





### ELECTRICAL SPECIFICATIONS

1. GENERAL PROVISIONS:
  - A. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, NECESSARY FOR THE COMPLETE INSTALLATION OF THE ELECTRICAL SYSTEMS OUTLINED.
  - B. OBTAIN ALL PERMITS, FEES, LICENSES, INSPECTIONS, AND CERTIFICATES OF COMPLIANCE OR APPROVAL AS REQUIRED BY THE AUTHORITIES.
  - C. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST APPROVED EDITION OF THE NATIONAL ELECTRIC CODE (NEC), AND ALL APPLICABLE LAWS, CODES AND REGULATIONS OF THE GOVERNMENTAL BODIES HAVING JURISDICTION OVER THE SITE.
  - D. ALL TESTING REQUIRED BY AUTHORITIES SHALL BE CONSIDERED PART OF THIS WORK.
  - E. DURING CONSTRUCTION, ALL FIXTURES, EQUIPMENT, CONDUIT, ETC. SHALL BE COVERED, PLUGGED, OR CAPPED AS REQUIRED TO KEEP CLEAN AND UNHARMED. ALL DAMAGED ITEMS SHALL BE RESTORED TO ORIGINAL CONDITION OR REPLACED. ALL PROTECTIVE COVERING SHALL BE REMOVED BEFORE FINAL ACCEPTANCE.
  - F. PROVIDE ALL NECESSARY CUTTING AND PATCHING OF WALLS, FLOORS, CEILINGS, AND ROOFS AS NECESSARY. PATCH AROUND ALL OPENINGS SHALL MATCH ADJACENT AREA. COORDINATE ALL ROOFING WORK WITH OWNER OR RESPONSIBLE PARTY, SO THAT THE EXISTING ROOFING WARRANTY WILL BE MAINTAINED.
  - G. CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS AGAINST DEFECTS FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.
2. OPERATION AND MAINTENANCE MANUALS:
  - A. DURING THE COURSE OF CONSTRUCTION, COLLECT AND COMPILIE OPERATING INSTRUCTIONS, WIRING DIAGRAMS, CATALOG CUTS, LUBRICATION AND PREVENTIVE MAINTENANCE INSTRUCTIONS, PARTS LISTS, ETC. FOR ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT.
  - B. ALL LITERATURE AND INSTRUCTIONS SHIPPED WITH THE EQUIPMENT SHALL BE SAVED FOR INCLUSION IN THE OPERATION AND MAINTENANCE MANUALS.
  - C. ALL LITERATURE LISTED ABOVE AND ALL PAPERS LISTING WARRANTIES, ETC. SHALL BE BOUND IN A 3-RING BINDER AND LABELED WITH THE PROJECT NAME, ADDRESS, ARCHITECT, ENGINEER, CONTRACTORS, ETC.
3. MANUFACTURERS:
  - A. MANUFACTURERS, MODEL NUMBERS, ETC. INDICATED OR SCHEDULED ON THE DRAWINGS SHALL BE INTERPRETED AS HAVING ESTABLISHED A STANDARD OF QUALITY AND SHALL NOT BE CONSIDERED AS LIMITING COMPETITION. ARTICLES, FIXTURES, ETC. OF EQUAL QUALITY BY MANUFACTURERS SHALL BE ACCEPTABLE, SUBJECT TO STRUCTURAL AND ELECTRICAL CONSTRAINTS OF THE PROJECT DESIGN, UNLESS NOTED OTHERWISE.
4. TESTING, AND BALANCING:
  - A. ALL CIRCUITS SHALL BE TESTED FOR CONTINUITY, SHORTS, AND GROUNDS BEFORE CONNECTING TO THE PROPER PHASE AS DESIGNED TO BALANCE THE LOADING BETWEEN PHASES.
  - B. POWER AND LIGHTING PANELS SHALL BE PROPERLY PHASED TO DISTRIBUTE THE LOAD AND SHALL BE CONNECTED AND ADJUSTED TO OPERATE AS SPECIFIED.
  - C. ALL MOTORS AND SIMILAR EQUIPMENT SHALL BE CHECKED FOR PROPER PHASE ROTATION AND OPERATION.
5. RACEWAYS:
  - A. CONDUIT INSIDE THE BUILDING SHALL BE METALLIC TUBING (EMT), BEARING THE UL LABEL, WITH COMPRESSION TYPE FITTINGS OR SCREW SET FITTINGS.
  - B. CONDUIT EXPOSED TO THE WEATHER, INSTALLED UNDERGROUND, IN CONCRETE, OR USED FOR SERVICE ENTRANCE SHALL BE STANDARD RIGID CONDUIT (GALVANIZED) WITH THREADED FITTINGS.
  - C. UNDERGROUND CONDUIT MAY BE POLYVINYL CHLORIDE WITH A DEFLECTION TEMPERATURE, UNDER LOAD AT 244 P.S.I. OF 75 DEGREES C, AND A TENSILE STRENGTH OF 5200 P.S.I. JOINTS SHALL BE FLUSH SOLVENT WELDED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE EQUAL TO CARLON POWER AND COMMUNICATIONS DUCT TYPE DB (DIRECT BURIAL). CONDUIT AND FITTINGS SHALL BE PRODUCED BY THE SAME MANUFACTURER.
  - D. FLEXIBLE METAL CONDUIT SHALL ONLY BE USED FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND LIGHT FIXTURES. MAXIMUM LENGTH SHALL BE 6'-0".
6. CONDUCTORS:
  - A. WIRES SHALL BE CONTINUOUS WITHOUT SPLICES OR TAPS IN CONDUIT RUNS. ALL SPLICES SHALL BE MADE IN JUNCTION, PULL, OR OUTLET BOXES. ALL WIRE SHALL BE INSTALLED IN CONDUIT, WIREWAYS, OR OTHER PROTECTIVE COVER SANCTIONED BY CODES.
  - B. CONDUCTORS FOR LIGHTING AND POWER SHALL BE COPPER, MINIMUM NO. 12 AWG, 600 VOLT.
  - C. NO. 10 GAUGE AND SMALLER CONDUCTORS SHALL BE TYPE THIN (NET LOCATIONS) OR THN (DRY LOCATIONS), SOLID CONDUCTOR, UNLESS OTHERWISE INDICATED.
  - D. NO. 8 GAUGE AND LARGER CONDUCTORS SHALL BE TYPE THIN (NET LOCATIONS) OR THN (DRY LOCATIONS), STRANDED, UNLESS OTHERWISE INDICATED.
  - E. SERVICE ENTRANCE AND PANEL FEEDER CONDUCTORS, NO. 3 GAUGE AND LARGER SHALL BE TYPE XHHW-2 (NET LOCATIONS) OR THN (DRY LOCATIONS), STRANDED COPPER, UNLESS OTHERWISE INDICATED.
7. MC CABLE:
  - A. MC CABLE SHALL CONSIST OF INTERLOCK ARMORED CABLE MADE OF THREE OR FOUR TYPE THIN SOLID (#6 AWG AND LARGER MAY BE STRANDED) COPPER CONDUCTORS INSULATED WITH HEAT AND MOISTURE RESISTANT POLYVINYL CHLORIDE (PVC) WITH NYLON OR EQUIVALENT UL LISTED JACKET PER UL STANDARD 88. THE THREE CONDUCTORS SHALL BE TWISTED TOGETHER WITH THE COPPER GROUNDING CONDUCTOR, SUITABLE FILLERS, AND WRAPPED IN BINDER TAPE. THE ASSEMBLY SHALL BE ARMORED WITH SPIRALLY WRAPPED INTERLOCKED ARMOR OR ALUMINUM OR GALVANIZED STEEL.
  - B. CABLES SHALL BE TESTED IN ACCORDANCE WITH UL STANDARD 1564 FOR TYPE MC CABLE AND RATED AT 600 VOLTS, 40 DEG. C FOR DRY LOCATIONS AND 75 DEG. C FOR WET LOCATIONS.
8. WIRING DEVICES:
  - A. WALL SWITCHES SHALL BE SPECIFICATION GRADE, QUIET TYPE, FLUSH TOGGLE SWITCH, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES.
    - 1) SINGLE POLE: HUBBELL #CS1221-X, OR EQUAL.
    - 2) THREE WAY: HUBBELL #CS1223-X, OR EQUAL.
  - B. RECEPTACLES SHALL BE SPECIFICATION GRADE, DUPLEX, GROUNDING, THREE-WIRE TYPE, RATED FOR 20 AMPS, WITH THERMOPLASTIC COVER PLATES. HUBBELL #CRS9352-X, OR EQUAL.
  - C. GROUND FAULT INTERRUPTER RECEPTACLES (GFI) SHALL BE HUBBELL #GF20-XL. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.
  - D. ISOLATED GROUND RECEPTACLES (IG) SHALL BE HUBBELL #CRS93216, ORANGE COLOR. DEVICE COVER PLATES SHALL BE AS HEREINBEFORE SPECIFIED.
  - E. RECEPTACLES OUTSIDE BUILDING AND WHERE NOTED AS WEATHERPROOF, SHALL BE AS HEREINBEFORE SPECIFIED EXCEPT SHALL BE INSTALLED IN A WEATHERPROOF ENCLOSURE WHICH SHALL BE INTERMATIC #W1010MG OR #W1010MG DIE-CAST METAL WEATHERPROOF RECEPTACLE COVER. COVER SHALL BE WEATHER PROOF RATED WHILE IN USE.
  - F. VERIFY DEVICES AND DEVICE COVERPLATES COLOR WITH ARCHITECT.
9. BOXES:
  - A. HOT DIPPED GALVANIZED STEEL BOXES. PROVIDE TYPE TO SUIT CONDITIONS FOR INSTALLATION.
  - B. ALL BOXES SHALL BE FLUSH MOUNTED, UNLESS INDICATED OTHERWISE.

10. NEW PANELBOARDS:
  - A. FURNISH AND INSTALL CIRCUIT BREAKER PANELBOARDS AS SHOWN ON THE DRAWINGS. PANELBOARDS SHALL BE LISTED BY UL AND SO LABELED, AND SHALL BE FULLY RATED FOR THE VOLTAGE AND CURRENT CAPACITY INDICATED ON THE PANEL SCHEDULE. PANELBOARDS SHALL BE SQUARE D NO SERIES PANELBOARDS WITH BOLT IN TYPE BREAKERS. PANELBOARD LUGS SHALL BE RATED AT 75°C.
  - 1) CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL MEET OR EXCEED THE AVAILABLE RMS SYMMETRICAL FAULT CURRENTS INDICATED AND AS REQUIRED TO MEET OR EXCEED THE AVAILABLE FAULT CURRENT FROM LOCAL UTILITY.
  - B. CIRCUIT BREAKERS SHALL MEET APPLICABLE PORTIONS OF UL STANDARD 484 AND NEMA AB-1. CIRCUIT BREAKERS SHALL BE BOLT-ON, GROUP MOUNTED, AMBIENT MAGNETIC, WITH COMMON TRIP, UL RATED TO CARRY 90% OF NAMEPLATE RATING CONTINUOUSLY IN FREE AIR AT 40° C. CIRCUIT BREAKERS SHALL BE TRIP INDICATING AND FULLY INTERCHANGABLE WITHOUT DISTURBING ADJACENT UNITS. WIRE TERMINALS SHALL BE RATED 75 DEGREES C. THE OPERATING MECHANISM SHALL BE TRIP-FREE SO THAT CONTACTS CANNOT BE HELD CLOSED AGAINST ANY ABNORMAL OVERCURRENT OR SHORT CIRCUIT CONDITION.
    - a) BREAKERS SHALL MEET APPLICABLE NEMA AND/OR UL SPECIFICATIONS.
  - C. PANELBOARD BOXES SHALL BE GALVANIZED SHEET STEEL WITH AMPLE WIRING GUTTER SPACE IN ACCORDANCE WITH NEC. FRONTS SHALL BE OF SHEET STEEL PAINTED LIGHT GREY OVER A SUITABLE RUST INHIBITOR PRIMER. PANELBOARDS SHALL BE EQUIPPED WITH ONE PIECE DOOR, CYLINDER TURNER TYPE LOCK, DIRECTORY CARD-HOLDER AND QUARTER-TURN ADJUSTABLE TRIM CLAMPS.
  - D. PANELBOARD INTERIORS SHALL CONSIST OF REINFORCED GALVANIZED SHEET STEEL FRAMES WITH COPPER BUS BARS AND CIRCUIT BREAKERS PROPERLY SUPPORTED TO PREVENT VIBRATIONS AND BREAKAGE IN HANDLING. BUS BARS SHALL BE SEQUENCE PHASED. PANELBOARD SHALL HAVE A FULL SIZED SOLID COPPER NEUTRAL AND GROUND BUS.
  - E. BUS BAR BRACING SHALL BE UL LISTED AS INDICATED ON DRAWINGS. ADDITIONAL BRACING SHALL BE PROVIDED AS REQUIRED TO MEET OR EXCEED INDICATED AVAILABLE FAULT CURRENTS.
  - F. DIRECTORY CARDS SHALL BE COMPLETELY FILLED IN BY TYPIST, LISTING CIRCUIT NUMBERS AND LOAD SERVED, INCLUDING EXISTING CIRCUITS. CIRCUIT BREAKERS SHALL BE IDENTIFIED BY CIRCUIT NUMBER LABELS AS HEREINBEFORE SPECIFIED.
11. DISCONNECTS:
  - A. DISCONNECTS SHALL BE EXTERNALLY OPERATED, QUICK-MAKE, QUICK-BREAK, SAFETY, WITH PROVISIONS FOR PAD LOCKING. FUSED AND NON-FUSED DISCONNECT SWITCHES SHALL BE PROVIDED AS INDICATED.
  - B. INDOOR SWITCHES SHALL BE NEMA 1 AND OUTDOOR SWITCHES SHALL BE NEMA 3R, UNLESS INDICATED OTHERWISE.
12. FUSES:
  - A. FUSES PROTECTING CIRCUIT BREAKER PANELS SHALL BE CURRENT LIMITING UL CLASS RK-1 FUSES WITH 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE SILVER FOR RATINGS ABOVE 60 AMPERES.
  - B. ALL OTHER FUSES SHALL BE UL CLASS RK-5, DUAL-ELEMENT WITH A MINIMUM TIME-DELAY OF 10 SECONDS AT 500% RATINGS. FUSES SHALL HAVE CURRENT-LIMITING SHORT-CIRCUIT LINKS AND 200,000 AMPERES RMS SYM INTERRUPTING CAPACITY. FUSING ELEMENTS SHALL BE COPPER.
13. LIGHT FIXTURES:
  - A. WHERE LIGHT FIXTURES ARE MOUNTED IN A LAY-IN CEILING, PROVIDE A MINIMUM OF 2 SUPPORT WIRES ATTACHED DIRECTLY BETWEEN EACH LIGHT FIXTURE AND THE BUILDING STRUCTURE. SUPPORT WIRES SHALL BE A MINIMUM OF 12 GAUGE GALVANIZED STEEL WIRE, SOFT ANNEALED.
  - B. FIXTURES ARE REQUIRED AT ALL LIGHTING OUTLETS SHOWN ON THE DRAWINGS. APPROVED LIGHTING FIXTURE WIRE IS REQUIRED IN ALL FIXTURES AND FIXTURE RACEWAYS. WEATHERPROOF WIRING IS REQUIRED FOR EXTERIOR FIXTURES. ALL PARTS OF FIXTURES AND WIRING SHALL BE IN ACCORDANCE WITH NEC REQUIREMENTS.
  - C. ALL FIXTURES SHALL CARRY UL AND ETL LABELS. ALL FLUORESCENT FIXTURE BALLASTS SHALL BE HIGH FREQUENCY ELECTRONIC BALLASTS WITH A TOTAL HARMONIC DISTORTION OF LESS THAN 20%, REGARDLESS OF THE NUMBER OF LAMPS CONNECTED TO EACH BALLAST AND SHALL HAVE CBM LABEL. ALL FLUORESCENT FIXTURES INSTALLED SHALL INCORPORATE BALLAST PROTECTION. ALL FLUORESCENT BALLASTS SHALL HAVE AN AUDIBLE NOISE RATING OF "CLASS A" OR BETTER. ALL FLUORESCENT BALLASTS SHALL HAVE A POWER FACTOR GREATER THAN 98% WHEN USED WITH PRIMARY LAMP.
  - D. ALL FLUORESCENT LAMPS SHALL BE 3500 K COLOR TEMPERATURE WITH A MINIMUM COLOR RENDERING INDEX (CRI) OF 92.
  - E. ALL INTERIOR FLUORESCENT LUMINAIRES (FIXTURES) THAT UTILIZE DOUBLE ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINAIRES THAT ARE SUPPLIED FROM MULTIWIRE BRANCH CIRCUITS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO THE FIXTURE PER NEC 410.19(G).
14. SLEEVES:
  - A. PROVIDE, SET, AND PROPERLY LOCATE PIPE SLEEVES AS REQUIRED FOR THIS WORK.
  - B. INTERIOR PARTITIONS: 16 GAUGE GALVANIZED STEEL, PACK BETWEEN CONDUIT AND SLEEVE WITH FIRE SAFING AND CAULK AT EACH END WITH FIRE RESISTANT SEALANT.
  - C. ROOF: PROSET OR EQUAL, MANUFACTURED PVC SCHEDULE 40 PIPE SLEEVE WITH WEATHERPROOF SEAL. COORDINATE WITH ROOFING CONTRACTOR AND FLASH AS REQUIRED TO MAINTAIN ROOF WARRANTY.
15. GROUNDING:
  - A. GROUND ALL ELECTRICAL APPARATUS IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC) 250, AND ANY LOCAL REQUIREMENTS. INSURE CONTINUOUS BOND WHERE FLEXIBLE CONDUIT IS USED. PROVIDE BONDING JUMPER INSIDE ALL FLEXIBLE CONDUIT.
  - B. BOND METAL PIPING SYSTEMS IN COMPLIANCE WITH NEC 250.4(A)(4).

16. REMODELING WORK:
  - A. DEMOLITION, DISCONNECT, DEMOLISH AND REMOVE ABANDONED ELECTRICAL MATERIALS AND EQUIPMENT INDICATED TO BE REMOVED AND NOT INDICATED TO BE SALVAGED OR REMAIN.
  - B. EQUIPMENT TO BE SALVAGED:
    - 1) DISCONNECT AND REMOVE EXISTING ELECTRICAL EQUIPMENT INDICATED TO BE REMOVED AND SALVAGED. DELIVER EQUIPMENT TO THE LOCATION DESIGNATED BY THE OWNER FOR STORAGE.
    - 2) ALL MATERIALS AND EQUIPMENT DESIGNATED TO BE REUSED OR RELOCATED SHALL BE CAREFULLY REMOVED, AND STORED UNTIL NEEDED FOR REMODELING WORK. ALL ITEMS SHALL BE RESTORED TO "LIKE NEW" CONDITION WITH RUST OR CORROSION REMOVED, SURFACE PAINT TOUCHED UP OR REPAINTED AS REQUIRED TO MATCH NEW CONSTRUCTION, AND THOROUGHLY CLEANED AND INSPECTED. ANY ITEMS WHICH BECOME DAMAGED BEYOND REPAIR AS A RESULT OF CONSTRUCTION OR DEMOLITION ACTIVITY SHALL BE REPLACED WITH NEW MATERIAL EQUIVALENT IN EVERY RESPECT.
  - C. DISPOSAL AND CLEANUP: REMOVE FROM THE SITE AND LEGALLY DISPOSE OF DEMOLISHED MATERIALS AND EQUIPMENT NOT INDICATED TO BE SALVAGED.
  - D. PROTECT ADJACENT MATERIALS INDICATED TO REMAIN. INSTALL AND MAINTAIN DUST AND NOISE BARRIERS TO KEEP DIRT, DUST, AND NOISE FROM BEING TRANSMITTED TO ADJACENT AREAS. REMOVE PROTECTION AND BARRIERS AFTER REMODELING OPERATIONS ARE COMPLETE.
  - E. PROVIDE ALL ALTERATIONS AND REWORK INDICATED AND/OR REQUIRED FOR THE PROPER INSTALLATION AND OPERATION OF ALL EXISTING ELECTRICAL SYSTEMS, INTEGRATING THE NEW AND EXISTING AREAS. LOCATE, IDENTIFY, AND PROTECT ELECTRICAL SERVICES PASSING THROUGH REMODELING AREA AND SERVING OTHER AREAS OUTSIDE THE REMODELING LIMITS. MAINTAIN SERVICES TO AREAS OUTSIDE REMODELING LIMITS. WHEN SERVICES MUST BE INTERRUPTED, INSTALL TEMPORARY SERVICES FOR AFFECTED AREAS.
    - 1) ABANDONED CONDUIT SHALL HAVE WIRE REMOVED AND SHALL BE CAPPED. ABANDONED OUTLETS IN WALLS OR PARTITIONS SHALL HAVE DEVICES AND WIRE REMOVED, AND SHALL BE COVERED.
    - 2) WHERE EXISTING CONDUITS TERMINATE AT AN EXISTING OUTLET IN A WALL, CEILING, OR FLOOR TO BE REMOVED, DISCONNECT AND REMOVE DEVICE AND WIRE FROM CONDUIT. CONDUIT SHALL BE CUT BACK AND CAPPED (BELOW THE FLOOR OR ABOVE THE CEILING) SO NOT TO CREATE AN OBSTRUCTION. PATCH FLOOR TO MATCH EXISTING.
    - 3) WHERE EXISTING CIRCUITS EXTEND BEYOND THE OUTLET IN THE EXISTING WALL, CEILING, OR FLOOR TO BE REMOVED, FURNISH AND INSTALL NEW CONDUIT AND WIRE TO EITHER REROUTE THE CIRCUIT OR FEED THE REMAINING OUTLET(S) FROM ANOTHER ELECTRICAL SOURCE, BUT IN SUCH A MANNER AS NOT TO REVISE THE CIRCUIT. ALL REROUTED CONDUIT SHALL BE APPROVED BY THE ARCHITECT.

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REVISIONS	

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**ME2**  
 MEP SPECIFICATIONS

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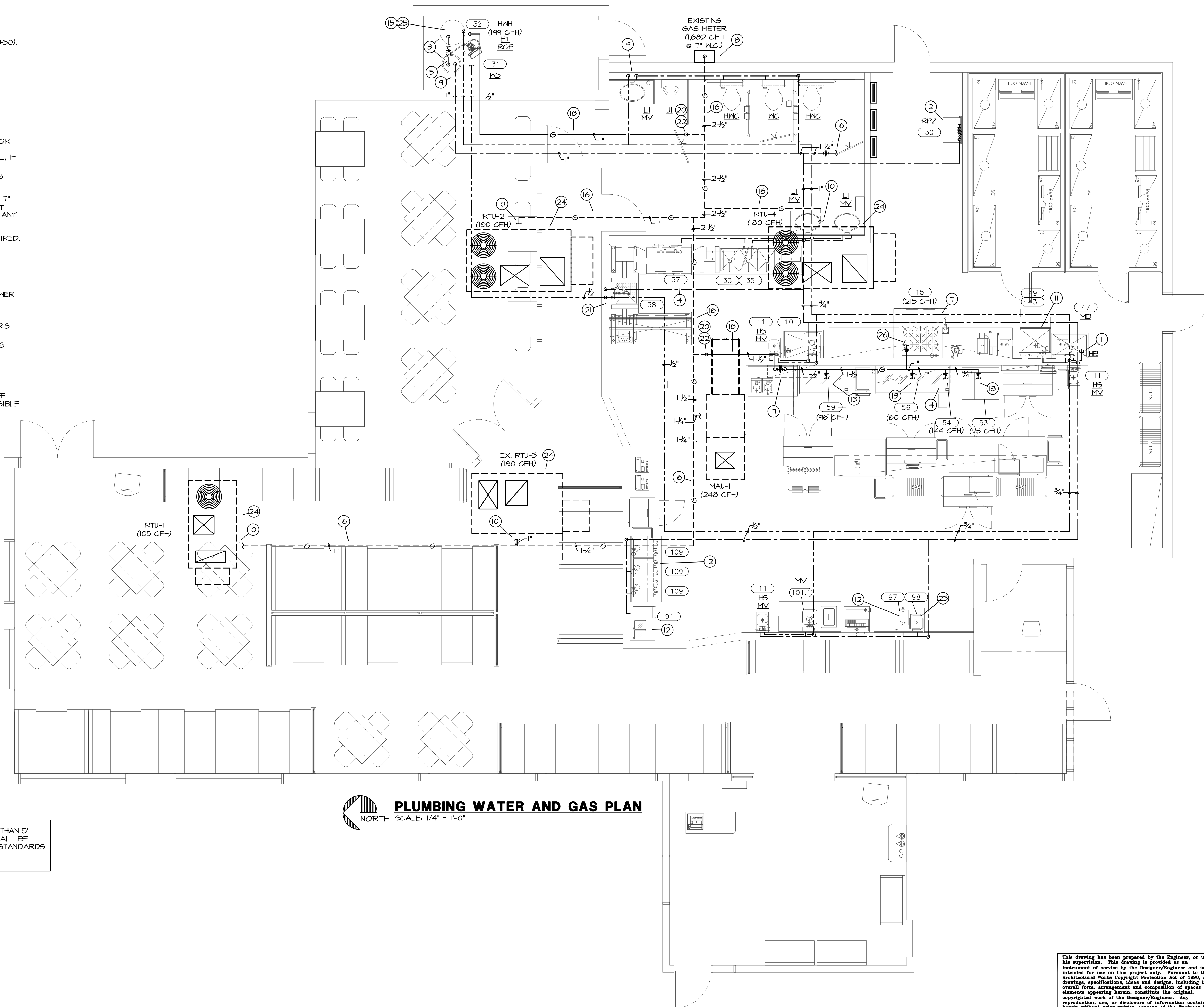




**PLUMBING PLAN NOTES:**

- 1 PROVIDE 1/2" HB @ 60" AFF.
- 2 PROVIDE RPZ BACKFLOW PREVENTOR FOR CONNECTION TO CARBONATOR (#30). LOCATE BFP 12" AFF IN ACCESSIBLE LOCATION. NO COPPER PIPING TO BE ROUTED DOWNSTREAM OF BFP.
- 3 REFER TO RISER DIAGRAMS FOR SW, HW, & HW CONNECTIONS TO WATER HEATER (#32) AND WATER SOFTENER (#31) AS REQUIRED.
- 4 CONNECT 3/4" HW TO DISHWASHER (#37) AS REQUIRED.
- 5 PROVIDE INTERCONNECTION PIPING FROM WATER SOFTENER (#31) TO WATER HEATER (#32) AS REQUIRED.
- 6 CONNECT 1-1/2" CW TO EXISTING CW WITH SHUTOFF VALVE. VERIFY EXACT LOCATION PRIOR TO INSTALLATION OF ANY PIPING. REFER TO LANDLORD FOR ANY ADDITIONAL REQUIREMENTS. VERIFY EXISTING WATER SERVICE IS PROTECTED WITH AN APPROVED BACKFLOW DEVICE. PROVIDE AND INSTALL, IF NONE FOUND TO BE EXISTING.
- 7 CONNECT 1" GAS TO KITCHEN EQUIPMENT AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.
- 8 COORDINATE WITH GAS COMPANY FOR A TOTAL GAS LOAD OF 1682 CFH @ 1" W.C. EXTEND AND CONNECT 2-1/2" GAS PIPING TO GAS METER. VERIFY EXACT LOCATION OF GAS METER AND GAS PRESSURE PRIOR TO INSTALLATION OF ANY PIPING. ROUTE 2-1/2" GAS PIPING UP ONTO ROOF AS REQUIRED.
- 9 CONNECT 1" CW TO WATER SOFTENER WITH BACKFLOW PREVENTOR AS REQUIRED.
- 10 CONNECT GAS PIPING TO RTU AS DETAILED.
- 11 CONNECT 1/2" CW TO ICE MAKER (#41) AND WATER FILTER (#43) WITH BFP AS REQUIRED BY LOCAL JURISDICTION.
- 12 CONNECT 1/2" CW TO HOT CHOCOLATE (#41), ICED TEA (#41) AND COFFEE BREWER (#104) WITH ASSE 1022 LISTED BFP OR AIR GAP AND SHUT OFF VALVE AS REQUIRED.
- 13 CONNECT 3/4" GAS TO KITCHEN EQUIPMENT AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.
- 14 CONNECT 1" GAS TO KITCHEN EQUIPMENT AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.
- 15 CONNECT 1" GAS PIPE TO WATER HEATER AS REQUIRED.
- 16 GAS PIPE LOCATED ON ROOF. SUPPORT AS REQUIRED AND PER DETAIL.
- 17 GAS PIPE TO COOKING LINE. ROUTE PIPING INSTALL GAS SOLENOID SHUT-OFF VALVE (FIRE SUPPRESSION SYSTEM) ON WALL BELOW CEILING IN AN ACCESSIBLE LOCATION AS REQUIRED. ROUTE PIPE BEHIND EQUIPMENT AT 15" AFF.
- 18 ROUTE GAS PIPE ABOVE CEILING.
- 19 ROUTE PIPING DOWN WALL ON INTERIOR SIDE OF INSULATION FOR FREEZE PROTECTION.
- 20 ALL ROOFING WORK TO BE PERFORMED BY LANDLORD'S ROOFING CONTRACTOR (AT THIS CONTRACTOR'S EXPENSE) TO MAINTAIN LANDLORD'S ROOFING WARRANTY. VERIFY 10'-0" CLEARANCE FROM ALL EXHAUST AND VENT LOCATIONS TO ALL OUTDOOR AIR INAKES.
- 21 CONNECT 1/2" CW AND 1/2" HW TO PRE-RINSE FAUCET (#38) AS REQUIRED.
- 22 ROUTE GAS PIPING DOWN THROUGH ROOF. SEAL PENETRATION WEATHER TIGHT.
- 23 PROVIDE 1/2" CW CONNECTION TO BEVERAGE/JUICE DISPENSER (#98) WITH ASSE 1022 LISTED BFP OR AIR GAP AS REQUIRED.
- 24 ROUTE 1" CONDENSATE DRAIN FROM ROOFTOP UNIT TO NEAREST ROOF DRAIN OR GUTTER AS REQUIRED AND AS PER DETAIL.
- 25 SET WATER HEATER TEMPERATURE TO 140° F. MAINTAIN PROPER CLEARANCE AROUND FOR WATER HEATER.
- 26 CONNECT 1-1/4" GAS TO KITCHEN EQUIPMENT AS REQUIRED PER MANUFACTURER'S SPECIFICATIONS.

BACKFLOW ASSEMBLIES TO BE INSTALLED NO MORE THAN 5' AFF. ALL BACKFLOW ASSEMBLIES AND DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION STANDARDS PROVIDED BY THE AUTHORITY HAVING JURISDICTION.



**PLUMBING WATER AND GAS PLAN**  
NORTH SCALE: 1/4" = 1'-0"

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**P2**

PLUMBING WATER AND GAS PLAN



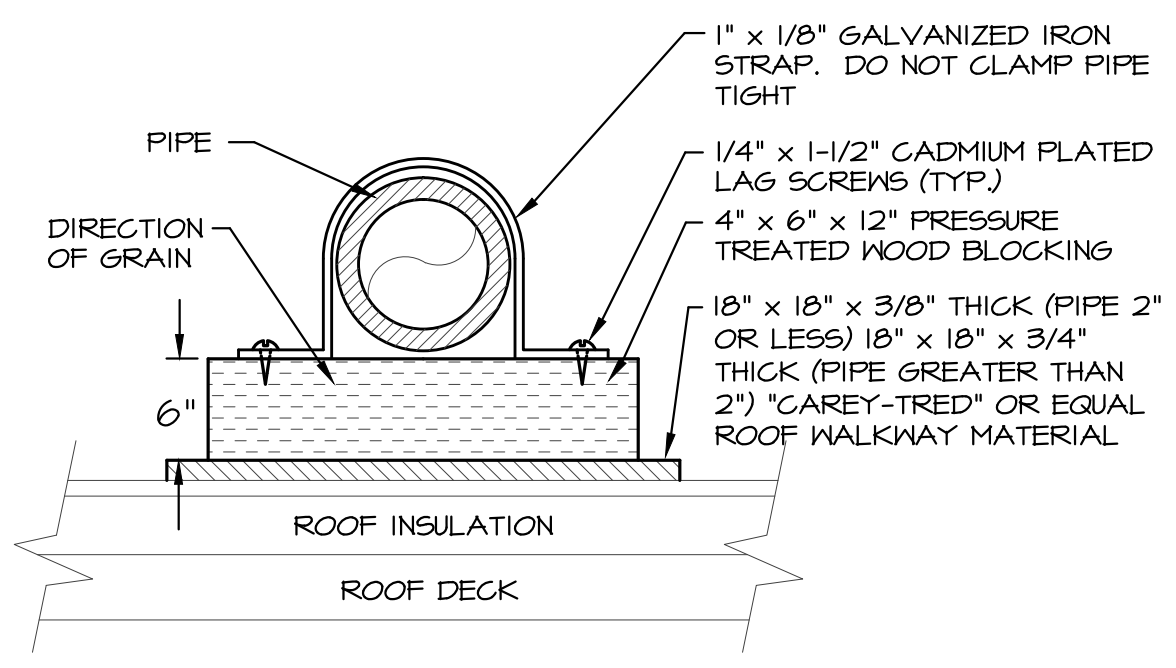
PLUMBING FIXTURE SCHEDULE CONT.

Table with 2 columns: Item No. and Description. Includes items like WS-090, WC, HWC, UR, LI, MB, ED, EDI, ES, HWH, ET, RCP, RPZ, HS, HB, GI.

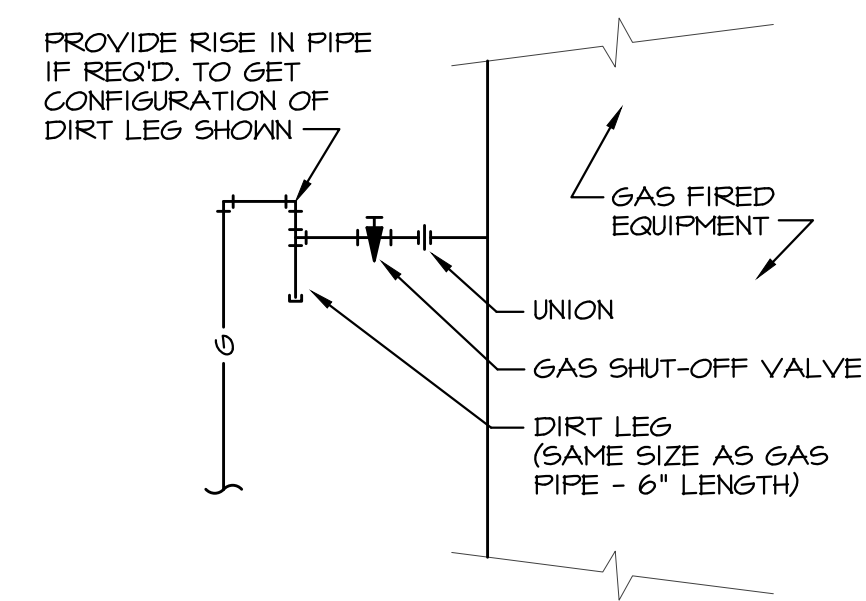
PLUMBING FIXTURE BRANCH PIPING SCHEDULE

Table with 5 columns: Fixture, Waste, Vent, CW, HW. Lists fixtures like Water Closet, Urinal, Lavatory, Sink, Floor Drain, Mop Basin.

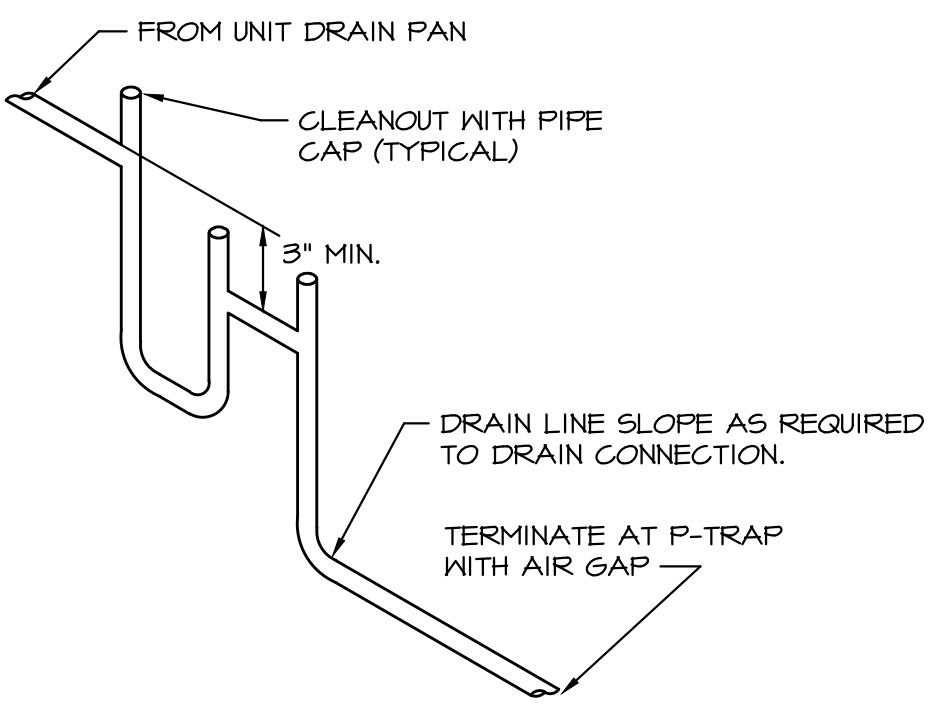
NOTE: INDIVIDUAL VENTS FOR FIXTURES ON PLANS AND RISER DIAGRAMS HAVE BEEN INCREASED WHERE HORIZONTAL VENT LENGTH IS IN EXCESS OF THE MAXIMUM DISTANCE INDICATED BY THE CODE.



ROOF PIPE SUPPORT DETAIL  
SCALE: NONE



GAS CONNECTION DETAIL  
SCALE: NONE



CONDENSATE DRAIN DETAIL  
SCALE: NONE

PLUMBING GENERAL NOTES:

- 1. INSTALL ALL PIPE, ETC. AS HIGH AS POSSIBLE.
2. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
3. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS AND MOUNTING HEIGHTS OF FIXTURES.
4. REFER TO ARCHITECTURAL & STRUCTURAL DRAWINGS FOR REQUIREMENTS FOR SUPPORTING PIPING, EQUIPMENT, ETC. FROM THE STRUCTURE. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
5. SAWCUT EXISTING FLOOR AS REQUIRED FOR INSTALLATION OF UNDERFLOOR PIPING. PATCH FLOOR TO MATCH EXISTING.
6. PROVIDE 1" SCHEDULE 40 PVC CONDENSATE DRAIN PIPE FOR EACH ROOFTOP UNIT LAID DIRECTLY ON ROOF TO NEAREST ROOF DRAIN. PROVIDE WATER TRAP AND CLEAN OUTS AS DETAILED. SECURE PVC PIPE TO DRAIN WITH NYLON STRAP.
7. NO PIPING SHALL BE ROUTED OVER THE TOP OF ELECTRICAL PANELS.
8. ALL EXISTING PLUMBING NOT BEING REUSED, SHALL CAPPED BACK AT MAINS AS REQUIRED. COORDINATE WITH G.C. TO PATCH FLOOR WHERE REQUIRED.
9. FOOD SERVICE CONTRACTOR TO SUPPLY SINK BOWLS AND FAUCETS FOR KITCHEN SINKS. PLUMBING CONTRACTOR TO SUPPLY P-TRAPS, ANGLE STOPS, RISERS, VALVES AND ACCESSORIES FOR KITCHEN SINKS.
10. ANY PENETRATIONS TO THE WALL, FLOOR OR CEILING AT ALL WATER OR WASTE LINES MUST BE SEALED AROUND THE PIPE FIRST AND THEN THE ESCUTCHEON SEALED TO THE WALL.
11. ALL EXPOSED PIPING (PLUMBING, POS LINES, FIRE ALARM, FIRE EXTINGUISHER, ETC) MUST BE PAINTED TO MATCH ADJACENT CONSTRUCTION. THERE SHALL BE ABSOLUTELY NO EXPOSED, UNPAINTED PIPING WITHIN THE ESTABLISHMENT.

- NOTES:
(1) ITEMS SHOWN IN BROKEN LINES TO BE FURNISHED BY OTHERS.
(2) ALL DIMENSIONS ARE 1/8" (2mm) AND SUBJECT TO CHANGE WITHOUT NOTICE.
(3) UNIONS SHOULD BE LOCATED ON INLET AND OUTLET CONNECTIONS OF CONTROL VALVE TO FACILITATE SERVICING.
(4) THE USE OF DISSIMILAR METALS IN A PIPING SYSTEM IS NOT RECOMMENDED. WHERE DISSIMILAR METALS MUST BE CONNECTED IN A WATER SYSTEM, THE USE OF NONCONDUCTIVE (DIELECTRIC) FITTINGS MAY REDUCE GALVANIC CORROSION.
(5) AN ELECTRICAL OUTLET SHOULD BE PROVIDED WITHIN FIVE FEET OF THE EQUIPMENT LOCATION.
(6) ALLOW A MINIMUM OF 24 INCHES ABOVE SOFTENER FOR FILLING.
(7) TO PERMIT THE OBSERVATION OF THE DRAIN FLOW DO NOT MAKE A DIRECT CONNECTION TO THE DRAIN. PROVIDE AN AIR GAP OF AT LEAST FOUR TIMES THE DIAMETER OF THE DRAIN PIPE OR CONFORM TO LOCAL SANITATION CODES.
(8) SYSTEM USES FRP TANKS WHICH MUST NOT BE SUBJECTED TO VACUUM. INSTALL SIPHON BREAK ON DRAIN LINE. INSTALL VACUUM BREAKER ON INLET PIPING IF THE SERVICE LINE IS SUBJECT TO A VACUUM.
(9) FOR MAXIMUM PROTECTION OF THE CONTROLLER, IT IS RECOMMENDED THAT A DEDICATED 120 VOLT CIRCUIT IS PROVIDED.
(10) BRINE TANK DIMENSIONS SHOWN ARE FOR THE BRINE TANK MOST COMMONLY SELECTED FOR USE WITH THIS SIZE SYSTEM.
(11) OPTIONAL BYPASS VALVE IS AVAILABLE AND CAN BE USED IN PLACE OF THE THREE VALVE BYPASS SHOWN.
(12) SHIPPING AND OPERATING WEIGHTS SHOWN ON THIS DRAWING INCLUDE THE BRINE SYSTEM.

Table with columns: DIMENSIONS (INCHES) and UNIT DATA PER TANK. Lists various dimensions like width, height, tank dia, etc.

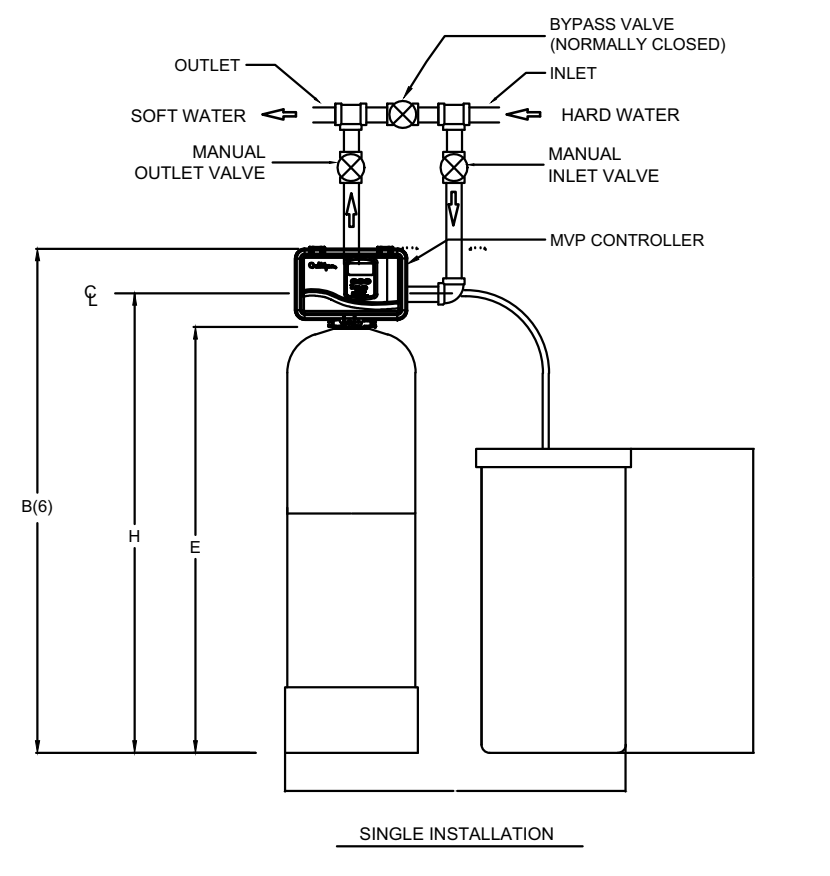
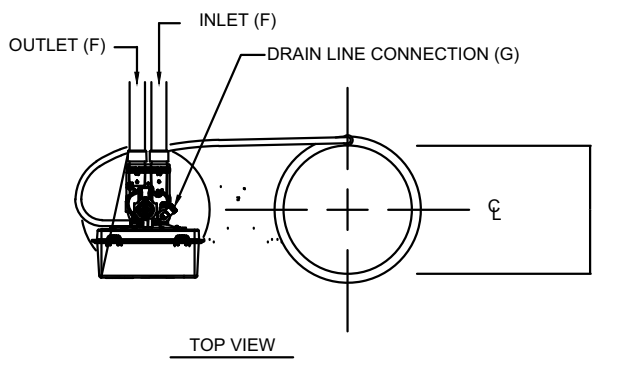
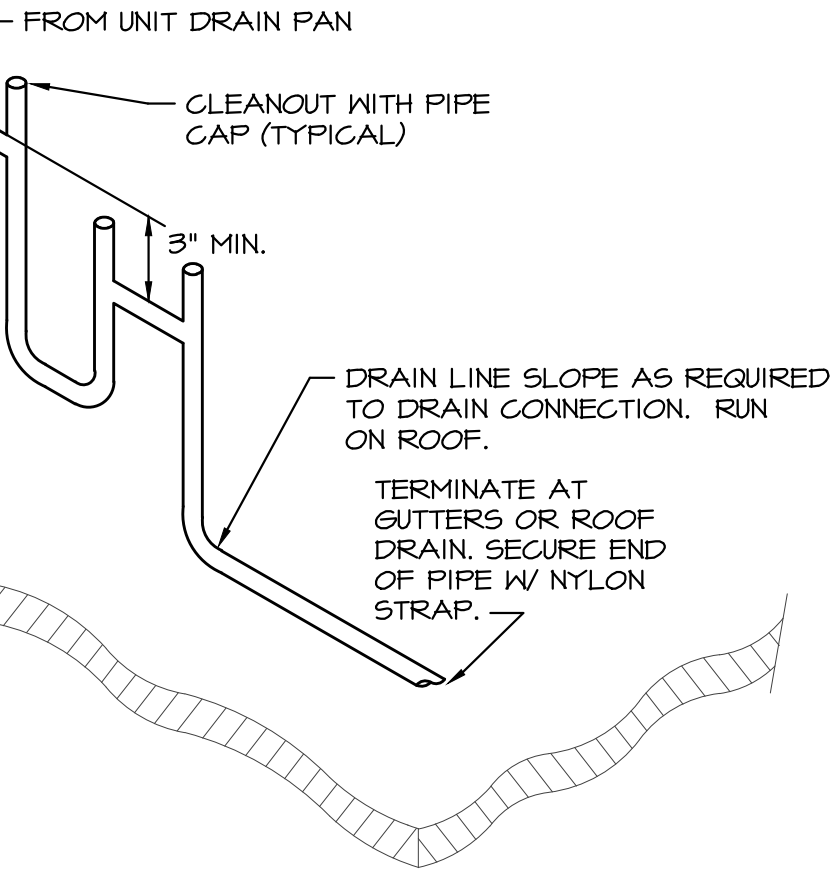


Table with columns: Change, By, App, Date. Includes Culligan logo and technical data.



CONDENSATE DRAIN DETAIL  
SCALE: NONE

PLUMBING SYMBOLS

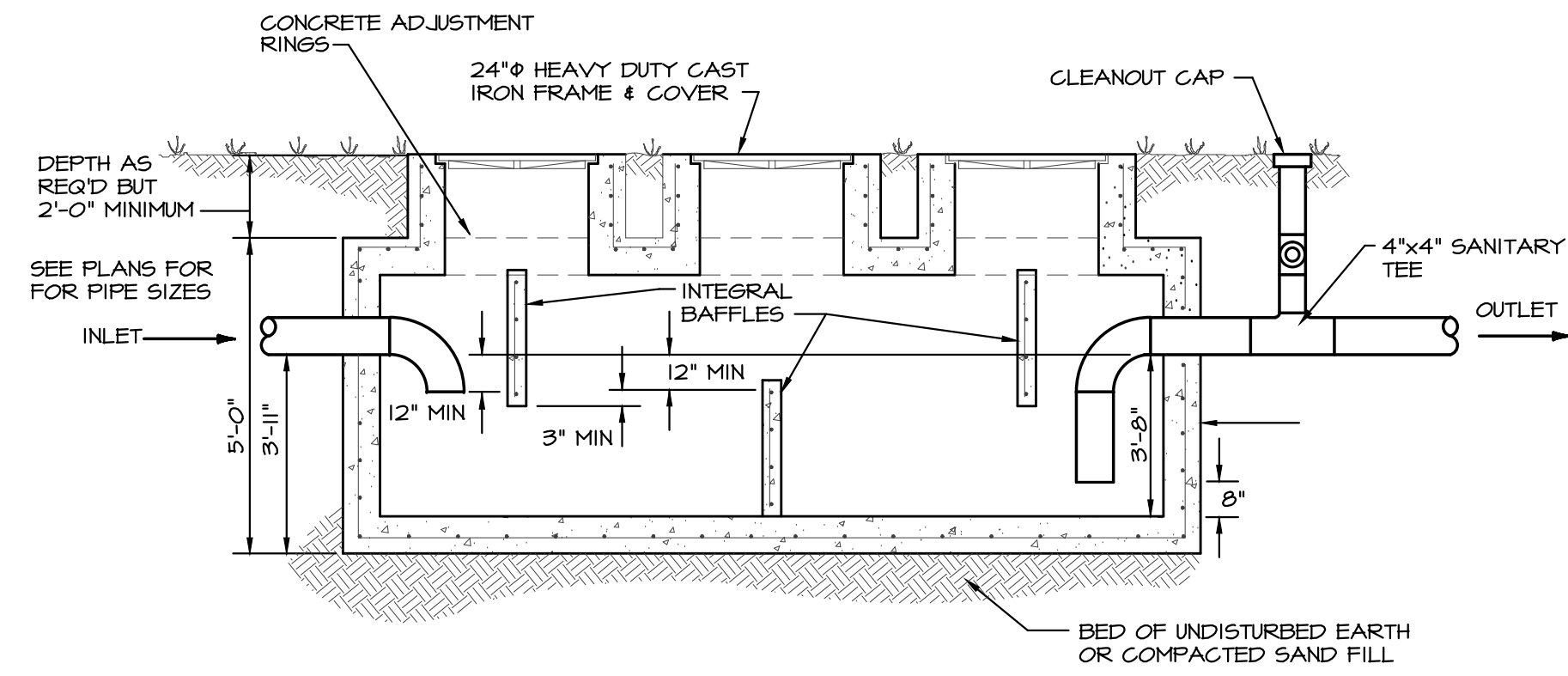
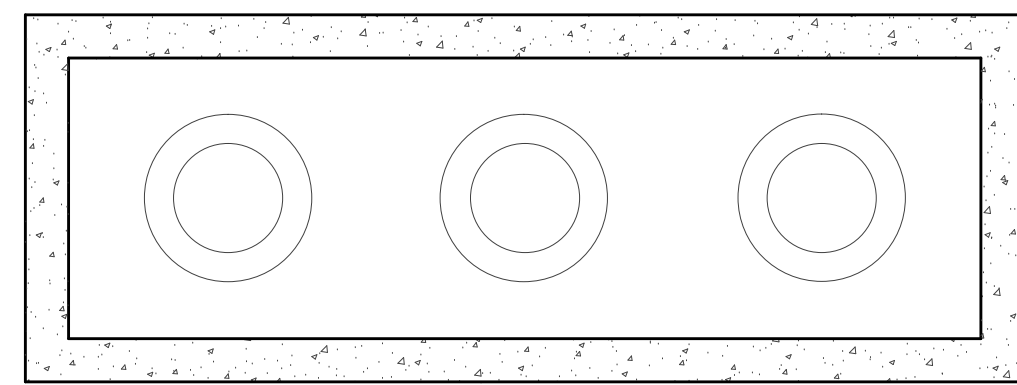
- SOIL AND WASTE PIPING BELOW GRADE
SOIL AND WASTE PIPING ABOVE GRADE
SOIL AND WASTE PIPE TO GREASE INTERCEPTOR
SANITARY VENT PIPING ABOVE GRADE
SANITARY VENT PIPING BELOW GRADE
DOMESTIC COLD WATER PIPING
DOMESTIC COLD SOFTENED WATER PIPING
DOMESTIC HOT WATER PIPING
DOMESTIC HOT WATER RECIRCULATION PIPING
CONDENSATE DRAIN LINE
GAS PIPING
GAS PIPING ON ROOF
PIPING TURNING DOWN
PIPING TURNING UP
TEE TOP CONNECTION
UNION
BACKFLOW PREVENTER
FLOOR CLEAN OUT
GRADE CLEAN OUT
WALL CLEAN OUT
FLOOR DRAIN
VALVE
CHECK VALVE
MATCH MARKS ON PLUMBING RISER DIAGRAM
CONNECT TO EXISTING
SOLENOID VALVE

EQUIPMENT SCHEDULE

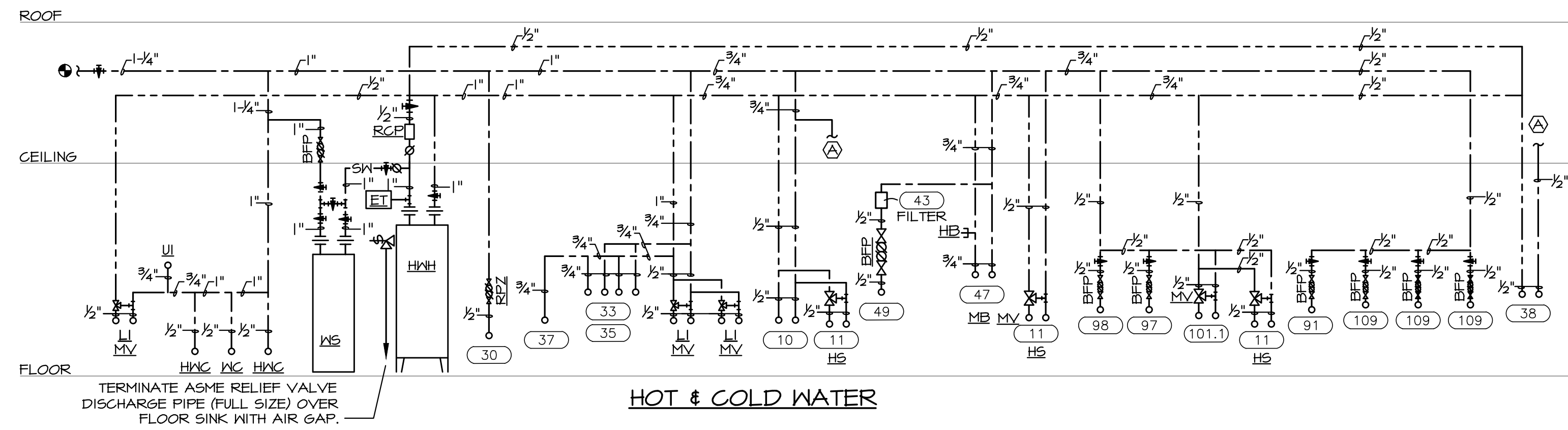
Table with 3 columns: ITEM NO, QTY, EQUIPMENT CATEGORY. Lists items like walk-in cooler, water softener, water heater, etc.

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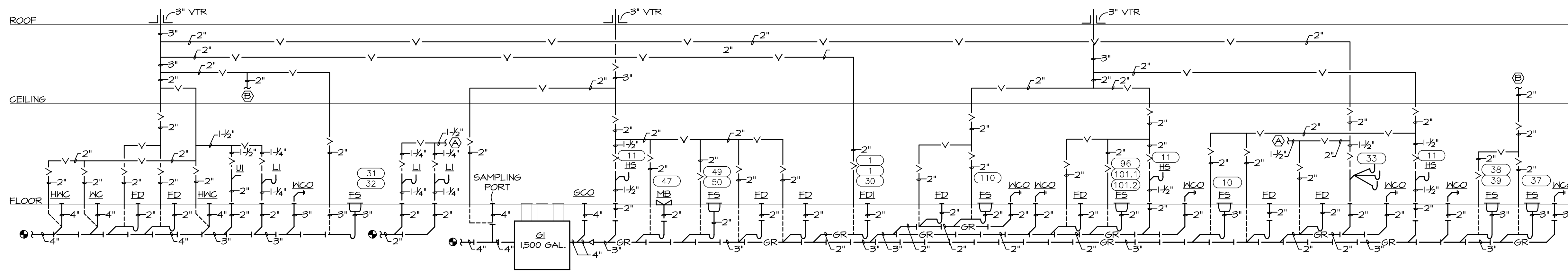




**1500 GALLON GREASE INTERCEPTOR**  
SCALE: NONE



**HOT & COLD WATER**



**WASTE & VENT**  
**PLUMBING RISER DIAGRAMS**  
SCALE: NONE

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Howard Johnson Plaza Hotel

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REVISIONS

ISSUE DATE 11/01/12
PROJECT NUMBER 2012-42
SHEET NUMBER

**P4**

PLUMBING RISER DIAGRAMS

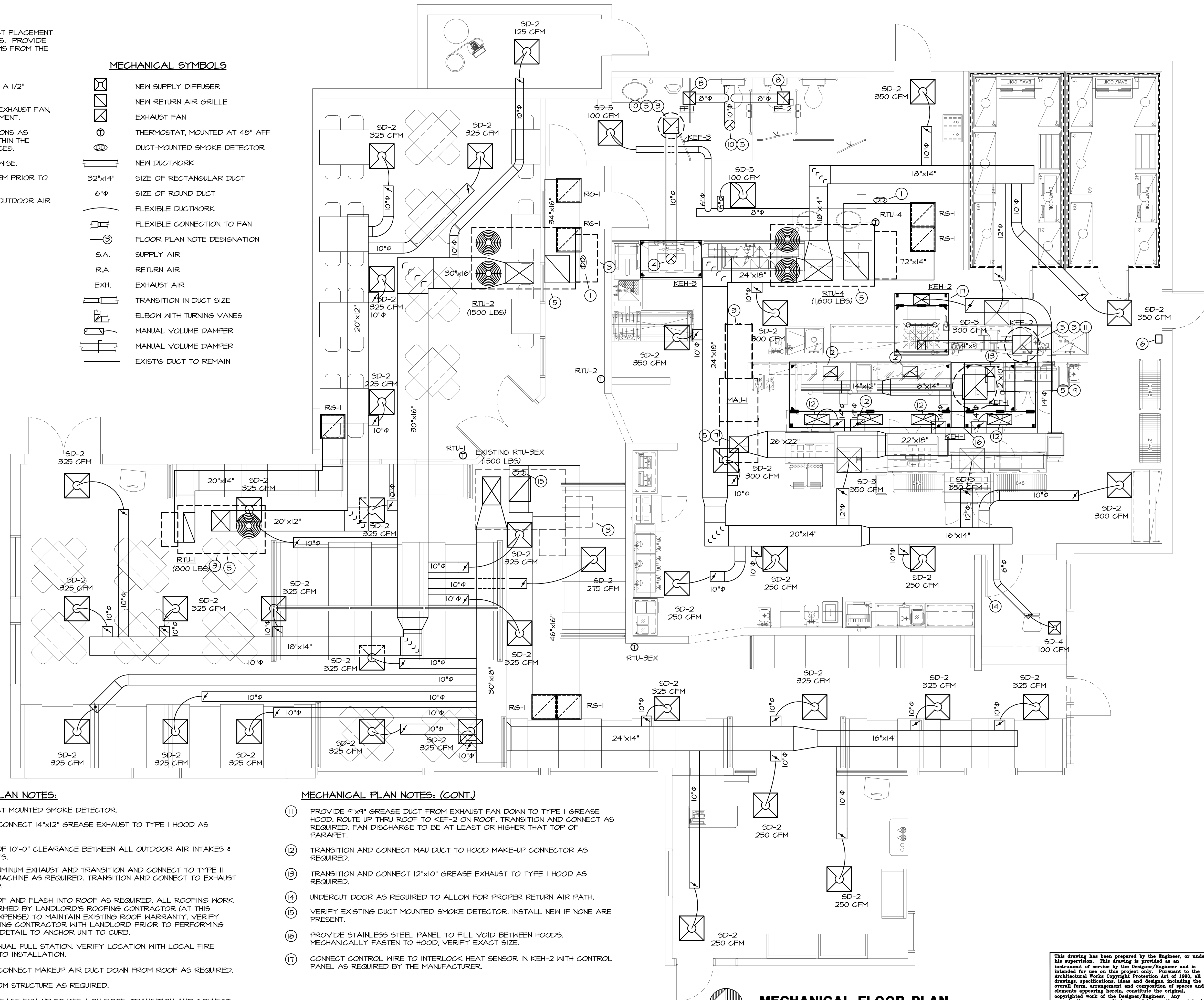


**GENERAL NOTES:**

1. REFER TO ARCHITECTURAL & SHELL BUILDING DRAWINGS FOR EXACT PLACEMENT OF EXHAUST FANS, ETC. & ADDITIONAL STRUCTURAL REQUIREMENTS. PROVIDE ADDITIONAL STEEL AS REQUIRED TO PROPERLY SUPPORT SYSTEMS FROM THE STRUCTURE.
2. INSTALL ALL DUCT, PIPE ETC. AS HIGH AS POSSIBLE.
3. DUCT SIZES SHOWN ARE ACTUAL SHEETMETAL SIZES AND INCLUDE A 1/2" ALLOWANCE FOR DUCT LINER WHERE APPLICABLE.
4. PROVIDE FLEXIBLE CONNECTION BETWEEN DUCTWORK AND EACH EXHAUST FAN, ROOFTOP UNIT, MAKE-UP AIR UNITS AND OTHER MOTORIZED EQUIPMENT.
5. COORDINATE ALL WORK WITH OTHER TRADES & EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
6. ALL DUCTWORK SHALL BE CONCEALED UNLESS INDICATED OTHERWISE.
7. CONTRACTOR TO VERIFY STRUCTURAL LOADS ON BUILDING SYSTEM PRIOR TO INSTALLATION OF ANY INSTALLATION OF NEW EQUIPMENT.
8. VERIFY 10'-0" CLEARANCE FROM ALL EXHAUST OUTLETS TO ANY OUTDOOR AIR INTAKES.

**MECHANICAL SYMBOLS**

- NEW SUPPLY DIFFUSER
- NEW RETURN AIR GRILLE
- EXHAUST FAN
- THERMOSTAT, MOUNTED AT 48" AFF
- DUCT-MOUNTED SMOKE DETECTOR
- NEW DUCTWORK
- 32"x14" SIZE OF RECTANGULAR DUCT
- 6"φ SIZE OF ROUND DUCT
- FLEXIBLE DUCTWORK
- FLEXIBLE CONNECTION TO FAN
- FLOOR PLAN NOTE DESIGNATION
- S.A. SUPPLY AIR
- R.A. RETURN AIR
- EXH. EXHAUST AIR
- TRANSITION IN DUCT SIZE
- ELBOW WITH TURNING VANES
- MANUAL VOLUME DAMPER
- MANUAL VOLUME DAMPER
- EXIST'G DUCT TO REMAIN



**MECHANICAL PLAN NOTES:**

- ① LOCATION OF DUCT MOUNTED SMOKE DETECTOR.
- ② TRANSITION AND CONNECT 14"x12" GREASE EXHAUST TO TYPE I HOOD AS REQUIRED.
- ③ MAINTAIN A MIN. OF 10'-0" CLEARANCE BETWEEN ALL OUTDOOR AIR INTAKES & EXH./FLUE OUTLETS.
- ④ PROVIDE 10"φ ALUMINUM EXHAUST AND TRANSITION AND CONNECT TO TYPE II HOOD FOR DISH MACHINE AS REQUIRED. TRANSITION AND CONNECT TO EXHAUST FAN AS REQUIRED.
- ⑤ CUT EXISTING ROOF AND FLASH INTO ROOF AS REQUIRED. ALL ROOFING WORK SHALL BE PERFORMED BY LANDLORD'S ROOFING CONTRACTOR (AT THIS CONTRACTOR'S EXPENSE) TO MAINTAIN EXISTING ROOF WARRANTY. VERIFY APPROVED ROOFING CONTRACTOR WITH LANDLORD PRIOR TO PERFORMING WORK. REFER TO DETAIL TO ANCHOR UNIT TO CURB.
- ⑥ LOCATION OF MANUAL PULL STATION. VERIFY LOCATION WITH LOCAL FIRE MARSHAL PRIOR TO INSTALLATION.
- ⑦ TRANSITION AND CONNECT MAKEUP AIR DUCT DOWN FROM ROOF AS REQUIRED.
- ⑧ SUPPORT FAN FROM STRUCTURE AS REQUIRED.
- ⑨ ROUTE 20"x18" GREASE EXH. UP TO KEF-1 ON ROOF. TRANSITION AND CONNECT AS REQUIRED.
- ⑩ ROUTE 10"φ EXHAUST DUCT UP THRU ROOF TO WEATHER HEAD AS REQUIRED. VERIFY EXACT LOCATION OF OPENING PRIOR TO INSTALLATION.

**MECHANICAL PLAN NOTES: (CONT.)**

- ⑪ PROVIDE 4"x4" GREASE DUCT FROM EXHAUST FAN DOWN TO TYPE I GREASE HOOD. ROUTE UP THRU ROOF TO KEF-2 ON ROOF. TRANSITION AND CONNECT AS REQUIRED. FAN DISCHARGE TO BE AT LEAST OR HIGHER THAT TOP OF PARAPET.
- ⑫ TRANSITION AND CONNECT MAU DUCT TO HOOD MAKE-UP CONNECTOR AS REQUIRED.
- ⑬ TRANSITION AND CONNECT 12"x10" GREASE EXHAUST TO TYPE I HOOD AS REQUIRED.
- ⑭ UNDERCUT DOOR AS REQUIRED TO ALLOW FOR PROPER RETURN AIR PATH.
- ⑮ VERIFY EXISTING DUCT MOUNTED SMOKE DETECTOR. INSTALL NEW IF NONE ARE PRESENT.
- ⑯ PROVIDE STAINLESS STEEL PANEL TO FILL VOID BETWEEN HOODS. MECHANICALLY FASTEN TO HOOD, VERIFY EXACT SIZE.
- ⑰ CONNECT CONTROL WIRE TO INTERLOCK HEAT SENSOR IN KEH-2 WITH CONTROL PANEL AS REQUIRED BY THE MANUFACTURER.

**MECHANICAL FLOOR PLAN**  
 NORTH SCALE: 1/4" = 1'-0"

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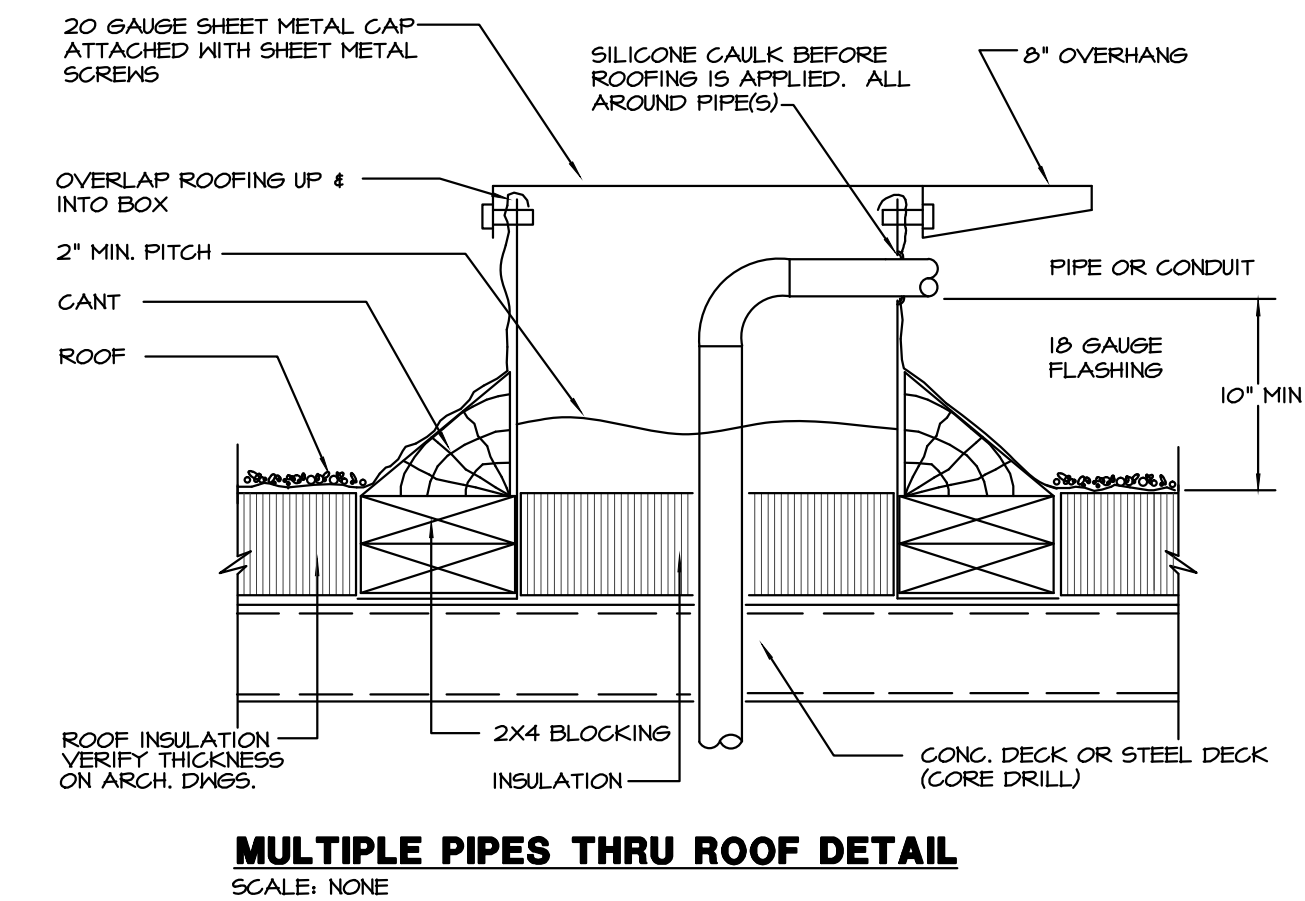
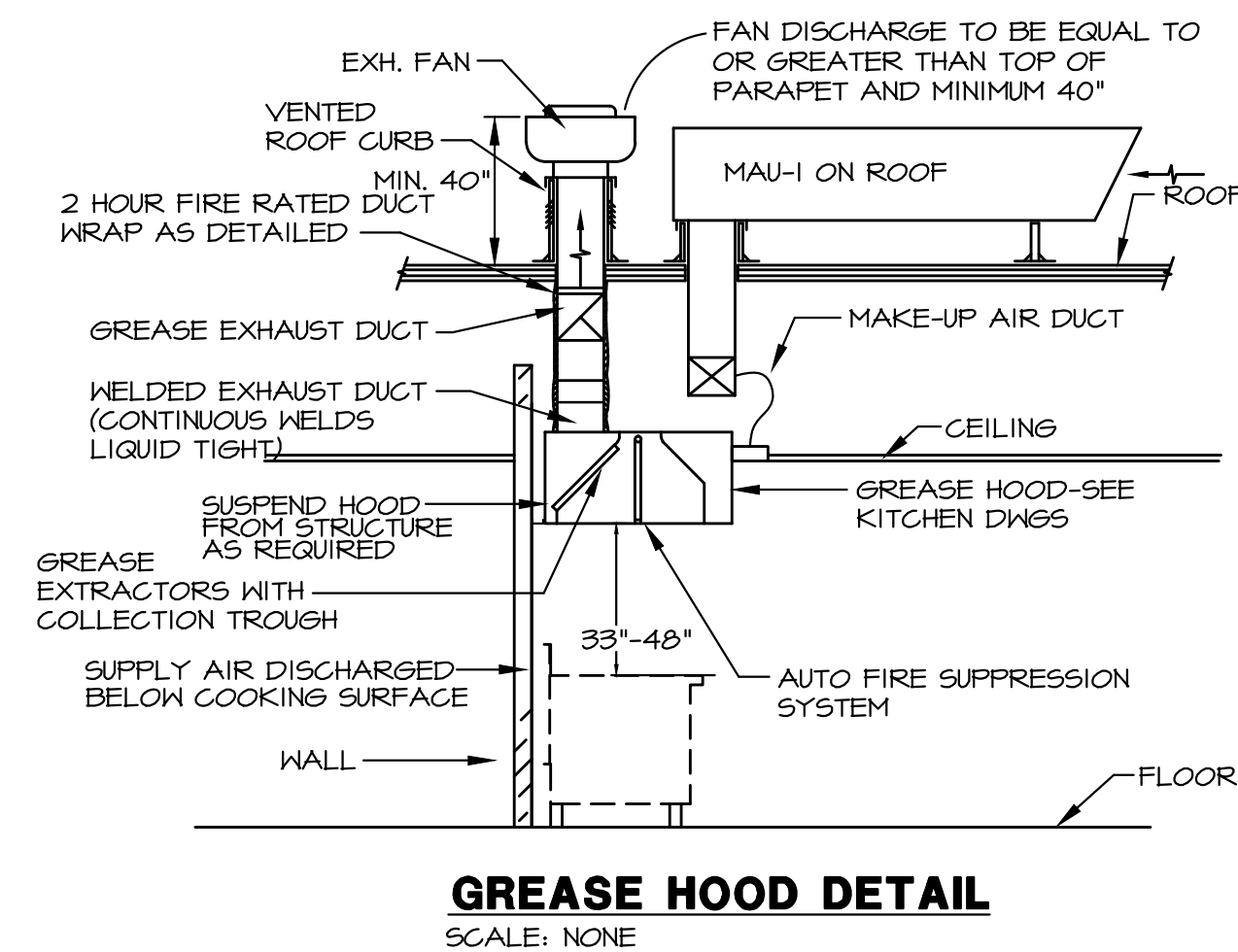
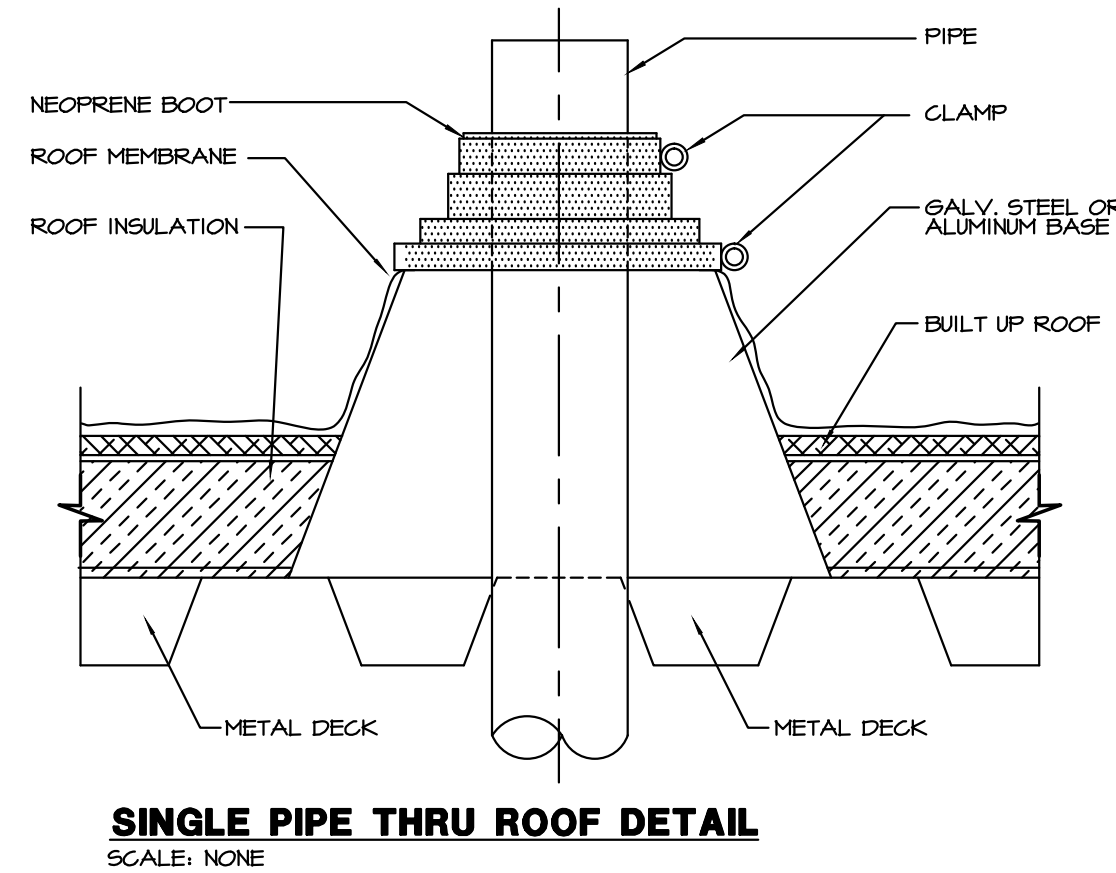
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PROJECT NUMBER	2012-42
SHEET NUMBER	M1

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MECHANICAL PLAN

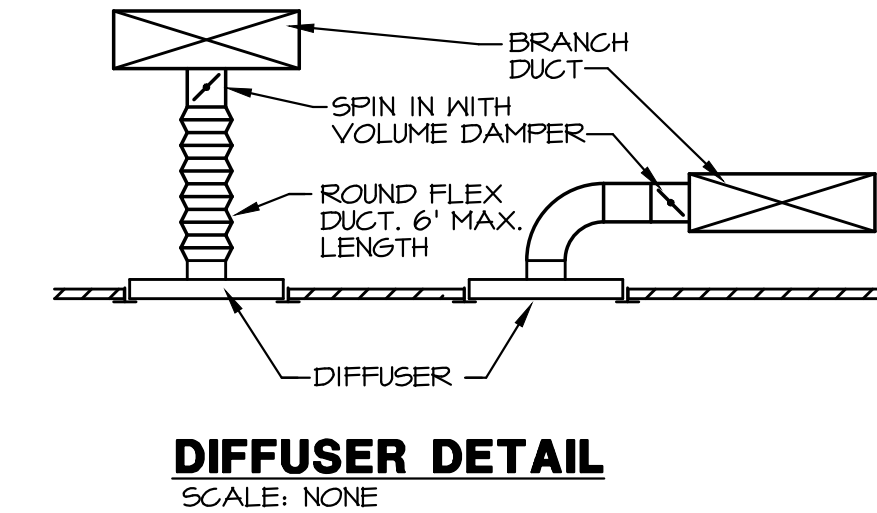
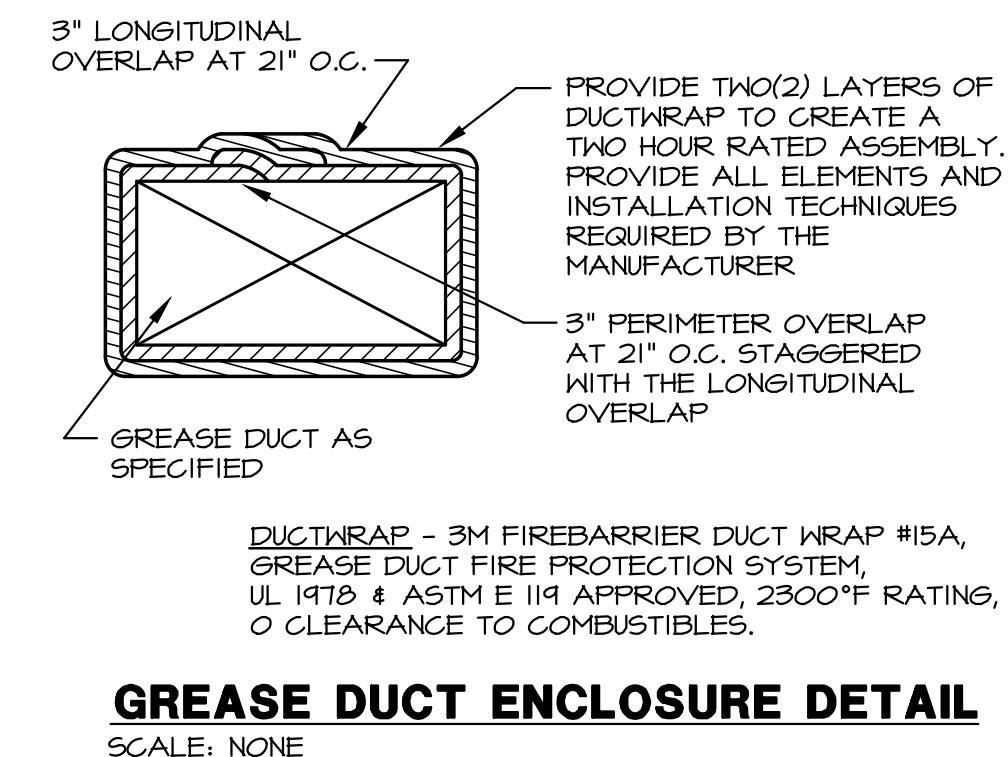




UNIT	CLASS	SG. FT.	PEOPLE/SG. FT.	CFM/SG. FT.	CFM/PERSON	CFM
RTU'S & MAU-I	OFFICE	54	7/1000		20	5
	KITCHEN	1615	20/1000		15	485
	TOILETS	302				300
	DINING	2170	70/1000		20	3038
	LOBBY	240	30/1000		15	131
TOTAL						3,958

MINIMUM OUTDOOR AIR REQUIRED = 3,958 CFM  
TOTAL OUTDOOR AIR SUPPLIED = 6,201 CFM

MARK	MFGR	MODEL	NECK SIZE	FACE SIZE	FINISH	REMARKS
SD-1	TITUS	PA5/B	12"φ	24"x24"	WHITE	-
SD-2			10"φ			-
SD-3		PAR/B	22"x22"			-
SD-4		PA5/B	6"φ	12"x12"		-
SD-5				24"x24"		W/ TRM & O.B.D. IN NECK
RG-1		PAR/B	22"x22"			-



MECHANICAL AIR BALANCE SCHEDULE:

SUPPLY AIR UNIT	OUTSIDE AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	SUPPLY AIRFLOW (CFM)	OA/SA %	EXHAUST AIR UNIT	EXHAUST AIRFLOW (CFM)	REMARKS	
RTU-1	215	985	1,200	18.0%	KEF-1	3,950		
RTU-2	540	2,460	3,000	18.0%	KEF-2	758		
RTU-3EX	720	3,280	4,000	18.0%	KEF-3	750		
RTU-4	720	3,280	4,000	18.0%				
					EF-1	150		
					EF-2	150		
MUA-1	4,006	0	4,006	100.0%				
TOTAL	6,201	10,005	16,206	38.2%	TOTAL	5,766		
RESULTING BUILDING PRESSURIZATION							435 CFM	

MARK	MFGR	MODEL	CFM	EXTERNAL STATIC P. IN. WG.	RPM	ELECTRICAL VOLT/φ/HZ PWR	FAN TYPE	REMARKS
EF-1	COOK	GC-164	150	0.25	1125	120/1/60	110W	CEILING EXH.
EF-2								-

- NOTES: 1. PROVIDE CEILING GRILLE, FAN SPEED CONTROL NEAR FAN ABOVE CEILING, INTEGRAL BACK DRAFT DAMPER WEATHER HEAD, AND NON-FUSED DISCONNECT FOR EF-1 & EF-2.  
2. FANS SHALL NOT EXCEED SCHEDULED RPM.

MARK	MFGR	MODEL NO.	NOM. TONS	EVAP. CFM	EXT. STATIC P. IN. WG. (NOTE 2)	COOLING			HEATING (GAS)		ELECTRICAL		TOTAL WEIGHT (LBS)	SEER/ EER	FREON	REMARKS	
						TOTAL BTUH	SENS. BTUH	AMB.	BTUH INPUT	BTUH OUTPUT	VOLT/φ/HZ	BLOWER MOTOR					
							EVAP. EAT DB/WB										
RTU-1	LENNOX	KGA03654	3	1,200	0.8	36,300	21,200	105	80/67	105,000	84,000	208/3/60	2 HP	240	850	13.0/-	R-410a
RTU-2		KGA04054	7.5	3,000		84,100	62,200			180,000	144,000		3 HP	600	1,500	-/11.0	
RTU-3EX	YORK	DH120N15N	10	4,000	-	113,000	89,000			180,000	-		-	800	-	-	EXISTING
RTU-4	LENNOX	KGA12054B	10	4,000	0.8	113,600	85,200			180,000	144,000		3 HP	800	1,600	-/11.0	0.8

- NOTES: 1. PROVIDE OUTDOOR AIR ECONOMIZER, TIME DELAY ON COMPRESSOR RE-START, CRANKCASE HEATER, BAROMETRIC RELIEF DAMPER, AND COMPRESSOR LOCK-OUT WITH AMBIENT BELOW 30°F, AND FUSED DISCONNECT FOR RTU-1, RTU-2 AND RTU-4. OUTDOOR AIR DAMPER TO FULLY CLOSE W/ FAN SHUTDOWN FOR EACH UNIT.  
2. EXTERNAL STATIC PRESSURE LISTED REPRESENTS STATIC PRESSURE REQUIRED FOR DUCTWORK AND DIFFUSERS OUTSIDE THE HVAC UNIT COMPLETELY INDEPENDENT OF ANY PRESSURE DROP THROUGH THE HVAC EQUIPMENT INCLUDING BUT NOT LIMITED TO FILTERS, COILS AND ECONOMIZERS. THE FAN AND MOTOR SHALL BE SIZED APPROPRIATELY TO MEET THIS DEFINITION OF EXTERNAL STATIC PRESSURE.  
3. PROVIDE 7-DAY PROGRAMMABLE HEAT/COOL/AUTO CHANGEVER THERMOSTATS FOR EACH UNIT. THERMOSTAT TO BE HONEYWELL VISIONPRO 8000 COMMERCIAL (TB02201003)- NO EXCEPTIONS.  
4. PROVIDE CURB ADAPTER FOR RTU-1, RTU-2 AND RTU-4. VERIFY EXACT SIZE OF EXISTING CURB PRIOR TO ORDERING.  
5. RTU-3 IS EXISTING, LISTED FOR REFERENCE ONLY.

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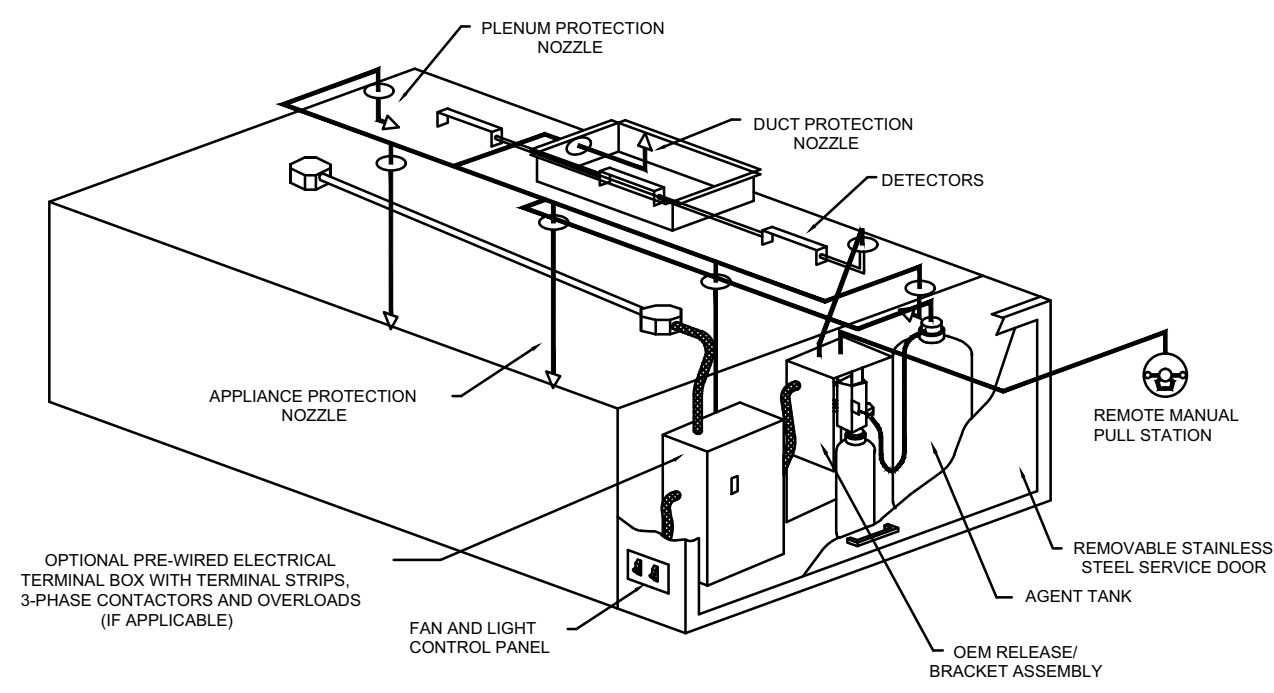
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11/01/12	2012-42	M2

MECHANICAL DETAILS



HOOD INFORMATION		EXHAUST PLENUM					SUPPLY PLENUM					HOOD CONSTRUCTION		HOOD CONFIG					
HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	TOTAL CFM	WIDTH	LENG.	DIA.	CFM	S.P.	TOTAL SUP. CFM	WIDTH	LENG.	DIA.	CFM	S.P.	HOOD CONSTRUCTION	HOOD END TO END	ROW
1	Item 62 - left	4824	13' 0.00"	600 Deg	3000	10"	14"	1500	-0.848"	2400							430 SS	ALONE	ALONE
2	Item 62 - right	4824	4' 0.00"	600 Deg	950	10"	9"	1500	-0.848"	850							430 SS	ALONE	ALONE
3	Item 14	4824	4' 4.00"	450 Deg	758	9"	8"	758	-0.621"	606							430 SS	ALONE	ALONE
4	Item 36	3624	5' 0.00"	700 Deg	750	10"	750	-1.113"	0	0							304 SS	ALONE	ALONE

HOOD INFORMATION		FILTERS		LIGHT(S)		WIRE GUARD		LOCATION		FIRE SYSTEM		HOOD HANGING HEIGHT		
HOOD NO.	TYPE	QTY	HEIGHT	LENGTH	QTY	TYPE	LOCATION	TYPE	SIZE	MODEL #	QUANTITY	TYPE	HEIGHT	
1	Captrate Solo Filter w/	1	18"	16"	4	Screw In Compact Fluore	NO					YES	765 LBS	
2	Captrate Solo Filter w/	3	18"	16"	2	Screw In Compact Fluore	NO	Right	ANSUL R102	3,003,0,0	32110FP	1 Light 1 Fan	YES	375 LBS
3	Captrate Solo Filter w/	2	18"	16"	2	Screw In Compact Fluore	NO					YES	335 LBS	
4					0							NO	103 LBS	



**SPECIFICATIONS**

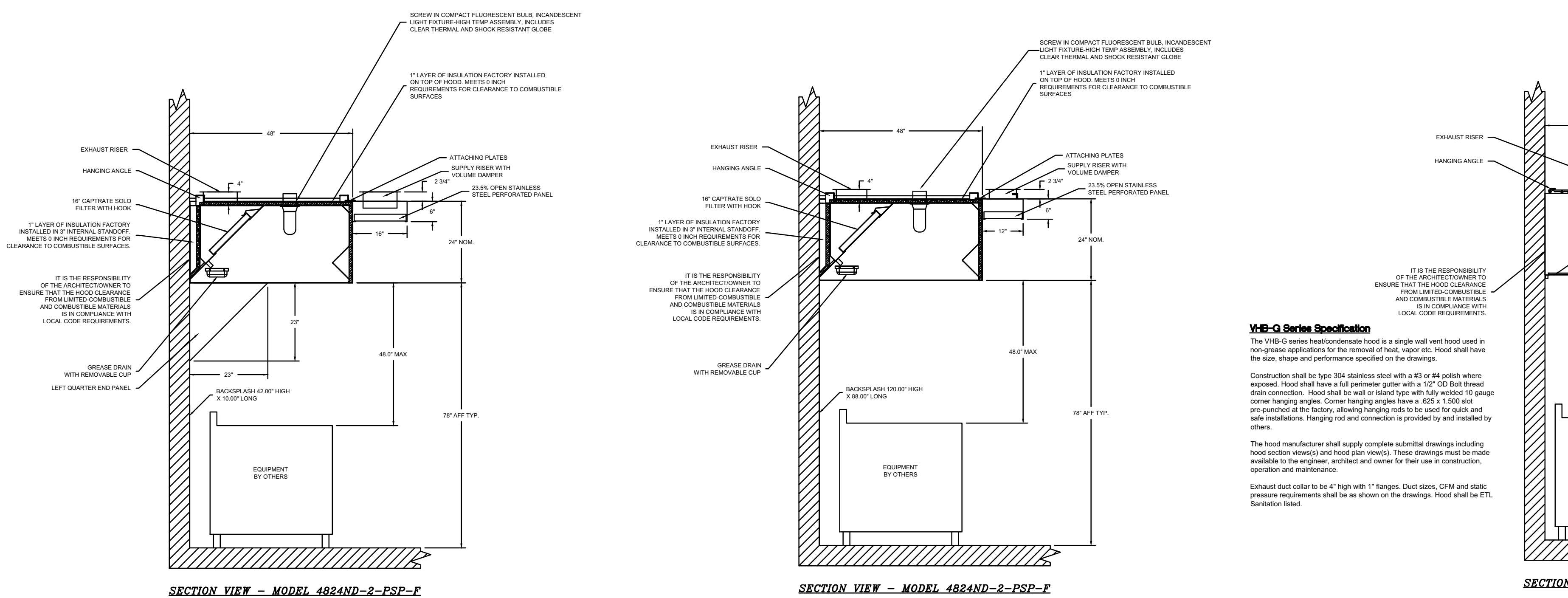
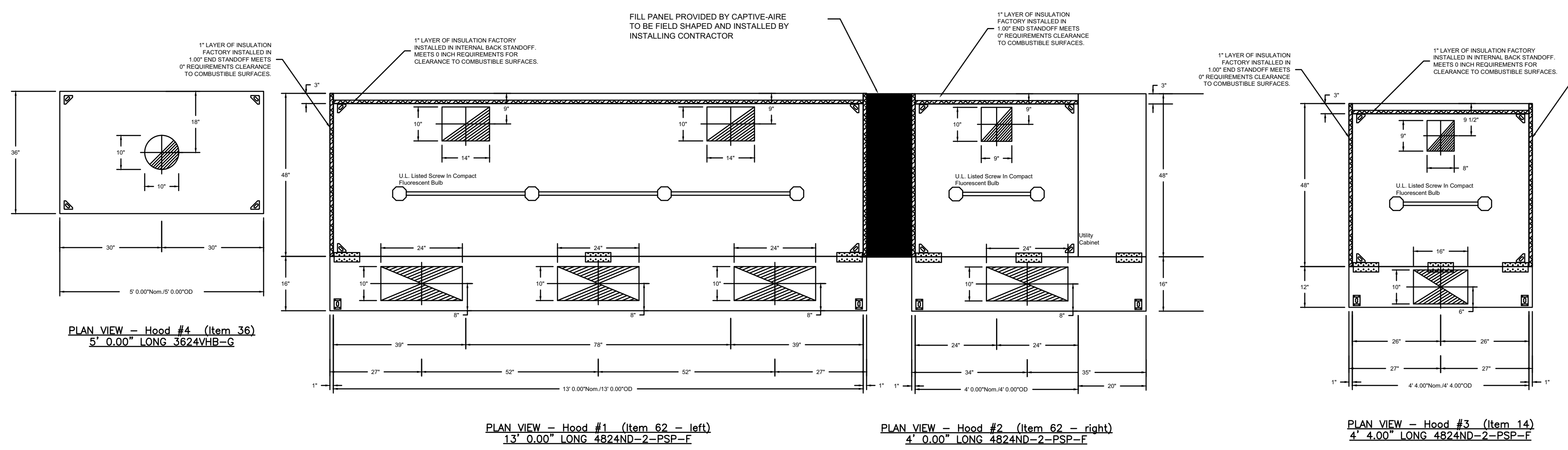
THE RESTAURANT FIRE SUPPRESSION SYSTEM SHALL BE THE PRE-ENGINEERED TYPE WITH A FIXED NOZZLE AGENT DISTRIBUTION NETWORK. IT SHALL BE LISTED WITH UNDERWRITERS LABORATORIES, INC. (UL).

THE SYSTEM SHALL BE CAPABLE OF AUTOMATIC DETECTION AND ACTUATION WITH LOCAL OR REMOTE MANUAL ACTUATION. ACCESSORIES SHALL BE AVAILABLE FOR MECHANICAL OR ELECTRICAL GAS LINE SHUT-OFF APPLICATIONS.

THE EXTINGUISHING AGENT SHALL BE A POTASSIUM CARBONATE, POTASSIUM ACETATE-BASED FORMULATION (DESIGNED FOR FLAME KNOCKDOWN AND SECUREMENT OF GREASE RELATED FIRES). IT SHALL BE AVAILABLE IN PLASTIC CONTAINERS WITH INSTRUCTIONS FOR LIQUID AGENT HANDLING AND USAGE.

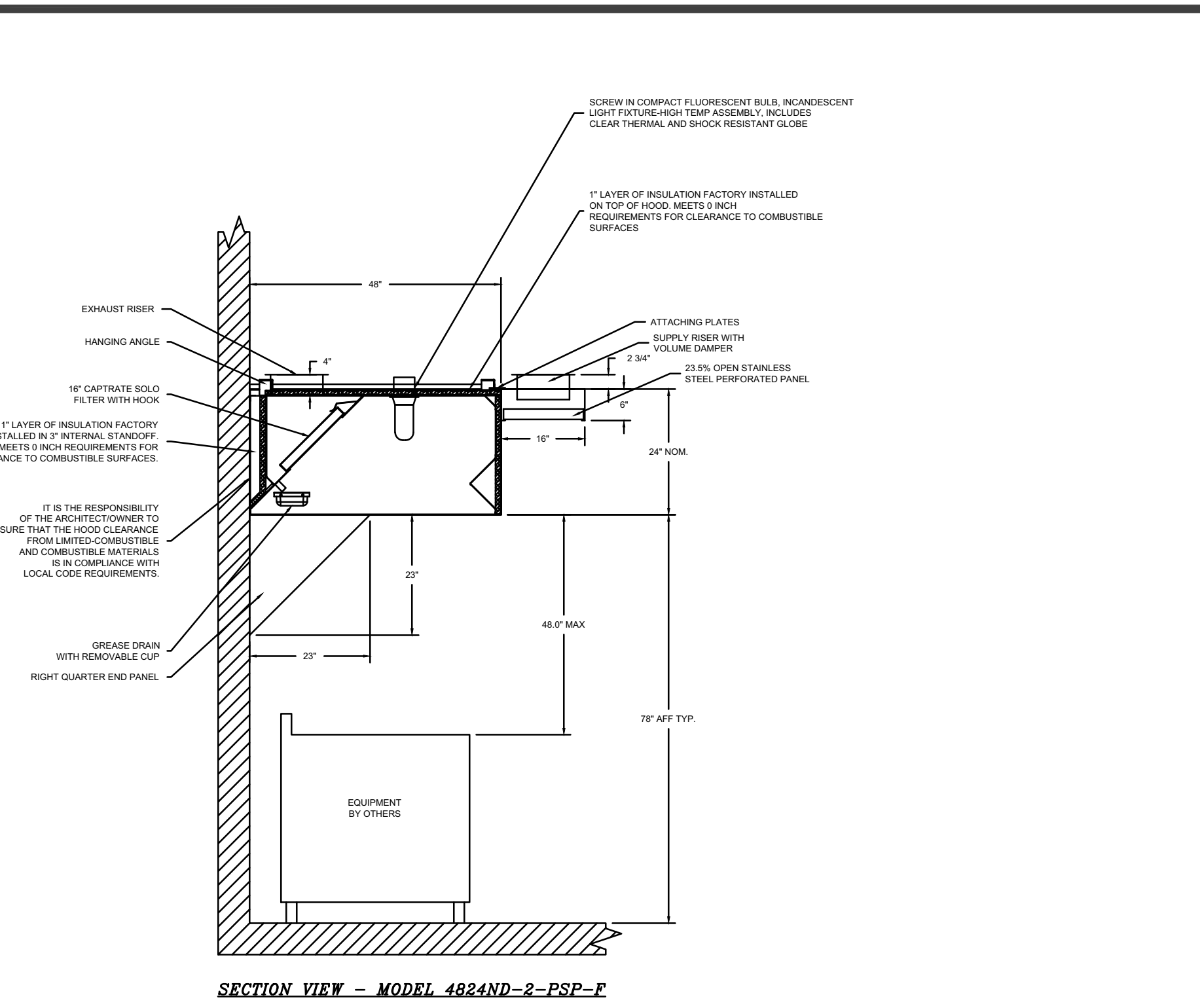
THE REGULATED RELEASE MECHANISM SHALL BE COMPATIBLE WITH A FUSIBLE LINK DETECTION SYSTEM. THE FUSIBLE LINK SHALL BE SELECTED AND INSTALLED ACCORDING TO THE OPERATING TEMPERATURE IN THE VENTILATING SYSTEM. THE FUSIBLE LINK SHALL BE SUPPORTED BY A DETECTOR BRACKET LINKAGE ASSEMBLY.

TYPICAL ANSUL R-102 SYSTEM LAYOUT



HOOD OPTIONS	
HOOD NO.	OPTION
1	BACKSPLASH 120.00" High X 248.00" Long 430 SS
2	BACKSPLASH 48.00" High X 10.00" Long 430 SS
3	BACKSPLASH 42.00" High X 10.00" Long 430 SS
4	RIGHT END STANDOFF 1" Wide 48" Long Insulated
5	LEFT END STANDOFF (FINISHED) 1" Wide 48" Long Insulated
6	WRAPPER CHANNEL - Front, Left
7	LEFT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
8	INSULATION FOR TOP OF HOOD
9	INSULATION FOR BACK OF HOOD
10	LEFT END STANDOFF 1" Wide 48" Long Insulated
11	WRAPPER CHANNEL - Front, Right
12	RIGHT QUARTER END PANEL 23" Top Width, 0" Bottom Width, 23" High 430 SS
13	INSULATION FOR TOP OF HOOD
14	INSULATION FOR BACK OF HOOD
15	BACKSPLASH 120.00" High X 88.00" Long 430 SS
16	LEFT END STANDOFF (FINISHED) 1" Wide 48" Long Insulated
17	RIGHT END STANDOFF (FINISHED) 1" Wide 48" Long Insulated
18	WRAPPER CHANNEL - Front, Left, Right
19	INSULATION FOR TOP OF HOOD
20	INSULATION FOR BACK OF HOOD
21	WRAPPER CHANNEL - Front, Left, Right

PREPARED SUPPLY PLENUM(S)										
HOOD NO.	POS.	LENGTH	WIDTH	HEIGHT	TYPE	WIDTH	LENG.	DIA.	CFM	S.P.
1	Front	158"	16"	6"	MJA	10"	24"	800	0.333"	
					MJA	10"	24"	800	0.333"	
2	Front	69"	16"	6"	MJA	10"	24"	800	0.333"	
3	Front	54"	12"	6"	MJA	10"	16"	600	0.104"	



**ND-2 Series with PSP Accessory Specification**

The ND-2 series hood with PSP accessory is a compensating canopy hood system rated for all types of cooking equipment. The hood shall have the size, shape and performance specified on drawings.

Construction shall be determined by the manufacturer and ETL. Construction shall be dependent on the structural application to minimize distortion and other defects. All seams, joints and penetrations of the hood enclosure to the lower outermost perimeter that directs and captures grease-laden vapor and exhaust gases shall have a liquid-tight continuous external weld in accordance with NFPA 96. Hood shall be well type with fully welded 10 gauge corner hanging angles. Corner hanging angles have a 425 x 1,500 psi pre-punched at the factory, allowing hanging rods to be used for quick and safe installations. Hanging rod and connection is provided by and installed by others.

Ventilator shall be furnished with U.L. classified aluminum baffle filters, supplied in size and quantity as required by ventilator. The filters shall extend the full length of the hood and the filter panels shall not be more than 6" in width.

The hood manufacturer shall supply complete computer generated submittal drawings including hood section view(s) and hood plan view(s). These drawings must be available to the engineer, architect and owner for their use in construction, operation and maintenance.

Exhaust duct collar to be 4" high with 1" flange. Duct sizes, CFM and static pressure requirements shall be as shown on drawings. Static pressure requirements shall be precise and accurate; air velocity and volume information shall be accurate within 1/8 increments along the length of the ventilator.

U.L. incandescent light fixtures and globes shall be installed and pre-wired to a junction box. The light fixtures shall be installed with a maximum of 4" spacing on center and allow up to a 100 wall standard light bulb.

The hood shall have:

- A double wall insulated front to eliminate condensation and increase rigidity.
- The insulation shall have a flexural modulus of 475 EI, meet UL 181 requirements and be in accordance with NFPA 96A and 96B.
- An integral front baffle to direct grease laden vapors toward the exhaust filter bank.
- A built-in wiring chase provided for outlets and electrical controls on the hood face and shall not penetrate the capture area or require an external chaseway.
- Low velocity make-up air (up to 90%) provided through front and side plenums (PSP accessory).
- A removable grease cup for easy cleaning.

The hood shall be ETL Listed as "Exhaust Hood Without Exhaust Dampers", ETL Sanitation Listed and built in accordance with NFPA 96. The hood shall be listed for 450°F cooking surfaces at 150 CFM, 600°F cooking surfaces at 200 CFM, and 700°F cooking surfaces at 250 CFM.

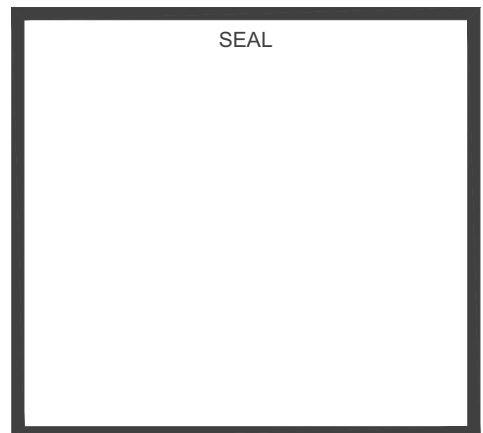
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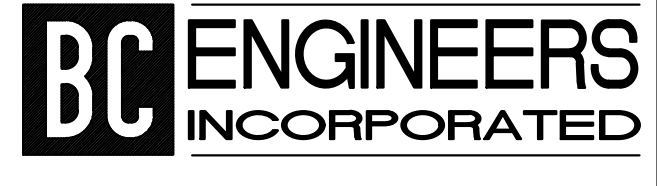
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**M3**  
MECHANICAL HOODS

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**EXHAUST FAN INFORMATION**

FAN UNIT NO.	FAN UNIT MODEL #	MODEL	TAG	CFM	ESP	RPM	H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
KEF-1	NCA24HPFA	NCA24HPFA	EF2	3950	2.100	1098	3.000	3	208	9.5	224.42	21
KEF-2	NCA14HPFA	NCA14HPFA	EF14	758	1.150	1233	0.500	3	208	1.8	115.84	10.5
KEF-3	DUS9HPFA	DUS9HPFA	EF36	750	0.400	1276	0.250	1	115	4.0	56.56	8.9

**MUA FAN INFORMATION**

FAN UNIT NO.	FAN UNIT MODEL #	BLOWER	HOUSING	TAG	CFM	ESP	RPM	H.P.	Ø	VOLT	FLA	WEIGHT (LBS.)	SONES
MAU-1	A2-D-500-G15	G15-PB	A2-D-500		4006	0.500	917	3.000	3	208	9.5	844.54	15.7

**GAS FIRED MAKE-UP AIR UNIT(S)**

FAN UNIT NO.	ACTUAL AIR DENSITY?	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
3	YES	246465	228588	55 deg F	7 in. w.c. - 14 in. w.c.	Natural

**FAN OPTIONS**

FAN UNIT NO.	OPTION (Qty. - Descr.)
1	1 - Grease Box
2	1 - Grease Box
3	1 - AC Interlock Relay - 24VAC Coil
4	1 - Inlet Pressure Gauge, 0-30"
5	1 - Manifold Pressure Gauge, 0 to 15" w.c.
6	1 - Motorized Backdraft Damper for A2-D Housing
7	1 - Freezestat
8	1 - Low Fire Start
9	1 - Curb Duct Hanger
10	1 - Extra Set of Belts
11	1 - 15-800 Damper

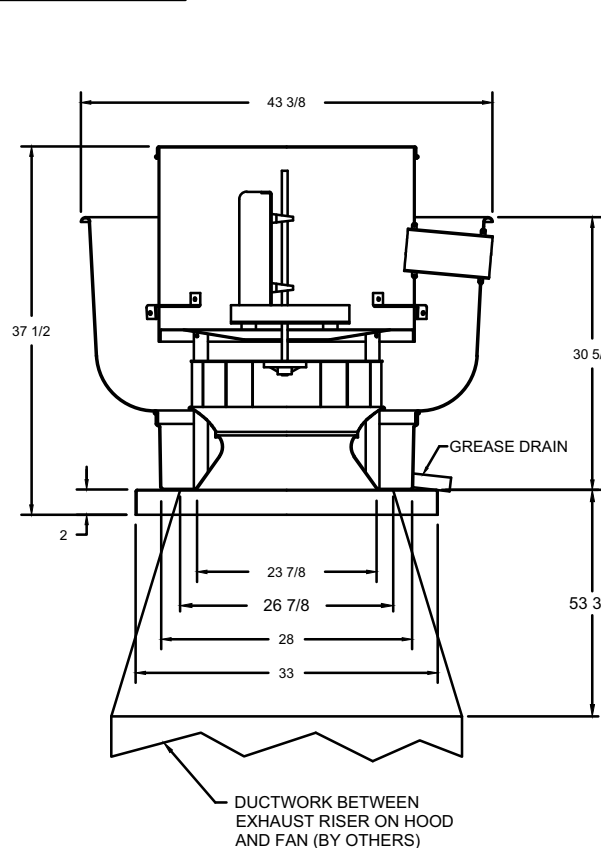
**FAN ACCESSORIES**

FAN UNIT NO.	FAN UNIT TAG	EXHAUST GREASE CLIP	EXHAUST GRAVITY DAMPER	EXHAUST WALL MOUNT	EXHAUST SIDE DISCHARGE	EXHAUST GRAVITY DAMPER	EXHAUST MOTORIZED DAMPER	EXHAUST WALL MOUNT	SUPPLY
1	EF2	YES							
2	EF14	YES							
3							YES		
4	EF36								

**CURB ASSEMBLIES**

NO.	ON FAN	WEIGHT	ITEM	SIZE
1	# 1	48 LBS	Curb	31.500"W x 31.500"L x 20.000"H Vented Hinged
2	# 2	36 LBS	Curb	23.000"W x 23.000"L x 20.000"H Vented Hinged
3	# 3	76 LBS	Curb	31.000"W x 79.000"L x 15.000"H Insulated
4	# 4	18 LBS	Curb	19.500"W x 19.500"L x 12.000"H

FAN #1 NCA24HPFA - EXHAUST FAN (REF.)

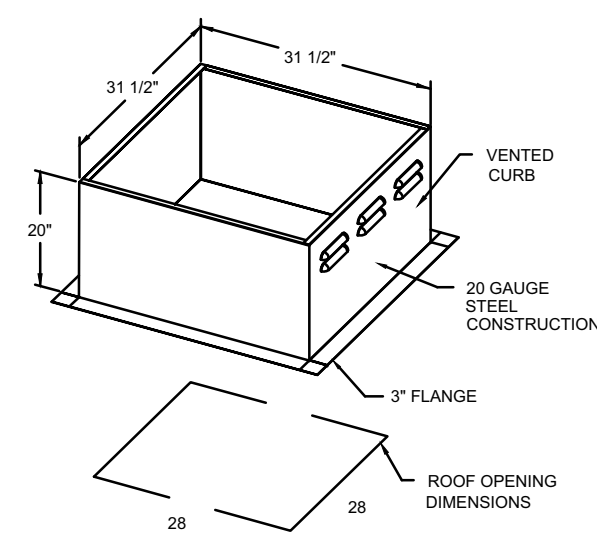


**FEATURES:**  
 - ROOF MOUNTED FANS  
 - RESTAURANT MODEL  
 - UL705 AND UL712  
 - AMCA SOUND AND AIR CERTIFIED  
 - WIRING FROM MOTOR TO DISCONNECT SWITCH  
 - WEATHERPROOF DISCONNECT  
 - HIGH HEAT OPERATION 300°F (149°C)  
 - GREASE CLASSIFICATION TESTING

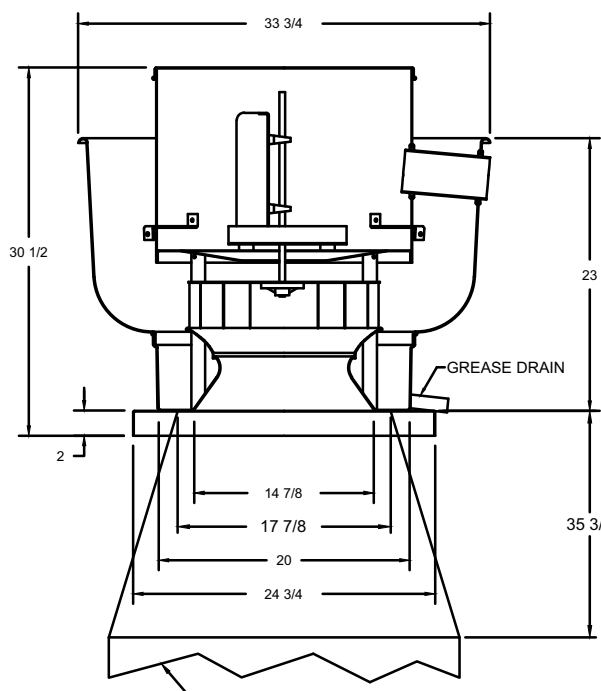
**NORMAL TEMPERATURE TEST:**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM AND WITHOUT ANY DETRIMENTAL EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

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

**OPTIONS:**  
 GREASE BOX  
 EXTRA SET OF BELTS



FAN #2 NCA14HPFA - EXHAUST FAN (REF.)

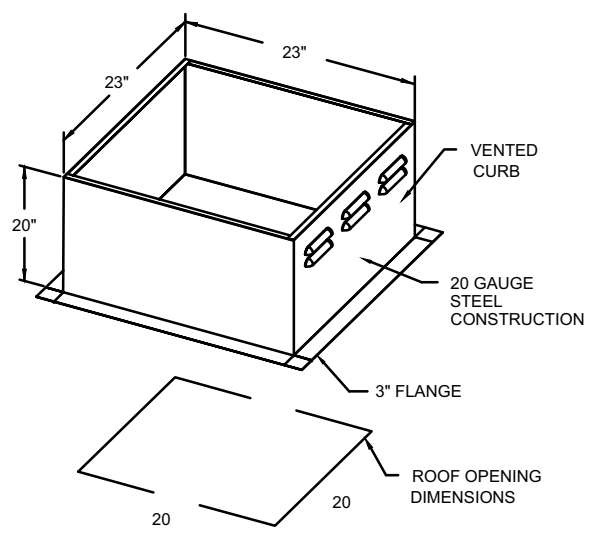


**FEATURES:**  
 - ROOF MOUNTED FANS  
 - RESTAURANT MODEL  
 - UL705 AND UL712  
 - AMCA SOUND AND AIR CERTIFIED  
 - WIRING FROM MOTOR TO DISCONNECT SWITCH  
 - WEATHERPROOF DISCONNECT  
 - HIGH HEAT OPERATION 300°F (149°C)  
 - GREASE CLASSIFICATION TESTING

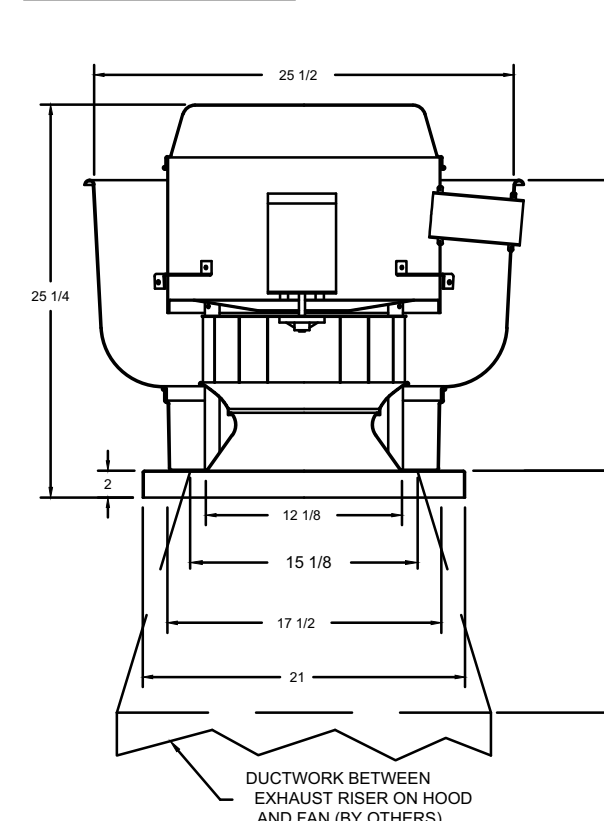
**NORMAL TEMPERATURE TEST:**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM AND WITHOUT ANY DETRIMENTAL EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

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

**OPTIONS:**  
 GREASE BOX  
 EXTRA SET OF BELTS



FAN #3 DUS9HPFA - EXHAUST FAN (REF.)

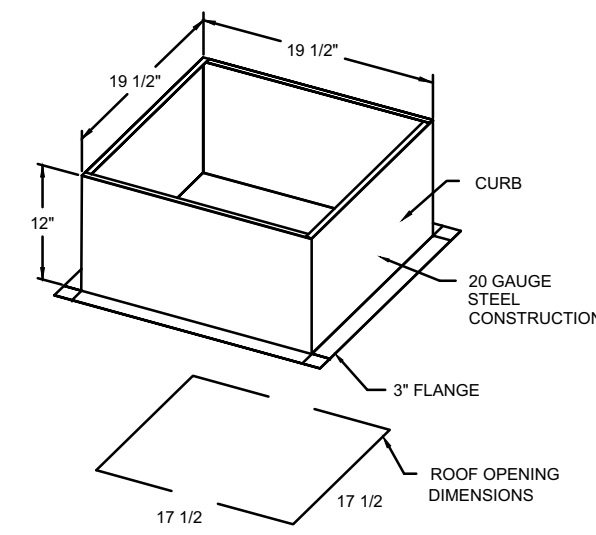


**FEATURES:**  
 - ROOF MOUNTED FANS  
 - RESTAURANT MODEL  
 - UL705 AND UL712  
 - VARIABLE SPEED CONTROL  
 - INTERNAL WIRING  
 - WEATHERPROOF DISCONNECT  
 - THERMAL OVERLOAD PROTECTION (SINGLE PHASE)  
 - HIGH HEAT OPERATION 300°F (149°C)  
 - GREASE CLASSIFICATION TESTING

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

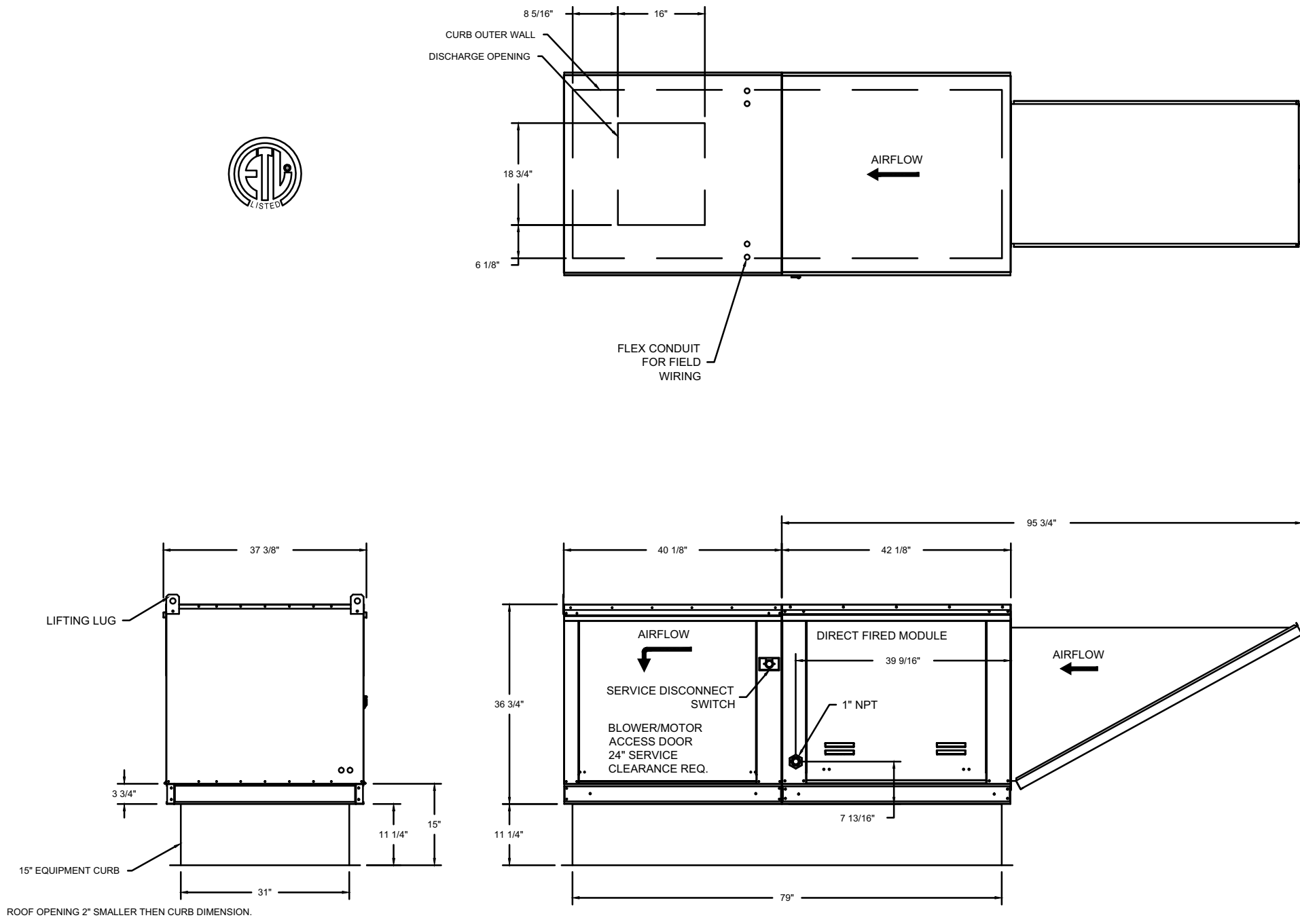
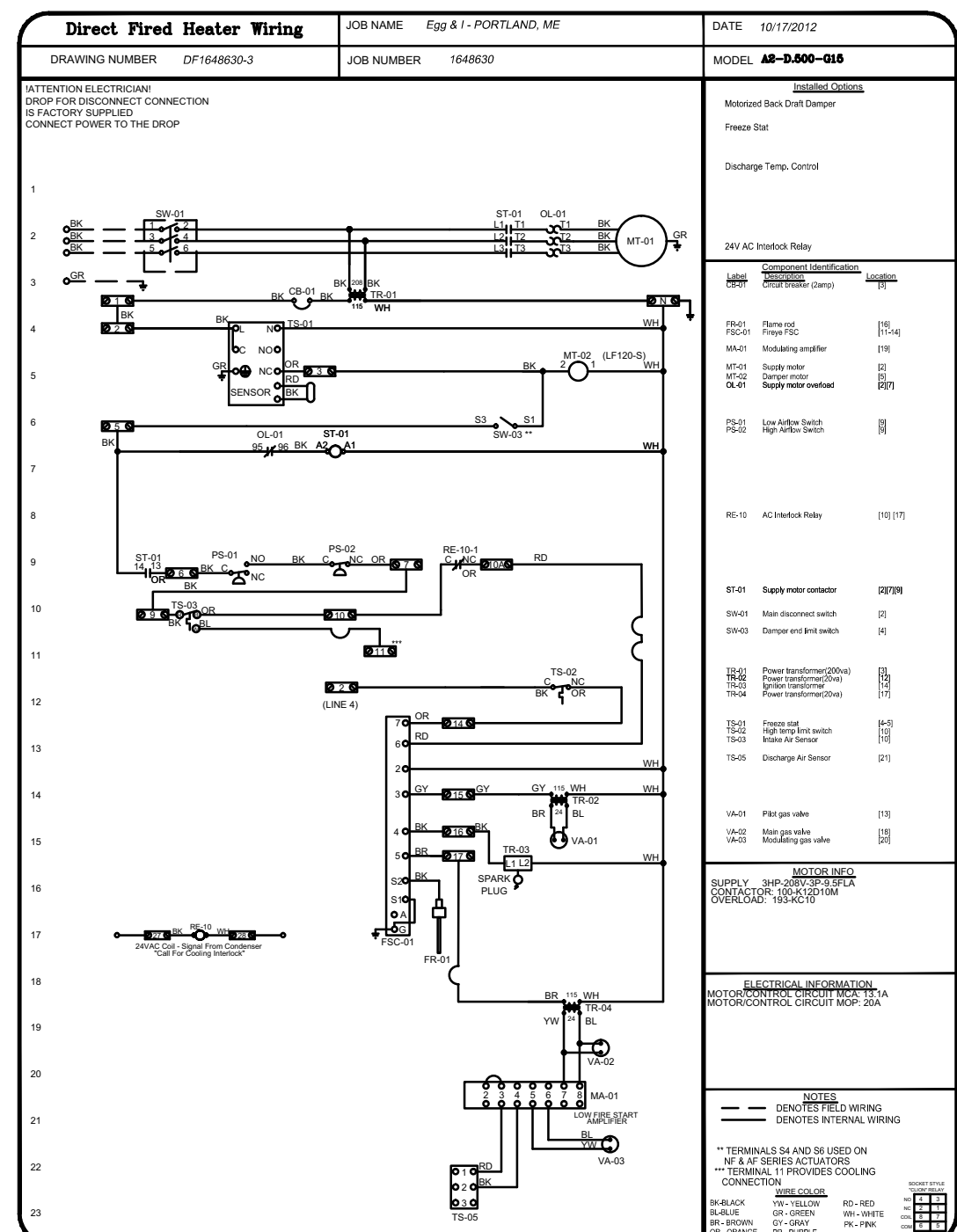
**ABNORMAL FLARE-UP TEST:**  
 EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

**OPTIONS:**  
 1 15-800 DAMPER



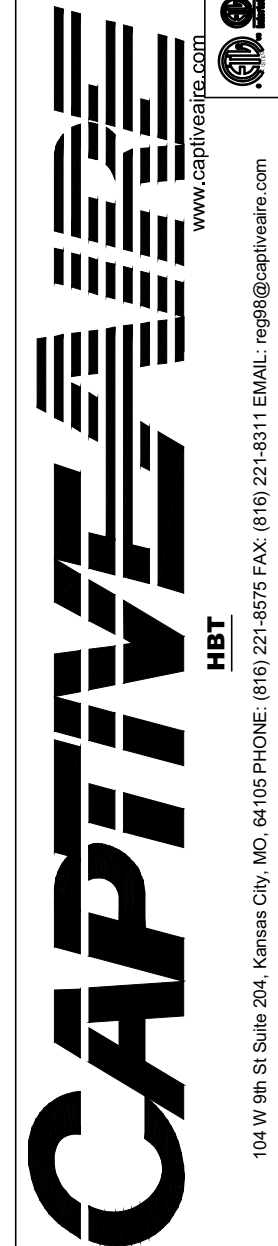
- FAN #3 A2-D-500-G15 - HEATER
- DIRECT GAS FIRED HEATED MAKE UP AIR UNIT WITH 10" BLOWER
  - INTAKE HOOD WITH 2" FOAM FILTER
  - DOWN DISCHARGE - AIR FLOW RIGHT - LEFT
  - COOLING INTERLOCK RELAY - BRASS COIL - 120V CONTACTS. LOCKS OUT BURNER CIRCUIT WHEN AC IS ENERGIZED.
  - GAS PRESSURE GAUGE, 0-30", 2"Ø, 1/4" DIAMETER, 1/4" THREAD SIZE
  - GAS PRESSURE GAUGE, 0-15", 1 1/2" Ø, 1/4" DIAMETER, 1/4" THREAD SIZE
  - MOTORIZED BACK DRAFT DAMPER 22" Ø x 24" FOR SIZE 2 STANDARD & MODULAR DIRECT FIRED HEATERS W/EXTENDED SHAFT, STANDARD GALVANIZED CONSTRUCTION, 3/4" HEAT RANGE, LF 2000 ACTUATOR INCLUDED.
  - FREEZESTAT WITH 1/2" SENSOR. FACTORY SET AT 30°F AND 10 MINUTES.
  - LOW FIRE START. ALLOWS THE BURNER CIRCUIT TO ENERGIZE WHEN THE MODULATOR CONTROL IS IN A LOW FIRE POSITION.
  - CURB DUCT HANGER - 1 1/2" ANGLE IRON FRAME WELDED TO CURB TO SUPPORT STANDARD SIZE DUCTWORK. PRICED PER CURB. ONLY AVAILABLE WHEN CURB ASSEMBLY IS ORDERED.
  - EXTRA SET OF BELTS. ONLY TO BE ORDERED AS FAN OPTION AT TIME FAN IS ORDERED.

SUPPLY SIDE HEATER INFORMATION  
 WINTER TEMPERATURE = 10°F. TEMP. RISE = 55°F.  
 BTU/L CALCULATED ON ACTUAL AIR DENSITY.  
 OUTPUT BTU AT A ALTITUDE OF 0.0 x = 248887  
 INPUT BTU AT A ALTITUDE OF 0.0 x = 248888



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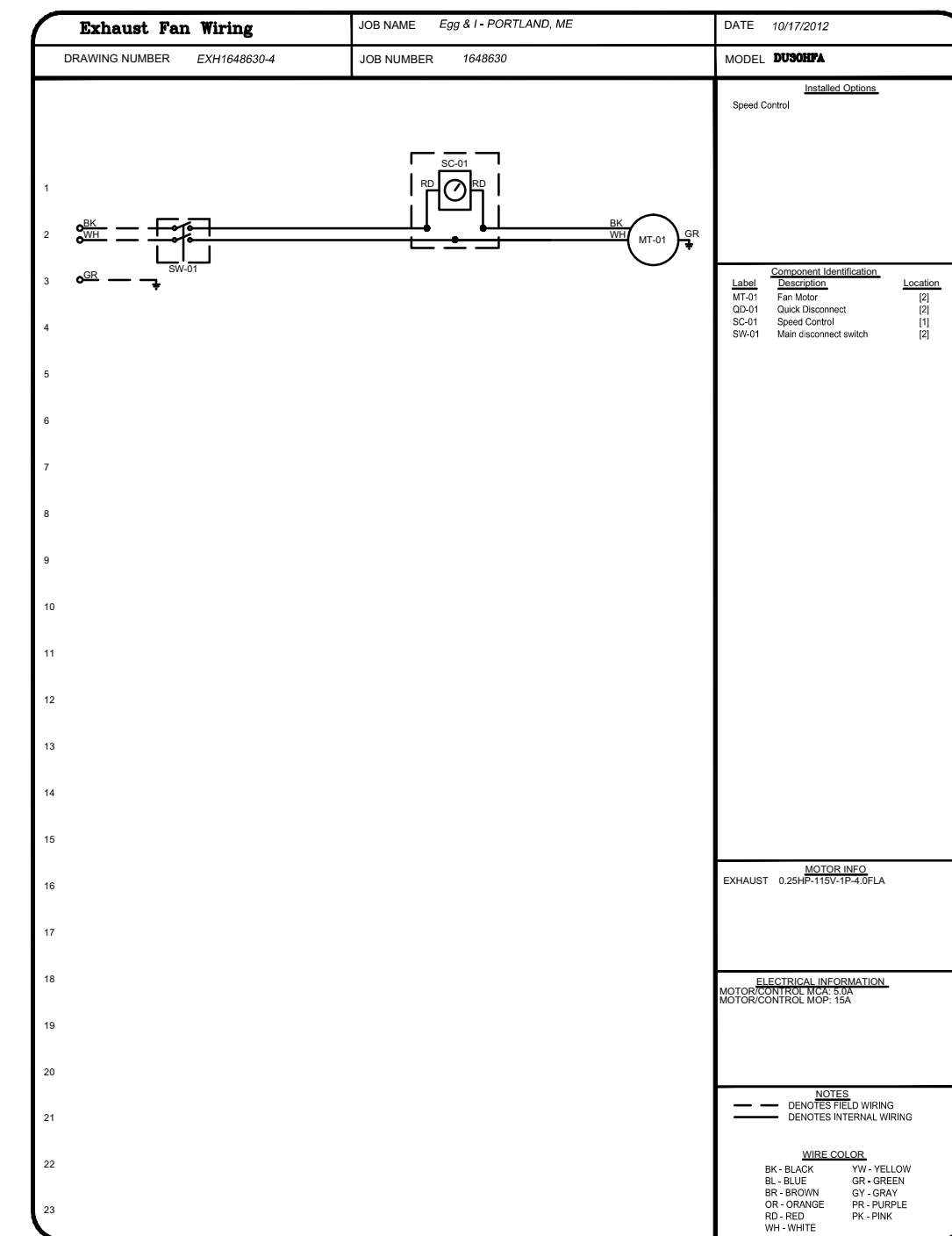
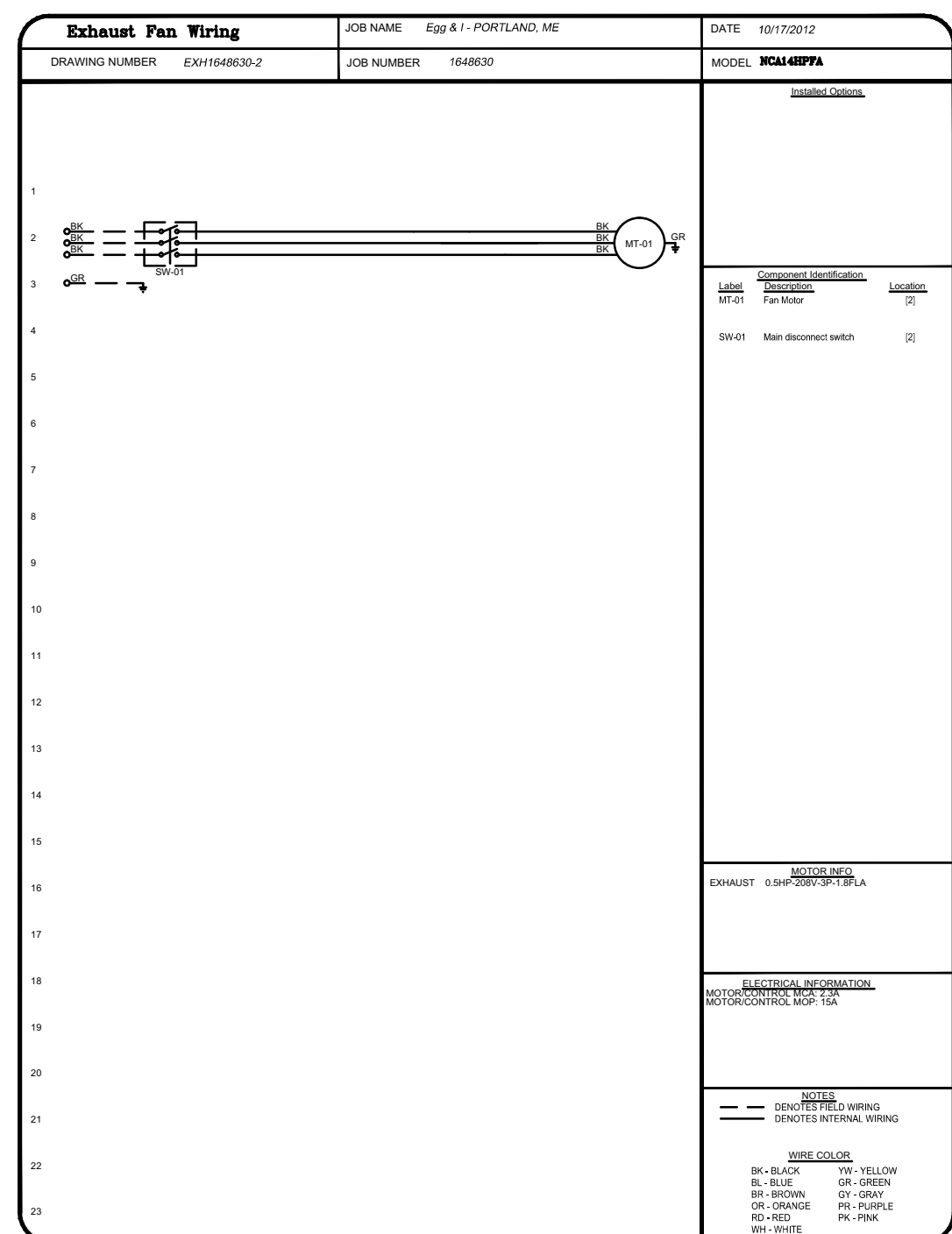
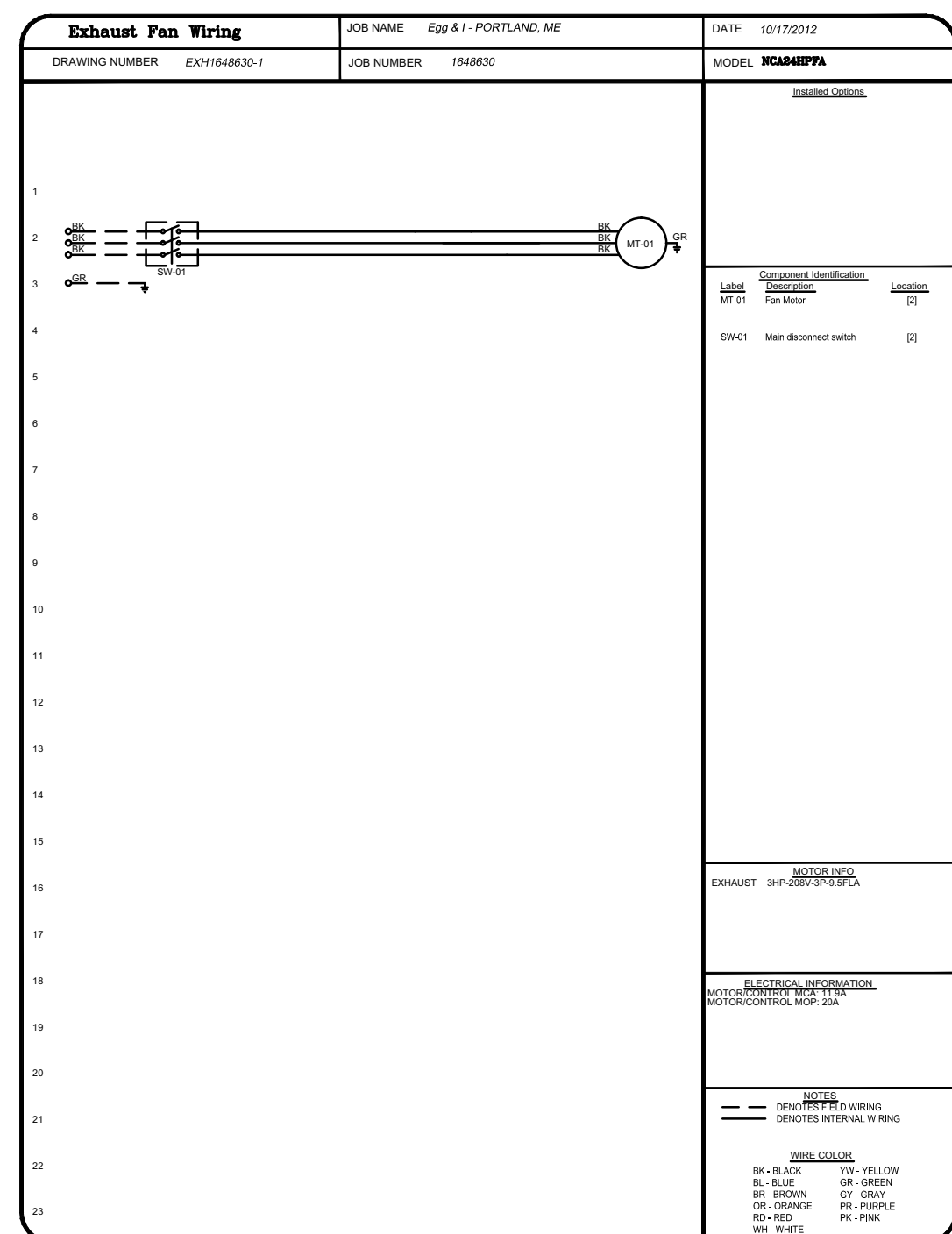
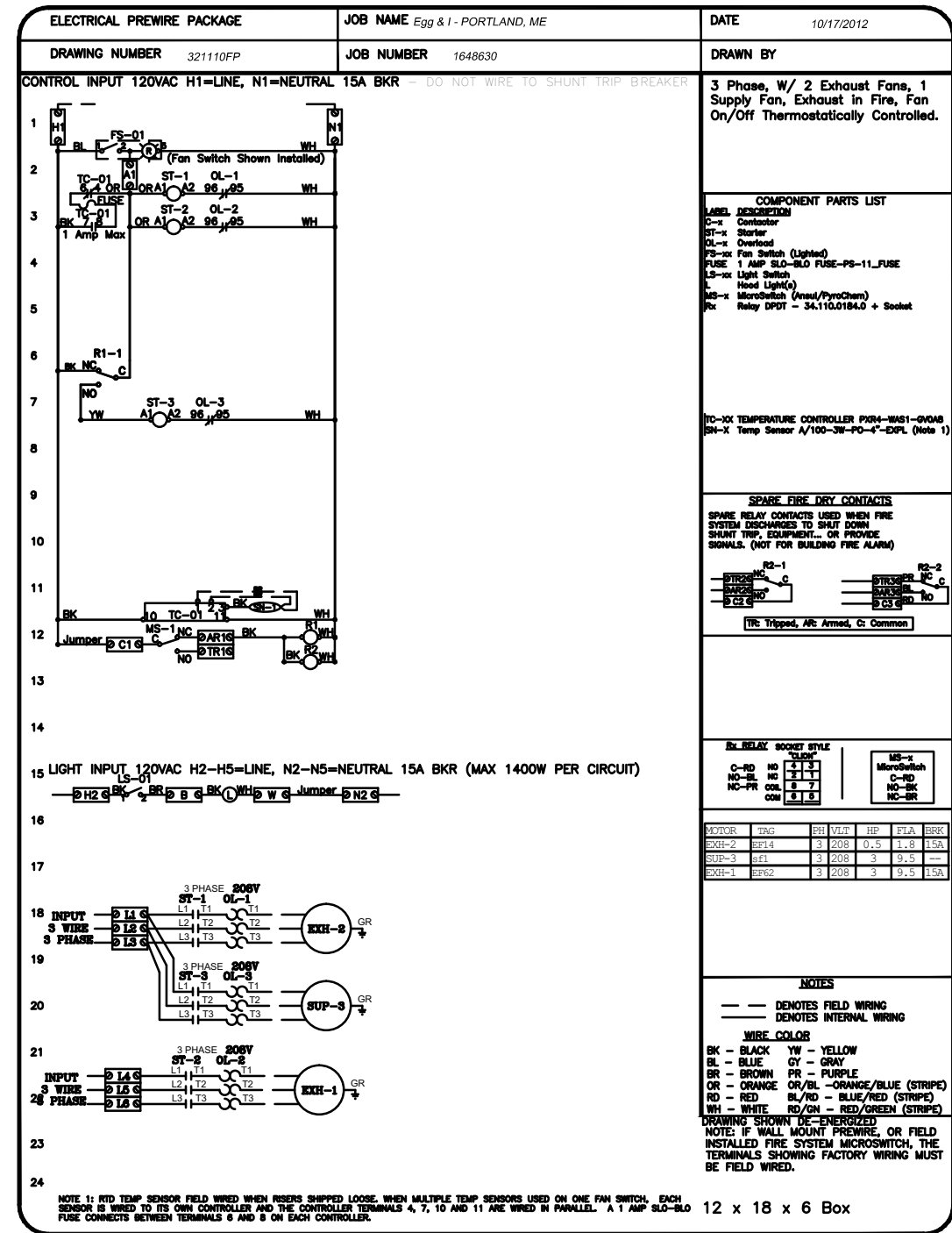
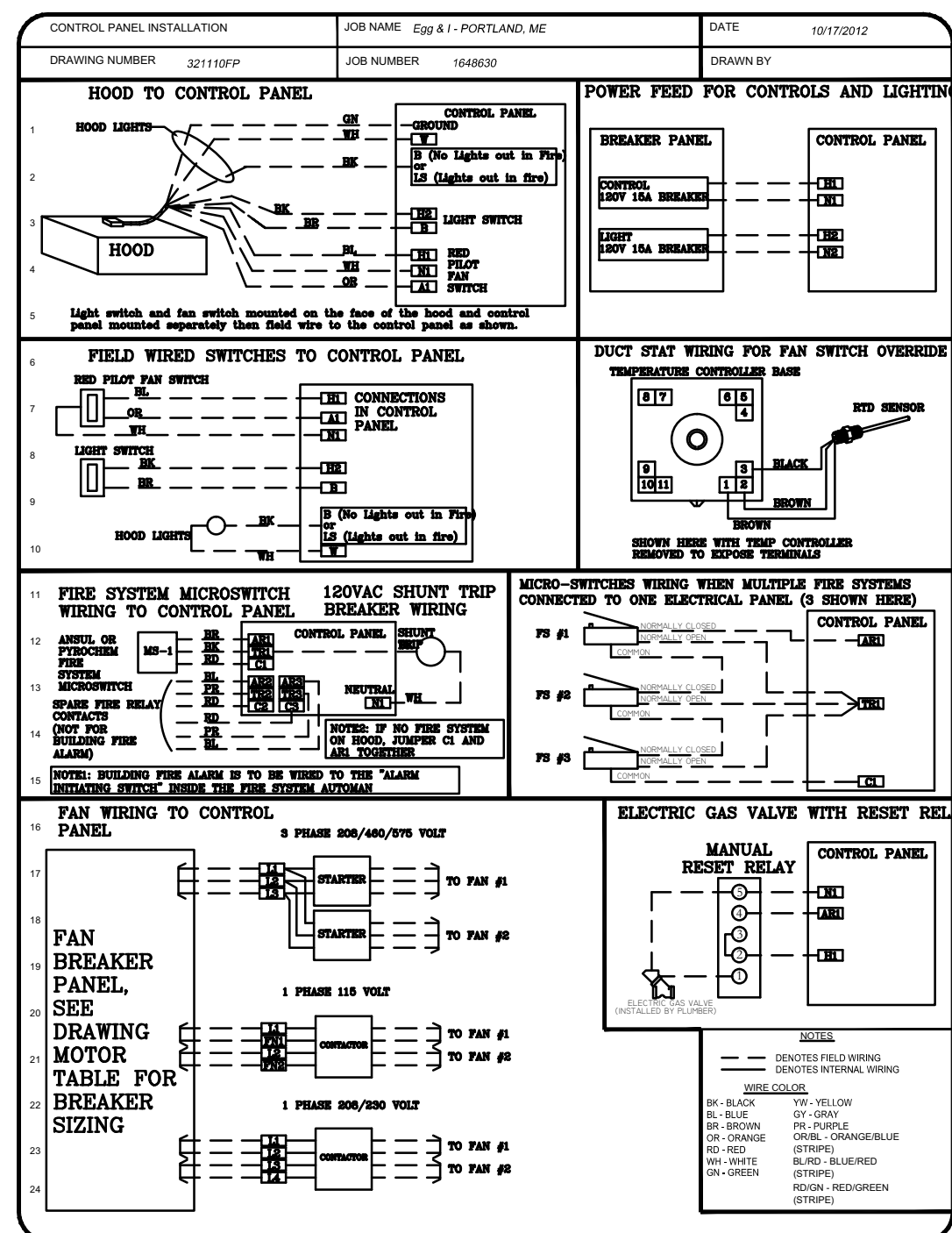
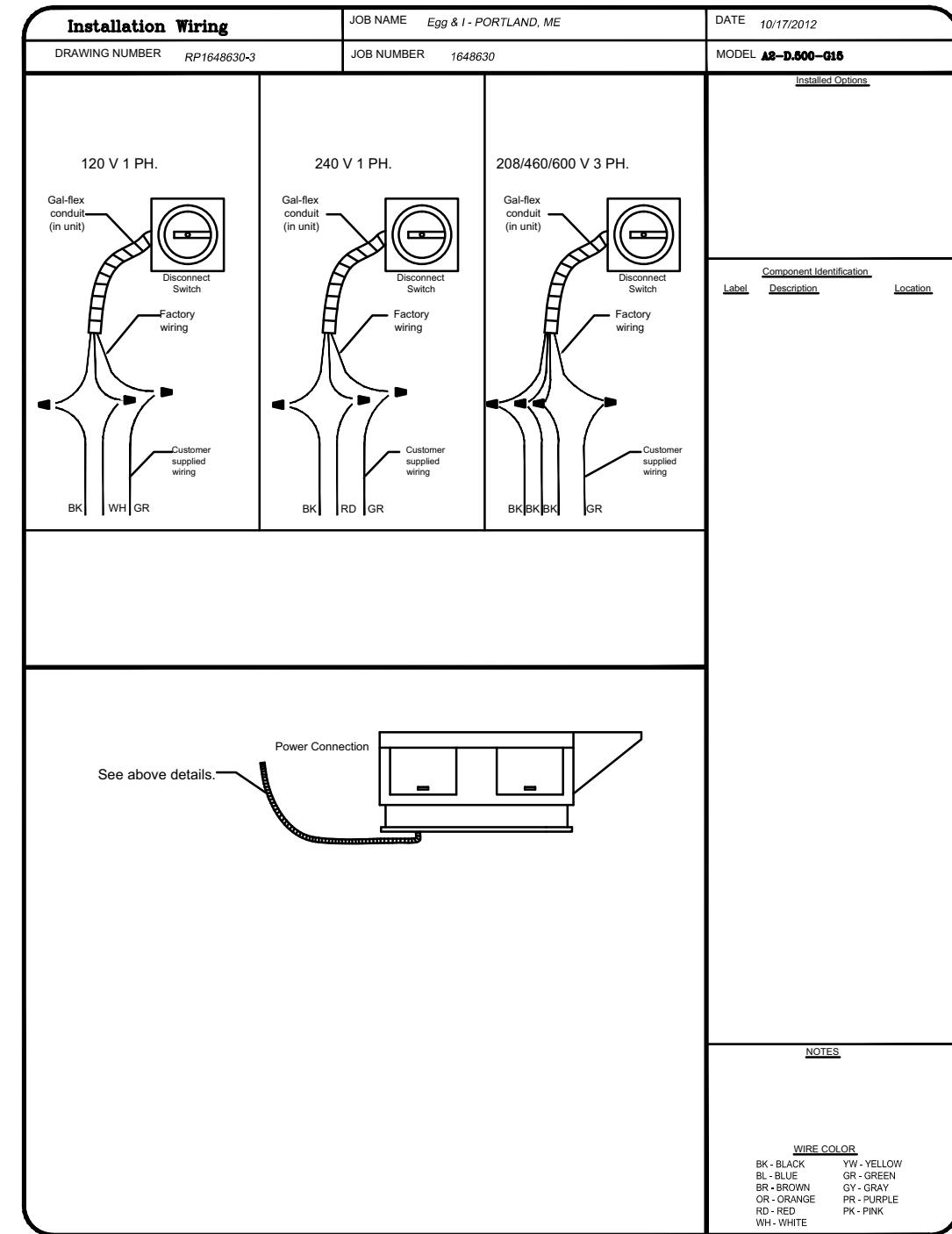
M4

MECHANICAL HOODS



**ELECTRICAL PACKAGES**

NO.	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED				
				LOCATION	QUANTITY		TYPE	G	H.F.	VOLT	FLA
1	EC	321110FP	Utility Cabinet Right	Utility Cabinet Right	1 Light	Exhaust On In Fire, Fans On/Off Thermostatically Controlled	Exhaust	3	0.500	208	1.8
				Hood #2	1 Fan		Exhaust	3	3.000	208	9.5
							Supply	3	3.000	208	9.5



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**MECHANICAL HOODS**

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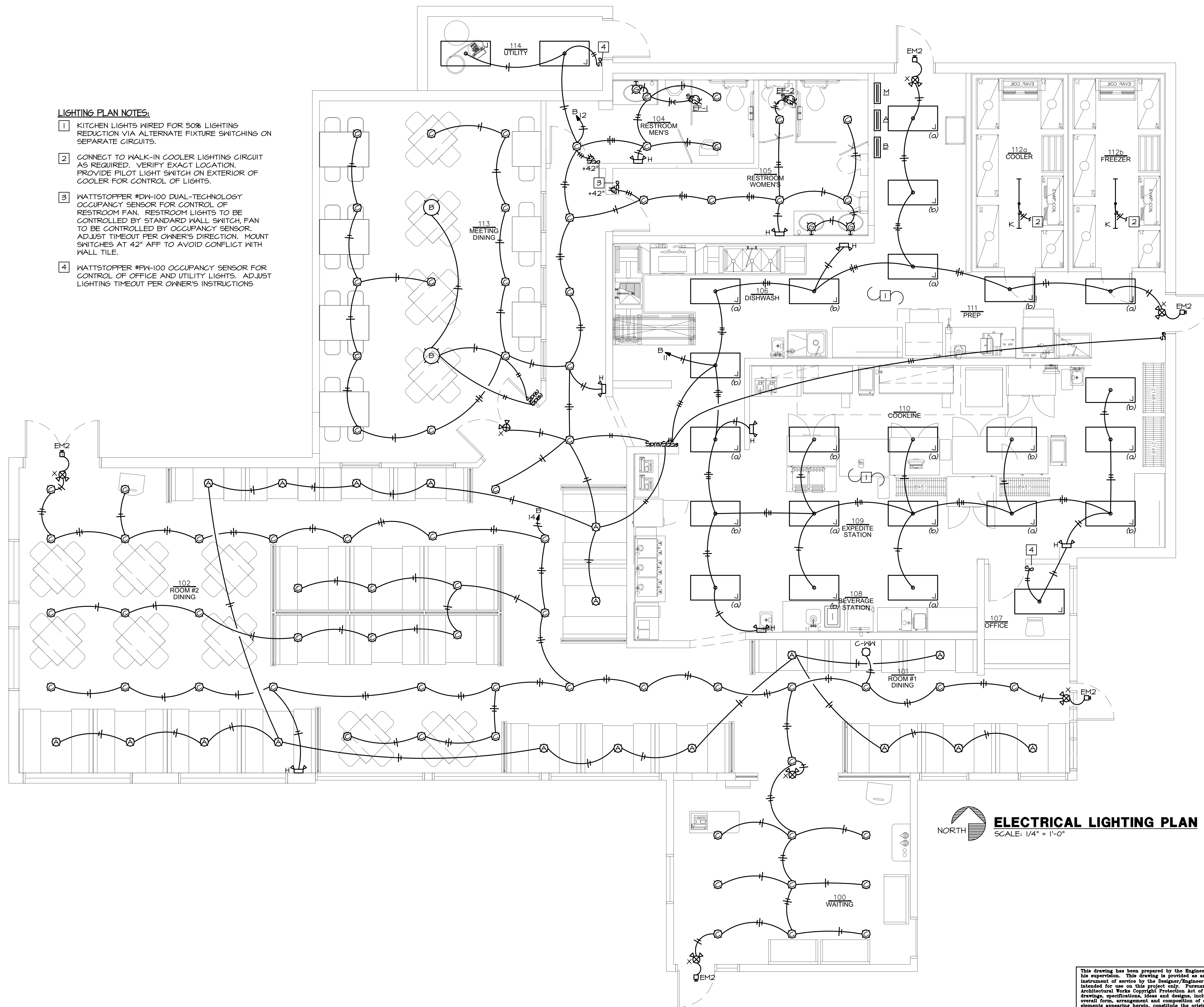
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**LIGHTING PLAN NOTES:**

- 1 KITCHEN LIGHTS WIRED FOR 50% LIGHTING REDUCTION VIA ALTERNATE FIXTURE SWITCHING ON SEPARATE CIRCUITS.
- 2 CONNECT TO WALK-IN COOLER LIGHTING CIRCUIT AS REQUIRED. VERIFY EXACT LOCATION. PROVIDE PILOT LIGHT SWITCH ON EXTERIOR OF COOLER FOR CONTROL OF LIGHTS.
- 3 WATTSTOPPER #DM-100 DUAL-TECHNOLOGY OCCUPANCY SENSOR FOR CONTROL OF RESTROOM FAN. RESTROOM LIGHTS TO BE CONTROLLED BY STANDARD WALL SWITCH. FAN TO BE CONTROLLED BY OCCUPANCY SENSOR. ADJUST TIMEOUT PER OWNER'S DIRECTION. MOUNT SWITCHES AT 42" AFF TO AVOID CONFLICT WITH WALL TILE.
- 4 WATTSTOPPER #PM-100 OCCUPANCY SENSOR FOR CONTROL OF OFFICE AND UTILITY LIGHTS. ADJUST LIGHTING TIMEOUT PER OWNER'S INSTRUCTIONS



**ELECTRICAL LIGHTING PLAN**  
 SCALE: 1/4" = 1'-0"  
 NORTH

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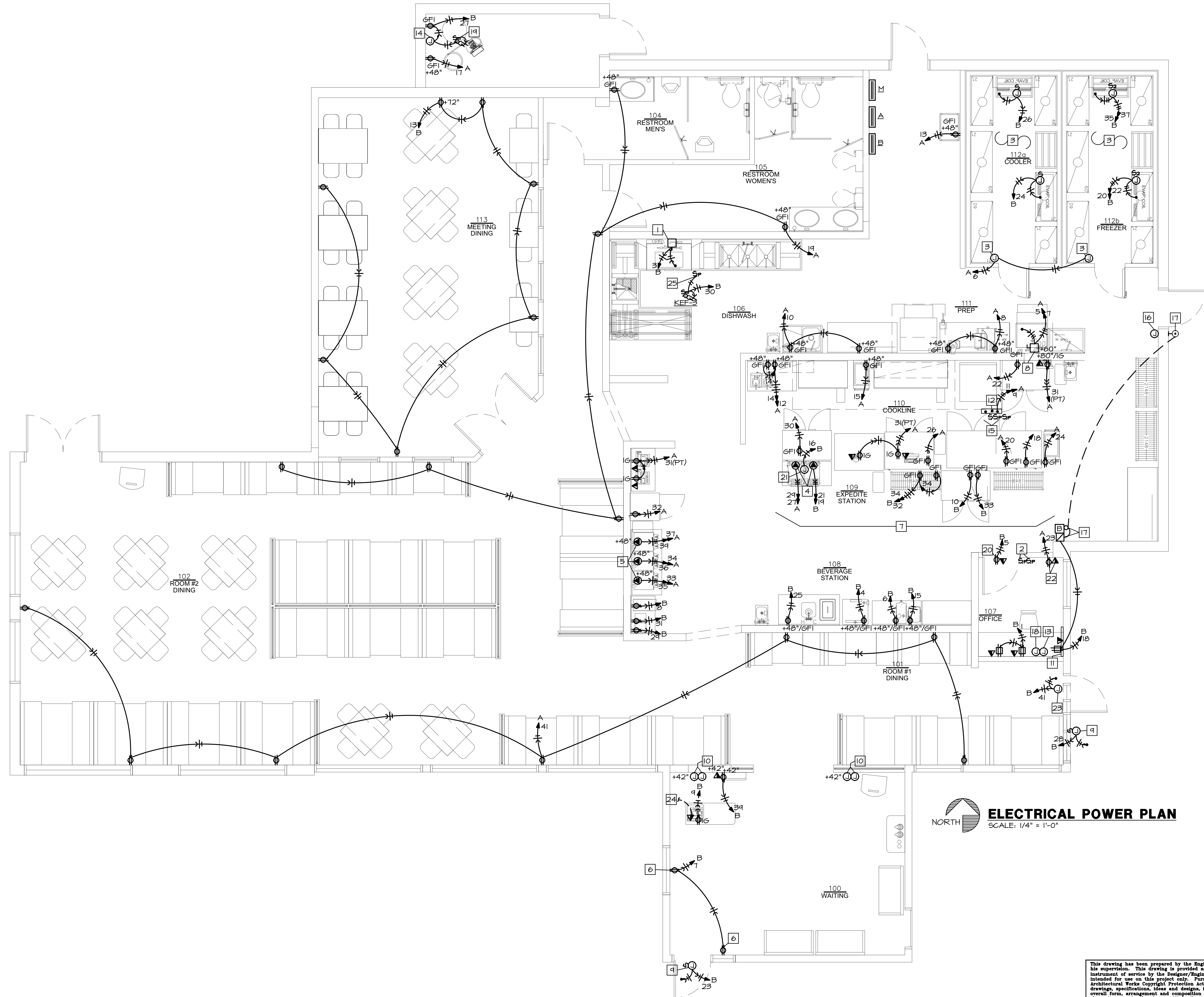
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**ELECTRICAL PLAN NOTES:**

- 1 PROVIDE NEMA 4X DISCONNECT FOR CONNECTION TO DISH MACHINE. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS.
- 2 (2) SINGLE-POLE PILOT LIGHT SWITCHES FOR SIGNAGE CONTROL. CONNECT TO SIGNS AS REQUIRED. PROVIDE NAMEPLATE "EXTERIOR SIGN" ABOVE SWITCHES.
- 3 EXISTING WALK-IN COOLER AND FREEZER TO REMAIN. INTERCEPT EXISTING CIRCUITS AND RECONNECT TO NEW BREAKERS INDICATED. FIELD VERIFY ALL EXISTING CONDITIONS.
- 4 NEMA 6-20R RECEPTACLE FOR CONVEYOR TOASTER. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS.
- 5 NEMA L14-30R OUTLET FOR COFFEE BREWER. VERIFY ELECTRICAL REQUIREMENTS & NEMA CONFIGURATION.
- 6 DUPLEX RECEPTACLE MOUNTED FLUSH IN CEILING ABOVE GLASS FOR DISPLAY SIGNAGE PER NEC. ROUTE CIRCUIT TO PANEL VIA TIMECLOCK (SEE NOTE 2).
- 7 ALL DEVICES ON THIS PRELINE TO BE INSTALLED ON STRUCTURE MOUNTED BELOW CEILING PROVIDED BY KITCHEN EQUIP. SUPPLIER WITH WIRING RUN ABOVE CEILING. NO CORDS OR PLUGS SHALL BE INSTALLED ABOVE THE CEILING.
- 8 CONNECT TO ICE MACHINE AS REQUIRED. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS.
- 9 JUNCTION BOX WITH TOGGLE DISCONNECT PER NEC FOR TENANT SIGNAGE. VERIFY EXACT LOCATION, CONNECT TO SIGN AS REQUIRED. ROUTE CIRCUIT TO PANEL INDICATED VIA PILOT LIGHT SWITCH IN OFFICE, SEE NOTE 2.
- 10 PROVIDE (2) JUNCTION BOXES WITH 1/2" C TO ABOVE ACCESSIBLE CEILING AT LOCATION INDICATED FOR MUSIC SYSTEM CONTROLS
- 11 4' PLYWOOD TELEPHONE BACKBOARD MOUNTED BELOW DESK WITH #6CU BOND TO BUILDING ELECTRODE SYSTEM AND 1" C TO EXISTING BUILDING TELEPHONE SERVICE ENTRANCE.
- 12 EXHAUST HOOD CONTROL PANEL. VERIFY EXACT LOCATION. CONNECT TO FANS AS REQUIRED. SEE WIRING DIAGRAM ON MECHANICAL SHEETS FOR MORE INFORMATION.
- 13 (2) 6ANG J-BOX WITH (2) 3/4" C TO ABOVE CEILING.
- 14 CONNECT TO HOT WATER HEATER CONTROLS AS REQUIRED. HEATER CONTROL MUST BE A DEDICATED CIRCUIT PER MANUFACTURER'S SPECIFICATIONS.
- 15 PROVIDE TOGGLE SWITCH FOR HOOD LIGHTS AND (2) PILOT-LIGHT SWITCHES FOR HOOD FANS. CONNECT TO HOOD CONTROL PANEL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE LABEL ON EACH SWITCH.
- 16 PROVIDE JUNCTION BOX WITH 3/4" C TO ABOVE ACCESSIBLE CEILING FOR HOOD FIRE SUPPRESSION PULL STATION. COORDINATE EXACT LOCATION WITH HOOD SUPPLIER.
- 17 PROVIDE NITONE #BK140SLPB OR EQUAL COMMERCIAL DOOR CHIME AND PUSHBUTTON. VERIFY LOCATION OF PUSHBUTTON WITH OWNER.
- 18 ALL DATA AND PHONE SHALL BE ROUTED TO THIS LOCATION.
- 19 CONNECT TO HOT WATER HEATER RE-CIRC PUMP AS REQUIRED. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS.
- 20 DEVICES MOUNTED ABOVE DOOR. COORDINATE EXACT LOCATION WITH OWNER.
- 21 CONNECT TO CEILING MOUNTED HEAT LAMPS PER MANUFACTURER'S INSTRUCTIONS. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS.
- 22 DUPLEX RECEPTACLE AND DATA OUTLET 12" BELOW CEILING FOR MUSIC SYSTEM. COORDINATE EXACT LOCATION IN FIELD.
- 23 JUNCTION BOX ABOVE ACCESSIBLE CEILING FOR CONNECTION TO POWER-OPERATED DOOR. VERIFY EXACT LOCATION & ELECTRICAL REQUIREMENTS WITH DOOR SUPPLIER.
- 24 3/4" IN FLOOR TO NEAREST WALL, THEN UP TO ABOVE ACCESSIBLE CEILING FOR PHONE/DATA TO HOSTESS STATION. VERIFY EXACT LOCATION. COORDINATE ALL UNDERFLOOR WORK WITH LANDLORD.
- 25 PILOT LIGHT SWITCH ON FACE OF HOOD FOR EXHAUST FAN CONTROL.



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

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ISSUE DATE 11/01/12	POWER PLAN
PROJECT NUMBER 2012-42	
SHEET NUMBER E2	



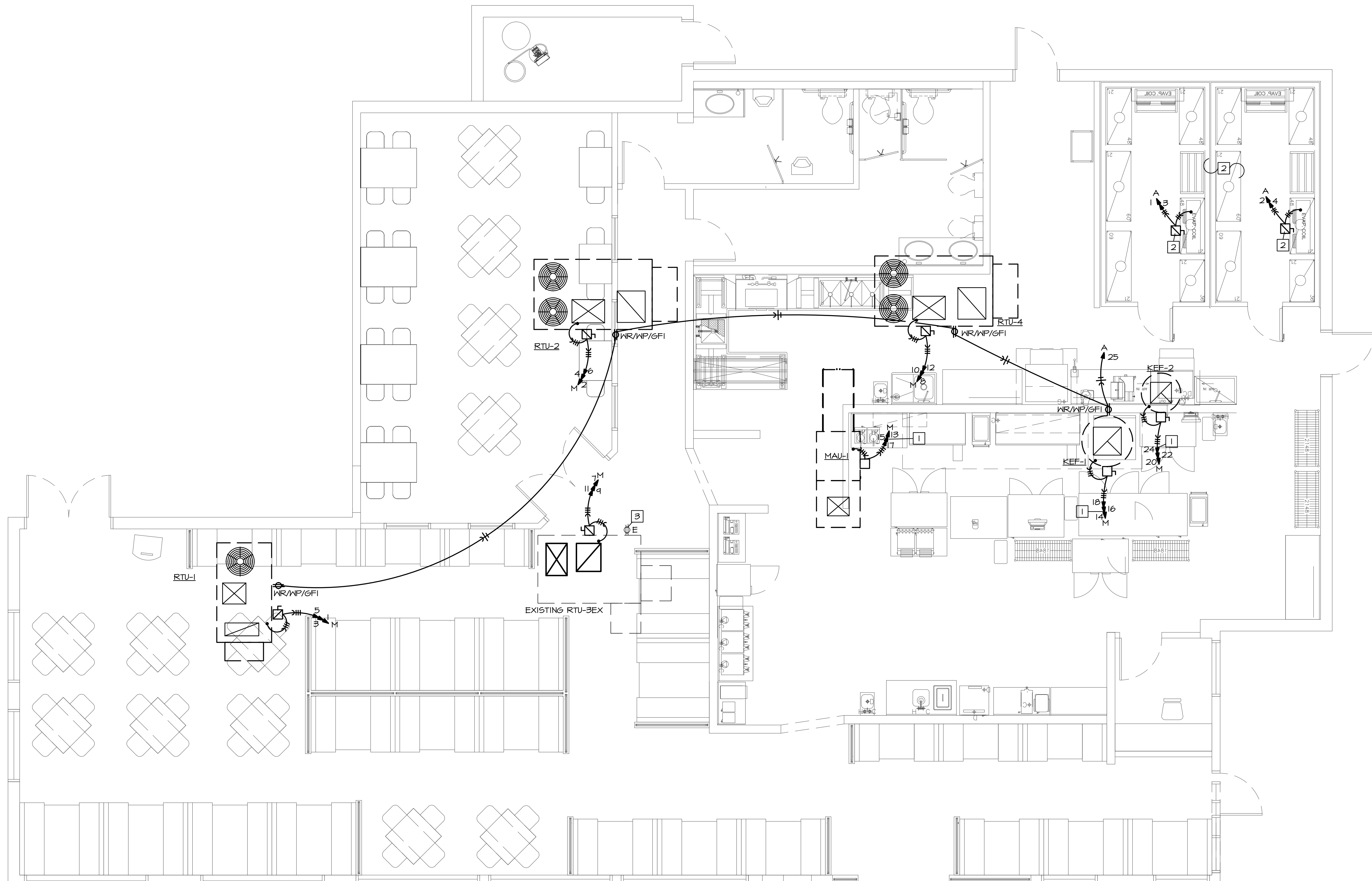
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REVISIONS	ELECTRICAL ROOF PLAN
ISSUE DATE 11/01/12	ELECTRICAL ROOF PLAN
PROJECT NUMBER 2012-42	
SHEET NUMBER <b>E3</b>	



- ELECTRICAL PLAN NOTES:**
- 1 ROUTE CIRCUIT TO PANEL VIA HOOD CONTROL PANEL. COORDINATE ALL REQUIREMENTS WITH HOOD SUPPLIER.
  - 2 EXISTING WALK-IN COOLER AND FREEZER CONDENSING UNITS TO REMAIN. INTERCEPT EXISTING CIRCUITS AND RECONNECT TO BREAKERS INDICATED. FIELD VERIFY ALL EXISTING CONDITIONS.
  - 3 VERIFY EXISTING WP/GFI RECEPTACLE ON ROOF. CONNECT TO CIRCUIT 25 ON PANEL A ALONG WITH OTHER WP/GFI RECEPTACLES. INSTALL NEW AS REQUIRED.

**ELECTRICAL ROOF PLAN**  
SCALE: 1/4" = 1'-0"  
NORTH

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ELECTRICAL SYMBOLS LIST

CIRCUITING & NOTES

- +48" SPECIAL MOUNTING HEIGHT FOR ASSOCIATED DEVICE. (CENTERLINE OF DEVICE)
GFI GROUND FAULT INTERRUPTER DEVICE.
WP WEATHERPROOF ENCLOSURE ON DEVICE.
WR WEATHER-RESISTANT LISTED DEVICE.
IG ISOLATED GROUND DEVICE.
EM EMERGENCY BATTERY BACKUP
[ ] ELECTRICAL FLOOR PLAN NOTE WITH DESIGNATION.
Lp CONDUIT CONCEALED WHERE POSSIBLE OR AS NOTED, ARROWS INDICATE HOME RUN TO PANEL. CIRCUIT NUMBERS INDICATED.
#12 WIRE IN CONDUIT, UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION.
GROUNDING CONDUCTOR, #12 WIRE UNLESS NOTED OTHERWISE ON DRAWINGS OR SPECIFICATION.
CONDUIT ROUTED UNDER FLOOR.

LIGHTING

- EMERGENCY THIN HEAD LIGHT FIXTURE.
EXIT LIGHT WITH DIRECTIONAL ARROWS INDICATED.
FLUORESCENT STRIP FIXTURE WITH TYPE DESIGNATION.
FLUORESCENT FIXTURE WITH TYPE DESIGNATION.
NIGHT LIGHT, CONNECT TO UNSWITCHED CIRCUIT.
CEILING OR RECESSED FIXTURE WITH TYPE DESIGNATION.
WALL MOUNTED FIXTURE WITH TYPE DESIGNATION.

POWER DEVICES

- DUPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE.
FOURPLEX RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE.
SIMPLEX (SINGLE) RECEPTACLE, BOTTOM OF BOX AT 16" AFF, UNLESS NOTED OTHERWISE.
DEVICE MOUNTED ABOVE COUNTER AND/OR SPLASH GUARD.
HEAVY DUTY OUTLET - NEMA CONFIGURATION SIZE PER EQUIPMENT MANUFACTURER'S RECOMMENDATION.
PANEL BOARD, TOP OF BOX 6'-0" AFF.
JUNCTION BOX.
NON-FUSED DISCONNECT SWITCH.
FUSED DISCONNECT SWITCH.
MOTOR WITH DESIGNATION.

CONTROLS

- S SINGLE POLE WALL SWITCH, TOP OF BOX AT 48" AFF.
Sp SINGLE POLE WALL SWITCH WITH PILOT LIGHT.
So WALL MOUNTED OCCUPANCY SENSOR SWITCH.
Sdim DIMMER SWITCH, (MULTIPLY X BY 100 TO DETERMINE THE SIZE OF DIMMER). DO NOT 600V DIMMERS. DIMMERS TO BE LUTRON "NOVA TT" SERIES.
S2 2-POLE SWITCH
Sm MANUAL MOTOR STARTER WITH OVERLOADS.

COMMUNICATIONS

- COMMUNICATIONS OUTLET WITH 3/4" CONDUIT STUBBED UP TO ABOVE ACCESSIBLE CEILING, BOTTOM OF BOX AT 16", UNLESS NOTED OTHERWISE. PROVIDE WITH PULL STRINGS.
DATA/TELEPHONE

Table with columns: NEW PANEL: A, VOLTS/PHASE/WIRE, LOCATION: OFFICE, MOUNTING: SURFACE, BUS: 225A, MAIN MLO, I.C. 22,000 RMS 5YS AMPS, FEEDER: SEE RISER DIAGRAM. Includes grid numbers 1-42 and descriptions like HALL-IN COOLER, ICE MACHINE, HOOD LIGHTS.

Table with columns: NEW PANEL: B, VOLTS/PHASE/WIRE, LOCATION: OFFICE, MOUNTING: SURFACE, BUS: 225A, MAIN MLO, I.C. 22,000 RMS 5YS AMPS, FEEDER: SEE RISER DIAGRAM. Includes grid numbers 1-42 and descriptions like OFFICE RECEPTACLES, DISH MACHINE, OFFICE RECEPTS.

GENERAL NOTES:

- 1. COORDINATE ALL WORK WITH OTHER TRADES AND EXISTING CONDITIONS AS REQUIRED TO PROPERLY INSTALL ALL SYSTEMS AS INTENDED, WITHIN THE CONFINES OF THE SPACES AVAILABLE, AND WITHOUT INTERFERENCES.
2. WHERE CONDUIT IS SHOWN UNDERFLOOR, SAWCUT EXISTING FLOOR SLAB AS REQUIRED FOR INSTALLATION OF UNDERFLOOR CONDUIT. NO STRUCTURAL ELEMENTS SHALL BE SAWCUT. WHEN SAWCUTTING, PATCH FLOOR TO MATCH EXISTING SURFACE AS REQUIRED.
3. IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO PROPERLY BALANCE ALL BRANCH CIRCUITS BETWEEN THE PHASES OF THE SYSTEM REGARDLESS OF CIRCUITING INDICATED.
6. DISCONNECTS FOR ROOFTOP AND CONDENSING UNITS TO BE PROVIDED BY MECHANICAL CONTRACTOR, INSTALLED BY ELECTRICAL CONTRACTOR. ALL OTHER DISCONNECTS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
7. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LIGHT FIXTURES AND DEVICES.
8. REFER TO ELECTRICAL SPECIFICATIONS ELSEWHERE IN THESE DRAWINGS FOR FURTHER INFORMATION AND REQUIREMENTS. GENERAL CONDITIONS AND SUMMARY OF WORK ALSO DIRECTLY APPLY TO THIS WORK.
11. ALL MATERIALS EXPOSED WITHIN PLENUMS SHALL BE NONCOMBUSTIBLE OR SHALL HAVE A FLAME SPREAD INDEX OF NOT MORE THAN 25 AND A SMOKE-DEVELOPED INDEX OF NOT MORE THAN 50 WHEN TESTED IN ACCORDANCE WITH ASTM E 84.
12. ALL GFI RECEPTACLES SHALL HAVE DEDICATED NEUTRAL TO PREVENT NUISANCE TRIPS.
13. KITCHEN EQUIPMENT - VERIFY ALL ELECTRICAL REQUIREMENTS AND ROUGH-IN LOCATION PRIOR TO WORK.

LIGHT FIXTURE SCHEDULE:

Table with columns: ID, TYPE, MFG., STYLE/PRODUCT #, FINISH, LAMP TYPE/WATTAGE. Lists various light fixtures like pendant, chandelier, recessed downlight, emergency light, etc.

ALL LIGHT FIXTURES WITH MEDIUM-BASE SOCKETS SHALL BE PROVIDED BY THE MANUFACTURER WITH A LABEL INDICATING MAXIMUM WATTAGE TO MATCH THE LAMPING SCHEDULE FOR ENERGY CODE COMPLIANCE. ALL LAMPS SHALL BE BY PHILIPS - NO EXCEPTIONS

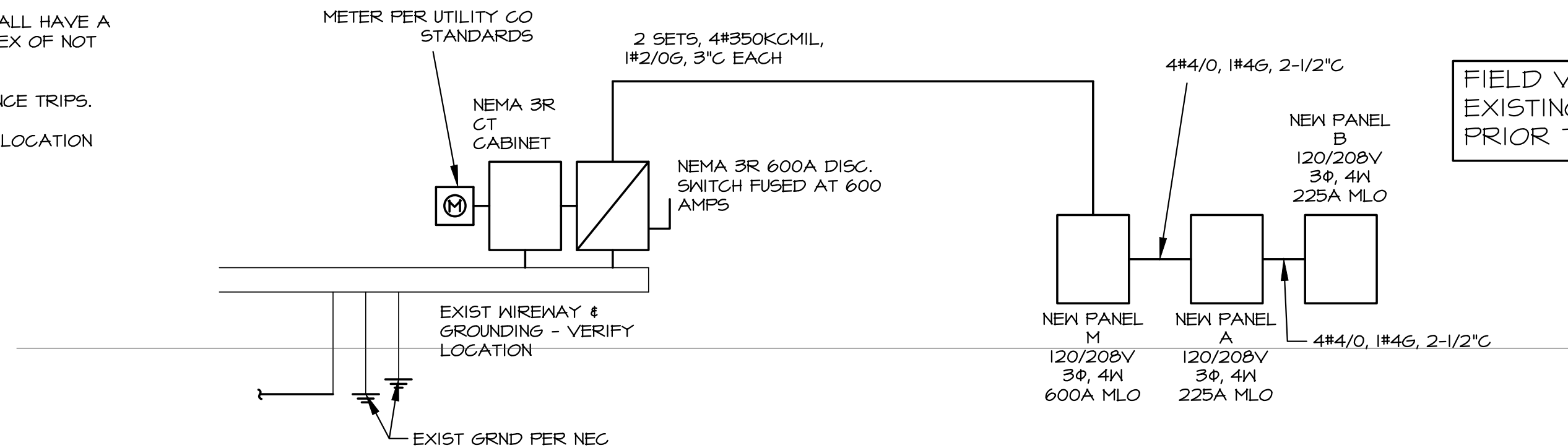
Table with columns: NEW PANEL: M, VOLTS/PHASE/WIRE, LOCATION: OFFICE, MOUNTING: SURFACE, BUS: 600A, MAIN 600A MLO, I.C. VERIFY. Includes grid numbers 1-30 and descriptions like RTU-1, RTU-3, MAU-1.

PANEL M ELECTRICAL FEEDER CALCULATIONS

Table with columns: TYPE, CONNECTED, FACTOR, DEMAND, CODE REF. Lists calculations for Lighting, Receptacles, HVAC, Misc, Largest Motor, Water Heater, Signage, Kitchen Equipment, Total kVA, and Amps.

PANEL A & B ELECTRICAL FEEDER CALCULATIONS

Table with columns: TYPE, CONNECTED, FACTOR, DEMAND, CODE REF. Lists calculations for Lighting, Receptacles, Misc, HVAC, Water Heater, Signage, Kitchen Equipment, Total kVA, and Amps.



ELECTRICAL RISER DIAGRAM SCALE: NONE

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Table with columns: REVISIONS, ISSUE DATE (11/01/12), PROJECT NUMBER (2012-42), SHEET NUMBER (E4).

E4