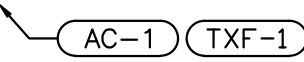






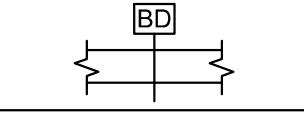
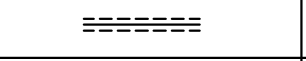
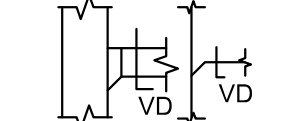
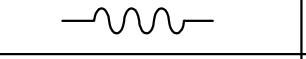

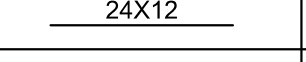
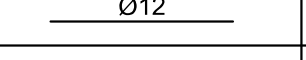
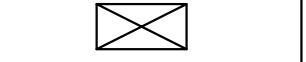
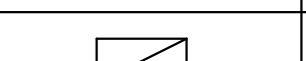
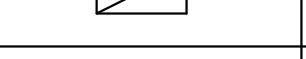


MECHANICAL SYMBOLS LIST		CONTROLS AND SENSORS	
	EQUIPMENT SYMBOL		THERMOSTAT
AIR DEVICES			DUCT SMOKE DETECTOR
	CEILING DIFFUSER SUPPLY		HOOD TEMPERATURE SENSOR
	CEILING DIFFUSER RETURN		MANUAL ON/OFF SWITCH FOR HOOD
DUCT ACCESSORIES		DUCTWORK	
	BACKDRAFT DAMPER		AIR DUCT W/ 1.5" ACOUSTICAL LINING
	VOLUME DAMPER W/ ACCESS DOOR		FLEXIBLE DUCT
			FLEXIBLE CONNECTION
			RECTANGULAR DUCT (WIDTH X DEPTH)
			ROUND DUCT (DIAMETER)
			SUPPLY AIR RECTANGULAR DUCT CROSS SECTION
			RETURN AIR RECTANGULAR DUCT CROSS SECTION
			ROUND DUCT CROSS SECTION

MECHANICAL ABBREVIATIONS	
BD	BACKDRAFT DAMPER
RTU	ROOF TOP UNIT
VD	VOLUME DAMPER
CFM	CUBIC FEET PER MINUTE
COP	COEFFICIENT OF PERFORMANCE
EA	EXHAUST AIR
FC	FLEXIBLE CONNECTION
IEER	INTEGRATED ENERGY EFFICIENCY RATIO
OA	OUTSIDE AIR
RA	RETURN AIR
SA	SUPPLY AIR
SP	STATIC PRESSURE
CDS	CEILING DIFFUSER SUPPLY
CDR	CEILING DIFFUSER RETURN
MAU	MAKE-UP AIR UNIT
KEF	KITCHEN EXHAUST FAN
TEF	TOILET EXHAUST FAN

GENERAL ABBREVIATIONS	
DN	DOWN
EFF	EFFICIENCY
UP	UP
EQUIP	EQUIPMENT
EXH	EXHAUST
(E)	EXISTING
FPM	FEET PER MINUTE
FT	FEET
HP	HORSEPOWER
HZ	HERTZ
IN	INCHES
KW	KILOWATT
LB	POUND
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MCA	MINIMUM CIRCUIT AMPS
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM
MOC	MAXIMUM OVERCURRENT PROTECTION
N/A	NOT APPLICABLE
NTS	NOT TO SCALE
PH	PHASE
PLBG	PLUMBING
RPM	REVOLUTIONS PER MINUTE
SPEC	SPECIFICATION SHEET
SF	SQUARE FEET
TEMP	TEMPERATURE
TON	TONS OF REFRIGERATION
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
WB	WET BULB TEMPERATURE

GENERAL NOTES

- CONTRACTOR SHALL SURVEY THE AREA OF THIS WORK BEFORE SUBMITTING A BID AND SHALL BE RESPONSIBLE FOR NOTIFYING THE ARCHITECT OF ANY CONDITIONS WHICH WOULD PREVENT THE INSTALLATION OF THE WORK AS SHOWN ON DRAWINGS.
- ALL APPLICABLE CODES, LAWS AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR WHO SHALL INFORM THE OWNER, PRIOR TO SUBMITTING A PROPOSAL, OF ANY WORK OR MATERIALS WHICH VIOLATE ANY OF THE ABOVE LAWS AND REGULATIONS. ANY WORK DONE BY THE CONTRACTOR CAUSING SUCH VIOLATION SHALL BE CORRECTED BY THE CONTRACTOR.
- BEFORE PROCEEDING WITH ANY WORK IN OCCUPIED OR USED AREAS, THE CONTRACTOR SHALL APPLY TO OWNER FOR PERMISSION TO ENTER SUCH AREAS. THE CONTRACTOR IS OBLIGED TO PERFORM HIS WORK ONLY AT THE TIMES DESIGNATED BY OWNER. THERE WILL BE NO ADDITIONAL COMPENSATION FOR THE WORK PERFORMED AFTER HOURS OR ON OFF-DAYS WITHOUT PRIOR WRITTEN APPROVAL.
- THE WORK IN THE BUILDING SHALL BE DONE WHEN AND AS DIRECTED, AND IN A MANNER SATISFACTORY TO THE OWNER. THE WORK SHALL BE PERFORMED SO AS TO CAUSE THE LEAST POSSIBLE INCONVENIENCE AND DISTURBANCE TO THE PRESENT OCCUPANTS.
- THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK IN OVERTIME AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
- CONTRACTOR SHALL ASCERTAIN THE APPROPRIATE METHOD FOR BRINGING THE UNITS INTO AND THROUGH THE BUILDING TO POSITION UNIT IN LOCATION SHOWN ON THE PLANS. WHERE NECESSARY, EQUIPMENT SHALL BE SHIPPED FROM MANUFACTURER IN SECTIONS OF SIZE SUITABLE FOR MOVING THROUGH RESTRICTIVE SPACES. COORDINATE WITH BUILDING OWNER APPROPRIATE TIMES OF DAY SUCH EQUIPMENT MAY BE MOVED THROUGH ALL AREAS.
- DISCONNECT, REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW SYSTEM.
- WHERE PENETRATIONS THROUGH FIRE RATED WALLS ARE NOT FIRE PROOFED THIS CONTRACTOR SHALL BE RESPONSIBLE TO SEAL SAME TO MAINTAIN THE RATED INTEGRITY.
- CONNECT NEW WORK TO EXISTING WORK IN NEAT AND APPROVED MANNER. RESTORE EXISTING WORK DISTURBED WHILE INSTALLING NEW WORK TO ACCEPTABLE CONDITION AS DETERMINED BY ARCHITECT.
- PLAN INSTALLATION OF NEW WORK AND CONNECTIONS TO EXISTING WORK TO INSURE MINIMUM INTERFERENCE WITH REGULAR OPERATION OF EXISTING FACILITIES. ALL SYSTEM SHUTDOWNS AFFECTING OTHER AREAS SHALL BE COORDINATED WITH BUILDING OWNER. INSTALL ISOLATION VALVES AT POINT OF CONNECTION TO THE EXISTING PIPING. PROVIDE TEMPORARY DUCT CAPS AND/OR CONNECTIONS TO MINIMIZE SHUTDOWN TIME.
- SUPPORT ALL DUCTWORK AND PIPING FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSERTS SHALL BE STEEL, SLOTTED TYPE AND FACTORY PAINTED. MULTI-ROD SHALL BE SIMILAR TO FEE & MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS. MAXIMUM LOADING INCLUDING PIPES, DUCTWORK CONTENTS AND COVERING SHALL NOT EXCEED 75% OF RATED INSERT CAPABILITY. WHEN SUPPORTING FROM BUILDING USE BEAM CLAMPS IN APPROVED MANNER.
- PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THIS BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF PIPES, DUCTS, LOUVERS, CONDUIT, AND EQUIPMENT. PROVIDE EQUIPMENT CURBS AND DUNNAGE STEEL AS REQUIRED.
- SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL (FIBERGLASS INSULATION IS NOT ACCEPTABLE).
- INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWINGS MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
- ACCESS DOORS ARE REQUIRED FOR ALL BUILDING SERVICE VALVES THAT RUN THROUGH THE SPACE AND ACCESS DOOR SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL. COORDINATE ALL LOCATIONS OF ACCESS DOORS WITH THE ARCHITECT.
- REMOVABLE ACCESS TILE AND/OR ACCESS DOOR ARE REQUIRED IN HUNG CEILINGS, SHAFTS AND WALLS FOR ALL VOLUME AND FIRE DAMPERS, AUTOMATIC DAMPERS AND ALL OTHER MECHANICAL EQUIPMENT AND DEVICES. HVAC CONTRACTOR TO FURNISH ACCESS LOCATION REQUIREMENTS TO GENERAL CONTRACTOR. ACCESS TILE IDENTIFICATION: PROVIDE BUTTONS, TABS, AND MARKERS TO IDENTIFY LOCATION OF CONCEALED VALVES, DAMPERS AND EQUIPMENT.
- THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING, EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
- UNLESS OTHERWISE SPECIFICALLY SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
- MATERIALS AND WORKMANSHIP, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- ALL EQUIPMENT SHALL BE PROVIDED WITH ONE YEAR WARRANTY PARTS AND LABOR AND FIVE YEARS ON COMPRESSORS. WARRANTY PERIOD BEGINS UPON PROJECT ACCEPTANCE
- ALL MATERIAL AND EQUIPMENT TO BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS WORK WITH ITS COMPLETION AND FINAL ACCEPTANCE AND SHALL REPLACE ANY OF THE SAME WHICH MAY BE DAMAGED, LOST, OR STOLEN WITHOUT ADDITIONAL COST TO THE OWNER.

MECHANICAL DRAWING LIST	
M0.1	MECH. GENERAL NOTES, SYMBOLS LIST & ABBREVIATIONS
M0.2	MECHANICAL SPECIFICATIONS
M1.0	MECHANICAL FLOOR & ROOF PLANS
M3.0	MECHANICAL DETAILS
M4.0	MECHANICAL SCHEDULES
H1.0	KITCHEN HOOD DRAWINGS (1 OF 5)
H1.1	KITCHEN HOOD DRAWINGS (2 OF 5)
H1.2	KITCHEN HOOD DRAWINGS (3 OF 5)
H1.3	KITCHEN HOOD DRAWINGS (4 OF 5)
H1.4	KITCHEN HOOD DRAWINGS (5 OF 5)

GEORGIA STATE BUILDING DEPARTMENT NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE SECTIONS OF INTERNATIONAL BUILDING CODE 2018 (IBC 2018) AND ALL AMENDMENTS 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 INTERNATIONAL BUILDING CODE 2018 (IBC 2018).
- 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 SECTION MC 107 AND THE FOLLOWING SECTIONS OF THE INTERNATIONAL BUILDING CODE 2018 (IBC 2018).
 - REFRIGERATION SYSTEMS - INTERNATIONAL MECHANICAL CODE 403.8.
 - VENTILATION SYSTEM BALANCING MC 403.8.
- THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
 - STANDARDS OF HEATING - INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 309.1
 - DUCT CONSTRUCTION AND INSTALLATION - INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 603
 - AIR INTAKES, EXHAUSTS AND RELIEF - INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 401.5
 - AIR FILTERS - INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 605.
 - GAS FIRED EQUIPMENT - INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 901.
- MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 68 DEG. FAHRENHEIT.
- VENTILATION FOR ALL AREA SHALL COMPLY WITH INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 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 INTERNATIONAL MECHANICAL CODE 2018 (IMC 2018) - SECTION 403.3.
- REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
- 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.
- ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

CODE COMPLIANCE

ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THESE PROJECT:

- GEORGIA STATE MINIMUM STANDARD ENERGY CODE 2015, (BASE CODE - IECC 2015)
- 2018 INTERNATIONAL BUILDING CODE
- 2018 INTERNATIONAL FIRE CODE.
- 2018 INTERNATIONAL MECHANICAL CODE.
- 2018 INTERNATIONAL FUEL GAS CODE.

MECHANICAL NOTES

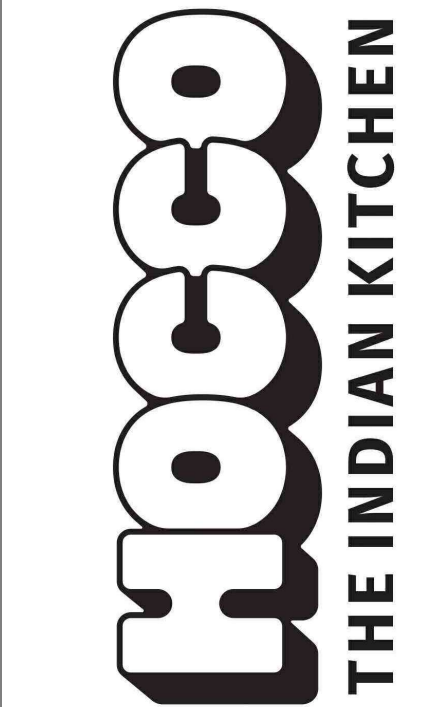
GENERAL:

- PROVIDE ALL MATERIAL AND EQUIPMENT AND PERFORM ALL LABOR REQUIRED TO INSTALL COMPLETE AND OPERABLE MECHANICAL SYSTEMS AS INDICATED ON THE DRAWINGS, AS SPECIFIED AND AS REQUIRED BY CODE.
- CONTRACT DOCUMENT DRAWINGS FOR MECHANICAL WORK (HVAC, PLUMBING, AND FIRE PROTECTION) ARE DIAGRAMMATIC AND ARE INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT ONLY.
- THE LOCATIONS OF ALL ITEMS SHOWN ON THE DRAWINGS OR CALLED FOR IN THE SPECIFICATIONS THAT ARE NOT FIXED BY DIMENSIONS ARE APPROXIMATE ONLY. THE EXACT LOCATIONS NECESSARY TO SECURE THE BEST CONDITIONS AND RESULTS MUST BE DETERMINED BY THE PROJECT SITE CONDITIONS AND SHALL HAVE THE APPROVAL OF THE ENGINEER BEFORE BEING INSTALLED. DO NOT SCALE DRAWINGS.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS APPROXIMATELY SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PAY FOR AND REPAIR ALL DAMAGES CAUSED BY FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES UNLESS OTHERWISE INDICATED.
- WHEN MECHANICAL WORK (HVAC, PLUMBING, SHEET METAL, FIRE PROTECTION, ETC.) IS SUBCONTRACTED, IT SHALL BE THE MECHANICAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE SUBCONTRACTORS AND THE ASSOCIATED CONTRACTS. WHEN DISCREPANCIES ARISE PERTAINING TO WHICH CONTRACTOR PROVIDES A PARTICULAR ITEM OF THE MECHANICAL CONTRACT OR WHICH CONTRACTOR PROVIDES FINAL CONNECTIONS FOR A PARTICULAR ITEM OF THE MECHANICAL CONTRACT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE MECHANICAL CONTRACTOR, WHOSE DECISION SHALL BE FINAL.
- COORDINATE CONSTRUCTION OF ALL MECHANICAL WORK WITH ARCHITECTURAL, STRUCTURAL, CIVIL, ELECTRICAL WORK, ETC., SHOWN ON OTHER CONTRACT DOCUMENT DRAWINGS.
- INSTALL ALL MECHANICAL EQUIPMENT AND APPURTENANCES IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, CONTRACT DOCUMENTS, AND APPLICABLE CODES AND REGULATIONS.
- WHERE TWO OR MORE ITEMS OF THE SAME TYPE OF EQUIPMENT ARE REQUIRED, THE PRODUCT OF ONE MANUFACTURER SHALL BE USED.
- COORDINATE ALL EQUIPMENT CONNECTIONS WITH MANUFACTURER'S CERTIFIED DRAWINGS. COORDINATE AND PROVIDE ALL DUCT AND PIPING TRANSITIONS REQUIRED FOR FINAL EQUIPMENT CONNECTIONS TO FURNISHED EQUIPMENT. FIELD VERIFY AND COORDINATE ALL DUCT AND PIPING DIMENSIONS BEFORE FABRICATION.
- ALL CONTROL WIRE AND CONDUIT SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE AND ELECTRICAL DIVISION OF THE SPECIFICATION.
- PROVIDE VIBRATION ISOLATION FOR ALL MECHANICAL EQUIPMENT TO PREVENT TRANSMISSION OF VIBRATION TO BUILDING STRUCTURE.
- PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS CONNECTED TO, AND WITHIN 50 FT. OF ISOLATED EQUIPMENT (EXCEPT AT BASE ELBOW SUPPORTS AND ANCHOR POINTS) THROUGHOUT MECHANICAL EQUIPMENT ROOMS. DO THE SAME FOR SUPPORTS OF STEAM MAINS WITHIN 50 FT. OF BOILER OR PRESSURE-REDUCING VALVES.
- PROVIDE VIBRATION ISOLATORS FOR ALL PIPING SUPPORTS OF STEAM MAINS WITHIN 50 FT. OF BOILERS AND PRESSURE-REDUCING VALVES.
- MAINTAIN A MINIMUM 6"-8" CLEARANCE TO THE UNDERSIDE OF PIPES, DUCTS, CONDUITS, SUSPENDED EQUIPMENT, ETC., THROUGHOUT ACCESS ROUTES IN MECHANICAL ROOMS.
- LOCATE ALL TEMPERATURE, PRESSURE, AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH THE STRAIGHT SECTION OF PIPE OR DUCT UP- AND DOWNSTREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
- ALL MECHANICAL ROOM DOORS SHALL BE A MINIMUM OF 4'-0" WIDE.
- WHERE BEAMS ARE INDICATED TO BE PENETRATED WITH DUCTWORK OR PIPING, COORDINATE DUCTWORK AND PIPING LAYOUT WITH BEAM OPENING SIZE AND OPENING LOCATIONS. COORDINATION SHALL BE DONE PRIOR TO THE FABRICATION OF DUCTWORK, CUTTING OF PIPING, OR FABRICATION OF BEAMS.
- ALL MISCELLANEOUS STEEL REQUIRED TO ENSURE PROPER INSTALLATION AND AS SHOWN IN THE DETAILS FOR PIPING, DUCTWORK, AND EQUIPMENT (UNLESS OTHERWISE NOTED) SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
- PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, AND OTHER CONCEALED MECHANICAL EQUIPMENT. ACCESS PANELS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR INSTALLATION. ACCESS PANELS SHALL HAVE THE EQUAL RATED CAPACITY (1HR, 2HR, ETC.) AS WALL.
- MECHANICAL EQUIPMENT, DUCTWORK, AND PIPING SHALL NOT BE SUPPORTED FROM A METAL DECK.
- ALL EQUIPMENT, PIPING, DUCTWORK, ETC., SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION-FREE INSTALLATION.
- ALL DUCTWORK, PIPING, AND EQUIPMENT SUPPORTED FROM STRUCTURAL STEEL SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR. ALL ATTACHMENTS TO STEEL BAR JOISTS, TRUSSES, OR JOIST GIRDERS SHALL BE AT PANEL POINTS. PROVIDE BEAM CLAMPS MEETING MSS STANDARDS. WELDING TO STRUCTURAL MEMBERS SHALL NOT BE PERMITTED. THE USE OF C-CLAMPS SHALL NOT BE PERMITTED.
- ALL ROOF-MOUNTED EQUIPMENT CURBS FOR EQUIPMENT PROVIDED BY THE MECHANICAL CONTRACTOR SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR.
- LOCATIONS AND SIZES OF ALL FLOOR, WALL, AND ROOF OPENINGS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- ALL OPENINGS IN FIRE WALLS DUE TO DUCTWORK, PIPING, CONDUIT, ETC., SHALL BE FIRE STOPPED WITH A PRODUCT SIMILAR TO 3M OR APPROVED EQUAL.

SCOPE OF WORK

SCOPE OF WORK

- 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, RFIS, 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 OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES, BY OWNER, INCLUDED UNDER THE VARIOUS PARTS OF THE WORK, WHICHEVER DATE IS EARLIER. 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.



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

M0.1

MECH. GEN. NOTES, SYMBOLS & ABB.

SPECIFICATIONS

SECTION 0001 - NOTICE TO BIDDERS

1.1 BIDDERS REPRESENTATIONS

- A. THE BIDDER BY MAKING A BID REPRESENTS THAT: THE BIDDER HAS READ AND UNDERSTANDS THE BIDDING DOCUMENTS... B. THE BID IS MADE IN COMPLIANCE WITH THE BIDDING DOCUMENTS... C. THE SPECIFICATIONS AND DRAWINGS ARE INTENDED TO SERVE JOINTLY AS A BASIS FOR THE BIDDER TO SUBMIT A CONTRACT PRICE... D. SHOULD CONFLICTS OR DISCREPANCIES OCCUR WITHIN THE BIDDING DOCUMENTS... E. THE BID IS BASED UPON THE MATERIALS, EQUIPMENT AND SYSTEMS REQUIRED BY THE BIDDING DOCUMENTS WITHOUT EXCEPTION.

1.2 EXISTING CONDITIONS AND COORDINATION

- A. 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... B. THE BIDDER SHALL PROPOSE COORDINATION OF WORK SUCH THAT CONFLICTS WITH OTHER TRADES AND SPACE ALLOCATIONS ARE AVOIDED... C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT-DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE-ARRANGED WITH THE BUILDING MANAGER...

- A. 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... B. 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... C. THE BIDDER UNDERSTANDS THAT ANY PROPOSED SHUT-DOWN OF EXISTING SYSTEMS DURING CONSTRUCTION SHALL BE PRE-ARRANGED WITH THE BUILDING MANAGER...

- A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE... B. 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... C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

END OF SECTION 0001

SECTION 0101 - QUALITY OF WORK

1.1 WORKMANSHIP

- A. ALL WORK SHALL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE... B. 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... C. UPON COMPLETION OF THE WORK THE CONTRACTOR SHALL REMOVE FROM THE SITE, ALL TOOLS, DEMOLISHED APPLIANCES AND ANY SURPLUS MATERIAL.

1.2 CODE COMPLIANCE

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

END OF SECTION 0101

SECTION 0102 -REQUIRED DOCUMENTS

1.1 SHOP DRAWINGS

- A. 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

- A. 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

- A. 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

- A. 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... B. 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... C. THE INSTRUCTION BOOKLET SHALL BE ORGANIZED IN SECTIONS, WITH ONE SECTION PER SYSTEM. THE COVER OF THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND PHONE NUMBER OF THE PROJECT, ARCHITECT, ENGINEER, MECHANICAL CONTRACTOR AND SUBCONTRACTORS.

END OF SECTION 0102

SECTION 230517 - SLEEVES AND SLEEVE SEALS FOR HVAC PIPING

1.1 SLEEVE-SEAL SYSTEMS

- A. FIELD-ASSEMBLED, MODULAR SEALING-ELEMENT UNIT FOR FILLING ANNUAL SPACE BETWEEN PIPING AND SLEEVE. 1. SEALING ELEMENTS: EPDM RUBBER OR NBR. 2. PRESSURE PLATES: CARBON STEEL, PLASTIC, STAINLESS STEEL. 3. CONNECTING BOLTS AND NUTS: CARBON STEEL WITH CORROSION-RESISTANT COATING, STAINLESS STEEL... B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: 1. ADVANCE PRODUCTS & SYSTEMS, INC. 2. CALPICO, INC. 3. METRAFLEX COMPANY (THE). 4. PIPELINE SEAL AND INSULATOR, INC. 5. PROCO PRODUCTS, INC.

1.2 SLEEVE-SEAL FITTINGS

- A. MANUFACTURED PLASTIC, SLEEVE-TYPE, PLASTIC OR RUBBER WATER-STOP ASSEMBLY MADE FOR IMBEDDING IN CONCRETE SLAB OR WALL.

1.3 GROUT

- A. NON-SHRINK, FACTORY PACKAGED.

1.4 SLEEVE AND SLEEVE-SEAL SCHEDULE

- A. USE SLEEVES AND SLEEVE SEALS FOR THE FOLLOWING PIPING-PENETRATION APPLICATIONS: 1. INTERIOR PARTITIONS: a. PIPING SMALLER THAN NPS 6 (DN 150): GALVANIZED-STEEL-PIPE SLEEVES, PVC-PIPE SLEEVES. b. PIPING NPS 6 (DN 150) AND LARGER: GALVANIZED-STEEL-SHEET SLEEVES.

END OF SECTION 230517

SECTION 230518 - ESCUTCHEONS FOR HVAC PIPING

PART 2 - PRODUCTS

2.1 ESCUTCHEONS

- A. ONE-PIECE, CAST-BRASS TYPE: WITH POLISHED, CHROME-PLATED AND ROUGH-BRASS FINISH AND SETSCREW FASTENER... B. ONE-PIECE, DEEP-PATTERN TYPE: DEEP-DRAWN, BOX-SHAPED BRASS WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS... C. ONE-PIECE, STAMPED-STEEL TYPE: WITH CHROME-PLATED FINISH AND SPRING-CLIP FASTENERS.

2.2 FLOOR PLATES

- A. ONE-PIECE FLOOR PLATES: CAST-IRON FLANGE WITH HOLES FOR FASTENERS.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. INSTALL ESCUTCHEONS FOR PIPING PENETRATIONS OF WALLS, CEILINGS, AND FINISHED FLOORS... B. INSTALL ESCUTCHEONS WITH ID TO CLOSELY FIT AROUND PIPE, TUBE, AND INSULATION OF PIPING AND WITH OD THAT COMPLETELY COVERS OPENING.

1. ESCUTCHEONS FOR NEW PIPING:

- a. PIPING WITH FITTING OR SLEEVE PROTRUDING FROM WALL: ONE-PIECE, DEEP-PATTERN TYPE. b. INSULATED PIPING: ONE-PIECE, STAMPED-STEEL TYPE. c. BARE PIPING AT WALL AND FLOOR PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED, CHROME-PLATED FINISH OR STAMPED-STEEL TYPE. d. BARE PIPING AT CEILING PENETRATIONS IN FINISHED SPACES: ONE-PIECE, CAST-BRASS TYPE WITH POLISHED, CHROME-PLATED FINISH OR STAMPED-STEEL TYPE.

3.2 FIELD QUALITY CONTROL

- A. REPLACE BROKEN AND DAMAGED ESCUTCHEONS AND FLOOR PLATES USING NEW MATERIALS.

END OF SECTION 230518

SECTION 230529 - HANGERS AND SUPPORTS FOR HVAC PIPING AND EQUIPMENT

1.1 PERFORMANCE REQUIREMENTS

- A. 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... B. 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.

- 1. DESIGN SUPPORTS FOR MULTIPLE PIPES CAPABLE OF SUPPORTING COMBINED WEIGHT OF SUPPORTED SYSTEMS, SYSTEM CONTENTS, AND TEST WATER. 2. DESIGN EQUIPMENT'S SUPPORTS CAPABLE OF SUPPORTING COMBINED OPERATING WEIGHT OF SUPPORTED EQUIPMENT AND CONNECTED SYSTEMS. 3. DESIGN SEISMIC-RESTRAINT HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT AND OBTAIN APPROVAL FROM AUTHORITIES HAVING JURISDICTION.

1.2 SUBMITTALS

- A. SHOP DRAWINGS: SIGNED AND SEALED BY A PROFESSIONAL ENGINEER... 1.3 QUALITY ASSURANCE A. AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE - STEEL."... 1.4 COMPONENTS A. METAL PIPE HANGERS AND SUPPORTS: CARBON OR STAINLESS STEEL... B. TRAPEZE PIPE HANGERS: CARBON OR STAINLESS STEEL... C. FIBERGLASS PIPE HANGERS: -CLEVIS, CENTURY COMPOSITES, COOPER B-LINE... D. METAL FRAMING SYSTEMS: MFMA MANUFACTURER... E. FIBERGLASS STRUT SYSTEMS: COOPER B-LINE... F. THERMAL-HANGER SHIELD INSERTS: G. FASTENER SYSTEMS: POWDER-ACTUATED FASTENERS OR MECHANICAL-EXPANSION ANCHORS... H. PIPE STANDS: COMPACT, LOW TYPE, SINGLE PIPE, HIGH TYPE, SINGLE PIPE, HIGH TYPE, MULTIPLE PIPES, CURB-MOUNTED TYPE... I. EQUIPMENT SUPPORTS.

END OF SECTION 230529

SECTION 230548 - VIBRATION CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 COMPONENTS

- A. VIBRATION ISOLATORS: 1. ISOLATOR PADS: NEOPRENE, RUBBER, HERMETICALLY AND/OR SEALED COMPRESSED FIBERGLASS... 2. MOUNTS: DOUBLE-DEFLECTION TYPE... 3. RESTRAINED MOUNTS: ALL DIRECTIONAL MOUNTINGS WITH SEISMIC RESTRAINT; CAST-DUCTILE-IRON HOUSING... 4. SPRING ISOLATORS: FREESTANDING, LATERALLY STABLE, OPEN-SPRING TYPE... 5. RESTRAINED SPRING ISOLATORS: FREESTANDING, STEEL, OPEN-SPRING TYPE WITH SEISMIC RESTRAINT... 6. HOUSED SPRING MOUNTS: DUCTILE-IRON OR STEEL HOUSING, WITH INTEGRAL, VERTICALLY ADJUSTABLE SEISMIC SNUBBERS... 7. ELASTOMERIC HANGERS: DOUBLE-DEFLECTION TYPE... 8. SPRING HANGERS: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRINGS AND INSERT IN COMPRESSION... 9. SPRING HANGERS WITH VERTICAL-LIMIT STOP: COMBINATION COIL-SPRING AND ELASTOMERIC-INSERT HANGERS WITH SPRINGS AND INSERT IN COMPRESSION AND WITH VERTICAL-LIMIT STOP... 10. PIPE RISER RESILIENT SUPPORT: ALL-DIRECTIONAL, ACOUSTICAL PIPE ANCHOR... 11. RESILIENT PIPE GUIDES... B. AIR-MOUNTING SYSTEMS: 1. AIR MOUNTS: FREESTANDING, SINGLE OR MULTIPLE, COMPRESSED-AIR BELLOW... 2. RESTRAINED AIR MOUNTS: HOUSED COMPRESSED-AIR BELLOW... C. RESTRAINED VIBRATION ISOLATION ROOF-CURB RAILS: FACTORY-ASSEMBLED, FULLY ENCLOSED, INSULATED, AIR-AND WATER-TIGHT CURB RAIL; WITH SPRING ISOLATORS MOUNTED ON ELASTOMERIC ISOLATION PADS, AND SNUBBER BUSHINGS... D. VIBRATION ISOLATION EQUIPMENT BASES: 1. STEEL BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS... 2. INERTIA BASE: FACTORY-FABRICATED, WELDED, STRUCTURAL-STEEL BASES AND RAILS READY FOR FIELD-APPLIED, CAST-IN-PLACE CONCRETE.

END OF SECTION 230548

SECTION 230593 - TESTING, ADJUSTING, AND BALANCING FOR HVAC

1.1 SUMMARY

- A. TESTING, ADJUSTING, AND BALANCING FOR THE FOLLOWING:

- 1. AIR SYSTEMS: CONSTANT VOLUME... 1.2 QUALITY ASSURANCE A. THE CONTRACTOR SHALL PROCURE THE SERVICES OF A TESTING, ADJUSTING AND BALANCING (TAB) SPECIALIST WHO SPECIALIZES IN HEATING, VENTILATION AND AIR CONDITIONING SYSTEMS... 1.3 EXECUTION A. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL EXISTING AIR AND HYDRONIC SYSTEMS THAT ARE TO REMAIN OR TO BE INCORPORATED INTO NEW WORK PRIOR TO THE STARTING OF WORK IN THE PROJECT SCOPE... B. THE TAB SPECIALIST SHALL PERFORM FLOW MEASUREMENTS OF ALL NEW AIR AND HYDRONIC SYSTEMS AS LISTED ABOVE IN THE PROJECT SCOPE... C. THE REPORT SHALL INDICATE A SCHEMATIC DIAGRAM INDICATING LOCATIONS OF ALL EQUIPMENT TESTED AND MEASUREMENT LOCATIONS... D. PRIOR TO FINAL INSPECTION OF THE WORK, THE TAB SPECIALIST SHALL BALANCE ALL SYSTEMS AS INDICATED ABOVE TO THE REQUIREMENTS OF THE DESIGN... E. 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... F. THE CONTRACTOR SHALL HAVE THE TESTING AND BALANCING SPECIALIST COORDINATE ALL WORK OF THIS SECTION WITH THE BUILDING MANAGER... G. ALL INSTRUMENTS USED FOR TAB SHALL BE MAINTAINED IN GOOD WORKING CONDITION AND ACCURATELY CALIBRATED... H. TOLERANCES: PLUS OR MINUS 5 PERCENT OF DESIGN VALUES... I. INSPECTIONS: RANDOM CHECKS BY OWNER OR ARCHITECT TO VERIFY FINAL TESTING, ADJUSTING, AND BALANCING REPORT... J. ADDITIONAL TESTS: RANDOM TESTS WITHIN 90 DAYS OF COMPLETING TAB TO VERIFY BALANCE CONDITIONS AND SEASONAL TESTS.

END OF SECTION 230593

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, OUTSIDE OF BUILDING... 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-8 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 AND ASHRAE/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

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... B. ALL DUCTWORK SHALL BE CONSTRUCTED TO SMACNA 1" WG DESIGN AND NOT LESS THAN THE FOLLOWING STANDARDS:

- 1. CONSTRUCT SO THAT ALL INTERIOR SURFACES ARE SMOOTH, USE SLIP AND DRIVE OR FLANGED AND BOLTED CONSTRUCTION WHEN FABRICATING RECTANGULAR DUCTWORK... 2. SHEET STEEL SHALL COMPLY WITH ASTM A563 STANDARD SPECIFICATION FOR STEEL SHEET METAL ZINC COATED (GALVANIZED) OR ZINC IRON ALLOY-COATED (GALVANNEALED) BY HOT DIP PROCESS... 3. LONGITUDINAL SEAMS FOR RECTANGULAR DUCTWORK SHALL BE PITTSBURGH LOCK SEAMS WITH SEALING COMPOUND... 4. RECTANGULAR DUCTWORK 18 GAUGE AND HEAVIER, FILLER BEAMS SHALL BE IN ACCORDANCE WITH SPECIFICATIONS FOR IRON AND STEEL GAS WELDING RODS, ASTM 215; AVG AS.2... 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. PROVIDE TAPPING IN DUCTS FOR THERMOMETERS WHERE SPECIFIED. IN ADDITION, PROVIDE AN AIRTIGHT PLUGGED TAPPING LOCATED AS FOLLOWS: 1. UPSTREAM OF EACH REHEAT COIL AND VAV BOX. 2. DOWNSTREAM OF EACH REHEAT COIL AND VAV BOX.

- E. FLAT OVAL OR ROUND DUCTWORK MAY BE PROVIDED IN LIEU OF RECTANGULAR DUCTWORK WITH THE REINFORCEMENT FOR FLAT SIDES SAME AS SPECIFIED FOR THE RECTANGULAR DUCTWORK... F. 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. SINGLE-WALL ROUND AND FLAT-OVAL DUCTS AND FITTINGS. C. SHEET METAL MATERIALS: 1. GALVANIZED SHEET STEEL. 2. STAINLESS-STEEL SHEETS. 3. ALUMINUM SHEETS. 4. FACTORY-APPLIED ANTI-MICROBIAL COATING.

- D. DUCT LINER: 1. FIBROUS GLASS, TYPE I, FLEXIBLE. a. WITH ANTI-MICROBIAL EROSION-RESISTANT COATING. 2. FLEXIBLE ELASTOMERIC. 3. NATURAL FIBER.

E. 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.

1.3 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 UNIT. 4. COILS AND RELATED COMPONENTS. 5. RETURN-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES.

- 6. SUPPLY-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES. 7. DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

- 1.4 DUCT SCHEDULE A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS: 1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113

- 6. SUPPLY-AIR DUCTS, DAMPERS, ACTUATORS, AND TURNING VANES. 7. DEDICATED EXHAUST AND VENTILATION COMPONENTS AND MAKEUP AIR SYSTEMS.

1.4 DUCT SCHEDULE

- A. ALL DUCTS SHALL BE GALVANIZED STEEL EXCEPT AS FOLLOWS: 1. MOIST ENVIRONMENT DUCT MATERIAL: ALUMINUM.

END OF SECTION 233113

SECTION 233713 - DIFFUSERS AND GRILLES

1.1 PRODUCTS

- A. DIFFUSERS AND GRILLES SHALL BE FURNISHED AND INSTALLED FOR CAPACITIES AND IN LOCATIONS INDICATED ON DRAWINGS... B. MANUFACTURERS: TITUS

- 1. SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT BY ONE OF THE FOLLOWING: a. CARNES. b. HART & COOLEY INC. c. KRUEGER. d. METALAIR, INC. e. NAILOR INDUSTRIES INC.

- C. ALL DIFFUSERS SHALL HAVE CONTROLLING/EQUALIZING GRID AND OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED. D. ALL DUCTED RETURN REGISTERS SHALL HAVE AN OPPOSED BLADE DAMPER UNLESS OTHERWISE NOTED.

END OF SECTION 233713

- 1.1 THERMOSTATIC CONTROLS (MANDATORY): C403.4.1 THERMOSTATIC CONTROLS THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE... C403.4.1.2 DEADBAND WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM... C403.4.1.3 SETPOINT OVERLAP RESTRICTION WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE... C403.4.2 OFF-HOUR CONTROLS EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM... C403.4.2.1 THERMOSTATIC SETBACK THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C)... C403.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR NOT FEWER THAN 10 HOURS... C403.4.2.3 AUTOMATIC START & STOP AUTOMATIC START AND STOP CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM... DRAWN BY: NYE

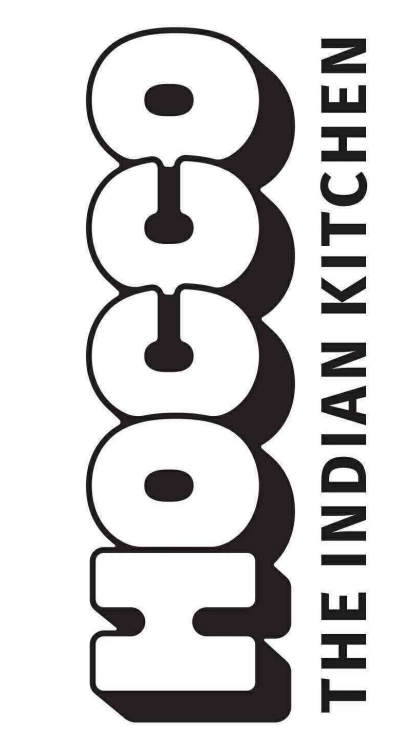


Table with 2 columns: Date, Description. Rows for 07-30-2025, 09-02-2025, 09-26-2025.

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

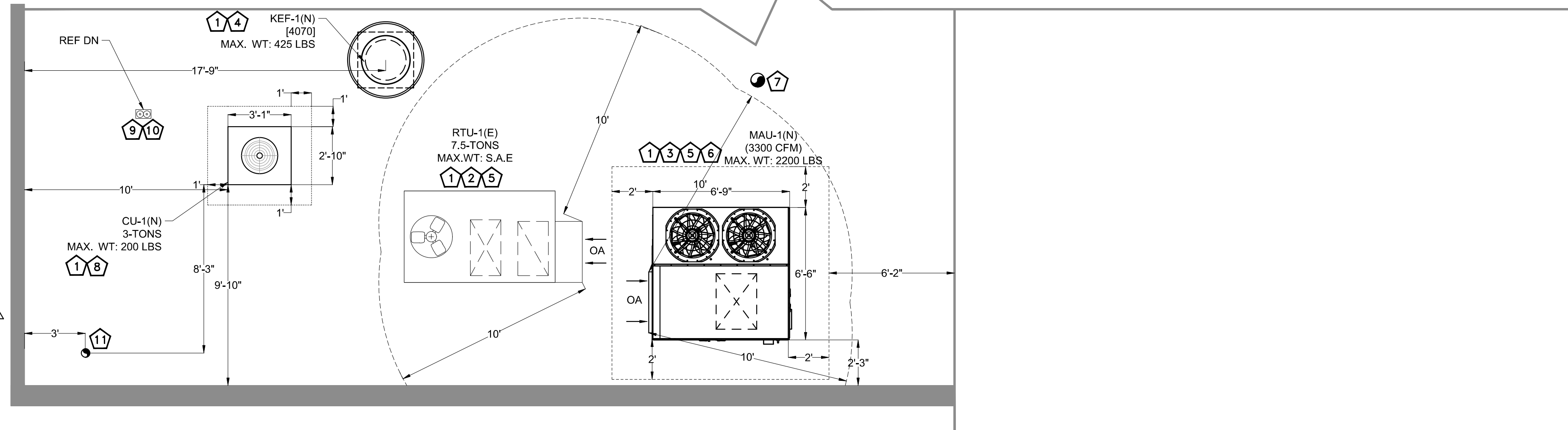
QAQC: NYE

APPROVED BY: NYE

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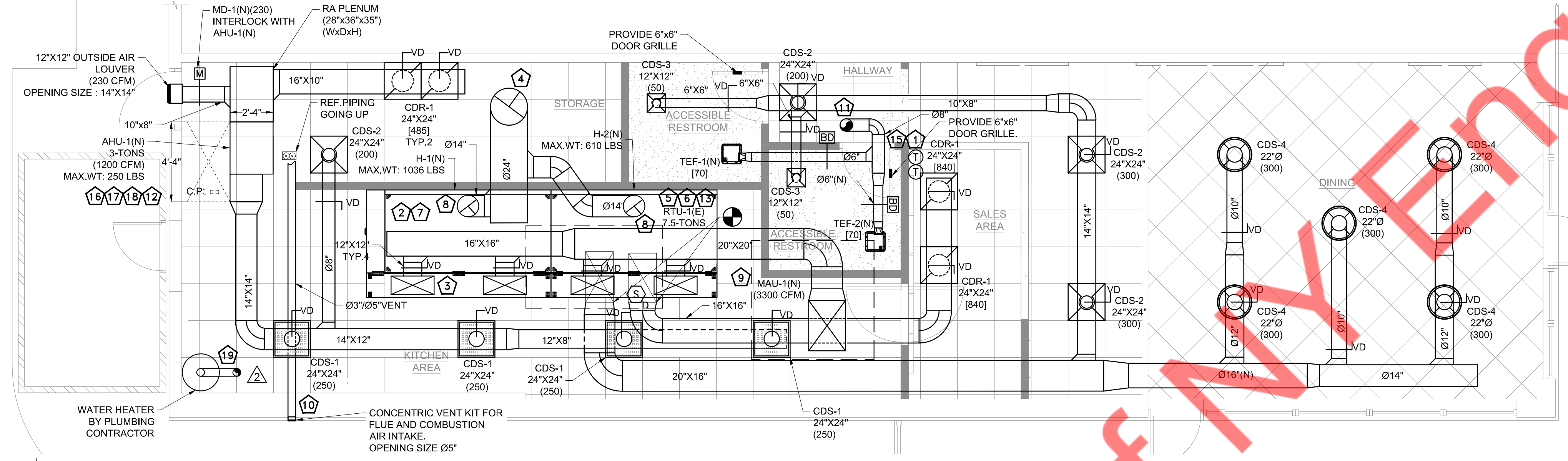
SHEET NUMBER / TITLE:

M0.2 MECHANICAL SPECIFICATIONS



2 MECHANICAL ROOF PLAN

1/4" = 1'-0" NOTE:



1 MECHANICAL FLOOR PLAN

1/4" = 1'-0" NOTE:

MECHANICAL GENERAL NOTES

- PROVIDE ALL NEW DUCTWORK AS SHOWN. DUCT WORK ABOVE CEILING TO BE INSULATED ACCORDING TO ILLINOIS COMMERCIAL STRETCH ENERGY CODE 2024.
- FLEXIBLE AIR CONNECTORS SHALL BE TESTED IN ACCORDANCE WITH UL 181. SUCH DUCTS SHALL BE LISTED & LABELED AS CLASS 0 OR CLASS 1 FLEXIBLE AIR CONNECTORS. FLEXIBLE AIR CONNECTORS SHALL BE LIMITED IN LENGTH TO 14 FEET.
- TEST & BALANCE SYSTEM PRIOR TO CLOSEOUT OF PROJECT. PROVIDE A DETAILED REPORT TO OWNER, ARCHITECT, & ENGINEER.
- ALL DUCTWORK SHALL BE FABRICATED, INSTALLED, SEALED, & INSULATED PER THE LATEST ISSUE OF SMACNA LOW-VELOCITY DUCT MANUAL.
- DUCT SIZES SHOWN ON DRAWINGS ARE CLEAR INSIDE DIMENSION.
- THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF TRUSSES & MODIFY DUCTWORK ACCORDINGLY.
- PROVIDE FIRE OR FIRE+SMOKE DAMPER WHEREVER DUCTS ARE CROSSING FIRE/SMOKE RATED WALLS/BARRIERS/SLABS. COORDINATE WITH ARCHITECTURAL DRAWING FOR FIRE RATING OF THE WALLS.
- ALL WORK SHALL BE SUBJECT TO THE ACCEPTANCE & APPROVAL OF THE ARCHITECT & OWNER. THE ARCHITECT SHALL BE NOTIFIED OF ANY & ALL DISCREPANCIES BETWEEN FIELD CONDITIONS & THE CONTRACT DOCUMENTS BEFORE PROCEEDING WITH THAT PORTION OF THE WORK. FAILURE OF PROPER NOTIFICATION DOES NOT RELIEVE THE CONTRACTOR. THE CONTRACTOR SHALL CORRECT ANY & ALL WORK ARISING FROM SUCH FAILURE TO COORDINATE DISCREPANCIES TO THE SATISFACTION OF THE ARCHITECT WITHOUT ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL, UPON COMPLETION OF PROJECT, PERFORM A COMPLETE TEST & BALANCE OF ALL EQUIPMENT. PROVIDE A WRITTEN REPORT TO THE ARCHITECT. ALL CAPACITIES MUST BE SET TO WITHIN ±10% OF AMOUNTS INDICATED ON THE FLOOR PLAN & SCHEDULES.
- PROVIDE DUCT INSULATION AS SPECIFIED WITH MINIMUM VALUES AS FOLLOWS:
R-6 SUPPLY & RETURN DUCT INSULATION IN UNCONDITIONED SPACES WITHIN BUILDING.
R-8 SUPPLY & RETURN DUCT INSULATION WITHIN BUILDING ENVELOPE ASSEMBLY.
R-8 SUPPLY & RETURN DUCT INSULATION OUTSIDE OF BUILDING.
- COORDINATE LOCATIONS & SIZES OF ROOF OPENINGS WITH OWNER & STRUCTURAL ENGINEERS.
- EQUIPMENT SIZES, DIMENSIONS & REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE ACTUAL EQUIPMENT SELECTED. VENDOR DRAWINGS BEFORE FABRICATION OF DUCTWORK, PIPING ETC.
- CONTRACTOR SHALL COORDINATE ALL ELECTRICAL REQUIREMENTS FOR ALL HVAC BASED ON ACTUAL EQUIPMENT SELECTED PRIOR TO INSTALLATION.
- ALL SOURCE OF MECHANICAL INTAKE SHALL MAINTAIN 10 LINEAR FEET SEPARATION BETWEEN ANY SOURCE OF EXHAUST. CONTRACTOR IS RESPONSIBLE TO ADJUST DUCT LENGTH AS NEEDED.
- TEST & BALANCE AIR SYSTEMS. PROVIDE REPORT TO GENERAL CONTRACTOR & OWNER.
- ALL RTU WEIGHTS ARE INCLUDING ROOF CURBS &/OR ADAPTORS.
- IF EXISTING ROOF CURBS ARE DAMAGED OR NOT REUSABLE, REPLACE WITH NEW ROOF CURB REQUIRED & REDO ROOFING. COORDINATE WITH ROOFING CONTRACTOR.
- G.C. TO PATCH & REPAIR EXTRA PENETRATION ON ROOF TO MATCH EXISTING IN ALL ASPECTS.
- ALL ITEMS TO BE REUSED OR RELOCATED SHALL BE CLEANED, REPAIRED, & RESTORED TO LIKE NEW CONDITION PRIOR TO REUSE.

MECHANICAL FLOOR PLAN KEY NOTES

- RELOCATE & REUSE EXISTING THERMOSTAT. IF EXISTING THERMOSTAT IS NOT IN GOOD CONDITION TO REUSE, THEN INSTALL & WIRE NEW 7-DAY PROGRAMMABLE THERMOSTAT. CONTRACTOR TO FIELD IN FIELD PRIOR TO BID. COORDINATE EXACT LOCATION WITH ARCHITECT & OWNER PRIOR TO ROUGH-IN.
- INSTALL TYPE-I GREASE EXHAUST HOOD. SUPPORT HOOD PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. PROVIDE TRAPEZE HANGERS FOR ALL THREAD SUPPORT UNDER DUCTWORK AS REQUIRED. TRANSITION FROM HOOD CONNECTION TO WELDED KITCHEN EXHAUST DUCT SIZES SHOWN. THE HOOD & DUCT SHALL HAVE AN APPROVED FIRE PROTECTION. THE FIRE-EXTINGUISHING SYSTEM SHALL BE INTERCONNECTED TO THE FUEL OR CURRENT SUPPLY SO THAT THE FUEL OR CURRENT SUPPLY IS AUTOMATICALLY SHUT OFF TO ALL EQUIPMENT UNDER THE HOOD WHEN THE SYSTEM IS ACTUATED. REFER TO HOOD SCHEDULE & DRAWINGS FOR HOOD SPECIFICATIONS & FOR BALANCE OF MAKE-UP AIR & SUPPLY TO HOOD.
- FURNISH & INSTALL MANUAL VOLUME DAMPER IN EACH SUPPLY AIR DUCT CONNECTED TO HOOD SUPPLY AIR PLENUM. REFER TO HOOD SCHEDULE FOR REQUIRED AIRFLOW AT EACH CONNECTION.
- 24"Ø GREASE EXHAUST DUCT FROM HOOD UP THRU ROOF TO KITCHEN EXHAUST FAN. PROVIDE FIRE WRAP ON ON DUCT RATED FOR 0" CLEARANCE TO COMBUSTIBLES.
- EXTEND FULL SIZE SUPPLY & RETURN DUCTWORK FROM EXISTING ROOFTOP UNIT TO SPACE. EXTEND AS SHOWN. TRANSITION DUCT AS NECESSARY TO MAKE CONNECTION. ACOUSTICALLY LINE THE FIRST 10'-0" OF BOTH SUPPLY & RETURN MAIN DUCTS.
- REUSE EXISTING REMOTE TEMP. SENSOR MOUNTED IN RETURN AIR DUCT/SPACE. PROVIDE NEW IF EXISTING TEMP. SENSORS ARE DAMAGED OR NOT WORKING PROPERLY. CONTRACTOR TO VERIFY IN FIELD PRIOR TO BID.
- PROVIDE & INSTALL EMERGENCY MANUAL SHUTDOWN PUSH BUTTON FOR HOOD. PUSH BUTTON SHALL BE IN PATH OF EGRESS, A MINIMUM OF 10' AWAY FROM THE HOOD & A MAXIMUM OF 20'.
- GREASE DUCT TO BE PROVIDED WITH KITCHEN EQUIPMENT & INSTALLED BY MECHANICAL CONTRACTOR. INSTALL PER MANUFACTURER'S INSTRUCTIONS.
- EXTEND MAKE-UP AIR DUCT FROM HOOD COLLAR UP TO MOUNTED MAKE-UP AIR UNIT ON ROOF MAU-1(N). ALL CONTROLS & INTERLOCKING SHALL BE PROVIDED BY CAPTIVE-AIRE.
- INSTALL 03"Ø5" CONCENTRIC FLUE & COMBUSTION AIR INTAKE FOR AHU-1(N) AS PER MANUFACTURER'S RECOMMENDATIONS. TERMINATE ON SIDE WALL. MAINTAIN A MINIMUM 10'-0" FROM ANY OUTSIDE AIR INTAKE SOURCE & 3'-0" FROM ANY OPERABLE OPENING INTO THE BUILDING. COORDINATE WITH SITE CONDITIONS.
- ROUTE 8"Ø TOILET EXHAUST DUCT UP THROUGH ROOF TALL FLASHING, WEATHER SKIRT & GOOSENECK. MAINTAIN A MINIMUM 10'-0" FROM ALL OUTSIDE AIR INTAKES
- INSTALL REFRIGERANT PIPING BETWEEN INDOOR & OUTDOOR UNIT AS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE INSULATION TO REF PIPING AS PER ENERGY CONSERVATION CODE. COORDINATE WITH BASE BUILDING ENGINEER FOR PIPE ROUTING & RISER LOCATION. NOTIFY THE ENGINEER OF ANY DISCREPANCY BEFORE COMMENCING BID. INSTALL OUTDOOR UNITS AS SHOWN ON THE PLANS. PROVIDE ALL THE NECESSARY SUPPORTS AS IF REQUIRED.
- REUSE EXISTING SMOKE DETECTOR. IF EXISTING SMOKE DETECTOR IS NOT IN GOOD CONDITION TO REUSE, REPLACE WITH SIMILAR KIND. SMOKE DETECTOR SHALL BE FURNISHED / INSTALLED IN RETURN AIR DUCT BY MECHANICAL CONTRACTOR & WIRED BY ELECTRICAL CONTRACTOR TO SHUT DOWN CORRESPONDING RTU UNDER ALARM CONDITIONS.
- ROUTE & CONNECT CONDENSATE DRAIN LINE TO THE NEAREST PLUMBING DRAIN W/ AIR GAP FITTING. COORDINATE WITH PLUMBING CONTRACTOR. PROVIDE CONDENSATE PUMP AS IF REQUIRED. PROVIDE HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN 1/8 UNIT VERTICAL.
- PROVIDE NEW 7-DAY PROGRAMMABLE THERMOSTAT. MOUNT ON WALL AT 48" A.F.F. COORDINATE EXACT LOCATION WITH ARCHITECT & OWNER PRIOR TO ROUGH-IN. PROVIDE LOCKABLE COVER.
- PROVIDE AN AUXILIARY DRAIN PAN WITH WATER LEAKAGE SENSOR IN ORDER TO SHUT-OFF THE UNIT IN CASE OF WATER LEAKAGE. THE PAN SHALL HAVE A DEPTH OF NOT LESS THAN 1.5 INCHES. SHALL BE NOT LESS THAN 3 INCHES LARGER THAN THE UNIT, OR THE COIL. DIMENSIONS IN WIDTH & LENGTH & SHALL BE CONSTRUCTED OF CORROSION-RESISTANT MATERIAL. METALLIC PANS SHALL HAVE A THICKNESS OF NOT LESS THAN 0.0236 INCH (NO. 24 GAGE) FOR GALVANIZED SHEET METAL PANS, 0.0179 INCH (NO. 26 GAGE) FOR STAINLESS STEEL PANS, OR 0.0320 INCH (NO. 20 GAGE) FOR ALUMINUM PANS. NON-METALLIC PANS SHALL HAVE A THICKNESS OF NOT LESS THAN 0.0625 INCH.
- ROUTE & CONNECT CONDENSATE DRAIN LINE TO THE NEAREST PLUMBING DRAIN W/ AIR GAP FITTING. COORDINATE WITH PLUMBING CONTRACTOR. PROVIDE CONDENSATE PUMP AS IF REQUIRED. PROVIDE HORIZONTAL SLOPE IN THE DIRECTION OF DISCHARGE OF NOT LESS THAN 1/8 UNIT VERTICAL.
- CONTRACTOR TO PROVIDE REMOTE TEMPERATURE SENSOR IN RETURN AIR PATH & WIRE BACK TO T-STAT FOR AHU-1(N).
- PROVIDE 3"Ø5"Ø CONCENTRIC VENT FOR WATER HEATER INTAKE & EXHAUST VENT. INSTALL AS PER MANUFACTURER'S RECOMMENDATION/INSTRUCTIONS.

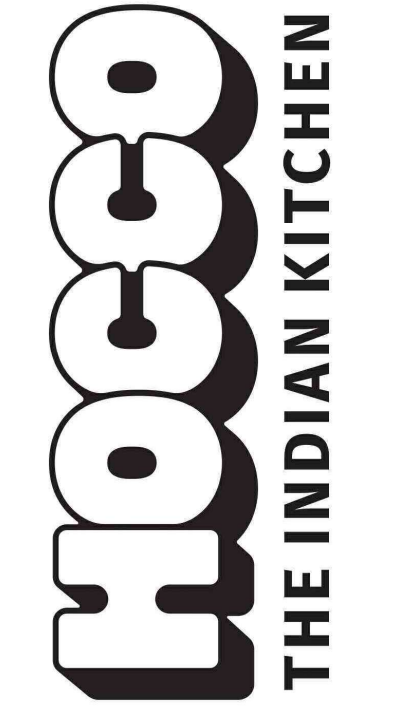
KITCHEN EXHAUST NOTES

- ALL TYPE I GREASE DUCT SHALL BE WRAPPED WITH TWO LAYERS OF 3M™ FIRE BARRIER DUCT WRAP 615+ DUCT ENCLOSURE SYSTEM PROVIDING 2-HOUR FIRE RESISTANT PROTECTION. WRAP SHALL CONSIST OF 3" PERIMETER & LONGITUDINAL OVERLAPS WITH ZERO CLEARANCE TO COMBUSTIBLES. DUCT WRAP SHALL COMPLY WITH THE REQUIREMENTS OF NFPA 96 & ICC-ES EVALUATION REPORT NO. ESR-1255. DUCT WRAP IS UL LISTED. DUCT WRAP SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- MATERIAL - STEEL NOT LESS THAN 0.0575 INCH (NO. 16 GAGE) IN THICKNESS, WITH JOINTS & SEAMS MADE WITH A CONTINUOUS LIQUID-TIGHT WELD MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM.
- ALL TURNS IN KITCHEN EXHAUST DUCT SHALL BE ACHIEVED WITH THE USE OF A 1.5 RADIUS/WIDTH SMOOTH RADIUS ELBOW. REFERENCE DETAILS.
- HORIZONTAL DUCT SERVING TYPE I HOODS SHALL BE SLOPED NOT LESS THAN 2% TOWARD HOOD.
- A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION & BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THE RATE OF EXHAUST AIRFLOW, MAKEUP AIRFLOW, & PROPER OPERATION AS SPECIFIED IN THE MECHANICAL CODE (INCLUDING CAPTURE & CONTAINMENT TEST). THE PERMIT HOLDER SHALL FURNISH THE NECESSARY TEST EQUIPMENT & DEVICES REQUIRED TO PERFORM THE TESTS. COORDINATE ALL TESTS WITH AHJ, INCLUDING FINAL REPORT/SUBMITTAL & WITNESS REQUIREMENTS.
- SLOPE ALL HORIZONTAL GREASE DUCT 1" PER FOOT WHERE SPACE ALLOWS, BUT NOT LESS THAN 1/4" PER FOOT AS REQUIRED BY AHJ.
- CONTRACTOR TO PROVIDE & INSTALL ALL CODE REQUIRED FIRE RATED ACCESS DOORS IN GREASE DUCTS AT ALL LOCATIONS REQUIRED BY CODE & LOCAL AUTHORITY HAVING JURISDICTION.
- PROVIDE CLEANOUTS IN ALL KITCHEN EXHAUST DUCTWORK AT EVERY CHANGE OF DIRECTION & AT EVERY 12' OF DUCT. PROVIDE ACCESS PANELS AT ALL GREASE DUCT CLEANOUTS. PROVIDE AS PER LOCAL CODE.
- COORDINATE HOOD INSTALLATION WITH HOOD PLANS. HOOD OPERATION, CAPTURE, SIZE & ACCESSORIES ARE BASED ON EQUIPMENT & CLEARANCES INDICATED IN PLANS. FIELD VERIFY & COORDINATE HOODS WITH EQUIPMENT FURNISHED. COORDINATE HOOD CONNECTIONS WITH HOOD PLANS & MANUFACTURER PRIOR TO FABRICATION.
- COORDINATE INTERLOCKS & HOOD CONTROLS WITH HOOD PLANS & HOOD MANUFACTURER PRIOR TO INSTALLATION.

MECHANICAL ROOF PLAN KEY NOTES

- COORDINATE FINAL LOCATION OF EQUIPMENT WITH STRUCTURAL ENGINEER/DRAWINGS.
- EXISTING RTU TO REMAIN AS IT IS & TO BE REUSED WITH ALL ITS EXISTING ACCESSORIES & ROOF CURB. CONTRACTOR TO FIELD VERIFY EXACT LOCATION & CONFIGURATION ON SITE. CLEAN & REFURBISH TO "LIKE NEW" CONDITION. REPAIR / REPLACE ANY ACCESSORIES AS IF REQUIRED TO PROVIDE A FULLY FUNCTIONING UNIT. INFORM TO ARCHITECT IF ANY ACCESSORIES NOT WORKING OR NOT IN GOOD CONDITION. EXISTING CONDENSATE DRAIN FROM EXISTING RTU TO REMAIN AS IS. CONTRACTOR TO FLUSH THE EXISTING DRAIN LINES. REPLACE AS IF REQUIRED.
- CONDENSATE DRAIN FROM MAU-1(N) SHALL BE CONVEYED TO AN APPROVED PLACE OF DISPOSAL. SUCH PIPING SHALL MAINTAIN A MINIMUM HORIZONTAL SLOPE IN THE DIRECTION OF NOT LESS THAN 1/4 TH UNIT VERTICAL IN 12 UNITS HORIZONTAL (1% SLOPE). CONDENSATE SHALL NOT DISCHARGE INTO A STREET, ALLEY OR OTHER AREAS SO AS TO CAUSE NUISANCE.
- PROVIDE ROOF MOUNTED GREASE EXHAUST FAN. MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES & A MINIMUM OF 40" ABOVE ROOF.
- CONTRACTOR TO FIELD VERIFY THAT THE LOCATION OF ANY EXHAUST SOURCE SHOULD BE AT LEAST 10' AWAY FROM THE OUTSIDE AIR INTAKE OPENING OF RTU & MAU.
- PROVIDE MAKE-UP AIR UNIT & ROOF CURB. PROVIDE FLEXIBLE CONNECTION ON THE SUPPLY DUCT CONNECTION TRANSITION TO DUCT SIZE INDICATED. FIELD VERIFY EXISTING CONDITIONS PRIOR TO BID.
- 8"Ø TOILET EXHAUST DUCT UP THROUGH ROOF. CONTRACTOR TO MAKE SURE TO MAINTAIN A MINIMUM OF 10'-0" FROM ALL OUTSIDE AIR INTAKES & A MINIMUM OF 40" ABOVE ROOF.
- PROVIDE NEW CONDENSING UNIT CU-1(N). COORDINATE FINAL LOCATION OF THE UNIT WITH LANDLORD/ARCHITECT PRIOR TO INSTALLATION. UNIT TO BE MOUNTED ON CONCRETE PAD WITH VIBRATION ISOLATOR. PROVIDE MANUFACTURER'S RECOMMENDED CLEARANCES.
- PIPING SHOULD RUN ABOVE FINISHED FLOOR.
- INSTALL NEW REFRIGERANT PIPING BETWEEN INDOOR AND OUTDOOR UNIT AS PER MANUFACTURER'S RECOMMENDATION. PROVIDE WEATHER PROOF COATING FOR EXPOSED PIPING. PROVIDE INSULATION TO REFRIGERANT PIPING AS PER LOCAL ENERGY CONSERVATION CODE.
- PROVIDE 3"Ø5"Ø CONCENTRIC VENT FOR WATER HEATER INTAKE & EXHAUST VENT. INSTALL AS PER MANUFACTURER'S RECOMMENDATION/INSTRUCTIONS.

MEP CONSULTANT:



SHEET HISTORY SCHEDULE		
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

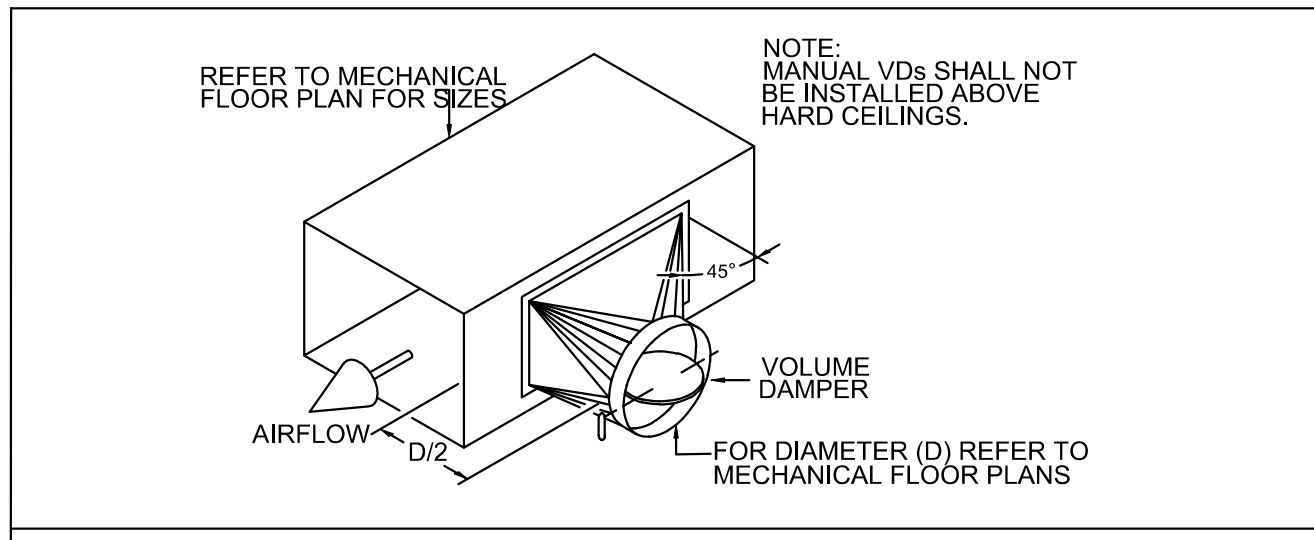
QAQC: NYE

APPROVED BY: NYE

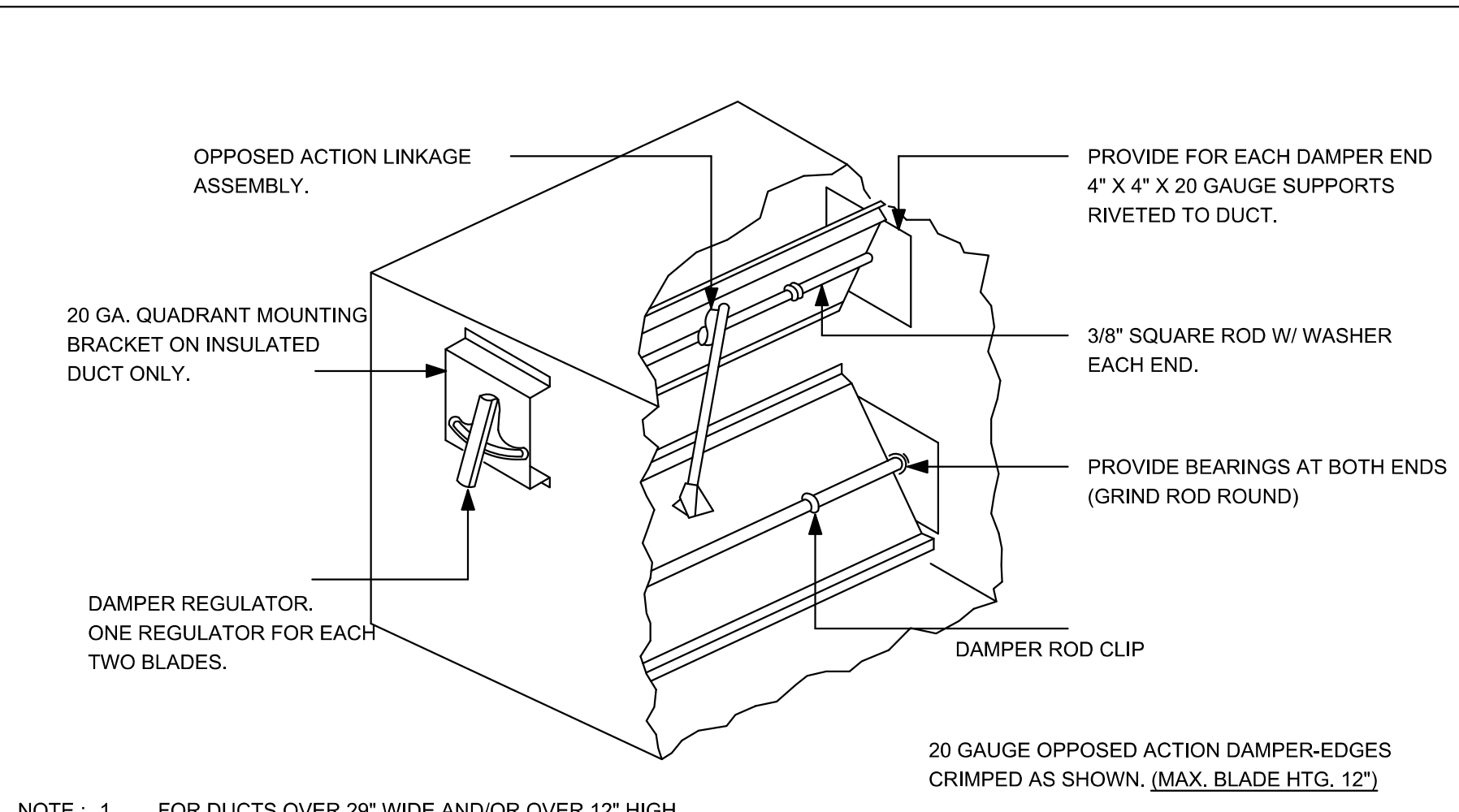
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SHEET NUMBER / TITLE:

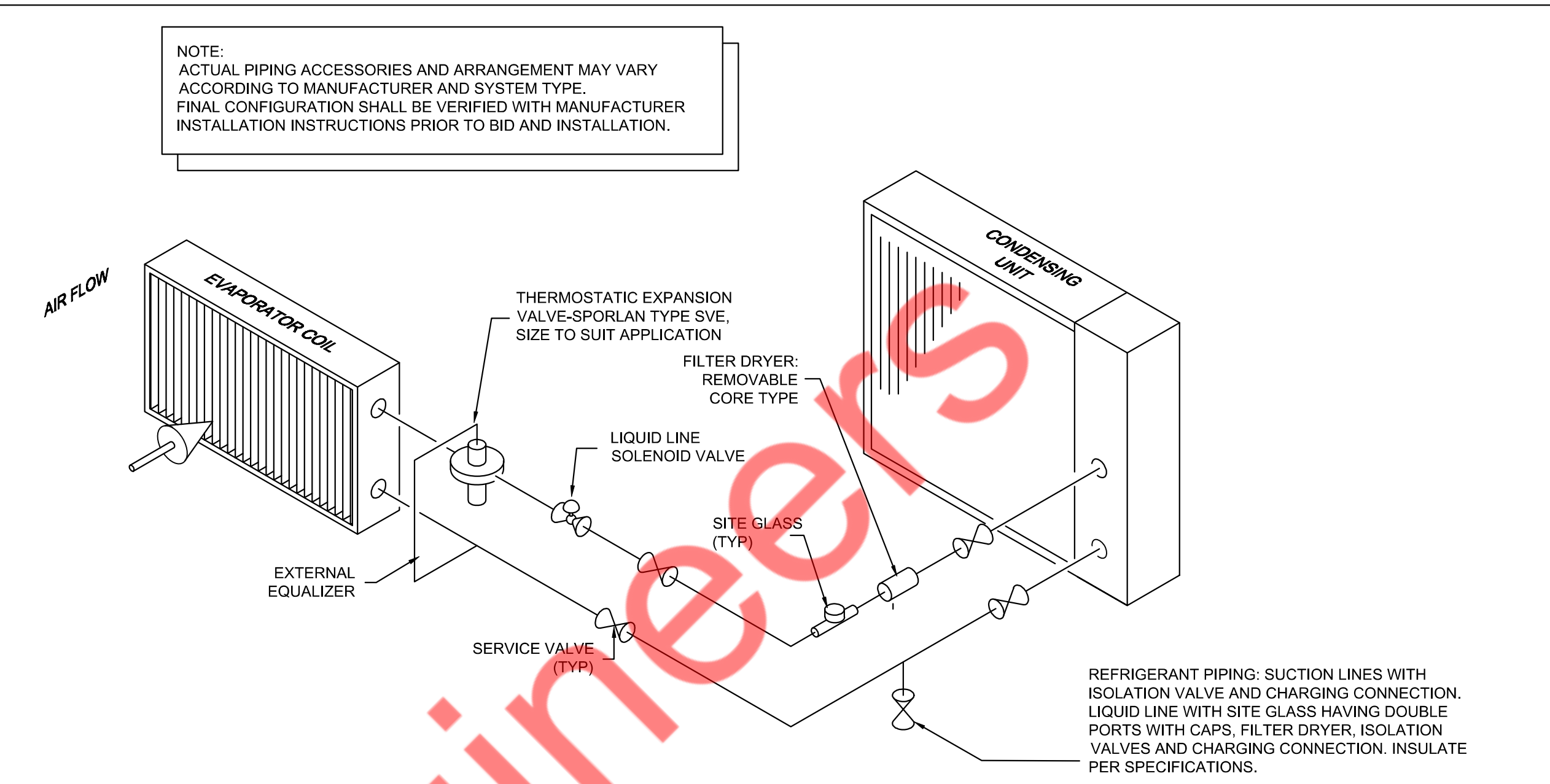
M1.0
MECHANICAL FLOOR & ROOF PLANS



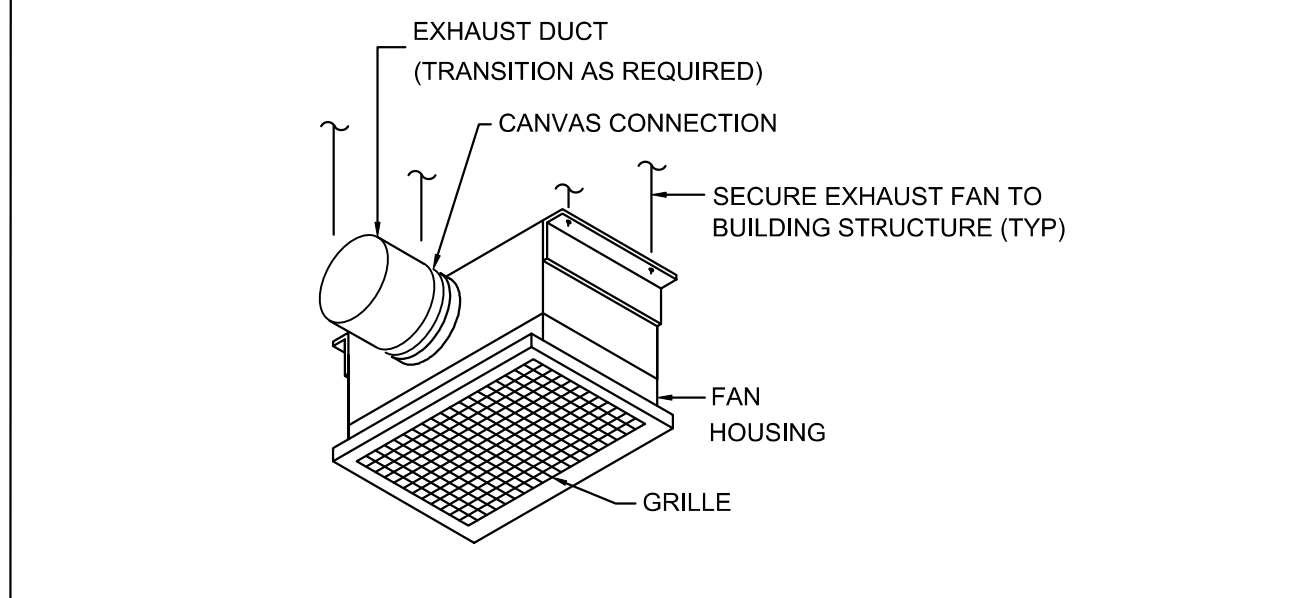
1 ROUND DUCT TAKE OFF DETAIL
M3.0 N.T.S



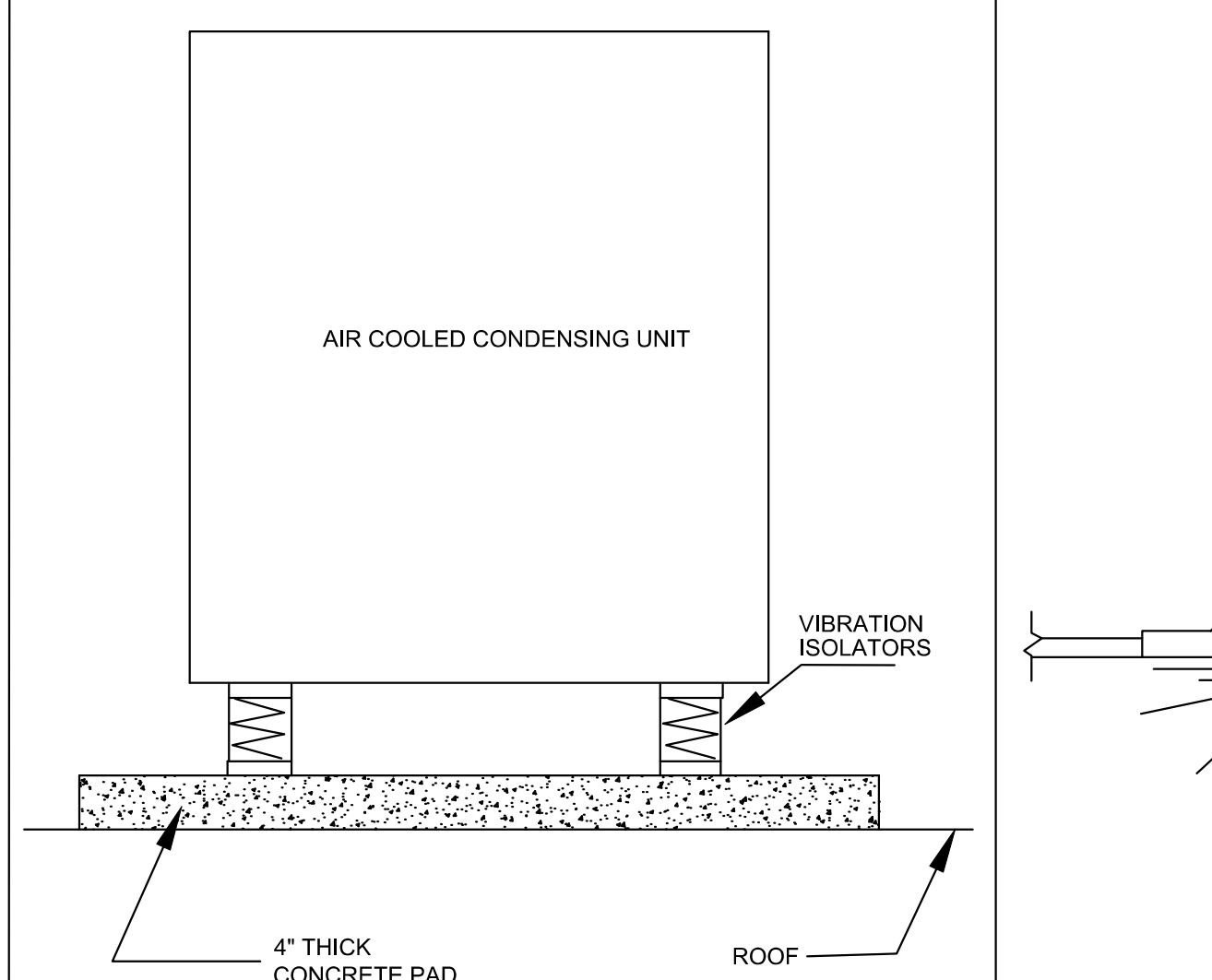
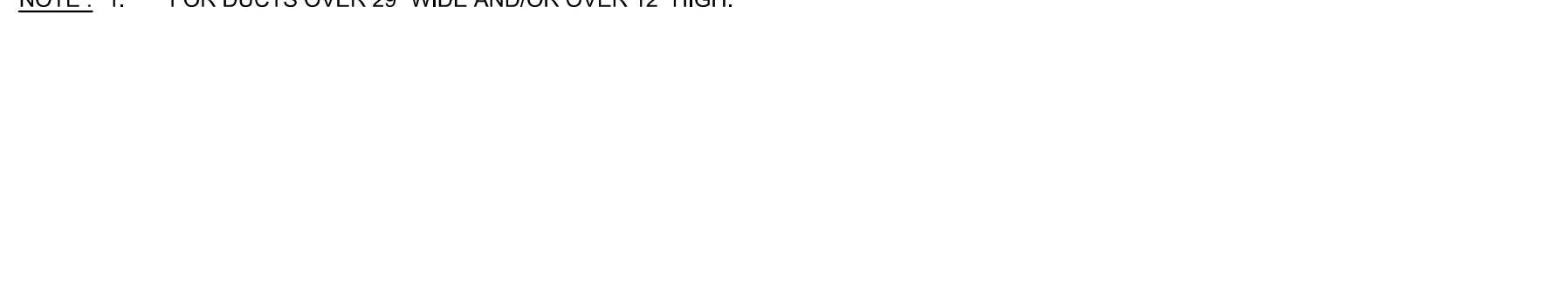
3 LOW PRESSURE BALANCING DAMPER
M3.0 N.T.S



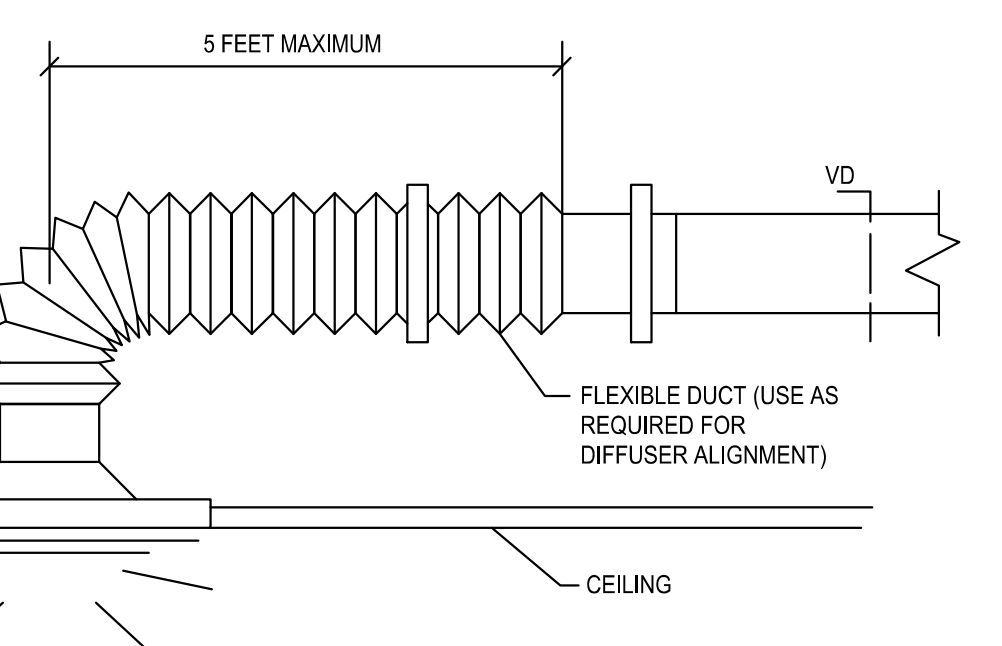
4 REFRIGERANT PIPING DIAGRAM
M3.0 N.T.S



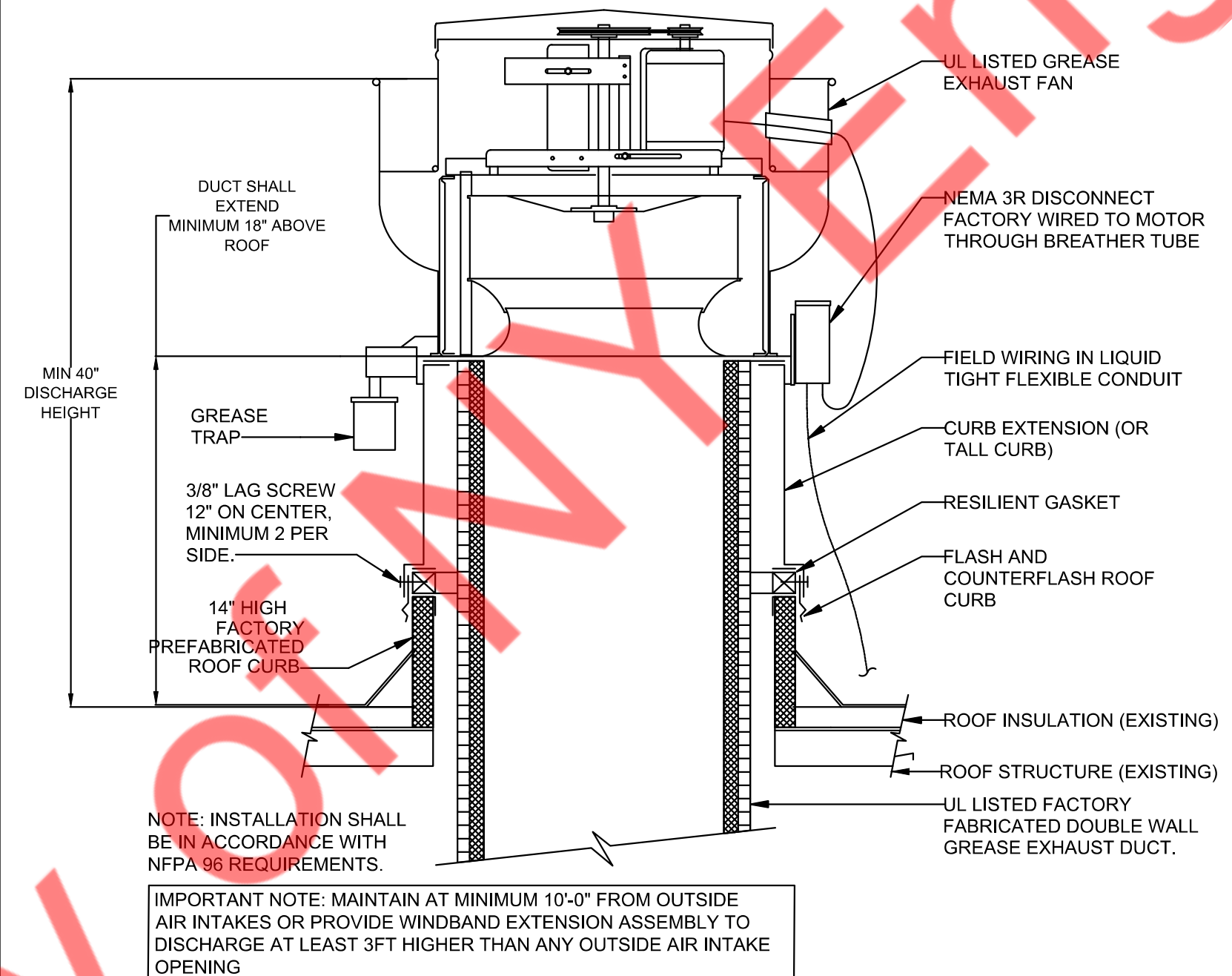
2 CEILING EXHAUST FAN DETAIL
M3.0 N.T.S



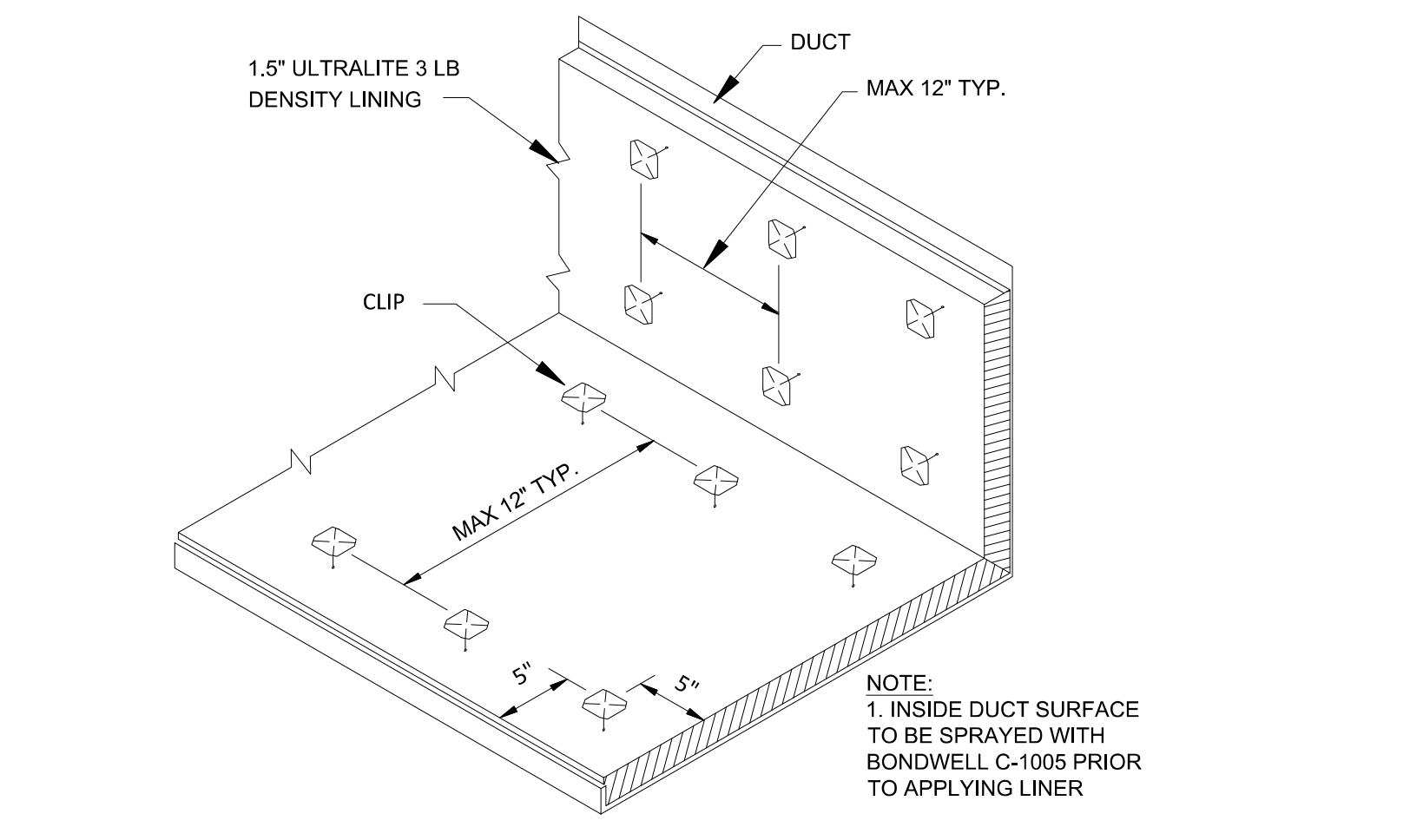
5 CONDENSING UNIT MOUNTING DETAIL
M3.0 N.T.S



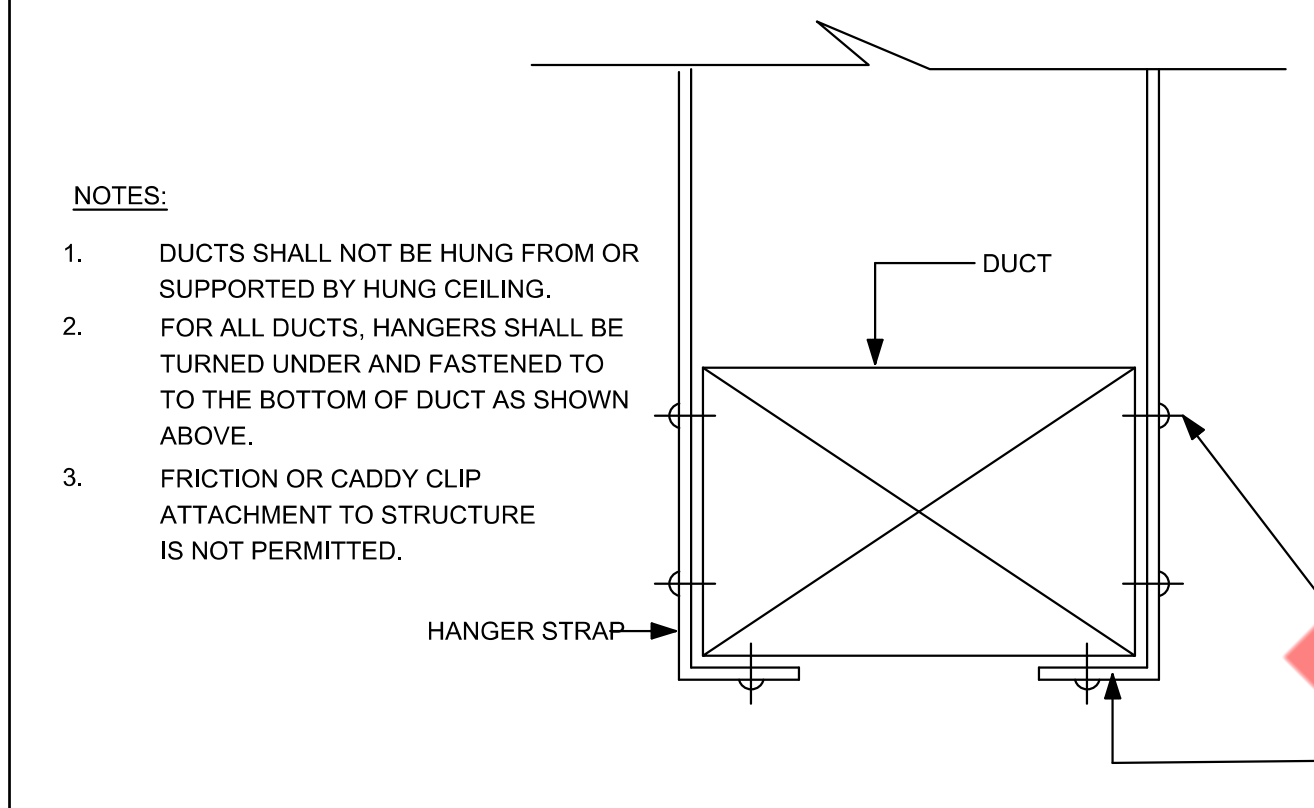
6 CEILING DIFFUSER BRANCH DUCT CONNECTION
M3.0 N.T.S



7 ROOF MOUNTED KITCHEN EXHAUST FAN DETAIL
M3.0 N.T.S

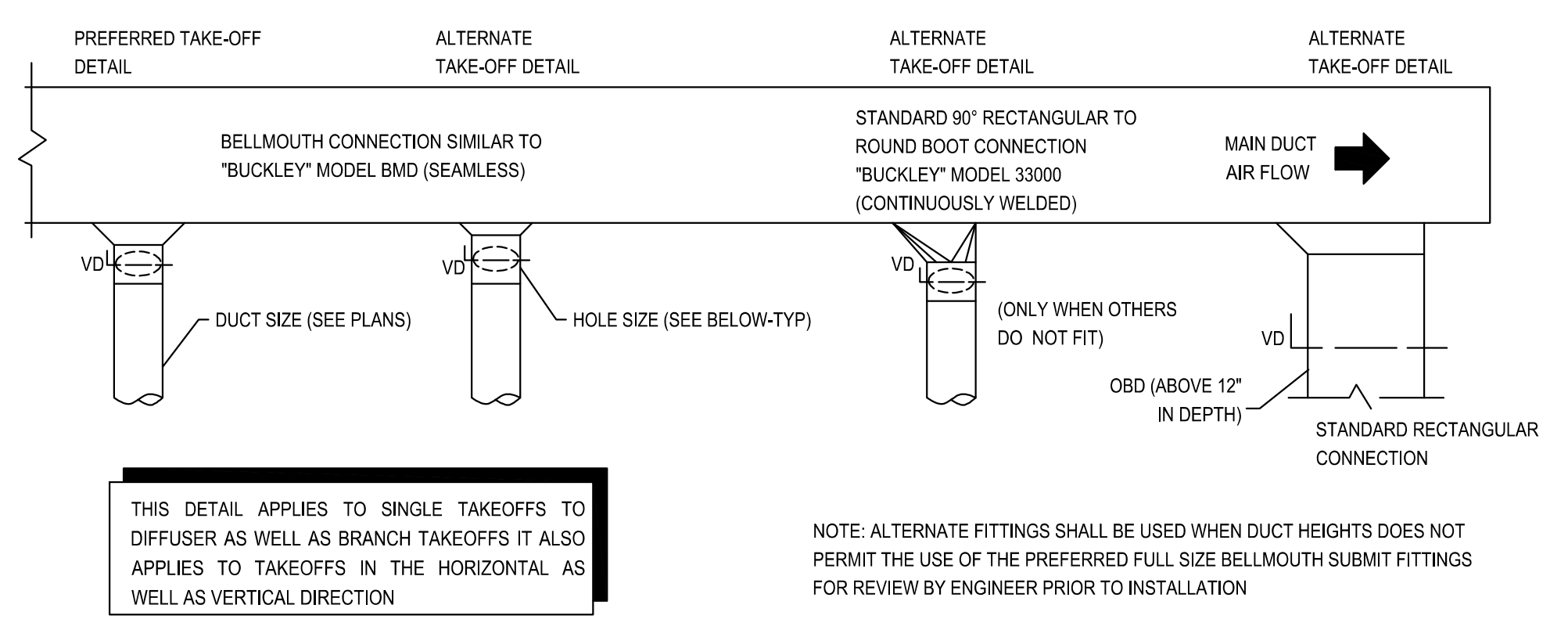


8 DUCT PLENUM LINING
M3.0 N.T.S

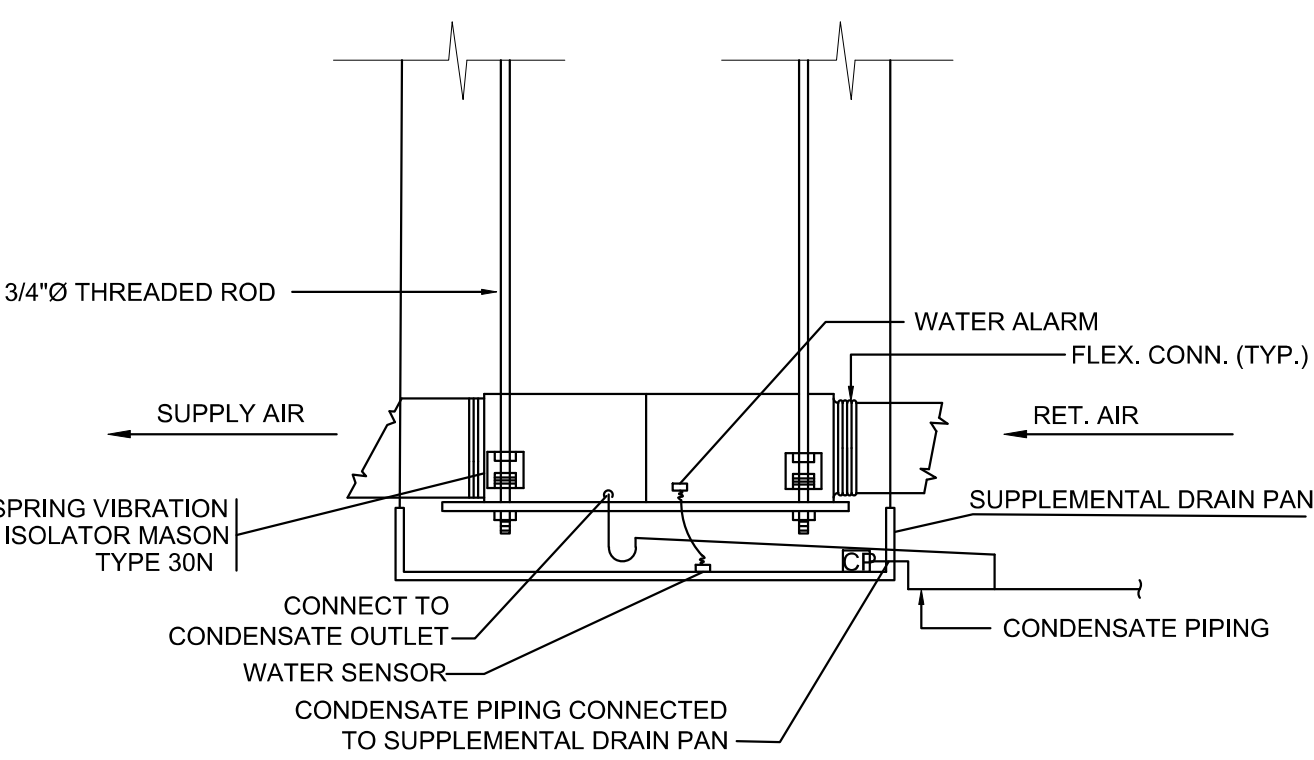


9 DUCT HANGING DETAILS
M3.0 N.T.S

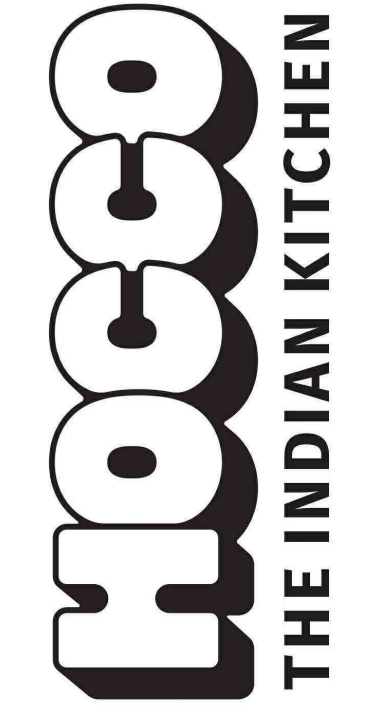
DUCT HANGER SCHEDULE		
DUCT CROSS SECTIONAL AREA	STRAP HANGER SIZE	MAX. SPACING
UNDER 2 SQ. FT.	1" X 1/16"	6'-0" O.C.
2 TO 4 SQ. FT.	1" X 1/8"	8'-0" O.C.
4 TO 8 SQ. FT.	1" X 1/8"	6'-0" O.C.
OVER 8 SQ. FT.	1" X 1/8"	4'-0" O.C.



10 DUCT TAKEOFFS
M3.0 N.T.S



11 AIR HANDLING UNIT INSTALLATION DETAIL
M3.0 N.T.S



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APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

M3.0
MECHANICAL DETAILS

ROOF TOP UNIT (GAS HEAT) SCHEDULE																	
UNIT ID	MANUFACTURER	STATUS	MODEL	AREA SERVED	NOMINAL TONS	SUPPLY FAN		HEATING CAPACITY		COOLING CAPACITY		ELECTRICAL DATA			AFUE (%)	SEER/EER	MAX OPERATING WEIGHT (LBS.)
						SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	MAX. ESP (IN. OF W.G.)	INPUT (MBH)	OUTPUT (MBH)	TOTAL (MBH)	SENSIBLE (MBH)	VOLTS/PH/Hz	MCA (A)			
RTU-1(E)	S.A.E	EXISTING	S.A.E	SEE PLAN	7.5 (V.I.F)	2400 (V.I.F)	720	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	S.A.E	

NOTES / ACCESSORIES FOR RTU-1(E)
1) S.A.E - SAME AS EXISTING, V.I.F - VERIFY IN FIELD.
2) EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
3) CONTRACTOR TO CONFIRM IF EXISTING RTU IS WORKING AT ITS 100% RATED CAPACITY.
4) CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF RTU ON SITE.
5) CONTRACTOR TO RE-BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN ABOVE TABLE.
6) REPLACE ALL AIR FILTERS WITH NEW MERV-13 FILTERS BEFORE HANDING OVER THE SPACE TO THE OWNER / TENANT.

AIR HANDLING (INDOOR) UNIT SCHEDULE																BASIS OF DESIGN: TRANE OR EQUIVALENT					
TAG	AREA SERVED	TYPE	CAP. (TON)	QTY	TOTAL COOLING CAP. (MBH)	SENSIBLE COOLING CAP. (MBH)	SUPPLY AIRFLOW (CFM)	STATIC PRESSURE (IN WG.)	OUTSIDE AIR (CFM)	GAS HEAT		ELECTRICAL DATA			DIMENSIONS (HXWXD) (IN.)	WEIGHT (LBS.)	CONNECTION SIZE			AFUE (%)	MODEL (DX-COIL/FURNACE)
										INPUT MBH	OUTPUT MBH	PH/VOLT/Hz	MCA (A)	MOCP (A)			SEER2	EER2	REFRIGERANT LIQ. (IN.)		
AHU-1(N)	SEE PLAN	MULTI-POSITION	3.0	1	34.3	25.8	1200	1.0	230	60	48	1/120/60	13.1	15	35-1/2x19-1/2x30-7/8	250	3/8	3/4	3/4	80	STXCBO03A53HCA/S9X1B060M4PSAB (OR EQUIVALENT)

NOTES:-
1. PROVIDE ACCESS PANELS FOR AHU.
2. PROVIDE THROWAWAY 2" FILTERS (MERV-13).
3. PROVIDE DRAIN PAN WITH WATER LEAK DETECTOR TO SHUT DOWN AHU & NOTIFY IN EVENTS OF WATER LEAKAGE.
4. PROVIDE CONDENSATE PUMP AS/IF REQUIRED.
5. PROVIDE PROGRAMMABLE THERMOSTAT.
6. SUPPLY AIR CFM BASED ON HIGH SPEED. PROVIDE VARIABLE AIRFLOW ADJUSTMENT CONTROL FOR ALL UNITS.
7. REFRIGERANT R-454B SHALL BE PROVIDED.
8. PROVIDE MOUNTING BRACKETS AND ALL ASSOCIATED ACCESSORIES.
9. ALL REFRIGERANT PIPING TO BE SIZED PER MANUFACTURERS RECOMMENDATIONS.
10. GAS REGULATOR TO RECEIVE (5-13.8)" GAS PRESSURE FROM MAIN.
11. PROVIDE DISCONNECT SWITCH & NON-POWERED GFI OUTLET.
12. PROVIDE GAS FLUE VENTS AND COMBUSTION AIR INTAKE TO AHU AS PER MANUFACTURER'S RECOMMENDATION/INSTRUCTION.

CONDENSING (OUTDOOR) UNIT SCHEDULE																BASIS OF DESIGN: TRANE OR EQUIVALENT			
TAG	LOCATION	INDOOR UNITS SERVED	CAPACITY (TON)	QTY	MAX. COOLING CAP. (MBH)	UNIT DIMENSIONS IN.(HXWXD)	WEIGHT (LBS)	REF. PIPING SIZE (IN.)		ELECTRICAL DATA			SEER2	EER2	MODEL NO.				
								LIQ.	GAS	PH./V/Hz	MCA (A)	MOCP (A)							
CU-1(N)	ROOF	AHU-1(N)	3.0	1	34.3	33-1/8 X 37-1/4 X 34-1/4	200	5/16	7/8	3/208-230/60	16.6	25	14.3	11.7	5TTA4036A3 (OR EQUIVALENT)				

NOTES:-
1. PROVIDE COMPRESSOR CYCLE PROTECTOR.
2. CONDENSING UNIT TO BE MOUNTED ON CONCRETE PADS WITH VIBRATION ISOLATORS.
3. OUTDOOR REFRIGERANT LINESET TO BE WRAPPED IN UV RESISTANT, FIRE RATED, AND ANTI-MICROBIAL INSULATION PROTECTION BASED ON AIREX-FLEX GUARD OR EQUAL.
4. REFRIGERANT LINESET PENETRATION THROUGH BUILDING EXTERIOR SEALED BY AIREX TITAN FS OR SS MODEL SERIES DEPENDING UPON WALL CONSTRUCTION.
5. OUTDOOR UNITS TO BE LOCATED WITH PROPER CLEARANCES AND MUST PREVENT RE-CIRCULATION OF AIR. COORDINATE WITH MANUFACTURER AND ARCHITECT.
6. PROVIDE COMPRESSOR CYCLE PROTECTOR.

MAKE-UP AIR UNIT SCHEDULE																		
MARK	MANUFACTURER	MODEL	SERVICE	MOTOR HP	COOLING DATA					HEATING DATA			FAN		ELECTRICAL DATA		MAX WEIGHT (LBS)	
					ENTERING DBT (°F)	TOTAL CAPACITY (MBH)	SENSIBLE CAPACITY (MBH)	IEER	ISMRE 2	INPUT (MBH)	OUTPUT (MBH)	GAS SUPPLY PRESSURE (IN.WC)	AIR (CFM)	E.S.P (IN. W.G.)	V-P-H	MCA (A)		MOCP (A)
MAU-1(N)	CAPTIVEAIRE	CAS-HVAC3-1.250-18-10T-MPU	H-1(N) & H-2(N)	3	82.9	139.7	57.3	18.6	7.3	220	178.2	7-14	3300	0.5	208-3-60	60.9	70	2200

NOTES:
1. PROVIDE ALL NECESSARY ACCESSORIES AS PER MANUFACTURER'S RECOMMENDATIONS.
2. REFER TO GREENHECK DRAWINGS ON SHEETS H1.0 TO H1.4 FOR SPECIFICATIONS AND MORE DETAILS. SCHEDULES SHOWN FOR REFERENCE ONLY.
3. MAU-1(N) SHALL BE CONTROLLED BY HOOD CONTROLS

KITCHEN EXHAUST FAN SCHEDULE													
MARK	MANUFACTURER	MODEL	SERVICE	DRIVE TYPE	RPM	MOTOR HP	EXHAUST AIR DATA		ELECTRICAL DATA			MAX. LOUDNESS	MAX. WEIGHT
							AIR (CFM)	E.S.P (IN. W.G.)	VOLTAGE	PHASE	FLA		
KEF-1(N)	CAPTIVEAIRE	DU240HFA	H-1(N) & H-2(N)	DIRECT	898	3	4070	1.5	208	3	10.1	15.8	425

NOTES:
1. FAN SHALL BE CONTROLLED BY HOOD CONTROLS. INTERLOCK RTU-1(E) TO OPERATE IN OCCUPIED MODE WHILE KITCHEN EXHAUST FANS ARE ENERGIZED.
2. REFER TO HOOD DRAWINGS ON SHEET H1.0 TO H1.4 FOR SPECIFICATIONS AND MORE DETAILS. SCHEDULES SHOWN FOR REFERENCE ONLY.
3. PROVIDE ALL NECESSARY ACCESSORIES AS PER MANUFACTURER'S RECOMMENDATIONS.

EXHAUST FAN SCHEDULE												
TAG	QUANTITY	FLOW RATE	STATIC PRESSURE EXTERNAL IN W.G.	SPEED RPM	ELECTRIC DATA		MAXIMUM LOUDNESS DBA	BASIS OF DESIGN		MAX. WEIGHT (LBS)		
					V/PH/Hz	MCA (A)		MOCP (A)	MANUFACTURER		MODEL	
TEF-1(N) & TEF-2(N)	2	70	0.5	773	115/60/1	0.4	15	35	GREENHECK	SP-LP0511-1 (OR EQUIVALENT)	20	

NOTES:
1. INTERCONNECT TEF-1(N), TEF-2(N) WITH RTU-1(E). COORDINATE WITH ELECTRICAL CONTRACTOR.
2. PROVIDE THERMAL OVERLOAD PROTECTION, BACKDRAFT DAMPER, AMCA SEAL & UL CERTIFIED.
3. PROVIDE ALL NECESSARY ACCESSORIES & INSTALL AS PER MANUFACTURERS RECOMMENDATION.

HOOD SCHEDULE										
UNIT ID	MANUFACTURER	HOOD DIMENSIONS (LXWXH) (IN.)	TYPE	MODEL	SERVICE	EXHAUST AIR (CFM)	EXHAUST COLLAR (DIA.) (IN.)	SUPPLY AIR (CFM)	CONSTRUCTION	WEIGHT (LBS)
H-1(N)	CAPTIVEAIRE	108X54X24	I	5424ND-2-PSP-F	KITCHEN	2035	14	1650	430 SS WHERE EXPOSED	1036
H-2(N)	CAPTIVEAIRE	108X54X24	I	5424ND-2-PSP-F	KITCHEN	2035	14	1650	430 SS WHERE EXPOSED	610

NOTES:
1. REFER TO HOOD DRAWINGS ON SHEET H1.0 TO H1.4 FOR SPECIFICATIONS AND MORE DETAILS. SCHEDULES SHOWN FOR REFERENCE ONLY.
2. INCLUDE HOOD CONTROLLER WITH CONTROL PANEL FOR CONTROL OF HOOD, EXHAUST FAN & MAKE-UP AIR UNIT. THE CONTROLLER SHOULD INTEGRATE & CONTROL KITCHEN EXHAUST FAN & MAKE-UP AIR UNIT CONNECTED TO HOODS.

AIR TERMINAL DEVICES SCHEDULE									
TAG	SIZE (IN.)	DESCRIPTION	CONSTRUCTION	NECK SIZE (IN.)	BASIS OF DESIGN		NOTES		
					MANUFACTURER	MODEL			
CDS-1	24"x24"	ALUMINIUM FACE, STEEL BACKPAN PERFORATED SUPPLY DIFFUSER WITH FACE MOUNTED DEFLECTORS	ALUMINUM	PER PLAN	TITUS (OR EQUIVALENT)	PAS-AA	1,2,3,4,5,6		
CDS-2	24"x24"	SQUARE CONE DIFFUSER	ALUMINUM	PER PLAN	TITUS (OR EQUIVALENT)	TMS-AA	1,2,3,4,5,6		
CDS-3	12"x12"	SQUARE CONE DIFFUSER	ALUMINUM	PER PLAN	TITUS (OR EQUIVALENT)	TMS-AA	1,2,3,4,5,6		
CDS-4	ø22"	ALUMINIUM, ROUND DIFFUSER WITH ADJUSTABLE DISCHARGE PATTERNS	ALUMINUM	PER PLAN	TITUS (OR EQUIVALENT)	TMRA-AA	1,2,3,4,5,6		
CDR-1	24"x24"	ALUMINIUM EGGRATE RETURN GRILLE	ALUMINUM	PER PLAN	TITUS (OR EQUIVALENT)	50F	1,2,3,4,5,6		

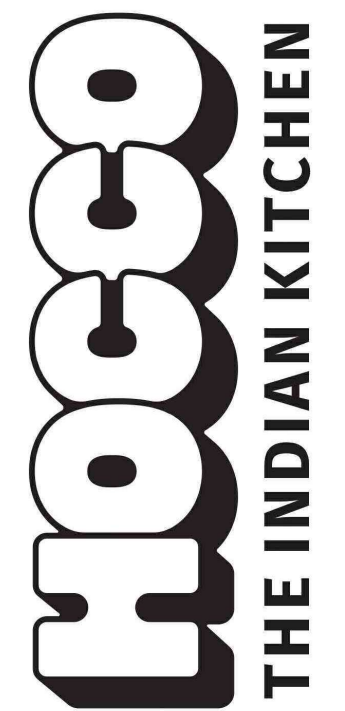
NOTES:
1. PROVIDE FRAME FOR MOUNTING AIR DEVICE IN LAY-IN GRID CEILING UNLESS REFLECTED CEILING PLAN INDICATES HARD CEILING. IN AREAS WITH HARD CEILINGS, PROVIDE FRAMES FOR SURFACE MOUNTING.
2. UNLESS OTHERWISE NOTED, BRANCH DUCTS SERVING AIR DEVICES SHALL BE SAME SIZE AS NECK OF AIR DEVICE.
3. ARCHITECT/OWNER TO CONFIRM FINAL COLOR/FINISH/BORDER TYPE.
4. MAXIMUM NOISE CRITERION RATING < 30 DBA.
5. PROVIDE AN OPPOSITE BLADE DAMPER FOR AIR BALANCING.
6. FOR ROUND NECK DIFFUSERS: NECK SIZES SHALL BE:-
16" DIA: 901-1100 CFM
14" DIA: 601-900 CFM
12" DIA: 401-600 CFM
10" DIA: 201-400 CFM
8" DIA: 101-200 CFM

VENTILATION CALCULATION TABLE												
ROOM NAME	AREA (SQ.FT.)	NUMBER OF PEOPLE/1000sq.ft AS PER IMC 2018	NUMBER OF PEOPLE AS PER IMC 2018	NUMBER OF CHAIR	FINAL PEOPLE NO.	MIN OUTSIDE AIR AS PER IMC 2018 CFM/PEOPLE	REQUIRED OUTSIDE AIR (CFM)	PROVIDED OUTSIDE AIR (CFM)	EXHAUST AIRFLOW RATE (CFM/SQ.FT)	REQUIRED EXHAUST (CFM)	PROVIDED EXHAUST (CFM)	
101-DINING	536	70	38	24	24	7.5	0.18	277	0	0	4210	
102-SALES AREA	89	15	2	2	2	7.5	0.12	26	0	0		
103-KITCHEN AREA	402	20	9	0	9	7.5	0.12	116	0.7	285		
104-STORAGE	155	0	0	0	2	0	0.12	19	0	0		
105-HALLWAY	31	0	0	0	0	0	0.06	2	0	0		
106-RESTROOM MEN	47	0	0	0	0	0	0	0	70	70		
107-RESTROOM WOMEN	47	0	0	0	0	0	0	0	70	70		
TOTAL	1307	-	-	-	37	-	-	440	950	425	4210	

AIR BALANCE TABLE						
UNIT	AREA SERVED	SUPPLY AIR	OUTSIDE AIR	RETURN AIR	EXHAUST AIR	
RTU-1(E)	SEE PLAN	2400 CFM	720 CFM	1680 CFM	-	-
MAU-1(N)	SEE PLAN	3300 CFM	3300 CFM	-	-	-
AHU-1(N)	SEE PLAN	1200 CFM	230 CFM	970 CFM	-	-
KEF-1(N)	SEE PLAN	-	-	-	4070 CFM	-
TEF-1(N)	SEE PLAN	-	-	-	70 CFM	-
TEF-2(N)	SEE PLAN	-	-	-	70 CFM	-
TOTAL:		6900 CFM	4250 CFM	2650 CFM	4210 CFM	
BUILDING PRESSURE:			40 CFM	POSITIVE	

1. CONTRACTOR TO BALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON RTUs & MAU TO MATCH VALUES AS MENTIONED IN ABOVE TABLE.

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

M4.0
MECHANICAL SCHEDULE

FOR QUESTIONS, CALL THE
Chicago Mechanical Office
REGION 73
PHONE: (630) 705 - 3960
EMAIL: reg73@captiveaire.com

HOOD INFORMATION - JOB#7588053

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	END TO END	ROW
1		5424 ND-2-PSP-F	CAPTIVEAIRE	9' 0"	600 DEG	I	HEAVY	226	2035			4'	14'	2035	1904	-1.136'	1650	430 SS WHERE EXPOSED	LEFT	ALONE
2		5424 ND-2-PSP-F	CAPTIVEAIRE	9' 0"	600 DEG	I	HEAVY	226	2035			4'	14'	2035	1904	-1.136'	1650	430 SS WHERE EXPOSED	RIGHT	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)				LIGHT(S)			UTILITY CABINET(S)				FIRE SYSTEM	HOOD HANGING WEIGHT			
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	TYPE			SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY
1		CAPTRATE SLDL FILTER	6	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	ND	LEFT	12"x54"x24"	TANK FS	4.0/4.0/4.0	DCV-1111	1 LIGHT 1 FAN	YES	1036 LBS
2		CAPTRATE SLDL FILTER	6	16"	16"	85% SEE FILTER SPEC	3	RECESSED ROUND	ND							YES	610 LBS

PERFORATED SUPPLY PLENUM(S)

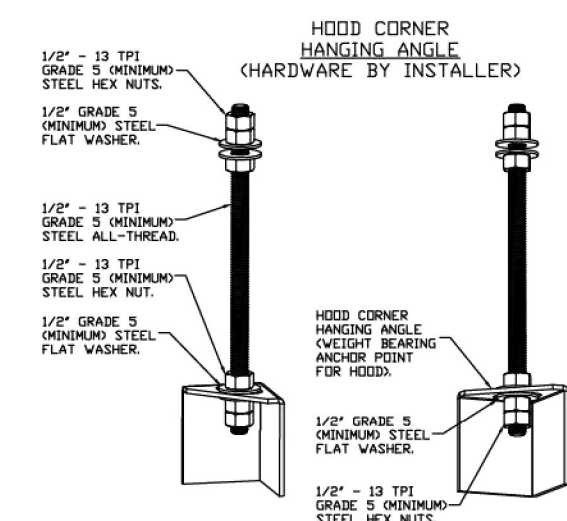
HOOD NO	TAG	POS	LENGTH	WIDTH	HEIGHT	TYPE	RISER(S)				
							WIDTH	LENG	DIA	CFM	SP
1		Front	120"	16"	6"	MUA	12"	28"		825	0.218"
2		Front	108"	16"	6"	MUA	12"	28"		825	0.218"

FIRE SYSTEM INFORMATION - JOB#7588053

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0/4.0	60	56	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

FIRE SYSTEM NO	TAG	TYPE	SIZE	SUPPLIED BY
1		SC ELECTRICAL	2.000	CAPTIVEAIRE SYSTEMS



ASSEMBLY INSTRUCTIONS

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

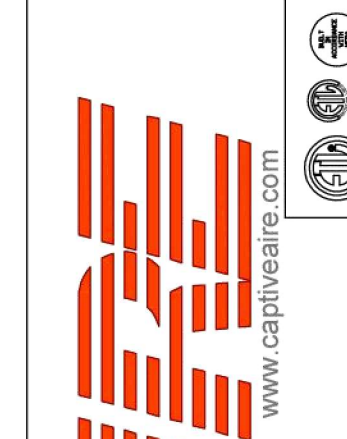
CAPTIVE-AIRE HOODS ARE BUILT IN COMPLIANCE WITH



NFPA #96
NSF

E.T.L. LISTED 3054804-001 TO UL 710 & ULC710 STANDARDS

REVISIONS	
DESCRIPTION	DATE



Chicago Mechanical Office
915 Parkview Blvd, Lombard, IL 60148
PHONE: (630) 705-3960
FAX: 9192275980
EMAIL: reg73@captiveaire.com

MEP CONSULTANT:

HoCCO - Cumming, GA

DATE: 6/17/2025
DWG.#: 7588053

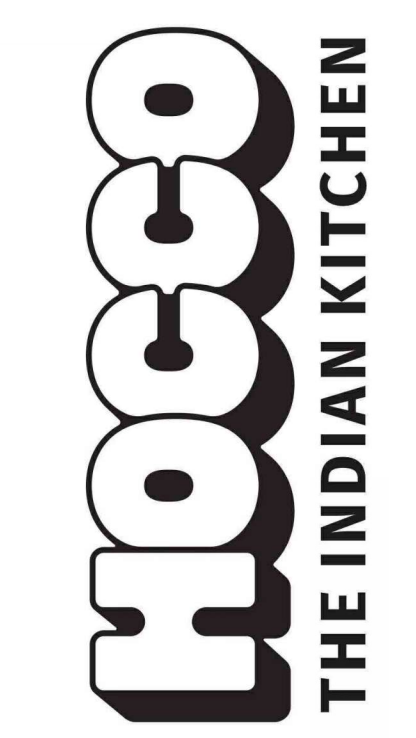
DRAWN BY: Jeremy
SCALE: 3/4" = 1'-0"

MASTER DRAWING

SHEET NO. 1

PROJECT LOCATION:

H1.0
KITCHEN HOOD DRAWINGS (1 OF 5)



SHEET HISTORY SCHEDULE		
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

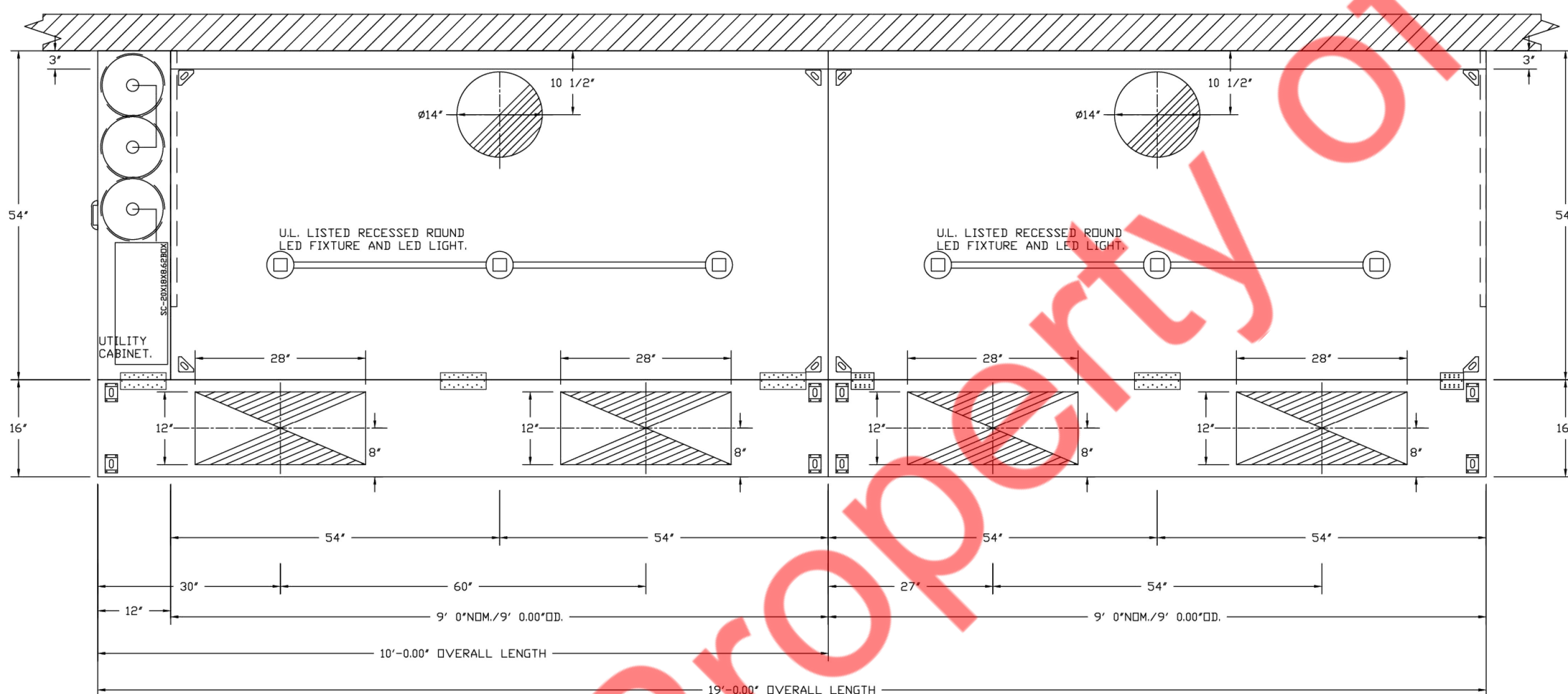
ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE
QAQC: NYE

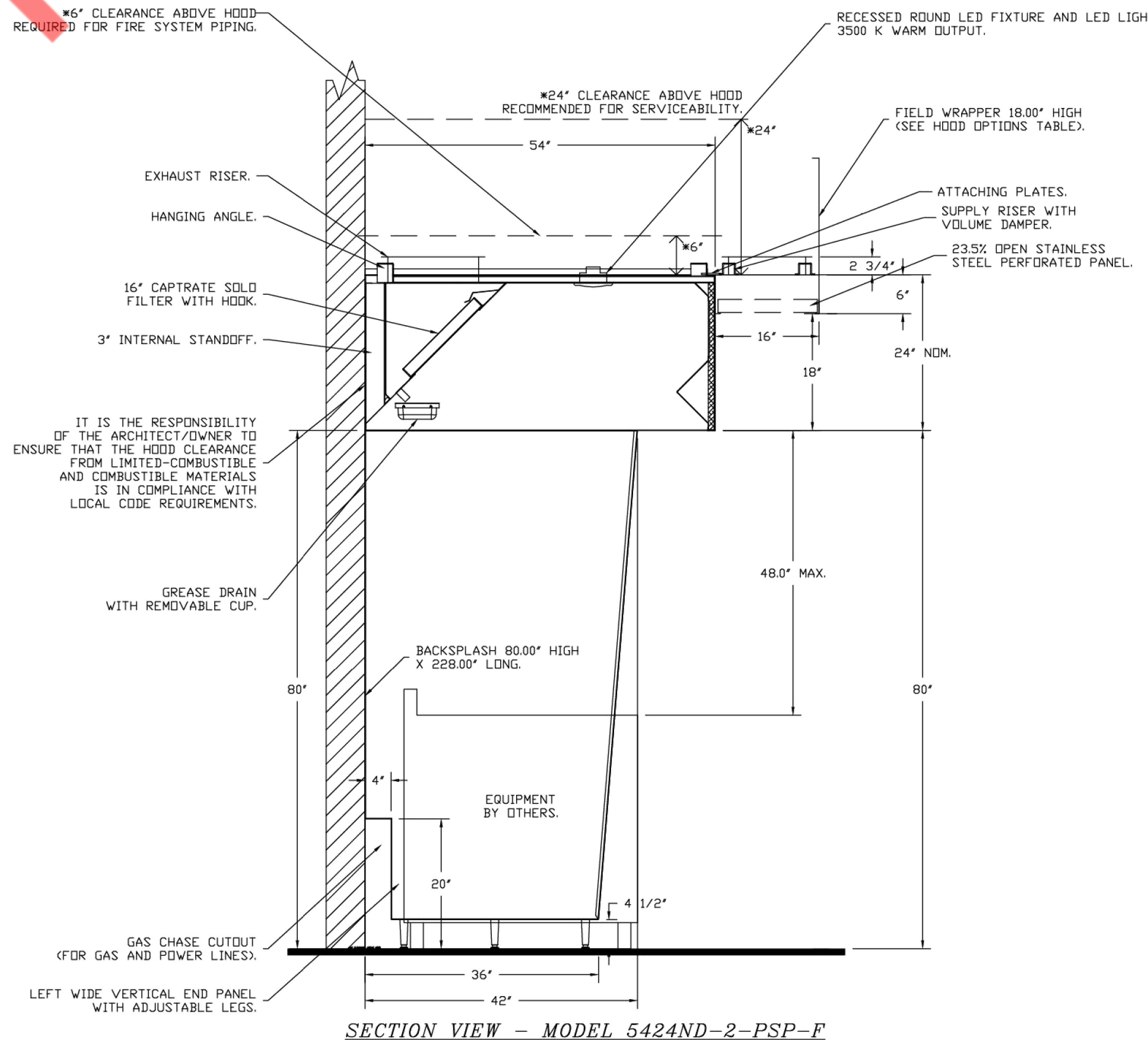
APPROVED BY: NYE
PROJECT NUMBER:

SHEET NUMBER / TITLE:
H1.0
KITCHEN HOOD DRAWINGS (1 OF 5)



PLAN VIEW - HOOD #1
9' 0.00" LONG 5424ND-2-PSP-F

PLAN VIEW - HOOD #2
9' 0.00" LONG 5424ND-2-PSP-F

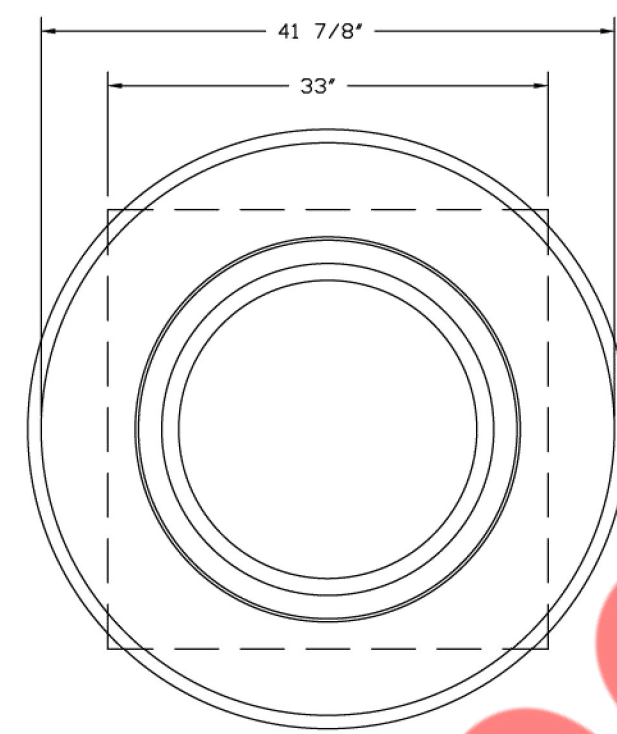
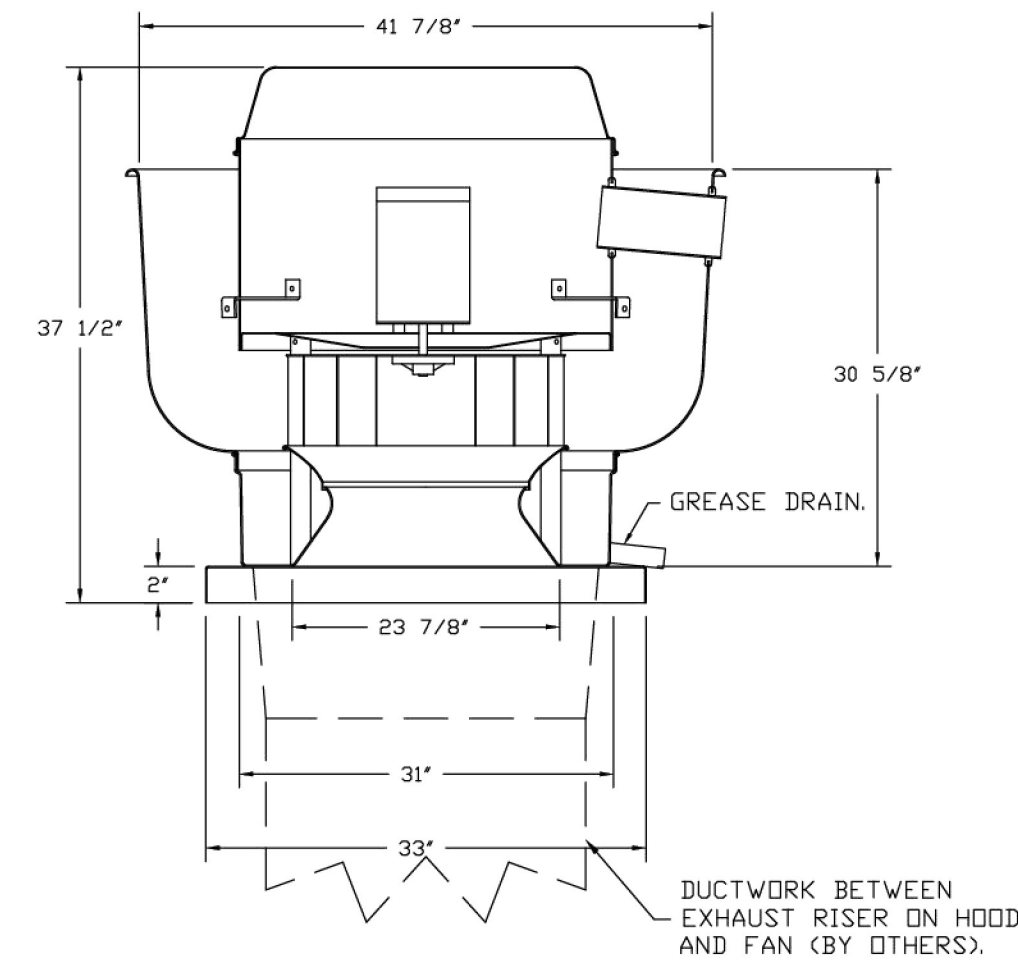


SECTION VIEW - MODEL 5424ND-2-PSP-F

EXHAUST FAN INFORMATION - JOB#7588053

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1		1	DU240HFA	CAPTIVEAIRE	4070	1.500	898	TEFC,PREMIUM	3.000	2.0190	3	208	10.1	925 FPM	375	15.8

FAN #1 DU240HFA - EXHAUST FAN



TOP VIEW

FEATURES:

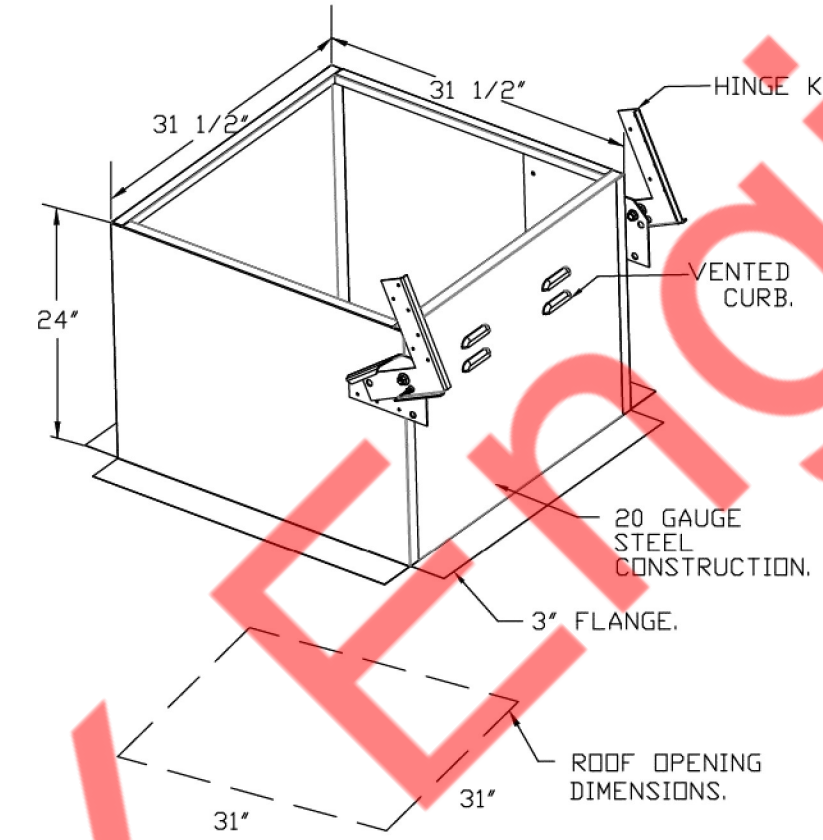
- DIRECT DRIVE CONSTRUCTION (NO BELTS/PULLEYS).
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL705 AND UL762 AND ULC-S645
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION (SINGLE PHASE).
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT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

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

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

OPTIONS

- GREASE BOX.
- FAN BASE CERAMIC SEAL.
- DU/DR240HFA - INSTALLED AT PLANT - FOR GREASE DUCTS.
- UNIT MOUNTED VFD FOR USE WITH ECMMS.
- VFD MOUNTING BRACKET FOR DU/DR 240.
- EXHAUST FAN HEAT BAFFLE.
- 2 YEAR PARTS WARRANTY.



REVISIONS	
DESCRIPTION	DATE

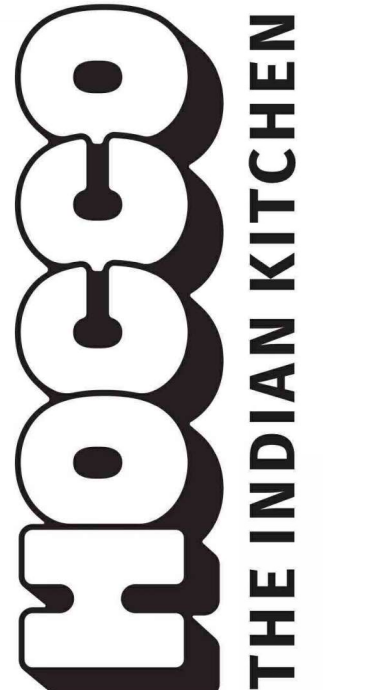
Chicago Mechanical Office
915 Parkview Blvd, Lombard, IL 60148 PHONE: (630) 705-3960 FAX: 9192275960 EMAIL: reg73@captiveair.com

HOCCO - Cumming, GA

DATE: 6/17/2025
DWG.#: 7588053
DRAWN BY: Jeremy
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 2

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

H1.1

KITCHEN HOOD DRAWINGS (2 OF 5)

DOAS/RTU FAN SCHEDULE - JOB#7588053

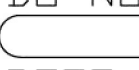
FAN UNIT NO	TAG	QTY	FAN INFORMATION							ELECTRICAL INFORMATION							COOLING INFORMATION							GAS HEAT INFORMATION					A2L MINIMUM ROOM VOLUME			NOTES			
			DOAS/RTU MODEL #	MANUFACTURER	BLOWER	RETURN AIR CFM	MAX OUTSIDE AIR CFM	TOTAL CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	MCA	MDCP	OUTSIDE AIR		MIXED AIR		LEAVING AIR			CAPACITY		IEER	ISMRE2	GAS TYPE	INPUT BTUS	OUTPUT BTUS	TEMP RISE	REQUIRED INPUT GAS PRESSURE		ROOM AREA (FT ²)	AIRFLOW (CFM)	HEIGHT (FT)
																DB	WB	DB	WB	DB	WB	DP	TOTAL	SENS.											
2		1	CAS-HVAC2-1.250-18-10T-MPU	CAPTIVEAIRE	18MF-2-RTU	0	3300	3300	1980	0.500	3.00	3	208	60.9A	70A	82.9°F	77.1°F	82.9°F	77.1°F	66.1°F	65.9°F	65.8°F	139.7 MBH	57.3 MBH	18.6	7.3	NATURAL	220002	178202	48°F	7 IN. W.C. - 14 IN. W.C.	397.1	687	7.2	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16

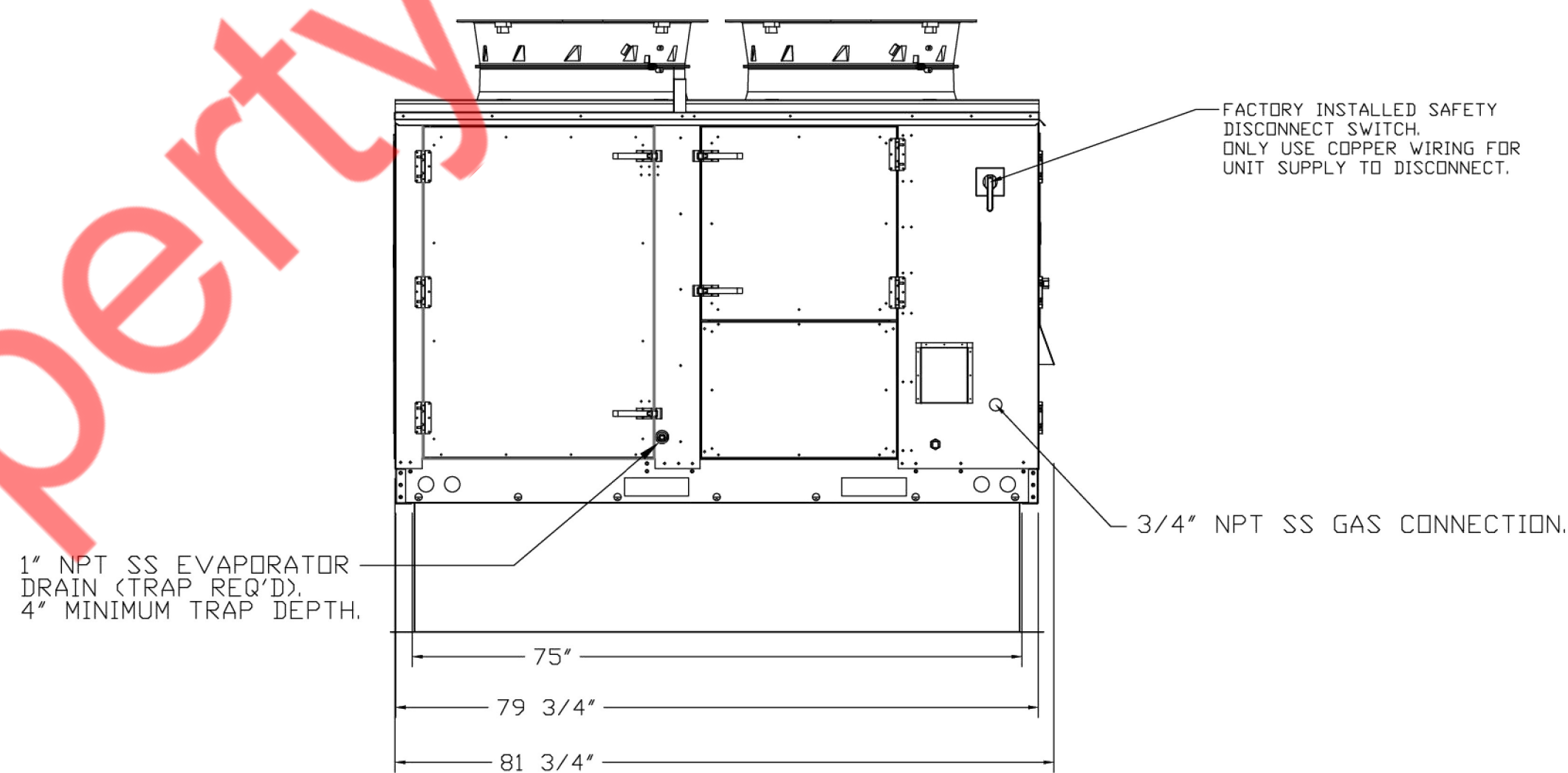
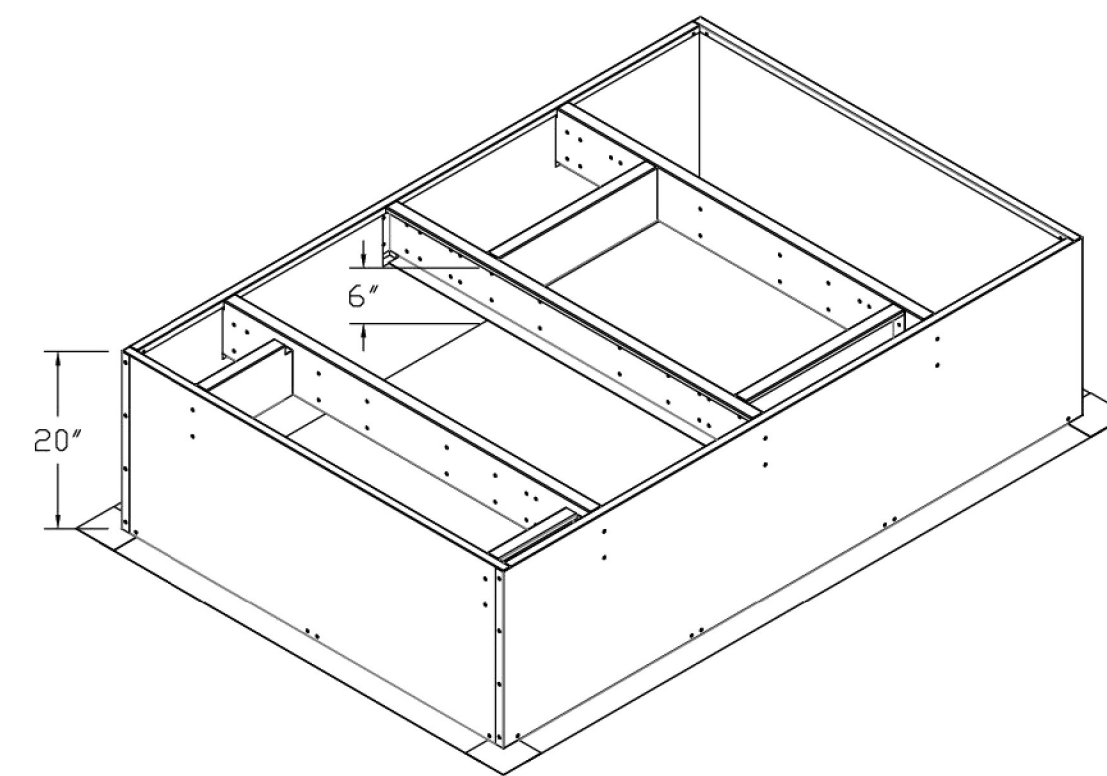
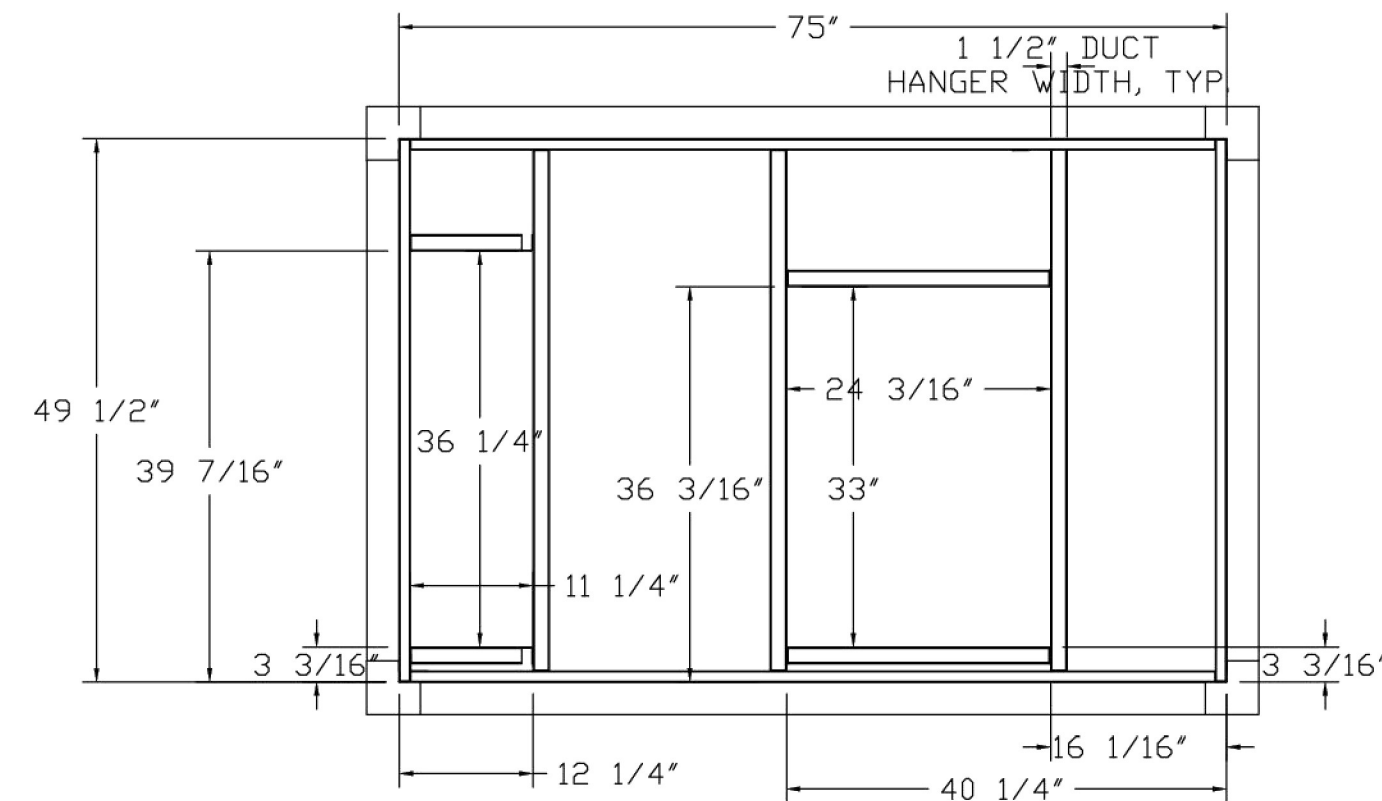
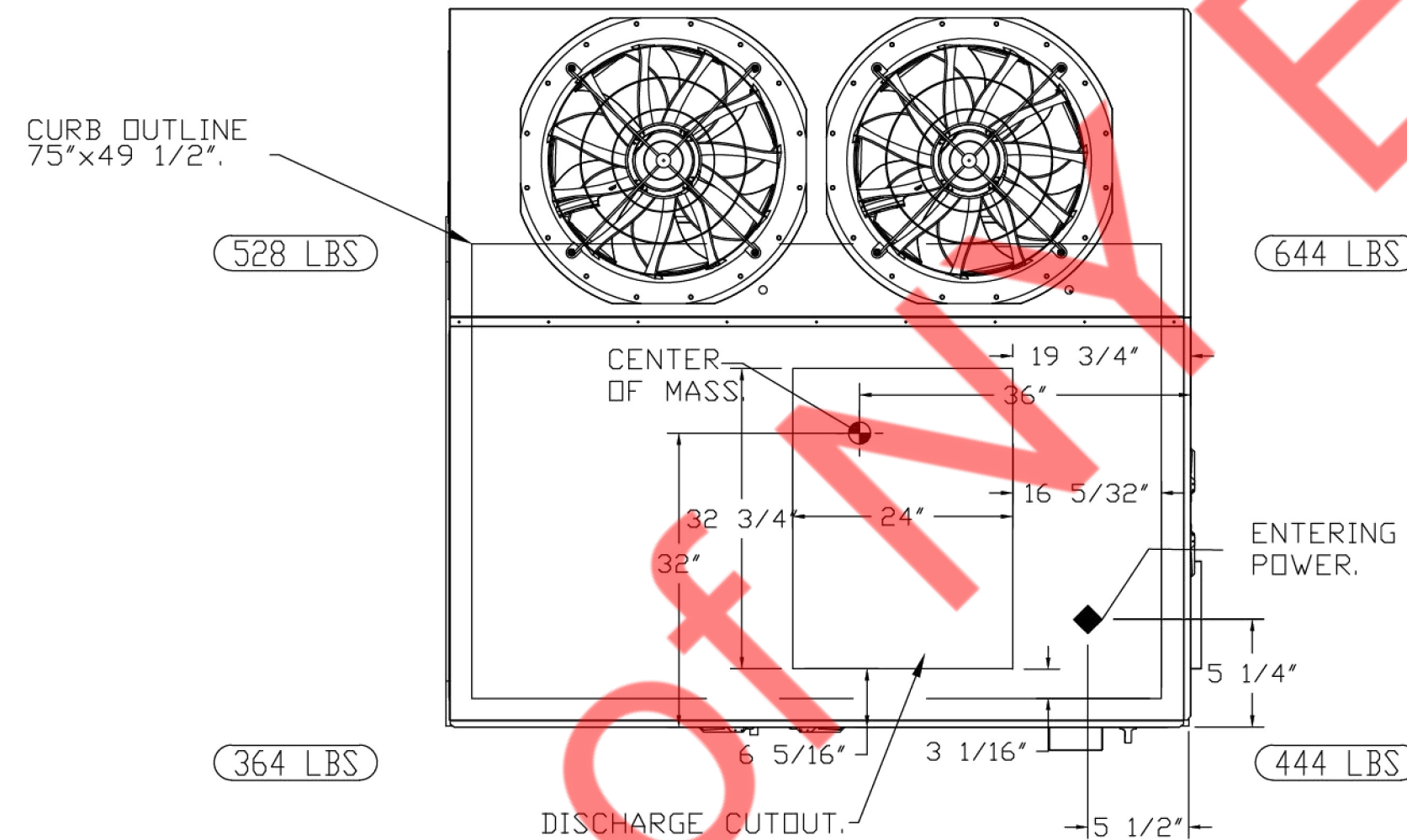
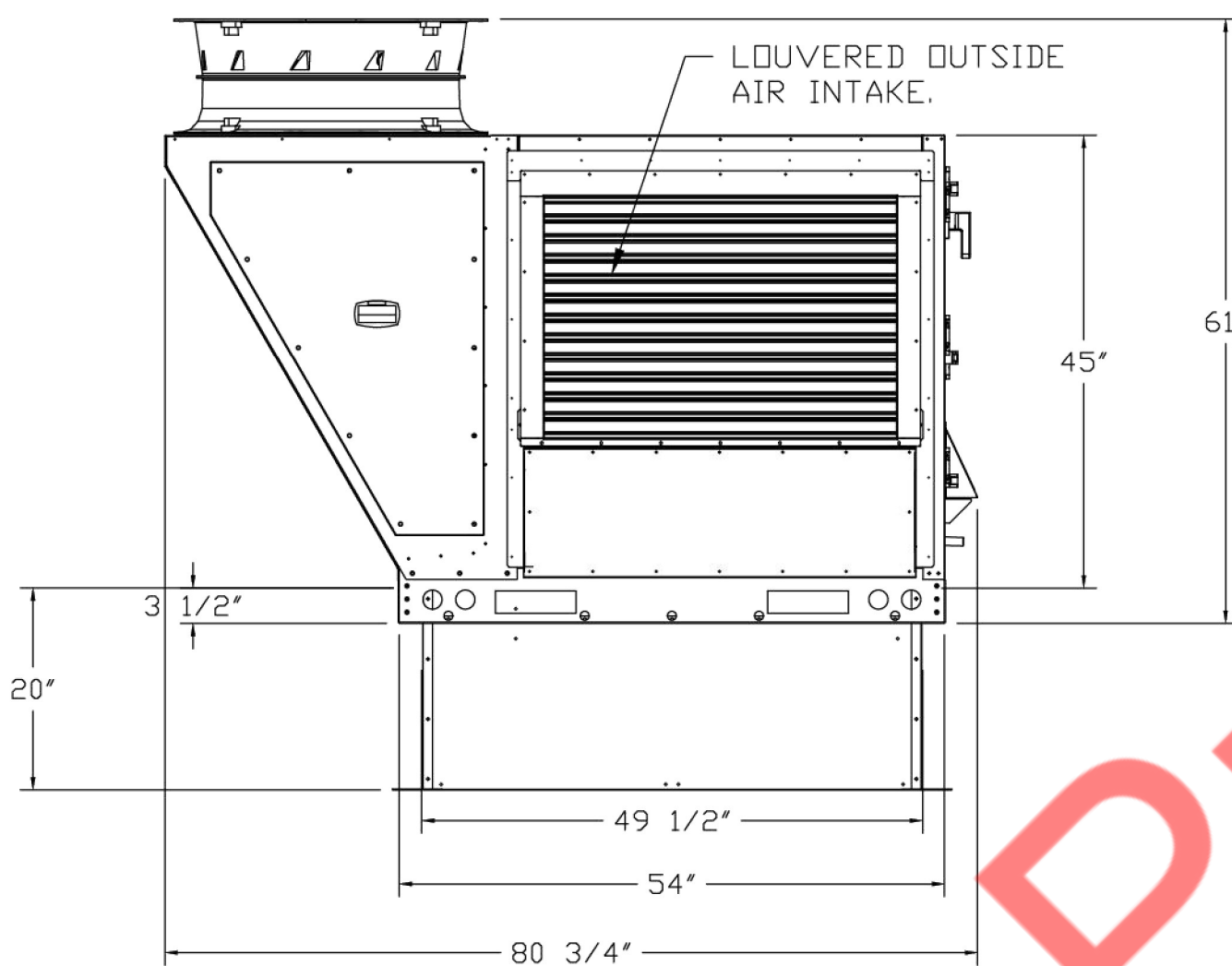
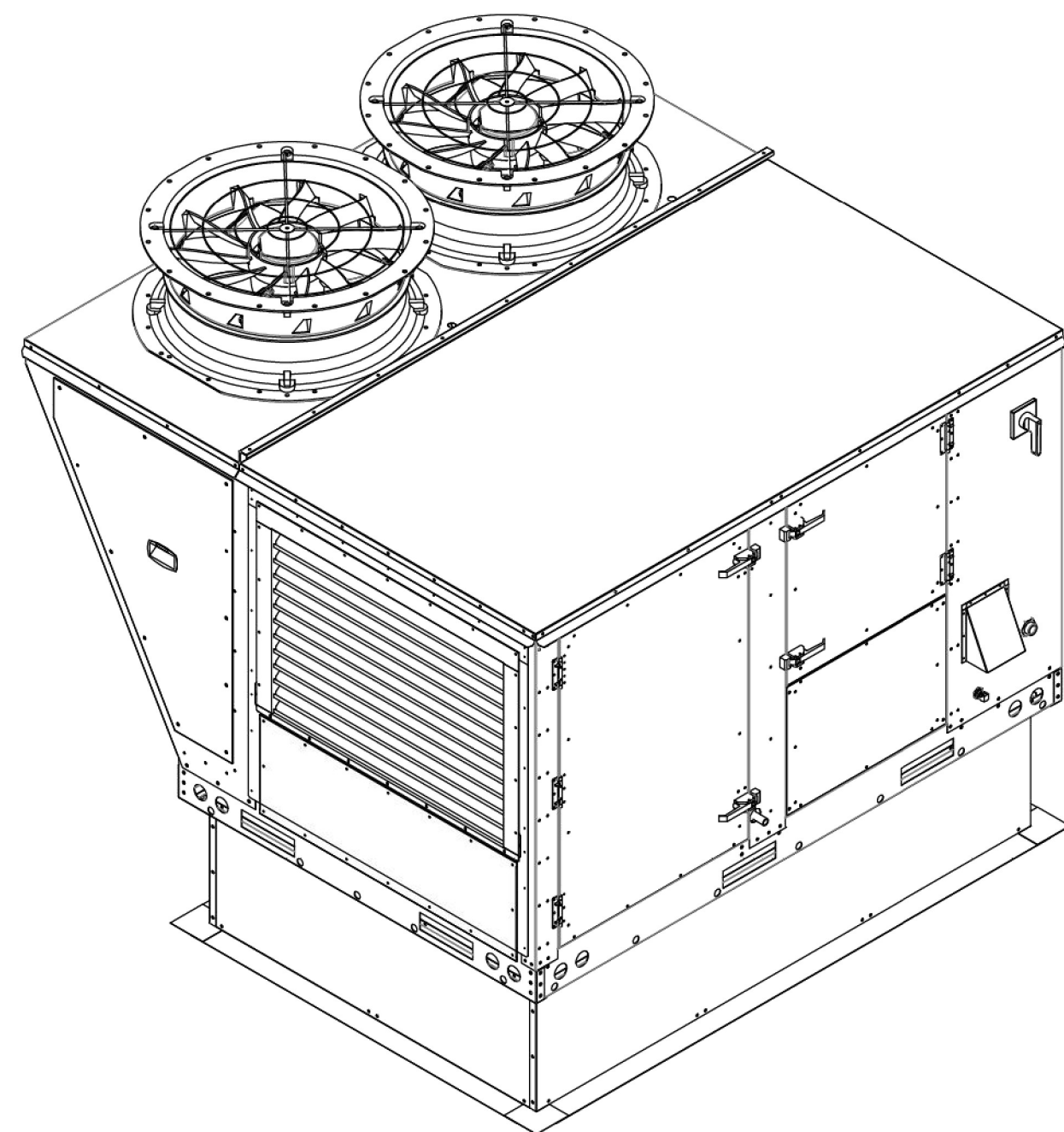
NOTES:

1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE
5. EC MOTOR CONDENSING FANS
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE
7. SUCTION LINE ACCUMULATOR
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)
10. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE
11. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP
12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE
13. 15 DEGREE LOW AMBIENT OPERATION
14. FACTORY INSTALLED COMPRESSOR SOUND BLANKET
15. DOWN DISCHARGE/NO RETURN
16. MINIMUM ROOM AREA ASSUMED 72' SUPPLY DIFFUSER HEIGHT AND IS CALCULATED PER UL60335-2-40 4TH ED. VALUES BASED ON FACTORY CHARGE. ACTUAL SITE CHARGE MAY DIFFER.

FAN #2 CAS-HVAC2-I.250-18MF-10T-MPU - HEATER

NOTES:

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



REVISIONS

DESCRIPTION	DATE

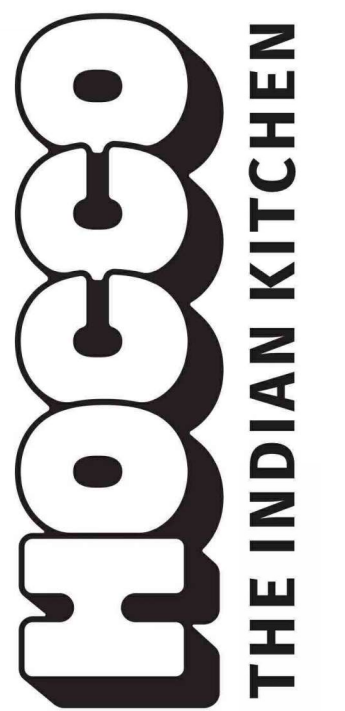
CAPTIVE
Chicago Mechanical Office
www.captiveaire.com
915 Parkview Blvd, Lombard, IL 60148 PHONE: (630) 705-3960 FAX: 9192275960 EMAIL: reg73@captiveaire.com

HOCCO - Cumming, GA

DATE: 6/17/2025
DWG.#: 7588053
DRAWN BY: Jereny
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 3

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

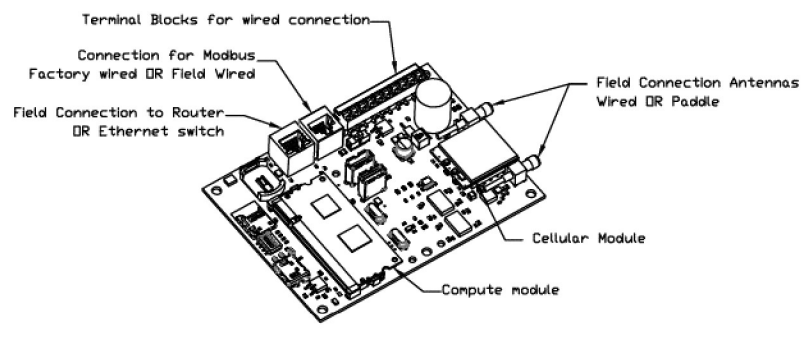
SHEET NUMBER / TITLE:

H1.2

KITCHEN HOOD DRAWINGS (3 OF 5)

ELECTRICAL PACKAGE - JOB#7588053

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	HP	VOLT	FLA	
1		DCV-1111	UTILITY CABINET LEFT	UTILITY CABINET LEFT HOOD # 1	1 LIGHT 1 FAN	SMART CONTROLS DCV					

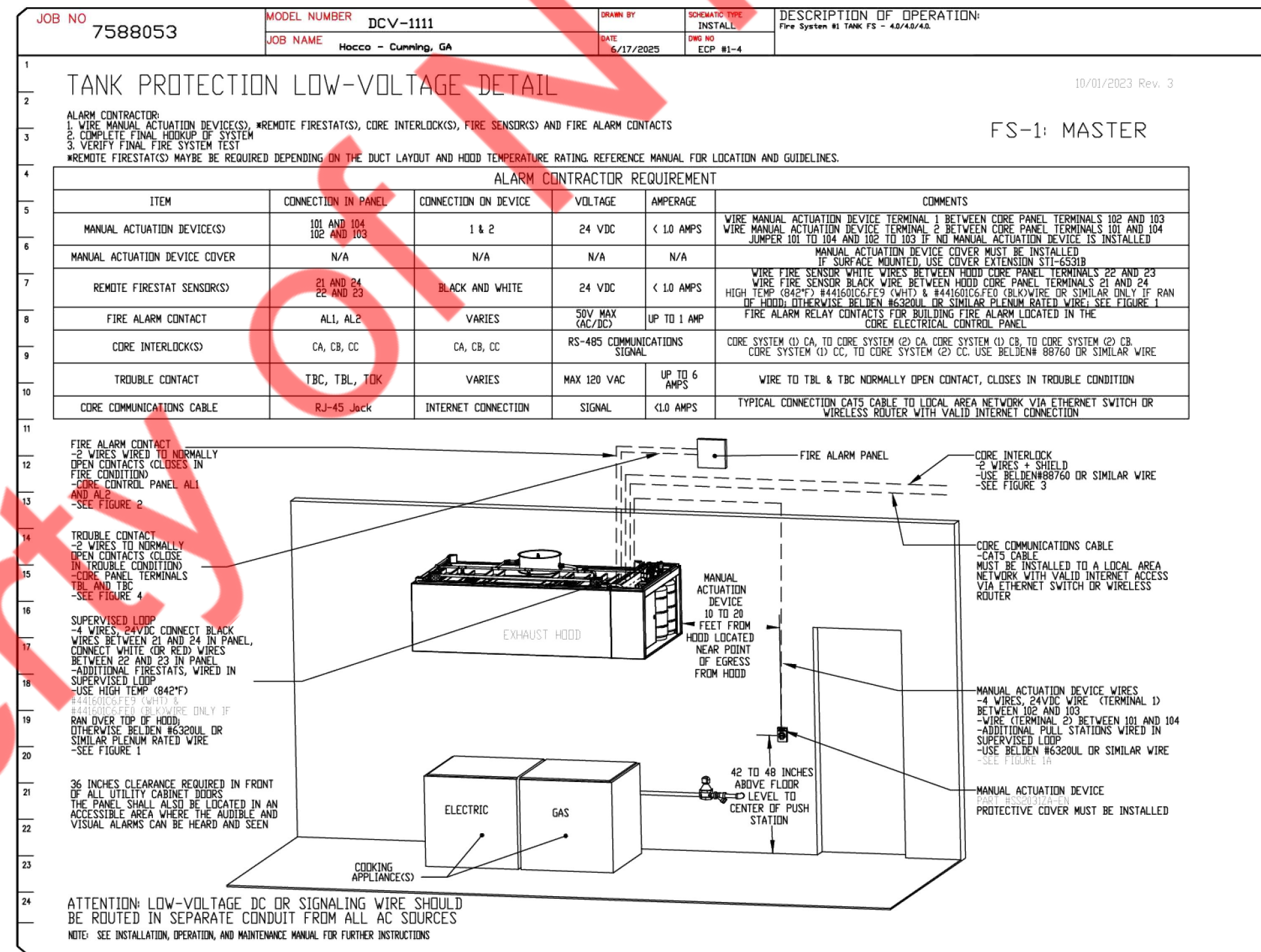
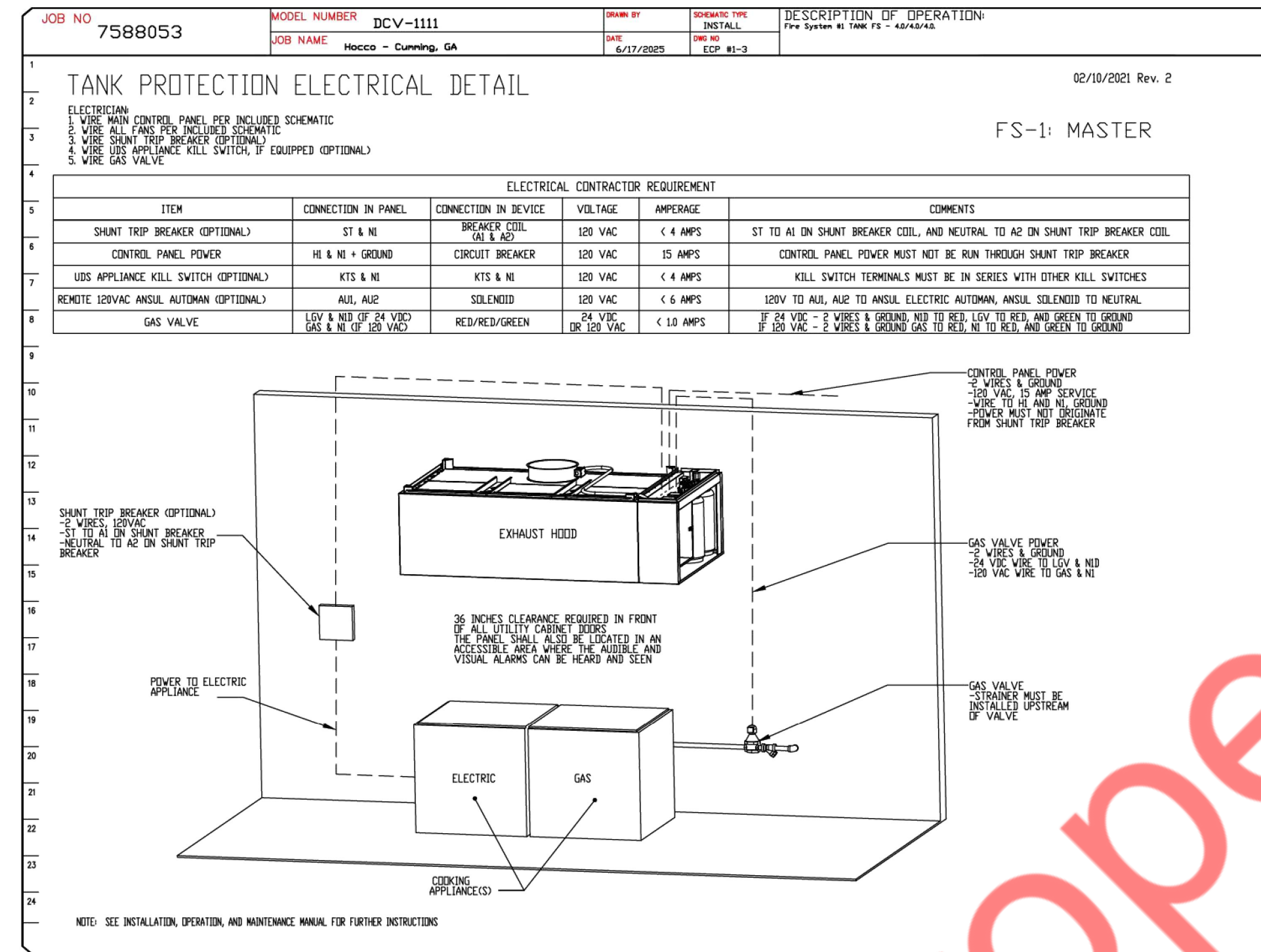
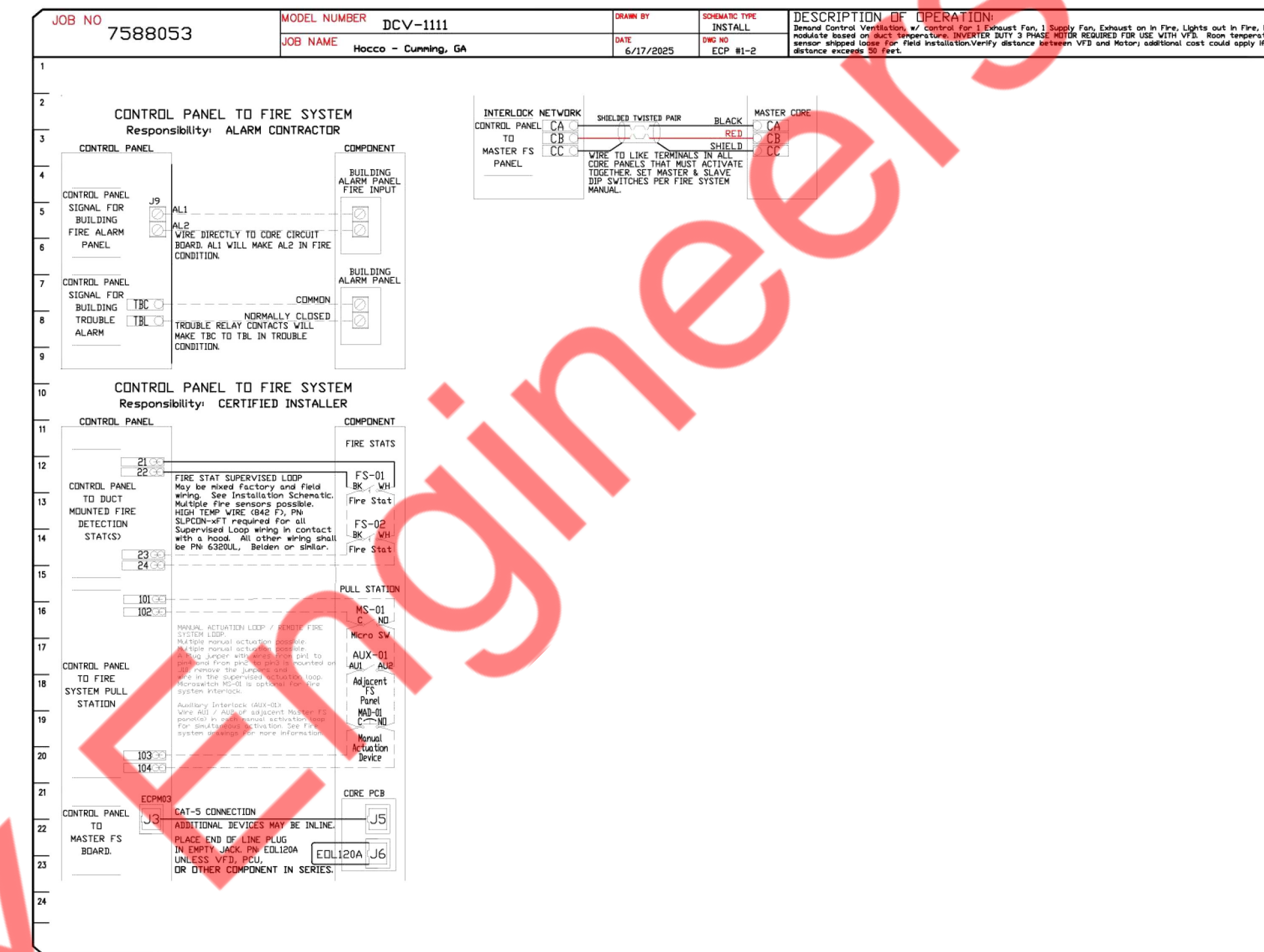
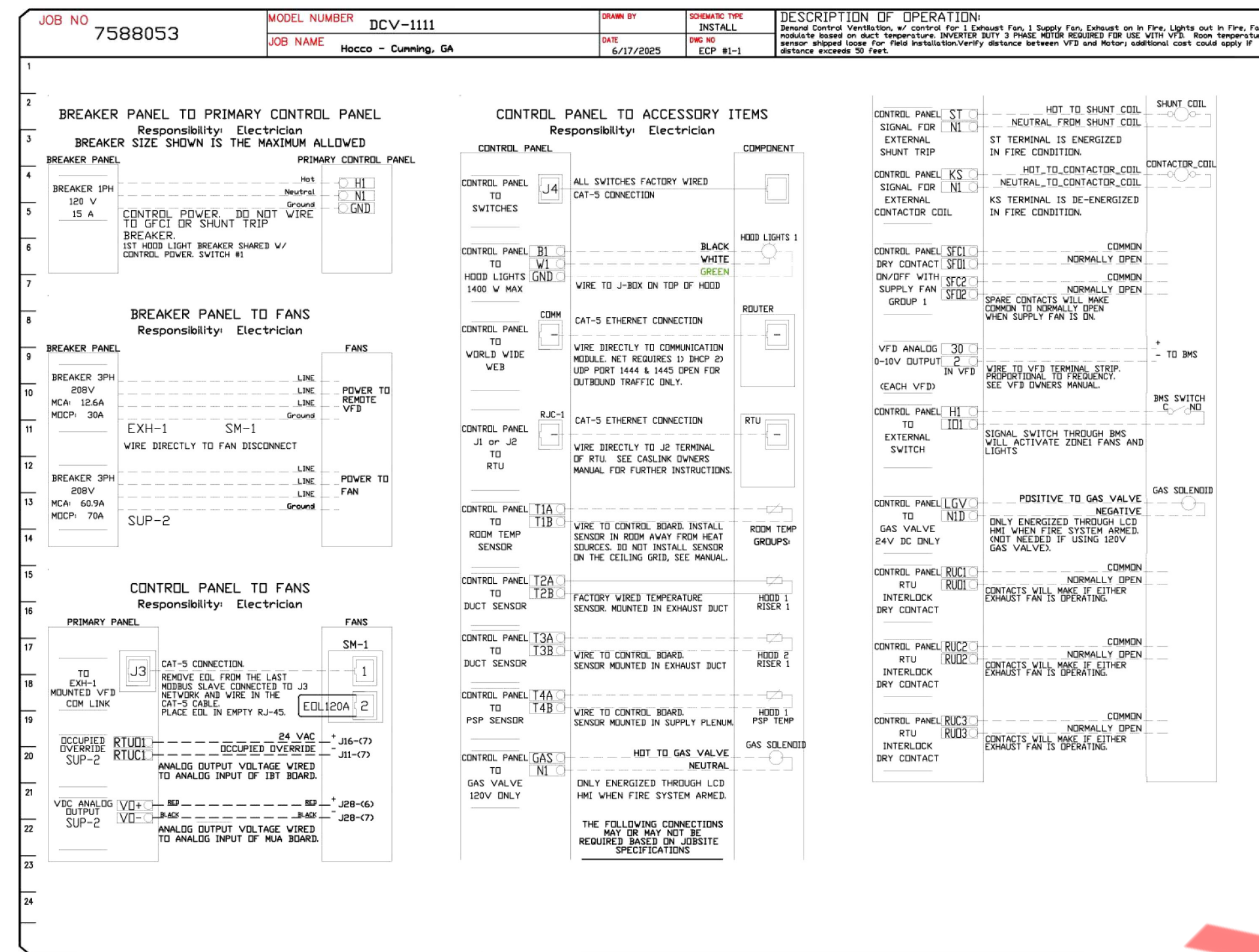


CASlink Monitor and Control

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

MONITORING AND CONTROL POINTS LIST

DCV Packages	Function	DC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MHA Discharge Temperature	MONITOR	MHA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR	Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Compressor Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	PCV Filter Clip Percentages	MONITOR
Controller Faults	MONITOR	Fire Condition	MONITOR
Fan Fan Faults	MONITOR	COMP Fire System	MONITOR
Fan Fan Status	MONITOR	Building Pressure	MONITOR & CONTROL
PCV Filter Clip Percentages	MONITOR	PCV Filter Clip Percentages	MONITOR & CONTROL
Fire Condition	MONITOR	Light(s) Status(s)	MONITOR & CONTROL
CORE Fire System	MONITOR	Flash Point	MONITOR & CONTROL
Building Pressure	MONITOR		
Prep Zone Status	MONITOR & CONTROL		
Fresh Air Inlet	MONITOR & CONTROL		
Light(s) Status	MONITOR & CONTROL		
Flash Point	MONITOR & CONTROL		



REVISIONS

DESCRIPTION	DATE

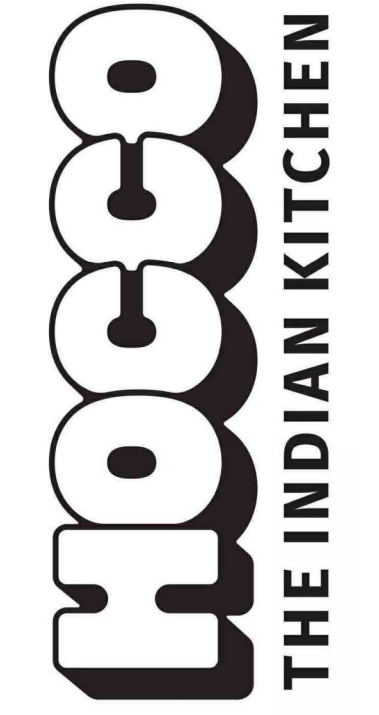
Chicago Mechanical Office
www.captiveinc.com
915 Parkview Blvd. Lombard, IL 60148 PHONE: (630) 705-3960 FAX: 9192275960 EMAIL: reg73@captiveinc.com

Hocco - Cuming, GA

DATE: 6/17/2025
DWG.#: 7588053
DRAWN BY: Jeremy
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 4

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

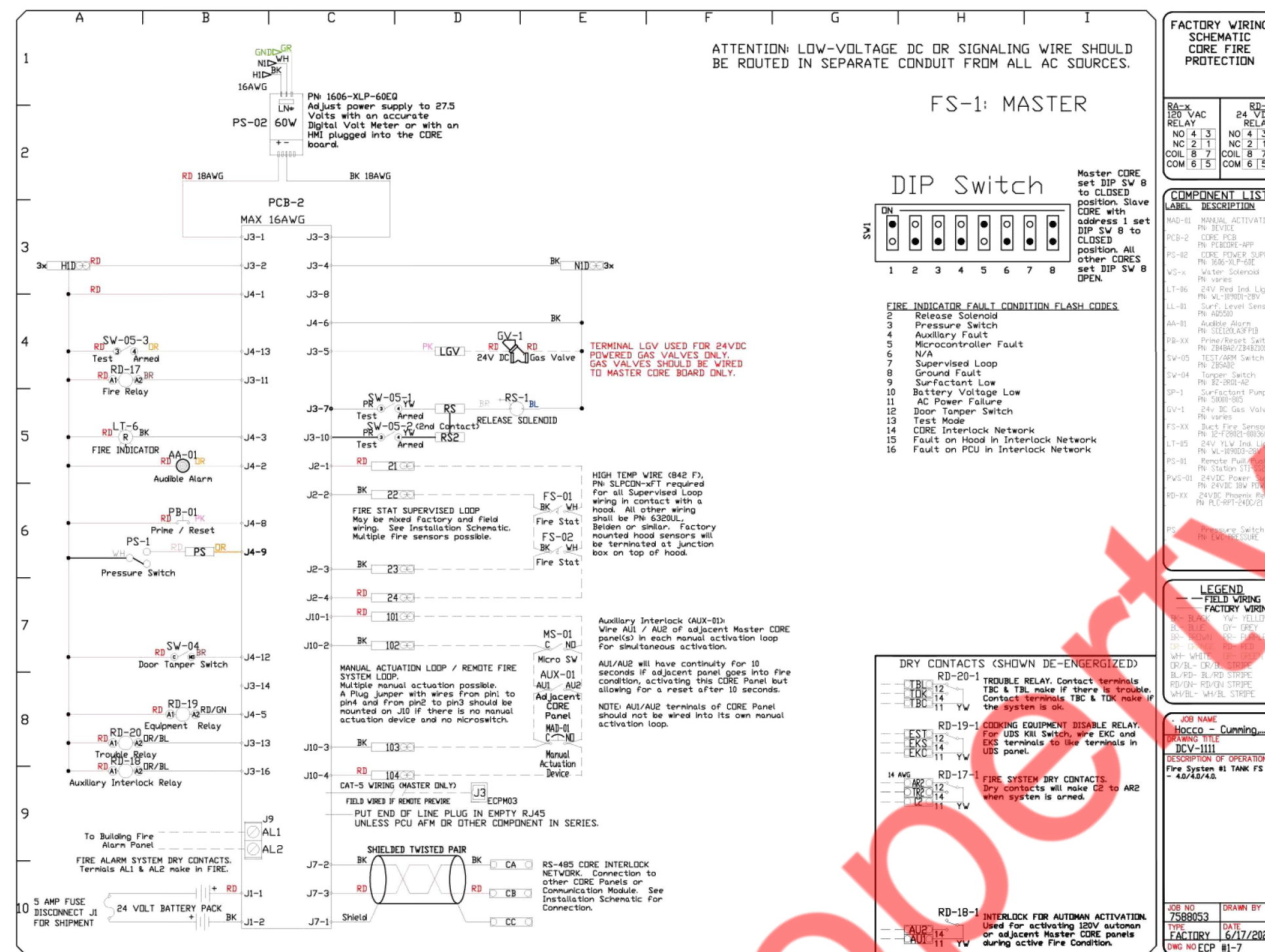
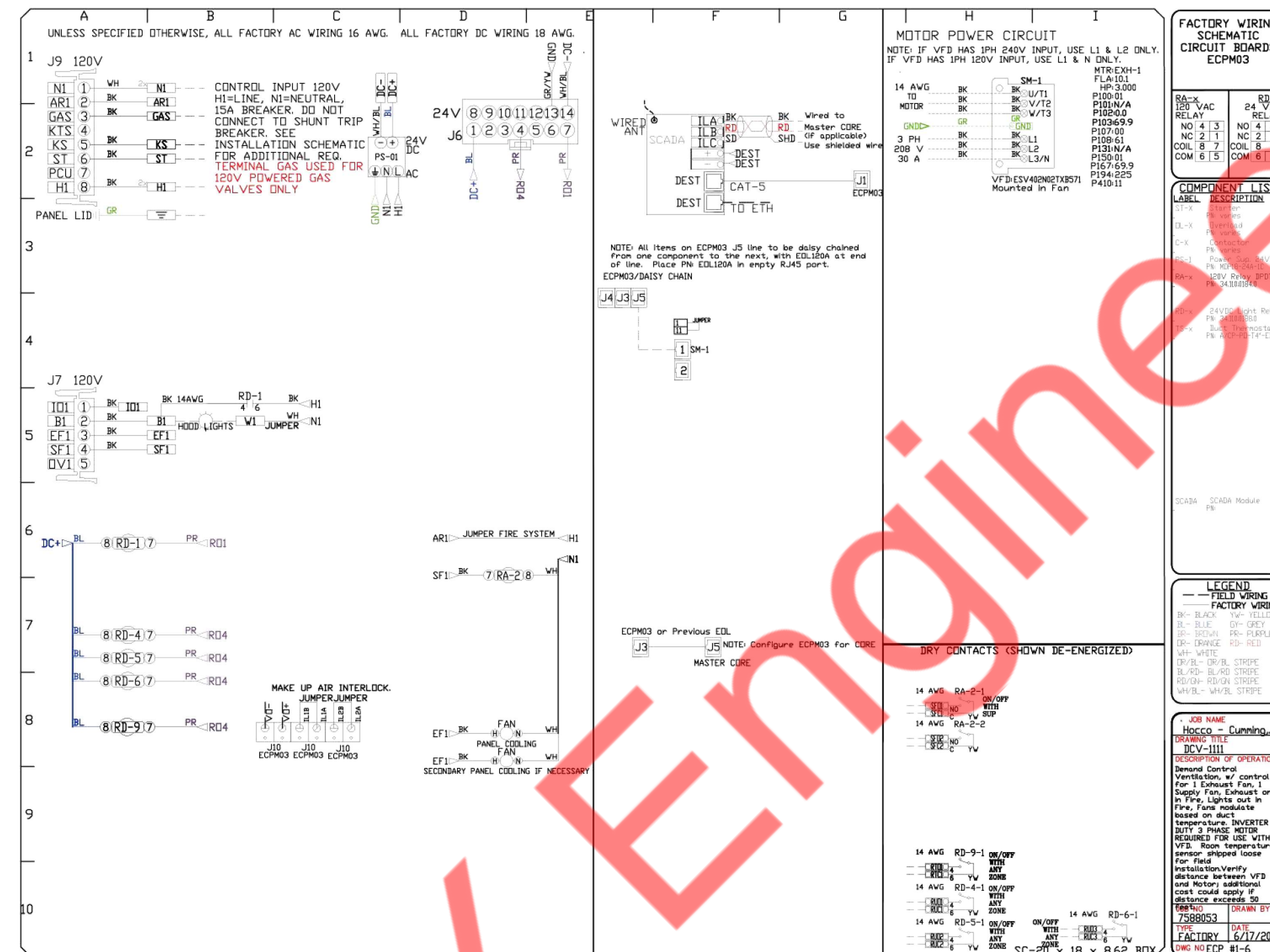
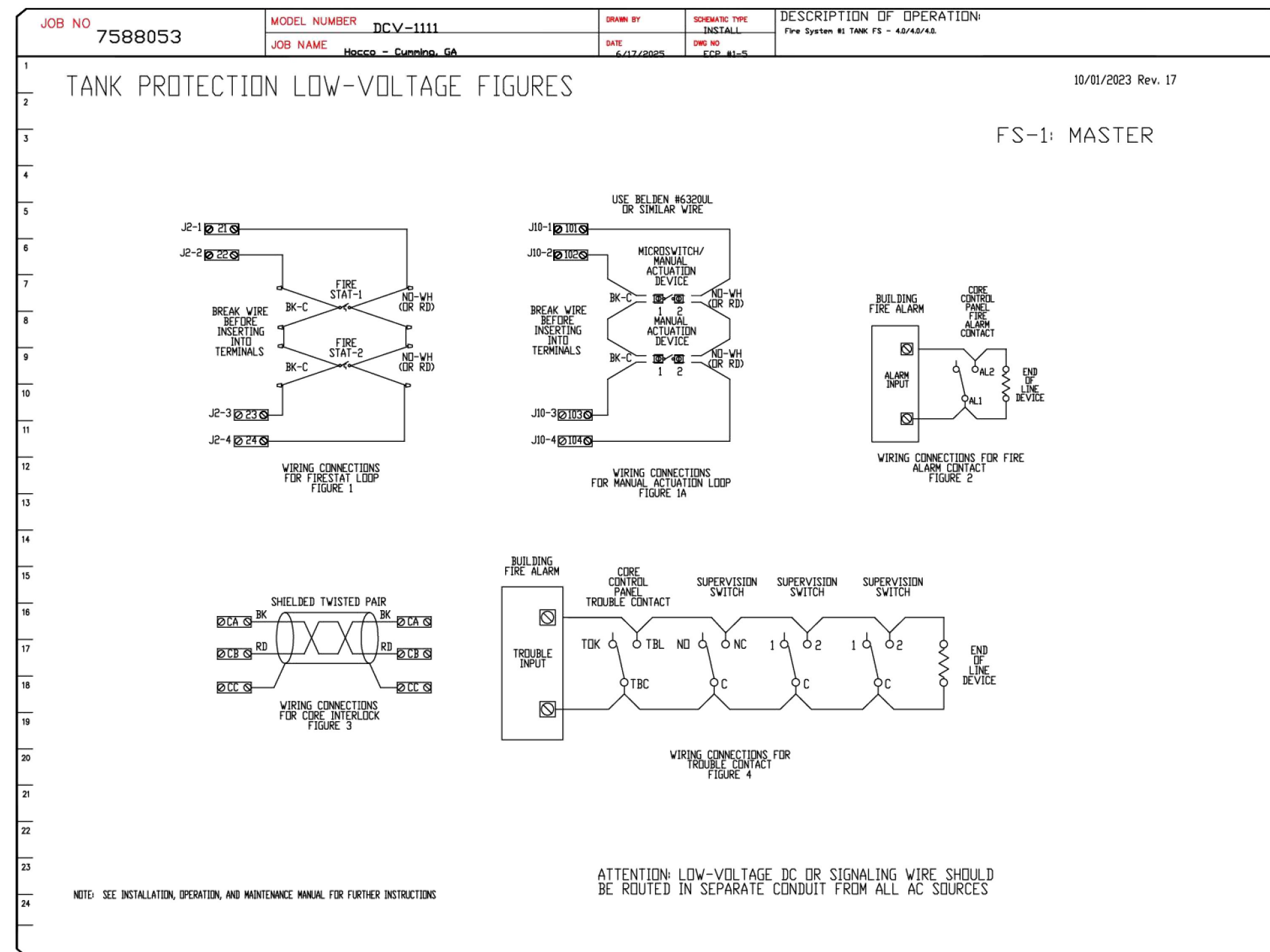
QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

H1.3
KITCHEN HOOD DRAWINGS (4 OF 5)



SYSTEM DESIGN VERIFICATION (SDV)

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

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

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

REVISIONS	DESCRIPTION	DATE

CAPTIVE

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Hooco - Cumming, GA

DATE: 6/17/2025
DWG.#: 7588053
DRAWN BY: Jeremy
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
5



SHEET HISTORY SCHEDULE		
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

H1.4

KITCHEN HOOD DRAWINGS (6 OF 5)

LIGHTING PLAN LEGENDS	
	SWITCH TYPE (SUPERSCRIPIT IN UPPERCASE)
	20A, 120V SPST WALL SWITCH (UON)
	SWITCH TAG (SUBSCRIPIT IN LOWERCASE)
	WALL SWITCH WITH OCCUPANCY SENSOR
	WALL SWITCH WITH VACANCY SENSOR
	WALL SWITCH WITH TIMER
	WALL SWITCH WITH DIMMER & TIMER
	3 WAY WALL SWITCH (SPDT)
	4 WAY / INTERMEDIATE WALL SWITCH (DPDT)
	WALL SWITCH WITH SPEED REGULATOR
	MOTOR RATED WALL SWITCH
	THERMOSTAT WALL SWITCH
	MANUAL OVERRIDE WALL SWITCH
	PHOTOCELL WALL MOUNTED
	OCCUPANCY SENSOR WALL MOUNTED
	OCCUPANCY SENSOR CEILING MOUNTED
	VACANCY SENSOR CEILING MOUNTED
	DAY LIGHT SENSOR CEILING MOUNTED
	TIME CLOCK - DUAL CHANNEL
	LIGHTING CONTACTOR
	BUG EYE - EMERGENCY LIGHT WITH BATTERY
	ILLUMINATED EXIT SIGN
	ILLUMINATED DIRECTIONAL SIGN
	BUG EYE & EXIT SIGN COMBO WITH BATTERY

ANNOTATION	
TO A#1 VIA L/C#1 AND S#@SB	CONNECT THE HOME RUN TO CIRCUIT BREAKER #1 OF THE ELECTRICAL PANEL "A" VIA LIGHTING CONTACTOR (LC) #1 AND SWITCH(S) "A" WHICH IS LOCATED IN THE SWITCH BANK "SB"

APPLICABLE CODES	
ALL WORK AND MATERIAL SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY. NOTHING IN THESE DRAWINGS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS CODES APPLICABLE TO THIS PROJECT.	
2018 INTERNATIONAL BUILDING CODE (IBC), WITH GEORGIA AMENDMENTS (2020)	
2020 NATIONAL ELECTRICAL CODE, WITH GEORGIA AMENDMENTS (2021)	
GEORGIA STATE MINIMUM STANDARD ENERGY CODE 2015, (BASE CODE - IECC 2015)	
2018 INTERNATIONAL PLUMBING CODE, WITH GEORGIA AMENDMENTS (2020)	
2018 INTERNATIONAL MECHANICAL CODE, WITH GEORGIA AMENDMENTS (2020)	

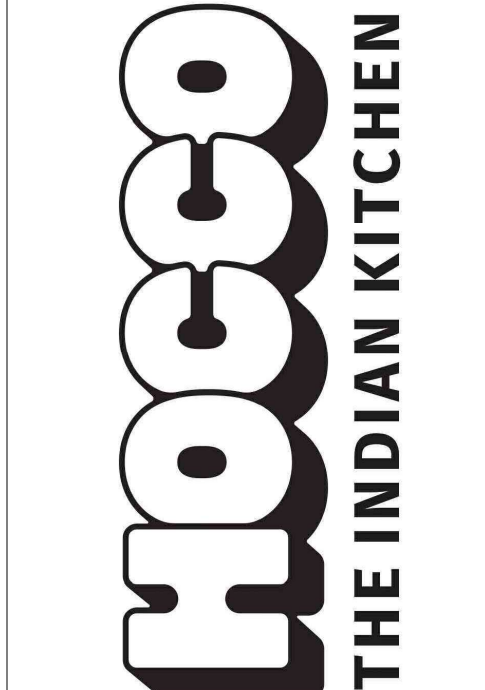
ELECTRICAL DRAWING LIST	
E0.1	ELE. LEGEND, ABBREVI. & NOTES
E0.2	ELECTRICAL SPECIFICATIONS
E1.0	ELECTRICAL LIGHTING PLAN
E2.0	ELECT. POWER & ROOF POWER PLAN
E3.0	ELECTRICAL DETAILS
E4.0	ELECT. RISER DIAGRAM & PANEL SCHD

POWER AND COMMUNICATION PLAN LEGEND	
	WALL MOUNTED SIMPLEX RECEPTACLE, RATING SHALL BE SAME AS BREAKER OR AS NOTED
	20A, 120V WALL MOUNTED DUPLEX RECEPTACLE
	20A, 120V WALL MOUNTED RECEPTACLE WITH USB OUTLET
	20A, 120V WALL MOUNTED HALF SWITCHED DUPLEX RECEPTACLE WITH SWITCH
	20A, 120V WALL MOUNTED FULL SWITCHED DUPLEX RECEPTACLE WITH SWITCH
	20A, 120V WALL MOUNTED GFCI DUPLEX RECEPTACLE
	20A, 120V CEILING MOUNTED DUPLEX RECEPTACLE
	20A, 120V FLOOR MOUNTED DUPLEX RECEPTACLE
	20A, 120V WALL MOUNTED QUAD RECEPTACLE
	WALL MOUNTED SPECIAL RECEPTACLE, RATING SHALL BE SAME AS BREAKER OR AS NOTED
	DATA OUTLET - QUANTITY AS INDICATED
	TELEPHONE OUTLET - QUANTITY AS INDICATED
	DATA / TELEPHONE COMBINATION OUTLET - QUANTITY AS INDICATED
	DATA RACK + TELEPHONE DISTRIBUTION BOARD - AS REQUIRED
	CABLE TV OUTLET
	NON FUSED DISCONNECT SWITCH - RATING EQUAL TO OR MORE THAN BREAKER RATING
	FUSED DISCONNECT SWITCH - FUSE RATING AS NEEDED -

ELECTRICAL ABBREVIATIONS	
A	AMPERES
AF	AMPERE FRAME / AMP FUSE
AFF	ABOVE FINISHED FLOOR
AS	AMP SWITCH
AIC	AMPS INTERRUPTING CAPACITY
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
CLG	CEILING
COMM	COMMUNICATION
CT	CURRENT TRANSFORMER
CU	COPPER
°C	DEGREE CELSIUS
CL	CURRENT LIMITER
DWG	DRAWING
DPSP	DOUBLE POLE SINGLE THROW
DPDT	DOUBLE POLE DOUBLE THROW
E	EXISTING
EF	EXHAUST FAN
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EQUIP	EQUIPMENT
ER	EXISTING TO BE RELOCATED
ETR	EXISTING TO REMAIN
EOR	ENGINEER OF RECORD
E.C.	ELECTRICAL CONTACTOR
FA	FIRE ALARM
G	GROUND
GFI	GROUND FAULT INTERRUPTER
G.C.	GENERAL CONTRACTOR
HD	HAND DRYER
HP	HORSEPOWER
HZ	HERTZ
IG	ISOLATED GROUND
IC	INTERRUPTING CAPACITY
JB	JUNCTION BOX
KCML	ONE THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT-AMPERES
KW	KILOWATTS
LP	LIGHTING PANEL
LL	LANDLORD
LTG	LIGHTING
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MIN	MINIMUM
MLO	MAIN LUGS ONLY
N	NEUTRAL
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NTS	NOT TO SCALE
PP	POWER PANEL
PVC	POLYVINYL CHLORIDE
PWR	POWER
R	REMOVE
RE	RELOCATED EXISTING
RR	REMOVE & RELOCATE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
TR	TAMPER RESISTANT
Typ	TYPICAL
USB	USB JACK
UON	UNLESS OTHERWISE NOTED
VA	VOLT AMPERE
VF	VERIFY IN FIELD
WP	WEATHER PROOF
W	WIRE / WATT
XMER	TRANSFORMER

ELECTRICAL SHEET GENERAL NOTES	
A.	CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT MAY AFFECT THE WORK. NO ADDITIONAL COMPENSATION WILL BE CONSIDERED FOR FAILURE TO DO SO.
B.	CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, TEST REPORTS, AND CERTIFICATIONS FOR TEMPORARY AND FINAL CERTIFICATE OF OCCUPANCY.
C.	FIRE STOP ALL PENETRATIONS OF FIRE RATED CONSTRUCTION IN A CODE APPROVED MANNER IN ORDER TO MAINTAIN FIRE RATING. ALL PENETRATIONS SHALL BE SLEEVED AND SEALED WATERTIGHT.
D.	SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS (HOLLOW MASONRY), EXPANSION SHIELDS OR INSERTS (CONCRETE AND BRICK), MACHINE SCREWS (METAL), BEAM CLAMPS (FRAMEWORK), WOOD SCREWS (WOOD) OR PAN THRU STRAPS (METAL DECK), NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALLS.
E.	LEAVE WIRES WITH SUFFICIENT SLACK TO PERMIT MAKING FINAL CONNECTIONS. RACEWAYS OVER 10 FT LONG IN WHICH WIRING IS NOT INSTALLED: FURNISH FISH WIRE.
F.	VERIFY LOCATIONS OF OUTLETS AND SWITCHES IN FINISHED ROOMS WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISH. IN CENTERING OUTLETS AND LOCATING BOXES AND OUTLETS. ALLOW FOR OVERHEAD PIPES, DUCTS AND MECHANICAL EQUIPMENT. EQUIPMENT, VARIATIONS IN FIREPROOFING AND PLASTERING, WINDOW AND DOOR TRIM, PANELING, HUNG CEILINGS AND THE LIKE. CORRECT ANY INACCURACY RESULTING FROM FAILURE TO DO SO WITHOUT EXPENSE TO OWNER.
G.	CONTRACTOR SHALL PROVIDE A WARRANTY ON ALL MATERIALS, EQUIPMENT, AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.
H.	ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY REMOVED AND DISPOSED OF AWAY FROM THE PREMISES ON A DAILY BASIS.
I.	CONTRACTOR SHALL PATCH, PAINT, AND RESTORE EXISTING SURFACES DAMAGED DURING THE COURSE OF THIS CONSTRUCTION TO PRE-EXISTING CONDITIONS OR BETTER.
J.	MINIMUM SIZE OF CONDUIT SHALL BE 3/4", AND TYPE SHALL BE ELECTRICAL METALLIC TUBING (EMT), UNLESS OTHERWISE NOTED. PROVIDE NYLON DRAG LINE AND CONDUIT CAP FOR ALL EMPTY CONDUITS.
K.	CONNECT CONDUIT TO MOTOR CONDUIT TERMINAL BOXES WITH FLEXIBLE CONDUIT (MINIMUM 18 IN. LENGTH AND 50% SLACK). DO NOT TERMINATE IN OR FASTEN RACEWAYS TO MOTOR FOUNDATION.
L.	PULL AND JUNCTION BOXES WHERE INDICATED ON THE DRAWINGS, SHALL BE CONSIDERED SHOWN AT THEIR APPROXIMATE LOCATION. THE CONTRACTOR SHALL LOCATE THEM AS FIELD CONDITIONS DICTATE. ADDITIONAL PULL AND JUNCTION BOXES NOT SHOWN ON DRAWINGS SHALL BE PROVIDED WHERE REQUIRED BY APPLICABLE CODE PROVISIONS OR WHERE CALLED FOR BY FIELD CONDITIONS. PULL AND JUNCTION BOXES SHALL BE SURFACE TYPE IN UNFINISHED AREAS AND INSTALLED CONCEALED IN FINISHED AREAS, AND ALL COVERS TO PULL & JUNCTION BOXES SHALL BE READILY ACCESSIBLE.
M.	SUPPORT PANEL, JUNCTION AND PILLBOXES INDEPENDENTLY TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.
N.	FOR EXACT LOCATION AND MOUNTING HEIGHT OF LIGHTING FIXTURES AND SWITCH/RECEPTACLE OUTLETS, REFER TO ARCHITECTURAL REFLECTED CEILING AND POWER PLANS.
O.	ALL ELECTRICAL ACCESSORIES AND EQUIPMENT INSTALLED OUTSIDE OR EXPOSED TO WEATHER SHALL HAVE NEMA 3R ENCLOSURES AND SHALL BE TIGHTLY GASKETED FOR A COMPLETE RAIN-TIGHT INSTALLATION. ALL BUILDING EXTERIOR MOUNTED RECEPTACLES SHALL BE GFCI RATED AND MOUNTED IN WEATHERPROOF ENCLOSURE.
P.	ALL ACCESS PANEL LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.
Q.	ELECTRICAL CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION OF NEW WORK WITH THE GENERAL CONTRACTOR AND OTHER ASSOCIATED TRADES IN A TIMELY MANNER. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. REFER TO ALL GENERAL, MECHANICAL, AND ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
R.	ALL CONDUITS AND EQUIPMENT TO BE CONCEALED IN FINISHED SPACES UNLESS OTHERWISE NOTED. CONDUITS SHALL BE ENCASED IN THE CONCRETE FLOOR SLAB.
S.	ALL EQUIPMENT AND MATERIALS INSTALLED IN PLENUM CEILINGS SHALL BE APPROVED FOR THAT APPLICATION.
T.	OUTLET BOXES AND JUNCTION BOXES ON OPPOSITE SIDES OF FIRE-RATED WALLS SHALL BE SEPARATED BY A HORIZONTAL DISTANCE OF NOT LESS THAN 24 INCHES, UNLESS FIRE-RATED BOXES OR PUTTY PADS ARE UTILIZED.
U.	COORDINATE ALL FLOOR PENETRATIONS WITH THE STRUCTURAL AND ARCHITECTURAL DRAWINGS. CONFIRM PENETRATION LOCATIONS WITH THE ENGINEER AND OWNER BEFORE INSTALLATION.
V.	COORDINATE THE MOUNTING HEIGHT AND LOCATION OF RACEWAYS, COMMUNICATIONS OUTLETS, AND RECEPTACLES WITH THE ARCHITECTURAL CASEWORK DRAWINGS AND DETAILS. COORDINATE LOCATIONS OF LIGHT FIXTURES, SWITCHES, AND RELATED DEVICES WITH THE ARCHITECTURAL DRAWINGS AND DETAILS.
W.	REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL LUMINARIES AND SWITCHES, AND FOR ALL FINISHED CEILING HEIGHTS.
X.	REFER TO ARCHITECTURAL PLANS FOR FINAL LOCATIONS OF ALL ELECTRICAL DEVICES, AND FOR FINAL CEILING AND WALL HEIGHTS AND LAYOUTS.
Y.	LIGHTING FIXTURES PROVIDED WITH EMERGENCY BATTERY PACKS AND INDICATED WITH SWITCH CONTROL SHALL BE WIRED WITH BATTERY CHARGING/SENSING CIRCUIT WIRED AHEAD OF SWITCH CONTROL.
Z.	NUMBER(S) SHOWN AT RECEPTACLES, JUNCTION BOXES AND EQUIPMENT INDICATES CIRCUIT NUMBERS IN PANEL BOARD. PROVIDE WIRE AND CONDUIT TO INTERCONNECT EQUIPMENT AND DEVICES WITH SAME CIRCUIT NUMBERS AND RUN TO PANEL BOARD.

ELECTRICAL SPECIFICATIONS	
1	GENERAL:
A.	THE "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION," AIA DOCUMENT A201, LATEST EDITION, AND THESE SPECIFICATIONS AS APPLICABLE ARE PART OF THIS CONTRACT.
B.	DRAWING ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN THEIR PRICE FOR ROUTING OF CONDUIT TO AVOID OBSTRUCTIONS. COORDINATION WITH EXISTING SERVICES, INCLUDING THOSE OF OTHER TRADES, IS REQUIRED. MAINTAIN HEADROOM AND SPACE CONDITIONS.
C.	BIDDERS, BEFORE SUBMITTING PROPOSALS, SHALL VISIT AND CAREFULLY EXAMINE THE AREA AFFECTED BY THIS WORK TO FAMILIARIZE THEMSELVES WITH THE EXISTING CONDITIONS AND THE DIFFICULTIES THAT WILL ATTEND THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE, AND LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT, OR MATERIALS, REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
D.	INSTALL WORK SO AS TO BE READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. MINOR DEVIATIONS FROM DRAWING MAY BE MADE TO ACCOMPLISH THIS, BUT CHANGES WHICH INVOLVE EXTRA COST SHALL NOT BE MADE WITHOUT APPROVAL.
E.	REMOVAL AND RELOCATION OF CERTAIN EXISTING WORK MAY BE NECESSARY FOR THE PERFORMANCE OF THE GENERAL WORK. ALL EXISTING CONDITIONS CANNOT BE COMPLETELY DETAILED ON THE DRAWINGS. THE CONTRACTOR SHALL SURVEY THE SITE AND INCLUDE ALL CHANGES AND CHARGES IN MAKING UP THE WORK PROPOSAL.
F.	CONNECTIONS TO EXISTING WORK: INSTALL NEW WORK AND CONNECT TO EXISTING WORK WITH MINIMUM INTERFERENCE TO EXISTING FACILITIES. TEMPORARY SHUTDOWNS OF EXISTING SERVICES SHALL BE PERFORMED AT NO ADDITIONAL CHARGES, AT TIMES NOT TO INTERFERE WITH NORMAL OPERATION OF EXISTING FACILITIES AND ONLY WITH WRITTEN CONSENT OF OWNER. ALARM AND EMERGENCY SYSTEMS SHALL NOT BE INTERRUPTED. MAINTAIN CONTINUOUS OPERATION OF EXISTING FACILITIES AS REQUIRED WITH NECESSARY TEMPORARY CONNECTIONS BETWEEN NEW AND EXISTING WORK. CONNECT NEW WORK TO EXISTING WORK IN NEAT AND ACCEPTABLE MANNER. RESTORE EXISTING DISTURBED WORK TO ORIGINAL CONDITION, INCLUDING MAINTENANCE OF WIRING CONTINUITY AS REQUIRED.
G.	DISCONNECT: REMOVE AND/OR RELOCATE EXISTING MATERIAL, EQUIPMENT AND OTHER WORK AS NOTED OR REQUIRED FOR PROPER INSTALLATION OF NEW WORK.
H.	THE CONTRACTOR SHALL KEEP ALL EQUIPMENT AND MATERIALS, AND ALL PARTS OF THE BUILDING EXTERIOR SPACES AND ADJACENT STREETS, SIDEWALKS AND PAVEMENTS, FREE FROM MATERIAL AND DEBRIS RESULTING FROM THE EXECUTION OF THIS WORK. EXCESS MATERIALS WILL NOT BE PERMITTED TO ACCUMULATE EITHER ON THE INTERIOR OR THE EXTERIOR.
I.	SEAL OPENINGS THROUGH PARTITIONS, WALLS AND FLOORS WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL, UNLESS OTHERWISE NOTED.
J.	PROVIDE ALL NECESSARY FLASHING AND COUNTER FLASHING TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED BY THE INSTALLATION OR REMOVAL OF CONDUIT AND EQUIPMENT, PROVIDE EQUIPMENT CURBS AS REQUIRED.
K.	ALL EXISTING MATERIAL, EQUIPMENT AND CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT OR APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE, ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS. REMOVED EQUIPMENT SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
L.	THE CONTRACTOR'S PROPOSAL FOR ALL WORK SHALL BE PREDICATED ON THE PERFORMANCE OF THE WORK DURING REGULAR WORKING HOURS. WHEN SO DIRECTED, HOWEVER, THE CONTRACTOR SHALL INSTALL WORK DURING OVERTIME HOURS AND THE ADDITIONAL COST TO BE CHARGED THEREFORE SHALL BE ONLY THE "PREMIUM" PORTION OF THE WAGES PAID.
M.	UNLESS OTHERWISE SPECIFICALLY NOTED OR SPECIFIED, INCLUDE ALL CUTTING AND PATCHING OF EXISTING FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE EXISTING BUILDING. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION.
N.	ALL MATERIAL AND EQUIPMENT SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE IN ACCORDANCE WITH BUILDING STANDARDS.
O.	INSURANCE: PROVIDE IN ACCORDANCE WITH OWNER/BUILDING REQUIREMENTS AND SHALL INCLUDE A HOLD HARMLESS CLAUSE FOR OWNER AND ENGINEER.
P.	THE FINAL ACCEPTANCE SHALL BE MADE AFTER THE CONTRACTOR HAS ADJUSTED HIS EQUIPMENT, TESTED THE VARIOUS SYSTEMS, DEMONSTRATED THAT IT FULFILLS THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS AND HAS FURNISHED ALL THE REQUIRED CERTIFICATED OF INSPECTION AND APPROVAL.
2.	GENERAL PROVISIONS FOR ELECTRICAL WORK:
A.	DEFINITIONS:
1)	"PROVIDE": TO FURNISH, INSTALL AND CONNECT UP COMPLETE AND READY FOR SAFE AND REGULAR OPERATION THE PARTICULAR WORK REFERRED TO UNLESS SPECIFICALLY OTHERWISE NOTED.
2)	"INSTALL": TO ERECT, MOUNT AND CONNECT COMPLETE WITH RELATED ACCESSORIES.
3)	"FURNISH" OR "SUPPLY": TO PURCHASE, PROCURE, ACQUIRE AND DELIVER COMPLETE WITH RELATED ACCESSORIES.
4)	"WORK": LABOR, MATERIALS, EQUIPMENT, APPARATUS, CONTROLS, ACCESSORIES AND OTHER ITEMS REQUIRED FOR PROPER AND COMPLETE INSTALLATION.
5)	"WIRING": RACEWAY, FITTINGS, WIRE, BOXES, AND RELATED ITEMS.
6)	"CONCEALED": EMBEDDED IN MASONRY OR OTHER CONSTRUCTION, INSTALLED IN FURRED SPACES WITHIN DOUBLE PARTITIONS OR HUNG CEILINGS, IN TRENCHES, IN CRAWL SPACES, OR IN ENCLOSURES.
7)	"EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
8)	"SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.
B.	TEMPORARY LIGHT AND POWER: PROVIDE TEMPORARY LIGHT AND POWER SYSTEMS AT EARLIEST POSSIBLE DATE WITHIN THE CONSTRUCTION AREAS FOR THE REQUIREMENTS OF ALL TRADES AS HEREIN DESCRIBED. EXTEND SYSTEMS TO NEW CONSTRUCTION AS SOON AS PHYSICALLY POSSIBLE. MAINTAIN SYSTEM DURING WORKING HOURS. PROVIDE ALL REQUIRED MAINTENANCE, INCLUDING LAMPS AND SOCKETS.
C.	QUALITY ASSURANCE
1)	QUALITY OF MATERIALS: ALL EQUIPMENT SHALL BE NEW SPECIFICATION GRADE, FREE FROM DEFECTS AND LISTED BY APPROVED TESTING AGENCY AND BEARING THEIR LABEL MATERIALS AND EQUIPMENT OF SIMILAR APPLICATION SHALL BE OF SAME MANUFACTURER, EXCEPT AS NOTED.
2)	GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED AS DEFINED IN PARAGRAPH 2.C.
3)	HEIGHTS OF OUTLETS: REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER'S PLANS FOR DEVICE HEIGHTS IN NON BOH SPACES.
a.	FOR FINISHED FLOOR TO CENTERLINE OF OUTLETS FOR:
-	RECEPTACLES AND TELEPHONES: 1 FT-6 IN.
-	WALL SWITCHES: 4 FT-0 IN.
-	WALL FIXTURES: 7 FT-0 IN.
-	MOTOR CONTROLLERS: 5 FT-0 IN.
-	CLOCKS: 7 FT 6 IN
b.	EXCEPTIONS: AT JUNCTION OF DIFFERENT WALL FINISH MATERIALS, ON MOLDING OR BREAK IN WALL SURFACE, IN VIOLATION OF CODE, OR AS NOTED OR DIRECTED.
c.	REFER TO ARCHITECTURAL AND/OR INTERIOR DESIGNER'S PLANS FOR DEVICE HEIGHTS IN NON BOH SPACES.
D.	PRODUCT DELIVERY, STORAGE AND HANDLING
a.	MOVING OF EQUIPMENT: WHERE NECESSARY, SHIP IN CARTED SECTIONS OF SIZE TO PERMIT PASSING THROUGH AVAILABLE SPACES.
b.	ACCESSIBILITY: FOR OPERATION, MAINTENANCE AND REPAIR, MINOR DEVIATIONS SHALL BE PERMITTED. CHANGES OF MAGNITUDE OR INVOLVING EXTRA COST ARE NOT PERMISSIBLE WITHOUT REVIEW. GROUP CONCEALED ELECTRICAL EQUIPMENT REQUIRING ACCESS WITH EQUIPMENT FREELY ACCESSIBLE THROUGH ACCESS DOORS.
E.	MATERIALS
1)	NAMEPLATES: PROVIDE BLACK LAMACOID SHEET WITH 3/4 IN. WHITE LETTERING, FASTENED WITH EPOXY CEMENT FOR EACH DISCONNECT SWITCH, CIRCUIT BREAKER, PANEL, CABINET, TRANSFORMER, ENCLOSURE, MOTOR CONTROLLER AND THE LIKE. NAMEPLATES SHALL DESCRIBE THE NAME AND NUMBER OF EACH COMPONENT.
2)	CABLE TAGS: TAG EACH CONDUCTOR PASSING THROUGH SPLICE OR PULLBOX WITH A WHITE LINEN TAG, INDICATING POINT ORIGIN AND TERMINATION OF THE CIRCUIT.
3)	INSERTS AND SUPPORTS:
a.	INSERTS: STEEL, SLOTTED TYPE, FACTORY PAINTED.
-	SINGLE ROD: SIMILAR TO GRINNELL FIG. 281.
-	MULTI-ROD: SIMILAR TO FEE AND MASON SERIES 9000 WITH END CAPS AND CLOSURE STRIPS.
-	CLIP FORM NAILS FLUSH WITH INSERTS.
-	MAXIMUM LOADING 75 PERCENT OF RATING.
b.	SUPPORTS FROM BUILDING CONSTRUCTION: INSERTS, BEAM CLAMPS, STEEL FISHPATES (IN CONCRETE FILL ONLY), CANTILEVER BRACKETS OR OTHER MEANS. SUBMIT FOR REVIEW.
c.	GROUPED LINES AND SERVICES: TRAPEZE HANGERS OF BOLTED ANGLES OR CHANNELS.
d.	WHERE BUILDING CONSTRUCTION IS INADEQUATE: PROVIDE ADDITIONAL FRAMING. SUBMIT FOR REVIEW.
F.	SUBMIT ELECTRICAL POWER SYSTEM STUDIES INCLUDING SUPPORTING DATA AND RECOMMENDATIONS FOR THE FOLLOWING:
1)	SHORT CIRCUIT CURRENT AND PROTECTIVE DEVICE COMBINATION.
2)	ARC FLASH HAZARD ANALYSIS.
	EQUIPMENT SHOP DRAWINGS SHALL NOT BE SUBMITTED UNTIL THESE STUDIES HAVE BEEN COMPLETED.
G.	PAINT SHALL BE THE BEST GRADE FOR ITS PURPOSE. DELIVER IN ORIGINAL SEALED CONTAINERS AND APPLY IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COLORS SHALL BE AS SELECTED BY ARCHITECT OR ENGINEER. UTILIZE GALVANIZED IRON PRIMER ON PANEL AND PULL BOXES. AFTER FABRICATION, UTILIZE HOT DIPPED GALVANIZED OR DIPPED IN ZINC BASED PRIMER FOR: OUTLET BOXES, JUNCTION BOXES, CONDUIT HANGERS, RODS, INSERTS AND SUPPORTS. ZINC BASED PRIMER WITH FINISH TO MATCH SURROUNDINGS SHALL BE USED FOR MARRED SURFACES OF STEEL EQUIPMENT AND RACEWAYS. A FIELD-APPLIED ZINC BASED PRIME COAT SHALL BE UTILIZED FOR STEEL OR IRONWORK.
H.	BRUSH AND CLEAN WORK PRIOR TO CONCEALING, PAINTING AND ACCEPTANCE. PAINTED EXPOSED WORK SOILED OR DAMAGED; CLEAN AND REPAIR TO MATCH ADJOINING WORK BEFORE FINAL ACCEPTANCE. REMOVE DEBRIS FROM INSIDE AND OUTSIDE OF MATERIAL AND EQUIPMENT.
I.	FINAL LOCATIONS AND MOUNTING ORIENTATIONS OF ALL SWITCHES, RECEPTACLES AND LIGHT FIXTURES SHALL BE VERIFIED WITH ARCHITECT.
J.	ALL ACCESS DOOR LOCATIONS SHALL BE REVIEWED BY ARCHITECT PRIOR TO INSTALLATION.



SHEET HISTORY SCHEDULE		
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

E0.1
ELE. LEGEND, ABBREVI. & NOTES

ELECTRICAL SPECIFICATIONS

3. SCOPE OF WORK:
A. SCOPE OF WORK SHALL CONSIST OF PROVIDING LABOR, MATERIALS, EQUIPMENT, SERVICES AND FEES NECESSARY FOR COMPLETE AND SAFE INSTALLATION IN CONFORMING WITH THE APPLICABLE CODES WITH LOCAL AMENDMENTS, AND ALL OTHER APPLICABLE INDUSTRY, NATIONAL AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTION, AS INDICATED ON DRAWINGS AND HEREIN SPECIFIED.
B. ALL DRAWINGS, PLANS, DETAILS, SPECIFICATIONS AND SPECIFICATION ADDENDA ARE MADE PART OF THIS CONTRACT AND SHALL APPLY TO ALL WORK UNDER THE CONTRACT UNLESS OTHERWISE AMENDED, MODIFIED, SUPPLIED OR SPECIFIED HEREIN.
C. 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 OF 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 PROVIDED THAT WHERE DEFECTS OCCUR, THE CONTRACTOR WILL ASSUME RESPONSIBILITY OF OTHER TRADES AFFECTED BY DEFECTS, REPAIRS OR REWORKS IN EQUIPMENT SUPPLIED BY THE CONTRACTOR.
D. THE CONTRACTOR SHALL GIVE NECESSARY NOTICE FILE DRAWINGS AND SPECIFICATIONS WITH ALL DEPARTMENTS HAVING JURISDICTION, 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 AUTHORITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR 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.
E. CONTRACTOR SHALL PERFORM ALL CONTROLLED INSPECTIONS IN ACCORDANCE WITH THE NYC BUILDING CODE. SECURE ALL REQUIRED PERMITS AND APPROVALS AND TRANSMIT SAME TO OWNER. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES.
F. AREAS WITH NO ELECTRICAL WORK SHALL REMAIN AS IS. CONTRACTOR SHALL MAINTAIN CONTINUITY OF ALL ELECTRICAL SYSTEMS TO ALL AREAS NOT COVERED BY THIS RENOVATION AND SHALL PROVIDE 48 HOUR NOTICE TO LANDLORD OF ANY PLANNED POWER INTERRUPTIONS OR SIGNAL SYSTEM OUTAGES.

5. AS-BUILT DRAWINGS AND EQUIPMENT OPERATIONAL INSTRUCTIONS
A. UPON COMPLETION AND ACCEPTANCE OF WORK, CONTRACTOR SHALL FURNISH WRITTEN INSTRUCTIONS AND EQUIPMENT MANUALS AND DEMONSTRATE TO THE OWNER THE PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT AND APPARATUS FURNISHED UNDER THIS CONTRACT.
B. THESE INSTRUCTIONS SHALL BE TYPED ON 8-1/2 IN. X 11 IN. PAPER AND BOUND IN THREE RING BINDERS WITH CLEAR ACETATE COVERS. CONTRACTOR SHALL GIVE THREE COPIES OF THE INSTRUCTIONS TO THE OWNER AND ONE COPY TO THE ENGINEER.
C. THE INSTRUCTION BOOKLET SHALL BEAR THE NAME, ADDRESS AND TELEPHONE NUMBER OF THE PROJECT, ARCHITECT AND ENGINEER.
D. REPRODUCIBLE "AS-BUILT" DRAWINGS SHALL BE PROVIDED INDICATING THE AS INSTALLED CONDITIONS OF THE WORK. "AS-BUILT" DRAWINGS SHALL BE PROVIDED TO THE ARCHITECT AFTER COMPLETION OF THE INSTALLATION.

10. DISCONNECTS
A. DISCONNECT SWITCHES SHALL CONFORM TO NEMA AND UL STANDARDS, AND SHALL BE HORSEPOWER RATED.
B. SWITCHING MECHANISM SHALL BE QUICK-MAKE, QUICK-BREAK, SINGLE THROW WITH EXTERNAL OPERATING HANDLE MECHANICALLY INTERLOCKED WITH ENCLOSURE COVER TO PROVIDE ACCESS TO INTERIOR WHEN DISCONNECT IS IN OFF POSITION ONLY. PROVIDE MEANS TO LOCK OPERATING HANDLE IN THE OPEN AND CLOSED POSITION, DESIGNATE ON THE ENCLOSURE THE OPEN AND CLOSED POSITION OF THE OPERATING HANDLE.
C. SWITCHES SHALL BE OF THE DOUBLE STATIONARY CONTACT TYPE.
D. SWITCHES SHALL BE EQUIPPED WITH REJECTION TYPE FUSE HOLDERS, FUSIBLE AS SHOWN ON THE DRAWINGS; PROVIDE COMPLETE WITH FUSES AS SCHEDULED.

11. INSTALLATION
A. DISTRIBUTION PANEL BOARD SHALL BE MOUNTED TO STRUCTURAL STEEL CHANNEL (KINDORF) WHICH SHALL BE BOLTED TO THE WALL USING EXPANSION ANCHORS FOR LARGE PANELS.
12. IDENTIFICATION
A. PROVIDE NAMEPLATE AT EACH SWITCH IDENTIFYING THE LOAD SERVED.
B. NAMEPLATES SHALL BE MOUNTED ON THE FRONT COVER SECURED WITH SELF-TAPPING SCREWS OR NUTS AND BOLTS. NAMEPLATES SHALL BE LAMINATED PHENOLIC, BLACK WITH A MINIMUM OF 1/4" HIGH WHITE LETTERING.
C. DISTRIBUTION AND SUB-DISTRIBUTION PANEL BOARDS SHALL BE A MINIMUM OF 30" WIDE AND 10" DEEP.
D. POWER PANEL BOARDS SHALL BE SIMILAR TO GENERAL ELECTRIC TYPE "QMR," AS MANUFACTURED BY ATLAS SWITCH COMPANY, ELECTRIC SWITCHBOARD COMPANY OR APPROVED EQUAL.
E. PANEL BOARD SHALL HAVE MAIN CIRCUIT BREAKER OR MAIN LUGS AS INDICATED ON THE DRAWINGS. QUANTITY, POLES AND TRIP RATINGS OF BRANCH CIRCUIT BREAKERS TO BE AS INDICATED ON DRAWINGS.
F. PANEL BOARD SHALL HAVE ENGRAVED WHITE CORE, BLACK LAMACOID NAMEPLATE SCREWED ONTO PANE TRIM WITH DESIGNATION LISTED (PANEL BOARD NAME, VOLTAGE, RATING OR MAINS IN AMPS).

14. WIRE AND CABLE:
A. PROVIDE WIRE AND CABLE COMPLETE WITH ACCESSORIES. SIZE REFERENCE SHALL BE AWG EXCEPT AS NOTED.
B. CONDUCTORS SHALL BE COPPER, ASTM STANDARD SOLID (NO. 10 AND SMALLER) OR STRANDED (NO. 8 AND LARGER). GENERAL USE CABLING SHALL BE NO. 12 MINIMUM. AT 120 VOLTS AND OVER 100 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. AT 265 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 10 MINIMUM. MANUFACTURER SHALL BE AMERICAN INSULATED WIRE CORP., CERRO, COLLYER, CAPITOL WIRE AND CABLE, OKONITE, SENETOR, SOUTH WIRE OR TRIANGLE.
C. CONTROL AND ALARM CABLING, EXCEPT AS NOTED, SHALL BE NO. 14 MINIMUM. AT 120 VOLTS AND OVER 200 FT CIRCUIT LENGTH PROVIDE NO. 12 MINIMUM. OTHER VOLTAGES AND PHASES: ADJUST CABLE SIZING AS REQUIRED TO MAINTAIN VOLTAGE DROP. INCREASE RACEWAY SIZES FOR LARGER WIRE AS REQUIRED.
D. INSULATION SHALL BE RUBBER AND THERMOPLASTIC MEETING ASTM AND IPCSA STANDARDS. TYPE THW OR THWN SHALL BE UTILIZED FOR FEEDERS AND BRANCH CIRCUITS EXCEPT AS NOTED. TYPE SFF-2 SHALL BE UTILIZED FOR BRANCH CIRCUITS LOCATED IN WIRING CHANNELS OF CONTINUOUS FLUORESCENT FIXTURES AND IN AMBIENT TEMPERATURES OVER 90 DEG. C. FOR UNGROUNDED ISOLATED BRANCH CIRCUITS PROVIDE CROSS-LINKED POLYETHYLENE INSULATION (TYPE XHHW).
E. ARMORED CABLE (BX) SHALL BE UTILIZED FOR BRANCH CIRCUITS IN DRY HOLLOW LOCATIONS, HUNG CEILINGS, AND BLOCK WALLS. WHEN USED IN LIEU OF WIRING IN CONDUIT, STATE IN PROPOSAL THAT PRICE IS BASED UPON THE USE OF HOSPITAL GRADE BX.
F. METAL-CLAD CABLE, NFPA 70 ARTICLE 330 TYPE MC:
1. INTERLOCKED FLEXIBLE GALVANIZED STEEL ARMOR SHEATH, CONFORMING TO UL REQUIREMENTS FOR TYPE MC METAL CLAD CABLE.
2. INSULATED COPPER CONDUCTORS, SUITABLE FOR 600 VOLTS, RATED 90°C, ONE OF THE TYPES LISTED IN NFPA 70 TABLE 310.15(A) OR OF A TYPE IDENTIFIED FOR USE IN TYPE MC CABLE.
3. INTERNAL FULL SIZE COPPER GROUND CONDUCTOR WITH GREEN INSULATION.
4. ACCEPTABLE COMPANIES: AFC CABLE SYSTEMS INC., SOUTH WIRE, GENERAL CABLE.
5. CONNECTORS FOR MC CABLE: AFC FITTING INC.'S AFC SERIES, ARLINGTON INDUSTRIES INC.'S SADDLE GRIP, OR THOMAS & BETTS CO.'S TITE-BITE WITH ANTI-SHORT BUSHINGS.
G. COLOR CODING SHALL BE AS FOLLOWS:
1. 120/208 VOLT SYSTEM:
2. BLACK FOR A PHASE
3. RED FOR B PHASE
4. BLUE FOR C PHASE
H. NEUTRAL WIRE SHALL UTILIZE WHITE OUTER COVERING THROUGHOUT. EQUIPMENT GROUND WIRE SHALL UTILIZE GREEN OUTER COVERING THROUGHOUT.
a. WHERE COLOR-CODED CABLE IS NOT AVAILABLE, CERTIFY IN WRITING AND REQUEST PERMISSION TO OVERLAP CONDUCTORS WITH 6 IN. OF COLOR TAPING IN ACCESSIBLE LOCATIONS.
b. PROVIDE FLAMEPROOF LINEN OR FIBER TAPS IN ACCESSIBLE LOCATIONS. FOR FEEDERS INDICATE FEEDER NUMBER, SIZE, PHASE AND POINTS OF ORIGIN AND TERMINATIONS. FOR CONTROL AND ALARM WIRING INDICATE TYPE (CONTROL OR ALARM), SIZE OF WIRE, AND POINTS OF ORIGIN AND TERMINATIONS.
c. TERMINATIONS, SPLICES AND TAPS UNDER 600 VOLTS: COPPER CONDUCTORS NO. 10 AND SMALLER SHALL UTILIZE COMPRESSION-TYPE OF TWIST-ON SPRING-LOADED CONNECTORS AND CLEAR NYLON INSULATED COVERING. COPPER CONDUCTORS NO. 8 AND LARGER SHALL UTILIZE MECHANICAL BOLTED PRESSURE OR HYDRAULIC COMPRESSION TYPE USING MANUFACTURER'S RECOMMENDED TOOLING, CABLE LUGS AND CONNECTORS SHALL UTILIZE COMPRESSION TYPE OF SAME METAL AS CONDUCTOR. PROVIDE TO MATCH CABLE, WITH MARKING INDICATING SIZE AND TYPE. COPPER LUG CONNECTIONS TO BUS BARS: USE ANTISIZE COMPOUND ON TANG.
d. NOT MORE THAN 3 LIGHTING OR CONVENIENCE OUTLET CIRCUITS SHALL BE INSTALLED IN ONE CONDUIT UNLESS OTHERWISE INDICATED. PULL NO THERMOPLASTIC WIRES AT TEMPERATURES LOWER THAN 32 DEG F. PROVIDE SEPARATE RACEWAYS FOR CONDUCTORS OF 120/208 AND 265/460 VOLT SYSTEMS. EXCEPT 460 VOLT MOTOR BRANCH CIRCUIT WIRING AND RELATED 120 VOLT CONTROL WIRING. THERMOPLASTIC WIRES SHALL NOT BE INSTALLED IN COMPUTER AREA RAISED FLOORS.
e. PERFORM CONTINUITY AND INSULATION TESTS, MEGGER TEST 100 PERCENT OF FEEDERS, 10 PERCENT OF BRANCH CIRCUITS AND ALL MOTOR BRANCH CIRCUITS OVER 25 HP.
f. PERFORM TESTS PRIOR TO CONNECTING EQUIPMENT AND IN PRESENCE OF AUTHORIZED REPRESENTATIVES. SUBMIT WRITTEN REPORT OF RESULTS. CORRECT OR REPLACE CABLE TESTING BELOW MANUFACTURER'S STANDARDS.
g. FEEDERS AND ALL WIRING IN MOIST OR WET LOCATIONS UNDERGROUND OR UNDER THE SLAB SHALL BE 600 VOLT CODE TYPE THHN-THWN. BRANCH CIRCUIT WIRING IN DRY LOCATIONS, ABOVE GRADE, IN THE INTERIOR OF THE BUILDING SHALL BE 600 VOLT CODE TYPE THHN-THWN OR XHHW.
h. FEEDERS AND ALL WIRING IN MOIST OR WET LOCATIONS UNDERGROUND OR UNDER THE SLAB SHALL BE 600 VOLT CODE TYPE THHN-THWN. BRANCH CIRCUIT WIRING IN DRY LOCATIONS, ABOVE GRADE, IN THE INTERIOR OF THE BUILDING SHALL BE 600 VOLT CODE TYPE THHN-THWN OR XHHW.
i. WIRING TO RECESSED FIXTURE AND WITHIN FIXTURE RACEWAYS SHALL BE TYPE THHN, #12 AWG MINIMUM.
j. EQUIPMENT GROUND: GREEN CONDUCTOR SHALL BE USED.

15. GROUNDING AND BONDING:
A. PROVIDE GROUNDING SYSTEM IN ACCORDANCE WITH APPLICABLE CODES WITH THE AMENDMENTS, AND THESE SPECIFICATIONS. THE WIRING SYSTEM SHALL BE INSTALLED AS REQUIRED TO PROVIDE A CONTINUOUSLY GROUNDED SYSTEM.
B. USE EXOTHERMIC WELDING PROCESS FOR INACCESSIBLE CONNECTIONS.
C. EXTEND EXISTING SYSTEM GROUND TO INCLUDE ALL THE ELECTRICAL EQUIPMENT IN THE SCOPE OF WORK.
D. WHERE FLEXIBLE METALLIC CONDUIT IS USED AN INTERNAL BONDING CONDUCTOR SHALL BE INSTALLED.
E. IN ADDITION, FURNISH A SEPARATE INSULATED GREEN EQUIPMENT GROUND CONDUCTOR WHERE INDICATED ON DRAWINGS AND FOR THE FOLLOWING BRANCH CIRCUITS :
1) CIRCUITS SERVING ANY WALL BOX DIMMER.
2) CIRCUITS SERVING ANY ISOLATED GROUND RECEPTACLES. TERMINATE GROUND DIRECTLY AT AN EQUIPMENT GROUNDING CONDUCTOR TERMINAL OF THE SOURCE AT THE SOURCE, OR AS OTHER WISE NOTED ON DRAWINGS.
3) CIRCUITS SERVING ANY DUPLEX OR SIMPLEX COMPUTER RECEPTACLES
4) ANY CIRCUIT SERVED VIA AN ISOLATION TRANSFORMER OR COMPUTER POWER DISTRIBUTION UNIT.
16. INTERCOM CONDUIT SYSTEM:
A. PROVIDE COMPLETE SYSTEM OF: RACEWAYS AND ACCESSORIES, J-BOXES, SLEEVES AND FISHWIRES.
B. EQUIPMENT SHALL CONFORM TO REQUIREMENTS OF INTERCOM MANUFACTURER.
C. J-BOXES SHALL BE:
WALL : 4 IN. SQUARE WITH SINGLE GANG COVER PLATE.
D. PROVIDE FISHWIRES, IN RACEWAYS OVER 10 FT LONG.
E. CONDUIT SHALL BE 3/4 IN. MINIMUM. FURNISH EMPTY CONDUIT FROM EACH APARTMENT TO MAIN INTERCOM CONTROLLER AT ENTRANCE.
17. ELECTRICAL WIRING METHOD:
A. ALL CONDUIT SHALL BE RUN CONCEALED IN 80 FAR AS IS PRACTICABLE. CONDUITS SHALL BE EXPOSED ONLY WHERE SO INDICATED ON THE DRAWINGS OR IN UNFINISHED AREAS SUCH AS ELECTRICAL AND BOILER ROOMS.
B. MINIMUM CONDUIT SIZE SHALL BE 3/4" UNLESS NOTED OTHERWISE ON THE PLANS.
C. RIGID METAL CONDUIT: HOT DIPPED GALVANIZED, MILD STEEL PIPE, ZINC COATED THREADS WITH AN OUTER COATING OF ZINC BICHROMATE, AS MANUFACTURED BY TRIANGLE, REPUBLIC, WHEATLAND OR EQUAL.
D. INTERMEDIATE METAL CONDUIT (IMC): HOT DIPPED GALVANIZED, MILD STEEL PIPE, ZINC COATED THREADS WITH AN OUTER COATING OF ZINC BICHROMATE AS MANUFACTURED BY TRIANGLE, REPUBLIC, WHEATLAND OR EQUAL.
E. FLEXIBLE METAL CONDUIT: GALVANIZED OR ZINC METALIZED STEEL, SINGLE STRIP INTERLOCKED CONSTRUCTION AS MANUFACTURED BY TRIANGLE, ANACONDA, AMERICAN FLEXIBLE CONDUIT, ELECTRIC-FLEX, OR EQUAL.
F. ELECTRIC METALLIC TUBING (EMT): HOT DIPPED GALVANIZED, MILD STEEL TUBE, ZINC COATED, AS MANUFACTURED BY TRIANGLE, REPUBLIC, WHEATLAND OR EQUAL.
G. RIGID NONMETALLIC CONDUIT: SCHEDULE 40 PVC AS MANUFACTURED BY CARLON OR EQUAL.
H. METAL CLAD CABLE: TYPE MC, COPPER CONDUCTOR, 600 VOLT THERMOPLASTIC INSULATION, 90 DEG. C, INTERLOCKED STEEL TAPE ARMOR.
I. ARMORED CABLE: TYPE AC, COPPER CONDUCTOR, 600 VOLT THERMOPLASTIC INSULATION, 90 DEG. C.
J. ANY EXPOSED RACEWAY SHALL BE RUN TRUE, PLUMB AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.
K. ALL CONDUCTORS SHALL BE COPPER.
L. RACEWAYS SHALL BE SEALED WHERE ENTERING PULL BOXES OR STRUCTURES.
M. SINGLE CONDUCTOR CABLES SHALL BE USED FOR FEEDERS AND BRANCH CIRCUIT WIRING (EXCEPT WHERE AC AND MC CABLE IS USED). MINIMUM SIZE WIRE SHALL BE #12 AWG UNLESS OTHERWISE INDICATED AND SHALL BE SIZED TO CONFORM TO NORMAL NEC VOLTAGE DROPS. WIRE SIZES #10 AWG AND SMALLER SHALL BE SOLID, #8 AWG AND LARGER SHALL BE STRANDED.
N. FEEDERS AND ALL WIRING IN MOIST OR WET LOCATIONS UNDERGROUND OR UNDER THE SLAB SHALL BE 600 VOLT CODE TYPE THHN-THWN. BRANCH CIRCUIT WIRING IN DRY LOCATIONS, ABOVE GRADE, IN THE INTERIOR OF THE BUILDING SHALL BE 600 VOLT CODE TYPE THHN-THWN OR XHHW.
O. WIRING TO RECESSED FIXTURE AND WITHIN FIXTURE RACEWAYS SHALL BE TYPE THHN, #12 AWG MINIMUM.
P. EQUIPMENT GROUND: GREEN CONDUCTOR SHALL BE USED.

FLOOR MOUNTED SERVICE FITTING FOR SERVICE FITTINGS FOR CONNECTION TO UNDER-FLOOR ELECTRIFIED METAL DECK SHALL BE COMPATIBLE WITH THE DECK MANUFACTURER. ACCESS FLOOR MOUNTED FITTINGS FOR USE WITH RAISED FLOOR SHALL BE FLUSH TYPE WITH SPACE FOR EQUIPMENT CORD PLUG DEVICES AND SUITABLE FLIP TYPE COVER. MANUFACTURER SHALL BE HUBBELL, WIREMOLD, OR STEEL CITY
PROVIDE RACEWAYS ONLY AS HEREIN SPECIFIED, EXCEPT AS NOTED. RACEWAYS SHALL BE RUN CONCEALED, EXCEPT AS NOTED.
PROVIDE RACEWAY SUPPORT UTILIZING CEILING TRAPEZE, STRAP HANGERS, OR WALL BRACKETS. PROVIDE U-BOLTS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND CONNECTED TO ACCEPTABLE SUPPORTS. PROVIDE RISER CLAMPS AT EACH FLOOR LEVEL OF RISER RACEWAYS AND RESTING ON SLAB.
THROUGH-THE-FLOOR SYSTEMS, UTILIZE AN ASSEMBLY SIMILAR TO HUBBELL FIRE RATED POKE-THROUGH-FLOOR BOX SYSTEM, FOR ABOVE FLOOR FITTINGS. TELEPHONE SHALL BE BUSHED HOLE AND POWER SHALL BE DUPLEX RECEPTACLE OR OTHER AS NOTED. PROVIDE SEPARATION BARRIER BETWEEN POWER AND TELEPHONE COMPARTMENTS. PROVIDE JUNCTION BOX ON UNDERSIDE OF FLOOR. PACK FITTING TO RESTORE FIRE RATING OF FLOOR.
SECURE ALL RACEWAYS TO SUPPORTS WITH PIPE STRAPS OR U-BOLTS. SPACING OF SUPPORTS SHALL BE A MINIMUM OF 10 FT ON CENTER FOR METALLIC RACEWAY AND AS REQUIRED FOR NONMETALLIC RACEWAY. SPACING SHALL BE 5 FT ON CENTER FOR WIREWAYS AND PER CODE AND AS NOTED FOR OTHERS. MOUNT SUPPORTS TO STRUCTURE MASONRY WITH TOGGLE BOLTS ON HOLLOW MASONRY. EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS ON METAL. BEAM CLAMPS ON FRAMEWORK. WOOD SCREWS ON WOOD, AND PAN THROUGH STRAPS IN METAL DECK, NAILS, RAWL PLUGS OR WOOD PLUGS SHALL NOT BE PERMITTED, WHERE REQUIRED BY STRUCTURE, FURNISH THROUGH BOLTS AND FISHPATES.
EXPOSED RACEWAYS SHALL BE RUN PARALLEL WITH OR AT RIGHT ANGLES TO WALLS. PROVIDE CLEARANCE WITH WATER, STEAM OR OTHER PIPING (MINIMUM 3 IN. SEPARATION FROM STEAM AND HOT WATER PIPES, EXCEPT 1 IN. FROM PIPE COVER AT CROSSINGS AND 18 IN. FOR PARALLEL RUNS). FOR HUNG CEILING OUTLETS, RUN IN HUNG CEILING AND CONNECT TO CEILING SUPPORT CHANNELS. IN MASONRY AND POURED CONCRETE, RUN VERTICALLY ONLY.
MAINTAIN GROUNDING CONTINUITY OF INTERRUPTED METALLIC RACEWAYS WITH GROUND CONDUCTOR, AND IN FLEXIBLE CONDUIT FOR FEEDERS AND MOTOR TERMINAL CONNECTIONS. EMPTY RACEWAYS OVER 10 FT LONG: PROVIDE FIBER OR PULL WIRE, GALVANIZED OR NYLON ROPE.
RIGID STEEL CONDUIT SHALL BE PERMITTED FOR FEEDERS AND BRANCH CIRCUITS. PAINT MALE THREADS OF RIGID-THREADED CONDUIT WITH GRAPHITE-BASE PIPE COMPOUND AND BUTT CONDUIT ENDS. TOUCH UP MARRED SURFACES AND FIELD-CUT THREADS. CRC-COLD GALVANIZED, EMT SHALL BE PERMITTED FOR BRANCH CIRCUITS ONLY, IN DRY LOCATIONS, DRY WALLS, HUNG CEILINGS, HOLLOW WALLS, AND FURRED SPACES. EMT SHALL NOT BE PERMITTED IN RAISED FLOORS. FLEXIBLE STEEL CONDUIT SHALL BE UTILIZED FOR SHORT CONNECTIONS WHERE RIGID CONDUIT IS IMPRACTICAL. FROM OUTLET BOX TO RECESSED LIGHTING FIXTURE, PROVIDE MINIMUM 4 FT AND MAXIMUM 6 FT LENGTHS. FOR FINAL CONNECTION TO MOTOR TERMINAL BOX, TRANSFORMER AND OTHER VIBRATING EQUIPMENT: PROVIDE WITH POLYVINYL SHEATHING AND GROUND CONDUCTOR. MINIMUM LENGTH: 18 IN. WITH SLACK. PROVIDE FROM OUTLET BOX TO ENCLOSURE OR RACEWAY AT EACH END. FOR EXPANSION JOINT CROSSINGS, CROSS AT RIGHT ANGLES AND ANCHOR ENDS.
CUT CONDUIT ENDS SQUARE. REAM SMOOTH. PAINT MALE THREADS OF FIELD THREADED RACEWAYS WITH GRAPHITE BASE PIPE COMPOUND. DRAW UP TIGHT WITH RACEWAY COUPLING.
ALL COUPLINGS SHALL BE COMPRESSION TYPE. NO SET SCREW FITTINGS.
EXPANSION FITTINGS SHALL BE INSTALLED AT RIGHT ANGLES WITH CLIP JOINT CENTERED IN EXPANSION JOINT. PROVIDE A LENGTH OF RUN IN ACCORDANCE MANUFACTURER'S RECOMMENDATIONS. PRESET FITTINGS SHALL ALLOW FOR TEMPERATURE VARIATION.
RACEWAYS PASSING THROUGH FIRE-RATED CONSTRUCTION: SEAL OPENING WITH FIRE SEALANT.
D. PROVIDE CABLE SUPPORTS IN ACCORDANCE WITH NATIONAL ELECTRIC CODE ARTICLE 300.19. CABLE SUPPORTS SHALL UTILIZE A ONE-PIECE PLUG WITH POZI-GRIP WEDGING PLUG AS MANUFACTURED BY OZ-GEDNEY. TYPE SF SHALL BE USED FOR ARMORED CABLE.
INSTALL CABLE SUPPORTS AT THE TOP OF A VERTICAL RISE AND PROVIDE INTERMEDIATE ADDITIONAL SUPPORTS AS REQUIRED TO LIMIT SUPPORTED CONDUCTOR LENGTHS TO NOT GREATER THAN THOSE SPECIFIED IN NEC TABLE 300.19(A).
E. ERECT WALL AND SWITCH OUTLETS IN ADVANCE OF FURRING AND FIREPROOFING. OUTLET BOXES SHALL BE SET SQUARE AND TRUE WITH BUILDING FINISH. SECURE TO BUILDING STRUCTURE BY ADJUSTABLE STRAP IRON OR GROUT IN WITH MASONRY. VERIFY OUTLET LOCATIONS IN FINISHED SPACES WITH ARCHITECTURAL DRAWINGS OF INTERIOR DETAILS AND FINISHES. PROVIDE BARRIERS BETWEEN SWITCHES CONNECTED TO DIFFERENT PHASES FOR VOLTAGES EXCEEDING 150 VOLTS TO GROUND.
F. PANEL, JUNCTION AND PULL BOXES SHALL BE LOCATED CLEAR OF OTHER TRADES. CONCEAL JUNCTION AND PULL BOXES IN FINISHED SPACES, WHERE NECESSARY. REROUTE RACEWAYS OR MAKE OTHER ARRANGEMENTS FOR CONCEALMENT. BOXES SHALL BE ACCESSIBLE. SUPPORT BOXES FROM BUILDING STRUCTURE. INDEPENDENT OF CONCRETE GROUNDING CHANNELS FOR MOUNTING ON DRYWALL AND LIGHTWEIGHT CONSTRUCTION. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILINGS SHALL BE ACCESSIBLE THROUGH OPENING CREATED BY REMOVAL OF FIXTURE. SECURE TO BLACK IRON SUPPORT BOXES. COORDINATE WITH MOTOR BRANCH CIRCUIT CONDUIT AND WIRING; ADD BOX VOLUME WHERE REQUIRED.
G. FIRE SEALANTS: PROVIDE FOR RACEWAYS AND WIRE PASSING THROUGH FLOOR SLOTS, SLEEVES OR OPENINGS IN FIRE-PARTITIONS ROOMS.
H. PERFORM CONTINUITY TESTS OF RESISTANCE OF FEEDER CONDUITS FROM SERVICE TO POINT OF FINAL DISTRIBUTION USING 1 CONDUCTOR RETURN. MAXIMUM RESISTANCE SHALL BE 25 OHMS.

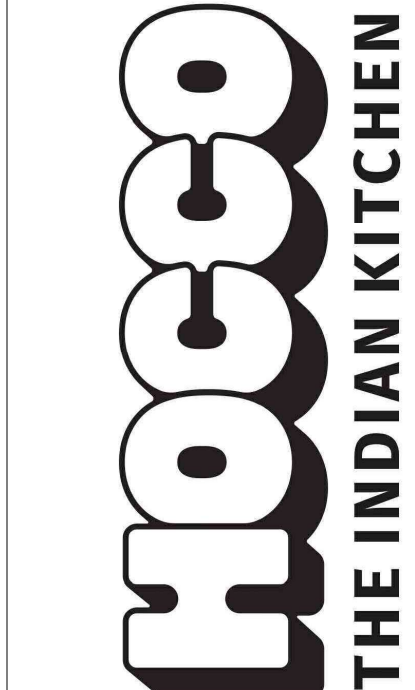
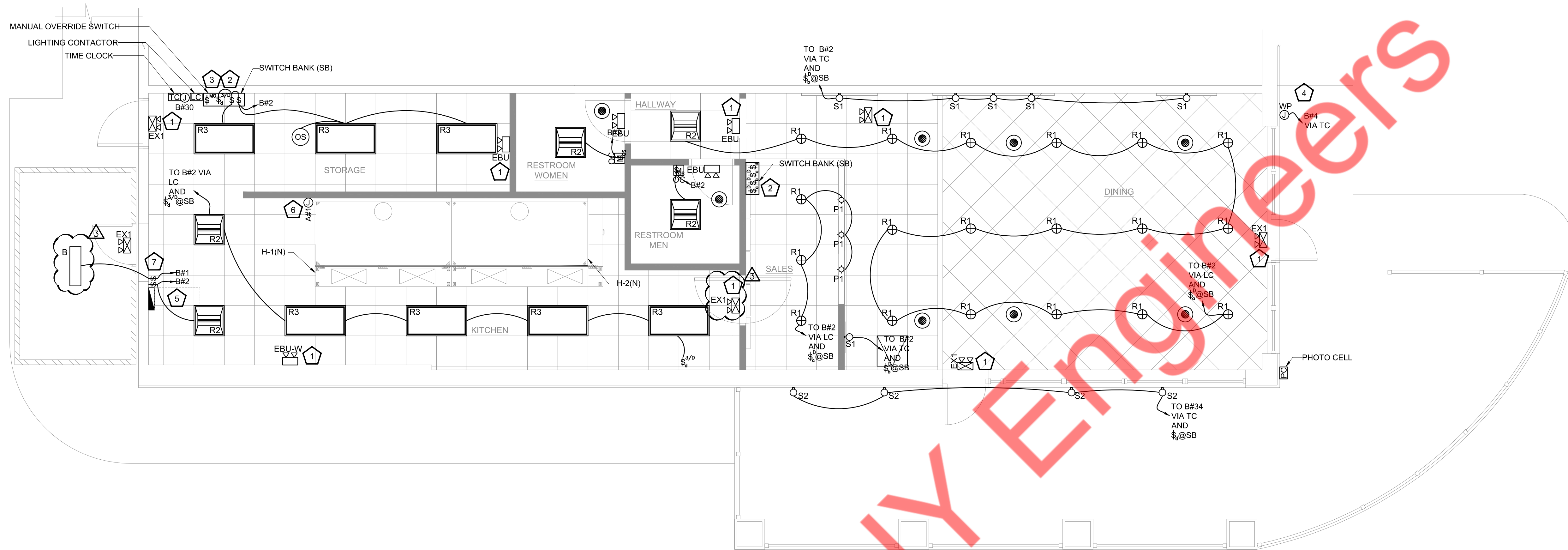


Table with 3 columns: Date, Number, and Description. Includes SHEET HISTORY SCHEDULE with entries for 07-30-2025, 09-02-2025, and 09-26-2025.

ISSUE DATE: 07/01/2025

PROJECT LOCATION:
DRAWN BY: NYE
QAQC: NYE
APPROVED BY: NYE
PROJECT NUMBER
SHEET NUMBER / TITLE: E0.2 ELECTRICAL SPECIFICATIONS



ELECTRICAL LIGHTING PLAN GENERAL NOTES

- A. ALL LIGHT FIXTURES NOT ON THE OCCUPANCY SENSOR / OTHER AUTOMATIC CONTROL SHALL BE CONTROLLED BY TIMER-CONTROLLED LIGHTING CONTACTOR(S), UNLESS OTHERWISE NOTED.
- B. THE OCCUPANCY SENSOR, TIMERS, AND OTHER APPROVED LIGHTING CONTROLS SHALL MATCH THE CONTROL FUNCTION REQUIREMENT SPECIFIED IN THE IECC C405.2.
- C. PROVIDE LINE VOLTAGE (UNLESS SPECIFIED) LIGHTING CONTROLS AND, SENSORS, OR POWER PACK AS REQUIRED.
- D. THE OCCUPANCY SHALL BE SET TO TURN OFF THE LIGHTS WITHIN 20 MINUTES AFTER ALL OCCUPANTS LEAVE THE SPACE.
- E. THE TIME CLOCK (MINIMUM 2 CHANNEL) SHALL BE SET AS PER THE REQUIREMENT OF THE PROJECT SPACE.
- F. EMERGENCY LIGHT FIXTURES SHALL TURN ON DURING POWER FAILURE WHEREAS ALL EXIT SIGNS SHALL BE PERMANENTLY ON. E.C. TO WIRE THE FIXTURES ACCORDINGLY.
- G. THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR NOT LESS THAN 90 MINUTES AND SHALL CONSIST OF STORAGE BATTERIES, UNIT EQUIPMENT, OR AN ON-SITE GENERATOR (IBC 1008.3.4).
- H. THE WATTAGE RATING POWER OF THE CURRENT LIMITERS USED SHALL NOT EXCEED THE WATTAGE RATING OF THE CURRENT LIMITER INDICATED ON THE PLAN.
- I. COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF PHOTOCELL IN THE FIELD.
- J. COORDINATE WITH ARCHITECT/OWNER EXACT LOCATION OF TIME CLOCK, LIGHTING CONTACTOR & MANUAL OVER RIDE IN THE FIELD.
- K. COORDINATE WITH ARCHITECT/OWNER EXACT LOCATION OF OCCUPANCY SENSOR IN THE FIELD.
- L. E.C. SHALL REARRANGE AND ADD (IF REQUIRED) THE EMERGENCY FIXTURES TO PROVIDE INITIAL ILLUMINATION THAT IS NOT LESS THAN AN AVERAGE OF 1 FOOTCANDLE (11 LUX) AND A MINIMUM AT ANY POINT OF 0.1 FOOTCANDLE (1 LUX) MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ILLUMINATION LEVELS SHALL BE PERMITTED TO DECLINE TO 0.6 FOOTCANDLE (6 LUX) AVERAGE AND A MINIMUM AT ANY POINT OF 0.06 FOOTCANDLE (0.6 LUX) AT THE END OF THE EMERGENCY LIGHTING TIME DURATION. A MAXIMUM TO-MINIMUM ILLUMINATION UNIFORMITY RATIO OF 40 TO 1 SHALL NOT BE EXCEEDED.
- M. INSTALL A DISCONNECT SWITCH FOR THE SIGNAGE IN AN ACCESSIBLE LOCATION. CONNECT THE SIGNAGE TO THE INDICATED CIRCUIT THROUGH THE LIGHTING CONTACTOR (LC), COORDINATE WITH THE OWNER OR LANDLORD TO DETERMINE THE EXACT LOCATION AND SCHEDULE FOR THE TIME CLOCK.
- N. COORDINATE THE EXACT LOCATION OF THE LOW VOLTAGE EQUIPMENT/SPEAKERS IN THE FIELD, PROVIDE WIRING AS NEEDED, IN COORDINATION WITH THE LOW VOLTAGE VENDOR AND THE ARCHITECT.

ELECTRICAL LIGHTING PLAN KEY NOTES :

- 1. ALL EMERGENCY /EXIT SIGNS SHALL BE CONNECTED TO THE NEARBY LIGHTING CIRCUIT AHEAD OF SWITCH.
- 2. E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF SWITCH BANK(SB) & SWITCH IN THE FIELD.
- 3. MANUAL OVERRIDE SWITCH. THE OVERRIDE SWITCH, WHEN INITIATED, SHALL PERMIT THE CONTROLLED LIGHTING TO REMAIN ON FOR NOT MORE THAN 2 HOURS. COORDINATE WITH ARCHITECT FOR EXACT LOCATION.
- 4. E.C. SHALL COORDINATE THE EXACT LOCATION OF THE BUILDING SIGNAGE WITH ARCHITECT/OWNER IN THE FIELD. PROVIDE CONTROL AS NEEDED.
- 5. LIGHTING NEAR ELECTRICAL PANELS SHALL NOT BE CONTROLLED BY ANY AUTOMATIC MEANS AS PER NEC 110.26(D).
- 6. E.C. SHALL COORDINATE WITH ARCHITECT/HOOD VENDOR FOR LIGHTING REQUIREMENT FOR HOOD PROVIDE AS NEEDED.
- 7. E.C. SHALL COORDINATE WITH ARCHITECT/ EQUIPMENT VENDOR FOR WALK IN BOX LIGHTING CONTROL. PROVIDE AS REQUIRED.

LIGHTING FIXTURE SCHEDULE GENERAL NOTES

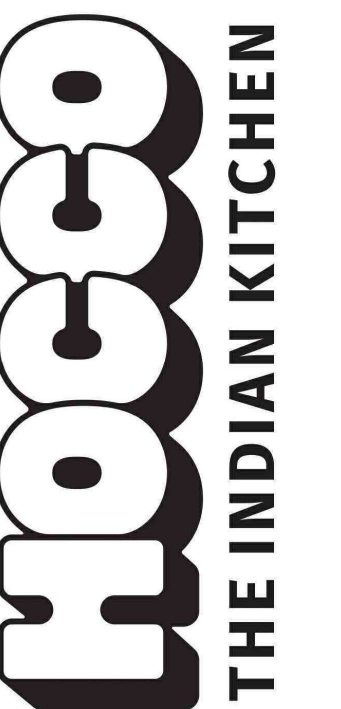
- A. ALL NEW LIGHTING FIXTURES SHOWN ON THE LIGHTING FIXTURES SCHEDULE ARE SUBJECT TO THE ARCHITECT'S APPROVAL. E.C. SHALL COORDINATE MAKE, MODEL, FINISHES, AND OTHER CRITICAL PARAMETERS WITH THE ARCHITECT BEFORE PURCHASING.
- B. THE ADDITIONAL ACCESSORIES (HOLDERS, TRACKS, ADAPTERS, DRIVERS, AND CURRENT LIMITERS) REQUIRED FOR THE PROPER WORKING OF THE LIGHTING FIXTURES SHALL BE PURCHASED SEPARATELY IF NOT PROVIDED ALONG WITH THE FIXTURES.
- C. ALL LIGHTING FIXTURES SHALL BE LED-TYPE OPERABLE AT 120V.
- D. ALL EMERGENCY LIGHTING FIXTURES AND EXIT SIGNS SHALL HAVE A MINIMUM OF 90 MINUTES OF BATTERY BACKUP OR AS REQUIRED BY AHJ.
- E. WATTS PER FACE FOR EXIT SIGNS SHALL NOT EXCEED 5 WATTS.
- F. FIXTURES LOCATED IN SPECIFIC AREAS (WET OR DAMP LOCATIONS, VAPOR EXPOSED, COLD STORAGE, AND BUILDING EXTERIOR) SHALL BE RATED FOR THAT AREA.

LIGHT FIXTURE SCHEDULE							
TAG	QTY	FIXTURE DETAIL	MAKE	MODEL	LOAD IN VA	DIMMABLE	NOTES
R1	19	INTEGRATED LED RECESSED RETROFIT DOWNLIGHT	THE HOME DEPOT	DLR SERIES 5 IN.-6 IN. BLACK 3000K INTEGRATED LED RECESSED RETROFIT DOWNLIGHT TRIM, REMODEL, DIMMABLE DLR566091203K8K	10.26	YES	-
R2	5	2X2 DIRECT MOUNT LED BACKLIT PANEL	COOPER LIGHTING SOLUTIONS	METALUX MMS MULTI-MOUNT SELECTABLE 2X2 DIRECT MOUNT LED BACKLIT PANEL	41	YES	1,4
R3	7	2X4 DIRECT MOUNT LED BACKLIT PANEL	COOPER LIGHTING SOLUTIONS	METALUX MMS MULTI-MOUNT SELECTABLE 2X4 DIRECT MOUNT LED BACKLIT PANEL	48	YES	1,4
S1	6	4" ROUND CEILING MOUNT WITH WALL WASH	COOPER LIGHTING SOLUTIONS	LER4C/LESQ4C CYLINDERS	10	YES	1,4
S2	4	WALL SCONCE (EXTERIOR)	FLOREN	CE2 SERIES / 7070LED SLOPE SLIM	40	-	1,4
P1	3	PENDANT LIGHT 16.34"x16.41"	COOPER LIGHTING SOLUTIONS	PRENTALUX 215 INTEGRAL LED LIGHT ENGINE DECORATIVE	72.2	YES	1,4
B	1	WALK IN BOX LIGHT	TBD	TBD	20	-	1,4
EBU-W	-	WALL MTD EMERGENCY LIGHT	TBD	TBD	-	-	1,2
EX1	-	WALL MTD EMERGENCY LIGHT/ EXIT SIGN COMBO	TBD	TBD	-	-	1,2
EX-SUS	-	SUSPENDED EXIT SIGN	TBD	TBD	-	-	1,2

NOTES :

- 1 - COORDINATE EXACT MAKE/MODEL NUMBER WITH THE OWNER/ARCHITECT.
- 2 - THE LIGHT FIXTURE SHALL HAVE MINIMUM OF 90 MINUTES OF BATTERY BACKUP.
- 3 - COORDINATE REQUIREMENT OF THE CURRENT LIMITER WITH THE VENDOR AND PROVIDE AS NEEDED.
- 4 - THE LIGHTING FIXTURE WATTAGE HAS BEEN ASSUMED FOR THE COMCHECK AND LOAD CALCULATION PURPOSES ONLY. COORDINATE FINAL SELECTION BY ARCHITECT.

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

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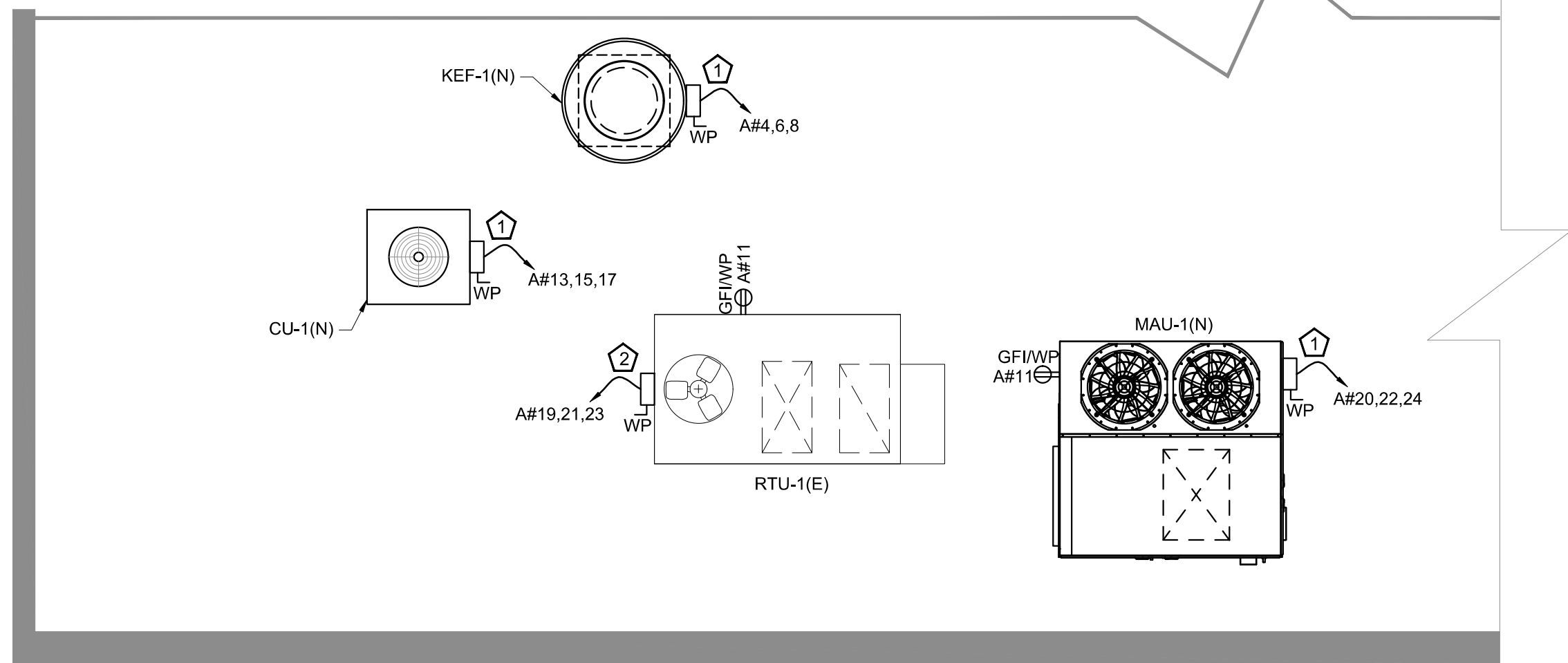
QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

E1.0
ELECTRICAL LIGHTING PLAN



ELECTRICAL ROOF PLAN GENERAL NOTES

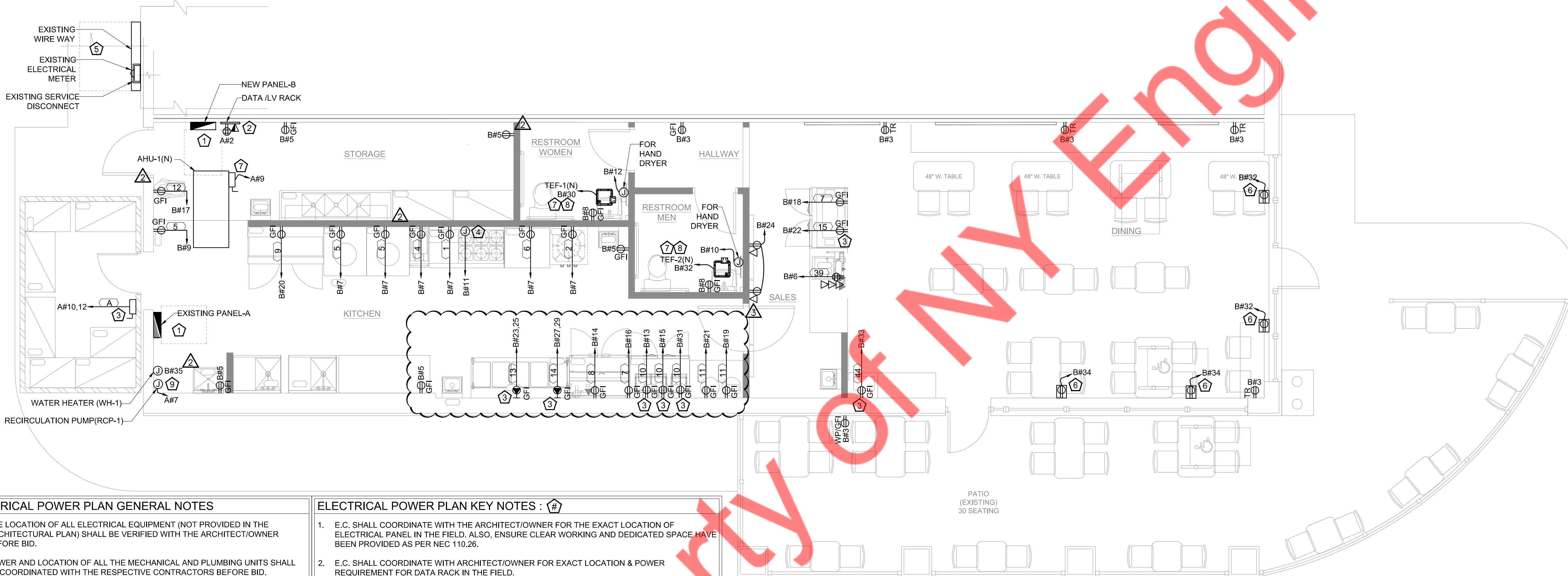
- ALL THE ELECTRICAL ELEMENTS, VIZ., CONDUITS, WIRING, AND DISCONNECT SWITCHES, SHALL BE RATED FOR EXTERIOR USE.
- THE DISCONNECT SWITCHES FOR THE BRANCH CIRCUIT SHOWN ON THE PLAN SHALL BE RATED EQUAL TO OR HIGHER THAN THE BREAKER RATING. REFER TO BREAKER RATING IN THE PANEL SCHEDULE AND PROVIDE DISCONNECT AS NEEDED.
- GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFI BREAKER IN THE PANEL FOR THE INDICATED CIRCUIT IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT ACCESSIBLE.
- A 125-VOLT, SINGLE-PHASE, 15- OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION WITHIN 7.5 M (25 FT) OF THE EQUIPMENT AS SPECIFIED IN 210.63(A) AND (B) AS PER NEC 210.63.

ROOF POWER PLAN KEYED NOTES :

- E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENT OF THE HVAC UNIT IN THE FIELD. PROVIDE CIRCUIT AND CONTROLS AS REQUIRED.
- E.C. SHALL VERIFY THE EXACT LOCATION AND OPERABLE CONDITION OF THE EXISTING MECHANICAL UNIT IN THE FIELD. PROVIDE NEW CIRCUIT; DISCONNECT/SWITCH IF EXISTING IS INOPERABLE.

2 ROOF POWER PLAN

1/4" = 1'-0" NOTE:



ELECTRICAL POWER PLAN GENERAL NOTES

- THE LOCATION OF ALL ELECTRICAL EQUIPMENT (NOT PROVIDED IN THE ARCHITECTURAL PLAN) SHALL BE VERIFIED WITH THE ARCHITECT/OWNER BEFORE BID.
- POWER AND LOCATION OF ALL THE MECHANICAL AND PLUMBING UNITS SHALL BE COORDINATED WITH THE RESPECTIVE CONTRACTORS BEFORE BID.
- THE DISCONNECT SWITCHES FOR THE BRANCH CIRCUIT SHOWN ON THE PLAN SHALL BE RATED EQUAL TO OR HIGHER THAN THE BREAKER RATING. REFER BREAKER RATING IN THE PANEL SCHEDULE AND PROVIDE DISCONNECT AS NEEDED.
- GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFI RECEPTACLE DISCONNECT IN THE READILY ACCESSIBLE LOCATION. PROVIDE GFI BREAKER IN THE PANEL IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT ACCESSIBLE WHEN INSTALLED IN THE DESIRED LOCATION.
- COORDINATE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENTS OF THE DUCT SMOKE DETECTOR, MOTORIZED DAMPERS, AND THERMOSTATS IN THE FIELD WITH THE MECHANICAL DRAWING. PROVIDE WIRING AS REQUIRED.
- ELECTRICAL OUTLETS AND DEVICES LOCATED IN DEMISING WALLS TO HAVE FIRE PUTTY AROUND THE BOX TO MAINTAIN PARTITION FIRE RATING.
- A QUAD AND DATA/TELEPHONE OUTLETS ARE TO BE PROVIDED ON THE PLYWOOD BACKING DESIGNED FOR THE L.V. RACK. EXTEND THE CONDUIT FROM THE L.V. RACKUP TO THE LOCATION DECIDED BY THE LANDLORD/OWNER/L.V. VENDOR OR SERVICE PROVIDER.
- THE ARCHITECTURAL PLAN SHALL TAKE PRECEDENCE OVER THE ELECTRICAL DRAWING FOR EQUIPMENT LOCATION AND MOUNTING. THE LOCATION OF ALL ELECTRICAL EQUIPMENT NOT PROVIDED IN THE ARCHITECTURAL PLAN SHALL BE VERIFIED WITH THE ARCHITECT/OWNER BEFORE BID.
- PROVIDE BOLLARD IN FRONT OF THE ELECTRICAL EQUIPMENT AS REQUIRED BY CODE.
- COORDINATE THE EXACT LOCATION OF THE LOW VOLTAGE EQUIPMENT IN THE FIELD. PROVIDE WIRING AS NEEDED. IN COORDINATION WITH THE LOW VOLTAGE VENDOR AND THE ARCHITECT.
- COORDINATE WITH ARCHITECT/OWNER FOR DINNING AREA GENERAL RECEPTACLES.

ELECTRICAL POWER PLAN KEY NOTES :

- E.C. SHALL COORDINATE WITH THE ARCHITECT/OWNER FOR THE EXACT LOCATION OF ELECTRICAL PANEL IN THE FIELD. ALSO, ENSURE CLEAR WORKING AND DEDICATED SPACE HAVE BEEN PROVIDED AS PER NEC 110.26.
- E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION & POWER REQUIREMENT FOR DATA RACK IN THE FIELD.
- E.C. SHALL COORDINATE WITH ARCHITECT/EQUIPMENT VENDOR FOR POWER REQUIREMENT, CONNECTION TYPE & LOCATION OF EQUIPMENT IN THE FIELD. PROVIDE ACCORDINGLY AS REQUIRED. BASE BID ACCORDINGLY.
- E.C. SHALL COORDINATE WITH THE HOOD VENDOR/ARCHITECT FOR THE EXACT LOCATION & ELECTRICAL POWER REQUIREMENT IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF EXISTING ELECTRICAL METER, & EXISTING DISCONNECT IN THE FIELD.
- E.C. SHALL COORDINATE WITH ARCHITECT/OWNER FOR EXACT LOCATION OF SHOW WINDOW RECEPTACLE. RECEPTACLES TO BE CONTROLLED BY L.C.
- E.C. SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR FOR THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENT OF THE UNIT IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.
- INTERLOCK TEF-1(N) & TEF-2(N) WITH RTU-1(E). COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO CONNECTIONS.
- E.C. SHALL COORDINATE WITH THE PLUMBING CONTRACTOR FOR THE EXACT LOCATION AND ELECTRICAL CONNECTION REQUIREMENT OF THE UNIT IN THE FIELD. PROVIDE CIRCUIT AND CONTROL AS REQUIRED.

EQUIPMENT SCHEDULE GENERAL NOTES

- VERIFY ALL MCA, MOC, CONNECTION TYPE, AND OTHER INSTALLATION REQUIREMENTS WITH FOOD SERVICE CONSULTANT AND EQUIPMENT MANUFACTURER BEFORE BID.
- LOCATIONS OF DISCONNECTS FOR EACH PIECE OF EQUIPMENT MAY NOT BE SHOWN ON PLANS. IF DISCONNECT FOR EQUIPMENT IS NOT SHOWN, THE CONTRACTOR TO FIELD COORDINATE LOCATION PER CODE.
- THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING ALL CONDUITS, WIRE, SUPPORT SYSTEM, DISCONNECTS, AND OUTLETS TO ALLOW FOR A COMPLETE CODE-COMPLIANT KITCHEN INSTALLATION.

ELECTRICAL EQUIPMENT SCHEDULE										
TAG	QTY	EQUIPMENT DESCRIPTION	MAKE	MODEL	LOAD IN VA	VOLTS	PHASE	AMPS	CONNECTION	NOTES
1	1	COOKING RANGE	KINTERA	K6G24	-	-	-	-	-	2,3,5
2	1	BHRIANI STOVE	TBD		-	-	-	-	-	1,2,3,5
3	1	NAAN PITA BREAD MACHINE OVEN	ROTO QUIP	RD-30 NG	0.04	115	1	0.33	-	2,3,5
4	2	FRYER	KINTERA	KF4N	-	-	-	-	-	2,3,5
5	2	TANDOR	STDG3-LARGE	TBD	-	-	-	-	-	1,2,3,5
7	2	UNDER COUNTER REFRIGERATOR	EMPURA	KUC48R	360	115	1	3	NEMA5-15P	-
8	1	SANDWICH STATION	TBD		240	115	1	2	NEMA5-15P	1,2,3,4
9	1	SALAD WORKTABLE & UNDERCOUNTER (PREP TABLE)	KINTERA	KS60	804	115	1	6.7	NEMA5-15P	1
10	3	MULTI CONTACT GRILL	HATCO	MCG10G-120-QS	1800	120	1	15	NEMA5-15P	-
11	2	RICE WARMER	TOWN	56919	100	120	1	0.83	NEMA5-15P	-
12	1	PLANETARY MIXER	CENTAUR	MAC30	1008	120	1	8.4	-	3,4
13	1	HOT FOOD COUNTER	COMM. STAINLESS. FAB.	CNTR	8320	208	1	40	NEMA6-50P	1,2,3,4
14	1	HOT FOOD DROP IN	WELLS	SS-206TDU	1240	208	1	6	-	3,4
15	1	DISPLAY	STRUCTURAL CONCEPTS	CO3324R	1440	115	1	12	NEMA5-15P	1,2,3,4
39	1	POS	TBD		-	-	-	-	-	1,2,3,4
44	1	WATER DISPENSER	AQUIVERSE	A2500-K HOT/COLD	0.72	120	1	6	-	2,3,4
A	1	WALK IN BOX	TBD		3120	208	1	15	-	1,2,3,4

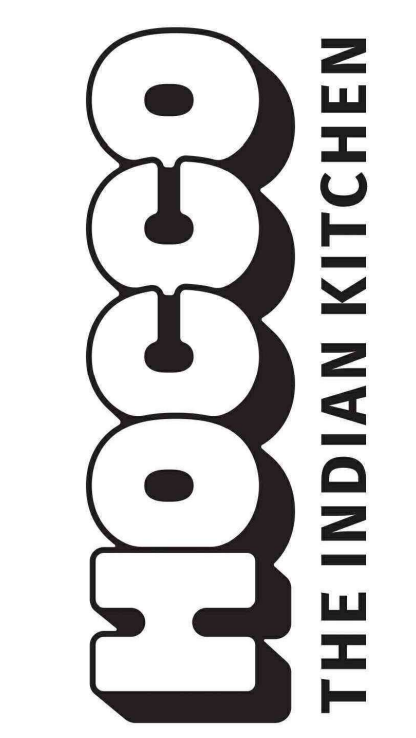
NOTES:

- COORDINATE EXACT MAKE/MODEL NUMBER WITH THE OWNER/ARCHITECT.
- COORDINATE EXACT POWER REQUIREMENT WITH THE EQUIPMENT VENDOR.
- COORDINATE EXACT CONNECTION TYPE WITH THE VENDOR PRIOR TO ROUGH IN.
- PROVIDE CIRCUIT BREAKER, WIRING, JUNCTION BOX, RECEPTACLES, DISCONNECTS AS REQUIRED.
- GAS FIRED EQUIPMENT, COORDINATE WITH THE GAS PLAN IN THE PLUMBING.

1 ELECTRICAL POWER PLAN

1/4" = 1'-0" NOTE:

MEP CONSULTANT:



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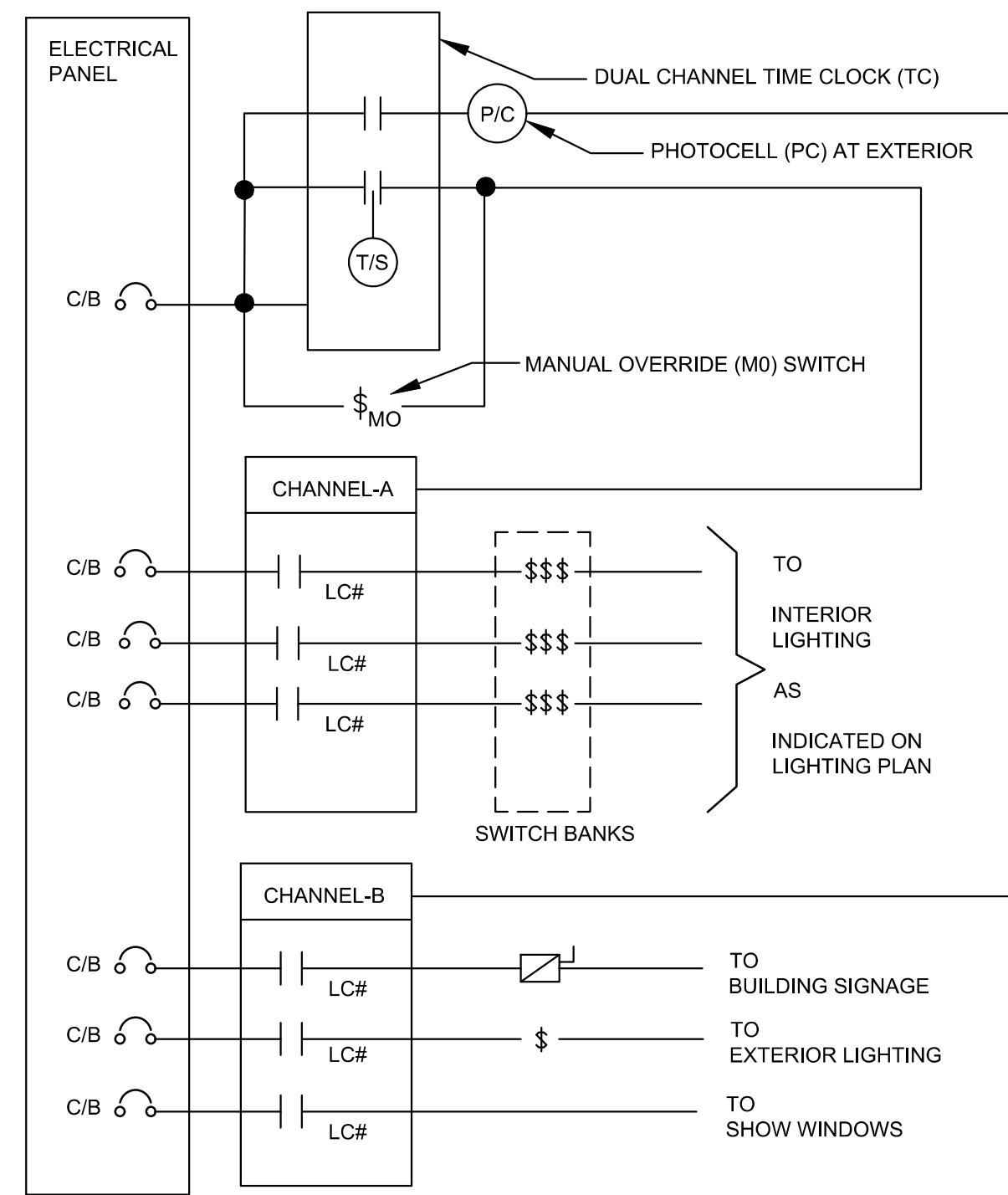
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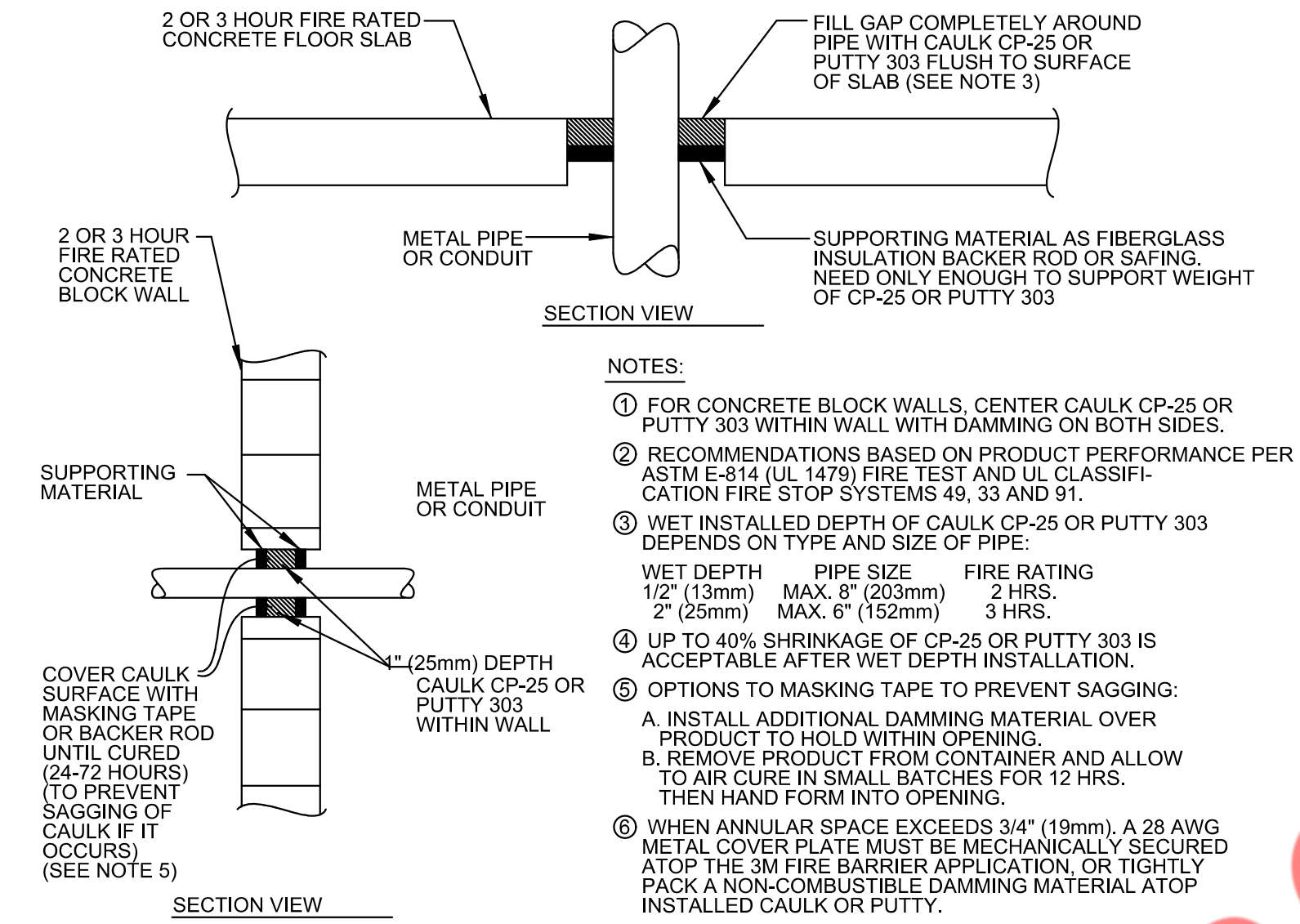
SHEET NUMBER / TITLE:

E2.0
ELECT. POWER & ROOF POWER PLAN

DIAGRAM BELOW INDICATES THE GENERAL ARRANGEMENT OF THE LIGHTING CONTACTORS. SEE ELECTRICAL LIGHTING PLAN FOR CIRCUIT AND CONTROL DETAILS. CONTRACTOR SHALL SELECT THE QUANTITY OF THE CONTACTORS AS REQUIRED.

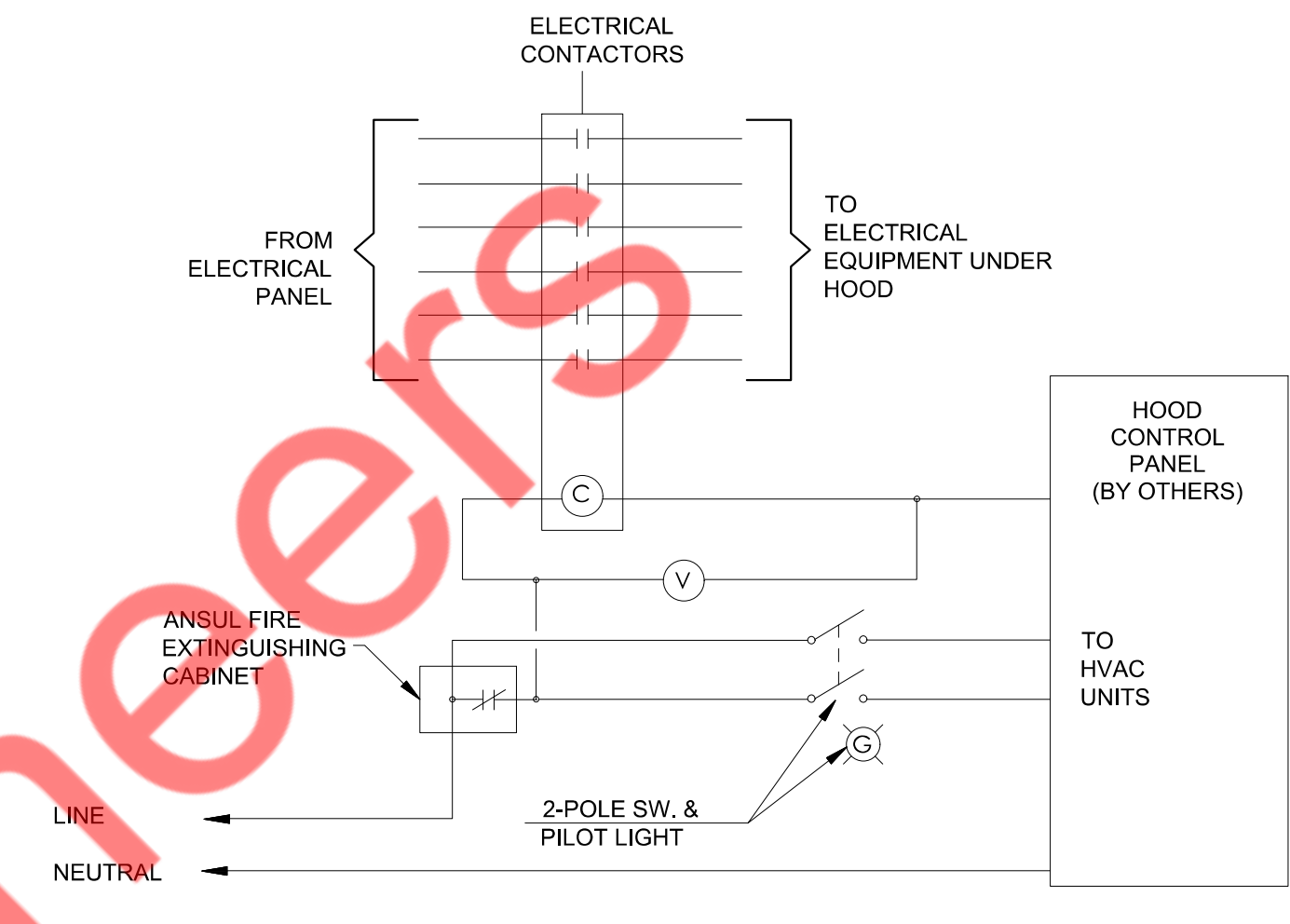


1 LIGHTING CONTACTOR DETAILS (TYPICAL)
E3.0 N.T.S



NOTES:
 ① FOR CONCRETE BLOCK WALLS, CENTER CAULK CP-25 OR PUTTY 303 WITHIN WALL WITH DAMMING ON BOTH SIDES.
 ② RECOMMENDATIONS BASED ON PRODUCT PERFORMANCE PER ASTM E-814 (UL 1479) FIRE TEST AND UL CLASSIFICATION FIRE STOP SYSTEMS 49, 33 AND 91.
 ③ 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. 3" (203mm) 2 HRS.
 2" (25mm) MAX. 6" (152mm) 3 HRS.
 ④ UP TO 40% SHRINKAGE OF CP-25 OR PUTTY 303 IS ACCEPTABLE AFTER WET DEPTH INSTALLATION.
 ⑤ 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.
 ⑥ 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.

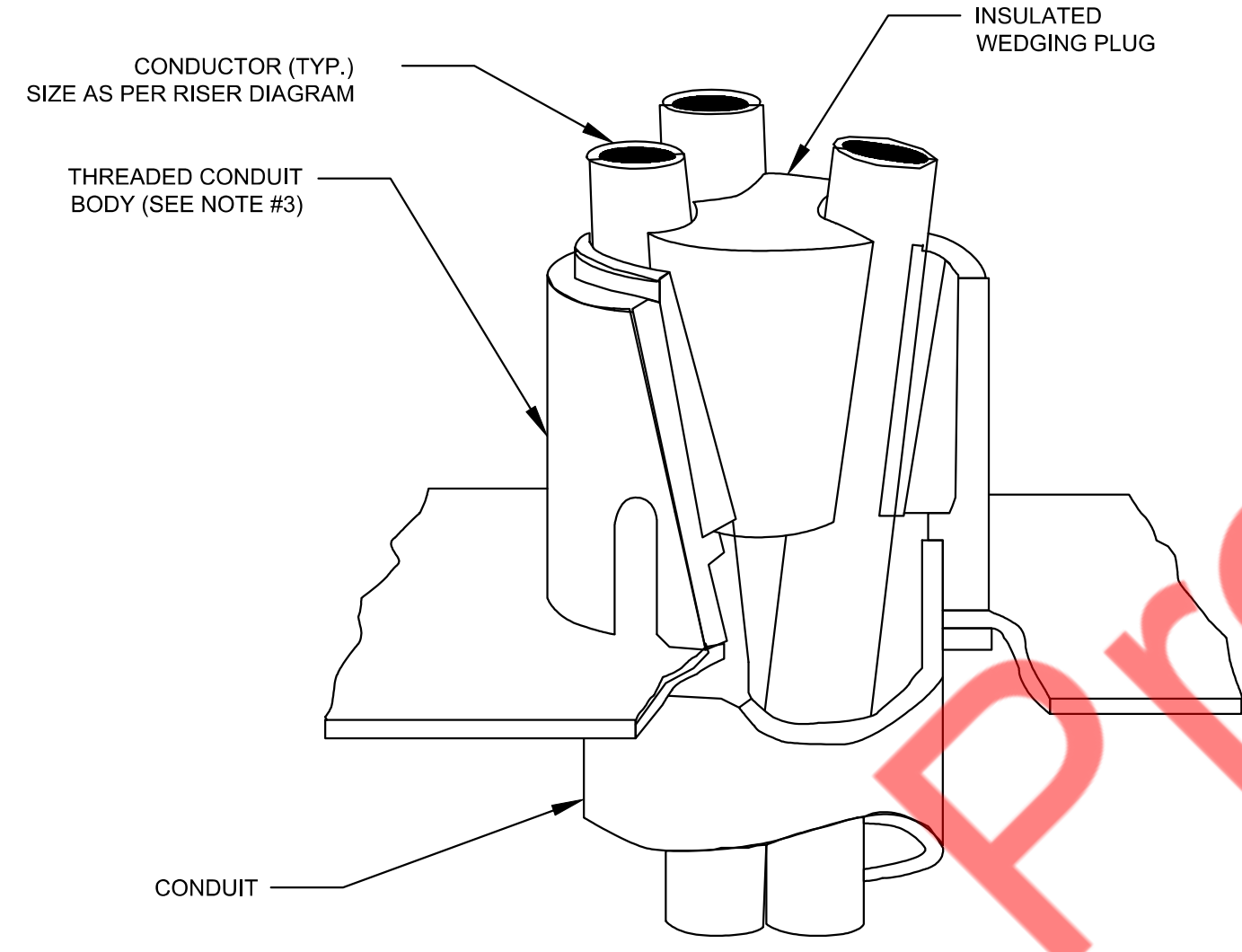
3 FIRE STOP DETAIL
E3.0 N.T.S



NOTES:
 1. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTACTORS AND ALL HOOD CONTROL PANEL AND ANSUL CABINET WITH HOOD MANUFACTURER.
 2. EXACT QUANTITY AND NUMBER OF POLES OF THE ELECTRICAL CONTACTORS TO BE COORDINATED WITH THE PANEL SCHEDULE.

4 FIRE SUPPRESSION SYSTEM TYPICAL DETAIL
E3.0 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 #02-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.

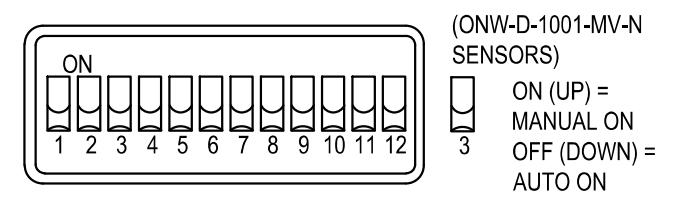
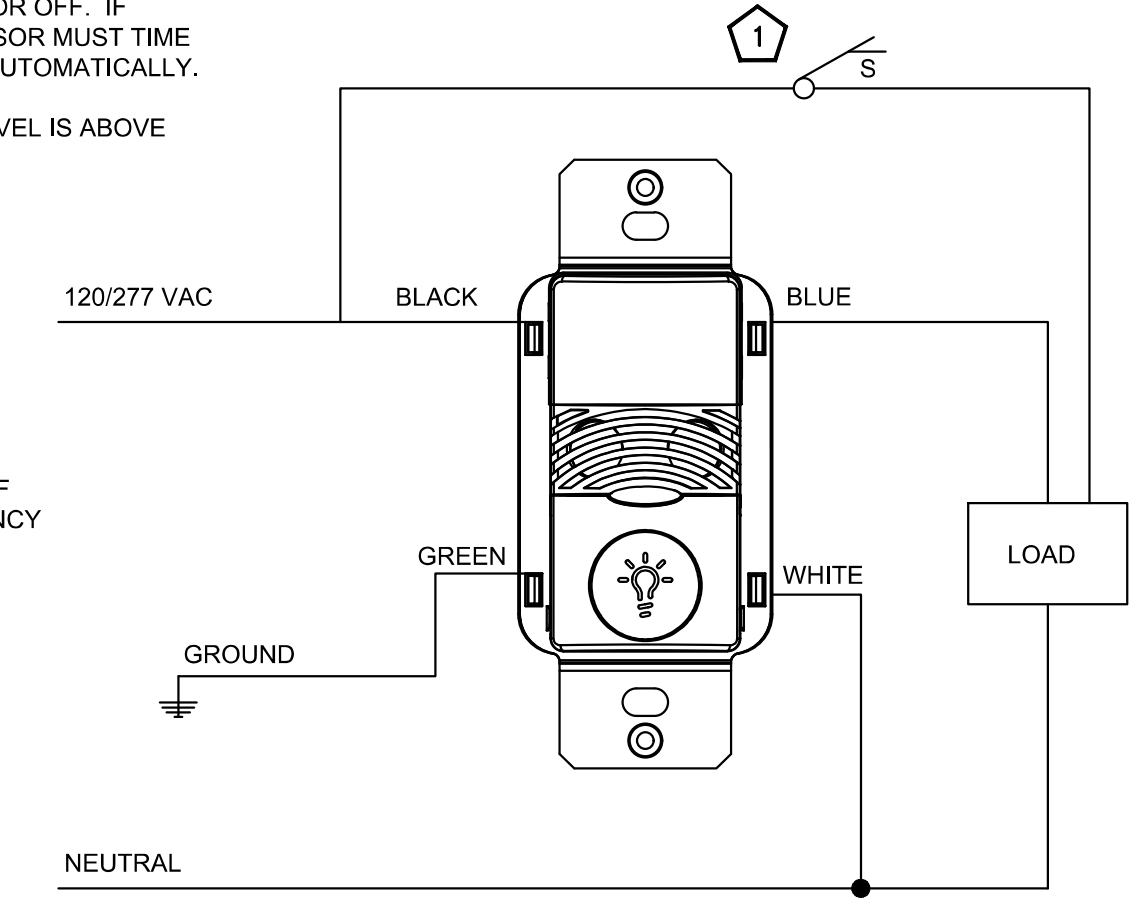


2 VERTICAL CABLE SUPPORT DETAIL
E3.0 N.T.S

- MANUAL MODE OPERATION:
- PUSHBUTTON PRESS IS REQUIRED TO TURN LOAD ON.
 - LOAD TURNS OFF WHEN SENSOR TIMES OUT OR BY PRESSING PUSH BUTTON.
 - IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.
- AUTOMATIC MODE OPERATION:
- WHEN SENSOR ACTIVATES LOAD TURNS ON.
 - PUSHBUTTON CAN BE USED TO TURN LOAD ON OR OFF. IF PUSHBUTTON IS USED TO TURN LOAD OFF, SENSOR MUST TIME OUT FIRST, BEFORE LOAD CAN TURN BACK ON AUTOMATICALLY.
 - IF DAYLIGHT SENSOR IS ENABLED AND LIGHT LEVEL IS ABOVE SETPOINT, LOAD WILL NOT TURN ON.

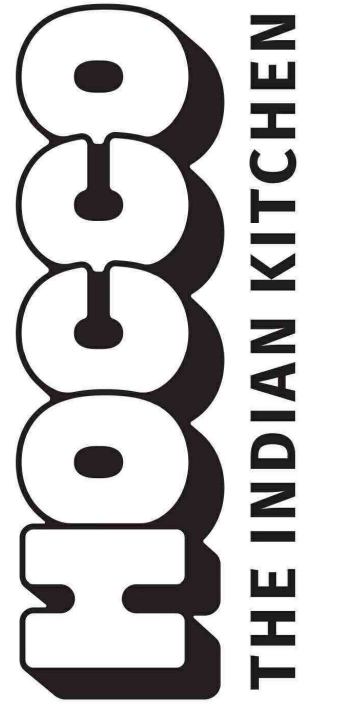
SENSOR TYPES INCLUDE:
ONW-D-1001-MV-N

① PROVIDE SENSING CONDUCTOR TAPPED AHEAD OF ANY SWITCHES WHERE SWITCH SERVES EMERGENCY FIXTURES.



5 WIRING DIAGRAM-LOW VOLTAGE WALL SWITCH SENSOR(NEUTRAL CONNECTION) OCCUPANCY/VACANCY-SINGLE LEVEL
E3.0 N.T.S

MEP CONSULTANT:



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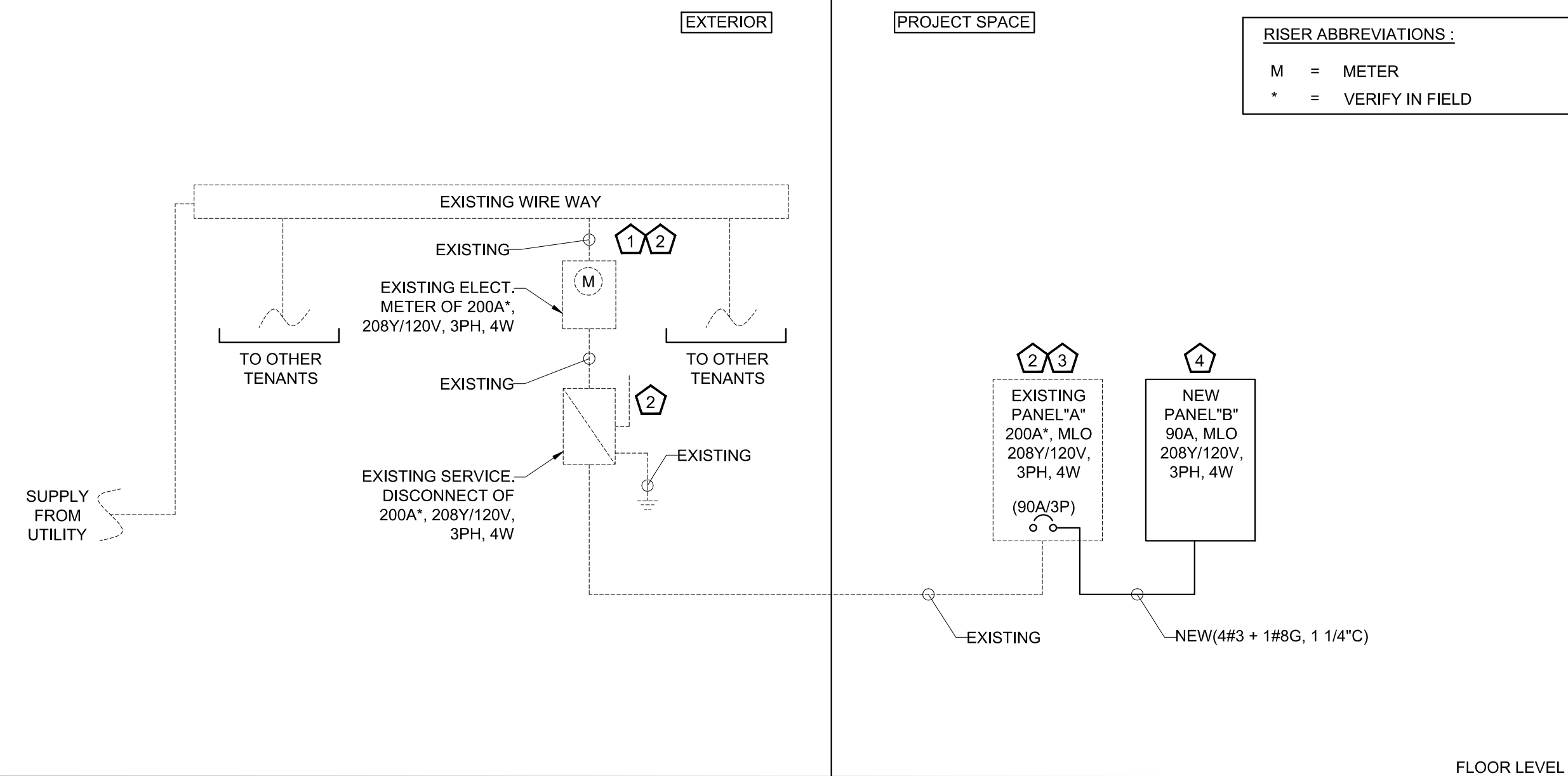
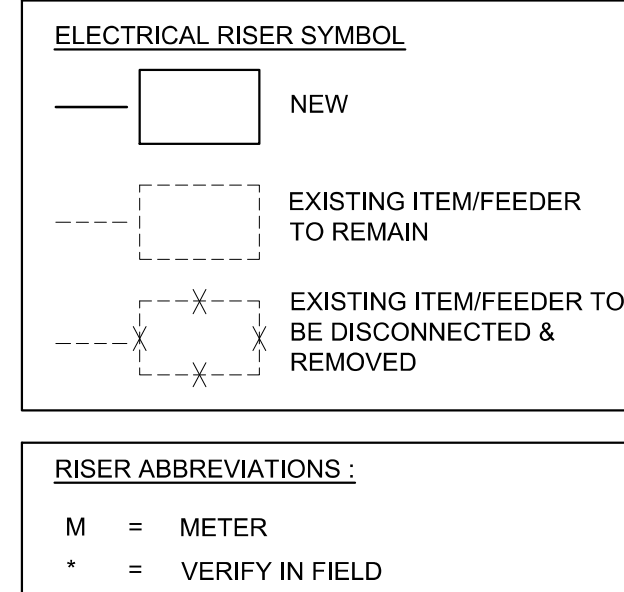
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PROJECT NUMBER

SHEET NUMBER / TITLE:

E3.0
ELECTRICAL DETAILS

ELECTRICAL RISER DIAGRAM



- ELECTRICAL RISER DIAGRAM KEYED NOTES :**
- EXISTING 200A, 208Y/120V, 3PH, 4W ELECTRICAL SERVICE FOR PROJECT SPACE TO REMAIN. VERIFY LOCATION, RATING, AND OPERABLE CONDITION IN THE FIELD. INFORM THE ENGINEER OF THE RECORD OF ANY DISCREPANCY BEFORE BID.
 - E.C. SHALL VERIFY THE EXACT LOCATION, RATING, AND OPERABLE CONDITION OF EVERY PIECE OF EQUIPMENT MARKED AS EXISTING IN THE FIELD. INFORM THE ENGINEER OF THE RECORD OF ANY DISCREPANCY BEFORE BIDDING.
 - E.C. SHALL VERIFY THE RATING OF "PANEL-A" IN THE FIELD CHECK WHETHER IT IS 200A. IF NOT, PROVIDE A NEW PANEL IN COORDINATION WITH THE ARCHITECT/OWNER.
 - COORDINATE THE EXACT LOCATION OF THE NEW ELECTRICAL EQUIPMENT IN THE FIELD.

- ELECTRICAL RISER DIAGRAM GENERAL NOTES**
- E.C. SHALL VERIFY/COORDINATE THE FOLLOWING INFORMATION IN THE FIELD WITH THE UTILITY/LANDLORD/OWNER AND INFORM THE ENGINEER OF RECORD OF ANY DISCREPANCY BEFORE BID.
 - THE ELECTRICAL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE NEC, LOCAL CODES AND AHJ.
 - THE EXACT POWER DISTRIBUTION AND SCOPE OF WORK WITH THE LANDLORD/OWNER BEFORE BID.
 - ENSURE THE COMBINED VOLTAGE DROP OF THE FEEDER AND BRANCH CIRCUIT SHALL NOT EXCEED 5% PER CODE.
 - IF REQUIRED BY OWNER THE EXISTING ELECTRICAL SERVICE, METER, DISCONNECT AND ELECTRICAL PANELS CAN BE RELOCATED AND REUSED. E.C. SHALL INFORM EOR OF ANY CHANGES PRIOR TO BID.
 - THE PART OF RISER MARKED AS EXISTING IS FOR REFERENCE PURPOSES ONLY. E.C. SHALL VERIFY THE AVAILABILITY, LOCATION, RATING, OPERABLE CONDITION AND EXACT POWER FLOW IN FIELD. INFORM EOR OF ANY DISCREPANCY BEFORE BID.
 - THE VOLTAGE AND FREQUENCY FLUCTUATION IN THE ELECTRICAL UTILITY SERVICE AT THE SERVICE ENTRY SHALL NOT BE MORE THAN +/- 5% AND +/- 1%, RESPECTIVELY. PROVIDE THE REGULATORS IF SUCH CASE IS OBSERVED.
 - REUSE OF THE EXISTING EQUIPMENT IS SUBJECT TO THE VERIFICATION OF THE AVAILABILITY, LOCATION, RATING, OPERABLE CONDITION, AND FAULT CURRENT IN THE FIELD. REPLACE THE EXISTING EQUIPMENT WITH THE EQUIPMENT OF SAME RATING. IF THE EXISTING EQUIPMENT CAN NOT BE REUSED DUE TO ANY OF THE REASONS MENTIONED EARLIER.
 - ADDITION OR ALTERATION TO THE EXISTING SYSTEM SHALL NOT BE DONE WITHOUT THE WRITTEN CONSENT OF THE OWNER.
 - THE EXISTING ELECTRICAL EQUIPMENT NOT INTENDED TO BE REUSED (WHETHER OR NOT SHOWN ON THE ELECTRICAL PLAN) SHALL BE DEMOLISHED. E.C. SHALL COORDINATE WITH THE OWNER/ARCHITECT IN THE FIELD BEFORE DEMOLITION.
 - E.C. TO ENSURE THAT THE SPARE AMPS AVAILABLE IN THE EXISTING ELECTRICAL SERVICE IS MORE THAN THE NEWLY ADDED DEMAND AMPS.

ELECTRICAL PANEL SCHEDULE

PANEL: A (EXISTING)		PHASE		WIRE		DEMAND LOAD IN KVA		DEMAND CURRENT IN AMPS		MOUNTING: SURFACE		PANEL LOCATION: KITCHEN	
208Y/120	VOLTS	3				67.87							
200A*	MLO	4				188.61							FED FROM: EXIST. METER - DISC.

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	NOTES	PER PHASE (KVA)			NOTES	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20/1P	HOOD LIGHTS	L	0.10	RWC, NBEP	0.46			RWC	0.36	R	LV/DATA RACK	20/1P	2	
3	30/2P	SPARE					1.20			1.20	M			4	
5							1.20			1.20	M	KEF-1(N)	20/3P	6	
7	20/1P	RCP-1 & WH-1	M	0.10	RWC	1.30				1.20	M			8	
9	15/1P	AHU-1(N)	H	1.57	RWC, NBEP		3.13			1.56	E	EQA_WALK IN BOX	20/2P	10	
11	20/1P	ROOF RECEPTACLE	R	0.36	RWC			1.92		1.56	E			12	
13	25/3P	CU-1(N)	H	1.99	RWC, NBEP	9.29			RWC, NBEP	7.30	H		14		
15			H	1.99					RWC, NBEP	7.30	H	MAU-1(N)	70/3P	16	
17			H	1.99						9.29					18
19			H	1.70											20
21	30/3P	RTU-1(E)	H	1.70	SAE, ETR		10.31			8.61	O	TO PANEL-B	90/3P	22	
23			H	1.70			10.31			8.61	O			24	
						21.36	23.93	22.72							

PANEL: B (NEW)		PHASE		WIRE		DEMAND LOAD IN KVA		DEMAND CURRENT IN AMPS		MOUNTING: SURFACE		PANEL LOCATION: STORAGE	
208Y/120	VOLTS	3				25.82							
90A	MLO	4				71.76							FED FROM: PANEL-A

CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	NOTES	PER PHASE (KVA)			NOTES	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.
						A	B	C						
1	20/1P	WALK IN BOX LIGHTS	L	0.02	RWC	1.20			RWC	1.18	L	INTERIOR LIGHTS	20/1P	2
3	20/1P	FRONT GENERAL RECEPTACLE	R	1.08	RWC		2.28			1.20	L	EXTREIOR SIGNAGE	20/1P	4
5	20/1P	GENERAL RECEPTACLES	R	1.08	RWC			1.44		0.36	R	FRONT POS SYSTEM	20/1P	6
7	20/1P	EQ1_RANGE, 2_BIRYANI STOVE, 4_FRYER, 5_TANDOOR	E	0.30	RWC	0.66				0.36	R	RESTROOM RECEPTACLE	20/1P	8
9	20/1P	EQ3_NAAN PITA BREAD MACHINE	E	0.04	RWC		1.04			1.00	O	HAND DRYER	20/1P	10
11	20/1P	EXHAUST HOOD CONTROL	R	0.50	RWC			1.50		1.00	O	HAND DRYER	20/1P	12
13	20/1P	EQ10_MULTI CONTACT GRILL	E	1.80	RWC			2.04		0.24	E	EQ8_SANDWICH STATION	20/1P	14
15	20/1P	EQ10_MULTI CONTACT GRILL	E	1.80	RWC			2.16		0.36	E	EQ7_UNDER COUNTER REFRIGERATOR	20/1P	16
17	20/1P	EQ12_PLANETARY MIXER	E	1.00	RWC			1.36		0.36	E	EQ7_UNDER COUNTER REFRIGERATOR	20/1P	18
19	20/1P	EQ11_RICE WARMER	E	0.10	RWC	0.91				0.81	E	EQ9_SALAD WORKTABLE & UNDERCOUNTER	20/1P	20
21	20/1P	EQ11_RICE WARMER	E	0.10	RWC			0.98		0.88	E	EQ15_DISPLAY	20/1P	22
23	50/2P	EQ13_HOT FOOD COUNTER	E	4.16	RWC			4.52		0.36	R	MENU BOARD RECEPTACLE	20/1P	24
25			E	4.16		5.36					1.20	L	SHOW WINDOW RECEPTACLE	20/1P
27	20/2P	EQ14_HOT FOOD DROP IN	E	0.62	RWC			2.42		1.80	L	SHOW WINDOW RECEPTACLE	20/1P	28
29			E	0.62				0.67			0.05	M	TEF-1(N)	15/1P
31	20/1P	EQ10_MULTI CONTACT GRILL	E	1.80	RWC			1.85		0.05	M	TEF-2(N)	15/1P	32
33	20/1P	EQ44_WATER DISPENSER	E	0.72	RWC			0.88		0.16	L	EXTERIOR LIGHTS	20/1P	34
35	20/1P	WH-1	O	0.10	RWC			0.10				SPARE	20/1P	36
37	20/1P	SPARE				0.00						SPARE	20/1P	38
39	20/1P	SPARE				0.00						SPARE	20/1P	40
41	20/1P	SPARE						0.00				SPACE		42
						12.02	9.76	9.59						

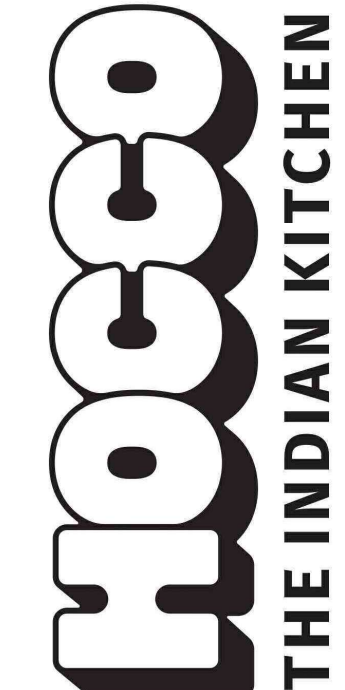
- ELECTRICAL PANEL SCHEDULE GENERAL NOTES**
- CONTRACTOR SHALL VERIFY BREAKER AND BRANCH CIRCUIT REQUIREMENTS FOR THE EQUIPMENT IN THE FIELD.
 - THE ELECTRICAL LOAD IS BALANCED WITHIN 10% FOR ALL 3 PHASES.
 - THE VOLTAGE DROP FOR THE BRANCH CIRCUIT SHALL NOT EXCEED 3% OR 5% IN COMBINATION WITH THE FEEDER CIRCUIT.
 - GFI MARKED ON THE PLAN INDICATES THAT THE CIRCUIT SHALL BE GFI PROTECTED. E.C. SHALL PROVIDE A GFCI BREAKER IN THE PANEL FOR THE INDICATED CIRCUIT IF EITHER THE RECEPTACLE IS NOT AVAILABLE OR NOT READILY ACCESSIBLE.
 - COORDINATE AVAILABLE FAULT CURRENT (AIC RATING) WITH UTILITY/LANDLORD/OWNER. CALCULATE THE EXACT AIC RATING OF EACH PANEL IN THE FIELD. AIC RATING SHALL BE WRITTEN ON EACH PANEL AS PER STANDARD.
 - PROVIDE BREAKER LOCKING DEVICES IN THE PANELS, WHERE EVER REQUIRED BY CODE. INCLUDING BUT NOT LIMITED TO EMERGENCY LIGHTING, FIRE ALARM CIRCUITS, AND HARD-WIRED EQUIPMENT.
 - THE CONTRACTOR IS TO PROVIDE A CIRCUIT DIRECTORY FOR EACH PANEL BOARD AS PER 408.4 (A).
 - REFER TO THE BRANCH CIRCUIT WIRING CHART FOR WIRE SIZES. THE WIRE SIZES HAVE BEEN SELECTED BASED ON THE 75-DEGREE COLUMN OF NEC 310.15 B 16 FOR COPPER CONDUCTOR. THE WIRE SIZE MIGHT CHANGE IF THE TEMPERATURE, MATERIAL, OR VOLTAGE DROP IS DIFFERENT. E.C. SHALL SIZE THE BRANCH CIRCUIT ACCORDINGLY.
 - THE CONTRACTOR SHALL MODIFY THE BREAKERS OF THE EXISTING PANEL (WHEREVER REQUIRED) TO BE IN LINE WITH THE PANEL SCHEDULE PROVIDED IN THE ELECTRICAL DRAWING.

PANEL SCHEDULE ABBREVIATIONS AND NOTES

TAG	DESCRIPTION
L	LIGHTING
R	RECEPTACLE
H	HVAC
E	ELECTRICAL EQUIPMENT
M	LARGEST MOTOR
O	OTHER
N	NON COINCIDENT
X	LINKED CELL
*	VERIFY/COORDINATE IN FIELD
RWC	REFER TO THE WIRING CHART FOR WIRE SIZE
RRF	REFER RISER FOR FEEDER SIZE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
AFCI	ARC FAULT CIRCUIT INTERRUPTER
NBEP	NEW BREAKER IN THE EXISTING PANEL
HACR	HEAT AIR CONDITIONING AND REFRIGERATION
PAN	PROVIDE ADDITIONAL WIRE FOR NEUTRAL
LO	LOCKOUT BREAKER
STB	SHUNT TRIP BREAKER
SB	SPLIT BREAKER
ETR	EXISTING TO REMAIN
SAE	SAME AS EXISTING
VIF	VERIFY IN FIELD
LC	WIRE THROUGH LIGHTING CONTACTOR
NCL	NON COINCIDENT LOAD
DFB	DUAL FUNCTION BREAKER (AFCH+GFCI)
CB	COMBINATION BREAKER (S/P)

BRANCH CIRCUIT WIRING CHART

BREAKER	BRANCH CIRCUIT SIZE
15/1P	2#12 + 1#12G, 3/4"C
20/1P	2#12 + 1#12G, 3/4"C
25/1P	2#10 + 1#10G, 3/4"C
30/1P	2#10 + 1#10G, 3/4"C
35/1P	2#8 + 1#10G, 3/4"C
40/1P	2#8 + 1#10G, 3/4"C
45/1P	2#8 + 1#10G, 3/4"C
50/1P	2#8 + 1#10G, 3/4"C
15/2P	2#12 + 1#12G, 3/4"C
20/2P	2#12 + 1#12G, 3/4"C
25/2P	2#10 + 1#10G, 3/4"C
30/2P	2#10 + 1#10G, 3/4"C
35/2P	2#8 + 1#10G, 3/4"C
40/2P	2#8 + 1#10G, 3/4"C
45/2P	2#8 + 1#10G, 3/4"C
50/2P	2#8 + 1#10G, 3/4"C
60/2P	2#6 + 1#10G, 3/4"C
70/2P	2#4 + 1#8G, 1"C
80/2P	2#4 + 1#8G, 1"C
90/2P	2#3 + 1#8G, 1"C
100/2P	2#3 + 1#8G, 1"C
110/2P	2#1 + 1#6G, 1 1/4"C
15/3P	3#12 + 1#12G, 3/4"C
20/3P	3#12 + 1#12G, 3/4"C
25/3P	3#10 + 1#10G, 3/4"C
30/3P	3#10 + 1#10G, 3/4"C
35/3P	3#8 + 1#10G, 3/4"C
40/3P	3#8 + 1#10G, 3/4"C
45/3P	3#8 + 1#10G, 3/4"C
50/3P	3#8 + 1#10G, 3/4"C
60/3P	3#6 + 1#10G, 3/4"C
70/3P	3#4 + 1#8G, 1"C
80/3P	3#4 + 1#8G, 1"C
90/3P	3#3 + 1#8G, 1"C
100/3P	3#3 + 1#8G, 1"C



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
	3.	
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

PLUMBING SYMBOLS LIST

— SAN —	SANITARY SEWER (ABOVE FLOOR)
— SAN —	EXISTING SANITARY SEWER (ABOVE FLOOR)
— G SAN —	GREASE SANITARY SEWER (ABOVE FLOOR)
— VENT —	VENT PIPING
— COLD —	COLD WATER PIPING
— HOT —	HOT WATER PIPING
— HOT RETURN —	HOT WATER RETURN PIPING
— G —	GAS PIPING
— P-TRAP —	P-TRAP
— O —	PIPE UP
— O —	PIPE DROP
— I —	CLEANOUT
— I —	PLUGGED OUTLET/CLEANOUT
— I —	POINT OF CONNECTION

PLUMBING ABBREVIATIONS

CO	CLEANOUT
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
SAN	SANITARY
V	VENT
W	WASTE
LAV	LAVATORY
WC	WATER CLOSET
TYP.	TYPICAL
DN	DOWN
FD	FLOOR DRAIN
BFP	BACK FLOW PREVENTER
WH	WATER HEATER
N.I.C.	NOT IN SCOPE
ET	EXPANSION TANK
RCP	HOT WATER CIRCULATION PUMP

PLUMBING DRAWING LIST

P0.1	PLUMBING SPECIFICATIONS
P1.0	PLUMBING PLANS
P3.0	PLUMBING DETAIL (1 OF 2)
P3.1	PLUMBING DETAIL (2 OF 2)
P4.0	PLUMBING RISERS
P4.1	PLUMBING SCHEDULES

BUILDING DEPARTMENT PLUMBING NOTES

- ALL PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER, GAS) AND ASSOCIATED EQUIPMENT SHALL BE INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF 2018 INTERNATIONAL PLUMBING CODE.
- INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 702.2
- PROTECTION OF PIPING AND PLUMBING SYSTEM COMPONENTS AS PER SECTION PC 305.
- TRENCHING, EXCAVATION AND BACKFILL AS PER SECTION PC 306.
- RODENT PROOFING AS PER PC 304
- MATERIALS USED IN PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 303, PC 605, PC 702, PC 902, PC 1102.
- EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTERS 4, 5, 6, 7 AND 9.
- DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER PC 1002, AND CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 708
- DRAINAGE PIPE CLEANOUTS AS PER SECTION PC 708.
- VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION PC 308
- WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 6 SECTION PC 601-603, 604, 606, 607, 608, 610
- THE SANITARY DRAINAGE SYSTEM SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 7 SECTION PC 701, 704, 705, 706, 707, 708, 711.
- VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CHAPTER 9 SECTIONS PC 901 THROUGH PC 912 THROUGH PC 917
- INSPECTION AND TESTING OF PLUMBING SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION PC 107.
- GAS PIPING INSTALLATION SHALL BE IN ACCORDANCE WITH 2018 INTERNATIONAL FUEL GAS CODE CHAPTER 4.

PLUMBING SPECIFICATIONS

- BASIC PLUMBING REQUIREMENTS, MATERIALS AND METHODS
 - SCOPE
 - PROVIDE ALL MATERIAL, TOOLS, SUPERVISION AND LABOR INCLUDING ALL MISCELLANEOUS AND INCIDENTAL ITEMS REQUIRED FOR COMPLETE AND OPERABLE PLUMBING INSTALLATIONS AS SHOWN OR DESCRIBED ON THE DRAWINGS AND IN THESE SPECIFICATIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING AND NEW CONDITIONS AND MATERIALS WITHIN THE CONSTRUCTION AREA. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION.
 - OBTAIN ALL PERMITS, PAY ALL PERMIT FEES AND SCHEDULE ALL REQUIRED INSPECTIONS. COPIES OF ALL PERMITS AND INSPECTION CERTIFICATES SHALL BE FORWARDED TO THE OWNER FOR RECORD.
 - THE GENERAL CONDITIONS OF THE CONTRACT AND ALL DIVISION 1 REQUIREMENTS APPLY TO THE WORK OF THIS SECTION.
 - THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTING BID TO DETERMINE CONDITIONS AND THE EXTENT OF THE WORK. BY COMMENCING WORK, THE CONTRACTOR ACKNOWLEDGES HIS CONFIRMATION OF ALL CONDITIONS AS ACCEPTABLE WITH REFERENCE TO HIS CONTRACT, SCOPE OF WORK AND BID PRICE SUCH THAT NO ADDITIONAL COMPENSATION SHALL BE FORTHCOMING FOR UNFORESEEN EXISTING CONDITIONS.
 - IN ALL AREAS SUBJECT TO FREEZING CONDITIONS, THE CONTRACTOR SHALL PROVIDE FREEZE PROTECTION FOR ALL DOMESTIC WATER PIPING INSTALLED UNDER HIS CONTRACT.
 - ALL ELECTRICAL REQUIREMENTS SHALL BE COORDINATED WITH THE CONTRACTOR FOR ELECTRICAL WORK. THIS CONTRACTOR IS RESPONSIBLE FOR ALL LOW VOLTAGE WIRING FOR EQUIPMENT INSTALLED UNDER HIS CONTRACT. THE CONTRACTOR FOR ELECTRICAL WORK IS RESPONSIBLE FOR LINE VOLTAGE POWER WIRING ONLY.
 - COLOR AND FINISH SELECTIONS FOR ALL MATERIALS, INCLUDING PAINTING OF PIPING, SHALL BE AS DIRECTED AND/OR APPROVED BY THE ARCHITECT.
 - MINOR DETAILS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR THE PROPER AND ACCEPTABLE CONSTRUCTION, INSTALLATION OR OPERATION OF ANY PART OF THE WORK AS DETERMINED BY THE ENGINEER SHALL BE INCLUDED AS IF SPECIFIED OR INDICATED ON THE DRAWINGS.
 - THIS CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIREMENTS FOR THE INSTALLATION, CONNECTION, EXTENSION OR MODIFICATION TO ALL UTILITY SERVICES WITH RESPECTIVE PROVIDERS INCLUDING PAYMENT OF ALL ASSOCIATED FEES.
 - THE CONTRACTOR IS RESPONSIBLE FOR ALL PAINTING ASSOCIATED WITH CUTTING AND PATCHING. ALL PAINTING IN AREAS WITH COMPLETE FINISH RENOVATIONS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.
 - SUBMITTALS
 - SUBMITTAL REQUIREMENTS SHALL BE COORDINATED WITH THE ARCHITECT AND AUTHORITIES HAVING JURISDICTION, UNLESS OTHERWISE DIRECTED, CONTRACTOR SHALL PROVIDE SUBMITTALS AS LISTED BELOW.
 - PIPE AND FITTINGS
 - VALVES
 - HANGERS AND SUPPORTS
 - PLUMBING PIPING LAYOUT
 - TESTS
 - PLUMBING FIXTURES
 - WATER HEATERS & ACCESSORIES
 - MIXING VALVES
 - ALL SCHEDULED PLUMBING EQUIPMENT
 - SUBMITTALS FROM SUPPLIERS OR MANUFACTURERS WHICH DO NOT BEAR THE STAMP OF THE SUBMITTING CONTRACTOR INDICATING THAT THE CONTRACTOR HAS REVIEWED THE SUBMITTAL FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS WILL BE RETURNED REJECTED.
 - THE ENGINEER'S REVIEW OF SUBMITTALS IS A COURTESY WHICH DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMING WITH THE CONSTRUCTION DOCUMENTS REGARDLESS OF THE ACTION INDICATED BY THE SHOP DRAWINGS STAMP.
 - REVIEW OF SHOP DRAWINGS BY THE ENGINEER SHALL BE LIMITED TO THE INITIAL REVIEW, AND A SECOND REVIEW OF ANY REQUIRED RESUBMITTED DATA. IF THE ENGINEER IS REQUIRED TO REVIEW SHOP DRAWINGS FOR A THIRD (OR MORE) SUBMISSION OF THE SAME ITEM, THE CONTRACTOR SHALL BE LIABLE FOR COMPENSATING THE ENGINEER FOR THESE SUBSEQUENT REVIEWS AS PER THE ENGINEER'S CURRENT HOURLY RATE SCHEDULE.
 - SUBMIT PROOF OF APPROVAL AND/OR CONFIRMATION OF SATISFACTORY TEST RESULTS TO THE OWNER AND THE ARCHITECT.
 - SUBMIT TO THE OWNER'S MAINTENANCE PERSONNEL OPERATION AND MAINTENANCE DATA FOR ALL SYSTEM COMPONENTS, SERVICING REQUIREMENTS, INSPECTION DATA, REPLACEMENT PART NUMBERS AND AVAILABILITY AND CONTACT INFORMATION FOR SERVICE/SUPPLY COMPANY.
 - FOR ALL BELOW GRADE PIPING WHERE ACTUAL INSTALLATION DEVIATES FROM CONSTRUCTION DRAWINGS, THE CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS INDICATING BELOW GRADE PIPE LOCATIONS DIMENSIONED TO NEAREST COLUMN LINES.
 - RECORD AS-BUILT DRAWINGS SHALL BE SUPPLIED TO THE OWNER/TENANT AFTER COMPLETION OF THE WORK SHOWING ANY ALTERATIONS, ADDITIONS AND/OR DELETIONS TO THE SYSTEM(S) INSTALLED.
- SUBSTITUTIONS
 - ALL EQUIPMENT SHALL BE PRODUCTS OF THE SPECIFIED MANUFACTURER OR MANUFACTURERS. ALL BIDS SHALL BE BASED ON THE SPECIFIED MANUFACTURER OR MANUFACTURER'S EQUIPMENT. FOR SUBSTITUTIONS OF OTHER MANUFACTURER'S EQUIPMENT TO BE CONSIDERED, THE SUBSTITUTION MUST BE INDICATED PRIOR TO BIDDING WITH THE REASON FOR THE PROPOSED SUBSTITUTION IDENTIFIED, AND THE PROPOSED CREDIT TO THE OWNER INDICATED. THE ENGINEER SHALL DETERMINE THE ACCEPTABILITY OF ANY PROPOSED SUBSTITUTIONS.
 - THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR COORDINATING THE WORK OF OTHER TRADES WHICH MAY BE AFFECTED BY SUBSTITUTIONS, INCLUDING ALL RELATED COSTS.

1.04 DEFINITIONS

- FURNISH: TO PURCHASE, PROCURE, ACQUIRE AND DELIVER, COMPLETE WITH RELATED ACCESSORIES.
- INSTALL: TO ERRECT, MOUNT AND CONNECT, COMPLETE WITH RELATED ACCESSORIES.
- PROVIDE: TO FURNISH AND INSTALL.
- PLUMBING CONTRACTOR: THE CONTRACTOR, THIS CONTRACTOR: THE CONTRACTOR FOR PLUMBING WORK WHICH IS SPECIFIED HEREIN AND SHOWN ON THESE DRAWINGS.

1.05 DRAWINGS

- THE DRAWINGS ARE DIAGRAMMATIC AND ARE INTENDED TO ILLUSTRATE THE GENERAL ARRANGEMENT AND ROUTING OF PIPING AND GENERAL LOCATIONS OF EQUIPMENT. PRECISE LOCATIONS OF EQUIPMENT, RISERS AND STACKS, AND ROUTING AND ELEVATION OF ALL PIPING SYSTEMS SHALL BE COORDINATED IN THE FIELD WITH THE ARCHITECT, ARCHITECTURAL DRAWINGS, THE WORK OF OTHER TRADES, EXISTING AND NEW BUILDING CONDITIONS AND/OR THE PREFERENCES OF THE OWNER/TENANT AS CONSTRUCTION PROCEEDS. ALL PIPING SHALL BE INSTALLED CONCEALED IN FINISHED SPACES, UNLESS NOTED OTHERWISE.
- PROVIDE ALL NECESSARY INCIDENTAL MATERIALS AND ACCESSORIES REQUIRED TO MAKE THE WORK COMPLETE IN ALL RESPECTS, EVEN IF NOT PARTICULARLY SHOWN OR SPECIFIED.
- REFER TO PLUMBING EQUIPMENT/FIXTURE SCHEDULE ON THE DRAWINGS FOR ALL FIXTURE AND EQUIPMENT SPECIFICATIONS.
- REFER TO FIXTURE CONNECTION SIZE SCHEDULE FOR ALL FIXTURE ROUGHING SIZE REQUIREMENTS.
- VERIFY ALL INDICATED CONDITIONS BEFORE STARTING WORK AND REPORT ANY DISCREPANCIES. THE DRAWINGS REFLECT CONDITIONS WHICH CAN BE REASONABLY INTERPRETED FROM THE EXISTING VISIBLE CONDITIONS OR FROM DRAWINGS AND INFORMATION FURNISHED BY THE OWNER.
- LOCATE ALL FIXTURES AND EQUIPMENT AS PER THE FINAL ARCHITECTURAL DRAWINGS.

1.06 PRODUCTS

- SANITARY AND VENT PIPING:
 - ABOVE GRADE AND UNDERGROUND PIPING SHALL BE PVC AS PER 2018 INTERNATIONAL PLUMBING CODE ASTM D2665, ASTM F891, ASTM F1488 AND CSA B181.2 WITH PVC PIPE FITTINGS AS PER ASTM D3034, ASTM D2665, ASTM F1866
 - SLOPE OF DRAINAGE SYSTEM SHALL BE 1/8" PER FOOT OF RUN FOR PIPE OVER 3" (I.D.) AND 1/4" PER FOOT OF RUN FOR PIPE 3" AND SMALLER (I.D.). VENT PIPING SHALL BE PITCHED TO DRAIN.
 - ALL PVC PIPE AND FITTINGS SHALL COMPLY WITH IPC 2018, SECTION 702.1 THROUGH 702.4.
- DOMESTIC WATER PIPING:
 - ABOVE GRADE WATER PIPING SHALL BE TYPE 'L' HARD-DRAWN COPPER TUBE.
 - FITTINGS IN DOMESTIC WATER PIPING SHALL BE COPPER OR COPPER ALLOY AS PER TABLE 605.5, 2024 OHIO STATE PLUMBING CODE.
 - JOINTS SHALL BE MADE WITH LEAD-FREE SOLDER.
 - THE ENTIRE DOMESTIC WATER DISTRIBUTION SYSTEM SHALL BE INSULATED INCLUDING ALL VALVES, FITTINGS, ETC.
 - COMPLY WITH NSF 61 FOR MATERIALS FOR WATER-SERVICE PIPING AND SPECIALTIES FOR DOMESTIC WATER.
 - ALL DOMESTIC WATER PIPING ABOVE GRADE SHALL BE INSULATED WITH FIRE-RETARDANT, FACTORY-APPLIED JACKET, PROVIDE COLD WATER PIPING WITH FACTORY-APPLIED VAPOR BARRIER. INSULATION REQUIREMENT SHOULD COMPLY WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE, REFER BELOW TABLE C403.2.10 FOR MINIMUM PIPE INSULATION THICKNESS.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY	NOMINAL PIPE OR TUBE SIZE (INCHES)					
		CONDUCTIVITY BTU-IN (H- FT2- °F)	MEAN RATING TEMPERATURE °F	1 to < 1 1/2	1 1/2 to < 4	4 to < 8	
105-140	0.21-0.26	100	1.0	1.0	1.5	1.5	1.5
40-60	0.21-0.27	75	0.5	0.5	1.0	1.0	1.0

- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE, C404.7 WATER DISTRIBUTION SYSTEM HAVING ONE OR MORE RECIRCULATION PUMPS THAT PUMP WATER FROM A HEATED-WATER SUPPLY PIPE BACK TO THE HEATED-WATER SOURCE THROUGH A COLD-WATER SUPPLY PIPE SHALL BE A DEMAND RECIRCULATION WATER SYSTEM. PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
 - THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE.
 - THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD-WATER PIPING TO 104°F (40°C).
- HW SYSTEM PIPING IS DESIGN AS PER 2015 INTERNATIONAL ENERGY CONSERVATION CODE C404.5, THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER FOLLOWING TABLE.

NOMINAL PIPE SIZE (INCHES)	MAXIMUM PIPING LENGTH (FEET)	
	PUBLIC LAV	OTHER FIXTURES
1/2"	2'	43'
3/4"	0.5'	21'
1"	0.5'	13'
1 1/2"	0.5'	8'
1 1/2"	0.5'	6'
2" OR LARGER	0.5'	4'

- AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE, C404.6.1, CONTROLS ARE INSTALLED THAT LIMIT OPERATION OF A RECIRCULATION PUMP INSTALLED TO MAINTAIN TEMPERATURE OF A STORAGE TANK. SYSTEM RETURN PIPE IS A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE. AUTOMATIC TIME SWITCHES INSTALLED TO AUTOMATICALLY SWITCH OFF THE RE-CIRCULATING HOT WATER SYSTEM OR HEAT TRACE.
- SEAL ALL JOINTS BETWEEN SEGMENTS OF INSULATION.
- PROVIDE SHIELDS BETWEEN HANGERS AND INSULATION.

C. GAS PIPING:

- GAS PIPING SHALL BE SIZED IN ACCORDANCE WITH PIPE SIZING TABLES OR SIZING EQUATIONS IN ACCORDANCE WITH IFGC 2018 SECTION 402.3.
- INDIVIDUAL OUTLETS TO GAS RANGES SHALL NOT BE LESS THAN 1/2 INCHES NPS.
- METALLIC PIPE SHALL COMPLY WITH SECTIONS 403.4.1 THROUGH 403.4.4.
- PIPING SYSTEM INSTALLATION SHALL COMPLY WITH REQUIREMENTS OF IFGC 2018 SECTION 404.
- AS PER 2018 INTERNATIONAL FUEL GAS CODE, SECTION 404.4 UNDERGROUND PIPING, WHERE INSTALLED BELOW GRADE THROUGH THE OUTER FOUNDATION OR BASEMENT WALL OF A BUILDING, SHALL BE ENCASED IN A PROTECTIVE PIPE SLEEVE, THE ANNULAR SPACE BETWEEN THE GAS PIPING AND THE SLEEVE SHALL BE SEALED.
- PIPING INSTALLED UNDERGROUND BENEATH BUILDINGS IS PROHIBITED EXCEPT WHERE THE PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE DESIGNED TO WITHSTAND THE SUPERIMPOSED LOADS. THE CONDUIT SHALL BE PROTECTED FROM CORROSION IN ACCORDANCE WITH SECTION 404.11.
- AS PER 2018 INTERNATIONAL FUEL GAS CODE SECTION 404.9, UNDERGROUND PIPING SYSTEMS SHALL BE INSTALLED A MINIMUM DEPTH OF 12 INCHES BELOW GRADE.
- THE GAS PIPING IS ENCASED IN A CONDUIT OF WROUGHT IRON OR STEEL PIPE TO WITH STAND THE SUPERIMPOSED LOADS.
- SHUTOFF VALVES SHALL BE LOCATED IN PLACES SO AS TO PROVIDE ACCESS FOR OPERATION AND SHALL BE INSTALLED SO AS TO BE PROTECTED FROM DAMAGE.

D. HANGERS AND SUPPORTS:

- HANGERS SHALL BE STANDARD STEEL, MALLEABLE OR WROUGHT IRON, AS MANUFACTURED BY GRINNELL OR APPROVED EQUAL, SUITABLE FOR THE TYPE OF CONSTRUCTION. PIPING SHALL NOT BE HUNG FROM OTHER PIPE.
- SECTIONS OF INDIVIDUAL PIPE RUNS SHALL BE SUPPORTED BY CLEVIS HANGERS.
- ALL EQUIPMENT SHALL BE PROVIDED WITH APPROVED SUPPORTS.
- PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
- SUPPORTS SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE RECOMMENDATIONS OF THE PIPING MANUFACTURER.

E. VALVES:

- PROVIDE GATE VALVES, BUTTERFLY OR BALL VALVES FOR SHUT-OFF DUTY ON MAIN AND BRANCH SUPPLY LINES. FOR ALL PIPE RUNS 2" AND SMALLER, PROVIDE BALL FOR ALL PIPE RUNS LARGER THAN 2" AND SMALLER THAN 4", PROVIDE GATE VALVES, PIPING 4" AND LARGER, PROVIDE BUTTERFLY VALVES FOR SHUT-OFF DUTY.
- ALL FIXTURES WITH THE EXCEPTION OF FLUSHMETER-EQUIPPED WATER CLOSETS AND URINALS SHALL HAVE STOP VALVES TO CONTROL SUPPLY TO THE FIXTURE. WHERE SUPPLIES ARE EXPOSED PROVIDE CHROME-PLATED STOPS WITH CHROME-PLATED ESCUTCHEONS ON PIPING PENETRATIONS.
- ALL PLUMBING FIXTURES AND EQUIPMENT TO HAVE SHUT-OFF VALVES ON SUPPLY LINES.
- ALL BRANCH LINES TO HAVE SHUT-OFF VALVES.
- ALL VALVES SHALL BE ACCESSIBLE, PROVIDE ACCESS DOORS WHERE REQUIRED FOR VALVE ACCESS.
- PROVIDE GLOBE VALVES FOR THROTTLING/BALANCING OF THE HOT WATER CIRCULATING SYSTEM.

- INSTALL PIPING TO CONSERVE BUILDING SPACE. DO NOT INTERFERE WITH USE OF BUILDING SPACE AND THE WORK OF OTHER TRADES. ALL PIPING RUN IN CEILING SHALL BE INSTALLED TIGHT TO THE STRUCTURE ABOVE.
- INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS OR CONNECTED EQUIPMENT. PROVIDE PIPE ANCHORS, GUIDES AND EXPANSION JOINTS OR LOOPS IN ALL HOT WATER AND HOT WATER CIRCULATING MAIN SUPPLY PIPING AND SEGMENTS OF SUCH PIPE THAT EXCEED 30'-0" IN LENGTH.
- IN ALL AREAS WITH FINISHED SURFACES, SYSTEM PIPING AND COMPONENTS SHALL BE CONCEALED ABOVE OR WITHIN FINISHED SURFACES.
- REDUCTIONS IN PIPE SIZES SHALL BE MADE WITH ONE-PIECE REDUCING FITTINGS. BUSHINGS ARE NOT ACCEPTABLE. USE FLANGED FITTINGS AT THE BASE OF RISERS.
- VENT PENETRATIONS THROUGH THE ROOF SHALL BE FLASHED.
- IF WATER PRESSURE EXCEEDS 80 PSI, A WATER PRESSURE REDUCING VALVE SHALL BE INSTALLED IN WATER PIPING AT CONNECTION TO MAIN.
- PIPE BACKFLOW PREVENTER DRAINS TO FLOOR DRAIN OR OTHER APPROVED INDIRECT WASTE SOURCE.
- PROVIDE ACCESS DOORS/PANELS FOR SERVICE AND ACCESS TO ALL VALVES AND OTHER SYSTEM COMPONENTS ENCLOSED IN WALLS AND CEILINGS. ACCESS DOORS SHALL BE FURNISHED BY THIS CONTRACTOR, INSTALLED BY THE GENERAL CONTRACTOR.
- ALL FIXTURES REQUIRING VACUUM BREAKERS SHALL BE EQUIPPED WITH INTEGRAL VACUUM BREAKERS.
- ANY PENETRATIONS THROUGH FIRE RATED PARTITIONS, FLOORS, OR CEILINGS SHALL BE STEEL SLEEVED AND SEALED WITH 3M BRAND UL RATED FIRE BARRIER CAULK OR APPROVED EQUAL.
- WHEN THE WATER PIPING SYSTEM IS COMPLETE, THOROUGHLY FLUSH ALL DIRT, SEDIMENT, SOLDER, ETC., OUT OF THE SYSTEM, REMOVING ALL STRAINERS/VALVE STEM SEATS, ETC., REQUIRED TO ACCOMPLISH THE FLUSHING.
- AT ALL INDIRECT WASTE DRAINS, MAINTAIN AIR GAP AS REQUIRED BY CODE.
- INSTALL SLEEVES FOR ALL PIPES WHICH PASS THROUGH WALLS, FLOORS, AND CEILINGS. WHERE PIPES ARE TO BE INSULATED, THE SLEEVE SHALL BE LARGE ENOUGH TO ACCOMMODATE INSULATION. SLEEVES SHALL BE FLUSH WITH FINISHED SURFACES AT BOTH ENDS. ON FINISHED SURFACES IN EXPOSED AREAS PROVIDE ESCUTCHEONS COMPATIBLE WITH FINISH.

- INSTALLATION
- GENERAL
 - ALL WORK WHICH REQUIRES DISRUPTION OF THE ROOFING SHALL BE DONE BY A CONTRACTOR CERTIFIED BY THE ROOFING MANUFACTURER AS REQUIRED TO MAINTAIN ANY EXISTING ROOF WARRANTIES.
 - EXTERIOR INSTALLATIONS TO BE WEATHER PROOF IN ALL RESPECTS.
 - EXTERIOR MATERIALS AND EQUIPMENT SHALL BE PAINTED TO PREVENT CORROSION, COLOR PER ARCHITECT.
 - COORDINATE THE PLUMBING WORK WITH ALL OTHER AFFECTED WORK AND THE CONSTRUCTION SCHEDULE.
 - REAM PIPE AND TUBE ENDS. REMOVE BURRS. BEVEL PLAIN AND FERROUS END PIPE.
 - REMOVE SCALE AND FOREIGN MATERIAL, FROM INSIDE AND OUTSIDE, BEFORE ASSEMBLY.
 - PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES AND UNIONS.
 - COORDINATION WITH THE WORK OF OTHER TRADES IS REQUIRED. PROVIDE OFFSETS IN PIPING SYSTEMS OR MINOR DEVIATIONS TO THE INDICATED PIPE ROUTING IN ORDER TO COORDINATE THE PLUMBING WORK WITH THE WORK OF ALL OTHER TRADES AND THE GENERAL BUILDING CONDITIONS.
 - NO DOMESTIC WATER PIPING SHALL BE INSTALLED IN UNHEATED SPACES.
 - PRIOR TO DISCONNECTING AND CONNECTING NEW WORK TO EXISTING SYSTEMS, THE PLUMBING CONTRACTOR SHALL NOTIFY THE PROPERTY MANAGER AND OFFER A PROPOSED SCHEDULE OF WORK. ESB WILL AUTHORIZE CONNECTIONS AND COORDINATE NECESSARY SHUT DOWNS AND DRAIN DOWNS AS REQUIRED. SHUT DOWNS AND DRAIN DOWNS MAY BE PERFORMED BY THE PLUMBING CONTRACTOR ONLY AFTER RECEIVING ESB AUTHORIZATION AND SHOULD BE PERFORMED UNDER SUPERVISION OF ESB PERSONNEL. THREE (3) DAYS ADVANCE NOTICE TO THE PROPERTY MANAGER IS REQUIRED.
 - THE PLUMBING CONTRACTOR IS ADVISED THAT DUE TO THE NATURE OF THE OPERATIONS AND TENANT REQUIREMENTS, CONNECTIONS TO EXISTING SYSTEMS MAY HAVE TO BE MADE AFTER REGULAR WORKING HOURS. THE PROPERTY MANAGER WILL ADVISE THE PLUMBING CONTRACTOR OF THE TIME CONSTRAINTS UPON RECEIPT AND APPROVAL OF THE PLUMBING CONTRACTOR'S REQUEST FOR SHUT DOWN AND CONNECTION TO EXISTING SYSTEMS.
 - WHEN CONNECTING TO EXISTING STACKS AND RISERS, PROVISION IS TO BE MADE FOR FUTURE CONNECTIONS BY PROVIDING GAPPED AND VALVED OUTLETS ON DOMESTIC WATER RISERS AND PLUGGED OUTLETS ON THE SANITARY AND VENT STACKS.

2.02 ABOVE GRADE

- INSTALL PLUMBING PIPING IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE THAT PIPING COMPLIES WITH REQUIREMENTS AND SERVES INTENDED PURPOSES.
- ROUTE PIPING IN AN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE. MAINTAIN GRADIENT, SLOPE PIPING AND ARRANGE SYSTEMS TO DRAIN. IN DOMESTIC WATER SYSTEMS, PROVIDE DRAIN VALVES AT MAIN SHUT-OFF VALVES AND ALL LOW POINTS IN PIPING.
- USE EXISTING CONNECTIONS AT MAINS WHERE AVAILABLE FOR NEW BRANCH PIPING. LOCATE ALL RISERS AND PIPING BEFORE CONSTRUCTION COMMENCES AND TAKE CARE NOT TO DAMAGE SAME. ANY DAMAGE OCCURRING TO THE EXISTING PIPING WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

- TESTING
 - AT THE COMPLETION OF THE PLUMBING WORK, COMPLETELY TEST THE ENTIRE INSTALLATION OF ALL SYSTEMS FOR PROPER OPERATION AND COMPLIANCE WITH APPLICABLE CODES AND LOCAL REQUIREMENTS. CORRECT ALL DEFICIENCIES FOUND.
 - TESTING OF THE INSTALLED SYSTEMS SHALL BE MADE BY THE CONTRACTOR IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER.
 - THE CONTRACTOR SHALL NOT COVER UP OR PERMANENTLY CONCEAL PIPING, DEVICES OR ANY PORTION OF NEWLY CONSTRUCTED PLUMBING SYSTEM(S) UNTIL SUCH SYSTEM, OR PORTION OF THE SYSTEM, HAS BEEN TESTED IN THE PRESENCE OF A REPRESENTATIVE OF THE OWNER AND INSPECTED BY THE LOCAL INSPECTOR AND APPROVED IN WRITING, EXCEPT PIPING PASSING THROUGH FLOORS, WALLS, PARTITIONS OR BEAMS, FOR DISTANCES EQUAL TO THE THICKNESS OF SUCH FLOOR, WALL, PARTITION OR BEAM.
 - THIS CONTRACTOR SHALL NOTIFY THE VARIOUS DEPARTMENTS, BUREAUS AND INDIVIDUALS AT LEAST TWO WEEKS IN ADVANCE OF THE TIME THAT THE TESTS ARE TO BE CONDUCTED.
 - ALL DEFECTIVE PARTS SHALL BE REPLACED OR CORRECTED BY THIS CONTRACTOR AND AN EXTRA TEST OR TESTS SHALL BE MADE UNTIL THE OPERATION IS SATISFACTORY. ALL ARRANGEMENTS AND EXPENSES NECESSARY TO CONDUCT ALL TESTS REQUIRED BY THESE SPECIFICATIONS AND THE VARIOUS AGENCIES HAVING JURISDICTION OVER THE WORK INSTALLED UNDER THIS CONTRACT SHALL BE MADE BY THIS CONTRACTOR. NO EXTRA COMPENSATION WILL BE ALLOWED FOR THESE TESTS, THE COST THEREOF BEING INCLUDED IN THE LUMP SUM BID FOR THIS CONTRACT.
 - WHERE ANY EVIDENCE OF STOPPAGE IS FOUND IN PIPING OR EQUIPMENT, THIS CONTRACTOR SHALL DISCONNECT, CLEAN, REPAIR AND RECONNECT ALL OBSTRUCTED PIPING OR EQUIPMENT AND SHALL ALSO PAY FOR ALL NECESSARY CUTTING AND REPAIRS TO ADJOINING WORK.

- GENERAL
 - ALL PIPING AND EQUIPMENT SHALL BE THOROUGHLY CLEANED INSIDE AND OUT, OF DIRT, CUTTINGS, OILS AND OTHER FOREIGN SUBSTANCES AND SHALL BE LEFT CLEAN.
 - ALL REQUIRED TESTS SHALL BE WITNESSED BY LOCAL AUTHORITIES AND THE OWNER'S REPRESENTATIVE.
 - ALL EQUIPMENT WILL BE FACTORY TESTED.
 - CONTRACTOR SHALL IDENTIFY TO THE OWNER'S REPRESENTATIVE ANY LEAKS OR DAMAGE THAT OCCURS AS A RESULT OF SYSTEM TESTING. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO LIMIT ANY POTENTIAL DAMAGE. CORRECTIVE ACTION REQUIRED AS A RESULT OF TESTING SHALL BE PERFORMED IMMEDIATELY AND AT THE CONTRACTOR'S EXPENSE.
 - REPORT IN WRITING TO AUTHORITIES HAVING JURISDICTION, THE ARCHITECT AND THE OWNER THE RESULTS OF ALL TESTING.

- TESTING REQUIREMENTS
 - UPON COMPLETION OF A SECTION, OR THE ENTIRE WATER SUPPLY SYSTEM, THE SYSTEM SHALL BE TESTED AND PROVED TIGHT UNDER A WATER PRESSURE AT LEAST ONE AND ONE-HALF (1 1/2) TIMES THE SYSTEM PRESSURE BUT AT LEAST 100 P.S.I., BY AIR OR WATER, WHEN EXCEEDING 100 P.S.I., THE TEST SHALL BE OF THE HYDROSTATIC TYPE ONLY. TESTING PRESSURE SHALL BE MAINTAINED FOR 15 MINUTES, THE WATER USED FOR THIS TEST SHALL BE FROM A POTABLE WATER SUPPLY.
 - TESTS SHALL BE WITNESSED BY THE BUILDING ENGINEER.
 - THE PLUMBING CONTRACTOR WILL BE HELD RESPONSIBLE FOR ALL DAMAGE DUE TO TEST FAILURES AND LEAKAGE IN THE TEST AREA AND ADJACENT TENANT OR ESB SPACES.

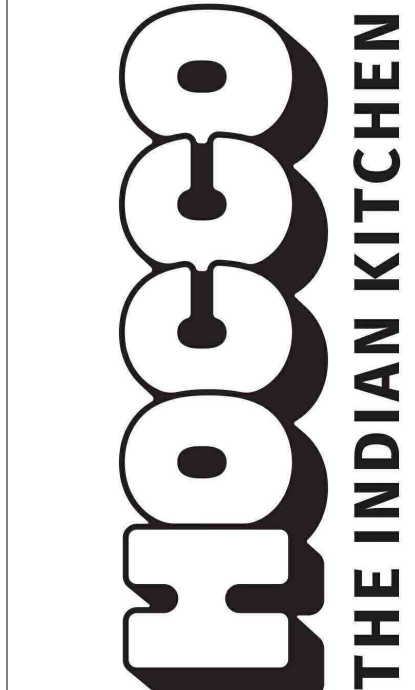
- REFILL ENTIRE POTABLE HOT AND COLD WATER SUPPLY SYSTEM WITH CHLORINE SOLUTION (HTH OIL CHEMICAL CORP.) AT A STRENGTH TO MEET STANDARDS OF THE DEPARTMENT OF HEALTH, AND FOR A PERIOD OF RETENTION AS STIPULATED.
- THOROUGHLY FLUSH PIPING SYSTEM WITH FRESH WATER IMMEDIATELY PRIOR TO FINAL ACCEPTANCE.

- WARRANTY
 - EQUIPMENT, MATERIALS AND WORKMANSHIP FURNISHED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK BY THE OWNER. THE CONTRACTOR SHALL KEEP THE WORK IN GOOD REPAIR FOR ONE YEAR AFTER THE DATE OF FINAL APPROVAL. THE CONTRACTOR SHALL AT HIS OWN EXPENSE, PROMPTLY CORRECT AND REPAIR ANY AND ALL BREAKS, FAILURES OR WEAR DUE TO FAULTY MATERIALS, WORKMANSHIP OR EQUIPMENT. ALL SETTLEMENTS OF SURFACES THAT MAY OCCUR WITHIN THAT PERIOD SHALL ALSO BE PROMPTLY REPAIRED.



NOTE: AS PER 2018 INTERNATIONAL PLUMBING CODE, SECTION 410.4, WHERE RESTAURANTS PROVIDE DRINKING WATER IN A CONTAINER FREE OF CHARGE, DRINKING FOUNTAINS SHALL NOT BE REQUIRED IN THOSE RESTAURANTS. IN OTHER OCCUPANCIES WHERE DRINKING FOUNTAINS ARE REQUIRED, WATER DISPENSERS SHALL BE PERMITTED TO BE SUBSTITUTED FOR NOT MORE THAN 50 PERCENT OF THE REQUIRED NUMBER OF DRINKING FOUNTAINS.

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

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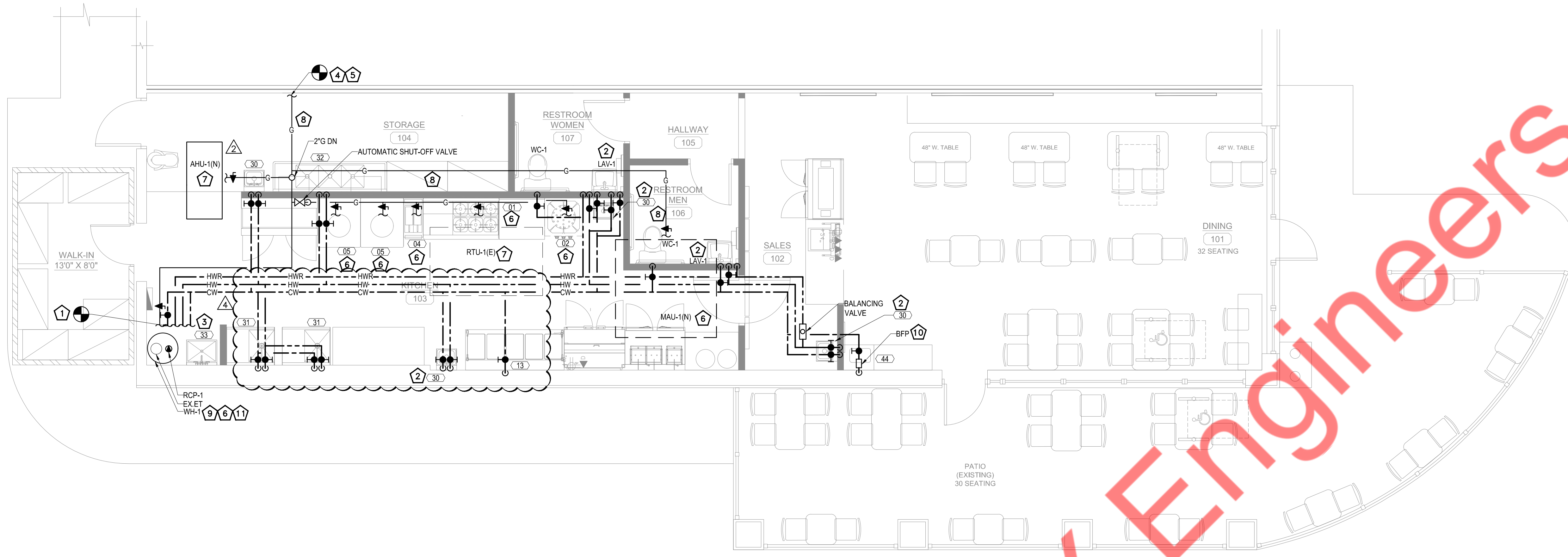
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PROJECT NUMBER:

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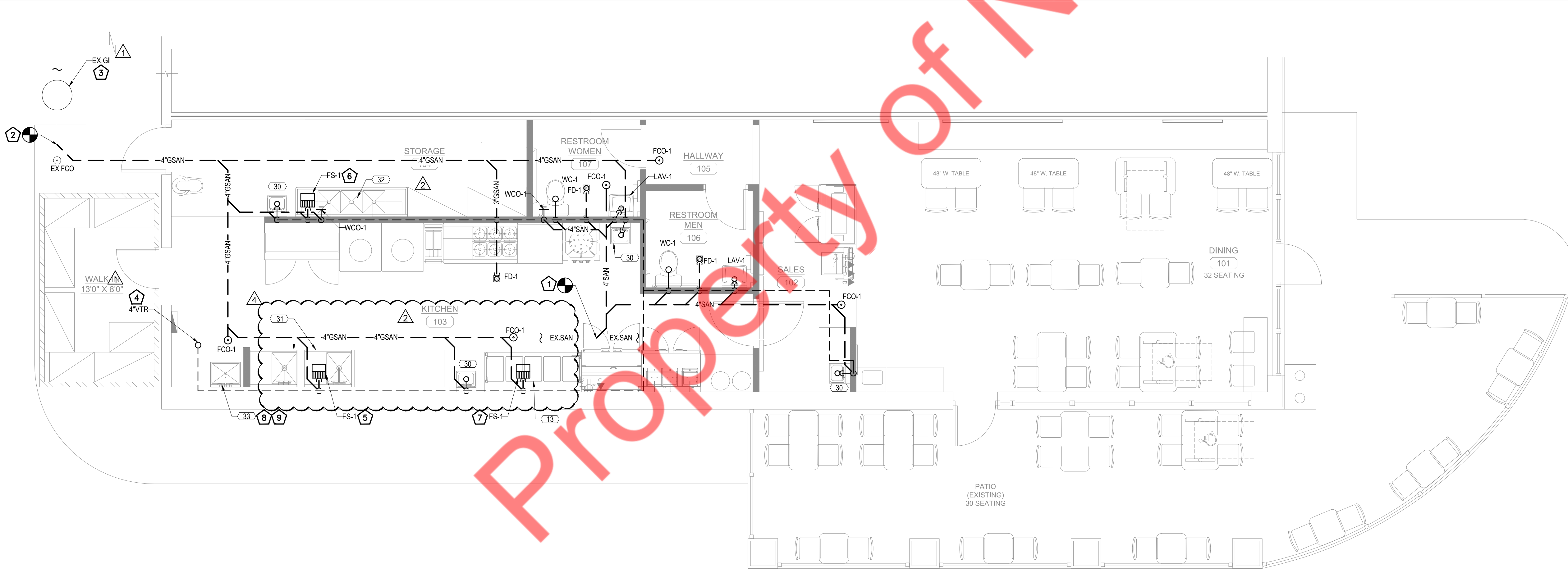
P0.1
PLUMBING SPECIFICATION



- GENERAL NOTES:**
1. CWHW PIPING TO BE PROVIDED WITH INSULATION AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE (REFER SHEET P0.1)
 2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
 3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
 4. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
 5. PROVIDE ASSE 1010 APPROVED WATER HAMMER ARRESTOR ON QUICK CLOSING VALE.

- WATER AND GAS KEYED NOTES:**
1. CONNECT NEW 1-1/4" CW PIPING TO EXISTING WATER LINE IN SPACE WITH EXISTING WATER METER AND EXISTING RPZ. CONTRACTOR TO FIELD VERIFY LOCATION AND SIZE OF THE EXISTING WATER LINE, EXISTING METER AND EXISTING RPZ. REPLACE/UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.
 2. PROVIDE ASSE 1070 OR SIMILAR APPROVED TEMPERING VALVE FOR LAVATORIES AND HAND SINK. SET AT TEMPERATURE TO A MAXIMUM 110 °F.
 3. EXISTING MOP SINK WITH EXISTING WATER PIPING, ASSOCIATED ACCESSORIES AND FITTINGS TO REMAIN. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION OF EXISTING PIPING AND FIXTURE REPLACED IF REQUIRED.
 4. CONNECT NEW 3/4" GAS PIPE TO EXISTING GAS METER. CONTRACTOR TO FIELD VERIFY EXISTING GAS METER SIZE, CAPACITY, PRESSURE AND LOCATION, UPGRADE IF REQUIRED.
 5. CONTRACTOR TO FIELD VERIFY THE EXISTING GAS METER LOCATION AND CAPACITY, AND ADD THE NEW LOAD TO EXISTING GAS METER. THE EXISTING GAS METER CAPACITY SHOULD BE HANDLE TO ADDITIONAL 965 MBH. UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.
 6. CONTRACTOR TO FIELD VERIFY AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR KITCHEN EQUIPMENT, WATER HEATER AND MECHANICAL EQUIPMENT.
 7. EXISTING RTU-1(E) TO REMAIN WITH EXISTING GAS PIPING. CONTRACTOR TO FIELD VERIFY THE EXISTING GAS PIPE CONDITION. REPLACE/UPGRADE IF REQUIRED.
 8. GAS PIPING RUNNING AT THE ROOF.
 9. EXISTING WATER HEATER TO BE REPLACED WITH A NEW WATER HEATER IN THE SAME LOCATION. PROVIDE AND INSTALL NEW WATER HEATER AND RECONNECT EXISTING EXPANSION TANK WITH A NEW RECIRCULATION PUMP AS PER LOCAL JURISDICTION AND MANUFACTURER GUIDELINES. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND CONNECTIONS. UPGRADE OR REPLACE PIPING AS REQUIRED.
 10. PROVIDE ASSE 1022 APPROVED BACKFLOW PREVENTER TO WATER DISPENSER FOR BACKFLOW PREVENTION. INSTALL BFP AN ACCESSIBLE LOCATION.
 11. INDIRECT WASTE FROM T&P RELIEF VALVE DRAIN TO EXISTING MOP SINK.

2 DOMESTIC WATER AND GAS PLAN
1/4" = 1'-0" NOTE:

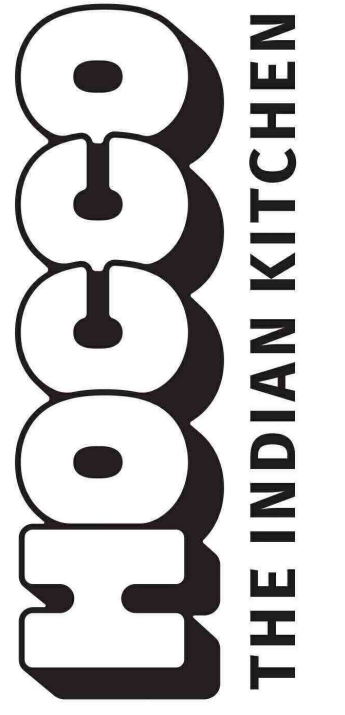


- NOTES:**
1. ALL BACKFLOWS ARE TO BE TESTED, AND RESULTS SENT TO CROSS CONNECTION SPECIALIST AT FORSYTH COUNTY WATER AND SEWER.
 2. CONTACT MICHAEL BURGESS AT (770) 205-4559 WHEN RPZ BACKFLOWS ARE INSTALLED AND READY FOR INSPECTION.
 3. IF PLUMBING INSPECTOR REQUIRES INTERNAL DEVICE (RPZ OR DOUBLE CHECK), DEVICE MUST BE EASILY ACCESSIBLE. NO HIGHER THAN 7'.
 4. NO CONDENSATE ALLOWED IN SANITARY SEWER.

- SANITARY KEYED NOTES:**
1. EXTEND AND CONNECT NEW 4" SANITARY LINE TO EXISTING SANITARY LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT OF EXISTING SANITARY LINE ON SITE.
 2. EXTEND AND CONNECT NEW 4" GREASE LINE TO EXISTING GREASE LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT OF EXISTING GREASE LINE ON SITE.
 3. EXISTING GREASE INTERCEPTOR TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND WORKING CONDITION OF EXISTING GREASE INTERCEPTOR AND THE GREASE INTERCEPTOR SHOULD BE GB-1000 OR EQUAL. REPLACE/ UPGRADE ID REQUIRED, BASE BID ACCORDINGLY.
 4. NEW 4" VENT UP THROUGH ROOF.
 5. INDIRECT WASTE FROM PREP SINK TO ADJACENT FLOOR SINK WITH APPROVED AIR GAP.
 6. INDIRECT WASTE FROM 3 COMP SINK TO ADJACENT FLOOR SINK WITH APPROVED AIR GAP.
 7. INDIRECT WASTE FROM HOT FOOD COUNTER TO ADJACENT EXISTING FLOOR SINK WITH APPROVED AIR GAP.
 8. EXISTING MOP SINK WITH EXISTING SANITARY, VENT WITH ASSOCIATED ACCESSORIES AND FITTINGS TO REMAIN. CONTRACTOR TO FIELD VERIFY EXISTING CONDITION OF EXISTING PIPING AND FIXTURE REPLACED IF REQUIRED.
 9. INDIRECT WASTE FROM WALK IN COOLER TO ADJACENT EXISTING MOP SINK WITH APPROVED AIR GAP.

1 SANITARY AND VENT PLAN
1/4" = 1'-0" NOTE:

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

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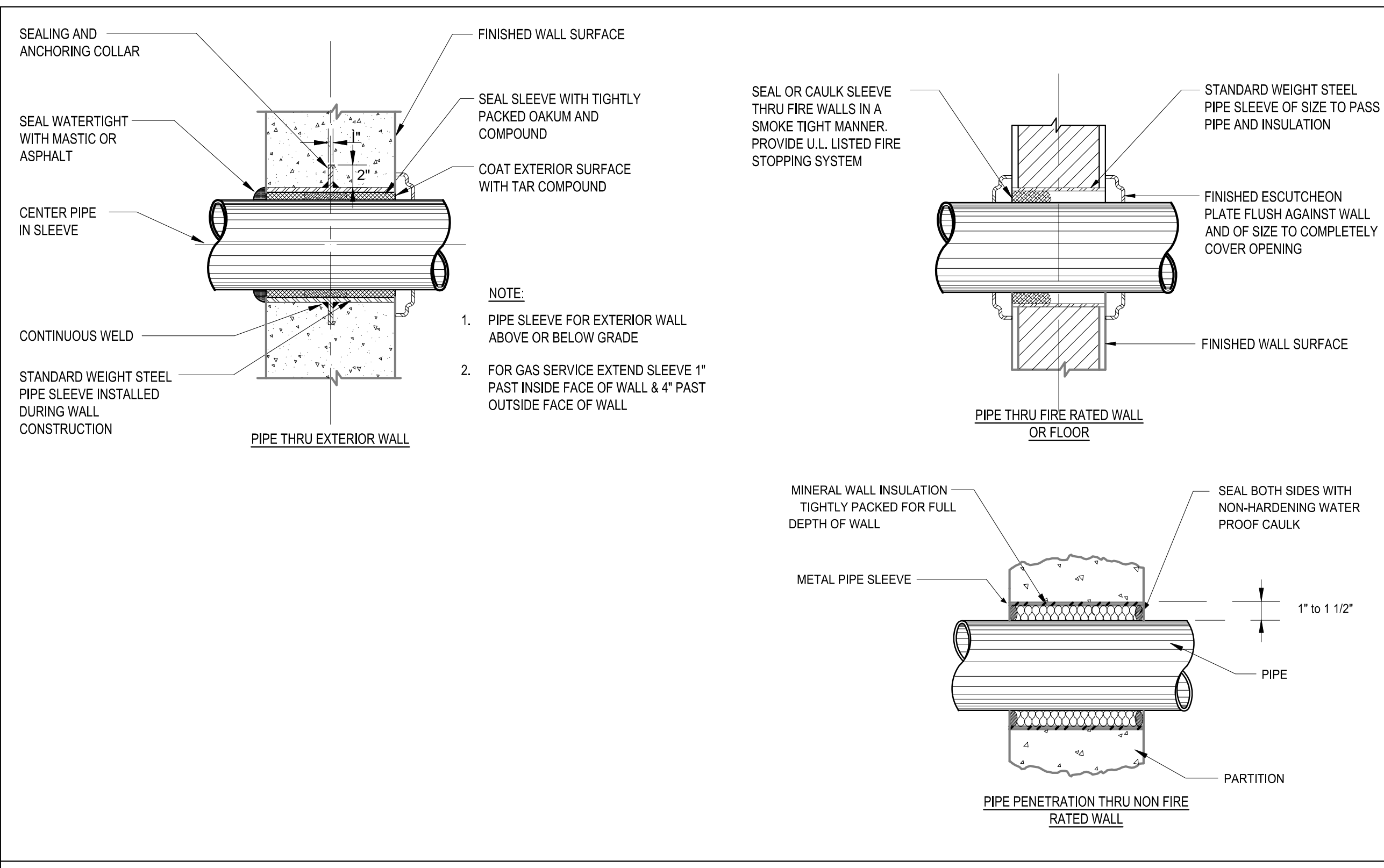
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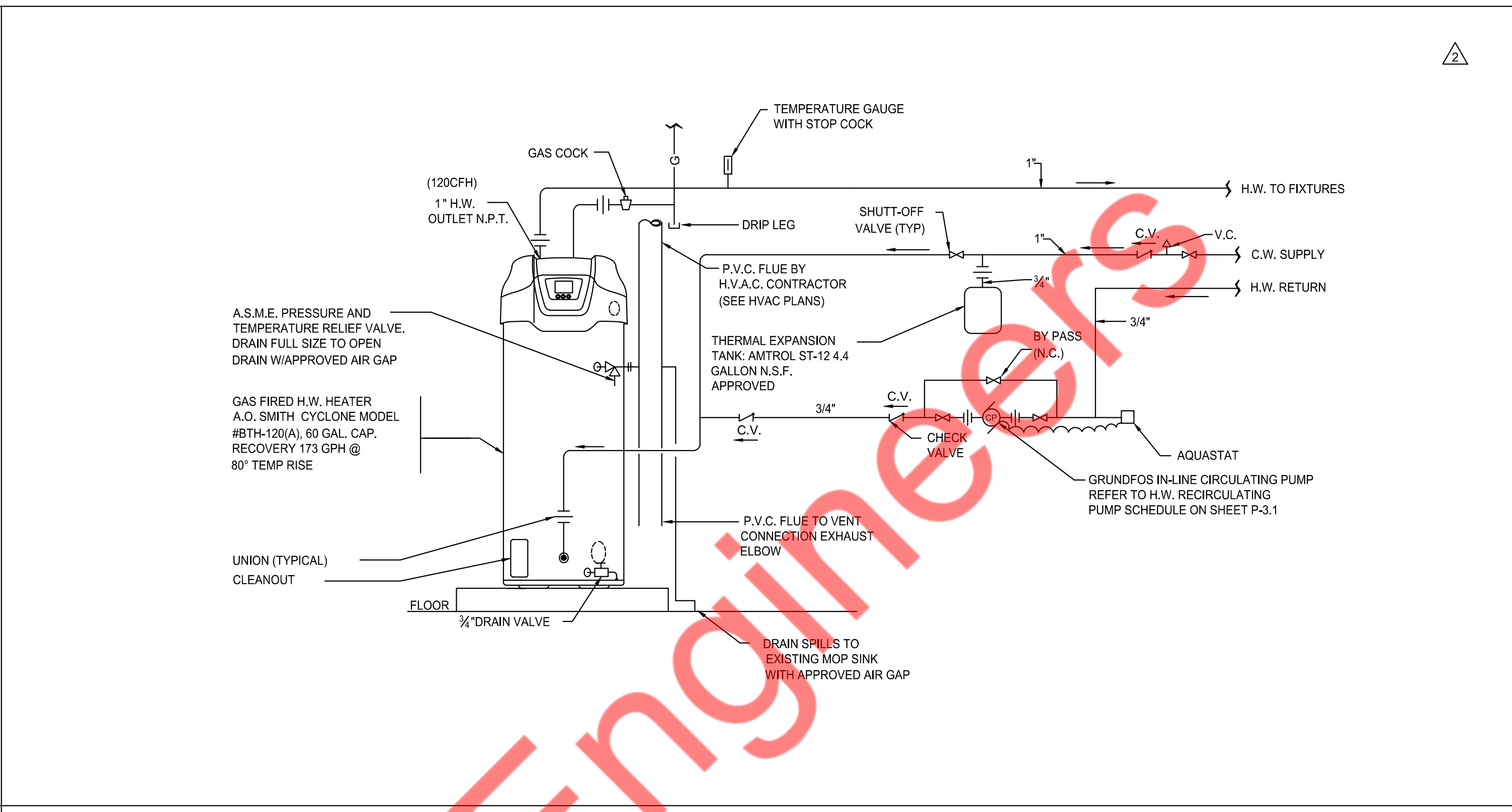
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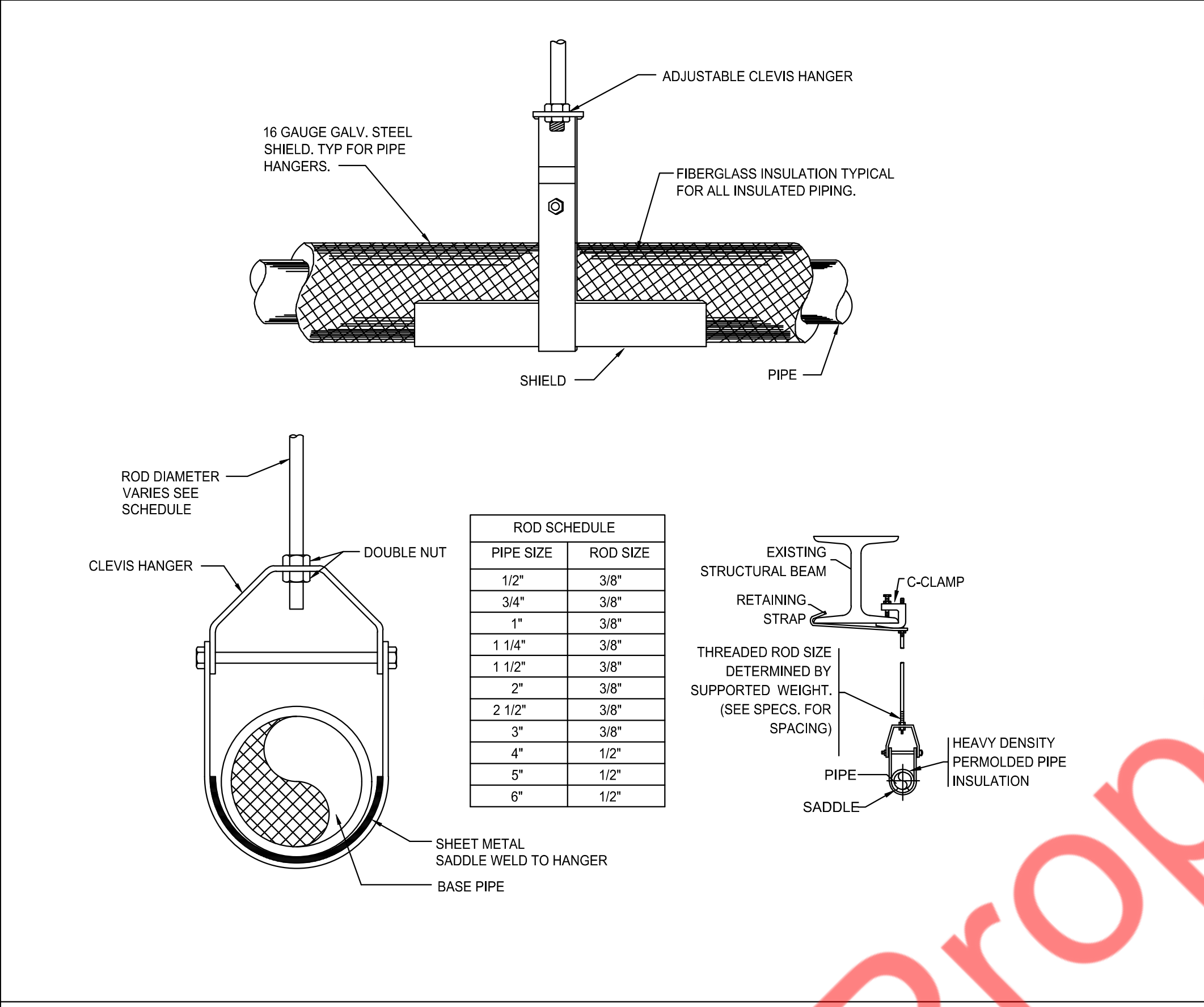
P1.0
PLUMBING PLANS



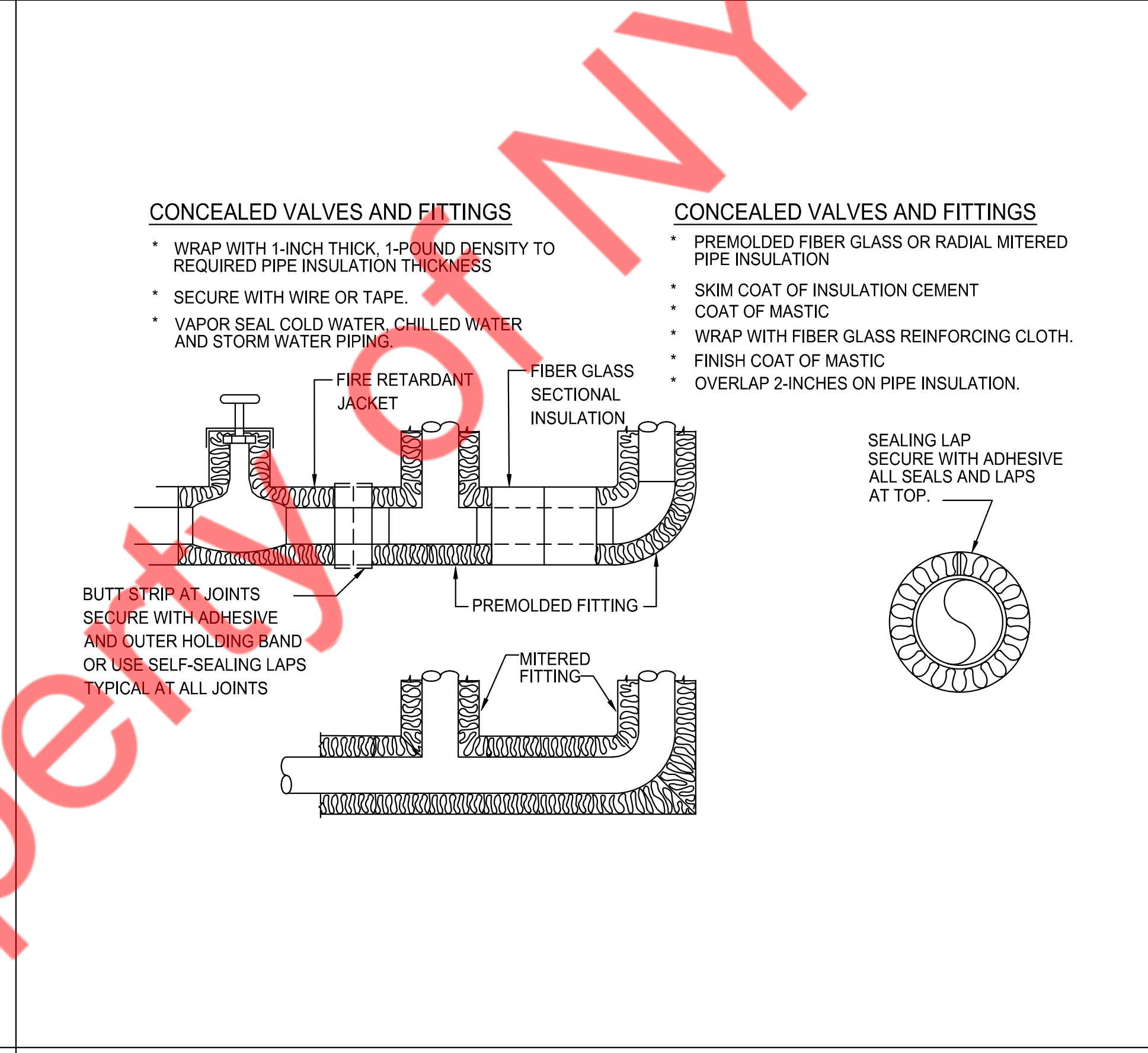
1 PIPE SLEEVE THRU WALL SECTION
3.0 N.T.S



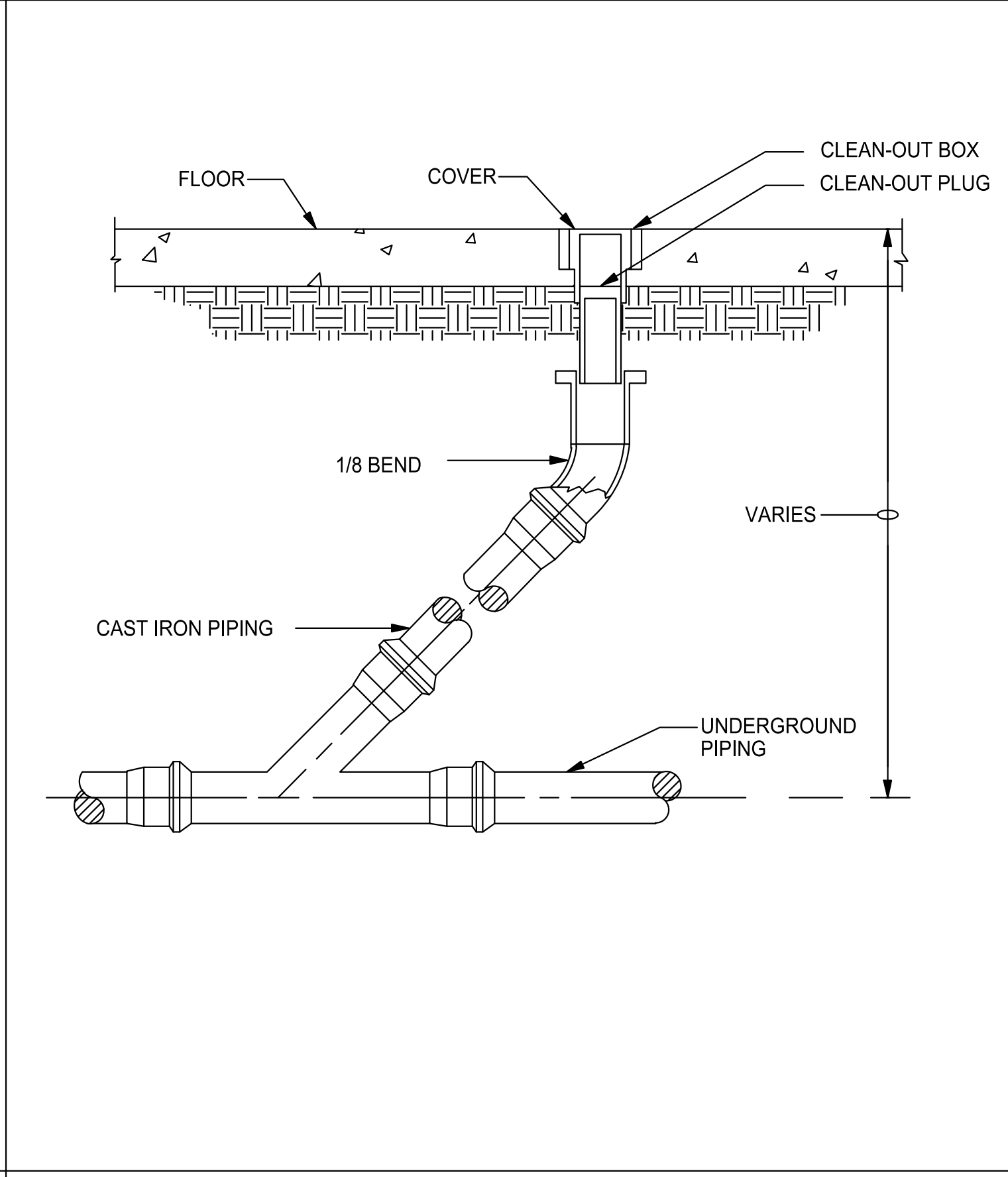
2 GAS WATER HEATER(FLOOR MOUNTED) DETAILS
P2.1 N.T.S



3 HANGER DETAIL
3.0 N.T.S

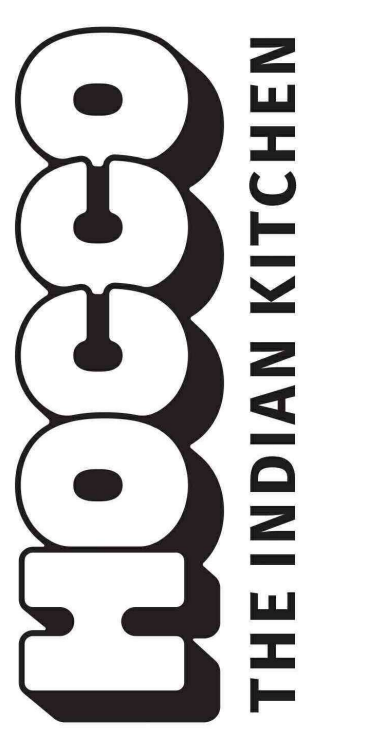


4 INSULATION OF PIPING, VALVES AND FITTINGS FOR EXPOSED AND CONCEALED LOCATIONS
3.0 N.T.S



5 FLOOR CLEANOUT DETAIL
3.0 N.T.S

MEP CONSULTANT:



SHEET HISTORY SCHEDULE		
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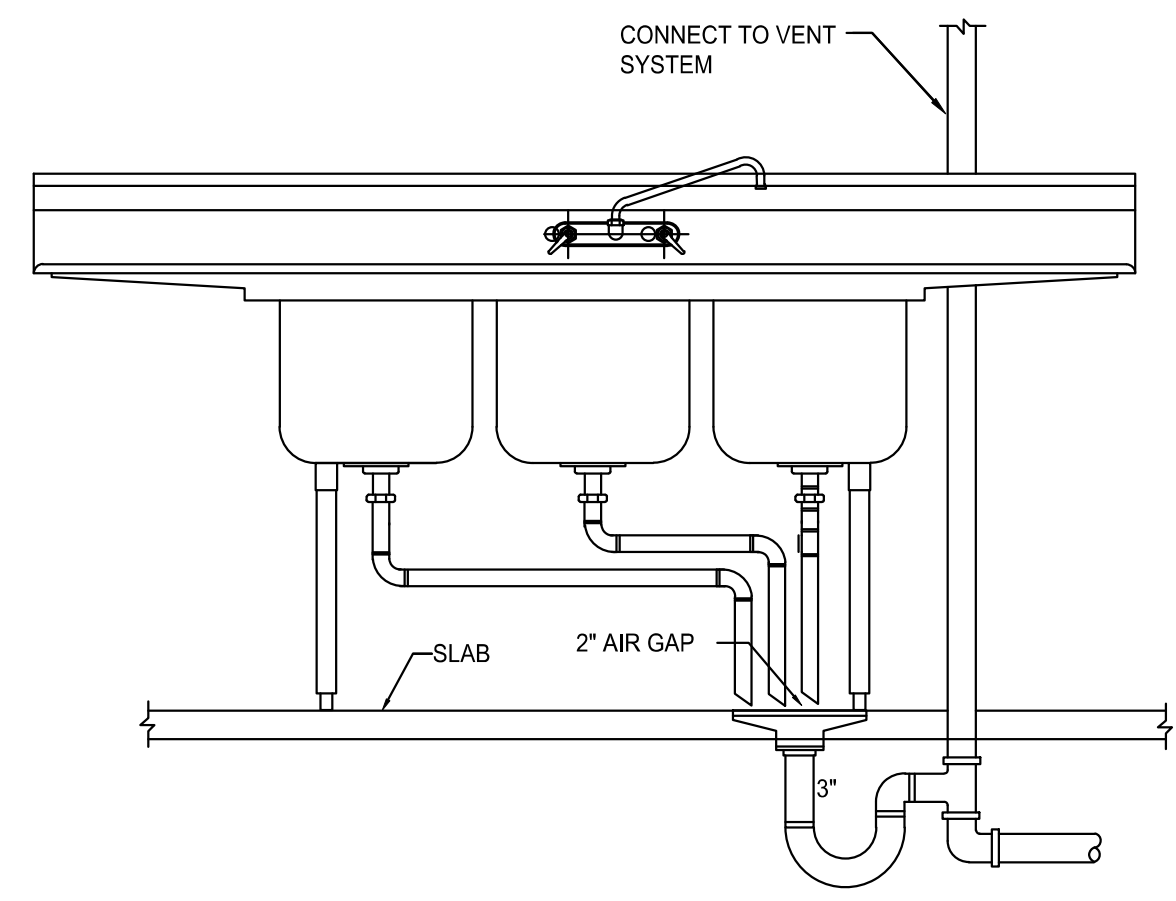
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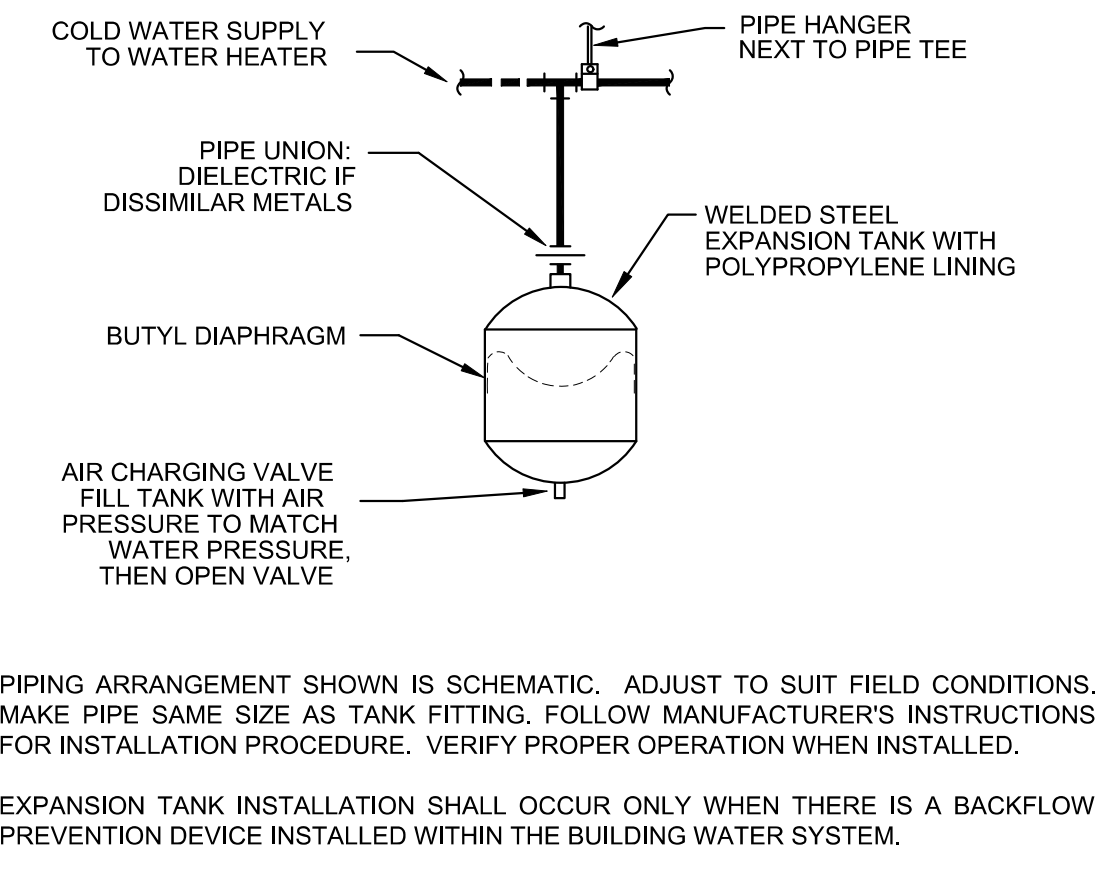
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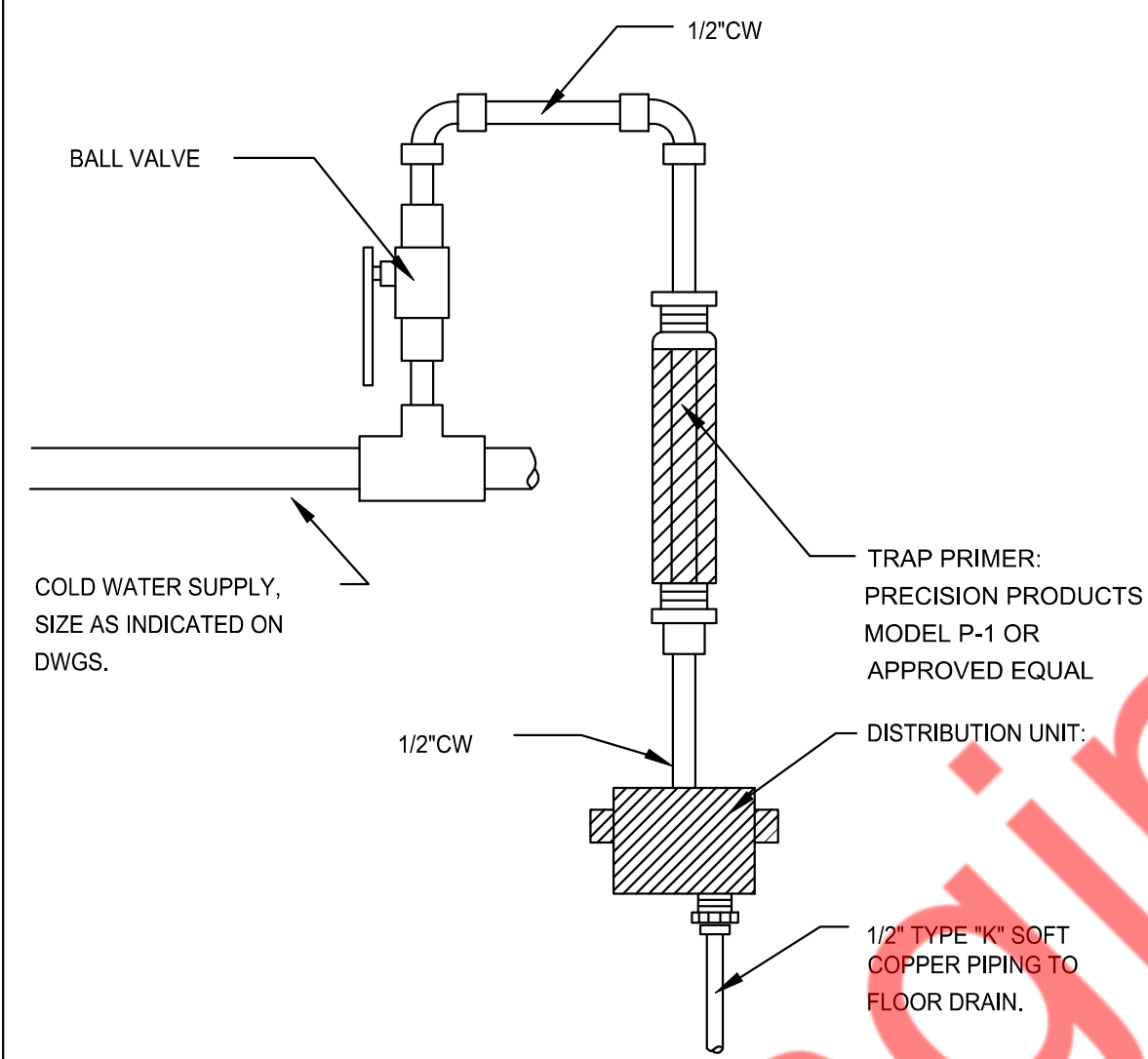
P3.0
PLUMBING DETAILS (1 OF 2)



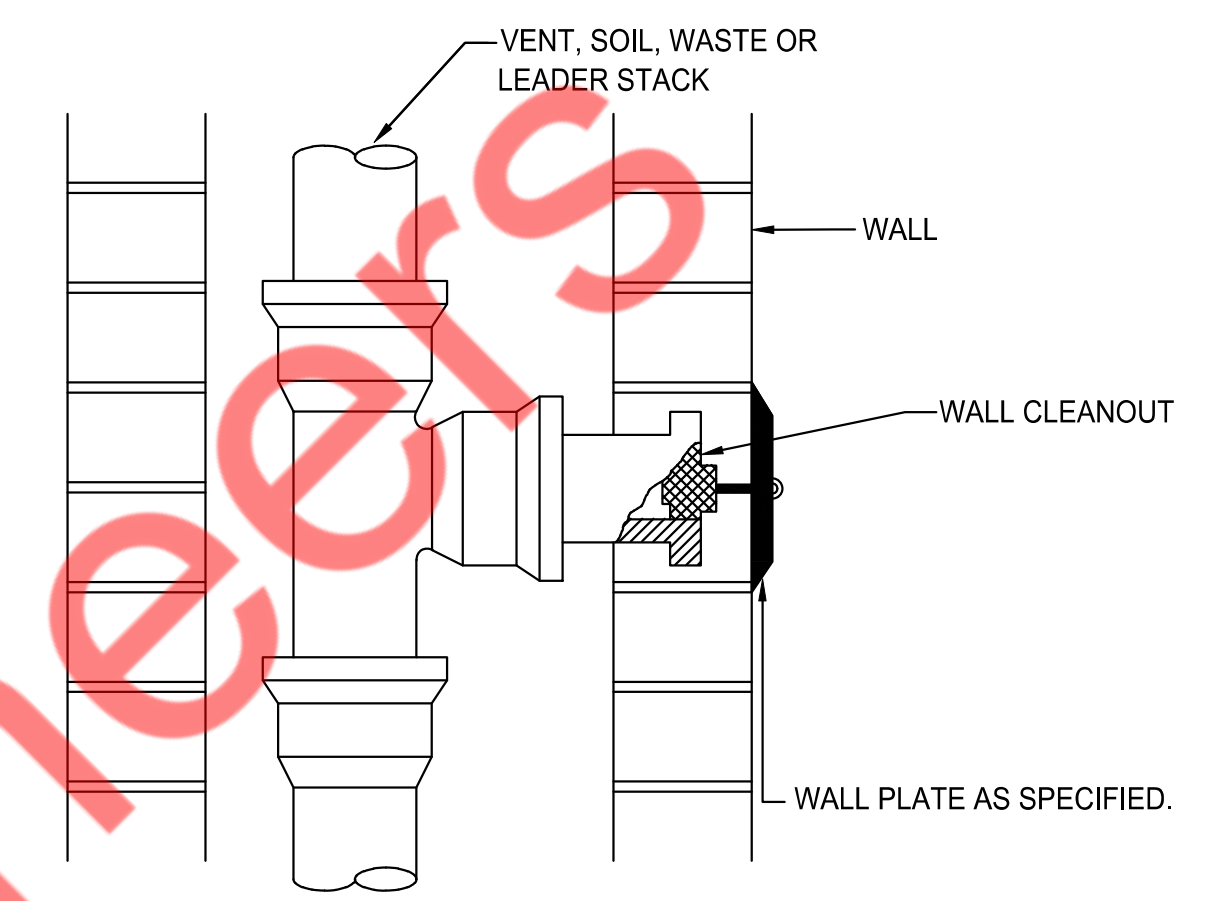
1 3 COMPARTMENT SINK DETAIL
P3.1 N.T.S.



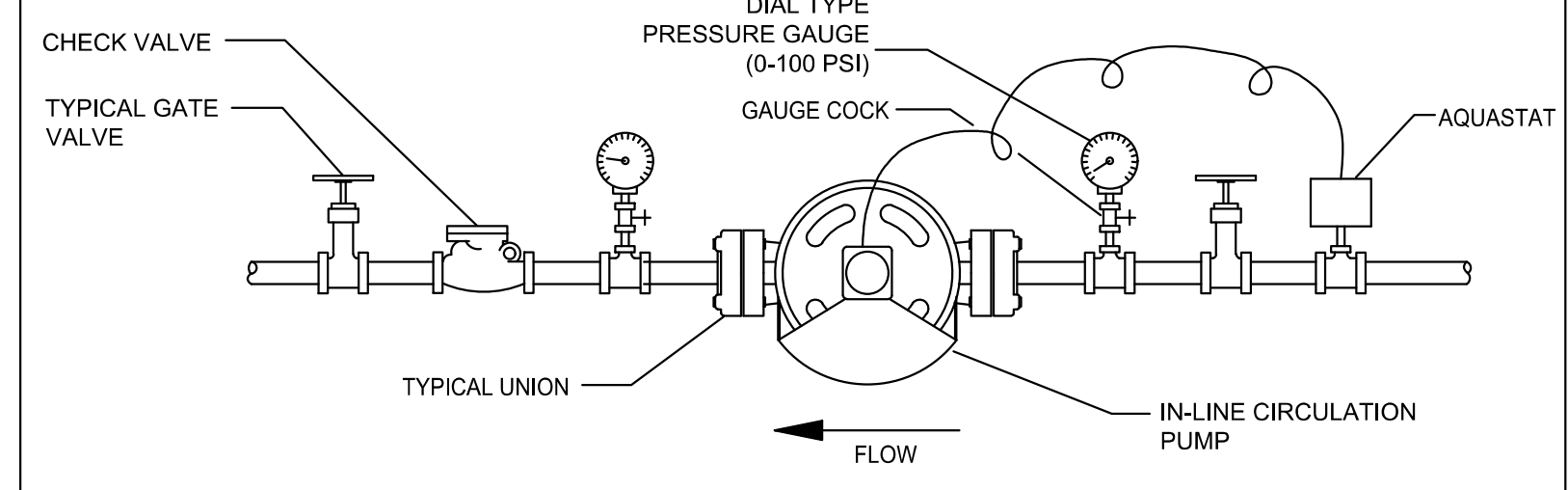
2 EXPANSION TANK
P3.1 N.T.S.



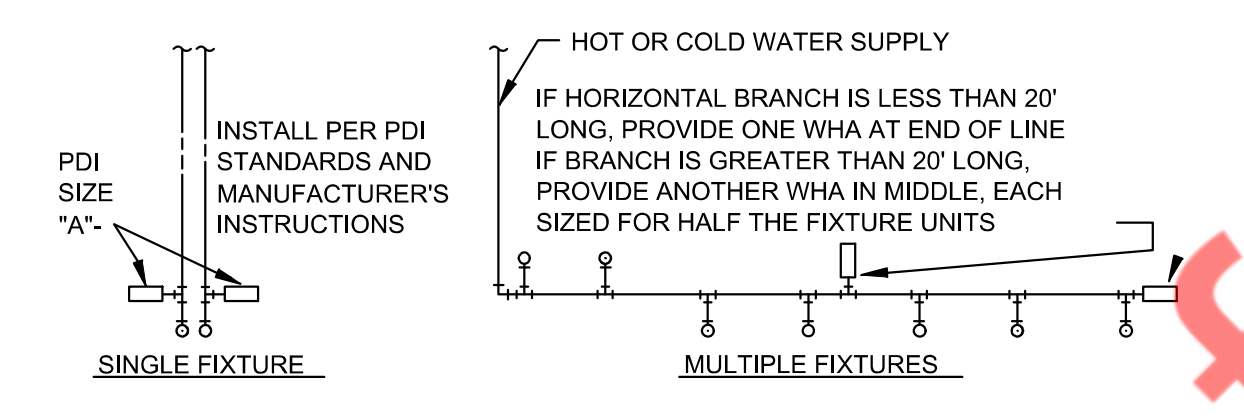
3 TRAP PRIMER DETAIL
P3.1 N.T.S.



4 WALL CLEANOUT DETAIL
P3.1 N.T.S.



5 INLINE RECIRCULATING PUMP DETAIL
P3.1 N.T.S.



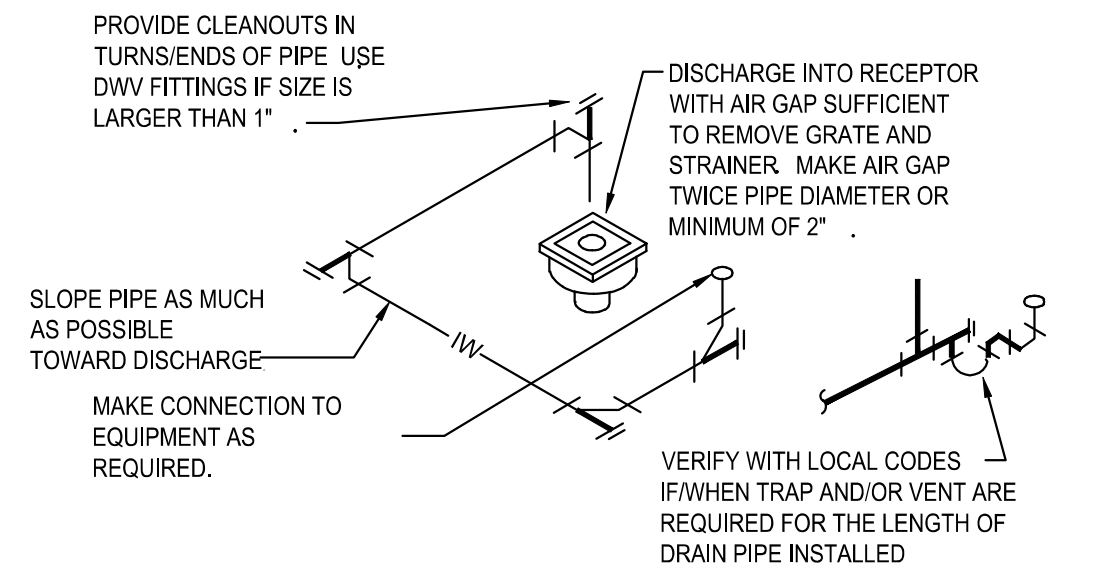
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	154-330

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

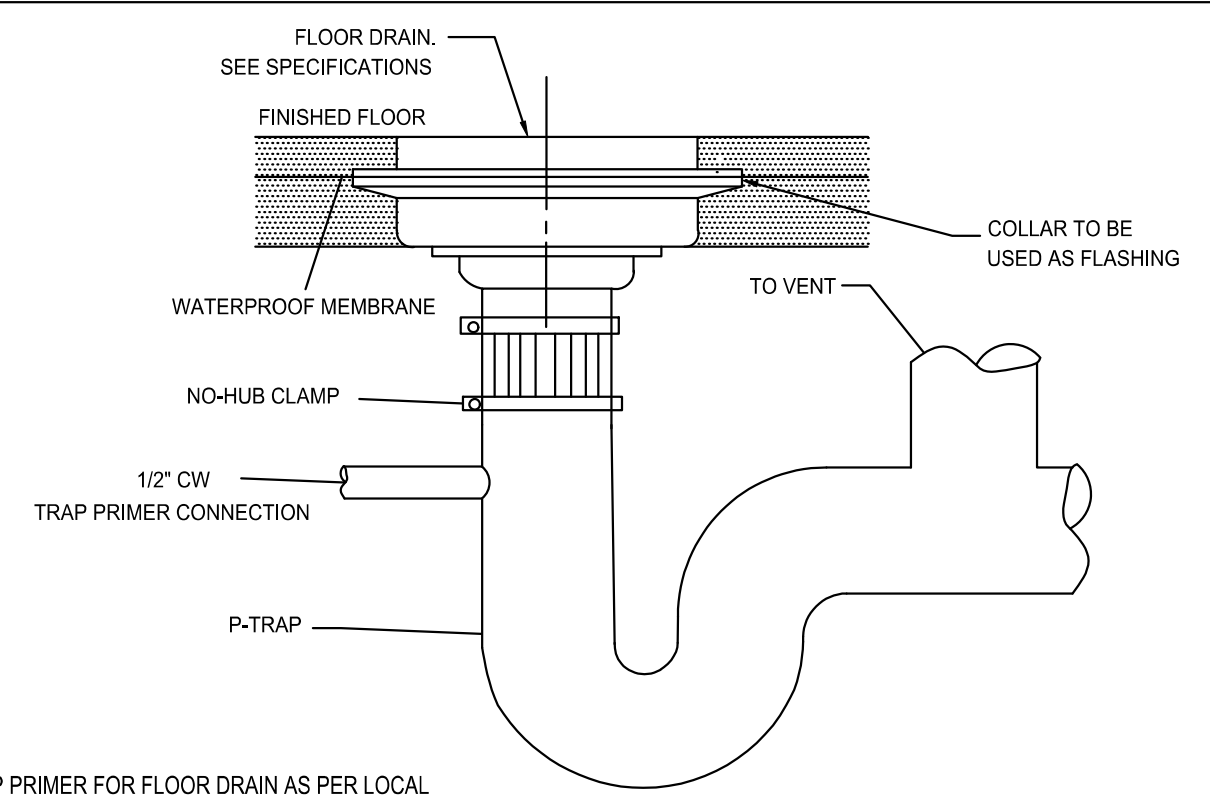
PC TO PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON HAVING PDI ASSE =1010 AND O-RING CONSTRUCTION, #WH-201, AND ANSI # A112.28.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.

NOTE:
1. PROVIDE ASSE 1010 APPROVED WATER HAMMER ARRESTOR FOR FIXTURES WITH QUICK CLOSING VALVE.

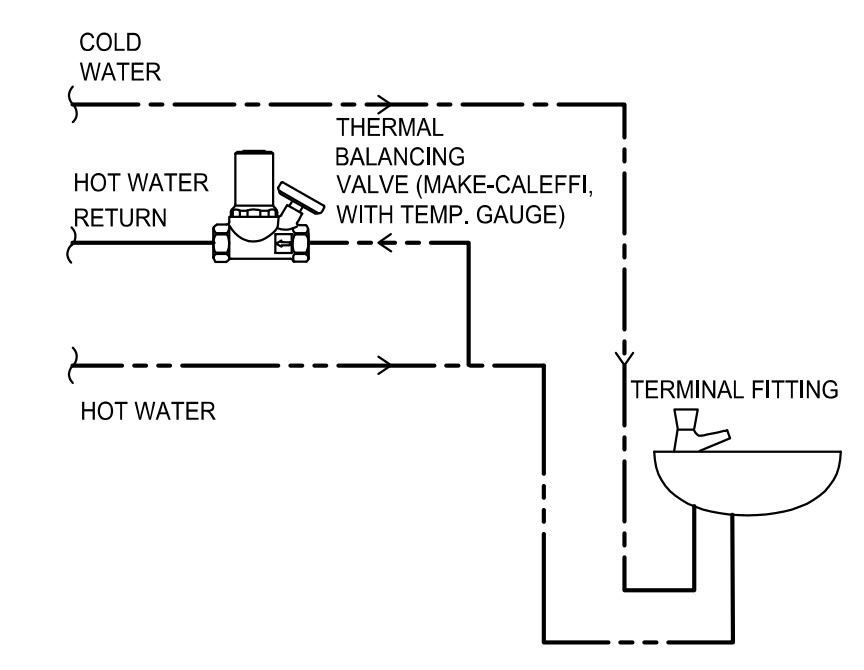
7 WATER HAMMER ARRESTORS
P3.1 N.T.S.



8 INDIRECT WASTE CONNECTION DETAIL
P3.1 N.T.S.

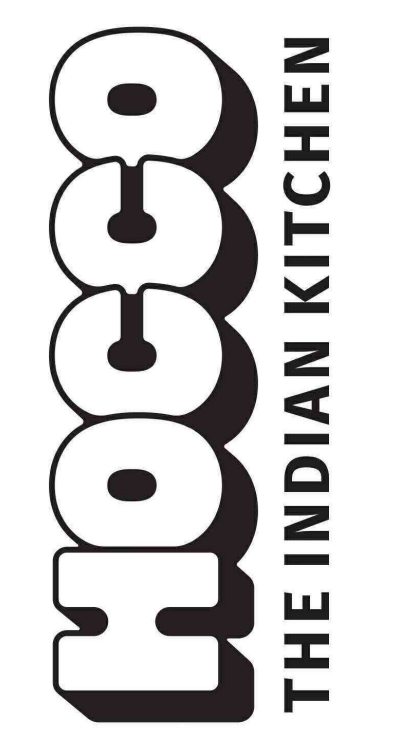


6 FLOOR DRAIN DETAIL
P3.1 N.T.S.



9 BALANCING VALVE PIPING DETAIL
P3.1 N.T.S.

MEP CONSULTANT:



SHEET HISTORY SCHEDULE		
07-30-2025	1.	BD COMMENTS
09-02-2025	2.	CITY COMMENTS
-	3.	-
09-26-2025	4.	CITY COMMENTS

ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

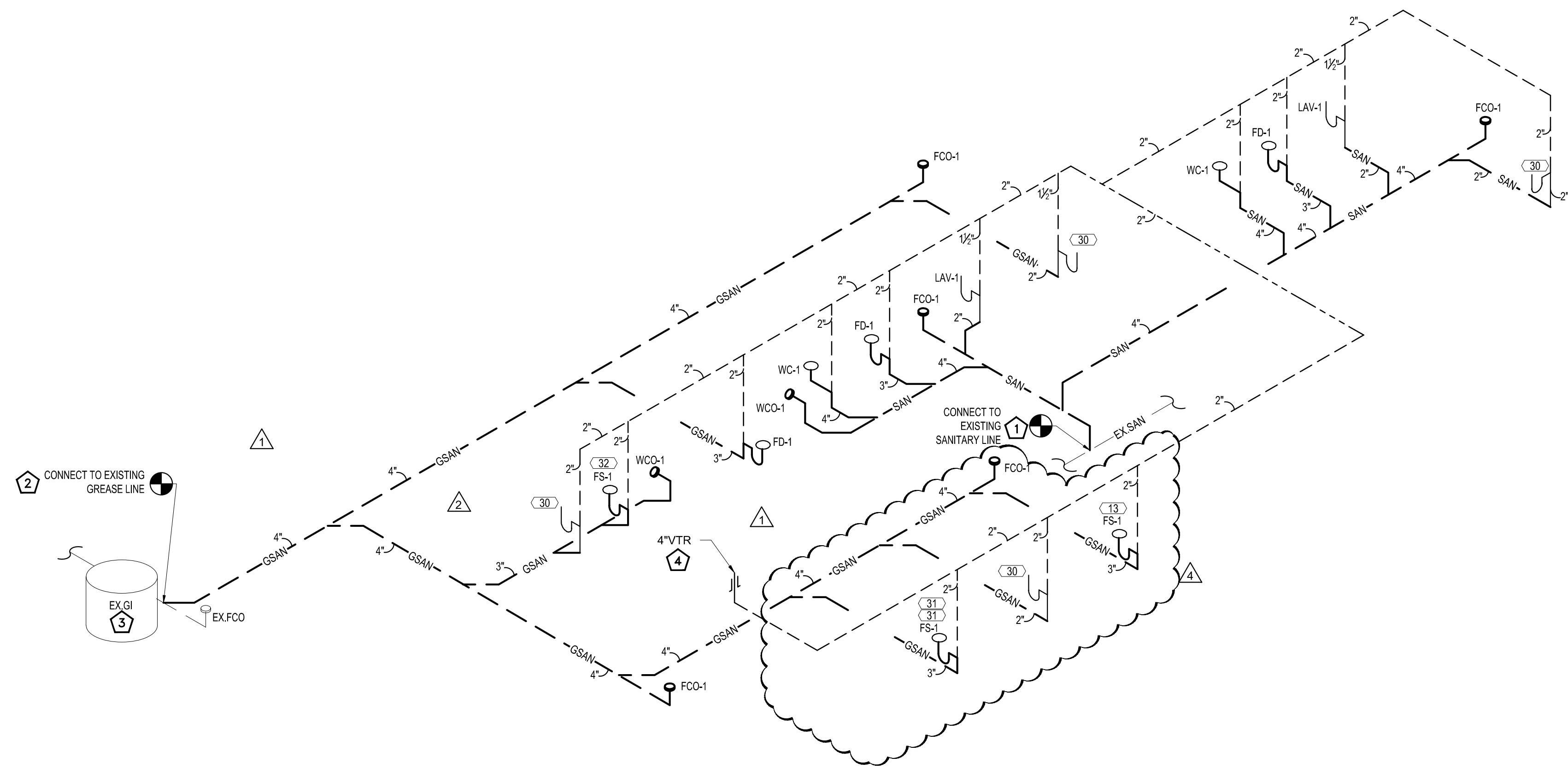
QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

P3.1
PLUMBING DETAILS (2 OF 2)



1 SANITARY AND VENT RISER DIAGRAM
NTS

- SANITARY KEYED NOTES:**
- EXTEND AND CONNECT NEW 4" SANITARY LINE TO EXISTING SANITARY LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT OF EXISTING SANITARY LINE ON SITE.
 - EXTEND AND CONNECT NEW 4" GREASE LINE TO EXISTING GREASE LINE. CONTRACTOR TO FIELD VERIFY SIZE, ROUTING AND INVERT OF EXISTING GREASE LINE ON SITE.
 - EXISTING GREASE INTERCEPTOR TO REMAIN. CONTRACTOR TO FIELD VERIFY THE LOCATION, SIZE AND WORKING CONDITION OF EXISTING GREASE INTERCEPTOR. AND THE GREASE INTERCEPTOR SHOULD BE GB-75 OR EQUAL. REPLACE/UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.
 - NEW 4" VENT UP THROUGH ROOF.

- PLUMBING NOTES:**
- HW SYSTEM PIPING IS DESIGN AS PER 2015 INTERNATIONAL ENERGY CONSERVATION CODE C404.5. THE HW PIPE LENGTH FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER TABLE C404.5.1.
 - INSULATION REQUIREMENT SHOULD COMPLY WITH 2015 INTERNATIONAL ENERGY CONSERVATION CODE. HOT WATER INSULATION MUST BE NOTED AS 1 INCH PER TABLE C403.2.10.
 - NEW FIXTURES SHALL COMPLY WITH LOCAL AMENDMENT TO PLUMBING CODE. FLOW RATE RESTRICTIONS FOR NEW AND REPLACEMENT PLUMBING FIXTURES AND EQUIPMENT IN FORSYTH COUNTY SHALL COMPLY WITH THE LOCAL AMENDMENT TO THE FOLLOWING STATE MINIMUM STANDARD CODES: 2018 INTERNATIONAL PLUMBING CODE SECTIONS 202, 604.3, 1304, AND APPENDIX E.

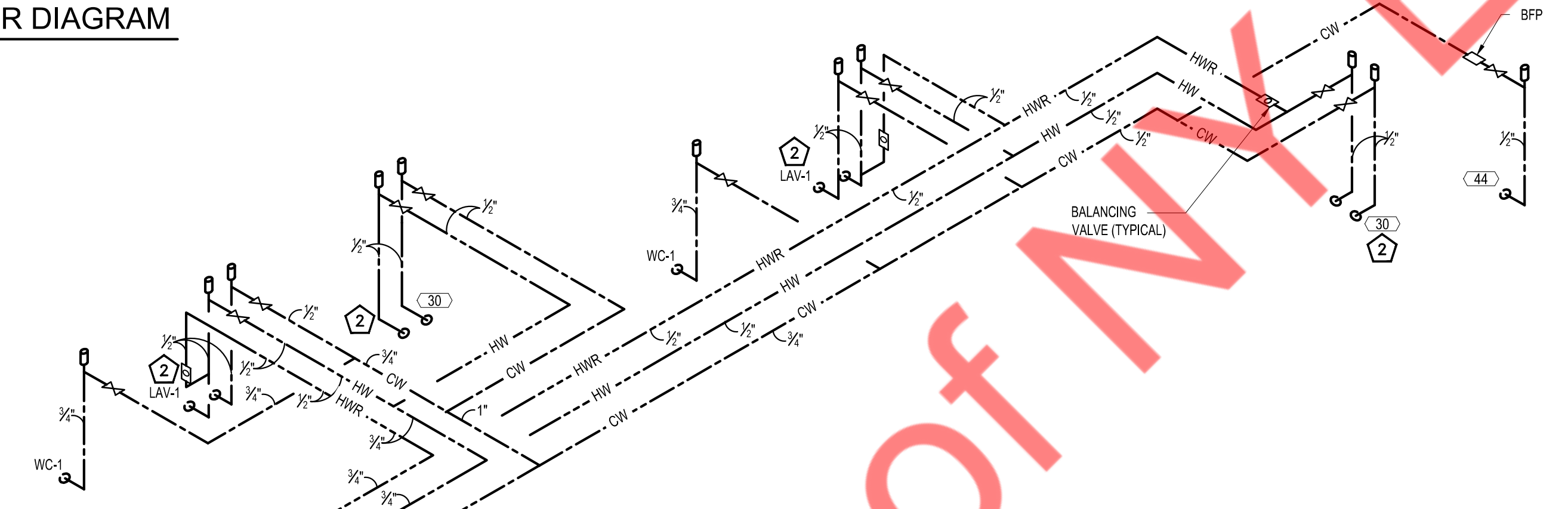
GAS DEMAND LOAD SUMMARY

MARK	MANUFACTURER	MODEL	FIXTURE/EQUIPMENT	QUANTITY	UNIT DEMAND BTUH	TOTAL DEMAND BTUH	TOTAL CFH
AHU-1(N)	-	-	ROOFTOP UNIT	1	60,000	60,000	60
MAU-1(N)	CAPTIVEAIRE	-	MAKEUP AIR UNIT	1	220,000	220,000	220
WH-1	A.O SMITH	BTH-120(A)	WATER HEATER	1	120,000	120,000	120
01	KINTERA	KBG24	RANGE, 60", 6 BURNER, 24" GRIDDLE	1	280,000	280,000	280
02	-	-	BRIYANI STOVE	1	75,000	75,000	75
04	KINTERA	KF4-N	GAS FLOOR FRYER	1	120,000	120,000	120
05	SHANN STAINLESS STEEL	STDG	TANDOOR	2	45,000	90,000	90
					TOTAL	965,000	965

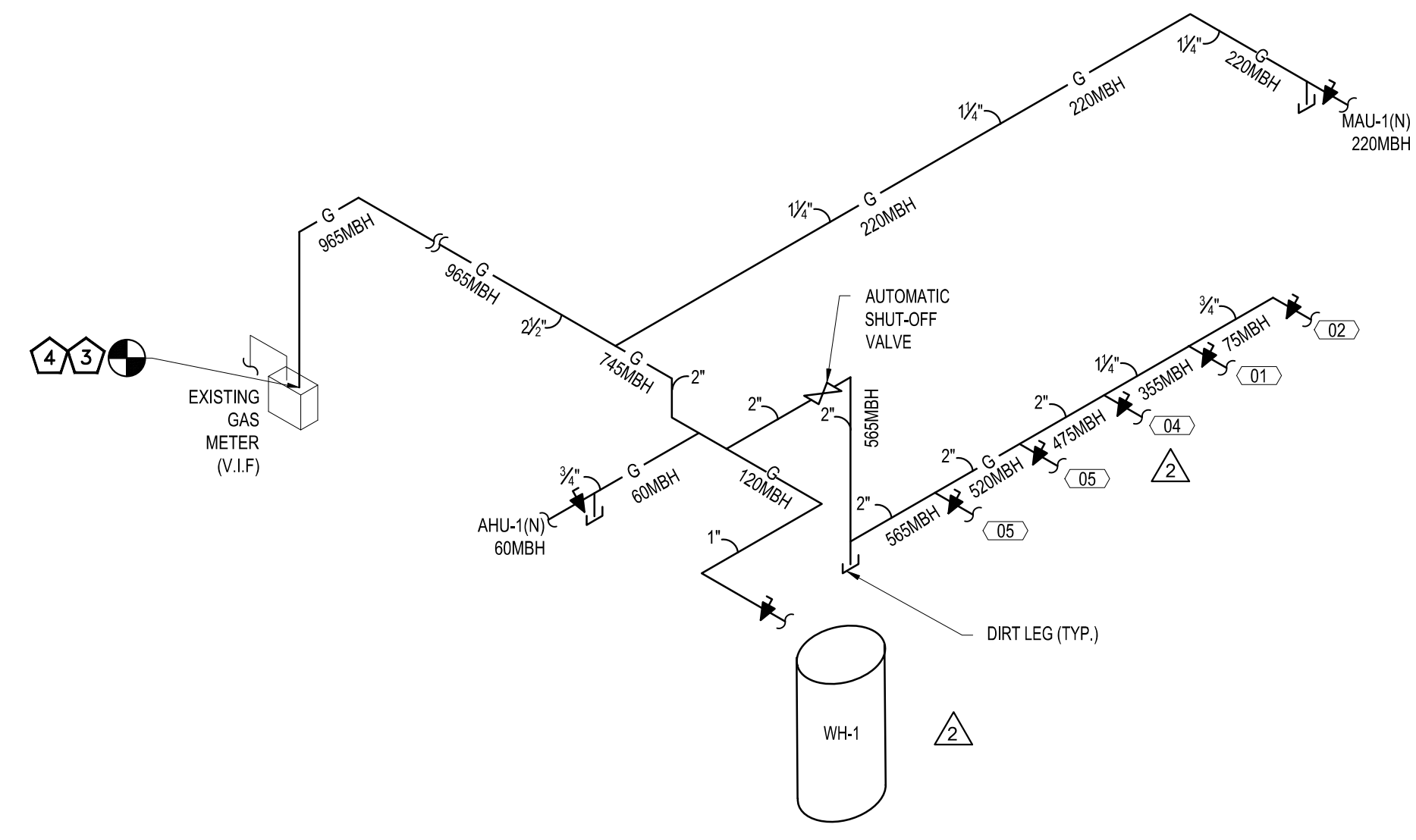
GAS PIPE SIZING PER INTERNATIONAL FUEL GAS CODE 2018

INLET PRESSURE - LESS THAN 2 PSI
PRESSURE DROP 0.5" WC
SPECIFIC GRAVITY-0.6
EQUIVALENT LENGTH OF PIPE = 115 + FITTINGS (+40%) = 161 FEET

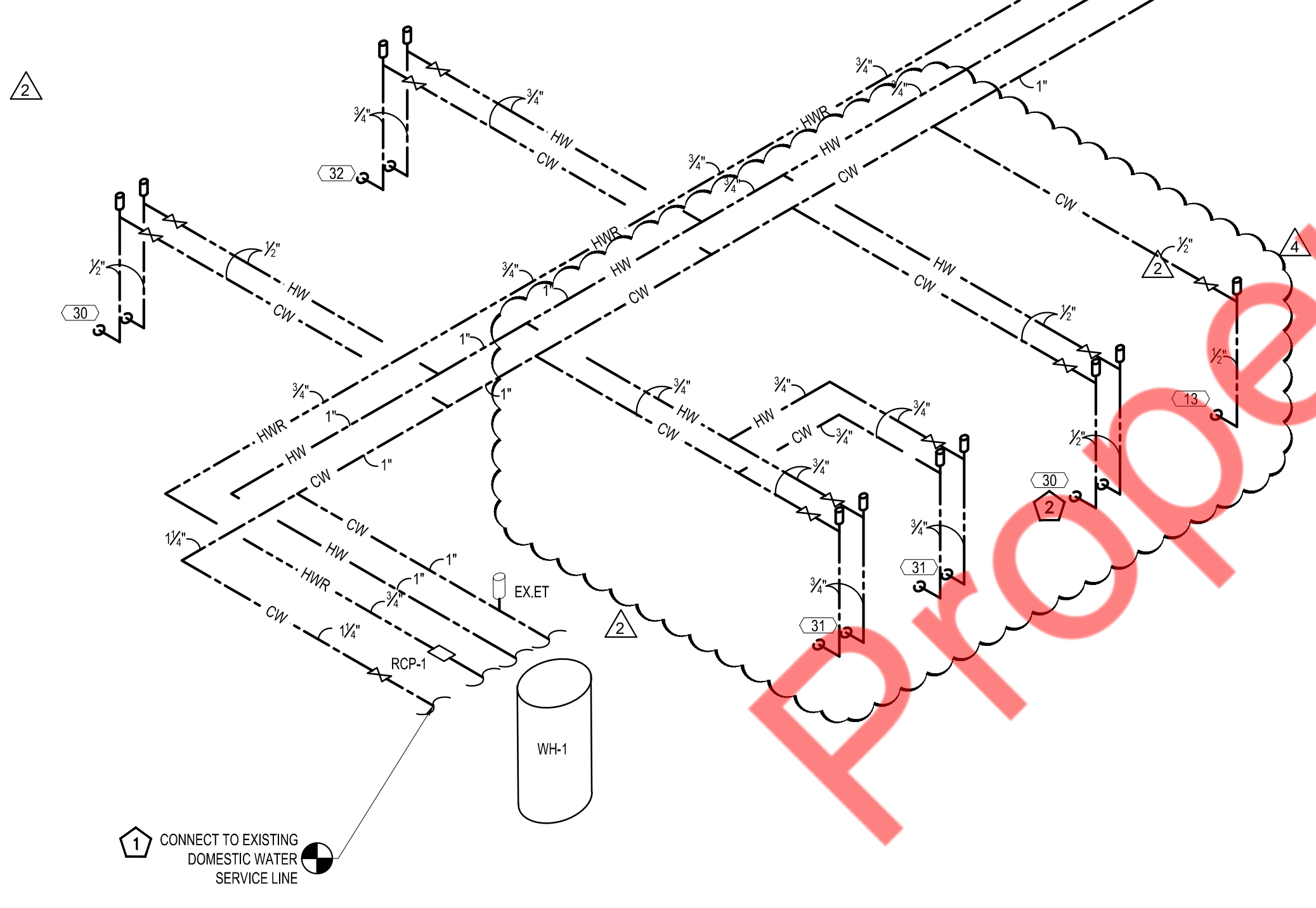
- GAS NOTE:**
- PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION. PROVIDE GAS PRESSURE REGULATOR FOR ALL GAS EQUIPMENT IF REQUIRED.
 - CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITION DIFFER THAN SHOWN ON THIS PLAN.



- WATER AND GAS KEYED NOTES:**
- CONNECT NEW 1" CW PIPING TO EXISTING WATER LINE IN SPACE WITH WATER METER AND EXISTING RPZ. CONTRACTOR TO FIELD VERIFY THE LOCATION AND SIZE OF THE EXISTING WATER LINE, EXISTING METER AND EXISTING RPZ. REPLACE /UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.
 - PROVIDE ASSE 1070 OR SIMILAR APPROVED TEMPERING VALVE FOR HAND SINKS. SET AT TEMPERATURE TO A MAXIMUM 110° F.
 - CONNECT NEW 2/3" GAS PIPE TO EXISTING GAS METER. CONTRACTOR FIELD VERIFY THE GAS PIPE SIZE AND LOCATION UPGRADE IFD REQUIRED.
 - CONTRACTOR TO FIELD VERIFY THE EXISTING GAS METER LOCATION AND CAPACITY. AND ADD THE NEW LOAD TO EXISTING GAS METER. THE EXISTING GAS METER CAPACITY SHOULD BE EQUAL OR GRATER THAN 965 MBH. UPGRADE IF REQUIRED. BASE BID ACCORDINGLY.

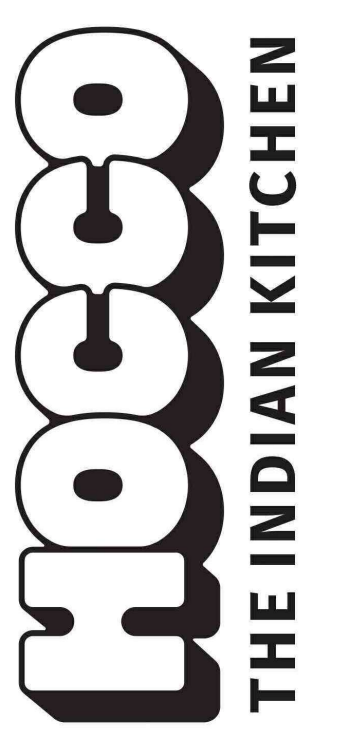


3 GAS RISER DIAGRAM
NTS



2 DOMESTIC WATER RISER DIAGRAM
NTS

MEP CONSULTANT:



SHEET HISTORY SCHEDULE

DATE	NO.	DESCRIPTION
07-30-2025	1.	BD COMMENTS
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-	3.	-
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ISSUE DATE: 07/01/2025

PROJECT LOCATION:

DRAWN BY: NYE

QAQC: NYE

APPROVED BY: NYE

PROJECT NUMBER:

SHEET NUMBER / TITLE:

P4.0
PLUMBING RISERS

PUMP SCHEDULE												
TAG	DESCRIPTION	TYPE	CAPACITY			ELECTRICAL DATA				SELECTION BASED ON		REMARKS/OPTIONS
			GPM	HEAD (FT)	HP	V	PH	HZ	MANUFACTURER	MODEL NUMBER		
RCP-1	HOT WATER RECIRC. PUMP	IN-LINE	1.0	9	1/12	120	1	60	BELL & GOSSETT	PL-30-B	NOTE 1,2	
OPTIONS (ALL RCP UNITS) AQUA-STAT & NIGHT TIMER BALANCING VALVE & CHECK VALVE FLANGED PUMP MAINTENANCE BALL VALVES ON BOTH SIDES OF PUMP												
NOTES: 1. SET AQUA-STAT WITH SET POINT 10 DEGREES BELOW SYSTEM SUPPLY TEMP. 2. INSTALL RECIRCULATION PUMP PER MANUFACTURERS REQUIREMENTS.												

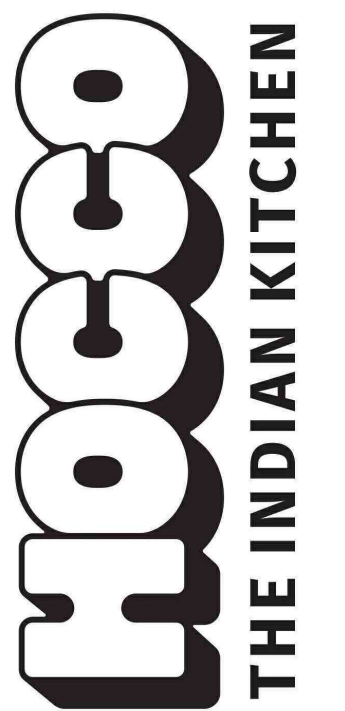
GREASE INTERCEPTOR SIZING CALCULATION										
FIXTURE	QUANTITY	DIMENSIONS			VOLUME		PERCENTAGE USAGE(%)	ACTUAL USAGE (GALLONS)	FLOW RATE(GPM)	
		LENGTH(IN)	WIDTH(IN)	DEPTH(IN)	CUBIC INCHES	GALLONS			1 MIN.	2 MIN.
3 COMP SINK	1	18	24	12	15862	67.4	0.75	50.5	50.5	25.2
PREP SINK	2	20	26	14	14560	63.0	0.75	47.3	47.3	23.65
FLOOR DRAIN	1	-	-	-	-	-	2.5	-	2.5	1.25
HOT FOOD COUNTER	1	-	-	-	-	-	2.5	-	2.5	1.25
HAND SINK	1	20	16	6	1920	8.3	0.75	6.2	6.2	3.1
HAND SINK	3	14	10	5	2100	9.01	0.75	6.81	6.81	3.4
TOTAL:								115.8	115.8	57.85
PROPOSED GREASE TRAP:								SCHIER GB-75		
NOTE: 1. CONTRACTOR TO PROVIDE ALL REQUIRED ACCESSORIES FOR SATISFACTORY WORKING OF GREASE INTERCEPTOR AS PER SITE CONDITIONS.										

PLUMBING FIXTURE SCHEDULE												
LEGEND	PLUMBING FIXTURE	MANUFACTURER	MODEL	CONNECTION SIZE - INCHES							REMARKS	
				TRAP	SOIL/WASTE		VENT	COLD WATER	HOT WATER	THERMOSTATIC MIXING VALVE		
					DIRECT	INDIRECT						
WC	WATER CLOSET	-	-	-	4"	-	2"	3/4"	-	-	-	FLUSH TANK WATER CLOSET SEATS PROVIDED FOR PUBLIC USE MUST BE OF THE OPEN FRONT TYPE.
LAV	LAVATORY	-	-	1/2"	2"	-	1/2"	1/2"	1/2"	PROVIDE	-	P-TRAP
33	EXISTING MOP SINK	-	-	E	E	-	E	E	E	-	-	EXISTING TO REMAIN
13	HOT FOOD COUNTER	COMMERCIAL STAINLESS FABRICATIONS	CNTR	-	-	1/2"	-	-	-	-	-	INDIRECT DRAIN TO FLOOR SINK WITH APPROVED AIR GAP
30	HAND SINK	KINTERA	KHS17	1/2"	2"	-	1/2"	1/2"	1/2"	PROVIDE	-	P-TRAP
31	PREP SINK	SINGLE COMPARTMENT	-	-	-	2"	-	3/4"	3/4"	-	-	INDIRECT DRAIN TO FLOOR SINK WITH APPROVED AIR GAP
32	3 COMPARTMENT SINK	KINTERA	KES3C1824S-218KMS1	-	-	2"	-	3/4"	3/4"	-	-	INDIRECT DRAIN TO FLOOR SINK WITH APPROVED AIR GAP
44	WATER DISPENSER	AQUVERSE A2500-K HOT / COLD	-	-	-	-	-	1/2"	-	-	-	-
FD-1	FLOOR DRAIN	-	-	3"	3"	-	2"	-	-	-	-	P-TRAP
FS-1	FLOOR SINK	-	-	3"	3"	-	2"	-	-	-	-	P-TRAP
NOTE: CONTRACTOR TO COORDINATE WITH ARCHITECTURAL DRAWINGS FOR ALL PLUMBING FIXTURES SPECIFICATIONS AND MOUNTING HEIGHT INSTALLATION.												

FIXTURE UNIT CALCULATION							
TAG	QTY	EQUIPMENT	FIXTURE UNITS				
			D.F.U.	TOTAL D.F.U.	W.S.F.U.	TOTAL W.S.F.U.	
WC-1	2	WATER CLOSET	6	12	5	10	
LAV-1	2	LAVATORY	1	2	2	4	
33	1	EXISTING MOP SINK	5	5	3	3	
30	4	HAND SINK	1	4	0.7	2.8	
13	1	HOT FOOD COUNTER	-	IW TO F.S	0.25	0.25	
31	2	PREP SINK	-	IW TO F.S	4	8	
32	1	3 COMPARTMENT SINK	-	IW TO F.S	4	4	
FD-1	1	FLOOR DRAIN (3")	5	5	-	-	
FS-1	3	FLOOR SINK	5	15	-	-	
TOTAL FIXTURE UNITS			43		32.05		
W.S.F.U. VALUES AS PER 2018 INTERNATIONAL PLUMBING CODE, TABLE E 103.3(3) FOR 32.05 W.S.F.U. = 23,956GPM. SERVICE PIPE SIZE IS 1-1/4".							
D.F.U. VALUES AS PER 2018 INTERNATIONAL PLUMBING CODE, TABLE E, FOR 44 D.F.U. = 4" PIPING HORIZONTAL @ 1/8" PER FOOT SLOPE.							

GAS WATER HEATER SCHEDULE									
TAG No.	QUANTITY	LOCATION	MAX. INPUT (BTU/HR)	STOR. CAP (GAL)	RECOVERY CAP. (GPH) @80° RISE	TYPE	FUEL TYPE	MANUFACTURER & MODEL NO.	REMARKS
WH-1	1	KITCHEN	120,000	60	173	GAS STORAGE TYPE WATER HEATER	NATURAL GAS	A.O. SMITH BTH-120(A)	-DIMENSIONS 27-3/4"D X 55-1/2"H
NOTE: NSF RATED. PROVIDE CONDENSATE COLLECTOR, DRAIN TO FLOOR DRAIN. PROVIDE WITH VACUUM RELIEF VALVE. MOUNT ON FLOOR & COORDINATE EXACT LOCATION WITH OWNER IN FIELD. PIPE INSULATION: PROVIDE HOT WATER PIPING WITH 1" INSULATION HAVING CONDUCTIVITY OF 0.27BTU PER INCH.									

MEP CONSULTANT:



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P4.1

PLUMBING SCHEDULES