

MECHANICAL GENERAL NOTES

- COORDINATE ALL WORK INDICATED WITH ALL OTHER TRADES INVOLVED IN THIS PROJECT. AS NECESSARY, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY DIMENSIONS, WORKING CLEARANCES, AND THE WORKING ARRANGEMENT OF EQUIPMENT, AS WELL AS THE LOCATIONS OF THE EQUIPMENT, AND ASSOCIATED DUCTWORK, PIPING, ETC., AND TO COORDINATE THE INSTALLATION ACCORDINGLY.
- CONTRACTOR SHALL PROVIDE ALL HVAC UNITS, EXHAUST FANS, SENSORS, CONTROLS, AND ALL OTHER DEVICES AND EQUIPMENT FOR COMPLETE AND FULLY OPERATIONAL SYSTEMS. WARRANT AND GUARANTEES UNLESS SPECIFICALLY NOTED AS FURNISHED BY OTHERS. ALL EQUIPMENT USED ON THIS PROJECT IS TO BE UL LISTED AND BEAR THE UL 710 LISTED LABEL.
- HVAC WORK SHALL INCLUDE FURNISHING (EXCEPT WHERE NOTED), INSTALLING, AND TESTING ALL HVAC SYSTEMS FOR A COMPLETE, FULLY OPERATIONAL, AND CODE COMPLIANT INSTALLATION INCLUDING, BUT NOT LIMITED TO:
 - MANUFACTURER'S STANDARD ROOF CURBS OR AS SPECIFIED.
 - ROOF OPENINGS.
 - COPPER CONDENSATE DRAINS WITH MINIMUM 3" TRAP DEPTH (U.N.O.) AND PROPER SLOPE. GAS PIPING SUPPORTED EVERY 10 FEET, AND OTHER PIPING AND FITTINGS.
 - DUCTWORK, TURNING VANES, SPLITTERS, DAMPERS, SPIN-INS, ETC. IN ACCORDANCE WITH SMACNA STANDARDS FOR LOCATION, THICKNESS, AND CONSTRUCTION.
 - DIFFUSERS, REGISTERS AND GRILLES
 - LINE SETS, AUXILIARY DRAIN PANS AND PIPING, AND FRESH AIR INTAKE FOR EACH AIR HANDLER IN SPLIT SYSTEMS (IF USED).
 - CONTROLS, SENSORS, AND LOW VOLTAGE WIRING (E.G. 8-STRAND, 18 AWG, NON-SHIELDED CABLE).
 - SHIMS AND MISCELLANEOUS STEEL FOR LEVEL INSTALLATION AND PROPER CONDENSATE DRAINAGE.
 - SMOKE DETECTORS AS REQUIRED BY LOCAL CODE OFFICIALS.
 - WEATHER-PROOF ROOF AND WALL PENETRATIONS FOR COPPER PIPING, MAKE-UP AIR, PADS.
- CONTRACTOR SHALL RETAIN REGISTERED STRUCTURAL ENGINEER TO VERIFY PLACEMENT AND SUPPORT OF ROOFTOP AIR CONDITIONING UNITS, EXHAUST FANS, CONDENSING UNITS, AND ALL OTHER ROOF SUPPORTED EQUIPMENT PRIOR TO FABRICATION OF DUCTWORK. UNLESS SEALED STRUCTURAL DRAWINGS ARE PROVIDED WITH PLANS, IF EQUIPMENT QUANTITY, SIZE, OR LOCATION ARE CHANGED FROM SEALED DESIGN, STRUCTURAL DRAWINGS SHALL BE RE-SUBMITTED TO STRUCTURAL ENGINEER-OF-RECORD FOR APPROVAL OR RE-DESIGN. CONTRACTOR SHALL PROVIDE MISCELLANEOUS STRUCTURAL STEEL SUPPORT FOR ROOFTOP, SUSPENDED, AND WALL-MOUNTED EQUIPMENT AND COORDINATE FINAL LOCATIONS OF EQUIPMENT WITH EXISTING CONDITIONS, E.G. JOIST LOCATIONS, AND WITH LANDLORD WHERE REQUIRED. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, SEALED BY THE STRUCTURAL ENGINEER, FOR EQUIPMENT SUPPORT.
- SUBMITTALS AND SUBSTITUTIONS: THE CONTRACTOR SHALL SUBMIT INFORMATION TO THE ENGINEER FOR ALL EQUIPMENT, DEVICES, AND PIPING COMPONENTS INTENDED TO BE PROVIDED FOR THIS PROJECT. ALL SUBSTITUTIONS FOR EQUIPMENT AND MATERIALS OTHER THAN WHAT IS SPECIFIED SHALL BE SUBMITTED FOR REVIEW PRIOR TO PURCHASE AND/OR INSTALLATION.
- UNLESS OTHERWISE SPECIFIED, ALL REQUIRED CUTTING AND PATCHING OF FLOORS, WALLS, PARTITIONS AND OTHER MATERIALS IN THE BUILDING SHALL BE INCLUDED IN THE SCOPE. THE CONTRACTOR SHALL RESTORE THESE AREAS TO ORIGINAL CONDITION UPON COMPLETION. ALL PENETRATIONS OF WALLS, CEILINGS, OR FLOORS SHALL BE CORE-DRILLED, SLEEVED, AND SEALED TO COMPLY WITH RESPECTIVE BUILDING CODE REQUIREMENTS. ALL PENETRATIONS THROUGH FIRE RATED WALL SHALL COMPLY WITH UL LISTED SLEEVE ASSEMBLY REQUIREMENTS.
- 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.
- ALL CONSTRUCTION DEBRIS TO BE REMOVED UNDER THIS CONTRACT SHALL BECOME THE PROPERTY OF THE CONTRACTOR WITH THE EXCEPTION OF SPECIFIC EQUIPMENT AND APPARATUS REQUESTED BY THE BUILDING REPRESENTATIVE. ARCHITECT OR AS NOTED TO BE RELOCATED ON THE DRAWINGS SHALL BE PROPERLY DISPOSED OF BY THIS CONTRACTOR.
- DUCTWORK IS SHOWN DIAGRAMMATICALLY AND DOES NOT SHOW ALL OFFSETS, DROPS AND RISES OF RUNS. THE CONTRACTOR SHALL ALLOW IN HIS/HER PRICE FOR ROUTING OF DUCTWORK TO AVOID OBSTRUCTIONS. EXACT LOCATIONS ARE SUBJECT TO APPROVAL OF ARCHITECT. COORDINATION WITH OTHER TRADES IS REQUIRED.
- ALL DUCT SIZES SHOWN ARE INSIDE. FREE AREA DIMENSIONS REQUIRED FOR PROPER AIRFLOW, UNLESS SPECIFICALLY INDICATED, ALL DUCT TRANSITIONS SHALL BE SMOOTH AND GRADUAL WITH MAXIMUM DIVERGENT ANGLE OF 15°.
- SUPPORT ALL DUCTWORK FROM BUILDING STRUCTURE AND/OR FRAMING IN AN APPROVED MANNER. WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING OR SUPPORTS FOR EQUIPMENT, FURNISH ADDITIONAL FRAMING. INSTALL DUCTWORK AS HIGH AND TIGHT TO THE STRUCTURE AS POSSIBLE.
- PROVIDE VOLUME DAMPER AT CONNECTION OF DIFFUSER BRANCH INCLUDING THOSE CONNECTING TO THE BOTTOM OF MAIN TRUNK.
- PROVIDE TURNING VANES IN ALL ELBOWS IN SUPPLY AIR DUCT.
- ALL FLEXIBLE DUCTWORK SHALL BE STRETCHED AND SUSPENDED IN ACCORDANCE WITH LOCAL CODE. SUPPORT EVERY 3' WITH 2" WIDE GALVANIZED STEEL BANDS (MAX. SAG 1/2" BETWEEN SUPPORTS); MAX. LENGTH OF DUCT SHALL BE EIGHT (6) FEET.
- CONTRACTOR SHALL COVER ALL HVAC UNITS, ALL RELATED DISTRIBUTION EQUIPMENT AND ALL DUCT OPENINGS DURING STORAGE AT CONSTRUCTION SITE AND AT THE TIME OF ROUGH INSTALLATION UNTIL FINAL STARTUP TO PREVENT DIRT, DEBRIS, CONSTRUCTION DUST, AND MOISTURE FROM ENTERING.
- CONTRACTOR SHALL NOT OPERATE A/C UNITS WITHOUT CONSTRUCTION FILTERS IN PLACE. REPLACE ALL FILTERS AFTER CONSTRUCTION AND BEFORE REQUESTING FINAL PAYMENT WITH MINIMUM MERV 8 FILTERS.
- 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 DAMPERS AND EQUIPMENT.
- CONTRACTOR SHALL PROVIDE CURBS/SEALS, FLASHING, EXPANSION DUCTS, WEATHER CUPS, ETC. FOR ALL EXTERIOR MOUNTED EQUIPMENT AND PENETRATIONS TO MAKE WEATHER-PROOF AND WATER-TIGHT. COORDINATE WITH PENETRATIONS FOR ELECTRICAL SERVICE TO MOTORIZED EQUIPMENT. COMPLY WITH THE OWNER/LANDLORD AND THE OWNER'S/LANDLORD'S ROOFING CONTRACTOR TO MAINTAIN ROOF WARRANTY.
- CONTRACTOR SHALL PROVIDE THERMOSTATS AND REMOTE SENSORS FOR NEW COOLING AND HEATING EQUIPMENT. DO NOT INSTALL THERMOSTATS OR SENSORS CLOSE TO HEAT AND/OR STEAM PRODUCING APPLIANCES.
- CONTRACTOR SHALL INSULATE SUPPLY DIFFUSERS IN THE PLENUM SIDE TO PREVENT CONDENSATION OR PROVIDE INSULATED SUPPLY DIFFUSERS.
- PAINT ALL SUPPLY AND RETURN AIR DEVICES AS REQUIRED BY THE OWNER.
- ALL DUCTWORK SHALL BE SEALED FOR SEAL CLASS B AND LEAK TESTED AT THE RATED PRESSURE.
- CONTRACTOR SHALL TIE BACK, TO BAR JOISTS, ALL DIFFUSERS AS REQUIRED BY LOCAL GOVERNING CODES.
- FIRE DAMPERS MUST BE INSTALLED AT ALL LOCATIONS WHERE DUCT PENETRATES A FIRE RATED WALL. PROVIDE SMOKE/FIRE DAMPERS FOR AN EGRESS. PROVIDE ACCESS DOORS AS REQUIRED. FIRE DAMPERS SHALL BE OF TYPE APPROVED BY THE AGENCIES HAVING JURISDICTION.
- PROVIDE MINIMUM 4" WIDE FLEXIBLE CONNECTOR FOR VIBRATION ISOLATION TO CONNECT DUCTS TO ROTATING EQUIPMENT INCLUDING AIR HANDLING UNITS, FAN COIL UNITS, FANS, ROOF TOP UNITS, AND WHERE INDICATED ON THE DRAWINGS.
- CONTRACTOR SHALL NOT LOCATE ANY OUTSIDE AIR INTAKE OR MAKE-UP AIR INTAKE WITHIN TEN (10) FEET OF ANY EXHAUST OUTLET OR VENT DISCHARGE.
- CONTRACTOR SHALL FURNISH EQUIPMENT DISCONNECTS WHERE THEY ARE NOT FURNISHED BY EQUIPMENT MANUFACTURER. CONTRACTOR SHALL INSTALL ALL DISCONNECTS AND MAKE FINAL CONNECTION.
- SEAL OPENINGS AROUND DUCTS AND PIPING THROUGH PARTITIONS, WALLS AND FLOORS (NOT IN SHAFTS) WITH MINERAL WOOL OR OTHER NONCOMBUSTIBLE MATERIAL.
- CONTRACTOR SHALL PERFORM TESTING, ADJUSTING, AND BALANCING (T.A.B.) OF ALL AIR SYSTEMS. CONTRACTOR SHALL ALSO PERFORM T.A.B. OF ALL CHILLED OR CONDENSER WATER SYSTEMS (WHERE SHOWN OR SPECIFIED). USE A.B.C. OR N.E.B.B. CERTIFIED TECHNICIANS AND PROVIDE A WRITTEN REPORT OF RESULTS TO OWNER PRIOR TO REQUEST FOR FINAL PAYMENT. THE TAB CONTRACTOR SHALL SUBMIT TO THE OWNER (6) COPIES OF A WRITTEN REPORT WITHIN 10 DAYS AFTER THE INSPECTION IS COMPLETE.
- CONTRACTOR SHALL DEVELOP AND MAINTAIN A SET OF RED-LINED "AS BUILT" DRAWINGS AT THE PROJECT CONSTRUCTION SITE AND MAKE AVAILABLE TO THE ARCHITECT/ENGINEER UPON REQUEST. RED-LINED DRAWINGS MUST BE KEPT CURRENT AND REFLECT ALL ACTUAL ASPECTS OF THE INSTALLATION THAT DEVIATE FROM CONSTRUCTION DESIGN DRAWINGS. RED-LINED DRAWINGS SHALL INCLUDE ALL PUNCH-LIST ITEMS AND TESTING, AND SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AT THE COMPLETION OF THE PROJECT.
- UPON COMPLETION OF WORK, PRIOR TO APPLYING FOR FINAL PAYMENT, THOROUGHLY CLEAN ALL EXPOSED PORTIONS OF MECHANICAL EQUIPMENT, AND TOUCH UP PAINT WHERE NECESSARY. FOLLOW MANUFACTURERS RECOMMENDATIONS FOR CLEANING.

MECHANICAL GENERAL NOTES (CONT.)

- CONTRACTOR SHALL INCLUDE AND GUARANTEE FULL MAINTENANCE AND EMERGENCY SERVICE CALLS AGAINST DEFECTIVE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE OF FACILITY ON ALL FURNISHED EQUIPMENT AND DEVICES, CONTRACTOR'S INSTALLATION, AND ON ALL INSPECTED AND REUSED PIPING, EQUIPMENT, AND DEVICES. THIS SHALL INCLUDE COST OF LABOR AND MATERIALS REQUIRED FOR REPLACEMENT OF DEFECTIVE PARTS OR IMPROPER WORKMANSHIP TO INSURE CONTINUOUS OPERATION OF ALL SYSTEMS.
- REFER TO ARCHITECT'S SPECIFICATIONS AND NOTES FOR CUTTING, TRENCHING, AND PATCHING, PAINT ALL DUCTS, AND DEVICES EXPOSED TO PUBLIC PER ARCHITECTURAL PLANS OR TO MATCH ADJACENT BUILDING SURFACE, UNLESS NOTED OTHERWISE, OR IF REQUIRED BY CODE.
- THE TERM "PROVIDE" SHALL BE UNDERSTOOD TO MEAN FURNISH, INSPECT, INSTALL, CHARGE (AS WITH REFRIGERANT UNITS ETC.), CONNECT, ADJUST, BALANCE, TEST, AND WARRANT TO INSURE THAT EQUIPMENT OR DEVICE IS FULLY FUNCTIONAL.
- CONTRACTOR AND ALL SUBCONTRACTORS SHALL BE FULLY LICENSED WITH STATE AND MUNICIPALITY WHERE REQUIRED AND SHALL BE EXPERIENCED IN ALL AREAS OF THEIR WORK. CONTRACTORS SHALL BE FAMILIAR WITH LOCAL CODES AND REQUIREMENTS AFFECTING THEIR WORK.
- WHERE A DISCREPANCY MAY EXIST BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT IS DESCRIBED BY NOTE OR SPECIFICATION, THE CONTRACTOR SHALL PROVIDE THE GREATER QUANTITY, THE BETTER QUALITY, THE MOST STRINGENT, AND GREATER COST ITEMS OR REQUEST CLARIFICATION FROM ARCHITECT PRIOR TO SUBMITTING FINAL BID.
- MATERIALS USED IN AIR PLENUMS, DUCTS, AIR HANDLING EQUIPMENT, AND WHERE REQUIRED BY A.H.J SHALL HAVE A MAXIMUM FLAME SPREAD OF 25 AND SMOKE DEVELOPMENT OF 50 AS TESTED IN ACCORDANCE WITH ASTM E84 AND UL723. DO NOT USE PVC IN RETURN AIR PLENUMS. USE ONLY PLENUM RATED MATERIALS IN RETURN AIR PLENUMS AND REQUIRED SPACES.
- MATERIALS SHALL BE NEW AND BEAR UNDERWRITERS LABORATORIES (U.L.O LABEL WHERE SUCH STANDARDS HAVE BEEN ESTABLISHED).
- CONTRACTOR SHALL PAY FOR AND OBTAIN ALL PERMITS REQUIRED FOR WORK AND SHALL SCHEDULE INSPECTION WITH A.H.J. IN A TIMELY MANNER TO ALLOW COMPLETION OF PROJECT ON SCHEDULE.

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:

- INTERNATIONAL BUILDING CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL PLUMBING CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL MECHANICAL CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL FUEL GAS CODE 2018 W/ ALL GEORGIA AMENDMENTS
- NATIONAL ELECTRICAL CODE 2020 - W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL ENERGY CONSERVATION CODE 2015 W/ ALL GEORGIA SUPPLEMENTS AND AMENDMENTS

FIELD VERIFY ALL CONDITIONS

DESIGN DRAWINGS ARE SCHEMATIC. THIS CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING OR AWARD OF CONTRACT TO INSPECT EXISTING FIELD CONDITIONS. THIS CONTRACT SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR FIELD MODIFICATIONS DUE TO EXISTING CONDITIONS.

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

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

MECHANICAL SYMBOL LEGEND

	CONDENSATE DRAIN PIPING
	AUXILIARY DRAIN PIPING
	PIPING DOWN
	PIPING UP -OR- PIPING UP & DOWN
	CAP ON END OF PIPE
	VOLUME DAMPER
	FIRE DAMPER (FUSIBLE LINK)
	SMOKE DAMPER
	SMOKE/FIRE DAMPER
	MOTORIZED DAMPER
	DUCT DIMENSION, CLEAR INSIDE
	LINED DUCTWORK
	RECTANGULAR ELBOW WITH TURNING VANES
	90 DEGREE ELBOW DOWN
	90 DEGREE ELBOW UP
	DUCT SIZE TRANSITION
	DIFFUSER OF TYPE & CFM INDICATED
	RETURN GRILLE
	EXHAUST GRILLE
	FLEXIBLE DUCT CONNECTION
	SUPPLY DUCT RISER
	RETURN AIR DUCT RISER
	EXHAUST AIR DUCT RISER
	UNDERCUT DOOR 1/2" FOR EXHAUST/MAKE-UP
	MANUAL VOLUME DAMPER
	BACKDRAFT DAMPER
	OPPOSED BLADE DAMPER
	CARBON MONOXIDE DETECTOR
	CARBON DIOXIDE DETECTOR
	OUTSIDE AIR FLOW MEASUREMENT
	SMOKE DETECTOR
	THERMOSTAT
	REMOTE SENSOR
	HUMIDITY CONTROLLER
	ANSUL SYSTEM REMOTE PULL STATION
	REMOTE SMOKE DETECTOR TEST/RESET
	POINT OF NEW CONNECTION TO EXISTING
	POINT OF DISCONNECTION TO EXISTING
	GRAVITY/BACK-DRAFT DAMPER

NOTE: NOT ALL SYMBOLS MAY APPEAR ON PLANS.

MECHANICAL ABBREVIATIONS

AD	ACCESS DOOR
ADJ	ADJUSTABLE
A.F.F.	ABOVE FINISHED FLOOR
A.H.J.	AUTHORITIES HAVING JURISDICTION
AHU	AIR HANDLER UNIT
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
CD	CONDENSATE DRAIN
CFM	AIR VOLUME - CUBIC FEET / MINUTE
CHR	CHILL WATER RETURN
CHS	CHILL WATER SUPPLY
CU	CONDENSING UNIT
CW	COLD WATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
DB	DRY BULB TEMPERATURE
DF	DRINKING FOUNTAIN
DIA OR Ø	DIAMETER
DS	DUCT SOX
EA	EXHAUST AIR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
ESP	EXTERNAL STATIC PRESSURE
EXH	EXHAUST
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FD	FIRE DAMPER
FLA	FULL LOAD AMPS
GPM	GALLONS / MINUTE
HP	HORSEPOWER
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
ID	INSIDE DIAMETER
IN	INCHES
INSUL	INSULATION
IWH	INSTANTANEOUS WATER HEATER
KW	KILOWATT
LAV	LAVATORY
LL	LANDLORD
MCA	MINIMUM CIRCUIT AMPACITY
MD	MOTORIZED DAMPER
MFR	MANUFACTURER
MCCP	MAXIMUM OVERCURRENT PROTECTION
MTD	MOUNTED
N.I.C.	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTSIDE AIR
O.B.D.	OPPOSED BLADE DAMPER
OD	OUTSIDE DIAMETER
ODP	OPEN DRIP PROOF
RA	RETURN AIR
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
S.C.	SENSIBLE COOLING
SD	SMOKE DETECTOR
SS	SANITARY SEWER
TEN	TENANT
T.C.	TOTAL COOLING
T-STAT	THERMOSTAT
TYP	TYPICAL
UH	UNIT HEATER
U.N.O.	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
VD	VOLUME DAMPER
V.I.F.	VERIFY IN FIELD
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WG	WATER GAUGE
WH	TANK TYPE WATER HEATER

NOTE: NOT ALL ABBREVIATIONS MAY APPEAR ON PLANS.

MAY 12, 2025

CLIENT CHANGES 06/16/25

M001

DEL TACO #1630 TENANT IMPROVEMENTS

MECHANICAL SYMBOLS, ABBREVIATION AND NOTES

MECHANICAL SPECIFICATIONS

SPECIFICATIONS ARE OF SIMPLIFIED FORM AND INCLUDE INCOMPLETE SENTENCES. WORDS OR PHRASES SUCH AS "THE CONTRACTOR SHALL," "SHALL BE," "FURNISH," "PROVIDE," "A," "THE," AND "ALL," HAVE BEEN OMITTED FOR BREVITY.

DEFINITIONS:

- 1) "PROVIDE": TO SUPPLY, 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) "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.
- 6) "EXPOSED": NOT INSTALLED UNDERGROUND OR "CONCEALED" AS DEFINED ABOVE.
- 7) "SIMILAR" OR "EQUAL": EQUAL IN MATERIALS, WEIGHT, SIZE, DESIGN AND EFFICIENCY OF SPECIFIED PRODUCT.

1.0 SCOPE OF WORK:

1.1 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. WORK SHALL BE INSTALLED IN A NEAT, WORKMANLIKE MANNER.

- A. FURNISH ALL LABOR, MATERIAL EQUIPMENT, TOOLS, ETC., AS REQUIRED TO COMPLETE INSTALLATION OF MECHANICAL SYSTEMS INDICATED ON DRAWINGS.
 - B. OBTAIN ALL PERMITS, INSPECTIONS, AND APPROVALS AS REQUIRED BY THE LOCAL AUTHORITIES HAVING JURISDICTION AND DELIVER CERTIFICATE OF APPROVAL TO THE GENERAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH PERMITS, INSPECTIONS, APPROVALS, ETC.
 - C. ALL MATERIALS AND EQUIPMENT OF THE HVAC SYSTEMS NECESSARY FOR THEIR PROPER OPERATION, BUT NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS, SHALL BE FURNISHED AND INSTALLED WITHOUT ADDITIONAL CHARGE.
 - D. THE MECHANICAL CONTRACTOR SHALL FULFILL ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SHALL COMPLETE ALL WORK SHOWN ON THE DRAWINGS AND AS INDICATED IN GENERAL NOTES. ALL SYSTEMS SHALL BE FINISHED AND PROVEN TO BE FULLY OPERATIONAL AND USEABLE.
 - E. ALL WORK SHALL BE IN ACCORDANCE WITH THE GOVERNING CODES, AS ADOPTED BY THE LOCAL AUTHORITIES HAVING JURISDICTION, AND SHALL COMPLY WITH ALL OSHA REQUIREMENTS.
- 1.2 THE CONTRACTOR SHALL GIVE NECESSARY NOTICE, FILE DRAWINGS AND SPECIFICATIONS WITH THE AUTHORITY 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 IT. 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.
 - 1.3 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, 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 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.
 - 1.4 PRIOR TO THE INSTALLATION OF ANY WORK AND PROCUREMENT OF EQUIPMENT PROVIDE COMPLETE SET OF COORDINATED SHOP DRAWINGS OF ALL NEW AND EXISTING EQUIPMENT, DUCTWORK, PIPING AND CONTROL SYSTEMS INDICATING CAPACITY DIMENSIONS AND SEQUENCE OF OPERATION FOR WRITTEN APPROVAL BY THE ARCHITECT AND ENGINEER.

2.0 SHEET METAL WORK:

- 2.1 EXCEPT AS OTHERWISE SHOWN OR NOTED, ALL SUPPLY AND RETURN AIR DUCTWORK AND OTHER SHEET METAL WORK SHALL BE GALVANIZED (G90) SHEET STEEL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC. DUCT CONSTRUCTION STANDARDS, PRESSURE CLASSIFICATION 2 IN. W.G.
- 2.2 VOLUME DAMPERS: GALVANIZED STEEL PER SMACNA "LOW VELOCITY MANUAL," EXCEPT PROVIDE BEARING AT ONE END OF DAMPER ROD AND QUADRANT, WITH LEVER AND LOCKSCREW AT OTHER END, FOR INSULATED DUCTS, QUADRANTS MOUNTED ON COLLAR TO CLEAR INSULATION, INSTALL WITH LEVERS ACCESSIBLE.
- 2.3 ACCESS DOORS: INSULATED OR UN-INSULATED, SAME AS DUCT.
 - 1) PROVIDE MINIMUM 20 IN. X 14 IN. ON MAIN DUCTS, AND 12 IN. X 6 IN. ON BRANCH DUCTS, UNLESS OTHERWISE APPROVED, AT FIRE DAMPERS, AND AT ALL DUCT ACCESSORIES SUCH AS HUMIDIFIERS, DUCT SMOKE DETECTORS, AUTO DAMPERS, AND LOUVERS.
 - 2) ALL ACCESS DOORS TO BE HINGED, WITH LATCH SIMILAR TO VENTLOCK NO. 100.
- 2.4 FLEXIBLE CONNECTIONS: NEOPRENE-COATED GLASS FABRIC, 30 OZ PER SQ. YD WITH SEWED AND CEMENTED SEAMS, SIMILAR TO VENT FABRICS, PROVIDE WITH METAL COLLARS, ALLOW MINIMUM MOVEMENT OF 1 IN.
- 2.5 TURNING VANES: GALVANIZED STEEL SMALL DOUBLE-THICKNESS VANES WITH 2 IN. INSIDE RADIUS.
- 2.6 FIRE DAMPERS: UL LISTED, GALVANIZED STEEL CONSTRUCTION, MULTI-BLADED TYPE, SPRING LOADED, EQUIPPED WITH FUSIBLE LINK, CONFORMING TO NFPA STANDARD 90A, SIMILAR TO AIR BALANCE MODEL 319-P, RATED AS REQUIRED. SEE INSTALLATION ON DRAWING.
- 2.7 ALL DUCT DIMENSIONS INDICATED ON PLANS ARE INSIDE CLEAR DIMENSIONS.
- 2.8 AUTOMATIC DAMPERS: COMPLETE WITH LINKAGE AND ELECTRIC OPERATOR, OPPOSED BLADE DAMPER OR GALVANIZED STEEL MIN. 4 IN., MAX. 8 IN. WIDE WITH COMPRESSIBLE EDGE SEALS TO PREVENT LEAKAGE. FACTORY-ASSEMBLE STEEL LINKAGE AND SHAFT WITH NYLON OR OIL-IMPREGNATED BRONZE BEARINGS. MOTOR WITH SUFFICIENT POWER TO LIMIT LEAKAGE TO 1 CFM PER SQ. FT. LINKAGE TO WITHSTAND LOAD EQUAL TO TWICE MAXIMUM OPERATING FORCE WITHOUT DEFLECTION. DAMPER MOUNTED IN WELDED STEEL CHANNEL FRAME.
- 2.9 ALUMINUM DUCTWORK: ALL OUTSIDE AIR, EXHAUST, AND RELIEF DUCTWORK WITHIN 5 FT OF LOUVERS SHALL BE ALUMINUM WITH SEAMS SEALED WATERTIGHT WITH ALCOA ALUMINASTIC TYPE C SEAM SEALER OR SOLDER. PITCH DUCTWORK TOWARDS LOUVER.
- 2.10 WIRE MESH SCREEN (WMS): NO. 16 USSG, 3/4 SQUARE MESH, IN 1 IN. WIDE GALVANIZED STEEL ENCLOSING FRAME, FLANGED DUCT OPENING TO RECEIVE FRAME.
- 2.11 FLEXIBLE DUCT SHALL BE COMMERCIAL GRADE, INSULATED WITH ACOUSTICAL VINYL VAPOR BARRIER (UL APPROVED), STRETCHED AND SUSPENDED IN ACCORDANCE WITH LOCAL CODE. MAXIMUM LENGTH SHALL BE SIX (6) FEET.
- 2.12 COMBINATION FIRE AND SMOKE DAMPERS: UL LISTED, GALVANIZED STEEL CONSTRUCTION MULTI-BLADED TYPE, EQUIPPED WITH FUSIBLE LINK CONFORMING TO NFPA STANDARD 90A, SIMILAR TO RUSKIN MODEL FSD 60.

3.0 KITCHEN HOOD EXHAUST DUCTS

- 3.1 GREASE DUCTS SERVING TYPE I HOODS SHALL BE CONSTRUCTED OF STEEL NOT LESS THAN 0.055 INCH (NO. 16 GAGE) IN THICKNESS OR STAINLESS STEEL NOT LESS THAN 0.044 INCH (NO. 18 GAGE) IN THICKNESS. JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD OR BRAZE MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM.

4.0 AIR OUTLETS:

- 4.1 GENERAL:
 - 1) MARGIN TYPES, COLORS, FINISH AND METHODS OF ATTACHMENT FOR ALL DIFFUSERS, GRILLES AND REGISTERS SHALL BE COORDINATED WITH ARCHITECTURAL CEILING AND WALL DETAILS AND SPECIFICATIONS.
 - 2) FRAME TYPE SUITABLE FOR MOUNTING IN CEILING OR WALL CONSTRUCTION AS INDICATED ON PLANS.
 - 3) EXACT LOCATION OF ALL AIR OUTLETS AS PER ARCHITECTURAL PLANS.
 - 4) SUITABLE FOR OPERATION AT 20% EXCESS AND 20% LESS THAN NOTED CAPACITY FOR CONSTANT VOLUME SYSTEMS AND AT 20% EXCESS AND 60% LESS THAN NOTED CAPACITY FOR VARIABLE VOLUME SYSTEMS. MANUFACTURER RESPONSIBLE FOR EXAMINING AN APPLICATION OF EACH OUTLET AND GUARANTEE THAT EACH WILL PROVIDE REQUIRED NC LEVELS AND COMFORT SPACE CONDITIONS WITHOUT DRAFTS THROUGHOUT OPERATING RANGE.
 - 5) ALL REGISTERS AND DIFFUSERS SHALL BE PROVIDED WITH OPPOSED BLADE VOLUME DAMPERS. DAMPER OPERATING LEVERS SHALL BE ACCESSIBLE AT THE FACE OF AIR OUTLETS.
- 4.2 DIFFUSERS: DIFFUSERS SHALL BE STEEL CONSTRUCTION PRE-FINISHED WHITE SIMILAR TO TITUS TYPE SUITABLE FOR THE TYPE OF CEILING. ALL CEILING DIFFUSERS SHALL BE PROVIDED WITH VOLUME DAMPER.
- 4.3 REGISTERS AND GRILLES:
 - 1) RETURN AND EXHAUST REGISTERS: STEEL CONSTRUCTION WITH VOLUME DAMPER AS PER MECHANICAL SCHEDULE.

5.0 TESTING AND BALANCING:

- 5.1 AIR BALANCING SHALL BE ACCOMPLISHED BY ADJUSTMENT OF FANS AND BRANCH DAMPERS FOR MAJOR ADJUSTMENTS. ADJUSTMENT OF TERMINAL DAMPERS AND DEVICES SHALL BE FOR TRIM OR MINOR ADJUSTMENT ONLY. THIS SHALL BE DONE TO PERMIT THE LEAST NOISE GENERATION IN THE TERMINAL AREAS AND UTILIZE MINIMUM FAN ENERGY.
- 5.2 UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL REBALANCE ANY EXISTING PORTIONS OF AIR DISTRIBUTION SYSTEM AFFECTED BY THE RENOVATION AND ALSO BALANCE ALL NEW WORK.
- 5.3 THE CONTRACTOR SHALL PROVIDE ALL LABOR, PRESSURE GAUGES, FLOW METERS, SHEAVES, AND BELTS REQUIRED TO BALANCE THE SYSTEMS.
- 5.4 BALANCING REPORT SHALL BE PROVIDED ON AA8C-TYPE FORMS.
- 5.5 FANS AND AIR HANDLING UNITS SHALL BE BALANCED TO WITHIN +5% OF THEIR DESIGN CAPACITIES. ALL OTHER AIR AND WATER QUANTITIES SHALL BE BALANCED TO WITHIN +10% OF THE DESIGN QUANTITIES.
- 5.6 BALANCING AND TESTING SHALL BE PERFORMED AND SUPERVISED BY AN INDEPENDENT FIRM SPECIALIZING IN TESTING AND BALANCING. THE CITY INSPECTOR SHALL RECEIVE A COPY OF THE CERTIFIED AIR BALANCE REPORT PRIOR TO THE ISSUE OF CERTIFICATE OF OCCUPANCY.
- 5.7 THE PERFORMANCE AND CAPACITY OF ALL SYSTEMS AND EQUIPMENT SHALL BE DEMONSTRATED BY THE CONTRACTOR.

6.0 INSULATION - GENERAL REQUIREMENTS:

- 6.1 ALL INSULATION MATERIALS, INCLUDING JACKETS, FACING, ADHESIVE COATINGS, AND ACCESSORIES ARE TO BE FIRE HAZARD RATED AND LISTED BY UNDERWRITERS LABORATORIES, INC. USING STEINER TUNNEL TEST METHOD FOR FIRE HAZARD CLASSIFICATION OF BUILDING MATERIALS, STANDARD UL 723 (ASTM E-84), (ASA A2.5-1963), FLAME SPREAD: MAXIMUM 25. FUEL CONTRIBUTED AND SMOKE DEVELOPED: MAXIMUM 50. FLAME PROOFING TREATMENTS SUBJECT TO DETERIORATION FROM MOISTURE OR HUMIDITY ARE NOT ACCEPTABLE.
- 6.2 DEFINITIONS:
 - 1) EXPOSED: INDOOR DUCTS, PIPING OR EQUIPMENT LOCATED IN MECHANICAL EQUIPMENT ROOMS AND IN AREAS WHICH WILL BE VISIBLE WITHOUT REMOVING CEILINGS OR OPENING ACCESS PANELS.
 - 2) CONCEALED: INDOOR DUCTS, PIPING OR EQUIPMENT, WHICH IS NOT EXPOSED.
 - 3) OUTDOOR: DUCTS, PIPING OR EQUIPMENT, WHICH IS EXPOSED TO THE WEATHER.

7.0 DUCTWORK INSULATION:

- 7.1 MATERIAL:
 - 1) FIBROUS-GLASS DUCT LINER: COMPLY WITH ASTM C1071, NFPA 90A, OR NFPA90B; AND WITH NFPA 414, FIBROUS GLASS DUCT LINER STANDARD;
 - 2) FLEXIBLE ELASTOMERIC DUCT LINER: PERFORMED, CELLULAR, CLOSED-CELL, SHEET MATERIALS COMPLYING WITH ASTM C534/C534M, TYPE II, GRADE1; AND WITH NFPA 90B, OR NFPA 90B.
 - 3) FIBROUS-GLASS-FREE, NATURAL-FIBER DUCT LINER: MADE FROM PARTIALLY RECYCLED COTTON OR POLYESTER PRODUCTS AND CONTAINING NO FIBERGLASS, AIRSTREAM SURFACE OVERLAP WITH FIRE-RESISTANT FACING TO PREVENT SURFACE EROSION BY AIRSTREAM, COMPLYING WITH NFPA 90A OR NFPA 90B. TREAT NATURAL-FIBER PRODUCTS WITH ANTI-MICROBIAL COATING.
 - 4) INSULATION PINS AND WASHERS: CUPPED-HEAD, CAPACITOR-DISCHARGE-WELD PINS; COPPER OR ZINC-COATED STEEL PIN, FULLY ANNEALED FOR CAPACITOR-DISCHARGE WELDING, [0.106-IN. (2.6-MM)] [0.135-INCH-(3.5-MM)] DIAMETER SHANK, LENGTH TO SUIT DEPTH OF INSULATION INDICATED WITH INTEGRAL 1-1/2-INCH (38-mm) GALVANIZED CARBON-STEEL WASHER.
 - 5) INSULATION-RETAINING WASHERS: SELF-LOCKING WASHERS FORMED FROM 0.018-INCH-(0.41MM-) THICK GALVANIZED STEEL WITH BEVELED EDGE SIZED AS REQUIRED TO HOLD INSULATION SECURELY IN PLACE, BUT NOT LESS THAN 1-1/2 INCHES (38 MM) IN DIAMETER.
- MINIMUM INSTALLED THERMAL RESISTANCE FOR THE INSULATION AS FOLLOWS:

UNCONDITIONED SPACES WITHIN BUILDING:	R-6
WITHIN BUILDING ENVELOPE ASSEMBLY:	R-8
OUTSIDE OF BUILDING:	R-8
- 7.2 GENERAL INSTALLATION:
 - 1) BEFORE APPLYING INSULATION AIR DUCTS SHALL BE CLEAN, DRY AND TIGHTLY SEALED AT ALL JOINTS AND SEAMS, AND ALL PRESSURE AND LEAK TESTS SHALL BE COMPLETED AND APPROVED.
 - 2) COMPLY WITH SMACNA'S HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE; FIGURE 7-11, "FLEXIBLE DUCT LINER INSTALLATION."
- 7.3 NOISE CONTROL:
 - 1) ALL ROOM NC LEVELS SHALL BE MAXIMUM NC-35.
 - 2) PROVIDE SOUND LINING FOR DUCTWORK 20FT OR GREATER FROM ALL FANS AND AC UNITS.
- 7.4 INSTALLATION:
 - 1) ADHERE A SINGLE LAYER OF INDICATED THICKNESS OF DUCT LINER WITH AT LEAST 90 PERCENT ADHESIVE COVERAGE AT LINER CONTACT SURFACE AREA. ATTAINING INDICATED THICKNESS WITH MULTIPLE LAYERS OF DUCT LINER IS PROHIBITED.
 - 2) APPLY ADHESIVE TO TRANSVERSE EDGES OF LINER FACING UPSTREAM THAT DO NOT RECEIVE METAL NOSING.
 - 3) BUTT TRANSVERSE JOINTS WITHOUT GAPS, AND COAT JOIN WITH ADHESIVE.
 - 4) FOLD AND COMPRESS LINER IN CORNERS OF RECTANGULAR DUCTS OR CUT AND FIT TO ENSURE BUTTED-EDGE OVERLAPPING.
 - 5) DO NOT APPLY LINER IN RECTANGULAR DUCTS WITH LONGITUDINAL JOINTS, EXCEPT AT CORNERS OF DUCTS, UNLESS DUCT SIZE AND DIMENSIONS OF STANDARD LINER MAKE LONGITUDINAL JOINTS NECESSARY.

- 6) SECURE LINER WITH MECHANICAL FASTENERS 4 INCHES (100MM) FROM CORNERS AND AT INTERVALS NOT EXCEEDING 12 INCHES (300 MM) TRANSVERSELY AT 3 INCHES (75 MM) FROM TRANSVERSE JOINTS AND AT INTERVALS NOT EXCEEDING 18 INCHES (450MM) LONGITUDINALLY.

- 7) SECURE TRANSVERSELY ORIENTED LINER EDGES FACING THE AIRSTREAM WITH METAL NOSING THAT HAVE EITHER CHANNEL OR "Z" PROFILES OR ARE INTEGRALLY FORMED FROM DUCT WALL. FABRICATE EDGE FACINGS AT THE FOLLOWING LOCATIONS:
 - A) FAN DISCHARGES.
 - B) INTERVALS OF LINED DUCT PRECEDING UNLINED DUCT.
 - C) UPSTREAM EDGES OF TRANSVERSE JOINTS IN DUCTS WHERE AIR VELOCITIES ARE HIGHER THAN 2500 FPM (12.7 M/S) OR WHERE INDICATED.

8.0 PIPING INSULATION:

- 8.1 MATERIAL: 1-1/2" ARMSTRONG ARMAFLEX INSULATION ON ALL REFRIGERANT LINES. PROVIDE WEATHER-TIGHT, UV PROTECTION.
- 8.2 INSTALLATION: DO NOT INSULATE REFRIGERANT LINES UNTIL ALL LEAK CHECKS AND ANY REQUIRED INSPECTION OF PIPING JOINTS HAS BEEN COMPLETED.

9.0 REFRIGERANT PIPING:

- 9.1 MATERIAL: FACTORY CLEANED AND CHARGED, ACR COPPER TUBING (TYPE L) WITH ENDS CAPPED TO PROTECT CLEANLINESS OF INTERIOR, CONFORMING TO ASTM B 280.
- 9.2 FITTINGS: WROUGHT-COPPER
- 9.3 JOINTS: BRAZED. BRAZING FILLER METALS: AWS A5.8, SUITABLE FOR ACR PIPING.
- 9.4 INSTALLATION:
 - 1) SUPPORT PIPING PER MSS STANDARD SP-69. PROVIDE ADDITIONAL SUPPORT AT ELBOWS AND FITTINGS.
 - 2) PROTECT INSULATION AT HANGER SUPPORTS WITH SHIELDS.

10.0 VIBRATION ISOLATION SYSTEMS:

- 10.1 GENERAL:
 - 1) PROVIDE ISOLATION FOR EQUIPMENT, PIPING AND DUCTWORK.
 - 2) INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - 3) PROVIDE LEVELING DEVICES AND APPROVED RESTRAINT RESTRAINING DEVICES AS REQUIRED TO LIMIT EQUIPMENT AND PIPING MOTION IN EXCESS OF 1/4 IN.
 - 4) ACCEPTABLE MANUFACTURERS:
 - MASON INDUSTRIES, INC.
 - VIBRATION ELIMINATOR CO.
 - KORFUND DYNAMICS CORP.

11.0 MOTORS:

- 11.1 MOTORS (UNDER HVAC WORK): IN ACCORDANCE WITH NEMA, IEEE AND ANSI C50 STANDARDS:
 - 1) PREMIUM EFFICIENCY UNLESS OTHERWISE NOTED.
 - 2) 1.15 SERVICE FACTOR.
 - 3) Squirrel cage induction, open drip proof type, 1750 RPM, NEMA TYPE B INSULATION CLASS, CONTINUOUS DUTY, EXCEPT AS NOTED.

12.0 MOTOR CONTROLLERS:

- 12.1 PROVIDED BY HVAC CONTRACTOR AND INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.
- 12.2 NEMA ENCLOSURE, WEATHERPROOF WHERE MOUNTED OUTDOORS.
- 12.3 WITH OVERLOAD PROTECTION. COORDINATE ALL MOTOR CONTROLLER TYPES AND SIZES WITH MOTOR TYPES AND SIZES.
- 12.4 1/3 HP AND SMALLER: PROVIDE MANUAL STARTER EXCEPT USE MAGNETIC TYPE WHERE AUTOMATICALLY CONTROLLED.
 - 1) MANUAL TYPE: 2-POLE TOGGLE SWITCH WITH OVERLOAD PROTECTION AND PILOT LIGHT.
- 12.5 1/2 HP AND LARGER: PROVIDE MAGNETIC STARTER:
 - 1) COMBINATION UNFUSED DISCONNECT SWITCH AND MAGNETIC STARTER EXCEPT AS NOTED.
 - 2) OVERLOAD PROTECTION IN EACH PHASE LEG WITH RESET IN ENCLOSURE.
 - 3) HOA SELECTOR SWITCH FOR AUTOMATICALLY OPERATED MOTORS. SAFETY CONTROLS COMMON TO BOTH CONTROLS.
 - 4) RED, GREEN AND AMBER PILOT LIGHTS.
 - 5) SWITCHES: HORSE-POWER-RATED, EXTERNAL PADLOCKING TYPE.
 - 6) HOLDING COILS: 10 WATT, 120 VOLT.
 - 7) CONTACTS: MAIN LINE AND MINIMUM (2) - NORMALLY OPEN, (2) - NORMALLY CLOSED 10 AMP AUXILIARIES. IN ADDITION TO CONTACTS REQUIRED FOR CONTROLS SPECIFIED.
 - 8) CONTROL TRANSFORMER: FOR MOTORS OVER 120 VOLTS, TO STEP DOWN CONTROL VOLTAGE TO 120 VOLTS; OF THE REQUIRED CAPACITY WITH FUSE AND GROUND CONNECTION ON VOLTAGE SIDE.
 - 9) FUSES: SIMILAR TO BUSSMAN.
 - 10) RELAYS: TO SUPPLEMENT AUXILIARY CONTACTS IN CONTROLLER, MINIMUM 10 WATT COIL AND TWO 10 AMP CONTACTS.
 - 11) TERMINALS: SUITABLE FOR CONDUCTORS NOTED AND AS APPROVED.
- 12.6 ACCEPTABLE MANUFACTURERS: CUTLER-HAMMER, SQUARE D, ALLEN BRADLEY.

13.0 EQUIPMENT:

- 13.1 PROVIDE AND INSTALL ALL EQUIPMENT AND ACCESSORIES OF THE SIZES AND CAPACITIES AS SCHEDULED AND AS INDICATED ON THE DRAWINGS AND IN ACCORDANCE WITH APPROVED SHOP DRAWINGS AND MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL MOTOR STARTERS AS REQUIRED; MOTOR STARTERS WILL BE INSTALLED BY THIS CONTRACTOR AND WIRED BY ELECTRICAL TRADE.
- 13.2 CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL REQUIRED CLEARANCES FOR SERVICING AND MAINTENANCE. COORDINATE REQUIREMENTS WITH ALL TRADES.

14.0 OPERATION AND MAINTENANCE MANUAL:

- 14.1 UPON COMPLETION OF THE CONSTRUCTION AND PRIOR TO ACCEPTANCE OF THE PROJECT BY THE OWNER, CONTRACTOR SHALL SUBMIT THREE SETS OF OPERATION AND MAINTENANCE MANUAL OF ALL EQUIPMENT TO THE OWNER.

THERMOSTATIC CONTROLS:

C403.2.4.1 THERMOSTATIC CONTROLS
 THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE, WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED. AT LEAST ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.
 EXCEPTION: INDEPENDENT PERIMETER SYSTEMS THAT ARE DESIGNED TO OFFSET ONLY BUILDING ENVELOPE HEAT LOSSES, GAINS OR BOTH SERVING ONE OR MORE PERIMETER ZONES ALSO SERVED BY AN INTERIOR SYSTEM PROVIDED:
 1. THE PERIMETER SYSTEM INCLUDES AT LEAST ONE THERMOSTATIC CONTROL ZONE FOR EACH BUILDING EXPOSURE HAVING EXTERIOR WALLS FACING ONLY ONE ORIENTATION (WITHIN +/-45 DEGREES) (0.8 RAD) FOR MORE THAN 50 CONTIGUOUS FEET (15.240 MM); AND
 2. THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

C403.2.4.1.1 HEAT PUMP SUPPLEMENTARY HEAT
 HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTARY HEAT OPERATION WHERE THE HEAT PUMP CAN PROVIDE THE HEATING LOAD.

C403.2.4.1.2 DEADBAND
 WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.
 EXCEPTIONS:
 1. THERMOSTATS REQUIRING MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
 2. OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C403.2.4.1.3 SETPOINT OVERLAP RESTRICTION
 WHERE A ZONE HAS A SEPARATE HEATING AND A SEPARATE COOLING THERMOSTATIC CONTROL LOCATED WITHIN THE ZONE, A LIMIT SWITCH, MECHANICAL STOP OR DIRECT DIGITAL CONTROL SYSTEM WITH SOFTWARE PROGRAMMING SHALL BE PROVIDED WITH THE CAPABILITY TO PREVENT THE HEATING SET POINT FROM EXCEEDING THE COOLING SET POINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.2.4.1.2.

C403.2.4.2 OFF-HOUR CONTROLS
 EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY EITHER AN AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROL SYSTEM.
 EXCEPTIONS:
 1. ZONES THAT WILL BE OPERATED CONTINUOUSLY.
 2. ZONES WITH A FULL HVAC LOAD DEMAND NOT EXCEEDING 6,800 BTU/H (2 KW) AND HAVING A READILY ACCESSIBLE MANUAL SHUTOFF SWITCH.

C403.2.4.2.1 THERMOSTATIC SETBACK CAPABILITIES
 THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY 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).

C403.2.4.2.2 AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES
 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 AT LEAST 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CAPABLE OF BEING ADJUSTED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

C403.2.4.2.3 AUTOMATIC START CAPABILITIES
 AUTOMATIC START CONTROLS SHALL BE PROVIDED FOR EACH HVAC SYSTEM. THE CONTROLS SHALL BE CAPABLE OF AUTOMATICALLY ADJUSTING THE DAILY START TIME OF THE HVAC SYSTEM IN ORDER TO BRING EACH SPACE TO THE DESIRED OCCUPIED TEMPERATURE IMMEDIATELY PRIOR TO SCHEDULED OCCUPANCY.

DEL TACO #1630 TENANT IMPROVEMENTS

MECHANICAL SPECIFICATIONS

<p>CLIENT CHANGES 06/16/25</p>
<p>MAY 12, 2025</p>
<p>M002</p>

EXISTING ROOFTOP UNIT SCHEDULE

GENERAL					FAN					COOLING COIL					GAS HEATING					WEIGHT (LBS)	NOTES				
MARK	MANUFACTURER & MODEL NO.	TONS	SEER/EER	OCCUPIED MIN OSA CFM	CFM	DRIVE	E.S.P.	FAN RPM	BHP	ELECTRICAL VOLTS/PH/Hz	MCA	MOCP	AMB.	EAT DB/WB	SENS. CAP. MBH	TOT. CAP. MBH	AMB.	EAT	LAT			FUEL TYPE	EFF.	INPUT MBH	OUTPUT MBH
RTU-1(E)	YORK ZJ090N15 (V.I.F)	7.5(V.I.F)	S.A.E	800	3000(V.I.F)	DIRECT	S.A.E	S.A.E	S.A.E	208-230/3/60(V.I.F)	43.4(V.I.F)	50(V.I.F)	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	S.A.E	S.A.E	S.A.E	1 TO 8
RTU-2(E)	YORK ZJ120N20 (V.I.F)	10.0(V.I.F)	S.A.E	1100	4000(V.I.F)	DIRECT	S.A.E	S.A.E	S.A.E	208-230/3/60(V.I.F)	52.6(V.I.F)	60(V.I.F)	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	S.A.E	S.A.E	S.A.E	1 TO 8
RTU-3(E)	YORK ZJ120N15 (V.I.F)	10.0(V.I.F)	S.A.E	1100	4000(V.I.F)	DIRECT	S.A.E	S.A.E	S.A.E	208-230/3/60(V.I.F)	54.2(V.I.F)	70(V.I.F)	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	S.A.E	S.A.E	S.A.E	1 TO 8

NOTES FOR EXISTING ROOFTOP UNITS:

- S.A.E - SAME AS EXISTING.
- V.I.F- VERIFY IN FIELD.
- EXISTING RTU WITH ALL ACCESSORIES TO REMAIN SAME AND TO BE REUSED.
- CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CONFIGURATION OF RTU ON SITE.
- PROVIDE NEW TEMPERATURE SENSOR COMPATIBLE WITH EXISTING RTU IF REQUIRED. WIRE BACK TO EXISTING THERMOSTAT PROVIDED BY LL.
- CONTRACTOR TO REBALANCE OUTSIDE AIR & RETURN AIR DAMPERS ON EXISTING RTU TO MATCH VALUES MENTIONED IN THE AIR BALANCE TABLE.
- PROVIDE THROW AWAY Z FILTER(MERV-8). CONTRACTOR TO VERIFY THE UNIT IS HAVING MERV-8 FILTER. IF FOUND DAMAGED, REPLACE WITH MERV-8 FILTER.
- CONTRACTOR SHALL VERIFY EXACT ELECTRICAL CONNECTION WIRE SIZES, BREAKER, DISCONNECT ETC. AS PER RTU PROVIDED BY LL & COORDINATE WITH ELECTRICAL CONTRACTOR.

FAN SCHEDULE

MARK	MANUFACTURER & MODEL NO.	LOCATION	CFM/PPM	DRIVE	E.S.P.	FAN RPM	HP	FLA	ELECTRICAL VOLTS/PH/Hz	SONES (MAX)	APPROX. WT. (LBS)	NOTES:
EF-1(N)	CAPTIVEAIRE DU50HFA	ROOF	900	DIRECT	1.20	1528	0.5	6.3	115/1Ø/60	16.2	112	3, 4, 5, 6, 8, 9, 10, 11
EF-2(N)	CAPTIVEAIRE DU85HFA	ROOF	1700	DIRECT	1.25	1391	0.75	8.9	115/1Ø/60	12.1	126	3, 4, 5, 6, 8, 9, 10, 11
EF-3(E)	CAPTIVEAIRE DR10HFA(V.I.F)	ROOF	300(V.I.F)	DIRECT	S.A.E	S.A.E	S.A.E	SAE	115/1Ø/60(V.I.F)	S.A.E	S.A.E	1, 2, 7, 12, 13
FF-1(N)	READY ACCESS AA-100	D/T WINDOW	-	DIRECT	-	-	1 @ 1/4	4	120/1Ø/60	-	-	A
FF-2(E)	S.A.E	DELIVERY ENTRY	-	S.A.E	-	-	S.A.E	S.A.E	S.A.E	-	-	12, B

NOTES FOR EXHAUST FANS:

- GRAVITY OPERATED BACKDRAFT DAMPER.
- EXHAUST FAN SHALL RUN CONTINUOUSLY WHILE BUILDING IS IN OCCUPIED MODE. INTERLOCK FAN OPERATION WITH RTU-2(E).
- SUPPLIED BY CAPTIVEAIRE. INSTALLED BY CONTRACTOR. REFER TO HOOD DRAWINGS FOR ADDITIONAL DETAILS.
- FAN SHALL SET LEVEL AND BE SECURELY FASTENED TO ROOF CURB.
- PROVIDE UNIT MOUNTED DISCONNECT SWITCH (NEMA 3R).
- EF-1(N) AND EF-2(N) SHALL BE ELECTRONICALLY INTERLOCKED WITH BOTH ROOFTOP UNITS RTU-1(E) & RTU-2(E).
- EXISTING FAN WITH ALL ASSOCIATED ACCESSORIES TO REMAIN AS IS.
- PROVIDE FAN WITH FACTORY ROOF CURB, CURB CAP, HINGE KIT, VENTED EXTENSION, AND GREASE TRAP.
- PROVIDE FAN WITH FACTORY PROTECTIVE COATING FOR CORROSION RESISTANCE.
- FAN SHALL BE U.L. RATED FOR HIGH TEMP EXHAUST.
- DISCHARGE OF FAN OUTLET SHALL BE ABOVE PARAPET WALL.
- V.I.F- VERIFY IN FIELD, S.A.E- SAME AS EXISTING.
- CONTRACTOR TO VERIFY THAT THE FAN IS WORKING AT ITS 100% RATED CAPACITY. CONTACT ENGINEER OF RECORD IN CASE OF ANY DISCREPANCY.

NOTES FOR FLY FANS:

- PROVIDED WITH DRIVE THRU. PROVIDE ACCESSORIES AS REQUIRED FOR FAN MOUNTING.
- EXISTING FLY FAN AT DELIVERY ENTRY DOOR TO REMAIN AS IS WITH ASSOCIATED ACCESSORIES.

VENTILATION SCHEDULE

ROOM NAME	AREA (SQ.FT)	NO. OF PEOPLE 1000 SQ.FT AS PER IMC 2018	NO. OF PEOPLE AS PER IMC 2018	NO. OF CHAIR	FINAL PEOPLE NO.	OUTSIDE AIR AS PER IMC 2018 CFM/PEOPLE	REQ. OA CFM	PROVIDED OA CFM	EXHAUST AIRFLOW RATE (CFM/SQ.FT OR CFM/FIX.)	TOTAL EXHAUST REQUIRED CFM	PROVIDED EXHAUST CFM	
DINING	1137	70	80	76	76	7.5	0.18	775	0	0	0	
KITCHEN & SERVICE AREA	764	20	16	0	16	7.5	0.12	212	0.7	535	2600	
OFFICE	49	5	1	1	1	5	0.06	8	0	0	0	
WOMEN REST ROOM	107	0	0	0	0	0	0	0	50	100	150	
MEN REST ROOM	87	0	0	0	0	0	0	0	50	100	150	
REST ROOM VESTIBULE	69	0	0	0	0	0	0.06	4	0	0	0	
TOTAL								999	3000	-	TOTAL	2900

HOOD SCHEDULE

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)					HOOD WEIGHT (LBS)	HOOD CONSTRUCTION		
						WIDTH	LENG	HEIGHT	DIA	CFM			VEL	SP
1	HOOD-1(N)	5424 ND-2	CAPTIVEAIRE	3'-9"	900	-	-	4"	10"	900	1650	-0.551"	554	430 S.S. WHERE EXPOSED
2	HOOD-2(N)	5424 ND-2	CAPTIVEAIRE	8'-6"	1700	-	-	4"	14"	1700	1590	-0.621"	394	430 S.S. WHERE EXPOSED

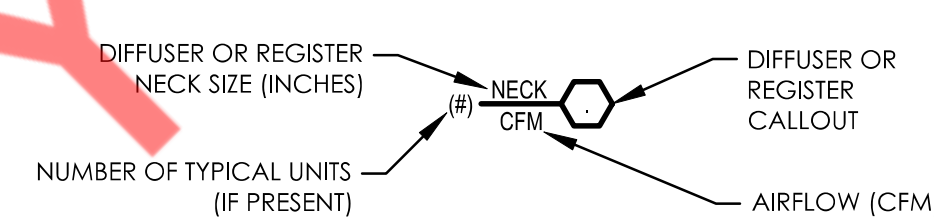
AIR DEVICE SCHEDULE

MARK	MFR	TYPE	MODEL	MOUNTING TYPE	SIZE		NOTES
					FACE	NECK	
A	TITUS	SUPPLY	PA5-AA	LAY-IN	24x24	SEE PLAN	ALUMINUM, VERTICAL LAMINAR FLOW CONFIGURATION
B	TITUS	SUPPLY	TMS-AA	SURFACE	12x12	SEE PLAN	ALUMINUM
C	TITUS	SUPPLY	300FL	SURFACE	20x14	18x12	ALUMINUM, PROVIDE WITH O.B.D.
D	TITUS	RETURN	350RL	LAY-IN	24x24	SEE PLAN	ALUMINUM
E	TITUS	EXHAUST	350RL-AG16	SURFACE	12x12	SEE PLAN	ALUMINUM, PROVIDE WITH O.B.D.
F	TITUS	SUPPLY	TMRA	SURFACE	18Ø	SEE PLAN	ALUMINUM

NOTES:

- IN ACCESSIBLE CEILING PROVIDE VOLUME CONTROL ABOVE CEILING. OTHERWISE INCLUDE IT WITH THE DEVICE.
- PROVIDE ALL SUPPLY AIR DEVICES WITH BALANCING DAMPERS.
- COORDINATE PAINT COLOR AND FINISH WITH OWNER PRIOR TO PURCHASE AND INSTALLATION.
- PROVIDE MOUNTING FRAMES FOR ALL AIR DEVICES MOUNTED IN GYPBOARD CEILINGS.
- PROVIDE INSULATION FOR BACK OF DIFFUSERS IN UNCONDITIONED SPACES.

AIR DEVICE CALLOUT TAG



SEQUENCE OF OPERATIONS

EACH ZONE SHALL BE PROVIDED WITH 7-DAY PROGRAMMABLE THERMOSTATS. CONTROLS SHALL BE CAPABLE OF OCCUPIED/UNOCCUPIED HEATING AND COOLING CONTROL WITH THERMOSTATIC SETBACK CONTROLS AS FOLLOWS:

- 12 AM (LOCKED): KITCHEN UNITS (RTU-1&2) ARE SET TO OCCUPIED MODE (FAN MODE SET TO CIRCULATE, WITH CIRCULATE SETTING TO CONTINUOUS) WITH COOLING/HEATING TEMPERATURE SETPOINTS OF 76F DB, 50% RH / 67F DB.
 - 5 AM (LOCKED): KITCHEN UNITS (RTU-1&2) ARE SET TO OCCUPIED MODE WITH COOLING/HEATING TEMPERATURE SETPOINTS OF 75F DB, 50% RH / 68F DB.
 - 6 AM (LOCKED): KITCHEN UNITS (RTU-1&2) ARE SET TO OCCUPIED MODE WITH COOLING/HEATING TEMPERATURE SETPOINTS OF 73F DB, 50% RH / 68F DB.
 - 11 PM (LOCKED): KITCHEN UNITS (RTU-1&2) ARE SET TO OCCUPIED MODE WITH COOLING/HEATING TEMPERATURE SETPOINTS OF 76F DB, 50% RH / 67F DB.
- DEADBAND: 5°F
SECURITY TEMPERATURE ADJUSTMENT RANGE: +3°F

CONTROLS SHALL MAINTAIN PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER PERIOD OF 2 DAYS MINIMUM AND HAVE THE ABILITY TO DOWNLOAD THE CORRECT TIME FROM THE INTERNET IF LONGER THAN 2 DAYS. BOTH OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEMS OR SPACES SERVED ARE NOT IN USE. A CAT5E CABLE WITH STANDARD TERMINATION SHALL BE RUN TO EACH THERMOSTAT LOCATION FOR CONNECTION TO THE ETHERNET ROUTER.

SMOKE ALARM MODE
UNIT WILL SHUT DOWN PER 2018 IMC - AND ACTIVATE AUDIO-VISUAL ALARM UPON ACTIVATION OF SMOKE ALARM. PROVIDE A LABEL INDICATING "AIR DETECTOR TROUBLE, RTU-X". IF FIRE ALARM SYSTEM IS REQUIRED, DUCT SMOKE DETECTORS SHALL BE CONNECTED TO THE FIRE ALARM SYSTEM.

ECONOMIZER

SEE SCHEDULE FOR ADDITIONAL REQUIREMENTS

ECONOMIZER WILL UTILIZE FIXED SENSIBLE TEMPERATURE CONTROL WITH A SENSOR HIGH LIMIT SETPOINT OF 10A-75 F (ADJUSTABLE BY LOCATION).

MINIMUM OUTSIDE AIR DAMPER SETPOINT REQUIREMENT PER ENERGY CODE AS INDICATED IN EQUIPMENT SCHEDULE.

SEQUENCE OF OPERATIONS - KITCHEN VENTILATION SYSTEM

EXHAUST FANS SERVING COOKLINE (EF-1(N), EF-2(N)) SHALL BE MANUALLY ACTIVATED AT 8 AM (ADJUSTABLE) BY MANUAL SWITCH AT THE UTILITY CABINET LOCATED AT THE HOOD (DURING OCCUPIED HOURS). ADDITIONALLY, THE EXHAUST FAN SHALL ACTIVATE AUTOMATICALLY WHEN COOKING OPERATIONS OCCUR THROUGH INTERLOCK WITH TEMPERATURE (HEAT) SENSORS LOCATED AT THE HOOD. TEMPERATURE SET-POINT ON THE ACTIVATION OF EXHAUST FAN IS 90°F (ADJUSTABLE, WITH HIGH-LIMIT OF 100°F). EXHAUST FANS SERVING COOKLINE (EF-1(N), EF-2(N)) SHALL BE MANUALLY DEACTIVATED BY MANUAL SWITCH AT THE UTILITY CABINET LOCATED AT THE HOOD, AT END OF DAY WHEN COOKLINE EQUIPMENT IS SHUT DOWN (DURING UNOCCUPIED HOURS).

THE ACTIVATION OF THE FIRE EXTINGUISHING SYSTEM SERVING THE HOOD SHALL AUTOMATICALLY SHUT DOWN THE FUEL AND/OR ELECTRICAL POWER SUPPLY TO THE COOKING EQUIPMENT AND KITCHEN DISPLAY EQUIPMENT UNDER HOOD THROUGH THE PANEL LOCATED AT THE HOOD. THE FUEL AND ELECTRICAL SUPPLY RESET SHALL BE MANUAL. THE HOOD SUPPRESSION SYSTEM SHALL BE MONITORED BY THE BUILDING FIRE ALARM SYSTEM.

IN ADDITION, ACTIVATION OF THE FIRE EXTINGUISHING SYSTEM WILL AUTOMATICALLY SHUT DOWN RTU-1(E), RTU-2(E), AND EF-3(E) THROUGH INTERLOCK WITH AUXILIARY SHUT DOWN CIRCUIT AT RTU, AND INITIATE EF-1(N) AND EF-2(N).

NOTE:
ALL INTERLOCK WIRING BETWEEN THE RTU UNITS AND THE CAPTIVEAIRE CONTROLS ARE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR (MECHANICAL/CONTROLS CONTRACTOR OR AS REQUIRED BY GENERAL CONTRACTOR).

KITCHEN EQUIPMENT LOADS NOTE

HEAT LOADS FROM KITCHEN EQUIPMENT PRODUCING HEAT AND NOT GREASE OR SMOKE ARE INCORPORATED INTO THE HVAC SYSTEM DESIGN PER SECTION 507.3 OF THE 2018 INTERNATIONAL MECHANICAL CODE.

AIR BALANCE TABLE

EQUIPMENT TAG NO.	SUPPLY CFM	RETURN CFM	OUTSIDE REQ. CFM	EXHAUST AIR CFM	BALANCE CFM	PRESSURIZATION
RTU-1(E)	3000	2200	800	0	+100	POSITIVE
RTU-2(E)	4000	2900	1100	0		
RTU-3(E)	4000	2900	1100	0		
EF-1(N)	0	0	0	-900		
EF-2(N)	0	0	0	-1700		
EF-3(E)	0	0	0	-300		
BUILDING GRAND TOTALS:			3000	-2900		

NOTES:
1. CONTRACTOR TO MODULATE THE FRESH AIR TAP TO BALANCE THE OUTSIDE AIR CFM AS SHOWN IN ABOVE TABLE.

DEL TACO #1630 TENANT IMPROVEMENTS

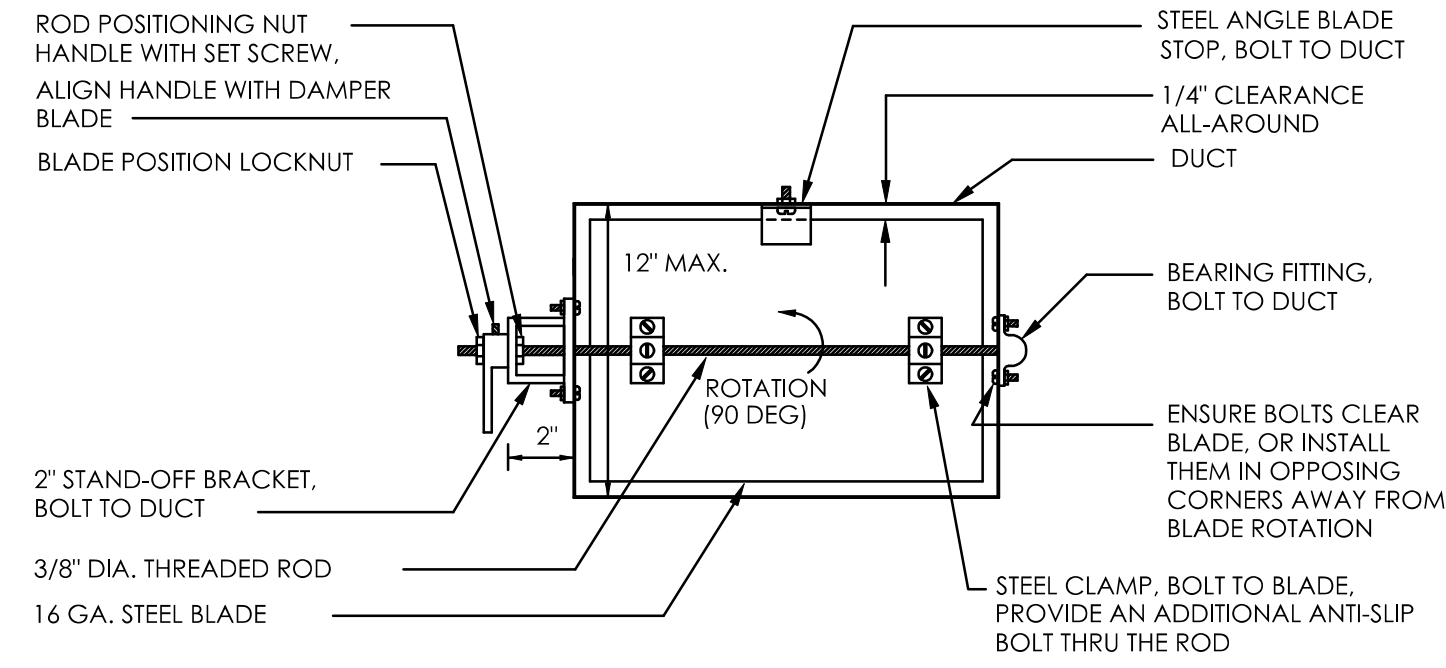
MECHANICAL SCHEDULES

MAY 12, 2025

CLIENT CHANGES 06/16/25

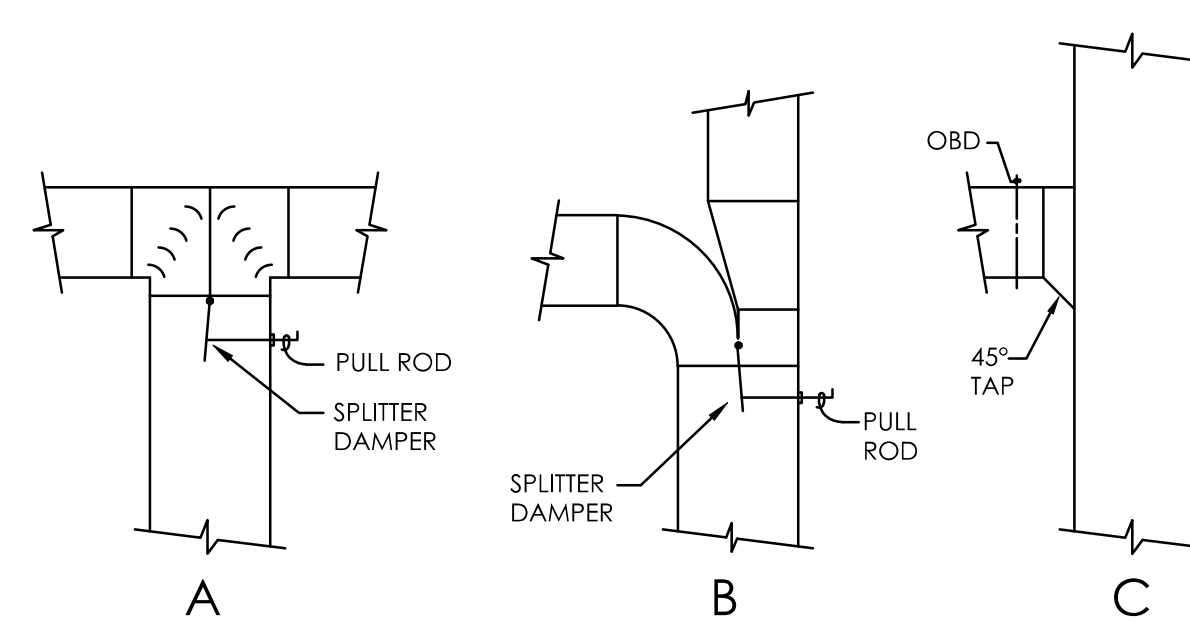
M003

- NOTES:
- 16 GA (0.054" THICK) WELDED BLACK IRON GREASE EXHAUST DUCT WITH DUCT WRAP (SEE DETAIL 05 FOR SPECIFICATION) (1-HR CLEARANCE TO COMBUSTIBLE)
 - PROVIDE DUCT WRAP AT ALL EXPOSED DUCTING (OUTSIDE OF ENCLOSURE) AND WITHIN 18" OF COMBUSTIBLES
 - SUPPORT DUCTING AT REGULAR INTERVALS PER ICC REPORT AND CODE REQUIREMENTS.
 - PROTECT ALL DUCTING WITH GAURDS AS NECESSARY TO PROVIDE PROTECTION
 - A CLEARANCE OF AT LEAST 6 INCHES AND NOT MORE THAN 18 INCHES SHALL BE MAINTAINED BETWEEN DUCT AND ENCLOSURE.
 - REFER TO SECTION VIEW - HOOD #1 AND HOOD #2 ON KITCHEN HOOD DRAWINGS.
 - A SIGN SHALL BE ON EACH ACCESS PANEL STATING THE FOLLOWING: ACCESS PANEL-DO NOT OBSTRUCT.



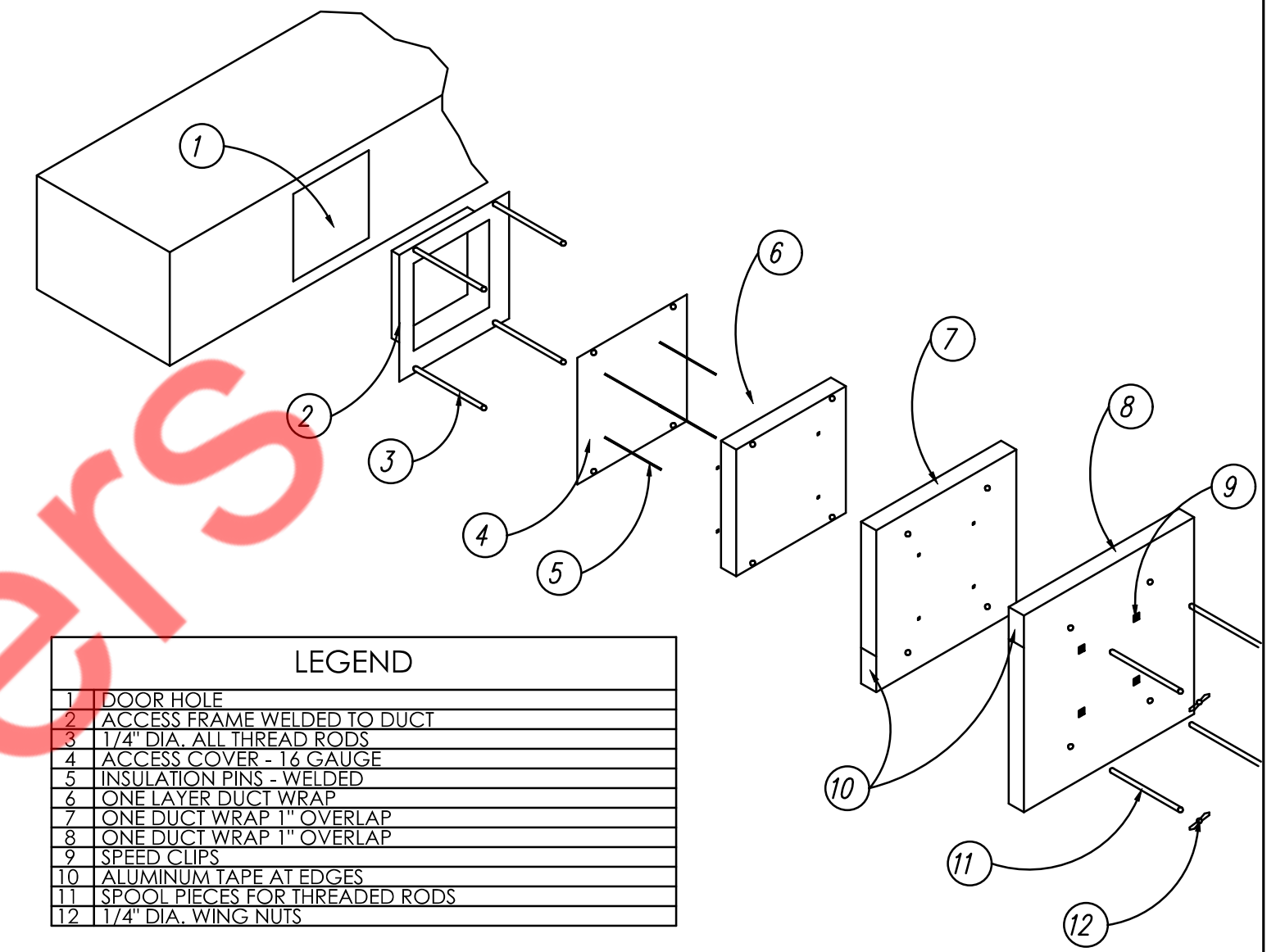
- NOTES:
- DAMPERS FOR ROUND DUCTS SHALL BE SIMILAR TO THE DAMPER SHOWN ABOVE.
 - ENSURE THAT FULL 90° DAMPER BLADE MOVEMENT IS UNOBSTRUCTED.
 - FOR DUCT HEIGHTS MORE THAN 12', PROVIDE FACTORY-FABRICATED OPPOSED BLADE DAMPERS
 - DAMPER SHALL BE ADJUSTABLE SINGLE BLADE BALANCING TYPE

09 MANUAL VOLUME DAMPER DETAIL
NO SCALE



NOTE: USE THESE METHODS U.N.O.

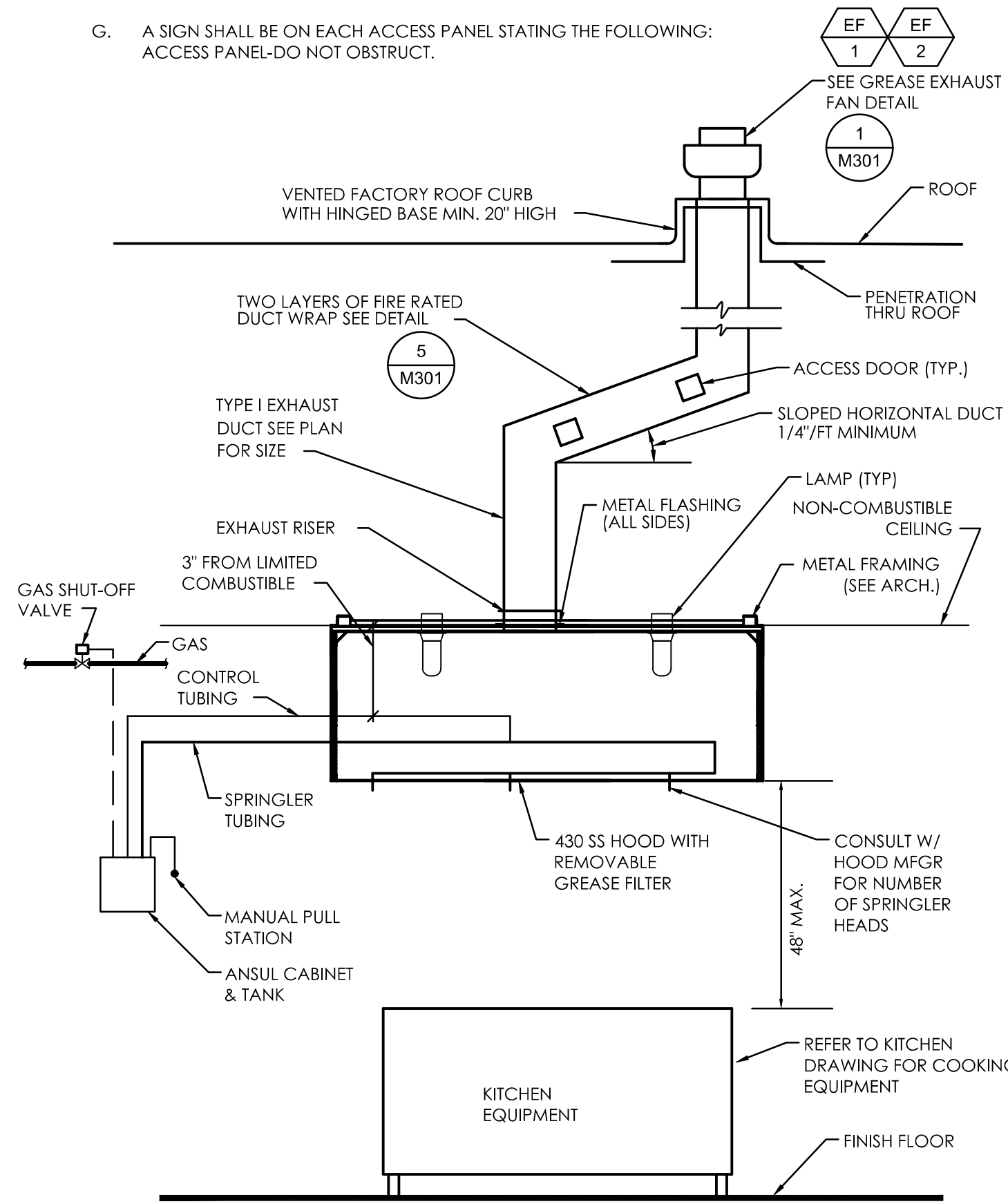
06 TYPICAL DUCT DETAILS
NO SCALE



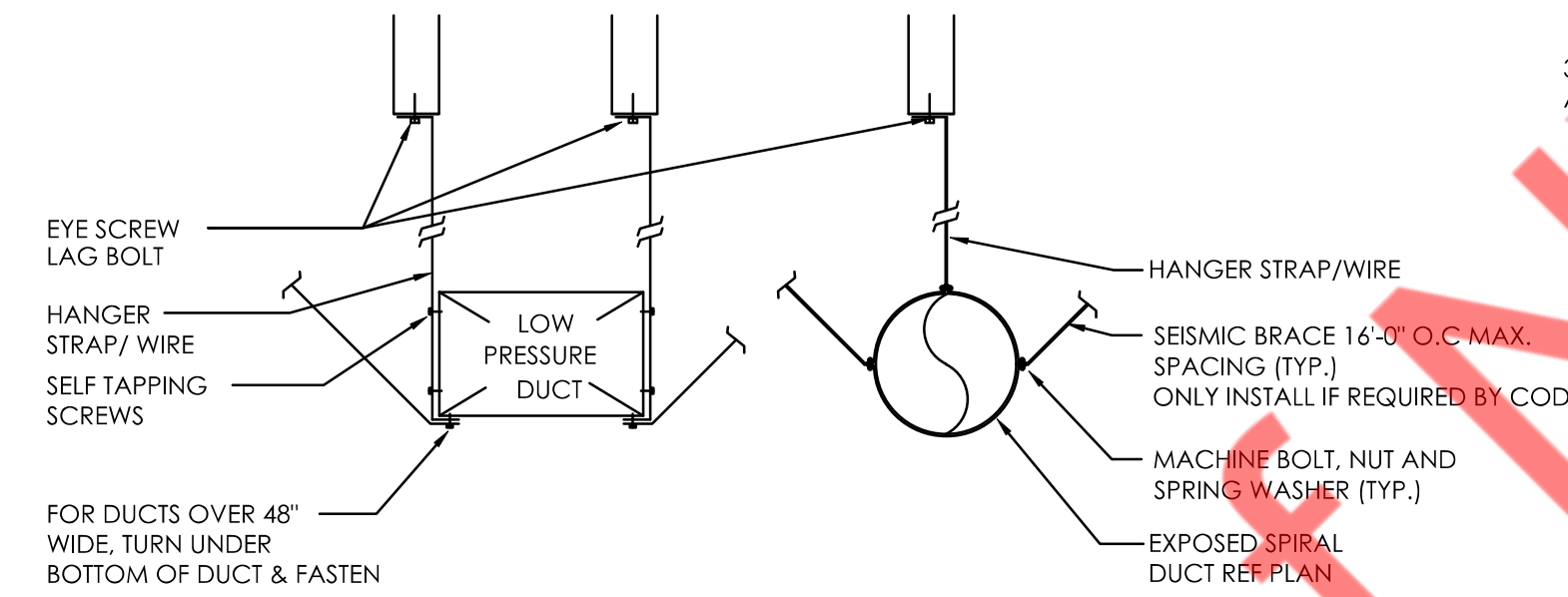
- LEGEND
- DOOR HOLE
 - ACCESS FRAME WELDED TO DUCT
 - 1 1/4" DIA. ALL-THREAD RODS
 - ACCESS COVER - 16 GAUGE
 - INSULATION PINS - WELDED
 - ONE LAYER DUCT WRAP
 - ONE DUCT WRAP 1" OVERLAP
 - ONE DUCT WRAP 1" OVERLAP
 - SPEED CLIPS
 - ALUMINUM TAPE AT EDGES
 - SPOOL PIECES FOR THREADED RODS
 - 1 1/4" DIA. WING NUTS

ACCESS DOORS TO BE LOCATED AT 10'-0" MAX. APART AND AT EACH CHANGE IN DIRECTION IN BOTH HORIZONTAL AND VERTICAL DUCT RUNS.

03 GREASE DUCT CLEANOUT DETAIL
NO SCALE

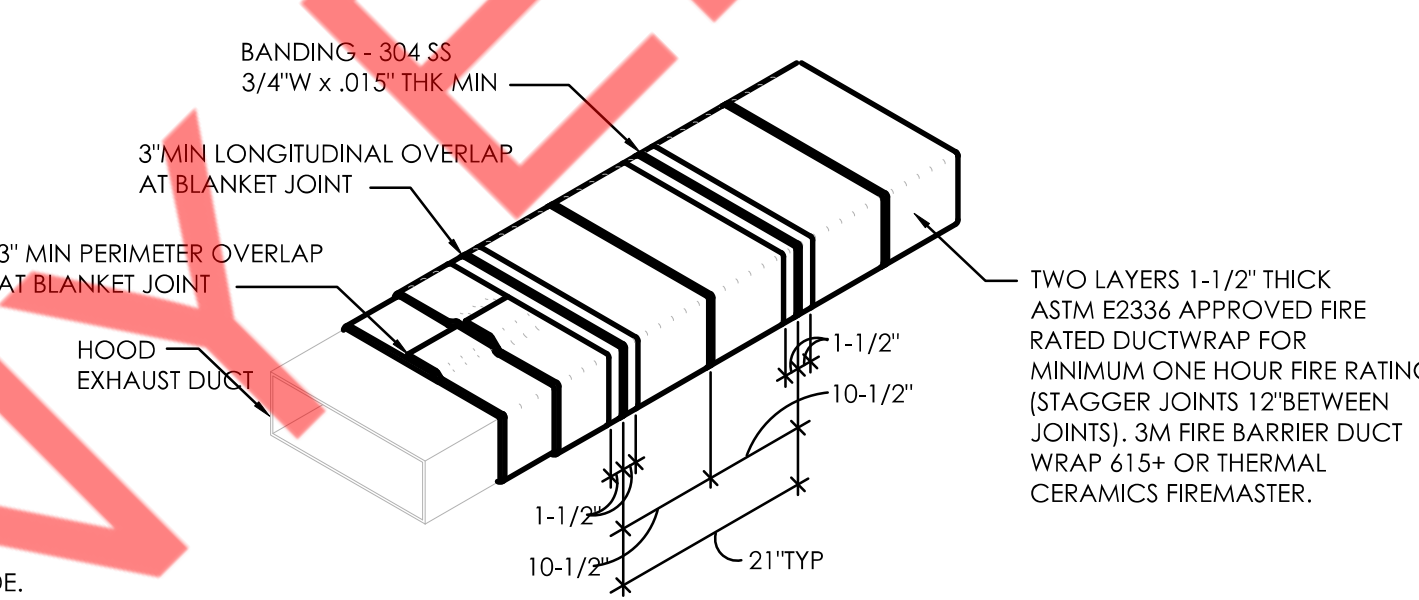


10 TYPE I KITCHEN HOOD SECTION
NO SCALE



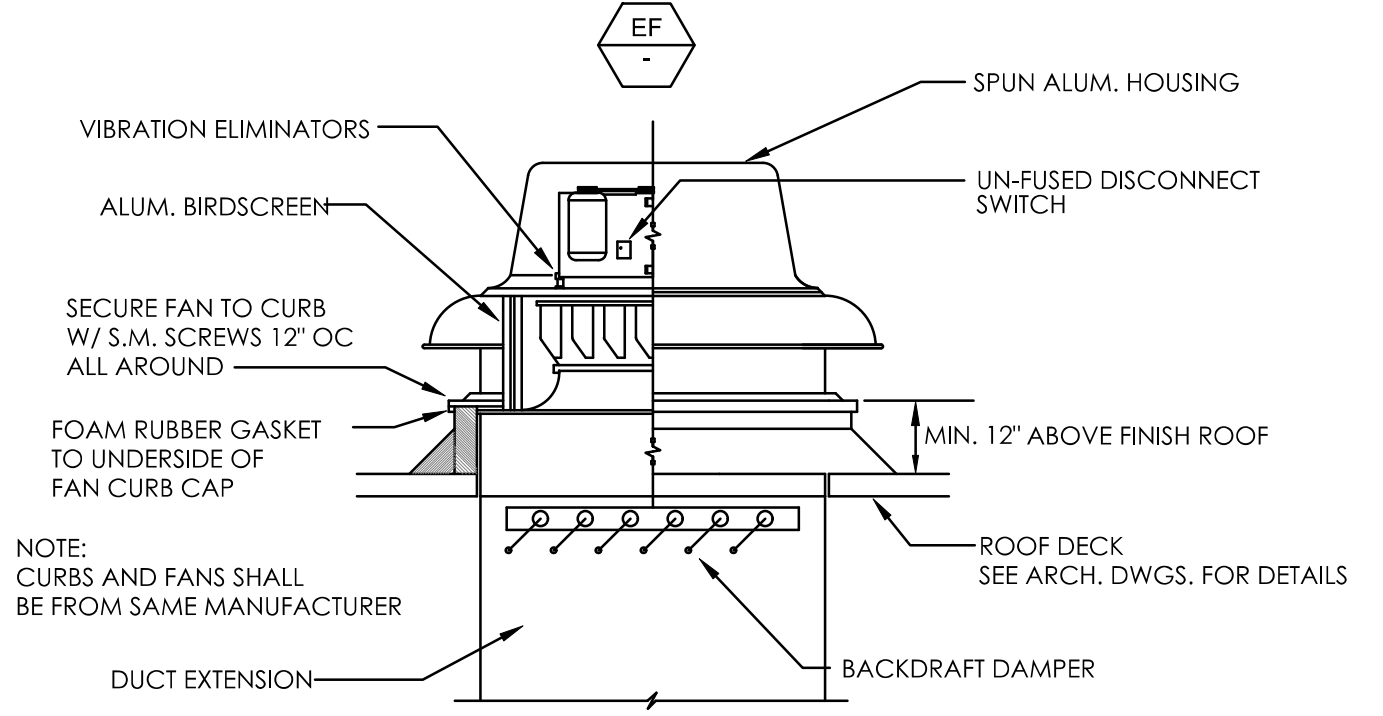
DUCT SIZE	HANGER SIZE	MAX. SPACING
UP THRU 2 SQ.FT.	1" x 1/16"	8'-0"
2 THRU 4 SQ.FT.	1" x 1/8"	8'-0"
4 THRU 10 SQ.FT.	1" x 1/8"	8'-0"

08 DUCT SUPPORT DETAIL
NO SCALE

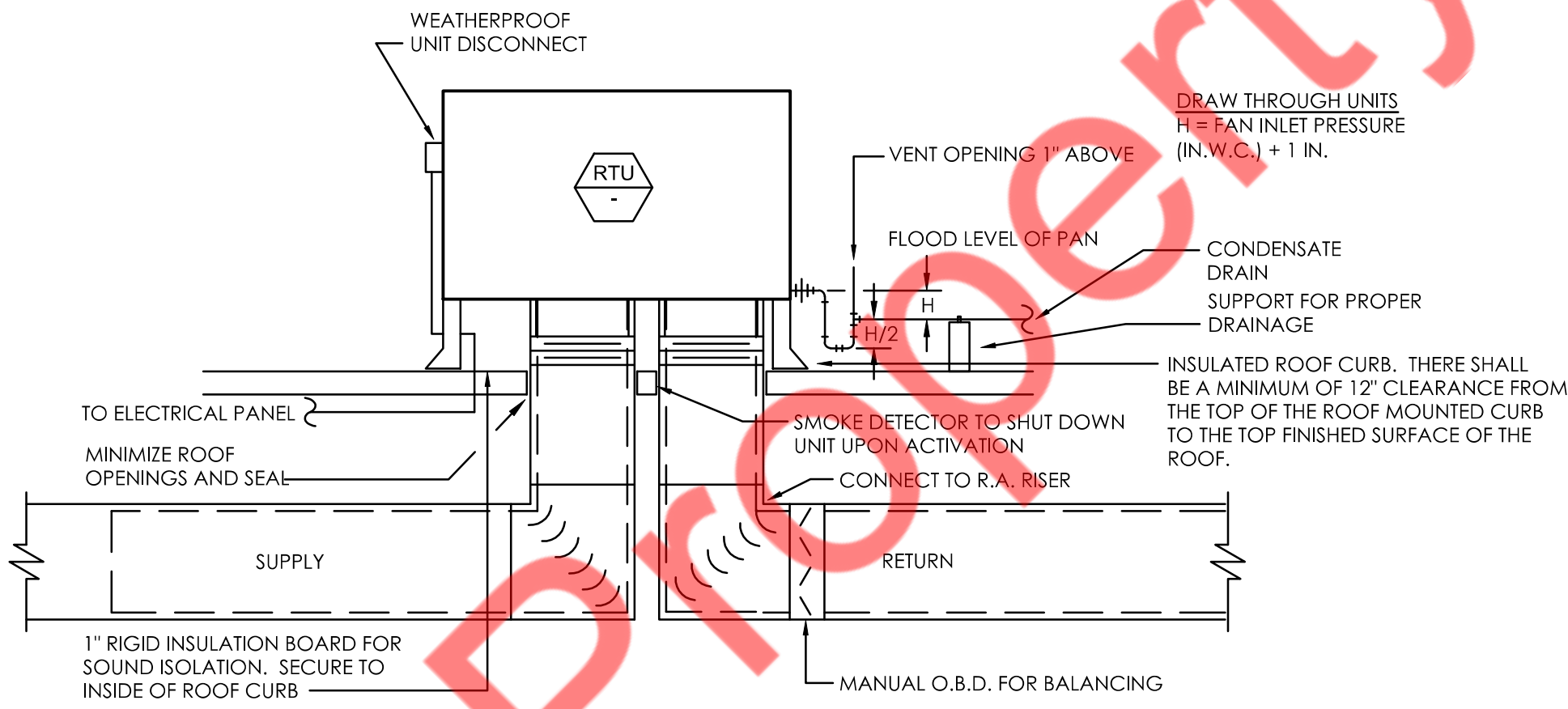


- NOTE:
- WRAP SUPPORT HANGER SYSTEM INDEPENDENTLY WITH SAME THICKNESS FOR EXTERNAL FIRE THREAT CONDITIONS.
 - WRAP GREASE DUCT CONTINUOUS AS SHOWN BELOW FOR ENTIRE LENGTH FROM KITCHEN HOOD CONNECTION TO EXHAUST FAN ON ROOF.
 - BANDING REQUIREMENTS: USE 304 STAINLESS STEEL FOR MIN. ONE HOUR RATING

05 KITCHEN EXHAUST DUCT SYSTEM
NO SCALE

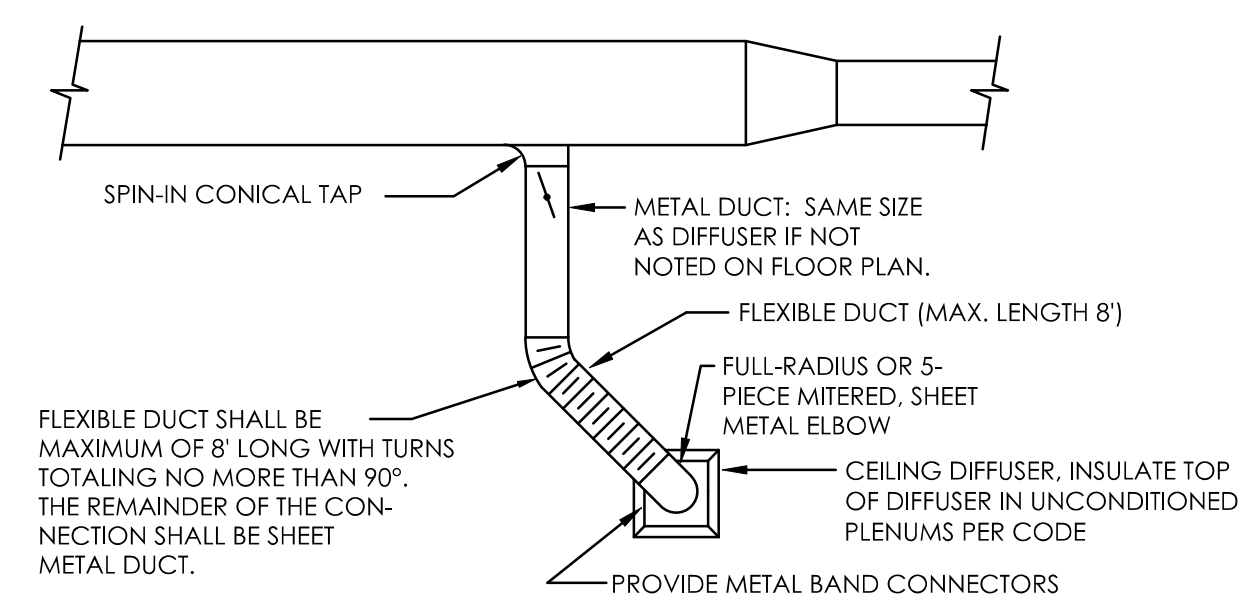


02 EXHAUST FAN DETAIL
NO SCALE



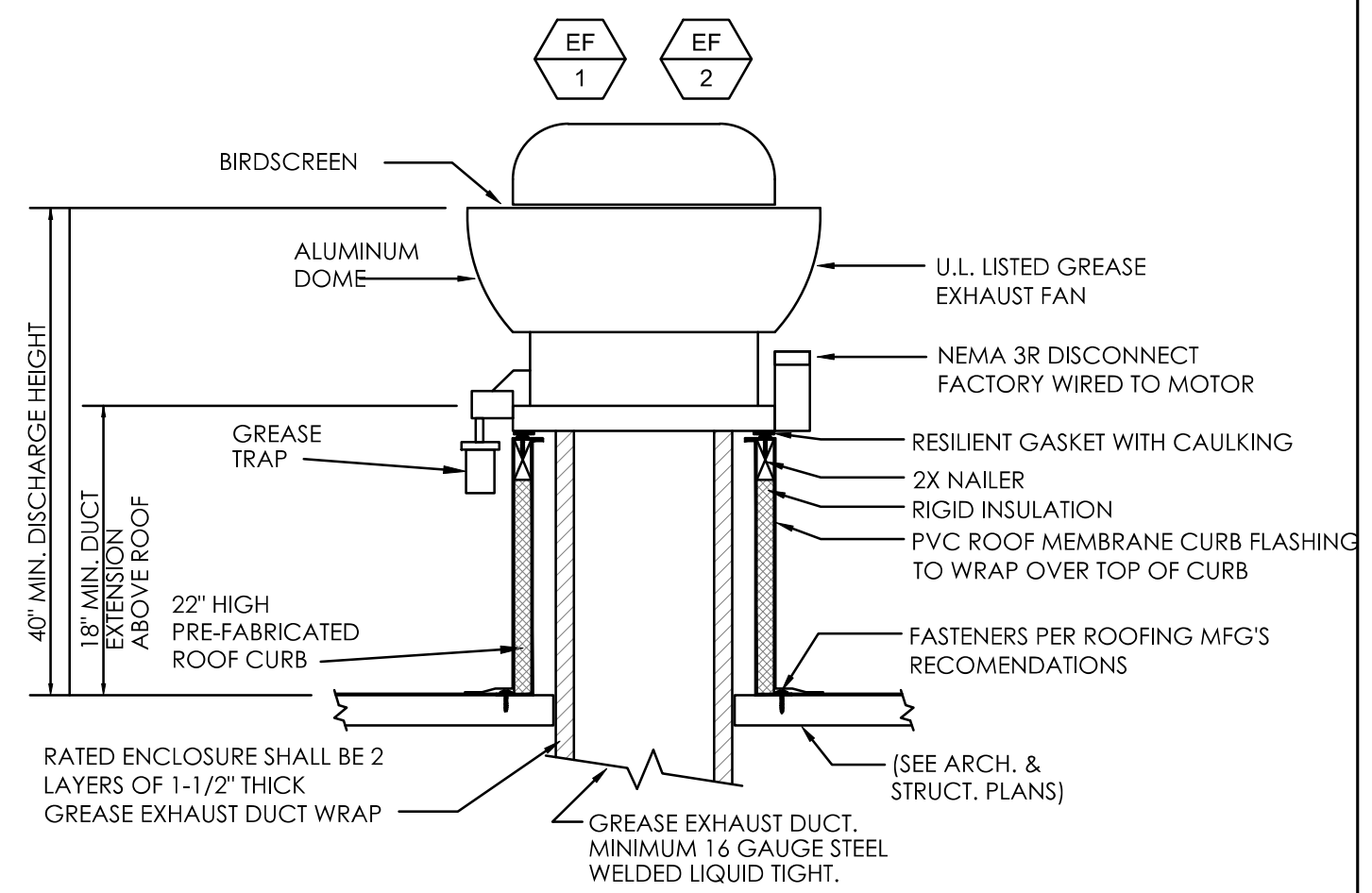
- NOTES:
- ALL SUPPLY AND RETURN DUCT ARE TO HAVE INTERNALLY LINED INSULATION (R-6) MINIMUM.
 - SEE FLOOR PLAN FOR SIZES AND CONFIGURATION.
 - ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS.

07 ROOFTOP UNIT DETAIL
NO SCALE



- NOTE:
- DAMPER SHALL COMPLY WITH S.M.A.C.N.A. FIG. 2-14-C, AND BE NOT THINNER THAN 24 GA. METAL
 - VOLUME DAMPER W/ STAND-OFF LOCKING QUADRANT SHALL BE ORIENTED THE SAME AS THE DAMPER BLADE (INSTALL IN ACCESSIBLE LOCATION).

04 DIFFUSER CONNECTION DETAIL
NO SCALE



NOTE: INSTALLATION SHALL BE IN ACCORDANCE WITH NFPA 96 REQUIREMENTS. HORIZONTAL OFFSETS SHALL SLOPE TOWARD HOOD OR PRE-APPROVED GREASE RECEPTOR AT A MINIMUM 1/4" PER FOOT. U.N.O.

01 GREASE EXHAUST FAN DETAIL
NO SCALE

FOR QUESTIONS, CALL THE
Southern CA National Accounts
REGION 83
PHONE (714) 677 - 2963
EMAIL reg83@captiveaire.com

PATENT NUMBERS
EXHAUST HOODS ND-2/BD-2/SND-2 (CANADA) - CA PATENT 2520435 C.

HOOD INFORMATION - JOB#7512548

HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST FLENUM RISERS				HOOD CONSTRUCTION	HOOD CONFIG			
										WIDTH	LENG	HEIGHT	DIA		CFM	VEL	SP	END TO END
1		5484 ND-2	CAPTIVEAIRE	3' 9"	600 DEG	I	HEAVY	240	900		4'	10'	900	1650	-0.551'	430 SS WHERE EXPOSED	ALONE	ALONE
2		5484 ND-2	CAPTIVEAIRE	8' 6"	450 DEG	I	MEDIUM	200	1700		4'	14'	1700	1590	-0.621'	430 SS WHERE EXPOSED	ALONE	ALONE

HOOD INFORMATION

HOOD NO	TAG	FILTER(S)				LIGHT(S)				UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT		
		TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	V/RE GUARD	LOCATION	SIZE	TYPE	SIZE			MODEL #	QUANTITY
1		CAPTRATE SOLD FILTER	2	20"	20"	85% SEE FILTER SPEC	2	L55 SERIES E26	NO	LEFT	12"x54"x24"	TANK FS	4.0/4.0	DCV-2011	1 LIGHT 1 FAN	YES	554 LBS
2		CAPTRATE SOLD FILTER	6	20"	16"	85% SEE FILTER SPEC	3	L55 SERIES E26	NO							YES	394 LBS

HOOD OPTIONS

HOOD NO	TAG	OPTION
1		FIELD WRAPPER 6.00' HIGH FRONT, LEFT, RIGHT. LEFT QUARTER END PANEL 23" TOP WIDTH, 0" BOTTOM WIDTH, 23" HIGH 430 SS. RISER SENSOR INSTALL 6IN PLEN.
2		FIELD WRAPPER 6.00' HIGH FRONT, LEFT, RIGHT. RISER SENSOR INSTALL 6IN PLEN.

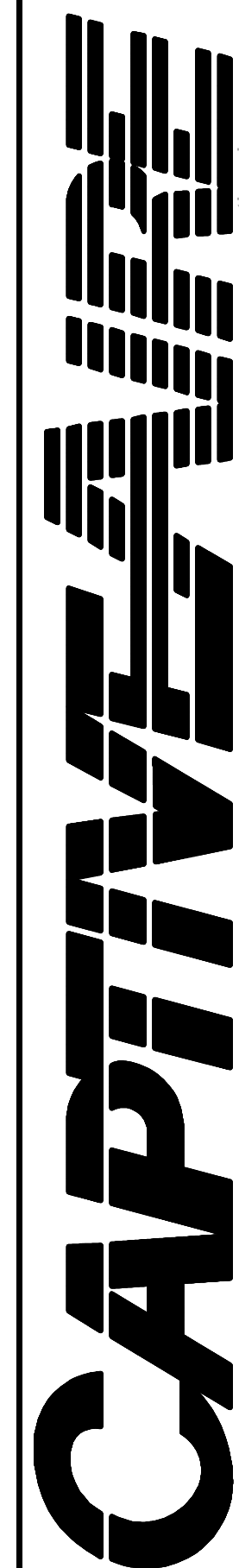
CLEARANCE TO COMBUSTIBLES

HOODS #	SURFACE	W/CLEARANCE
1	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	0"
2	TOP	18"
	FRONT	0"
	BACK	18"
	LEFT	18"

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

REVISIONS

NO	DATE	DESCRIPTION



Southern CA National Accounts

3002 Dow Ave., Suite 202, Tustin, CA 92780 PHONE: (714) 677-2963 EMAIL: reg83@captiveaire.com

Del Taco - Macon GA
1014 Gray Highway,
Macon, GA, 31211

DATE: 5/5/2025

DWG.#:
7512548

DRAWN BY: AH-83

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

MASTER DRAWING

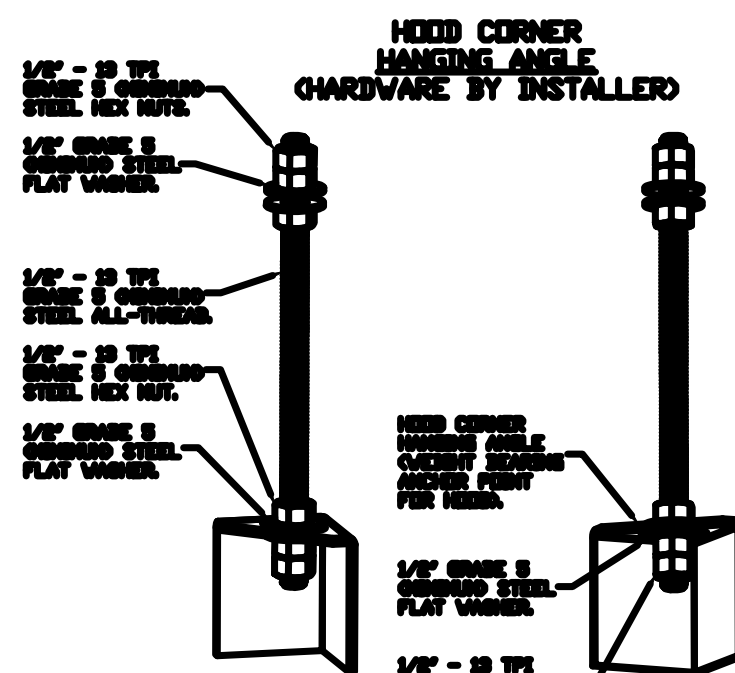
SHEET NO.
1

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.

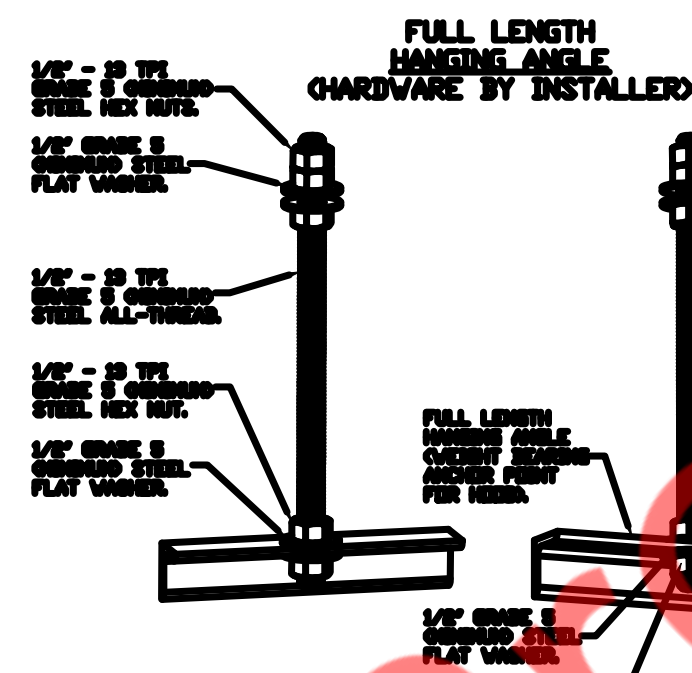
ANY FIELD RELATED DISCREPANCIES THAT ARE DISCOVERED DURING THE SDV WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND CORRESPONDING TRADES ON SITE. THESE ISSUES WILL BE DOCUMENTED AND FORWARDED TO THE APPROPRIATE SALES OFFICE. IF CAS SERVICE HAS TO RESOLVE A DISCREPANCY THAT IS A FIELD ISSUE, 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.



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 QINDNUM ALL-THREAD, SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 QINDNUM STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 QINDNUM 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.



ASSEMBLY INSTRUCTIONS

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

FIRE SYSTEM INFORMATION - JOB#7512548

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	39	FIRE CABINET LEFT	LEFT, HOOD 1

GAS VALVE(S)

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

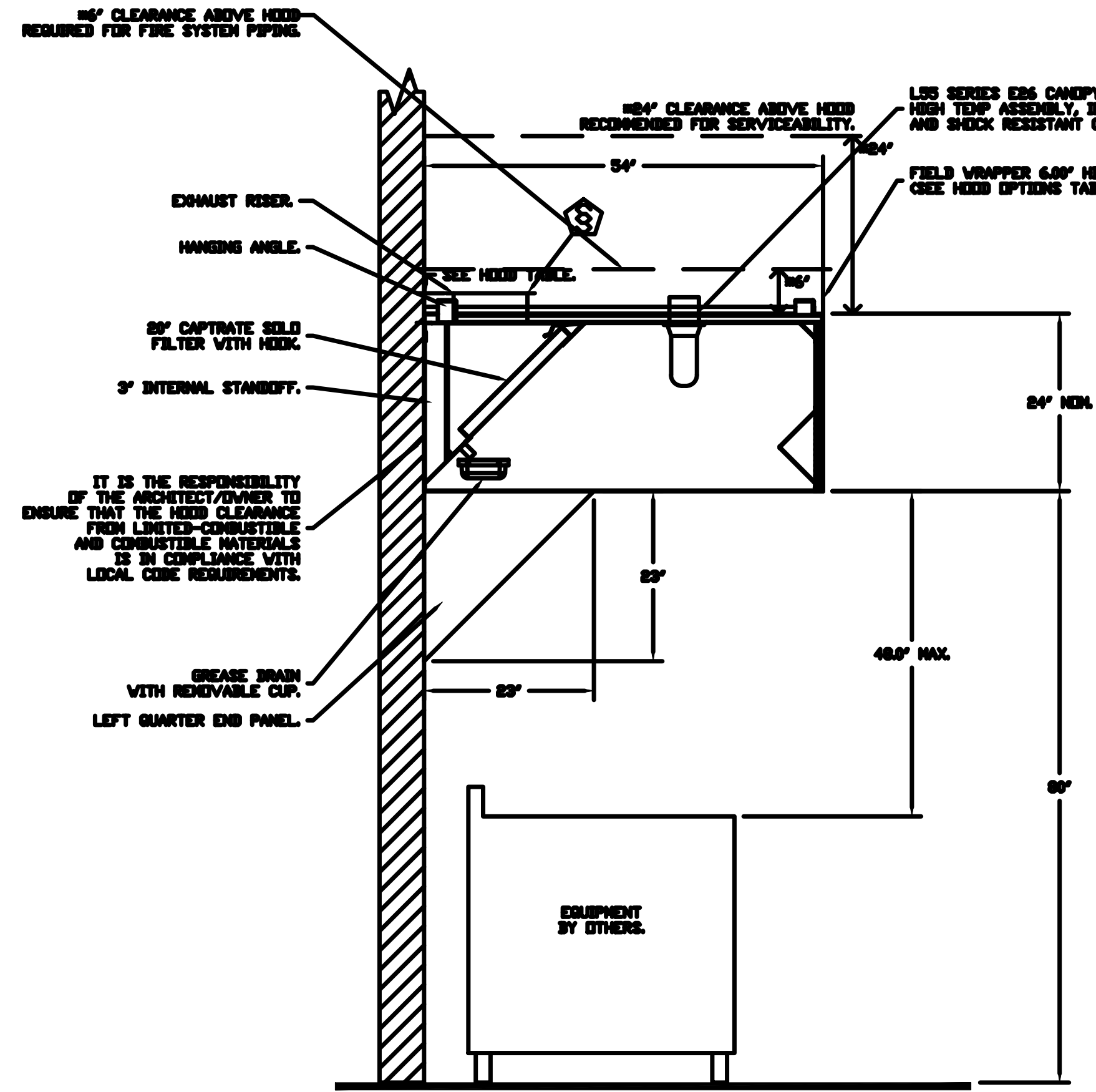
DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

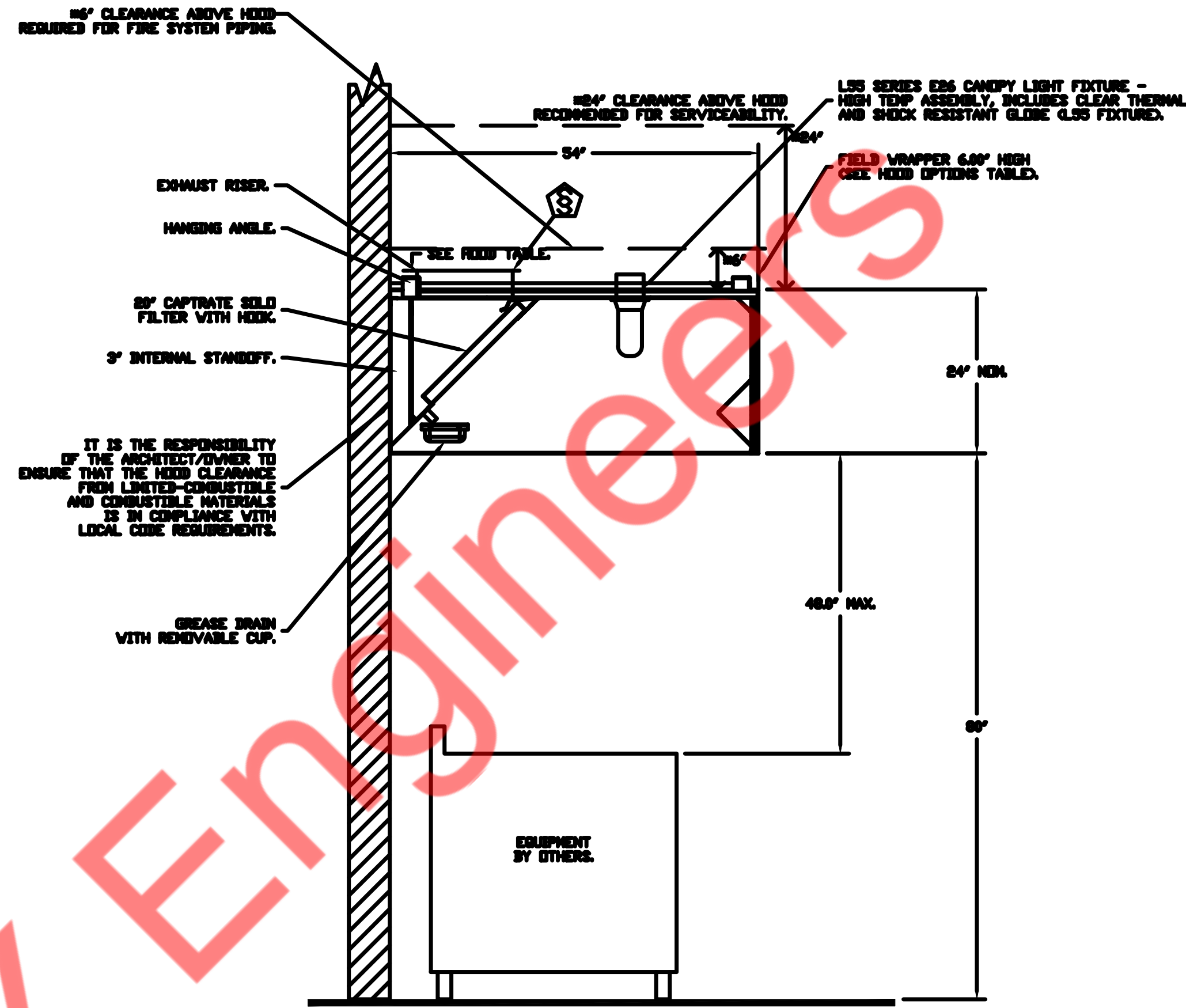
MAY 12, 2025

CLIENT CHANGES 06/16/25

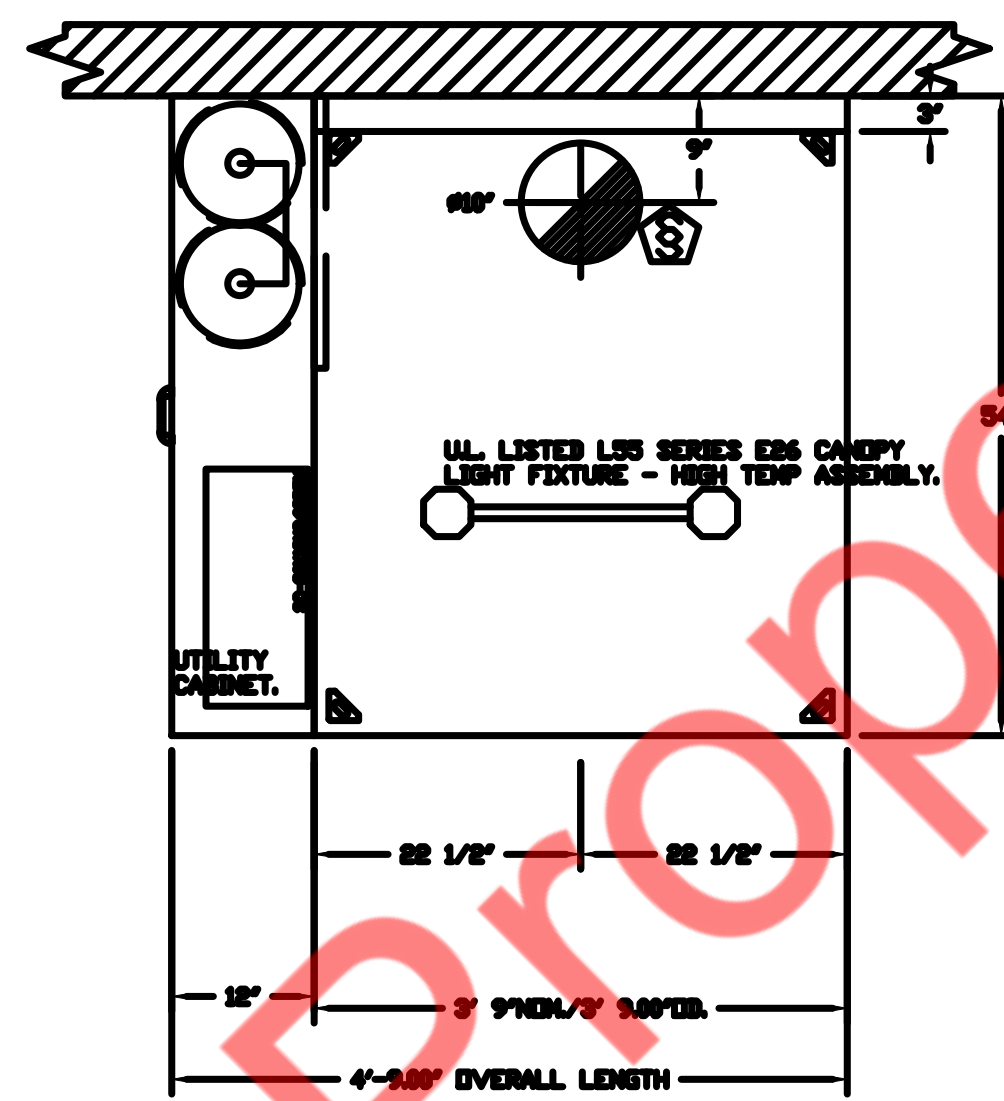
H001



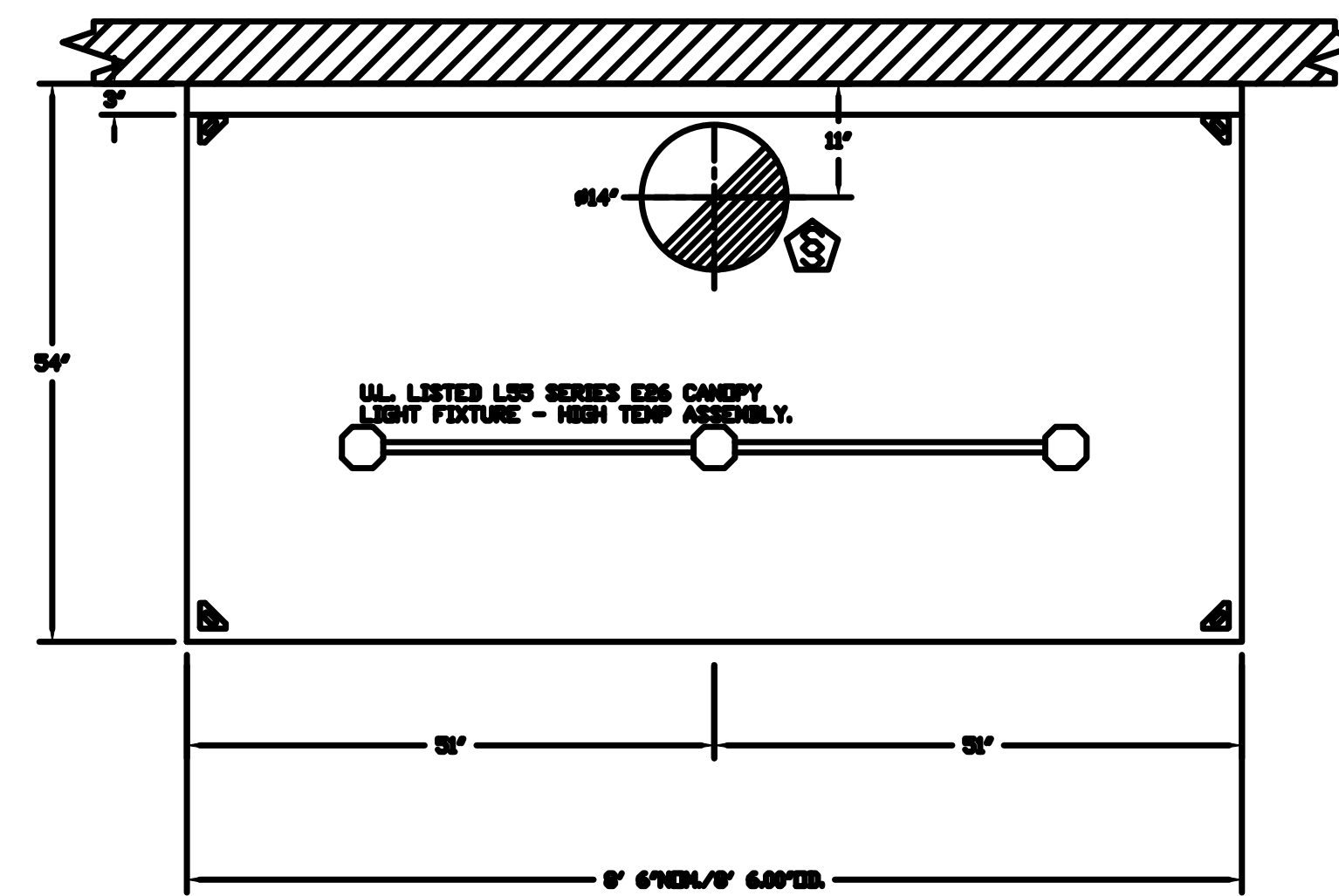
SECTION VIEW - MODEL 5424ND-2
HOOD - #1



SECTION VIEW - MODEL 5424ND-2
HOOD - #2



PLAN VIEW - HOOD #1
3' 9.00" LONG 5424ND-2



PLAN VIEW - HOOD #2
6.00" LONG 5424ND-2

REVISIONS

NO.	DESCRIPTION	DATE

CAPTIVE

www.captiveare.com

Southern CA National Accounts

3002 Dow Ave., Suite 202, Tustin, CA, 92780 PHONE: (714) 677-2963 EMAIL: reg@captivare.com

Del Taco - Macon GA
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DATE: 5/5/2025
DWG.#:
7512548
DRAWN BY: AH-83
SCALE:
3/4" = 1'-0"
MASTER DRAWING

SHEET NO.
2

DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

MAY 12, 2025

CLIENT CHANGES 06/16/25

H002

EXHAUST FAN INFORMATION - JOB#7512548

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL.	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SONES
1		1	DUSHFA	CAPTIVEAIRE	900	1.800	1528	TEAD-ECH	0.500	0.4040	1	115	6.3	342 FPM	78	16.2
2		1	DUSHFA	CAPTIVEAIRE	1700	1.250	1391	TEAD-ECH	0.750	0.5340	1	115	8.9	538 FPM	90	12.1

FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	GREASE BOX
		1	ECH WIRING PACKAGE - PWM SIGNAL FROM ECPMS PREVIRE (TELCO MOTOR), CCV ROTATION
		1	2 YEAR PARTS WARRANTY
2		1	GREASE BOX
		1	ECH WIRING PACKAGE - PWM SIGNAL FROM ECPMS PREVIRE (TELCO MOTOR), CCV ROTATION
		1	2 YEAR PARTS WARRANTY

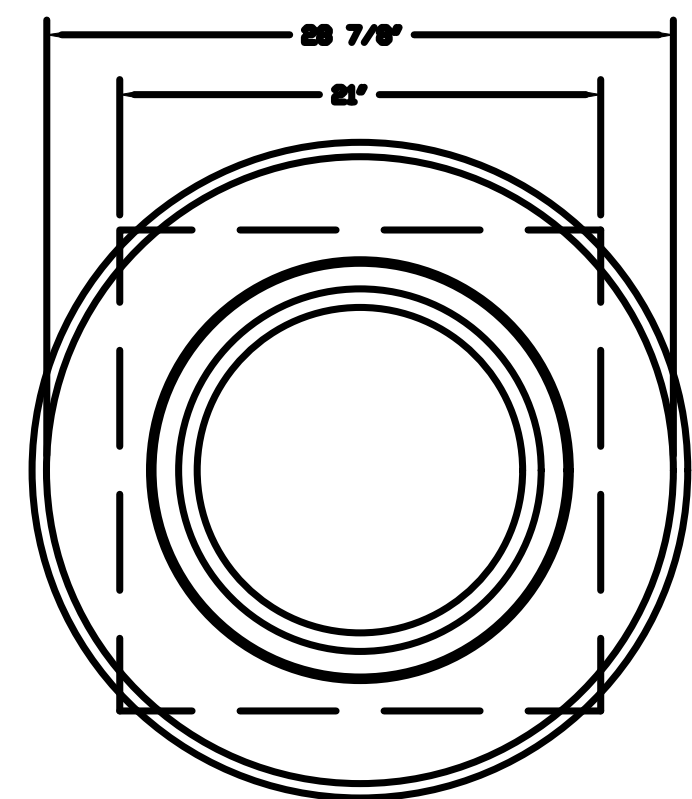
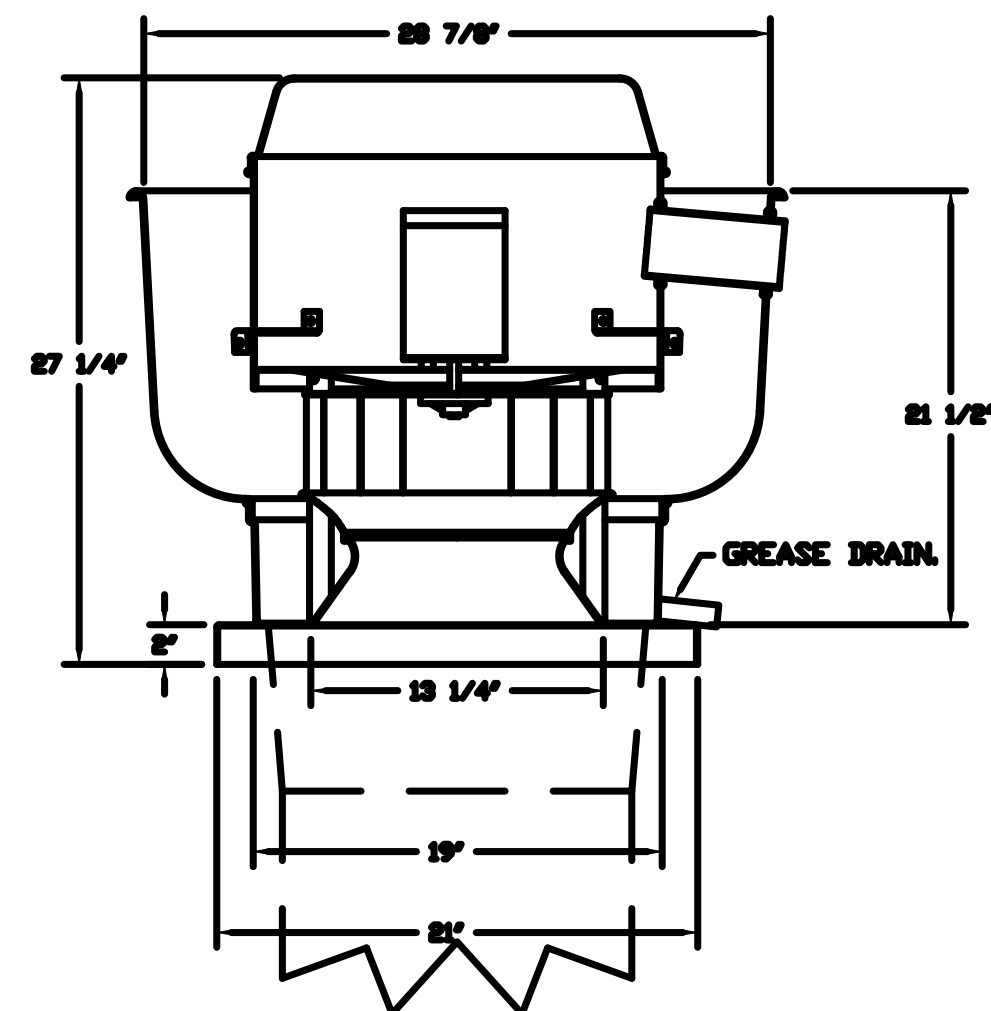
FAN ACCESSORIES

FAN UNIT NO	TAG	EXHAUST				SUPPLY			
		GREASE CLIP	GRAVITY DAMPER	WALL MOUNT	SIDE DISCHARGE	GRAVITY DAMPER	MOTORIZED DAMPER	WALL MOUNT	
1		YES							
2		YES							

CURB ASSEMBLIES

NO	IN FAN	WEIGHT	ITEM	SIZE
1	# 1	34 LBS	CURB	19.500"V X 19.500"L X 22.000"H VENTED HINGED.
2	# 2	36 LBS	CURB	23.000"V X 23.000"L X 20.000"H VENTED HINGED.

FAN #1 DUSHFA - CONDUIT FAN



TOP VIEW

FEATURES:

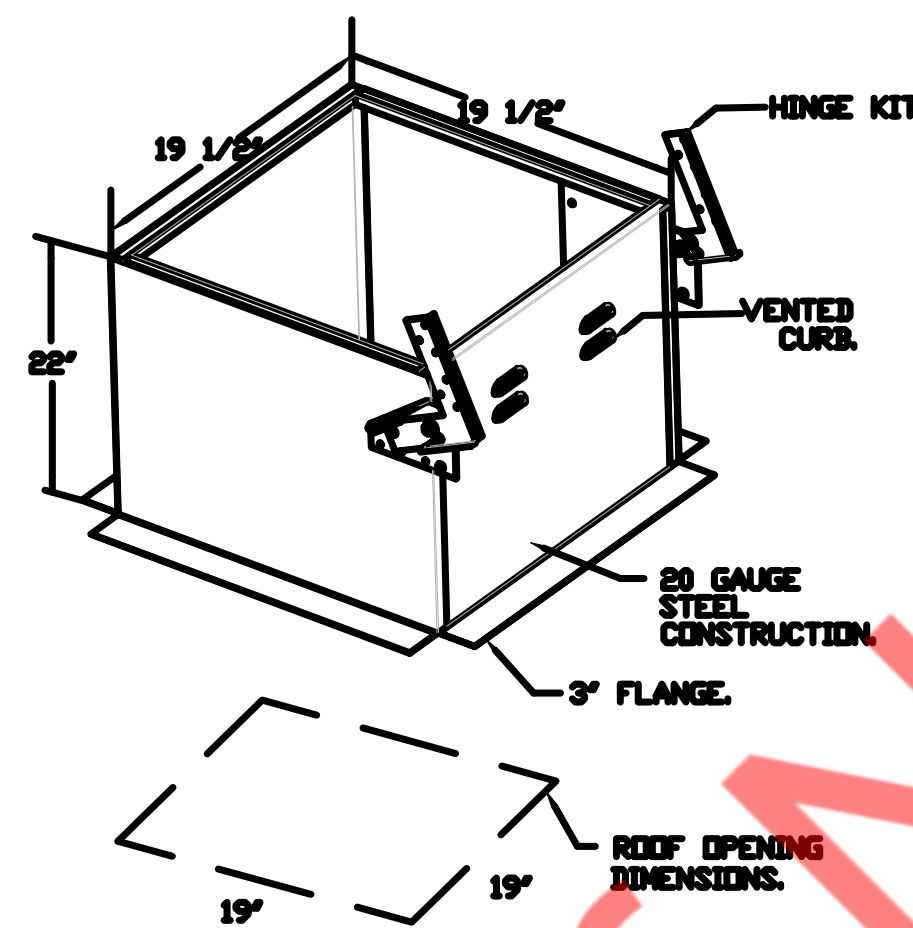
- DIRECT DRIVE CONSTRUCTION ON BELTS/PULLEYS.
- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL715 AND UL716 AND ULC-9445
- VARIABLE SPEED CONTROL.
- INTERNAL WIRING.
- THERMAL OVERLOAD PROTECTION SINGLE PHASE.
- HIGH HEAT OPERATION 300°F (149°C).
- GREASE CLASSIFICATION TESTING.
- NEMA 3R SAFETY DISCONNECT SWITCH.

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

ABNORMAL FLARE-UP TEXT
EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 30 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

OPTIONS:

- GREASE BOX.
- ECH WIRING PACKAGE - PWM SIGNAL FROM ECPMS PREVIRE (TELCO MOTOR), CCV ROTATION.
- 2 YEAR PARTS WARRANTY.



REVISIONS	

CAPTIVE

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Del Taco - Macon GA
1014 Gray Highway,
Macon, GA, 31211

DATE: 5/5/2025
DWG.#: 7512548
DRAWN BY: AH-83
SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 3

DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

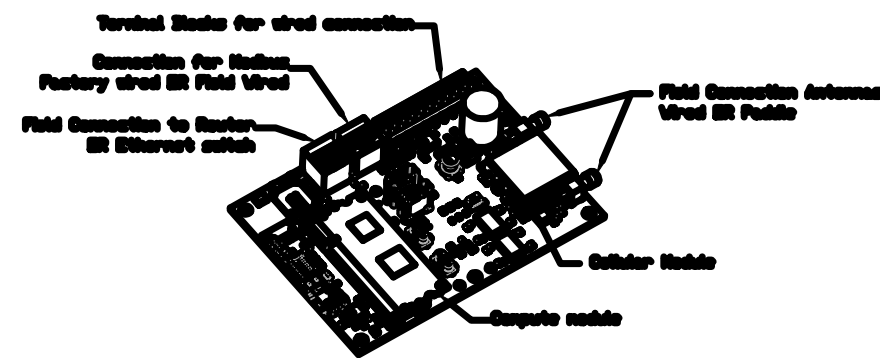
MAY 12, 2025

CLIENT CHANGES 06/16/25

H003

ELECTRICAL PACKAGE - JOB#7512548

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	HP	VOLT	FLA	
1		BCV-001	UTILITY CABINET LEFT	UTILITY CABINET LEFT NEED # 1	1 LIGHT 1 FAN	SMART CONTROLS BCV	EXHAUST	1	0.250	225	4.5
							EXHAUST	1	0.700	225	9.9

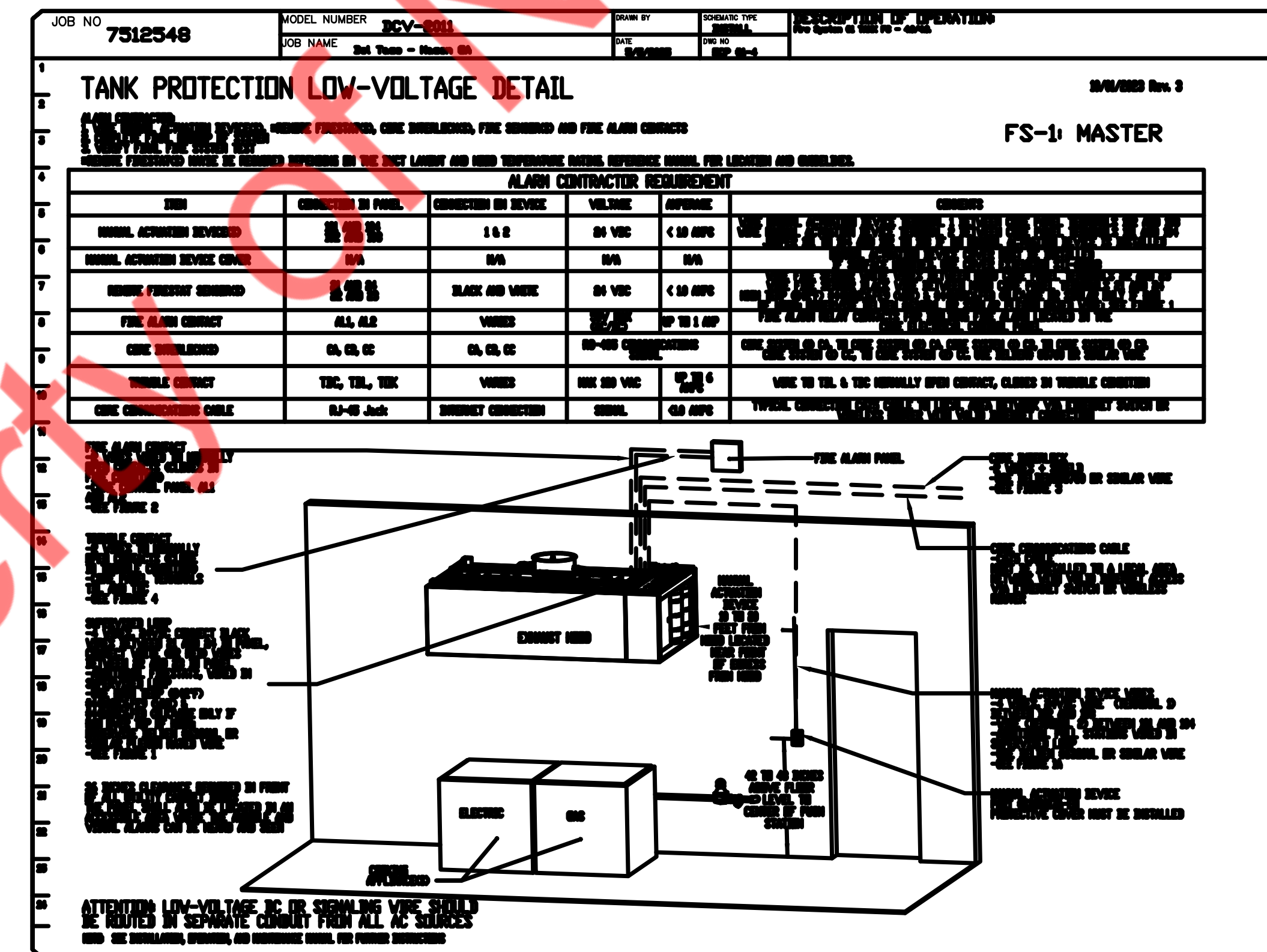
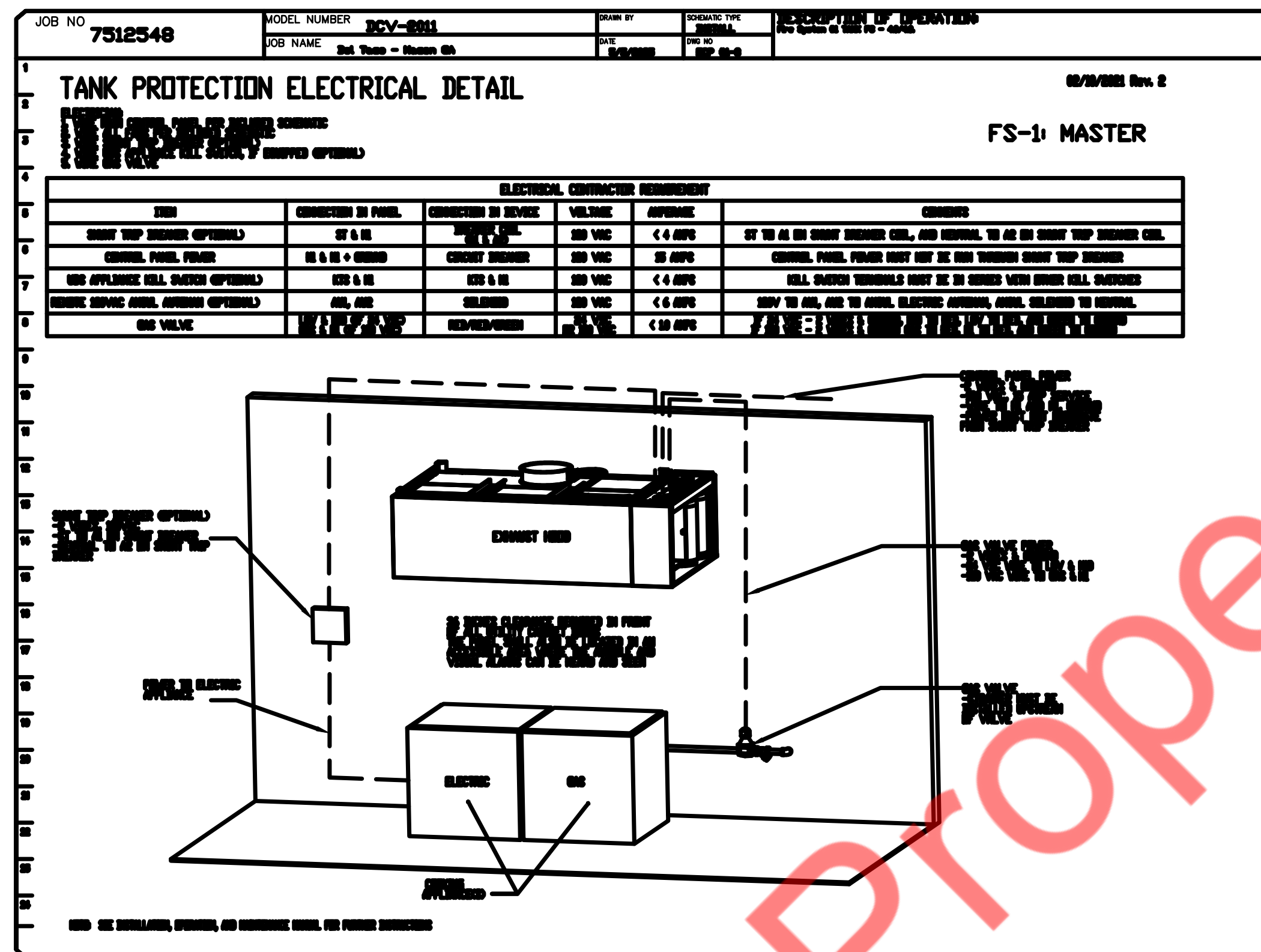
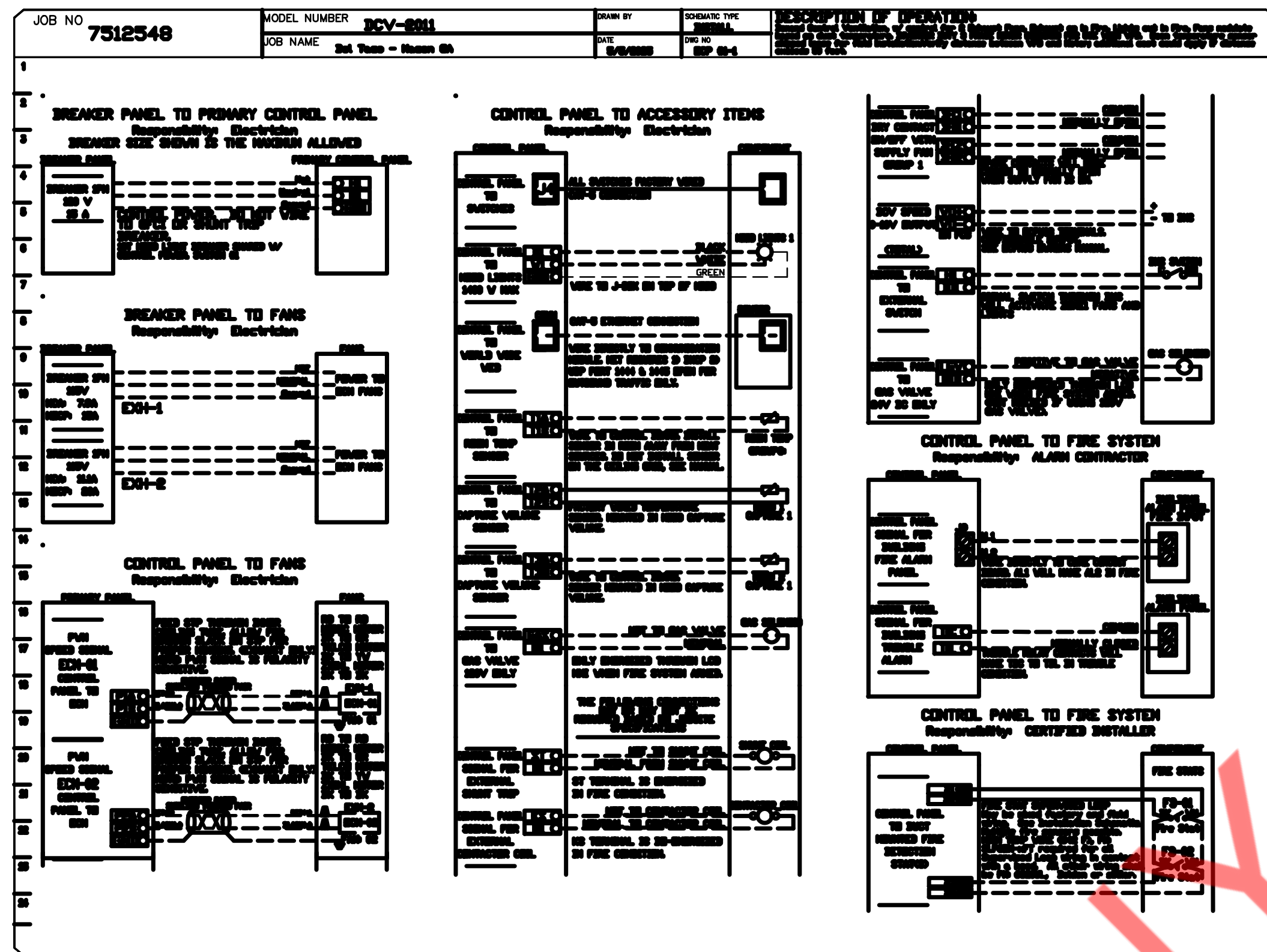


GASTink Monitor and Control

This control panel is designed to support communication in cloud-based building management systems. It is designed to allow cloud-based building management systems to communicate with the building's control system. The control panel is designed to support communication in cloud-based building management systems. It is designed to allow cloud-based building management systems to communicate with the building's control system.

MONITORING AND CONTROL POINT LIST

Item	Package	Point	Item	Package	Point
AC Power	BCV-001	AC Power	AC Power	BCV-001	AC Power
AC Voltage	BCV-001	AC Voltage	AC Voltage	BCV-001	AC Voltage
AC Frequency	BCV-001	AC Frequency	AC Frequency	BCV-001	AC Frequency
AC Amperage	BCV-001	AC Amperage	AC Amperage	BCV-001	AC Amperage
AC Phase Sequence	BCV-001	AC Phase Sequence	AC Phase Sequence	BCV-001	AC Phase Sequence
AC Power Factor	BCV-001	AC Power Factor	AC Power Factor	BCV-001	AC Power Factor
AC Voltage Unbalance	BCV-001	AC Voltage Unbalance	AC Voltage Unbalance	BCV-001	AC Voltage Unbalance
AC Frequency Unbalance	BCV-001	AC Frequency Unbalance	AC Frequency Unbalance	BCV-001	AC Frequency Unbalance
AC Amperage Unbalance	BCV-001	AC Amperage Unbalance	AC Amperage Unbalance	BCV-001	AC Amperage Unbalance
AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance	AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance
AC Voltage Unbalance	BCV-001	AC Voltage Unbalance	AC Voltage Unbalance	BCV-001	AC Voltage Unbalance
AC Frequency Unbalance	BCV-001	AC Frequency Unbalance	AC Frequency Unbalance	BCV-001	AC Frequency Unbalance
AC Amperage Unbalance	BCV-001	AC Amperage Unbalance	AC Amperage Unbalance	BCV-001	AC Amperage Unbalance
AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance	AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance
AC Voltage Unbalance	BCV-001	AC Voltage Unbalance	AC Voltage Unbalance	BCV-001	AC Voltage Unbalance
AC Frequency Unbalance	BCV-001	AC Frequency Unbalance	AC Frequency Unbalance	BCV-001	AC Frequency Unbalance
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AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance	AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance
AC Voltage Unbalance	BCV-001	AC Voltage Unbalance	AC Voltage Unbalance	BCV-001	AC Voltage Unbalance
AC Frequency Unbalance	BCV-001	AC Frequency Unbalance	AC Frequency Unbalance	BCV-001	AC Frequency Unbalance
AC Amperage Unbalance	BCV-001	AC Amperage Unbalance	AC Amperage Unbalance	BCV-001	AC Amperage Unbalance
AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance	AC Power Factor Unbalance	BCV-001	AC Power Factor Unbalance



REVISIONS

NO.	DATE	DESCRIPTION

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DWG.#: 7512548
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SCALE: 3/4" = 1'-0"
MASTER DRAWING

SHEET NO. 5

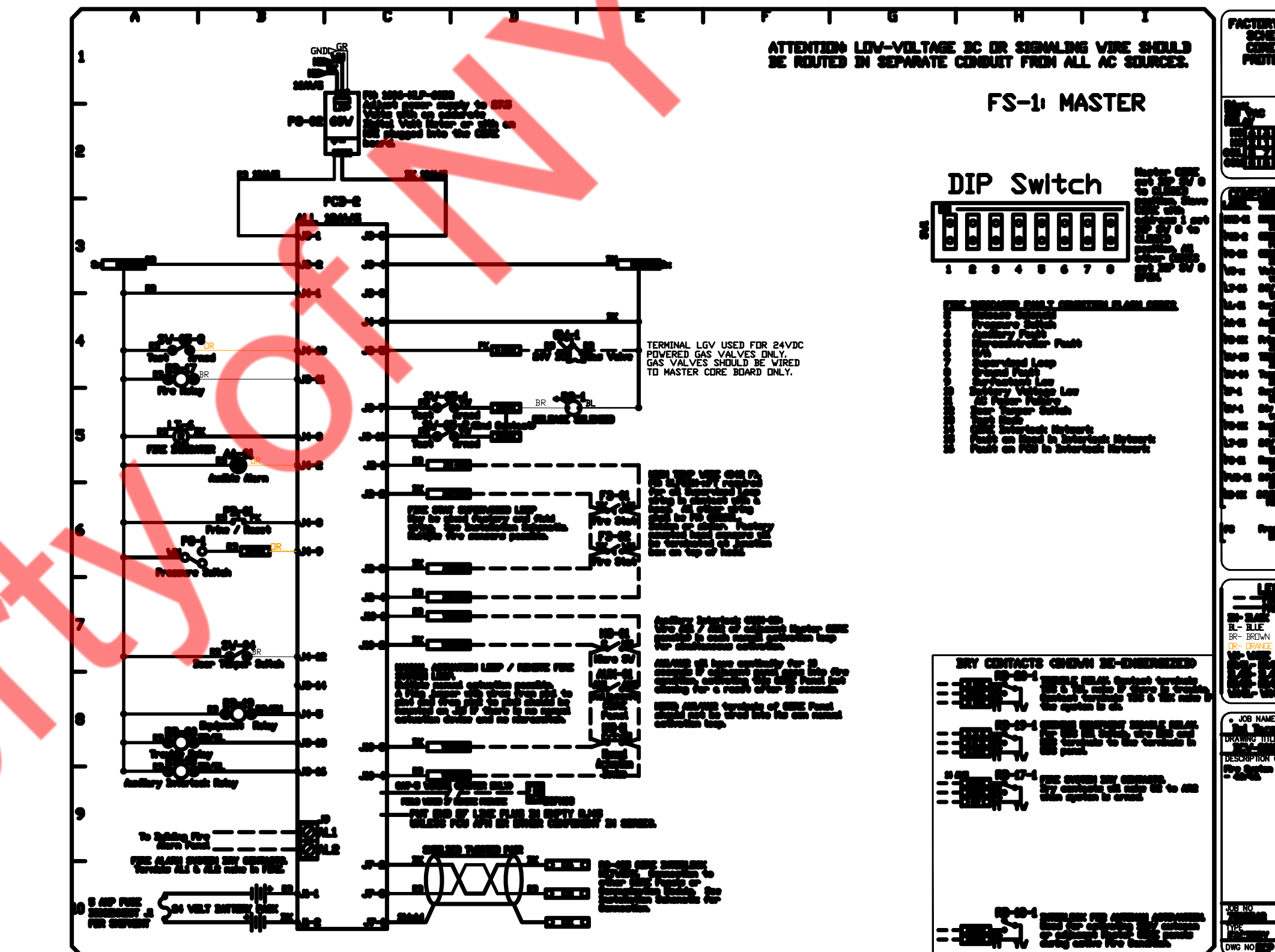
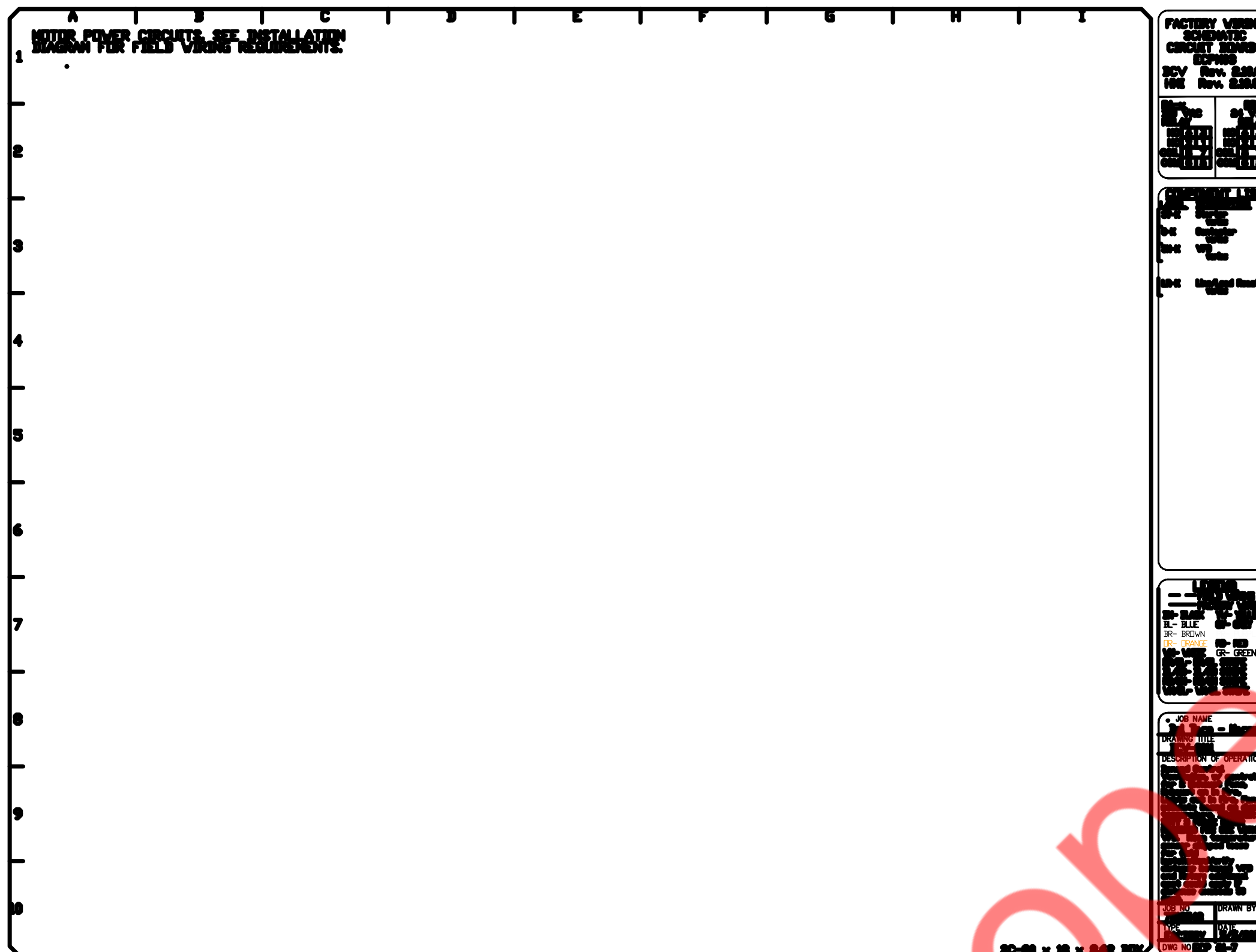
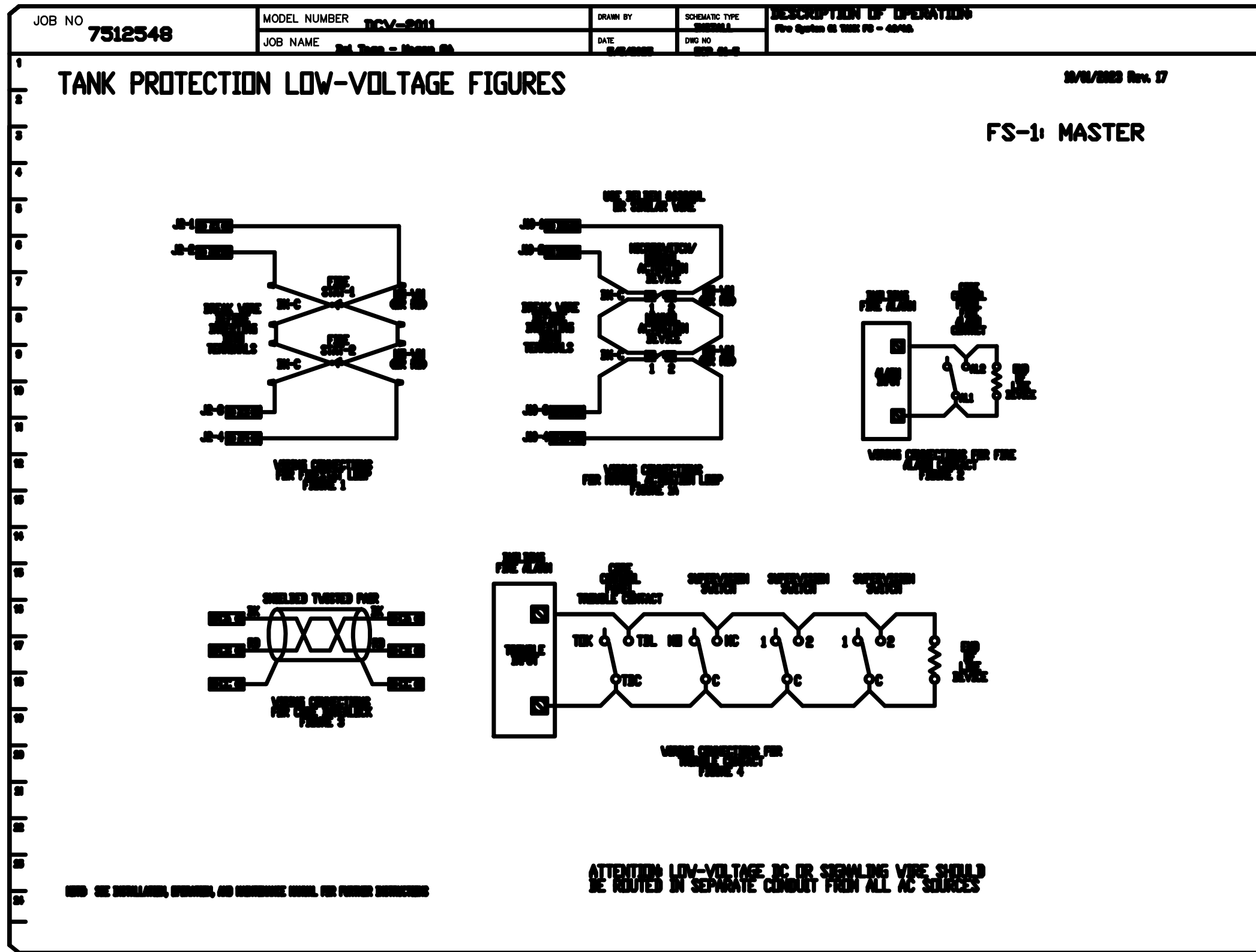
DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

MAY 12, 2025

CLIENT CHANGES 06/16/25

H005



REVISIONS	

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SHEET NO. 6

DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

MAY 12, 2025

CLIENT CHANGES 06/16/25

H006

DOUBLE WALL FACTORY BUILT DUCTWORK

- ALL DUCTWORK IS REQUIRED TO BE INSTALLED WITH THE MAXIMUM SUPPORT SPACING LISTED BELOW.
- FOR A COMPLETE LIST OF APPROVED SUPPORT METHODS, SEE THE ENTIRE INSTALLATION AND OPERATION MANUAL.
- DUCTWORK SHALL SLOPE NOT LESS THAN 1/16" PER LINEAR FOOT TOWARDS THE HOOD OR AN APPROVED GREASE COLLECTION RESERVOIR.
- WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN 3/16" PER LINEAR FOOT.

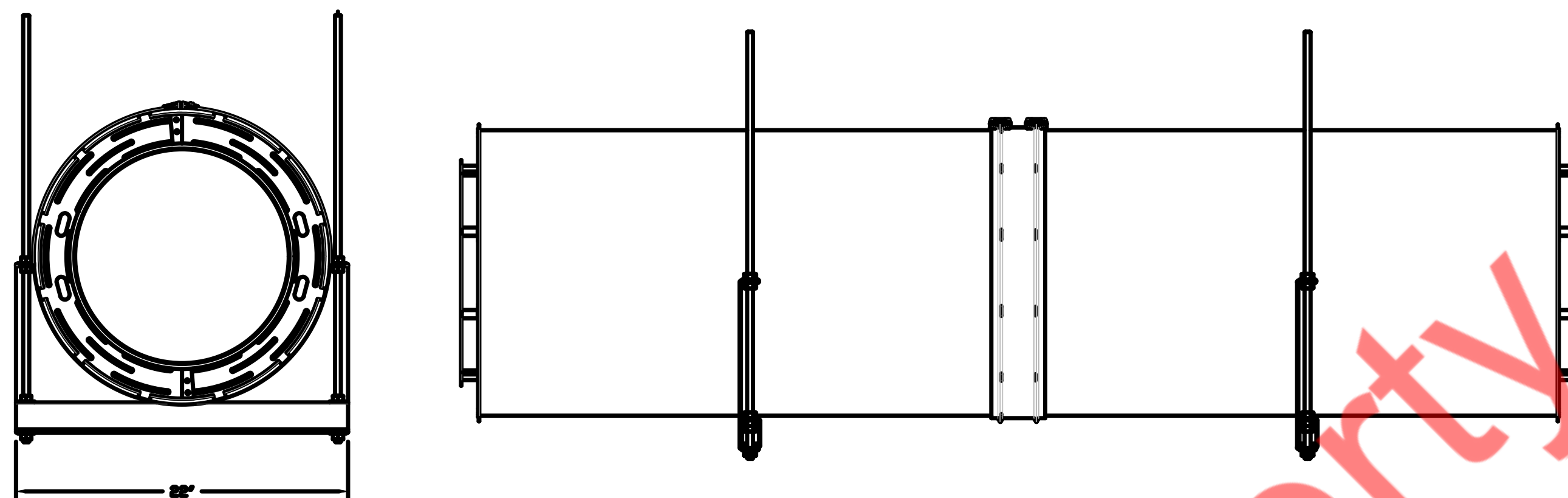
HORIZONTAL	
DUCT DIAMETER	SUPPORT SPACING (FT)
5'	7'
6'	7'
7'	7'
8'	7'
10'	7'
12'	7'
14'	7'
16'	7'
18'	5'
20'	5'
22'	5'
24'	5'
26'	5'
28'	5'
30'	5'
32'	5'
34'	5'
36'	5'

VERTICAL			
TYPE	WALL SUPPORT (FT)	CURB SUPPORT (FT)	FLOOR SUPPORT (FT)
2R & 2R HT (5'-16")	20'	24'	24'
2R (18")	18'	24'	24'
3R & 3Z (5'-24")	10'	24'	24'
3Z (26'-36")	10'	20'	20'

DO NOT LEAK TEST USING SMOKE BOMBS CONTAINING CHLORINES/CHLORIDES. CONSULT WITH CAPTIVEAIRE FOR PROPER LEAK TESTING METHODS.

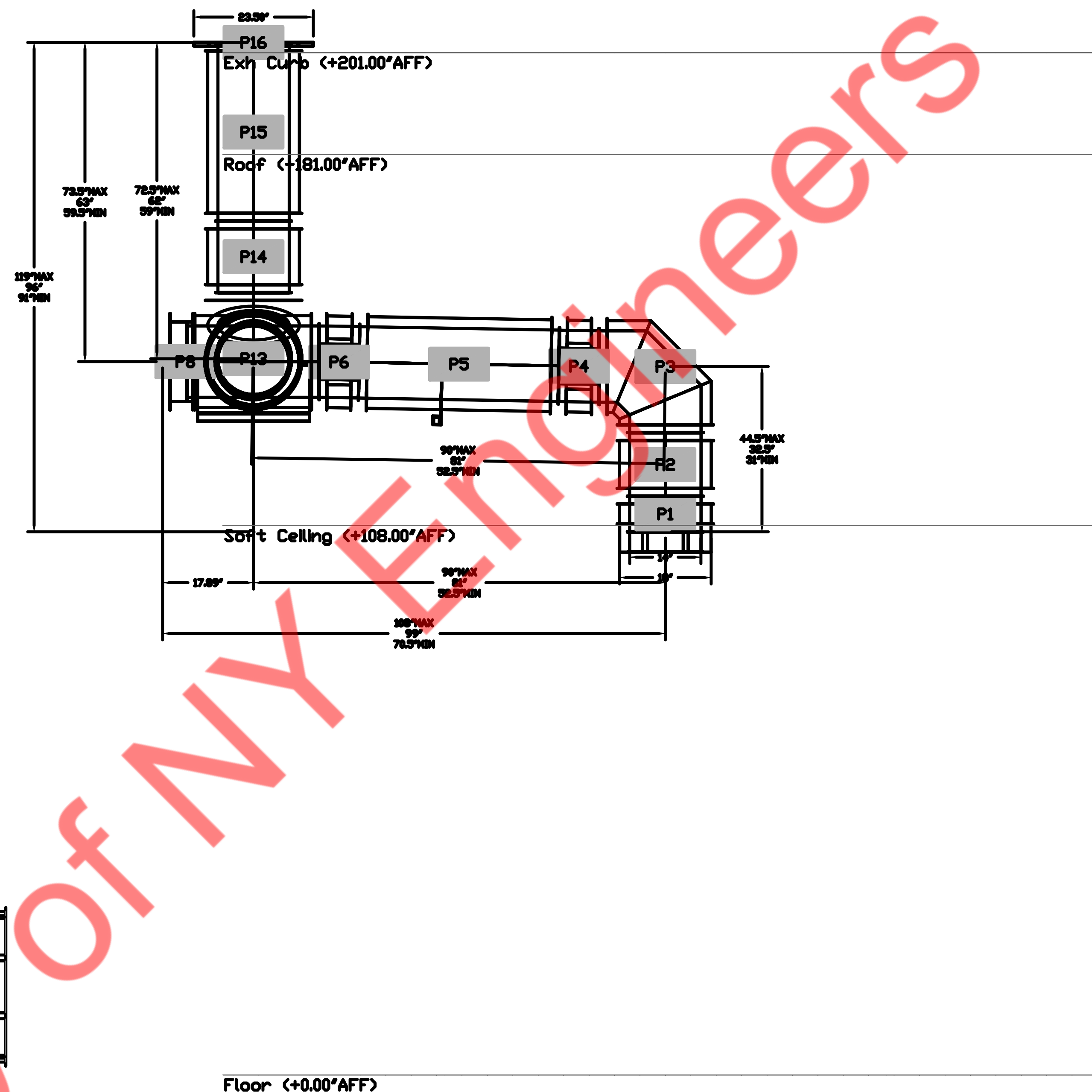
SUPPORT SYSTEM DETAILS #2

DW1822SADKIT - HORIZONTAL SUPPORTS



Property of NY Engineers

DUCTWORK #2 FRONT VIEW



REVISIONS	
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DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

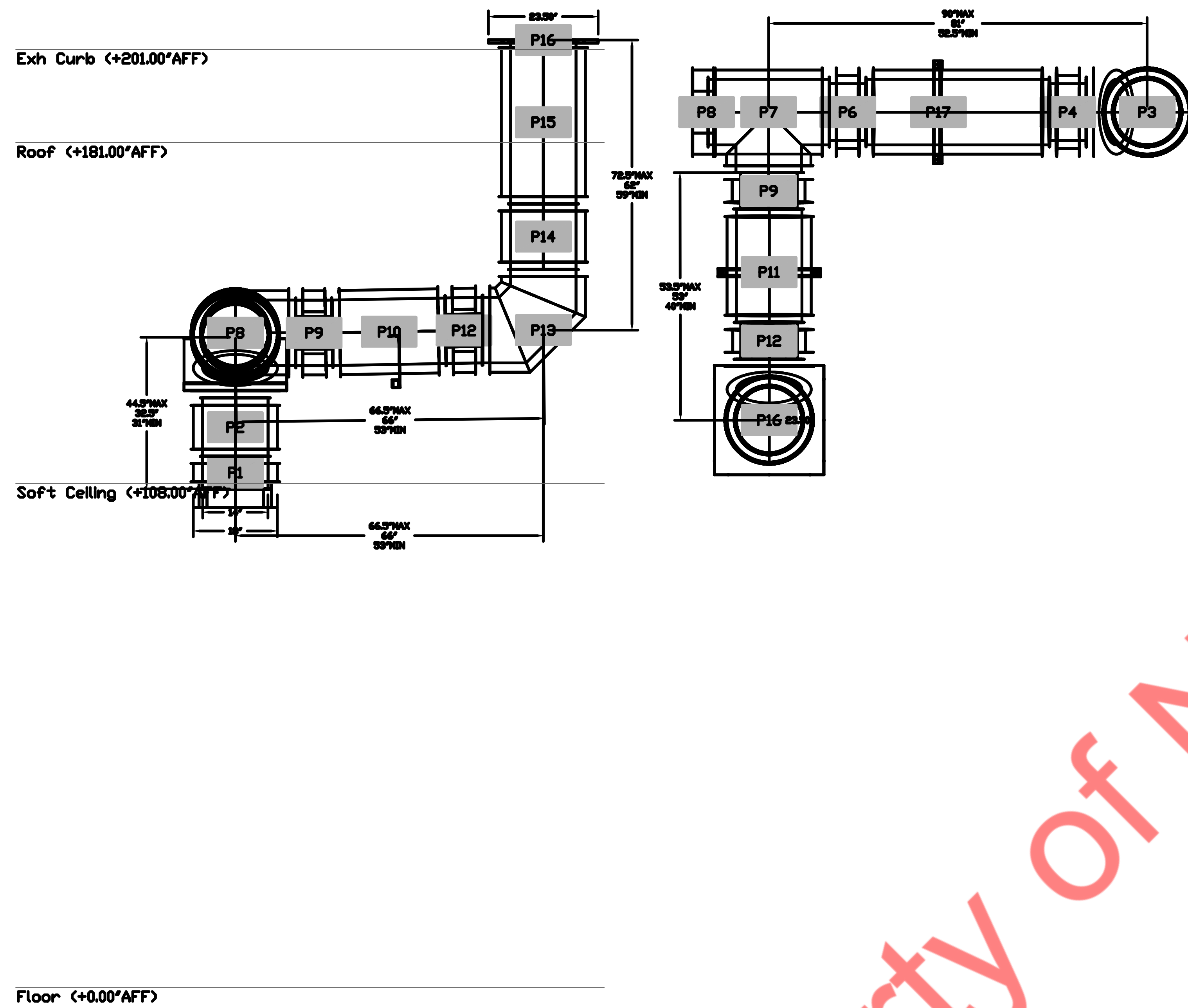
MAY 12, 2025
CLIENT CHANGES 06/16/25

H010

DUCTWORK #2 SIDE VIEW

DUCTWORK #2 TOP VIEW

DUCTWORK #2 SE VIEW



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SHEET NO.
 11

DEL TACO #1630 TENANT IMPROVEMENTS

HOOD DRAWING

MAY 12, 2025
CLIENT CHANGES 06/16/25

H011

GENERAL ELECTRICAL NOTES

- NOTES
1. ALL SYMBOLS ARE NOT NECESSARILY USED IN THIS PROJECT.
2. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY...
3. ELECTRICAL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH THE NECA INSTALLATION STANDARDS...
4. ALL WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE CURRENTLY ACCEPTED EDITION OF ALL APPLICABLE NATIONAL, STATE AND CITY CODES AND ORDINANCES.
5. ALL ELECTRICAL SYSTEM COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY AS ALLOWED BY AUTHORITY HAVING JURISDICTION.
6. WHERE AN APPARENT DISCREPANCY EXISTS BETWEEN THE REQUIREMENTS OF THE GENERAL NOTES AND INFORMATION PORTRAYED IN THE ELECTRICAL DRAWINGS...
7. CONTRACTOR SHALL VISIT JOB SITE PRIOR TO BID AND VERIFY EXISTING CONDITIONS. CONTRACTOR SHALL INCLUDE IN BASE BID ALL COSTS REQUIRED FOR PERMITS AND INSPECTIONS.
8. CONTRACTOR SHALL VERIFY, WITH OWNER'S REPRESENTATIVE PRIOR TO SUBMITTING BID, ALLOWABLE WORKING HOURS, EMPLOYEE PARKING AREAS, MATERIAL DELIVERY, STORAGE REQUIREMENTS, DEMOLITION AND REMOVAL OF CONSTRUCTION DEBRIS, AS WELL AS DAILY CLEAN UP REQUIREMENTS...
9. ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE ALL NECESSARY CORRECTIONS AT NO ADDITIONAL COST TO OWNER.
10. CONTRACTOR SHALL GUARANTEE ALL WORK AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE...
11. PROVIDE AS-BUILT DRAWINGS TO ARCHITECT. DRAWINGS SHALL INCLUDE ACCURATE CONDUIT AND DEVICE LOCATIONS DIMENSIONED FROM PERMANENT LANDMARKS SUCH AS BUILDING WALLS.
12. DO NOT SCALE ELECTRICAL DRAWINGS. VERIFY EXACT LOCATION OF ALL DEVICES, JUNCTION BOXES, LIGHTING FIXTURES, ETC. WITH ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS PRIOR TO INSTALLATION...
13. THESE DRAWINGS INDICATE THE FINISHED REQUIREMENTS FOR THE ELECTRICAL SYSTEMS, EQUIPMENT, LIGHTING FIXTURES, OUTLETS AND DEVICES...
14. RACEWAY SYSTEMS ARE SHOWN DIAGRAMMATICALLY, ACTUAL LOCATION AND ROUTING OF ALL SHALL BE DETERMINED BY CONTRACTOR TO SUIT FIELD CONDITIONS.
15. PROVIDE DEDICATED NEUTRAL FOR EACH NEW CIRCUIT. HOME RUN CONDUCTORS MAY BE COMBINED INTO ONE CONDUIT. NO RACEWAY OR CABLE SHALL CONTAIN MORE THAN NINE (9) CURRENT CARRYING CONDUCTORS...
16. WHERE ALLOWED, MC CABLE MAY BE INSTALLED PER NEC ARTICLE 330. WHERE MULTIPLE CABLES ARE ROUTED ADJACENT TO EACH OTHER (BUNDLED), A MINIMUM SEPARATION OF ONE (1) CABLE DIAMETER (LARGEST) SHALL BE REQUIRED.
17. PLASTIC CABLE TIES SHALL NOT BE USED AS A MEANS OF SUPPORT FOR MC CABLE. USE ONLY APPROVED CABLE SUPPORTS PER CABLE MANUFACTURER'S INSTALLATION REQUIREMENTS.
18. RACEWAYS SHALL BE INSTALLED CONCEALED (IN CMU OR OTHER WALL) WHENEVER POSSIBLE. RACEWAYS INSTALLED EXPOSED SHALL BE ROUTED OUT OF PUBLIC VIEW AS MUCH AS POSSIBLE...
19. PROVIDE APPROVED EXPANSION FITTINGS WHERE RACEWAYS CROSS BUILDING EXPANSION JOINTS. PROVIDE BONDING JUMPER(S) SIZED PER CODE WHERE REQUIRED. PROVIDE ALL FITTINGS REQUIRED FOR A COMPLETE INSTALLATION...
20. MINIMUM RACEWAY SIZE SHALL BE 1/2". MINIMUM HOMERUN SIZE SHALL BE 3/4". MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG U.N.O. TYPICAL. ALL POWER RELATED CONDUITS SHALL HAVE A CODE SIZE GROUND WIRE INSTALLED IN EACH RUN.
21. CONTRACTOR SHALL PROVIDE PULL CORDS IN ALL EMPTY CONDUITS. WHERE MORE THAN ONE CONDUIT TERMINATES IN A JUNCTION BOX, THE CONTRACTOR SHALL IDENTIFY EACH CONDUIT AND JUNCTION BOX IN A MANNER ALLOWING IDENTIFICATION AFTER ALL WALL FINISHES HAVE BEEN APPLIED.
22. CONTRACTOR SHALL PROVIDE ALL RACEWAY SYSTEMS INDICATED ON THE DRAWING PER NEC REQUIREMENTS AND GENERAL NOTES. ANY DEVIATION FROM THE WIRING METHODS INDICATED SHALL BE ALLOWED ONLY BY SPECIFIC WRITTEN APPROVAL FROM EITHER THE ARCHITECT, ENGINEER OR OWNER...
23. CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECT SIZE AND INSTALLATION OF ALL OUTLET, PULL AND JUNCTION BOXES IN ACCORDANCE WITH NEC 314-16. ALL BOXES SHALL BE MINIMUM 4" SQUARE BY 1-1/2" DEEP OR AS INDICATED ON THE DRAWINGS...
24. REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN(S) FOR EXACT LOCATION OF ALL CEILING MOUNTED LIGHTING FIXTURES. ARCHITECTURAL DRAWINGS SHALL GOVERN IN CASE OF CONFLICT WITH THESE DRAWINGS.
25. PRIOR TO INSTALLATION, CONTRACTOR SHALL REVIEW THE COMPLETE SET OF CONSTRUCTION DOCUMENTS FOR CONFLICTS WITH OTHER TRADES. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ALL WORK WITH OTHER TRADES TO AVOID CONFLICT DURING INSTALLATION...
26. CONTRACTOR SHALL BE RESPONSIBLE TO PROPERLY CUT AND PATCH EXISTING CONSTRUCTION AS REQUIRED TO INSTALL NEW ELECTRICAL WORK ALL PATCHING SHALL BE OF THE SAME MATERIALS, WORKMANSHIP AND FINISH AS THE EXISTING WORK AND SHALL ACCURATELY MATCH ALL SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT.

- NOTES (CONTD.)
27. ALL ELECTRICAL EQUIPMENT SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS TO ACCOMMODATE QUANTITY AND SIZE OF CONDUCTORS REQUIRED. CONTRACTORS SHALL PROVIDE EQUIPMENT WITH OVERSIZED ENCLOSURES WHERE REQUIRED.
28. ALL NEW PANELBOARDS AND SWITCHBOARDS SHALL BE OF THE SAME MANUFACTURER AND HAVE LOCKING DOORS AND BE KEYPED THE SAME U.N.O.
29. PROVIDE TYPE WRITTEN UPDATED PANEL DIRECTORY TO BE MOUNTED ON INSIDE OF ALL PANEL DOOR COVERS. DIRECTORY SHALL REFLECT ALL ADDITIONS OR MODIFICATIONS TO EXISTING PANELS AND SHALL REFLECT ACTUAL "AS-BUILT" CONDITIONS.
30. VERIFY DEVICE COLOR AND MOUNTING ORIENTATION (VERTICAL OR HORIZONTAL) WITH ARCHITECTURAL AND INTERIOR DESIGN DRAWINGS PRIOR TO ORDERING ANY EQUIPMENT AND PROVIDE DEVICES AS REQUIRED. UNLESS NOTED OTHERWISE, DEVICES AND DEVICE PLATES SHALL BE WHITE IN COLOR.
31. WHERE MOTORS ARE INSTALLED IN SUSPENDED CEILINGS, CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH IN SUSPENDED CEILING WITHIN REACH FROM ACCESS POINT.
32. SIZING OF MOTOR-RELATED ELECTRICAL COMPONENTS, INCLUDING FEEDER AND/ OR BRANCH CIRCUITS (WIRE AND CONDUIT) AND OVERCURRENT PROTECTION (BREAKER AND/ OR FUSES) IS BASED ON RATINGS INDICATED IN THE CONTRACT DOCUMENTS AS WELL AS NEC APPROXIMATED LOADS FOR A GIVEN MOTOR HORSEPOWER, VOLTAGE AND PHASE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ACTUAL MOTOR AND APPLIANCE RATING AND LOADS. CONTRACTOR TO PROVIDE CORRECTLY SIZED MOTOR OVERLOAD ELECTRICAL COMPONENTS BASED ON NAMEPLATE RATING. REFLECT ALL CHANGES IN THE AS-BUILT DRAWINGS.
33. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ARCHITECT FOR REVIEW OF THE FOLLOWING EQUIPMENT:
A. ELECTRICAL SWITCHGEAR: SWITCHBOARDS, WITH PANELS, MOTOR CONTROL CENTERS AND SAFETY DEVICES.
B. OVERCURRENT DEVICES: CIRCUIT BREAKERS AND FUSES INCLUDING TIME/CURRENT TRIP CURVES.
C. LIGHTING FIXTURES: INDOOR/OUTDOOR AS SPECIFIED, PHOTOMETRIC PERFORMANCE DATA AND LAMPS.
D. DEVICES: SWITCHES, RECEPTACLES, MOTOR CONTROLLERS AND DEVICE PLATES.
E. LIFE SAFETY/FIRE ALARM SYSTEM: CONTROL PANEL, ANNUNCIATOR PANEL, INITIATION AND NOTIFICATION DEVICES/APPLIANCES, SYSTEM WIRING REQUIREMENTS AND DIAGRAM, SYSTEM LOAD CALCS, STANDARD BATTERY CALCULATIONS, AND AUXILIARY POWER SUPPLY.
34. ALL PENETRATIONS OF FIRE RESISTIVE FLOORS OR WALLS SHALL BE PROTECTED BY MATERIALS AND INSTALLATION DIAGRAMS THAT CONFORM TO UL LISTING FOR "THROUGH-PENETRATION FIRE STOP SYSTEMS".
35. CONTRACTOR SHALL ENGAGE THE SERVICES FOR A STATE LICENSED FIRE ALARM MANUFACTURER/INSTALLER TO PREPARE ALL DESIGN DRAWINGS AND CALCULATIONS REQUIRED FOR SYSTEM APPROVAL BY THE AUTHORITY HAVING JURISDICTION...
36. FIRE ALARM DEVICE WIRING SHALL BE MINIMUM #14 AWG COPPER OR PER SYSTEM MANUFACTURER REQUIREMENTS. PROVIDE MINIMUM 3/4" SEPARATE RACEWAY SYSTEM OR AS REQUIRED FOR LIFE SAFETY SYSTEM WIRING CONFIGURATION.
37. UPON COMPLETION OF THE INSTALLATION OF LIFE SAFETY SYSTEM WIRING AND DEVICES, A PERFORMANCE TEST OF THE ENTIRE LIFE SAFETY SYSTEM BE PERFORMED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
38. ALL EQUIPMENT ELECTRICAL TERMINATIONS TO UNDERGO A TORQUE TEST. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR MANUFACTURER'S RECOMMENDED TORQUE DOCUMENTATION AND TOOLS TO PERFORM TORQUE TEST.
39. ALL UNDERGROUND SERVICE CONDUITS SHALL BE SEALED PER NEC ARTICLE 230-8.
40. FLOOR MOUNTED ELECTRICAL EQUIPMENT SHALL BE MOUNTED ON A 4" HIGH CONCRETE PAD.
41. COORDINATE ELECTRICAL REQUIREMENTS FOR ALL PLUMBING AND MECHANICAL EQUIPMENT WITH FINAL CONTRACTOR SELECTION. THE CONTRACTOR SHALL SIZE DISCONNECTS BASED UPON CIRCUIT BREAKER RATINGS AND PROVIDE FUSING AS REQUIRED PER EQUIPMENT MANUFACTURER RECOMMENDATIONS AND U.L. LISTING REQUIREMENTS.
42. PROVIDE 10 AWG CONDUCTORS FOR 20 AMPERE, 120V BRANCH CIRCUITS LONGER THAN 75' AND 8 AWG CONDUCTORS FOR 20 AMPERE, 120V BRANCH CIRCUITS LONGER THAN 120'. PROVIDE 10 AWG CONDUCTORS FOR 20 AMPERE, 277V BRANCH CIRCUITS LONGER THAN 200' UNLESS OTHERWISE NOTED.

ELECTRICAL LEGEND

NOTE: ALL SYMBOLS MAY NOT BE USED.

Table with columns: SYMBOL, DESCRIPTION. Sections include LIGHTING, SIGNAL, POWER, SINGLE LINE, WIRING, MISCELLANEOUS.

STANDARD ABBREVIATIONS

Table with columns: ABBREVIATION, DESCRIPTION. Includes terms like AMPERE, ABOVE FINISHED FLOOR, ARC FAULT, AMP FUSE, etc.

DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL NOTES

MAY 12, 2025

CLIENT CHANGES 08/16/25

E001

ELECTRICAL SPECIFICATIONS

PART I - GENERAL

A. CONDITIONS

- FURNISH AND INSTALL A COMPLETELY WIRED AND OPERATIONAL ELECTRICAL SYSTEM AS SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO, THESE MAJOR ITEMS.
 - LIGHTING FIXTURES AS INDICATED AND SPECIFIED ON THE PLANS.
 - ELECTRICAL PANELS, SERVICE, CONDUIT, WIRING, ETC., FOR ALL OUTLETS AND EQUIPMENT.
 - TELEPHONE OUTLETS AND CONDUIT AS INDICATED.

B. RELATED WORK BY OTHERS

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR ELECTRICAL SERVICE ENTRANCE FROM THE MAIN SERVICE TO UTILITY POINT OF ELECTRICAL SERVICE. ELECTRICAL CONTRACTOR SHALL COORDINATE THE INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE WITH SERVING UTILITY COMPANY.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE CONDUIT, TRENCH, AND BACKFILL FOR PRIMARY PHONE AND CATV SERVICE FROM THE TELEPHONE TERMINAL BOARD OR CABINET TO THE PHONE COMPANY AND CATV COMPANY POINT OF SERVICE.

C. CODES, REGULATIONS, AND STANDARDS

- THE INSTALLATION SHALL COMPLY WITH APPLICABLE LOCAL AND STATE CODES AND ORDINANCES, WITH THE REGULATIONS OF THE CURRENTLY ACCEPTED EDITION OF THE NATIONAL ELECTRIC CODE AND WITH THE REQUIREMENTS OF THE POWER, TELEPHONE, AND CATV COMPANIES FURNISHING SERVICES TO THIS INSTALLATION.
- THE FOLLOWING INDUSTRY STANDARDS, SPECIFICATIONS, AND CODES ARE MINIMUM REQUIREMENTS:
 - THE NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION STANDARDS.
 - THE NATIONAL ELECTRICAL CODE, INCLUDING LOCAL AMENDMENTS.
 - UNDERWRITER LABORATORIES INCORPORATED STANDARDS.
 - AMERICAN NATIONAL STANDARDS INSTITUTE.

D. INSPECTION OF SITE

- PRIOR TO SUBMITTING A BID FOR ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED CONSTRUCTION AND SHALL THOROUGHLY ACQUAINT HIMSELF WITH EXISTING UTILITIES, AND WORKING CONDITIONS TO BE ENCOUNTERED, ETC. ALLOWANCE WILL NOT BE MADE FOR NONCOMPLIANCE WITH THIS CONDITION AFTER BIDDING.
- ELECTRICAL INSTALLATION SHALL MEET THE EXISTING CONDITIONS.

E. STORAGE AND HANDLING OF MATERIAL

- DELIVER MATERIALS AND EQUIPMENT TO THE PROJECT IN THE MANUFACTURER'S ORIGINAL, UNOPENED, LABELED CONTAINERS. PROTECT AGAINST MOISTURE, TAMPERING, OR DAMAGE FROM IMPROPER HANDLING OR STORAGE. CONTRACTOR SHALL PROTECT AND BE RESPONSIBLE FOR ANY DAMAGE TO WORK OR MATERIALS UNTIL FINAL ACCEPTANCE BY THE OWNER, AND SHALL MAKE GOOD WITHOUT COST TO THE OWNER, ANY DAMAGE OR LOSS THAT MAY OCCUR DURING THIS PERIOD.
- ARRANGE FOR TIMELY DELIVERY OF MATERIALS AND EQUIPMENT TO THE JOB SITE IN ORDER TO MINIMIZE THE LENGTH OF TIME BETWEEN DELIVERY AND INSTALLATION.
- COVER AND PROTECT ANY MATERIAL WHICH MAY BE AFFECTED BY THE WEATHER WHILE IN TRANSIT OR STORED AT THE PROJECT SITE. ANY MATERIAL FOUND DEFECTIVE OR NOT INSTALLED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS MAY BE REJECTED BY THE ENGINEER.

F. CLEANUP

- KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS, OR RUBBISH CAUSED BY EMPLOYEES OR WORK UNDER THIS DIVISION OF THE SPECIFICATIONS. AT THE COMPLETION OF THE WORK REMOVE ALL SURPLUS MATERIALS, TOOLS, ETC., AND LEAVE THE PREMISES BROOM-CLEAN.

G. EXCAVATION

- PERFORM ALL EXCAVATION AND BACK FILLING REQUIRED FOR WORK PERFORMED UNDER THIS DIVISION OF THE SPECIFICATIONS. USE EXCAVATED MATERIALS FOR BACKFILL UNLESS OFF SITE MATERIALS ARE DEEMED NECESSARY.

H. DRAWINGS

- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT AND LOCATIONS OF THE ELECTRICAL WORK DATA PRESENTED ON THESE DRAWINGS ARE AS ACCURATE AS PLANNING CAN DETERMINE, BUT FIELD VERIFICATION OF ALL DIMENSIONS, LOCATIONS, LEVELS, ETC., TO SUIT FIELD CONDITIONS IS REQUIRED. REVIEW ALL ARCHITECTURAL, STRUCTURAL, AND MECHANICAL DRAWINGS AND ADJUST ALL WORK TO MEET THE REQUIREMENTS OF CONDITIONS SHOWN. THE ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS. DISCREPANCIES BETWEEN DIFFERENT PLANS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING BEFORE THE DATE OF BID OPENING. IF DISCREPANCIES ARE NOT REPORTED, THE CONTRACTOR SHALL BID THE GREATER QUANTITY OR BETTER QUALITY, AND APPROPRIATE ADJUSTMENTS WILL BE MADE AFTER CONTRACT AWARD. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD MEASURE AND CONFIRM MOUNTING HEIGHTS AND LOCATION OF ELECTRICAL EQUIPMENT WITH RESPECT TO COUNTERS, RADIATION, ETC. DO NOT SCALE DISTANCES OFF THE ELECTRICAL DRAWINGS, USE ACTUAL BUILDING DIMENSIONS.

I. EXCAVATION, CUTTING, AND FITTING

- PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT OF THIS SECTION. HOWEVER, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE ARCHITECT.

J. COOPERATION WITH OTHER CONTRACTORS

- COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF THE ELECTRICAL OUTLETS AND EQUIPMENT WILL BE PROPERLY COORDINATED. CONDUIT, LIGHTING FIXTURES, AND OTHER EQUIPMENT LOCATIONS SHALL BE CHECKED WITH OTHER TRADES TO AVOID CONFLICT WITH THE PIPING, DUCTWORK, STEEL, BEAMS, OR OTHER OBSTRUCTIONS.
- COORDINATE THE LOCATION OF THE TRENCHES AND CONDUITS FOR ELECTRICAL AND TELEPHONE UTILITY SERVICES WITH THE GENERAL CONTRACTOR.
- COORDINATE HVAC EQUIPMENT CONNECTION REQUIREMENTS WITH HVAC CONTRACTOR.
- CAREFULLY CHECK THE LOCATIONS OF THE OUTLET BOXES AND DETERMINE THAT THEY HAVE NOT BEEN DISTURBED DURING THE INSTALLATION OF MATERIALS OF OTHER TRADES.

PART II - PRODUCTS AND EXECUTION

A. MATERIALS

- ALL MATERIALS SHALL BE NEW AND OF QUALITY AS SPECIFIED ON THE PLANS OR SPECIFICATIONS AND MUST CARRY THE UNDERWRITERS LABORATORIES APPROVAL COVERING THE PURPOSE FOR WHICH THEY ARE USED, IN ADDITION TO MEETING ALL REQUIREMENTS OF THE CURRENT APPLICABLE CODES AND REGULATIONS.

B. CONDUIT

- ALL WIRING SHALL BE INSTALLED IN LISTED METALLIC CONDUIT EXCEPT AS PERMITTED BELOW. IMC MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH THE EARTH. EMT MAY BE USED IN INDOOR LOCATIONS NOT IN CONTACT WITH EARTH, NOT IN CONCRETE SLABS OR WALLS AND NOT SUBJECT TO DAMAGE. PVC MAY BE USED IN OR BELOW CONCRETE AND DIRECT BURIED IN EARTH. MC CABLE THAT INCLUDES A GREEN GROUND WIRE MAY BE USED FOR DROPS IN STUD WALLS ONLY. ALL BOX-TO-BOX RUNS AND HOMERUNS TO PANELS SHALL BE IN CONDUIT. FLEXIBLE STEEL CONDUIT MAY BE USED FOR INDOOR FINAL CONNECTIONS TO EQUIPMENT IN LENGTHS NOT TO EXCEED 72". LIQUID-TIGHT FLEXIBLE STEEL CONDUIT SHALL BE FOR OUTDOOR FINAL CONNECTIONS TO EQUIPMENT NOT TO EXCEED 36".

- WHERE CONDUIT ENTERS OUTLET BOXES, FIXTURES OR CABINETS, FIRMLY FASTEN WITH STEEL SET SCREW, COMPRESSION CONNECTORS, OR DOUBLE LOCKNUTS FOR GRC. ALL CONNECTIONS SHALL HAVE BUSHINGS OR INSULATED THROAT CONNECTORS. FIRMLY FASTEN CONDUIT TO THE BUILDING CONSTRUCTION. RUN EXPOSED CONDUIT PARALLEL TO THE BUILDING LINES, SUPPORTED BY APPROPRIATE HANGERS (UNISTRUT, T & B OR APPLETON, OR EQUAL).

- COVER METALLIC CONDUIT IN CONTACT WITH EARTH WITH POLYETHYLENE TAPED SPIRAL WRAPPED, 1/2 LAPPED TO PROVIDE 20 MIL. THICKNESS. TAPE SHALL BE SCOTCH NO. 50 TAPE. CONDUIT AND DUCTS NOT UNDER BUILDINGS AND FEEDER DUCTS SHALL BE INSTALLED PER N.E.C. 300-5. MAKE JOINTS WITH COMPOUND TO BE WATERTIGHT.

- FITTINGS AND CONDUIT BODIES SHALL BE STEEL. NO DIECAST FITTINGS.

- CONDUIT SIZES SHALL BE AS REQUIRED BY CODE AND AS INDICATED OR SPECIFIED.

- ALL EMPTY CONDUIT SYSTEMS SHALL HAVE A NYLON PULL STRING TO FACILITATE INSTALLATION OF FUTURE WIRE.

- SCHEDULE 40 PVC CONDUIT SHALL BE PERMITTED UNDERGROUND WITH PROPER FITTINGS. ALL UL APPROVED AND CEMENTED JOINTS. PENETRATIONS THROUGH FLOOR SLABS AND BENDS GREATER THAN 22" SHALL BE WRAPPED RIGID GALVANIZED STEEL ELBOWS. SCHEDULE 80 PVC CONDUIT SHALL BE USED FOR INCOMING SERVICE FEEDERS, UNLESS OTHERWISE SPECIFIED BY THE UTILITY.

- CONDUITS AND OUTLETS SHALL BE CONCEALED WITH THE BUILDING STRUCTURE, EXCEPT THAT CERTAIN MOTOR AND LIGHTING FEEDER CONDUITS MAY BE RUN EXPOSED IN CERTAIN AREAS AS INDICATED ON THE DRAWINGS. CONDUIT SHOWN TO BE INSTALLED IN CABINETS, COUNTERS, AND CASEWORK SHALL BE RUN AS DIRECTED BY THE ARCHITECT.

- ALL CONDUIT SYSTEMS SHALL HAVE A CODE SIZED COPPER GROUND CONDUCTOR INCREASE CONDUIT SIZE AS REQUIRED.

- CONDUIT PENETRATION THROUGH ROOF SHALL HAVE ROOF FLASHING WITH CAULK TYPE COUNTER FLASHING SLEEVE. INSTALLATION SHALL BE WATERTIGHT.

- CONDUITS SHALL BE ROUTED SURFACE ON THE STRUCTURE, PARALLEL AND PERPENDICULAR TO THE STRUCTURE.

C. OUTLET, PULL, AND JUNCTION BOXES

- EACH SWITCH, LIGHT, RECEPTACLE OR OTHER OUTLET SHALL BE PROVIDED WITH A CODE GAUGE, GALVANIZED STEEL OUTLET BOX. JUNCTION AND PULL BOXES SHALL BE CODE GAUGE, GALVANIZED STEEL. OUTLET BOXES SHALL BE OF THE ONE PIECE, KNOCKOUT TYPE, IN GENERAL 4" SQUARE WITH PLASTER RING. PLASTER RINGS SHALL BE SET TO PROVIDE NOT MORE THAN 1/8" FROM WALL SURFACE TO RING. IN NO CASE SHALL PLASTER RING PROJECT BEYOND SURFACE OF WALL. SINGLE GANG RINGS SIMILAR TO STEEL CITY 52050 SHALL BE USED FOR 4" BOXES IN UNFINISHED BRICK NUMBER 180 BOXES MAY BE USED FOR UNFINISHED MASONRY FLUSH WALL OUTLETS. CENTER ALL OUTLET BOXES IN BLOCK COURSE.

- BOXES INSTALLED IN POURED CEMENT FLOORS SHALL BE FLUSH TYPE CAST IRON OR STEEL WITH WATERTIGHT GASKETED COVERS. WHERE BOXES ARE INSTALLED IN FLOORS WITH TILE OR CARPET FLOOR COVERING, COVERS SHALL BE OF THE RECESSED TYPE TO ACCOMMODATE THE FLOOR COVERING.

- BOXES INSTALLED FOR THE ALARM, COMPUTER, AND SECURITY SYSTEM SHALL BE PROVIDED WITH APPROPRIATE COVER PLATES.

- BOXES FOR TELEPHONE, COMPUTER, T.V., FIRE ALARM, SECURITY, AND SIMILAR SYSTEMS SHALL BE MINIMUM 4" SQUARE AND 2-1/8" DEEP.

D. PANEL BOARDS

- BASIS OF DESIGN FOR PANELBOARDS IS SCHEMATIC IN NATURE. COORDINATE ALL PANEL PURCHASES WITH THE DEL TACO VENDOR. PANELS SHALL BE PURCHASED FROM THE DEL TACO VENDOR. REFER TO THE VENDOR LIST ON SHEET G002.

- CIRCUIT BREAKER TYPE AS INDICATED ON DRAWINGS. UNLESS INDICATED OTHERWISE, ALL PANELS SHALL HAVE PANEL BOARD TYPE CONSTRUCTION WITH BOLT-ON CIRCUIT BREAKERS FOR 3Ø PANELS. LOAD CENTERS ARE NOT PERMITTED.

- THE CIRCUIT BREAKERS SHALL BE OPERABLE IN ANY POSITION AND BE REMOVABLE FROM THE FRONT OF THE PANEL BOARD WITHOUT DISTURBING THE ADJACENT UNITS. BRANCH BREAKERS SHALL BE OF SUCH DESIGN THAT COMBINATION OF SINGLE-POLE, DOUBLE-POLE, AND THREE-POLE BREAKERS CAN BE ASSEMBLED ON THE SAME PANEL. EACH BRANCH CIRCUIT SHALL BE CLEARLY NUMBERED. BRANCH AND MAIN TERMINALS SHALL BE OF THE SOLDERLESS TYPE. HANDLE TIES TO FORM MULTI-POLE BREAKERS NOT ACCEPTABLE.

- WIRE TERMINATION FOR PANEL BOARDS AND CIRCUIT BREAKERS SHALL BE LISTED AS SUITABLE FOR 75 DEGREES C.

- PROVIDE A PRINTED CIRCUIT INDEX BEHIND CLEAR PLASTIC COVER ON INSIDE OF DOOR. INFORMATION SHALL INCLUDE ROOM AND TYPE LOAD SERVED. ALL CIRCUIT BREAKERS SHALL BE IDENTIFIED, INCLUDING SPARES. INDEX CARD FRAME SHALL BE METAL, SECURED TO DOOR.

- WHERE PANEL BOARDS ARE INSTALLED FLUSH WITH THE WALLS, EXTEND EMPTY CONDUITS FORM THE PANEL BOARD TO AN ACCESSIBLE SPACE ABOVE OR BELOW. PROVIDE 3/4" (MINIMUM SIZE) CONDUIT FOR EVERY THREE SINGLE SPARE CIRCUIT BREAKERS OR SPACE OR EQUIVALENT MULTI-POLE ARRANGEMENT, OR FRACTION THEREOF, BUT NOT LESS THAN TWO CONDUITS FOR EACH PANEL.

- PANEL BOARDS TO BE PROVIDED WITH COPPER BUSSING ONLY.

- LOAD CENTERS SHALL NOT BE ALLOWED UNLESS NOTED OTHERWISE.

- ALL NEW PANEL BOARDS SHALL COMPLY WITH NEC ARTICLE 110.16. EQUIPMENT MANUFACTURERS SHALL PROVIDE WARNING LABELS FOR ALL PANELBOARDS, GENERATORS, AUTOMATIC TRANSFER SWITCHES, ETC TO WARN QUALIFIED PERSONS OF POTENTIAL ELECTRIC ARC FLASH HAZARDS. THE MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS BEFORE EXAMINATION, ADJUSTMENT, SERVICE, OR MAINTENANCE OF THE EQUIPMENT.

E. WIRE

- CONDUCTOR SIZES SHOWN ON THE DRAWINGS ARE BASED ON COPPER WIRE. UNLESS OTHERWISE SPECIFIED, ALL WIRE SHALL BE TYPE XHHW FOR FEEDERS OR BRANCH CIRCUITS LARGER THAN 4 AWG, TYPE THHN/THWN INSULATION FOR FEEDERS AND BRANCH CIRCUITS 4 AWG AND SMALLER. ALL BRANCH CIRCUIT WIRING SHALL BE COPPER. SERVICE AND PANEL FEEDERS #10 AND LARGER MAY BE ALUMINUM, PROVIDED THE CONDUCTOR SIZES ARE INCREASED FOR EQUAL OR GREATER AMPACITY AND EQUAL OR LESS EQUIVALENT VOLTAGE DROP. INCREASE CONDUIT SIZE AS REQUIRED. THE WIRES SHALL BE MARKED WITH COLOR TO SIMPLIFY CIRCUIT IDENTIFICATION. UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES GROUND WIRES SHALL BE GREEN. NEUTRAL WIRES SHALL BE 120V-WHITE, 277V- GRAY, AND LIVE WIRES 208Y/120V AND 120/240 SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C). FOR 480Y/277V CIRCUITS, THE COLOR CODE SHALL BE BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C). THE WIRE SHALL BE 12 AWG UNLESS OTHERWISE INDICATED. CIRCUIT SHALL BE LABELED IN EACH J-BOX.

- WHERE ALUMINUM WIRE IS USED, ALUMINUM CONDUCTOR MATERIAL SHALL COMPLY WITH N.E.C. 310-14 AND ALL CONNECTIONS AND TERMINATIONS SHALL BE MACHINE COMPRESSION TYPE EQUAL TO BURNNDY "HI PLUG" OR "MACADAPT", NO EXCEPTIONS.

- NO WIRE SHALL BE INSTALLED IN THE CONDUIT SYSTEM UNTIL THE CONDUIT SYSTEM IS COMPLETE. USE MINERALAC NO. 100 OR EQUIVALENT AS A LUBRICANT TO FACILITATE THE INSTALLATION OF THE CONDUCTORS IN THE CONDUIT SYSTEM.

- SPICES IN EXTERIOR PULL BOXES AND MANHOLES SHALL BE WEATHERPROOF USING "SCOTCHCAST" SPLICE KIT OR APPROVED EQUAL. SEAL ENDS OF CONDUITS AND DUCTS WITH "DUCTSEAL" OR APPROVED EQUAL.

- PROVIDE SOLID CONDUCTOR FOR 12 AWG AND SMALLER.

F. WIRING DEVICES

- WALL SWITCHES SHALL BE SPECIFICATION GRADE AC SILENT TYPE SWITCHES, 20A, 120/277 VOLT.

- RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX TYPE, NEMA 5-20R, 20 AMPERE, 120 VOLT GROUNDED TYPE. SPECIAL APPLICATION RECEPTACLES SHALL BE INDICATED ON PLANS. MOUNT WITH THE GROUND DOWN. COLOR SHALL BE WHITE UNLESS OTHERWISE NOTED ON THE DRAWINGS.

- APPROVED MANUFACTURERS FOR WIRING DEVICES SHALL BE HUBBELL, LEVITON OR LeGRAND (PASS & SEYMOUR).

- DEVICE PLATES SHALL BE SMOOTH NYLON UNLESS OTHERWISE NOTED ON THE DRAWINGS. COLOR SHALL BE WHITE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.

- RECEPTACLES IN OUTDOOR AND WET LOCATIONS SHALL BE INSTALLED WITH A HINGED OUTLET COVER/ENCLOSURE CLEARLY MARKED AND U.L. LISTED SUITABLE FOR WET LOCATIONS WHILE IN USE.

G. LIGHTING FIXTURES

- ALL LIGHTING FIXTURES ARE PROVIDED BY THE DEL TACO LIGHTING VENDOR, AND INSTALLED AND WIRED BY THIS CONTRACTOR. THE DRAWINGS INDICATE THE FIXTURES FOR EACH LOCATION. PROVIDE LAMPS FOR ALL FIXTURES IF REQUIRED. PROVIDE HANGERS AND OTHER ITEMS REQUIRED FOR INSTALLATION THAT IS NOT PROVIDED WITH THE LIGHT FIXTURES.

H. GUARANTEE

- GUARANTEE ALL MATERIAL FURNISHED AND ALL WORKMANSHIP PERFORMED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OF WORK. ANY DEFECTS DEVELOPING WITHIN THIS PERIOD, TRACEABLE TO MATERIAL FURNISHED AS A PART OF THIS SECTION OR WORKMANSHIP PERFORMED HEREUNDER, SHALL BE MADE GOOD AT NO EXPENSE TO THE OWNER.

I. SHOP DRAWINGS AND APPROVALS

- THE ITEMS SPECIFIED HEREIN AND ON DRAWINGS ARE USED AS A STANDARD OF QUALITY. ANY MATERIALS OF EQUAL QUALITY AND AESTHETIC VALUE WILL BE GIVEN CONSIDERATION AS A SUBSTITUTE FOR THE MATERIALS SPECIFIED. NO APPROVAL WILL BE GIVEN TO A SPECIFIC CATALOG NUMBER, MODEL, OR TYPE OF EQUIPMENT, PRIOR TO BIDDING. AFTER BIDDING, THE DECISION OF THE ARCHITECT AND/OR ENGINEER DETERMINING EQUAL MATERIALS WILL BE FINAL.

- THE CONTRACTOR SHALL SUBMIT SEVEN (7) IDENTICAL BOUND SETS OF SHOP DRAWINGS ON THE FOLLOWING ITEMS:

- LIGHTING FIXTURE CUTS AND PERFORMANCE DATA.
- OUTLINE DRAWINGS AND DATA SHEETS OF EACH PANELBOARD AND SWITCHBOARD.
- WIRING DEVICES AND LIGHTING CONTROLS.

- SUBMIT ITEMS AT ONE TIME IN A NEAT AND ORDERLY MANNER WITHIN 15 DAYS OF AWARD OF CONTRACT. PARTIAL SUBMITTALS WILL NOT BE ACCEPTABLE.

J. RECORD AND AS-BUILT DRAWINGS

- THE ELECTRICAL CONTRACTOR SHALL MAINTAIN A SET OF DRAWINGS AT THE JOB SITE FOR THE EXCLUSIVE PURPOSE OF MAINTAINING A RECORD OF ALL WORK INSTALLED AND TO SHOW ANY DEVIATIONS FROM THE WORK INDICATED ON THE DRAWINGS.

- AT THE COMPLETION OF THE PROJECT, ONE SET OF REPRODUCIBLE DRAWINGS, SHOWING ALL AS-BUILT CONDITIONS, SHALL BE DELIVERED TO THE OWNER FOR ACCEPTANCE PRIOR TO FINAL PAYMENT.

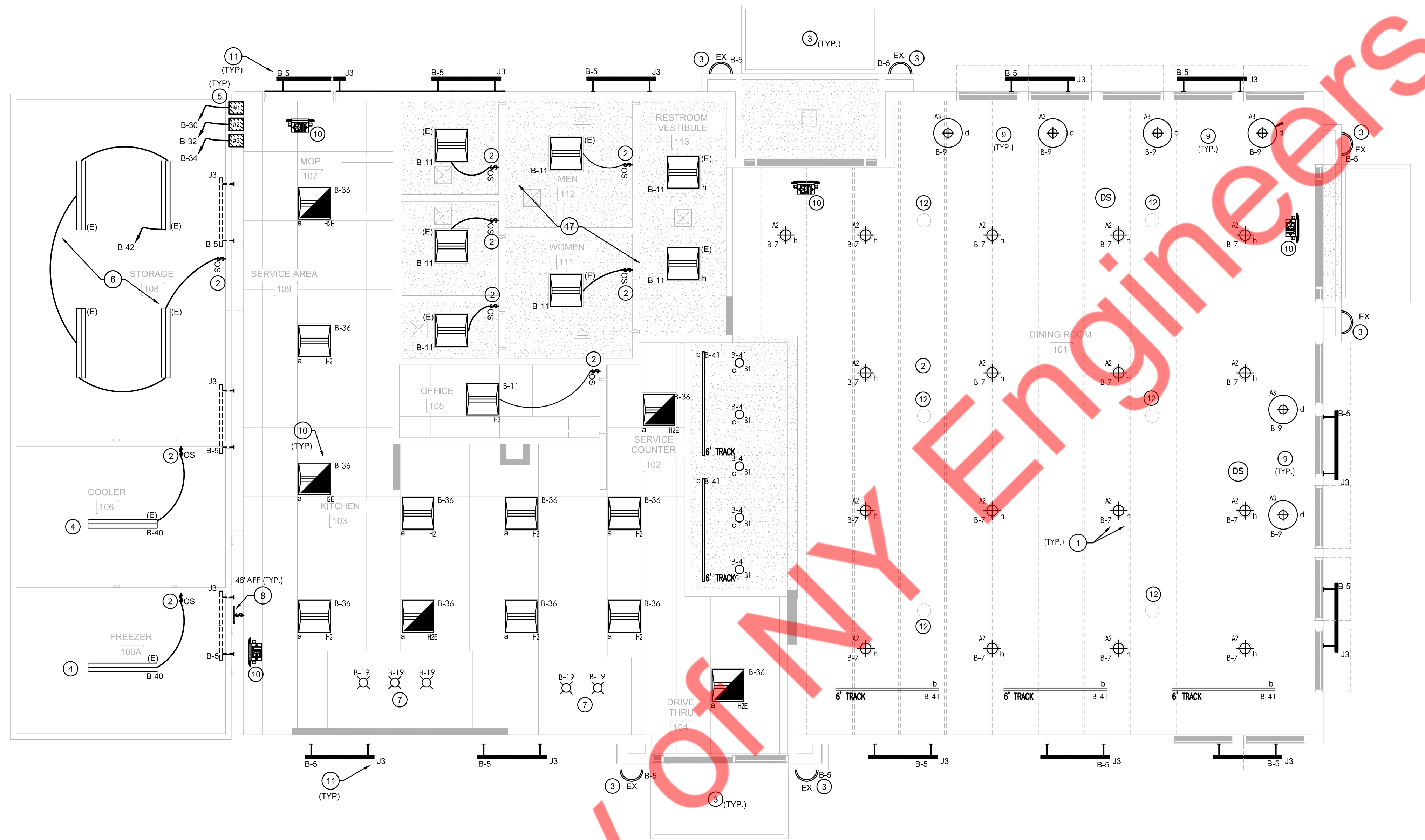
DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL SPECIFICATIONS

MAY 12, 2025

CLIENT CHANGES 08/16/25

E002

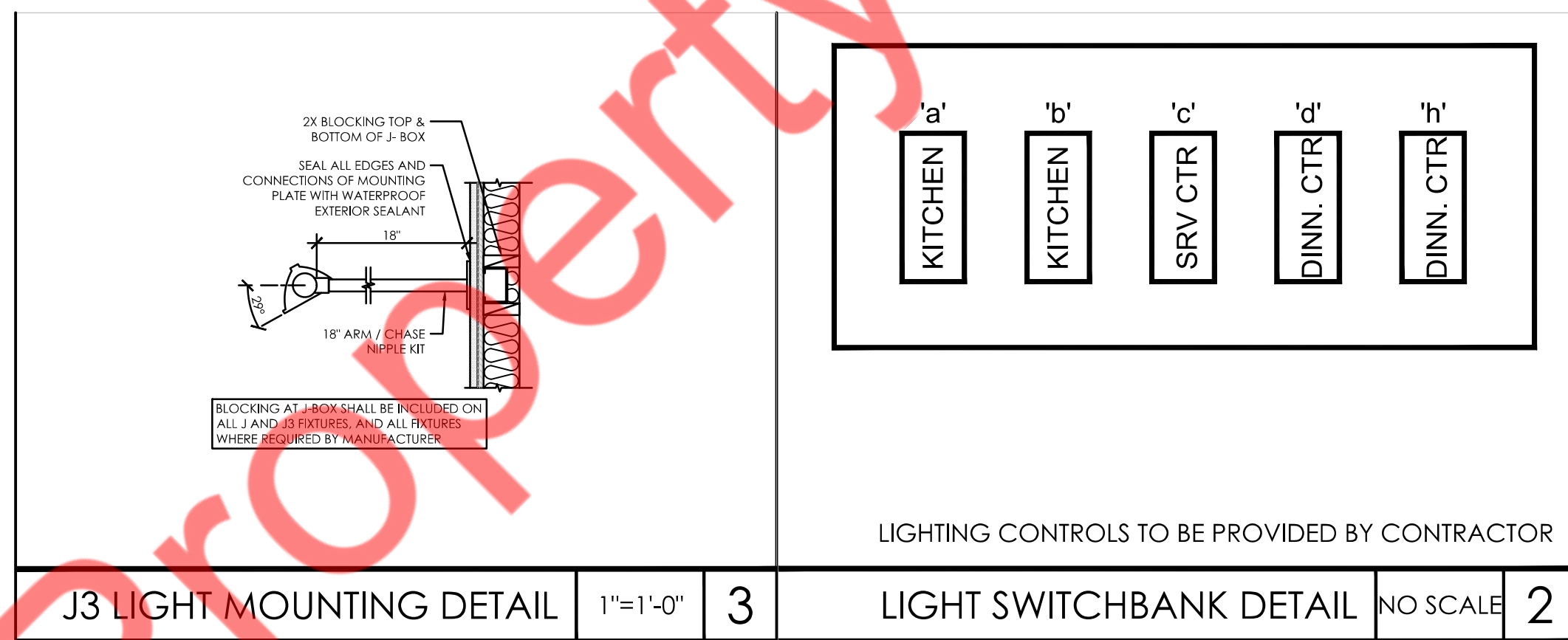


GENERAL NOTES

- A. ELECTRICAL COVER PLATES FOR WIRING DEVICES AND SWITCHES SHALL BE STAINLESS STEEL.
- B. MULTIPLE HOME RUNS MAY BE SHOWN OF THE SAME CIRCUIT ON THESE PLANS FOR CLARITY. THE E.C. SHALL COMBINE HOME RUN CONDUIT AND WIRES SO AS TO OBSERVE ALL REQUIREMENTS FOR N.E.C. 110.14. MULTIPLE TAPPED CIRCUIT BREAKERS ARE NOT PERMITTED.
- C. SHARING OF NEUTRALS IS NOT PERMITTED.

KEYED LIGHTING PLAN NOTES

- 1 UPPER CASE LETTER INDICATES FIXTURE TYPE. LOWER CASE LETTER INDICATES SWITCHING COORDINATION. REFER TO SWITCH BANK DETAIL ON THIS SHEET. NUMBER INDICATES CIRCUIT.
- 2 WALL MOUNTED 2 RELAY DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH. REFER TO DETAIL 05/E401 FOR WIRING REQUIREMENTS.
- 3 EXISTING CANOPY LIGHTS/EXTERIOR SHALL REMAIN AND SHALL BE CIRCUITED TO PANEL C AND CONTROLS SHALL BE PROVIDED AS SHOWN IN THE DRAWINGS. BASE BID ACCORDINGLY.
- 4 EXISTING WALK-IN COOLER/FREEZER LIGHTS SHALL REMAIN. E.C. SHALL VERIFY AND REUSE LIGHT FIXTURES AND REPLACE WITH NEW IF EXISTING LIGHT FIXTURES ARE IN-OPERABLE. BASE BID ACCORDINGLY.
- 5 LIGHTING CONTACTORS ON BULKHEAD ABOVE OPENING. REFER TO DETAIL 1/E303.
- 6 EXISTING LIGHT FIXTURE SHALL REMAIN. E.C. SHALL VERIFY AND REUSE LIGHT FIXTURES AND REPLACE WITH NEW IF EXISTING LIGHT FIXTURES ARE IN-OPERABLE. BASE BID ACCORDINGLY.
- 7 HOOD LIGHTING PROVIDED BY HOOD VENDOR. ELECTRICAL CONTRACTOR TO PROVIDE SWITCH AND FINAL CONNECTION AS REQUIRED. REFER TO KITCHEN DRAWINGS FOR FURTHER COORDINATION.
- 8 LIGHTING SWITCHBANK LOCATION. REFER TO DETAILS 2/E101 AND 1/E303.
- 9 A3 LIGHTS SHALL BE CENTERED OVER TABLES.
- 10 PROVIDE EXTRA HOT WIRE THAT BY-PASSES LIGHTING CONTACTOR PANEL AND LOCAL SWITCHING FOR POWER TO EMERGENCY FIXTURE.
- 11 E.C. SHALL ROUTE EXTERIOR LIGHTING CIRCUIT THRU LIGHTING CONTACTOR. REFER TO DETAIL 01/E303. COORDINATE WITH OWNER PRIOR TO ROUGH-IN.
- 12 PROPOSED SPEAKER LOCATION. REFER TO E202.



DESIGNER NOTE:
 SITE ADAPT ENGINEER NEEDS TO DETERMINE IF THE CO2 DETECTION AND MONITORING REQUIRED BY LOCAL JURISDICTION AND INCLUDE IT WHEN REQUIRED.

DEL TACO #1630 TENANT IMPROVEMENTS

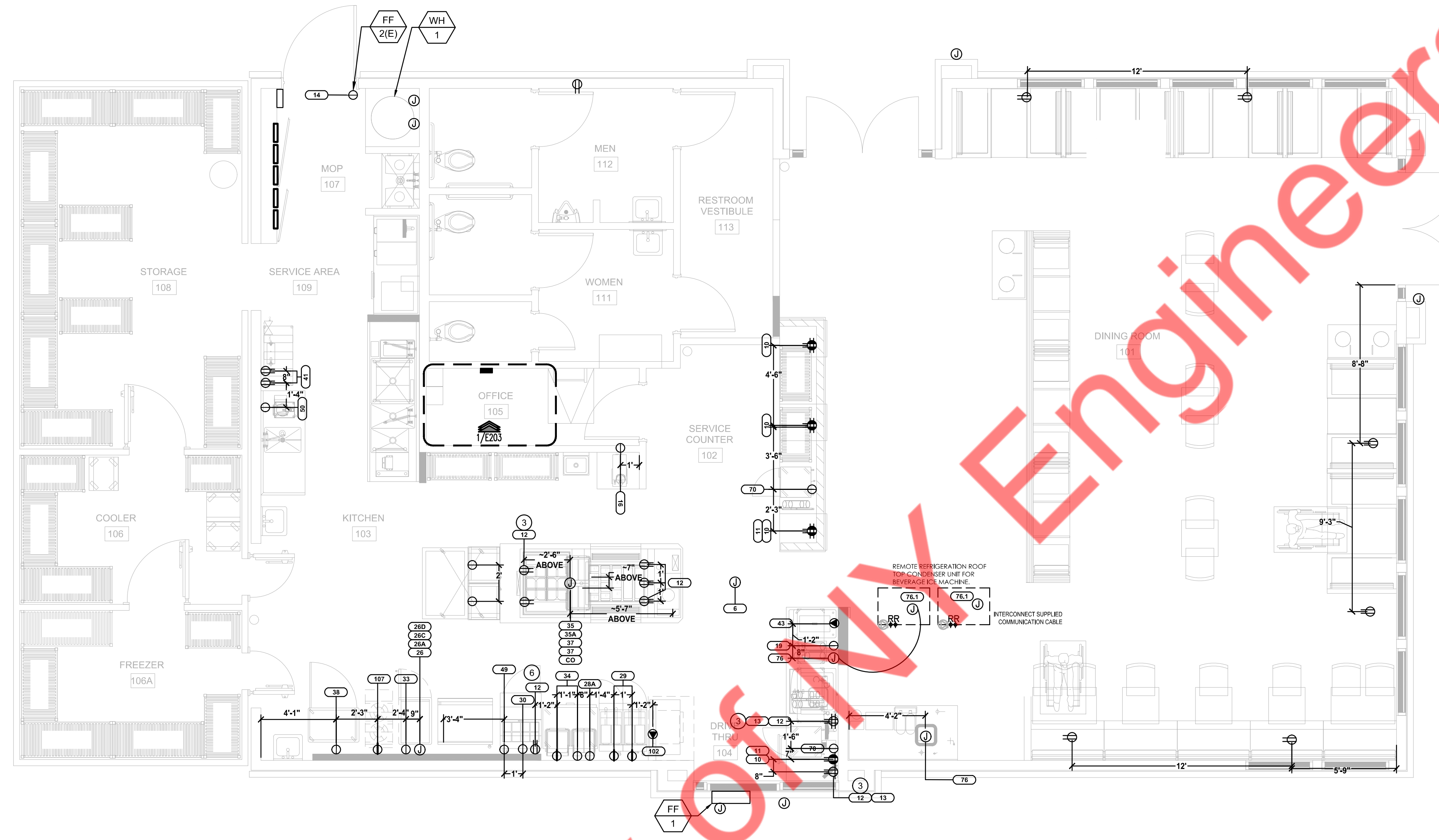
ELECTRICAL LIGHTING PLAN

MAY 12, 2025

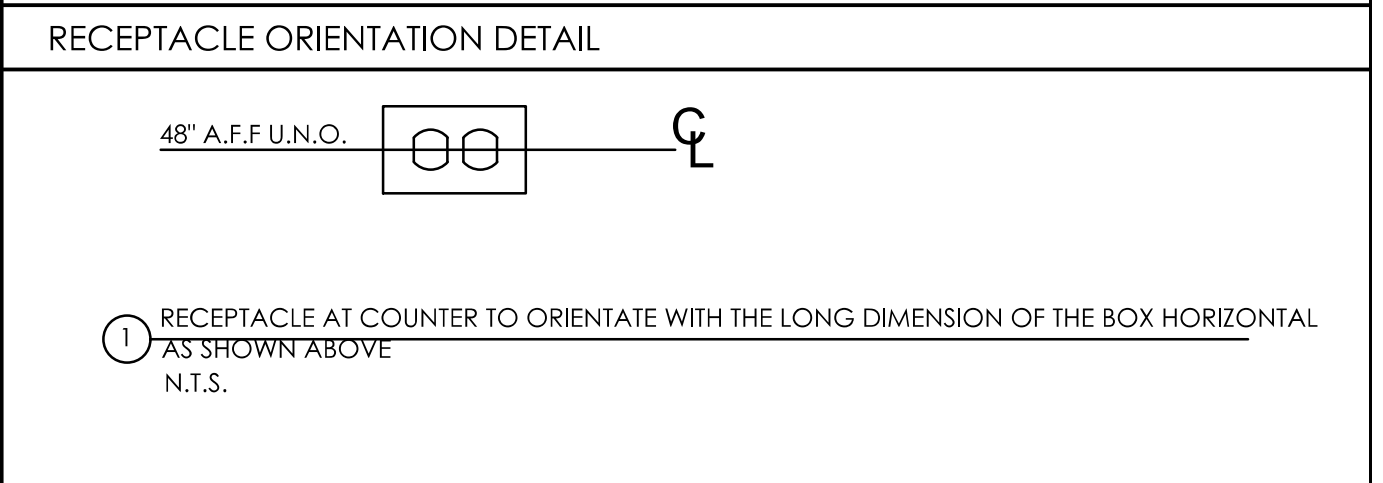
CLIENT CHANGES 08/16/25

1
 E101
ELECTRICAL LIGHTING PLAN
 1/4" = 1'-0"

E101

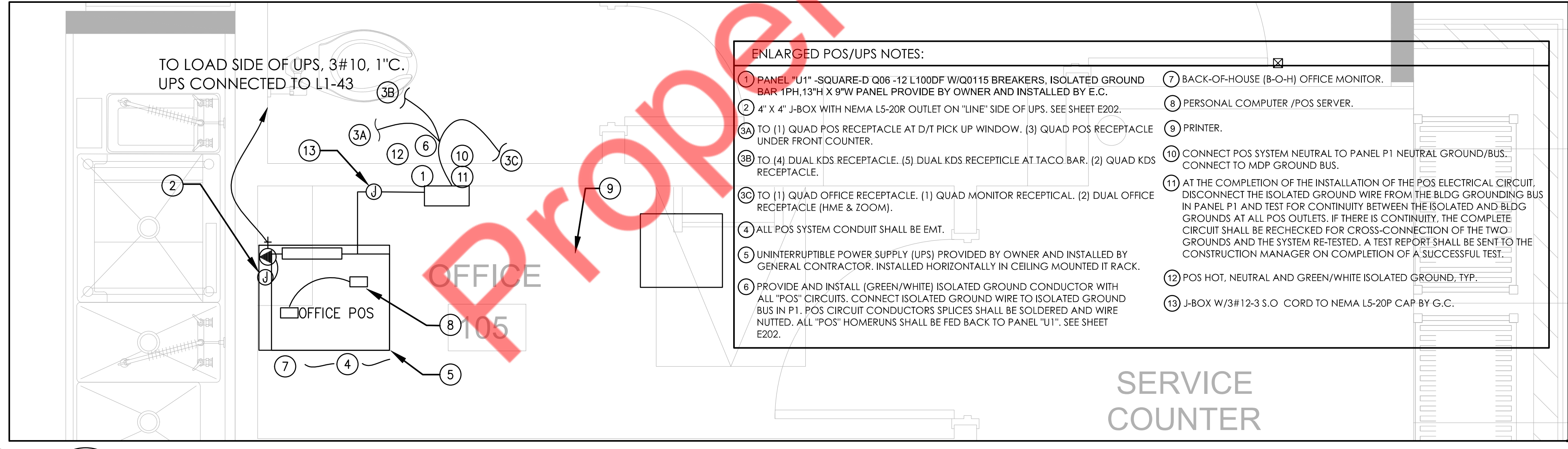


- KEY NOTES:**
- IRRIGATION CONTROLLER. VERIFY LOCATION.
 - WALK-IN COOLER/FREEZER & ICE MACHINE CONDENSERS WILL BE ROOF MOUNTED.
 - REFER TO 201a FOR POINT OF SALE (MONITORS, PRINTERS & CASH REGISTERS) ELECTRICAL. REFER TO E202 FOR TELEPHONE & DATA REQUIREMENTS.
 - WALK-IN MFG TO PROVIDE J-BOX FOR OUTLETS AT 48 A.F.F. IN WALK-IN PANELS FOR NOTED EQUIPMENT
- GENERAL NOTES:**
- ALL ELECTRICAL OUTLETS SHOWN ON THIS PLAN ARE FOR FIXTURES SPECIFIED AS FURNISHED BY THE KITCHEN EQUIPMENT SUPPLIER. FOR FURTHER BLDG ELECTRICAL REQUIREMENTS (TELEPHONES, CLOCKS, SIGNS, EXHAUST HOOD SWITCHING, ETC.) SEE OTHER PLANS
 - ALL DIMENSIONS GIVEN ARE IN INCHES TO 2'-0" AND ARE FROM CENTERLINES AND/OR FINISHED WALLS. ELEVATIONS GIVEN ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET. ALL ROUGH-INS SHOWN ARE TO BE RUN INSIDE WALLS (EXCEPT STUB-UPS). LOCATION INDICATES POINT OF EXIT FROM WALLS, CEILINGS OR FLOORS. ALL CONVENIENCE OUTLETS ARE TO BE SET HORIZONTALLY. ALL 120 VOLT OUTLETS NOT DESIGNATED WITH SPECIFIC LOADS TO BE RATED AT 20.0 AMPS.
 - ELECTRICIAN TO CONNECT ALL ELECTRICAL EQUIPMENT AND FIXTURES AND DO ANY INTERNAL WIRING REQUIRED IN THE FIXTURES AS REQUIRED BY THE SPECIFICATIONS. ALL ELECTRICAL OUTLET COVER PLATES ARE TO BE STAINLESS STEEL AND ARE TO BE FURNISHED BY THE ELECTRICIAN, AS WELL AS THE RECEPTACLE. UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS, EACH COVER PLATE SHALL BE LABELED WITH PANEL NAME AND CIRCUIT NUMBER THAT SERVES IT. ALL DISCONNECT SWITCHES REQUIRED ARE TO BE FURNISHED AND INSTALLED BY THE ELECTRICIAN AT TIME OF INSTALLATION.
 - ALL WORK TO BE PERFORMED IN FULL ACCORDANCE WITH ALL APPLICABLE CODES RELATING TO HOOK-UP, INSTALLATION AND WIRING OF EQUIPMENT. OMISSIONS OR ERRORS ON THE SCHEDULE DO NOT RELIEVE THE ELECTRICIAN FROM COMPLETE FINAL CONNECTION RESPONSIBILITY.
 - CONTROL CIRCUIT FROM ELECTRICIAN FURNISHED AND INSTALL SHUNT TRIP CONTACTOR TO FIRE CONTROL SYSTEM CONTROL MICRO-SWITCH. SHUNT TRIP BREAKER(S) TO BE UNDER EXHAUST HOOD. IN CASE OF FIRE, ALL POWER TO EQUIPMENT UNDER HOOD WILL BE SHUT OFF. ALL GAS EQUIPMENT LOCATED UNDER HOOD WILL ALSO BE SHUT OFF IN CASE OF FIRE. MUST BE WIRED THAT IN THE EVENT OF POWER FAILURE, FIRE CONTROL SYSTEM WILL NOT BE ACTIVATED AND WHEN POWER IS RESTORED, FIRE SYSTEM WILL NOT DISCHARGE. ALL WORK MUST BE COORDINATED WITH THE AIRPORT FACILITIES GROUP RESPONSIBLE FOR FIRE DETECTION AND SUPPRESSION.
 - SPIRAL WRAP NECESSARY LENGTH OF STRIP HEATER ON DRAIN LINE. USE "E-Z" HEAT (OR EQUAL) 120 TYP. WIRE HEATER TO FAN CIRCUIT OF BLOWER COIL SO THAT HEATER IS ALWAYS ON EXCEPT DURING DEFROST CYCLE. STRIP HEATER FURNISHED BY KITCHEN EQUIPMENT SUPPLIER TO ELECTRICAL CONTRACTOR FOR HOOK-UP
 - CONVENIENCE OUTLET TO BE 115 VOLTS, 20 AMPS, SINGLE PHASE, NEMA 5-20R, GFI
 - CABINET MOUNTED RECEPTACLE ARE TO BE FLUSH MOUNTED TO FACE OF CABINET.
 - ICE MACHINE CORD & PLUG BY E.C.



- SYMBOLS LEGEND:**
- CO 20 AMP CONVENIENCE OUTLET
 - X ITEM NUMBER
 - X KEY NOTE

1 KITCHEN ELECTRICAL STUBOUT PLAN
E201b 1/4" = 1'-0"



- ENLARGED POS/UPS NOTES:**
- PANEL "U1" - SQUARE-D Q06-12 L100DF W/Q0115 BREAKERS, ISOLATED GROUND BAR 1PH, 13"H X 9"W PANEL PROVIDE BY OWNER AND INSTALLED BY E.C.
 - 4" X 4" J-BOX WITH NEMA L5-20R OUTLET ON "LINE" SIDE OF UPS. SEE SHEET E202.
 - TO (1) QUAD POS RECEPTACLE AT D/T PICK UP WINDOW. (3) QUAD POS RECEPTACLE UNDER FRONT COUNTER.
 - TO (4) DUAL KDS RECEPTACLE. (5) DUAL KDS RECEPTACLE AT TACO BAR. (2) QUAD KDS RECEPTACLE.
 - TO (1) QUAD OFFICE RECEPTACLE. (1) QUAD MONITOR RECEPTACLE. (2) DUAL OFFICE RECEPTACLE (HME & ZOOM).
 - ALL POS SYSTEM CONDUIT SHALL BE EMT.
 - UNINTERRUPTIBLE POWER SUPPLY (UPS) PROVIDED BY OWNER AND INSTALLED BY GENERAL CONTRACTOR. INSTALLED HORIZONTALLY IN CEILING MOUNTED RACK.
 - PROVIDE AND INSTALL (GREEN/WHITE) ISOLATED GROUND CONDUCTOR WITH ALL "POS" CIRCUITS. CONNECT ISOLATED GROUND WIRE TO ISOLATED GROUND BUS IN P1. "POS" CIRCUIT CONDUCTORS SPLICES SHALL BE SOLDERED AND WIRE NUTTED. ALL "POS" HOMERUNS SHALL BE FED BACK TO PANEL "U1". SEE SHEET E202.
 - BACK-OF-HOUSE (B-O-H) OFFICE MONITOR.
 - PERSONAL COMPUTER /POS SERVER.
 - PRINTER.
 - CONNECT POS SYSTEM NEUTRAL TO PANEL P1 NEUTRAL GROUND/BUS. CONNECT TO MDP GROUND BUS.
 - AT THE COMPLETION OF THE INSTALLATION OF THE POS ELECTRICAL CIRCUIT, DISCONNECT THE ISOLATED GROUND WIRE FROM THE BLDG GROUNDING BUS IN PANEL P1 AND TEST FOR CONTINUITY BETWEEN THE ISOLATED AND BLDG GROUNDS AT ALL POS OUTLETS. IF THERE IS CONTINUITY, THE COMPLETE CIRCUIT SHALL BE RECHECKED FOR CROSS-CONNECTION OF THE TWO GROUNDS AND THE SYSTEM RE-TESTED. A TEST REPORT SHALL BE SENT TO THE CONSTRUCTION MANAGER ON COMPLETION OF A SUCCESSFUL TEST.
 - POS HOT, NEUTRAL AND GREEN/WHITE ISOLATED GROUND, TYP.
 - J-BOX W/3/12-3 S.O. CORD TO NEMA L5-20P CAP BY G.C.

NOTE: REFER TO KITCHEN PLANS FOR SCHEDULES, WALL ELEVATIONS, AND ROUGH-IN HEIGHTS OF KITCHEN RELATED ELECTRICAL DEVICES AND CONNECTIONS.

2 ENLARGED OFFICE POS/UPS POWER PLAN
E201b 3/4" = 1'-0"

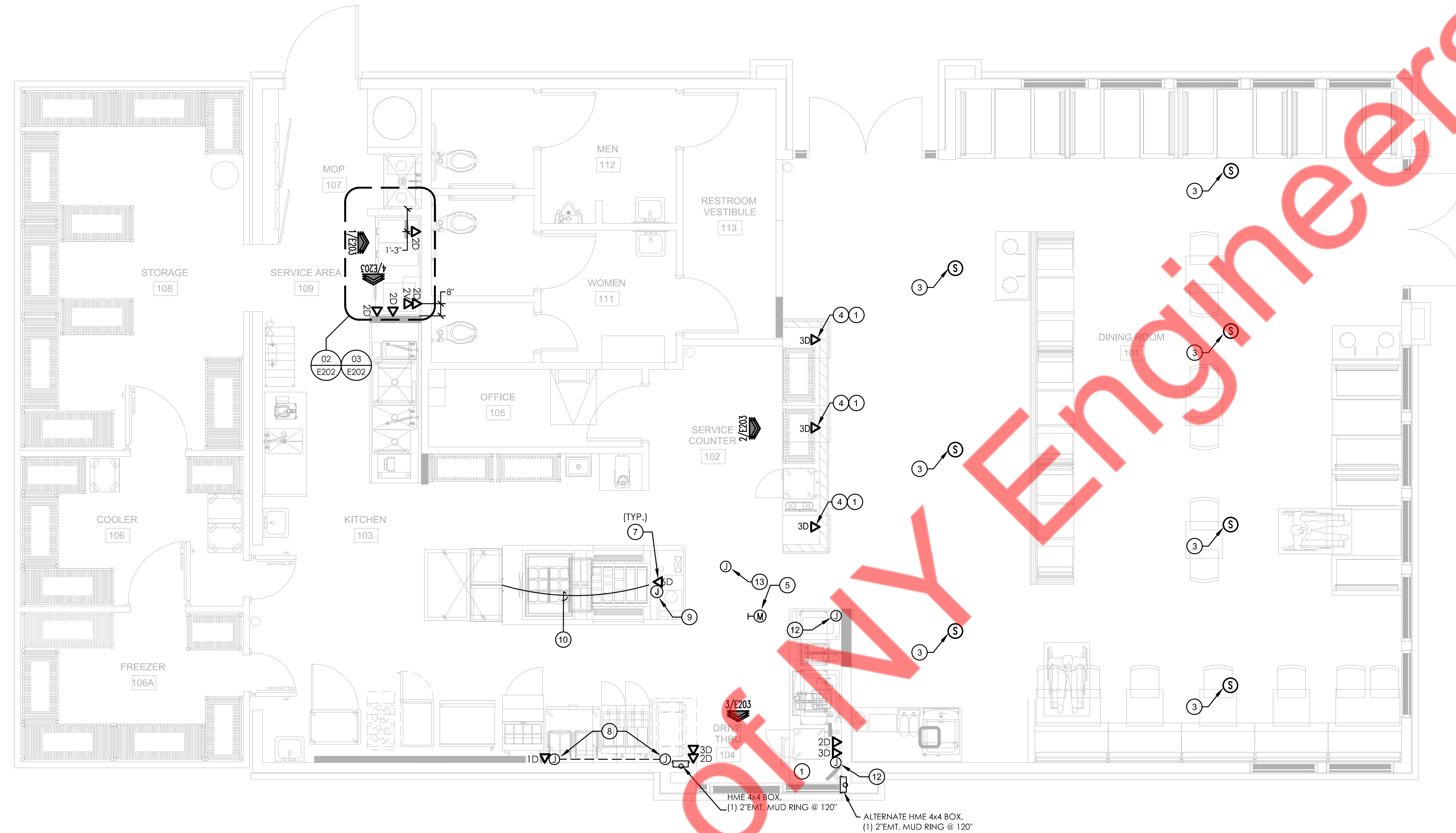
DEL TACO #1630 TENANT IMPROVEMENTS

KITCHEN ELECTRICAL STUBOUT PLAN

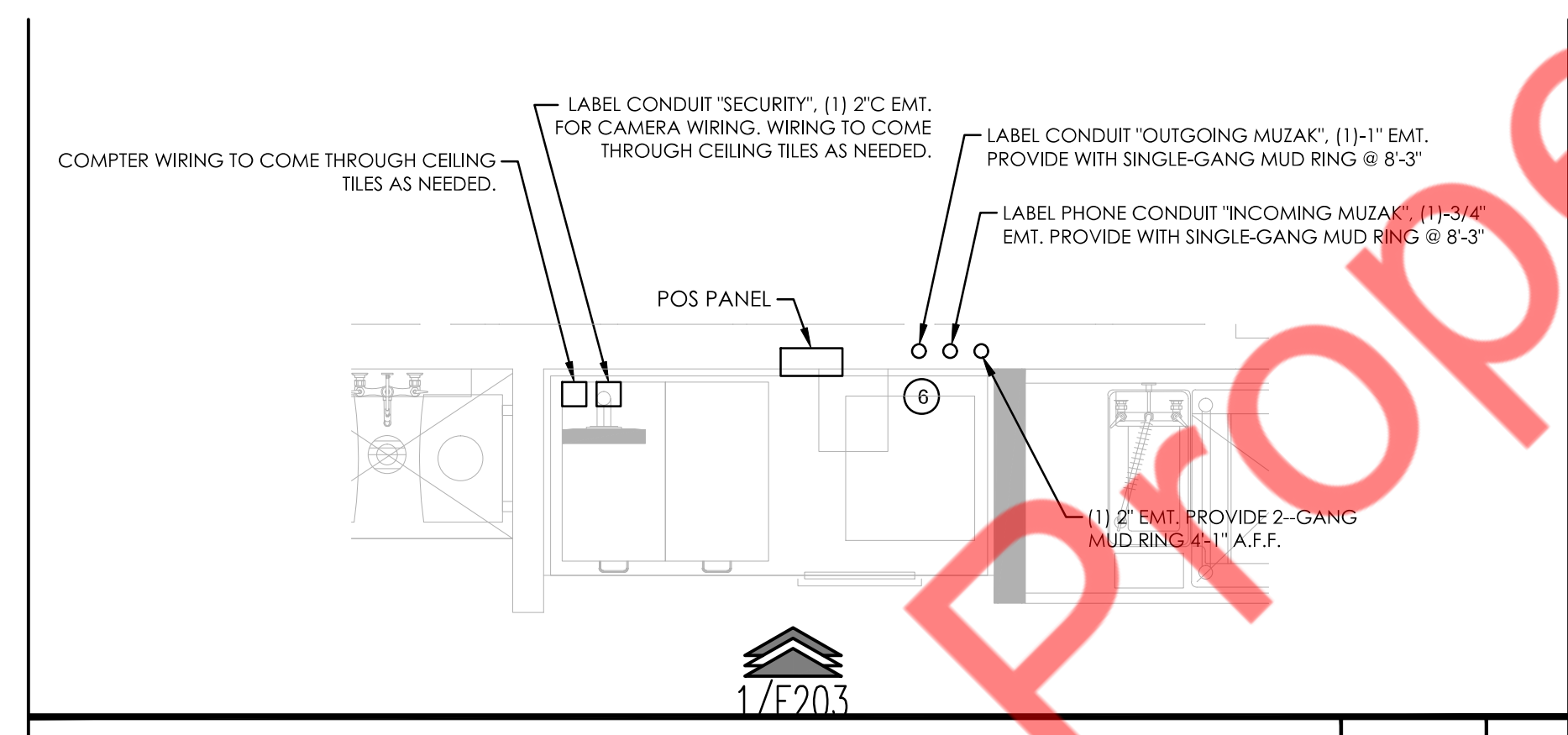
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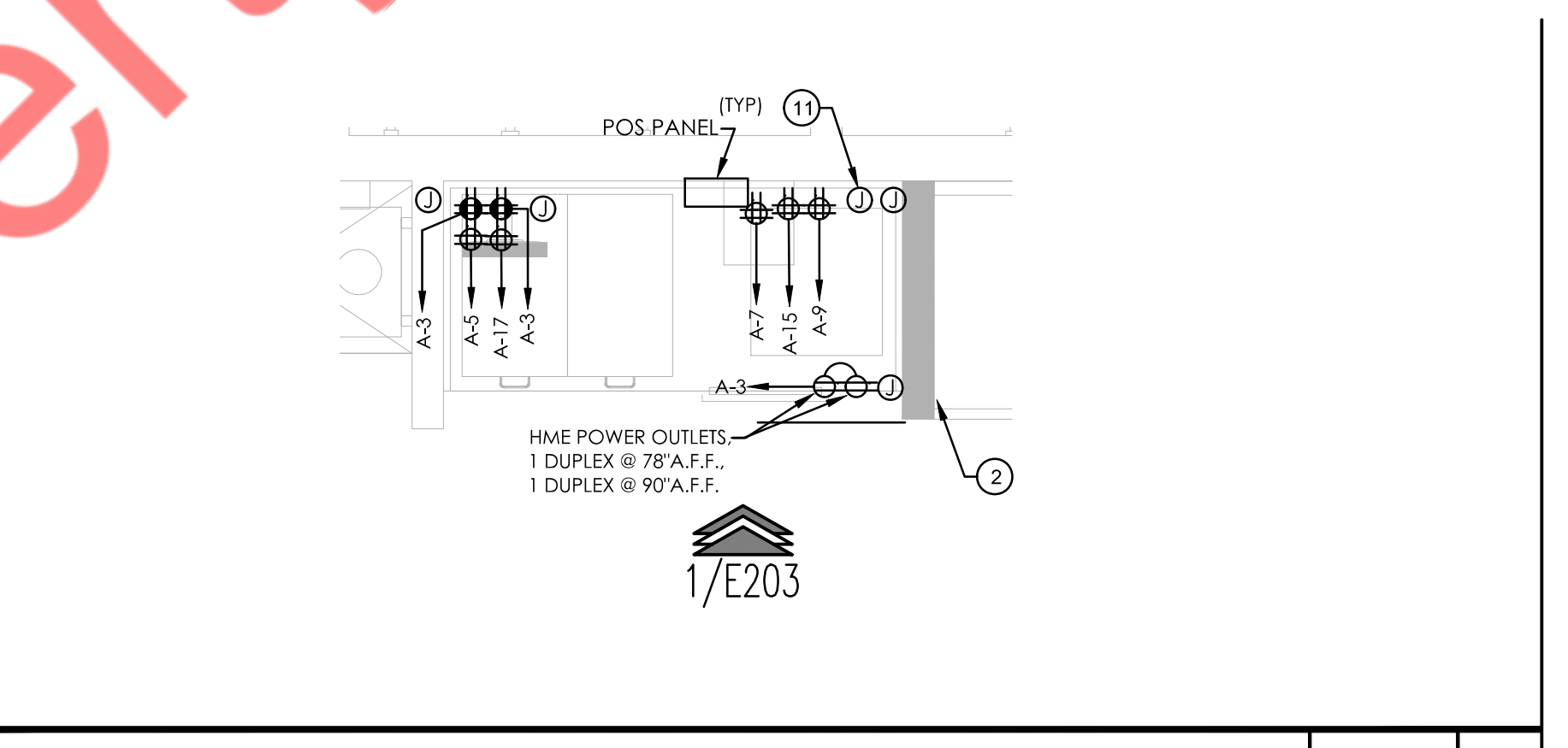
E201b



1 **E202** **ELECTRICAL POWER PLAN**
 1/4" = 1'-0"



OFFICE ENLARGED EMPTY CONDUIT/BACKBOX PLAN 1/2" = 1'-0" **3**



OFFICE ENLARGED POWER & COMM-DATA PLAN 1/2" = 1'-0" **2**

GENERAL NOTES

- A. CONTRACTOR SHALL REFER TO THE NOTES AND SPECIFICATIONS SHEETS OF EACH MEP DISCIPLINE FOR GENERAL NOTES WHICH ARE APPLICABLE TO ALL PLANS.
- B. REFER TO KITCHEN DRAWINGS FOR MORE INFORMATION AND ELECTRICAL ROUGH-INS.
- C. ALL SWITCHES, OUTLETS, IN KITCHEN AND MANAGER'S OFFICE ARE TO HAVE NAME PLATES ETCHED ON STAINLESS STEEL.
- D. ALL LOW VOLTAGE WIRING SHALL BE IN 3/4" EMT CONDUIT OR SIZED AS INDICATED. PROVIDE WALL CHASES FOR ALL SECURITY TYPE EQUIPMENT AS NECESSARY. EXACT LOCATION TO BE COORDINATED.
- E. RECEPTACLES MOUNTED IN KITCHEN EQUIPMENT. CONSULT ARCHITECT OR KITCHEN CONSULTANT FOR INSTALLATION.
- F. CONSULT EQUIPMENT VENDOR FOR CONNECTION REQUIREMENTS AND PROVIDE CONNECTORS TO MATCH ACCORDINGLY.
- G. CONTRACTOR TO VERIFY ALL CONDITIONS, LOCATIONS, AND CONNECTIONS TO EQUIPMENT WITH OWNER AND/OR ARCHITECT PRIOR TO BID AND INCLUDE ALL COST IN BID.
- H. ALL ELECTRICAL CONNECTIONS SHALL BE FED FROM THE CEILING UNLESS NOTED OTHERWISE.
- I. MULTIPLE HOME RUNS MAYBE SHOWN ON THESE PLANS FOR CLARITY. E.C. IS TO COMBINE HOME RUN CONDUIT AND WIRES SO AS TO OBSERVE ALL REQUIREMENTS FOR N.E.C. 110.14. IT IS NOT THE INTENTION OF THIS DESIGN TO ALLOW MULTIPLE TAPPED CIRCUIT BREAKERS.

TELEPHONE NOTES

- A. TELEPHONE OUTLETS SHALL CONSIST OF A SINGLE-PORT COVER PLATE AND PLASTER RING WITH 3/4" CONDUIT ROUTED TO NEAREST TELEPHONE BACKBOARD.
- B. TELEPHONE OUTLETS IN BUILDINGS SERVED BY AN AIR-PLENUM CEILING SPACE SHALL CONSIST OF A SINGLE-PORT COVER PLATE, BACK BOX AND 3/4" CONDUIT TO NEAREST TELEPHONE BACKBOARD.
- C. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO VERIFY THE TELEPHONE SERVICE ENTRANCE REQUIREMENTS WITH THE SERVING TELEPHONE UTILITY COMPANY AND THE TELEPHONE SYSTEM DISTRIBUTION REQUIREMENTS WITH THE TELEPHONE SYSTEM VENDOR.
- D. 1 #6 CU IN 1/2" C. TO A SEPARATE UFER GROUND SHALL BE INSTALLED, AND DEDICATED TO TELEPHONE USE ONLY IF REQUIRED BY LOCAL AUTHORITIES. OTHERWISE ALL TELEPHONE BACKBOARDS SHALL HAVE 1 #6 CU IN 1/2" C. TO APPROVED BUILDING GROUND.

KEYED ELECTRICAL PLAN NOTES

- 1 RECEPTACLES FOR P.O.S. REGISTERS SHALL BE HUBBELL #IG5362. RECEPTACLES FOR P.O.S. MONITORS, HME DRIVE-THRU SYSTEMS AND STORE COMPUTER SHALL BE HUBBELL #HBL5362.
- 2 INSTALL A TEST SWITCH/ANNUNCIATOR FOR EACH HVAC UNIT DUCT SMOKE DETECTOR ABOVE THE LIGHTING CONTROL CABINET. CONNECT THE TEST SWITCH/ANNUNCIATOR TO ALLOW REMOTE SHUTDOWN OF THE HVAC UNIT (SIMULATING THE DETECTION OF SMOKE) AND INDICATION OF SHUTDOWN OF THE UNIT DUE TO THE DETECTION OF SMOKE.
- 3 J-BOX FOR SPEAKER SYSTEM. COORDINATE WITH A/V VENDOR AND LOCAL INSPECTOR ON ANY RACEWAY REQUIREMENTS. COORDINATE WITH A/V VENDOR ON ALL REQUIREMENTS AND EXACT LOCATION PRIOR TO ROUGH-IN.
- 4 4"x4" JUNCTION BOX FOR CAT-5 WITH MUD RING. RUN 2" C. THROUGH ALL THREE BOXES AT FRONT COUNTER REGISTERS TO RETURN WALL AT FAR END OF COUNTER THEN TO ABOVE CEILING.
- 5 PROVIDE MICROPHONE OUTLET BOX AT 24" AFF WITH 3/4" EMPTY CONDUIT TO ABOVE CEILING.
- 6 ALL CONDUITS SHOWN SHALL BE CONCEALED IN WALL. NO SURFACE MOUNTED CONDUIT IS PERMITTED.
- 7 PRECUT DATA LOCATIONS WILL BE PROVIDED WITH THE TACO BAR. I.T. CONTRACTOR SHALL PROVIDE FIELD WIRING OF DATA.
- 8 (2) FLUSH 4X4 DEEP JUNCTION BOXES WITH 2" CONDUIT BETWEEN JUNCTION BOXES CONCEALED IN WALL.
- 9 E.C. SHALL PROVIDE AND INSTALL 2-GANG JUNCTION BOX IN FRONT PILLAR OF TACO COUNTER.
- 10 (2) RAPID RUN LINES FROM FRONT PILLAR TO BACK PILLAR OF TACO COUNTER (BY OTHERS).
- 11 REFER TO ELEVATIONS 1/E203 AND 4/E203 FOR JUNCTION BOX SIZES AND USES (TYP.).
- 12 FLUSH 4X4 DEEP JUNCTION BOX WITH 2" CONDUIT CONCEALED IN WALL UP TO ABOVE ACCESSIBLE CEILING.
- 13 4X4 JUNCTION BOX ABOVE CEILING FOR FUTURE DIGITAL MENU BOARD DATA.
- 14 NOT USED.

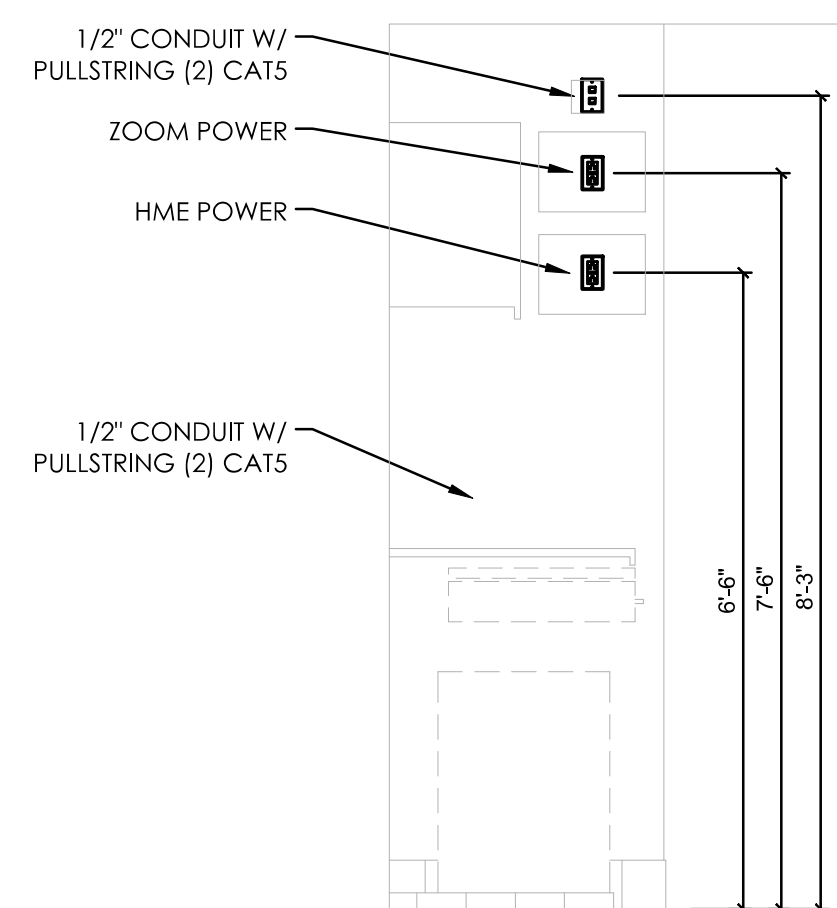
DEL TACO #1630 TENANT IMPROVEMENTS
ELECTRICAL COMMUNICATION PLAN

MAY 12, 2025

CLIENT CHANGES 08/16/25

E202

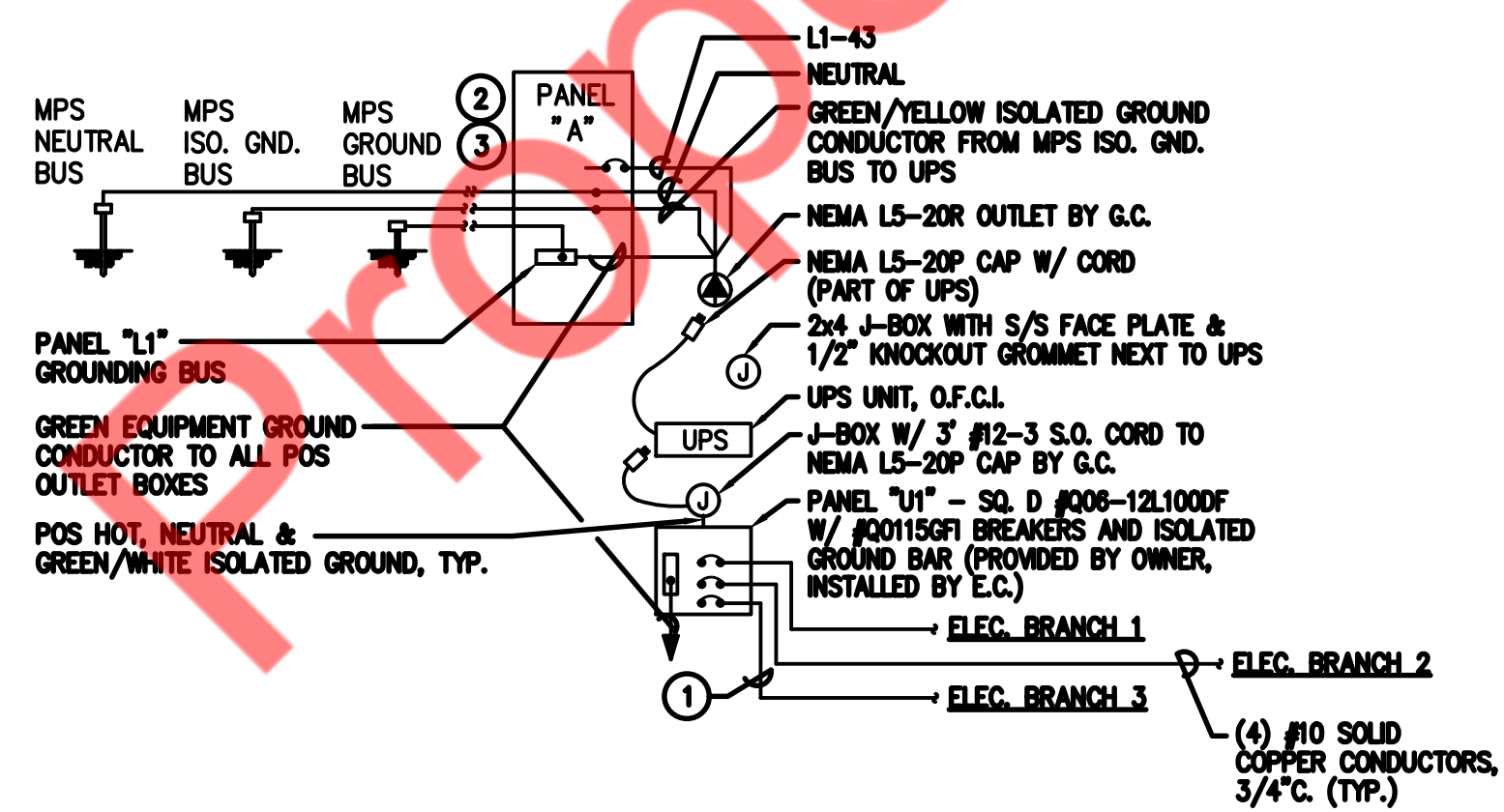
NOT USED NO SCALE 5



OFFICE 105 NO SCALE 4

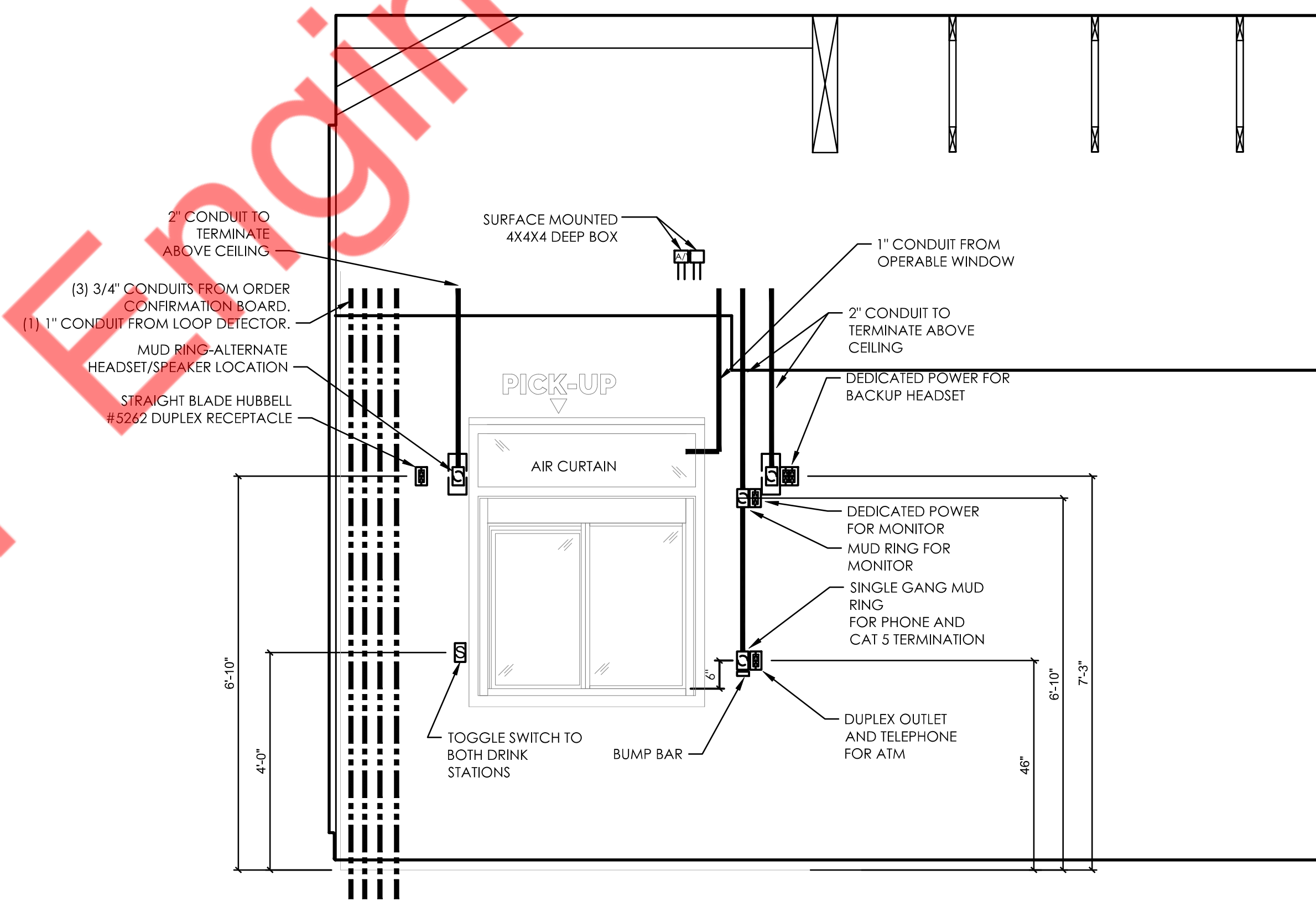
NOTES:

- 1 ALL P.O.S. SYSTEM CONDUIT SHALL BE EMT.
- 2 CONNECT P.O.S. SYSTEM NEUTRAL TO MPS NEUTRAL/GROUND BUS. CONNECT ISOLATED GROUND TO MPS GROUND BUS.
- 3 AT THE COMPLETION OF THE INSTALLATION OF THE POS ELECTRICAL CIRCUIT, DISCONNECT THE ISOLATED GROUND WIRE FROM THE BLDG GROUNDING BUS IN THE MPS & TEST FOR CONTINUITY BETWEEN THE ISOLATED AND BUILDING GROUNDS AT ALL POS OUTLETS. IF THERE IS CONTINUITY, THE COMPLETE CIRCUIT SHALL BE RECHECKED FOR CROSS-CONNECTION OF THE TWO GROUNDS AND THE SYSTEM RE-TESTED. A TEST REPORT SHALL BE SENT TO THE CONSTRUCTION MANAGER ON COMPLETION OF A SUCCESSFUL TEST.
- 4 ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF ALL POS POWER WIRING AND POS EMPTY CONDUITS & BOXES FOR COMMUNICATIONS CABLING ONLY. INSTALLATION AND CONNECTION OF COMMUNICATIONS CABLING SHALL BE BY OTHERS.

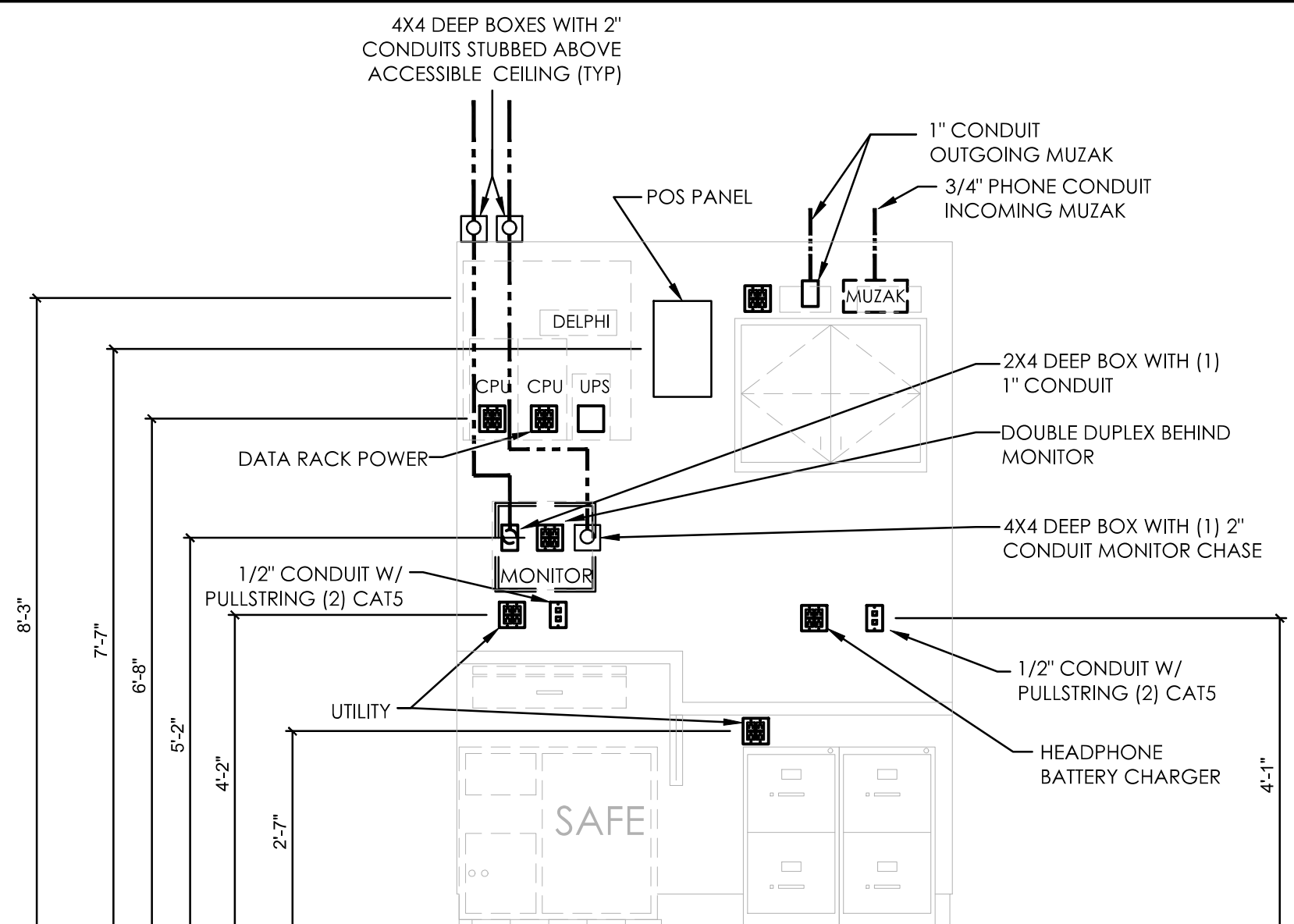


POS PANEL / BATTERY BACKUP SCHEMATIC WIRING NO SCALE 2

Property of NY Engineers



DRIVE THRU WINDOW 1/2"=1'-0" 3



OFFICE 105 NO SCALE 1

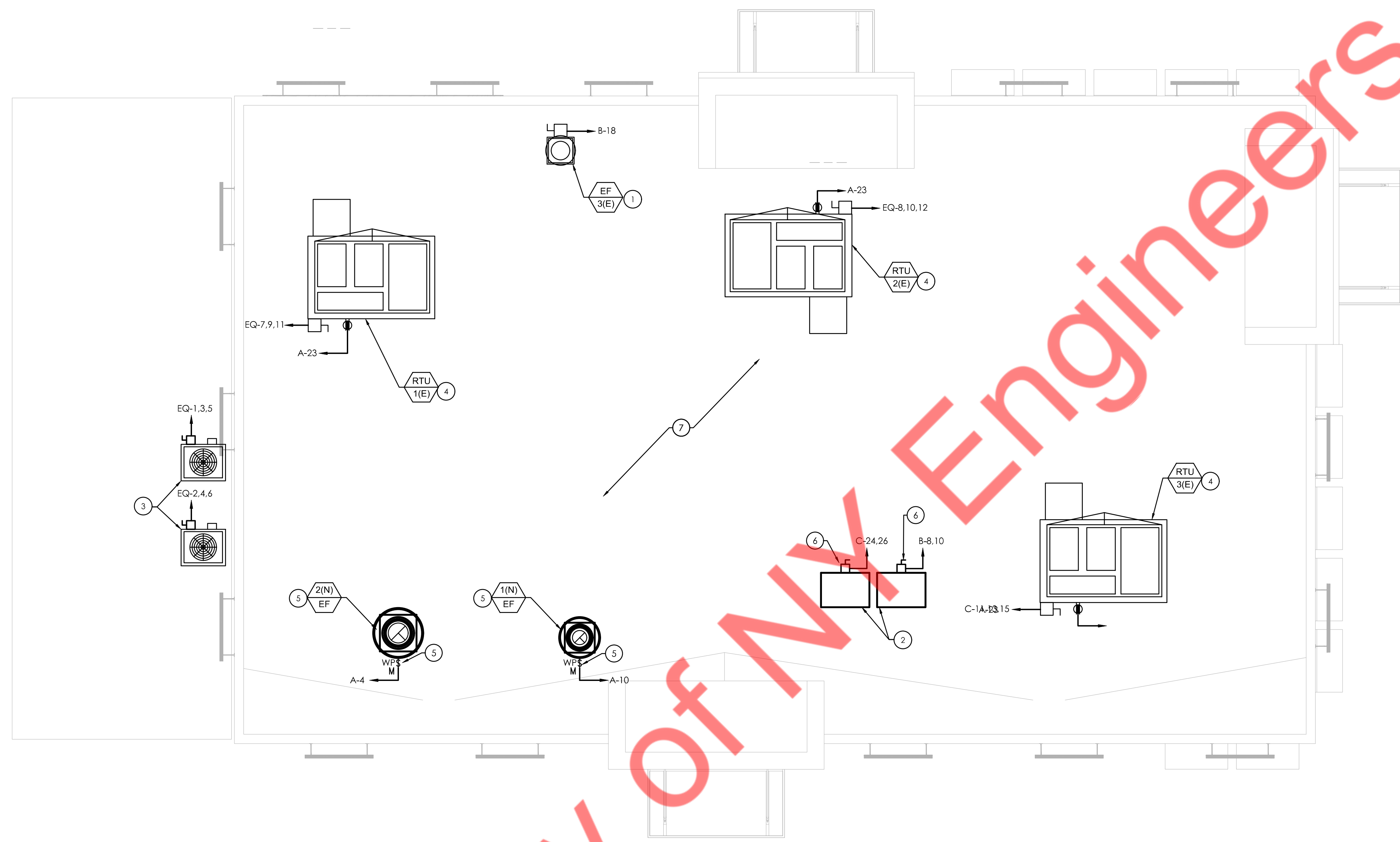
DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL DETAILS

MAY 12, 2025

CLIENT CHANGES 06/16/25

E203

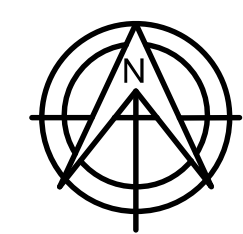


ELECTRICAL KEYNOTES

- ① EXISTING RESTROOM EXHAUST FAN TO REMAIN AS IS. E.C SHALL VERIFY THE CONDITION OF THE ELECTRICAL FIXTURES AND REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- ② REMOTE CONDENSER FOR KITCHEN REFRIGERATION EQUIPMENT. REFERENCE KITCHEN DRAWINGS FOR INSTALLATION REQUIREMENTS.
- ③ EXISTING CONDENSER UNITS FOR COOLER/FREEZER TO REMAIN AS IS. E.C SHALL VERIFY THE CONDITION OF THE EXISTING ELECTRICAL FIXTURES AND REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- ④ EXISTING ROOFTOP UNIT TO REMAIN AS IS. E.C SHALL VERIFY THE CONDITION OF THE EXISTING ELECTRICAL FIXTURES AND REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
- ⑤ PROVIDE A MOTOR RATED WEATHER PROOF DISCONNECT THAT IS LISTED TO SERVE AS A DISCONNECTING MEANS.
- ⑥ PROVIDE 20 AMP NON-FUSED DISCONNECT IN NEMA 3R ENCLOSURE AT HVAC EQUIPMENT ON ROOF.
- ⑦ E.C TO COORDINATE THE EXACT LOCATION AND ELECTRICAL REQUIREMENT OF MECHANICAL EQUIPMENTS WITH MECHANICAL CONTRACTOR. PROVIDE THE ELECTRICAL CONNECTION AS PER MECHANICAL EQUIPMENTS REQUIREMENT IN FIELD. BASE BID ACCORDINGLY.

DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL ROOF PLAN



1
E204

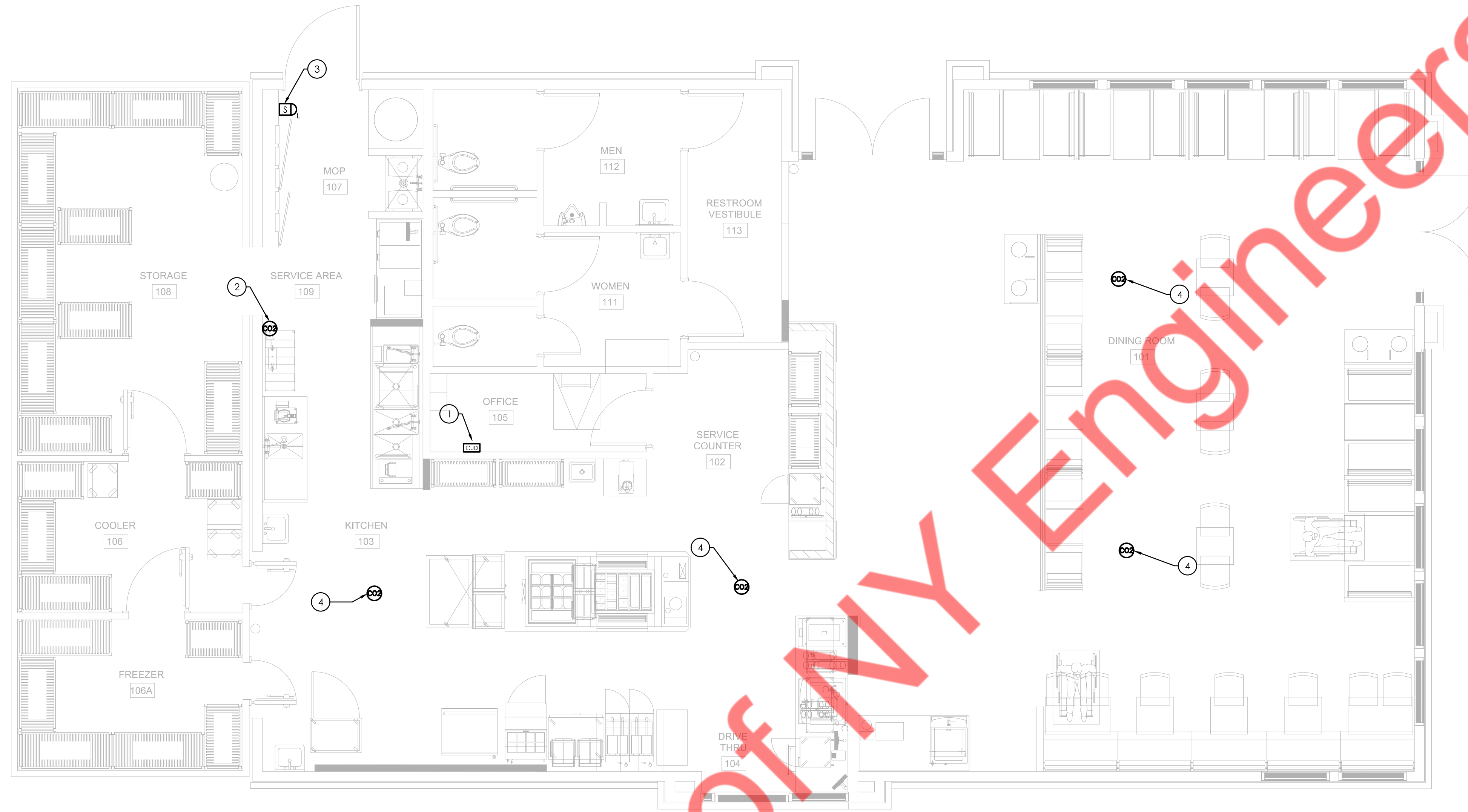
ELECTRICAL ROOF PLAN

1/4" = 1'-0"

MAY 12, 2025

CLIENT CHANGES 06/16/25

E204



GENERAL NOTES

1. CO2 INSTALLATION SHALL COMPLY WITH NFPA 55:13.10
2. COMPLIANCE IS VIA SENSOR AND NOTIFICATION
3. SENSOR SYSTEM IS THE NUCO2 BEVERAGE CARBONATION SYSTEM SAFETY MONITOR. PROVIDING THE FOLLOWING:
 - 3.1. AWARENESS ALERT AT 5,000 PPM
 - 3.2. ALERT AT 5,000 PPM 8 HOUR TIME WEIGHTED AVERAGE
 - 3.3. PRE-ALARM AT 15,000 PPM
 - 3.4. FULL ALARM AT 30,000 PPM
 - 3.5. SELF DIAGNOSTICS
4. SENSORS SHALL BE INSTALLED PER MANUFACTURERS REQUIREMENTS NO MORE THAN 12 IN FROM THE FINISHED FLOOR.

ELECTRICAL KEYNOTES

- ① PROVIDE CENTRAL UNITE DISPLAY IN OFFICE 12" ABOVE DESK.
- ② PROVIDE AT THIS LOCATION CO2 SENSOR 12" ABOVE FINISH FLOOR. PER THE MANUFACTURERS INSTRUCTIONS.
- ③ PROVIDE STROBE LIGHT BELOW T-BAR 84" ABOVE FINISH FLOOR. PER THE MANUFACTURERS INSTRUCTIONS.
- ④ VERIFY QUANTITY AND LOCATION OF CARBON MONOXIDE WITH LOCAL FIRE MARSHAL OR INSPECTOR.

SYMBOLS LEGEND

- CARBON DIOXIDE DETECTOR.
- CENTRAL UNITE DISPLAY.
- STROBE LIGHT.

DESIGNER NOTE:
 SITE ADAPT ENGINEER TO PROVIDE CO2 DETECTIONS SYSTEM IF REQUIRED BY LOCAL FIRE MARSHAL OR INSPECTOR. VERIFY QUANTITY AND LOCATION OF CARBON MONOXIDE WITH LOCAL FIRE MARSHAL OR INSPECTOR.



1
E101

ELECTRICAL CO2 PLAN
 1/4" = 1'-0"

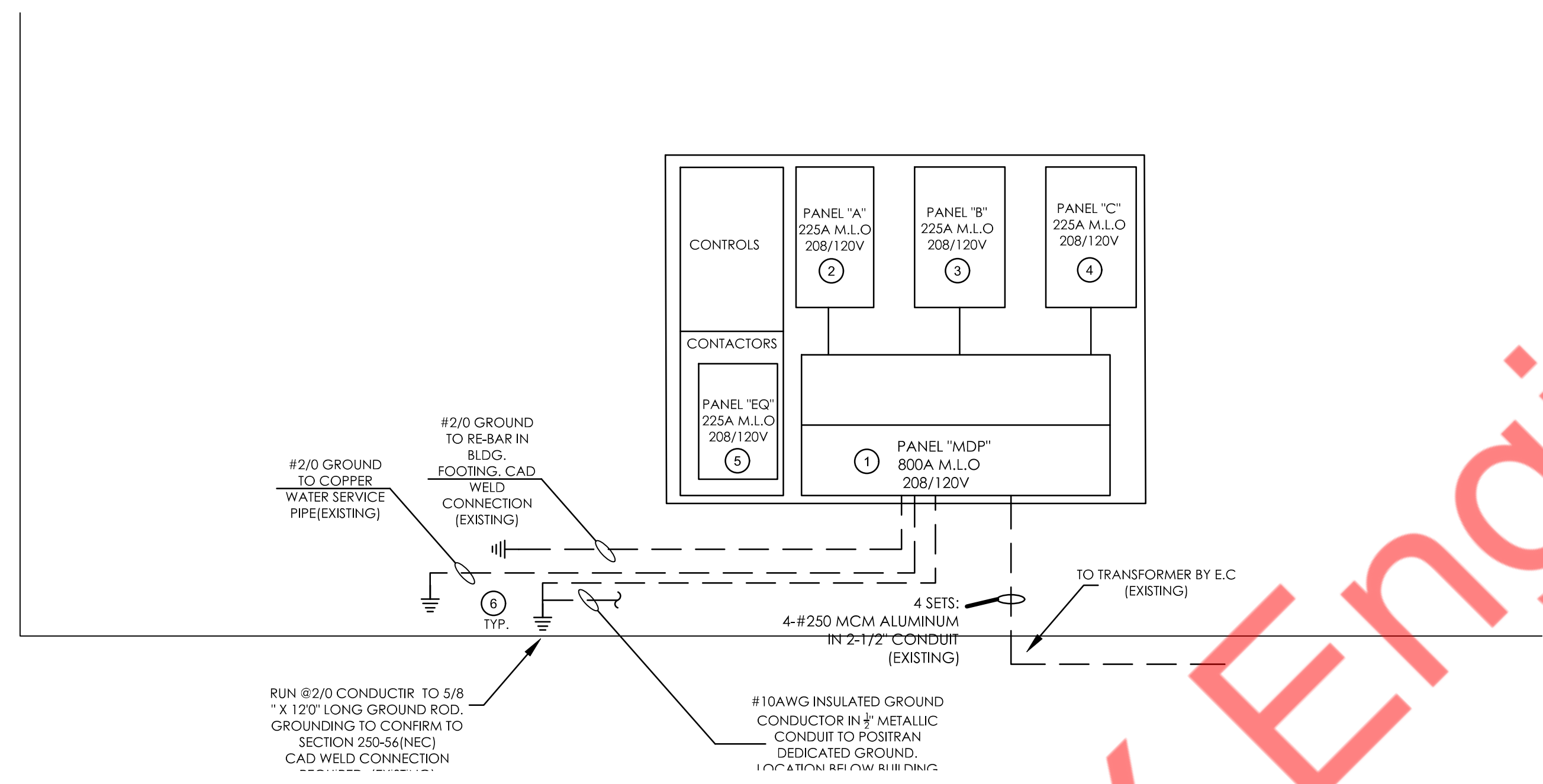
DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL CO2 PLAN

MAY 12, 2025

CLIENT CHANGES 06/16/25

E205



1 SINGLE LINE DIAGRAM
E101 N.T.S

N.E.C. GROUNDING NOTES

(***) COMMUNICATIONS GROUND CONDUCTOR SHALL BE SIZED BASED ON DISTANCE BETWEEN TELECOMMUNICATIONS ROOM AND SYSTEM GROUNDED BUS BAR AS FOLLOWS:

0-200 FT.	#1/0
OVER 200 FT.	#3/0

(**) MAIN BONDING JUMPER SHALL BE SIZED AS FOLLOWS:

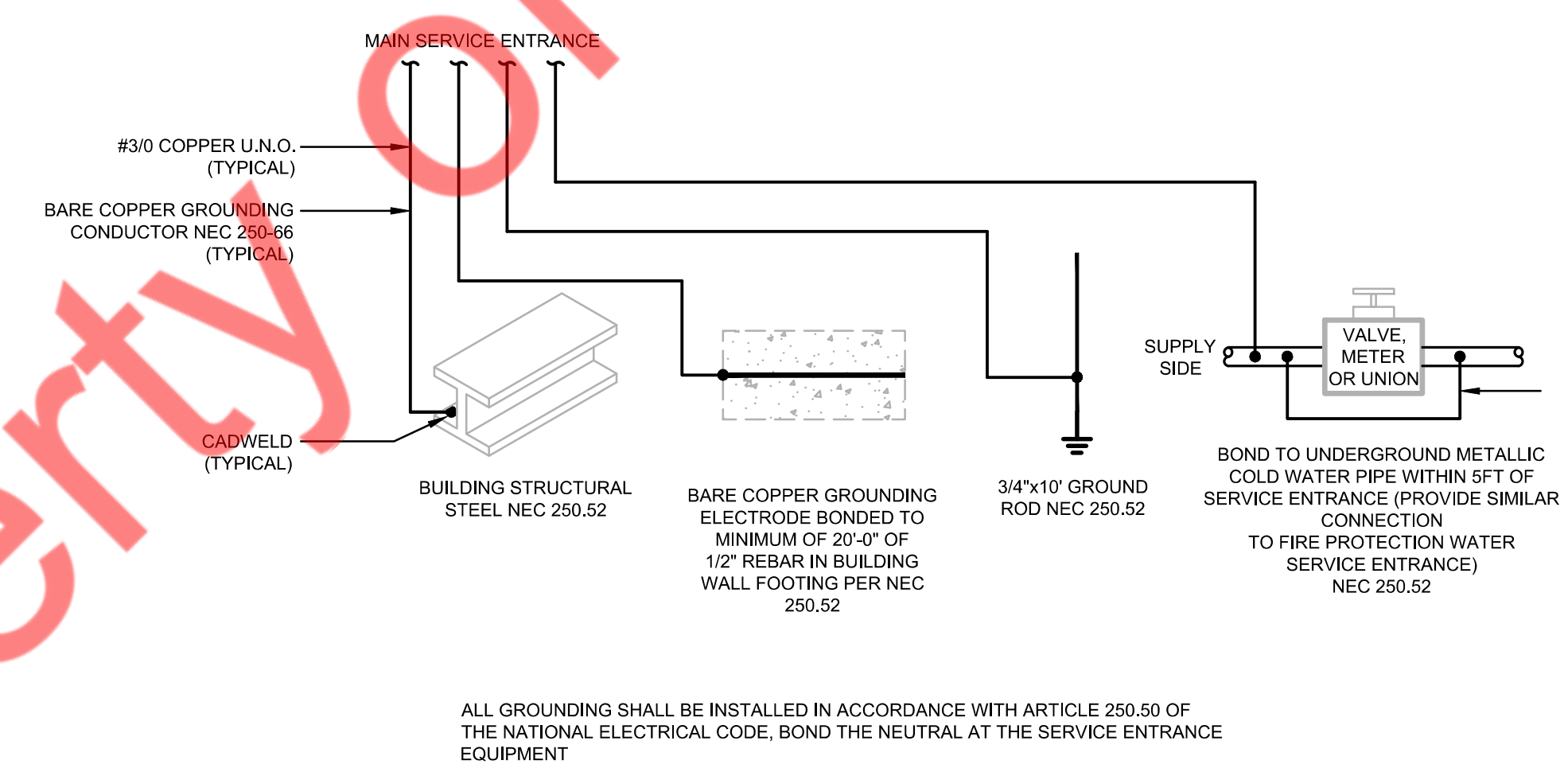
SERVICE SIZE	M.B.J. SIZE
0-1,000A	#3/0
1,200A	#4/0
1,600A	250KCMIL
2,000A	300KCMIL
2,500A	500KCMIL
3,000A	500KCMIL
4,000A	600KCMIL

(*) GROUNDING ELECTRODE CONDUCTOR SHALL BE SIZED AS FOLLOWS:

SERVICE SIZE	G.E.C. SIZE
0-200A	#4
201-400A	#1/0
OVER 400A	#3/0

NOTES:

- THE ELECTRICAL CONTRACTOR SHALL PROVIDE A GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH NEC 250.52(A)(1) THROUGH (A)(6).
- IF NONE OF THESE SYSTEMS ARE AVAILABLE, THEN THE ELECTRODES SPECIFIED IN NEC 250.52(A)(4) THROUGH (A)(7) SHALL BE PROVIDED.



2 GROUNDING ELECTRODE SYSTEM DETAIL
E301 N.T.S

- SINGLE LINE GENERAL NOTES**
- ALL OVERCURRENT DEVICES IN AN INDIVIDUAL PIECE OF EQUIPMENT SHALL HAVE AN AIC RATING EQUAL TO THE OVERALL RATING OF THE EQUIPMENT - SERIES RATING OF DEVICES WITHIN A PIECE OF EQUIPMENT IS NOT ALLOWED. VERIFY AIC RATING WITH POWER COMPANY AND PROVIDE RATED EQUIPMENT.
 - SERIES CONNECTED DEVICES SHALL HAVE BEEN INVESTIGATED BY UL IN COMBINATION WITH THE END USE EQUIPMENT AND THE EQUIPMENT IN WHICH THESE DEVICES ARE USED SHALL BE MARKED WITH THE SERIES CONNECTED RATING. ALL EQUIPMENT SHALL BE MARKED IN ACCORDANCE WITH NEC REQUIREMENTS.
 - ALL TERMINATIONS AND ENCLOSURES SHALL BE RATED FOR USE WITH 75 DEGREE CELSIUS CONDUCTORS.
 - ALL SERVICE ENTRANCE EQUIPMENT, SWITCHBOARDS, DISTRIBUTION BOARDS, AND PANELBOARDS RATED AT 400 AMPS OR GREATER, SHALL BE PROVIDED WITH A MAIN OVERCURRENT DEVICE AND BUSING RATED AT 100% CONTINUOUS OPERATION.
 - ALL BRANCH OR FEEDER CIRCUIT OVER-CURRENT DEVICES RATED AT 400 AMPS OR HIGHER SHALL BE RATED FOR 100% CONTINUOUS OPERATION.
 - CONTRACTOR SHALL SUBMIT SWITCHBOARD SHOP DRAWINGS TO THE SERVING UTILITY FOR APPROVAL PRIOR TO FABRICATION. CONTRACTOR SHALL SECURE CONFIRMATION THAT THE PROPOSED SWITCHBOARD COMPLIES WITH THE POWER COMPANY REGULATIONS.
 - BUSSING:
 - ALL BUSSING SHALL BE COPPER OR ALUMINUM IN CONSTRUCTION. MAIN HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL CAPACITY IN ALL SWITCHBOARD SECTIONS.
 - HORIZONTAL AND VERTICAL BUSSING SHALL BE FULL LENGTH. ALL BUSSING SHALL HAVE A MINIMUM WITHSTAND RATING EQUAL TO THE AVAILABLE FAULT CURRENT INDICATED, BUT IN NO CASE SHALL THE RATING BE LESS THAN 65,000 AMPS, SYMMETRICAL.
 - GROUND FAULT RELAY SETTINGS:
 - TO MINIMIZE NUISANCE TRIPPING OF THE MAIN AND FEEDER BREAKER, THE CONTRACTOR SHALL ADJUST THE GROUND FAULT RELAY SETTINGS FOR ALL THE GFF DEVICES TO BE HIGHER THAN ALL DOWNSTREAM GFF AND NON-GFF DEVICES. THE GROUND FAULT CURRENT PICK-UP AND TIME DELAY SETTINGS SHALL BE ADJUSTED, PER THE MANUFACTURERS RECOMMENDATIONS, RESULTING FROM A CONTRACTOR/MANUFACTURER PREPARED COORDINATION STUDY - WHICH SHALL BE DOCUMENTED IN THE SHOP DRAWING SUBMITTAL.
 - DURING THE CONSTRUCTION PHASE OF THE PROJECT, ALL GROUND FAULT RELAYS SHALL BE SET AT THE SHORTEST AVAILABLE TIME DELAY.
 - AFTER ALL SETTINGS HAVE BEEN ADJUSTED, THE CONTRACTOR SHALL HAVE THE GROUND FAULT SYSTEM TESTED BY AN INDEPENDENT TESTING AGENCY PER NEC 230-95 (C). THIS TEST SHALL BE PERFORMED IN THE PRESENCE OF THE LOCAL AUTHORITY HAVING JURISDICTION AND THE TEST RESULTS SHALL BE DELIVERED TO THE ENGINEER OF RECORD.
 - DRY TYPE TRANSFORMERS:
 - DRY TYPE TRANSFORMERS OVER 112-1/2KVA SHALL HAVE A MINIMUM CLASS 155 INSULATION RATING SYSTEM.
 - ALL DRY TYPE TRANSFORMERS SHALL BE COMPLETELY ENCLOSED EXCEPT FOR VENTILATED OPENINGS.
 - CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH POWER COMPANY, DETERMINE SHORT CIRCUIT VALUE AT TRANSFORMER, CALCULATE A SHORT CIRCUIT STUDY FOR THE SYSTEM, AND VERIFY SYSTEM COMPONENTS ARE RATED FOR SHORT CIRCUIT BEFORE CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH POWER COMPANY AND VERIFY ARC FLASH VALUES. CONTRACTOR SHALL PROVIDE ALL LABELING ON EQUIPMENT AS REQUIRED BY THE NEC AND LOCAL JURISDICTION.

- SINGLE LINE KEY NOTES**
- EXISTING 800A, 120/208V, 3-PHASE, 4-WIRE MAIN DISTRIBUTION PANEL "MDP" FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "MDP", REPLACE IF INOPERABLE. BASE BID ACCORDINGLY.
 - EXISTING 225A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "A" FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "A", REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
 - EXISTING 225A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "B" FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "B", REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
 - EXISTING 225A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "C" FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "C", REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
 - EXISTING 225A, 120/208V, 3-PHASE, 4-WIRE ELECTRICAL PANEL "EQ" FOR THE PROJECT SPACE SHALL REMAIN. E.C. TO FIELD VERIFY THE EXACT LOCATION, SIZE & OPERABLE CONDITION OF EXISTING "EQ", REPLACE IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
 - EXISTING INCOMING FEEDERS TO REMAIN. E.C. TO VERIFY OPERABLE CONDITION OF FEEDER'S IN FIELD AND PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.

DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL SINGLE LINE DIAGRAM

MAY 12, 2025

CLIENT CHANGES 08/16/25

E301

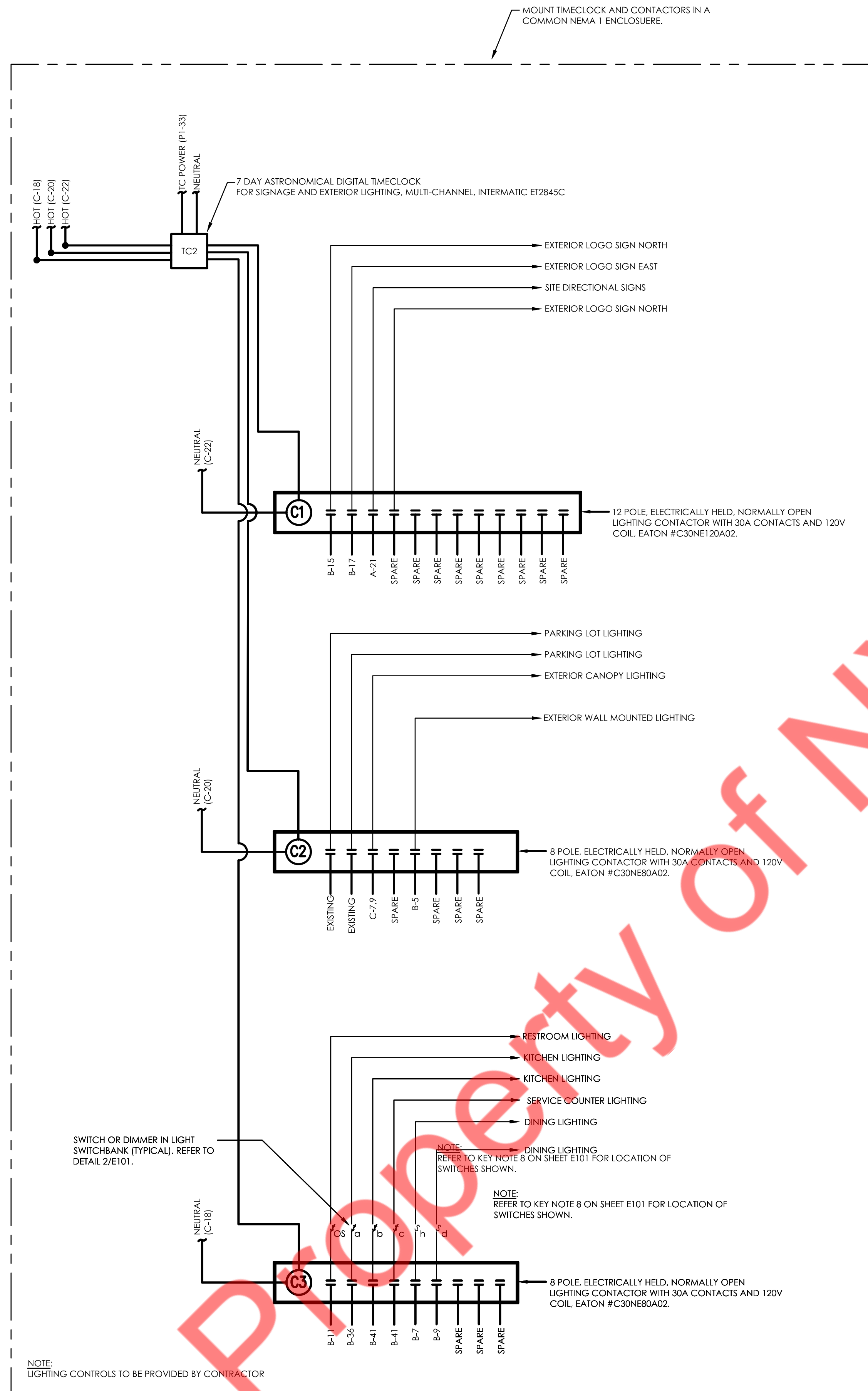
PANEL: MDP (EX)														MOUNTING: RECESSED	
208Y/120 VOLTS,		3 PHASE,		4 WIRE		PANEL LOCATION: SERVICE AREA									
MAIN CB: NA		MLO: 800A		BUS: 800A		MIN,		FED FROM: EXISTING SERVICE							
NOTE:															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1			O	9.64	EXISTING	9.64								2	
3	225/3P	PANEL-A	O	9.64			9.64					SPARE		4	
5			O	9.64										6	
7			O	6.67		22.27				15.60	O			8	
9	225/3P	PANEL-B	O	6.67	EXISTING		22.27		EXISTING	15.60	O	PANEL-EQ		10	
11			O	6.67						15.60	O			12	
13			O	19.51		19.51								14	
15	225/3P	PANEL-C	O	19.51	EXISTING		19.51					SPACE		16	
17			O	19.51			19.51							18	
19		SHUNT TRIP				0.00								20	
21		SPACE					0.00							22	
23		SPACE						0.00						24	
25														26	
27		SPACE												28	
29														30	
TOTAL CONNECTED LOAD (KVA)						51.42	51.42	51.42							
LOAD CLASSIFICATION						CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	PANEL TOTAL LOAD						
TOTAL LIGHTING	L			0.00		125%		0.00							
TOTAL RECEPTACLE	R			0.00		100%		0.00	TOTAL CONNECTED LOAD 154.26 KVA						
TOTAL HVAC	H			0.00		100%		0.00	TOTAL DEMAND LOAD 154.26 KVA						
TOTAL MOTOR	M			0.00		100%		0.00	TOTAL CONNECTED CURRENT 428.68 AMP						
TOTAL KITCHEN/EQUIPMENTS	E			0.00		65%		0.00	TOTAL DEMAND CURRENT 428.68 AMP						
TOTAL OTHER/MISCELLANEOUS	O			154.26		100%		154.26							

NOTE- PROVIDE SHUNT TRIP BREAKER FOR PANEL "C"

PANEL: A (EX)														MOUNTING: SURFACE	
208Y/120 VOLTS,		3 PHASE,		4 WIRE		PANEL LOCATION: SERVICE AREA									
MAIN CB: NA		MLO: 225A		BUS: 225A		MIN,		FED FROM: MDP							
NOTE:															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20	CONDENSATE HEAT TAPE	M	0.20	EXISTING	0.70			2#12, #12G, 3/4"C	0.50	O	RCP		20	2
3	20	RECEPTACLE - MANAGER'S OFFICE	R	1.80	2#12, #12G, 3/4"C		1.90		2#12, #12G, 3/4"C	0.10	M	EF-2(N)		20	4
5	20	RECEPTACLE - MANAGER'S OFFICE	K	0.36	2#12, #12G, 3/4"C			0.36				SPARE		30/2P	6
7	20	RECEPTACLE - MANAGER'S OFFICE	R	0.36	2#12, #12G, 3/4"C	0.36								8	
9	20	RECEPTACLE - MANAGER'S OFFICE	R	0.36	2#12, #12G, 3/4"C		0.46		2#12, #12G, 3/4"C	0.10	M	EF-1(N)		20	10
11	20	AIR CURTAIN	M	1.20	EXISTING		1.56		2#12, #12G, 3/4"C	0.36	L	PREVIEW BOARD		20	12
13	20	AIR CURTAIN (FF-1)	M	1.20	2#12, #12G, 3/4"C	3.50			2#10, #10G, 3/4"C	2.30	E	TORTILLA WARMER		30/2P	14
15	20	RECEPTACLE - MUZAK SYSTEM OFFICE	R	0.36	2#12, #12G, 3/4"C		2.66			2.30	E			16	
17	20	RECEPTACLE - MANAGER'S OFFICE	R	0.36	2#12, #12G, 3/4"C			2.16	2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	18
19	20	PANEL-UT	O	4.68	2#12, #12G, 3/4"C	6.48			2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	20
21	20	DOOR BELL ALARM	O	0.50	2#12, #12G, 3/4"C			2.30	2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	22
23	20	SERVICE RECEPTACLE	R	0.36	2#12, #12G, 3/4"C			2.16	2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	24
25	20	PYLON SIGN	L	0.50	2#12, #12G, 3/4"C	2.30			2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	26
27	20	DIRECTIONAL SIGN	L	0.50	2#12, #12G, 3/4"C		0.50					SPARE		20	28
29	20	SPEAKER POST/CANOPY AND MENU BOARD	L	0.36	2#12, #12G, 3/4"C			0.36				SPARE		20	30
31	20/2P	SPARE				0.00						SPARE		20	32
33	20	SPARE					0.00					SPARE		20	34
35	20	SPARE						0.00				SPARE		20/2P	36
37	20	SPARE										SPARE		20/2P	38
39	30/2P	TORTILLA WARMER	E	2.30	2#10, #10G, 3/4"C		2.30					SPARE		20	40
41			E	2.30			2.30					SPARE		20	42
TOTAL CONNECTED LOAD (KVA)						13.34	10.12	8.90							
LOAD CLASSIFICATION						CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	PANEL TOTAL LOAD						
TOTAL LIGHTING	L			1.36		125%		1.70							
TOTAL RECEPTACLE	R			12.96		100%		12.96	TOTAL CONNECTED LOAD 32.36 KVA						
TOTAL HVAC	H			0.00		100%		0.00	TOTAL DEMAND LOAD 28.92 KVA						
TOTAL MOTOR	M			2.60		100%		2.60	TOTAL CONNECTED CURRENT 89.92 AMP						
TOTAL KITCHEN/EQUIPMENTS	E			9.20		65%		5.98	TOTAL DEMAND CURRENT 80.37 AMP						

PANEL: B (EX)														MOUNTING: SURFACE	
208Y/120 VOLTS,		3 PHASE,		4 WIRE		PANEL LOCATION: SERVICE AREA									
MAIN CB: NA		MLO: 225A		BUS: 225A		MIN,		FED FROM: MDP							
NOTE:															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1			O	1.00	EXISTING	0.00								2	
3	20	ICS DOOR HEATERS	O	1.00			1.00					SPARE		20/3P	4
5	20	EXTERIOR LIGHTING	L	0.77	2#12, #12G, 3/4"C			0.77						6	
7	20	LIGHTING DINNING ROOM	L	0.56	2#12, #12G, 3/4"C	1.67			2#12, #12G, 3/4"C	1.11	O	76.1: ICE MAKER REMOTE COND. (ON ROOF)		20/2P	8
9	20	LIGHTING DINNING ROOM	L	0.25	2#12, #12G, 3/4"C		1.36			1.11	O			10	
11	20	LIGHTING-TOILETS/TOILET FAN/OFFICE	L	0.35	2#12, #12G, 3/4"C			0.35				SPARE		30/3P	12
13	20	6: MENU BOARD AT FRONT CTR.	L	0.35	2#12, #12G, 3/4"C	0.35								14	
15	20	LIGHTING EXTERIOR SIGNAGE	L	1.20	2#12, #12G, 3/4"C		1.20							16	
17	20	LIGHTING EXTERIOR SIGNAGE	L	1.20	2#12, #12G, 3/4"C			1.70	EXISTING	0.50	M	EXISTING EXHAUST FAN		20	18
19	20	EXHAUST HOOD LIGHTS	L	0.26	2#12, #12G, 3/4"C		0.26							20	
21	20	41: BAG-N-BOX - CARBONATORS	E	1.80	2#12, #12G, 3/4"C		1.80					SPARE		30/3P	22
23	20	50: CHEESE GRATER	E	1.50	2#12, #12G, 3/4"C			1.50						24	
25	20/2P	SPARE				0.00								26	
27	20	SPARE					0.00							28	
29	20	SPARE						1.30	2#12, #12G, 3/4"C	1.30	L	LIGHTING CONTACTOR C1 POWER		20	30
31	20/2P	SPARE						1.30	2#12, #12G, 3/4"C	1.30	L	LIGHTING CONTACTOR C2 POWER		20	32
33	20/2P	SPARE						1.30	2#12, #12G, 3/4"C	1.30	L	LIGHTING CONTACTOR C3 POWER		20	34
35								0.26	2#12, #12G, 3/4"C	0.26	L	LIGHTING-KITCHEN		20	36
37	30/3P	SPARE						1.80	2#12, #12G, 3/4"C	1.80	R	SHOW WINDOW RECEPTACLE		20	38
39								0.26	2#12, #12G, 3/4"C	0.26	L	WALK IN COOLER/FREEZER LIGHTS		20	40
41	20	LIGHTNG DINNING TRACK LIGHTING	L	0.25	2#12, #12G, 3/4"C		0.51		2#12, #12G, 3/4"C	0.26	L	STORAGE LIGHTS		20	42
TOTAL CONNECTED LOAD (KVA)						5.38	6.92	6.39							
LOAD CLASSIFICATION						CONNECTED LOAD (KVA)	DEMAND FACTOR	DEMAND LOAD (KVA)	PANEL TOTAL LOAD						
TOTAL LIGHTING	L			9.87		125%		12.34							
TOTAL RECEPTACLE	R			1.80		100%		1.80	TOTAL CONNECTED LOAD 18.69 KVA						
TOTAL HVAC	H			0.00		100%		0.00	TOTAL DEMAND LOAD 20.00 KVA						
TOTAL MOTOR	M			0.50		100%		0.50	TOTAL CONNECTED CURRENT 51.94 AMP						
TOTAL KITCHEN/EQUIPMENTS	E			3.30		65%		2.15	TOTAL DEMAND CURRENT 55.59 AMP						
TOTAL OTHER/MISCELLANEOUS	O			3.22		100%		3.22							

PANEL: C (EX)														MOUNTING: SURFACE	
208Y/120 VOLTS,		3 PHASE,		4 WIRE		PANEL LOCATION: SERVICE AREA									
MAIN CB: NA		MLO: 225A		BUS: 225A		MIN,		FED FROM: MDP							
NOTE:															
CKT NO.	TRIP AMPS	DESCRIPTION OF LOAD	LOAD TYPE	LOAD (KVA)	MINIMUM BRANCH CIRCUIT	PER PHASE (KVA)			MINIMUM BRANCH CIRCUIT	LOAD (KVA)	LOAD TYPE	DESCRIPTION OF LOAD	TRIP AMPS	CKT NO.	
						A	B	C							
1	20	WTR HTR (GAS)	O	0.10	2#12, #12G, 3/4"C	0.45			2#12, #12G, 3/4"C	0.35	E	70: U.C. REFRIGERATOR		20	2
3	225/3P	102: FRY DUMP STATION	E	0.88	2#12, #12G, 3/4"C		1.14		EXISTING	0.26	L	EXTERIOR LIGHTS		20	4
5			E	0.88				3.13	EXISTING	2.25	L	EXTERIOR SITE LIGHTS		30/2P	6
7	30/2P	EXTERIOR LIGHTS	L	2.25	EXISTING	4.50			EXISTING	2.25	L	EXTERIOR SITE LIGHTS		30/2P	8
9			L	2.25			4.50							10	
11			H	5.96				8.21	EXISTING	2.25	L	EXTERIOR SITE LIGHTS		30/2P	12
13	70/3P	RTU-3 (EXISTING)	H	5.96	EXISTING	7.40			EXISTING	1.44	L	EXTERIOR BUILDING SGN		20	14
15			H	5.96			7.40		EXISTING	1.44	L	EXTERIOR BUILDING SGN		20	16
17	20	76: ICE MACHINE	E	0.14	2#12, #12G, 3/4"C			1.94	2#12, #12G, 3/4"C	0.35	E	70: U.C. REFRIGERATOR		20	18
19	20	76: ICE MACHINE	E	0.14	2#12, #12G, 3/4"C	0.49			2#12, #12G, 3/4"C	0.35	E	70: U.C. REFRIGERATOR		20	2

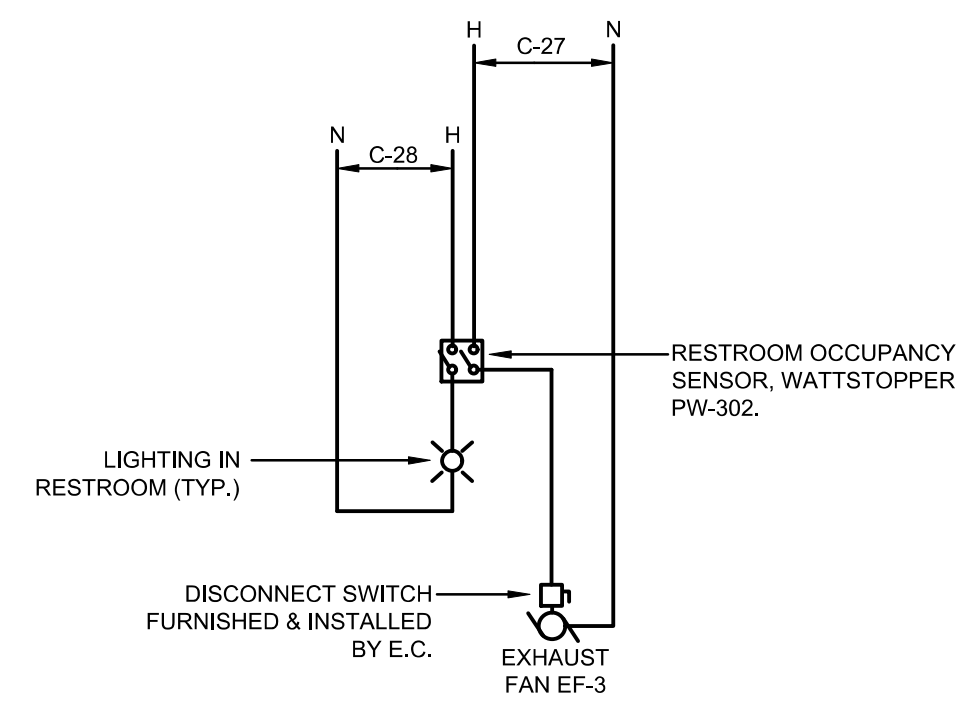


1 SIGN & INTERIOR/EXTERIOR LIGHTING CONTROL DETAIL
E303 N.T.S

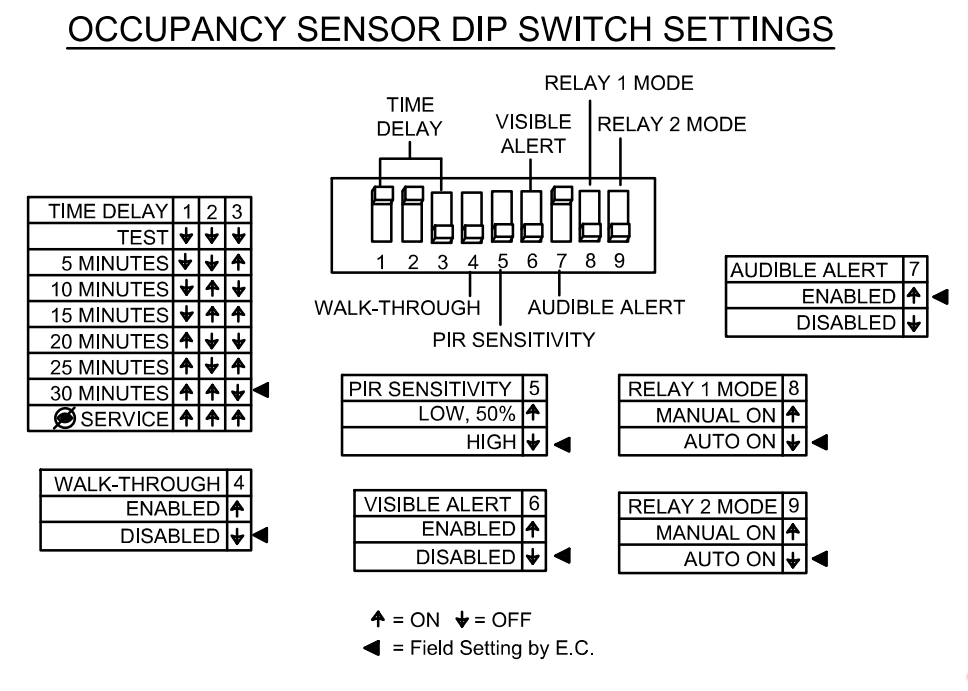
LIGHTING FIXTURE SCHEDULE FRESHFLEX 2024 Q2						
SYMBOL	TYPE	FIXTURE DESIGNATION	LAMP TYPE	FIXTURE WATTAGE	VOLTS	DESCRIPTION
A2	A2	HI-LITE MFG. H-046BA119	TCP LED14P38030KNFL	14	120	SUSPENDED ARCHITECTURAL CYLINDER UNIT. BOTTOM OF FIXTURE TO BE 6-6" AF.F.DIMABLE. SEE LIGHTING PLANS.
A3	A3	HI-LITE MFG. H-VL.DH424C	TCP 9A19G4DIM830	9	120	SUSPENDED DECORATIVE OVERTABLE PENDANT UNIT. BOTTOM OF FIXTURE TO BE 6-6" AF.F.DIMABLE. SEE LIGHTING PLANS.
B1	B1	ELITE LED LIGHTING LD61C-AT-DIMTR-120-REL637-950L-DIMTR-120-30K-90-VL-WH	INTEGRAL 950 LUMEN 30K	15	120	RECESSED DOWNLIGHT WITH 6" IC RATED HOUSING AND INTEGRAL LED MODULE WITH WHITE BAFFLE TRIM
H2	H2	ELITE LED LIGHTING "Oracle" 22FLP1-LED-4000L-DIM10-MVOLT-40K-85	INTEGRAL 4000 LUMEN 4000K	39	120VOLT	RECESSED LED 2X2 FLAT PANEL; 0-10V DIMMING;
H2E	H2E	ELITE LED LIGHTING "Oracle" 22FLP1-LED-4000L-DIM10-MVOLT-40K-85-0-EMG-LED-20W	INTEGRAL 4000 LUMEN 4000K	39	120VOLT	RECESSED LED 2X2 FLAT PANEL; 0-10V DIMMING;
J3	J3	TEXAS FLUORESCENTS "Sayite" OSL48L848V5900LDMV	LED 4000K	48	120VOLT	LED OUTDOOR SIGN LIGHTER. 48". 4800 LUMENS. 0-10V DIMMING
EX	EX	TBD	TBD	20	120/208	EXISTING EXTERIOR LIGHT FIXTURE

- COORDINATE LIGHT FIXTURE LOCATION AND MOUNTING WITH OTHER EQUIPMENT AND ARCHITECTURAL ELEVATIONS.
- INSTALL ALL WALL AND SURFACE MOUNTED EXIT SIGN FIXTURES AT THE LOCATION INDICATED AND PROVIDE FACES AND ARROWS AS INDICATED.
- JUNCTION BOXES SHALL BE PROVIDED FOR ALL EXISTING FIXTURES UNLESS FIXTURES ARE APPROVED FOR THROUGH WIRING.
- SUPPORT LAY-IN TYPE LIGHT FIXTURES INDEPENDENT OF GRID.
- CONTRACTOR SHALL PROVIDE ALL LAMPS (WHERE REQUIRED) ACCESSORIES AND MOUNTING HARDWARE AS REQUIRED.
- CONTRACTOR SHALL VERIFY EXACT FIXTURE LOCATIONS WITH ARCHITECTURAL RELECTED CEILING PLANS.
- CONTRACTOR SHALL VERIFY CEILING TYPES AND PROVIDE TRIMS AND ACCESSORIES AS REQUIRED.
- PROVIDE LIGHT FIXTURES BY MANUFACTURER SPECIFIED OR APPROVED EQUAL. SUBSTITUTED FIXTURES WILL REQUIRE PHOTOMETRIC CALCULATIONS AND MUST PERFORM EQUAL TO OR BETTER THAN LIGHT FIXTURE SPECIFIED. ENGINEER TO MAKE FINAL DETERMINATION.
- DEVICE PLATES IN NON-PUBLIC AREAS INCLUDING SERVICE AREAS SHALL BE STAINLESS STEEL. DEVICE PLATES IN PUBLIC AREAS SHALL BE BROWN OR IVORY PLASTIC, AS REQUIRED TO MATCH WALL ENGRAVE PLATES WHERE INDICATED.
- ALL PAINTING OF LIGHT FIXTURES, WHERE SPECIFIED, SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER WITH ALL SURFACES EVENLY COVERED AND NO SAGS, DRIPS, OR SCRATCHES. DO NOT PAINT LENSES, BAFFLES, REFLECTORS, OR CHROME PARTS. DISASSEMBLE FIXTURES PRIOR TO PAINTING OF THE FIXTURE AND CLEAN PORTIONS TO BE PAINTED. PAINT SHALL BE SEMI-GLOSS ENAMEL. ALL PAINT COLORS SHALL BE APPROVED BY ARCHITECT. ALL LIGHTING FIXTURES SHALL BE CLEANED AT PROJECT COMPLETION.
- ALL FIXTURES QUANTITIES, LOCATION, AND MODEL NUMBERS SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS PRIOR TO ORDERING. DO NOT ORDER FROM THESE PLANS.
- LUMINAIRES TO BE SECURELY FASTENED TO FRAMING MEMBERS OF CEILING BY MECHANICAL MEANS PER NEC 410.36 (B).

2 LIGHTING FIXTURE SCHEDULE
E303 N.T.S

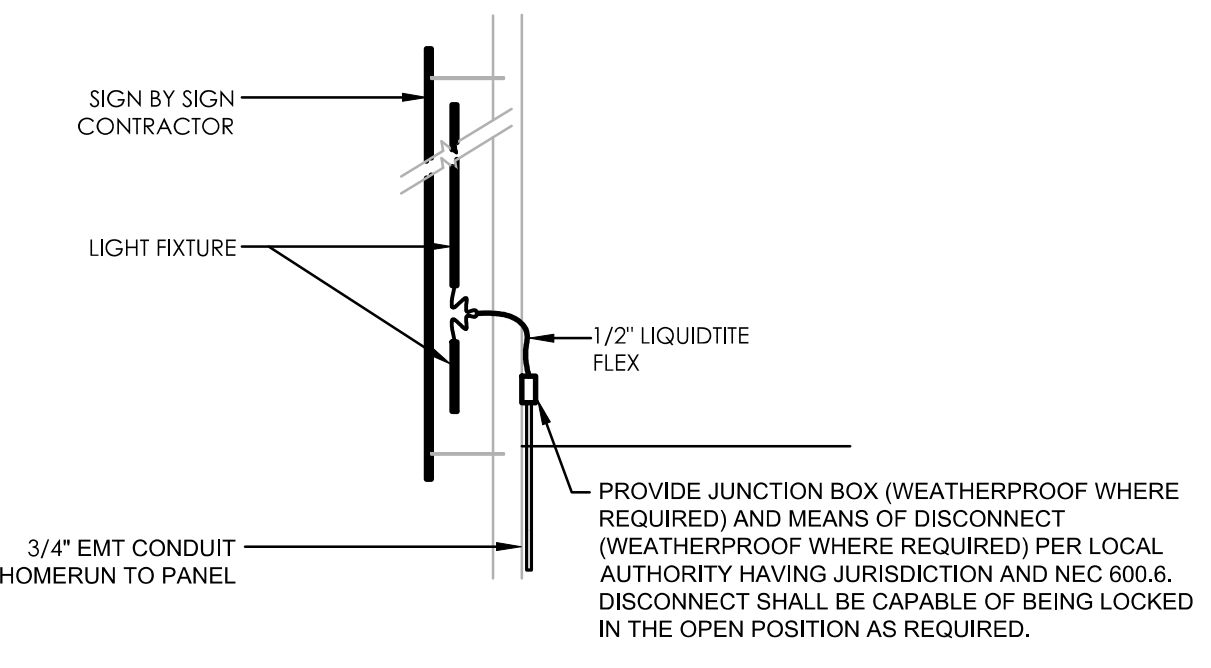
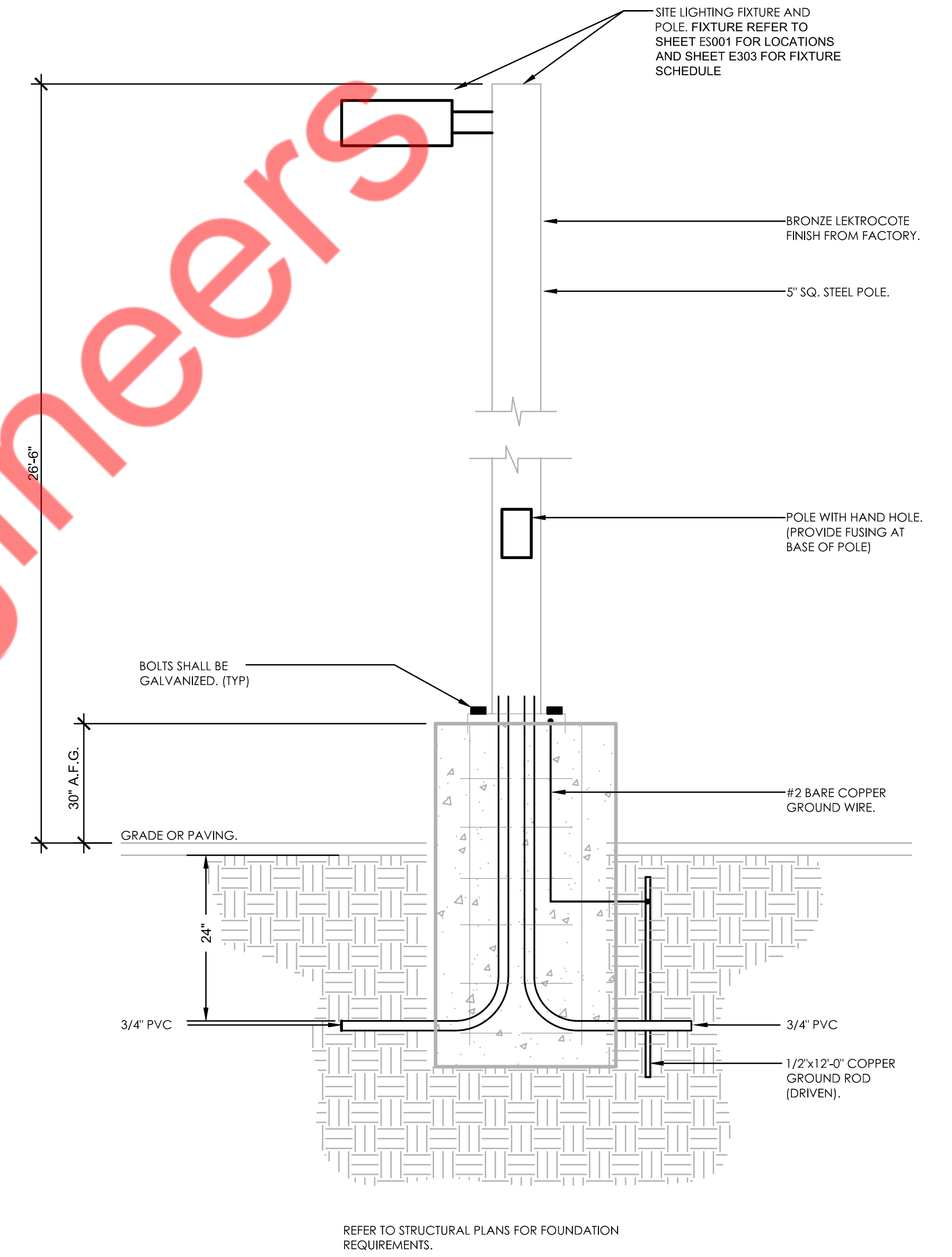


NOTES:
1. OCCUPANCY SENSOR RELAY 1 SHALL BE USED FOR THE LIGHTING AND RELAY 2 SHALL BE USED FOR THE EXHAUST FAN.



NOT USED NO SCALE 9

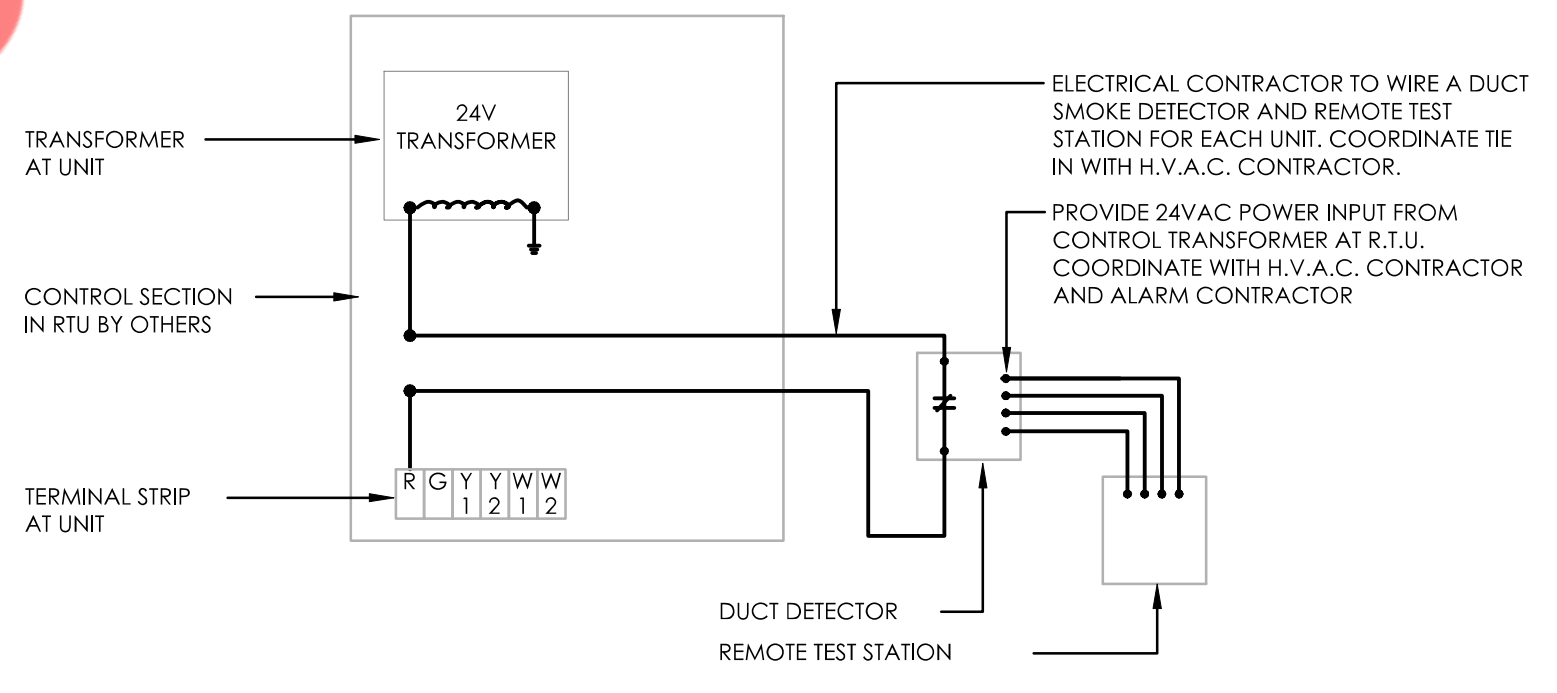
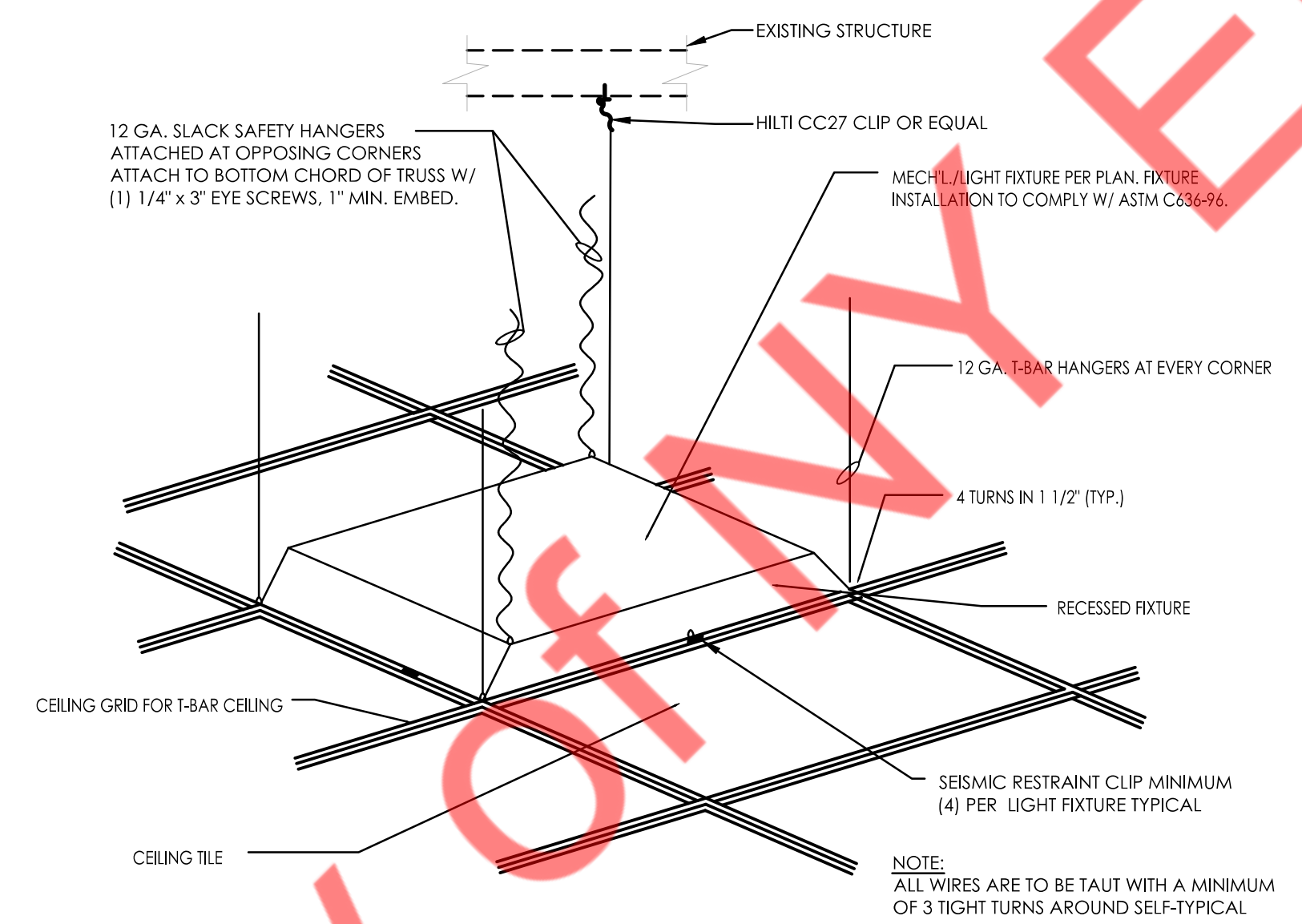
RESTROOM OCCUPANCY SENSOR WIRING DIAGRAM NO SCALE 5



TYPICAL SIGN WIRING DETAIL NO SCALE 8

RECESSED FIXTURE SUPPORT DETAIL NO SCALE 3

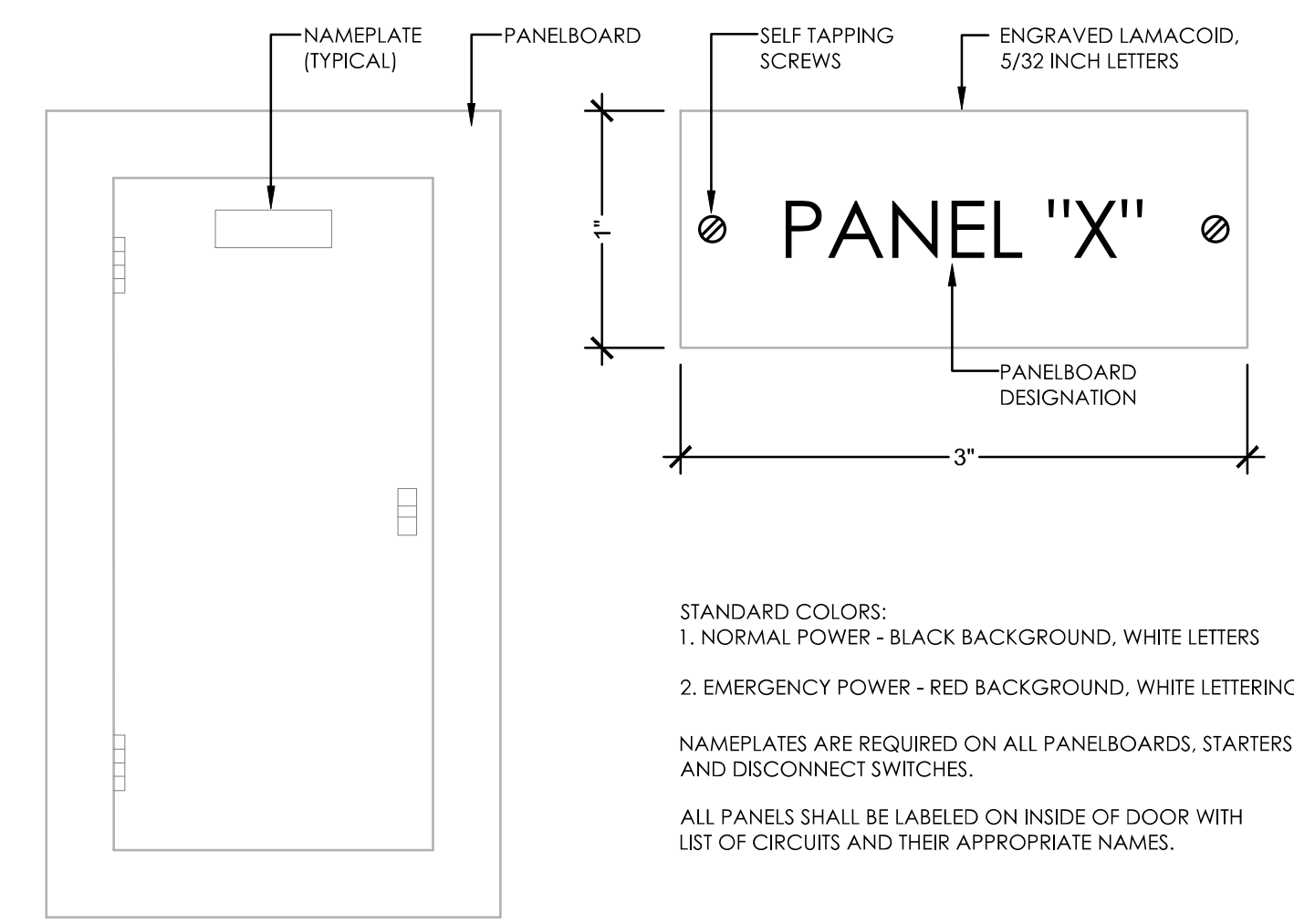
SITE LIGHTING POLE BASE DETAIL NO SCALE 2



- DUCT DETECTORS SHALL BE FURNISHED AND MOUNTED BY THE H.V.A.C. CONTRACTOR. WIRED BY THE ELECTRICAL CONTRACTOR. THE TROUBLE CONTACT TO BE WIRED BY THE ALARM CONTRACTOR.
- REMOTE TEST STATIONS SHALL BE FURNISHED BY THE H.V.A.C. CONTRACTOR, MOUNTED AND WIRED BY THE ELECTRICAL CONTRACTOR. MOUNT AT 72" A.F.F.
- ALL EQUIPMENT AND WIRING SHALL BE IN CONFORMANCE WITH ALL APPLICABLE CODES AND REGULATIONS.
- SEE MECHANICAL PLAN FOR ADDITIONAL INFORMATION.

NOT USED NO SCALE 7

DUCT SMOKE DETECTOR/REMOTE TEST STATION WIRING DIAGRAM NO SCALE 4



PANELBOARD NAMEPLATE DETAIL NO SCALE 1

DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL DETAILS

MAY 12, 2025

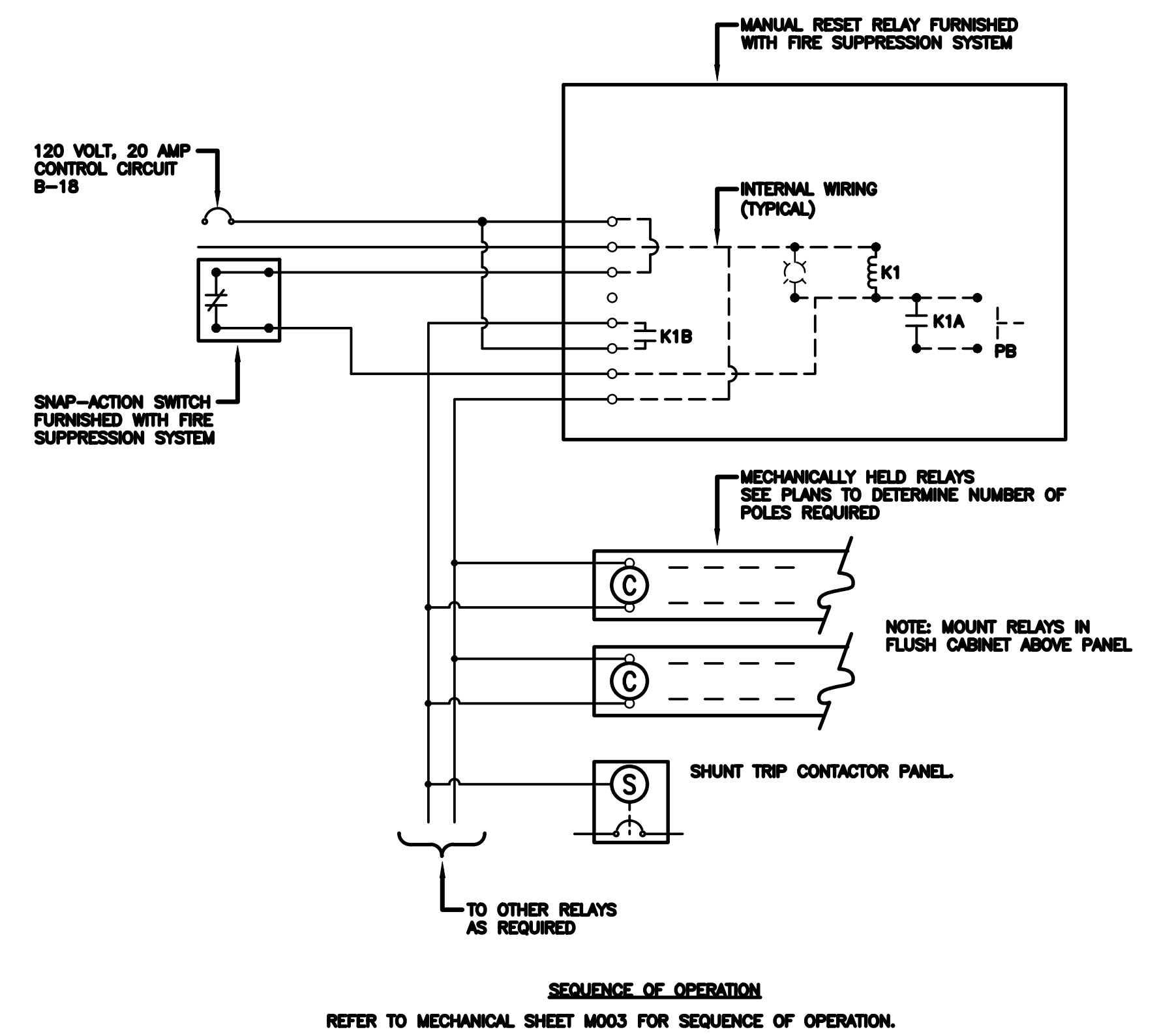
CLIENT CHANGES 08/16/25

E401

THIS DOCUMENT HAS NOT BEEN REVIEWED BY THE STAMPING PARTY. THEREFORE, THE STAMPING PARTY MAKES NO REPRESENTATION(S) WITH RESPECT TO ITS CONTENTS, AND SHALL NOT BE LIABLE FOR SUCH. ANY RELIANCE ON THIS STAMP SHALL BE AT THE RELYING PARTY(IES) OWN RISK AND HEREBY WAIVES ANY AND ALL CLAIM(S) RELATED TO THE EXISTENCE OF THE STAMP OR OTHERWISE.

Property of NY Engineers

NET SHELTER ENCLOSURE DETAIL NO SCALE 2



NOT USED NO SCALE 3

HOOD FIRE SYSTEM INTERLOCK DETAIL NO SCALE 1

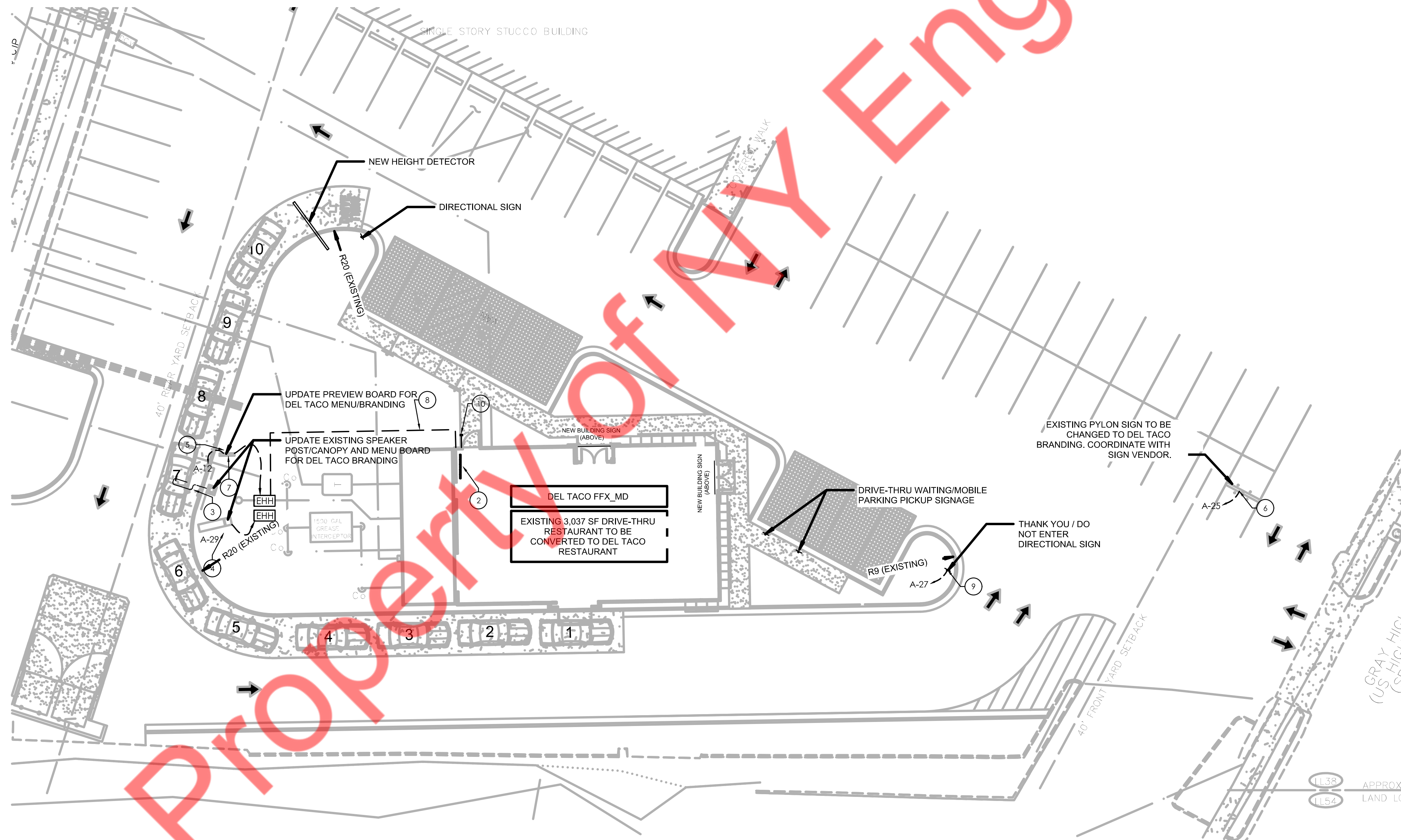
DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL DETAILS

MAY 12, 2025

CLIENT CHANGES 06/16/25

E402



GENERAL NOTES

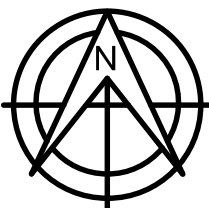
- A. REFER TO SHEET E303 FOR LIGHT FIXTURE SPECIFICATIONS, IF APPLICABLE.
- B. REFER TO DETAIL 2/E401 FOR POLE LIGHT BASE DETAIL, IF APPLICABLE.
- C. REFER TO CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
- D. ALL EXTERIOR JUNCTION BOXES SHALL BE WEATHERPROOF.
- E. ALL FIXTURES IN PLANTER AREAS SHALL BE MOUNTED 3'-0" BEHIND CURB FACE.
- F. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DWG'S. FOR ADDITIONAL INFO.

ELECTRICAL KEYNOTES

- ① TELEPHONE POINT OF CONNECTION, STUB-UP 5' OUT FACE OF BUILDING. REFER TO E201 FOR TERMINATION INSIDE THE BUILDING.
- ② APPROX. LOCATION OF INTERIOR PANELS. SEE POWER PLAN (E-201) FOR FURTHER COORDINATION.
- ③ 1" CONDUIT WITH (1) LOOP WIRE WITH PULL STRING TO DRIVE THROUGH LANE FOR DETECTOR LOOP. REFER TO MANUFACTURER SPECIFICATIONS AND INSTALLATION INSTRUCTIONS.
- ④ POWER FOR CANOPY WITH SPEAKER/MIC AND LIGHTING. CONDUIT SHALL BE SCHEDULE 40 3/4" MINIMUM WITH WIRE PULLED AND TERMINATED AT PEDESTAL.
- ⑤ PROVIDE POWER TO MENUBOARD. REFER TO ARCHITECTURAL PLAN A002 FOR EXACT LOCATION. CONDUIT SHALL BE SCHEDULE 40 3/4" MINIMUM WITH WIRE PULLED AND TERMINATED AT PEDESTAL.
- ⑥ PROVIDE POWER FOR PYLON SIGN. PROVIDE (2)-#8AWG, 1-#6C, IN 1" C. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH SIGN VENDOR AND DEL TACO CONSTRUCTION SUPERVISOR PRIOR TO ROUGH-IN.
- ⑦ PRE-MENU BOARD BY OTHERS. ROUTE CONDUIT (IF ILLUMINATED) TO SIGN PEDESTAL BURY CONDUIT. CONDUIT SHALL BE SCHEDULE 40 3/4" MINIMUM WITH WIRE PULLED AND TERMINATED AT PEDESTAL.
- ⑧ 2" SCH. 40 PVC CONDUIT WITH PULL STRING (FOR FUTURE DIGITAL MENU BOARDS) FROM IN-GRADE PULLBOX TO OFFICE AREA INSIDE BUILDING. REFER TO DETAIL 1/E203 FOR STUB UP LOCATION.
- ⑨ PROVIDE POWER TO DIRECTIONAL SIGN. CONDUIT SHALL BE SCHEDULE 40 3/4" MINIMUM WITH WIRE PULLED AND TERMINATED AT PEDESTAL.

DEL TACO #1630 TENANT IMPROVEMENTS

ELECTRICAL SITE PLAN



1 ELECTRICAL SITE PLAN
 E101 1/4" = 1'-0"

MAY 12, 2025

CLIENT CHANGES 06/16/25

ES001

PLUMBING FIXTURE SCHEDULE

MARK	SYMBOL	MANUFACTURER	CATALOG NUMBER	FIXTURE DESCRIPTION	HW	CW	WASTE	VENT	REMARKS
DCCO & GCO		ZURN	Z1400-VP	GRADE CLEANOUT	--	--	4"	--	DUCO CAST IRON, NO-HUB OUTLET, INTERNAL ABS CLEANOUT PLUG, WITH HEAVY DUTY VANDAL-PROOF SCORiated SECURED CAST IRON COVER.
FCO		ZURN	ZN-1400-8Z-VP	FLOOR CLEANOUT	--	--	SEE PLANS	--	DUCO CAST IRON, NO-HUB OUTLET, INTERNAL ABS CLEANOUT PLUG, WITH ADJUSTABLE ROUND SCORiated NICKEL BRONZE TOP.
FD		ZURN	LC-P3C	FLOOR DRAIN	--	SEE PLANS	SEE PLANS	SEE PLANS	PVC BODY, SOLVENT WELDED OUTLET, THREADED ADJUSTABLE ADAPTOR, WITH NICKEL BRONZE TOP.
FS		ZURN	FD-2370	FLOOR SINK	--	--	SEE PLANS	SEE PLANS	12"x12"x8" DEEP PVC BODY, WITH 1/2 GRATE AND SEDIMENT BUCKET.
MS		FIAT	MSB 36"x24"	MOP SINK	3/4"	3/4"	3"	2"	PROVIDE WITH HOSE AND BRACKET, MOP HANGER, AND UTILITY FAUCET EQUAL TO AMERICAN STANDARD MODEL 8354.112.
TMV		POWERS	HYDROGUARD E480	THERMOSTATIC MIXING VALVE	1/2"	1/2"	--	--	CAST BRASS BODY WITH INTEGRAL CHECKS, MINIMUM FLOW 0.5 GPM, LEAD FREE
P-1		GRUNDFOS	UP 15-18	RECIRC PUMP	3/4"	3/4"	--	--	BRONZE BODY, 115V/1PH/60HZ, 0.48 AMPS, 55 WATTS, 2 GPM @ 10', PROVIDE W/ AQUASTAT AND AUTOMATIC TIMER, LEAD FREE.
TP-1		PPP	P-1 OR P-2	TRAP PRIMER	--	1/2"	--	--	"PRECISION PLUMBING PRODUCTS" PRIME-RITE, P-1 OR P-2 SERIES WITH DISTRIBUTION UNIT FOR MULTIPLE DRAINS, 3/4" MALE HOSE W/ VACUUM BREAKER, PROVIDE WITH ACCESS PANEL, LEAD-FREE
WCO		ZURN	Z1446	WALL CLEANOUT	--	--	SEE PLANS	--	DUCO CAST IRON CLEANOUT TEE WITH NO-HUB CONNECTION, BRONZE COUNTERSINK PLUG, AND STAINLESS STEEL ROUND COVER
WH		AO SMITH	BTH-120	TANK TYPE	1-1/2"	1-1/2"	VIA FD	--	TANK TYPE 60 GALLONS, 120,000 BTUH INPUT, CONDENSING WATER HEATERS, PROVIDE WITH WATTS MODEL ST-5C-DD EXPANSION TANK, ELECTRICAL 120VOLTS.
SSV-1		PACIFIC SEISMIC	SERIES 316	SEISMIC SHUT OFF VALVE	--	--	--	--	PACIFIC SEISMIC PRODUCTS MODEL NO. 316 SERIES, HORIZONTAL VALVE, 2 INCH LARR# 5080
GI-1		GREASE INTERCEPTOR SCHIER	GB-250	HYDROMECHANICAL GREASE INTERCEPTOR	--	--	--	--	100 GPM FLOW RATE, 1,895 LB GREASE CAPACITY.
SB-1		SAMPLE BOX JENSEN PRECAST	EV200	SAMPLE BOX JENSEN PRECAST	--	--	--	--	H-20 TRAFFIC RATED, SAMPLE BOX MUST BE PLACED ON SUITABLE BASE OF COMPACTED SOIL OR UNDISTURBED EARTH IN TRAFFIC CONDITION.

PLUMBING ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	WH	WATER HEATER
A.H.J.	AUTHORITIES HAVING JURISDICTION	LAV	LAVATORY
CD	CONDENSATE DRAIN	HWR	HOT WATER RETURN
CW	COLD WATER	NTS	NOT TO SCALE
FCO	FLOOR CLEAN OUT	RPZ	REDUCED PRESSURE BACKFLOW PREVENTER
FD	FLOOR DRAIN	RTU	ROOF TOP UNIT
FWD	FILTERED WATER DUAL	SS	SANITARY SEWER
FWS	FILTERED WATER SINGLE	SW	SANITARY WASTE
GPM	GALLONS / MINUTE	TMV	THERMOSTATIC MIXING VALVE
GCO	GROUND CLEANOUT	V.I.F.	VERIFY IN FIELD
GW	GREASE WASTE	WC	WATER CLOSET
HW	HOT WATER	WCO	WALL CLEAN OUT

NOTE: NOT ALL ABBREVIATIONS MAY APPEAR ON PLANS.

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:

- INTERNATIONAL BUILDING CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL PLUMBING CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL MECHANICAL CODE 2018 W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL FUEL GAS CODE 2018 W/ ALL GEORGIA AMENDMENTS
- NATIONAL ELECTRICAL CODE 2020 - W/ ALL GEORGIA AMENDMENTS
- INTERNATIONAL ENERGY CONSERVATION CODE 2015 W/ ALL GEORGIA SUPPLEMENTS AND AMENDMENTS

PLUMBING SYMBOLS LEGEND

	BALL VALVE	← EX. SS →	EX. SANITARY WASTE LINE
	GATE VALVE	← EX. CW →	EX. COLD WATER LINE
	CHECK VALVE	← EX. HW →	EX. HOT WATER LINE
	2-WAY CONTROL VALVE	← EX. V →	EX. VENT LINE
	3-WAY CONTROL VALVE	← EX. G →	EX. GAS LINE
	SHUT-OFF VALVE	← EX. GW →	EX. GREASE WASTE LINE
	PIPE UNION		
	PIPE TURN UP		
	PIPE TURN DOWN		
	FLOOR SINK		
	FLOOR DRAIN		
	SANITARY WASTE LINE		
	COLD WATER LINE		
	HOT WATER LINE		
	VENT LINE		
	GAS LINE		
	GREASE WASTE LINE		
	TANK TYPE WATER HEATER		

NOTE: NOT ALL SYMBOLS OR ABBREVIATIONS MAY APPEAR ON PLANS.

GENERAL PLUMBING NOTES

1. PLUMBING WORK SHALL INCLUDE FURNISHING, INSTALLING, AND TESTING ALL PLUMBING SYSTEMS, INCLUDING: PIPING, VALVES, DEVICES AND APPURTENANCES, AND EQUIPMENT FOR COMPLETE AND FULLY OPERATIONAL SYSTEMS. CONTRACTOR SHALL COORDINATE, INSTALL AND TEST ITEMS SPECIFICALLY NOTED AS FURNISHED BY OTHERS. WORK INCLUDES, BUT IS NOT LIMITED TO:

- CONCRETE CUTTING, REMOVAL, BACK FILL, AND PATCHING.
- PIPING, FITTINGS, AND ESCUTCHEONS AT WALL PENETRATIONS.
- PVC - SCHD 80 CONDENSATE DRAINS FROM RTU'S. (REFER TO MECHANICAL PLANS AND COORDINATE).
- PLUMBING FIXTURES, OTHER APPROVED MANUFACTURER'S ARE KOHLER, ELJER, AND CRANE.
- COPPER CONDENSATE AND INDIRECT WASTE DRAINS FROM KITCHEN EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S DIRECTIONS.
- FAUCETS, DRAINS, AND CHROME-PLATED VALVES FOR MOP SINKS AND RESTROOM SINKS.
- WATER HEATER AND TEMPERATURE / PRESSURE SAFETY RELEASE.
- BACKFLOW PREVENTER AT WATER FILTER, COFFEE/TEA MAKER, AND SODA DISPENSER AND VACUUM BREAKER AT EACH PIECE OF EQUIPMENT CONNECTED TO COLD WATER AND AS REQUIRED BY LOCAL CODE.
- SHUT-OFF VALVES ON WATER AND GAS PIPES AT EACH BRANCH AND PIECE OF EQUIPMENT OR FIXTURE.
- GAS PIPING (REFER TO MECHANICAL PLANS AND KITCHEN PLANS AND COORDINATE).
- CUTTING AND PATCHING NEW ROOF OPENINGS.
- WEATHER-PROOF ROOF AND WALL PENETRATIONS.

2. CONTRACTOR SHALL CAREFULLY INSPECT ALL EQUIPMENT RECEIVED AND VERIFY THAT IT IS COMPATIBLE WITH THE MECHANICAL, ELECTRICAL, AND PLUMBING SYSTEMS PRIOR TO INSTALLING EQUIPMENT. CONTACT ARCHITECT OR ENGINEER FOR DIRECTION IF ANY SIGNIFICANT DISCREPANCY ARISES.

3. CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS, ELEVATIONS, AND FLOW DIRECTIONS OF EXISTING PIPING TO WHICH NEW PIPING IS TO BE CONNECTED. REVIEW ALSO THE GENERAL CONDITION OF THESE SYSTEMS AND MODEL NUMBERS OF ANY EXISTING EQUIPMENT TO BE REUSED OR RELOCATED. CONTACT ARCHITECT OR ENGINEER WITH ANY DISCREPANCIES OR CONCERNS PRIOR TO BEGINNING WORK.

4. REFER TO ARCHITECTURAL PLANS AND KITCHEN PLANS FOR FINAL LOCATIONS AND ELEVATIONS OF ROUGH-IN TO EQUIPMENT. MAKE ALL CONNECTIONS. CONTRACTOR SHALL FIELD VERIFY AND CONTACT ARCHITECT FOR DIRECTION IF ANY SIGNIFICANT DISCREPANCY IS FOUND.

WATER SUPPLY

5. ALL HOT, COLD, AND FILTERED WATER PIPING SHALL BE SECURED AND PROPERLY SUPPORTED ABOVE CEILINGS AND WITHIN WALLS, UNEXPOSED TO VIEW, WHEREVER POSSIBLE. SURFACE MOUNTED PIPING IS NOT ACCEPTABLE, UNLESS APPROVED IN WRITING BY ARCHITECT. PIPING SHALL CONFORM TO IPC 2018 WITH GEORGIA STATE AMENDMENTS.

6. PROVIDE VIBRATION ISOLATION. PROVIDE WATER HAMMER ARRESTORS AT THE TOP OF EACH PLUMBING RISER AND AT EACH "QUICK CLOSING" VALVE (E.G. FLUSH VALVE).

7. IF ALLOWED BY A.H.J., CONTRACTOR MAY USE PEX A PIPING IN ACCORDANCE WITH ASTM F876 AND ASTM F877, EQUAL TO UPONOR, FOR HOT AND COLD WATER SUPPLY PIPING ABOVE FLOOR WITH APPROPRIATE ABRASION PROTECTION SLEEVES/FITTINGS. METAL INSERT FITTINGS AND PLASTIC CRIMP RINGS SHALL CONFORM WITH ASTM F1807. PUSH FIT FITTINGS SHALL CONFORM WITH ASSE 1061. APPROVED ALTERNATIVES SHALL BE PEX B OR TYPE "L" HARD TEMPER COPPER PIPING. PEX B PIPING SHALL CONFORM WITH ASTM F876, EQUAL TO UPONOR, FOR HOT AND COLD WATER SUPPLY PIPING ABOVE FLOOR WITH APPROPRIATE ABRASION PROTECTION SLEEVES/FITTINGS. COLD EXPANSION FITTINGS AND REINFORCING FITTINGS SHALL CONFORM WITH ASTM F1960. TYPE "L" HARD TEMPER COPPER PIPING SHALL CONFORM TO ASTM B88 WITH WROUGHT COPPER SOLDER, JOINT FITTINGS AND 2% LEAD SOLDER (U.N.O.), HIDDEN OR PROTECTED DRAIN PIPING MAY BE TYPE "DWV" CONFORMING TO ASTM B306.

8. UNDERSLAB WATER PIPING SHALL BE TYPE "K" SOFT-DRAWN COPPER TUBING CONFORMING TO ASTM B88 WITH WROUGHT COPPER SOLDER JOINT FITTINGS AND SILVER SOLDERED JOINTS.

9. PROVIDE ACCESSIBLE SHUT-OFF VALVES AND MAKE FINAL CONNECTION PER MANUFACTURER'S RECOMMENDATIONS TO ALL KITCHEN EQUIPMENT. REFER TO KITCHEN PLANS AND ARCHITECTURAL PLANS FOR ADDITIONAL REQUIREMENTS.

10. PROVIDE DOUBLE CHECK VALVE ASSEMBLY BACKFLOW ASSEMBLY (DCVA) ON MAIN WATER SERVICE, UNLESS SELLER BUILDING OR LANDLORD HAS PROVIDED IT. PROVIDE RPZ AT SUPPLY OF WATER FILTER, WATER INJECTED SOAP DISPENSERS, COFFEE & TEA BREWERS, CARBONATED DRINK DISPENSERS. STAINLESS STEEL SHALL BE USED ON CARBONATED AND OTHER CORROSIVE LIQUIDS. ROUTE DRAIN TO NEAREST FLOOR SINK, U.N.O. BACKFLOW PREVENTERS SHALL BE TESTED BY CERTIFIED TECHNICIAN.

11. PROVIDE PRESSURE REDUCING VALVES (CONFORMING TO ASSE 1003) FOR ALL HOT AND COLD WATER PIPES SERVING EQUIPMENT IF PRESSURE EXCEEDS 80 P.S.I.

12. CONTRACTOR SHALL TEST WATER PRESSURE DOWNSTREAM OF WATER METER AND BACKFLOW PREVENTER. IF LESS THAN 30 P.S.I., CONTACT ARCHITECT / ENGINEER.

13. GATE VALVES SHALL BE BRONZE WITH ENDS TO SUIT PIPE, NON-RISING STEM FOR 150 P.S.I. WORKING PRESSURE.

INSULATION

14. PIPE INSULATION SHALL BE EQUAL TO ARMAFLEX CLOSED CELL INSULATION. REQUIRED R-VALUE MAY BE PROVIDED WHERE PERMITTED BY A.H.J. INSTALL WITH SELF-SEALING ADHESIVE JOINTS AND FOR USE AS RECOMMENDED BY MANUFACTURER.

15. ALL DOMESTIC COLD WATER PIPING AND CONDENSATE DRAINS SHALL BE INSULATED WITH 1/2" FIBERGLASS. ALL HOT WATER PIPING SHALL BE INSULATED WITH 1" FIBERGLASS. COMPLY WITH CURRENT VERSION OF THE CALIFORNIA ENERGY CODE AND INTERNATIONAL ENERGY CONSERVATION CODE, AS APPLICABLE AND ENFORCED BY THE AHJ.

GAS PIPING

16. CONTRACTOR SHALL CONTACT GAS COMPANY TO COORDINATE REQUIREMENTS TO RE-ESTABLISH GAS SERVICE. CONTACT ARCHITECT / ENGINEER FOR DIRECTION IF TOTAL PIPING LENGTH OR TOTAL LOADS INCREASE OR IF METER DISCHARGE PRESSURE IS LOW. PROVIDE APPROVED GAS PRESSURE REGULATORS. ALL WORK SHALL COMPLY WITH NFPA 54.

GAS PIPING (continued)

17. GAS PIPING INSIDE BUILDING AND ABOVE GRADE SHALL BE AMERICAN MANUFACTURED, NEW SCHEDULE 40 STANDARD WEIGHT BLACK STEEL PIPE. PIPING 2 1/2" AND LARGER SHALL BE WELDED AND PIPING SMALLER SHALL BE THREADED AND HAVE 150 LB., BLACK MALLEABLE IRON SCREW FITTINGS CONFORMING TO ASTM A53.

18. CONNECTIONS, FITTINGS, ETC. SHALL BE SAME WEIGHT AS PIPE AND EQUAL TO PRODUCTS OF CRANE COMPANY. VALVES SHALL CONFORM TO ASME B16.33. ONE INCH AND SMALLER VALVES SHALL BE LEVER HANDLE. LARGER VALVES SHALL BE IRON BODY WITH BRONZE SQUAREHEAD PLUG. PROVIDE OPERATING WRENCH WITH EACH VALVE. PROVIDE UNIONS AT EACH CONNECTION TO EQUIPMENT. DO NOT INSTALL UNIONS ELSEWHERE.

19. BELOW GRADE OUTSIDE BUILDING, GAS PIPING MAY BE HIGH DENSITY POLYETHYLENE (HDPE) PIPE WITH HEAT FUSION FITTINGS CONFORMING TO ASTM D2513 IF PERMITTED BY A.H.J. INSTALLATION SHALL CONFORM TO LOCAL CODE AND UTILITY COMPANY REQUIREMENTS. PROVIDE TRACER WIRE WITH PLASTIC PIPE.

20. GAS BRANCH LINES SHALL BE MADE WITH 45° AND 90° TEES OUT OF THE TOP OF MAINS.

21. CONTRACTOR SHALL INSTALL SOLENOID VALVE FOR KITCHEN GAS CONTROL, FURNISHED BY KITCHEN EQUIPMENT VENDOR, AND WIRED BY FIRE SUPPRESSION SYSTEM CONTRACTOR.

22. KITCHEN EQUIPMENT VENDOR TO PROVIDE. PLUMBING CONTRACTOR TO INSTALL U.L. LISTED CORRUGATED, FLEXIBLE GAS CONNECTIONS TO WATER HEATER AND COOKING EQUIPMENT CONFORMING TO ANSI Z21.24. KITCHEN EQUIPMENT VENDOR TO PROVIDE. PLUMBING CONTRACTOR TO INSTALL RIGID CONNECTIONS TO ALL OTHER EQUIPMENT AND APPLIANCES AND WHERE LOCAL CODE PROHIBITS THE USE OF FLEXIBLE CONNECTIONS. OUTDOOR CONNECTORS SHALL BE LISTED FOR OUTDOOR USE.

23. PROVIDE ROCKWELL, NORDSTROM, CRANE, WALWORTH, OR APPROVED EQUAL PLUG TYPE STOP COCKS IN THE GAS LINES. IN EACH BRANCH LINE AND RISER, SERVING TWO OR MORE OUTLETS, PROVIDE STOP COCK AT EACH OUTLET WITH A UNION BETWEEN IT AND THE EQUIPMENT SERVED. (THE FIRING VALVE CONTROL SHALL NOT BE CONSTRUED AS SUITABLE FOR SHUT-OFF.) PROVIDE MASTER SHUT-OFF VALVE AT THE METER, AT MAIN BRANCHES, AND AS SHOWN ON PLANS.

WASTE AND VENT

24. SANITARY AND GREASE WASTE PIPING AND VENT PIPING MAY BE SCHEDULE 40 PVC PIPE CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY THE A.H.J. IF PVC IS NOT PERMITTED FOR VENT, THEN VENT PIPING SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A53 OR CAST IRON NO-HUB CONFORMING TO ASTM A74. VENT FITTINGS SHALL BE SAME MATERIAL (WITH GALV. STEEL CONFORMING TO ASTM A865).

25. AS AN ALTERNATE, GREASE AND SANITARY WASTE SHALL BE STANDARD WEIGHT CAST IRON CONFORMING TO ASTM A74 WITH NO-HUB FITTINGS CONFORMING TO ASTM C564-07g.

26. PVC PIPING SHALL NOT BE EXPOSED IN RETURN AIR PLENUMS. PVC PIPE EXPOSED TO U.V. RADIATION SHALL BE SCHEDULE 80 AND PAINTED WITH LIGHT COLORED, WATER-BASED ACRYLIC OR LATEX PAINT CHEMICALLY COMPATIBLE WITH PVC. USE ONLY IF PERMITTED BY A.H.J.

27. ALL EXPOSED DRAIN PIPING FOR HAND SINKS AND RESTROOM LAVATORIES SHALL BE CHROME PLATED.

28. CONDENSATE DRAINS FROM COOLER AND FREEZER SHALL BE RUN TO THE NEAREST FLOOR DRAIN OR FLOOR SINK WITH HARD COPPER PIPE. CONDENSATE DRAINS FROM ROOF SHALL BE RUN TO MOP SINK WITH A 1-1/4" INSULATED PIPE (U.N.O.). PROVIDE HEAT TRACE FOR CONDENSATE DRAIN LINES WITHIN FREEZER.

29. COORDINATE FINAL LOCATIONS OF VENTS THROUGH ROOF SO THAT NONE IS WITHIN 10'-0" OF ANY FRESH AIR INTAKE. WHERE THIS IS NOT FEASIBLE, APPLY TO ARCHITECT TO RAISE AND TERMINATE VENT OPENING A MINIMUM OF 3'-0" ABOVE AIR INTAKE IF THIS IS PERMITTED BY A.H.J.

30. CONTRACTOR SHALL PROVIDE HARD COPPER INDIRECT WASTE FROM KITCHEN EQUIPMENT. REFER TO KITCHEN PLANS. PROVIDE PROPER BRACING FROM EQUIPMENT OR BACK WALL TO PREVENT MOVEMENT OR DAMAGE. TERMINATE WITH CODE-APPROVED AIR GAP.

31. ALL HORIZONTAL SANITARY AND GREASE WASTE PIPING SHALL BE RUN AT A MINIMUM SLOPE OF 2% (1/4" PER FT.), U.N.O.

32. CLEANOUTS SHALL BE PROVIDED IN SANITARY AND GREASE WASTE AT CHANGE OF DIRECTION EXCEEDING 45° AND IN INTERIOR INTERVALS NOT EXCEEDING 50 FT. CLEANOUTS SHALL BE SAME SIZE AS PIPE AND MADE OF BRASS CAULKED INTO LINES WITH ADJUSTABLE ACCESS PLATES IN FINISHED AREAS. EXTERIOR CLEANOUTS SHALL BE ENCASED IN CONCRETE AT GRADE.

MISCELLANEOUS

33. CONTRACTOR SHALL PROVIDE PIPE SLEEVES FOR ALL PIPES PASSING THROUGH FOUNDATION WALLS. USE SLEEVE ONE SIZE LARGER THAN PIPE AND SEAL AROUND SLEEVE AND PIPE.

34. REFER TO KITCHEN PLAN DETAILS FOR INSTALLATION OF FLOOR SINKS AND FLOOR DRAINS, INCLUDING SLOPING OF FLOOR.

35. CONTRACTOR SHALL SNAKE ALL DRAIN LINES AND SANITARY SEWER LINES PRIOR TO APPLYING FOR FINAL PAYMENT. CONTRACTOR SHALL INSPECT AND VIDEOTAPE INTERIOR OF EXISTING SANITARY WASTE AND SEWER TO INSURE THAT SYSTEM IS CAPABLE OF FUNCTIONING PROPERLY.

36. COORDINATE THE LOCATIONS OF ALL CEILING ACCESS PANELS WITH THE ARCHITECTURAL REFLECTED CEILING PLAN (RCP) AND LIGHTING PLAN.

37. PROVIDE UNIONS OF SAME PRESSURE RATING AS SYSTEM AT PROPER POINTS TO ALLOW REMOVAL OF EQUIPMENT, PIPE, ETC. WITHOUT DAMAGE TO OTHER PARTS OR SYSTEMS.

38. PROVIDE DIELECTRIC UNIONS TO SEPARATE DISSIMILAR MATERIAL PIPES.

39. CONTRACTOR SHALL PROVIDE A 4" CONCRETE HOUSEKEEPING PAD SLOPED AT 2% TO EXTERIOR OR DRAIN FOR WATER HEATER (U.N.O.).

40. ALL WATER PIPING AND SEWERS SHALL BE PROPERLY TESTED TO THE SATISFACTION OF THE A.H.J. AND ARCHITECT. GIVE ARCHITECT 72 HOURS NOTICE PRIOR TO CONDUCTING TEST.

41. TRENCHES SHALL BE BACK-FILLED WITH CLEAN SOIL BY TAMPING OR PUDDLING IN 6" INCREMENTS. NO PIPE SHALL BE LESS THAN 12" BELOW FINISHED GRADE.

42. THESE PLANS AND SPECIFICATIONS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE AND DO NOT SHOW ALL DETAILS, DEVICES AND METHODS OF CONSTRUCTION REQUIRED IN ORDER TO ACHIEVE A FIRST CLASS, WORKMANLIKE RESULT.

43. THE BIDDING CONTRACTOR(S) SHALL REFERENCE THESE PLANS AND SPECIFICATIONS, AS WELL AS THE ARCHITECTURAL, STRUCTURAL, AND CIVIL PLANS AND SPECIFICATIONS TO UNDERSTAND THE COMPLETE SCOPE OF WORK.

44. EXISTING FIRE PROTECTION SHALL BE REUSED AS IS.

DEL TACO #1630 TENANT IMPROVEMENTS

PLUMBING NOTES, SCHEDULES, LEGENDS AND ABBREVIATIONS

MAY 12, 2025

CLIENT CHANGES 06/16/25

P001

GAS SCHEDULE				
ITEM	GAS SIZE CONN.	SERVICE	BTU/HR TOTAL	REMARKS
-	1-1/2"	FOODSERVICE EQUIPMENT		TOTAL OF ALL COOKING EQUIPMENT.
29	1"	2 BANK FRYERS	150 MBH	QUICK DISCONNECT USED AT 2 BANK FRYER.
31B	3/4"	GRIDDLE	90 MBH	QUICK DISCONNECT USED AT GRIDDLE
32	1-1/4"	GAS RANGE	180 MBH	QUICK DISCONNECT USED
35	3/4"	TACO COUNTER	90 MBH	QUICK DISCONNECT, CONFIRM WITH MANUFACTURER
WH	1"	WATER HEATING	120 MBH	
RTU-1[E]	1"	EX. SPACE HEATING	180 MBH	ON ROOF
RTU-2[E]	1"	EX. SPACE HEATING	240 MBH	ON ROOF
RTU-3[E]	1"	EX. SPACE HEATING	180 MBH	ON ROOF
TOTAL	EX.2-1/2" MAIN		1230 MBH	TOTAL BASED ON COOKING EQPM MAX.

FIXTURE TESTING	
TABLE 5.303.6 STANDARD FOR PLUMBING FIXTURES AND FIXTURE TESTINGS REQUIRED STANDARDS	
WATER CLOSETS (TOILETS) - FLUSH VALVE	ANSI/ASME 112.19.2 / CSA B45.1
URINALS, NONWATER URINALS	ASME A 112.19.19 (VITREOUS CHINA) ANSI Z124.9-2004 OR IAPMO Z124.9 (PLASTIC)
PUBLIC LAVATORY FAUCETS: MAXIMUM FLOW RATE-0.4 GPM (1.52L / MIN.)	ASME A 112.18.1/CSA B125.1
PUBLIC METERING SELF-CLOSING FAUCETS: MAXIMUM WATER USE-0.25 GAL (1.0L) PER METERING CIRCLE	ASME A 112.18.1/CSA B125.1

PLUMBING FIXTURE TABULATION					
NUMBER	TYPE OF FIXTURE	CW FU PER FIXTURE	TOTAL CW FU UNITS	WASTE FU PER FIXTURE	TOTAL WASTE FU UNITS
3	WATER CLOSET	10	30	4	12
2	LAVATORY	2	4	1	2
3	FLOOR DRAINS	-	-	2	6
5	FLOOR SINK	-	-	5	25
2	POWER SOAK	4	8		
1	DROP-IN SINK	0.7	0.7		
1	PREP SINK	4	4		
3	HAND SINK	0.7	1.4	1	3
1	MOP SINK	3	3	2	2
1	URINAL	10	10	4	4
1	WATER FILTER	2	2		
TOTAL FIXTURE UNITS			63.1		54

DOMESTIC WATER AND WASTE/VENT FIXTURE COUNTS BASED ON IPC 2018 WITH GEORGIA STATE AMENDMENTS, & REQUIRED SAN PIPE IS 4" & PER BELOW PIPE SIZE SCHEDULE MIN PIPE SIZE REQUIRED FOR CW IS 1-1/2"

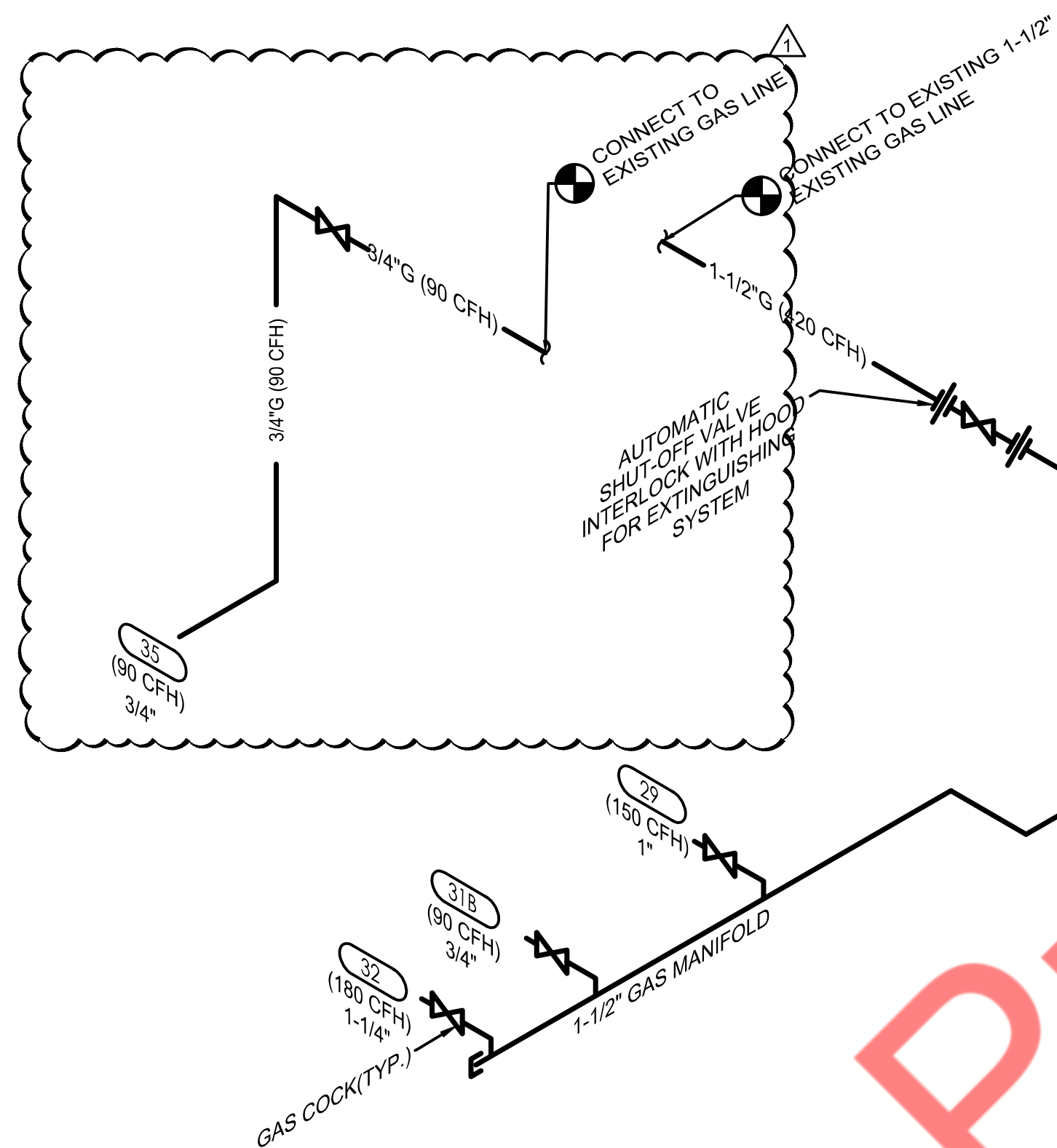
PIPE SIZE SCHEDULE				
PIPE MATERIAL: PEX A				
PRESSURE LOSS: 3.0 PSI/100FT.				
PIPE SIZE INCHES	HOT WATER (SFT/S)	COLD WATER TK (8FT/S)	COLD WATER FV (8FT/S)	
1/2"	1	1	0	
3/4"	3	7	0	
1"	8	19	6	
1 1/4"	18	55	14	
1 1/2"	44	102	35	
2"	124	155	146	
2 1/2"	257	266	375	
3"	426	790	743	
4"	919	1894	1894	

WATER HEATER SIZING				
NUMBER	TYPE OF FIXTURE	GPH PER FIXTURE	TOTAL GPH	
1	DROP-IN SINK	5	5	
1	POWER SOAK	41	41	
	POWER SOAK ADD FAUCET	45	45	
1	PREP SINK	5	5	
3	HAND SINK	5	15	
1	MOP SINK	10	10	
1	TACO COUNTER	5	5	
TOTAL FIXTURE UNITS			126	

GPH VALUES PER APPENDIX -1: WATER HEATING SYSTEM SIZING VERIFICATION RECORD DOCUMENT. CONSIDERING GROUND WATER TEMPERATURE OF 64 DEG F. TEMP RISE= 140-64 = 76 DEG F. PROVIDED WATER HEATER: STORAGE 60 GALLONS, RECOVERY 173 GPH AT 80 DEG F.

GREASE INTERCEPTOR SIZING					
GREASE INTERCEPTOR CALCULATIONS					
Reference No. 8957					
Project Name: DEL TACO					
Step 1: Liquid Holding Capacity to grease Interceptor					
Fixture GPH to Liquid Holding Capacity per GPC Table 101.4.5.6					
FIXTURE	TYPE	DISBURSING	GFU	QTY	TOTAL GFU
Existing (Beverage Dispenser)	Floor Sink	N/A	2	3	6
Hand Sink	Hand Sink	10" x 14" x 8"	2	1	2
Hand Sink (existing)	Hand Sink	10" x 14" x 8"	2	2	4
Ice Machine (with drain)	Ice Machine (with drain)	N/A	1	1	1
power soaker (replaced with 3 count)	3 Count power soaker	21" x 21" x 14" (3)	4	1	4
Replaced with new in same location	Mop Basin	25" x 30" x 10"	3	1	3
Replaced with new in same location	Prep Sink (over boat)	25" x 15" x 14"	2	1	2
Floor Drain (existing)	Floor Drain	N/A	0	2	0
Liquid Holding Capacity used to size Interceptor					1,000 Gal
Step 2: Grease Production					
Total square feet in facility: 2923					
Grease production value: 0.035 lbs per sq ft per day x (Grease Production Value) x (Days between pump-out) = Grease output					
Dish area: 714 sq ft per seat x (Seats per seat per day) x (Grease Production Value) x (Days between pump-out) = Grease output					
Amount of square feet in facility: 2923					
Grease production value: 0.035 lbs per serving (Break Food - Full Prep; High / No Fatness)					
Days between pump-out: 90 days					
(2923 x .035) / 14 x 4 x 0.035 x 90 = 1578.42 lbs of FOG					
NOTE: EXISTING GREASE INTERCEPTOR IS OF 1500 GALLONS. CONTRACTOR TO V.I.F.					

PLUMBING WATER SCHEDULE							
ITEM	SERVICE	CONN	SIZE	LOCATION	AFF	REMARKS	
7A	DROP-IN SINK	H & C WATER, 8" O.C.	1/2"	WALL	12'	B.T.C. ON HAND SINK FAUCET. REFER TO ENGINEER'S DRAWINGS FOR CHECK VALVE.	
16	COFFEE/TEA BREWER	COLD WATER	1/2"	WALL	42'	B.T.C. ON BREWER FROM CENTRAL FILTER. ITEM NO. 74.	
19	BEVERAGE SYSTEM	COLD WATER	1/2"	WALL	24'	B.T.C. ON SYSTEM FROM CENTRAL FILTER ITEM NO. 74.	
20	BEVERAGE SYSTEM	COLD WATER	1/2"	WALL	24'	B.T.C. ON SYSTEM FROM CENTRAL FILTER ITEM NO. 74.	
33	COMBI OVEN	SOFT AND COLD WATER	3/4"	WALL	64'	INSTALL WITH APPROVED A.H.J. COMPLIANT B.F.P FOR EACH LINE.	
35	TACO COUNTER	HOT WATER	1/2"	CEILING	D.F.A.	B.T.C. TO AUTO WATER FILL FOR STEAM TABLE	
55A	HAND SINK	H & C WATER, 8" O.C.	1/2"	WALL	12'	B.T.C. ON HAND SINK FAUCET. REFER TO ENGINEER'S DRAWINGS FOR CHECK VALVE.	
41	BEVERAGE SYSTEM	COLD WATER	1/2"			B.T.C. ON SYSTEM FROM CENTRAL FILTER ITEM NO. 74.	
41A	CARBONATOR BEVERAGE	COLD WATER	3/8"	WALL	5'-0"	B.T.C. ON SYSTEM FROM CENTRAL FILTER ITEM NO. 74.	
46.1	PREP SINK FAUCET	H & C WATER, 8" O.C.	3/4"	WALL	12'	B.T.C. ON PRODUCE FAUCET, MIN. 140 DEGREE HOT WATER.	
47.2	POWER SOAK FAUCET	H & C WATER, 8" O.C.	3/4"	WALL	12'	B.T.C. ON SPRAY RINSE, MIN. 140 DEGREE HOT WATER.	
72	MOP FAUCET	H & C WATER, 8" O.C.	3/4"	WALL	36'	REFER TO "P" SHEET TO COORDINATE	
74	BEVERAGE FILTER	COLD WATER	3/4"	WALL	5'-0"	B.T.C. ON CENTRAL FILTER. PLUMBER TO ROUTE FILTERED WATER TO ALL BEVERAGE SYSTEMS. RPZ BY PLUMBING CONTRACTOR.	
74.1	BEVERAGE FILTER	COLD WATER	3/4"	WALL	5'-0"	B.T.C. ON CENTRAL FILTER. PLUMBER TO ROUTE FILTERED WATER TO ALL BEVERAGE SYSTEMS. RPZ BY PLUMBING CONTRACTOR.	
76	ICE MACHINE	COLD WATER	3/8"	WALL	24'	B.T.C. ON ICE MACHINE THROUGH PROVIDED FILTER. JOHN GUESS FITTINGS.	
ECO	ECOLAB DISPENSER	COLD WATER	VERIFY	WALL	VERIFY	DEDICATED WATER SUPPLY. CONFIRM WITH OWNER TO PROVIDE OR NOT PRIOR BID.	



NATURAL GAS PIPING SYSTEM
 PROVIDE A COMPLETE GAS PIPING SYSTEM TO SERVE GAS EQUIPMENT FURNISHED BY OTHERS, AS NOTED ON THE DRAWINGS. PROVIDE EITHER THREADED STEEL OR MALLEABLE IRON PIPE WITH MALLEABLE FITTINGS OR WELDED STEEL. PROVIDE ALL UNIONS, SHUT-OFF VALVES AND DIRT LEGS REQUIRED BY IPC CODE 2018, AND GOVERNING LOCAL CODES AND AT EACH GAS APPLIANCE CONNECTION. PROVIDE ALL TESTS, METERS, INSPECTIONS, HANGERS AND EQUIPMENT CONNECTIONS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

NOTES:

1. GAS PIPING TO BE SCHEDULE 40 STEEL PIPE W/125 CAST IRON SCREW FITTINGS
2. GAS SYSTEM TO BE INSTALLED BY QUALIFIED LICENSED CONTRACTOR.
3. VERIFY ALL EQUIPMENT BTUS PRIOR TO INSTALLATION. ADJUST PIPE SIZE ACCORDING TO 2023 FLORIDA FUEL GAS CODE
4. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING GAS METER LOCATION, PRESSURE AND CAPACITY. UPGRADE IF REQUIRED.
5. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM METER TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.

NOTES:

1. PROVIDE FLEXIBLE GAS CONNECTION TO ALL KITCHEN, PLUMBING EQUIPMENTS
2. NATURAL GAS PIPE SIZES ARE BASED ON A TOTAL DEVELOPED LENGTH OF 125'-0", PER 2018 IFGC WITH GEORGIA AMENDMENTS, TABLE 402.4(2).

TABLE C403.2.10 PIPE INSULATION THICKNESS								
FLUID TEMPERATURE RANGE (°F)	CONDUCTIVITY RANGE (IN BTU-INCH PER HOUR PER SQUARE FOOT PER °F)	INSULATION MEAN RATING TEMPERATURE (°F)	NOMINAL PIPE DIAMETER (IN INCHES)					
			<1	1	1.5	4	8	
			TO	TO	TO	TO	AND	
			1	<1.5	<4	<8	LARGER	
INSULATION THICKNESS REQUIRED (IN INCHES)								
SPACE HEATING, HOT WATER (STEAM, STEAM CONDENSATE & HOT WATER) AND SERVICE WATER HEATING SYSTEMS								
ABOVE 350	0.32 - 0.34	250	4.5	5.0	5.0	5.0	5.0	5.0
251 - 350	0.29 - 0.31	200	3.0	4.0	4.5	4.5	4.5	4.5
201 - 250	0.27 - 0.30	150	2.5	2.5	2.5	3.0	3.0	3.0
141 - 200	0.25 - 0.29	125	1.5	1.5	2.0	2.0	2.0	2.0
105 - 140	0.22 - 0.28	100	1.0	1.0	1.5	1.5	1.5	1.5
SPACE COOLING SYSTEMS (CHILLED WATER, REFRIGERANT AND BRINE)								
40 - 60	0.21 - 0.27	75	0.5	0.5	1.0	1.0	1.0	1.0
BELOW 40	0.20 - 0.26	50	1.0	1.5	1.5	1.5	1.5	1.5

LOW PRESSURE NATURAL GAS PIPE SIZING TABLE								
IFGC-2018 TABLE 402.4(2)								
MAXIMUM DELIVERY CAPACITY OF SCHEDULE 40 METALLIC PIPE CARRYING NATURAL GAS OF 0.60 SPECIFIC GRAVITY BASED ON A PRESSURE DROP OF 0.5" WATER COLUMN, GAS PRESSURE 8" WC								
PIPE SIZE IN INCHES								
NOMINAL ID	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3
LENGTH (FT)	CAPACITY IN CUBIC FEET OF GAS PER HOUR							
10	172	360	678	1,390	2,090	4,020	6,400	11,300
20	118	247	466	957	1,430	2,760	4,400	7,780
30	95	199	374	768	1,150	2,220	3,530	6,250
40	81	170	320	657	985	1,900	3,020	5,350
50	72	151	284	583	873	1,680	2,680	4,740
60	65	137	257	528	791	1,520	2,430	4,290
70	60	126	237	486	728	1,400	2,230	3,950
80	56	117	220	452	677	1,300	2,080	3,670
90	52	110	207	424	635	1,220	1,950	3,450
100	50	104	195	400	600	1,160	1,840	3,620
125	44	92	173	355	532	1,020	1,630	2,890
150	40	83	157	322	482	928	1,480	2,610
175	37	77	144	296	443	854	1,360	2,410
200	34	71	134	275	412	794	1,270	2,240
250	30	63	119	244	366	704	1,120	1,980
300	27	57	108	221	331	638	1,020	1,800
350	25	53	99	203	305	587	935	1,650
400	23	49	92	189	283	546	870	1,540

- ALL GAS PIPING DOWNSTREAM OF PRESSURE REGULATOR SHALL BE SIZED PER IFGC - 2018 TABLE 402.4(2).
- GAS METERS TO BE ACCESSIBLE. INSTALL AUTOMATIC EARTHQUAKE SHUT-OFF VALVE & REGULATOR AS REQUIRED.
- GAS SHUT-OFF VALVES & PRESSURE REGULATORS TO BE EASILY ACCESSIBLE.
- GAS METER LOCATIONS VARY. PLUMBING CONTRACTOR TO COORDINATE GAS PIPE ROUTING FROM GAS METERS TO ANY STEP-DOWN PRESSURE REGULATORS.

PLUMBING SPECIFICATIONS		
PART 1: GENERAL		
1.1 SCOPE	A. SANITARY SOIL, WASTE AND VENT. B. DOMESTIC HOT AND COLD WATER. C. ALL PLUMBING FIXTURES, VALVES, TRAPS, CLEANOUTS, ETC AS REQUIRED FOR A COMPLETE INSTALLATION. D. CONNECTION TO EXISTING SANITARY SEWER, VENT AND DOMESTIC COLD WATER LINES AS REQUIRED.	
1.2 REFERENCED PUBLICATIONS	A. THE SELECTION AND DESIGN OF THE PLUMBING SYSTEMS FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE LATEST ADOPTED EDITION, FOLLOWING REFERENCE STANDARDS AND REFER TO PIPE MATERIAL SCHEDULES: 1. ANSI/ASME B16.22 WROUGHT COPPER AND BRONZE SOLDER-JOINT PRESSURE FITTINGS. 2. ANSI/ASME B16.29 WROUGHT COPPER AND WROUGHT COPPER ALLOY SOLDER JOINT DRAINAGE FITTINGS - DWV 3. ANSI/ASTM A47 MALLEABLE IRON CASTINGS. 4. ASTM A74 CAST IRON SOIL PIPE AND FITTINGS. 5. ASTM B88 SEAMLESS COPPER WATER TUBE 6. ASTM B306 COPPER DRAINAGE TUBE - DWV 7. ASTM C564 RUBBER GASKETS FOR CAST IRON SOIL PIPE AND FITTINGS. 8. AWWA C601 STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTE WATER 9. CISPI 301 CAST IRON SOIL PIPE AND FITTINGS FOR HUBLESS CAST IRON SANITARY SYSTEMS. 10. CISPI 310 JOINTS FOR HUBLESS CAST IRON SANITARY SYSTEMS 11. FED SPEC. WW-V-368(1) VALVE, BALL 12. MSS SP-80 BRONZE GATE, GLOBE, ANGLE AND CHECK VALVE.	
1.3 APPLICABLE CODES	1. INTERNATIONAL BUILDING CODE 2018 W/ ALL GEORGIA AMENDMENTS. 2. INTERNATIONAL PLUMBING CODE 2018 W/ ALL GEORGIA AMENDMENTS. 3. INTERNATIONAL FIRE CODE 2018 W/ ALL GEORGIA AMENDMENTS. 4. INTERNATIONAL MECHANICAL CODE 2018 W/ ALL GEORGIA AMENDMENTS.	
1.4 PERMITS AND INSPECTIONS	A. UNLESS OTHERWISE DISTINCTLY HEREINAFTER SPECIFIED, THIS CONTRACTOR SHALL APPLY AND PAY FOR ALL NECESSARY PERMITS, FEES AND INSPECTIONS REQUIRED BY ANY AUTHORITY HAVING JURISDICTION.	
1.5 SURVEY OF SITE	A. BEFORE SUBMITTING PROPOSALS FOR THIS WORK, EACH BIDDER SHALL BE FAMILIAR WITH PLANS AND SPECIFICATIONS AND SHALL HAVE EXAMINED THE PREMISES AND UNDERSTOOD THE CONDITIONS UNDER WHICH HE/SHE WILL BE OBLIGED TO OPERATE IN PERFORMING THIS CONTRACT. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THE CONNECTIONS ON BEHALF OF THE CONTRACTOR FOR ANY ERROR THROUGH NEGLIGENCE OR HIS/HER PART.	
1.6 MATERIAL AND WORKMANSHIP	A. GENERAL: IN CONFORMITY WITH LOCAL BUILDING CODE AND ALL LEGALLY CONSTITUTED BODIES HAVING JURISDICTION. B. MATERIALS SHALL BE NEW AND IN PERFECT CONDITION; MATERIALS FOR SIMILAR USES SHALL BE OF SAME TYPE AND MANUFACTURER. C. WORKMANSHIP: BEST STANDARD PRACTICE OF THE TRADE. D. WORK IN FINISHED SPACES: TRIM, FITTING AND PIPE SHALL BE CHROMIUM PLATED BRASS. E. BEFORE STARTING WORK, THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING LINES AFFECTED BY THE CONTRACT.	
1.7 SUBMITTALS	A. SUBMITTALS ARE REQUIRED ON EVERY ITEM AND SHALL BE FURNISHED WHETHER OR NOT IT IS THE SPECIFIED ITEM. B. SIX (6) BOUND COPIES OF EACH SHOP DRAWING, INDICATING PROPOSED LAYOUT, MATERIAL LISTS AND/OR PLATES OR BROCHURES OF MATERIALS AND EQUIPMENT SPECIFIED HEREIN SHALL BE PREPARED AND SUBMITTED TO THE ENGINEER FOR REVIEW WITHIN FIFTEEN (15) DAYS AFTER AWARD OF CONTRACT. NO WORK INDICATED ON ANY ONE SHOP DRAWING SHALL BE STARTED UNTIL SUCH DRAWING HAS BEEN REVIEWED AND APPROVED BY THE ENGINEER. C. RECORD DRAWINGS: TWO (2) COMPLETE SETS OF "AS-BUILT" AND SIX (6) SETS OF OPERATING INSTRUCTIONS SHALL BE RETURNED TO THE OWNER.	
1.8 GUARANTEE	A. ALL MATERIALS PROVIDED AND INSTALLED UNDER THESE SECTION SHALL BE GUARANTEED IN ACCORDANCE WITH THE GENERAL CONDITIONS. SHOULD ANY TROUBLE OR MALFUNCTIONS DEVELOP DURING THIS PERIOD DUE TO DEFECTIVE MATERIALS OR FAULTY WORKMANSHIP, THE CONTRACTOR WILL BE HELD LIABLE AND SHALL FURNISH LABOR, MATERIALS AND EQUIPMENT NECESSARY TO CORRECT THE TROUBLE OR MALFUNCTION AT NO COST. ALL DEFECTIVE MATERIALS OR INFERIOR WORKMANSHIP NOTICED DURING THE TIME OF INSTALLATION SHALL BE CORRECTED IMMEDIATELY TO THE ENTIRE SATISFACTION OF THE ARCHITECT AND OWNER. THE GUARANTEE SHALL BE A WRITTEN ONE YEAR TERM.	
PART 2: MATERIALS		
2.1 PIPE AND FITTINGS	A. SANITARY WASTE AND VENT: A.A. SCHEDULE 40 PVC PIPE CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY THE A.H.J. A.B. NO-HUB SERVICE WEIGHT CAST IRON SOILPIPE AND FITTINGS ASTM (A74) WITH LAPJOM LISTED COUPLINGS. B. DOMESTIC COLD WATER: ASTM F876 & F877, PEX A TUBING, FITTINGS: ASTM F1807, METAL INSERT FITTINGS AND PLASTIC CRIMP RINGS.	
2.2 PIPE HANGERS AND SUPPORT	26. SWIVEL LOOP HANGERS: MICHIGAN HANGER CO." NO. 101 FOR COPPER TUBING. 27. PIPE ISOLATION: "SECUR STRUT AND HANGER CO." FIG. 83, ISOLATOR COPPER TUBE. 28. CLEVIS HANGER "MICHIGAN HANGER CO" NO. 405 FOR AWWA CAST IRON PIPE. 29. PROVIDE CLAMPS, HANGER RODS AND ATTACHMENTS AS REQUIRED	
2.3 INSULATION	ALL HOT AND CONDENSATE PIPE SHALL BE INSULATED PER TITLE 24 REQUIREMENTS. INSULATION SHALL HAVE A FLAME SPREAD NOT TO EXCEED 25. REFER TO PIPE SCHEDULE AND TABLE 120.3-A PIPE INSULATION THICKNESS SCHEDULE.	
2.4 PLUMBING FIXTURES AND ACCESSORIES	A. GENERAL: PROVIDE ALL FIXTURES WITH ANGLE STOPS ON WATER SERVICES. CHROME PLATE ALL EXPOSED METAL ITEMS. PROVIDE SUPPORTS FOR FIXTURES B. PLUMBING FIXTURES: SEE PLUMBING FIXTURE SCHEDULE.	
PART 3: INSTALLATION AND TESTING		
3.0 INSTALLATION	A. PROVIDE A COMPLETE DWV, SANITARY, DOMESTIC COLD AND HOT WATER SYSTEM INSTALLATION FOR THE PLUMBING FIXTURES. B. INSTALL WATER HAMMER ARRESTERS PER PDI WH-201 IN THE DOMESTIC WATER PIPING SYSTEM. C. SELECTION AND FABRICATION OF PIPE HANGERS AND SUPPORTS SHALL CONFORM TO MSS SP-58. D. PROVIDE LOOSE KEY STOPS AND SUPPLIES FOR LAVATORIES. E. CONSTRUCT PIPE LINES OF FULL LENGTH SECTIONS OF PIPE SPECIFIED. SHORT SECTIONS ALLOWED ONLY WHEN RUN REQUIRES LESS THAN ONE FULL LENGTH OF PIPE.	
F. MAKE UP JOINTS WITH INSIDE SMOOTH AND UNOBSTRUCTED. THOROUGHLY REAM CUT PIPE ENDS TO REMOVE ALL BURRS. INSPECT PIPE AND FITTINGS AND REMOVE OBSTRUCTIONS PRIOR TO FABRICATIONS. REMAKE LEAKY CONNECTIONS WITH NEW MATERIALS. THE USE OF THREAD CEMENT OR CAULKING TO MAKE JOINTS TIGHT IS PROHIBITED.	G. CONCEAL PIPING IN FINISHED PORTIONS OF BUILDING. PIPING TO CLEAR STRUCTURAL MEMBERS AND OBSTRUCTIONS. H. MAKE PLATED, POLISHED OR ENAMELED CONNECTIONS WITH SPECIAL CARE. ALLOW NO TOOL MARKS OR THREADS TO SHOW. I. INSTALL HORIZONTAL SANITARY AND DRAINAGE PIPING TO A UNIFORM GRADE OF 1/4 INCH PER FOOT MINIMUM. J. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AN ADEQUATE PIPE SUSPENSION SYSTEM IN ACCORDANCE WITH RECOGNIZED ENGINEERING PRACTICES, USING, WHERE POSSIBLE, STANDARD, COMMERCIALY ACCEPTED PIPE HANGERS AND ACCESSORIES. ALL PIPE HANGERS AND SUPPORTS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE ANSI CODE FOR BUILDING SERVICE PIPING, B31.9. WHERE THERMAL MOVEMENT IN THE PIPE LINE WILL OCCUR, THE PIPE HANGER ASSEMBLY MUST BE CAPABLE OF SUPPORTING THE LINE IN ALL OPERATING CONDITIONS. K. AIR CHAMBERS 24 INCHES LONG SHALL BE INSTALLED AT THE SUPPLY TO EACH PLUMBING FIXTURE OF TWO PIPE SIZES LARGER THAN THE FIXTURE SUPPLY UNLESS A WATER HAMMER ARRESTER IS PROVIDED FOR THE HEADER.	
3.1 STERILIZATION:	A. STERILIZE DISTRIBUTION SYSTEM WITH CHLORINE BEFORE ACCEPTANCE FOR OPERATION. CONTRACTOR SHALL FURNISH SHUT-OFF VALVE AND CORPORATION STOP OR OTHER MEANS OF INJECTING CHLORINE. B. THE MINIMUM DOSAGE OF CHLORINE SHALL BE 50 PARTS PER MILLION. C. THE PROCEDURE TO BE FOLLOWED: ALLOW A CONTACT PERIOD OF NOT LESS THAN 8 HOURS, AND THEN FLUSH SYSTEM WITH CLEAN WATER UNTIL THE RESIDUAL CONTENT IS NOT GREATER THAN 0.5 PARTS PER MILLION. FLUSH ENTIRE SYSTEM INCLUDING ALL FIXTURE OUTLETS, DEAD ENDS, AND OTHER POINTS WHERE DEAD WATER TENDS TO COLLECT. OPEN AND CLOSE ALL VALVES SEVERAL TIMES DURING CONTACT PERIOD. D. FURNISH TWO COPIES OF A CERTIFICATE OF PERFORMANCE OF COMPLETE STERILIZATION TO THE ARCHITECT BEFORE FINAL INSPECTION OF THE WORK. THIS SHALL BE PERFORMED UNDER THE SUPERVISION OF AND CERTIFIED BY A REGISTERED CHEMICAL ENGINEER. E. ALL WATER PIPING SHALL BE THOROUGHLY FLUSHED PRIOR TO THE STERILIZATION. ALL STRAINERS, AERATORS, FLOW CONTROL DEVICES SHALL BE REMOVED PRIOR TO FLUSHING THE SYSTEM AND REINSTALLED AFTER THE FLUSHING IS COMPLETE. EVERY WATER OUTLET, HOT AND COLD SHALL BE OPENED AND FLUSHED WITH WATER UNTIL CLEAR. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY VALVES AND FITTINGS FOR THE STERILIZATION. STERILIZE PER APPROVED FEDERAL AND/OR AWWA PROCEDURES STD C651-86.	
3.2 TESTS	A. DOMESTIC WATER SYSTEM: TEST PIPING HYDROSTATICALLY AND PROVE TIGHT UNDER A WATER PRESSURE NOT LESS THAN THE WORKING PRESSURE NOT LESS THAN THE WORKING PRESSURE UNDER WHICH IT IS TO BE USED. B. SANITARY, WASTE AND VENT SYSTEM: PERFORM A HYDROSTATIC TEST ON SYSTEM EQUAL TO NOT LESS THAN TEN FEET OF WATER FOR A PERIOD OF NOT LESS THAN 15 MINUTES (UPC SECTION 712.2). C. PLUMBING FIXTURES SHALL BE FILLED WITH WATER AND CHECKED FOR LEAKS AND RETARDED DRAINAGE FLOW. FAUCET AERATORS SHALL BE REMOVED AND CLEANED THOROUGHLY.	

PIPE SCHEDULE		
SERVICE	LOCATION	MATERIAL
DOMESTIC WATER	COLD WATER	PEX A PIPING ASTM F876 AND F877, FITTINGS SHALL CONFORM TO ASTM F1807, METAL INSERT FITTINGS AND PLASTIC CRIMP RINGS, 8FT/5 MAX VELOCITY.
	BELOW GRADE	TYPE 'K' SOFT ANNEALED COPPER ENCASED WITHIN A MINIMUM OF 10 MIL POLYETHYLENE PLASTIC SLEEVE SEALED WATER TIGHT WITH POLYVINYL CHLORIDE TAPE.
	HOT WATER	PEX A PIPING ASTM F876 AND F877, FITTINGS SHALL CONFORM TO ASTM F1807, METAL INSERT FITTINGS AND PLASTIC CRIMP RINGS, 5FT/5 MAX VELOCITY.
SANITARY WASTE	ABOVE FLOOR	NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH HUSKY SD-4000 HEAVY DUTY 4 BAND STAINLESS STEEL COUPLINGS. ALTERNATE MATERIAL : PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J.
	BELOW GRADE	NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH HUSKY SD-4000 HEAVY DUTY 4 BAND STAINLESS STEEL COUPLINGS. ALTERNATE MATERIAL : PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J.
SANITARY VENT	ABOVE FLOOR	NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH ANACO STANDARD DUTY 2 BAND STAINLESS STEEL COUPLINGS, CISPI-310 AND ASTM C-564. ALTERNATE MATERIAL : PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J.
	BELOW GRADE	NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH ANACO STANDARD DUTY 2 BAND STAINLESS STEEL COUPLINGS, CISPI-310 AND ASTM C-564. ALTERNATE MATERIAL : PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J.
CONDENSATE / INDIRECT WASTE DRAIN	WITHIN BUILDING	TYPE 'L' HARD DRAWN COPPER TUBING ASTM B88, WITH WROUGHT COPPER SWEAT FITTINGS, ANSI B16.22. WITH 1" THICK MANVILLE MICRO-LOK HP INSULATION.
CORROSION PROTECTION	BELOW GRADE	ALL METALLIC PIPING SHALL BE ENCASED WITH 10 MIL MINIMUM POLYETHYLENE PLASTIC SLEEVE. ALL FITTINGS, VALVES, ETC. THAT ARE NOT ABLE TO BE ENCASED WITHIN SLEEVE SHALL BE PROVIDED A HEAVY COAT OF "HENRY'S" OIL BASE ROOF MASTIC OVER ENTIRE SURFACE AND WRAPPED ENTIRE COMPONENT BY 10 MIL FERGUSSON POLYETHYLENE WRAP WITH OVERLAPPED 50% OF THE CIRCUMFERENCE. SECURE ENDS AND SEAMS BY 3M SCOTCH, 10 MIL, 2" WIDE PIPE WRAP SEALING TAPE.
NATURAL GAS	WITHIN BUILDING	BLACK STEEL SCHEDULE 40, PROVIDE WEATHER PROOF COATING ON ALL EXPOSED GAS PIPING IN ORDER TO PROTECT FROM CORROSION.
	ABOVE FLOOR	PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J. ALTERNATE MATERIAL : NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH HUSKY SD-4000 HEAVY DUTY 4 BAND STAINLESS STEEL COUPLINGS.
STORM DRAINAGE	BELOW GRADE	PVC SCHEDULE 40 CONFORMING TO ASTM D2665 WHERE SPECIFICALLY PERMITTED BY A.H.J. ALTERNATE MATERIAL : NO-HUB CAST IRON PIPE AND FITTINGS, ASPHALTUM COATED, ASTM A-888 OR ASTM A-74 WITH HUSKY SD-4000 HEAVY DUTY 4 BAND STAINLESS STEEL COUPLINGS.

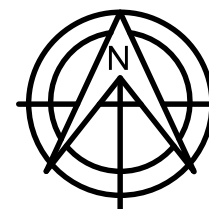
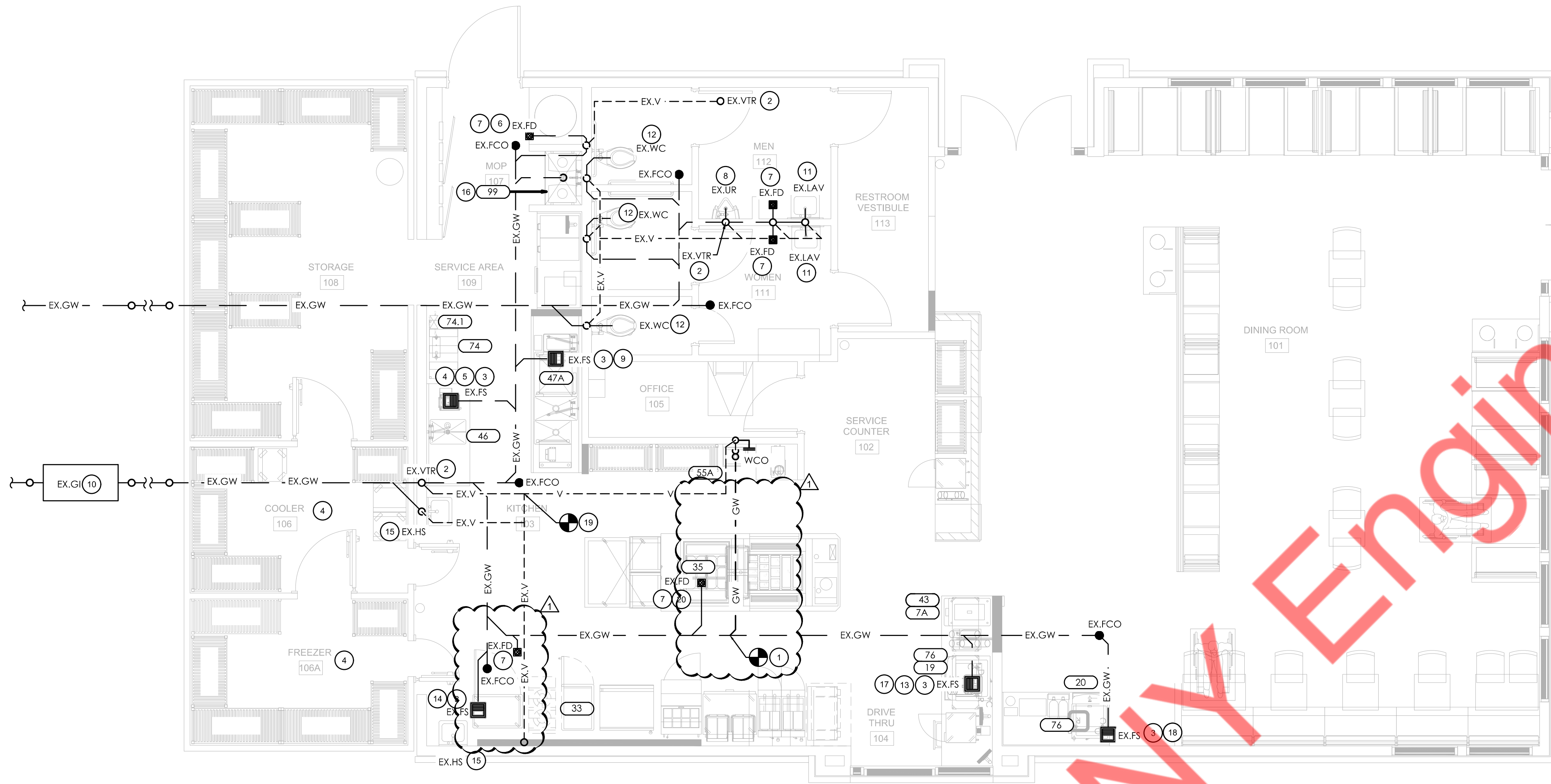
DEL TACO #1630 TENANT IMPROVEMENTS

PLUMBING SPECIFICATIONS

MAY 12, 2025

CLIENT CHANGES 06/16/25

P003



1
P101

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

CONTRACTOR NEEDS TO VERIFY ALL THE EXISTING NETWORK ROUTING, FIXTURE (FLOOR SINK, FLOOR DRAIN, ETC) LOCATION AND SIZES ON SITE AND INFORM ANY IMPORTANT DEVIATIONS BEFORE COMMENCING WORK. BASE BID ACCORDINGLY.

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GENERAL NOTES

1. REFER TO SHEET P001 FOR GENERAL PLUMBING NOTES APPLICABLE TO ALL PLANS.
2. REFER TO KITCHEN PLANS FOR DETAILS ON INDIRECT WASTE.
3. ALL UNDERGROUND WASTE PIPING SHALL BE SLOPED AT A 2% GRADE.
4. CONTRACTOR TO VERIFY ALL EXISTING SAN/VENT PIPE SIZES ARE OF ADEQUATE SIZES AND ROUTING BEFORE CONNECTING NEW SAN/VENT LINES. IF NOT UPGRADE EXISTING PIPE SIZES AS REQUIRED AND BASE BID ACCORDINGLY.

KEYNOTES

1. CONNECT NEW 2" GREASE WASTE LINE TO EXISTING GREASE WASTE LINE. CONTRACTOR TO FIELD VERIFY EXISTING GREASE WASTE LINE SIZE, LOCATION, ROUTING AND CONNECT ACCORDINGLY.
2. EXISTING VTR TO REMAIN. CONTRACTOR TO V.I.F EXISTING VTR IS IN GOOD CONDITION AND IS 10' AWAY FROM ANY FRESH AIR INTAKE UNIT. IF NOT, PROVIDE NEW AND BASE BID ACCORDINGLY.
3. EXISTING FLOOR SINK WITH EXISTING SANITARY AND VENT CONNECTIONS TO REMAIN. CONTRACTOR TO V.I.F EXACT LOCATION AND SIZE OF EXISTING FLOOR SINK.
4. EXISTING CONDENSATE DRAIN FROM EXISTING COOLER AND FREEZER TO EXISTING FLOOR SINK TO REMAIN.
5. ROUTE INDIRECT DRAIN FROM NEW WATER FILTERS (#TAG 74 & 74.1) & PREP SINK (#TAG 46) TO NEARBY EXISTING FLOOR SINK WITH APPROVED AIR GAP.
6. ROUTE INDIRECT DRAIN FROM NEW WATER HEATER (#TAG WH) TO NEARBY EXISTING FLOOR DRAIN WITH APPROVED AIR GAP.
7. EXISTING FLOOR DRAIN WITH EXISTING SANITARY AND VENT CONNECTIONS TO REMAIN. CONTRACTOR TO V.I.F EXACT LOCATION AND SIZE OF EXISTING FLOOR DRAIN.
8. EXISTING URINAL (EX. UR) WITH EXISTING SAN AND VENT CONNECTIONS TO REMAIN.
9. POWER SOAK (#TAG 47A) SHALL BE CONNECTED INDIRECTLY TO THE DRAINAGE SYSTEM UTILIZING AIR GAP AT EXISTING FLOOR SINK, UNLESS DIRECTED OTHERWISE BY LOCAL CODE.
10. EXISTING GREASE INTERCEPTOR OF 1500 GALLONS TO REMAIN. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND CAPACITY OF THE EXISTING GREASE INTERCEPTOR.
11. EXISTING LAVATORY (EX. LAV) WITH EXISTING SAN AND VENT CONNECTIONS TO REMAIN.
12. EXISTING WATER CLOSET (EX. WC) WITH EXISTING SAN AND VENT CONNECTIONS TO REMAIN.
13. ROUTE 2" DRAIN LINE FROM BEVERAGE DISPENSER (#TAG 19), SHAKE MACHINE (#TAG 43) & ICE MACHINE (#TAG 76) IN DRIVE THRU DRAIN TO EXISTING FLOOR SINK WITH APPROVED AIR GAP PER LOCAL CODE. 2-INCH SODA WASTE LINE MATERIAL TO BE POLY(VINYL-CHLORIDE) (PVC).
14. ROUTE INDIRECT DRAIN FROM NEW COMBI OVEN (#TAG 33) TO NEARBY EXISTING FLOOR SINK WITH APPROVED AIR GAP.
15. EXISTING HAND SINK (EX. HS) WITH EXISTING SAN AND VENT CONNECTIONS TO REMAIN.
16. RECONNECT EXISTING SAN AND VENT CONNECTION OF EXISTING MOP SINK TO NEW MOP SINK (#TAG 99).
17. ROUTE INDIRECT DRAIN FROM NEW DROP-IN SINK (#TAG 7A) TO NEARBY EXISTING FLOOR SINK WITH APPROVED AIR GAP.
18. ROUTE 2" DRAIN LINE FROM BEVERAGE SYSTEM (#TAG 20) & ICE MACHINE (#TAG 76) TO EXISTING FLOOR SINK WITH APPROVED AIR GAP. 2-INCH SODA WASTE LINE MATERIAL TO BE POLY(VINYL-CHLORIDE) (PVC).
19. CONNECT NEW 2" VENT LINE TO EXISTING VENT LINE. CONTRACTOR TO FIELD VERIFY EXISTING VENT LINE SIZE, LOCATION, ROUTING AND CONNECT ACCORDINGLY.
20. ROUTE DRAIN FROM TACO COUNTER #35 TO EXISTING FLOOR DRAIN WITH APPROVED AIR GAP.

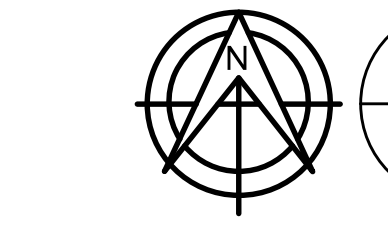
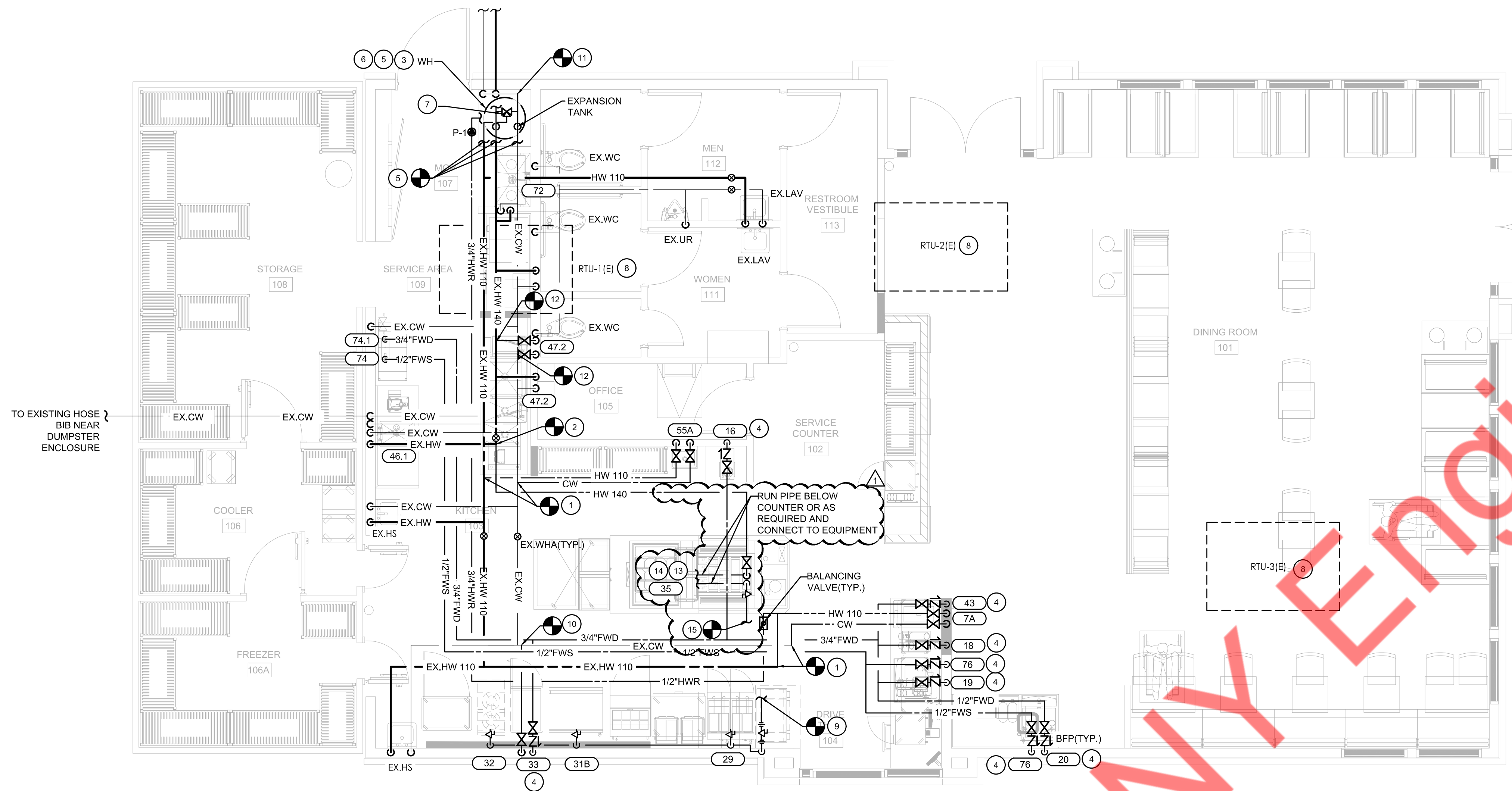
DEL TACO #1630 TENANT IMPROVEMENTS

PLUMBING WASTE & VENT FLOOR PLAN

MAY 12, 2025

CLIENT CHANGES 06/16/25

P101



1 PLUMBING WATER & GAS FLOOR PLAN
P102 1/4" = 1'-0"

CONTRACTOR NEEDS TO VERIFY ALL THE EXISTING NETWORK ROUTING AND SIZES ON SITE AND INFORM ANY IMPORTANT DEVIATIONS BEFORE COMMENCING WORK. BASE BID ACCORDINGLY.

GENERAL NOTES

1. PROVIDE TESTING OF REDUCED PRESSURE BACKFLOW ASSEMBLIES AND OF DOUBLE CHECK VALVE BACKFLOW ASSEMBLIES BY TECHNICIAN LICENSED WITH THE AUTHORITY HAVING JURISDICTION IF PROVIDING NEW.
2. CONTRACTOR TO VERIFY ALL EXISTING CW/HW/GAS PIPE SIZES AND ROUTING BEFORE CONNECTING NEW CW/HW/GAS LINES. IF NOT UPGRADE EXISTING PIPE SIZES AS REQUIRED AND BASE BID ACCORDINGLY.

KEYNOTES

1. CONNECT NEW 1/2" CW/HW WATER LINE TO EXISTING CW/HW LINE. CONTRACTOR TO VERIFY EXACT SIZE OF EXISTING LINES SIZE AND LOCATION AND CONNECT TO ADEQUATE PIPE SIZES.
2. CONNECT NEW 1/2" HW LINE TO EXISTING HW LINE OF ADEQUATE SIZE. CONTRACTOR TO FIELD VERIFY EXACT SIZE AND LOCATION OF EXISTING HW LINE.
3. PROVIDE NEW WATER HEATER (WH) WITH NEW EXPANSION TANK. CONNECT EXISTING HW AND CW TO NEW HEATER. REFER DETAIL 09 SHEET P301 FOR INSTALLATION DETAIL & SCHEDULE.
4. PROVIDE BFP (EQUAL TO WATTS MODEL SD-3) AT COFFEE/TEA, SHAKE MACHINE, DISPENSERS, BFP (EQUAL TO WATTS LFPD) AT ICE MACHINES AND WATER FILTER AND SS RP (EQUAL TO WATTS MODEL SS009) AT SODA DISPENSER. ROUTE INDIRECT WASTE (DRAIN) TO FLOOR SINK. RP IS NOT REQUIRED AT ICE MACHINE IF IT HAS CODE-APPROVED VACUUM BRKR / AIR GAP ON SUPPLY.
5. RECONNECT EX. 1-1/2" CW AND HW TO WATER HEATERS.
6. RECONNECT EXISTING 1" GAS LINE IN SPACE TO NEW WATER HEATER (WH)
7. WATER TEMPERING VALVE SET AT 110 DEG F.
8. EXISTING GAS FIRED RTU'S WITH EXISTING GAS CONNECTIONS TO REMAIN.
9. CONNECT NEW 1-1/2" GAS LINE TO EXISTING GAS LINE OF ADEQUATE SIZE IN SPACE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND SIZE OF EXISTING GAS LINE.
10. CONNECT NEW 1/2" CW LINE TO EXISTING CW LINE. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND SIZE.
11. CONNECT NEW CW LINE 1-1/2" TO EXISTING 1-1/2" CW LINE. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE. CONTRACTOR TO VERIFY THERE IS EXISTING BACKFLOW PREVENTER AND WATER METER ON EXISTING CW LINE. IF NOT, PROVIDE NEW BACKFLOW PREVENTER AND WATER METER.
12. CONNECT NEW 3/4" CW/HW WATER LINE TO EXISTING CW/HW LINE. CONTRACTOR TO VERIFY EXACT SIZE OF EXISTING LINES SIZE AND LOCATION AND CONNECT TO ADEQUATE PIPE SIZES.
13. PROVIDE 1/2" HW LINE TO TACO COUNTER #35. RUN HW LINE IN CEILING AND DROP IN CHASE OR RUN LINE UNDERGROUND BASED ON SITE CONDITIONS. CONFIRM HOT WATER & HOT WATER TEMPERATURE REQUIREMENT TO EQUIPMENT TACO COUNTER #35 WITH EQUIPMENT MANUFACTURER BEFORE COMMENCING ANY WORK & BASE BID ACCORDINGLY.
14. PROVIDE 3/4" GAS LINE TO TACO COUNTER #35. RUN GAS LINE IN CEILING AND DROP IN CHASE OR RUN LINE UNDERGROUND BASED ON SITE CONDITIONS. CONFIRM FINAL GAS REQUIREMENT TO EQUIPMENT TACO COUNTER #35 WITH EQUIPMENT MANUFACTURER BEFORE COMMENCING ANY WORK & BASE BID ACCORDINGLY.
15. CONNECT 3/4" GAS LINE TO EXISTING GAS LINE RUNNING IN CEILING OR ROOF OF ADEQUATE SIZE. CONTRACTOR TO VERIFY EXACT LOCATION AND SIZE OF EXISTING GAS LINE AND CONNECT ACCORDINGLY.

FILTERED WATER NOTES

- A. ICE MAKERS SHALL RECEIVE FILTERED WATER FROM SINGLE FILTER SYSTEM (FW-S).
- B. WATER DISPENSERS, COFFEE, TEA, AND BEVERAGE DISPENSERS SHALL RECEIVE FILTERED WATER FROM DUAL FILTER SYSTEM (FW-D).
- C. LOCATE BACKFLOW PREVENTERS (RP) IN ACCESSIBLE LOCATIONS (FOR ANNUAL TESTING) AND ROUTE DRAINS TO NEAREST FLOOR SINK. RPS MAY BE LOCATED BELOW BEVERAGE COUNTERS WHERE FEASIBLE.

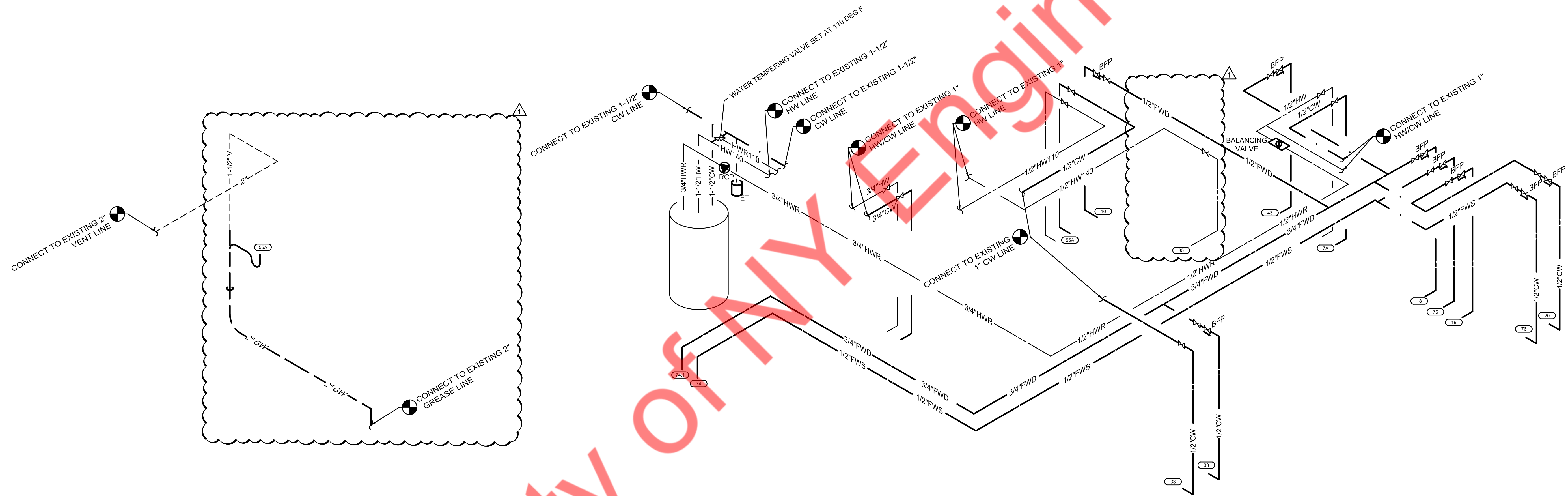
DEL TACO #1630 TENANT IMPROVEMENTS

PLUMBING WATER & GAS FLOOR PLAN

MAY 12, 2025

CLIENT CHANGES 06/16/25

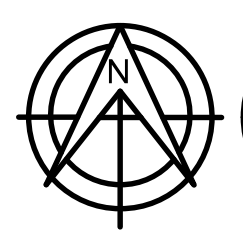
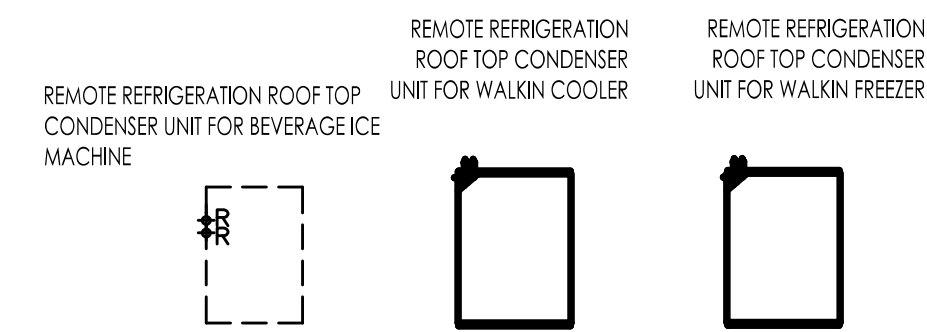
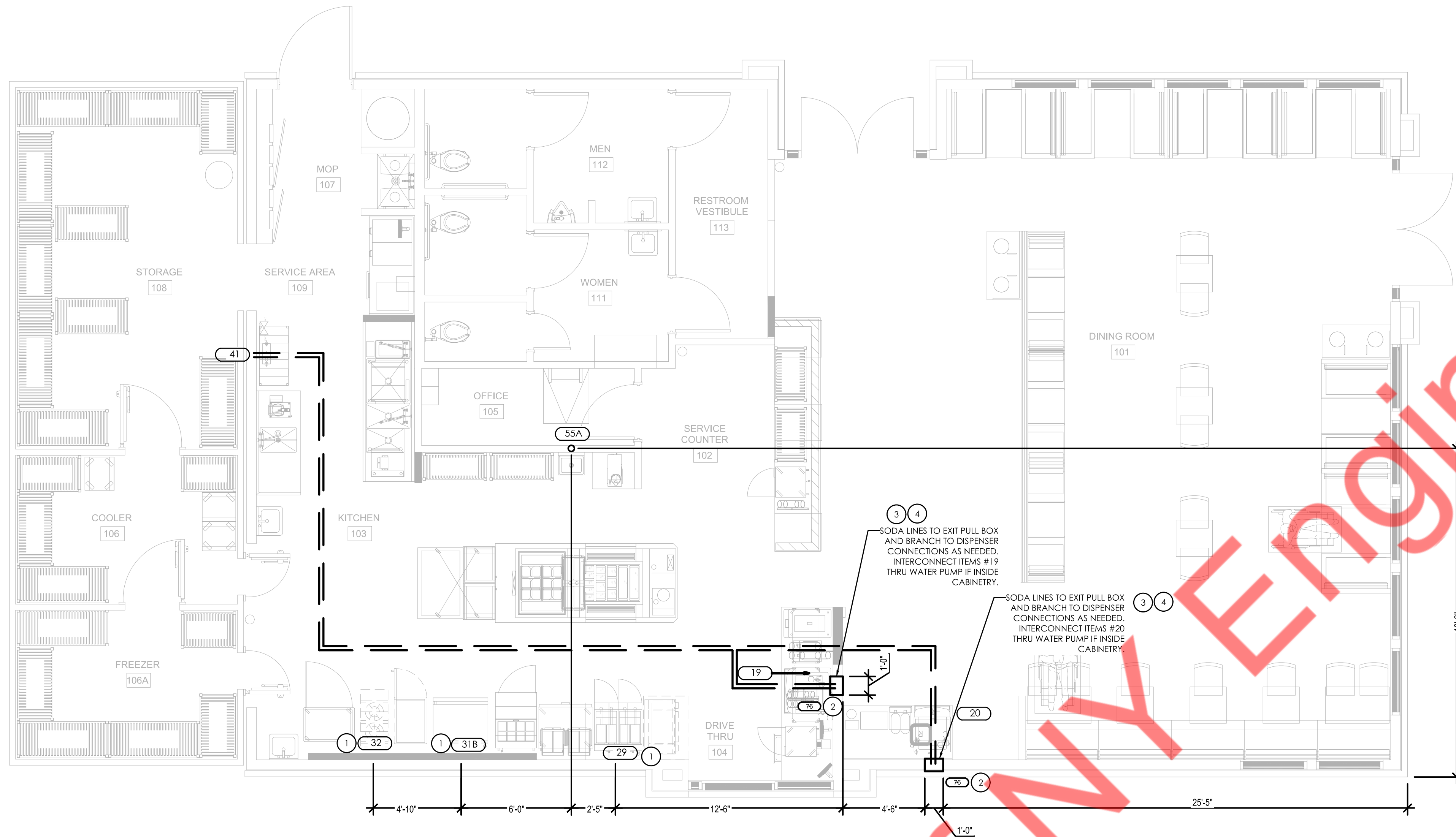
P102



01 WASTE AND VENT ISOMETRIC
NOT TO SCALE

02 WATER RISER
NOT TO SCALE

Property of MAY Engineers



1 KITCHEN PLUMBING STUB-OUT PLAN
P202
1/4" = 1'-0"

NOTE: BEVERAGE SYSTEM - LINE SHOWN IS NOT A TRUE ALIGNMENT OF CONDUIT. ACTUAL LOCATIONS/SIZES MUST BE VERIFIED WITH G.C. - DEL TACO CONSTRUCTION MANAGER. CONSULT WITH MEP ENGINEER & BEVERAGE SYSTEM SUPPLIER FOR LINE RUNS/ CHASE SIZES.

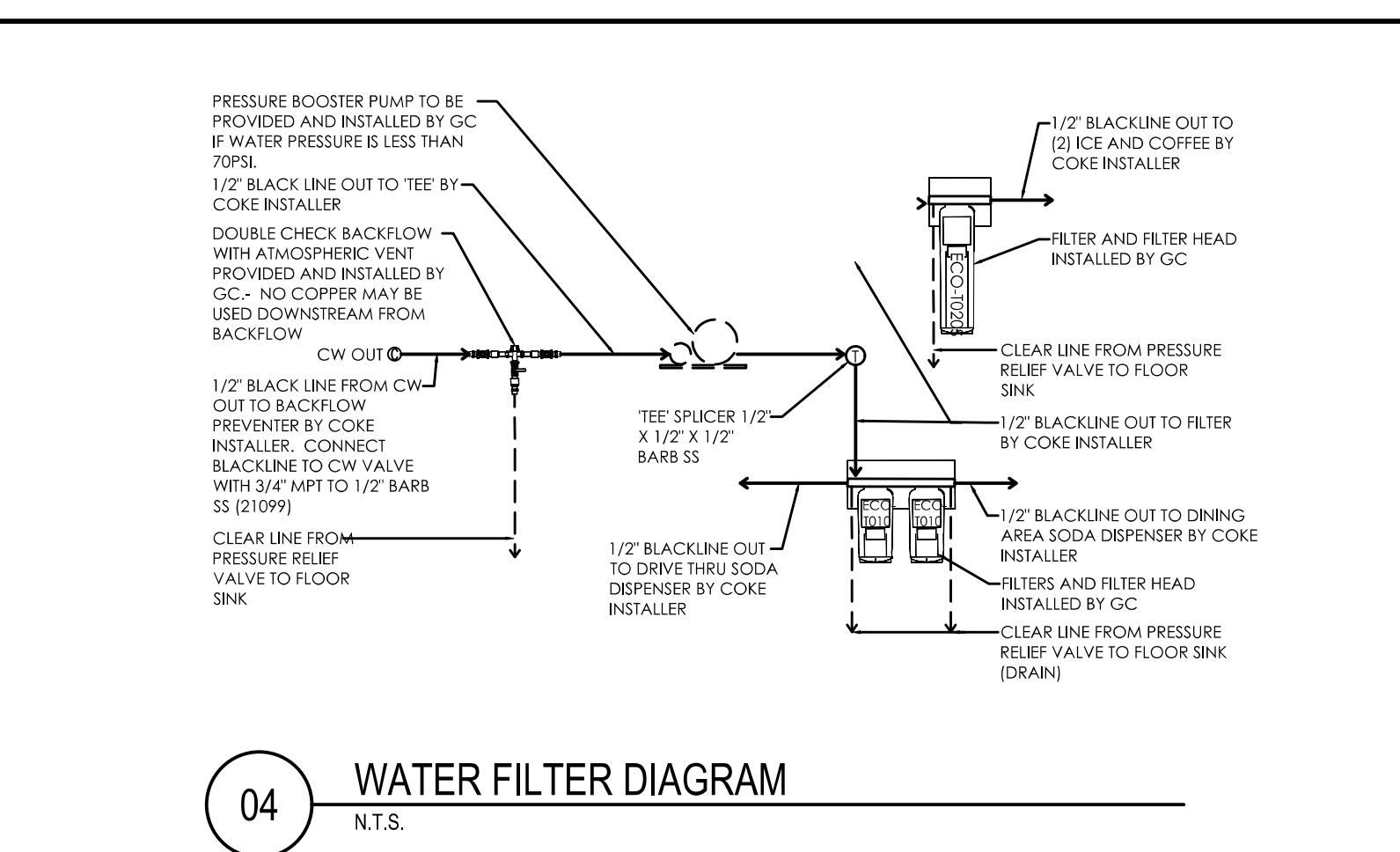
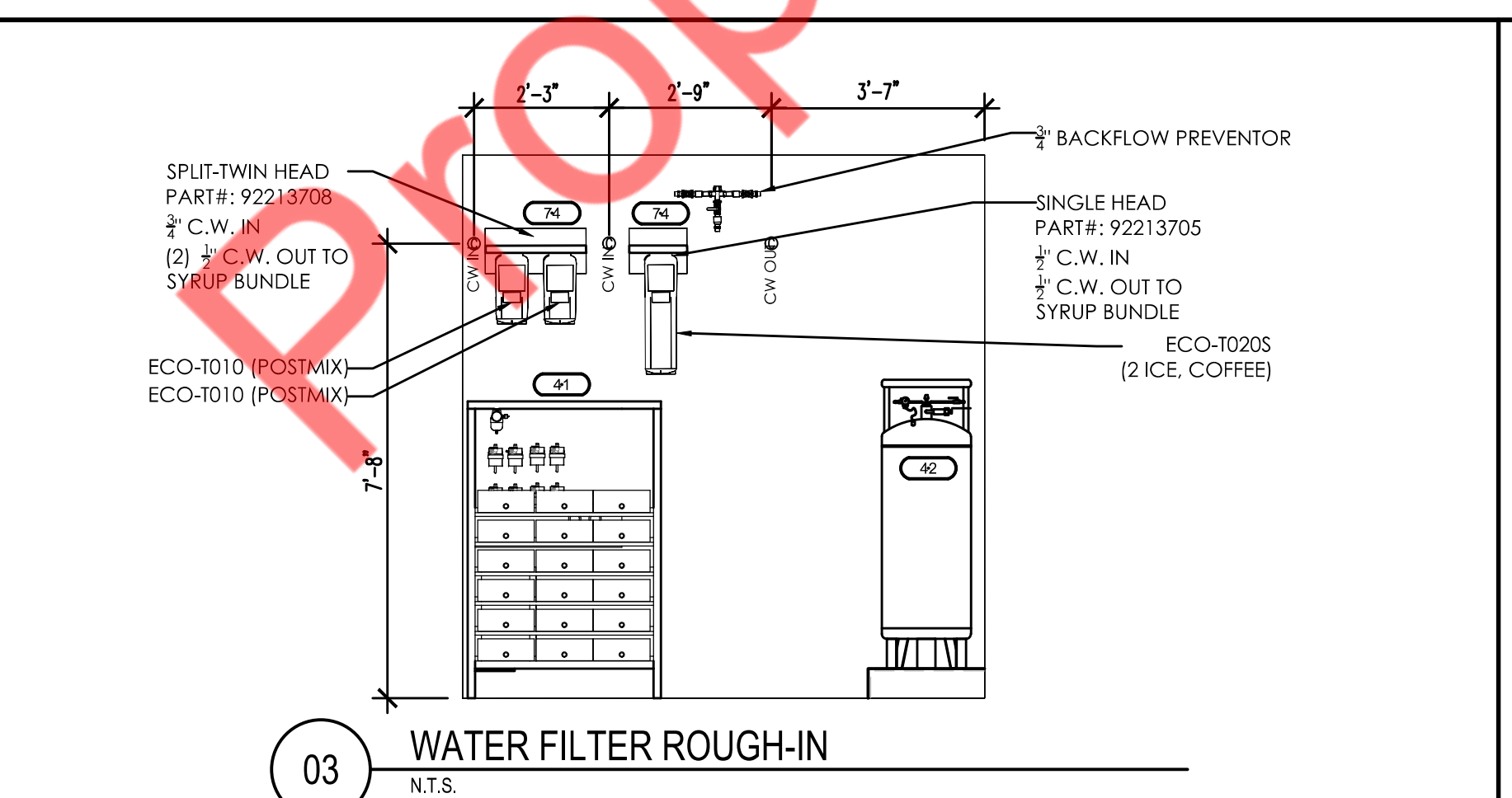
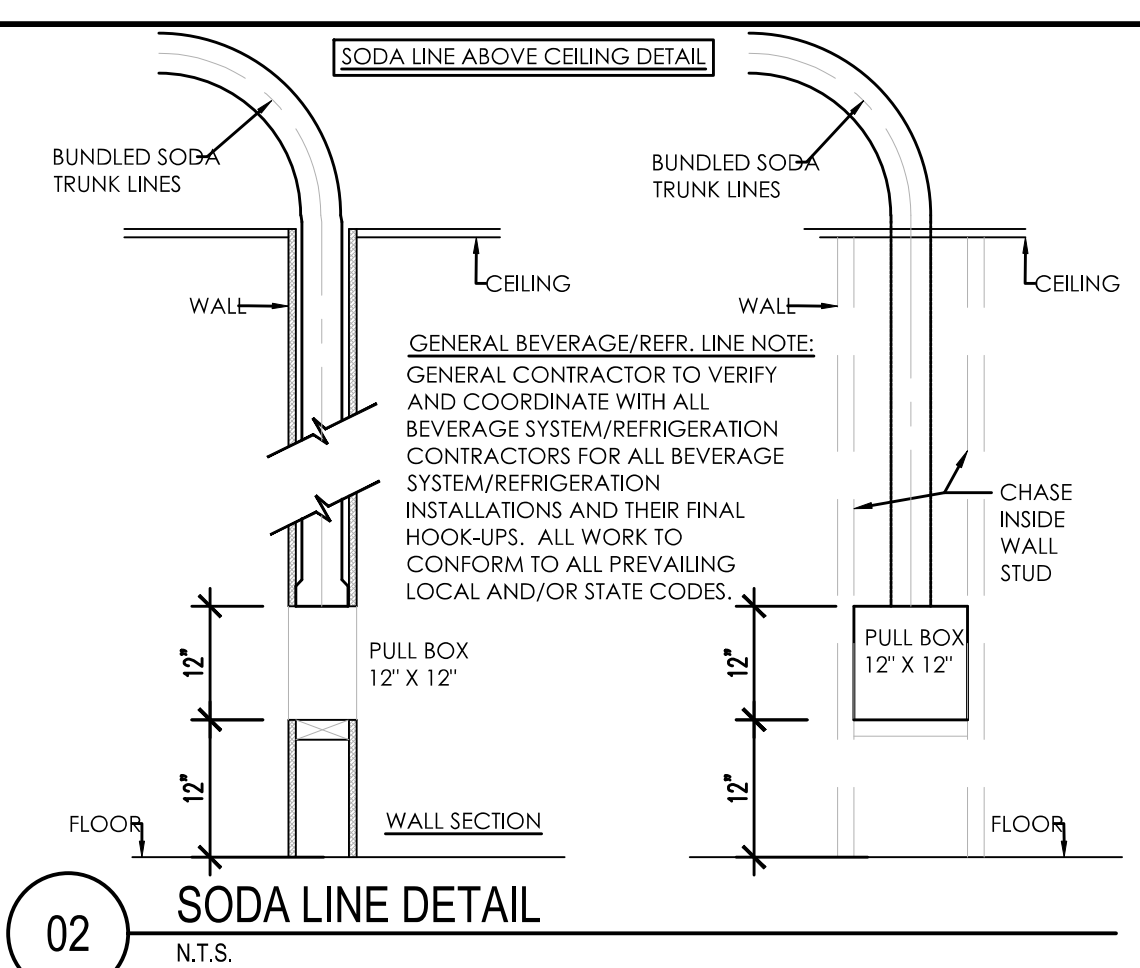
- KEY NOTES:**
- 1 K.E.C. SUPPLIES WITH QUICK DISCONNECT GAS LINES.
 - 2 EQUIPMENT MUST BE SUPPLIED WITH FILTERED WATER.
 - 3 GENERAL CONTRACTOR TO PROVIDE AND INSTALL 6" DIA. OVERHEAD PVC. ALL BEVERAGE CONDUITS SHALL BE SEALED AT BOTH ENDS AFTER INSTALLATION OF ALL BEVERAGE LINES HAVE BEEN COMPLETED.
 - 4 GENERAL CONTRACTOR TO COORDINATE SODA CHASE STUB OUT AT BEVERAGE COUNTER. STUB OUT MUST SNUG TIGHT TO FLOOR BM. AND FALL WITHIN THE BEVERAGE COUNTER CABINET - FIELD VERIFY CONDITIONS. SODA CHASE IS OPTIONAL IF REQUIRED BY LOCAL JURISDICTION OR INSTALLER.

- GENERAL NOTES:**
1. PLUMBER TO PROVIDE BACKFLOW PREVENTERS IN WATER SUPPLY LINES AS REQUIRED BY LOCAL CODES.
 2. PLUMBER TO SPECIFY AND LOCATE EQUIPMENT AND UTILITIES FOR THESE LOCATIONS.
 3. PLUMBER TO CONNECT ALL WATER LINES, GAS LINES, WASTE LINE, ETC. TO FULLY CONNECT ALL EQUIPMENT AND RUN CONDENSATE LINES FROM UNITS TO DRAINS AND THESE LINES TO BE NO SMALLER THAN THE STUB-OUT OF THE FIXTURE. PLUMBER TO PROVIDE GATE VALVES, CUT-OFFS, TRAPS, HYDROSTATIC SHOCK ELIMINATORS, PRESSURE REGULATORS AND MATERIALS NECESSARY TO CONNECT ALL LINES. UNLESS OTHERWISE SPECIFIED IN THE ITEM SPECIFICATIONS, FAUCETS, DRAIN OUTLET FITTINGS IN FIXTURES AND SPECIALTY ITEMS ARE TO BE FURNISHED BY THE KITCHEN EQUIPMENT SUPPLIER AS OUTLINED IN THE ITEM SPECIFICATIONS.
 4. ALL WORK TO BE PERFORMED IN FULL ACCORDANCE WITH THE APPLICABLE CODES RELATING TO INSTALLATION AND HOOK-UP OF EQUIPMENT. OMISSIONS, OR ERRORS ON THE SCHEDULE DO NOT RELIEVE THE PLUMBING CONTRACTOR FROM COMPLETE FINAL PLUMBING RESPONSIBILITY.
 5. ALL OUTLETS AND CONNECTIONS SHOWN RELATE TO KITCHEN EQUIPMENT ONLY. REFER TO ARCHITECTURAL/ENGINEERING PLANS FOR ADDITIONAL REQUIREMENTS.
 6. ALL DIMENSIONS GIVEN ARE FROM COLUMN CENTERLINES AND/OR FINISHED WALLS AND ARE IN INCHES TO 2'-0". ELEVATIONS GIVEN ARE FROM FINISHED FLOORS. ALL ROUGH-INS SHOWN ARE TO BE RUN INSIDE WALLS (EXCEPT STUB-UPS) LOCATIONS INDICATE POINT OF EXIT FROM WALLS, CEILINGS OR FLOORS.
 7. ALL FLOOR DRAINS TO SET 1/2" BELOW FINISHED FLOOR UNLESS OTHERWISE NOTED. DO NOT SLOPE FLOORS SO CLOSE TO DRAINS AS TO CREATE "PITS" OR "DIPS" IN FLOOR. MINIMUM RADIUS OF SLOPE TO BE 24" FROM CENTERLINE OF DRAIN.
 8. PLUMBER TO RUN HARD COPPER DRAINLINE HIGH AS POSSIBLE IN WALK-IN VAULT FROM BLOWER COIL TO WALL THEN SLOPING DOWN TO A POINT 18" ABOVE FLOOR THEN THRU WALL FORMING A "P" TRAP FLAT AGAINST WALL ABOVE DRAIN THEN EXTENDING TO DRAIN. SECURE LINES IN A NEAT MANNER AND FINISH WITH CHROMATONE PAINT - SEAL ALL PENETRATIONS.
 9. REFER TO PLUMBING ENGINEERS DRAWING FOR TRUNK LINES

WATER SUPPLY REQUIREMENTS:

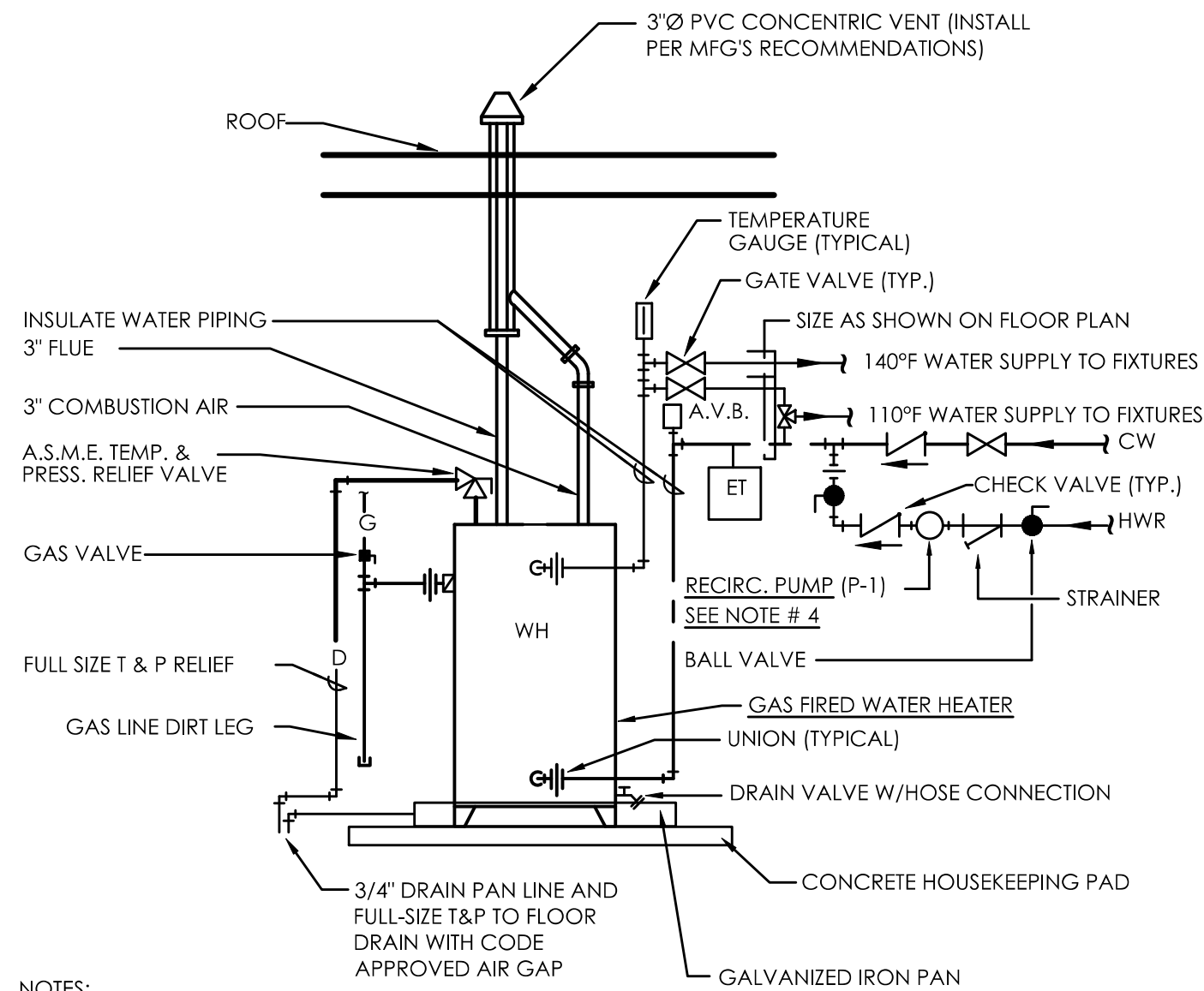
ALL WATER SUPPLIED KITCHEN EQUIPMENT SYSTEMS ARE SUBJECT TO CONTAMINATION AND FAILURE DUE TO MINERAL CONTENT FOUND IN MOST WATER SUPPLIES. TO MINIMIZE SERVICE PROBLEMS AND TO MEET WARRANTY REQUIREMENTS A WATER TREATMENT (SOFTENING) SYSTEM IS RECOMMENDED WHEN WATER QUALITY IS FOUND TO EXCEED LIMITS STATED BELOW AND IN OPERATORS MANUALS. RECOMMENDED MINIMUM WATER QUALITY STANDARDS ARE TOTAL DISSOLVED SOLIDS (TDS) CONTENT SHOULD NOT EXCEED 30 PARTS PER MILLION; AND WATER PH SHOULD BE 7.0 OR HIGHER.

- SYMBOL LEGEND:**
- Water line rough in
 - Hand sink rough in
 - Gas line rough in
 - Water line
 - 6" overhead beverage chase
 - Item number
 - Key note



DEL TACO #1630 TENANT IMPROVEMENTS
KITCHEN PLUMBING STUB-OUT PLAN

MAY 12, 2025
CLIENT CHANGES 06/16/25
P202

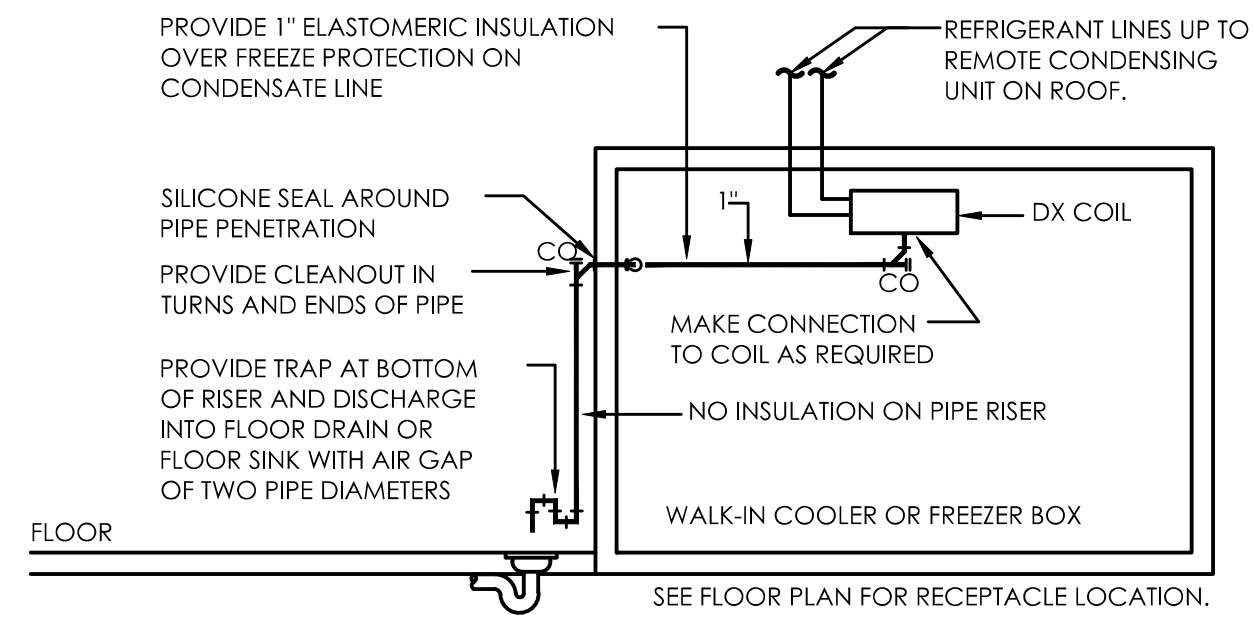


- NOTES:**
1. PROVIDE CONDENSATE DRAIN PIPING FROM WATER HEATER VENT PIPING PER MANUFACTURER'S RECOMMENDATIONS.
 2. PROVIDE EXHAUST AND COMBUSTION AIR PIPING AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.
 3. CONTACT MANUFACTURER FOR START UP AND TO CONFIRM WATER HEATER HAS BEEN PROPERLY INSTALLED.
 4. PROVIDE AIR RELEASE VALVES WITHIN 4 FEET OF THE INLET OF CIRCULATING PUMP FOR CAVITATION PREVENTION.

DOMESTIC WATER HEATER				
DESIGNATION	CFH INPUT	GPH. RECOVERY 90°F	FUEL	MANUFACTURER MODEL
WTR. HTR./ STORAGE TANK WH	120	173	NATURAL GAS	A.O. SMITH - CYCLONE MODEL # 8TH - 120 PRESSURE RELIEF 125 PSI, 60 GALLON STORAGE SEALED DIRECT VENT AND COMBUSTION AIR EXPANSION TANK - WATTS MODEL ST-SC-DD

- NOTES:**
1. THIS SYSTEM IS TO BE SET UP TO DELIVER 140°F HOT WATER.
 2. CONTACT MANUFACTURER FOR START UP AND INSTALLATION INSPECTION.
 3. PROVIDE AQUASTAT PUMP CONTROLLER AND TIME CLOCK FOR NIGHT SHUT DOWN CONTROL.

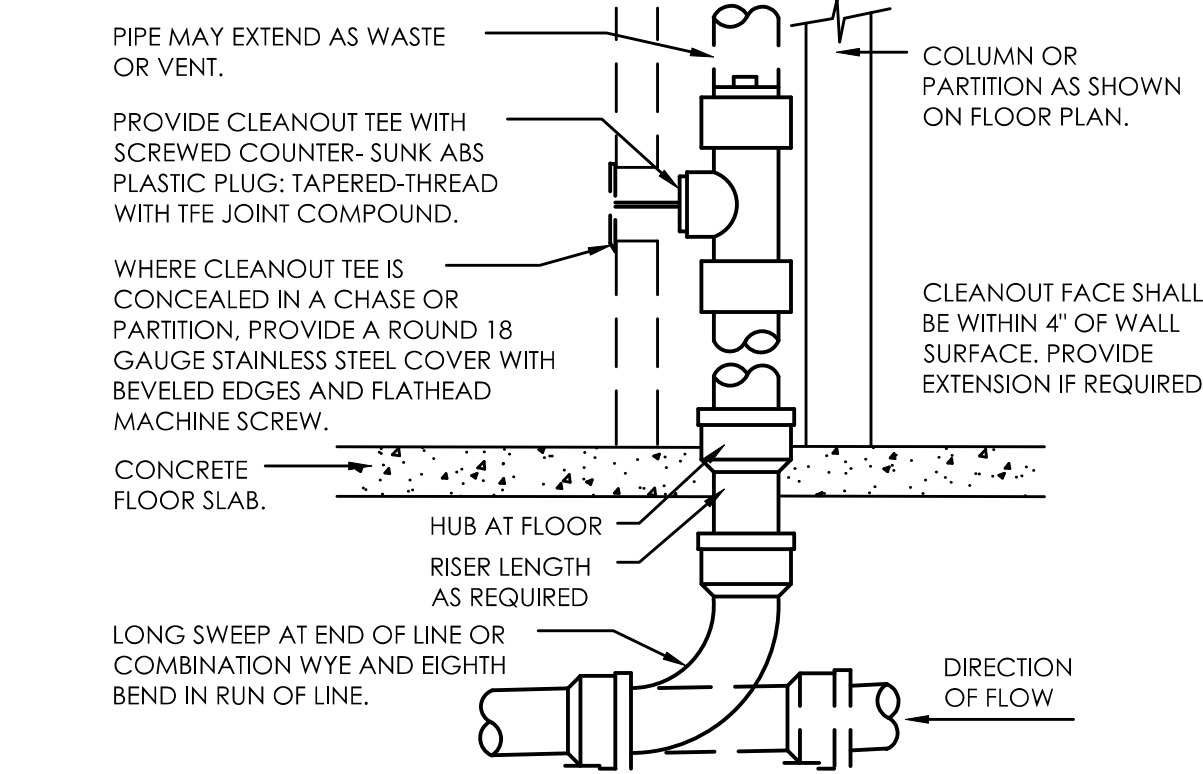
09 WATER HEATER DETAIL
NO SCALE



INSTALL PIPE HIGH AS POSSIBLE, ANCHORED TO WALL OF BOX WITH SUPPORTS AT MAXIMUM SIX FOOT CENTERS. USE TYPE "M" HARD COPPER TUBE AND FITTINGS WITH LEAD-FREE SOLDER JOINTS. SLOPE HORIZONTAL PIPE AT MINIMUM TWO PERCENT. REFER TO LOCAL CODE FOR INDIRECT DRAIN REQUIREMENTS.

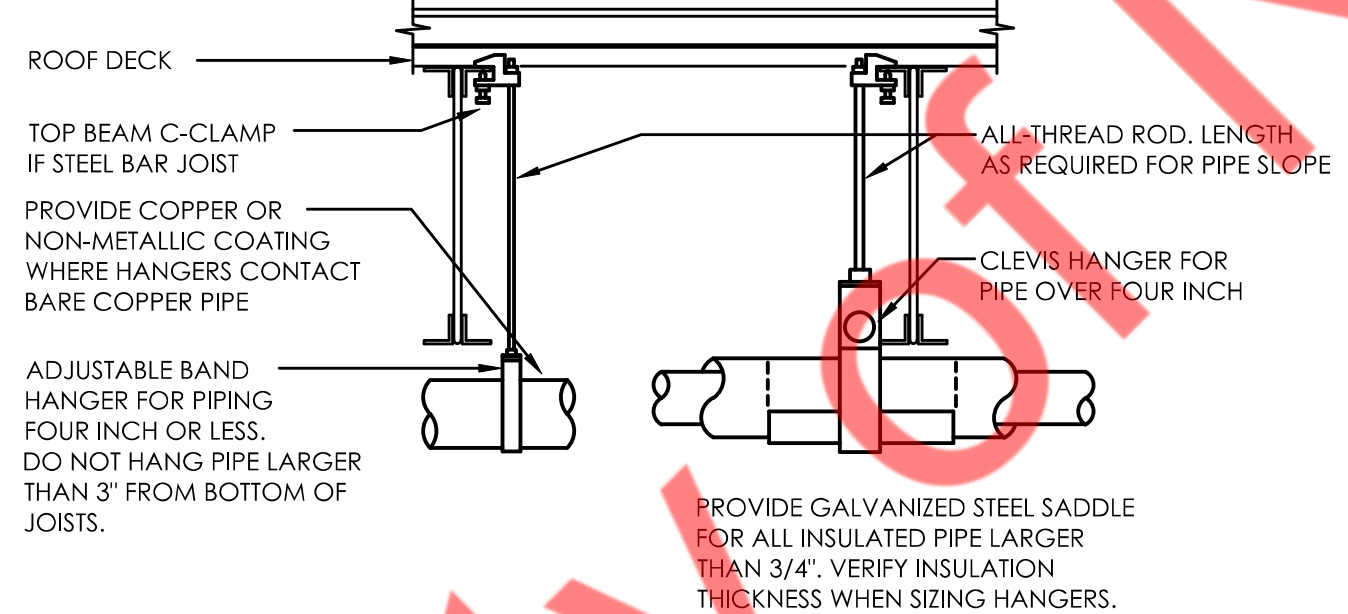
PROVIDE A COMPLETE FREEZE PROTECTION SYSTEM FOR CONDENSATE PIPING IN FREEZER BOX EQUIVALENT TO RAYCHEM/TYCO #5XL-1-CR @ 120V. WITH AN OUTPUT OF 5 WATTS PER FOOT AND 40°F START-UP TEMPERATURE.

08 INDIRECT DRAIN DETAIL
NO SCALE



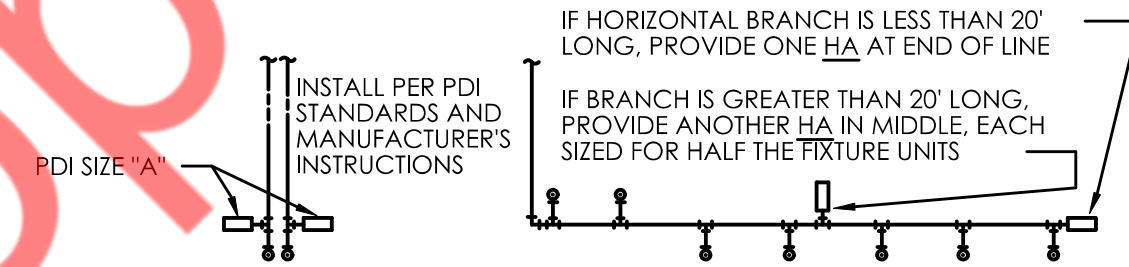
PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT. LOCATE ABOVE FIXTURE FLOOR RIM WITHIN 4' OF FLOOR. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.

07 WALL CLEANOUT DETAIL
NO SCALE



PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES. HANGER SPACING FOR PIPE SIZE: COPPER: 4"=12 3"=11 2 1/2"=10 2"=9 1 1/2"=8 1 1/4"=7 1"=6 3/4"=6 1/2"=5. CAST IRON: 10' AND ONE NEAR ALL JOINTS. STEEL: 4"=14 3"=12 2 1/2"=11 2"=10 1 1/2"=9 1 1/4"=8 3/4"=7 1/2"=5. LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED. LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. DUE TO CHANGES IN WATER VELOCITY, ANCHOR WATER PIPE AGAINST SWAYING PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES FOR FURTHER INFORMATION. CONFORM TO MSS SP-58.

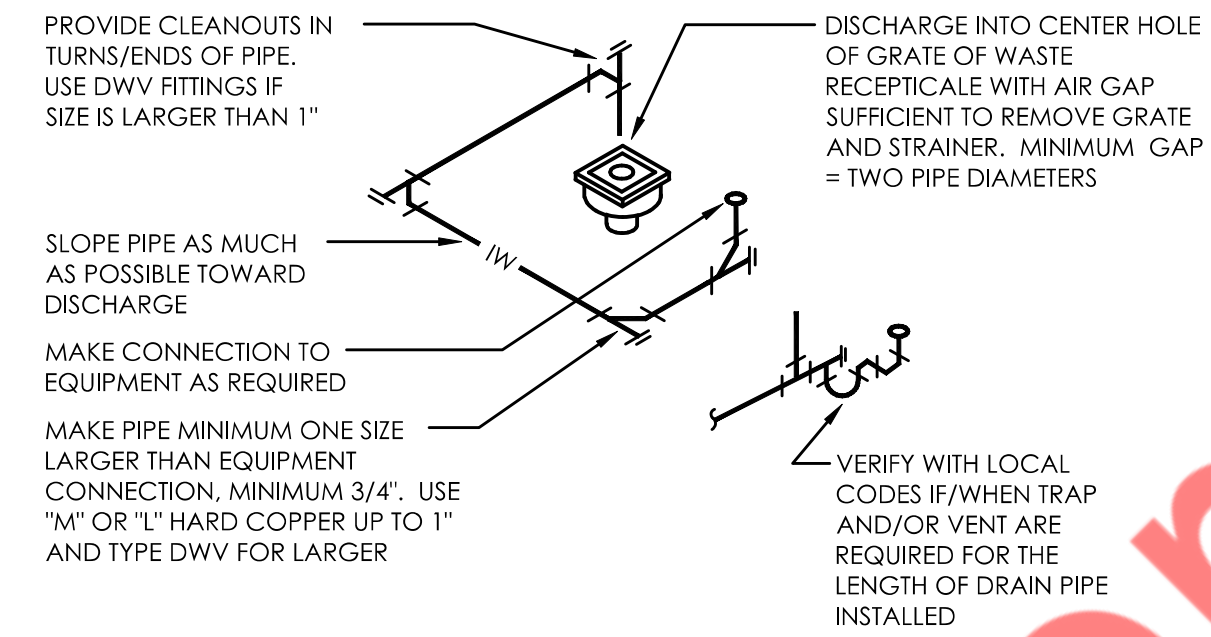
06 PIPE HANGER DETAIL
NO SCALE



SINGLE FIXTURE			MULTIPLE FIXTURES			
PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD	FIXTURE UNIT TABULATION			
			FIXTURE	COLD	HOT	
HA-	A	1/2"	1-11	VALVE WATER CLOSET	10	--
HA-	B	3/4"	12-32	TANK WATER CLOSET	5	--
HA-	C	1"	33-60	URINAL	5	--
HA-	D	1-1/4"	61-113	LAVATORY/SINK	1.5	1.5
HA-	E	1-1/2"	114-154	JANITOR'S SINK	3	3
HA-	F	2"	154-330	SHOWER/BATHTUB	2	2

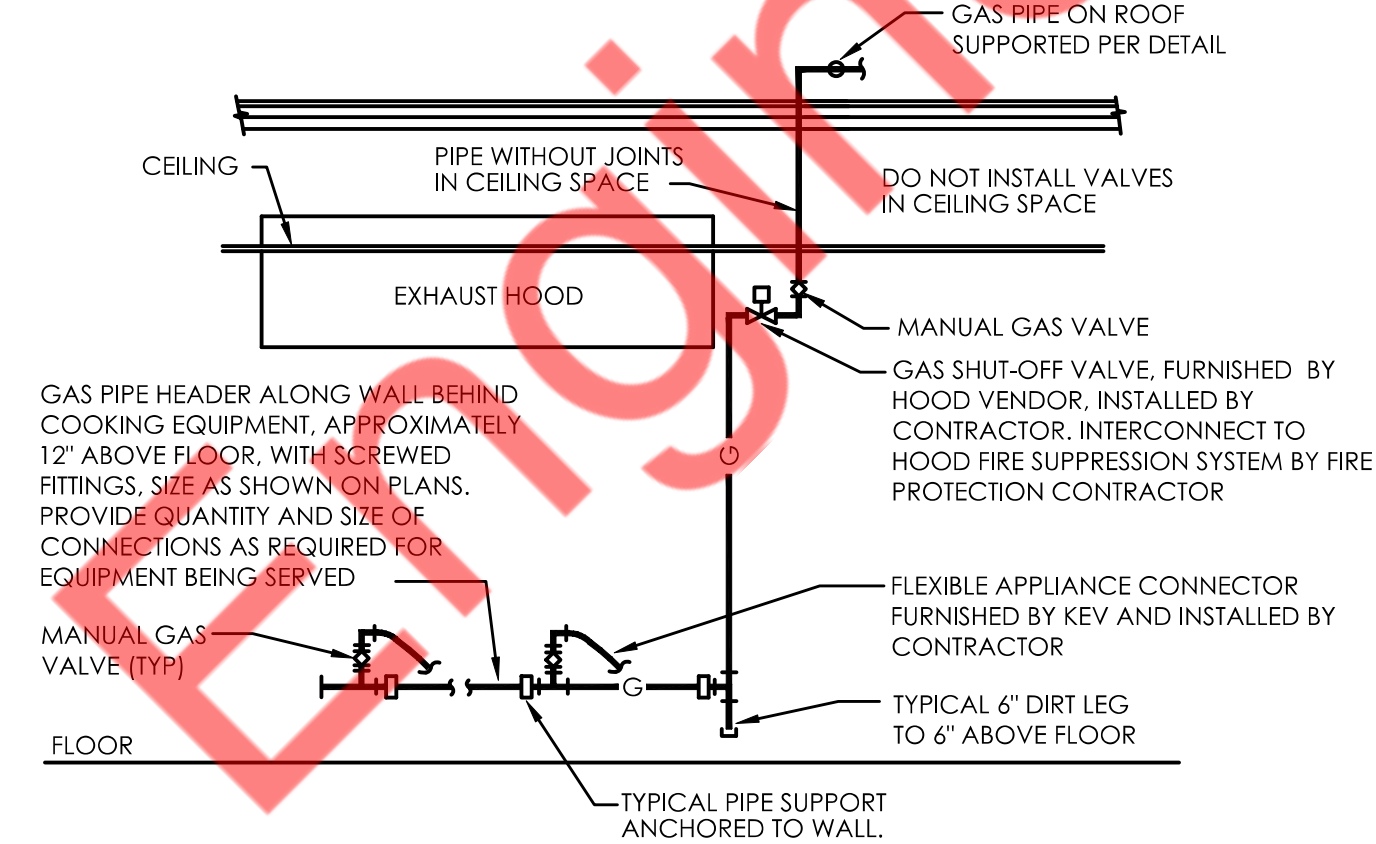
PROVIDE WATER HAMMER ARRESTERS BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND O-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER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

05 HAMMER ARRESTORS DETAIL
NO SCALE



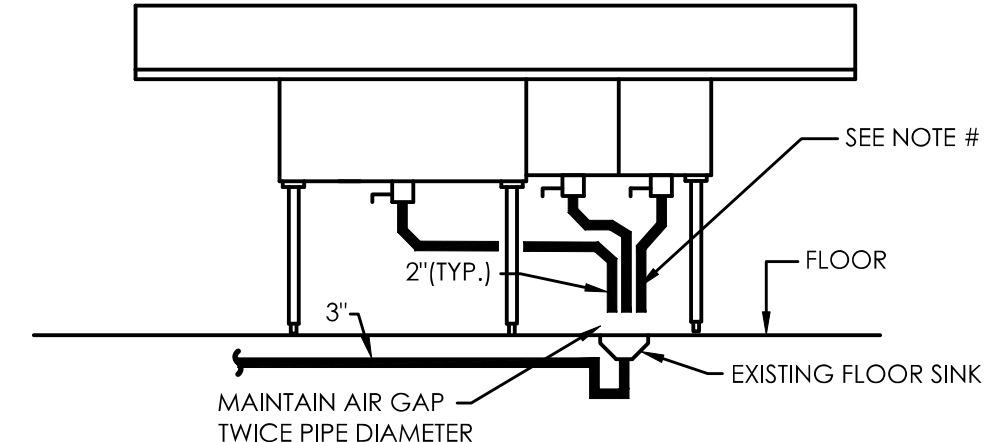
ROUTE PIPE INCONSPICUOUSLY AND UNOBTUSIVELY. HANG PIPE AS REQUIRED, DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

04 INDIRECT DRAIN DETAIL
NO SCALE



ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT ACTUAL CONDITIONS, ATTACH RISER & HEADER TO WALL WITH 1" CLEARANCE BEHIND PIPE. MAKE FINAL CONNECTION TO EQUIPMENT AS RECOMMENDED BY MANUFACTURER. PROVIDE WELDED FITTINGS/JOINTS IN ANY CONCEALED, UNSLEEVED LOCATION

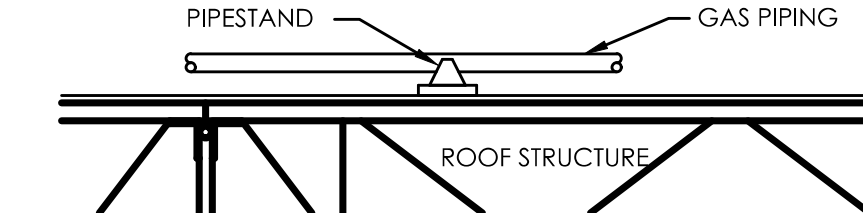
03 GAS APPLIANCE DETAIL
NO SCALE



ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS OR MEET LOCAL CODE REQUIREMENTS. DWV COPPER PIPE, FITTINGS AND CONNECTORS ALL AROUND SINK. P.C. TO MOUNT DRAIN SUPPORT BRACKETS TO CUSTOM FAB CROSS-RAILS OR LEGS, IF AVAILABLE, AS PREFERENCE TO MOUNTING SUPPORT BRACKETS INTO FLOORS

- GENERAL NOTE:**
1. POWER SOAK SINK SHALL BE CONNECTED INDIRECTLY TO THE DRAINAGE SYSTEM, UNLESS DIRECTED OTHERWISE BY COUNTY HEALTH DEPARTMENT. A FLOOR DRAIN SHALL BE PROVIDED ADJACENT TO THE FIXTURE, AND THE FIXTURE SHALL BE CONNECTED ON THE SEWER SIDE OF THE FLOOR DRAIN TRAP; NO OTHER DRAINAGE LINE SHALL BE CONNECTED BETWEEN THE FLOOR DRAIN WASTE CONNECTION AND THE FIXTURE DRAIN. THE FIXTURE AND FLOOR DRAIN SHALL BE TRAPPED AND VENTED IN ACCORDANCE WITH CODE 802.1.1

02 POWER SOAK SINK DETAIL
NO SCALE



1. SUPPORTS SHALL CONFORM TO MSS SP-58
2. PIPING SHALL BE SUPPORTED AT ALL ELBOWS AND TEES AND AT SPACING SPECIFIED IN TABLE BELOW. PIPING SHALL BE SLOPED AND ROUTED TO PREVENT TRAPPING CONDENSATE (EXCEPT AT DIRT LEGS) AND TO FACILITATE CONDENSATE DRAINAGE.
3. GAS PIPING AND PENETRATIONS THRU ROOF SHALL AS REQUIRED BY LOCAL CODES, AND AS SPECIFIED ON ARCHITECTURAL PLANS.
4. PIPESTAND SHALL BE MIRO, INC. 'PILLOWBLOCK' MODEL 1.5 (UP TO 1 1/2'), 3-R (UP TO 3'), AND 4-R & 4-RAH FOR 4', 6-RAH (5' TO 6').
5. DO NOT ATTACH PIPESTANDS TO ROOF.

PIPE SIZE	MODEL NO.	MAX SPACING
3/4"	1.5	6'
1"	1.5	7'
1 1/4"	1.5	8'
1 1/2"	1.5	10'
2"	3-R	10'
2 1/2"	3-R	10'
3"	3-R	10'

01 GAS SUPPORT DETAIL
NO SCALE