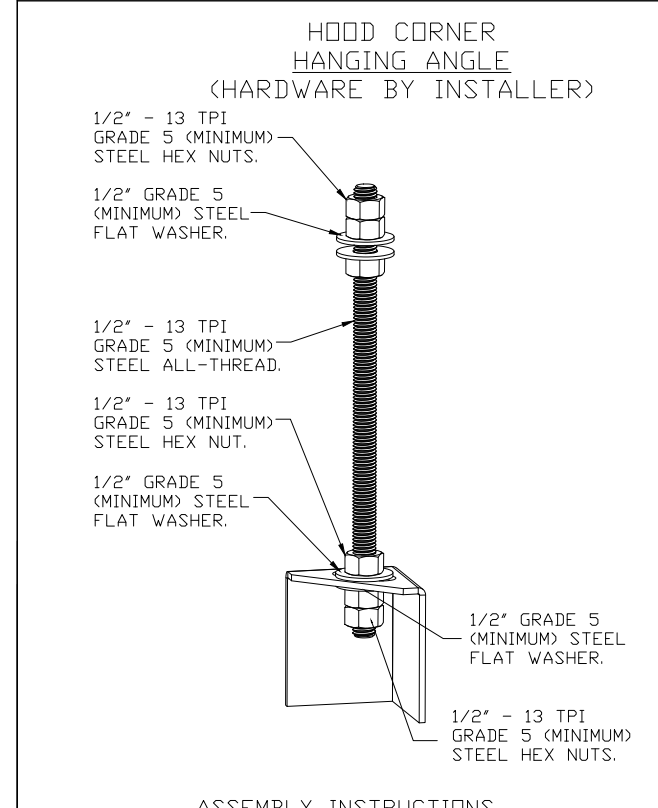
NOMINAL SIZE (H x W)	ACTUAL DIMENSIONS (H x W x D)	FREE AREA (SQ. FEET)	WEIGHT (POUNDS)	VELOCITY (FEET PER MINUTE)	STATIC PRESSURE (WATER GAUGE)
20 x 20	19-5/8" x 19-5/8" x 1-7/8"	2.28	11	100	0.25
20 x 16	19-5/8" x 15-5/8" x 1-7/8"	1.78	8.9	125	0.35
16 x 20	15-5/8" x 19-5/8" x 1-7/8"	1.78	9.1	150	0.45
16 x 16	15-5/8" x 15-5/8" x 1-7/8"	1.39	7.4	175	0.75
12 x 20	11-5/8" x 19-5/8" x 1-7/8"	1.23	6.8	200	0.90
12 x 16	11-5/8" x 15-5/8" x 1-7/8"	0.96	5.6	225	1.00
10 x 20	9-5/8" x 19-5/8" x 1-7/8"	1.00	5.6	250	1.30
10 x 16	9-5/8" x 15-5/8" x 1-7/8"	0.78	4.6	275	1.50

CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH:

- NFPA #96
- NSF
- ETL Listed
- CALIFORNIA MECHANICAL CODE
- INTERNATIONAL MECHANICAL CODE



BUILDING CODES



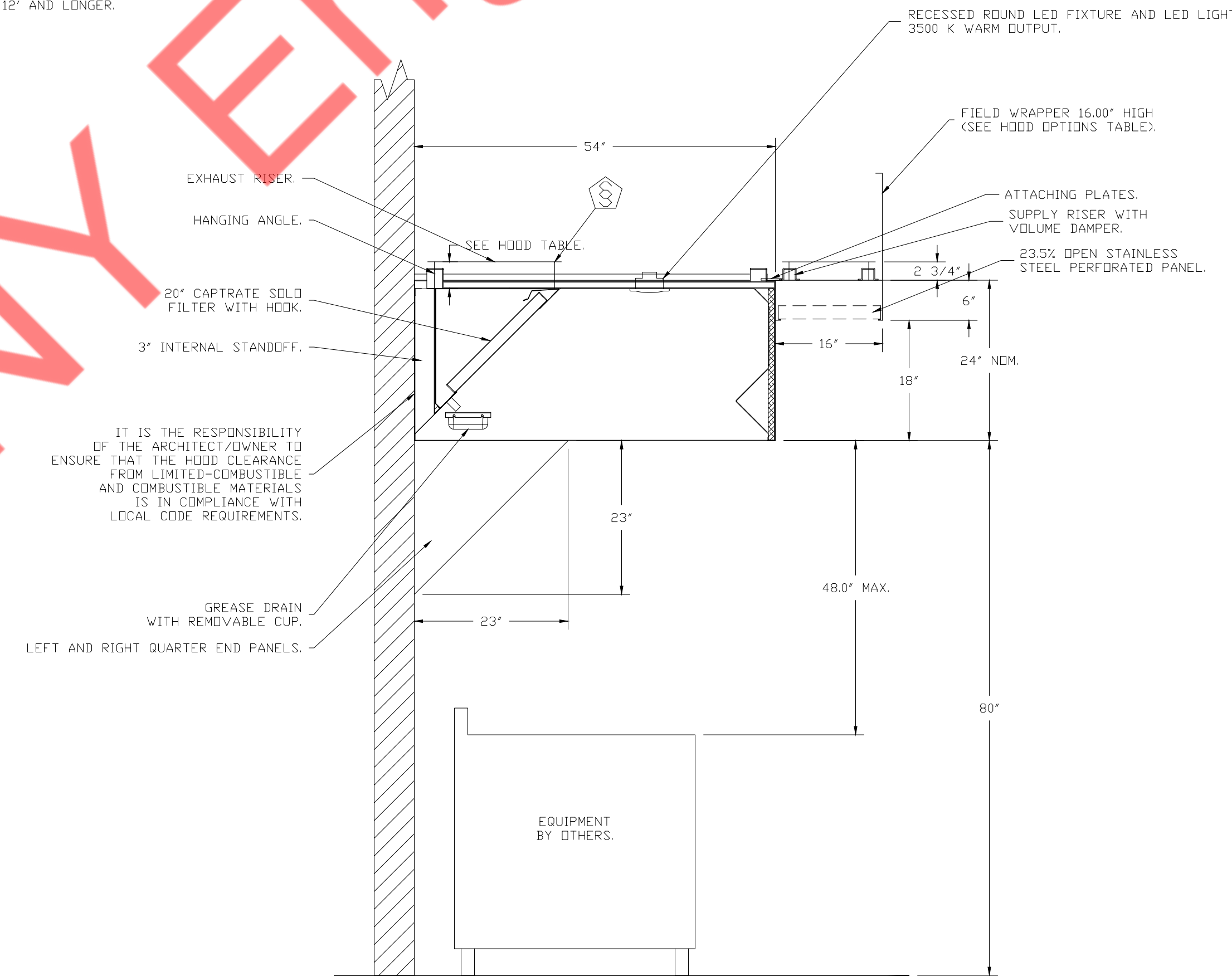
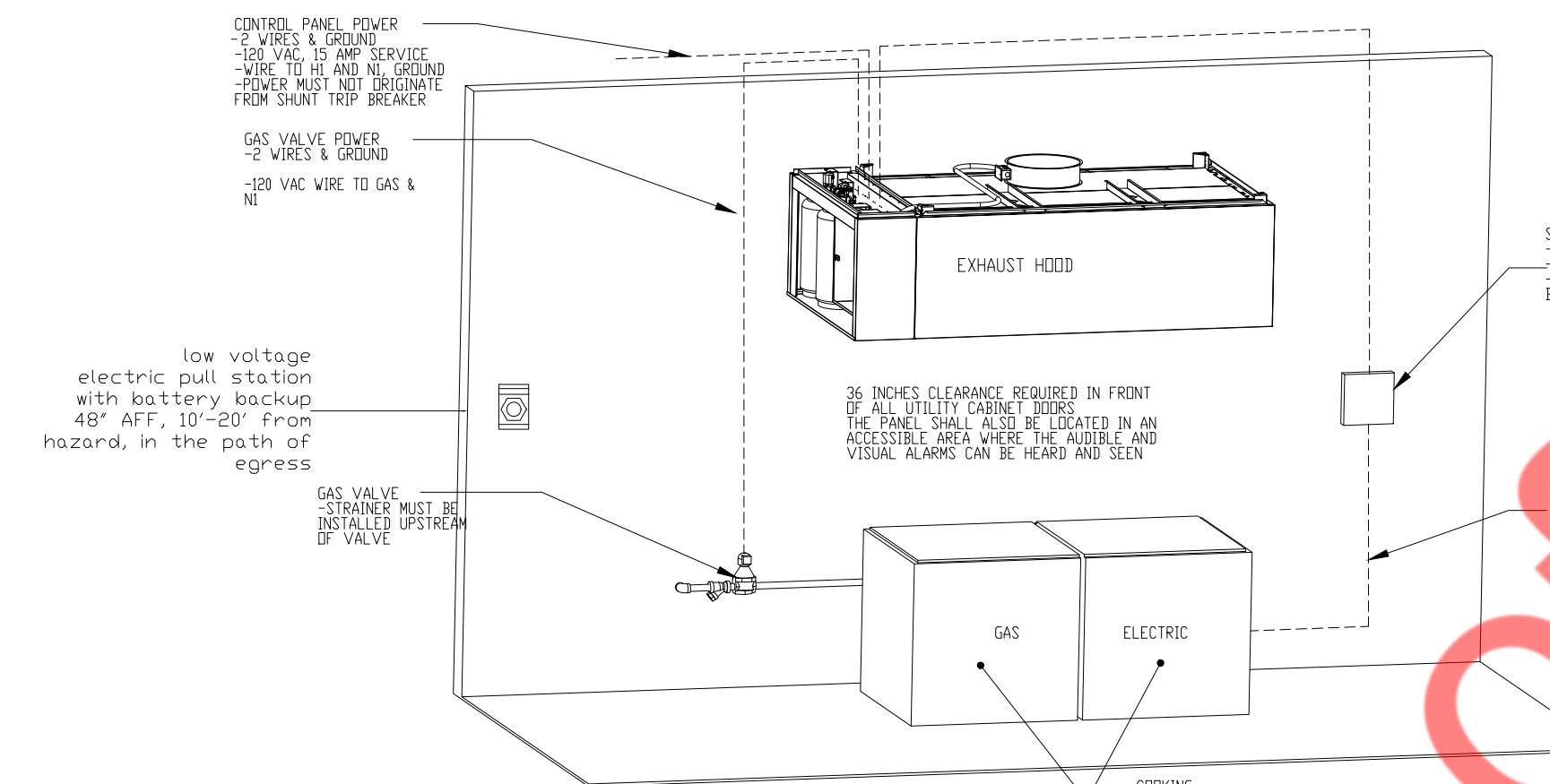
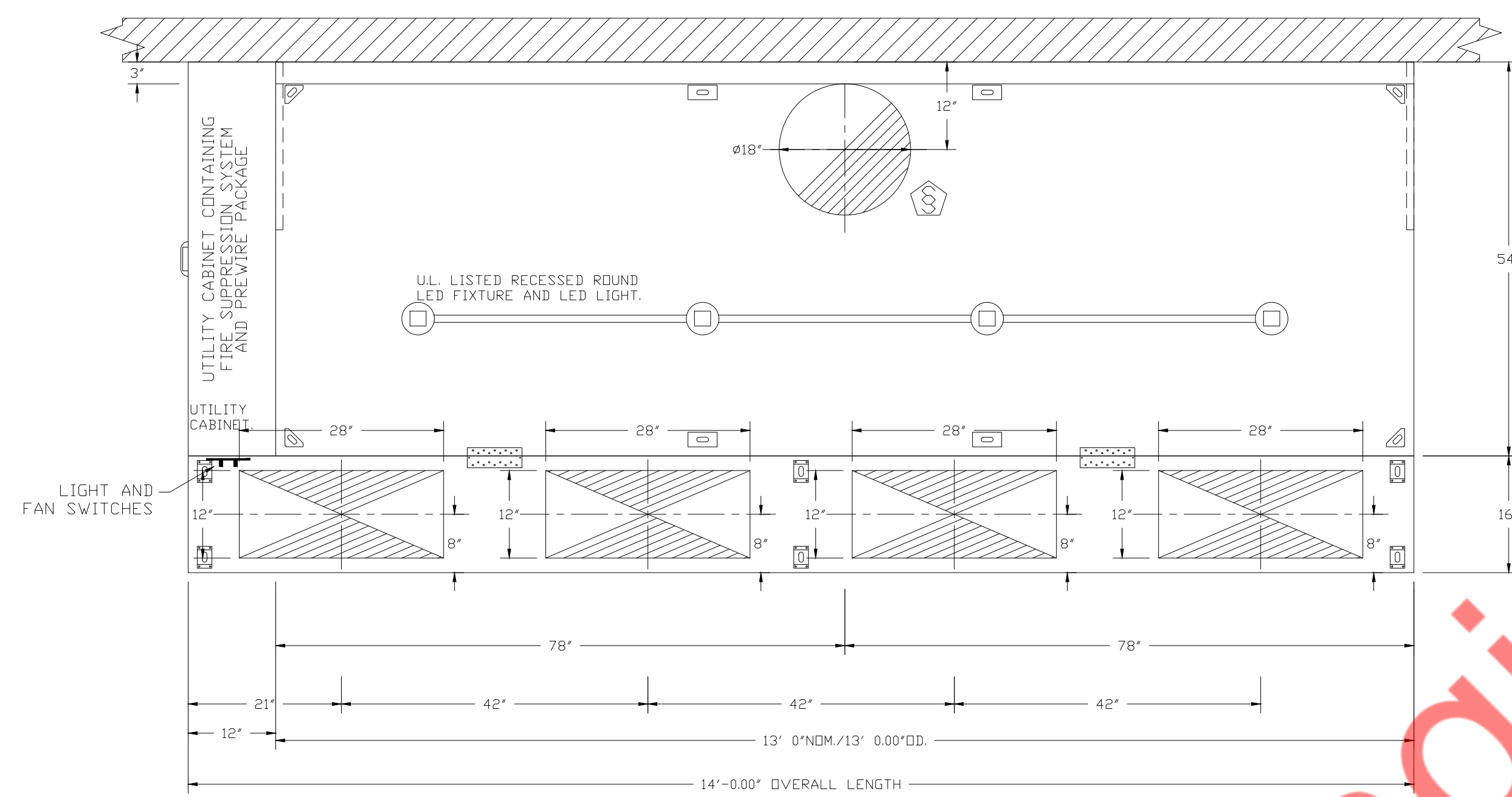
ND-2 HANGING ANGLE DETAIL

HANGING ANGLES WILL BE LOCATED IN THE FOLLOWING LOCATIONS FOR WALL CANOPIES

HOOD STYLE	DIM FROM REAR	DIM FROM FRONT (24" High Hood)	DIM FROM SIDES (24" High Hood)
ND-2 (WT) Exhaust only	4.125"	2.25"	2.25"
VHB (-B)	2.25"	2.25"	2.25"

ALL OTHER HOOD MODELS CONTACT CAPTIVE-AIRE FOR HANGING ANGLE LOCATIONS

HANGING ANGLE LOCATIONS



HOOD INFORMATION - JOB#5836087

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S)					TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM			VEL	SP
1	EQ-22	5424 ND-2-PSP-F	CAPTIVEAIRE	13' 0"	600 DEG	T	HEAVY	250	3250	4'	18'	3250	1839	-1.098"	2600	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	TYPE	FILTER(S)			EFFICIENCY @ 7 MICRONS	QTY	LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM	HOOD HANGING PIPING	HOOD WEIGHT	
			QTY	HEIGHT	LENGTH			TYPE	WIRE GUARD	LOCATION	SIZE	TYPE	SIZE	MODEL #				QUANTITY
1	EQ-22	CAPTRATE SOLO FILTER	9	20"	16"	85% SEE FILTER SPEC	4	RECESSED ROUND	NO	LEFT	12"x54"x24"	TANK FS	4.0/4.0	DCV-1111	1 LIGHT	1 FAN	YES	1085 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1	EQ-22	FIELD WRAPPER 16.00" HIGH FRONT, LEFT, RIGHT. RIGHT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS. LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS. STRUCTURAL FRONT PANEL. RISER SENSOR INSTALL 6IN. PLEN.

PERFORATED SUPPLY PLENUM(S)

HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1	EQ-22	Front	168"	16"	6"	MUA	12"	28"		650	0.161'
						MUA	12"	28"		650	0.161'
						MUA	12"	28"		650	0.161'

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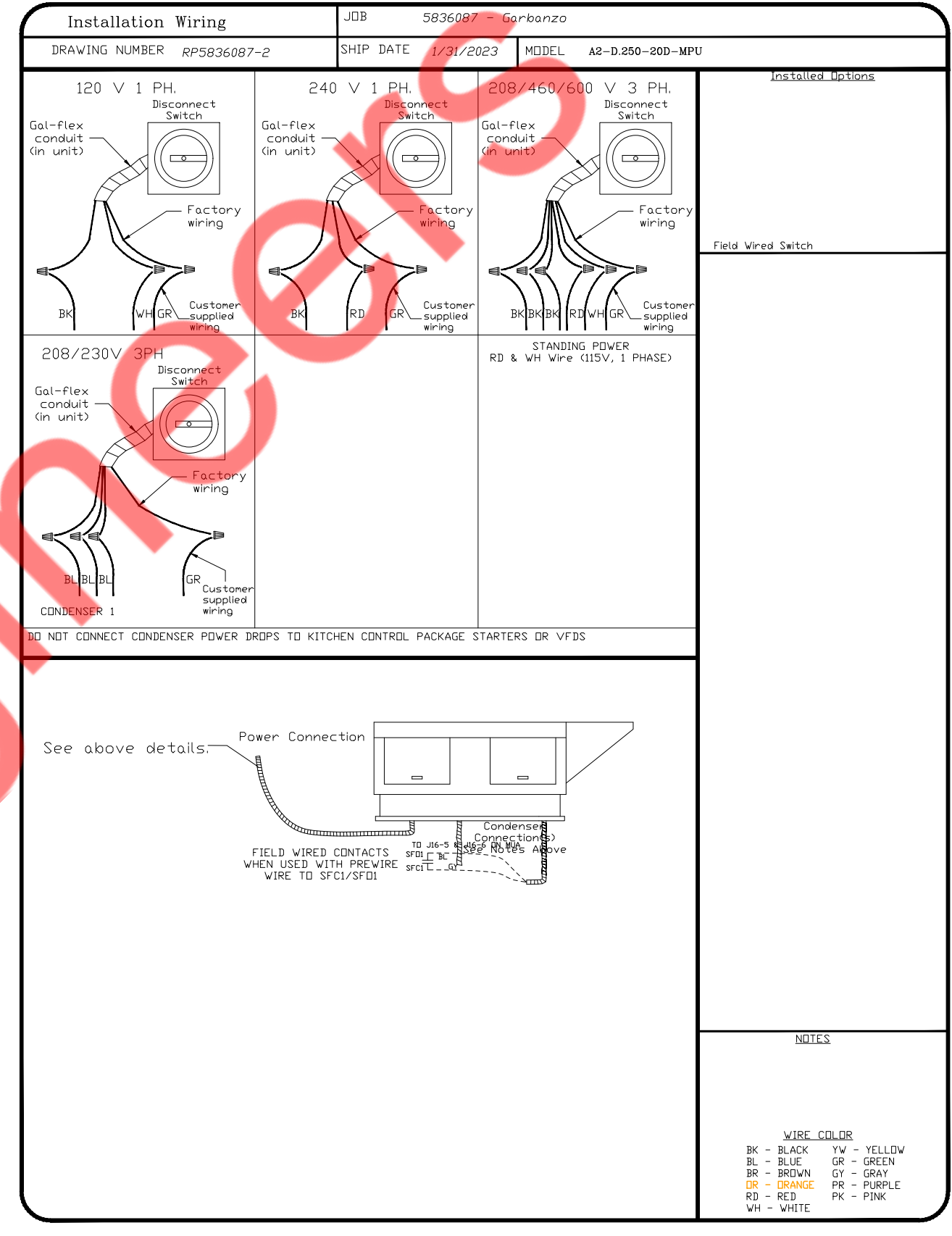
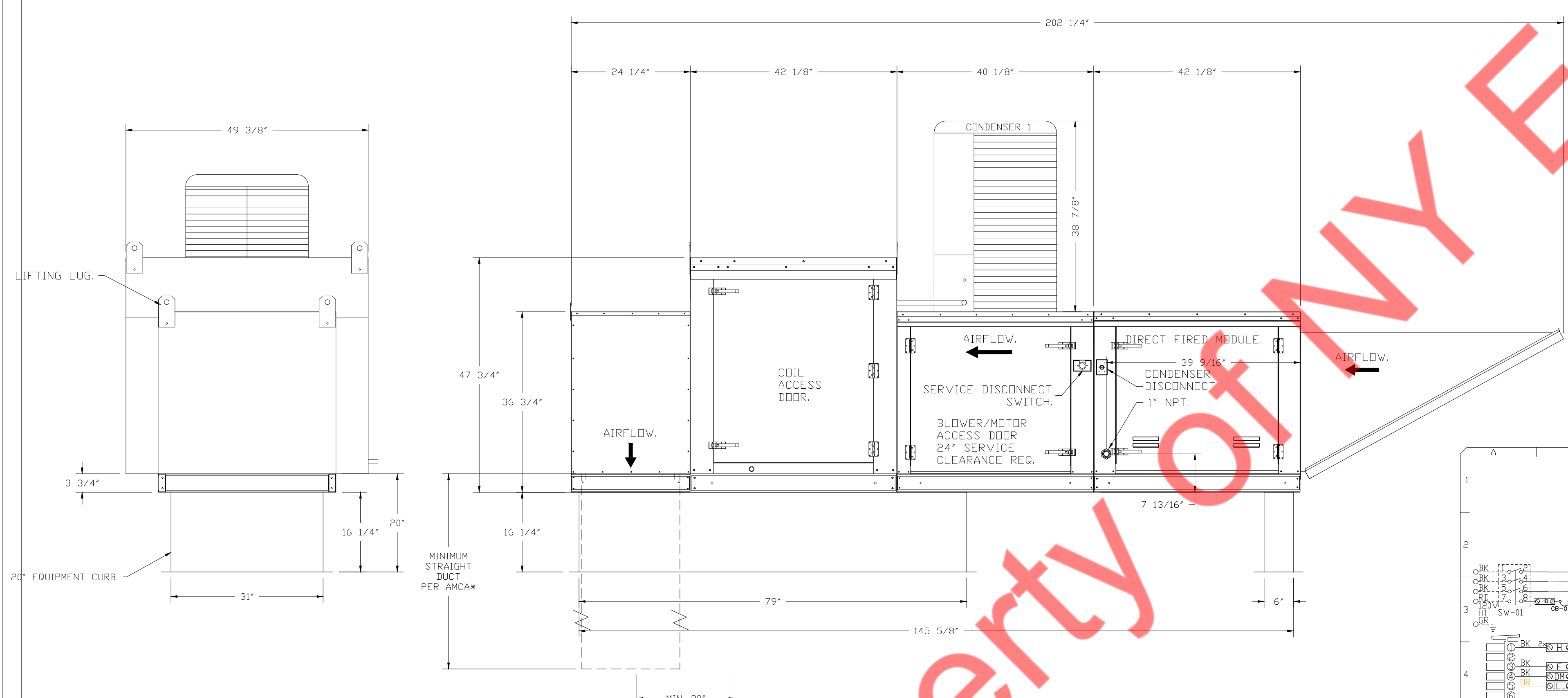
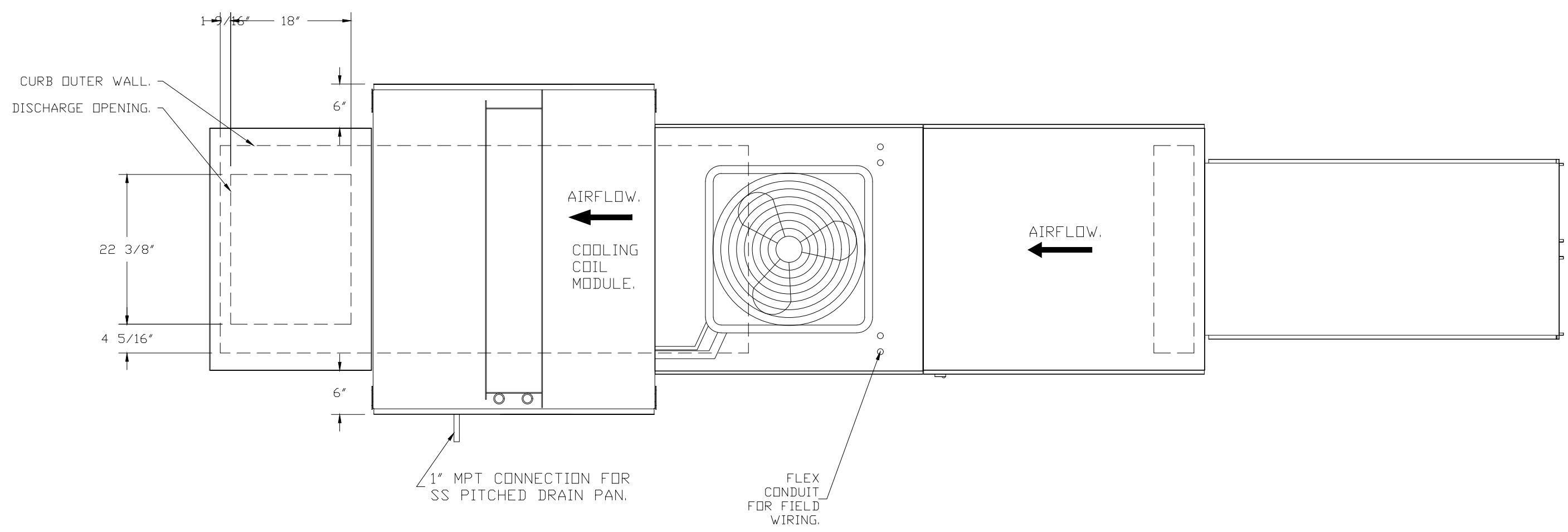
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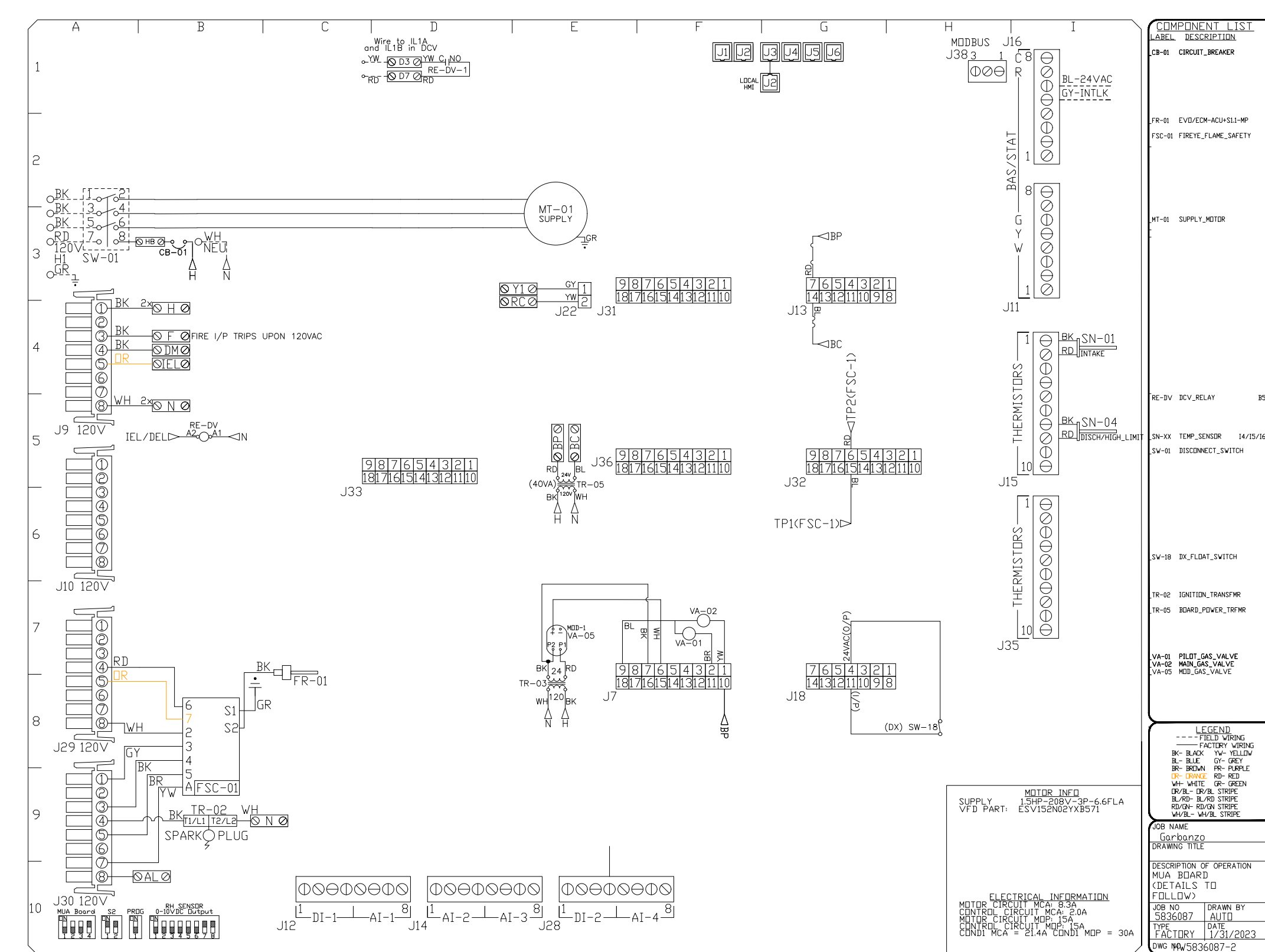
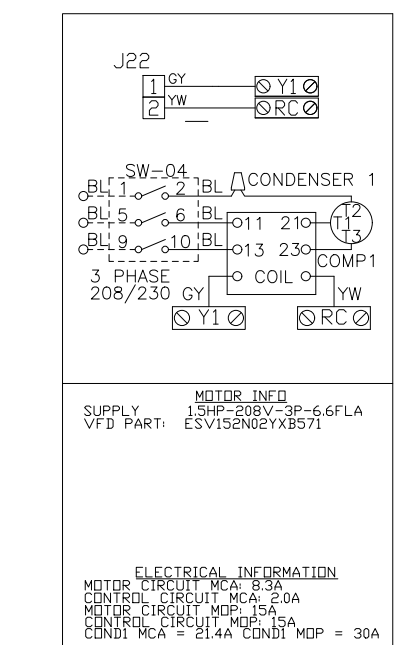
SHEET:

M203

SUPPLY SIDE HEATER INFORMATION
 WINTER TEMPERATURE = 16°F. TEMP. RISE = 59°F.
 BTUS CALCULATED OFF ACTUAL AIR DENSITY.
 OUTPUT BTUS AT ALTITUDE OF 0.0 FT. = 163883.
 INPUT BTUS AT ALTITUDE OF 0.0 FT. = 178134.
 OUTPUT BTUS AT ALTITUDE OF 20 FT. = 163765.
 INPUT BTUS AT ALTITUDE OF 20 FT. = 178095.



- FAN #2 A2-D250-200-MPU - HEATER
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 20" MIXED FLOW DIRECT DRIVE FAN.
 - INTAKE HOOD WITH EZ FILTERS.
 - DOWN DISCHARGE - AIR FLOW RIGHT -> LEFT.
 - GAS PRESSURE GAUGE, 0-35", 2 1/2" DIAMETER, 1/4" THREAD SIZE.
 - GAS PRESSURE GAUGE, -5 TO +15 INCHES WC, 2 1/2" DIAMETER, 1/4" THREAD SIZE.
 - BUTTERFLY MDD VALVE OPTION FOR MDD SIZE 2 (1" MDD VALVE).
 - 5 TON, SINGLE CIRCUIT MODULAR PACKAGED AC COOLING OPTION FOR SIZE 2 DF/EH MODULAR PACKAGED UNIT. INCLUDES CONDENSER, DX COIL, FILTER/DRYER KIT, THERMAL EXPANSION VALVE, R410A REFRIGERANT, AND REFRIGERANT PIPING (1,000 TO 2,750 CFM) WHEN ORDERED WITH OPPOSITE AIRFLOW CONDENSERS ACCESS AND COIL PIPING WILL REMAIN IN STANDARD POSITION. DRAIN AND SLEDS WILL MOVE TO THE OPPOSITE SIDE. ANY OTHER CHANGE WILL REQUIRE CUI. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 3E71102.
 - DOWNTOWN PLENUM FOR SIZE 2 COOLING COIL MODULE - REQUIRED FOR DOWN DISCHARGE COOLING COIL APPLICATIONS.
 - SEPARATE 120VAC WIRING PACKAGE FOR MAKE-UP AIR UNITS. OPTION MUST BE SELECTED WHEN MOUNTING VFD IN PREWIRE PANEL OR WITH DCV PACKAGE. PROVIDES SEPARATE 120VAC INPUT TO SUPPLY FAN. THIS 120V SIGNAL MUST BE RUN BY ELECTRICIAN FROM DCV TO MUA SWITCH.
 - HINGED DOUBLE WALL INSULATED DDDR ASSEMBLY (BURNER/BLOWER/MPU SECTION).
 - 2 YEAR PARTS WARRANTY.
- NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRABSTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT. SUGGESTED STRAIGHT DUCT SIZE IS 20" x 20".



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GARBANZO
 MEDITERRANEAN FRESH

DATE: 02-01-2023
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M205

ROOF TOP UNIT SCHEDULE																								
UNIT ID	MANUFACTURER	EFFICIENCY	MODEL	AREA SERVED	NOMINAL TONS	SUPPLY FAN			GAS HEAT		COOLING				ELECTRICAL				COOLING		HEATING	OPERATING	NOTES	
						TOTAL CFM	OUTSIDE AIR CFM	EXTERNAL STATIC PRESSURE(IN. W.G.)	INPUT MBH	OUTPUT MBH	TOTAL MBH	SENSIBLE MBH	AMBIENT DB (°F)	ENTERING DB / WB(°F)	STAGES	VOLTS	PHASE	MCA(A)	MOC(PA)	EER	SEER	STEADY STATE EFFICIENCY%		WEIGHT (LBS)
RTU-2(N)	TRANE	HIGH	YSC060	SEE PLAN	5	2000	400	1.0	80	64.8	60	49	95	80/67	2	208	3	29	40	12	14	81	1000	1-17

NOTES / ACCESSORIES -

- ALL EQUIPMENT MUST BE STANDARD/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 GFCI RECEPTACLE.
- 18" SEISMICALLY RATED ROOF CURB - CONTRACTOR SHALL FIELD INSULATE, SHIP ASAP AHEAD OF THE UNIT. PROVIDE VIBRATION ISOLATORS FOR RTU MOUNTING
- 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 (4.5-14)" GAS PRESSURE FROM MAIN.
- PROVIDE 8-WIRE, 24 VAC, AUTOMATIC CHANGEDOVER, 2-STAGE HEAT / COOL, REMOTELY PROGRAMMABLE THERMOSTAT.
- REMOTE SENSORS SHALL BE PROVIDED IN SPACE WIRED BACK TO PROGRAMMABLE, 24 HOUR, 7 DAY, THERMOSTATS.
- THROWAWAY 2" FILTERS (MERV 8).
- WHERE REQUIRED, PROVIDE LOW AMBIENT COOLING CAPABILITY DOWN TO 0 DEGREES F.
- PROVIDE ALL COMPRESSORS WITH 5 YEAR WARRANTY.
- VFD SUPPLY FAN.
- PROVIDE TRANE - HOT GAS REHEAT WITH ASSOCIATED CONTROLS AND SENSORS FOR DEHUMIDIFICATION CONTROL.
- PLUMBING CONTRACTOR TO COORDINATE EXACT GAS REQUIREMENTS OF RTU'S INSTALLED ON SITE.
- PROVIDE 0-100% DUAL ENTHALPY ECONOMIZER WITH BAROMETRIC RELIEF, SINGLE ZONE VAV, STAINLESS STEEL HEAT EXCHANGER, HAIL GUARD, HINGED ACCESS DOORS, FDD SYSTEM AND WATER LEVEL MONITORING DEVICE.
- ELECTRICAL CONTRACTOR TO PROVIDE SUPPLY AND RETURN SMOKE DETECTORS. WIRING SHALL INCLUDE, BUT NOT LIMITED TO WIRING BETWEEN DETECTOR AND FIRE ALARM PANEL. MECHANICAL CONTRACTOR TO MOUNT DETECTORS.

SCHEDULE OF GRILLES/DIFFUSERS							
TAG	APPLICATION	CFM RANGE	NECK SIZE	FACE SIZE	MAX NC dBA	MODEL NO.	MAKE
A	EXHAUST AIR	0-160	6" DIA	12"X12"	20	RNS	NAILOR
B	SUPPLY AIR	220-370	-	20"X6"	20	61DVC	NAILOR
C	SUPPLY AIR	425-635	14" DIA	24"X24"	20	RNS	NAILOR
D	SUPPLY AIR	675-900	18"X18"	24"X24"	20	4360	NAILOR
E	SUPPLY AIR	210-470	12" DIA	24"X24"	20	4360	NAILOR
F	RETURN AIR	408-700	14"X14"	24"X24"	20	4260	NAILOR

NOTES:

- CONTRACTOR SHALL COORDINATE WITH LATEST ARCHITECTURAL REFLECTED CEILING PLANS TO ENSURE PROPER AIR DEVICE BORDER SELECTION.
- COORDINATE COLOR/FINISH WITH ARCHITECT.

AIR BALANCE					
UNIT	AREA SERVED	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR
RTU-1(E)	SEE PLAN	2000	400	1600	0 CFM
RTU-2(N)	SEE PLAN	2000	400	1600	0 CFM
EF-1	RESTROOMS	-	-	-	70 CFM
EF-2	RESTROOMS	-	-	-	70 CFM
MAU-1	KITCHEN	-	2600 CFM	-	0 CFM
KXF-1	KITCHEN	-	-	-	3250 CFM
TOTAL:		4000 CFM	3400 CFM	3200 CFM	3390 CFM
BUILDING PRESSURE:		10 CFM		POSITIVE	

FANS															
MARK	TYPE	LOCATION	SERVICE	CFM	EXTERNAL SP (IN W.G.)	ELEC (V/Hz/Ph.)	FLA (A)	SONES	FAN SPEED(RPM)	INLET (dBA)	WEIGHT (LBS)	OPERATION	MODEL	MAKE	REMARKS
EF-1	DIRECT DRIVE	GROUND FLOOR	TOILET EXHAUST	70	0.75	115/60/1	1.15	3	950	43	10	INTERMITANT	SP-B110	GREENHECK	INTERLOCK WITH TOILET LIGHTS
EF-2	DIRECT DRIVE	GROUND FLOOR	TOILET EXHAUST	70	0.75	115/60/1	1.15	3	950	43	10	INTERMITANT	SP-B110	GREENHECK	INTERLOCK WITH TOILET LIGHTS

NOTES FOR FANS

- PROVIDE GRILLE KIT, BACKDRAFT DAMPER, SPEED CONTROLLER, HANGING VIBRATION ISOLATION KIT, AND ALL ACCESSORIES AS REQUIRED FOR INTERLOCKING.
- FAN SPEED SHALL BE EASILY FIELD ADJUSTABLE.
- FAN SHALL BE MOUNTED W/SUPPORT FRAMING BY CONTRACTOR.
- PROVIDE MOTOR STARTERS, DISCONNECTS WITH NEMA-3R (IF NOT FACTORY PROVIDED). ALL EQUIPMENT NORMAL POWER WIRING BY ELECTRICAL CONTRACTOR. COORDINATE POWER REQUIREMENTS.

VENTILATION CALCULATIONS											
ROOM NAME	AREA (SQ.FT.)	NUMBER OF PEOPLE/1000sq.ft AS PER 2021 IMC	NUMBER OF PEOPLE AS PER 2021 IMC	FINAL PEOPLE NO.	MIN OUTSIDE AIR AS PER IMC-2021 CFM/PEOPLE	CFM/SQ.FT	REQ. OA (CFM)	Provided OA (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR /FIXT.)	TOTAL EXHAUST (CFM)	
BACK KITCHEN	333	0	0	2	0	0.12	40	800	0	0	
KITCHEN	306	20	7	7	0	0	0		0.7	214	
RESTROOM-01	45	-	0	-	-	-	-		-	70	
RESTROOM-02	45	-	0	-	-	-	-		-	70	
CORRIDOR	215	0	0	0	0	0.06	13		-	-	
DINING	487	70	35	20	7.5	0.18	238		-	-	
TOTAL									291	800	354

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NUMBER	DATE	REVISION	DESCRIPTION
01	2023-02-28	NYE	ALL REVIEW SET
02	2023-03-21	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
 RESTAURANT FIT OUT FOR:


DATE: 02-01-2023

DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

M301

Property of NY Engineers

LIGHTING SCHEDULE										
CALL OUT	SYMBOLS	LAMP	DESCRIPTION	MOUNTING	MODEL	INPUT WATTS	VOLTS	NOTE 1	NOTE 2	NOTE 3
A		37 W LED	2' X 4' LENSED TROFFER	RECESSED	#LT-24-L52/835-AF-DIM	37	120V, 1PH, 2W	WET LOCATION LISTED.		4000K
B		25 W LED	DECORATIVE PENDANT	PENDANT	JUICY PENDANT #15730	25	120V, 1PH, 2W	MOUNT BOTTOM AT 9' AFF.	4000K	
C		20 W LED	4" DOWN LIGHT W/ SHATTER PROOF LENS	RECESSED	GOHAM #EV06VR-40/20-AR-MD-PCL-MVOLT-EZ1	20	120V, 1PH, 2W	ARCHITECT TO SELECT THE FINISH.	IP65 RATED, VANDAL RESISTANT.	4000K
D		19 W LED	LED TRACK HEAD	TRACK	ALPHABET #350430-21LM-35K-90-120-ELV	19	120V, 1PH, 2W	PROVIDE CONTECH TRACK ASSEMBLY AS REQUIRED.	COORDINATE FINISH WITH ARCHITECT.	3500K
E		10.4 W LED	6" CYLINDER PENDANT	PENDANT	LITHONIA #LDN6CYL-35/10-L06-AR-LSS-MVOLT-EZ1-PM-DWHG	10.4	120V, 1PH, 2W	4000K.		
EM		5 W LED	2-HEAD EMERGENCY EGRESS FIXTURE	WALL	SURE LIGHTS #AP2SQ-W	5	120V, 1PH, 2W	INTEGRAL BATTERY PACK TO BE CONNECTED TO UNSWITCHED "SENSING" CIRCUIT.	PROVIDE EMERGENCY BATTERY BACK UP CAPABLE OF 90MINS RUN TIME.	
X		5 W LED	EXIT SIGN (GREEN), COMBINATION	WALL/CEILING	SURE LIGHTS #LPXH70DGWHDH	5	120V, 1PH, 2W	INTEGRAL BATTERY PACK TO BE CONNECTED TO UNSWITCHED "SENSING" CIRCUIT.	PROVIDE EMERGENCY BATTERY BACK UP CAPABLE OF 90MINS RUN TIME.	
F		30 W LED	TBD	RECESSED	TBD	30	120V, 1PH, 2W	TBD.		TBD.

FIXTURE SCHEDULE NOTES:

1. THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL FIXTURES NOT PRE-APPROVED BY ARCHITECT/ENGINEER 10 DAYS PRIOR TO BID.
2. PROVIDE 4100° KELVIN TEMPERATURE LAMPS WITH MINIMUM 85 CRI, UOI.
3. EXIT SIGNS SHALL BE CENTER MOUNTED ABOVE ALL DOORWAYS.
4. ALL EMERGENCY BATTERY PACKS SHALL PROVIDE A MINIMUM OF 1400 LUMENS.
5. CONTRACTOR SHALL COORDINATE LOCATIONS AND MOUNTING HEIGHTS OF ALL EXTERIOR LIGHT FIXTURES WITH ARCHITECTURAL ELEVATIONS.
6. ALL LIGHTING FIXTURES TO BE COORDINATED AND REVIEWED WITH OWNER/ARCHITECT PRIOR TO ORDERING.

RECEPTACLE SCHEDULE					
CALL OUT	SYMBOLS	VOLTS	NOTE 1	NOTE 2	NOTE 3
208V RECEPTACLE		208V, 1PH, 2W	COORDINATE MOUNTING HEIGHT AND RECEPTACLE TYPE WITH EQUIPMENT VENDOR.		
DUPLEX RECEPTACLE		120V, 1PH, 2W	DUPLEX RECEPTACLE MOUNTED AT 18" AFF TO BOTTOM UOI.		
DUPLEX RECEPTACLE GFCI, ABOVE COUNTER		120V, 1PH, 2W	DUPLEX GFCI RECEPTACLE MOUNTED 4" ABOVE BACK SPLASH TO BOTTOM, UOI.	COORDINATE WITH CASE WORK CONTRACTOR.	IF OUTLET IS NOT ACCESSIBLE, PROVIDE GFCI BREAKER IN PANEL.
DUPLEX RECEPTACLE GFCI/WP		120V, 1PH, 2W	DUPLEX GFCI RECEPTACLE MOUNTED 18" AFF TO BOTTOM, UOI.	PROVIDE HEAVY DUTY, LOCKABLE, WALK-IN-USE COVER.	IF OUTLET IS NOT ACCESSIBLE, PROVIDE GFCI BREAKER IN PANEL.
DUPLEX RECEPTACLE USB		120V, 1PH, 2W	DUPLEX USB RECEPTACLE MOUNTED AT 18" AFF TO BOTTOM, UOI.	LEVITON #T56832 OR EQUAL.	
JUNCTION BOX(120V)		120V, 1PH, 2W	JUNCTION BOX USE AS INDICATED.		
QUAD RECEPTACLE		120V, 1PH, 2W	QUAD RECEPTACLE MOUNTED 18" AFF TO BOTTOM, UOI.		
SIMPLEX RECEPTACLE		120V, 1PH, 2W	SIMPLEX RECEPTACLE MOUNTED 18" AFF TO BOTTOM, UOI.		
TELEPHONE & DATA			EMPTY 1" CONDUIT STUB ABOVE CEILING FOR TELEPHONE AND DATA.	MOUNTED AT 18" AFF TO BOTTOM, UOI.	IF LOCATED DIRECTLY ADJACENT TO A RECEPTACLE, THIS OUTLET SHALL BE MOUNTED ON SAME HEIGHT.

DEVICE NOTES:

1. ALL SWITCHES, RECEPTACLES, DEVICES AND FACE PLATE FINISHES TO BE COORDINATED WITH OWNER/ARCHITECT.

SWITCH SCHEDULE				
CALL OUT	SYMBOLS	NOTE 1	NOTE 2	NOTE 3
LOW VOLTAGE OCCUPANCY SENSOR		CEILING MOUNTED, DUAL TECHNOLOGY OCCUPANCY SENSOR.	ACUITY CONTROLS#CM-PDT-10	ACUITY CONTROLS#PP20
SWITCH		WALL MOUNTED SWITCH.	MOUNTED AT 48" AFF, UOI.	
DIMMER-SWITCH		0-10V WALL MOUNTED DIMMER SWITCH, PROVIDE 0-10V WIRING AS REQUIRED.	MOUNTED AT 48" AFF, UOI.	
OCCUPANCEY SENSOR		CEILING MOUNTED, DUAL TECHNOLOGY OCCUPANCY SENSOR WITH MANUAL OVERRIDE SWITCH.	ACUITY CONTROLS#WAX-PDT-WH	MOUNTED AT 48" AFF, UOI.
THREE WAY-SWITCH		WALL MOUNTED THREWAY SWITCH.	MOUNTED AT 48" AFF, UOI.	
LOW VOLTAGE OCCUPANCY SENSOR		CEILING MOUNTED, DAYLIGHT SENSOR.	TBD	

SOUND SCHEDULE				
CALL OUT	SYMBOLS	NOTE 1	NOTE 2	NOTE 3
CEILING MOUNTED SPEAKER		CEILING MOUNTED EXTERIOR SPEAKER BY OWNER.	E.C. TO PROVIDE BOX IN WALL/CEILING AND 1"CONDUIT FROM OUTLET TO TBB.	PROVIDE PULL STRING.

ABBREVIATIONS		ABBREVIATIONS	
A	AMPERES	N	NEUTRAL
A/C, AC	AIR CONDITIONING UNIT	NTS	NOT TO SCALE
AF	AMPERE FRAME/AMP FUSE	EA	EACH
AFF	ABOVE FINISHED FLOOR	EC	EMPTY CONDUIT/ ELECTRICAL CONTRACTOR
AS	AMP SWITCH	EM	EMERGENCY
AIC	AMPS INTERRUPTING CAPACITY	EMT	ELECTRICAL METALLIC TUBING
AWG	AMERICAN WIRE GAUGE	FL	FLOOR
C	CONDUIT	G	GROUND
C/B,CB	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER
CKT	CIRCUIT	HP	HORSEPOWER
CLG	CEILING	HZ	HERTZ
CU	COPPER	IC	INTERRUPTING CAPACITY
°C	DEGREE CELSIUS	PP	POWER PANEL
°F	DEGREE FAHRENHEIT	PVC	POLYVINYL CHLORIDE
DIA	DIAMETER	R	REMOVE
DN	DOWN	REC	RECEPTACLE
DP	DISTRIBUTION PANEL	RGS	RIGID GALVANIZED STEEL
DWG	DRAWING	SECT	SECTION
J.B.	JUNCTION BOX	SW	SWITCH
KCMIL	ONE THOUSAND CIRCULAR MILS	P	POLES
KV	KILOVOLT	TYP	TYPICAL
KVA	KILOVOLT-AMPERES	U.O.N.	UNLESS OTHERWISE NOTED
KW	KILOWATTS	V	VOLT/VOLTAGE
LTG	LIGHTING	VA	VOLT AMPERE
MAX	MAXIMUM	WP	WEATHER PROOF
MCB	MAIN CIRCUIT BREAKER	E	EXISTING
MIN	MINIMUM	N.I.C.	NOT IN CONTRACT
MLO	MAIN LUGS ONLY		
MTD	MOUNTED		

ELECTRICAL SYMBOLS	
	DISCONNECT (SAFETY) SWITCH "200/3/150" DENOTES AMPERES/POLE/FUSE, "NF" DENOTES NON-FUSED, "N3R" DENOTES NEMA 3R.
	30A/240V NON FUSED DISCONNECT SWITCH.
	60A/240V NON FUSED DISCONNECT SWITCH
	100A/240V NON FUSED DISCONNECT SWITCH.
	DISTRIBUTION PANELBOARD, SURFACE OR FLUSH MOUNTED.
	CEILING MOUNTED DUPLEX OUTLET.
	20A SPST TOGGLE SWITCH U.O.N. "o" DENOTES LIGHTING FIXTURE CONTROLLED.
	HOME RUN TO CIRCUIT PANEL. NUTRAL/HOT/GROUND. 1#12 Ø, 1#12 N. & 1#12 G. IN 3/4"C, UNLESS OTHERWISE NOTED.
	FEEDER OR BRANCH CIRCUIT RUN OVER HEAD-CONCEALED OR ABOVE CEILING, IN WALL, OR EXPOSED ON STRUCTURE.
	EMERGENCY, NIGHT LIGHT, OR FEEDER/BRANCH CIRCUIT BELOW FLOOR, IN WALL, OR BELOW GRADE.

ELECTRICAL DRAWING LIST	
E001	ELECTRICAL SCHEDULES
E002	ELECTRICAL NOTES
E003	ELECTRICAL RISER DIAGRAM
E004	ELECTRICAL DETAILS
E005	ELECTRICAL COMCHECK
E201	ELECTRICAL LIGHTING PLAN
E301	ELECTRICAL POWER AND COMMUNICATIONS PLAN
E401	ELECTRICAL POWER PLAN (MECHANICAL)

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ELECTRICAL SPECIFICATIONS

GENERAL NOTES:

- ALL ELECTRICAL WORK AND MATERIALS SHALL COMPLY WITH THE NEC (NATIONAL ELECTRICAL CODE) AND THE REQUIREMENTS OF ANY STATE AND LOCAL AUTHORITIES HAVING JURISDICTION.
- SEE PANEL SCHEDULES FOR ADDITIONAL CIRCUIT, CONDUIT AND LOAD INFORMATION.
- WHERE EXPOSED AND SUBJECT TO DAMAGE, CONDUIT SHALL BE GRC UP TO 10' AFF.
- MINIMUM CONDUIT SIZE SHALL BE 3/4" AND MINIMUM WIRING SIZE SHALL BE #12AWG.
- ALL CIRCUIT WIRING SHALL BE THIN TYPE WIRING, CIRCUIT WIRING IN FREEZER/COOLER AREAS SHALL BE XHHW TYPE INSULATION WIRING.
- MULTIPLE CIRCUITS MAY BE COMBINED INTO A SINGLE CONDUIT ONLY BY APPLYING NEC ARTICLE 310.15.B.2. CONDUCTOR SIZES LISTED ON THE PANEL SCHEDULES DO NOT ACCOUNT FOR THE COMBINING OF CIRCUITS.
- LOCATE RECEPTACLES IN THE WEB OF COLUMNS WHERE POSSIBLE OR AS INDICATED ON THE DRAWINGS, COORDINATE WITH OTHER TRADES.
- SLIGHT MODIFICATIONS TO DESIGNED CIRCUITRY ARE PERMITTED PROVIDED CIRCUIT LOADING, DERATING, BALANCE, AND VOLTAGE DROP ARE TAKEN INTO CONSIDERATION. ALL MODIFICATIONS MUST BE DILIGENTLY NOTED ON THE "AS-BUILT" DRAWING SET.
- ALL BRANCH CIRCUITS SHALL BE INSTALLED USING EMT CONDUIT WITH COMPRESSION FITTINGS. IN ENGINEER/ARCHITECT APPROVED AREAS, MC CABLE SHALL BE PERMITTED, UOI.
- MC CABLE SHALL BE SUPPORTED AND SECURED AT INTERVALS NOT EXCEEDING 6' AND WITHIN 12" OF EVERY BOX, CABINET, FITTING OR OTHER CABLE TERMINATION UNLESS OTHERWISE PERMITTED BY NEC. SEE ARTICLE 330 FOR FURTHER INFORMATION.
- EMT SHALL BE SECURELY FASTENED IN PLACE AT LEAST EVERY 10'. IN ADDITION, EACH EMT RUN SHALL BE SECURELY FASTENED WITHIN 3' OF EACH OUTLET BOX, JUNCTION BOX, DEVICE BOX, CABINET, CONDUIT BODY, SEE ARTICLE 358 FOR FURTHER INFORMATION.
- DO NOT SUPPORT RACEWAYS, BOXES, CABINETS, FITTINGS, CABLE ASSEMBLIES OR FIXTURES TO THE CEILING GRID SUPPORT SYSTEM. INDEPENDENT SUPPORT WIRES MAY BE USED AS A SOLE MEANS OF SUPPORT PROVIDED THEY ARE SECURED AT BOTH ENDS AND DISTINGUISHABLE BY COLOR, TAGGING OR OTHER EFFECTIVE MEANS FOR THE CEILING GRID SUPPORT SYSTEM.
- ALL 120/208V VOLT WIRING SHALL ADHERE TO A "BLACK-RED-BLUE" COLOR CODE.
- AT LEAST 6" OF FREE CONDUCTOR, SHALL BE LEFT AT EACH OUTLET, JUNCTION, AND SWITCH POINT FOR SPLICES OR THE CONNECTION OF FIXTURES OR DEVICES WITH THE EXCEPTION OF CONDUCTORS THAT ARE NOT SPLICED OR TERMINATED AT THE OUTLET, JUNCTION, OR SWITCH POINT.
- ALL CIRCUIT DESIGNATIONS SHALL BE MARKED ON JUNCTION BOXES WHERE THEY SPLICE OR PASS THROUGH.
- ALL CEILING-MOUNTED 4" SQUARE JUNCTION BOXES SHALL BE 2 1/8" DEEP, AND DEVICE BOXES (4" SQUARE AND PLASTER RING) MAY BE 1-1/2" DEEP.
- THE NUMBER OF CONDUCTORS IN A JUNCTION BOX SHALL BE SUBJECT TO THE PROVISIONS OF NEC ARTICLE 314.16.
- IN WALLS OR CEILINGS WITH A SURFACE OF CONCRETE, TILE, GYPSUM, PLASTER, OR OTHER NONCOMBUSTIBLE MATERIAL, BOXES SHALL BE INSTALLED SO THAT THE FRONT EDGE OF THE BOX (OR PLASTER RING) WILL NOT BE SET BACK OF THE FINISHED SURFACE MORE THAN 1/4", (NEC 314.20).
- BOXES SHALL BE INSTALLED SO THE WIRING CONTAINED WITHIN IS ACCESSIBLE.
- METAL BOXES SHALL SE GROUNDED BY AN APPROVED MEANS.
- WHERE NAILS OR SCREWS ARE LIKELY TO PENETRATE EMT OR MC CABLE, A STEEL SLEEVE, STEEL PLATE, OR STEEL CLIP NOT LESS THAN 1/16" THICKNESS SHALL BE USED TO PROTECT THE CABLE OR TUBING.
- MOUNTING HEIGHTS OF WALL OUTLETS AFF TO THE TOP OF THE BOX SHALL BE AS FOLLOWS, UOI ON PLANS: SWITCHES-48", RECEPTACLES & PHONE/DATA OUTLETS IN OFFICE AREAS-18".
- WHERE DEVICES ARE SHOWN TO BE INSTALLED ABOVE CASEWORK OR COUNTERS, EXACT LOCATION OF DEVICES SHALL BE COORDINATED WITH THE CASEWORK CONTRACTOR BEFORE ROUGH-IN WORK IS COMPLETED.
- WHERE A GFCI RECEPTACLE IS USED, THE RECEPTACLE SHALL NOT BE LOCATED TO CONCEAL THE RECEPTACLE. IT MUST BE READILY ACCESSIBLE. PROVIDE GFCI BREAKER IF RECEPTACLE AS ALTERNATIVE PROTECTION.
- ANY ELECTRICAL WORK AFFECTING LANDLORD'S BASE BUILDING OUTSIDE LEASED SPACE WILL BE REQUIRED TO BE PERFORMED BY A LANDLORD DESIGNATED OR LANDLORD APPROVED CONTRACTOR AND BE ENGAGED BY THE TENANT AT THE TENANTS EXPENSE.

GENERAL EQUIPMENT NOTES:

- CONTRACTOR SHALL PROVIDE ALL POWER CONNECTIONS AS REQUIRED FOR ALL MECHANICAL AND PLUMBING EQUIPMENT, COORDINATE EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL PROVIDE 120V CIRCUITS FOR ALL MECHANICAL CONTROL PANELS AS REQUIRED, AND COORDINATE WITH MC.
- PROPER CLEARANCE MUST BE MAINTAINED AROUND ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110, 26.
- PANEL BOARDS, STARTERS, DISCONNECT SWITCHES, ETC. SHALL BE INSTALLED SUCH THAT THE TOP OF THE EQUIPMENT IS 72" AFF,UOI.

- REFER TO THE MECHANICAL/PLUMBING DRAWINGS TO VERIFY EQUIPMENT LOCATIONS AND COORDINATION OF STARTERS, DISCONNECT SWITCHES, THERMOSTATS, CONTROL WIRING, DUCT DETECTORS, ETC.

GENERAL NOTES (CONT):

- ALL FIRE BARRIER PENETRATIONS SHALL BE MADE WITH U.L. LISTED ASSEMBLIES.
- ALL MAJOR FEEDERS SHALL BE INSTALLED UNDER SLAB/UNDERGROUND USING SCHEDULE 40 PVC WHERE ACCEPTABLE.
- ALL UNDERGROUND CONDUIT RUNS ENTERING THE BUILDING SHALL BE SEALED TO PREVENT THE ENTRANCE OF MOISTURE AND GASES.
- PROVIDE PROPER CONDUIT SEAL-OFF AND INSULATION AT WALL PENETRATIONS BETWEEN AREAS OF DIFFERENT TEMPERATURES.
- THE METHOD OF INSTALLING CONDUIT THROUGH INSULATED WALL SHALL BE AS FOLLOWS.
 - HOLE SHALL BE CUT NEAT AT 1/4" LARGER THAN THE CONDUIT.
 - CONDUIT SHALL BE OF A PVC TYPE WHICH WILL EXTEND BEYOND WALL FOR 1" ON EACH FACE.
 - AFTER WIRE HAS BEEN INSTALLED, THE CONDUIT SHALL BE FILLED SOLID WITH DUCT SEAL PLASTIC FILLER.
 - AFTER ALL WIRING IS COMPLETED, INSULATION CONTRACTOR SHALL SEAL CONDUIT WITH URETHANE FOAM AND VAPOR SEAL AROUND OUTSIDE OF CONDUIT.
- ALL EMERGENCY CIRCUIT BOXES AND ENCLOSURES (INCLUDING TRANSFER SWITCHES, GENERATORS, AND POWER PANELS) FOR EMERGENCY CIRCUITS SHALL BE PERMANENTLY MARKED SO THEY WILL BE READILY IDENTIFIED AS A COMPONENT OF AN EMERGENCY CIRCUIT OR SYSTEM.
- EMERGENCY CIRCUIT WIRING CONSISTING OF TWO OR MORE EMERGENCY CIRCUITS SUPPLIED FROM THE SAME SOURCE SHALL BE PERMITTED IN SAME RACEWAY, CABLE, BOX, OR CABINET.EMERGENCY CIRCUIT WIRING SHALL BE KEPT ENTIRELY INDEPENDENT OF ALL OTHER WIRING AND EQUIPMENT OTHER THAN IN TRANSFER EQUIPMENT ENCLOSURES, EXIT OR EMERGENCY FIXTURES, AND COMMON JUNCTION BOX, ATTACHED TO EXIT OR EMERGENCY FIXTURES OR A COMMON JUNCTION BOX ATTACHED TO UNIT EQUIPMENT, CONTAINING ONLY THE BRANCH CIRCUIT SUPPLYING THE UNIT EQUIPMENT AND THE EMERGENCY CIRCUIT IS SUPPLIED BY THE UNIT EQUIPMENT.
- REFER TO ARTICLE 300.22 FOR WIRING IN AIR HANDLING (PLENUM) SPACES.
- ALL SPLICES SHALL BE MADE UP TIGHT USING APPROVED MATERIALS AND "PULL TESTED" FOR INTEGRITY.
- FLEXIBLE CORDS/CABLES SHALL BE CONNECTED TO DEVICES AND/OR FITTINGS SO THAT TENSION IS NOT TRANSMITTED TO JOINTS OR TERMINALS.
- AN ENCLOSURE MOUNTED TO STRUCTURAL OR SUPPORTING ELEMENTS OF A SUSPENDED CEILING SHALL BE NOT MORE THAN 100 CUBIC INCHES IN SIZE AND SHALL BE SECURELY FASTENED TO THE CEILING GRID BY AN APPROVED MEANS.
- RACEWAY CONNECTIONS TO TRANSFORMERS OR OTHER VIBRATING EQUIPMENT SHALL BE MADE USING AN APPROVED FLEXIBLE CONNECTION.
- CONTRACTOR SHALL PROVIDE PUSH BUTTON FOR LOWERING CONTROL OF PROJECTOR LIFT AND MOTORIZED SCREEN, CONTRACTOR SHALL PROVIDE ALL ACCESSORIES AS REQUIRED FOR THIS OPERATION, COORDINATE WITH A/V VENDORS.
- CONTRACTOR SHALL PROVIDE ALL CONNECTIONS AS REQUIRED FOR ALL KITCHEN EQUIPMENT, CONTRACTOR SHALL COORDINATE EXACT REQUIREMENTS PRIOR TO ROUGH-IN, REFER TO KITCHEN PLANS.
- ALL RECEPTACLES IN KITCHEN/RESTROOM AREAS SHALL HAVE GFCI PROTECTION (GFCI BREAKER OR GFCI RECEPTACLE).
- WHEREVER MODULAR FURNITURE MAY BE USED, COORDINATE THE LOCATION OF RECEPTACLES WITH OPENINGS IN THE FURNITURE, THIS IS CRITICAL TO PREVENT REWORK.
- PLAN LAYOUT SHOWN IN THESE DOCUMENTS ARE SCHEMATIC AND ARE INTENDED TO ILLUSTRATE DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL DESIGN INCLUDING BUT NOT LIMITED TO SERVICE ENTRY, PANEL SIZE, AND CIRCUITRY.
- THE SCOPE OF WORK INDICATED SHALL BE EXECUTED IN ACCORDANCE WITH ALL APPLICABLE CODES INCLUDING, BUT NOT LIMITED TO, THE STANDARD ELECTRIC CODE AND THE NEC (THE LATEST APPLICABLE EDITION).
- THE ELECTRICAL WORK SHOWN ON THE SUBMITTED PLANS SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR, THE CONTRACTOR SHALL SECURE AN ELECTRICAL PERMIT FOR THEIR PORTION OF THE WORK PRIOR TO INSTALLATION.
- COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES.
- CONFIRM ELECTRICAL REQUIREMENTS FOR ANY OWNER-SUPPLIED ITEMS PRIOR TO WIRING OR FINAL CIRCUITING.
- SUBMIT CUT SHEETS FOR ELECTRICAL FIXTURES TO OWNER/ARCHITECT.
- OUTLETS OF ANY TYPE SHALL NEVER BE INSTALLED BACK TO BACK, OUTLETS IN RATED WALL MUST BE INSTALLED 24" APART.
- ALL LOW-VOLTAGE WIRING, WITH EXCEPTION OF THE FIRE ALARM SYSTEM, IS THE OWNER'S RESPONSIBILITY.
- CONTRACTOR SHALL PROVIDE J-HOOKS ON 24" SPACING ABOVE CEILING AS REQUIRED FOR NEW DATA CABLING, COORDINATE WITH OWNER.
- IF REQUIRED, CONTRACTOR SHALL PROVIDE ALL ACCESSORIES FOR PROPER OPERATION OF ELECTRONIC LOCKING DOORS, DOOR LOCKS

SHALL RELEASE UPON FIRE ALARM ACTIVATION, PROVIDE RELAYS FROM DOOR CONTROLLER TO FIRE ALARM CONTROL PANEL AS REQUIRED, COORDINATE ALL WORK WITH VENDOR,

GENERAL LIGHTING NOTES:

- SEE NEC ARTICLE 410 FOR MORE INFORMATION REGARDING LIGHTING FIXTURES.
- LIGHTING CIRCUITS ABOVE THE BAR JOIST OR IN CONCEALED AREAS WAY BE FLEXIBLE WIRING UOI.
- LIGHT SWITCHES SHALL BE MOUNTED AT 48" TO THE TOP OF THE BOX, UOI.
- LAY IN TYPE LIGHTING FIXTURES SHALL BE SUPPORTED BY EITHER OF TWO METHODS:
 - THEY SHALL BE SECURELY ATTACHED TO THE CEILING GRID BOLTS, SCREWS, RIVETS, OR LISTED CLIPS IDENTIFIED FOR USE WITH THE CEILING MANUFACTURER.
 - THEY SHALL BE ATTACHED TO THE BUILDING STRUCTURE BY AN INDEPENDENT MEANS (CEILING WIRE) AND COLOR-CODED TO DISTINGUISH THIS SUPPORT FROM THE CEILING GRID SUPPORT SYSTEM.
- A RECESSED LIGHTING FIXTURE THAT IS NON-TYPE IC SHALL HAVE ALL RECESSED PARTS SPACED NOT LESS THAN 1/2" FROM COMBUSTIBLE MATERIALS.
- ALL 2' X 2' LIGHT FIXTURES SHALL BE ORIENTED SUCH THAT LONG EDGE OF LAMPS RUN IN THE SAME DIRECTION THROUGHOUT THE FACILITY.
- ALL EMERGENCY/EGRESS FIXTURES AND SIGNS MOUNTED ABOVE DOORWAYS SHALL BE ON THE CENTER OR WALL ABOVE THE DOOR HEADER, UOI.
- OUTLET BOXES OR FITTINGS INSTALLED AS REQUIRED BY ARTICLE 314.23 SHALL BE PERMITTED TO SUPPORT LIGHTING FIXTURES.
- DURING INSTALLATION, IF AN OBVIOUS CONFLICT IS DISCOVERED BETWEEN LIGHTING FIXTURES AND OTHER BUILDING ELEMENTS (STRUCTURE, HVAC, PLUMBING, SPRINKLER, ETC.) THE CONTRACTOR HAS THE AUTHORITY TO MAKE MINOR ADJUSTMENTS TO THE FIXTURE LAYOUT, AND OTHER ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER OF RECORD.
- LIGHT FIXTURES HAVE BEEN SELECTED TO BE OF PROPER CONSTRUCTION AND LISTED FOR THE ENVIRONMENT, ANY DEVIATION IN THE TYPE OR LOCATION SHALL BE APPROVED BY THE ENGINEER OF RECORD.
- SEE ARCHITECTURAL REFLECTED CEILING PLANS (WHERE AVAILABLE) FOR EXACT LOCATION OF ALL CEILING-MOUNTED EQUIPMENT.
- LIGHT FIXTURES SHALL NOT BE USED AS A RACEWAY, UNLESS LISTED AND MARKED FOR THAT PURPOSE.
- THESE DRAWINGS SHOW THE INTENT OF THE DESIGNER, EVERY WIRE IS NOT ILLUSTRATED (EXAMPLES: WIRING BETWEEN 3-WAY SWITCHES, WIRING FOR AN EMERGENCY BALLAST, ETC.) ON THESE DRAWINGS.
- THE INSTALLER SHOULD REFER TO THE DETAILS FOR THE PROPER WIRING OF OCCUPANCY SENSORS, COORDINATE WITH VENDOR.
- CONDUITS, LIGHTING FIXTURES, ETC SHALL NOT BE MOUNTED DIRECTLY BELOW SMOKE/HEAT VENTS, SPRINKLER HEADS, EVAPORATOR VENTS OR SKYLIGHTS.
- THE ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY AND ALL FIXTURES NOT PRE-APPROVED BY ARCHITECT/ENGINEER 10 DAYS PRIOR TO BID.
- ALL OCCUPANCY SENSORS SHALL BE SET WITH A 10-MINUTE TIME OUT, WITH THE EXCEPTION OF RESTROOM SENSORS, ALL RESTROOM SENSORS SHALL BE SET WITH A 20-MINUTE TIME OUT.
- CONTRACTOR SHALL PROVIDE ALL COMPONENTS REQUIRED FOR PROPER OPERATION OF FIXTURES.
- CONTRACTOR SHALL REFER TO THE LATEST ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHTS.
- SHORT DASHED CIRCUITS REPRESENT CIRCUITS THAT ARE EMERGENCY OR UN-SWITCHED NIGHT LIGHT CIRCUITS, EACH FIXTURE WITH AN EMERGENCY BALLAST REQUIRES A WIRE WHICH IS CONSTANTLY HOT (NOT SWITCHED) FOR PROPER OPERATION, IF NIGHT LIGHT CIRCUIT, CIRCUIT FIXTURES AHEAD OF ANY SWITCHES OR SENSORS.
- ALL LIGHTING LAYOUTS ARE BASED ON REFLECTED CEILING PLANS, DO NOT ALTER THE NUMBER OF FIXTURES INDICATED ON DRAWINGS, SEE FIXTURE SCHEDULE FOR APPLICABLE NOTES.
- CONTRACTOR SHALL PROVIDE POWER PACKS FOR OCCUPANCY SENSORS AS REQUIRED BY THE MANUFACTURER, PROVIDE 120V CIRCUITS FROM NEAREST 120V PANEL AS REQUIRED.
- THE CONTRACTOR SHALL PROVIDE ALL ACCESSORIES FOR OPERATION OF OCCUPANCY SENSORS, INCLUDING FOR USE WITH MECHANICAL LOADS-EXHAUST FANS.
- CONTRACTOR SHALL CONCEAL ALL WIRES AND DEVICES WHERE POSSIBLE, IN AREAS WHERE CONCEALMENT IS NOT PRACTICAL,

PROVIDE WIRE MOLD PAINTED TO MATCH FINISHES, COORDINATE EXACT REQUIREMENTS WITH ARCHITECT,

GENERAL GROUNDING NOTES:

- ALL GROUND RODS SHALL BE 3/4" X 10' COPPER-CLAD STEEL UOI, EVERY EFFORT SHOULD BE MADE TO INSTALL THE GROUND RODS IN A VERTICAL POSITION, IF THIS IS NOT POSSIBLE, IN SOME CASES, THE ENGINEER MAY REQUIRE THE INSTALLATION OF A PLATE ELECTRODE OR HE MAY APPROVE AN ANGLED OR HORIZONTAL INSTALLATION OF A GROUND ROD.
- GROUND RODS AND THE GROUND RING CONDUCTORS SHALL BE LOCATED 24" MINIMUM FROM THE STRUCTURAL FOUNDATION AND SHALL BE BURIED 30" MINIMUM BELOW FINISHED GRADE (REFERENCE NEC 260.52.F).
- IN GENERAL, THE GROUND LOOP SHALL CONSIST OF 4/0 STRANDED BARE COPPER UOI, WHEREVER BARE GROUNDING SYSTEM CONDUCTORS PASS THROUGH OR TERMINATE IN CONCRETE, THE EXPOSED COPPER CONDUCTOR MUST BE PAINTED WITH A PVC-TYPE PAINT TO HELP PROTECT AGAINST CORROSION.
- THE GROUNDING SYSTEM SHALL BE TESTED USING THE FALL OF POTENTIAL METHOD TO ENSURE COMPLIANCE WITH THE SPECIFICATIONS AND THE NEC MINIMUM REQUIREMENTS.
- ALL CONNECTIONS OF WIRE-TO-WIRE, WIRE-TO-ROD, AND WIRE-TO-STEEL SHALL BE MADE EXOTHERMICALLY USING APPROPRIATE MOLDS OR APPROVED CLAMPS.
- IF NECESSARY, THE AUTHORITY HAVING JURISDICTION SHALL BE CALLED IN TO INSPECT THE INSTALLATION OF THE GROUNDING SYSTEM BEFORE IT IS BURIED OR COVERED.
- THE GROUNDING SHOWN ON THESE DRAWINGS INCLUDE THE MINIMUM REQUIREMENTS, ALL THE REQUIREMENTS OF THE NEC ARTICLE 250 MUST BE MET.
- METAL RACEWAYS FOR SERVICE CONDUCTORS AND EQUIPMENT SHALL BE GROUNDED. A METAL ELBOW THAT IS INSTALLED IN AN UNDERGROUND INSTALLATION OF RIGID NON-METALLIC CONDUIT AND IS ISOLATED FROM POSSIBLE CONTACT BY A MINIMUM COVER OF 18" TO ANY PART OF THE ELBOW SHALL NOT BE REQUIRED TO BE GROUNDED.
- NON-CURRENT-CARRYING CONDUCTIVE MATERIALS, SUCH AS METAL CONDUIT, JUNCTION BOXES, ETC. ENCLOSING ELECTRICAL CONDUCTORS OR EQUIPMENT, OR FORMING PART OF SUCH EQUIPMENT, SHALL BE GROUNDED.
- THE NON-CURRENT-CARRYING METAL PARTS OF SERVICE EQUIPMENT (RACEWAYS AND ENCLOSURES CONTAINING SERVICE CONDUCTORS, INCLUDING METER FITTINGS, BOXES, OR THE LIKE, INTERPOSED IN THE SERVICE RACEWAY) SHALL BE BONDED TOGETHER. BONDING SHALL APPLY AT EACH END AND TO ALL INTERVENING RACEWAYS, BOXES, AND ENCLOSURES BETWEEN THE SERVICE EQUIPMENT AND THE GROUNDING ELECTRODE, METHODS OF BONDING SHALL INCLUDE EXOTHERMIC WELDING, LISTED PRESSURE CONNECTORS, LISTED CLAMPS, CONNECTIONS UTILIZING THREADED COUPLINGS OR THREADED BOSSES ON ENCLOSURES WERE MADE UP WRENCH-TIGHT, OTHER APPROVED DEVICES, SUCH AS BONDING-TYPE LOCKNUTS AND BUSHINGS.
- NONCONDUCTIVE COATINGS (SUCH AS PAINT, LACQUER, AND ENAMEL) ON EQUIPMENT TO BE GROUNDED SHALL BE REMOVED FROM THREADS AND OTHER CONTACT SURFACES TO ENSURE GOOD ELECTRICAL CONTINUITY OR BE CONNECTED BY MEANS OF FITTINGS DESIGNED SO AS TO MAKE SUCH REMOVAL UNNECESSARY.
- WHERE THE TRANSFORMER SUPPLYING THE SERVICE IS LOCATED OUTSIDE THE BUILDING, AT LEAST ONE ADDITIONAL GROUNDING CONNECTION SHALL BE MADE FROM THE GROUNDED SERVICE CONDUCTOR TO A GROUNDING ELECTRODE, EITHER AT THE TRANSFORMER OR ELSEWHERE OUTSIDE THE BUILDING.
- FOR A GROUNDED SYSTEM, AN UN-SPLICED MAIN BONDING JUMPER SHALL BE USED TO CONNECT THE EQUIPMENT GROUNDING CONDUCTOR(S) AND THE SERVICE-DISCONNECT ENCLOSURE TO THE GROUNDED CONDUCTOR OF THE SYSTEM. MAIN BONDING JUMPERS SHALL BE OF COPPER OR OTHER CORROSION-RESISTANT MATERIAL, A MAIN BONDING JUMPER SHALL BE A WIRE, BUS, SCREW, OR SIMILAR SUITABLE CONDUCTOR, THE MAIN BONDING JUMPER SHALL NOT BE SMALLER THAN THE SIZES SHOWN IN TABLE 260.66 OF THE NEC FOR GROUNDING ELECTRODE CONDUCTORS.
- METAL RACEWAYS, CABLE TRAYS, ENCLOSURES, FRAMES, FITTINGS, AND OTHER METAL NON-CURRENT-CARRYING PARTS THAT ARE TO SERVE AS GROUNDING CONDUCTORS, WITH OR WITHOUT THE USE OF SUPPLEMENTARY EQUIPMENT GROUNDING CONDUCTORS, SHALL BE EFFECTIVELY BONDED WHERE NECESSARY TO ENSURE ELECTRICAL CONTINUITY AND THE CAPACITY TO CONDUCT SAFELY ANY FAULT CURRENT LIKELY TO BE IMPOSED ON THEM.
- EXPOSED NON-CURRENT-CARRYING METAL PARTS OF FIXED EQUIPMENT LIKELY TO BECOME ENERGIZED SHALL BE GROUNDED UNDER ANY OF THE FOLLOWING CONDITIONS:
 - WHERE WITHIN 8' VERTICALLY OR 5' HORIZONTALLY OF GROUND OR GROUNDED METAL OBJECTS AND SUBJECT TO CONTACT BY PERSONS.
 - WHERE LOCATED IN A WET OR DAMP LOCATION AND NOT ISOLATED.
 - WHERE IN ELECTRICAL CONTACT WITH METAL.
 - WHERE SUPPLIED BY A METAL-CLAD, METAL-SHEATHED, METAL-RACEWAY, OR OTHER WIRING METHOD THAT PROVIDES AN EQUIPMENT GROUND.
 - WHERE EQUIPMENT OPERATES WITH ANY TERMINAL AT OVER 150 VOLTS TO GROUND.
 - ALL GROUNDING CONDUCTORS AND BONDING JUMPERS SHALL BE ROUTED TO ENSURE THE SHORTEST POSSIBLE CONDUCTOR LENGTH,
 - BONDING JUMPERS MEETING THE OTHER REQUIREMENTS OF THIS ARTICLE SHALL BE USED AROUND CONCENTRIC OR ECCENTRIC KNOCKOUTS THAT ARE PUNCHED OR OTHERWISE FORMED SO AS TO IMPAIR THE ELECTRICAL CONNECTION TO GROUND, STANDARD LOCKNUTS OR BUSHINGS SHALL NOT BE THE SOLE MEANS FOR THE BONDING REQUIRED BY THIS SECTION,

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NUMBER	DATE	REVISION TABLE	REVISOR	DESCRIPTION
01	2023-02-28	NYE	NYE	LL REVIEW SET
02	2023-03-21	NYE	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:

RESTAURANT FIT OUT FOR:

GARBANZO
MEDITERRANEAN FRESH

DATE: 02-01-2023

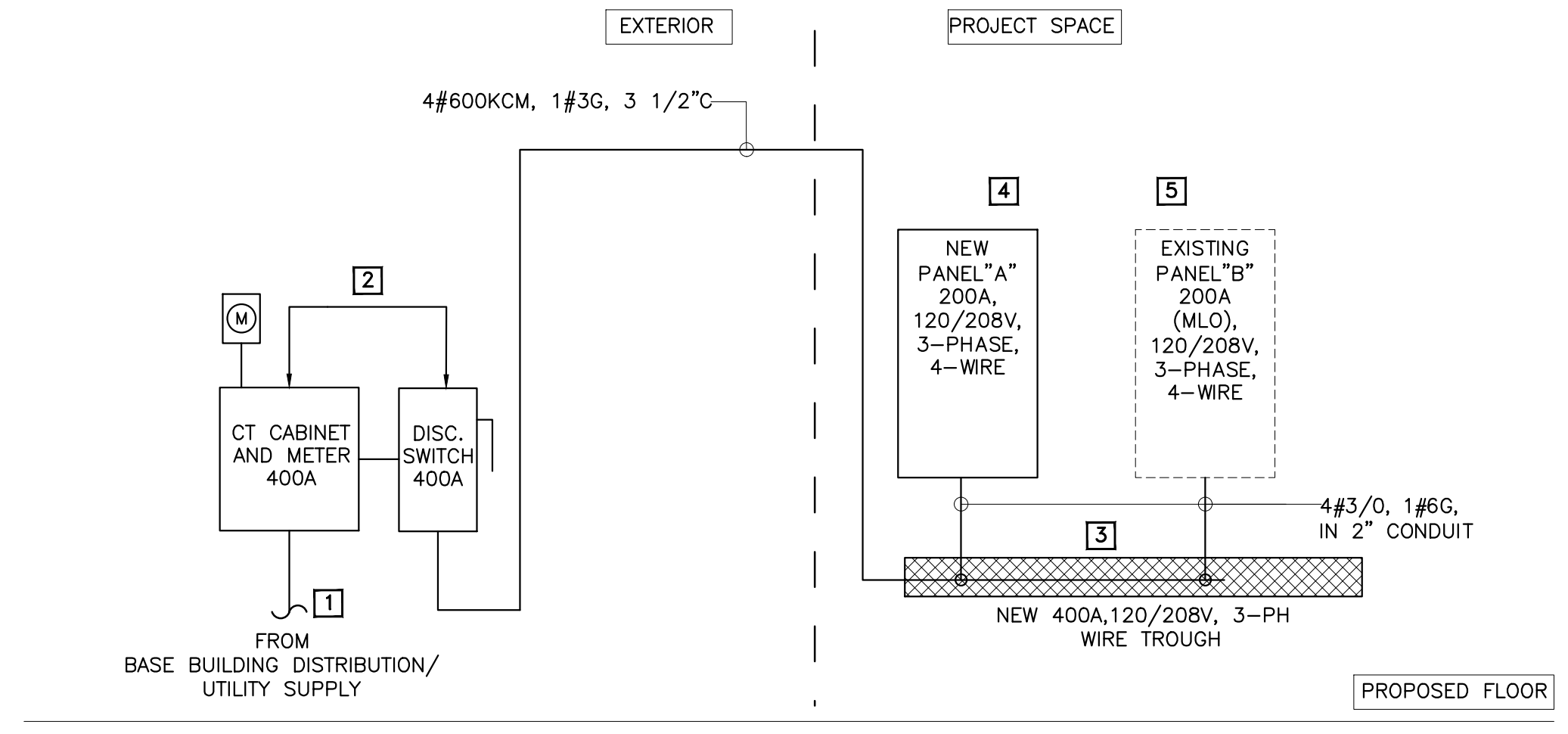
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SCALE: AS NOTED

JOB #:

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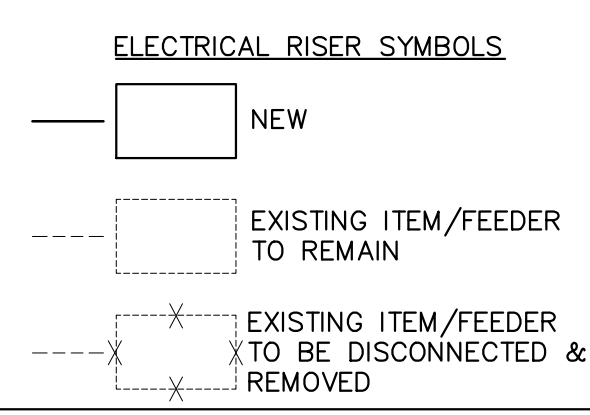
E002



1 ELECTRICAL RISER DIAGRAM NTS

ELECTRICAL RISER KEYED NOTES:

- NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL INCOMING SERVICE FEEDER FOR THE PROJECT SPACE. E.C. SHALL COORDINATE WITH OWNER/BASE BUILDING FOR EXACT DETAILS ABOUT EXISTING POWER DISTRIBUTION AND NEW POWER PROVISION OF THE SPACE.
- NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL CT METER & THE DISCONNECT SWITCH FOR THE PROJECT SPACE. E.C. TO COORDINATE EXACT LOCATION OF METER AND DISCONNECT WITH OWNER/BASE BUILDING BEFORE COMMENCING ANY WORK.
- NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL WIRE TROUGH. E.C SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- EXISTING 200A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B" TO REMAIN. E.C. TO FIELD VERIFY THE EXACT SIZE, LOCATION & OPERABLE CONDITION OF THE PANEL, REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.



ELECTRICAL RISER GENERAL NOTE:

- ABOVE RISER DIAGRAM IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY EXACT POWER DISTRIBUTION IN FIELD AND INFORM ENGINEER ON RECORD FOR ANY DISCREPANCY.
- E.C. SHALL VERIFY INCOMING SERVICE AMPERAGE, WIRE SIZING AND DISTRIBUTION.
- ELECTRICAL CONTRACTOR TO COORDINATE FAULT CURRENT (Isc) RATING WITH UTILITY COMPANY AND AHJ PRIOR TO COMMENCING ANY WORK.
- E.C. TO VERIFY OPERABLE CONDITIONS OF EXISTING DEVICES IN FIELD. REPLACE/RECTIFY IF FOUND IN OPERABLE. BASE BID ACCORDINGLY.
- EXISTING ELECTRICAL DISTRIBUTION TO BE MAINTAINED AND UTILIZED TO SERVE PROJECT SPACE. POWER RISER DIAGRAM INDICATED FOR REFERENCE PURPOSES ONLY.

ELECTRICAL SERVICE ENTRANCE GENERAL NOTE:

- UNDERGROUND SERVICE LATERAL CONDUCTORS MUST BE PROTECTED FROM DAMAGE IN ACCORDANCE WITH ARTICLE 300.5. UNDERGROUND SERVICE CONDUCTORS THAT ARE NOT ENCASED IN CONCRETE AND THAT ARE BURIED 18" OR MORE BELOW GRADE SHALL HAVE THEIR LOCATION IDENTIFIED BY A WARNING RIBBON PLACED 12" ABOVE THE UNDERGROUND INSTALLATION.
- UNLESS LOCAL CODE DICTATES OTHERWISE, PVC SERVICE ENTRANCE LATERAL RACEWAY MUST BE BURIED AT LEAST 18" TO THE TOP OF THE RACEWAY UNLESS BELOW A COVERING OF AT LEAST 2" OF CONCRETE, RACEWAY COVERED UNDER 2" OF CONCRETE MUST BE BURIED AT LEAST 12" TO THE TOP OF THE RACEWAY.
- BACKFILL THAT CONTAINS LARGE ROCKS, PAVING MATERIALS, CORROSIVE MATERIAL OR ANYTHING ELSE THAT MAY CAUSE DAMAGE TO RACEWAYS OR CABLES SHALL NOT BE PLACED IN EXCAVATION.
- CONDUITS OR RACEWAYS THROUGH WHICH MOISTURE MAY CONTACT LIVE PARTS SHALL BE SEALED OR PLUGGED AT ONE OR BOTH ENDS, SPARE OR UNUSED RACEWAYS SHALL ALSO BE SEALED. SEALANTS SHALL BE IDENTIFIED FOR USE WITH THE CABLE, INSULATION, SHIELD OR OTHER COMPONENTS.
- PARALLEL SERVICE CONDUCTORS MUST BE THE SAME LENGTH, HAVE THE SAME CONDUCTOR MATERIAL, BE THE SAME SIZE, HAVE THE SAME INSULATION TYPE, AND BE TERMINATED IN THE SAME MANNER. IN ADDITION, THE RACEWAYS OR CABLES MUST HAVE THE SAME PHYSICAL CHARACTERISTICS.

CALL OUT	SYMBOLS	VOLTS	AMPS	KVA	HP	CIRCUIT	PANEL DESCRIPTION
WCC		208V, 1PH, 2W	24.05	5		A#2,4	WALK IN COOLER EVAPORATOR
WCE		208V, 1PH, 2W	19.23	4		A#31,33	WALK IN COOLER CONDENSER
CP-1(N)		120V, 1PH, 2W	.34	0.04		B#9	RECIRCULATION PUMP-1
EF-1(N)		120V, 1PH, 2W	1.15	0.13		B#3	EXHAUST FAN-1
EF-2(N)		120V, 1PH, 2W	1.15	0.13		B#3	EXHAUST FAN-2
KXF-1(N)		208V, 3PH, 3W	13.1	4.71	3.0	A#44,46,48	KITCHEN EXHAUST FAN-1
MAUC-1(N)		208V, 3PH, 3W	21.4	7.71		A#49,51,53	MAU CONDENSER-1
MAUF-1(N)		208V, 3PH, 3W	13.1	4.71		A#50,52,54	MAU FAN-1
MAUF-2(N)		208V, 3PH, 3W	13.1	4.71		B#25,27,29	MAU FAN-2
RTU-1(E)		208V, 3PH, 3W	40	14.41		B#26,28,30	ROOF TOP UNIT-1
RTU-2(N)		208V, 3PH, 3W	29	10.44		A#43,45,47	ROOF TOP UNIT-2
WH-1(N)		120V, 1PH, 2W	8	.96		B#11	GAS FIRED WATER HEATER-1
WH-1(N)		120V, 1PH, 2W	8	.96		B#13	GAS FIRED WATER HEATER-1

PANEL SCHEDULE:

PANEL:	A(N)	VOLTS,	3	PHASE,	4	WIRE	MOUNTING:		SURFACE						
							208Y/120	208Y/120							
MAIN CB	200A	MLO	NA	BUS	225A	MIN,									
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	RICE COOKER/ WARMER(EQ-3)	E	1.31	2#12, #10G, 3/4"C	3.81			2#8, #10G, 3/4"C	2.50	E	WCC(EQ-34)	2	2	
3	20	HOT FOOD TABLE(EQ-4)	E	2.04	2#12, #12G, 3/4"C		4.54			2.50	E		40/2P	4	
5	20	DOUGH DIVIDER/ ROUNDER(EQ-11)	E	0.96	2#12, #12G, 3/4"C			1.98		2#12, #12G, 3/4"C	1.02	E	DISPENSER, BEVERAGE, NON-CARBONATED(EQ-40)	20	6
7	20	DOUGH SHEETER(EQ-12)	E	0.70	2#12, #12G, 3/4"C	2.18				2#12, #12G, 3/4"C	1.48	E	ICE MAKER W/OUT BIN(EQ-42)	20	8
9	20	POS STATION	R	0.18	2#12, #12G, 3/4"C			1.20		2#12, #12G, 3/4"C	1.02	E	DISPENSER, BEVERAGE, CARBONATED *NON-CARBONATED(EQ-43)	20	10
11	20	KITCHEN HOOD LIGHTS	L	0.50	2#12, #12G, 3/4"C			0.62		2#12, #12G, 3/4"C	0.12	E	VERTICAL BROILER(EQ-1)	20	12
13			E	1.04		1.04						E	SHUNT TRIP	14	14
15	20/2P	MIXER, SPIRAL(EQ-14)	E	1.04	2#12, #12G, 3/4"C		1.54			2#12, #12G, 3/4"C	0.50	E	GRIDDLE, COUNTERTOP(EQ-2)	20	16
17	20	PORTABLE OIL FILTER(EQ-20)	E	1.08	2#12, #12G, 3/4"C			1.08				E	SHUNT TRIP	18	18
19	20	GRILL, SANDWICH(EQ-21)	E	1.80	2#12, #12G, 3/4"C	2.30				2#12, #12G, 3/4"C	0.50	E	DEEP FRYER(EQ-9)	20	20
21	20	FREEZER, REACH IN(EQ-23)	E	0.58	2#12, #12G, 3/4"C		0.58					E	SHUNT TRIP	22	22
23	20	DISPLAY CASE, REFRIGERATED(EQ-24)	E	0.80	2#12, #12G, 3/4"C			1.30		2#12, #12G, 3/4"C	0.50	E	DEEP FRYER(EQ-9)	20	24
25	20	OPEN DISPLAY CASE, ACCESSORY(EQ-24A)	E	0.80	2#12, #12G, 3/4"C	0.80						E	SHUNT TRIP	26	26
27	20	REFRIGERATOR, REACH-IN(EQ-29)	E	0.18	2#12, #12G, 3/4"C			0.52		2#12, #12G, 3/4"C	0.34	E	EQUIPMENT STAND, REFRIGERATED BASE(EQ-13)	20	28
29	30	FOOD PROCESSOR, BENCHTOP(EQ-31)	E	2.25	2#10, #10G, 3/4"C			2.25				E	SHUNT TRIP	30	30
31			E	2.00		2.46				2#12, #12G, 3/4"C	0.46	E	SANDWICH/SALAD PREP REFRIGERATOR(EQ-15)	20	32
33	30/2P	WCE(EQ-34)	E	2.00	2#10, #10G, 3/4"C		2.00					E	SHUNT TRIP	34	34
35	20	SPARE						0.50		2#12, #12G, 3/4"C	0.50	E	CHARBROILER, COUNTERTOP(EQ-47)	20	36
37	20	SPARE										E	SHUNT TRIP	38	38
39	20	SPARE						1.10		2#12, #12G, 3/4"C	1.10	E	CABINET, MOBILE, WARMING & HOLDING(EQ-19)	20	40
41	20	RICE COOKER/ WARMER(EQ-3)	E	1.31	2#10, #10G, 3/4"C			1.31				E	SHUNT TRIP	42	42
43	20	SPARE				1.52					1.32	M		44	44
45	20	SPARE					1.52			3#12, #12G, 3/4"C	1.52	M	KXF-1 (N)	20/3P	46
47	20	SPARE						1.52			1.52	M		48	48
49			M	2.57		3.70					1.13	M		50	50
51	30/3P	MAUC-1 (N)	M	2.57	3#10, #10G, 3/4"C		3.70			3#12, #12G, 3/4"C	1.13	M	MAUF-1 (N)	15/3P	52
53			M	2.57				3.70			1.13	M		54	54
						17.81	16.70	14.26							

PANEL:	B(E)	VOLTS,	3	PHASE,	4	WIRE	MOUNTING:		SURFACE						
208Y/120	208Y/120	208Y/120	208Y/120	208Y/120	208Y/120	208Y/120									
MAIN CB	NA	MLO	200A	BUS	225A	MIN,									
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	LIGHTING-DINING, HALLWAY	L	0.70	2#12, #12G, 3/4"C	1.24			2#12, #12G, 3/4"C	0.54	R	RECEPTACLE-ROOF TOP	20	2	
3	20	LIGHTING-BOH,KITCHEN,RR	L	1.00	2#12, #12G, 3/4"C		2.08			2#12, #12G, 3/4"C	1.08	R	RECEPTACLE-GENERAL	20	4
5	20	BUILDING SIGN	L	1.20	2#12, #12G, 3/4"C			1.92		2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-MANAGER DESK	20	6
7	20	TIME CLOCK	O	0.01	2#12, #12G, 3/4"C	0.73				2#12, #12G, 3/4"C	0.72	R	RECEPTACLE-MANAGER DESK	20	8
9	20	CP-1(N)	M	0.04	2#12, #12G, 3/4"C		0.40			2#12, #12G, 3/4"C	0.36	R	RECEPTACLE-REST ROOM	20	10
11	20	WH-1(N)	O	0.96	2#12, #12G, 3/4"C			1.32		2#12, #12G, 3/4"C	0.36	R	RECEPTACLE-CCTV	20	12
13	20	WH-1(N)	O	0.96	2#12, #12G, 3/4"C	2.76				2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW	20	14
15	20	WALK IN COOLER LIGHTS	L	0.50	2#12, #12G, 3/4"C		2.30			2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW	20	16
17	20	RECEPTACLE-MENU BOARDS	R	0.18	2#12, #12G, 3/4"C			0.72		2#12, #12G, 3/4"C	0.54	R	RECEPTACLE-CCTV	20	18
19	20	RECEPTACLE-GENERAL	R	0.72	2#12, #12G, 3/4"C	4.20					3.48	M		20	20
21	20	SPARE					3.48			3#8, #10G, 3/4"C	3.48	M	RTU-2(N)	40/3P	22
23	20	SPARE						3.48			3.48	M		24	24
25			M	1.13			5.92				4.79	M		26	26
27	15/3P	MAUF-2(N)	M	1.13	3#12, #12G, 3/4"C		5.92			EXISTING	4.79	M	RTU-1(E)	50/3P	28
29			M	1.13				5.92			4.79	M		30	30
						14.85	14.18	7.44							

ELECTRICAL GENERAL NOTE:

- IN ACCORDANCE WITH NEC ARTICLE 110.16, ELECTRICAL EQUIPMENT LIKELY TO REQUIRE EXAMINATION WHILE ENERGIZED SHALL BE FIELD MARKED TO WARN PERSONNEL OF POTENTIAL ARC FLASH HAZARDS, THIS SHALL BE FURNISHED FROM THE FACTORY.
- IN ACCORDANCE WITH NEC ARTICLE 110.24, THE SERVICE EQUIPMENT SHALL BE FIELD MARKED WITH THE MAXIMUM AVAILABLE FAULT CURRENT ALONG WITH THE DATE THE CALCULATION WAS PERFORMED.
- ALL WORKING SPACE REQUIREMENTS AROUND ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NEC ARTICLE 110.26 SHALL BE STRICTLY ADHERED TO BY ALL TRADES.
- IN ACCORDANCE WITH NEC ARTICLE 230.8, RACEWAYS ENTERING A BUILDING FROM AN UNDERGROUND DISTRIBUTION SYSTEM SHALL BE SEALED IN ACCORDANCE WITH 300.5.G.
- ALL PANEL BOARDS SHALL BE RATED FOR USE IN A SEISMIC DESIGN CATEGORY "ABCD." CONTRACTOR TO VERIFY DESIGN CATEGORY WITH STRUCTURAL ENGINEER.
- CONTRACTOR SHALL PROVIDE SPARE BREAKERS AS INDICATED ON PANEL SCHEDULES.
- GROUNDING SHALL BE PER NEC 250.
- ALL PANEL BOARDS ARE TO EASY-TRIM TYPE.
- WHEN INSTALLING PANEL BOARD CANS, CONTRACTOR SHALL LEAVE ENOUGH ROOM TO MOUNT THE SURGE PROTECTION DEVICE AS CLOSE AS POSSIBLE TO THE PANEL BOARD TO MINIMIZE THE LEAD LENGTH OF THE SPD. IN ADDITION TO THE PLACEMENT OF THE EXTERNAL SPD, CONTRACTOR SHALL ALSO REARRANGE THE BREAKERS AS REQUIRED TO MINIMIZE THE LEAD LENGTH OF THE SPD, TYPICAL FOR ALL PANEL BOARDS WITH A SPD. IF BREAKERS ARE REARRANGED, CONTRACTOR SHALL ADJUST THE LABELING AND PANEL BOARD DIRECTORY TO MATCH.
- ALL WIRING MUST MEET LOCAL ELECTRICAL CODES AS WELL AS NATIONAL ELECTRICAL CODE REQUIREMENT.
- TENANT IS RESPONSIBLE FOR ATTAIN THE NECESSARY DESIGNED LOAD CAPACITY FROM ALL JURISDICTIONAL AUTHORITIES.

PANEL GENERAL NOTES

- ALL CIRCUITING SHOWN FOR PANEL "B" IS FOR REFERENCE PURPOSE ONLY. E.C. SHALL VERIFY CIRCUITING OF THE EXISTING DEVICES IN FIELD AND INFORM ENGINEER FOR DISCREPANCIES.
 - ELECTRICAL CONTRACTOR TO VERIFY THE EXACT PANEL SIZES AND INCOMING FEEDER SIZE.
 - E.C. SHALL PROVIDE NEW CIRCUIT BREAKERS IN PLACE OF EXISTING CIRCUIT BREAKERS WHEREVER NECESSARY TO BE IN LINE WITH THE PANEL SCHEDULE
- PANEL SCHEDULE KEYD WORK NOTES**
- EXISTING RTU-1(E) AS INDICATED IN PANEL SCHEDULE SHALL REMAIN CONNECTED TO THE RESPECTIVE EXISTING ELECTRICAL PANEL "B". E.C. SHALL VERIFY THE EXACT CIRCUIT NUMBER IN FIELD & ADJUST/MODIFY CIRCUITING AS REQUIRED.

NO EXPOSED WIRING

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NUMBER	DATE	REVISION	DESCRIPTION
01	2023-02-28	NYE	DESCRIPTION
02	2023-03-21	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:
GARBANZO
MEDITERRANEAN FRESH

DATE: 02-01-2023

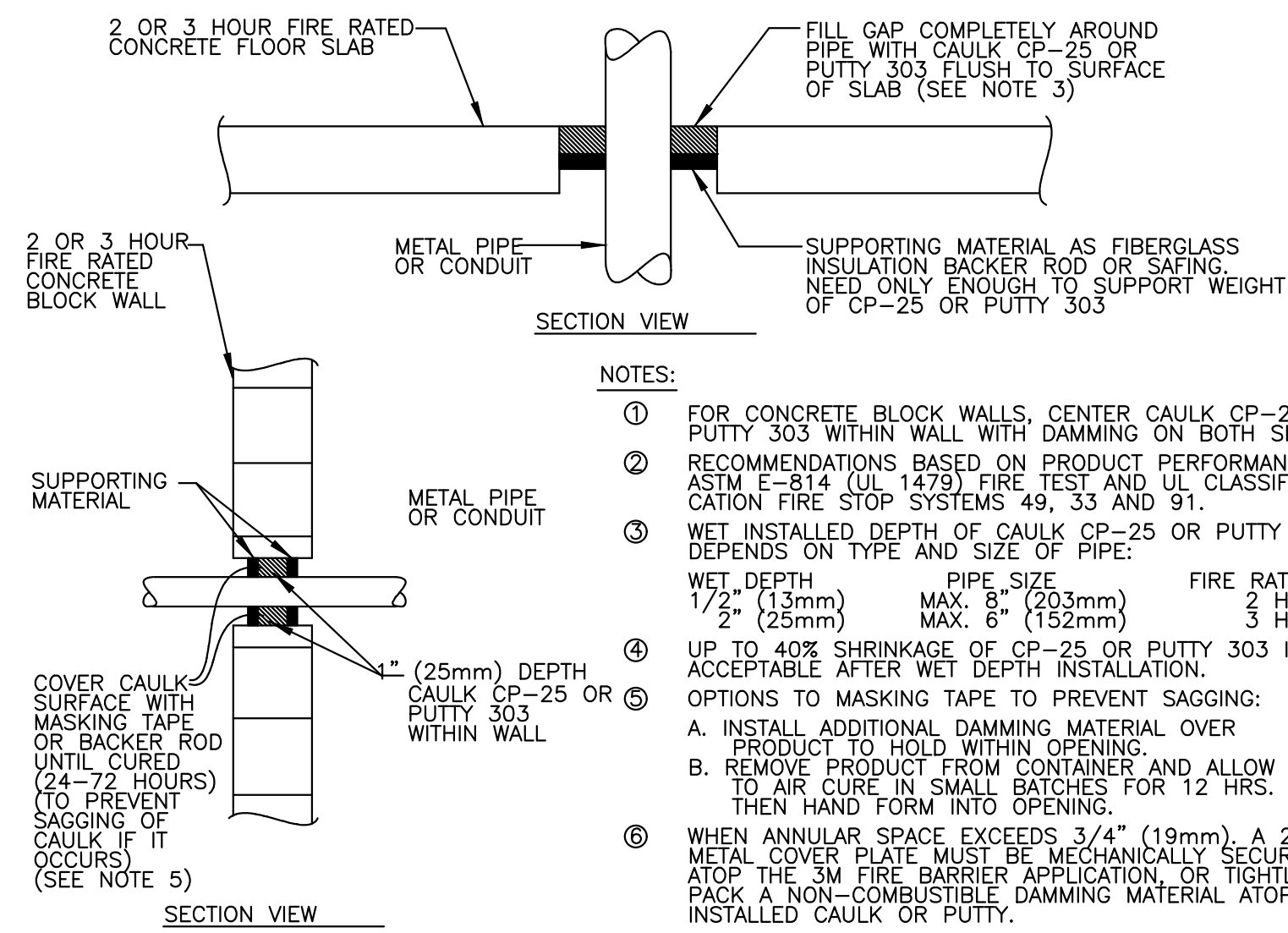
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SCALE: AS NOTED

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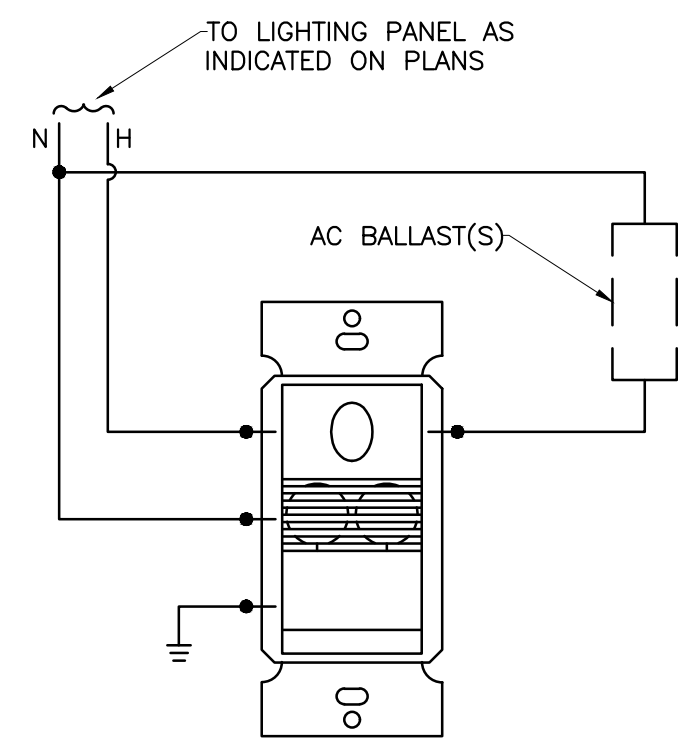
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- NOTES:
- FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
 - RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL CLASSIFICATION FIRE STOP SYSTEMS 49, 33 AND 91.
 - WET INSTALLED DEPTH OF CAULK CP-25 OR PUTTY 303 DEPENDS ON TYPE AND SIZE OF PIPE:

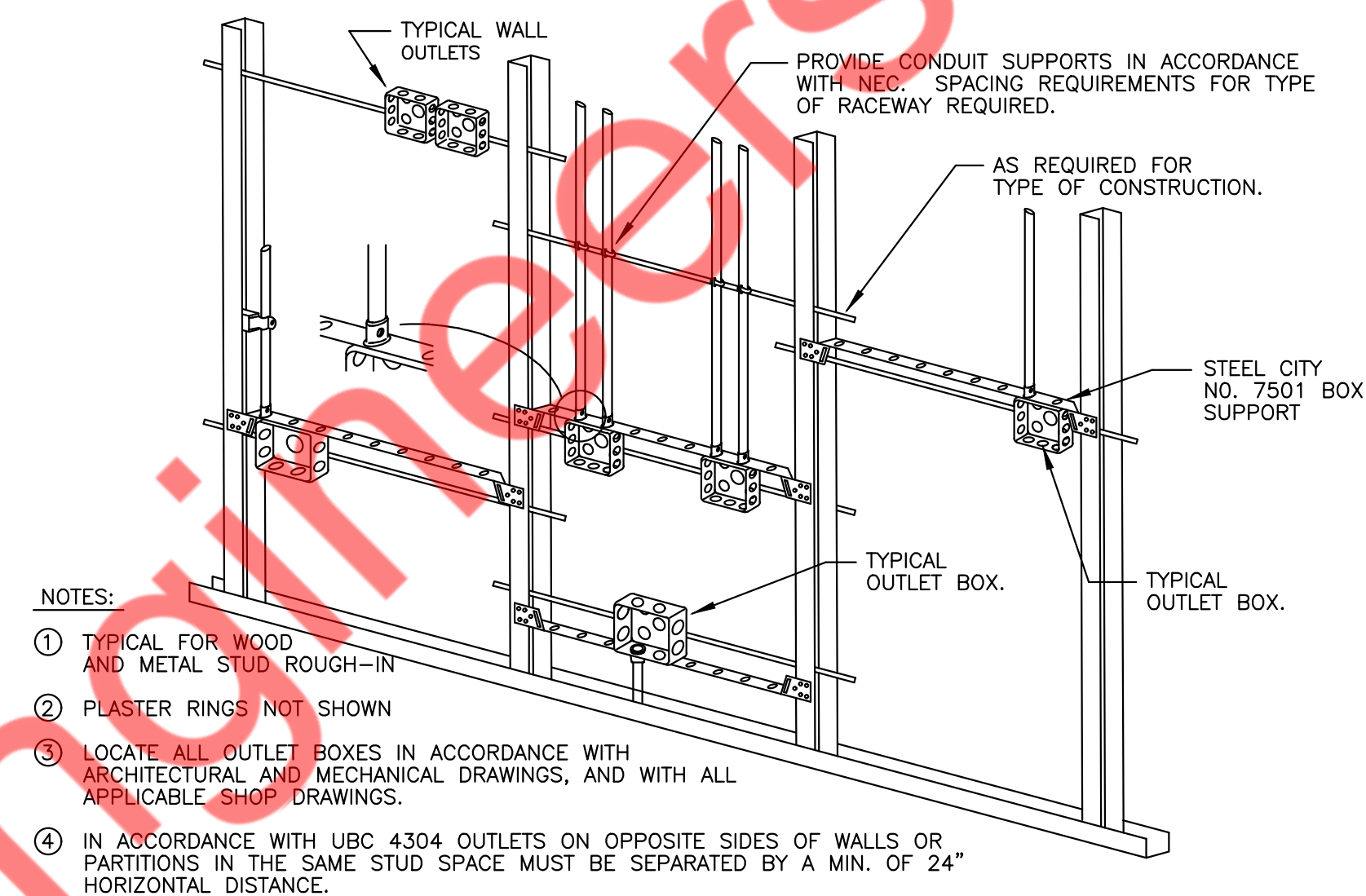
WET DEPTH	PIPE SIZE	FIRE RATING
1/2" (13mm)	MAX. 8" (203mm)	2 HRS.
3/4" (19mm)	MAX. 6" (152mm)	3 HRS.
 - UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
 - OPTIONS TO MASKING TAPE TO PREVENT SAGGING:
 A. INSTALL ADDITIONAL DAMMING MATERIAL OVER PRODUCT TO HOLD WITHIN OPENING.
 B. REMOVE PRODUCT FROM CONTAINER AND ALLOW TO AIR CURE IN SMALL BATCHES FOR 12 HRS. THEN HAND FORM INTO OPENING.
 - WHEN ANNULAR SPACE EXCEEDS 3/4" (19mm), A 28 AWG METAL COVER PLATE MUST BE MECHANICALLY SECURED ATOP THE 3M FIRE BARRIER APPLICATION OR TIGHTLY PACK A NON-COMBUSTIBLE DAMMING MATERIAL ATOP INSTALLED CAULK OR PUTTY.

6 FIRE STOP DETAIL
E004 N.T.S.



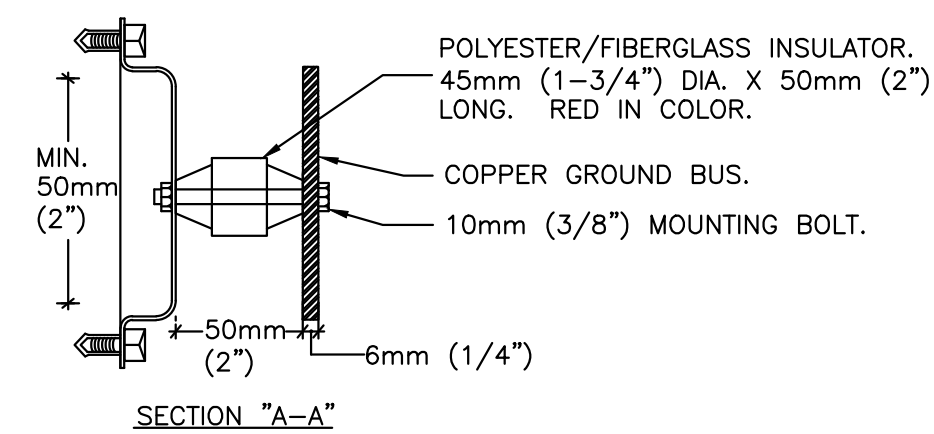
- OCCUPANCY SENSOR SWITCH WIRING DIAGRAM
SCALE: N.T.S.
- NOTES:
- ALL LOW VOLTAGE WIRING AND TERMINATIONS TO BE BY ELECTRICAL CONTRACTOR.
 - OCCUPANCY/VACANCY SENSOR SHALL BE "SENSOR SWITCH" WSX-PDT-SA-WH OR APPROVED EQUAL. ALL EXPOSED CONTROL WIRING SHALL BE IN CONDUIT.

4 OCCUPANCY SENSOR SWITCH DETAIL
E004 N.T.S.

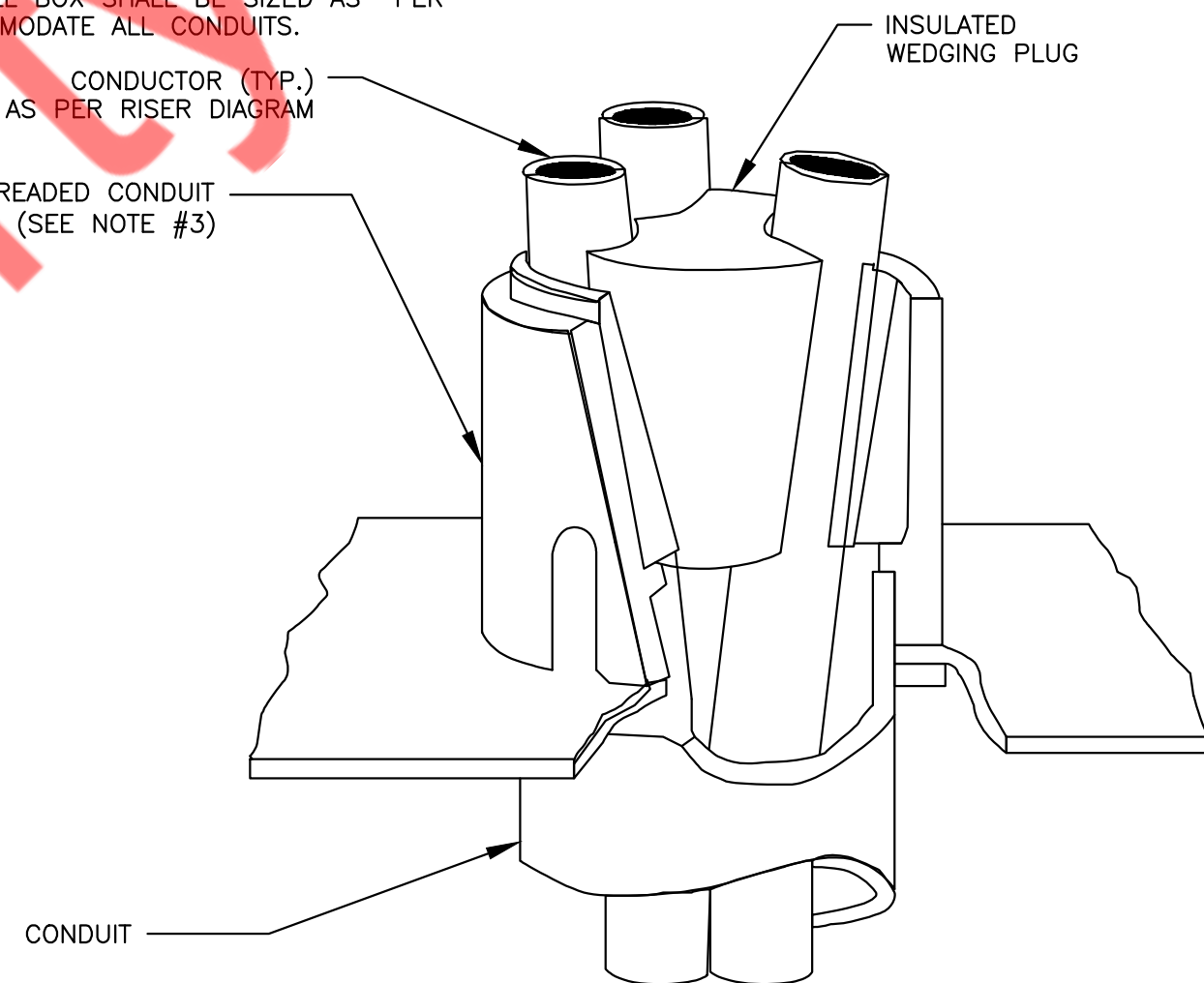


- NOTES:
- TYPICAL FOR WOOD AND METAL STUD ROUGH-IN
 - PLASTER RINGS NOT SHOWN
 - LOCATE ALL OUTLET BOXES IN ACCORDANCE WITH ARCHITECTURAL AND MECHANICAL DRAWINGS, AND WITH ALL APPLICABLE SHOP DRAWINGS.
 - IN ACCORDANCE WITH UBC 4304 OUTLETS ON OPPOSITE SIDES OF WALLS OR PARTITIONS IN THE SAME STUD SPACE MUST BE SEPARATED BY A MIN. OF 24" HORIZONTAL DISTANCE.

2 DETAIL TYPICAL ROUGH-IN REQUIREMENTS
E004 N.T.S.



- NOTES:
- ALL CONDUCTORS IN VERTICAL RACEWAYS SHALL BE SUPPORTED IN ACCORDANCE WITH ARTICLE 300.19 OF NEC. CABLE SUPPORTS SHALL BE LOCATED AT THE INTERVALS REQUIRED BY THE NEC.
 - CABLE SUPPORT SYSTEM SHALL BE AS MANUFACTURED BY O-Z GEDNEY WITH POZI-GRIP "S-STYLE" WEDGING PLUG OR APPROVED EQUAL.
 - FOR THREADLESS CONDUIT (RIGID, IMC OR EMT), ATTACH CONDUIT BODY TO MALE THREADS OF A SET SCREW OR COMPRESSION CONNECT, AS PERMITTED BY SPECIFICATIONS.
 - PROVIDE PULL BOX AT EACH LOCATION OF CABLE SUPPORTS. PULL BOX SHALL BE SIZED AS PER CODE TO ACCOMMODATE ALL CONDUITS.



3 VERTICAL CABLE SUPPORT DETAIL
E004 N.T.S.

AUTOMATIC MODE OPERATION:

- WHEN SENSOR ACTIVATES, LOAD TURNS ON.
- LOAD TURNS OFF, WHEN SENSOR TIMES OUT.
- SWITCHES CAN BE USED TO TURN LOAD OFF.

RECOMMENDED WIRE:

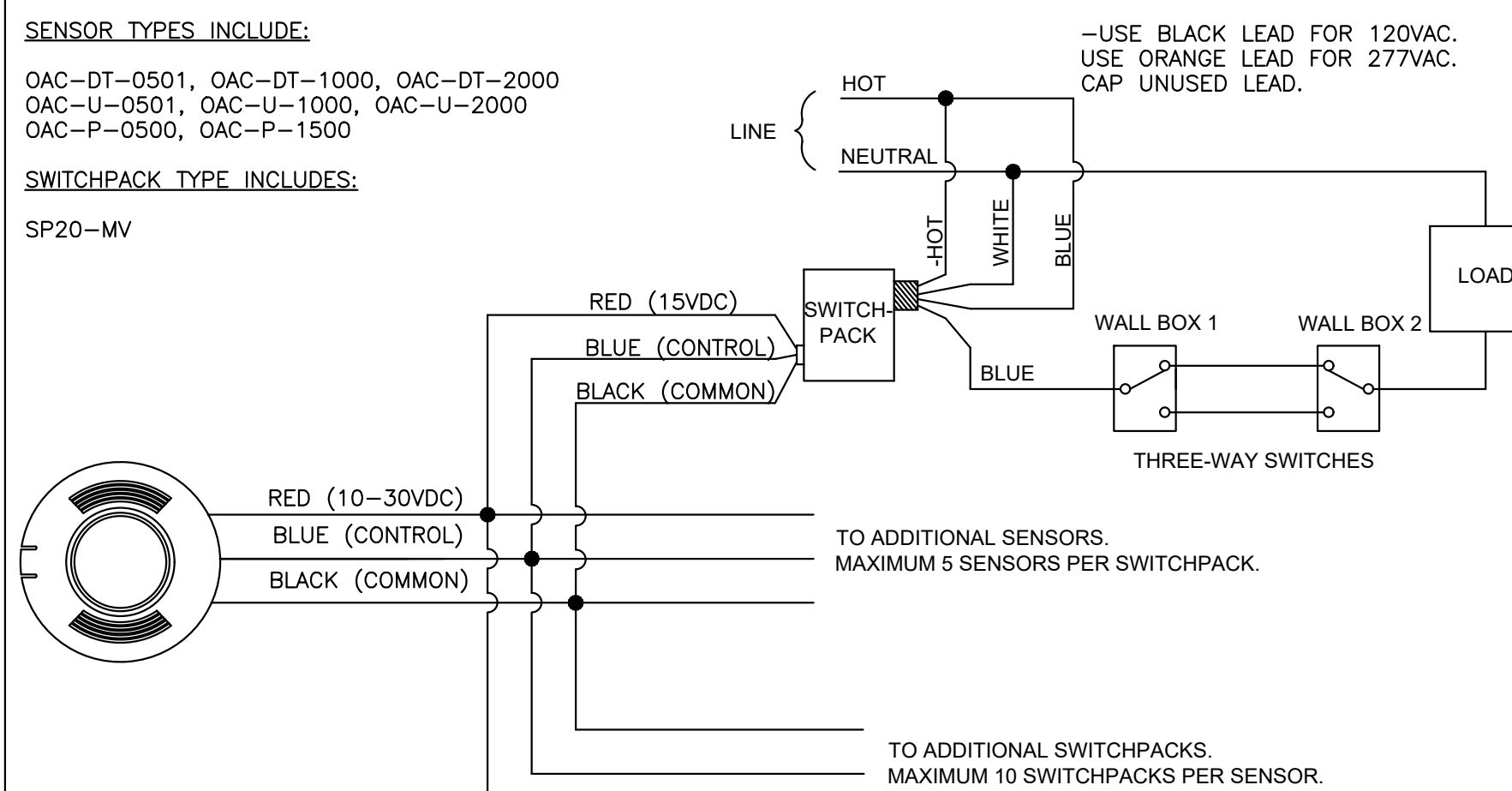
18-3 AWG STRANDED WIRE SHIELDED OR NON-SHIELDED

SENSOR TYPES INCLUDE:

OAC-DT-0501, OAC-DT-1000, OAC-DT-2000
 OAC-U-0501, OAC-U-1000, OAC-U-2000
 OAC-P-0500, OAC-P-1500

SWITCHPACK TYPE INCLUDES:

SP20-MV



1 WIRING DIAGRAM-LOW VOLTAGE CEILING SENSOR OCCUPANCY
-AUTO ON/OFF WITH LINE VOLTAGE OVERRIDE TO OFF
THREE-WAY SWITCHING.
E004 N.T.S.

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02	2023-03-21	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
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DATE: 02-01-2023

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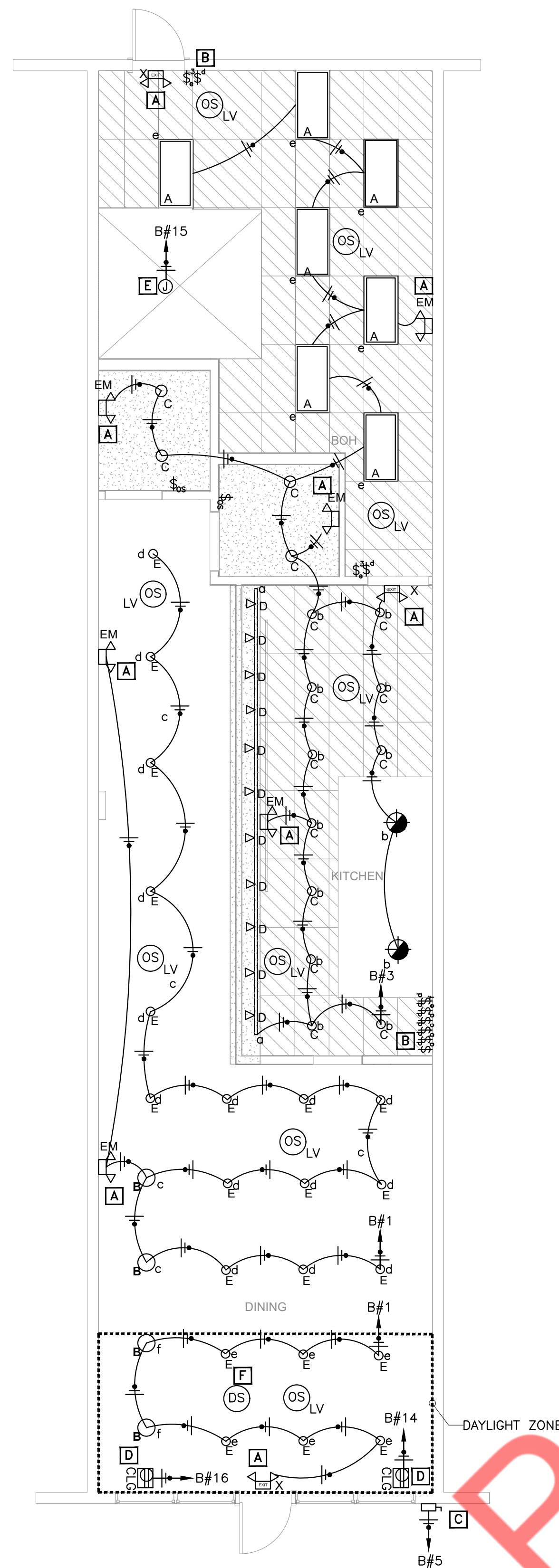
SCALE: AS NOTED

JOB #:

SHEET:

E004

6 IT GROUND BAR DETAIL
E004 N.T.S.



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

ELECTRICAL LIGHTING PLAN GENERAL NOTES:

1. ALL LIGHTING LAYOUTS ARE BASED ON REFLECTED CEILING PLAN. DO NOT ALTER THE NUMBER OF FIXTURES INDICATED ON DRAWINGS. SEE FIXTURE SCHEDULE FOR APPLICABLE NOTES.
2. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS AND MOUNTING HEIGHTS OF ALL EXTERIOR FIXTURES WITH ARCH. ELEVATIONS.
3. ALL EXIT SIGNS SHALL REMAIN UNSWITCHED. UOI.
4. CONTRACTOR SHALL PROVIDE ALL CABLING FOR 0-10V DIMMING.
5. CONTRACTOR SHALL COORDINATE ALL DINING ROOM LIGHTING WITH MECHANICAL DUCT WORK.
6. ALL LIGHTS SHALL BE AUTOMATICALLY SHUTOFF WITH IN TWENTY MINUTES OF ZERO OCCUPANCY.

ELECTRICAL LIGHTING PLAN KEYED WORK NOTES:

- A** CONNECT ALL EMERGENCY EGRESS AND NIGHT LIGHTING(24X7 ON) FIXTURES TO THE NEAREST LIGHTING BRANCH CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS PER STATE AND LOCAL CODES.
- B** E.C. SHALL COORDINATE EXACT LOCATION OF SWITCHES WITH ARCHITECT/OWNER. E.C. SHALL CONFIRM CLEAR SPACE FOR SWITCH, NO OBJECT IN FRONT ON SWITCH LOCATION.
- C** E.C TO COORDINATE THE BUILDING SIGNAGE CONNECTION REQUIREMENTS WITH SIGN VENDOR. BASE BID ACCORDINGLY.
- D** PROVIDE SHOW WINDOW RECEPTACLE AS PER NEC 210.62. VERIFY EXACT LOCATION WITH ARCHITECT.
- E** E.C. TO PROVIDE 120V CIRCUIT TO WALK IN COOLER/FREEZER LIGHTS. COORDINATE WITH SUPPLIER.
- F** LIGHT FIXTURES IN THE DAYLIGHT ZONE SHALL BE CONTROLLED BY DAYLIGHT SENSOR.

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PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:



DATE: 02-01-2023

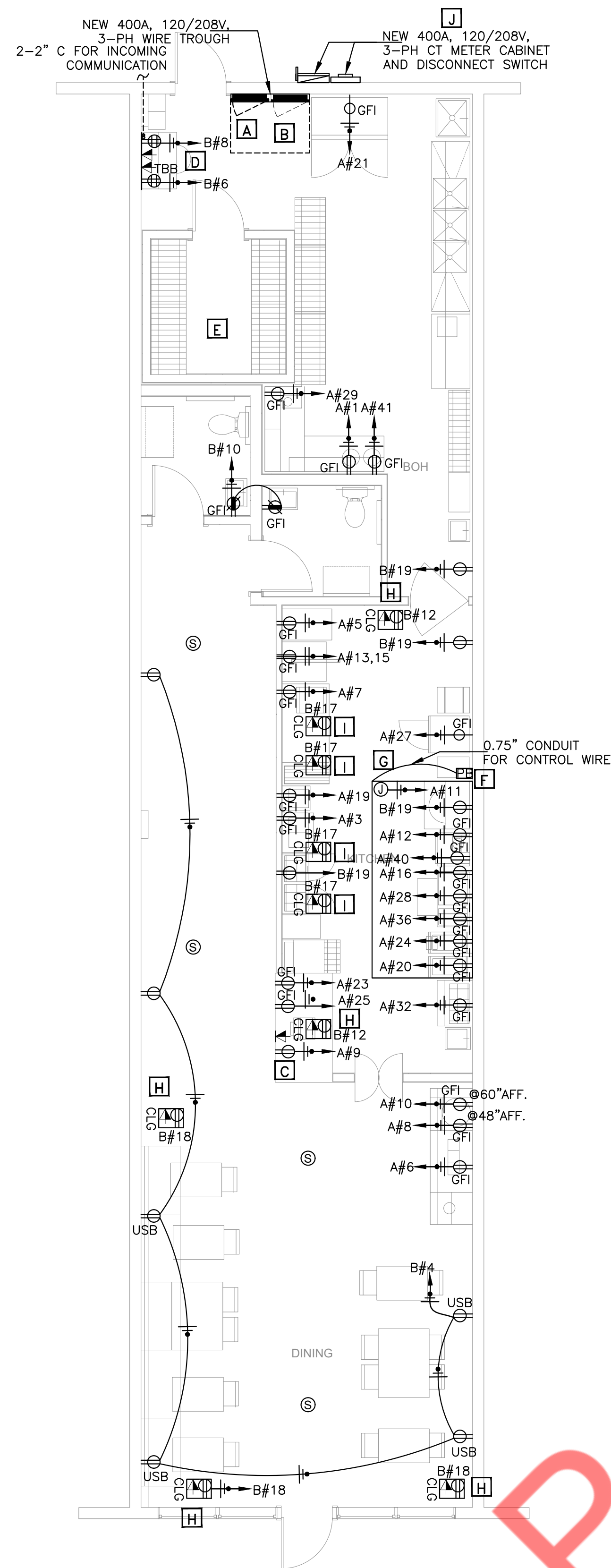
DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

E201



1 ELECTRICAL POWER AND COMMUNICATIONS PLAN
3/16" = 1'-0"

ELECTRICAL POWER PLAN GENERAL NOTES:

1. CONTRACTOR SHALL PROVIDE ALL CONNECTIONS AS REQUIRED FOR ALL MECHANICAL AND PLUMBING EQUIPMENT, COORDINATE EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
2. CONTRACTOR SHALL VERIFY EXACT REQUIREMENTS OF ALL KITCHEN EQUIPMENT WITH VENDOR/OWNER PRIOR TO ROUGH-IN.
3. CONTRACTOR SHALL PROVIDE UPDATED, TYPE-WRITTEN PANEL SCHEDULES FOR ALL MODIFIED PANELS.
4. ALL KITCHEN RECEPTACLES TO BE GFCI UNLESS OTHERWISE INDICATED.
5. FOR CCTV CAMERA REQUIREMENTS E.C. SHALL COORDINATE WITH SECURITY DRAWINGS/SPECIALIST FOR EXACT REQUIREMENTS AS PER THE EXISTING SITE CONDITIONS.
6. FOR WIRELESS ACCESS POINTS/ETHERNET JACK E.C. COORDINATE WITH IT DRAWINGS/SPECIALIST FOR EXACT REQUIREMENTS AS PER THE EXISTING SITE CONDITIONS.

KITCHEN GENERAL NOTES:

1. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS WITH KITCHEN EQUIPMENT VENDOR BEFORE ANY CONDUITS/DEVICES ARE ROUGHED IN. CONTRACTOR TO CONFIRM EXACT NUMBER OF WIRES FOR EACH EQUIPMENT PRIOR TO ROUGH-IN.
2. ALL KITCHEN RECEPTACLES TO BE GFCI UNLESS OTHERWISE INDICATED.
3. IN ALL KITCHEN/BAR AREAS, DEVICE COVER PLATES SHALL BE STAINLESS STEEL, IN PUBLIC AREAS, DEVICE COVER PLATES SHALL BE WHITE.
4. ALL KITCHEN/BAR RECEPTACLES SHALL BE GFCI OR, IF NOT ACCESSIBLE, HAVE GFCI BREAKERS.
5. CONTRACTOR SHALL PROVIDE CORD SET AND PLUG FOR ALL KITCHEN EQUIPMENT WHERE CORD SET AND PLUG ARE NOT SUPPLIED BY THE MANUFACTURER, CORD SET WIRE SIZE SHALL MATCH CIRCUIT WIRE SIZE, CORD SET PLUG SHALL MATE WITH RECEPTACLE SPECIFIED.
6. EQUIPMENT LOCATED BENEATH FIRE SUPPRESSION HOOD SHALL BE DISABLED UPON FIRE SUPPRESSION OPERATION, NECESSARY SHUNT TRIP BREAKERS SHALL BE PROVIDED WITH CONNECTIONS TO GAS VALVES, COORDINATE WITH MECHANICAL CONTRACTOR, FIRE ALARM CONNECTIONS TO FIRE SUPPRESSION EQUIPMENT SHALL BE PROVIDED, THIS SHALL INCLUDE DETECTION SIGNAL AND SHUTOFF ACTIVATION SIGNAL FOR EQUIPMENT REQUIRING SHUTOFF, PROVIDE PUSH BUTTON AS REQUIRED.

KEYED WORK NOTES:

- A** NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- B** EXISTING 200A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- C** PROVIDE ONE(1) CAT 6 HOMERUN TO POS TICKETING SYSTEM AND ONE DEDICATED (1) DUPLEX 20 AMPS RECEPTACLE FOR POS. COORDINATE WITH OWNER/ARCHITECT FOR EXACT HEIGHT PRIOR TO ROUGH-IN.
- D** RECEPTACLES FOR MANGER DESK. E.C. TO COORDINATE WITH OWNER/ARCHITECT FOR EXACT LOCATION & MOUNTING HEIGHT PRIOR TO ROUGH-IN.
- E** ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT WITH WALKIN BOX MANUFACTURER AND MAKE POWER PROVISION ACCORDINGLY.
- F** ACTIVATION BUTTON FOR HOOD SUPPRESSION SYSTEM - COORDINATE ALL WORK WITH HOOD VENDOR.
- G** E.C. SHALL PROVIDE 120V CIRCUIT TO HOOD FOR CONTROLS AND LIGHTS AS REQUIRED. COORDINATE ALL WORK WITH KITCHEN VENDOR/MECHANICAL CONTRACTOR.
- H** E.C. SHALL PROVIDE POWER AND DATA RECEPTACLES IN CEILING FOR SECURITY CAMERAS. VERIFY LOCATION AND REQUIREMENTS WITH SECURITY CONTRACTOR.
- I** E.C. SHALL PROVIDE POWER AND DATA RECEPTACLES IN CEILING FOR CEILING MOUNTED DIGITAL MENU BOARDS. VERIFY LOCATION AND REQUIREMENTS WITH OWNER.
- J** NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL CT METER AND DISCONNECT SWITCH FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION OF METER AND DISCONNECT WITH LANDLORD/OWNER.

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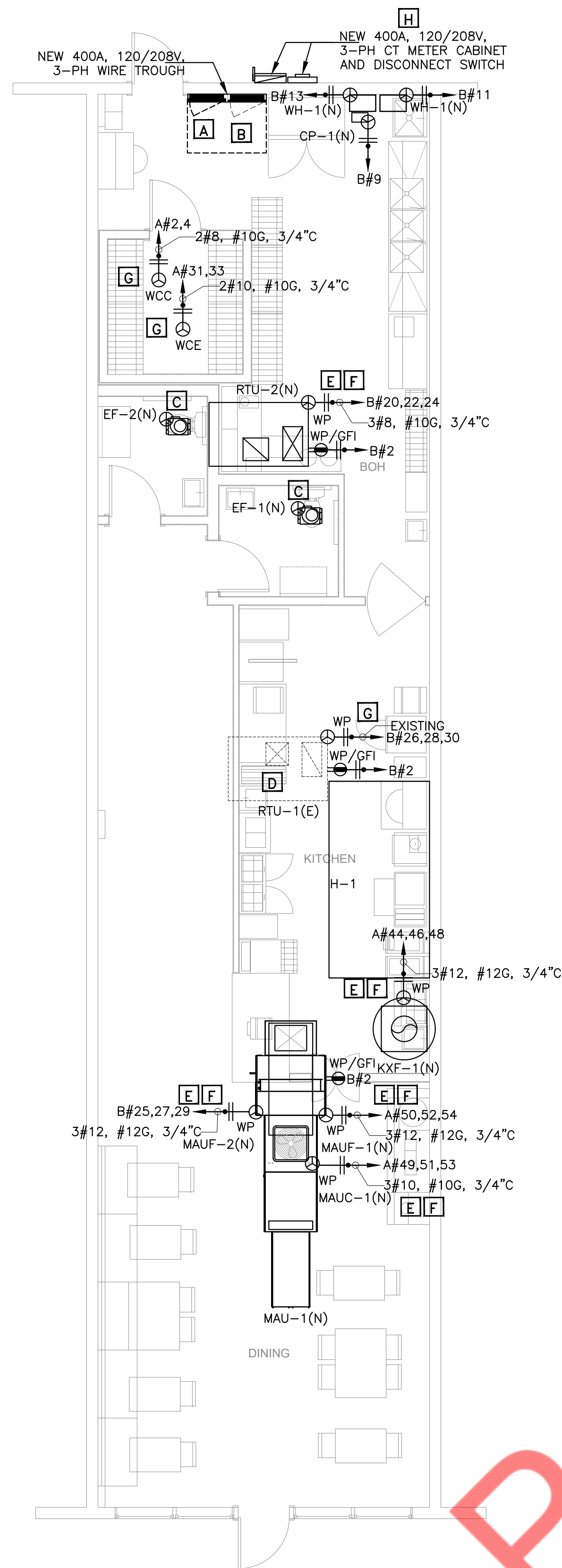
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	01	2023-02-28	NYE	LL REVIEW SET
	02	2023-03-21	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:

GARBANZO
MEDITERRANEAN FRESH

DATE:	02-01-2023
DRAWN BY:	NYE
SCALE:	AS NOTED
JOB #:	
SHEET:	E301



1 ELECTRICAL POWER PLAN (MECHANICAL)
3/16" = 1'-0"

ELECTRICAL POWER PLAN GENERAL NOTES:

- CONTRACTOR SHALL PROVIDE ALL CONNECTIONS AS REQUIRED FOR ALL MECHANICAL AND PLUMBING EQUIPMENT, COORDINATE EXACT REQUIREMENTS PRIOR TO ROUGH-IN.
- CONTRACTOR SHALL PROVIDE UPDATED, TYPE-WRITTEN PANEL SCHEDULES FOR ALL MODIFIED PANELS.

ELECTRICAL POWER PLAN KEYED WORK NOTES:

- A** NEW 200A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- B** EXISTING 200A(MLO), 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B". E.C. SHALL COORDINATE EXACT LOCATION WITH ARCHITECT/OWNER.
- C** INTERCONNECT EXHAUST FAN WITH LIGHTING CIRCUIT/SWITCH. E.C TO COORDINATE WITH MECHANICAL DRAWINGS.
- D** EXISTING RTU-1(E) AS INDICATED IN PANEL SCHEDULE SHALL REMAIN CONNECTED TO THE RESPECTIVE EXISTING ELECTRICAL PANEL "B". E.C. SHALL VERIFY THE EXACT CIRCUIT NUMBER IN FIELD & ADJUST/MODIFY CIRCUITING AS REQUIRED.
- E** ELECTRICAL CONTRACTOR SHALL COORDINATE DISCONNECT AND FUSE REQUIREMENT FOR MECHANICAL UNIT WITH MECHANICAL CONTRACTOR AND EQUIPMENT MANUFACTURER PRIOR TO ROUGH-IN AND PROVIDE AS REQUIRED. COORDINATE LOCATION OF DISCONNECT WITH OWNER AND MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. LOCATE AS REQUIRED TO MAINTAIN NEC CLEARANCES.
- F** ELECTRICAL CONTRACTOR SHALL COORDINATE FOR EXACT LOCATION OF MECHANICAL EQUIPMENTS WITH MECHANICAL DRAWINGS.
- G** ELECTRICAL CONTRACTOR TO COORDINATE EXACT POWER REQUIREMENT WITH WALK IN BOX MANUFACTURER AND MAKE POWER PROVISION ACCORDINGLY.
- H** NEW 400A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL CT METER AND DISCONNECT SWITCH FOR THE PROJECT SPACE. E.C. SHALL COORDINATE EXACT LOCATION OF METER AND DISCONNECT WITH LANDLORD/OWNER.

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PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:
GARBANZO
MEDITERRANEAN FRESH

DATE:	02-01-2023
DRAWN BY:	NYE
SCALE:	AS NOTED
JOB #:	
SHEET:	E401

PLUMBING LEGEND	
SYMBOL	DESCRIPTION
--- SAN ---	SANITARY SEWER (UNDERFLOOR)
--- G SAN ---	GREASE SANITARY (UNDERFLOOR)
-----	VENT PIPING
--- . . . ---	FILTERED WATER
-----	COLD WATER
-----	HOT WATER
-----	RECIRCULATING HOT WATER
-----	CONDENSATE DRAIN
	CHECK VALVE
	BALANCING VALVE
	SECONDARY BFF/DCV
	FLOOR DRAIN
	PIPE DOWN
	PIPE UP
	UNION
	ISOLATION VALVE
	CAP ON END OF PIPE
	CLEANOUT
	REDUCED PRESSURE BACKFLOW PREVENTER
	POINT OFF CONNECTION
	NEW GAS PIPING
	GAS SHUT OFF VALVE
	GAS PRESSURE REDUCING VALVE

KITCHEN NOTES:

CONTRACTOR SHALL COORDINATE WITH KITCHEN EQUIPMENT DRAWINGS PRIOR TO INSTALLATION OF ANY FIXTURES.

CONTRACTOR SHALL PROVIDE AND FURNISH ALL PLUMBING ROUGH-INS REQUIRED FOR OFCI ITEMS.

CONTRACTOR SHALL PROVIDE AND INSTALL TRAPS, STOPS, SUPPLIES AND STRAINERS AS REQUIRED ON ALL EQUIPMENT ITEMS.

CONTRACTOR SHALL PROVIDE AND INSTALL ANY PRVS, VALVES AND GAUGES AS REQUIRED BY LOCAL CODE AND KITCHEN EQUIPMENT DRAWINGS. WATER PRESSURES BOTH HOT AND COLD SHALL NOT EXCEED THE OPERATING PRESSURES RECOMMENDED BY THE EQUIPMENT MANUFACTURER.

LOCATE MANUAL PULL STATIONS FOR RANGE HOOD EXTINGUISHING SYSTEMS ON WALLS AT EXIT LOCATIONS FROM KITCHEN AREA.

CONTRACTOR SHALL PROVIDE AND INSTALL QUARTER TURN SHUT-OFF VALVES TO EACH PIECE OF EQUIPMENT AND CONNECTIONS FOR BOTH HOT AND COLD WATER BRANCH LINES SERVING EQUIPMENT AND CONNECTIONS.

CONTRACTOR SHALL PROVIDE AND INSTALL SHOCK ABSORBERS AS REQUIRED ON BOTH HOT AND COLD WATER LINES SERVING EQUIPMENT AND ANY QUICK CLOSING DEVICE. SIZE SHOCK ABSORBER PER PDI GUIDELINES.

INSTALL VACUUM BREAKERS AS SUPPLIED FROM EQUIPMENT MANUFACTURER. REFER TO MANUFACTURERS CUT SHEETS FOR VACUUM BREAKER INFORMATION. IF VACUUM BREAKERS ARE NOT SUPPLIES FROM EQUIPMENT MANUFACTURER THEN CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED VACUUM BREAKERS AS REQUIRED BY EQUIPMENT MANUFACTURER. INSTALL VACUUM BREAKERS IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES.

INDIRECT WASTE AND DRAIN LINES THAT TERMINATE OVER A FLOOR DRAIN OR HUB DRAIN SHALL HAVE A MINIMUM 2" AIR GAP. SUPPORT INDIRECT PIPING SO THAT WASTE CAN NOT BE DEFLECTED FROM ABOVE FLOOR DRAIN/HUB DRAIN OPENINGS.

ANY WATER PIPING BELOW SLAB SHALL BE SOFT TEMPER, TYPE K COPPER WITH NO JOINTS BELOW SLAB.

FURNISH AND INSTALL NATURAL GAS CUT-OFF COCKS AND PRESSURE REDUCING VALVES AT CONNECTION TO EACH PIECE OF EQUIPMENT. PROVIDE PRESSURE REDUCING VALVE TO REDUCE GAS PRESSURE AT CONNECTION, AS REQUIRED. REFER TO KITCHEN SUPPLIER BROCHURES AND DRAWINGS FOR EXACT REQUIREMENTS.

INSTALLATIONS AND MATERIALS SHALL ALL BE INSTALLED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODE AUTHORITIES INCLUDING THE STATE AND LOCAL HEALTH DEPARTMENT.

PLUMBING ABBREVIATIONS	
ABBREVIATIONS	DESCRIPTION
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
AFF/AFG	ABOVE FINISHED FLOOR/GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
ETR	EXISTING TO REMAIN
FFCO/FGCO	FLUSH FLOOR/GRADE CLEANOUT
GC	GENERAL CONTRACTOR
IW	INDIRECT WASTE
PC	PLUMBING CONTRACTOR
TYP	TYPICAL
VTR	VENT THRU ROOF
WCO	WALL CLEANOUT
WH-1	WATER HEATER
FD	FLOOR DRAIN
HD	HUB DRAIN
FS	FLOOR SINK
GSAN	GREASE SANITARY
FW	FILTERED WATER
CP	RECIRCULATION PUMP
ET	EXPANSION TANK
WC	WATER CLOSET
L	LAVATORY
HS	HAND SINK
MS	MOP SINK
FS	FLOOR SINK
FD	FLOOR DRAIN
HD	HUB DRAIN
VIF	VERIFY IN FIELD

PLUMBING FIXTURE SCHEDULE								
TAG	FIXTURE TYPE	FLUSH / FAUCET / VALVE	TRIM AND REMARKS	TRAP SIZE	MIN. SIZE CONNECTION			
					SW	SV	CW	HW
WC-1	WATER CLOSET, ADA, WHITE VITREOUS CHINA, ELONGATED BOWL, FLOOR MOUNTED, 1-1/2" TOP SPUD, SIPHON JET ACTION, AMERICAN STANDARD 3043, 001 OR EQUAL.	1.28 GPF, INTEGRAL VACUUM BREAKER, SCREW DRIVER/CHECK STOP, SLOAN ROYAL 111-1.28. MOUNT FLUSH VALVE ON WIDE SIDE OF STALL. PROVIDE TRAP PRIMER OPTION WHERE REQUIRED.	SEAT TO BE ELONGATED, OPEN FRONT, SOLID PLASTIC WITH SELF SUSTAINING CHECK HINGES, COLOR WHITE, BEMIS 1955SSC.	INT.	4"	2"	1"	-
L-1	WHITE VITREOUS CHINA, WALL HUNG LAVATORY WITH 1 FAUCET HOLE EQUAL TO AMERICAN STANOARD "LUCERNE" 0355, 012.	CHROME FINISH, DECK MOUNTED FAUCET WITH 0.5 GPM FLOW RATE DELTA "TRINISIC" 569LF-HGM-LPU. ASSE 1070 COMPLIANT THERMOSTATIC MIXING VALVE ZW3870XLT.	1-1/4" GRID WITH TAILPIECE, ZURN ZB743-PC. P-TRAP TO BE 1-1/2" BRASS (17 GA, MIN), ZURN ZB700-PC SERIES. PROVIDE SUPPLIES AND STOPS, ZURN Z8800 SERIES, INSTALL CONCEALED FLOOR MOUNTED ARM CARRIER, PROVIDE "LAV-GUARD" INSULATION BY TRUBRO ON ALL EXPOSED TRIM.	1-1/2"	1-1/2"	1-1/2"	1/2"	1/2"
FD-1	FLOOR DRAIN: CAST IRON FLOOR DRAIN WITH BOTTOM OUTLET, COMBINATION INVERTIBLE MEMBRANE CLAMP, ADJUSTABLE COLLAR, SEEPAGE OPENINGS, POLISHED NICKEL BRONZE LIGHT DUTY LEVELING STRAINER WITH VANDAL PROOF SCREW-ZURN Z415BZ.		SET TOP OF DRAINS FLUSH WITH FINISHED FLOOR, PROVIDE AND INSTALL TRAP GUARD INSERTS ON ALL FLOOR DRAINS NOT SERVED BY TRAP PRIMER.	3",4"	3",4"	2"	-	-
FS-1	FLOOR SINK: HALF GRATE 12"x12"x8" DEEP CAST IRON FLOOR SINK WITH ANCHOR FLANGE, BOTTOM DOME ANTI SPLASH STRAINER, ACID RESISTANT PORCELAIN INTERIOR WITH ACID RESISTANT HALF GRATE EQUAL TO ZURN Z1901.			3"	3"	2"	-	-
FCO	FLOOR CLEANOUT: CAST IRON CLEANOUT WITH THREADED ADJUSTABLE HOUSING, FLANGED FERRULE WITH TAPERED BRASS PLUG, ROUND, SECURED, SCORIATED NICKEL BRONZE TOP - ZURN Z1400.			3",4"	-	-	-	-

RECIRCULATION PUMP SCHEDULE	
DESIGNATION:	CP-1
SERVICE:	DOMESTIC HOT WATER RETURN
TOTAL NUMBER:	1
MANUFACTURER:	BELL AND GOSSET
MODEL NO:	NBF-9U
GPM:	2
FEET OF HEAD:	10
TYPE:	IN-LINE
WATTS/AMPS:	41/0.40
ELEC CONNECTION:	120V/16/60HZ
PUMP NOTES:	-PUMP SHALL BE UL/FM LISTED AND APPROVED. -PROVIDE AND INSTALL SEISMIC RESTRAINT ON PUMP. -PROVIDE UNIONS AT PUMP SO PUMP CAN BE TAKEN OUT OF SYSTEM AND SERVICED.

GAS FIRED TANKLESS WATER HEATER SCHEDULE	
DESIGNATION:	WH-1
SERVICE:	DOMESTIC HOT WATER
TOTAL NUMBER:	2
MANUFACTURER:	RINNAI
MODEL NO:	CU199i
BTUH INPUT:	199,000
SET WATER TEMP:	140°F.
FLOW RATE:	4.6 GPM @ 80" RISE
CONDENSING:	YES
DIRECT VENT:	YES
FUEL CONNECTION:	3/4"
ELEC CONNECTION:	120V/16/60HZ
FLUE SIZE:	4"
WATER HEATER NOTES:	- PROVIDE WITH CONDENSATE NEUTRALIZATION KIT, - COORDINATE WITH MECHANICAL SERIES FOR ROUTING OF FLUES/ INTAKES.

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RESTAURANT FIT OUT FOR:
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MEDITERRANEAN FRESH

DATE: 02-01-2023

DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

P001

PIPING SYSTEM SPECIFICATIONS				
SYSTEM	ABOVE GROUND	BELOW GROUND	JOINT METHOD	PIPE INSULATION
SANITARY WASTE	---	SCH40 PVC.	SOLVENT WELD WITH MANUFACTURERS APPROVED CEMENT.	---
	HUBLESS CAST IRON	HUBLESS CAST IRON	COUPLING WITH STAINLESS STEEL BANDS AND ELECTROMETRIC GASKET	
SANITARY VENT	SCH40 PVC.	SCH40 PVC.	SOLVENT WELD WITH MANUFACTURERS APPROVED CEMENT.	---
	HUBLESS CAST IRON	HUBLESS CAST IRON	COUPLING WITH STAINLESS STEEL BANDS AND ELECTROMETRIC GASKET	
GREASE WASTE	SPEARS CPVC LAB WASTE AS PER MANUFACTURERS INSTRUCTIONS AND LOCAL CODE	SPEARS CPVC LAB WASTE AS PER MANUFACTURERS INSTRUCTIONS AND LOCAL CODE	SOLVENT WELD FOR CPVC WITH MANUFACTURERS APPROVED CEMENT.	---
	HUBLESS CAST IRON	HUBLESS CAST IRON	HUBLESS PIPE COUPLINGS WITH NEOPRENE GASKET AND STAINLESS STEEL BENDS	
GREASE VENT	SPEARS CPVC LAB WASTE AS PER MANUFACTURERS INSTRUCTIONS AND LOCAL CODE	SPEARS CPVC LAB WASTE AS PER MANUFACTURERS INSTRUCTIONS AND LOCAL CODE	SOLVENT WELD FOR CPVC WITH MANUFACTURERS APPROVED CEMENT	---
COLD WATER	TYPE L COPPER	TYPE K COPPER	LEAD-FREE NICKEL BEARING SOLDER ABOVE SLAB.	1/2" THICK FIBERGLASS
HOT WATER	TYPE L COPPER	TYPE K COPPER	LEAD-FREE NICKEL BEARING SOLDER ABOVE SLAB.	2" THICK FIBERGLASS
CONDENSATE	DWV COPPER	SCH 40 PVC	SOLVENT WELD IF PVC. SAME AS IF APPROVED	1/2" THICK FIBERGLASS

SPECIFICATION NOTES:

- CONTRACTOR SHALL COORDINATE WITH ARCHITECTURAL SERIES PRIOR TO INSTALLATION OF FIXTURES AND SYSTEMS.
- CONTRACTOR SHALL MAKE ALL APPLICATIONS FOR PERMITS AND PAY ALL RELATED FEES FOR THE PERMIT, INSPECTIONS AND TEST AS REQUIRED BY THE LOCAL AHJ, ALL ASSOCIATED FEES SHALL BE INCLUDED IN CONTRACT BID.
- DRAINAGE PIPING SHALL BE TESTED WITH A WATER TEST IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND LOCAL CODE ENFORCEMENT.
- WATER PIPING SHALL BE TESTED IN ACCORDANCE WITH THE INTERNATIONAL PLUMBING CODE AND LOCAL CODE ENFORCEMENT.
- JOINTS IN FIRE PROTECTION PIPING SHALL HAVE A WORKING PRESSURE OF 165 PSI.
- USE DIELECTRIC FITTINGS AND UNIONS IN UN SIMILAR MATERIALS.
- BALL VALES SHALL BE RATED FOR MINIMUM OF 126 PSI AND SHALL BE FULL PORT 2 PIECE WITH STAINLESS STEEL BALL EQUAL TO WATTS.
- HANGERS SHALL BE CLEVIS OR SPLIT RING FOR COPPER PIPING, HANGERS SHALL BE COATED TO PROTECT AGAINST CORROSION AS REQUIRED, HANGERS FOR WASTE AND DRAIN PIPING SHALL BE CLEVIS TYPE.
- ONCE FIXTURES HAVE BEEN INSTALLED THEY SHALL BE INSPECTED AND TESTED AND SHALL BE CLEANED PRIOR TO LEAVING THE SITE.

PLUMBING NOTES:

- CONTRACTOR SHALL COORDINATE THE UTILITY SERVICE CONNECTIONS WITH CIVIL PRIOR TO INSTALLATION OF UTILITIES.
- CONTRACTOR SHALL COORDINATE WITH OWNER THE DISRUPTION OF ANY SERVICE A MINIMUM OF 72 HOURS IN ADVANCE.
- CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE PLUMBING SYSTEM AS A WHOLE WITH ALL THE TRADES INVOLVED TO AVOID ROUTING CONFLICTS/PROBLEMS. IF CONFLICTS/PROBLEMS ARE FOUND AND CAN NOT BE RESOLVED BY THE INVOLVED TRADES THEN THE ARCHITECT SHALL BE CONSULTED AND THEIR DECISION SHALL GOVERN.
- IF THE VENT PENETRATIONS OF THE ROOF ARE REQUIRED TO BE 3" AND LARGER BY CODE, THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED INCREASES BELOW ROOF DECK AND PENETRATE THE ROOF WITH THE MINIMUM REQUIRED PIPE SIZE.
- CONTRACTOR SHALL PROVIDE AND INSTALL PISTON TYPE WATER HAMMER ARRESTORS ON WATER LINES SERVING FLUSH VALVES AND QUICK CLOSING VALVES, CONTRACTOR SHALL SIZE AND INSTALL WATER HAMMER ARRESTORS WITH THE REQUIREMENTS OF THE PLUMBING AND DRAINAGE INSTITUTE GUIDELINES.
- CONTRACTOR SHALL COORDINATE ALL VENTS AND ROOF PENETRATIONS WITH MECHANICAL EQUIPMENT PRIOR TO INSTALLATION, ALL VENT THROUGH ROOFS SHALL BE ROUTED A MINIMUM OF 15 FEET AWAY FROM FRESH AIR INTAKES FROM MECHANICAL EQUIPMENT.
- FURNISH AND INSTALL DEEP SEAL P-TRAPS & TRAP GUARD INSERTS ON FLOOR DRAINS NOT FED BY AN AUTOMATIC TRAP PRIMER SYSTEM, WHERE REQUIRED BY CODE.
- CONTRACTOR SHALL COORDINATE WITH THE MANUFACTURERS EQUIPMENT CUT SHEETS AND LAYOUT OF ALL EQUIPMENT THAT WILL BE PROVIDED BY OWNER AND GENERAL CONTRACTOR PRIOR TO THE INSTALLATION OF PLUMBING ROUGH-INS, CONTRACTOR SHALL PROVIDE AND INSTALL ALL REQUIRED GAUGES, PRESSURE REDUCING VALVES, WATER HAMMER ARRESTORS, SHUT-OFF VALVES, CHECK VALVES, BACK FLOW PREVENTION DEVICES ETC THAT ARE REQUIRED BY THE MANUFACTURER FOR THEIR EQUIPMENT, CONTRACTOR SHALL ALSO PROVIDE AND INSTALL ALL ITEMS REQUIRED BY LOCAL, STATE AND FEDERAL CODES FOR PLUMBING ROUGH-INS.
- ALL FIXTURES, EQUIPMENT AND PIPING SHOWN ON THESE DRAWINGS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODE REQUIREMENTS.
- PENETRATIONS THROUGH NEW WALLS AND FLOORS SHALL BE SLEEVED AND/OR PATCHED, REFER TO ARCHITECTURAL SERIES FOR FINISH INFORMATION.
- ALL NEW PIPE PENETRATIONS OF FIRE RATED WALLS, AS SHOWN BY THE LIFE SAFETY PLANS, SHALL HAVE A UL LISTED F RATINGS EQUAL TO THE WALL FIRE RATING, SEE PLUMBING PLANS FOR UL PENETRATION DETAILS.
- ALL WORK SHOWN IS PART OF BASE BID EXCEPT WHERE OTHERWISE DESIGNATED.
- SEISMICALLY BRACE ALL PIPE AS REQUIRED BY LOCAL CODE REQUIREMENTS.
- PIPING SHALL NOT BE INSTALLED OVER ELECTRICAL EQUIPMENT.
- CAULK AROUND ALL PLUMBING FIXTURES. CAULK COLOR SHALL MATCH PLUMBING FIXTURE COLOR.
- EXACT LOCATIONS OF MECHANICAL EQUIPMENT SHALL BE VERIFIED WITH THE MECHANICAL CONTRACTOR. ALL REQUIRED CONDENSATE PIPING SHALL BE COORDINATED WITH THIS EQUIPMENT.
- SANITARY SEWER PIPING SHALL BE SLOPED AS FOLLOWS: 3" SANITARY WASTE PIPING AND LARGER SHALL BE ROUTED AT 1/8" PER FOOT MINIMUM. 2" SANITARY WASTE PIPING AND SMALLER SHALL BE ROUTED AT 1/4" PER FOOT MINIMUM.
- CONTRACTOR TO PROVIDE PROPERLY SIZED ISOLATION VALVES AT ALL DOMESTIC WATER BRANCH PIPING AND ALL DOMESTIC WATER PIPING SERVING INDIVIDUAL FIXTURES OR RESTROOMS, VALVES TO BE INSTALLED IN AN ACCESSIBLE LOCATION ABOVE TILE CEILING.
- CONTRACTOR TO PROPERLY BALANCE DOMESTIC HOT WATER AND HOT WATER RETURN SYSTEMS, CONTRACTOR TO PROVIDE CALIBRATED BALANCING VALVES ON HOT WATER RETURN PIPING AS NECESSARY.
- ALL CONDENSATE PIPING ROUTED ABOVE CEILING SHALL HAVE A CLEANOUT AT ALL 90 DEGREE TURNS AND EVERY 50'.
- CONTRACTOR SHALL ESTABLISH A SEQUENCE OF INSTALLATION WITH OTHER TRADES WORKING ON THE PROJECT. CONTRACTOR SHALL THOROUGHLY COORDINATE ALL SYSTEMS WITH OTHER TRADES.
- CATHODIC PROTECTION, IF REQUIRED, IS THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL PROTECT ALL UNDERGROUND METALLIC PIPING FROM CORROSION, REFER TO SOILS REPORT. UNDERGROUND PIPING MAY ALSO BE PROTECTED WITH POLYETHYLENE ENCASMENT CONFORMING TO ANST/AWWA REQUIREMENTS. ALL PIPING SHALL BE WRAPPED COMPLETELY WITH ENCASMENT TO A POINT AT LEAST 12 A.F.G OR FIN. FLOOR. ENCASMENT SHALL BE FREE OF TEARS WITH ALL JOINTS COMPLETELY SEALED. NO PORTION OF THE PIPE SHALL BE LEFT EXPOSED TO CORROSIVE SOIL.
- PLASTIC PIPING IN PLENUM SPACES IS NOT ALLOWED.

GREASE TRAP CALCULATIONS			
QUANTITY	FIXTURE TYPE	DIMENSIONS W X L X D	GALLONS
1	PREP SINK	20" X 20" X 14"	24.24
1	3 COMP SINK	18" X 24" X 14" PER COMP	58.90
1	MOP SINK	20" X 20" X 10"	17.3
2	HAND SINK	12.5" X 9.75" X 5.625"	5.9
TOTAL GALLONS			106.34
2 NUMBER OF FLOOR SINKS OR DRAINS (EXCEPT INDIRECT WASTES FROM ABOVE) = 5.0 GPM.			
111.34 TOTAL GALLONS X 0.75(FILL FACTORS) / 2 MIN. DRAIN DOWN PERIOD = 41.75 GPM			
TOTAL GPM = 41.75			
REQUIRED GREASE INTERCEPTOR IS = 75 GPM			
GREASE PRODUCTION:			
TOTAL SQUARE FEET X 60% = DINING AREA			
DINING AREA / 14 SQ.FT PER SEAT X 4 TURNS / SEAT / DAY X GREASE PRODUCTION VALUE X DAYS BETWEEN PUMP OUT = GREASE OUTPUT			
AMOUNT OF SQ.FT IN FACILITY: 1625			
GREASE PRODUCTION VALUE : 0.0455 LBS(FAMILY RESTAURANT: HIGH/FLATWARE)			
DAYS BETWEEN PUMP OUTS: 60 DAYS			
(1625 X 0.6) / 14 X 4 X 0.0455 X 60 = 760.5 LBS			
REQUIRED GREASE INTERCEPTOR MODEL = SCHIER GB-75			

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REVISION TABLE		DESCRIPTION
NUMBER	DATE	REVISION BY
01	2023-02-28	NYE LL REVIEW SET
02	2023-03-21	NYE PERMIT SET

NOTES:

PROJECT DESCRIPTION:
 RESTAURANT FIT OUT FOR:

GARBANZO
 MEDITERRANEAN FRESH

DATE: 02-01-2023

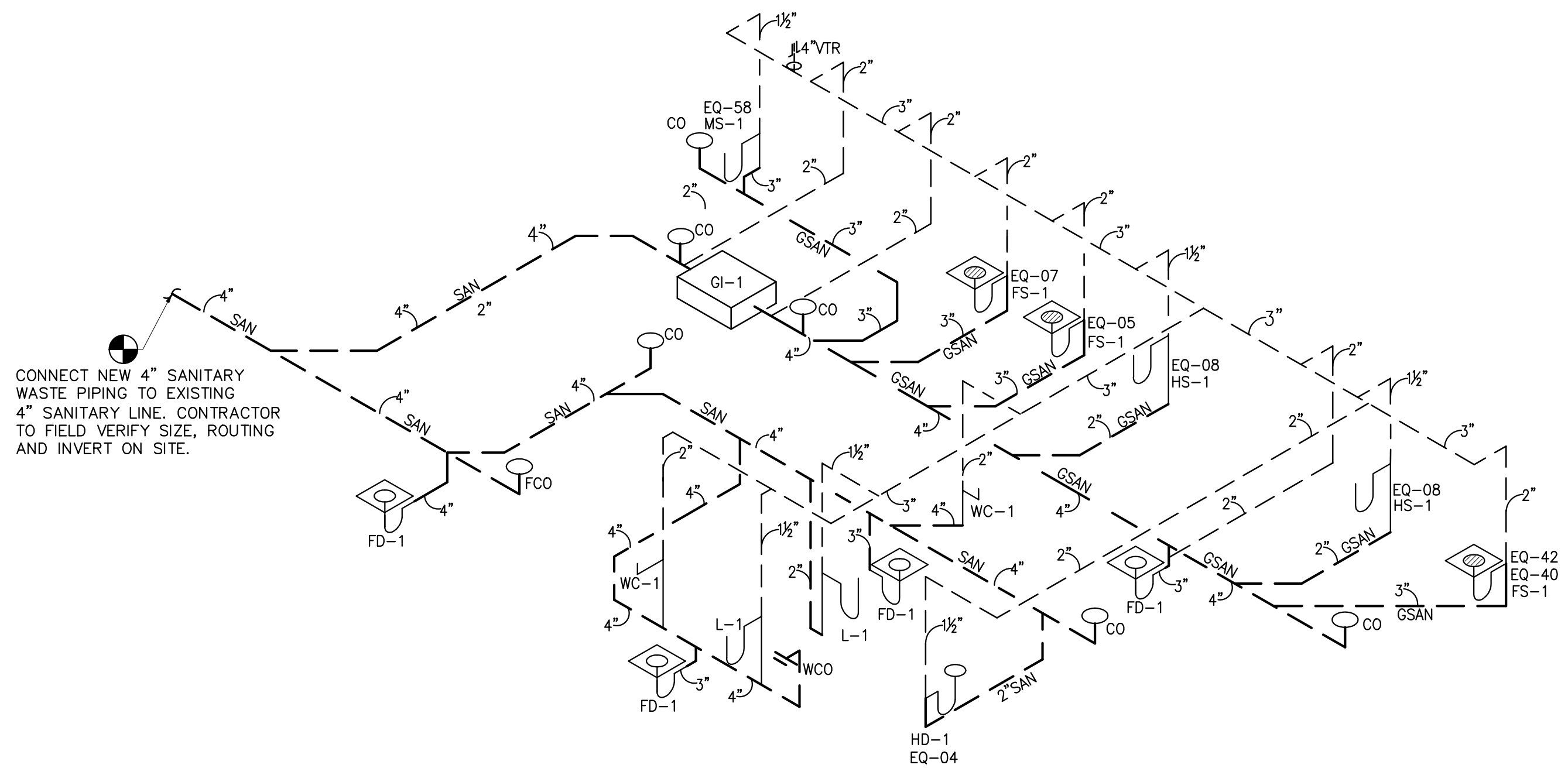
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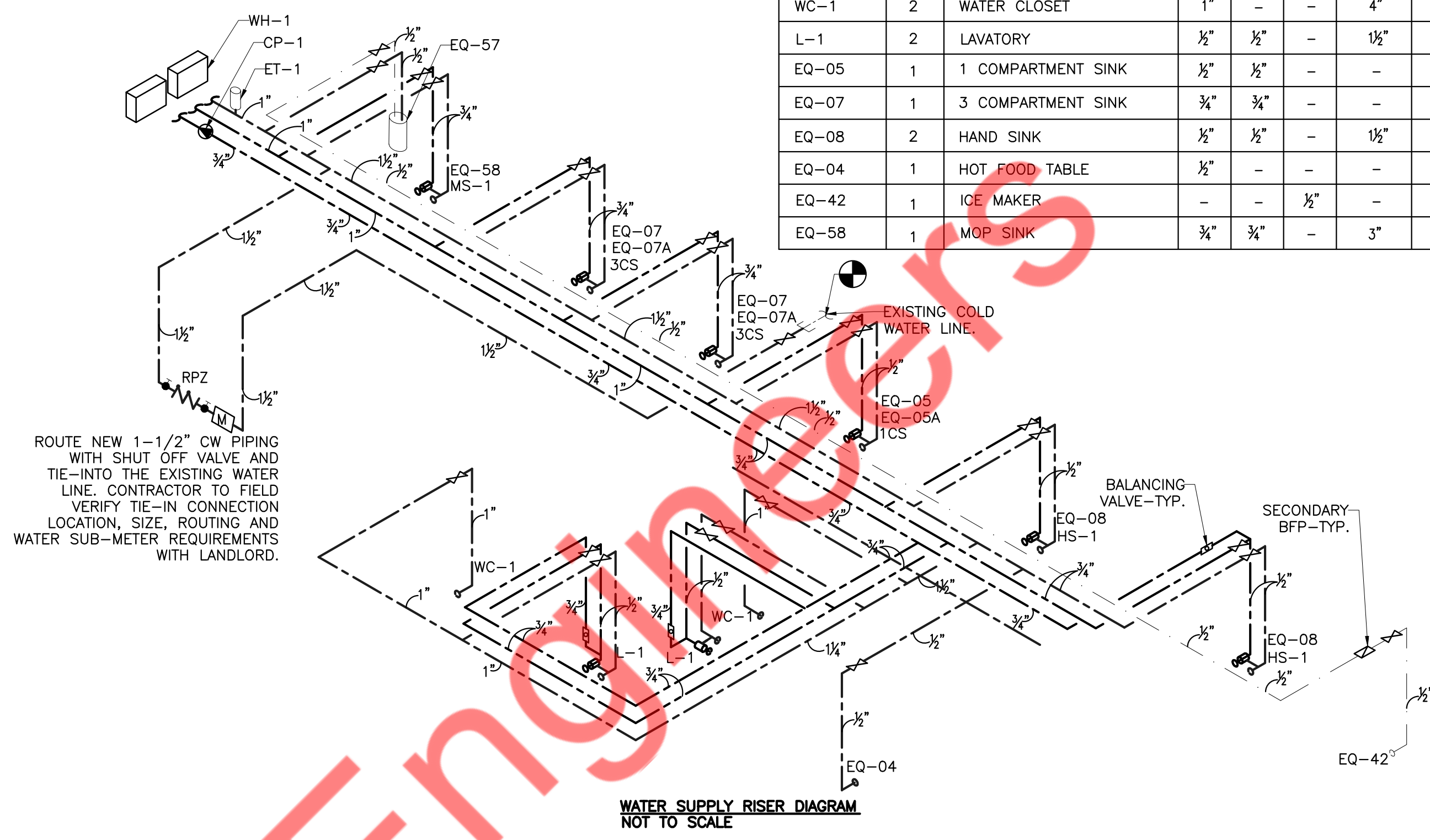
JOB #:

SHEET:

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SANITARY WASTE AND VENT RISER DIAGRAM
NOT TO SCALE

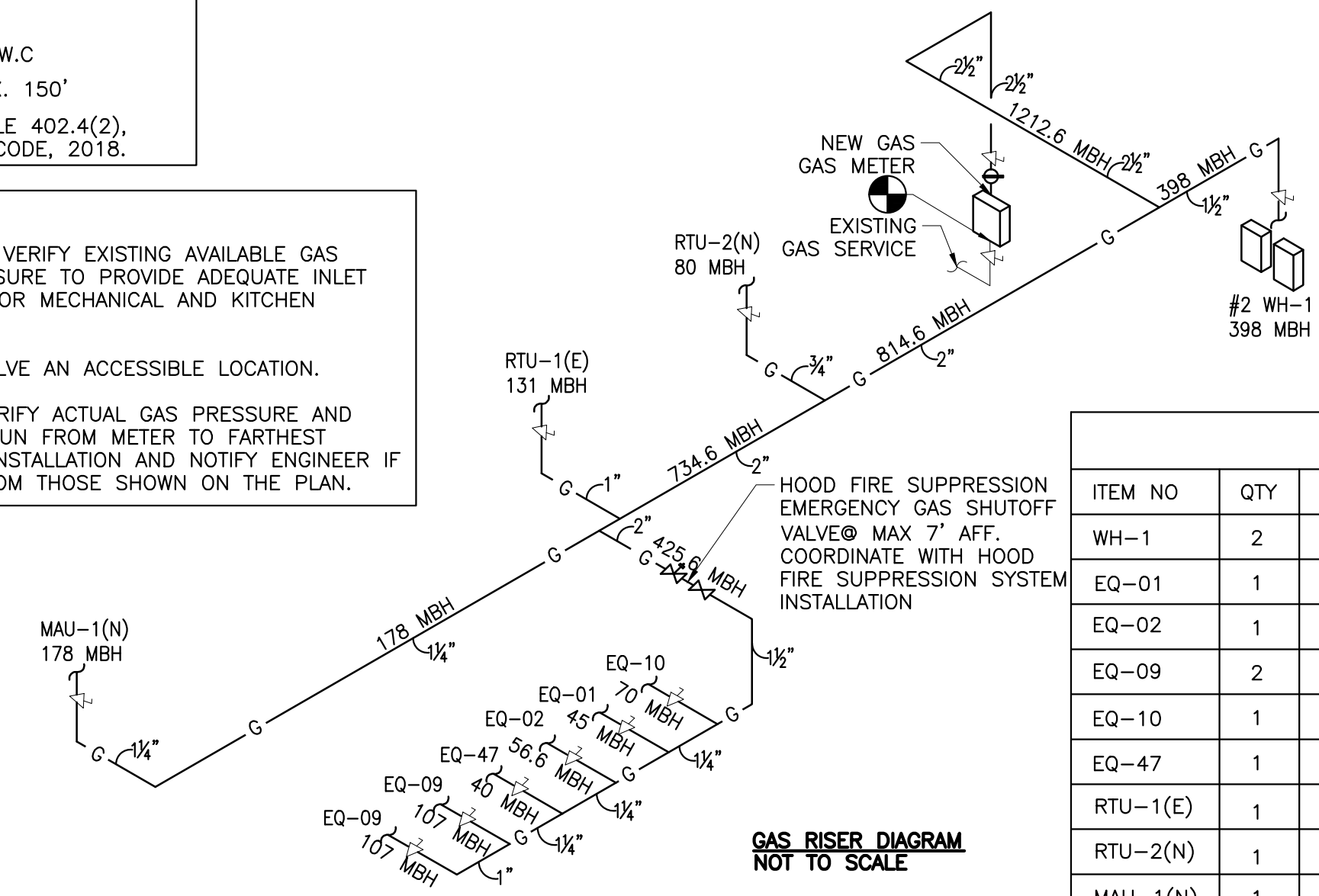


WATER SUPPLY RISER DIAGRAM
NOT TO SCALE

PLUMBING EQUIPMENT SCHEDULE							
ITEM NO	QTY	DESCRIPTION	CW	HW	FW	DRAINAGE	
						DIRECT	INDIRECT
WC-1	2	WATER CLOSET	1"	-	-	4"	-
L-1	2	LAVATORY	1/2"	1/2"	-	1 1/2"	-
EQ-05	1	1 COMPARTMENT SINK	1/2"	1/2"	-	-	2"
EQ-07	1	3 COMPARTMENT SINK	3/4"	3/4"	-	-	2"
EQ-08	2	HAND SINK	1/2"	1/2"	-	1 1/2"	-
EQ-04	1	HOT FOOD TABLE	1/2"	-	-	-	1/2"
EQ-42	1	ICE MAKER	-	-	1/2"	-	3/4"
EQ-58	1	MOP SINK	3/4"	3/4"	-	3"	-

NAT. GAS DESIGN
NEW GAS PIPING - LOW PRESSURE SYSTEM
INLET PRESSURE < 2.0PSI
PRESSURE DROP- 0.5 IN W.C
LONGEST LENGTH- APPROX. 150'
GAS PIPE SIZING PER TABLE 402.4(2),
INTERNATIONAL FUEL GAS CODE, 2018.

- GAS NOTES:**
- CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR MECHANICAL AND KITCHEN EQUIPMENTS.
 - PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION.
 - CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.



GAS RISER DIAGRAM
NOT TO SCALE

GAS EQUIPMENT SCHEDULE						
ITEM NO	QTY	DESCRIPTION	MANUFACTURER	MODEL	BTU/HR.	BTU/HR.
WH-1	2	TANKLESS WATER HEATER	RINNAI	CU1991	199,000	398,000
EQ-01	1	VERTICAL BROILER	OPTIMAL	G500	45,000	45,000
EQ-02	1	GRIDDLE COUNTERTOP	STAR MFG	624MF	56,600	56,600
EQ-09	2	DEEP FRYER	FRYMASTER	GF040	107,000	214,000
EQ-10	1	PITA OVEN	SPINNING GRILLERS	PITA 30-G4 2019	70,000	70,000
EQ-47	1	CHARBROILER COUNTERTOP	STAR MFG	6115RCBF	40,000	40,000
RTU-1(E)	1	ROOF TOP UNIT	-	-	131,000	131,000
RTU-2(N)	1	ROOF TOP UNIT	-	-	80,000	80,000
MAU-1(N)	1	MAKE UP AIR UNIT	-	-	178,000	178,000
					TOTAL LOAD	1212,600

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MEDITERRANEAN FRESH

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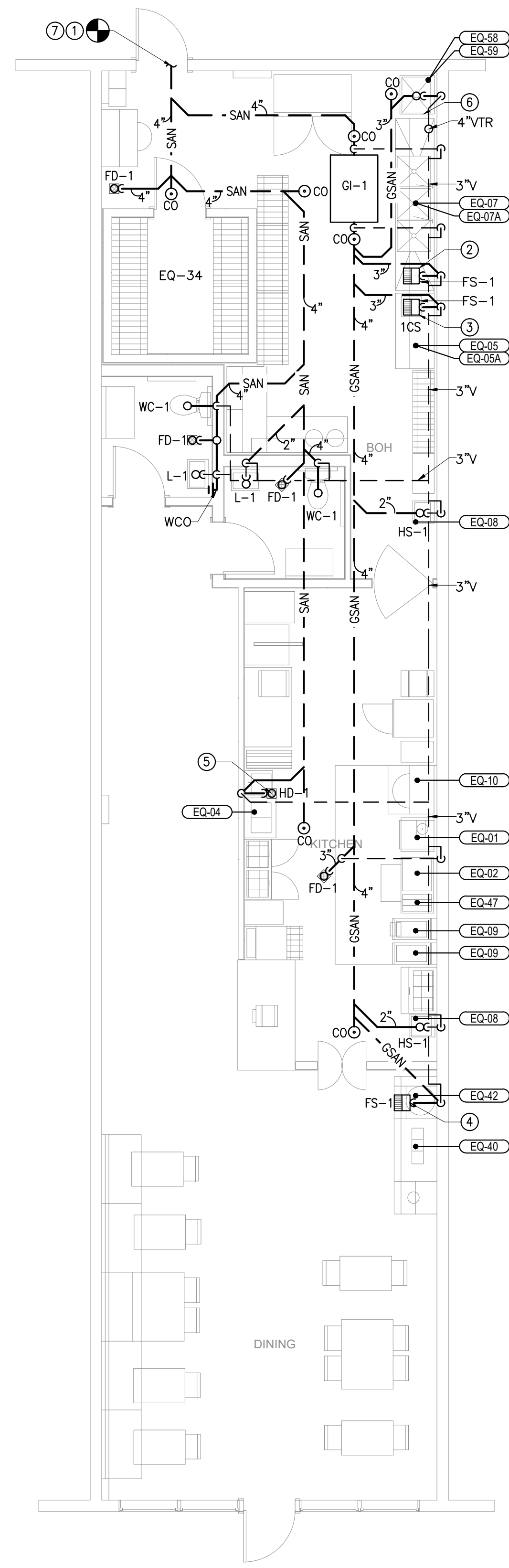
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PLUMBING PLAN - SANITARY & VENT
3/16" = 1'-0"

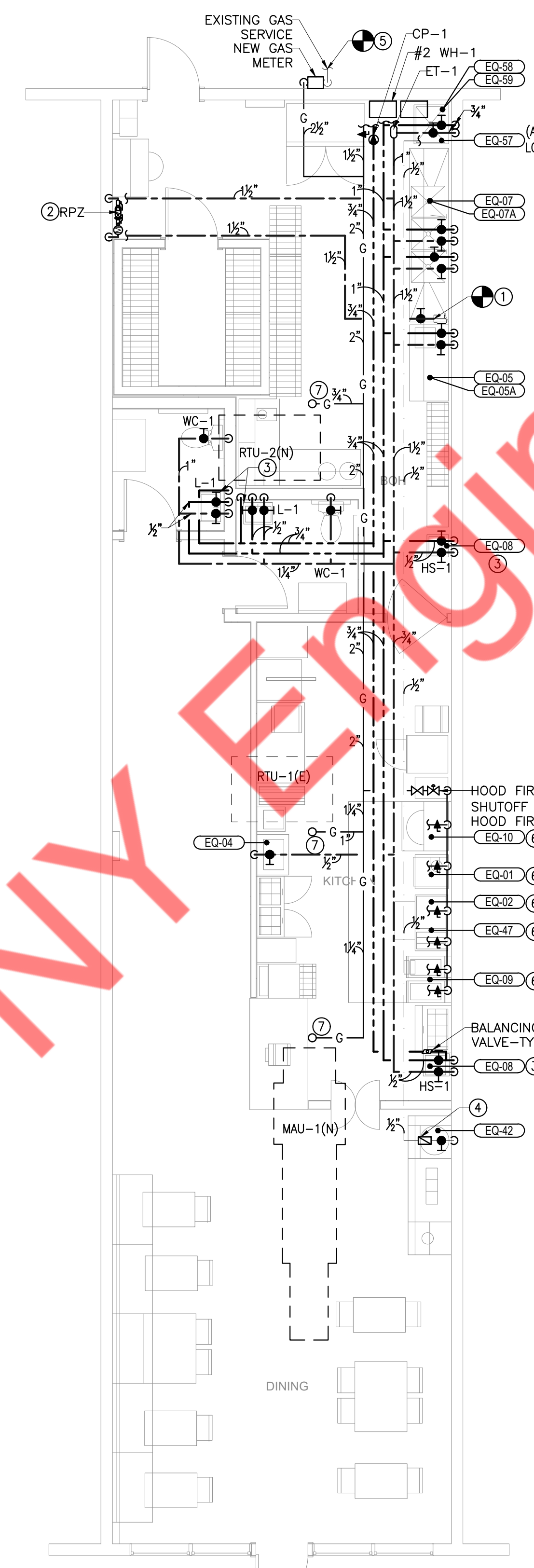
- SANITARY KEYED NOTES:**
- CONNECT NEW 4" SANITARY WASTE PIPING TO EXISTING 4" SANITARY LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT ON SITE.
 - ROUTE INDIRECT WASTE FROM 3-COMP SINK TO FLOOR SINK WITH AN APPROVED AIR GAP.
 - ROUTE INDIRECT WASTE FROM PREP SINK TO FLOOR SINK WITH AN APPROVED AIR GAP.
 - ROUTE INDIRECT WASTE FROM ICE MAKER AND DISPENSER TO FLOOR SINK WITH AN APPROVED AIR GAP.
 - ROUTE 2" INDIRECT WASTE FROM HOT FOOD WELL TO HUB DRAIN WITH AN APPROVED AIR GAP. PROVIDE A 2" X 4" INCREASER FITTINGS ON END OF HUB DRAIN.
 - T&P RELIEF VALVE AND DRAIN LINE. EXTEND DRAIN LINE TO MOP SINK AND SPILL. DRAIN LINE TO BE A MIN. OF 2" ABOVE FLOOD RIM LEVEL OF MOP SINK.
 - PLUMBING CONTRACTOR SHALL COORDINATE ROUTING OF PLUMBING PIPING WITH MECHANICAL CONTRACTOR AND MECHANICAL DRAWINGS TO AVOID CONFLICT (TYPICAL).

GENERAL NOTES:

CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT.

CONTRACTOR PROVIDE REPORT TO LANDLORD BEFORE, PRIOR TO ANY TRENCHING/SAW CUTTING FOR PLUMBING WORKS.

REFER RISER DIAGRAMS FOR ALL PIPE SIZES.



PLUMBING PLAN - WATER & GAS
3/16" = 1'-0"

- WATER AND GAS KEYED NOTES:**
- ROUTE NEW 1-1/2" CW PIPING WITH SHUT OFF VALVE AND TIE-INTO THE EXISTING WATER LINE. CONTRACTOR TO FIELD VERIFY TIE-IN CONNECTION LOCATION, SIZE, ROUTING AND WATER SUB-METER REQUIREMENTS WITH LANDLORD. UPGRADE WATER SERVICE LINE IF REQUIRED.
 - PROVIDE NEW MAIN COLD WATER SHUT-OFF VALVE AND BACKFLOW PREVENTER IN AN ACCESSIBLE LOCATION.
 - PROVIDE A TEMPERING VALVE FOR HAND SINK. POWER HYDROGUARD, SERIES LFLM495, ASSE 1070 OR EQUAL. SET TEMPERATURE TO A MAXIMUM OF 110°F.
 - PROVIDE ASSE-1012 APPROVED 1" BFP BY WATTS MODEL LF-9D OR EQUIVALENT. CONTRACTOR TO FIELD VERIFY AND INSTALL BFP AT AN ACCESSIBLE LOCATION.
 - CONNECT NEW 2-1/2" GAS PIPING WITH NEW GAS METER AND PRESSURE REGULATOR TO EXISTING GAS SERVICE IN THE SPACE. CONTRACTOR TO VERIFY LOCATION, SIZE, EXISTING AVAILABLE GAS PRESSURE IN FIELD. UPGRADE GAS SERVICE IF NOT SUFFICIENT.
 - CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR EQ-01, EQ-02, EQ-09, EQ-10, EQ-47 AND WH-1. SHALL NOT EXCEED MAXIMUM GAS PRESSURE REQUIREMENT OF EQUIPMENT. REFER TO EQUIPMENT SCHEDULE FOR MINIMUM AND MAXIMUM ALLOWABLE NATURAL GAS PRESSURE AND PROVIDE REGULATOR IF REQUIRED.
 - CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR RTU-1(E), RTU-2(N) AND MAU-1(N). SHALL NOT EXCEED MAXIMUM GAS PRESSURE REQUIREMENT OF EQUIPMENT.

HOOD FIRE SUPPRESSION EMERGENCY GAS SHUTOFF VALVE @ MAX 7' AFF. COORDINATE WITH HOOD FIRE SUPPRESSION SYSTEM INSTALLATION

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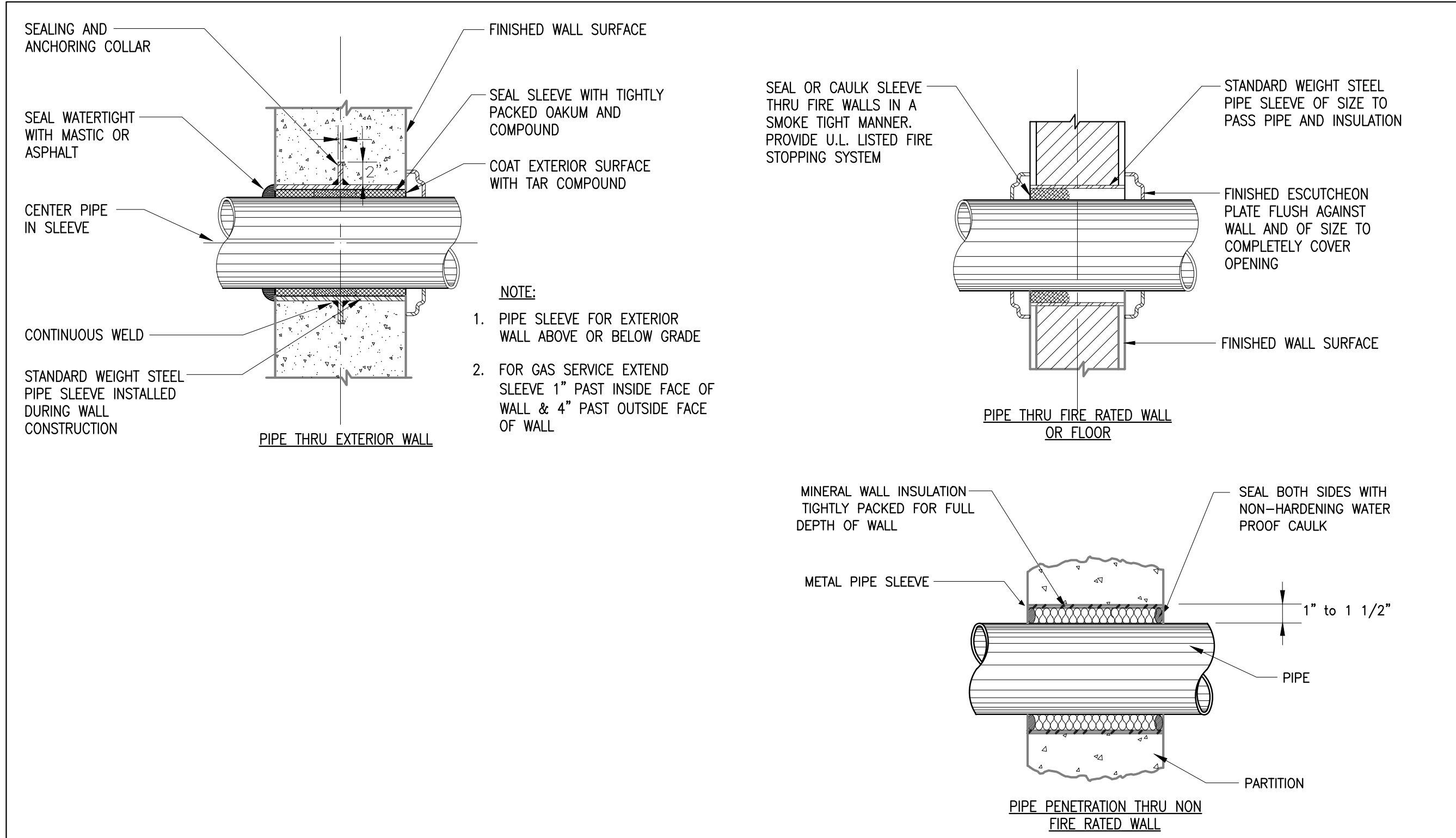
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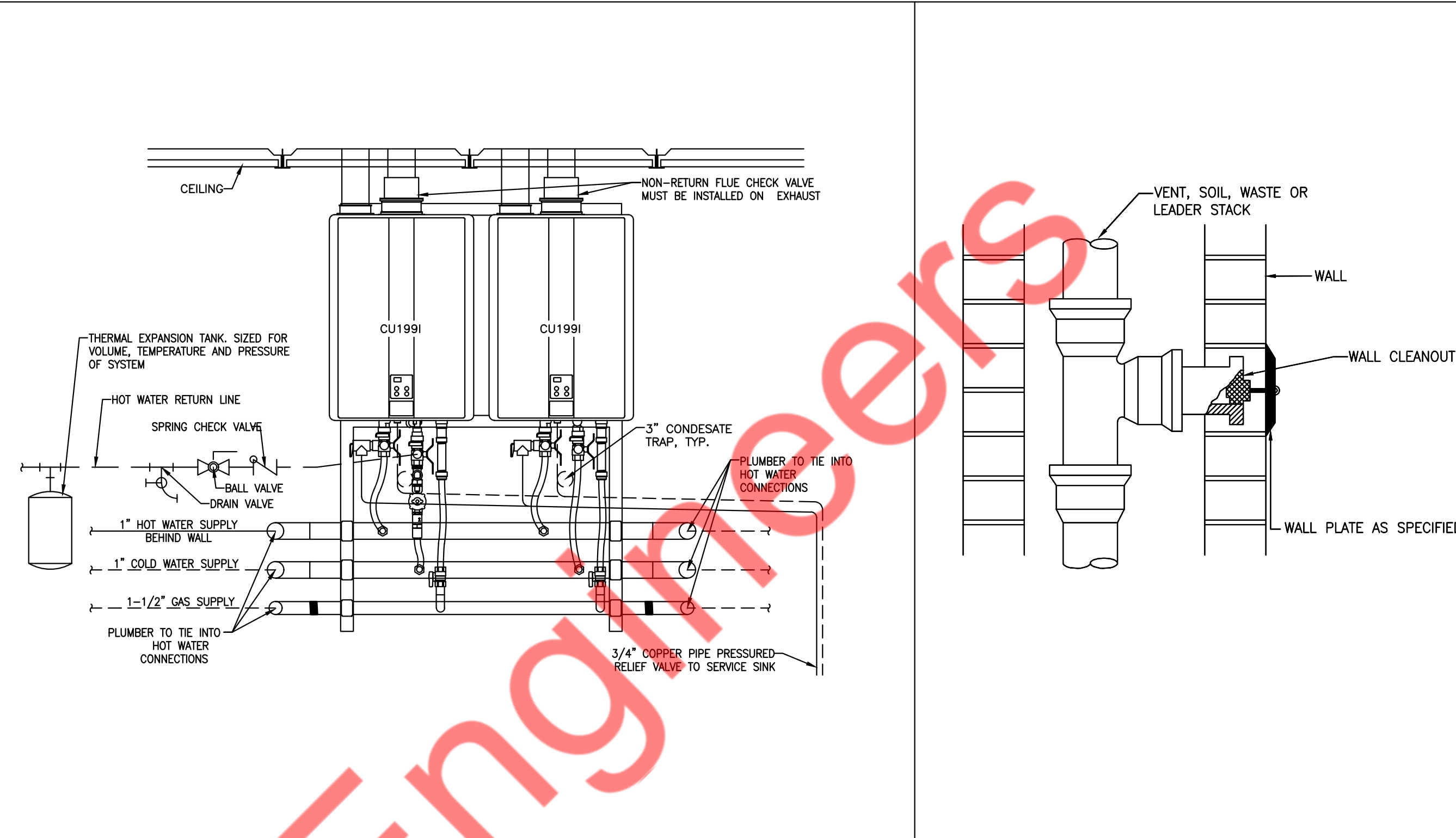
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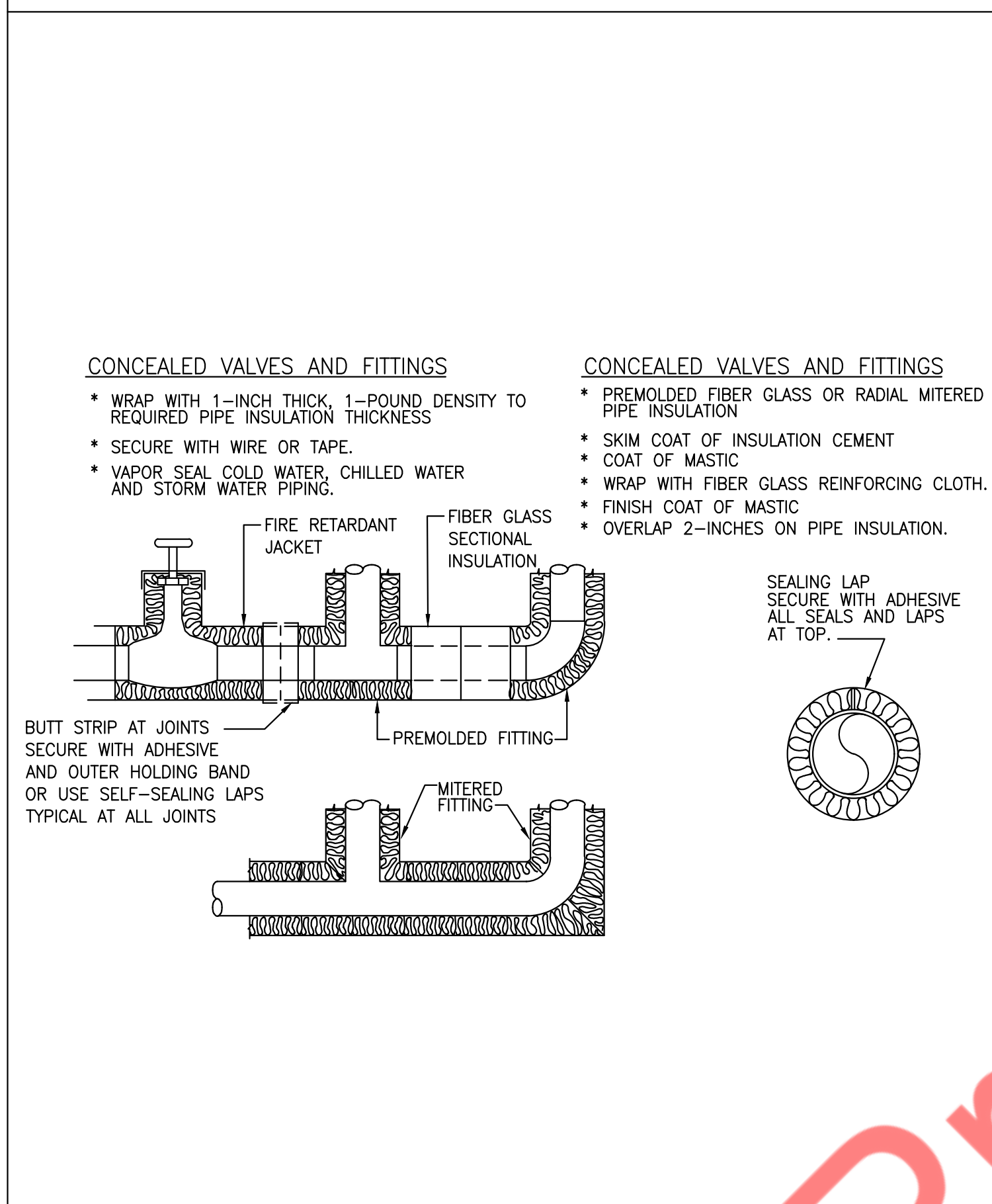


1 PIPE SLEEVE THRU WALL SECTION
P102 N.T.S



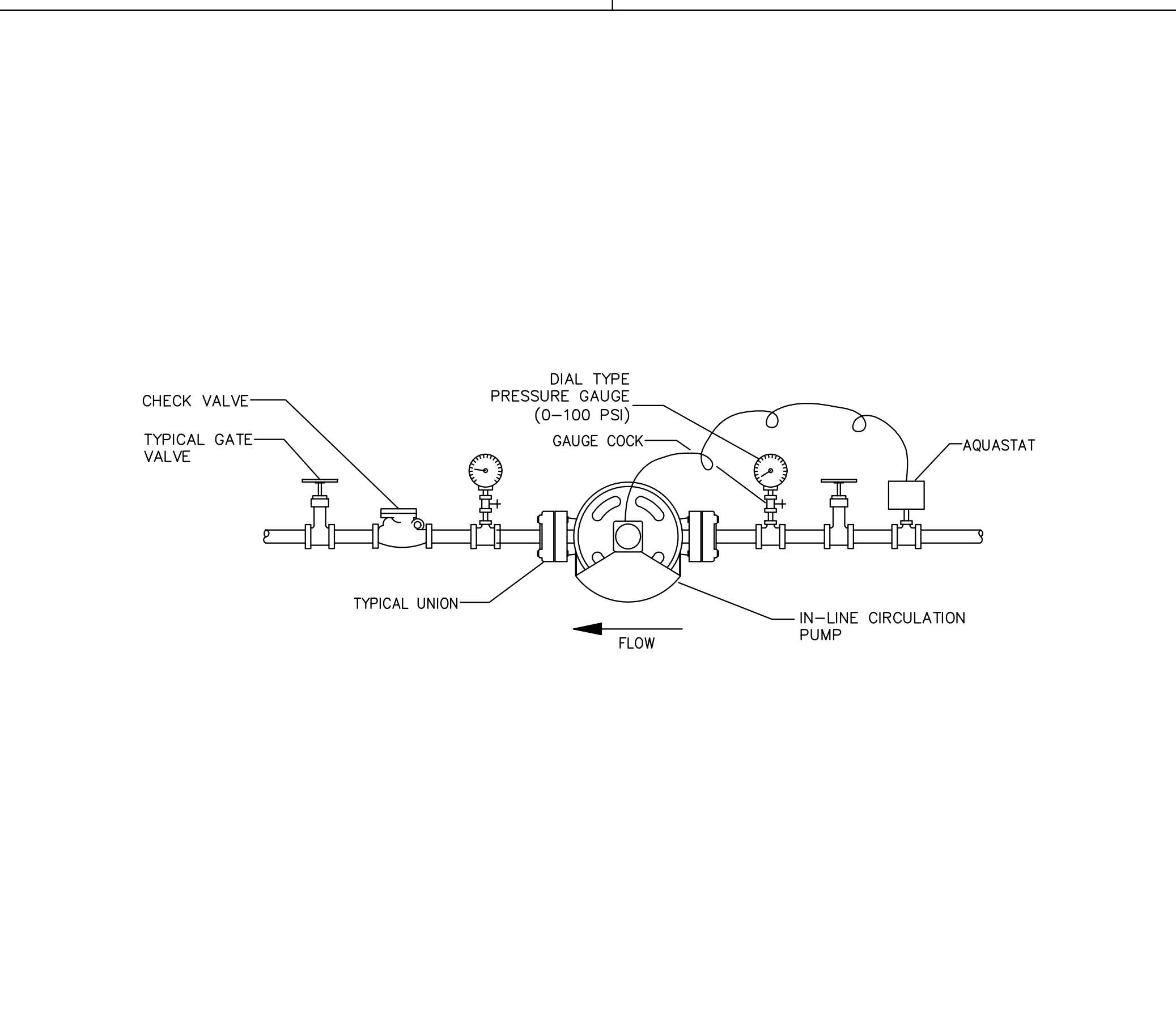
2 TANKLESS WATER HEATER DETAILS
P102 N.T.S

3 WALL CLEANOUT DETAIL
P102 N.T.S



4 INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS
P102 N.T.S

5 HANGER DETAIL
P102 N.T.S



6 INLINE RECIRCULATING PUMP DETAIL
P102 N.T.S

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PROVIDE CLEANOUTS IN TURNS/ENDS OF PIPE. USE DWV FITTINGS IF SIZE IS LARGER THAN 1".

DISCHARGE INTO RECEPTOR WITH AIR GAP SUFFICIENT TO REMOVE GRATE AND STRAINER MAKE AIR GAP TWICE PIPE DIAMETER OR MINIMUM OF 2".

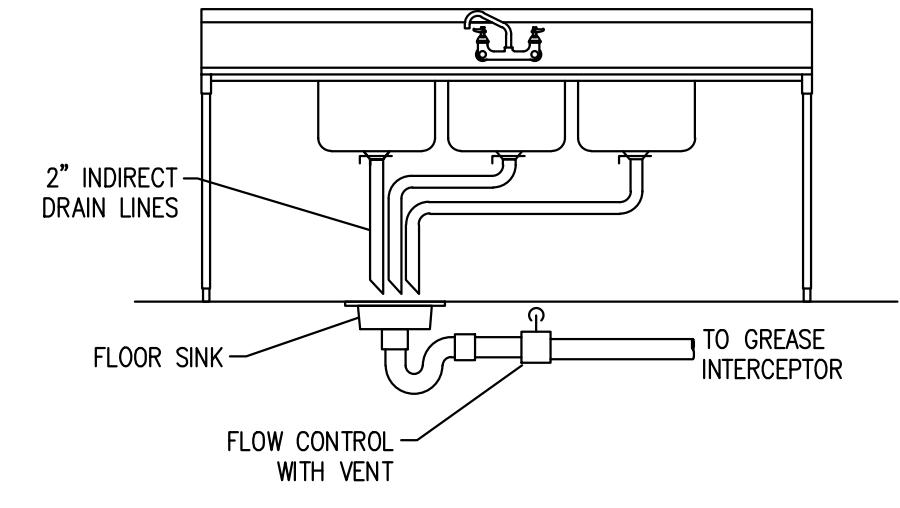
SLOPE PIPE AS MUCH AS POSSIBLE TOWARD DISCHARGE.

MAKE CONNECTION TO EQUIPMENT AS REQUIRED.

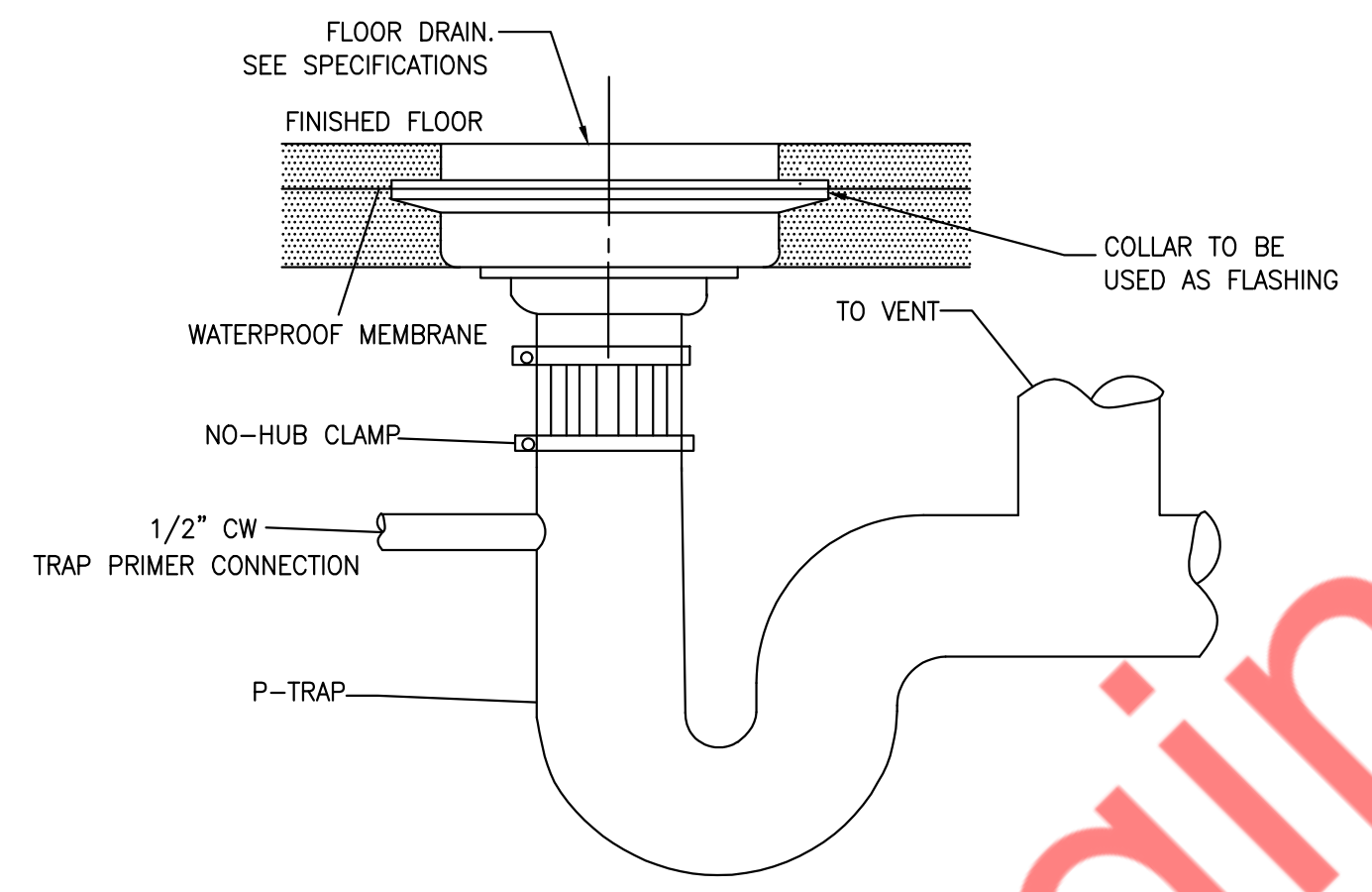
MAKE PIPE MINIMUM ONE SIZE LARGER THAN EQUIPMENT CONNECTION. MINIMUM 3/4" USE "M" OR "L" HARD COPPER UP TO 1" AND TYPE DWV FOR LARGER.

VERIFY WITH LOCAL CODES IF/WHEN TRAP AND/OR VENT ARE REQUIRED FOR THE LENGTH OF DRAIN PIPE INSTALLED.

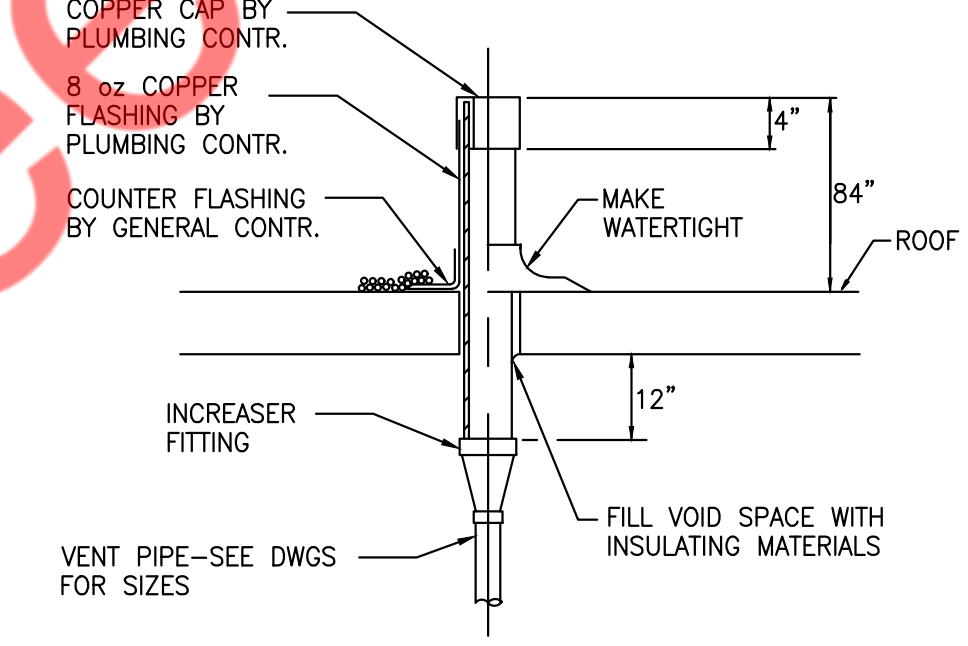
ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY, SECURED BY MEANS OF CLAMPS OR BRACKETS TO THEIR OWN EQUIPMENT UNITS AND ROUTED TO THEIR SPECIFIC FLOOR SINKS THERE SHALL NOT BE ANY LOOSE OR DANGLING WASTE LINES, NOR WASTE LINES LYING ON THE FLOOR. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.



COMMENTS:
1. LOCATE GREASE INTERCEPTOR NEAR THE REAR WALL IN THE KITCHEN AS SHOWN OF THE PLUMBING PLANS.



NOTES:
1. MINIMUM SIZE OF VENT EXTENSION THROUGH ROOF TO BE 4".
2. CHANGE OF DIAMETER TO BE MADE AT LEAST 12" BELOW ROOF.
3. VENT PIPE TO EXTEND UP TO 7'-0" ABOVE ROOF IN ACCESSIBLE WATERTIGHT BY PROPER FLASHING.
4. ALL VENT RISERS SHALL BE OFFSET AS REQUIRED TO CLEAR ROOF STRUCTURE, DUCTWORK OR MECH. ROOF TOP UNITS.
5. PLUMBING CONTRACTOR TO COORDINATE WITH OTHER TRADES.
6. ROOFING CONTRACTOR SHALL SUPPLY BOOT FLASHING FOR RUBBER ROOF SYSTEMS.

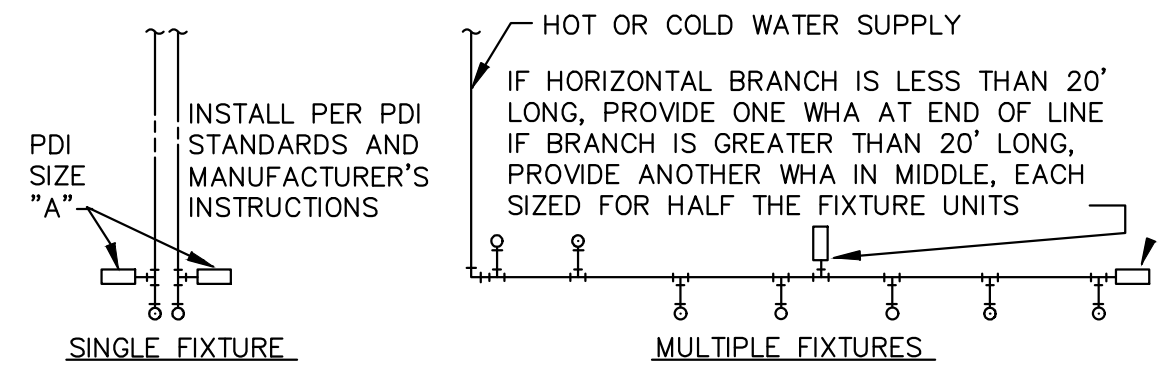


1 INDIRECT/CONDENSATE DRAIN
P103 N.T.S

2 3 COMPARTMENT SINK DETAIL
P103 N.T.S

3 FLOOR DRAIN DETAIL
P103 N.T.S

4 VENT INCREASER DETAIL
P103 N.T.S

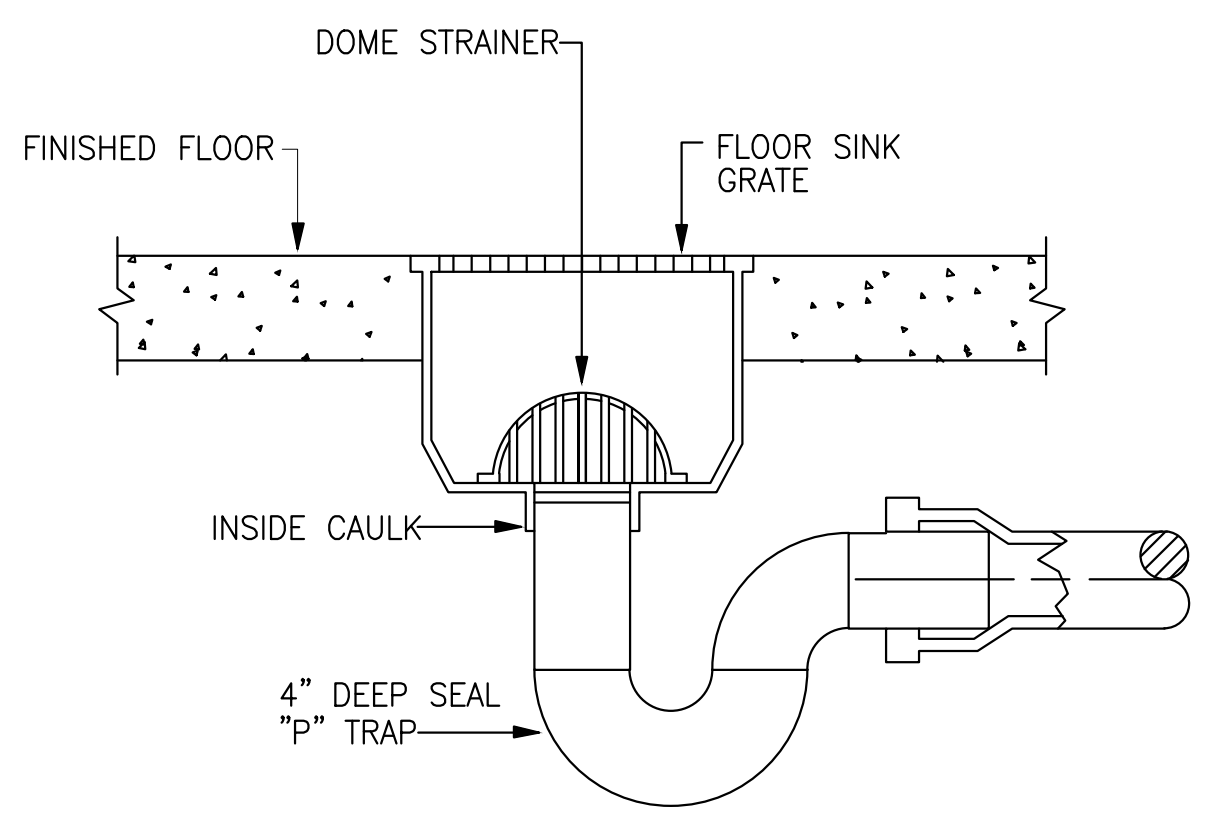


PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

FIXTURE	FIXTURE UNIT TABULATION	
	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

NOTE:
1. PROVIDE WATER HAMMER ARRESTOR FOR FIXTURES WITH QUICK CLOSING VALVE.



5 WATER HAMMER ARRESTORS
P103 N.T.S

6 FLOOR SINK DETAILS
P103 N.T.S

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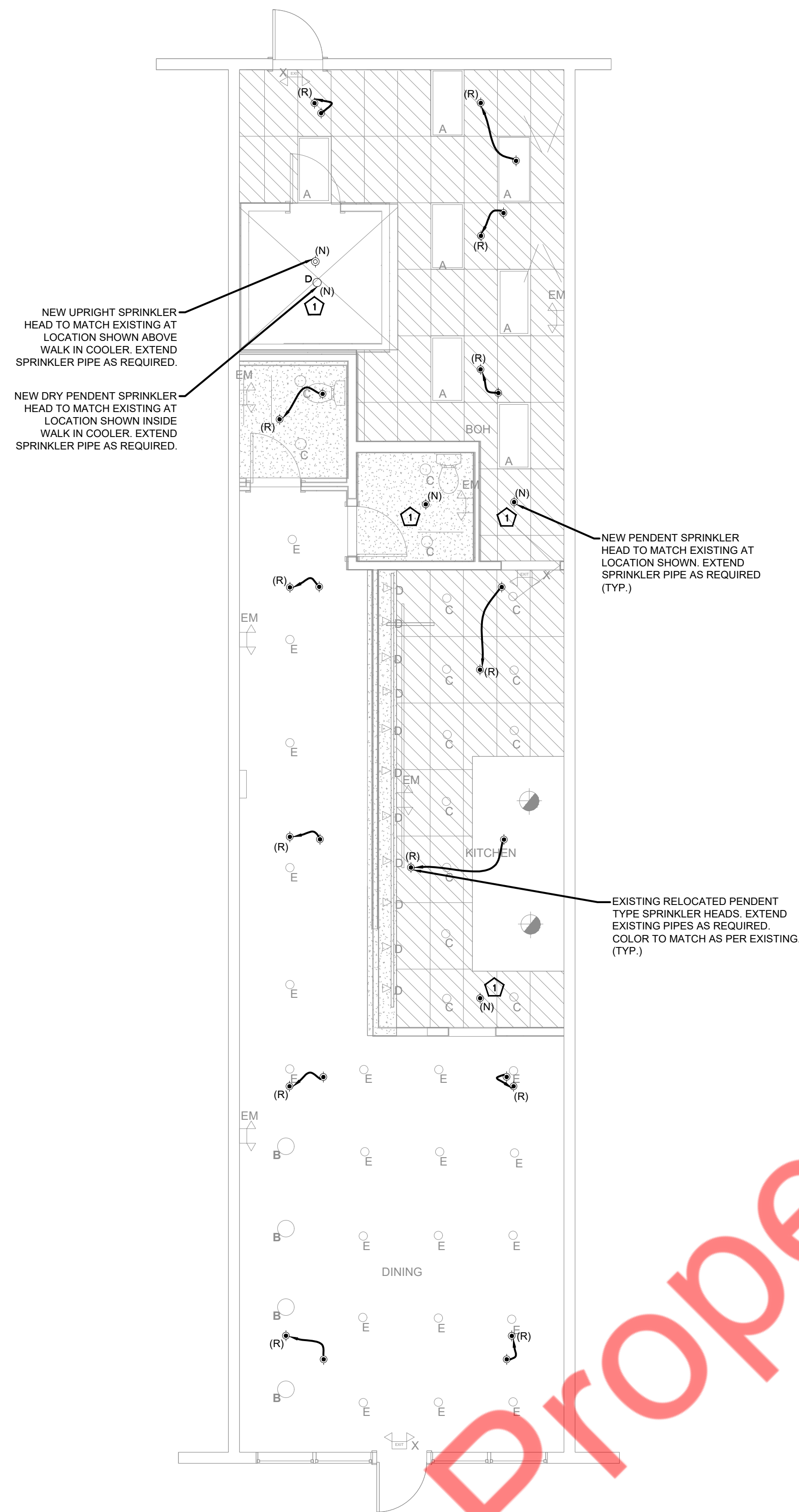
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NUMBER	DATE	REVISION	BY	DESCRIPTION
01	2023-02-28	NYE	NYE	LL REVIEW SET
02	2023-03-21	NYE	NYE	PERMIT SET

NOTES:

PROJECT DESCRIPTION:
RESTAURANT FIT OUT FOR:
GARBANZO
MEDITERRANEAN FRESH

DATE: 02-01-2023
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P103



FIRST FLOOR-SPRINKLER PLAN
3/16" = 1'-0"

SPRINKLER KEYNOTES

1. ALL BRANCH TAKE-OFF FOR EACH SPRINKLER TO BE MIN. 1".

SPRINKLERS FOR FIRST FLOOR	
EXISTING PENDENT HEAD TO BE RELOCATED	13
NEW DRY PENDENT SPRINKLER HEAD	01
NEW UPRIGHT SPRINKLER HEAD	01
NEW PENDENT SPRINKLER HEAD	03
TOTAL	18

SPRINKLER LEGENDS:

— EX.SP —	EXISTING SPRINKLER PIPING TO REMAIN
— SP —	NEW SPRINKLER PIPING
⊙(R)	EXISTING PENDENT SPRINKLER HEAD TO BE RELOCATED AS SHOWN. EXTENDED EXISTING PIPING AS REQUIRED.
⊙(N)	NEW DRY PENDENT SPRINKLER HEAD
⊙(N)	NEW UPRIGHT SPRINKLER HEAD

HAZARD CLASSIFICATION AND DESIGN DENSITY:

AREA : KITCHEN AND SERVICE AREA	
OCCUPANCY:	ORDINARY HAZARD
MINIMUM DESIGN DENSITY:	0.15 GPM/SQ. FT.
AREA : DINING AREA & RESTROOM	
OCCUPANCY:	LIGHT HAZARD
MINIMUM DESIGN DENSITY:	0.1 GPM/SQ. FT.

SPRINKLER NOTES

- CONTRACTOR TO FIELD VERIFY TO INSTALL ALL SPRINKLER HEADS TO BE MAX. 12" FROM CEILING.
- ALL NEW SPRINKLER HEADS LOCATION TO BE COORDINATED WITH LIGHTING AND DIFFUSERS TO AVOID CONFLICT.
- ALL SPRINKLER HEADS & PIPING TO BE COORDINATED WITH EXISTING & NEW SERVICES.
- ANY WORK SHOWN ON THE DRAWINGS AND NOT PARTICULARLY DESCRIBED IN THE SPECIFICATIONS OR DETAILS, OR ANY WORK WHICH MAY BE DEEMED NECESSARY TO COMPLETE THE CONTRACT SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THIS CONTRACT.
- FOR PURPOSES OF CLEARNESS AND LEGIBILITY, SPRINKLER DRAWINGS ARE ESSENTIALLY DIAGRAMATIC AND SIZE AND LOCATION OF EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE. THE DRAWINGS INDICATE SIZE, CONNECTION POINTS, AND ROUTED OF PIPES. IT IS NOT INTENDED, HOWEVER, THAT ALL OFFSETS, RISES AND DROPS ARE SHOWN. PROVIDE PIPING AS REQUIRED TO FIT STRUCTURE, AVOID OBSTRUCTIONS, AND RETAIN CLEARANCES, HEADROOM OPENINGS AND PASSAGeways. ALL SPRINKLER PIPING AT CEILING SHALL BE ROUTED TIGHT TO EXISTING SLAB AS REQUIRED. CONTRACTOR TO FIELD VERIFY FEASIBILITY OF SLAB PENETRATION IF REQUIRED AS PER STRUCTURAL REQUIREMENT.
- ALL PENDANT SPRINKLERS MUST BE SPACED AS FOLLOWS -
 - MAXIMUM 7.5' FROM WALL
 - MAXIMUM DISTANCE BETWEEN 2 SPRINKLER HEADS IS 15'.
 - MINIMUM DISTANCE BETWEEN 2 SPRINKLER HEADS IS 6'.
 - COVERAGE AREA PER SPRINKLER SHALL BE MAX. 130 SQ.FT FOR ORDINARY HAZARD AND 225 SQ.FT FOR LIGHT HAZARD.
- ALL SPRINKLER HEADS MEET DESIGN CRITERIA PER COVERAGE.
- AUXILIARY DRAIN SHALL BE PROVIDED AT THE TRAPPED SECTIONS.
- ALL EXISTING SPRINKLER SYSTEM AT THIS FLOOR TO BE DEMOLISHED UNLESS OTHERWISE NOTED.
- FOR SPRINKLER WORK ONLY.

THE SPRINKLER SUBCONTRACTOR IS REQUIRED TO VISIT THE SITE DURING BIDDING AND VERIFY LOCATION(S) OF WHERE SPRINKLER PIPING/EQUIPMENT IS INDICATED TO BE PLACED, THEIR ROUTE(S) AND POSSIBLE INTERSECTION(S) WITH OTHER EQUIPMENT/WORK/STRUCTURE (I.E. STEEL BEAMS, ETC.) TO BE INSTALLED AND/OR "EXISTING TO REMAIN". THIS SUBCONTRACTOR IS TO VERIFY HEIGHTS "TO BE INSTALLED" TO MAINTAIN DESIGNED CEILING HEIGHTS AND HEAD ROOM. ANY DISCREPANCIES BETWEEN DESIGNED AND ACTUAL TO BE TOLD TO THE GENERAL CONTRACTOR AND INDICATED ON THE BID FORM.

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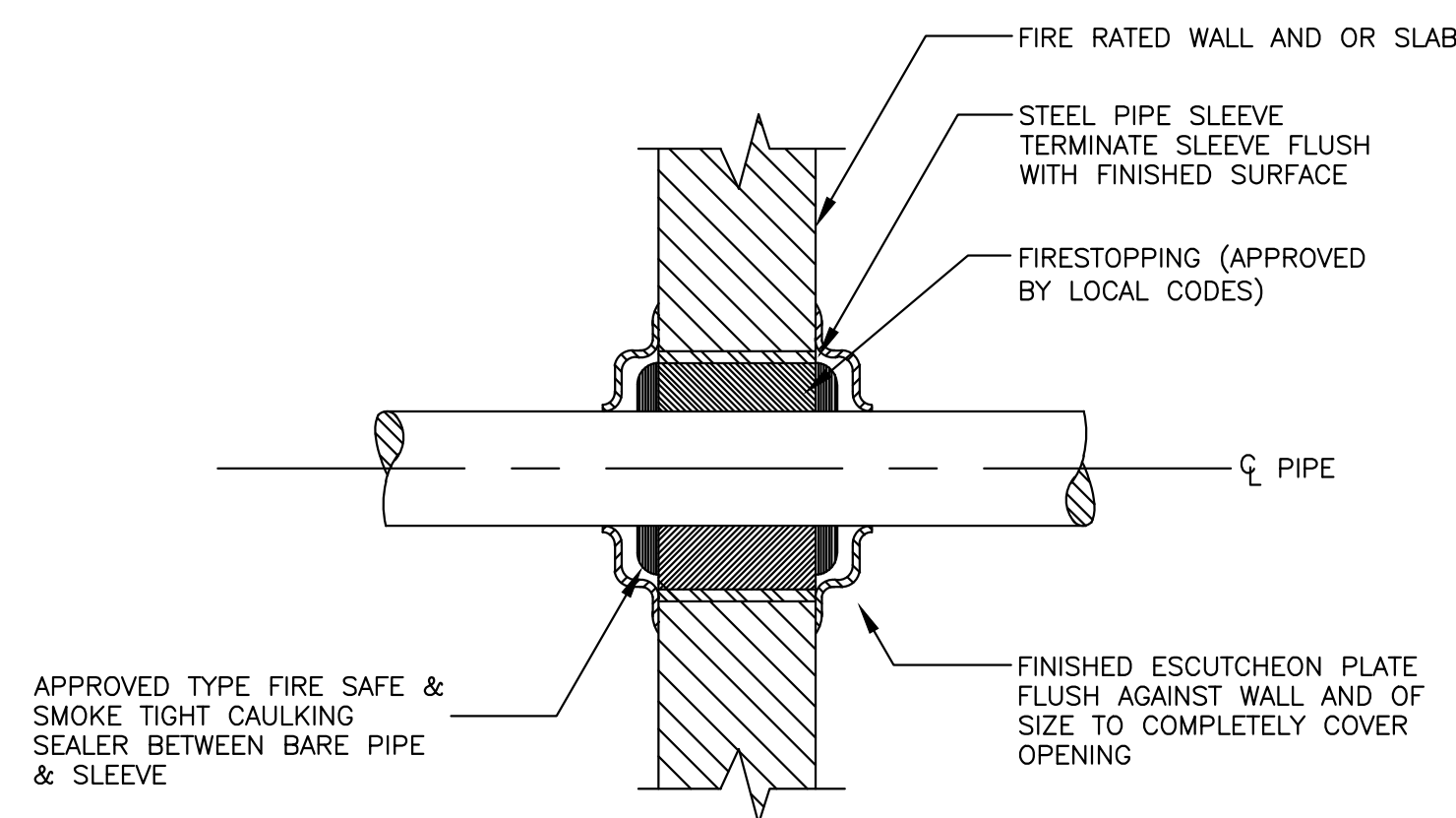
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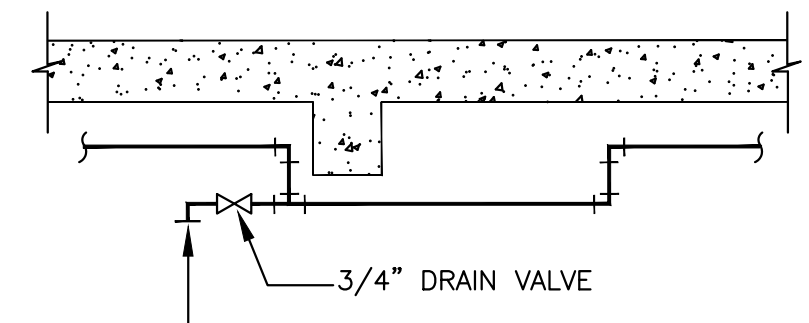


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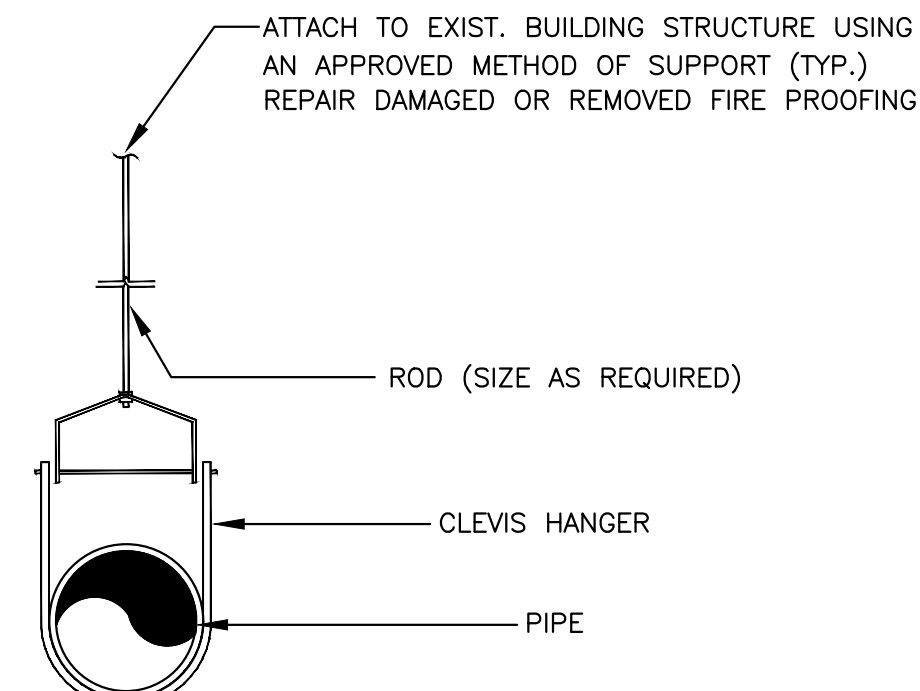
SP101



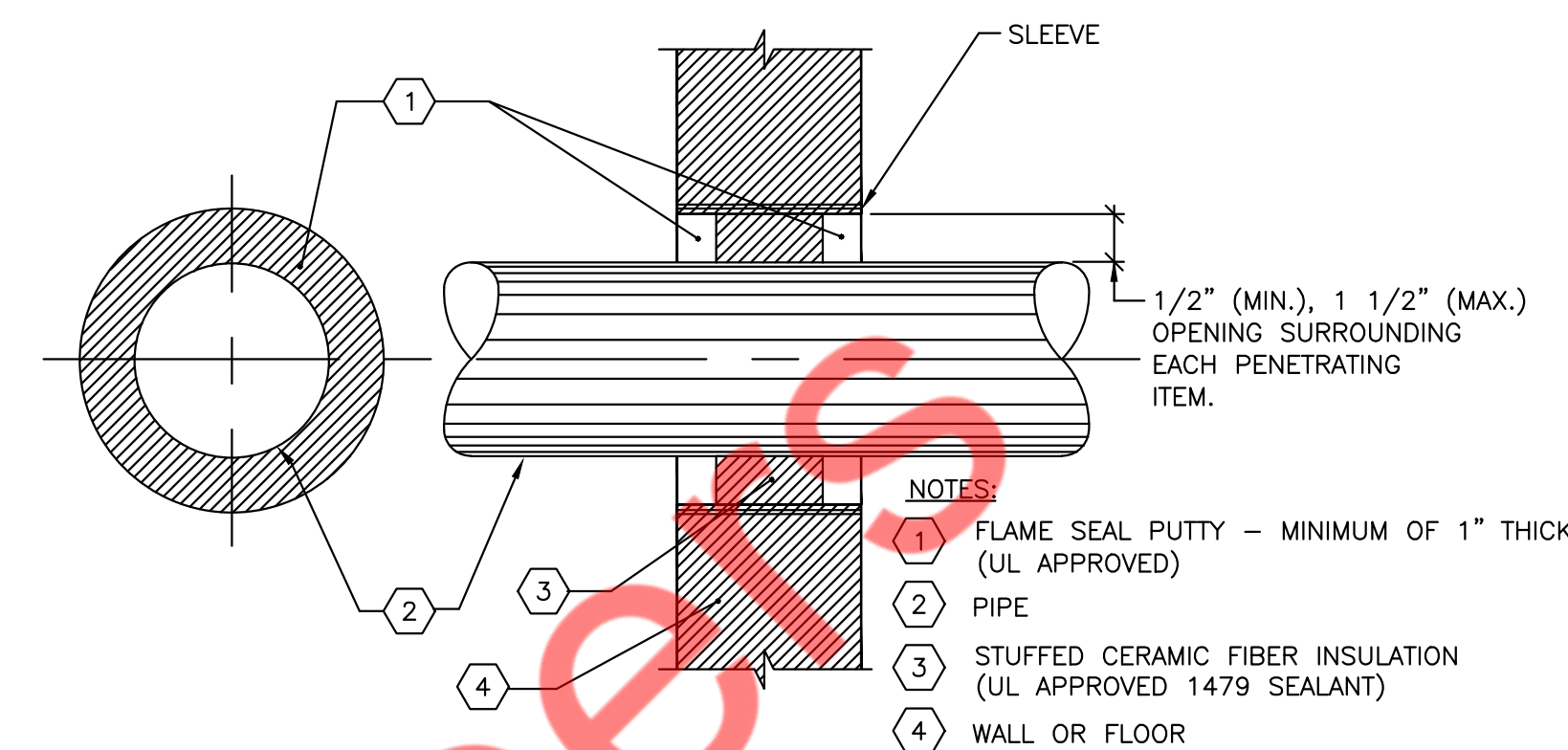
1 PIPE THRU RATED WALL TYPICAL DETAIL
SP-501.00 N.T.S



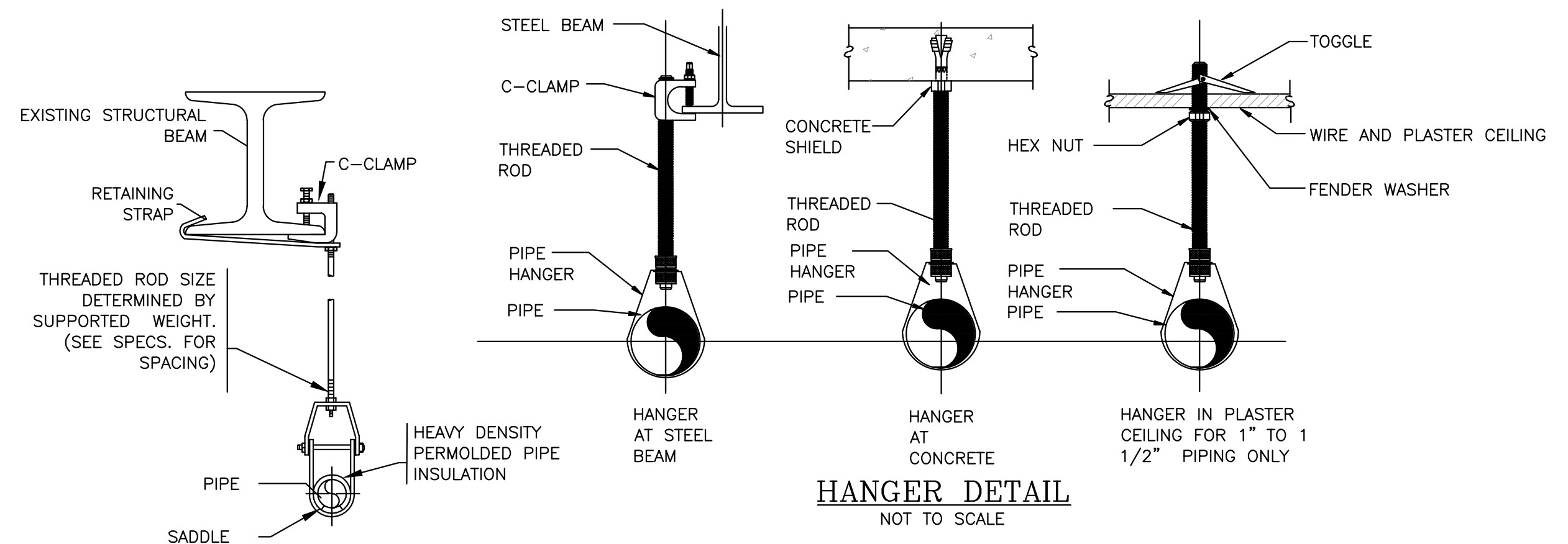
2 TYPICAL DRAIN CONNECTION FOR TRAPPED LINES ON WET PIPE SPRINKLER SYSTEMS
SP-501.00 N.T.S



3 HANGER DETAILS TYPICAL
SP-501.00 N.T.S



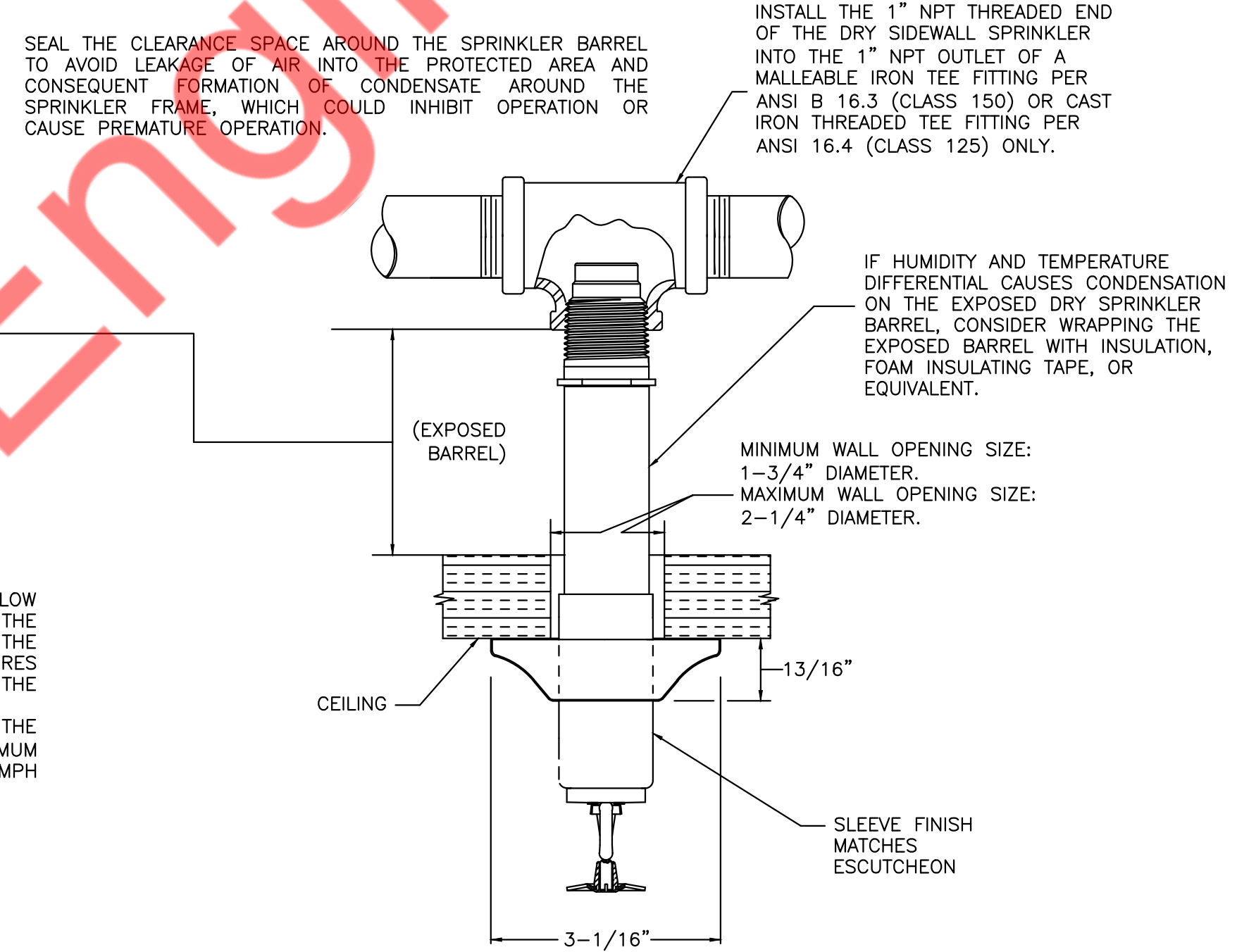
4 FIRE STOPPING DETAIL FOR FIRE/SMOKE RATED WALL/FLOOR OPENINGS
SP-501.00 N.T.S



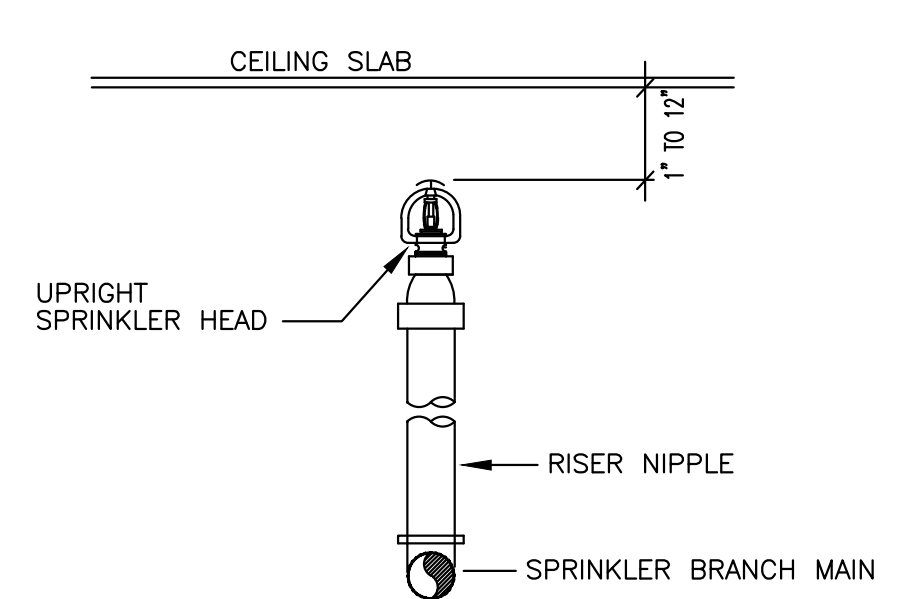
ROD SCHEDULE					
PIPE SIZE	ROD SIZE	SPACING	PIPE SIZE	ROD SIZE	SPACING
1"	3/8"	5'-8"	2 1/2"	1/2"	10'-12'
1 1/4"	3/8"	6'-10'	3"	1/2"	10'-12'
1 1/2"	3/8"	8'-10'			
2"	3/8"	10'-12'			

AMBIENT TEMPERATURE OF PROTECTED AREA* AT THE DISCHARGE END OF THE SPRINKLER	EXPOSED BARREL AMBIENT TEMPERATURE		
	40°F/4°C	50°F/10°C	60°F/16°C
40°F (4°C)	0	0	0
30°F (-1°C)	0	0	0
20°F (-7°C)	4	0	0
10°F (-12°C)	8	1	0
0°F (-18°C)	12	3	0
-10°F (-23°C)	14	4	1
-20°F (-29°C)	14	6	3
-30°F (-34°C)	16	8	4
-40°F (-40°C)	18	8	4
-50°F (-46°C)	20	10	6
-60°F (-51°C)	20	10	6

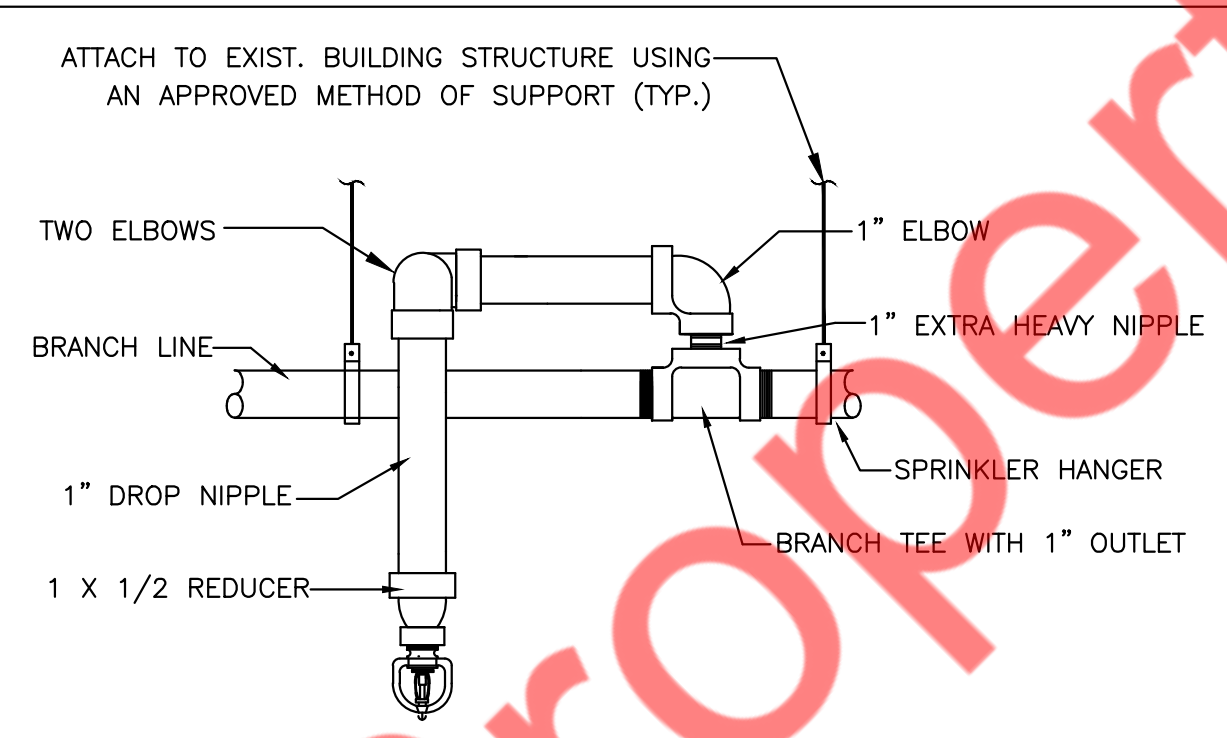
* THE PROTECTED AREA REFERS TO THE AREA BELOW THE CEILING. THE AMBIENT TEMPERATURE IS THE TEMPERATURE AT THE DISCHARGE END OF THE SPRINKLER. FOR PROTECTED AREA TEMPERATURES THAT OCCUR BETWEEN THE VALUES LISTED, USE THE NEXT COOLER TEMPERATURE.
** THE MINIMUM REQUIRED BARREL LENGTH IS NOT THE SAME AS THE "A" DIMENSION. EXPOSED MINIMUM BARREL LENGTHS ARE INCLUSIVE UP TO 30 MPH WIND VELOCITIES.



6 DRY PENDANT SPRINKLER INSTALLATION DETAILS
SP-501.00 N.T.S



7 SPRINKLER HEAD DETAIL UPRIGHT
SP-501.00 N.T.S



8 PENDENT SPRINKLER INSTALLATION DETAIL
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MEDITERRANEAN FRESH

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JOB #:	
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SP501

PROJECT DESCRIPTION		BUILDING OCCUPANCY		BUILDING DESCRIPTION		FIRE ALARM SYSTEM FEATURES	
NEW BUILDING		ASSEMBLY GROUP A (A1,A2,A3,A4 AND A5)	RESIDENTIAL GROUP R2	1	TOTAL NUMBER OF LEVELS	ATRIUM	STAIR PRESSURIZATION
FIRE ALARM SYSTEM UPGRADE	X	BUSINESS GROUP B	STORAGE GROUP S (S1 AND S2)	1	ABOVE GROUND LEVELS	GRND	FIRE DEPARTMENT ACCESS
LIFE SAFETY SYSTEM UPGRADE		EDUCATIONAL GROUP E	UTILITY AND MISCELLANEOUS GROUP U		BELOW GROUND LEVELS	X	FULLY SPRINKLERED
X RENOVATION		FACTORY INDUSTRIAL GROUP F (F1 AND F2)	OTHER:		NUMBER OF ELEVATOR BANKS		PARTIALLY SPRINKLERED
EMERGENCY REPAIR		HIGH-HAZARD GROUP H (H1,H2,H3,H4 AND H5)			NUMBER OF EGRESS STAIRS		NON-SPRINKLERED
TENANT ADDITION		INSTITUTIONAL GROUP I (I1,I2 AND I3)			LOW RISE BUILDING		PRE-ACTION SPRINKLER
OTHER:		MERCANTILE GROUP M			HIGH RISE BUILDING		

ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	HC	HUNG CEILING
C	CONDUIT	N	NEW
DGP	DATA GATHERING PANEL	NE	NEW TO REPLACE EXISTING
E	EXISTING	NTS	NOT TO SCALE
EL	EXISTING TO BE LOWERED	R	REMOVE
ELV	ELEVATOR LOBBY	RCU	REMOTE COMPUTER UNIT
EMT	ELECTRIC METALLIC TUBING	RE	RELOCATED EXISTING
ER	EXISTING TO BE RELOCATED	RGS	RIGID GALVANIZED STEEL
FA	FIRE ALARM	RP	RELOCATED POSITION
FCS	FIRE COMMAND STATION	UON	UNLESS OTHERWISE NOTED
FDS	FUSED DISCONNECT SWITCH	W	WIRE
G	GROUND	-	-

FIRE ALARM I/O MATRIX

SYSTEM INPUTS INITIATING DEVICES	SYSTEM OUTPUTS INDICATING/CONTROLLED DEVICES		CONTROL UNIT ANNUNCIATION			NOTIFICATION			REQUIRED FIRE SAFETY CONTROL							
	A	B	C	D	E	F	G	h	i	j	k	l	m	n	o	p
1 MANUAL PULL STATION	●			●	●	●	●	●								1
2 AREA SMOKE DETECTOR	●			●	●	●	●	●				●	●	●	●	2
3 FIRE ALARM AC POWER FAILURE			●	●	●						●					3
4 FIRE ALARM SYSTEM LOW BATTERY			●	●	●						●					4
5 OPEN CIRCUIT			●	●	●						●					5
6 GROUND CIRCUIT			●	●	●						●					6
7 NOTIFICATION APPLIANCE CIRCUIT SHORT			●	●	●						●					7

FIRE ALARM SYMBOL LIST			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	STROBE LIGHT DEVICE, WALL MOUNTED (80" AFF)		FIRE ALARM MANUAL PULL STATION, WALL MOUNTED (48" AFF)
	WALL MOUNTED SPEAKER/STROBE COMBINATION DEVICE (80" AFF)		MONITOR MODULE
	ADDRESSABLE CONTROL MODULE		FIRE SUPPRESSION SYSTEM
	REMOTE ANNUNCIATION PANEL		CEILING MOUNTED AREA SMOKE DETECTOR

TYPE OF DESIGN

INSTALLATION OF AUTOMATIC SMOKE AND SPRINKLER ALARM SYSTEM WITH POST-FIRE SMOKE PURGE CONTROL

FIRE ALARM DRAWING LIST		
SN	SHEET NAME	SHEET TITLE
01	FA-001 FIRE ALARM NOTES, BUILDING DATA, SYMBOL LIST, DRAWING LIST, MATRIX, ABBREVIATIONS & FIRE ALARM SYSTEM RISER DIAGRAM.	
02	FA-002 FIRE ALARM SYSTEM GENERAL NOTES.	
03	FA-003 FIRE ALARM SYSTEM DETAILS.	
04	FA-100 FIRE ALARM PLAN	

FIRE ALARM NOTES:

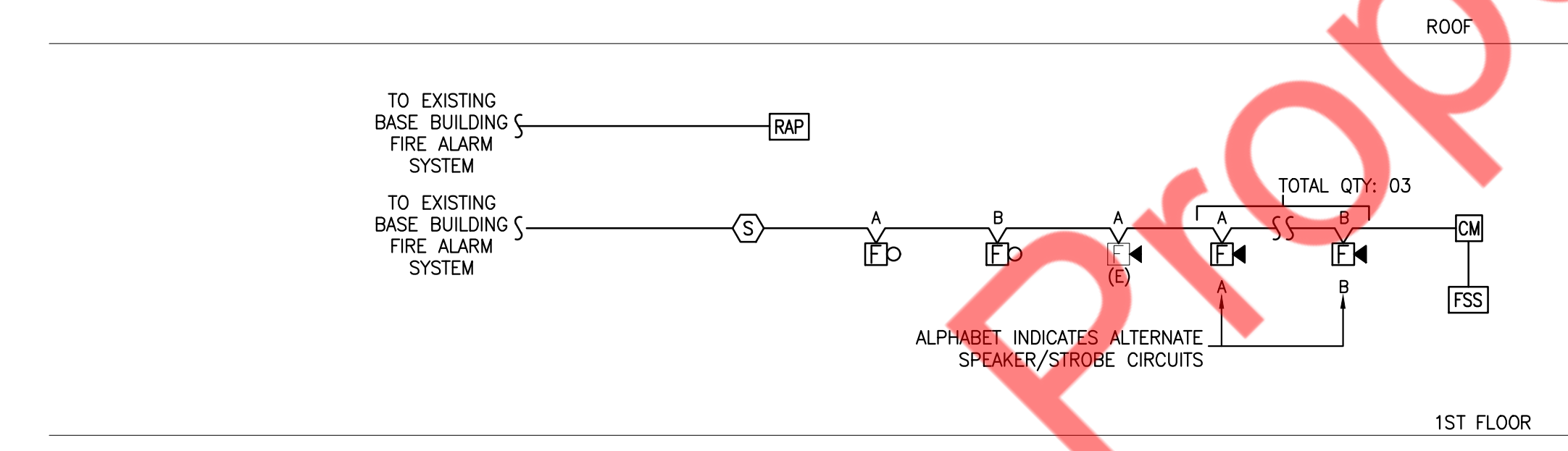
- ALL EQUIPMENT AND WIRING INDICATED ON THESE PLANS IS NEW (U.O.N.).
- PROVIDE WIRING AS REQUIRED BETWEEN ALL DEVICES AND EQUIPMENT AS REQUIRED TO PERFORM FIRE ALARM SYSTEM FUNCTIONS.
- ALL STROBES AND SPEAKER/STROBES SHALL BE FLUSH WALL MOUNTED FINISH BY ARCHITECT, APPROVED FOR USE IN NEW JERSEY.
- FOR WALL MOUNTED F.A. DEVICES PROVIDE WIRE IN 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
- IN THE ACCESSIBLE HUNG CEILING ROUTE FIRE ALARM WIRING EXPOSED, ELSE IN CONDUIT.
- FOR LOCATIONS AND QUANTITIES OF DEVICES REFER TO FIRE ALARM FLOOR PLANS. WHERE THERE ARE DISCREPANCIES BETWEEN THE PLANS AND THE RISER DIAGRAM, THE GREATER QUANTITY SHALL BE USED.
- CONTRACTOR SHALL VERIFY ALL WIRING WITH FIRE ALARM VENDOR AND OBTAIN WIRING DIAGRAMS BEFORE PROCEEDING WITH THE START OF ANY WORK.
- ALL WIRING SHALL BE IN ACCORDANCE WITH THE NEW JERSEY UCC ELECTRICAL SUBCODE 760.179(D).
- PROVIDE ALL REQUIRED EXPANSION PANELS, PC BOARDS, POWER SUPPLIES, BATTERIES, FUSE CUTOUTS AND BRANCH CIRCUITS, ETC, FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
- STROBES AND SPEAKERS SHALL BE WIRED ON ALTERNATING A-B CIRCUITING IN ALL AREAS, AS INDICATED ON THE RISER DIAGRAM.
- EXPEDITOR/OWNER SHALL PERFORM ALL NEWARK BUILDING DEPT./AHJ FILINGS AND OBTAIN ALL APPROVALS. CONTRACTOR SHALL OBTAIN ALL REQUIRED SIGNED & SEALED BUILDING DEPT. FORMS AND ALL REQUIRED SETS OF DRAWINGS FROM ENGINEER OF RECORD AND BUILDING DEPT. EXPEDITOR.
- UPON COMPLETION OF INSTALLATION THE SYSTEM SHALL BE 100% PRE-TESTED BY THE FIRE ALARM

VENDOR AND THE LICENSED ELECTRICAL CONTRACTOR PRIOR TO AHJ INSPECTION.

13. CABLES SHALL BE INSTALLED IN METAL RACEWAY OR RIGID NONMETALLIC CONDUIT WHERE PASSING THROUGH A FLOOR OR WALL TO A HEIGHT OF 2.1 M (7 FT) ABOVE THE FLOOR, UNLESS ADEQUATE PROTECTION CAN BE AFFORDED BY BUILDING CONSTRUCTION SUCH AS DETAILED IN UCC ELECTRICAL SUBCODE SECTION 760.53(A)(1), OR UNLESS AN EQUIVALENT SOLID GUARD IS PROVIDED.

FIRE ALARM RISER NOTES:

- ALL COMPONENTS REQUIRED TO MAKE SYSTEM WORKABLE SHALL BE INCLUDED IN BID PRICE.
- EACH FA RELAY SHALL HAVE MINIMUM OF THREE SETS OF 2 CONTACT 10A RATED @ 120V (TYPICAL).
- ALL DUCT SMOKE DETECTORS INSTALLED IN HUNG CEILING AREA AND IN OUT OF SIGHT AREA SHALL HAVE REMOTELY INSTALLED STATUS INDICATOR LAMPS. COORDINATE EXACT LOCATION WITH ARCHITECT AND GENERAL CONTRACTOR.
- FOR WALL MOUNTED F.A. DEVICES PROVIDE 3/4" CONDUIT TERMINATED IN NEAREST ACCESSIBLE CEILING.
- ALL FIRE ALARM WIRING SHALL BE INSTALLED IN CONDUIT WHERE REQUIRED BY NJ ELECTRICAL CODE 760.131.
- THIS RISER DIAGRAM IS A SCHEMATIC REPRESENTATION OF THE FIRE ALARM SYSTEM. REFER TO FLOOR PLANS FOR EXACT QUANTITY OF DEVICES.
- ALL FIRE ALARM CONDUITS SHALL BE MINIMUM 3/4".
- ALL FIRE ALARM CIRCUITS SHALL BE WIRED NFPA STYLE 4/Y/B (CLASS B) WITH THE EXCEPTION OF THE NETWORK CIRCUIT WHICH SHALL BE NFPA STYLE 7 (CLASS A WITH ISOLATION). DUAL CLASS B NETWORKING IS NOT STYLE 7 AND WILL NOT BE APPROVED.



FIRE ALARM SYSTEM RISER DIAGRAM
N.T.S.

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RESTAURANT FIT OUT FOR:

DATE: 02-01-2023

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FA001

FIRE ALARM SYSTEM GENERAL NOTES:

- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH EXISTING BUILDING VENDOR FOR THE EXACT SPECIFICATIONS OF ALL EXISTING FIRE ALARM DEVICES AND EQUIPMENT.
- ALL EQUIPMENT AND WIRING SHOWN ON THE PLANS IS NEW (U.O.N.).
- ALL WIRING, POWER, CONDUCTORS, CONDUITS ETC. SHALL MEET THE UCC ELECTRICAL SUBCODE (ADOPTS WITH AMENDMENTS: NFPA 70, 2017)
- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2021 UCC BUILDING SUBCODE AND IN ACCORDANCE WITH NEW JERSEY FIRE ALARM RULES, AND 2019 NFPA 72 WITHOUT AMENDMENTS AND ALL OTHER APPLICABLE CODES AND REGULATIONS.
- ALL FIRE ALARM EQUIPMENT SHALL BE NEW JERSEY APPROVED (BSA OR COA APPROVED).
- ALL FIRE ALARM CIRCUITS SHALL BE SIZED TO A MAXIMUM OF 80% OF CAPACITY.
- ALL SIGNAL WIRING SHALL BE RATED FOR CIRCUIT SURVIVABILITY LEVEL 2 OR GREATER AND PATHWAYS SHALL BE CLASS A, B, OR, X AS DIRECTED BY THE BUILDING'S FIRE ALARM VENDOR. ALL WIRING INCLUDING NEEDED TO SURVIVABILITY AND PATHWAY DESIGNATION REQUIREMENTS IS TO BE INCLUDED IN BID PRICING. ALL SHOP DRAWING AND AS-BUILT FIRE ALARM DRAWINGS SUBMITTED UNDER THIS CONTRACT SHALL INDICATE THE CIRCUIT SURVIVABILITY LEVEL AND CIRCUIT CLASS OF ALL FIRE ALARM CIRCUITS USED UNDER THIS CONTRACT.
- CONDUITS MAY NOT ENTER THE TOP OF ANY FIRE ALARM EQUIPMENT CABINET.
- ALL FIRE ALARM EQUIPMENT SHALL BE INSTALLED WITH AESTHETICS IN MIND. CABINETS SHALL BE SEMI FLUSH MOUNTED AND CABLE TRAYS SHALL BE HIDDEN.
- ALL FIRE ALARM CABINETS AND JUNCTION BOXES SHALL BE PAINTED FIRE DEPARTMENT RED. ALL FIRE ALARM CABINETS SHALL BE CLEARLY LABELED WITH A NEW JERSEY APPROVED LAMINATE ENGRAVED LABEL.
- ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. ALL TERMINALS SHALL BE NUMBERED AND LABELED. ALL CONNECTIONS SHALL BE EITHER SOLDERED, APPROVED TERMINAL STRIPS OR SCOTCH LOCKS.
- ALL LOW VOLTAGE FIRE ALARM CONDUCTORS SHALL BE PROTECTED BY EITHER BUILDING CONSTRUCTION OR CONDUIT TO 7 FEET ABOVE THE FINISHED FLOOR. SUPPRESSION AND EXTINGUISHING SYSTEM WIRING, MECHANICAL AND ELECTRICAL ROOMS AND OTHER LOCATIONS SUBJECT TO MECHANICAL DAMAGE SHALL BE IN FULL RIGID CONDUIT. IN ALL OTHER AREAS, NEW JERSEY APPROVED WIRE MAY BE RUN WITHOUT CONDUIT ABOVE 7 FT. PROVIDED IT MEETS NEW JERSEY ELECTRICAL CODE ARTICLE 760 AND CONNECTS TO BUILDING CONSTRUCTION USING A NEW JERSEY APPROVED MEANS.
- FIRE ALARM CABLES SHALL NOT BE MIXED WITH NON FIRE ALARM CABLING. LOW VOLTAGE FIRE ALARM CABLING SHALL NOT BE MIXED OR WIRED NEAR ANY AC CIRCUIT.
- ALL LOW VOLTAGE WIRING SHALL BE FPLP 150 DEGREE C NEW JERSEY CERTIFIED WIRE. ALL NOTIFICATION CIRCUITS SHALL BE A MINIMUM OF 14 AWG AND ALL OTHER LOW VOLTAGE FIRE ALARM CIRCUITS SHALL BE 16 AWG MINIMUM.
- VERTICAL RISER CABLE FOR ALL SYSTEMS THAT INCLUDE STAGED EVACUATION (ANYTHING OTHER THAN A GENERAL ALARM SEQUENCE) SHALL BE INSTALLED IN A 2 HOUR RATED SHAFT OR ENCLOSURE OR WRAPPED WITH A 2 HOUR RATED MATERIAL. COORDINATE WITH STRUCTURAL ENGINEER IF ENCASED IN CONCRETE.
- POLARITY SHALL BE OBSERVED ON ALL CIRCUITS. T-TAPPING SHALL NOT BE ALLOWED ON ANY NOTIFICATION CIRCUITS (HORN, STROBE OR SPEAKER). T-TAPPING SHALL NOT BE PERMITTED ON ADDRESSABLE CIRCUITS WITHOUT THE EXPRESS PERMISSION OF THE ENGINEER.
- ALL WIRING SHALL BE INSPECTED TO ASSURE THERE ARE NO OPENS, SHORTS OR EARTH GROUNDS.
- SHIELDED CONDUCTORS OR RUNNING IN SEPARATE RACEWAY SHALL BE AS INSTRUCTED BY THE FIRE ALARM MANUFACTURER'S DOCUMENTATION. ALL NON-POWER LIMITED WIRING, INCLUDING CIRCUITS FOR CENTRALIZED AMPLIFIERS SHALL BE RUN IN A SEPARATE RACEWAY (NOTE: CENTRALIZED AMPLIFIERS "AMP RACKS" ARE NOT PERMITTED ON NEW SYSTEMS).
- FIRE ALARM EQUIPMENT SHALL BE POWERED THROUGH AN APPROVED FUSE DISCONNECT SWITCH (FDS) CONNECTED AHEAD OF THE MAIN SERVICE SWITCH. THE FDS SHALL BE HEAVY DUTY (200,000 RMS SHORT CIRCUIT AMPS) SAFETY SWITCH @30 AMPS MINIMUM, PAINTED RED, INCLUDE A GROUND AND NEUTRAL KIT WITH GROUNDING SCREW (TO BOND NEUTRAL), INCLUDE A PADLOCK WITH Y1 CYLINDER KEYS TO A NEW JERSEY/FIRE DEPARTMENT NEW JERSEY KEY. ALL WIRING SHALL BE #10 MINIMUM THHN OR EQUIVALENT RUN IN ¾ INCH EMT/RGS AND IN ACCORDANCE WITH NEW JERSEY REQUIREMENTS. THE GROUND TO THE FDS SHALL BE MADE USING A NEW JERSEY ACCEPTED METHOD (SEE NEW JERSEY ELECTRICAL CODE), AND THE GROUND WIRE TO THE FDS SHALL BE #8 MINIMUM (LARGER IF NECESSARY TO MEET FEED SIZE). THE EQUIPMENT GROUND LEAVING FROM THE FDS CONNECTING TO THE FIRE ALARM EQUIPMENT SHALL INCLUDE A #10 GREEN GROUND. THE FDS PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED DISCONNECT".
- WHERE ADDITIONAL CIRCUITS ARE REQUIRED BY THE FIRE ALARM SYSTEM, A FUSED CUTOFF, PROPERLY SIZED SHALL BE INCLUDED, WIRED AFTER THE FDS. THE SIZE OF THE FUSES SHALL BE SIZED APPROPRIATELY BUT BE TWENTY (20) AMPERES MINIMUM AND EACH CIRCUIT SHALL ONLY FEED ONE "INDIVIDUAL" FIRE ALARM SYSTEM COMPONENT. THE FUSED CUT-OUT PANEL SHALL BEAR AN ENGRAVED WHITE-CORE PHENOLIC OR BAKELITE IDENTIFICATION NAMEPLATE STATING IN MINIMUM ONE-QUARTER INCH (1/4") HIGH WHITE LETTERS ON A RED BACKGROUND "FIRE ALARM FUSED CUT-OUT". THE NEUTRAL SHALL NOT BE BONDED IN THE FUSED CUTOFF.
- A CENTRAL STATION DIALER AND TWO DEDICATED PHONE LINES SHALL BE PROVIDED INTEGRAL TO THE FIRE ALARM CONTROL PANEL. THE DIALER SHALL BE CAPABLE OF SENDING THE FOLLOWING EVENTS: ALARM, MANUAL STATION, WATERFLOW, SUPERVISORY, CARBON MONOXIDE, TROUBLE, PUMP RUNNING AND PUMP TROUBLE.
- ALL AREA OR DUCT SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC TYPE.
- SMOKE DETECTORS MUST BE MOUNTED AT LEAST 3 FT AWAY FROM ANY AIR REGISTER.
- ALL CEILING MOUNT DEVICES MUST BE SECURELY FASTENED TO BUILDING CONSTRUCTION.
- DEVICE LOCATIONS MUST BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
- MANUAL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR TO THE HANDLE OF THE STATION AND SHALL BE PAINTED FIRE DEPARTMENT RED. ALL MANUAL STATION SHALL BE INSTALLED SO THAT THEY ARE KEPT UN-OBSTRICTED AT ALL TIMES.
- ALL STROBE LIGHTS SHALL BE UL-1971 APPROVED/LISTED. THE MINIMUM CANDELA IS 15 UNLESS OTHERWISE NOTED.
- NOTIFICATION DEVICES THAT INCLUDE A STROBE SHALL BE MOUNTED 80 INCHES OFF THE FINISHED FLOOR TO THE BOTTOM OF THE STROBE, NOT NECESSARILY THE ELECTRICAL BOX.
- ALL AUXILIARY RELAYS FOR FAN SHUTDOWN, DOOR RELEASE, DAMPER CONTROL, ELEVATOR CONTROL, ETC SHALL BE WIRED A MAXIMUM OF 3 FT FROM THE CONTROLLED DEVICE. THE AUXILIARY RELAY SHALL FUNCTION WITHIN THE REQUIRED VOLTAGE AND CURRENT OF THE CONTROLLED DEVICE. SLAVE OR INTERPOSING RELAYS SHALL BE INCLUDED AND POWERED BY THE FIRE ALARM CONTROL PANEL IN A FAIL-SAFE (FIRE FUNCTION) POSITION. POWER TO THE INTERPOSING RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
- THE AHJ (NEWARK FIRE DEPARTMENT) SHALL APPROVE THE PLANS PRIOR TO THE BEGINNING OF ANY WORK.
- LOCATIONS OF ALL FIRE ALARM EQUIPMENT SHALL BE SUBJECT TO THE DEPARTMENT OF BUILDINGS AND NEWARK FIRE DEPARTMENT/AHJ APPROVAL. NO CHANGE OR MODIFICATION TO THE SYSTEM OR PLANS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. IF ANY CHANGES ARE MADE TO THE DRAWINGS PRIOR TO OR DURING INSTALLATION, AS BUILT PLANS SHALL BE PREPARED BY THE ENGINEER AND FILED WITH THE APPROPRIATE NEWARK (NEW JERSEY) AGENCIES FOR FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL RETAIN A NEW JERSEY STATE PE TO SIGN AND SEAL ALL NECESSARY DOCUMENTS REQUIRED FOR INSPECTION AND TO OBTAIN A FINAL LETTER OF APPROVAL. THIS SHALL INCLUDE A SIGNED AND SEALED 11X17 AS-BUILT DRAWING, STATEMENT OF OPERATION, AN NFPA PROGRAMMING MATRIX, AND THE CONTRACTORS SIGNED AND SEALED FORM. THESE DOCUMENTS SHALL BE SUBMITTED AS NECESSARY TO THE NEWARK FIRE DEPARTMENT/AHJ, DEPARTMENT OF BUILDINGS TO OBTAIN A FIRE ALARM INSPECTION. IF A LETTER OF DEFECT IS ISSUED, THE CONTRACTOR SHALL CORRECT ALL ITEMS AND SUBMIT A SIGNED AND SEALED CERTIFICATE OF CORRECTION TO THE NEW JERSEY FIRE DEPARTMENT TO OBTAIN A FINAL LETTER OF APPROVAL AT NO ADDITIONAL COST. PROVIDE AS-BUILT DRAWINGS TO BE FILED BY EOR.
- BOOSTER POWER SUPPLIES SHALL BE PROVIDED AS NECESSARY FOR STROBE CIRCUIT DRAW AND LENGTHY STROBE CIRCUIT RUNS. PROVIDE A SEPARATE 120V POWER FEED FOR EACH BOOSTER AS WELL AS A SMOKE DETECTOR MOUNTED DIRECTLY ABOVE IT.
- ANY FIRE ALARM WORK AFFECTING LANDLORD'S BASE BUILDING OUTSIDE LEASED SPACE WILL BE REQUIRED TO PERFORMED BY A LANDLORD DESIGNATED OR LANDLORD APPROVED CONTRACTOR AND BE ENGAGED BY THE TENANT AT THE TENANTS EXPENSE.
- AUDIBLE NOTIFICATION DESIGN GOALS FOR THIS PROJECT ARE AS FOLLOWS:

Audible Notification Devices - Design Criteria	Ambient Level	Design Goal
Offices	55dBA	> 70dBA
Corridors	55dBA	> 70dBA
Classrooms	45dBA	> 60dBA
Mechanical Rooms	85dBA	> 100dBA
Places of Assembly	55dBA	> 70dBA
Institutional	50dBA	> 65dBA
Mercantile	40dBA	> 55dBA

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NUMBER	DATE	REVISION TABLE		DESCRIPTION
		REVISED BY	DESCRIPTION	
01	2023-02-28	NYE	LL REVIEW SET	
02	2023-03-21	NYE	PERMIT SET	

NOTES:

PROJECT DESCRIPTION:
 RESTAURANT FIT OUT FOR:


DATE: 02-01-2023

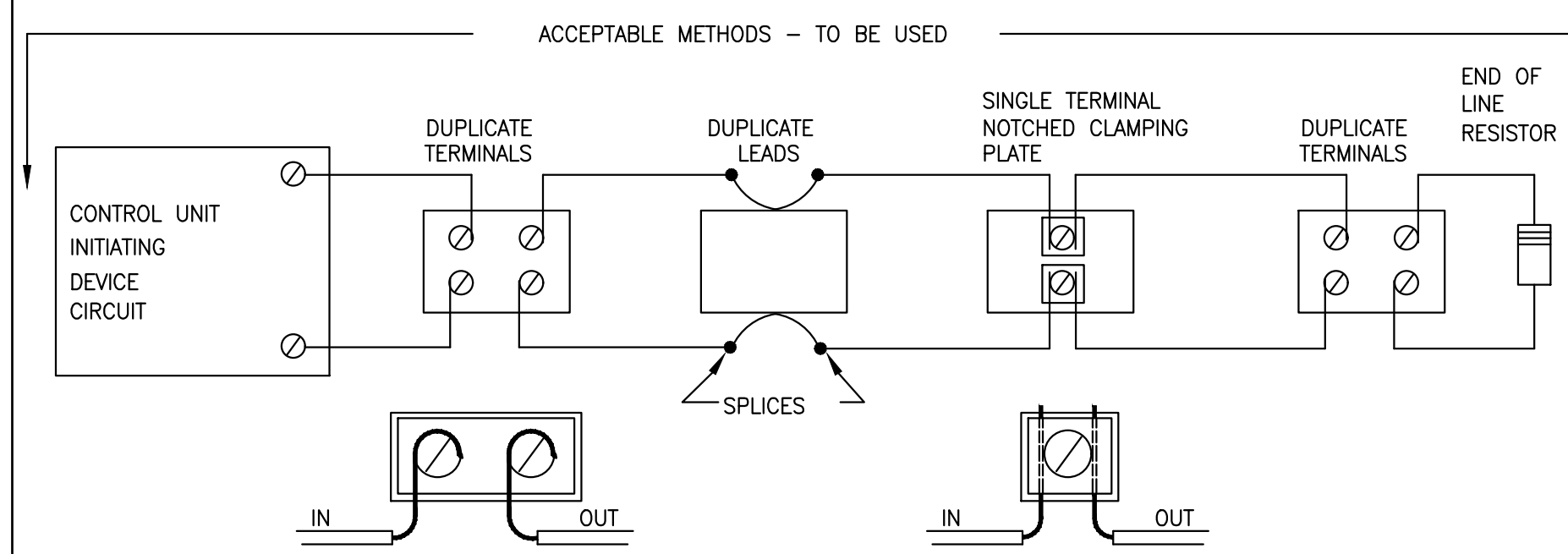
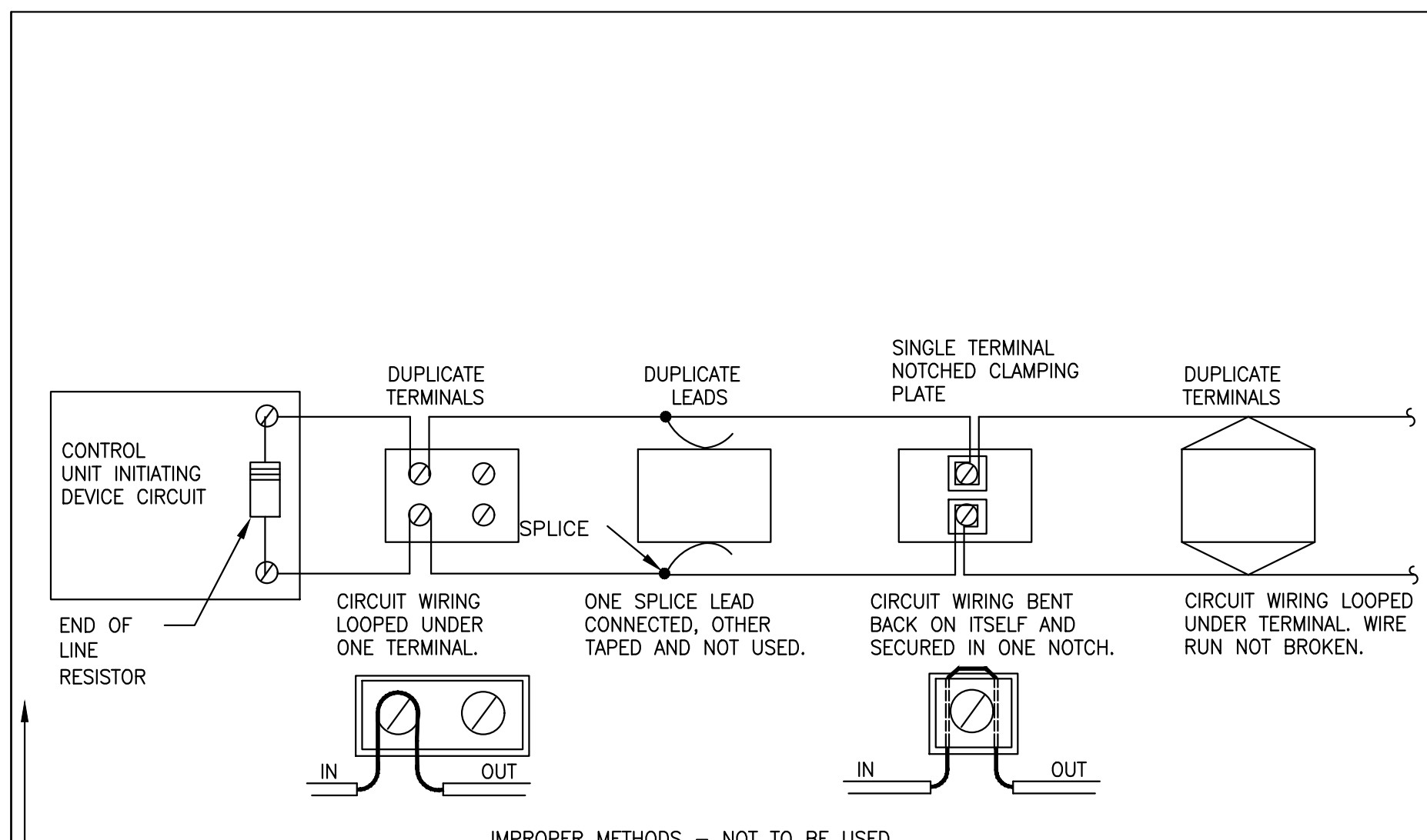
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SCALE: AS NOTED

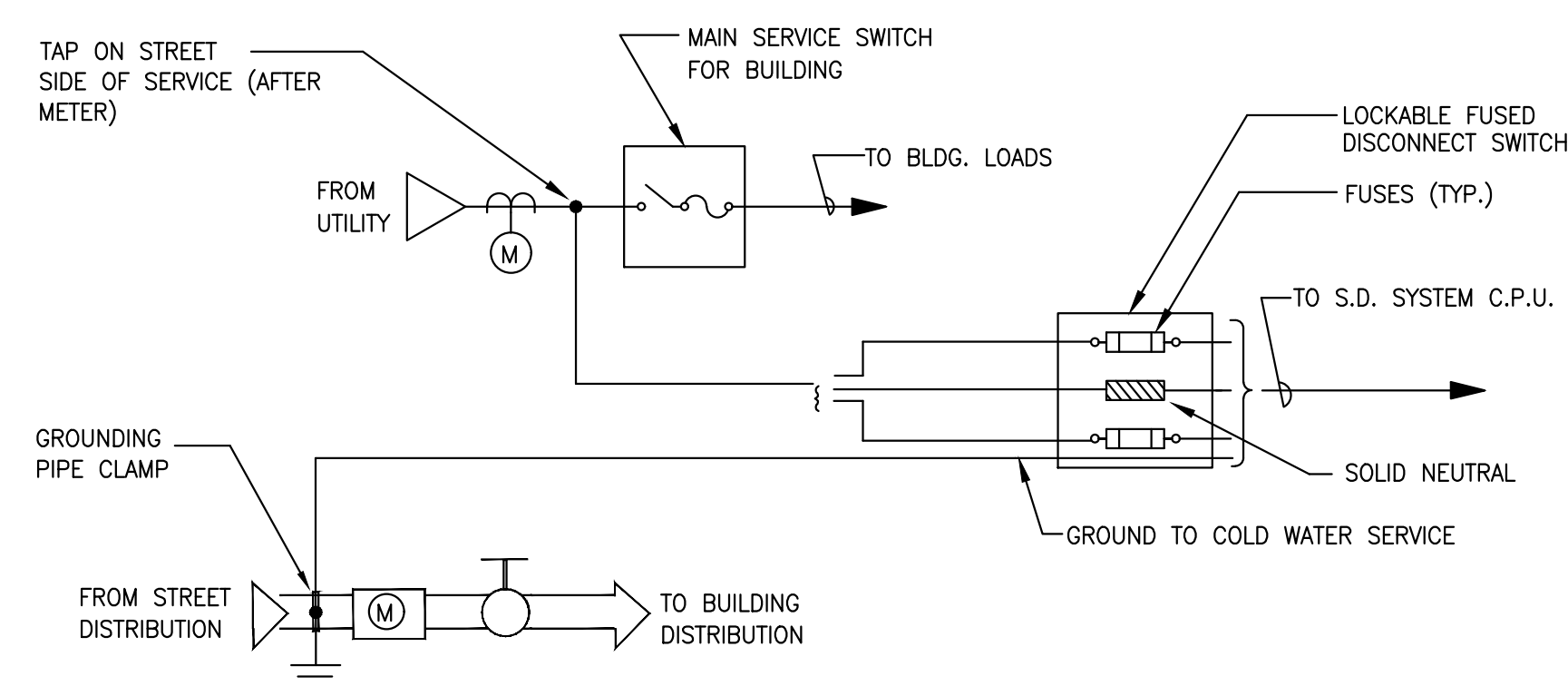
JOB #:

SHEET:

FA002



1 WIRING TERMINATION METHOD
FA-003 N.T.S



- NOTES:
1. ALL CONDUCTORS (INCLUDING SERVICE TAP) MUST BE IN RIGID CONDUIT.
 2. PROVIDE ENGRAVED LABELS FOR ALL EQUIPMENT.

2 FIRE ALARM CONTROL PANEL ELECTRICAL SERVICE DETAILS
FA-003 N.T.S

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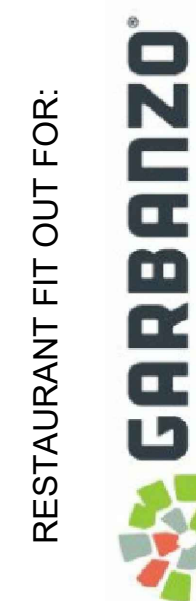
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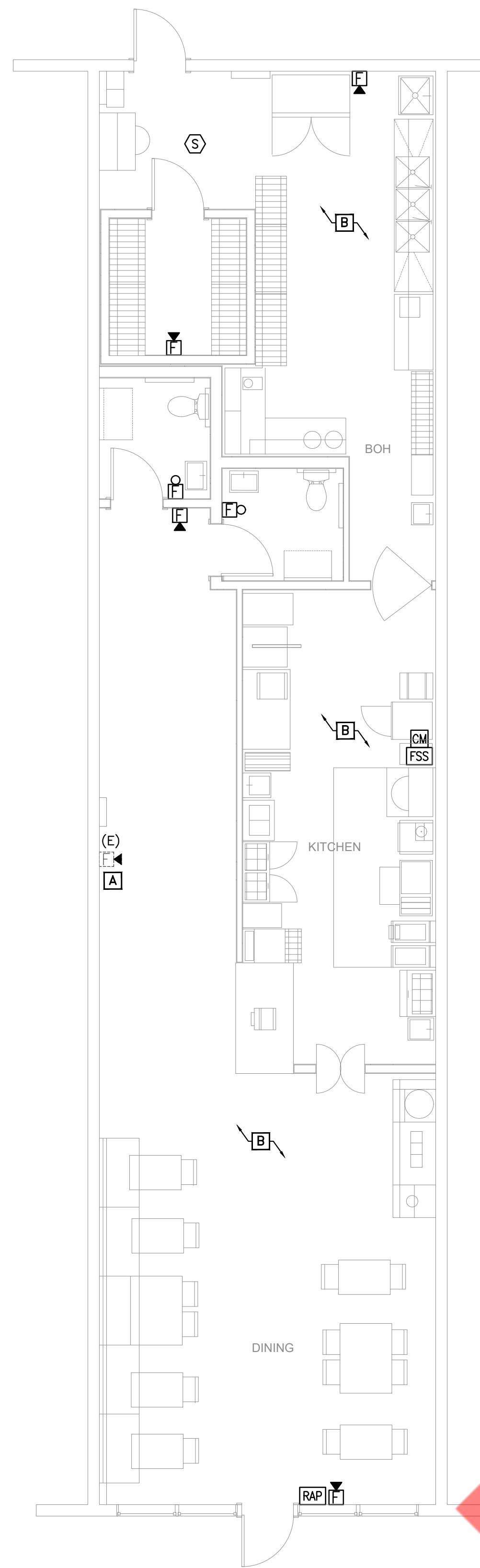
DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

FA003



1 FIRE ALARM PLAN
3/16" = 1'-0"

DRAWING NOTES:

1. REFER TO DWG. FA-001 FOR FIRE ALARM NOTES, SYMBOL LIST, ABBREVIATIONS & FIRE ALARM SYSTEM RISER DIAGRAM.
2. REFER TO DWG. FA-002 & FA-003 FOR FIRE ALARM GENERAL NOTES AND FIRE ALARM DETAILS.
3. FINAL CONDUIT/CABLE ROUTING SHALL BE DETERMINED IN-FIELD, AND PRIOR TO THE COMMENCEMENT OF WORK, COORDINATED WITH OTHER TRADE CONTRACTORS.

KEY NOTES:

- A** EXISTING WALL MOUNTED SPEAKER/STROBE COMBINATION DEVICE TO REMAIN. E.C. TO VERIFY THE OPERABLE CONDITION OF SPEAKER/STROBE COMBINATION DEVICE. REPLACE IF FOUND INOPERABLE.
- B** E.C. SHALL COORDINATE WITH ARCHITECT FOR THE FIRE+SMOKE DAMPERS.

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DATE: 02-01-2023

DRAWN BY: NYE

SCALE: AS NOTED

JOB #:

SHEET:

FA100