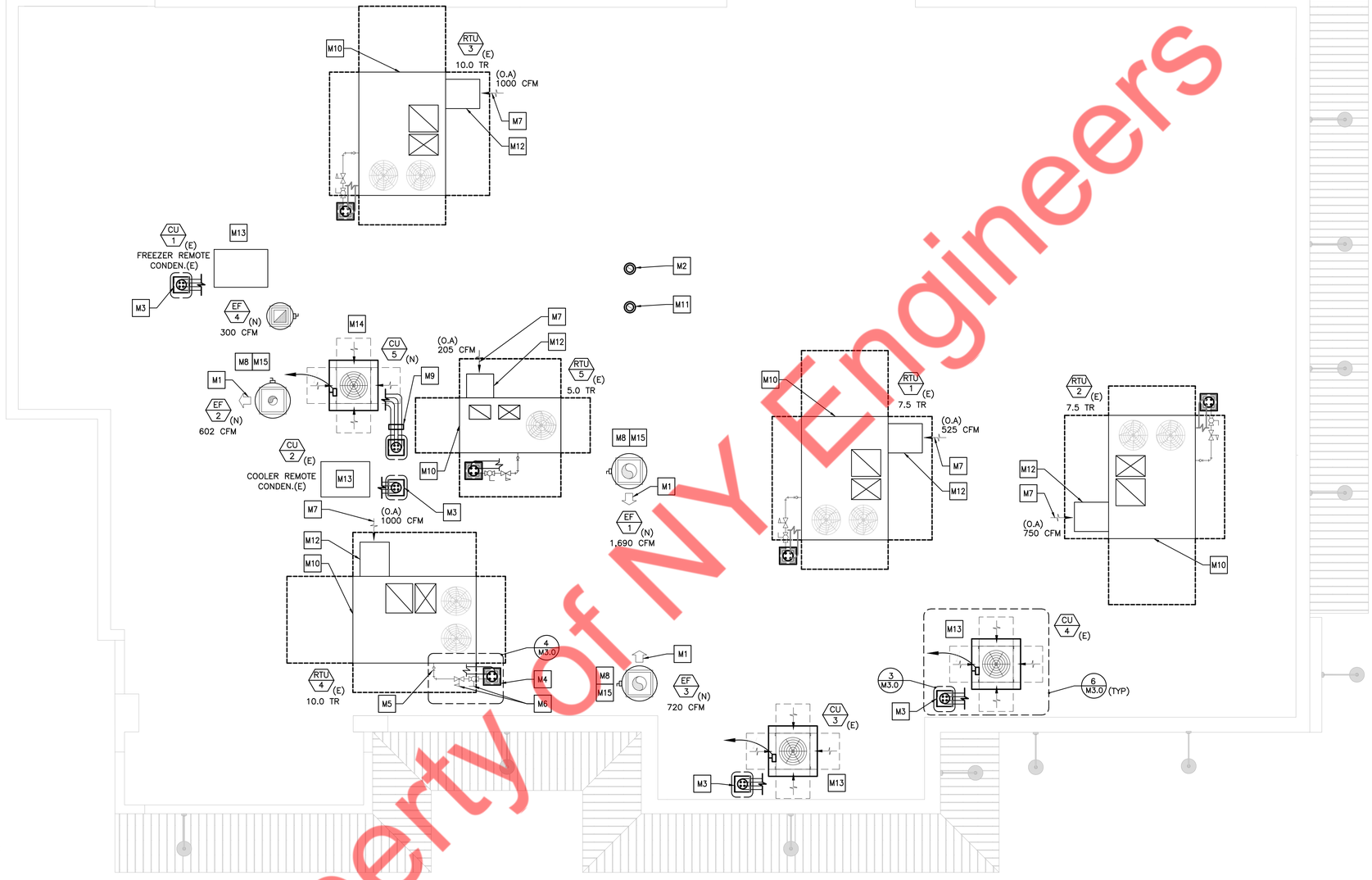


1 M1.0 ROOF MECHANICAL PLAN
1/4"=1'-0"

DRAWING NOTES

1. ROOFTOP EQUIPMENT LOCATIONS SHOWN ARE GENERAL. ACTUAL LOCATIONS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS.
2. ROOF OPENINGS FOR NEW EXHAUST FANS SHALL BE COORDINATED WITH THE MANUFACTURER AND STRUCTURAL ENGINEER.
3. ROOF OPENINGS FOR PIPE PORTALS SHALL ONLY BE LARGE ENOUGH TO ALLOW PIPE AND CONDUIT PENETRATIONS. PIPE PORTAL CURB SHALL BE FILLED WITH AS MUCH BATT INSULATION AS POSSIBLE.
4. PRIOR TO INSTALLING THE TOP OF THE EQUIPMENT PLATFORM, INSIDE OF THE PLATFORM SHALL BE INSULATED WITH AS MUCH BATT INSULATION AS POSSIBLE.

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

KEYED NOTES

M1 ARROW INDICATES DIRECTION OF EXHAUST FAN HINGE SWING (TYP.)

M2 6"ø ALUMINUM EXHAUST DUCT FROM EXHAUST FAN (EF-5). PROVIDE PORTALS PLUS PLASTI-FLASH WITH C-126 CAP (OR EQUAL) FOR ROOF PENETRATION. TERMINATE DUCT AT MIN. OF 24" ABOVE FINISHED ROOF WITH GOOSENECK. TERMINATE TOILET EXHAUST 10' AWAY FROM ANY AIR INTAKE.

M3 EXISTING ROOF PIPE PORTAL FOR CONDENSING UNITS OF WALK-IN COOLER, WALK-IN FREEZER & ICE-MACHINES.

M4 EXISTING ROOF PIPE PORTAL FOR ROOFTOP UNITS (TYP. 5 PLACES).

M5 GAS PIPING FROM ROOF PORTAL TO ROOFTOP UNIT SHALL BE COATED WITH A CORROSION RESISTANT PAINT (SEE GAS PIPING NOTES). TYPICAL FOR ALL 5 RTU'S.

M6 GAS PRESSURE REGULATOR AND SHUT-OFF VALVE (TYP. FOR ALL RTU'S).

M7 ARROW INDICATES DIRECTION OF ROOFTOP UNIT AIR INTAKE AIRFLOW (TYP.).

M8 NEW KITCHEN EXHAUST FAN TO BE PROVIDED AS PER SCHEDULE. INTERLOCK WITH RESPECTIVE HOODS.

M9 REFRIGERANT PIPING SUPPORT AS REQUIRED. PROVIDE ROOFTOP BLOX MODEL RTB-01 (OR EQUAL) AND ALL NECESSARY ACCESSORIES FOR PROPER PIPE AND CONDUIT SUPPORT. PROVIDE GALVANIZED PIPE SHIELD TO PROTECT INSULATION AT ALL SUPPORTS (TYP).

M10 COORDINATE ROOFTOP UNIT LOCATIONS WITH EXISTING ROOF DRAIN LOCATIONS. TYPICAL FOR ALL ROOFTOP UNITS.

M11 CONTRACTOR TO PROVIDE CONCENTRIC VENT KIT P/N 9006328005 WITH 4"ø/5"ø PVC SCHEDULE 40 CONCENTRIC VENT LINE FOR COMBUSTION AIR INTAKE/EXHAUST FROM GAS FIRED EQUIPMENT TO ROOF TERMINATION KIT. ROUTE PIPING FROM RESPECTIVE UNIT TO LOCATION INDICATED ON ROOF PLAN. ROUTE PIPING WITH MINIMAL AMOUNT OF BENDS AND MINIMUM LENGTH AS REQUIRED BY RESPECTIVE UNIT MANUFACTURER'S REQUIREMENTS. CONCENTRIC VENT SHALL TERMINATE AT LEAST 2' ABOVE ROOF & 10' AWAY FROM ANY FORCE AIR INLET. CONTRACTOR TO PROVIDE SUITABLE TERMINATION KIT AS RECOMMENDED BY MANUFACTURER.

M12 PROVIDE DOWNFLOW BAROMETRIC RELIEF DAMPER (FURNISHED WITH ECONOMIZER, FIELD INSTALLED).

M13 EXISTING CONDENSER UNIT TO REMAIN. VERIFY EXACT LOCATION OF CONDENSER UNITS AND PIPE PORTAL ON SITE.

M14 CONTRACTOR TO INSTALL NEW CONDENSER UNIT AND PIPE PORTAL FOR FUTURE ABS 2.0. COORDINATE WITH STRUCTURAL ENGINEER/ARCHITECT FOR FINAL LOCATION AND SUPPORTS. CONDENSER UNIT TO BE PROVIDED BY OTHERS.

M15 KITCHEN EXHAUST TO BE TERMINATE AT MINIMUM 40" ABOVE THE ROOF AND 10' AWAY FROM ANY FORCE AIR INTAKE.

PIPE PORTAL SCHEDULE

MANUFACTURER	CURB DIMENSIONS	CURB TYPE	CAP TYPE (QTY)	SERVES
RPS	12"x12"x11"H	RC-2A	N18 (5)	RTU-1 THROUGH RTU-5
RPS	12"x12"x11"H	RC-2A	N18 (5)	CU-1 THROUGH CU-5

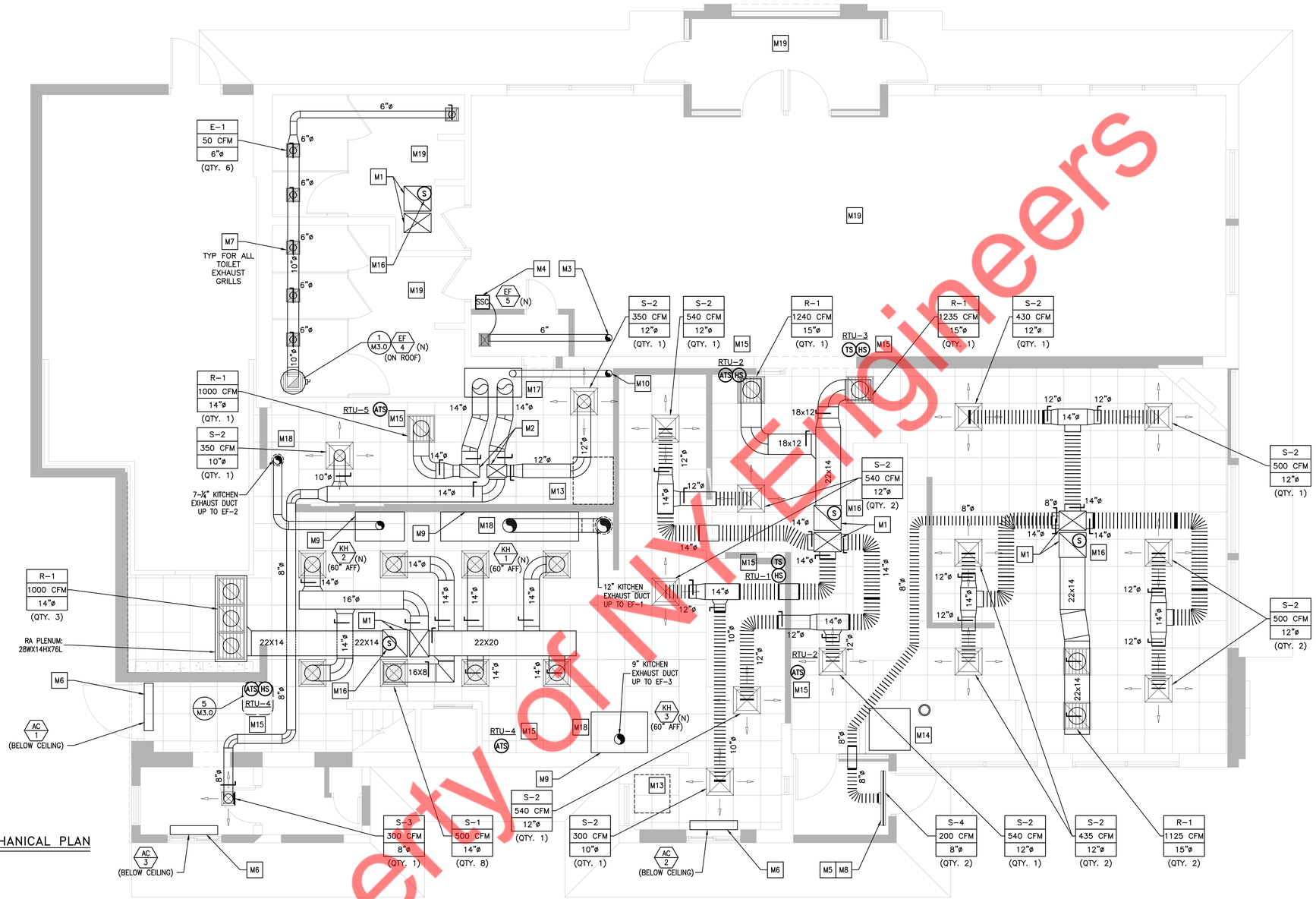
SEQUENCE OF OPERATION

THERMOSTAT SETTINGS

		SETPOINTS	
MODE	FAN	COOLING	HEATING
OCCUPIED	ON	75°F	70°F
UNOCCUPIED	AUTO	90°F	55°F
HUMIDITY			
HUMIDITY SETPOINT (FOR DEHUMIDIFICATION UNITS ONLY)		60%	

RTU-1, RTU-2, RTU-3,4&5:

1. OCCUPIED MODE SHALL BEGIN AS FOLLOWS:
   - RTU-1,4: 1.5 HOURS BEFORE OPEN
   - RTU-5: 1 HOUR BEFORE OPEN
   - RTU-2&3: 30 MINUTES BEFORE OPEN
2. ROOFTOP UNIT FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED MODE
3. ECONOMIZER SHALL BE OPEN DURING OCCUPIED MODE (OUTDOOR AIR THROUGH ROOFTOP UNITS SERVES AS MAKE-UP AIR FOR THE KITCHEN EXHAUST SYSTEM) – REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS.
4. UNOCCUPIED MODE SHALL BEGIN ONE (1) HOUR AFTER STORE CLOSES
5. DURING UNOCCUPIED MODE, ECONOMIZER IS CLOSED AND HEATING, COOLING AND FAN OPERATE IN AUTO MODE (ON DEMAND)



1 M1.2 GROUND FLOOR MECHANICAL PLAN
1/4"=1'-0"

DRAWING NOTES

1. ALL DUCTWORK SHALL BE RUN BETWEEN OR THROUGH THE JOISTS UNLESS NOTED OTHERWISE. DUCTWORK DESIGNATED WITH (B.J.) SHALL BE RUN BELOW THE JOISTS.
2. DUCT SIZES SHOWN ARE INTERNAL FREE AREA DIMENSIONS UNLESS NOTED OTHERWISE.
3. ALL SHEET METAL DUCTWORK SHALL BE EXTERNALLY INSULATED. INSULATION IS NOT SHOWN FOR CLARITY. SEE MECHANICAL NOTES FOR INSULATION REQUIREMENTS.
4. CARBON STEEL KITCHEN EXHAUST DUCTWORK SHALL BE EXTERNALLY INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE MECHANICAL NOTES AND DETAILS FOR INSULATION REQUIREMENTS.
5. RETURN AIRFLOW VOLUME SHOWN ON PLAN IS FOR DUCTWORK SIZING PURPOSES WHEN THE UNIT IS IN RECIRCULATION (UNOCCUPIED) MODE.
6. DIFFUSERS IN DINING ROOM ARE SPECIFIC TO THE DECOR PLAN SHOWN. DIFFERENT CEILING LAYOUTS MAY REQUIRE A DIFFERENT DIFFUSER TYPES, QUANTITIES, LOCATIONS AND FINISHES/COLORS.
7. ALL DUCTWORK PENETRATIONS THROUGH FIRE-RATED WALLS, BARRIERS OR PARTITIONS SHALL BE PROTECTED WITH A FIRE DAMPER OR COMBINED FIRE & SMOKE DAMPER AS PER CODE REQUIREMENT. THE PERIMETER OF THE FIRE DAMPER SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING MATERIAL. COORDINATE WITH ARCHITECT FOR FIRE RATINGS OF THE WALLS.

KEYED NOTES

M1 24X17 SUPPLY AND 24X22 RETURN DUCT DROPS FROM RESPECTIVE ROOFTOP UNITS. SEE DRAWING M1.0 FOR CONTINUATION.

M2 18X12 SUPPLY AND 18X12 RETURN DUCTS FROM ROOFTOP UNIT (RTU-5). SEE DRAWING M1.0 FOR CONTINUATION.

M3 6"ø ALUMINUM DUCT FROM EXHAUST FAN UP THROUGH ROOF. EXTERNALLY INSULATE EXHAUST DUCT FROM FAN TO ROOF PENETRATION.

M4 STEADY STATE SPEED CONTROLLER FOR CEILING MOUNTED EXHAUST FAN. STEADY STATE SPEED CONTROLLER SHALL BE INSTALLED OVER SUSPENDED CEILING FOR ACCESS. DO NOT INSTALL OVER AREAS WITH DRYWALL CEILINGS.

M5 SET DIFFUSER (S-5) FOR VERTICAL AIR THROW PATTERN (TYP.)

M6 MOUNT AIR CURTAIN TIGHT TO CEILING. MOUNT AIR CURTAIN WITH BOTTOM OF UNIT AT TOP OF DOOR FRAME.

M7 FOR GRILLES INSTALLED IN DRYWALL CEILINGS, VOLUME DAMPER IS INTEGRAL TO GRILLES AND ADJUSTABLE AT FACE OF GRILLES (SEE NOTE 18 UNDER "VENTILATION SYSTEMS" ON DRAWING M4.0 AND AIR DEVICE SCHEDULE ON DRAWING M4.1).

M8 GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL T-BAR FRAME TO PROPERLY LOCATE DIFFUSER AS SHOWN. AIR STREAM FROM DIFFUSER SHALL COVER ENTIRE DOOR OPENING.

M9 NONCOMBUSTIBLE WALL CONSTRUCTION BEHIND TYPE I KITCHEN HOODS. REFER TO SHEET A1.0 FOR MORE INFORMATION.

M10 4"ø/5"ø CONCENTRIC COMBUSTION AIR INTAKE & FLUE VENT GOING UP TO ROOF. COMBUSTION AIR INTAKE SHALL BE TERMINATED AT 24" ABOVE FINISHED ROOF AND EXHAUST VENT SHALL BE TERMINATED WITH MANUFACTURER APPROVED TERMINATION KIT.

M13 EXISTING ICE MACHINE AND RESPECTIVE CONDENSER UNITS ALONG WITH ALL ASSOCIATED SUPPORTS, PIPING, ETC TO BE REMAIN.

M14 NEW ICE MACHINE TO BE PLACED HERE. CONTRACTOR TO PROVIDE ALL ASSOCIATED SUPPORTS, PIPING, PIPE PORTALS AND AL ACCESSORIES AS REQUIRED. COORDINATE EXACT LOCATION OF ICE MACHINE, CONDENSING UNIT & PIPE ROUTING ON FIELD.

M15 EXISTING SENSORS TO BE RE-USED OR RELOCATED. CONTRACTOR SHALL TEST, INSPECT, AND REPAIR AS REQUIRED. CONTRACTOR TO VERIFY IN FIELD, REPLACE IN KINDS IF DAMAGED. COORDINATE WITH EXISTING UNIT MANUFACTURER FOR COMPATIBLE CONTROLS AS REQUIRED.

M16 CONTRACTOR SHALL CLEAN AND REFURBISH EXISTING DUCT SMOKE DETECTOR "LIKE NEW" CONDITION AND RELOCATE TO RETURN DUCTWORK AS SHOWN. ENSURE SMOKE DETECTOR IS IN GOOD WORKING ORDER. IF EXISTING IS DAMAGED, PROVIDE A NEW ONE

M17 14"ø SUPPLY AND RETURN DUCTS & WATER HEATER FLUE VENT DROPS TO BELOW FLOOR. CONTRACTOR TO FIELD VERIFY THE SIZE OF EXISTING SHAFT. MODIFY DUCTWORK TO MATCH THE SHAFT SIZE IF REQUIRED.

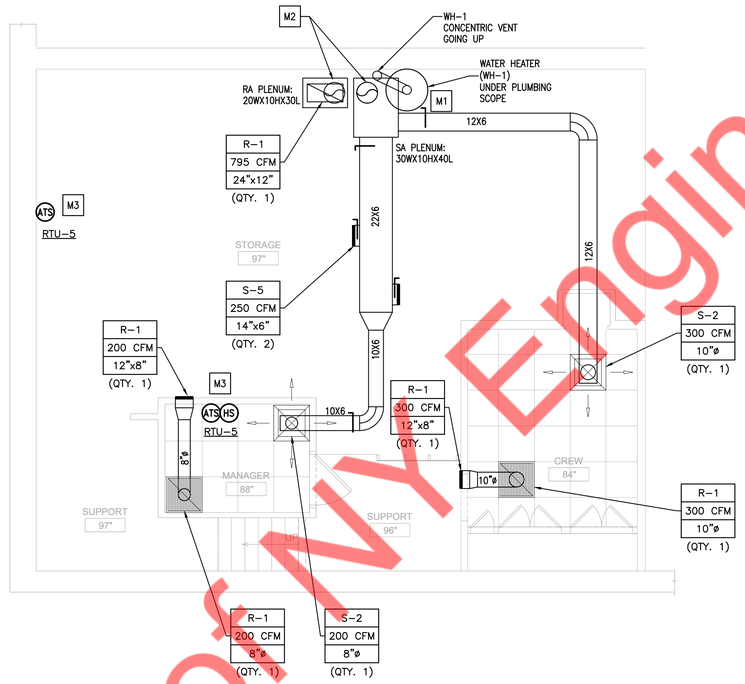
M18 PROVIDE CLEAN-OUT OPENINGS,GREASE TRAP,GREASE RESERVOIR, DUCT SLOPE FOR THE KITCHEN EXHAUST SYSTEMS IN ACCORDANCE WITH IMC 2018 SECTION 506 & 507.

M19 EXISTING SUPPLY/RETURN DUCTWORK ALONG WITH ALL ASSOCIATED SUPPORTS, AIR TERMINALS, DAMPERS OF RTU-3 TO REMAIN. CONTRACTOR SHALL CLEAN AND REFURBISH TO 'LIKE' NEW CONDITION. VERIFY EXACT LOCATION AND SIZE IN FIELD. CONTRACTOR SHALL INSPECT, PATCH, REPAIR, AND/OR REPLACE INSULATION AS REQUIRED. COORDINATE IN FIELD PRIOR TO BID.

AIR BALANCE SCHEDULE

UNIT	SUPPLY AIR (CFM)	RETURN AIR (CFM)	OUTDOOR AIR (CFM)	EXHAUST AIR (CFM)	SPACE PRESSURE (CFM)
RTU-1(E)	3,000	2,475	525	–	+525
RTU-2(E)	3,000	2,250	750	–	+750
RTU-3(E)	4,000	3,000	1,000	–	+1,000
RTU-4(E)	4,000	3,000	1,000	–	+1,000
RTU-5(E)	2,000	1,795	205	–	+205
EF-1(N)	–	–	–	1,690	-1,690
EF-2(N)	–	–	–	602	-602
EF-3(N)	–	–	–	720	-720
EF-4(N)	–	–	–	300	-300
EF-5(N)	–	–	–	75	-75
TOTALS:	16,000	12,520	3,480	3,387	+93

NOTES:
1. BALANCING TOLERANCES ARE AS FOLLOWS:
   HOODS: 0% TO +10%
   OUTDOOR AIR: 0% TO +10%
   SUPPLY AND RETURN AIR DIFFUSERS: -10% TO +10%
   TOILET EXHAUST AIR: -10% TO +10%
2. BALANCE ROOFTOP UNIT SUPPLY AND RETURN AIR PRIOR TO TURNING ON EXHAUST FANS.
3. EXHAUST HOODS SHALL BE BALANCED WITH A 4" VANE ANEMOMETER.
4. RTU BLOWER TO RUN CONTINUOUSLY DURING OCCUPIED HOURS. REFER TO SEQUENCE OF OPERATIONS ON M1.0 AND E3.2 FOR HOOD/FAN INTERLOCK DETAILS.



1 M1.2 BASEMENT MECHANICAL PLAN
1/4"=1'-0"

DRAWING NOTES

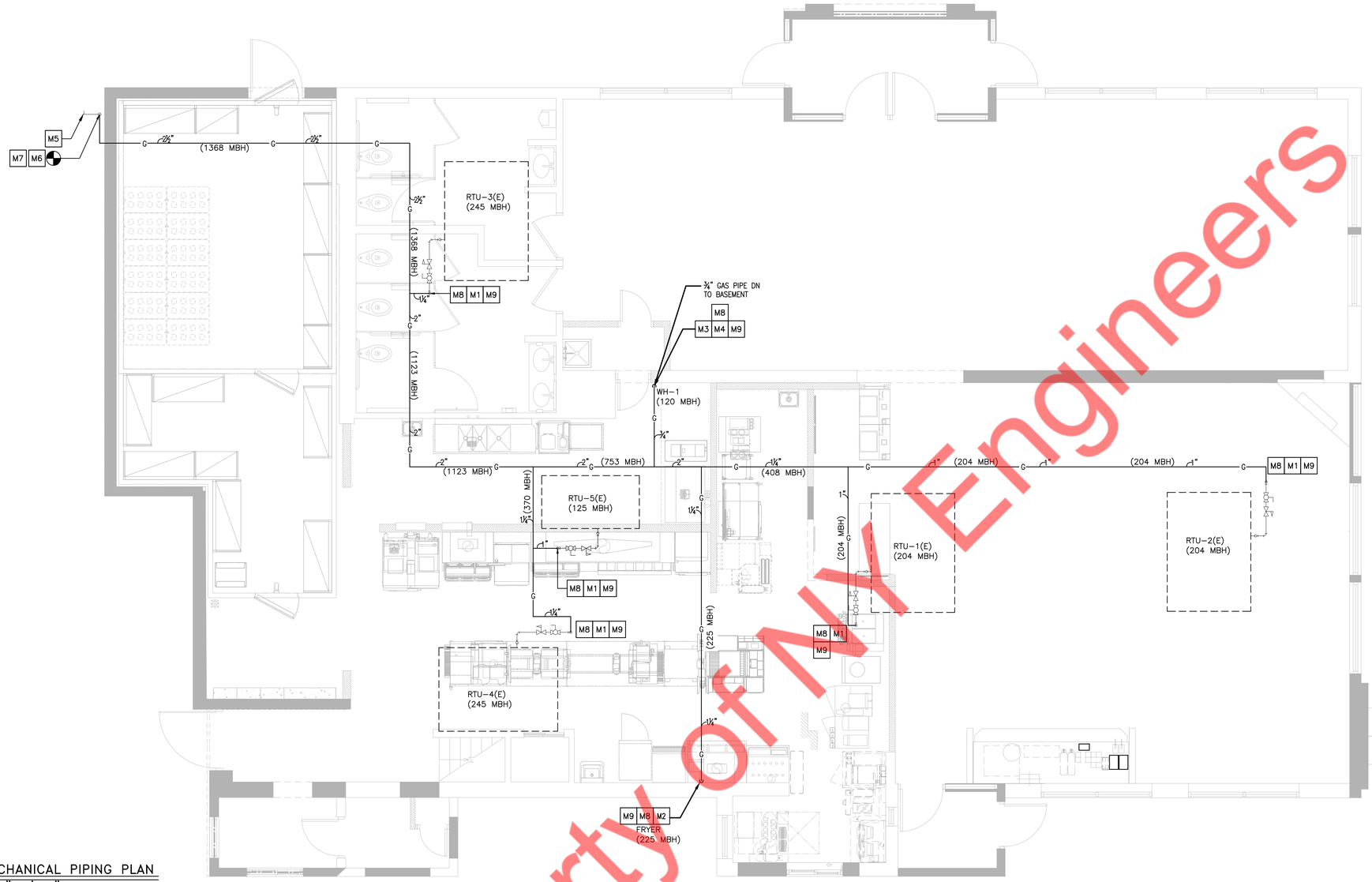
1. DUCT SIZES SHOWN ARE INTERNAL FREE AREA DIMENSIONS UNLESS NOTED OTHERWISE.
2. ALL SHEET METAL DUCTWORK SHALL BE EXTERNALLY INSULATED. INSULATION IS NOT SHOWN FOR CLARITY. SEE MECHANICAL NOTES FOR INSULATION REQUIREMENTS.
3. ALL DUCTWORK PENETRATIONS THROUGH FIRE-RATED WALLS, BARRIERS OR PARTITIONS SHALL BE PROTECTED WITH A FIRE DAMPER OR COMBINED FIRE & SMOKE DAMPER AS PER CODE REQUIREMENT. THE PERIMETER OF THE FIRE DAMPER SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING MATERIAL. COORDINATE WITH ARCHITECT FOR FIRE RATINGS OF THE WALLS.

KEYED NOTES

M1 CONTRACTOR TO PROVIDE CONCENTRIC VENT KIT P/N 9006328005 WITH 4"ø/5"ø PVC SCHEDULE 40 CONCENTRIC VENT LINE FOR COMBUSTION AIR INTAKE/EXHAUST FROM GAS FIRED EQUIPMENT TO ROOF TERMINATION KIT. ROUTE PIPING FROM RESPECTIVE UNIT TO LOCATION INDICATED ON ROOF PLAN. ROUTE PIPING WITH MINIMAL AMOUNT OF BENDS AND MINIMUM LENGTH AS REQUIRED BY RESPECTIVE UNIT MANUFACTURER'S REQUIREMENTS.

M2 14"ø SUPPLY AND RETURN DUCT DROPS FROM ABOVE FLOOR.

M3 EXISTING SENSORS TO BE RE-USED OR RELOCATE. CONTRACTOR SHALL TEST, INSPECT, AND REPAIR AS REQUIRED. CONTRACTOR TO VERIFY IN FIELD, REPLACE IN KINDS IF DAMAGED. COORDINATE WITH EXISTING UNIT MANUFACTURER FOR COMPATIBLE CONTROLS AS REQUIRED.



1 M1.4 MECHANICAL PIPING PLAN
1/4"=1'-0"

DRAWING NOTES

1. GAS PIPING LENGTHS ARE APPROXIMATE AND ARE SHOWN FOR SIZING PURPOSES ONLY.
2. REFRIGERANT PIPE SIZES SHALL BE PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

KEYED NOTES

- M1 GAS PIPE UP THROUGH ROOF TO RTU (TYP. 5 PLACES)
- M2 GAS PIPE DOWN IN CHASE TO COOKING APPLIANCE – APPROX. 11 FT. DROP
- M3 GAS PIPE DOWN TO WATER HEATER – APPROX. 10 FT. DROP

KEYED NOTES

- M4 SIZE REGULATOR PROPERLY FOR APPLICATION – SET GAS PRESSURE REGULATOR OUTLET PRESSURE TO 8.5" W.C. AND PROVIDE VENT THROUGH ROOF AS REQUIRED INCOMING SERVICE LINE – SEE GAS PIPING NOTES ON DRAWING M4.0.
- M5 EXISTING INCOMING PROPANE GAS SERVICE LINE. CONTRACTOR TO FIELD VERIFY THE EXISTING GAS PRESSURE FROM 1ST STAGE REGULATOR TO SECOND STAGE REGULATOR.
- M6 CONNECT 2-1/2" GAS PIPING TO THE EXISTING 2ND STAGE PROPANE GAS REGULATOR. CONTRACTOR TO FIELD VERIFY ROUTING, LOCATION AND PRESSURE OF EXISTING PROPANE GAS. CONTRACTOR TO ENSURE ADEQUATE GAS PRESSURE AVAILABLE AT GAS EQUIPMENTS.
- M7 CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR WATER HEATER AND MECHANICAL EQUIPMENTS.
- M8 PROVIDE PRESSURE GAS SHUT-OFF VALVE AT AN ACCESSIBLE LOCATION.
- M9 PROVIDE PRESSURE REDUCING VALVE TO THE EQUIPMENTS IF REQUIRED.

GAS PRESSURE REGULATOR SCHEDULE

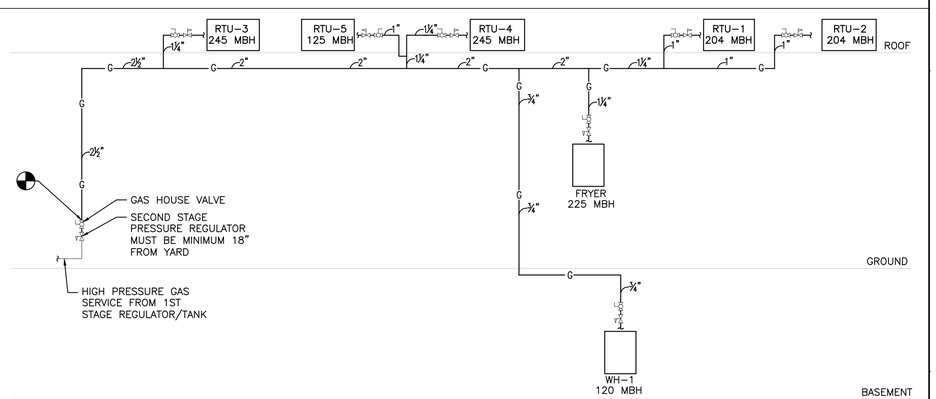
TAG	MFR/MODEL	TYPE	LOCATION	SERVICE	MAX.FLOW	INLET PRESSURE	OUTLET PRESSURE	REMARKS
PRV	MAXITROL 325 SERIES	LEVER ACTING DESIGN WITH OPD	INSIDE BUILDING	PROPANE	1500 MBH	2 PSI / 5 PSI	7" TO 11" WC	VENTLESS MEDIUM PRESSURE GAS REDUCING STATION W/LOW PRESSURE CUT-OFF

NATURAL GAS HEATING SCHEDULE

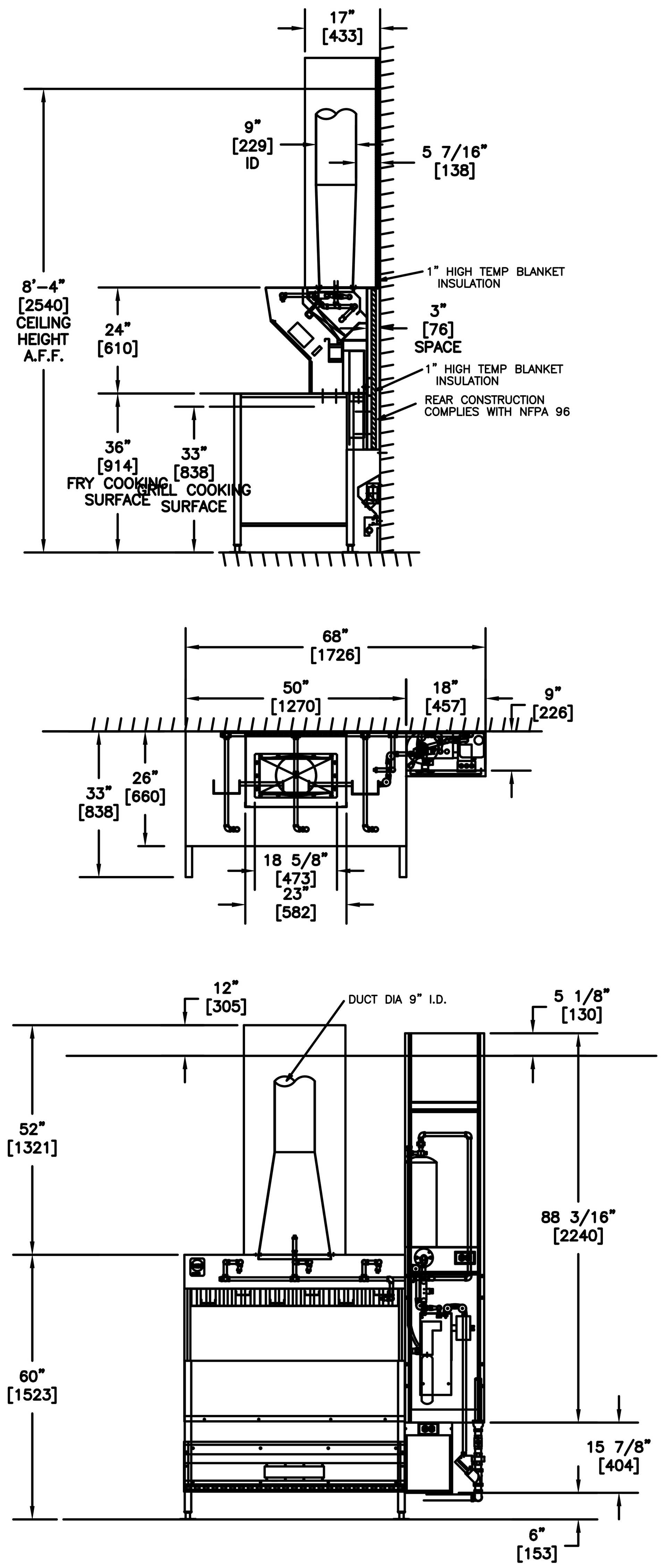
MECHANICAL EQUIPMENT	INPUT (MBH)
DOMESTIC HOT WATER HEATER (WH-1)	120
KITCHEN EQUIPMENT – 3 VET FRYER	225
ROOFTOP UNIT-1(E)	204
ROOFTOP UNIT-2(E)	204
ROOFTOP UNIT-3(E)	245
ROOFTOP UNIT-4(E)	245
ROOFTOP UNIT-5(E)	125
TOTALS:	1368

PIPE SIZING BETWEEN SECOND STAGE REGULATOR AND APPLIANCE
INLET PRESSURE– 11.0 IN W.C
PRESSURE DROP– 0.5 IN WC.
MAXIMUM EQUIVALENT LENGTH OF PIPE=200 FT GAS PIPE SIZING
AS PER 2018 INTERNATIONAL FUEL GAS CODE TABLE 402.4(28)

GAS NOTES:
1. CONTRACTOR TO FIELD VERIFY EXISTING AVAILABLE GAS PRESSURE, PROPANE GAS TANK CAPACITY AND MAKE SURE TO PROVIDE ADEQUATE INLET PRESSURE REQUIRED FOR WATER HEATER AND MECHANICAL EQUIPMENTS.
2. PROVIDE SHUT-OFF VALVE AN ACCESSIBLE LOCATION.
3. CONTRACTOR SHALL VERIFY ACTUAL GAS PRESSURE AND LONGEST LENGTH OF RUN FROM 1ST STAGE REGULATOR AND 2ND STAGE REGULATOR TO FARTHEST APPLIANCE PRIOR TO INSTALLATION AND NOTIFY ENGINEER IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN.

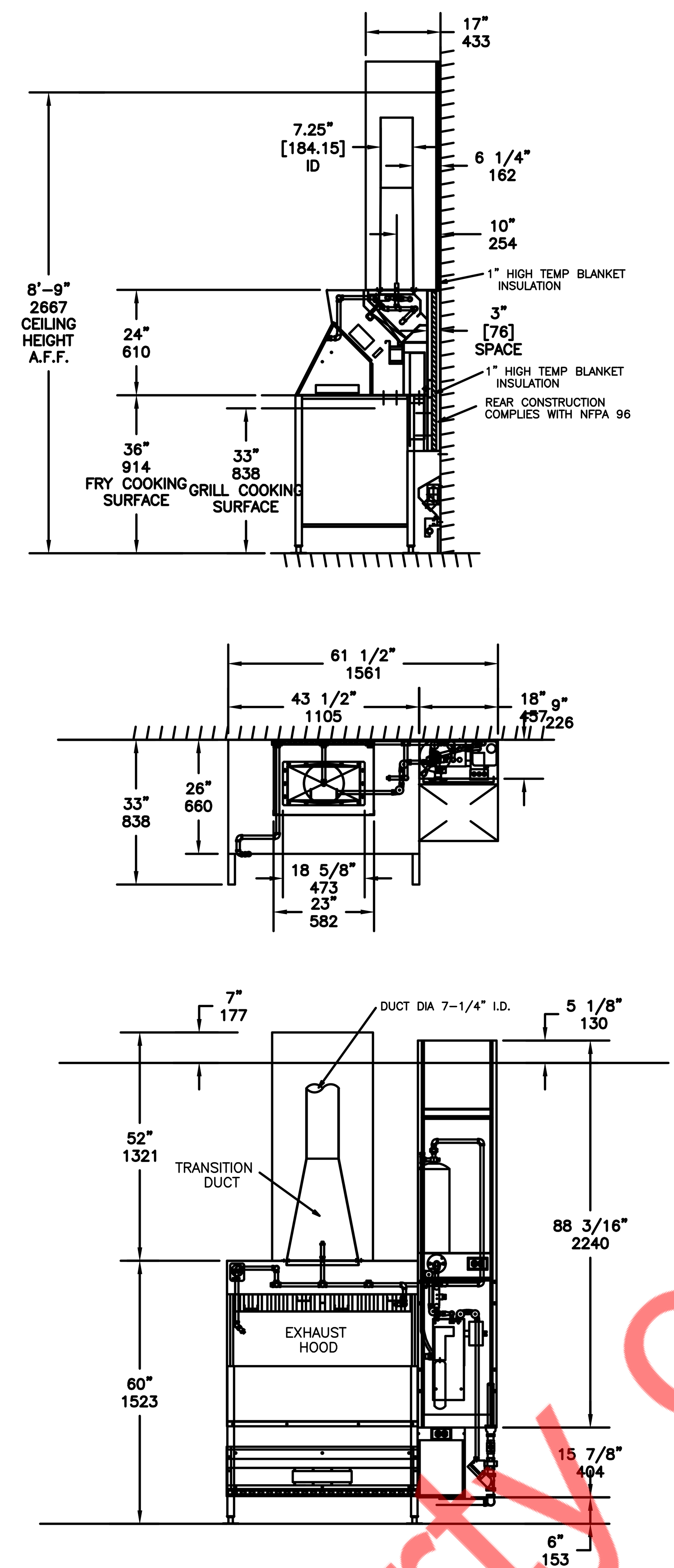


2 M1.4 GAS RISER DIAGRAM
NOT TO SCALE



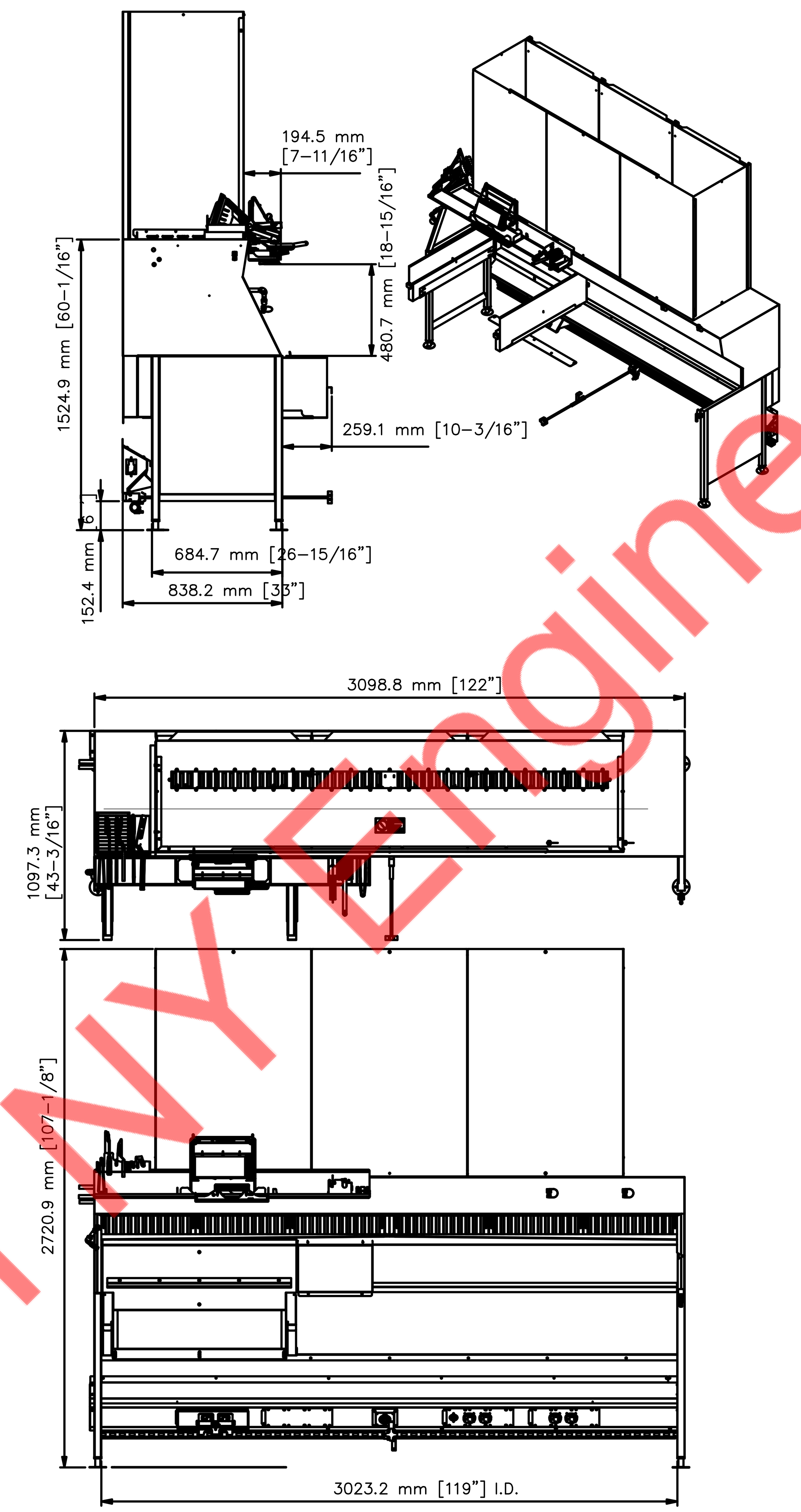
KITCHEN EXHAUST HOOD (1 / M2.0)

TAG: KH-3 (SEE KITCHEN EXHAUST HOOD SCHEDULE)
SCALE: ½"=1'-0"



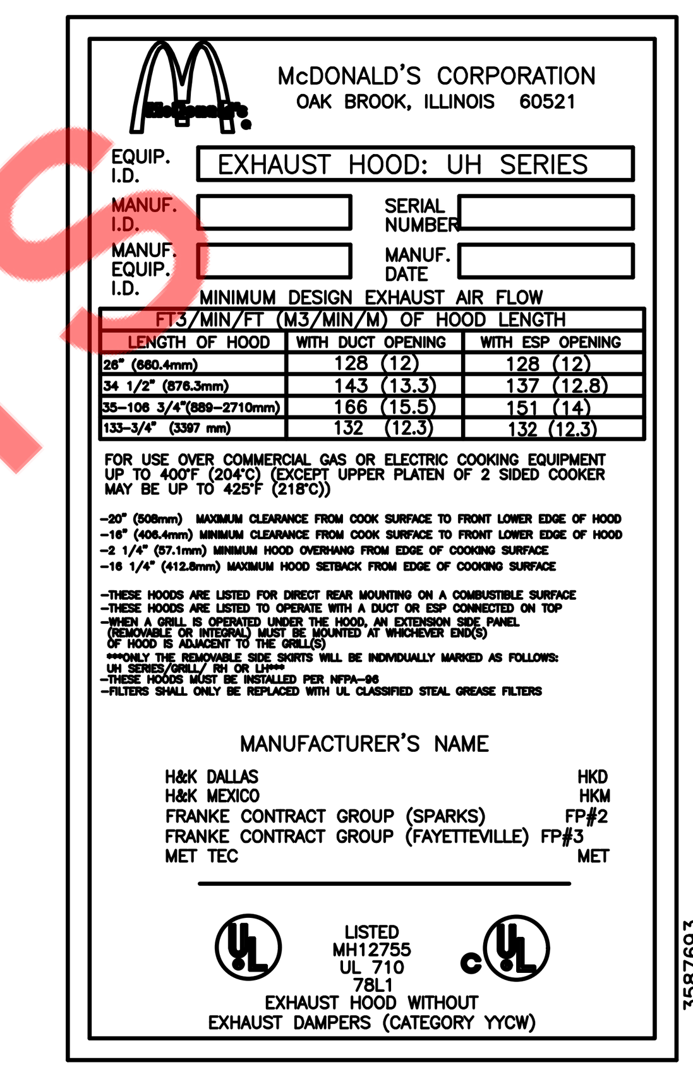
KITCHEN EXHAUST HOOD (2 / M2.0)

TAG: KH-2 (SEE KITCHEN EXHAUST HOOD SCHEDULE)
SCALE: ½"=1'-0"



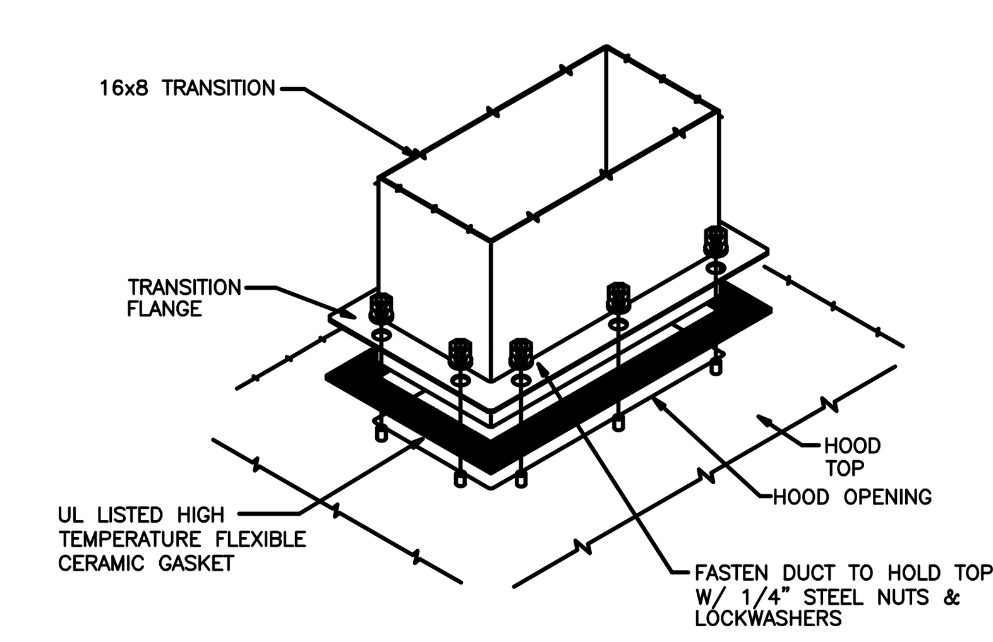
KITCHEN EXHAUST HOOD (3 / M2.0)

TAG: KH-1 (SEE KITCHEN EXHAUST HOOD SCHEDULE)
SCALE: ½"=1'-0"



DETAIL (4 / M2.0)

UL LABEL
SCALE: NONE



DETAIL (5 / M2.0)

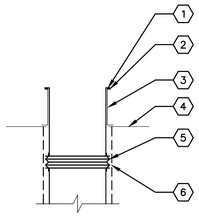
HOOD CONNECTION
SCALE: NONE

DRAWING NOTES

1. 16 GA. STAINLESS STEEL MATERIAL USED FOR HOOD CONSTRUCTION
2. FILTER BAFFLE:
   UL FILE R14372, VOL. 1, SEC. 1
   UL CONTROL NUMBER 5L65
   MEA-446-92-M
3. EXHAUST HOOD:
   UL FILE MH12755, VOL. 4
   UL CONTROL NUMBER 78L1
4. UTILITY CHASE AND RACEWAY:
   UL FILE E163328, VOL.1, SEC.3
5. HIGH TEMP GASKET:
   UL FILE MH12755, VOL. 2, SEC. 1, ILL. 9
6. HOOD CONSTRUCTION COMPLIES WITH NSF STANDARD 2
7. HOOD PERFORMANCE TESTED IN ACCORDANCE WITH UL 710
8. UL 300 AND NFPA 17A COMPLIANT R-102 WET CHEMICAL SYSTEM INCLUDED WITH HOOD INSTALLATION
9. ANSUL CONNECTIONS AND STARTUP BY APPROVED ANSUL REPRESENTATIVE
10. REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS

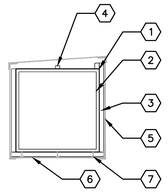
GENERAL NOTES

1. ALL DETAILS SHALL BE USED AS PER THE FINAL APPROVED HOOD EXHAUST SYSTEM. COORDINATE WITH KITCHEN EXHAUST SYSTEM SUPPLIER PRIOR TO INSTALLTION.



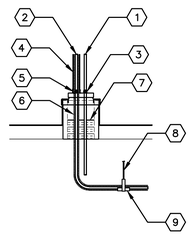
KEYED NOTES:
1. SHEET METAL DUCT DROP (SUPPLY, RETURN OR EXHAUST)
2. FOAM GASKET BETWEEN DUCT AND CURB
3. ROOF CURB
4. ROOF LINE
5. 6" FACE-TO-FACE CANVAS FLEXIBLE CONNECTION
6. 2" EXTERIOR INSULATION (SUPPLY AND RETURN)

DETAIL 1 / M3.0
DUCT DROP INSTALLATION
SCALE: NONE



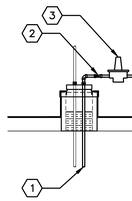
KEYED NOTES:
1. SHEET METAL DUCT (SMACNA SEAL CLASS B)
2. 1" INTERNAL FIBERGLASS INSULATION (MIN. R-4.2)
3. 1½" EXTERIOR POLYURETHANE OR POLYSTYRENE (MIN. R-7.5)
4. PROVIDE POSITIVE DRAINAGE ON TOP OF DUCT (1":12")
5. ALUMAGUARD BY POLYGUARD 60 MIL UV RESISTANT WEATHERPROOFING ON TOP AND SIDES OF DUCT
6. VAPORGUARD BY POLYGUARD 5 MIL VAPOR BARRIER ON BOTTOM OF DUCT
7. INSULATION PINS

DETAIL 2 / M3.0
NOT USED



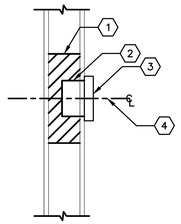
KEYED NOTES:
1. REFRIGERANT LIQUID LINE
2. REFRIGERANT SUCTION LINE WITH 1" THICK EXTERNAL FOAM INSULATION (ARMAFLEX BY ARMACELL OR EQUAL)
3. STAINLESS STEEL CLAMP
4. APPLY WEATHERPROOFING OVER FOAM INSULATION (ALUMAGUARD BY POLYGUARD OR EQUAL)
5. WRAP FOAM INSULATION OVER PIPE PORTAL NIPPLE AND STAINLESS STEEL CLAMP
6. RESTART FOAM INSULATION IMMEDIATELY AFTER PIPE PORTAL PENETRATION
7. INSULATE BOTTOM OF ROOF PORTAL CURB (MIN. R-19)
8. PIPE HANGER
9. LIGHT GAUGE GALVANIZED STEEL PROTECTIVE SHIELD

DETAIL 3 / M3.0
REFRIGERANT PIPE INSTALLATION
SCALE: NONE



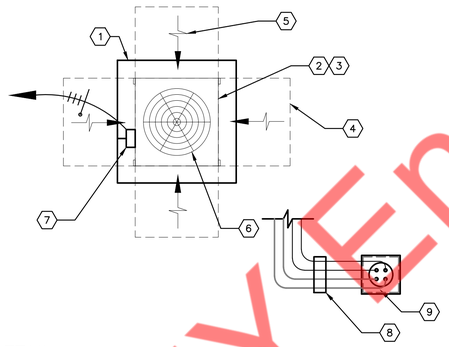
KEYED NOTES:
1. GAS PIPING
2. SHUT-OFF VALVE
3. PRESSURE REGULATOR (PROPERLY SIZED FOR APPLICATION)
4. DIRT LEG
5. ROOFTOP UNIT ENTRY

DETAIL 4 / M3.0
GAS PIPE INSTALLATION
SCALE: NONE



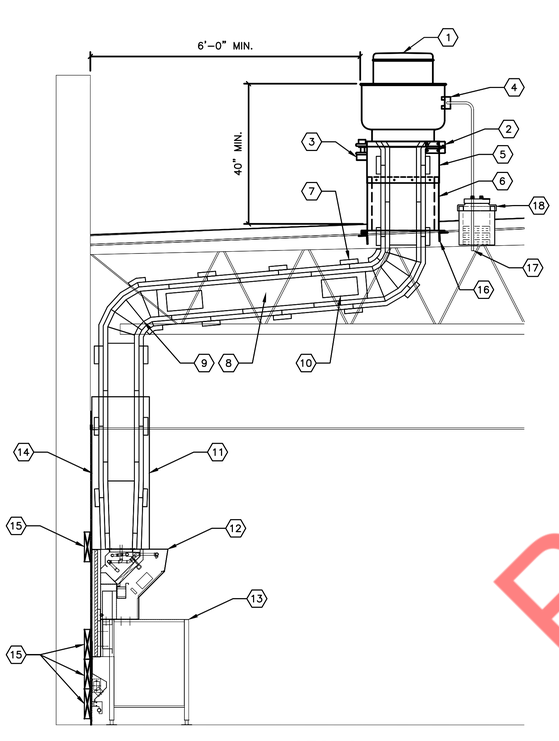
KEYED NOTES:
1. PROVIDE BATT INSULATION FOR TEMPERATURE SENSORS INSTALLED IN HOLLOW CAVITY WALLS
2. 2x4 ELECTRICAL BOX
3. SENSOR (TEMPERATURE, HUMIDITY OR CO2)
4. MOUNT SENSOR(S) BETWEEN 4'-0" TO 4'-6" A.F.F.

DETAIL 5 / M3.0
REMOTE SENSOR INSTALLATION
SCALE: NONE



DETAIL 6 / M3.0
REMOTE CONDENSER UNIT (CU-3,CU-4&CU-5)
SCALE: ½"=1'-0"

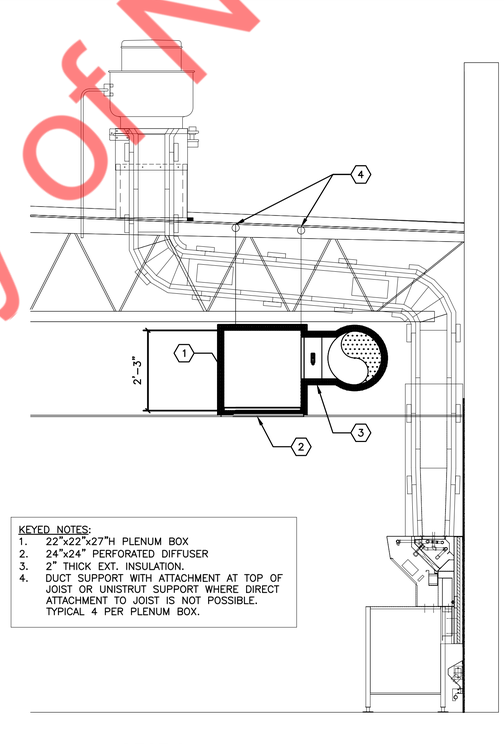
KEYED NOTES:
1. 30"x34"x14"H EQUIPMENT PLATFORM MANUFACTURED BY RPS OR EQUAL
2. 28"x24.5"x38"H CONDENSING UNIT
3. FASTEN CONDENSING UNIT TO TOP OF PLATFORM AND SEAL FASTENER PENETRATIONS WITH UV RESISTANT SEALANT
4. OUTLINE OF SERVICE CLEARANCE EXTENDING FROM CONDENSING UNIT ON ALL SIDES
5. CONDENSER AIR INTAKE
6. CONDENSER FAN OUTLET
7. DISCONNECT SWITCH PROVIDED BY ELECTRICAL CONTRACTOR
8. PROVIDE PIPE SUPPORT AS NECESSARY (TREATED LUMBER IS NOT ACCEPTABLE)
9. SINGLE PIPE PORTAL MANUFACTURER BY RPS OR EQUAL



KEYED NOTES:
1. UPBLAST EXHAUST FAN (SEE EXHAUST FAN SCHEDULE)
2. HINGED CURB CAP FOR CLEANING ACCESS (FURNISHED WITH FAN)
3. GREASE TRAP (FURNISHED WITH FAN)
4. NEMA 3R DISCONNECT SWITCH (FURNISHED WITH FAN)
5. 12" HIGH CURB EXTENSION (FURNISHED WITH FAN)
6. 18" HIGH CURB (FURNISHED WITH FAN)
7. TWO (2) LAYERS OF 1½" THICK DUCT WRAP TO MEET ASTM E2336 INSTALLED PER MANUFACTURER'S INSTRUCTIONS (SEE MECHANICAL NOTES FOR INSULATION SPECIFICATION)
8. 16 GAUGE BLACK IRON (CARBON STEEL) OR 18 GAUGE STAINLESS STEEL DUCTWORK WELDED LIQUID-TIGHT
9. 5-GORE BLACK IRON (CARBON STEEL) RADIUS ELBOW
10. 12"x6" ACCESS DOOR AT ALL CHANGES IN DIRECTION
11. STAINLESS STEEL FASCIA PANEL TO PROTECT DUCTWORK AND INSULATION
12. BACKSHELF TYPE EXHAUST HOOD (SEE KITCHEN EXHAUST HOOD SCHEDULE)
13. COOKING APPLIANCE (SEE KITCHEN DRAWINGS)
14. REAR WALL CONSTRUCTION SHALL CONSIST OF CERAMIC TILE OR MIN. 22 GAUGE STAINLESS STEEL OVER ⅝" TYPE X GYPSUM BOARD OR ½" CEMENT BOARD FROM FLOOR TO CEILING AND EXTENDING 24" TO EACH SIDE OF THE HOOD INSTALLED ON NON-COMBUSTIBLE WALL (REFER TO SHEET A1.0 FOR MORE INFORMATION.
15. 2x10 LIGHT GAUGE STEEL FOR SUPPORT BLOCKING FOR HOOD AND RACEWAY (COORDINATE INSTALLATION WITH HOOD INSTALLER)
16. STRUCTURAL FRAMING FOR ROOF OPENING (SEE STRUCTURAL DRAWINGS)
17. TRANSITION TO FLEXIBLE CONDUIT UNDER ROOF PENETRATION WHERE ALLOWED BY CODE.
18. ROOF PIPE PORTAL, RPS-N18(1) RC-2A 12x12x11H.

NOTE:
PROVIDE A LIGHT TEST PRIOR TO CEVERING WITH DUST WRAP. NYSMC SECTION 506.3.2.5.

SECTION 7 / M3.0
KITCHEN EXHAUST HOOD INSTALLATION
SCALE: ½"=1'-0"



KEYED NOTES:
1. 22"x22"x27"H PLENUM BOX
2. 24"x24" PERFORATED DIFFUSER
3. 2" THICK EXT. INSULATION.
4. DUCT SUPPORT WITH ATTACHMENT AT TOP OF JOIST OR UNISTRUT SUPPORT WHERE DIRECT ATTACHMENT TO JOIST IS NOT POSSIBLE. TYPICAL 4 PER PLENUM BOX.

SECTION 8 / M3.0
SUPPLY (S-1) PLENUM INSTALLATION
SCALE: ½"=1'-0"

MECHANICAL NOTES

GENERAL:

1. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
2. ALL DIMENSIONS, CLEARANCES AND TOLERANCES SHALL BE VERIFIED PRIOR TO INSTALLATION.
3. ALL MATERIALS, FIXTURES AND EQUIPMENT USED SHALL BE IN ACCORDANCE WITH McDONALD'S SPECIFICATIONS. SPECIFICATIONS ARE CONTAINED WITHIN THESE DRAWINGS AND THE McDONALD'S PROJECT MANUAL. ANY CONTRACTOR IN NEED OF A COPY OF THE McDONALD'S PROJECT MANUAL SHALL CONTACT THE McDONALD'S AREA CONSTRUCTION MANAGER. ANY VARIANCE FROM THE McDONALD'S SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER-OF-RECORD.
4. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. SEE COORDINATION SCHEDULE FOR ADDITIONAL SCOPE OF WORK.
6. PRIOR TO BUILDING TURNOVER, A COMPLETE START-UP, TEST, ADJUST AND BALANCE SHALL BE PERFORMED ON ALL MECHANICAL SYSTEMS. THIS WORK SHALL BE PERFORMED BY A CERTIFIED TEST AND BALANCE CONTRACTOR. A CERTIFIED TEST AND BALANCE CONTRACTOR CAN BE FOUND BY VISITING:
   HTTP://WWW.AABCHQ.COM/DIRECTORY
   HTTP://WWW.NEBB.ORG/DIRECTORY.HTM
   HTTP://WWW.TABBCERTIFIED.ORG/SITE/CONTENT/CONTRACTORS/SEARCH
7. UPON COMPLETION OF THE PUNCHLIST, THE MECHANICAL CONTRACTOR AND TEST AND BALANCE CONTRACTOR SHALL SUBMIT REDLINED OR AS-BUILT DRAWINGS ALONG WITH THE TEST AND BALANCE REPORT AND ALL EQUIPMENT OPERATION AND MAINTENANCE MANUALS TO THE McDONALD'S AREA CONSTRUCTION MANAGER. A MINIMUM OF TWO (2) COPIES SHALL BE PROVIDED, ONE (1) FOR REGIONAL RECORDS AND ONE (1) FOR THE RESTAURANT.
8. ALL PENETRATIONS OF FIRE-RATED WALLS SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING SYSTEM.

VENTILATION SYSTEMS:

1. ALL SHEET METAL DUCTWORK SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH LOCAL CODES AND SMACNA STANDARDS.
2. ALL DUCTWORK DIMENSIONS ARE INTERNAL FREE AREA DIMENSIONS AND SIZED FOR 0.1" W.C. PER 100 FT. OF DUCT.
3. ALL SHEET METAL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA TABLES FOR 2" W.C. AND SHALL BE SUPPORTED WITH AN APPROVED HANGER AT INTERVALS NOT EXCEEDING 10 FT.
4. ALL DUCT DROPS INTO THE BUILDING SHALL BE INSTALLED WITH FLEXIBLE CONNECTIONS TO ISOLATE THE DUCTWORK SYSTEM FROM NOISE AND VIBRATION. FLEXIBLE CONNECTIONS SHALL BE TESTED IN ACCORDANCE WITH UL 181 AND LISTED AS CLASS 0 OR CLASS 1.
5. ALL DUCT DROPS INTO THE BUILDING SHALL BE OFFSET AS NECESSARY TO ALLOW FOR THE CLEAR INSTALLATION OF THE EXTERNAL DUCTWORK INSULATION.
6. ALL DUCTWORK BRANCHES SHALL BE SUPPLIED WITH A VOLUME DAMPER FOR BALANCING. VOLUME DAMPER SHALL HAVE A 2" OFFSET TO ACCOMMODATE EXTERNAL INSULATION.
7. TAKE-OFFS FROM RECTANGULAR TO ROUND DUCT SHALL BE DUCTMATE STRAIGHT-SIDED OR CENTER HIGH-EFFICIENCY TAKE-OFFS WITH A 2" DAMPER STAND-OFF TO ACCOMMODATE FOR EXTERNAL INSULATION.
8. ALL DUCTWORK JOINTS, LONGITUDINAL AND TRANSVERSE SEAMS SHALL BE SEALED WITH WELDS, GASKETS, MASTICS (ADHESIVES), TAPES, ETC. ALL SEALANT MATERIALS SHALL BE LISTED IN ACCORDANCE WITH UL 181A OR 181B.
9. ALL SUPPLY AND RETURN SHEET METAL DUCTWORK LOCATED WITHIN THE CEILING SPACE SHALL BE EXTERNALLY INSULATED. INSULATION SHALL BE 2" THICK MICROLITE XG-100 BY JOHNS MANVILLE OR EQUAL.
10. ALL SUPPLY AND RETURN SHEET METAL DUCTWORK LOCATED OUTSIDE OF THE BUILDING SHALL BE INTERNALLY LINED WITH A 1" THICK FIBERGLASS (MIN. R-4.2) AND EXTERNALLY INSULATED WITH A 1½" THICK RIGID POLYSTYRENE, POLYURETHANE OR POLYISOCYANURATE BOARD (MIN. R-8). INTERNAL FIBERGLASS INSULATION SHALL BE LINATEX BY JOHNS MANVILLE OR EQUAL. EXTERNAL RIGID BOARD INSULATION SHALL BE THERMAPINK BY OWENS CORNING OR EQUAL.
11. ALL EXPOSED SPIRAL DUCTWORK SHALL BE INTERNALLY INSULATED TO PREVENT CONDENSATION (MIN. R-6). INTERNAL INSULATION SHALL BE 1" THICK SPIRACOUSTIC PLUS BY JOHNS MANVILLE OR EQUAL. ALL SUPPLY AND RETURN AIR DUCTS AND PLENUMS SHALL BE INSULATED WITH (MIN. R-6) INSULATION WHERE LOCATED IN UNCONDITIONED SPACE.
12. ALL DUCTWORK PENETRATIONS THROUGH FIRE-RATED WALLS, BARRIERS OR PARTITIONS SHALL BE PROTECTED WITH A FIRE DAMPER OR COMBINED FIRE & SMOKE DAMPER AS PER CODE REQUIREMENT. THE PERIMETER OF THE FIRE DAMPER SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING MATERIAL. COORDINATE WITH ARCHITECT FOR FIRE RATINGS OF THE WALLS.
13. ALL EXTERIOR SHEET METAL DUCTWORK SHALL BE EXTERNALLY WRAPPED WITH AN APPROVED WEATHERPROOFING MATERIAL TO PROTECT AGAINST WATER PENETRATION AND CORROSION. SIDES AND TOP OF EXTERNAL WEATHERPROOFING SHALL BE ALUMAGUARD 60 MIL UV BARRIER BY POLYGUARD OR EQUAL. BOTTOM OF EXTERNAL WEATHERPROOFING SHALL BE VAPORGUARD 5 MIL MEMBRANE BY POLYGUARD OR EQUAL.
14. ALL FLEXIBLE DUCTWORK, METALLIC AND NONMETALLIC, SHALL CONFORM TO THE FOLLOWING:
   A. 2" THICK INSULATION (R-6.0)
   B. INTEGRAL VAPOR BARRIER
   C. LISTED AND LABELED UL 181, CLASS 0 OR CLASS 1
   D. INSTALLED IN ACCORDANCE WITH:
      i. SMACNA STANDARDS,
      ii. AIR DIFFUSION COUNCIL INSTALLATION GUIDELINES, AND/OR
      iii. MANUFACTURER'S INSTALLATION INSTRUCTIONS
15. FLEXIBLE DUCTWORK SHALL NOT PENETRATE WALLS. SHEET METAL DUCTWORK IS REQUIRED AT ALL FIRE-RATED AND DRAFTSTOP WALL PENETRATIONS.
15. ALL COVERINGS, LININGS AND ADHESIVES (TAPES, ETC.) SHALL HAVE A FLAME-SPREAD INDEX NOT GREATER THAN 25 AND A SMOKE-DEVELOPED INDEX NOT GREATER THAN 50.
16. DUCT-MOUNTED SMOKE DETECTORS SHALL BE INSTALLED IN SYSTEMS WITH DESIGN CAPACITY GREATER THAN 2,000 CFM. SEE MECHANICAL DRAWINGS FOR LOCATIONS OF SMOKE DETECTORS. DUCT-MOUNTED SMOKE DETECTORS ARE NOT REQUIRED WHEN THE BUILDING IS PROTECTED THROUGHOUT BY AREA SMOKE DETECTORS CONNECTED TO A FIRE ALARM SYSTEM WHERE THE FIRE ALARM SYSTEM IS DESIGNED TO SHUT DOWN THE ROOFTOP UNITS.
17. ALL SUPPLY AIR DIFFUSERS SHALL BE INSULATED TO PREVENT CONDENSATION.
18. ALL AIR DEVICES LOCATED IN DRYWALL CEILINGS SHALL BE SUPPLIED WITH AN INTEGRAL VOLUME DAMPER ACCESSIBLE FROM THE AIR DEVICE FACE TO FACILITATE BALANCING.
19. ALL OUTDOOR AIR INTAKES SHALL BE LOCATED A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY SOURCE OF CONTAMINATION SUCH AS EXHAUST FANS, PLUMBING VENTS, WATER HEATER FLUES, ETC. WHERE A CONTAMINANT SOURCE IS LOCATED WITHIN 10 FT. OF AN INTAKE, THE INTAKE OPENING SHALL BE LOCATED A MINIMUM OF 2 FT. BELOW THE CONTAMINANT SOURCE.
20. ALL ROOFTOP CONDENSING UNITS THAT DISCHARGE HORIZONTALLY SHALL BE ORIENTED SUCH THAT THE DISCHARGE DOES NOT BLOW IN THE DIRECTION OF AN OUTDOOR AIR INTAKE.
21. MINIMUM INSULATION REQUIREMENTS AS PER ENERGY CONSERVATION CODE OF NEW HAMPSHIRE (IMC 2018):
   UNCONDITIONED SPACES WITHIN BUILDING: R-6
   WITHIN BUILDING ENVELOPE ASSEMBLY: R-12
   OUTSIDE OF BUILDING: R-12

COMMERCIAL KITCHEN EXHAUST SYSTEMS:

1. ALL METAL DUCTWORK USED FOR THE CONVEYANCE OF GREASE-LADEN AIR SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE STAINLESS STEEL OR 16 GAUGE CARBON STEEL (BLACK IRON).
2. ALL GREASE EXHAUST DUCTWORK JOINTS SHALL BE EITHER TELESCOPING OR BELL TYPE. BUTT-WELDED JOINTS ARE PROHIBITED.
3. ALL GREASE EXHAUST DUCTWORK SEAMS AND JOINTS SHALL BE CONTINUOUSLY WELDED WATER-TIGHT ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER.
4. ALL GREASE EXHAUST DUCTWORK SHALL BE EXTERNALLY INSULATED WITH A ASTM E2336 LISTED AND LABELED GREASE DUCT ENCLOSURE SYSTEM. INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
5. ACCESS PANELS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION OF THE GREASE EXHAUST DUCTWORK SYSTEM. ACCESS PANELS SHALL BE INSTALLED IN ACCORDANCE WITH THE INSULATION MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SHALL BE LABELED AS FOLLOWS: "ACCESS PANEL - DO NOT OBSTRUCT".
6. ALL HORIZONTAL GREASE EXHAUST DUCTWORK SHALL BE INSTALLED WITH A MINIMUM ¼" PER FOOT SLOPE AND SHALL BE PITCHED BACK TOWARD THE HOOD.
7. UPBLAST KITCHEN EXHAUST FANS SHALL BE LOCATED A MINIMUM OF 6 FT. FROM ANY PARAPET WALL OR ADJACENT STRUCTURE AND SHALL TERMINATE A MINIMUM OF 40 INCHES ABOVE THE FINISHED ROOFING MATERIAL.

REFRIGERANT PIPING:

1. ALL REFRIGERATION WORK SHALL BE PERFORMED BY A CERTIFIED REFRIGERATION CONTRACTOR.
2. ALL REFRIGERANT PIPING SHALL BE SEAMLESS COPPER TUBING OF TYPE L IN ACCORDANCE WITH ASTM B 88 AND ALL JOINTS SHALL BE SOLDERED.
3. ALL REFRIGERANT SUCTION LINES SHALL BE INSULATED WITH A MINIMUM 1" FOAM PIPE INSULATION. PIPE INSULATION INSTALLED OUTDOORS SHALL BE PROTECTED WITH AN APPROVED WEATHERPROOFING MATERIAL.
4. ALL SUSPENDED REFRIGERANT PIPING SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER TUBING ≤1¼"	6 FT.	10 FT.
COPPER TUBING ≥1½"	10 FT.	10 FT.

5. ALL REFRIGERANT PIPING SHALL BE SIZED PER EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
6. PRE-CHARGED LINESETS ARE NOT PERMITTED AS LINES WILL MOST LIKELY NEED TO BE CUT TO FIT THE APPLICATION AND REFRIGERANT WILL NEED TO BE RECLAIMED.
7. ALL PIPE INSULATION SHALL BE PROTECTED FROM DAMAGE FROM PIPE HANGERS. PROTECTION SHALL BE LIGHT GAUGE GALVANIZED STEEL OR EQUAL.
8. ALL REFRIGERANT PIPING SYSTEMS SHALL BE PRESSURE TESTED FOR LEAKS PRIOR TO START-UP. ALL LEAKS SHALL BE REMEDIED PRIOR TO BUILDING TURNOVER.

CONDENSATE PIPING:

1. CONDENSATE PIPING SHALL BE GALVANIZED STEEL, COPPER OR PVC.
2. PVC PIPE SHALL BE PAINTED WITH WATER BASED LATEX PAINTING TO RESIST DEGRADATION FROM ULTRAVIOLET EXPOSURE.
3. PIPE SUPPORTS SHALL BE RPS MODEL PMP-2 OR EQUAL. QUANTITY AS REQUIRED DEPENDANT UPON PIPING MATERIAL.
4. PIPING SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER PIPE	12 FT.	10 FT.
GALVANIZED STEEL	12 FT.	15 FT.
PVC	4 FT.	15 FT.

5. CONDENSATE PIPING SHALL SLOPE A MINIMUM OF ⅛" PER FOOT.
6. CONDENSATE PIPING SHALL BE SIZED BASED ON THE FOLLOWING:

TOTAL TONS SERVED BY PIPE	MINIMUM PIPE SIZE
<20 TONS	¾"
>20 TONS, <40 TONS	1"
>40 TONS, <125 TONS	1½"

PIPING INSULATION

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

PIPING INSULATION SCHEDULE

SERVICE	SIZE	THICKNESS	MATERIAL FINISH
REFRIGERANT PIPING	1.5"	P-6	
CONDENSATE DRAIN	1"	P-6	

DUCTWORK INSULATION

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

INSULATION SCHEDULE - DUCTWORK

SERVICE	LOCATION	R-VALUE	TYPE	FINISH
SUPP/RET	CONCEALED	R-6	D-1	VAPORSEAL
SUPP/RET	EXPOSED	R-6	D-1	VAPORSEAL
INTAKE	ALL	R-8	D-1	VAPORSEAL
KITCHEN EXH.	INTERIOR (2 LAYERS)	1.5"		3M FIRE MASTER DUCT WRAP
SUPPLY	EXTERIOR	R-8	D-1	VAPORSEAL

NEW HAMPSHIRE BUILDING DEPARTMENT NOTES:

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

1. THE CONTRACTOR SHALL ENGAGE THE THE SERVICES OF A PROFESSIONAL ENGINEER TO PROVIDE THE REQUIRED SPECIAL INSPECTIONS AND TESTS.
2. TESTS WILL BE CONDUCTED UNDER DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS.
3. THE LICENSED PROFESSIONAL ENGINEER, ARCHITECT OR OTHER PERSON HAVING NOT LESS THAN FIVE (5) YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF SUCH MECHANICAL SYSTEMS AND CONDUCTING SUCH TESTS WILL FILE DOCUMENTATION AND REPORTS OF TESTS THAT THE SYSTEM COMPLIES WITH THE CONSTRUCTION DOCUMENTS AND APPLICABLE LAWS.
4. TESTS OF MECHANICAL SYSTEMS SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING SECTIONS OF THE 2018 INTERNATIONAL MECHANICAL CODE:
   A. VENTILATION SYSTEM BALANCING MC 403.3.1.5
7. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE REFERENCED CODE OR STANDARD:
   A. STANDARDS OF HEATING - MC 309.1
   B. DUCT CONSTRUCTION AND INSTALLATION- MC 603
   C. MANUAL AND AUTOMATIC FIRE CONTROLS FOR AIR DISTRIBUTION SYSTEMS - MC 513
8. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATION SYSTEM WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE STRUCTURE AS REQUIRED BY MC 403.3
9. ALL FIRE DAMPERS SHALL BE ACCEPTED FOR USE BY THE NEW YORK STATE DEPARTMENT OF BUILDINGS. FIRE DAMPERS SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555, STANDARDS FOR FIRE DAMPERS AND CEILING DAMPERS.
10. FIRE DAMPERS AND CEILING DAMPERS LOCATED WITHIN THE AIR DISTRIBUTION AND SMOKE CONTROL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION MC 607.
11. REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED FIRE-RATED WALL AND SMOKE WALL CONSTRUCTION AND LOCATION.
12. THESE PLANS ARE APPROVED ONLY FOR THE WORK INDICATED ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.
13. ALL HEATING AND COOLING LOADS CALCULATED PER ASHRAE/ACCA 183.

THERMOSTATIC CONTROLS:

A. GENERAL:
   THE SUPPLY OF HEATING AND COOLING ENERGY TO EACH ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS CAPABLE OF RESPONDING TO TEMPERATURE WITHIN THE ZONE. WHERE HUMIDIFICATION OR DEHUMIDIFICATION OR BOTH IS PROVIDED, NOT FEWER THAN ONE HUMIDITY CONTROL DEVICE SHALL BE PROVIDED FOR EACH HUMIDITY CONTROL SYSTEM.

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 THAT BOTH OF THE FOLLOWING CONDITIONS ARE MET:
   THE PERIMETER SYSTEM INCLUDES NOT FEWER THAN 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).
   THE PERIMETER SYSTEM HEATING AND COOLING SUPPLY IS CONTROLLED BY THERMOSTATS LOCATED WITHIN THE ZONES SERVED BY THE SYSTEM.

B. DEAD BAND:
   WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS SHALL BE CONFIGURED TO PROVIDE A TEMPERATURE RANGE OR DEADBAND OF NOT LESS THAN 5°F (2.8°C) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

EXCEPTIONS:
   THERMOSTATS THAT REQUIRE MANUAL CHANGEOVER BETWEEN HEATING AND COOLING MODES.
   OCCUPANCIES OR APPLICATIONS REQUIRING PRECISION IN INDOOR TEMPERATURE CONTROL AS APPROVED BY THE CODE OFFICIAL.

C. SETBACK CONTROLS:
   THERMOSTATIC SETBACK CONTROLS SHALL BE CONFIGURED TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55°F (13°C) OR UP TO 85°F (29°C).

D. AUTOMATIC SHUTDOWN:
   AUTOMATIC TIME CLOCK OR PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER FOR NOT FEWER THAN 10 HOURS. ADDITIONALLY, THE CONTROLS SHALL HAVE A MANUAL OVERRIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS; A MANUALLY OPERATED TIMER CONFIGURED TO OPERATE THE SYSTEM FOR UP TO 2 HOURS; OR AN OCCUPANCY SENSOR.

E. 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 CONFIGURED TO PREVENT THE HEATING SETPOINT FROM EXCEEDING THE COOLING SETPOINT AND TO MAINTAIN A DEADBAND IN ACCORDANCE WITH SECTION C403.4.1.2.

F. 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.

LEGEND

TS	TEMPERATURE SENSOR
ATS	AVERAGING TEMPERATURE SENSOR
CO2	CO2 SENSOR FOR ROOFTOP UNIT DEMAND CONTROL VENTILATION
HS	HUMIDITY SENSOR
T	THERMOSTAT
S	SMOKE DETECTOR
	EQUIPMENT TAG
R-1 / 1750 CFM / 18°ø	DIFFUSER INFORMATION LINE 1: TAG LINE 2: AIRFLOW LINE 3: NECK SIZE
	SUPPLY AIR DUCT (VERTICAL)
	RETURN OR EXHAUST AIR DUCT (VERTICAL)
	ROUND DUCT (VERTICAL)
SSC	STEADY-STATE SPEED CONTROLLER
	PLAQUE DIFFUSER (SHADED AREA DESIGNATES BLANK-OFF PANEL LOCATION)
	LINEAR SLOT DIFFUSER
	LOUVERED FACE DIFFUSER
	CEILING-MOUNTED EXHAUST FAN
	SPIN-IN COLLAR WITH VOLUME DAMPER
	VOLUME DAMPER
	FLEXIBLE DUCTWORK
	PERFORATED FACE DIFFUSER
	SHEET METAL TEE WITH CAP

ABBREVIATIONS

ACM	AREA CONSTRUCTION MANAGER
B.J.	BELOW JOISTS
BSI	BEVERAGE SYSTEM INSTALLER
DCV	DEMAND CONTROL VENTILATION
E.A.	EXHAUST AIR
EC	ELECTRICAL CONTRACTOR
FAC	FIRE ALARM CONTRACTOR
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FPC	FIRE PROTECTION CONTRACTOR
GC	GENERAL CONTRACTOR
I.D.	INSIDE DIMENSION
KEI	KITCHEN EQUIPMENT INSTALLER
KES	KITCHEN EQUIPMENT SUPPLIER
M.A. (S)	MIXED AIR - SUMMER
M.A. (W)	MIXED AIR - WINTER
MC	MECHANICAL CONTRACTOR
O.A.	OUTDOOR AIR
O.D.	OUTSIDE DIMENSION
O/O	OWNER/OPERATOR
PC	PLUMBING CONTRACTOR
R.A.	RETURN AIR
RC	REFRIGERATION CONTRACTOR
S.A.	SUPPLY AIR
S.P.	STATIC PRESSURE
TAB	TEST AND BALANACE CONTRACTOR

HVAC KITCHEN COORDINATION NOTES:

1. ALL HVAC WORK INDICATED IN THE KITCHEN CONSULTANTS DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) ARE PART OF THIS CONTRACTORS SCOPE OF WORK. THIS CONTRACTOR AND ALL SUB-CONTRACTORS SHALL PROVIDE ALL WORK IN COMPLETE ACCORDANCE WITH THE KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS. KITCHEN HOODS, KITCHEN EXHAUST FANS, KITCHEN HOOD MAKE-UP AIR UNITS, KITCHEN MAKE-UP AIR UNITS, DISHWASHERS, REFRIGERATION, WALK-IN BOXES, REFRIGERATORS, OPEN CASE REFRIGERATORS, ETC. ARE DESIGNED BY KITCHEN CONSULTANT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND THE KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS, THEN THIS CONTRACTOR SHALL INCLUDE THE ITEM OF GREATER VALUE AND/OR GREATER QUANTITY IN THEIR BID.
2. HVAC CONTRACTOR SHALL PROVIDE DUCTWORK, EXHAUSTS, ROOF CURBS, HVAC EQUIPMENT, ETC. FOR ALL HVAC EQUIPMENT ON KITCHEN CONSULTANT'S DRAWINGS.
3. REFER TO KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS (PREPARED BY OTHERS) FOR ALL ADDITIONAL INFORMATION.
4. ALL WALK-IN BOX AND OPEN CASE REFRIGERATION EQUIPMENT REFRIGERATION HEAT REJECTION EQUIPMENT AND COMPRESSORS SHALL BE LOCATED ON THE ROOF SO THAT HEAT IS NOT REJECTED TO THE SPACE. NOTIFY ENGINEER IMMEDIATELY IN WRITING IF ANY KITCHEN REFRIGERATION EQUIPMENT IS REJECTING HEAT TO THE SPACE.
5. KITCHEN CONSULTANT SHALL SELECT EQUIPMENT AT THE CORRECT VOLTAGES. KITCHEN CONSULTANT SHALL FORWARD TO ENGINEER ALL TRANSFORMERS THAT THEY REQUIRE SO THAT IT CAN BE ADDED TO THE HEAT LOAD.
6. THIS CONTRACTORS SUBMISSION OF THE BID WILL BE CONSTRUED AS EVIDENCE THAT ALL THE REQUIRED REVIEW OF ALL KITCHEN CONSULTANT DRAWINGS, ARCHITECTURAL DRAWINGS, SITE DRAWINGS, ALL TRADE DRAWINGS, MANUFACTURER CUT SHEETS, REVIEW AND VERIFICATIONS HAVE BEEN MADE BY THIS CONTRACTOR. THIS CONTRACTOR MUST NOTIFY THE OWNER IN WRITING OF ANY CONFLICTS BETWEEN ANY TRADE DRAWING AND THESE DRAWINGS PRIOR TO SUBMITTING THEIR BID. ALL UNCLEAR CONCERNS OF THIS CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE ENGINEER BEFORE THE CONTRACTOR SUBMITS THE BID. NO ADDITIONAL COST WILL BE ALLOWED BECAUSE OF THIS CONTRACTORS FAILURE TO PROPERLY SURVEY, REVIEW AND VERIFY ALL OF THE CONDITIONS AND ALL OF THE WORK ON ALL TRADE DRAWINGS. LATER CLAIMS FOR EXTRA LABOR, MATERIALS AND EQUIPMENT DUE TO ANY CONFLICTS BETWEEN ANY TRADE DRAWINGS THAT COULD HAVE BEEN FORESEEN, WILL NOT BE ALLOWED.
7. ALL THE COUNTY DEPARTMENT OF HEALTH APPROVALS ARE REQUIRED FOR A COMMERCIAL COOKING KITCHEN.
8. KITCHEN EQUIPMENT APPROVED FINAL SHOP DRAWINGS MUST BE REVIEWED BY THIS CONTRACTOR PRIOR TO START OF WORK. COORDINATE ALL KITCHEN EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO START OF WORK. COORDINATE FINAL KITCHEN EQUIPMENT HVAC REQUIREMENTS WITH KITCHEN CONSULTANT PRIOR TO START OF WORK. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH ALL MANUFACTURERS REQUIREMENTS. REVIEW AIR INLET AND AIR OUTLET MINIMUM REQUIRED DISTANCES TO EQUIPMENT. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE EQUIPMENT AND THE HVAC PLANS.
9. ALL MCDONALD'S OWNER REQUIREMENTS, SYSTEM CHECK OUT MANUALS, COMMISSIONING REQUIREMENTS AND BALANCING MANUALS MUST BE COMPLIED WITH BY THIS CONTRACTOR AND SHALL BE PART OF THIS CONTRACTOR'S BID.

COORDINATION SCHEDULE

GENERAL REQUIREMENTS	FURNISH	INSTALL	FINAL CONNECTION	NOTES
MECHANICAL PERMIT	MC			1–3
HOT WORK (WELDING) PERMIT (IF APPLICABLE)	KES			1–3
REFRIGERATION PERMIT (IF APPLICABLE)	MC			1–3
PLUMBING PERMIT	PC			1–3
ELECTRICAL PERMIT	EC			1–3
FIRE SPRINKLER PERMIT (IF APPLICABLE)	FPC			1–3
FIRE ALARM PERMIT (IF APPLICABLE)	FAC			1–3
CONTRACTOR COORDINATION REQUIREMENTS				
HEATING & AIR–CONDITIONING				
ROOFTOP UNITS, INTAKE AND RELIEF	MC	MC		1–5, 17, 22
ROOF CURBS	MC	MC		1–3, 20, 22
GAS PIPING AND GAS PIPE KIT	PC	PC	PC	1–3, 14, 22–23
CONTROLS WIRING	MC	EC	EC	1–3, 19, 22, 24
POWER WIRING	EC	EC	EC	1–3, 19, 22, 24
CONDENSATE TRAP	MC	PC		1–3, 22–23
CONDENSATE PIPING (IF APPLICABLE)	PC	PC		1–3, 22–23
DUCT–MOUNTED SMOKE DETECTOR	MC	MC	EC	1–3, 22, 24
GENERAL EXHAUST SYSTEMS				
EXHAUST FANS	MC	MC		1–3, 17, 22
ROOF CURBS	MC	MC		1–3, 22
CONTROLS (WHERE APPLICABLE)	MC	EC	EC	1–3, 22, 24
POWER WIRING	EC	EC	EC	1–3, 22, 24
TEMPERATURE CONTROLS				
THERMOSTATS & SUBBASES	MC	MC	EC	1–3, 22, 24
REMOTE SENSORS (RH AND/OR TEMPERATURE)	MC	MC	EC	1–3, 22, 24
CONTROLS WIRING (WHERE APPLICABLE)	MC	EC	EC	1–3, 22, 24
POWER WIRING	EC	EC	EC	1–3, 22, 24
DUCTWORK AND ACCESSORIES				
GALVANIZED SHEET METAL DUCTWORK	MC	MC		1–3, 22
EXTERNAL INSULATION	MC	MC		1–3, 22
INTERNAL INSULATION (IF APPLICABLE)	MC	MC		1–3, 22
WEATHERPROOFING (IF APPLICABLE)	MC	MC		1–3, 22
SPIN–IN COLLARS	MC	MC		1–3, 22
FLEXIBLE DUCTWORK	MC	MC		1–3, 22
VOLUME/BALANCING DAMPERS	MC	MC		1–3, 22
FIRE DAMPERS (IF APPLICABLE)	MC	MC		1–3, 22
FIRESTOPPING (IF APPLICABLE)	MC	MC		1–3, 22
AIR DEVICES AND ACCESSORIES	MC	MC	MC	1–3, 7, 22, 28
PLUMBING SYSTEMS				
WATER HEATERS	PC	PC	PC	1–3, 11–12, 23
HOT AND COLD WATER PIPE	PC	PC	PC	1–3, 23
VENTS AND INTAKES	PC	PC	PC	1–3, 23
THERMOSTATIC MIXING VALVE	PC	PC	PC	1–3, 23
POWER AND CONTROL WIRING	EC	EC	EC	1–3, 23–24
KITCHEN EXHAUST SYSTEMS				
McDONALD'S BACKSHELF EXHAUST HOODS	KES	KEI		1–3, 6, 22, 27
CANOPY EXHAUST HOODS (IF APPLICABLE)	KES	KEI		1–3, 6, 22, 27
BLACK IRON DUCTWORK	KES	KEI		1–3, 6, 22
STAINLESS STEEL DUCTWORK (IF APPLICABLE)	KES	KEI		1–3, 6, 22
ALUMINUM DUCTWORK (IF APPLICABLE)	KES	KEI		1–3, 6, 22
UL LISTED DUCT WRAP	MC	MC		1–3, 6, 22
FIRE–RATED DUCT ENCLOSURE (IF APPLICABLE)	GC	GC		1–3, 6, 20, 22
EXHAUST FANS	MC	MC		1–3, 6, 17, 22
ROOF CURBS	MC	MC		1–3, 6, 20, 22
CURB EXTENSIONS	MC	MC		1–3, 6, 22
CONTROLS (WHERE APPLICABLE)	EC	EC	EC	1–3, 6, 22, 24
POWER WIRING	EC	EC	EC	1–3, 6, 22, 24
FIRE SUPPRESSION SYSTEM	KES	KES	KES	1–3, 16, 22, 27
KITCHEN EQUIPMENT				
COOLER/FREEZER	KES	GC		1–3, 27
EVAPORATOR COILS	KES	MC		1–3, 27
CONDENSATE PIPING	PC	PC	PC	1–3, 23, 27
REMOTE CONDENSING UNIT (MAC)	KES	MC		1–3, 22, 27
ROOF CURBS	MC	MC		1–3, 22
REFRIGERANT PIPING	KES	MC	MC	1–3, 22, 27
POWER WIRING	EC	EC	EC	1–3, 22, 24, 27
CONTROL WIRING	EC	EC	EC	1–3, 24, 27
PIPE PORTALS	MC	MC		1–3, 22
ICE MACHINES	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27
REMOTE CONDENSING UNITS	KES	MC		1–3, 22, 27
ROOF CURBS	MC	MC		1–3, 22, 27
REFRIGERANT PIPING	KES	MC	MC	1–3, 22, 27
POWER WIRING	EC	EC	EC	1–3, 22, 24, 27
CONTROL WIRING	KES	EC	EC	1–3, 24, 27
PIPE PORTALS	MC	MC		1–3, 22
GRILLS	KES	KES		1–3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1–3, 23, 27
POWER WIRING	EC	EC	EC	1–3, 24, 27
CONTROL CABLE (6' CLAMSHELL ONLY)	MC	EC	EC	1–3, 23, 24, 27
FRYERS	KES	KES		1–3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1–3, 23, 27
POWER WIRING	EC	EC	EC	1–3, 24, 27
3–COMPARTMENT SINK	KES	KES		1–3, 12, 27
FAUCETS AND PRE–RINSE SPRAYER	KES	KES		1–3, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
HAND SINKS	PC	PC		1–3, 23, 27
FAUCET	PC	PC		1–3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
WASHING MACHINE				
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
WARE WASHER	KES	KES		1–3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
MISCELLANEOUS ITEMS				
FIRE SPINKLER SYSTEMS	FPC	FPC	FPC	1–3, 15, 25
HVAC EQUIPMENT START–UP	MC			1–3, 22
TEST, ADJUST AND BALANCE HVAC SYSTEMS	TAB			1–3, 22
DOOR GRILLES (IF APPLICABLE)	MC	GC		1–3, 20, 22
ROOF/WALL OPENINGS	GC			1–3, 20–24
APPLIANCE BACKFLOW PREVENTION	KES/BSI	PC	PC	1–3, 23, 27
CO2 DETECTION SYSTEM	MC	EC	EC	1–3, 22, 27

NOTES:
1. THIS SCHEDULE IS INTENDED AS A GUIDE FOR THE WORK TO BE PERFORMED. ALL WORK SHALL BE COORDINATED BETWEEN THE McDONALD'S AREA CONSTRUCTION MANAGER AND ALL GC AND O/O SUBCONTRACTORS.
2. ONE (1) COPY OF THE DECOR PACKAGE DRAWINGS SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR AND EACH OF THE SUBCONTRACTORS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS TO INSURE THAT THEY HAVE RECEIVED THE DECOR PACKAGE DRAWINGS.
3. FOR ANY WORK NOT CLARIFIED IN THIS SCHEDULE OR IN THE NOTES AND SPECIFICATIONS, PLEASE CONSULT THE McDONALD'S CONSTRUCTION MANAGER FOR SCOPE OF WORK.
4. ALL ROOFTOP UNIT EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND THE KITCHEN EQUIPMENT SUPPLIER SHALL BE ON SITE AT THE SAME TIME FOR A SINGLE CRANE LIFT. EQUIPMENT SITE ARRIVAL DATE SHALL BE COORDINATED BETWEEN THE CONSTRUCTION MANAGER, MECHANICAL CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER.
5. ALL ROOFTOP UNITS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY EQUIPMENT. THE INSTALLATION OF STANDARD EFFICIENCY ROOFTOP UNITS IS PROHIBITED.
6. ALL KITCHEN EQUIPMENT REQUIRING EXHAUST SHALL BE INSTALLED IN ACCORDANCE WITH THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER AND THE ENGINEER–OF–RECORD.
7. WHERE GYPSUM BOARD CEILINGS ARE INSTALLED, THE MECHANICAL CONTRACTOR SHALL SUPPLY DRYWALL MOUNTING FRAMES FOR LAY–IN TYPE DIFFUSERS.
8. ALL WORK ON P–1.0 & P–1.2 DRAWING(S) SHALL BE BY THE PLUMBING CONTRACTOR.
9. THE BEVERAGE SYSTEM INSTALLER FURNISHES, RUNS AND CONNECTS ALL FLEXIBLE WATER AND SYRUP LINES FOR ALL AFFECTED EQUIPMENT INCLUDING THE FOLLOWING:
   A. HOT CHOCOLATE
   B. COFFEE BREWER
   C. ICE MACHINE
   D. O.J.
   E. SODA TOWERS
11. ALL WATER HEATERS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY SEALED–COMBUSTION WATER HEATERS. THE INSTALLATION OF STANDARD EFFICIENCY GRAVITY–VENTED WATER HEATERS IS PROHIBITED.
12. THE CONSTRUCTION MANAGER, PLUMBING CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER SHALL COORDINATE WHICH SOILED DISHWASHER (3–COMPARTMENT SINK) IS BEING INSTALLED IN THE RESTAURANT.
13. ALL GAS PIPING FOR COOKING EQUIPMENT SHALL TERMINATE IN THE CEILING PRIOR TO THE INSTALLATION OF THE PIPING CHASE. UPON INSTALLATION OF THE CHASE, THE GAS PIPING SHALL THEN BE CONTINUED IN THE CHASE FOR FINAL CONNECTION TO THE APPLIANCE.
14. ALL GAS PIPING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE PLUMBING CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
15. ALL FIRE PROTECTION DRAWINGS CONTAINED WITHIN THIS SET ARE STRICTLY FOR REFERENCE ONLY. FIRE SPRINKLER DRAWINGS SHALL BE DESIGNED AND PERMITTED BY A FIRE PROTECTION CONTRACTOR.
16. ALL R–102 WET CHEMICAL FIRE SUPPRESSION SYSTEMS FOR TYPE I HOODS SHALL BE DESIGNED AND INSTALLED BY A LOCAL ANSUL AGENT. THE USE OF DRY CHEMICAL SYSTEMS IS PROHIBITED. THE LOCAL ANSUL AGENT CONTRACT IS HANDLED THROUGH THE KITCHEN EQUIPMENT SUPPLIER.
17. ALL ROOFTOP UNITS AND EXHAUST FANS ARE SUPPLIED WITH A FACTORY–INSTALLED DISCONNECT SWITCH.
18. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES FOR REMOTE CONDENSING UNITS.
19. ALL ELECTRICAL CONDUITS FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
20. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
21. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
22. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
23. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
24. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
25. SEE FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
26. SEE FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.
27. SEE KITCHEN DRAWINGS FOR ADDITIONAL INFORMATION.
28. SEE DECOR DRAWINGS FOR ADDITIONAL INFORMATION.

AIR DEVICE SCHEDULE

TAG	MANUFACTURER	MODEL	BORDER	SIZE	COLOR	ACCESSORIES	NOTES
S–1	TITUS	PDS	LAY–IN	24X24	WHITE	7	1,2
	PRICE	PDN					
S–2	TITUS	OMNI	LAY–IN	24X24	VARIES	4,6,7	1,6,7
	PRICE	SPD					
S–3	TITUS	OMNI	LAY–IN	12X12	VARIES	1,2,7	1,3,6
	PRICE	SPD					
S–4	TITUS	TBDI–80	LAY–IN	48" (1)¾" SLOT	VARIES	7	1,5,6
	PRICE	TBDI4					
S–5	TITUS	300FL	LAY–IN	14X6	VARIES	7	1
	PRICE	500					
R–1	TITUS	23RL	LAY–IN	24x24/ 24X12/12x8	VARIES	3,7	1,6
	PRICE	60L					
E–1	TITUS	23RL	LAY–IN	12x12	WHITE	1,3,7	1
	PRICE	60L					

ACCESSORIES:
1. COMBINATION DAMPER AND EQUALIZING GRID
2. PLASTER FRAME FOR DRYWALL CEILING INSTALLATION
3. SQUARE–TO–ROUND COLLAR CONNECTION
4. BACKPAN INSULATION
5. OPPOSED BLADE DAMPER
6. BLANK–OFF PANEL AS SHOWN ON DUCTWORK PLAN
7. PLASTER FRAME MAY BE NECESSARY – COORDINATE WITH DECOR DRAWINGS
8. 1" FILTER MEDIA

NOTES:
1. SEE PLAN FOR NECK SIZES
2. FABRICATE 22"x22"x27"H PLENUM WITH 14"ø SIDE INLET (SEE DETAIL 8 ON DRAWING M3.0)
3. PROVIDE 1" FIBERGLASS INSULATION FOR DIFFUSER BACKPAN
4. NOT USED
5. GENERAL CONTRACTOR SHALL PROVIDE ADDITIONAL 4 FT. T–BAR FOR DIFFUSER FRAMING
6. AIR DEVICE FINISH WILL VARY:
   * KITCHEN, STORAGE, RESTROOMS – WHITE
   * DINING ROOM, VESTIBULES – WHITE, BLACK OR PAINTABLE/PRIME COAT (COORDINATE FINAL COLOR WITH DECOR PLANS).
7. ADDITIONAL ACCESSORIES AND/OR ALTERNATE DIFFUSERS MAY BE REQUIRED. REFER TO DECOR DRAWINGS TO VERIFY.

CONTROLS

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL
T	24V THERMOSTAT (ROOFTOP UNITS)		–
	120V THERMOSTAT(COMPUTER CLOSET)	HONEYWELL	T651A3018
TS	REMOTE TEMPERATURE SENSOR	–	–
ATS	REMOTE AVERAGING TEMPERATURE SENSOR	–	–
HS	REMOTE HUMIDITY SENSOR	–	–
	BULK CO2 DETECTION SYSTEM	LOGIC02	–

NOTES:
1. FOR TSTAT, TS, HS AND ATS INFORMATION, REFER TO E4.1
2. TO ORDER HONEYWELL EQUIPMENT CALL (800)575–4841
3. SEE KITCHEN DRAWINGS FOR BULK CO2 DETECTION LOCATIONS

AIR CURTAIN SCHEDULE

TAG	MANUFACTURER	MODEL	SERVES	AIRFLOW	ELEC	ACCESS.	NOTES
AC 1	POWERED AIRE	RBT 1–48	REAR ENTRANCE	2,559 CFM	MCA: 8 MOCP: 20 ¾ HP	1–4	1,2,3
AC 2	POWERED AIRE	MP 1–42E	PRESENTER'S BOOTH	VARIABLE	MCA: 24.2 MOCP: 35 1 HP	2,3,5	1,2,3
AC 3	POWERED AIRE	MP 1–42E	CASH BOOTH	VARIABLE	MCA: 24.2 MOCP: 35 1 HP	2,3,5	1,2,3

ACCESSORIES:
1. NSF LISTING
2. DOOR SWITCH
3. DELAY TIMER
4. 120V/1ø/60Hz
5. 208V/3ø/60Hz

NOTES:
1. SET DELAY TIMER TO 30 SECONDS
2. MAINTAIN 7" CLEARANCE FOR MOTOR ACCESS ON SIDE OF AIR CURTAIN.
3. FINAL ELECTRIC REQUIREMENT NEED TO BE CONFIRMED WITH THE MANUFACTURER.

KITCHEN HOOD SCHEDULE

TAG	SERVED BY	MANUFACTURER	MODEL	NOTES	AIRFLOW CFM	AIRFLOW CFM/LF	FILTERS QTY/SIZE	FILTERS FPM
KH 1 (N)	EXHAUST FAN (EF–1)	FRANKE	UH–122HD	1–4	1690	166	6/–	–
		H&K						
KH 2 (N)	EXHAUST FAN (EF–2)	FRANKE	UH–43	1–4	602	168	2/–	–
		H&K						
KH 3 (N)	EXHAUST FAN (EF–3)	FRANKE	UH–50	1–4	720	173	3/–	–
		H&K						

NOTES:
1. HOODS SHALL BE PROVIDED BY THE KES (SEE COORDINATION SCHEDULE)
2. SEE HOOD DRAWINGS FOR CONSTRUCTION DETAILS AND UL INFORMATION
3. REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS
4. CAPTURE JET PLENUMS TO BE INSTALLED ON HOOD, REFER TO K2.1 KITCHEN SCHEDULE.

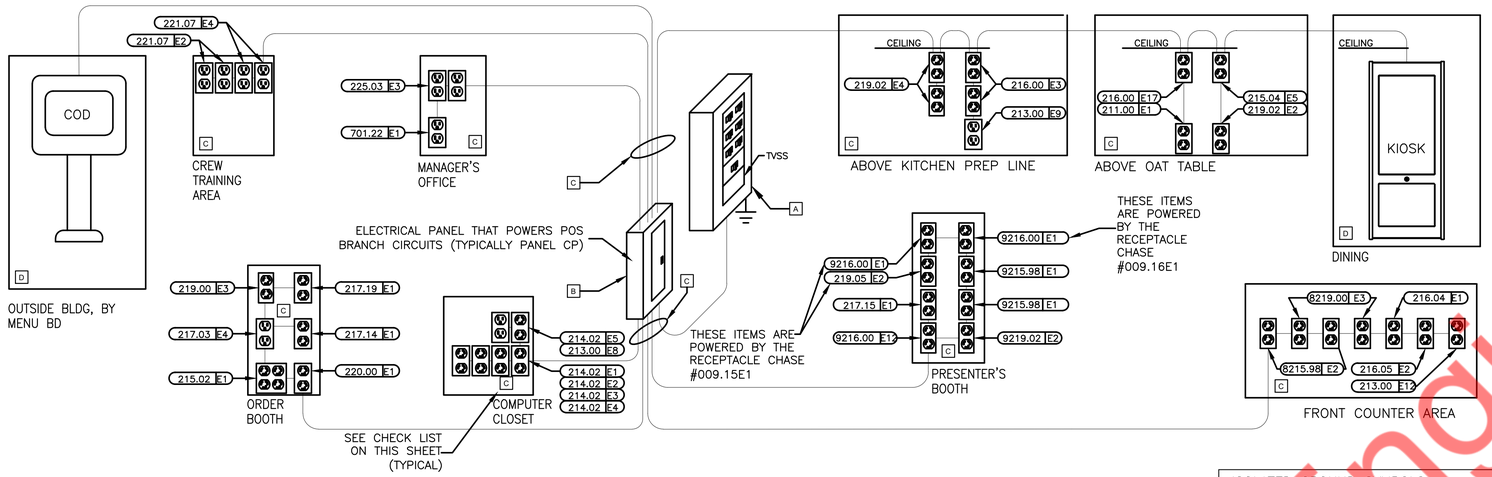
FAN SCHEDULE

TAG	MANUFACTURER	MODEL	SERVES	ACCESSORIES	NOTES	DESIGN CFM	DESIGN E.S.P	DESIGN BHP	DESIGN FRPM	ELECTRICAL VOLTS	ELECTRICAL Ø	ELECTRICAL Hz	ELECTRICAL HP	ELECTRICAL AMPS
EF 1 (N)	GREENHECK	CUE–161 HP–VG7–MCD	KITCHEN HOOD (KH–1)	1–5,14	1,2,6,8	1690	1.50	0.61	1409	120 TO 10VDC ECM	1	60	3/4	8.8
EF 2 (N)	GREENHECK	CUE–141 HP–VG5–MCD	KITCHEN HOOD (KH–2)	1–5,14	1,2,6,8	602	1.50	0.33	1592	120 TO 10VDC ECM	1	60	1/2	6.4
EF 3 (N)	GREENHECK	CUE–100 HP–VG	KITCHEN HOOD (KH–3)	1–5,14	1,2,6,8	720	1.50	0.45	2452	120 TO 10VDC ECM	1	60	1/2	6.6
EF 4 (N)	GREENHECK	G–095–VG	DINING RESTROOMS	6–8,14	1,2,5	300	0.75	0.1	1611	120 TO 10VDC ECM	1	60	1/6	2.8
EF 5 (N)	GREENHECK	SP–B110	DINING ROOM JANITOR'S CLOSET	6,9–12	1–3,5	75	0.50	–	950	120	1	60	–	1.15

ACCESSORIES:
1. 2–POLE NEMA 3R DISCONNECT SWITCH FACTORY–WIRED AND MOUNTED TO FAN
2. UL 762 LISTED AND LABELED
3. ROOF CURB TO BE PROVIDED WITH 1" INSULATION
4. CURB EXTENSION INTEGRAL TO MCD FAN PACKAGE
5. HINGED CURB CAP KIT WITH CABLES
6. 120VAC BACKDRAFT DAMPER
7. ROOF CURB MODEL GPF–19–12–G14 WITH 1" INSULATION AND DAMPER TRAY
8. NEMA 1 DISCONNECT SWITCH
9. EXTERNAL STEADY–STATE SPEED CONTROLLER
10. ROUND DUCT CONNECTOR
11. TWO (2) 13W COMPACT FLUORESCENT LAMPS
12. PRISMATIC LENS
13. WINDBAND EXTENSION ON FAN OUTLET
14. VARIGREEN 10VDC ELECTRONICALLY COMMUTATED MOTOR

NOTES:
1. NO SUBSTITUTIONS PERMITTED
2. TO ORDER GREENHECK EQUIPMENT CALL (888)325–6529 OR E–MAIL: MCD@GREENHECK.COM
3. ELECTRICAL CONTRACTOR SHALL PROVIDE DOOR SWITCH FOR LIGHT CONTROL
4. MECHANICAL CONTRACTOR SHALL FURNISH LINE VOLTAGE THERMOSTAT FOR FAN CONTROL. ELECTRICAL CONTRACTOR SHALL INSTALL THERMOSTAT.
5. CONNECT TO TIMECLOCK FOR FAN SHUT–OFF DURING UNOCCUPIED HOURS
6. REFER TO E3.2 FOR HOOD/FAN INTERLOCK DETAILS.
7. S.A.E– SAME AS EXISTING.
8. ALL THE KITCHEN EXHAUST FANS TO BE PROVIDED BY KES AS PER FINAL KITCHEN EQUIPMENT SELECTIONS. COORDINATE WITH KES FOR EXACT MODEL NUMBER AND ELECTRIC INPUTS.

THE PURPOSE OF THIS SHEET IS TO PROVIDE A CHECKLIST AND VISUAL GUIDE SO THE INSTALLING EC CAN VERIFY THE WORK IS IN COMPLIANCE WITH MCDONALD'S SPECIFICATIONS THAT ARE CRITICAL TO THE PROPER FUNCTIONING OF OUR POINT OF SALE (POS) COMPUTER SYSTEMS.



POS ELECTRICAL RISER DIAGRAM

THIS RISER DIAGRAM SHOWS THE ELECTRICAL ROUGH-INS REQUIRED FOR A TYPICAL POINT OF SALE (POS) SYSTEM IN A FREE STANDING FAST FORWARD RESTAURANT. VERIFY ALL POS ROUGH-INS AND MOUNTING HEIGHTS WITH THE ELECTRICAL ROUGH-IN PLAN, NOTES AND INFORMATION DRAWINGS.

ISOLATED GROUND SYMBOLS	
SYMBOL	DESCRIPTION
	IG4710
	IG4700A
	IG5261
	IG5262

LOW VOLTAGE CABLE MANAGEMENT SPECIFICATION

GENERAL/MATERIALS

1. THE GC OR EC SHALL FURNISH AND INSTALL A COMPLETE LOW VOLTAGE CABLE MANAGEMENT SYSTEM UTILIZING CADDY-ERICO TYPE CAT-32 J-HOOK SUPPORTS (2-INCH DIAMETER LOOP MINIMUM). ALL J-HOOKS SHALL;
   - HAVE A MINIMUM BEARING SURFACE OF 1⅜",
   - HAVE FLARED EDGES TO PREVENT DAMAGE TO HIGH PERFORMANCE CABLES,
   - HAVE AN ELECTRO-GALVANIZED FINISH,
   - HAVE 3/8" WIDE CABLE RETAINING STRAPS,
   - BE UL LISTED AND LABELED,
   - BEAR THE UL SYMBOL MARKING ON THE PART FOR IDENTIFICATION
   - BE INSTALLED PER THE MANUFACTURERS INSTALLATION INSTRUCTIONS.
2. THE ENTIRE INSTALLATION SHALL BE IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), NEC SECTION 800, BICSI STANDARDS 568 & 569, ALL APPLICABLE NATIONAL, STATE, LOCAL, AND SAFETY CODES, AND McDONALD'S SPECIFICATIONS.

INSTALLATION

1. LOW VOLTAGE J-HOOK CABLE PATHWAY (FOR POS CABLING SYSTEM) SHALL BE PROVIDED FROM THE MANAGERS OFFICE (OR COMPUTER CLOSET) DATA CONDUIT STUB-UP LOCATION TO THE FOLLOWING DATA CONDUIT STUB-UP LOCATIONS (AS APPLICABLE):
   - FRONT COUNTER.
   - PRESENTERS BOOTH.
   - CASHIERS BOOTH.
   - THIRD DRIVE-THRU WINDOW(IF PRESENT).
   - CREW ROOM.
   - VALENCE WALL.
   - REMOTE ORDERING STATIONS.
   - NETPOP TELEPHONE PANEL LOCATION.

   CABLE SUPPORTS SHALL BE PROVIDED WITHIN 24 INCHES OF THESE STUB-UP LOCATIONS. ALL STUB-UP CONDUITS SHALL BE PROVIDED WITH AN INSULATED BUSHING TO PROTECT CABLES DURING INSTALLATION.
2. THE LOCATION AND ROUTING OF THE LOW VOLTAGE CABLE MANAGEMENT SYSTEM SHALL BE COORDINATED WITH ALL OTHER CONSTRUCTION TRADES PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH THE OTHER TRADES FINAL INSTALLATIONS, BOTH BEFORE AND AFTER THE CABLE MANAGEMENT SYSTEM AND THE POS CABLING ARE INSTALLED. FINAL INSTALLATION LOCATION SHALL BE READILY ACCESSIBLE TO ALLOW FOR EASE IN INSTALLATION OF THE POS CABLING BY THE POS VENDOR'S INSTALLER.
3. LOW VOLTAGE J-HOOK CABLE SUPPORTS AND APPURTENANCES SHALL BE FASTENED TO THE BUILDING STRUCTURAL AND/OR FRAMING MEMBERS. LOW VOLTAGE J-HOOK CABLE SUPPORTS SHALL NOT BE FASTENED OR UTILIZE THE CEILING GRID SUSPENSION WIRES OR T-BAR GRID FOR INSTALLATION. CONTRACTOR SHALL PROVIDE ALL NECESSARY BRACKETS, HANGERS, RODS, CLAMPS, FLANGES, SUPPORTS, ETC. FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM. THE INSTALLATION OF THE LOW-VOLTAGE CABLE MANAGEMENT SYSTEM SHALL BE DONE SO THAT THE ROUTING OF THE CABLES IS PARALLEL TO AND/OR PERPENDICULAR TO FRAMING AND STRUCTURAL BUILDING MEMBERS.
4. LOW VOLTAGE J-HOOK CABLE SUPPORTS SHALL BE INSTALLED A MAXIMUM OF 36 INCHES APART. AT TRANSITION LOCATIONS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL J-HOOKS TO ALLOW FOR A MINIMUM ONE-FOOT RADIUS BEND AND FOR ADDITIONAL CABLE SUPPORT AT THESE TRANSITION POINTS.
5. TO AVOID ELECTROMAGNETIC INTERFERENCE (EMI), ALL PATHWAYS SHALL PROVIDE A MINIMUM CLEARANCE OF 4 FEET (1.2 METERS) FROM MOTORS AND TRANSFORMERS AND A MINIMUM CLEARANCE OF 1 FOOT (0.3 METERS) FROM CONDUIT AND CABLES UTILIZED FOR ELECTRICAL POWER DISTRIBUTION, OR FROM FLUORESCENT OR HID TYPE LIGHTING FIXTURES AND OTHER NON-POS LOW VOLTAGE CONDUCTORS.
6. ANY CEILING TILES IN THE AREA WHERE THE LOW-VOLTAGE CABLE MANAGEMENT SYSTEM IS LOCATED SHALL NOT BE INSTALLED UNTIL THE POS VENDOR'S CONTRACTOR COMPLETES THE INSTALLATION OF ALL POS CABLING.
7. ALL NON-POS LOW VOLTAGE CABLING SHALL BE INSTALLED IN A SEPARATE CABLE MANAGEMENT SYSTEM INDEPENDENT OF THE LOW-VOLTAGE CABLE MANAGEMENT SYSTEM UTILIZED FOR THE POS CABLING.
8. THE POS INSTALLER SHALL BE RESPONSIBLE TO FURNISH AND INSTALL ALL LOW VOLTAGE CABLING REQUIRED FOR THE COMPLETE AND FULLY FUNCTIONAL OPERATION OF THE POS SYSTEM. ALL POS CABLING SHALL BE INSTALLED WITHIN THE LOW-VOLTAGE CABLE MANAGEMENT SYSTEM.

ELECTRICAL POS CERTIFICATION

AS OF THE DATE BELOW, I HEREBY CERTIFY THAT ALL ELECTRICAL WORK, ELECTRICAL SERVICE AND ELECTRICAL SYSTEMS, MATERIALS AND LABOR RELATED TO THE POS ELECTRICAL INSTALLATION IN WHICH THE UNDERSIGNED ARE DIRECTLY OR INDIRECTLY RESPONSIBLE HAVE BEEN PROPERLY INSTALLED IN FULL COMPLIANCE WITH ALL CONSTRUCTION DOCUMENTS AND ALL NFPA, BUILDING, ELECTRICAL AND OTHER APPLICABLE CODES, ALONG WITH ALL OF THE REQUIREMENTS OUTLINED ON THIS DRAWING. I FURTHER CERTIFY THAT THE ELECTRIC SERVICE POWERING THE POS SYSTEM HAS BEEN PROPERLY INSTALLED BY A QUALIFIED ELECTRICIAN. SKILLED, KNOWLEDGEABLE AND TRAINED TO INSTALL ALL THE REQUIRED ELECTRICAL DISTRIBUTION COMPONENTS NECESSARY TO POWER THE POINT OF SALE (POS) SYSTEM.

GENERAL CONTRACTOR: _____

BY: _____

DATE: _____

ELECTRICAL CONTRACTOR: _____

BY: _____

DATE: _____

START HERE

A VISUALLY INSPECT THE MAIN ELECTRICAL PANEL (MDP)

YES	NO	N/A		
☐	☐	☐	1.	IS AN EQUIPMENT GROUND BAR INSTALLED SUCH THAT IT IS ELECTRICALLY CONNECTED TO THE PANEL?
☐	☐	☐	2.	DO ALL NEUTRAL CONDUCTORS TERMINATE ONLY TO THE NEUTRAL BAR?
☐	☐	☐	3.	DO ALL EQUIPMENT GROUND CONDUCTORS TERMINATE ONLY TO THE EQUIPMENT GROUND BAR?
☐	☐	☐	4.	DOES THE ISOLATED GROUND CONDUCTOR (GREEN W/YELLOW STRIPE) TERMINATE ON THE EQUIPMENT GROUND BAR?
☐	☐	☐	5.	IS THERE AN APPROPRIATE ELECTRICAL CONNECTION (BOND) BETWEEN THE NEUTRAL BAR AND THE EQUIPMENT GROUND BAR?
☐	☐	☐	6.	DOES THE GROUNDING SYSTEM COMPLY WITH MCDONALD'S "BUILDING ELECTRICAL GROUNDING DETAIL"?
☐	☐	☐	7.	IS A SURGE PROTECTOR INSTALLED THAT COMPLIES WITH MCDONALD'S "TVSS INSTALLATION GUIDE" OR DETAIL?
☐	☐	☐	8.	ARE ALL ELECTRICAL CONNECTIONS (WIRING & BUSING) PROPERLY TIGHTENED?
☐	☐	☐	9.	ARE ALL CIRCUIT BREAKERS CLEARLY LABELED?

B VISUALLY INSPECT THE PANEL "CP" THAT POWERS POS

YES	NO	N/A		
☐	☐	☐	1.	IS AN EQUIPMENT GROUND BAR INSTALLED SUCH THAT IT IS ELECTRICALLY CONNECTED TO THE PANEL?
☐	☐	☐	2.	IS AN ISOLATED GROUND BAR INSTALLED SUCH THAT IT IS ELECTRICALLY INSULATED FROM THE PANEL?
☐	☐	☐	3.	DO ALL NEUTRAL CONDUCTORS TERMINATE ONLY TO THE NEUTRAL BAR?
☐	☐	☐	4.	DO ALL EQUIPMENT GROUND CONDUCTORS TERMINATE ONLY TO THE EQUIPMENT GROUND BAR?
☐	☐	☐	5.	DO ALL ISOLATED GROUND CONDUCTORS (GREEN W/YELLOW STRIPE) TERMINATE ONLY TO THE ISOLATED GROUND BAR?
☐	☐	☐	6.	ARE ALL ELECTRICAL CONNECTIONS (WIRING & BUSING) PROPERLY TIGHTENED?
☐	☐	☐	7.	ARE ALL POS AND COD CIRCUIT BREAKERS ON THE SAME PANEL?
☐	☐	☐	8.	ARE ALL CIRCUIT BREAKERS CLEARLY LABELED?
☐	☐	☐	9.	DO ALL POS & COD CIRCUIT BREAKERS HAVE A LOCKING MECHANISM ON THEIR HANDLES TO PREVENT THEM FROM BEING SHUT OFF BY MISTAKE?
☐	☐	☐	10.	DOES THE FEEDER CIRCUIT FOR THIS SUBPANEL CONTAIN PHASE, NEUTRAL ONE EQUIPMENT GROUND AND ONE ISOLATED GROUND CONDUCTORS THAT ARE PROPERLY TERMINATED (SEE POS & COD ISO GND/DED CKT DETAIL)?

VISUALLY INSPECT ALL REMAINING ELECTRICAL SUBPANELS

YES	NO	N/A		
☐	☐	☐	1.	IS AN EQUIPMENT GROUND BAR INSTALLED SUCH THAT IT IS ELECTRICALLY CONNECTED TO THE PANEL?
☐	☐	☐	2.	DO ALL NEUTRAL CONDUCTORS TERMINATE ONLY TO THE NEUTRAL BAR?
☐	☐	☐	3.	DO ALL EQUIPMENT GROUND CONDUCTORS TERMINATE ONLY TO THE EQUIPMENT GROUND BAR?
☐	☐	☐	4.	ARE ALL ELECTRICAL CONNECTIONS (WIRING & BUSING) PROPERLY TIGHTENED?
☐	☐	☐	5.	ARE ALL CIRCUIT BREAKERS CLEARLY LABELED?
☐	☐	☐	6.	DOES THE FEEDER CIRCUIT FOR THIS SUBPANEL CONTAIN PHASE, NEUTRAL AND ONE EQUIPMENT GROUND CONDUCTORS THAT ARE PROPERLY TERMINATED? (SEE BUILDING ELECTRICAL GROUNDING DETAIL)

C VISUALLY INSPECT THE POS BRANCH CIRCUITS

YES	NO	N/A		
☐	☐	☐	1.	ARE THE POS BRANCH CIRCUITS ROUTED IN THEIR OWN CONDUIT BY THEMSELVES?
☐	☐	☐	2.	IF THE POS BRANCH CIRCUIT IS ROUTED ABOVE GRADE, IS IT IN A METALLIC CONDUIT?
☐	☐	☐	3.	DOES EACH POS BRANCH CIRCUIT CONTAIN: ONE PHASE (BLACK COLORED INSULATION) ONE NEUTRAL (WHITE COLORED INSULATION) ONE EQUIPMENT GROUND (GREEN COLORED INSULATION) ONE ISOLATED GROUND (GREEN W/YELLOW STRIPE COLORED INSULATION).
☐	☐	☐	4.	DO ALL POS BRANCH CIRCUITS TERMINATE AT EITHER AN IG4700, IG4710, IG5261, IG5262 RECEPTACLES OR ANY COMBINATION OF THESE?
☐	☐	☐	5.	ARE ALL ELECTRICAL TERMINATIONS TO IG RECEPTACLES MADE WITH SOLID #12 AWG WIRE CAPTURED AROUND THE SCREW BARREL AND SUITABLY TIGHTENED?
☐	☐	☐	6.	ARE ALL BRANCH CIRCUIT CONNECTIONS PROPERLY TIGHTENED?
☐	☐	☐	7.	ARE THE CORRECT AMOUNT AND TYPE OF IG RECEPTACLES PROVIDED AS SHOWN IN THE ELECTRICAL ROUGH-IN PLAN, NOTES AND INFORMATION?
☐	☐	☐	8.	DO ALL POS RECEPTACLES HAVE ORANGE "COMPUTER ONLY" COVERPLATES?
☐	☐	☐	9.	DO ALL POS BRANCH CIRCUITS COMPLY WITH THE "POS & COD ISOLATED GROUND/DEDICATED CIRCUIT DETAIL?

D VISUALLY INSPECT THE POS BRANCH CIRCUIT FOR THE COD & KIOSK

YES	NO	N/A		
☐	☐	☐	1.	ARE THE COD AND KIOSK BRANCH CIRCUITS ROUTED IN THEIR OWN CONDUIT BY THEMSELVES?
☐	☐	☐	2.	DOES EACH COD AND KIOSK BRANCH CIRCUIT CONTAIN; – ONE PHASE (BLACK COLORED INSULATION), – ONE NEUTRAL (WHITE COLORED INSULATION), – ONE EQUIPMENT GROUND (GREEN COLORED INSULATION), – ONE ISOLATED GROUND (GREEN W/YELLOW STRIPE COLORED INSULATION).
☐	☐	☐	3.	ARE THE COD(S) AND KIOSK(S) POWERED FROM THE SAME PANEL AS THE POS?
☐	☐	☐	4.	DO THE BREAKERS FOR THE COD(S) AND KIOSK(S) HAVE A LOCKING MECHANISM ON THEIR HANDLES THAT WILL PREVENT IT FROM BEING SHUT OFF?
☐	☐	☐	5.	DO THE COD BRANCH CIRCUIT(S) COMPLY WITH THE "POS & COD ISOLATED GROUND/DEDICATED CIRCUIT DETAIL?
☐	☐	☐	6.	IF THE COD HAS AN OPTICAL ISOLATOR, IS A STRAIGHT BLADE ISOLATED GROUND RECEPTACLE ON AN ISOLATE GROUND/DEDICATED CIRCUIT PROVIDED FOR IT?

ARE ALL BOXES CHECKED "YES"?

NO

REWORK ELECTRICAL SYSTEM TO BRING INTO COMPLIANCE WITH MCDONALD'S SPECIFICATIONS

YES

ALL WORK IS NOT CONSIDERED TO MEET MCDONALD'S SPECIFICATIONS UNTIL THE INSTALLED ELECTRICAL SYSTEM SUPPORTS A "YES" ANSWER FOR ALL QUESTIONS ASKED.

AS PART OF THIS PROCESS, THE EC AND THE GC WILL BE REQUIRED TO SIGN THE ELECTRICAL CERTIFICATION DOCUMENT INDICATING THAT THE INSTALLED ELECTRICAL SYSTEM MEETS MCDONALD'S SPECIFICATIONS.

FINISHED

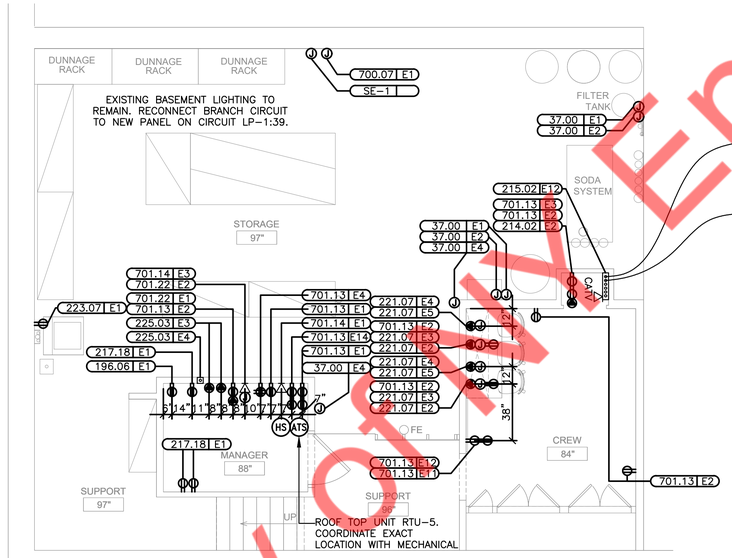
NOTICE:

CHANGES SHALL NOT BE MADE TO THE POS ELECTRICAL SYSTEM AFTER THE POS EQUIPMENT HAS BEEN INSTALLED WITHOUT FIRST NOTIFYING THE POS VENDOR.

IF CHANGES ARE MADE TO THE POS ELECTRICAL SYSTEM AFTER THE CERTIFICATION PROCESS HAS BEEN COMPLETED, THEN A SYSTEM RE-CERTIFICATION SHALL BE REQUIRED.

TRASH CORRAL POWER:

3/4"C-4#10 & 1#10 GND TO A 30A-2P AND A 20A-1P CB IN PANEL AP-2 FOR TRASH COMPACTOR AND WP GFCI DCO. PROVIDE 30A-2P NF DISCONNECT FOR TRASH COMPACTOR. VERIFY EXACT LOCATION AND ALL REQUIREMENTS OF TRASH CORRAL IN FIELD.



1 / E1.1 BASEMENT POWER PLAN

1/4" = 1'-0"

SYMBOLS AND ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	SINGLE POLE SWITCH, 3W=THREE WAY SWITCH, K=KEYED SWITCHED, VS=VACANCY SENSOR	(B)	BUZZER
T	MANUAL SWITCH (T=THERMAL OVERLOADS)	(B)	BUTTON FOR BUZZER
T	TRANSFORMER		PULLBOX
	JB WITH DUPLEX CONVENIENCE OUTLET (FLUSH WITH CEILING)		PANELBOARD
	JB WITH SINGLE CONVENIENCE OUTLET		CIRCUIT BREAKER
	JB WITH DUPLEX CONVENIENCE OUTLET	A	AMPERES
	JB WITH TWO DUPLEX CONVENIENCE OUTLETS	ACM	AREA CONSTRUCTION MANAGER
GFI	JB WITH SPECIAL PURPOSE OUTLET	AFF	ABOVE FINISHED FLOOR
GFI	JB WITH ISOLATED GROUND OUTLET = IG4710, =IG5261, =IG4700A, =IG5262	C	CONDUIT
		CCT	CIRCUIT
	INTERCOM STATION W/ 3/4"C- TO MAIN STATION	EC	ELECTRICAL CONTRACTOR
	TELEPHONE JACK	GC	GENERAL CONTRACTOR
(J)	JUNCTION BOX - WALL OR CEILING MOUNTED	GFI/GFCI	GROUND FAULT CIRCUIT INTERRUPTER
	DISCONNECT SWITCH	GND	GROUND
(S)	STUB UP THRU ROOF	IG	ISOLATED GROUND
(T)	THERMOSTAT SENSOR W/ 1/2"C- UP TO CEILING SPACE	JB	JUNCTION BOX
(M)	MOTOR CONNECTION	KES	KITCHEN EQUIPMENT SUPPLIER
	CONDUIT RUN CONCEALED IN CEILING OR WALLS	MLO	MAIN LUGS ONLY
	CONDUIT RUN IN FLOOR SLAB	WP	WEATHERPROOF
X	HOT (SHORT), NEUTRAL (LONG), EQUIP GRD (LONG WITH DOT), & & 'X' DENOTES ISOLATED GRD	(CO)	CARBON MONOXIDE SENSOR
	J-BOX WITH FINAL EQUIPMENT CONNECTION		
OS	CEILING MOUNTED OCCUPANCY SENSOR		

ADT ROUGH-IN NOTES

1. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH ADT PRIOR TO INSTALLATION TEL. 800-417-8238
2. EC SHALL PROVIDE A 2 GANG 3 25/32" X 3 25/32" X 3 1/2"D JUNCTION BOX AT DOOR FOR INSTALLATION OF DOOR ALARM UNIT. STUB 1/2"C ABOVE CEILING FROM JUNCTION BOX. PROVIDE 1/2"C FROM J-BOX TO DOOR MAGNETIC SWITCH LOCATION.
3. EC SHALL PROVIDE 4" X 4" JUNCTION BOX ABOVE CEILING FOR INSTALLATION OF LOW VOLTAGE TRANSFORMER. VERIFY EXACT LOCATION WITH ADT PRIOR TO INSTALLATION. PROVIDE 1/2"C-2#12 TO LOCKOUT TYPE CB IN PANEL LP-1.

GENERAL NOTES

1. SEE SHEET E3.0 FOR PANEL & CIRCUIT BREAKER ASSIGNMENT, VOLT/PH, FLA, BREAKER SIZE, COND/WIRE, RECEPTACLE TYPE, HEIGHT ABOVE FINISHED FLOOR, REQUIREMENTS & REMARKS FOR ALL ELECTRICAL EQUIPMENT.
2. SEE LOW VOLTAGE CABLE MANAGEMENT SPECIFICATION ON SHEET E1.0 FOR POS, DATA, AND SOUND SYSTEM REQUIREMENTS.
3. GC/EC SHALL COORDINATE LOCATION AND ALL REQUIREMENTS OF CT& METER CABINET WITH LOCAL UTILITY COMPANY. CT & METER CABINET SHALL NOT BE INSTALLED ON D/T SIDE OF BUILDING. GC SHALL PAINT TO MATCH BUILDING COLOR.
4. E.C. SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENTS OF ALL THE EQUIPMENTS IN TERMS OF VOLTAGE, PHASE, AMPERAGE, PLUG, CORD, CABLE/WIRES PRIOR TO ROUGH IN WITH THE CLIENT, EQUIPMENT SUPPLIER AND FRANCHISE IN FIELD. E.C. SHALL PROVIDE THE REQUIRED CONNECTION TO THE EQUIPMENTS AS REQUIRED IN FIELD. BASE BID ACCORDINGLY.

ELECTRICAL KITCHEN COORDINATION NOTE:

1. ALL ELECTRICAL WORK INDICATED IN THE KITCHEN CONSULTANTS DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) ARE PART OF THIS CONTRACTORS SCOPE OF WORK. THIS CONTRACTOR AND ALL SUB-CONTRACTORS SHALL PROVIDE ALL WORK IN COMPLETE ACCORDANCE WITH THE KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS. LAYOUT OF THE KITCHEN, OVENS, RANGES, FRYERS, KITCHEN HOODS, KITCHEN EXHAUST FANS, KITCHEN HOOD MAKE-UP AIR UNITS, KITCHEN MAKE-UP AIR UNITS, DISHWASHERS, REFRIGERATION, WALK-IN BOXES, KITCHEN SUPPORT (FOOD AREAS), ETC. ARE DESIGNED BY THE KITCHEN CONSULTANT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND THE KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS, THEN THIS CONTRACTOR SHALL INCLUDE THE ITEM OF GREATER VALUE AND/OR GREATER QUANTITY IN THEIR BID.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO ALL EQUIPMENT ON KITCHEN CONSULTANT'S DRAWINGS. PROVIDE ALL CONDUIT, WIRING, SHUNT TRIP BREAKERS, ETC...
3. KITCHEN CONSULTANT SHALL SELECT EQUIPMENT AT THE CORRECT VOLTAGES. KITCHEN CONSULTANT SHALL FORWARD TO ENGINEER ALL TRANSFORMERS THAT THEY REQUIRE SO THAT IT CAN BE ADDED TO THE HEAT LOAD.
4. REFER TO KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) FOR ALL ADDITIONAL INFORMATION.
5. THIS CONTRACTORS SUBMISSION OF THE BID WILL BE CONSTRUED AS EVIDENCE THAT ALL THE REQUIRED REVIEW OF ALL KITCHEN CONSULTANT DRAWINGS, ARCHITECTURAL DRAWINGS, SITE DRAWINGS, ALL TRADE DRAWINGS, MANUFACTURER CUT SHEETS, REVIEW AND VERIFICATIONS HAVE BEEN MADE BY THIS CONTRACTOR. THIS CONTRACTOR MUST NOTIFY THE OWNER IN WRITING OF ANY CONFLICTS BETWEEN ANY TRADE DRAWING AND THESE DRAWINGS PRIOR TO SUBMITTING THEIR BID. ALL UNCLEAR CONCERNS OF THIS CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE ENGINEER BEFORE THE CONTRACTOR SUBMITS THE BID. NO ADDITIONAL COST WILL BE ALLOWED BECAUSE OF THIS CONTRACTOR'S FAILURE TO PROPERLY SURVEY, REVIEW AND VERIFY ALL OF THE CONDITIONS AND ALL OF THE WORK ON ALL TRADE DRAWINGS. LATER CLAIMS FOR EXTRA LABOR, MATERIALS AND EQUIPMENT DUE TO ANY CONFLICTS BETWEEN ANY TRADE DRAWINGS THAT COULD HAVE BEEN FORESEEN, WILL NOT BE ALLOWED.
6. NO WORK SHALL BE PERFORMED WITHOUT ALL THE COUNTY DEPARTMENT OF HEALTH APPROVALS THAT ARE REQUIRED FOR A COMMERCIAL COOKING KITCHEN. ALL DEPARTMENT OF HEALTH APPROVALS ARE REQUIRED PRIOR TO ORDERING ANY EQUIPMENT.
7. KITCHEN EQUIPMENT APPROVED FINAL SHOP DRAWINGS MUST BE REVIEWED BY THIS CONTRACTOR PRIOR TO START OF WORK. COORDINATE ALL KITCHEN EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO START OF WORK. COORDINATE FINAL KITCHEN EQUIPMENT POWER REQUIREMENTS WITH KITCHEN CONSULTANT PRIOR TO START OF WORK. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS (POWER, NEUTRAL, GROUND, BUS BAR, ETC.). ADJUST THE NEMA CONFIGURATION AS NECESSARY.
8. COORDINATE EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO INSTALLATION. COORDINATE FINAL EQUIPMENT POWER REQUIREMENTS WITH EQUIPMENT MANUFACTURER/SUPPLIER. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH ALL MANUFACTURERS REQUIREMENTS (POWER, NEUTRAL, GROUND, ETC.). ADJUST NEMA CONFIGURATION AS NECESSARY.
9. ALL MCDONALD'S OWNER REQUIREMENTS, SYSTEM CHECK OUT MANUALS, COMMISSIONING REQUIREMENTS AND BALANCING MANUALS MUST BE COMPLIED WITH BY THIS CONTRACTOR AND SHALL BE PART OF THIS CONTRACTOR'S BID

TRASH CORRAL POWER:

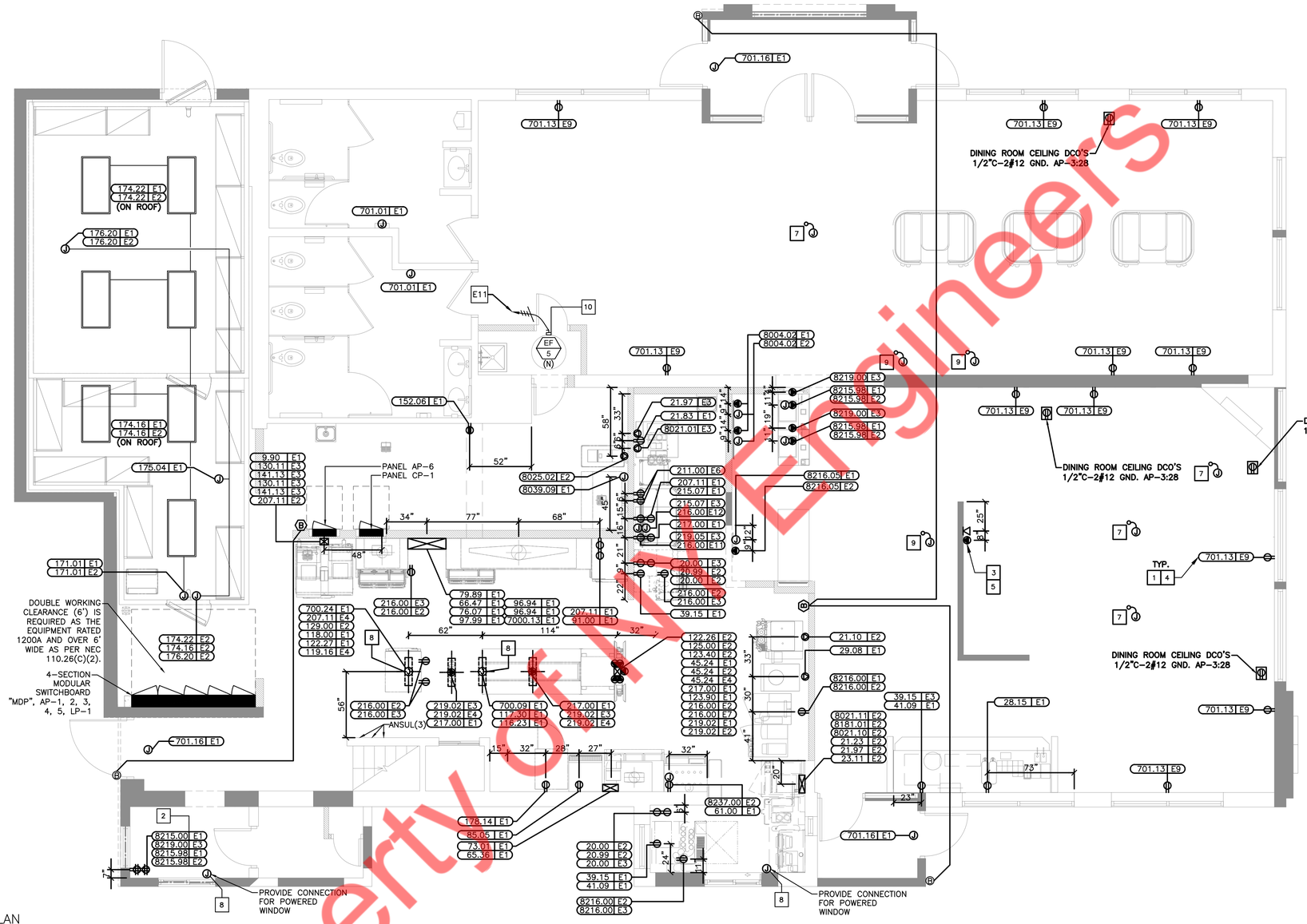
3/4"C-4#10 & 1#10 GND TO A 30A-2P AND A 20A-1P CB IN PANEL AP-2 FOR TRASH COMPACTOR AND WP GFCI DCO. PROVIDE 30A-2P NF DISCONNECT FOR TRASH COMPACTOR. VERIFY EXACT LOCATION AND ALL REQUIREMENTS OF TRASH CORRAL IN FIELD.

ELECTRICAL FIXTURE LEGEND:

REFER SHEET E1.1 FOR ELECTRICAL FIXTURE LEGEND

ELECTRICAL KITCHEN COORDINATION NOTE:

1. ALL ELECTRICAL WORK INDICATED IN THE KITCHEN CONSULTANTS DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) ARE PART OF THIS CONTRACTORS SCOPE OF WORK. THIS CONTRACTOR AND ALL SUB-CONTRACTORS SHALL PROVIDE ALL WORK IN COMPLETE ACCORDANCE WITH THE KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS. LAYOUT OF THE KITCHEN, OVENS, RANGES, FRYERS, KITCHEN HOODS, KITCHEN EXHAUST FANS, KITCHEN HOOD MAKE-UP AIR UNITS, KITCHEN MAKE-UP AIR UNITS, DISHWASHERS, REFRIGERATION, WALK-IN BOXES, KITCHEN SUPPORT (FOOD AREAS), ETC. ARE DESIGNED BY THE KITCHEN CONSULTANT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND THE KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS, THEN THIS CONTRACTOR SHALL INCLUDE THE ITEM OF GREATER VALUE AND/OR GREATER QUANTITY IN THEIR BID.
2. ELECTRICAL CONTRACTOR SHALL PROVIDE POWER TO ALL EQUIPMENT ON KITCHEN CONSULTANT'S DRAWINGS. PROVIDE ALL CONDUIT, WIRING, SHUNT TRIP BREAKERS, ETC...
3. KITCHEN CONSULTANT SHALL SELECT EQUIPMENT AT THE CORRECT VOLTAGES. KITCHEN CONSULTANT SHALL FORWARD TO ENGINEER ALL TRANSFORMERS THAT THEY REQUIRE SO THAT IT CAN BE ADDED TO THE HEAT LOAD.
4. REFER TO KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) FOR ALL ADDITIONAL INFORMATION.
5. THIS CONTRACTORS SUBMISSION OF THE BID WILL BE CONSTRUED AS EVIDENCE THAT ALL THE REQUIRED REVIEW OF ALL KITCHEN CONSULTANT DRAWINGS, ARCHITECTURAL DRAWINGS, SITE DRAWINGS, ALL TRADE DRAWINGS, MANUFACTURER CUT SHEETS, REVIEW AND VERIFICATIONS HAVE BEEN MADE BY THIS CONTRACTOR. THIS CONTRACTOR MUST NOTIFY THE OWNER IN WRITING OF ANY CONFLICTS BETWEEN ANY TRADE DRAWING AND THESE DRAWINGS PRIOR TO SUBMITTING THEIR BID. ALL UNCLEAR CONCERNS OF THIS CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE ENGINEER BEFORE THE CONTRACTOR SUBMITS THE BID. NO ADDITIONAL COST WILL BE ALLOWED BECAUSE OF THIS CONTRACTORS FAILURE TO PROPERLY SURVEY, REVIEW AND VERIFY ALL OF THE CONDITIONS AND ALL OF THE WORK ON ALL TRADE DRAWINGS. LATER CLAIMS FOR EXTRA LABOR, MATERIALS AND EQUIPMENT DUE TO ANY CONFLICTS BETWEEN ANY TRADE DRAWINGS THAT COULD HAVE BEEN FORESEEN, WILL NOT BE ALLOWED.
6. NO WORK SHALL BE PERFORMED WITHOUT ALL THE COUNTY DEPARTMENT OF HEALTH APPROVALS THAT ARE REQUIRED FOR A COMMERCIAL COOKING KITCHEN. ALL DEPARTMENT OF HEALTH APPROVALS ARE REQUIRED PRIOR TO ORDERING ANY EQUIPMENT.
7. KITCHEN EQUIPMENT APPROVED FINAL SHOP DRAWINGS MUST BE REVIEWED BY THIS CONTRACTOR PRIOR TO START OF WORK. COORDINATE ALL KITCHEN EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO START OF WORK. COORDINATE FINAL KITCHEN EQUIPMENT POWER REQUIREMENTS WITH KITCHEN CONSULTANT PRIOR TO START OF WORK. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS REQUIREMENTS (POWER, NEUTRAL, GROUND, BUS BAR, ETC.). ADJUST THE NEMA CONFIGURATION AS NECESSARY.
8. COORDINATE EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO INSTALLATION. COORDINATE FINAL EQUIPMENT POWER REQUIREMENTS WITH EQUIPMENT MANUFACTURER/SUPPLIER. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH ALL MANUFACTURERS REQUIREMENTS (POWER, NEUTRAL, GROUND, ETC.). ADJUST NEMA CONFIGURATION AS NECESSARY.
9. ALL MCDONALD'S OWNER REQUIREMENTS, SYSTEM CHECK OUT MANUALS, COMMISSIONING REQUIREMENTS AND BALANCING MANUALS MUST BE COMPLIED WITH BY THIS CONTRACTOR AND SHALL BE PART OF THIS CONTRACTOR'S BID



1 / E1.1 GROUND FLOOR POWER PLAN

1/4" = 1'-0"

KEY NOTES

1. TAMPER RESISTANT GFCI DUPLEX RECEPTACLE IN PUBLIC AREAS. EC SHALL PROVIDE HUBBELL GFTRST* ("*": AL=ALMOND, BK=BLACK, --=BROWN, GY=GRAY, I=IVORY, LA=LIGHT ALMOND, R=RED, W=WHITE). SPECIFIED RECEPTACLE BECOMES DE-ENERGIZED UPON FAILURE OF GFCI DEVICE. NO SUBSTITUTIONS.(TYPICAL)
2. SEE POS ELECTRICAL RISER DIAGRAM ON SHEET E1.0. (TYPICAL)
3. SEE NOTE FLAT PANEL TELEVISION NOTE ON SHEET E3.2.
4. PER THE AMERICAN WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG), A MINIMUM OF ONE (1) ADA COMPLIANT ELECTRICAL RECEPTACLE SHALL BE INSTALLED AT AN ACCESSIBLE TABLE. GC/EC SHALL REFERENCE FINAL DECOR PLANS AND PROVIDE RECEPTACLES AS NECESSARY FOR COMPLIANCE. (TYPICAL)
5. COORDINATE LOCATION OF RECEPTACLES SO THAT RECEPTACLES ARE LOCATED ON FULL HEIGHT WALLS PER THE DECOR PLAN. STUB UP AND CIRCUIT IN HALF WALL FOR RECEPTACLES NOT ON FULL HEIGHT WALLS, CONFIRM FINAL LOCATIONS WITH DECOR DRAWINGS PRIOR TO ROUGH-IN.
6. IF MOUNTED TO A LIGHTING POLE, DT CAMERA SHALL ONLY BE INSTALLED ON A POLE WITH MAXIMUM OF (2) LIGHTING HEADS. PROVIDE ISOLATION OF DT CAMERA MOUNTING HARDWARE AND POLE TO PREVENT BI-METALLIC OR GALVANIC CORROSION.

KEY NOTES

7. E.C. TO PROVIDE AN ALLOWANCE IN BID TO PROVIDE TWO(2) FLEXIBLE POWER CONNECTIONS FOR POWER TO FURNITURE/ FAMILY EXPERIENCE ELEMENTS AS PART OF THE DECOR PACKAGE. E.C. SHALL VERIFY EXACT LOCATIONS IN FIELD AND WITH DECOR DRAWINGS. PROVIDE ALL NECESSARY MATERIALS AND LABOR FOR A COMPLETE AND FULLY NEC CODE COMPLIANT INSTALLATION. ALL COMPONENTS SHALL BE FED FROM A GFCI TYPE CIRCUIT BREAKER AND BRANCH CIRCUIT SHALL CONTAIN TWO PATHS OF GROUNDING (CONDUIT BODY AND AN INSULATED GROUNDING CONDUCTOR) TO COMPLY WITH McDONALD'S GROUNDING STANDARDS.
8. DRIVE THRU WINDOW POWER, CONFIRM REQUIREMENTS WITH MANUFACTURER DRAWINGS.
9. PROVIDE POWER WITHIN CEILING FOR CONNECTION TO SELF ORDER KIOSKS. COORDINATE EXACT LOCATION OF KIOSKS WITH DECOR DRAWINGS. PROVIDE 2#12, 1#12 GRD., & 1#12 ISOLATED GROUND ON A 20A DEDICATED CIRCUIT FED FROM THE CP PANEL FOR EVERY ONE (1) DOUBLE SIDED OR TWO (2) SINGLE SIDED KIOSKS.
10. CLOSET EXHAUST FANS. SEE SHEET E3.0 FOR ELECTRICAL REQUIREMENTS FOR NEW EXHAUST FAN. SEE SHEET E3.3 FOR EXHAUST FAN INTERLOCK WIRING DIAGRAMS. (TYPICAL)
11. REFER TO PANEL SCHEDULE ON SHEET E4.2 FOR CIRCUITING.(TYPICAL)

ADT ROUGH-IN NOTES

1. COORDINATE EXACT INSTALLATION REQUIREMENTS WITH ADT PRIOR TO INSTALLATION TEL. 800-417-8238
2. EC SHALL PROVIDE A 2 GANG 3 25/32" X 3 25/32" X 3 1/2"D JUNCTION BOX AT DOOR FOR INSTALLATION OF DOOR ALARM UNIT. STUB 1/2"C ABOVE CEILING FROM JUNCTION BOX. PROVIDE 1/2"C FROM J-BOX TO DOOR MAGNETIC SWITCH LOCATION.
3. EC SHALL PROVIDE 4" X 4" JUNCTION BOX ABOVE CEILING FOR INSTALLATION OF LOW VOLTAGE TRANSFORMER. VERIFY EXACT LOCATION WITH ADT PRIOR TO INSTALLATION. PROVIDE 1/2"C-2#12 TO LOCKOUT TYPE CB IN PANEL LP-1.

GENERAL NOTES

1. SEE SHEET E3.0 FOR PANEL & CIRCUIT BREAKER ASSIGNMENT, VOLT/PH, FLA, BREAKER SIZE, COND/WIRE, RECEPTACLE TYPE, HEIGHT ABOVE FINISHED FLOOR, REQUIREMENTS & REMARKS FOR ALL ELECTRICAL EQUIPMENT.
2. SEE LOW VOLTAGE CABLE MANAGEMENT SPECIFICATION ON SHEET E1.0 FOR POS, DATA, AND SOUND SYSTEM REQUIREMENTS.
3. GC/EC SHALL COORDINATE LOCATION AND ALL REQUIREMENTS OF CT& METER CABINET WITH LOCAL UTILITY COMPANY. CT & METER CABINET SHALL NOT BE INSTALLED ON D/T SIDE OF BUILDING. GC SHALL PAINT TO MATCH BUILDING COLOR.
4. E.C. SHALL VERIFY THE EXACT ELECTRICAL REQUIREMENTS OF ALL THE EQUIPMENTS IN TERMS OF VOLTAGE, PHASE, AMPERAGE, PLUG, CORD, CABLE/WIRES PRIOR TO ROUGH IN WITH THE CLIENT, EQUIPMENT SUPPLIER AND FRANCHISE IN FIELD. E.C. SHALL PROVIDE THE REQUIRED CONNECTION TO THE EQUIPMENTS AS REQUIRED IN FIELD. BASE BID ACCORDINGLY.

KEY NOTES

1. ALL SOFFIT LOCATIONS, LIGHTING, & SUPPLY GRILLS SHALL BE COORDINATED WITH DECOR COMPANY DRAWING PRIOR TO INSTALLATION.
2. EC SHALL INSTALL AND CONFIGURE REMOTE EMERGENCY LIGHTING AT ALL EGRESS EXTERIOR DOORS FOR MAXIMUM ILLUMINATION AT POINTS OF EGRESS. INSTALL WP J-BOX WITHIN SOFFIT TO ALLOW A FLUSH INSTALLATION OF ANY EXTERIOR EMERGENCY EGRESS LIGHTING (TYPICAL).
3. AIR CURTAIN UNIT. COORDINATE WITH MECHANICAL FOR FINAL ELECTRICAL REQUIREMENTS PRIOR TO ROUGH-IN. (TYPICAL).
4. PROVIDE DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY SENSOR OR WALL MOUNTED VACANCY SENSOR AS SHOWN. ORDER ALL SENSORS FROM SECURITY LIGHTING SYSTEMS, INC.
5. COORDINATE BUILDING AUTOMATION SYSTEM EXACT LOCATION IN FIELD. SEE LIGHTING CONTROL DETAILS ON SHEET E4.1.
6. PROVIDE LIGHTING INVERTER FOR USE WITH FIXTURES SHOWN SHADED OR SLASHED. MODEL #LG125T SHOULD BE USED FOR F12S, F12SA & F12G WITH NOT MORE THAN EIGHT DOWNLIGHTS CONNECTED TO EACH INVERTER. IF DECOR USES ALTERNATE FIXTURES, COORDINATE INVERTER TO BE USED WITH LIGHTING SUPPLIER. E.C. SHALL VERIFY THE QUANTITY OF FIXTURES THAT CAN BE CONNECTED WITHOUT EXCEEDING OPERATING CAPACITY OF UNIT AND PROVIDE ADDITIONAL CIRCUITS AND INVERTERS AS REQUIRED. (TYPICAL)
7. CENTER VACANCY SENSOR SWITCH OPPOSITE COMPUTER RACK IN A LOCATION ACCESSIBLE FROM BOTH DOORS FOR CONTROL OF CEILING MOUNTED LIGHT, IN DATA ROOM. FAN CONTROLLED BY LOCAL THERMOSTAT.
8. PROVIDE POWER FOR LIGHT WITHIN TOY DISPLAY. COORDINATE EXACT LOCATION WITH DECOR DRAWINGS.
9. LIGHTING CONTACTORS IN NEMA 1 ENCLOSURE JUST BELOW CEILING. EC SHALL PROVIDE 120 VOLT CONTROL CIRCUIT TO CONTACTOR PANEL. VERIFY EXACT LOCATION IN FIELD AND REFER TO DRAWING E4.1 FOR ADDITIONAL DETAILS.
10. EXISTING LIGHTING FIXTURE AND ITS CONTROL SHALL REMAIN IN THIS AREA. E.C. SHALL VERIFY THE OPERABLE CONDITION OF EXISTING LIGHTING FIXTURES AND CONTROLS IN FIELD. PROVIDE NEW IF FOUND INOPERABLE. BASE BID ACCORDINGLY.
11. E.C. SHALL VERIFY WITH ARCHITECT/OWNER FOR THE LIGHT FIXTURE SPECIFICATIONS AND PROVIDE ELECTRICAL CIRCUIT AND CONTROLS AS REQUIRED IN FIELD. BASE BID ACCORDINGLY.

EMERGENCY LIGHTING NOTES

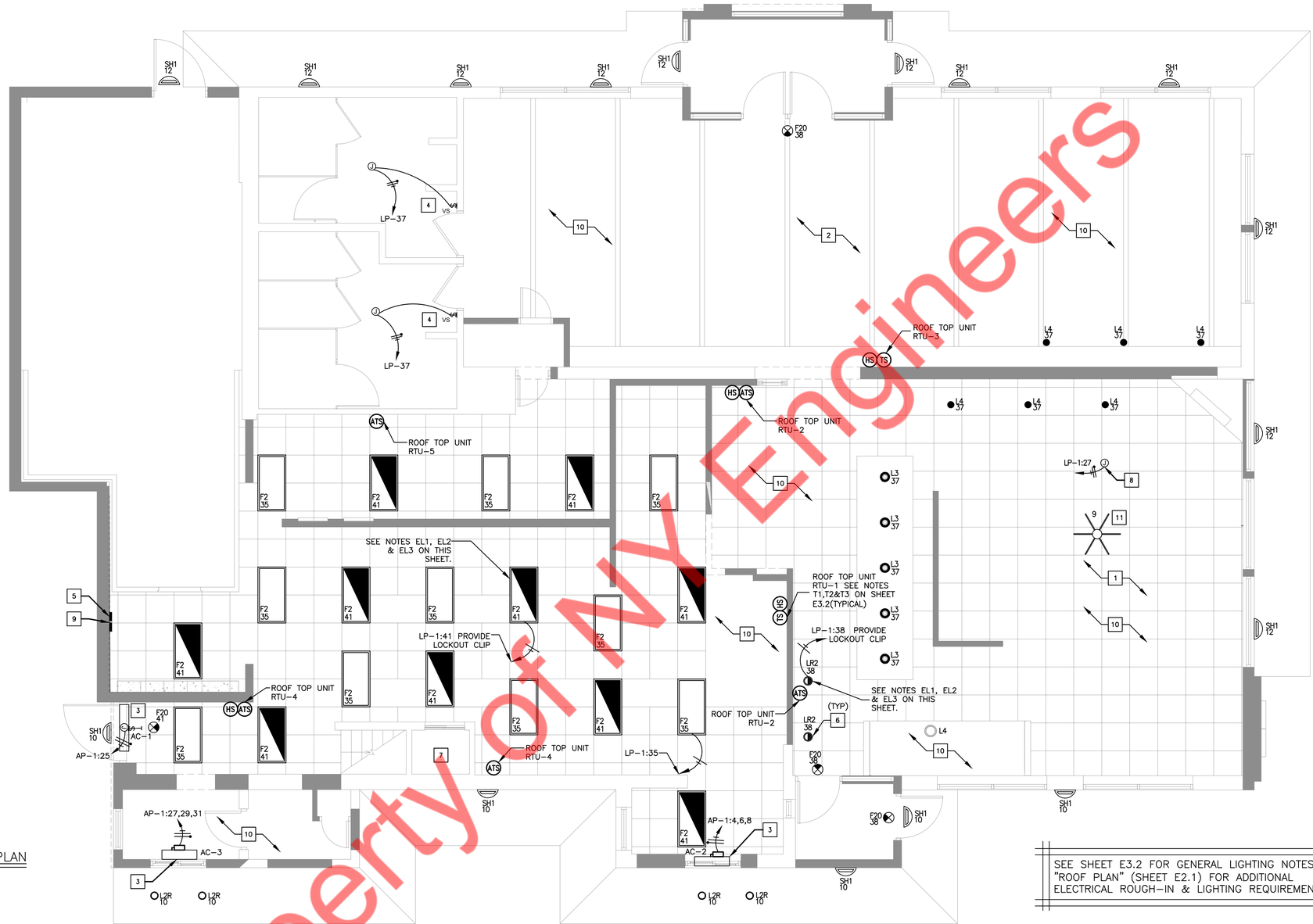
EL1. EC SHALL INSTALL A LOCK ON CIRCUIT BREAKER HANDLE,FOR ALL EMERGENCY LIGHTING CIRCUITS. EC SHALL VERIFY ALL REQUIREMENTS AND FINAL EMERGENCY LIGHTING LOCATIONS WITH LOCAL AUTHORITIES. INCLUDE ALL COSTS IN BASE BID.

EL2. IF NOT INSTALLED BY MANUFACTURER, EC SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF THE EMERGENCY INVERTER IN NIGHT LIGHTING FIXTURES SHOWN ON THIS SHEET.

EL3. LED FIXTURES DENOTED AS NIGHT LIGHTING OR SWITCHED EMERGENCY SHALL BE CONNECTED TO AN INVERTER. INVERTER SHALL BE CAPABLE OF ILLUMINATING FIXTURE FOR 1.5 HOURS TO COMPLY WITH NEC SECTION 700 AND UL924.

EL4. EMERGENCY BATTERY LIGHTING WALL PACKS IN PLAY PLACE SHALL BE LOCATED SO AS TO PROVIDE FOR MAXIMUM ILLUMINATION OF AREA. EC SHALL VERIFY EXACT PLACEMENT IN THE FIELD WITH McDonald'S ACM.
(IF APPLICABLE)

EL5. EMERGENCY LIGHTING HAS BEEN DESIGNED PER NFPA 101 TO MAINTAIN 1 FC IN PATH OF EGRESS. IF FIELD CONDITIONS REQUIRE ANY CHANGES TO LIGHTING DESIGN, EMERGENCY LIGHTING, SHALL BE INSTALLED TO MEET THE ABOVE REQUIREMENTS.



1 E2.0 GROUND FLOOR LIGHTING PLAN
1/4"=1'-0"

SEE SHEET E3.2 FOR GENERAL LIGHTING NOTES AND "ROOF PLAN" (SHEET E2.1) FOR ADDITIONAL ELECTRICAL ROUGH-IN & LIGHTING REQUIREMENTS.

LIGHTING FIXTURE SCHEDULE:

MARK	SYMBOL	DESCRIPTION	DIFFUSER	LAMPS WATTS	LAMPS TYPE	BALLAST	MOUNTING	MANUFACTURER AND CATALOG NUMBER
F2		2' X 4' GRID TROFFER	PRISMATIC ACRYLIC	44W	LED	–	RECESSED	SECURITY LIGHTING: # LCAT24-35HLG-EDU-WP-GK
L2R		6" LED DOWN LIGHT		12W	LED	–	RECESSED	SECURITY LIGHTING # LB6LEDA10L-30K-9-SA/DBXQL VERIFY DOWNLIGHT TO BE USED IN DINING WITH PHOTOMETRIC
L3		LED DOWN LIGHT		12W	LED	–	RECESSED	#TBD
L4		6" LED ADJUSTABLE DOWN LIGHT	–	12W	LED	–	RECESSED	SECURITY LIGHTING # LB6LEDA10L-30K-9-WW-SA/DBXQL VERIFY DOWNLIGHT TO BE USED IN DINING WITH PHOTOMETRIC
F20		EXIT SIGN WITH BATTERY BACKUP	–	1.8W	LED	–	SURFACE	SECURITY LIGHTING: EVEURWE. SEE NOTE LS2 ON THIS SHEET.
F22		EMERG BATTERY & 2 REMOTE HEADS	–	–	LED	–	SURFACE TO WALL OR SOFFIT	SECURITY LTG. #EV4D-02L-0/EVODB
SH1		"DOWN ONLY" RADIAL WALL SCONCE – SILVER	TEMPERED GLASS	(1)-14W	LED	–	SURFACE TO WALL	SECURITY LIGHTING: #RWSC-36L-5K-DO-U-PS

KEY

DENOTES FIXTURE TYPE / DENOTES CIRCUIT NUMBER — F2 / 41 — LIGHTING FIXTURES SHOWN HALF SHADED SHALL BE WIRED TO AN EMERGENCY INVERTER AND CIRCUITED AS A NIGHT LIGHT. SEE NOTE EL3 ON THIS SHEET. COORDINATE LOCATION WITH DECOR.

DENOTES FIXTURE TYPE / DENOTES CIRCUIT NUMBER — F2 / 41 — LIGHTING FIXTURES SHOWN WITH A SLASH SHALL BE WIRED TO AN EMERGENCY INVERTER AND CIRCUITED AS SWITCHED EMERGENCY FIXTURES SO THE FIXTURE IS CONTROLLED VIA TIMECLOCK BUT TURNS ON UPON LOSS OF POWER. SEE NOTE EL3 ON THIS SHEET. COORDINATE LOCATION WITH DECOR.

LIGHTING SCHEDULE NOTES:

LS1. ORDER LED EXIT SIGNS WITH LETTER COLORS THAT COMPLY WITH LOCAL CODES.
– FOR RED LETTERS USE #EVE-U-R (UNIVERSAL),
– FOR GREEN LETTERS USE #EVE-U-G (UNIVERSAL), OR
IF THE ABOVE EXIT SIGNS DO NOT COMPLY WITH LOCAL CODES USE: LED SIGN WITH BATTERY BACKUP, LETTER SIZE, COLOR, TYPE & DIRECTIONAL ARROWS AS REQUIRED BY THE LOCAL AUTHORITIES.

LS2. ALL INTERIOR LIGHT FIXTURES SHALL BE 120 VOLT UNLESS NOTED OTHERWISE.

LS3. LIGHTING FIXTURES HAVE BEEN CHOSEN TO ACHIEVE MAXIMUM ENERGY CONSERVATION WHILE MAINTAINING ADEQUATE LEVEL OF ILLUMINATION. SPECIFICATIONS SHALL BE STRICTLY FOLLOWED. ANY DEVIATION FROM THE SPECIFICATIONS SHALL BE APPROVED IN WRITING BY McDONALD'S CORPORATION.

McDONALD'S SITE SIGNAGE:

EC SHALL PROVIDE:

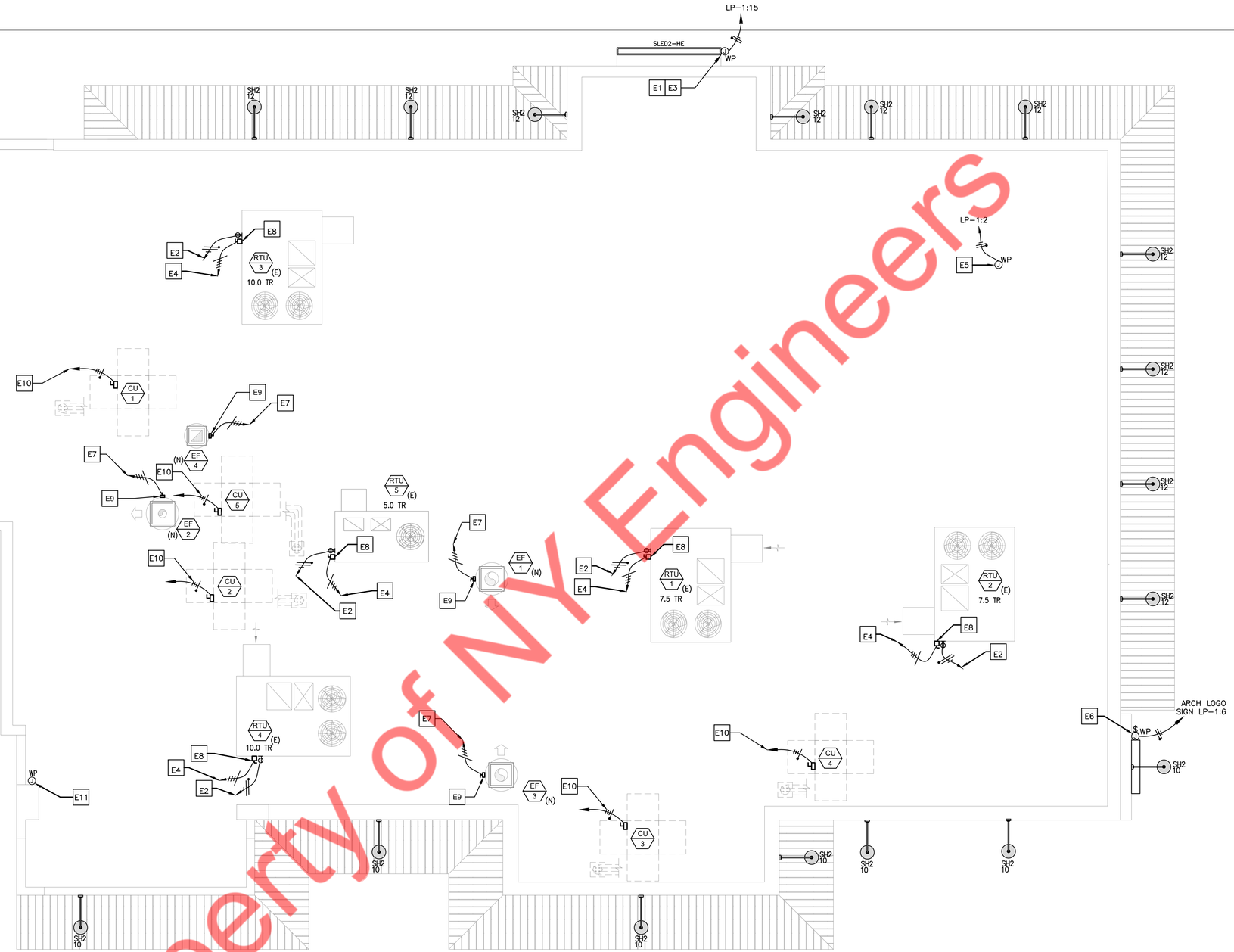
ELECTRICAL CONTRACTOR SHALL COORDINATE POWER REQUIRED FOR ROAD SIGN. MOST SIGNS REQUIRE (1) 20 AMP 120V CIRCUIT. IF USED A 90-200 SIGN REQUIRES (4) 20 AMP 120V CIRCUITS OR ONE 1-PHASE 60 AMP 120/208V CIRCUIT. COORDINATE WITH SUPPLIERS DRAWINGS.
(1) 20 AMP 208 VOLT CIRCUIT, EC TO WIRE 2#12 TO 208 VOLT FLAG FLOODLIGHTS.
(1) 20 AMP 120 VOLT CIRCUIT TO D.C.O. IN ROAD SIGN BASE IF REQUIRED.
(2) 20 AMP 120 VOLT CIRCUITS FOR INGRESS/EGRESS DIRECTIONAL SIGNS (IF APPLICABLE).

*VERIFY EXACT LOCATIONS/TYPES/QUANTITIES OF ALL THE ABOVE WITH SITE/CIVIL PLANS AND MCD ACM.

ORDER ALL LIGHT FIXTURES FROM:

SECURITY LIGHTING SYSTEMS, INC.
PHONE: 1-800-LIGHT-IT
EMAIL: QUOTATIONS@SECURITYLIGHTING.COM

CS ILLUMINATIONS
PHONE: 760-477-1244
EMAILS: MCD@CSILLUMINATIONS.COM
WWW.CSILLUMINATIONS.COM/MCD



1 E2.1 ROOF ELECTRICAL PLAN
1/4"=1'-0"

DRAWING NOTES

1. SEE DRAWING M-4.0 FOR GENERAL MECHANICAL NOTES.
2. SEE DRAWINGS M-3.0 AND M-4.1 FOR MECHANICAL EQUIPMENT SCHEDULES AND DETAILS.
3. SEE DRAWING M-4.0 FOR MECHANICAL LEGEND.
4. SEE DRAWING K-2.1 FOR REMOTE CONDENSER AND MAC UNIT INFORMATION.
5. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
6. MAINTENANCE RECEPTACLE IS REQUIRED WITHIN 25FT OF ALL HEATING, AIR-CONDITIONING, AND REFRIGERATION EQUIPMENT PER SECTION 210.63 OF THE 2020 NEC.

KEYED NOTES

E1 EVERY LINEAR RUN OF SLED FIXTURES REQUIRES A DEDICATED WHIP KIT PROVIDED WITH FIXTURE. CONTRACTOR TO FIELD VERIFY FIXTURE MOUNTING HEIGHT, LOCATION, QUANTITY, FIXTURE LENGTHS, AND ALL ELECTRICAL CONNECTION REQUIREMENTS WITH SECURITY LIGHTING PRIOR TO ORDERING AND INSTALLATION (TYPICAL).

E2 WEATHER PROOF RECEPTACLES WITH GFCI PROTECTION ARE PROVIDED AND MOUNTED WITHIN MOTOR HOUSING LOCATIONS PER NEC ARTICLE 210.63. CIRCUIT SHALL EMANATE FROM PANEL AP-3,CCT.#34.(TYPICAL).

E3 SMOOTH BRACING IS REQUIRED FOR LED FIXTURE INSTALLATION UNDER COPING/FLASHING.(TYPICAL)

E4 REFER TO SHEET E4.0 FOR CONDUIT AND WIRE SIZE.(TYPICAL)

E5 E.C. SHALL PROVIDE A JUNCTION BOX FOR ROOF-TOP FLAG POLE LIGHTING. VERIFY LOCATION(S) WITH MCD PROJECT MANAGER PRIOR TO INSTALLATION.

E6 E.C. SHALL PROVIDE A JUNCTION BOX FOR ARCH LOGO. SEE NOTE L1 ON SHEET E3.2. COORDINATE EXACT LOCATION IN FIELD WITH ACM. ALL SIGNS PROVIDED WITH INTEGRAL DISCONNECT SWITCH FROM MANUFACTURER.(TYPICAL)

E7 COOKING EQUIPMENT EXHAUST FANS. SEE SHEET E3.0 FOR ELECTRICAL REQUIREMENTS FOR NEW EXHAUST FANS. SEE SHEET E3.3 FOR EXHAUST FAN INTERLOCK WIRING DIAGRAMS. (TYPICAL)

E8 PROVIDE NEMA 3R DISCONNECT WITH CURRENT LIMITING FUSES TO COMPLY WITH NEC 110 AND 440. ELECTRICAL CONTRACTOR SHALL STUB UP THRU RACEWAY IN CURB TO ELIMINATE CONDUIT PENETRATION OF ROOFING. (TYPICAL)

E9 EXTERNAL NEMA 3R MOUNTED ON SIDE OF FAN BY MANUFACTURER. ELECTRICAL CONTRACTOR SHALL STUB-UP THRU ROOF AND PROVIDE FLEXIBLE WEATHERPROOF CONDUIT FROM ROOF PENETRATION TO DISCONNECT (TYPICAL).

E10 REMOTE CONDENSING UNITS. SEE SHEET E3.0 FOR WIRING AND CIRCUITRY REQUIREMENTS.

E11 E.C. SHALL PROVIDE A WEATHER-PROOF JUNCTION BOX WITH ¾"C STUB DOWN TO CEILING SPACE WITH BUSHING FOR ROOF-TOP CAMERA OR SATELLITE. VERIFY EXACT LOCATION(S) WITH MCD AREA CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

LED GENERAL NOTES

1. PLACE LED FIXTURE AT DESIRED LOCATION AND ATTACH POWER SUPPLY AND MOUNTING BRACKET AS RECOMMENDED BY MANUFACTURER.
2. EC SHALL CONNECT NEW FIXTURES TO A 120V CIRCUIT AND MAKE ALL ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.
3. POWER SUPPLY SHALL ALWAYS BE INSTALLED TO THE LEFT SIDE OF FIXTURE WHEN FACING BRAND WALL.

LED FIXTURE SCHEDULE:

MARK	SYMBOL	DESCRIPTION	DIFFUSER	LAMPS		BALLAST	MOUNTING	MANUFACTURER AND CATALOG NUMBER
				WATTS	TYPE			
SLED2-HE		DOWN ONLY ACCENT LIGHTING (SEE PLAN)	TEMPERED GLASS	1-10W PER FIXTURE	LED	–	SURFACE	SECURITY LIGHTING: SLED-HE-24-DO-U-IO CUSTOM BUILT FOR EXTERIOR ACCENT CHANNELS.
SH2		EXTERIOR LED LIGHTING FIXTURE	–	(1)-15W	LED	–	SURFACE TO WALL	SECURITY LIGHTING: #RLM-15LED-DB-S3-RW-U

PB = Pullbox
JB = Junction Box
EC = Electrical Contractor
VIF = Verify in Field

ELECTRICAL SCHEDULE

TAG #	QTY	DESCRIPTION	VOLT/PH	FLA	BRK SIZE	COND/WIRE	PNL/CCT	RECEP TYPE	HGT AFF	REQUIREMENTS & REMARKS
9.90E1	1	UTILITY CHASE – COMBI DIVIDED	–	–	–	–	–	–	SEE RMKS	E.C. TO BRING ALL INDIVIDUAL CIRCUITS TO TERMINAL BLOCK INSIDE CHASE FOR ALL COMBI ITEMS
20.00E3	2	AUTOMATED BEVERAGE SYSTEM	DATA CABLE	–	–	–	–	–	–	CABLE FURNISHED AND INSTALLED BY POS SYSTEM SUPPLIER
20.00E2	2	AUTOMATED BEVERAGE SYSTEM	120/1	5.0	20A	3/4"C–2#12	AP–6:8	5–20R	2'–0"	E.C. TO BRING POWER DOWN WALL, PROVIDE/INSTALL RECEPTACLE
21.97E3	1	COFFEE CREAM DISPENSER	120/1	1.0	20A	3/4"C–2#12	AP–2:3	5–20R	VIF	E.C. TO BRING POWER DOWN WALL, PROVIDE/INSTALL RECEPTACLE
20.99E3	2	ABS PRECOOLER	120/1	14.9	20A	3/4"C–2#12	AP–6:10	5–20R	3'–10"	E.C. TO BRING POWER DOWN WALL, PROVIDE/INSTALL RECEPTACLE
21.10E2	1	DIGITAL BLENDER	120/1	10.0	20A	3/4"C–2#12	AP–2:9	5–20R	–	–
21.23E2	1	COFFEE BREWER	208/1	17.3	20A	3/4"C–2#12IG	AP–6:19,21	L14–20R	SEE RMKS	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
21.83E1	1	SUGAR DISPENSER	120/1	1.5	20A	3/4"C–2#12	AP–5:9	BY KES	SEE RMKS	E.C. TO BRING POWER DOWN WALL, PROVIDE/INSTALL RECEPTACLE
21.97E2	1	CREAM DOSPENSER	208/1	VERIFY	VERIFY	VERIFY	AP–6:2,4	VERIFY	VERIFY	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
23.11E2	1	COFFEE SERVER STAND – 1SH/2SH	208/1	0.7/1.8A	SEE RMKS	3/4"C–2#12IG	AP–6:18,20	5–15P	SEE RMKS	BRING POWER DOWN CHASE AND CONNECTION TO CHASE MOUNTED RECEPTACLE
28.15E1	1	SODA TOWER–RECIRCULATING – 10 VALVE – PORTION CONTROL – 6+2+2	120/1	2.0	20A	3/4"C–2#12	AP–6:1,3	5–20R	3'–5"	–
29.08E1	1	FROZEN CARBONATED BEVERAGE DISPENSER	230/1	24.0	30A	3/4"C–3#10	AP–2:7	BY KES	18"	PLUGS INTO KES PROVIDED CHASE
37.00E1	2	CO2 SAFETY SYSTEM – DETECTOR	120/1	1.0	20A	3/4"C–2#12	AP–6:14	JB	SEE RMKS	PROVIDE LOCKOUT CB.
37.00E2	2	CO2 SAFETY SYSTEM	–	–	–	–	–	JB	SEE RMKS	FOR LV WIRES, STUB 3/4" ABOVE CLG.
37.00E4	2	CO2 SAFETY SYSTEM – CO2 DETECTOR AV ALARM	–	–	–	–	–	JB	7'–0" MINIMUM	STUB 3/4" ABOVE CLG. FOR LV CONDUIT TO 37.03E2.
39.15E3	1	ICE MACHINE – 1000 LB.	120/1	1.1	15A	3/4"C–2#12	AP–1:1,3,39	5–15R	SEE RMKS	MOUNT 9" BELOW CEILING – CIRCUIT BREAKERS SHALL BE HACR TYPE.
39.15E1	2	ICE MACHINE – 1000 LB.	–	–	–	–	–	JB	SEE RMKS	MOUNT 9" BELOW CEILING – CONTROL WIRES TO REMOTE CONDENSER
41.09E1	3	ICE MACHINE REMOTE CONDENSER – 1000 LB.	208/3	10.8	15A SEE RMKS	3/4"C–3#12 SEE RMKS	AP–1:(19,21,23)(20,22,24)(32,34,36)	SEE RMKS	SEE RMKS	EC TO PROVIDE WP 30A–3P NF DISC AT UNIT ON ROOF – CIRCUIT BREAKERS SHALL BE HACR TYPE. CONTROL WIRES TO ICE MACHINE – LOCATION BY ACM
45.24E1	1	BREAKER PANEL – 125 AMP – 1PHASE (MOUNTER TO ECU)	120–208/1	SEE RMKS	125A	SEE RMKS	SEE RMKS	SEE RMKS	SEE RMKS	125A/1P BREAKER PANEL TO SUPPLY SERVICE FOR PRINTER
45.24E2	1	ELECTRIC COMMUNICATION UTILITY	208/1	13.0	20A	3/4"C–2#12	AP–2:(38,40)	SEE RMKS	SEE RMKS	PLUGS INTO ECU CHASE OUTLET. COORDINATE WITH EQUIPMENT VENDOR PRIOR TO ROUGH–IN.
45.24E4	1	CONVEYOR	208/3	4.9	20A	3/4"C–3#12	AP–2:(22,24,26)	SEE RMKS	SEE RMKS	PLUGS INTO ECU CHASE OUTLET. COORDINATE WITH EQUIPMENT VENDOR PRIOR TO ROUGH–IN.
61.00E1	1	FRY BAGGING STATION 36"	120/1	15.7	20A	3/4"C–2#12IG	AP–2:14	HARDWARE	4'–0"	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
65.36E1	1	3 VAT LOV FRYER – GAS – F/F/F	120/1	12.2	20A	3/4"C–2#12IG	AP–2:16	BY KES	–	FOR FRYER CONTROL S/FILTER PUMP AND FAN INTERLOCK
66.47E1	1	4–VAT LOV FRYER – ELECTRIC – S/S/S/S	208/3	39.0AE	(4)50A	3/4"C–3#6 EA VAT	AP–5:(10,12,14)(30,32,34)(35,37,39)(36,38,40)	BY KES	12"	PLUGS INTO RACEWAY RECEPTACLE WITH (1) L21–20P INTERLOCK PLUG AND (4)15–60P POWER PLUGS BY KES.
79.89E1	1	UNIVERSAL EXHAUST HOOD FULL–CLAM/4–VAT FRYER	120/1	17.6, 13.8	(2)20A–1P	3/4"C–2#12EA	AP–4:9,17	BY KES	0"	EC TO CONN POWER TO RACEWAY FOR GRILLS, FRYER CONTROLS & INDIVIDUAL EXHAUST FAN INTERLOCK
91.00E1	1	WALL MOUNT FREEZER UNIT–SINGLE WIDE–HIGH CAPACITY	120/1	5.0	20A	3/4"C–2#12	AP–5:2	5–20R	8'–8"	–
76.07E1	1	UNIVERSAL EXHAUST HOOD FULL–CLAM GRILL	120/1	13.9	20A	3/4"C–2#12	AP–4:11	BY KES	0"	EC TO CONN. POWER TO RACEWAY FLA = 3.7 GRILL CONTROLS, 0.5 CAPTURE JET & 5.9 INDVID. EXHAUST FAN INTERLOCK
73.01E1	1	UNIVERSAL EXHAUST HOOD (R.H) GAS 3 VAT FRYER	120/1	12.7	20A	3/4"C–2#12IG	AP–2:5	–	–	E.C. TO CONNECT POWER RACEWAY FLA=6.8 FRYER CONTROLS & 5.9 INDVID. EXHAUST FAN INTERLOCK
85.05E1	1	FROZEN FRY DISPENSER	120/1	9.0	20A	3/4"C–2#12IG	AP–2:1	5–20R	4'–0"	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
96.94E1	2	36" CLAMSHELL GRILL – 3–PLATEN –ELECTRIC.	208/3	25.8,48.0	(2)50A	3/4"C– 6#4	AP–4:(1,3,5)(2,4,6)(32,34,36)(38,40,42)	BY KES	10"	PLUGS IN RACEWAY RECEP WITH(1)L21–20P INTERLOCK& (2) 15–50P POWER PLUG EA GRILL BY KES
97.99E1	1	GRILL SIDE MEAT FREEZER – DOUBLE WIDE	120/1	7.8	20A	3/4"C–2#12	AP–5:7	5–20R	18"	UNIT PLUGS INTO RACEWAY RECEPTACLE
116.23E1	2	UNIVERSAL HOLDING CABINET – HD – 2–SIDED – PIN & SLEEVE	208/1	15.0	20A	3/4"C–2#12	AP–3:(1,3)(2,4)	320C6W	5'–6"	PLUGS INTO OVERHEAD RECEPTACLE #320C6W(B) PROVIDED BY KES – HEIGHT TO BOTTOM OF RECEPTACLE
117.30E1	1	UHC TABLE – 2 SIDED FOR OPL – 51" – PIN & SLEEVE	120/1	2.0	20A	3/4"C–2#12	AP–3:6	320C4W	5'–6"	PLUGS INTO OVERHEAD RECEPTACLE # 320C4W(Y) PROVIDED BY KES– HEIGHT TO BOTTOM OF RECEPTACLE
118.00E1	2	Q'ING OVEN – PIN & SLEEVE	208/1	20.0	20A	3/4"C–2#12	AP–1:(10,12)(16,18)	320C6W	5'–6"	PLUGS INTO OEP
119.16E4	1	STAGING CABINET F/FLASH FINISH	208/1	9.1	20A	3/4"C–2#12IG	AP–5:(31,33)	L6–20R	6'–0"	PLUGS INTO OVERHEAD RECEPTACLE #L6–20R PROVIDED BY KES – HT TO BOTTOM OF RECEPTACLE
122.26E2	1	HCT TOASTER –PIN & SLEEVE	208/1	25.2	30A	3/4"C–2#10	AP–3:(8,10)	330P6W	5'–6"	PLUGS INTO OVERHEAD RECEPTACLE # 330C6W (B) PROVIDED BY KES – HEIGHT TO BOTTOM OF RECEPTACLE
122.27E1	1	HRT TOASTER –PIN & SLEEVE	208/1	25.2	30A	3/4"C–2#10	AP–2:(25,27)	330P6W	5'–6"	PLUGS INTO OVERHEAD RECEPTACLE # 330C6W (B) PROVIDED BY KES – HEIGHT TO BOTTOM OF RECEPTACLE
123.40E2	1	PREP TABLE (2–SIDED COPL) – 83" W REF	120/1	7.0	20A	SEE RMKS	KES: AP–2:21	320R4W	SEE RMKS	PLUGS INTO KES OUTLET CHASE
123.90E1	1	5–PAN REFRIGERATED RAIL	120/1	2.5	20A	3/4"C–2#12	AP–2:21	SEE RMKS	SEE RMKS	PLUGS IN TO PREP TABLE RECEPTACLE OR RACEWAY
125.00E2	2	RAPID FILET BUN STEAMER	208/1	14.3	20A	SEE RMKS	KES: AP–2:(17,19)(18,20)	320P6W	5'–6"	PLUGS INTO ECU TABLE RACEWAY RECEPTACLE
129.00E2	2	Q'ING OVEN – PIN & SLEEVE	208/1	20.0	20A	3/4"C–2#12	AP–3:(13,15)(14,16)	320C6W	5'–6"	PLUGS INTO OEP
130.11E3	2	COMBI CONVOTHERM OVEN	208/3	15.1	30A	3/4"C–3#10	AP–3:(27,29,31)(36,38,40)	L4–30R	SEE RMKS	PLUGS IN TO CHASE, EC TO INSTALL RECEPTACLE PROVIDED BY KES, AND MAKE FINAL CONNECTION.
141.13E3	2	HALTON VENTLESS HOOD	120/1	8.0	20A	3/4"C–2#12	AP–3:33,35	5–20R	SEE RMKS	UNIT PLUGS IN TO CHASE, PROVIDE DEDICATED CIRCUIT, AND MAKE FINAL CONNECTION.
152.06E1	1	TSC WAREWASHER	120/1	11.4	20A	3/4"C–2#12	AP–5:3	5–20R	5''	–
171.01E1	1	WALK–IN COOLER / FREEZER	120/1	10.0	20A	3/4"C–2#12	AP–5:11	JB	FLUSH ON CLG	JB FOR LIGHTS & DOOR HEATER– UNSWITCHED LIGHT TO BE IN BOTH COOLER&FREEZER,EC TO CONNECT POWER
171.01E2	1	WALK–IN COOLER / FREEZER	–	–	–	–	–	–	VIF	EC TO FURNISH AND INSTALL CONDUIT, WIRE, LIGHTING FIXTURES AND OTHER DEVICES INSIDE COOLER AND FREEZER BOX
174.16E1	1	COOLER REMOTE CONDENSING UNIT	208/1	4.0	15A	3/4"C–2#12	AP–5:(31,33)	JB	VIF	TERMINATE POWER CONDUCTORS TO REMOTE CONDENSING UNIT FUSABLE DISCONNECT SWITCH. L V WIRES CONNECT MAC UNIT TO EVAPS & SHALL BE ROUTED IN SEALTITE WHERE EXPOSED TO WEATHER.
174.16E2	1	COOLER REMOTE CONDENSING UNIT	LOW VOLT WIRES	–	–	–	–	–	VIF	LV WIRES CONNECT MAC UNIT TO EVAPS & SHALL BE ROUTED IN SEALTITE WHERE EXPOSED TO WEATHER
174.22E1	1	FREEZER REMOTE CONDENSING UNIT	208/3	20.0	30A	3/4"C–3#10	AP–5:(13,15,17)	JB	VIF	TERMINATE POWER CONDUCTORS TO REMOTE CONDENSING UNIT FUSABLE DISCONNECT SWITCH. L V WIRES CONNECT MAC UNIT TO EVAPS & SHALL BE ROUTED IN SEALTITE WHERE EXPOSED TO WEATHER.
174.22E2	1	FREEZER REMOTE CONDENSING UNIT	LOW VOLT WIRES	–	–	–	–	–	VIF	L V WIRES CONNECT MAC UNIT TO EVAPS & SHALL BE ROUTED IN SEALTITE WHERE EXPOSED TO WEATHER
175.04E1	1	COOLER EVAPORATOR	208/1	1.0	SEE RMKS	3/4"C–2#12	AP–5:(18,20)	JB	102"	IF MAC UNIT IS NOT USED, PROVIDE A 20A CIRCUIT
176.20E1	1	FREEZER EVAPORATOR	208/1	1.0	SEE RMKS	3/4"C–2#12	AP–5:(19,21)	JB	FLUSH ON CLG	NO CCT BREAKER REQ WITH MAC UNIT–IF FAN SHUT–OFF SW. REQ SYS PUMPDOWN RELAY MUST BE INSTALLED
176.20E2	1	FREEZER EVAPORATOR	LOW VOLT WIRES	–	–	–	–	–	FLUSH ON CLG	L V WIRES CONN MAC UNIT TO EVAPS & SHALL BE ROUTED SEPARATELY FROM POWER CONDUCTORS
178.14E1	1	REACH–IN FREEZER–SINGLE WIDE	120/1	11.3	20A	3/4"C–2#12	AP–3:11	5–20R	7'–6"	–
196.06E1	1	SAFE – STANDARD BLDG.	120/1	1.5	20A	3/4"C–2#12	AP–1:30	5–20R	2'–0"	PROVIDE LOCKOUT TYPE CB
203.99E1	1	HEAT TREAT COMBINATION SHAKE/SUNDAE MACHINE	208/3	–	30A	3/4"C–2#12IG	AP–1:5,7,9	SEE RMKS	1'–0"	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
207.11E1	2	BASE REFRIGERATOR	120/1	3.2	20A	3/4"C–2#12	AP–3:30,32	5–20R	2'–0"	BRING POWER DOWN WALL, PROVIDE AND INSTALL RECEPTACLE
207.11E2	1	BASE REFRIGERATOR	120/1	3.2	20A	3/4"C–2#12	AP–3:5	5–20R	SEE RMKS	BRING POWER DOWN CHASE AND CONNECT TO CHASE MOUNTED RECEPTACLE
207.11E4	1	BASE REFRIGERATOR	120/1	3.2	20A	3/4"C–2#12	AP–3:7	5–20R	6'–0"	PLUGS INTO OVERHEAD RECEPTACLE PROVIDED BY KES – HEIGHT TO BOTTOM OF THE RECEPTACLE.
211.00E6	1	DELIVERY TABLET	120/1	3.0	20A	3/4"C–2#12	AP–5:41	(2) 5–20R	5'–6"	–
214.02E2	1	TECHNOLOGY RACK	120/1 ISOLATED	3.0	20A	3/4"C–2#12IG	CP–1:17	IG4700	3'–0"	FOR SECURITY SYSTEM
215.07E1	1	POS REGISTER–DELIVERY	120/1 ISOLATED	3.0	20A	3/4"C–2#12IG	CP–1:3	IG4700	3'–6"	EC TO BRING POWER DOWN WALL, PROVIDE/INSTALL RECEPTACLE
215.07E3	1	POS REGISTER–DELIVERY	–	–	–	–	–	4X4X4 PB	3'–6"	EXTEND 2" CONDUIT TO ABOVE CEILING FOR POS DATA CABLES
215.02E12	1	POS REGISTER – 2 WINDOW D/T	–	–	–	–	–	18X12X24 PB	10"	REFER TO D/T LOW VOLTAGE CONDUIT DIAGRAM FOR CONDUIT UNDER SLAB AND EXTEND (2) 2 1/2"S. TO ABOVE CEILING.
216.00E2	8	POS – VIDEO MONITOR	DATA CABLE	–	–	–	–	–	@CLG	CABLE FURNISHED AND INSTALLED BY POS SUPPLIER.
216.00E3	4	POS – VIDEO MONITOR W/SUPPORTS	120/1 ISOLATED	1.5	20A	3/4"C–2#12IG	CP–1:24	IG4700	@CLG	–
216.00E7	4	POS – VIDEO MONITOR W/SUPPORTS @ CHASE	120/1 ISOLATED	1.5	20A	3/4"C–2#12IG	CP–1:24	EXISTING/ RELOCATED	SEE RMKS	BRING POWER DOWN TO CHASE AND CONNECT TO CHASE MOUNTED RECEPTACLE
216.00E11	1	POS – VIDEO MONITOR	120/1 ISOLATED	1.5	20A	3/4"C–2#12IG	CP–1:25	IG4700	5'–6"	–
216.00E12	1	POS – VIDEO MONITOR	DATA CABLE	–	–	–	–	–	5'–6"	EXTEND 2" CONDUIT ABOVE CEILING. CABLE FURNISHED AND INSTALLED BY POS SUPPLIER.

PB = Pullbox
JB = Junction Box
EC = Electrical Contractor
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ELECTRICAL SCHEDULE

TAG #	QTY	DESCRIPTION	VOLT/PH	FLA	BRK SIZE	COND/WIRE	PNL/CCT	RECEP TYPE	HGT AFF	REQUIREMENTS & REMARKS
217.00E1	7	PARK/ROTATE/SERVE BUMP BAR	DATA CABLE	–	–	–	–	–	SEE RMKS	POS TO COORDINATE WITH MCD O/O, RELOCATE EXISTING AS REQUIRED.
217.18E1	3	HAND HELD ORDER TAKER AND MANAGEMENT OF SHIFT EQUIPMENT	120/1	5.0	20A	3/4"C–2#12	AP–1:35	5–20R	4'–6"	–
219.02E1	2	CYT POS – RECEIPT PRINTER	DATA CABLE	–	–	–	–	–	TBD	POS INSTALLER TO INSTALL AS REQUIRED
219.02E2	2	CYT POS – RECEIPT PRINTER	120/1 ISOLATED	0.7	20A	3/4"C–2#12IG	CP–1:27	IG4700	TBD	POS INSTALLER TO INSTALL COORDINATE WITH MCD
219.02E3	4	CYT POS – RECEIPT PRINTER	DATA CABLE	–	–	–	–	–	@CLG	POS INSTALLER TO INSTALL AS REQUIRED
219.02E4	4	CYT POS – RECEIPT PRINTER	120/1 ISOLATED	0.7	20A	3/4"C–2#12IG	CP–1:27	IG4700	@CLG	POS INSTALLER TO INSTALL COORDINATE WITH MCD
219.05E3	1	STICKY LABEL PRINTER	120/1 ISOLATED	0.7	20A	3/4"C–2#12IG	CP–1:27	IG4700	3'–2"	–
221.07E2	2	COMPUTER @ CREW TRAINING	120/1 ISOLATED	3.75	20A	3/4"C–2#12IG	CP–1:13	IG5262	1'–6"	–
221.07E3	2	COMPUTER @ CREW TRAINING	DATA CABLE	–	–	–	–	JB	1'–6"	EXTEND 1" CONDUIT ABOVE CLG. W/BUSHING FOR DATA CABLE
221.07E4	2	COMPUTER @ CREW TRAINING	120/1 ISOLATED	3.75	20A	3/4"C–2#12IG	CP–1:13	IG5262	5'–0"	–
221.07E5	2	COMPUTER @ CREW TRAINING	DATA CABLE	–	–	–	–	JB	5'–0"	EXTEND 1" CONDUIT ABOVE CLG. W/BUSHING FOR DATA CABLE
223.07E1	1	WASHER	120/1	8.0	15A	3/4"C–2#12	AP–1:13	5–15R	3'–6"	–
225.03E3	2	OFFICE PACKAGE/DESK UNIT	120/1 ISOLATED	10.0	20A	3/4"C–2#12IG	CP–1:(20,22)	IG5262	4'–6"	FOR MONITOR, PRINTER AND THIN CLIENT
225.03E4	1	OFFICE PACKAGE/DESK UNIT	DATA CABLE	–	–	–	–	4x4x4 PB	4'–6"	EXTEND 2 1/2" CONDUIT ABOVE CLG. W/BUSHING FOR DATA CABLE
700.07E1	1	GAS WATER HEATER	120/1	2.0	20A	3/4"C–2#12	AP–1:37	JB	SEE RMKS	CEILING MOUNTED
700.09E1	1	ECONOMY OEP BOX W/MOUNTING HARDWARE	–	–	–	–	–	JB	SEE RMKS	CEILING MOUNTED
700.24E1	1	ECONOMY OEP BOX W/MOUNTING HARDWARE	–	–	–	–	–	JB	SEE RMKS	CEILING MOUNTED
701.01E1	2	HAND DRYER	120/1	9.5	20A	3/4"C–2#12	AP–5:26,28	JB	SEE RMKS	INSTALL JB AT A MOUNTING HGT. THAT RESULTS IN A MAX. OF 3'–4" AFF TO OPERATING MECHANISM.
7000.13E1	1	PRODUCT LANDING STATION	–	–	–	–	–	–	–	PLUGS TO RACEWAY
701.13E2	6	DCO – GENERAL PURPOSE	120/1	1.7	20A	3/4"C–2#12	AP–5:25	5–20R	3'–6"	PROVIDE USB CHARGER RECEPTACLE, HUBBELL USB20X2* AND DEEP BOX AS REQUIRED
701.13E3	1	DCO – GENERAL PURPOSE	120/1	1.5	20A	3/4"C–2#12	AP–5:27	5–20R	1'–6"	–
701.13E1	2	DCO – GENERAL PURPOSE	120/1	1.5	20A	3/4"C–2#12	AP–2:8	5–20R	4'–6"	–
701.13E2	3	DCO – GENERAL PURPOSE	120/1	1.5	20A	3/4"C–2#12	AP–2:8	5–20R	4'–6"	–
701.13E4	1	DCO – GENERAL PURPOSE	120/1	3.0	20A	3/4"C–2#12	AP–2:12	(2) 5–20R	FLUSH ON CLG	PROVIDE DOUBLE DUPLEX WALL PLATE
701.13E9	11	DCO – GENERAL PURPOSE	120/1	1.7	20A	3/4"C–2#12	AP–6:5,7	5–20R	4'–6"	PROVIDE USB CHARGER RECEPTACLE, HUBBELL USB20X2* AND DEEP BOX AS REQUIRED
701.13E11	1	DCO – GENERAL PURPOSE	120/1	1.7	20A	3/4"C–2#12	AP–2:37	5–20R	4'–6"	PROVIDE USB CHARGER RECEPTACLE, HUBBELL USB20X2* AND DEEP BOX AS REQUIRED
701.13E12	1	DCO – GENERAL PURPOSE	120/1	1.7	20A	3/4"C–2#12	AP–2:39	5–20R	4'–6"	PROVIDE USB CHARGER RECEPTACLE, HUBBELL USB20X2* AND DEEP BOX AS REQUIRED
701.13E14	1	DCO – GENERAL PURPOSE	120/1	1.7	20A	3/4"C–2#12	AP–2:10	5–20R	4'–6"	PROVIDE USB CHARGER RECEPTACLE, HUBBELL USB20X2* AND DEEP BOX AS REQUIRED
701.14E1	1	TELEPHONE	PHONE HANDY BOX	–	–	–	–	RJ–11C JACK	3'–6"	–
701.14E3	1	TELEPHONE	PHONE HANDY BOX	–	–	–	–	RJ–11C JACK	3'–6"	–
701.16E1	3	DOOR ALARM	120/1	0.5	20A	3/4"C–2#12	AP–6:16	JB	SEE RMKS	JUNCTION BOX ABOVE CEILING, PROVIDE LOCKOUT ON CIRCUIT BREAKER
701.22E1	1	WAYPORT – WIRELESS INTERNET SERVER	120/1 ISOLATED	1.5	20A	3/4"C–2#12IG	CP–1:19	IG5262	8'–0"	–
701.22E2	1	WAYPORT – WIRELESS INTERNET SERVER	DATA CABLE	–	–	–	–	JB	8'–0"	EXTEND 1" CONDUIT ABOVE CLG. W/BUSHING FOR DATA CABLE
SE–1	1	SEWAGE EJECTOR	208/1	8	20A	3/4"C–2#12IG	AP–1:26,28	JB	SEE RMKS	CEILING MOUNTED

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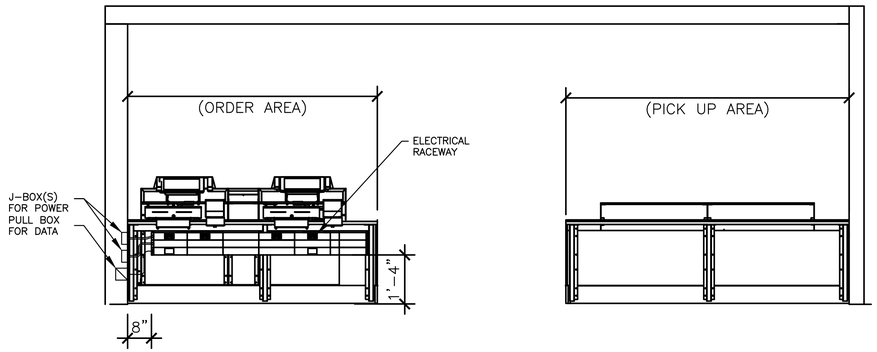
ELECTRICAL SCHEDULE

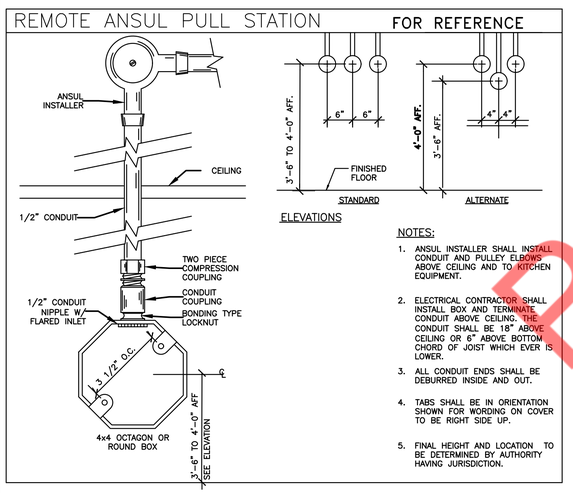
TAG #	QTY	DESCRIPTION	VOLT/PH	FLA	BRK SIZE	COND/WIRE	PNL/CCT	RECEP TYPE	HGT AFF	REQUIREMENTS & REMARKS
8004.02E1	1	RELOCATED DIGITAL MENU BOARD	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8004.02E2	1	RELOCATED DIGITAL MENU BOARD	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8021.01E3	1	RELOCATED COFFEE BREWER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8021.10E2	1	RELOCATED SPECIALITY COFFEE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8021.11E2	1	RELOCATED SMOOTHIE MACHINE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8025.02E2	1	RELOCATED ICED TEA BREWER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8039.09E1	1	RELOCATED ICE MACHINE	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER EDR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8181.01E2	1	RELOCATED SPECIALITY COFFEE REFRIGERATOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8215.00E1	1	RELOCATED POS PC HARDWIRE – FRONT COUNTER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8215.98E1	3	RELOCATED POS PC HARDWARE – 2 BOOTH D/T	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8215.98E2	3	RELOCATED POS PC HARDWARE – 2 BOOTH D/T	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8216.00E1	1	RELOCATED POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8216.00E2	2	RELOCATED POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8216.00E3	1	RELOCATED POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8216.05E1	1	RELOCATED POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8216.05E2	1	RELOCATED POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8219.00E3	3	RELOCATED POS – RECEIPT PRINTER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
8237.00E2	1	RELOCATED PIE DISPLAY	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	RELOCATED EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
9179.03	1	EXISTING REFRIGERATOR – UNDERCOUNTER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
9179.96	1	EXISTING REFRIGERATOR – 36" WALL HUNG OR STAND MOUNTED	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
9215.98	2	EXISTING POS PC HARDWARE – D/T	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
9216.00	1	EXISTING POS – VIDEO MONITOR	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.
9219.02	1	EXISTING POS – RECEIPT PRINTER	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING	EXISTING EQUIPMENT. EC TO FIELD VERIFY EXACT QUANTITY OF WIRES & POWER REQUIREMENT. COORDINATE WITH KES SUPPLIER FOR EXACT MOUNTING HEIGHT AND OTHER REQUIREMENTS. BASE BID ACCORDINGLY.



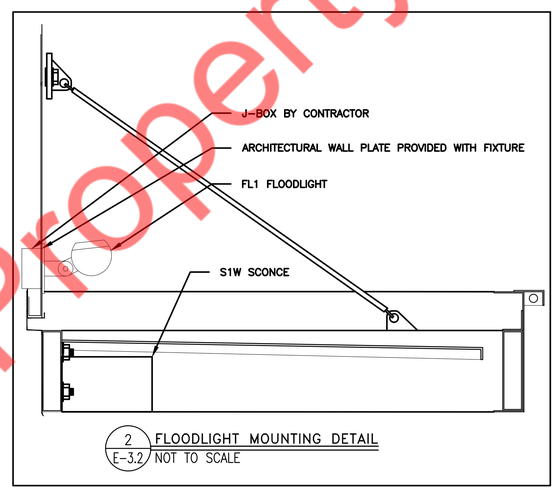
SYMBOL	CATALOG #	DESCRIPTION	QUANTITY
	HBLALU57DR & IG4700	RECEPTACLE COVERPLATE WITH ORANGE, TWIST LOCK, ISOLATED GROUND DUPLEX RECEPTACLE	1 PER ISOLATED GROUND RECEPTACLE
	HBLALU57DR & 5-15R	RECEPTACLE COVERPLATE WITH STRAIGHT BLADE DUPLEX RECEPTACLE	1
	HBLALU57LPB	COMMUNICATIONS COVERPLATE	1 PER REGISTER & 1 FOR DUAL POINT & 1 FOR ANALOG WIRELESS OPTION
	HBLALU57BL	BLANK COVERPLATE	AS NECESSARY TO FILL RACEWAY
	HBLALU7620B03M290	3' SECTION OF RACEWAY. INCLUDES COUPLERS	AS NECESSARY TO MAKE ORDER COUNTER RACEWAY 1' LESS THEN COUNTER LENGTH. INSTALL (2) 2' OR 3' RACEWAY AT PICKUP
	HBLALU7620B02M290	2' SECTION OF RACEWAY, INCLUDES COUPLERS	AS NECESSARY TO MAKE ORDER COUNTER RACEWAY 1' LESS THEN COUNTER LENGTH. INSTALL (2) 2' OR 3' RACEWAY AT PICKUP
	HBLALU7610B	BLANK END FITTING	AS NEEDED
	HBLALU5010B2M2	SERVICE ENTRANCE FITTING & BUSHING FOR DATA CABLES	AS NEEDED
N/A	HBLALU5701	COUPLER (INCLUDED WITH RACEWAY SECTION)	RECEIVE 1 PAIR PER RACEWAY SECTION
N/A	HBLALU5709	GROUND ADAPTER	AS NEEDED

NOTES:
1. RACEWAY AND RECEPTACLES TO BE PROVIDED WITH MODULAR FRONT COUNTER, INSTALLED BY CONTRACTOR.
2. DETAIL SHOWN IS A TYPICAL CONFIGURATION ONLY. SITE SPECIFICS MIGHT CAUSE DEVIATIONS. SHORTER COUNTERS MAY REQUIRE CONTRACTOR TO CUT RACEWAY FOR RACEWAY TO BE 1' SHORTER THAN COUNTER.

1 MODULAR COUNTER RACEWAY DETAIL
E-3.2 NOT TO SCALE



NOTES:
1. ANSUL INSTALLER SHALL INSTALL CONDUIT AND PULLEY ELBOWS ABOVE CEILING AND TO KITCHEN EQUIPMENT.
2. ELECTRICAL CONTRACTOR SHALL INSTALL BOX AND TERMINATE CONDUIT ABOVE CEILING. THE CONDUIT SHALL BE 18" ABOVE CEILING OR 6" ABOVE BOTTOM CHORD OF JOIST WHICH EVER IS LOWER.
3. ALL CONDUIT ENDS SHALL BE DEBURRED INSIDE AND OUT.
4. TABS SHALL BE IN ORIENTATION SHOWN FOR WORDING ON COVER TO BE RIGHT SIDE UP.
5. FINAL HEIGHT AND LOCATION TO BE DETERMINED BY AUTHORITY HAVING JURISDICTION.



2 FLOODLIGHT MOUNTING DETAIL
E-3.2 NOT TO SCALE

GENERAL ELECTRICAL NOTES:

INSTALLATION METHODS:

M1. ALL ELECTRICAL MATERIAL USED ON THIS PROJECT SHALL BE "UL" LISTED AND LABELED.

M2. ALL DIMENSIONS SHOWN ARE TAKEN FROM FACE OF GYP BOARD/PLYWOOD. THE EC SHALL MAKE NECESSARY DIMENSIONAL ALLOWANCES. ALL DIMENSIONS SHOWN ARE TO CENTER LINE OF OUTLET BOX AND/OR RECEPTACLE UNLESS NOTED OTHERWISE.

M3. ALL J-BOXES, DCOs, AND OTHER ELECTRICAL DEVICES SHOWN SHALL BE RECESSED INTO A WALL, FLOOR OR CEILING UNLESS SPECIFICALLY NOTED OTHERWISE.

M4. ALL RECEPTACLES (EXCEPT SPECIFIED HUBBELL PIN & SLEEVE TYPES) SHALL BE FURNISHED BY THE EC. THE RECEPTACLES INCLUDING PIN AND SLEEVE TYPE SHALL BE INSTALLED BY THE EC.

M5. EC SHALL PROVIDE STAINLESS STEEL COVER PLATES ON ALL RECEPTACLES AND J-BOXES. ADDITIONALLY, EC SHALL PROVIDE ORANGE NYLON COVER PLATES MARKED "COMPUTER ONLY" ON ALL ISOLATED GROUND/DEDICATED CIRCUIT RECEPTACLES. PURCHASE PJ8CO (ONE DUPLEX) OR PJ82CO (TWO DUPLEX) FROM HUBBELL.

M6. ROUGH-INS FOR OPTIONAL EQUIPMENT ARE SHOWN ON THESE SHEETS. EC SHALL VERIFY WITH McDONALD'S PROJECT MANAGER WHICH OPTIONAL EQUIPMENT IS TO BE INCLUDED AND INSTALL OPTIONAL ROUGH-INS AS REQUIRED. PRICING FOR OPTIONAL ROUGH-INS SHALL BE INCLUDED IN BID AND CALLED OUT AS OPTIONAL.

M7. EC SHALL COORDINATE WITH KITCHEN EQUIPMENT SUPPLIER, MECHANICAL CONTRACTOR AND GC FOR FINAL LOCATIONS AND CONNECTION REQUIREMENTS OF ALL EQUIPMENT PRIOR TO INSTALLATION OF ANY CONDUIT AND/OR STUB-UP LOCATIONS.

M8. CEILING MOUNTED ECONOMY OEP BOX IS FURNISHED BY McDONALD'S, AND INSTALLED BY THE GC. CORD AND PLUG SET FURNISHED BY KES AND INSTALLED BY THE EC.

M9. FOR GRILLS, FRYERS, AND ANSUL SYSTEMS, EC SHALL EXTEND CONDUIT AND CONDUCTORS DOWN CHASE OR WALL TO TERMINAL BLOCK MOUNTED ON EQUIPMENT AND MAKE FINAL CONNECTIONS TO TERMINAL BLOCKS.

M10. ALL HOLES IN THE FRONT COUNTER FOR THE POS CORDS AND CABLES SHALL BE LOCATED BY OWNER AND DRILLED BY GC.

M11. ALL ELECTRICAL CONDUCTORS SHALL BE CONNECTED TO RECEPTACLES USING ONLY THE TERMINAL SCREWS. RECEPTACLE BACK WIRE/QUICK CONNECTIONS SHALL NOT BE USED.

M12. EC SHALL PROVIDE 208V HEAT TRACE ON THE FREEZER EVAPORATOR CONDENSATE DRAIN LINE. HEAT TRACE SHALL OPERATE CONTINUOUSLY. EC SHALL WIRE HEAT TRACE TO FREEZER EVAPORATOR POWER SUPPLY. A SEPARATE CIRCUIT FOR HEAT TRACE IS NOT REQUIRED. VERIFY HEAT TRACE REQUIREMENTS WITH EVAPORATOR MANUFACTURER

M13. POWER AND CONTROL CORDS ARE FURNISHED WITH KITCHEN APPLIANCES. THE EC SHALL CONNECT CORD SETS TO APPLIANCES AS REQUIRED.

M14. GC SHALL NOT INSTALL CEILING TILE IN AREAS OF THE BEVERAGE BAR REFRIGERATION LINES AND EQUIPMENT PENETRATION LOCATIONS UNTIL THE LINES HAVE BEEN INSTALLED. THE CEILING TILE INSTALLER SHALL RETURN AND INSTALL THE TILES AFTER THE REFRIGERATION LINES HAVE BEEN INSTALLED AND TESTED.

UTILITIES:

U1. INCOMING SERVICE SHALL BE 208Y/120V, 3 PHASE, 4 WIRE. ANY DEVIATIONS TO THIS SERVICE TYPE SHALL NOT BE PERMITTED UNLESS APPROVED IN WRITING BY McDONALD'S.

U2. THE EC SHALL ARRANGE WITH THE ELECTRIC, TELEPHONE, AND OTHER UTILITY COMPANIES FOR INCOMING SERVICE REQUIREMENTS AND SHALL INCLUDE ALL COSTS IN BASE BID.

U3. THE EC SHALL VERIFY EXACT METHODS AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY. CURRENT TRANSFORMERS SHALL BE INSTALLED OUTSIDE RESTAURANT, LOCATE INSIDE ONLY IF REQUIRED BY UTILITY COMPANY OR LOCAL AUTHORITIES.

U4. PROVIDE CONCRETE PAD IF TRANSFORMER IS LOCATED ON GRADE AND PROVIDE SECONDARY SERVICE FEEDER AND CONDUITS TO PANEL MDP AS PER LOCAL UTILITY REQUIREMENTS.

U5. THE EC/GC/ACM SHALL OBTAIN AVAILABLE SHORT CIRCUIT CURRENT FROM THE LOCAL UTILITY COMPANY. THE EC/GC/ACM SHALL ADVISE IN WRITING (FAX SUPPLIER THE UTILITY LETTER) THE AVAILABLE AMOUNT OF FAULT CURRENT. THE PANELBOARD SUPPLIER SHALL BE RESPONSIBLE TO VERIFY THAT THE ELECTRICAL EQUIPMENT SHIPPED HAS APPROPRIATE ELECTRICAL RATINGS WHICH ARE EQUAL TO OR GREATER THAN THE AVAILABLE AMOUNT OF FAULT CURRENT AT THE SITE.

U6. EC AND ACM OR OWNER/OPERATOR AND ACM SHALL COORDINATE WITH LOCAL PHONE COMPANY TO PROVIDE A 10 PAIR (OR MORE) COPPER TELEPHONE CABLE FROM THE TELEPHONE UTILITY EASEMENT TO THE RESTAURANT TELEPHONE DEMARCATION POINT. IF THE TELEPHONE PANEL/BOX IS LOCATED INSIDE THE RESTAURANT, EC SHALL PROVIDE (2) EMPTY 3/4" CONDUITS FROM THE TELEPHONE PANEL/BOX UP TO ABOVE THE CEILING FOR FUTURE TELEPHONE CABLE INSTALLATION. ADDITIONALLY, THE EC SHALL PROVIDE AN EMPTY 3/4" CONDUIT FROM THE TELEPHONE PANEL/BOX TO THE LOCATION OF THE FUTURE INTERNET SERVER (VERIFY LOCATION WITH PM). EC SHALL CONNECT, INSTALL AND INCORPORATE ALL OTHER REQUIREMENTS NECESSARY FOR COMPLETE AND OPERATIONAL TELEPHONE SYSTEM(S) FOR THIS SITE. THE REMAINING UNUSED TELEPHONE CONDUCTOR PAIRS SHALL BE CAPPED AND LEFT IN PLACE FOR FUTURE USE. THE TELEPHONE PANEL/BOX SHALL BE GROUNDED AS SHOWN IN THE "BUILDING ELECTRICAL GROUNDING DETAIL."

U7. EC SHALL PROVIDE A 4" SCHEDULE 40/80 PVC CONDUIT THAT IS SUITABLE FOR DIRECT BURIAL FROM BUILDING TO UTILITY EASEMENT/ROW IN UTILITY CABLING/CONDUIT TRENCH PROVIDED BY GC. CONDUIT SHALL RUN FROM INCOMING TELCOM LOCATION AT BUILDING TO TELECOM PEDESTAL LOCATION IN UTILITY EASEMENT/ROW. VERIFY EXACT LOCATIONS IN FIELD WITH AREA CONSTRUCTION MANAGER AND TELECOM UTILITY PROVIDER PRIOR TO INSTALLATION.

INSTALLATION NOTES:

1. IF TELCOM CONDUIT IS TERMINATED WITHIN BUILDING, PVC SHALL TRANSITION TO HWG/RMC TYPE CONDUIT PRIOR TO RISING ABOVE FINISHED SLAB.
2. PROVIDE THERMOPLASTIC BUSHINGS AT BOTH ENDS OF CONDUIT FOR CABLING PROTECTION.
3. IF 90 DEGREE BENDS ARE REQUIRED, CONTRACTOR SHALL PROVIDE WIDE SWEEPING BENDS TO PREVENT BENDING/DAMAGE TO CABLE
4. ALL COMMUNICATIONS CABLING SHALL BE PULLED VIA THIS CONDUIT.
5. INSTALL A MINIMUM OF 6 PULL WIRES IN CONDUIT TO ALLOW FOR THE INSTALLATION OF FUTURE CABLING. USE NON-DEGRADING POLYPROPYLENE OR MONOFILAMENT PLASTIC LINE OR #12 AWGT SOLID COPPER CONDUCTORS WITH NOT LESS THAN 200 LBF TENSILE STRENGTH. PROVIDE AT LEAST 12 INCHES OF SLACK AT EACH END OF PULL WIRE.
6. AFTER INSTALLATION OF COMMUNICATIONS CABLING AND PULLSTRINGS/WIRES, CONTRACTOR SHALL SEAL BOTH ENDS OF CONDUIT TO PREVENT INTRUSION FROM WEATHER, RODENTS, DEBRIS, ETC. SEAL SHALL BE OF TYPE TO ALLOW FOR REMOVAL FOR INSTALLATION OF FUTURE CABLING

CONDUIT AND WIRE:

W1. THE FOLLOWING WIRING METHODS SHALL NOT BE USED: NON-METALLIC SHEATHED CABLE (ROMEX, NM, NMC, & NMS), ARMORED CABLE TYPE AC (BX), ELECTRICAL NON-METALLIC TUBING, TYPE ENT (SMURF-TUBE).

W2. CONDUIT RUNS MAY BE COMBINED EXCEPT WHERE ISOLATED GROUNDS ARE USED. IG CIRCUITS SHALL BE RUN IN SEPARATE CONDUITS. ALL HOME RUNS SHALL BE SIZED BASED ON DERATED CONDUCTOR AMPACITIES AND INCREASE CONDUIT AND WIRE SIZE AS REQUIRED BY NEC SECTION 310 REQUIREMENTS.

W3. CONDUIT SHALL HAVE A MAXIMUM OF 4 BENDS WITHOUT A JUNCTION BOX TO PREVENT DAMAGE TO CABLE DURING PULLING. THE EC SHALL PIGTAIL #12 PULL WIRE AT EACH END FOR INSTALLER TO PULL CABLE. ALL LOW VOLTAGE CONDUIT STUB-UPS SHALL BE PROVIDED WITH A BUSHING.

W4. MINIMUM WIRE SIZE SHALL BE #12 AWG COPPER UNLESS NOTED OTHERWISE. MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS NOTED OTHERWISE. WIRES INSTALLED UNDERGROUND OR OUTDOORS SHALL BE THW.

W5. CONDUCTORS #10 AWG AND SMALLER SHALL BE SOLID COPPER. CONDUCTORS #8 AND LARGER SHALL BE STRANDED COPPER. ALUMINUM CONDUCTORS SHALL NOT BE UTILIZED FOR FEEDER OR BRANCH CIRCUIT DISTRIBUTION.

W6. RACEWAYS SHALL BE ANY OF THE FOLLOWING MATERIALS, INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES:

OUTDOORS: (FOR SPECIFIC APPLICATIONS AND APPROPRIATE FITTINGS, SEE TABLE W6)

1. EXPOSED: RMC, IMC.
2. CONCEALED: RMC, IMC.
3. BELOW GRADE, SINGLE RUN: RNC, RMC.
4. BELOW GRADE, GROUPED: RNC, RMC.
5. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): LFMC.
6. BOXES AND ENCLOSURES: NEMA 250, TYPE 3R OR 4.

INDOORS: (FOR SPECIFIC APPLICATIONS AND APPROPRIATE FITTINGS, SEE TABLE W6)

1. EXPOSED: EMT, IMC.
2. CONCEALED: EMT, IMC.

(CONTINUED ON TOP)

3. CONNECTION TO VIBRATING EQUIPMENT (INCLUDING TRANSFORMERS AND HYDRAULIC, PNEUMATIC, ELECTRIC SOLENOID, OR MOTOR-DRIVEN EQUIPMENT): FMC; EXCEPT USE LFMC IN DAMP OR WET LOCATIONS.
4. DAMP OR WET LOCATIONS: RIGID STEEL CONDUIT.
5. BOXES AND ENCLOSURES: NEMA 250, TYPE 1, EXCEPT AS FOLLOWS: A. DAMP, WET OR KITCHEN LOCATIONS: NEMA 250, TYPE 4, STAINLESS STEEL.

TABLE W6:

LOCATION	208V.	480V.	LOW ENERGY*
EXPOSED			
INDOORS	< 1" EMT COMPRESS. FTGS >1.25" IMC THREADED FTGS	IMC THREADED FTGS	EMT COMPR. FTGS
OUTDOORS	RMC OR IMC THREADED FTGS	RMC OR IMC THREADED FTGS	RMC OR IMC THREADED FTGS
CONCEALED			
WALLS	<2" EMT SET SCREW FTGS >2.5" IMC THREADED FTGS	<2" EMT SET SCREW. FTGS >2.5" IMC THREADED FTGS	EMT 1/2"- 2" SET SCREW FTGS 2.5" - 4" COMPR. FTGS
AIR HANDLING CEILING/SPACE	<2" EMT COMPR. FTGS >2.5" IMC THREADED. FTGS	2" EMT COMPR. FTGS < >2.5" IMC THREADED. FTGS	EMT COMPR. FTGS
NON AIR HANDLING CEILING/SPACE	<2" EMT SET SCREW FTGS >2.5" IMC THREADED. FTGS	<2" EMT COMPR. FTGS >2.5" IMC THREADED. FTGS	EMT 1/2" - 2" SET SCREW FTGS 2.5"- 4" COMPR. FTGS
BELOW GRADE			
INTERIOR	IMC THREADED FTGS OR SCHEDULE 40 OR 80 PVC	IMC THREADED FTGS	IMC THREADED FTGS SCHEDULE 40 OR 80 PVC
EXTERIOR	SCHEDULE 40 OR 80 PVC OR RMC THREADED FTGS	SCHEDULE 40 OR 80 PVC OR RMC THREADED FTGS	SCHEDULE 40 OR 80 PVC OR RMC THREADED FTGS

W7. ALL CONDUITS PENETRATING THE FREEZER/COOLER BOX SHALL BE SEALED IN COMPLIANCE NEC SECTION 300 AND THE FREEZER/COOLER BOX MANUFACTURERS REQUIREMENTS.

W8. PROVIDE THREE (3) 3/4" EMPTY CONDUITS FROM PANEL LP-1 UP TO THE CEILING SPACE AND CAP FOR FUTURE USE.

GROUNDING:

G1. ALL BRANCH AND FEEDER CIRCUITS SHALL BE GROUNDED BY TWO METHODS. THE FIRST METHOD SHALL INCLUDE AN INSULATED COPPER EQUIPMENT GROUNDING CONDUCTOR CONTAINED WITHIN THE SAME CONDUIT AS THE PHASE CIRCUIT CONDUCTORS AND SIZED PER NEC SECTION 250 REQUIREMENTS. THIS INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL HAVE ONE END PROPERLY TERMINATED AT THE EQUIPMENT GROUND BUS IN THE CORRESPONDING CIRCUIT BREAKER PANEL, AND THE OTHER END TERMINATED AT THE GROUNDING CONTACT OF A GROUNDING RECEPTACLE AND TO THE JUNCTION BOX OR TO AN EQUIPMENT CABINET, AS APPLICABLE. THE SECOND METHOD PROVIDES EQUIPMENT GROUNDING VIA METALLIC CONDUIT THAT IS CONNECTED AND TERMINATED IN FITTINGS LISTED FOR GROUNDING PER NEC SECTION 250 REQUIREMENTS. BOTH GROUNDING METHODS ARE REQUIRED IN A MCDONALD'S RESTAURANT. ISOLATED GROUND SHALL BE INSTALLED WHERE INDICATED ON PLAN AND AS SHOWN IN POS ISOLATED GROUND/DEDICATED CIRCUIT DETAIL ON SHEET E4.2.

G2. THE BUILDING GROUNDING SYSTEM SHALL COMPLY WITH NEC ARTICLE 250, MCDONALD'S SPECIFICATIONS, AND SHEET E4.2. CAUTION: IT IS A SAFETY HAZARD AND AN NEC VIOLATION TO HAVE ANY NEUTRAL TO GROUND CONNECTIONS BEYOND THE MAIN ELECTRICAL DISCONNECT MEANS. MCDONALD'S GROUNDING STANDARDS PURPOSELY EXCEED THOSE GIVEN BY THE NEC. THE EC SHALL PROVIDE A BUILDING GROUNDING SYSTEM MEETING NEC SECTION 250 REQUIREMENTS AS WELL AS MCDONALD'S STANDARDS.

G3. EC SHALL REFER TO "POS ISOLATED GROUND/DEDICATED CIRCUIT DETAIL, SHEET E4.2, FOR REQUIRED WIRING REQUIREMENTS OF COMPUTER PANEL CP.

G4. METAL RACEWAYS CONTAINING A GROUNDING ELECTRODE CONDUCTOR SHALL BE BONDED AT BOTH ENDS AS REQUIRED BY NEC SECTION 250 REQUIREMENTS.

TEMPERATURE CONTROLS:

T1. REMOTE TEMPERATURE SENSORS: EC SHALL PROVIDE 1/2" CONDUIT FROM JUNCTION BOX ABOVE CEILING DOWN TO SENSOR MOUNTED AT 4'-0" TO 4'-6" AFF.

T2. SEE DETAIL ON SHEET M3.0. FOR SENSOR MOUNTING DETAIL. LOCATION OF WALL MOUNTED TEMPERATURE SENSORS ARE SHOWN ON SHEET M1.2 AND E2.0.

T3. WHEN WIRING FOR PROGRAMMABLE THERMOSTATS AND REMOTE SENSORS IS NOT IN A CONDUIT, THE WIRING SHALL BE RUN TO THE UNDERSIDE OF THE ROOF DECK. NONE OF THE WIRING SHALL BE ROUTED OVER FLUORESCENT BALLASTS, POWER BOXES OR IN A CONDUIT WITH LINE VOLTAGE WIRING AS ELECTRICAL INTERFERENCE (NOISE) WILL CAUSE ERRATIC CONTROL OPERATION. ALL THERMOSTATS SHALL BE MOUNTED 4'-0" AFF.

FLAT PANEL TELEVISIONS:

TV1. EC SHALL PROVIDE A DUPLEX RECEPTACLE AND A LOW VOLTAGE BROADBAND CONNECTION FOR THE INSTALLATION OF FLAT PANEL TELEVISIONS. COORDINATE EXACT LOCATIONS WITH DECOR COMPANY. FOR BROADBAND CONNECTION, EC SHALL PROVIDE A 4 X 4 BOX WITH A 3/4" CONDUIT STUB-UP WITH A BUSHING INTO ACCESSIBLE CEILING SPACE.

ELECTRICAL PANELS:

E1. THE EC SHALL BE RESPONSIBLE FOR BALANCING THE LOADS ON ALL PANELS.

E2. THE EC SHALL PROVIDE ELECTRICAL SERVICE TO THE EQUIPMENT MOUNTED BREAKER PANEL. SEE ELECTRICAL ROUGH-IN PLAN AND SCHEDULE FOR ALL REQUIREMENTS.

E3. THE EC SHALL BE RESPONSIBLE FOR THE PROPER IDENTIFICATION AND LABELING OF ALL CIRCUIT BREAKERS. EACH PANEL SHALL BE PROVIDED WITH AN ACCURATE TYPEWRITTEN CIRCUIT DIRECTORY AT THE CONCLUSION OF THE PROJECT AND PRIOR TO RESTAURANT OPENING.

SECURITY AND DRIVE-THRU CAMERAS:

S1. EC TO PROVIDE ELECTRICAL POWER AND COMMUNICATION CONDUITS FOR BUILDING MOUNTED SECURITY AND DRIVE THRU CAMERAS. COORDINATE FINAL LOCATIONS WITH SECURITY AND DRIVE THRU CAMERA INSTALLERS.

LIGHTING:

L1. PROVIDE A WEATHERPROOF JUNCTION BOX IN PARAPET FOR FASCIA SIGN. FINAL CONNECTION BY OTHERS.

L2. COORDINATE THE LOCATION OF JUNCTION BOX (IN THE WALL) WITH THE OPENING IN TRELLIS (FOR THE LIGHT FIXTURE WIRES). THE LOCATION OF THE JUNCTION BOX AND THE OPENING IN THE TRELLIS SHALL BE ALIGNED FOR THE LIGHT FIXTURE TO BE INSTALLED PROPERLY. COORDINATE INSTALLATION OF JUNCTION BOX AND ANY NECESSARY OPENINGS IN TRELLIS WITH GC AND TRELLIS/CANOPY MANUFACTURER. SEE LIGHT FIXTURE INSTALLATION INSTRUCTIONS FOR REQUIREMENTS REGARDING MOUNTING BRACKETS FOR USE IN C-CHANNEL TRELLISES.

L3. EC SHALL FIELD VERIFY THAT LIGHT FIXTURES DO NOT OBSTRUCT OR CONFLICT WITH THE WORK OF OTHER TRADES. IF A DISCREPANCY IS FOUND, THE EC SHALL IMMEDIATELY NOTIFY THE GC BEFORE THE THE INSTALLATION OF SUCH FIXTURE(S). EC SHALL COORDINATE LOCATIONS OF ALL LIGHT FIXTURES IN DINING AREA WITH FINAL SEATING AND DECOR PLANS.

L4. IF PC-POS CASH REGISTER SYSTEM IS INSTALLED, EC SHALL RELOCATE FIXTURES ABOVE FRONT COUNTER TO AVOID GLARE ON THE CASH REGISTER SCREENS. EC SHALL INSTALL CABLE WHIP TO FIXTURES SO THAT FIXTURE MAY BE RELOCATED FOUR FEET WITHOUT DISCONNECTING CABLE WHIP.

L5. EC SHALL COORDINATE LOCATION OF ALL EXTERIOR LIGHTS TO AVOID INTERFERENCE WITH ANY CORBELS, TRUSSES, BEAMS OR OTHER SPECIAL EXTERIOR TREATMENTS. INSTALL LIGHT FIXTURES WITH CORRECT ORIENTATION PER MANUFACTURER'S INSTRUCTIONS

L6. THE USE OF INTERLOCK TYPE "MC" CABLE IN LENGTHS OF 6 FEET OR LESS (WHERE PERMITTED BY LOCAL CODES) SHALL BE ALLOWED FOR WIRING TO INTERIOR LIGHTING FIXTURES. "ROMEX" OR "BX" SHALL NOT BE USED.

L7. EC SHALL VERIFY THAT NOT MORE THAN 3% VOLTAGE DROP EXISTS FROM THE LIGHTING PANEL TO ANY EXTERIOR LIGHTING FIXTURE OR SIGNAGE BALLAST.

L8. WHERE MCDONALD'S RESTAURANT HAS A PLAYPLACE, THE EC SHALL COORDINATE EXACT LOCATION OF PLAYPLACE LIGHTING WITH PLAYPLACE TOY VENDOR FOR MAXIMUM ILLUMINATION AND SAFETY PER THE FINAL LOCATION OF THE PLAYPLACE TOY. LIGHTING FIXTURES SHALL NOT BE MOUNTED TO THE TOY OR ANY PART OF THE TOY STRUCTURE.

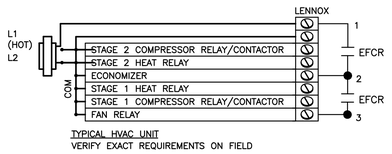
L9. EC SHALL VERIFY ALL TAP SETTINGS FOR H.I.D. LIGHTING FIXTURES AND MAKE ANY NECESSARY CORRECTIONS PRIOR TO INSTALLATION.

SEQUENCE OF OPERATION:

1. TURNING "ON" ANY PIECE OF COOKING EQUIPMENT UNDER A HOOD WILL TURN ON THE EXHAUST FAN FOR THAT HOOD.
2. TURNING "OFF" THE LAST PIECE OF COOKING EQUIPMENT UNDER A HOOD WILL TURN OFF THE EXHAUST FAN FOR THAT HOOD.
3. IF THE ANSUL SYSTEM SHOULD DISCHARGE WHILE THE COOKING EQUIPMENT AND EXHAUST FAN ARE OPERATING, THE COOKING EQUIPMENT WILL BE SHUT OFF, BUT THE EXHAUST FAN WILL CONTINUE TO RUN AND WILL FORCE THE ROOFTOP UNITS INTO A "SCHEDULED" MODE (CONTROLLED BY THE THERMOSTAT).
4. THE ANSUL SYSTEM MUST BE RECHARGED AND MANUALLY RESET BEFORE THE COOKING EQUIPMENT WILL AGAIN BE ABLE TO OPERATE.
5. THE ON/OFF SWITCH ON THE EXHAUST FAN IS NORMALLY KEPT IN THE "ON" POSITION. IF IT IS TURNED OFF FOR SERVICE, THE COOKING EQUIPMENT WILL TURN OFF AND NOT BE ABLE TO OPERATE UNTIL THE EXHAUST FAN ON/OFF SWITCH IS AGAIN TURNED ON.

INTERLOCK DIAGRAM LEGEND

- ● TERMINAL BLOCK IN CHASE
- CTB – CHASE TERMINAL BLOCK, PROVIDED AND INSTALLED BY KITCHEN EQUIPMENT SUPPLIER
- ETB – EQUIPMENT TERMINAL BLOCK
- EFCR – EXHAUST FAN / MAKE UP AIR CONTROL RELAY. PROVIDED BY CONTRACTOR.
- IGR – INTERNAL GRILL RELAY PROVIDED WITHIN GARLAND GRILLS
- MS – ANSUL MICROSWITCH PROVIDED BY KITCHEN EQUIPMENT SUPPLIER
- » CONTROL CORD PLUG & RECEPTACLE
- —— FIELD WIRING
- ▬▬ CONTROL CORD/INTERNAL WIRING
- —— FACTORY WIRING
- —— EQUIPMENT OR ENCLOSURE



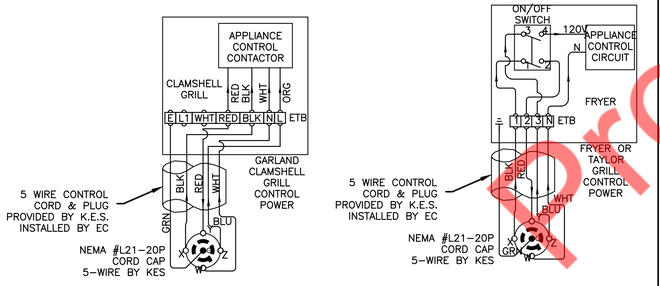
TYPICAL HVAC UNIT
VERIFY EXACT REQUIREMENTS ON FIELD

COOKING EQUIPMENT EXHAUST FAN	MAKE UP PROVIDED BY
EF/1	RTU–3
EF/2	RTU–1
EF/3	RTU–2

NOTE
RTU # ASSOCIATED WITH EACH EXHAUST FAN BASED ON PROTOTYPICAL VALUES ONLY. VERIFY THAT EXHAUST FAN ACTIVATES THE CORRESPONDING RTU TO PROVIDE AN ADEQUATE AMOUNT OF MAKEUP AIR.

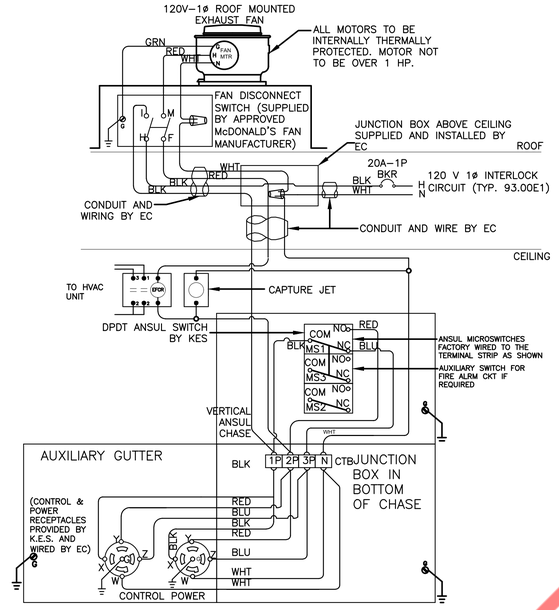
1 E-3.3 MAKE–UP AIR HVAC CONNECTION
FOR REFERENCE ONLY

REVISED: 6/18



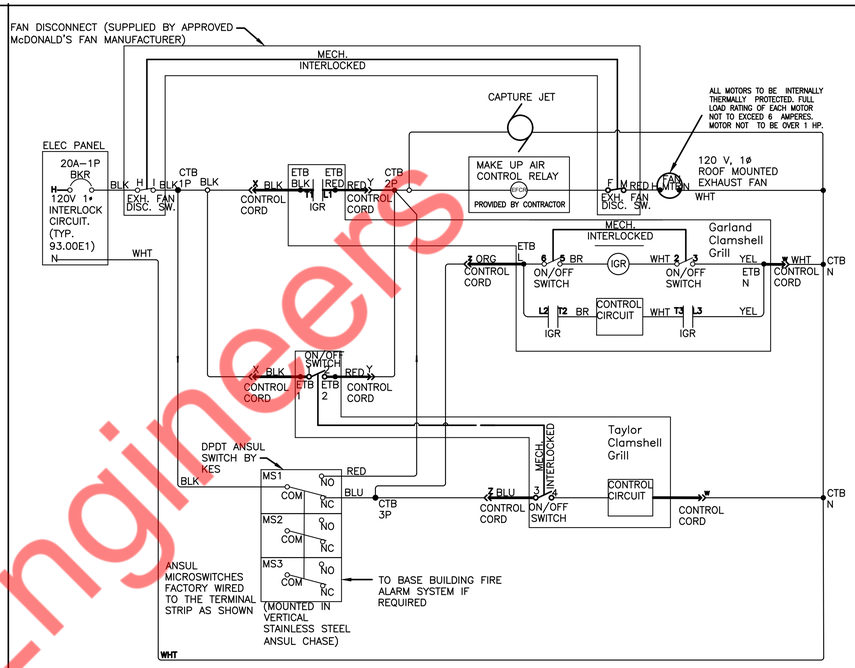
4 E-3.3 CONTROL CORD CONNECTION
FOR REFERENCE ONLY

REVISED: 6/18



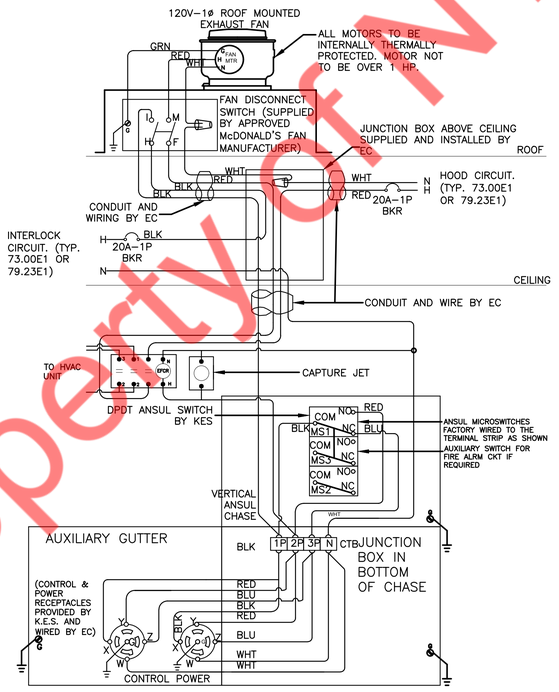
2 E-3.3 INTERLOCK WIRING DIAGRAM FOR EXHAUST FAN AND COOKING EQUIPMENT
FOR REFERENCE ONLY

REVISED: 6/18



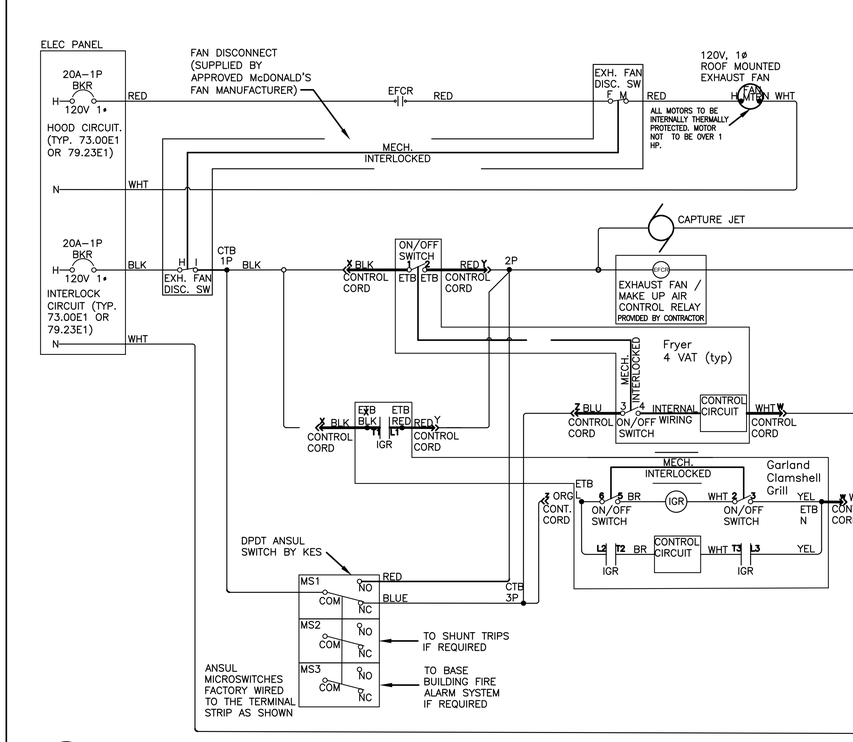
3 E-3.3 INTERLOCK LADDER DIAGRAM
FOR REFERENCE ONLY

REVISED: 6/18



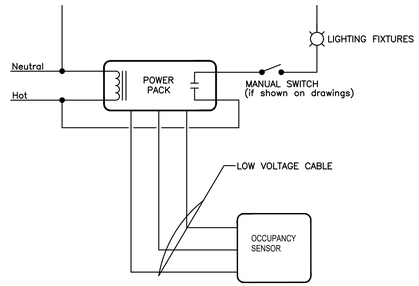
5 E-3.3 INTERLOCK WIRING DIAGRAM FOR EXHAUST FAN AND COOKING EQUIPMENT
FOR REFERENCE ONLY

REVISED: 6/18



6 E-3.3 INTERLOCK LADDER DIAGRAM
FOR REFERENCE ONLY

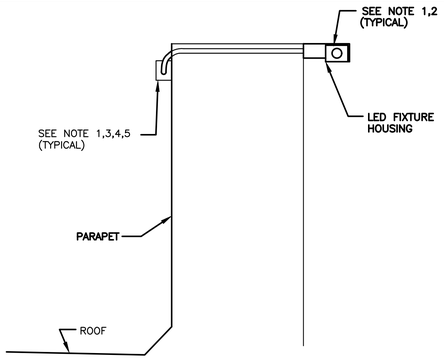
REVISED: 6/18



NOTES:

1. REFER TO LIGHTING PLAN FOR OCCUPANCY SENSOR LOCATIONS AND QUANTITIES.

1 / E-4.0 OCCUPANCY SENSOR CONTROL DETAIL
NOT TO SCALE



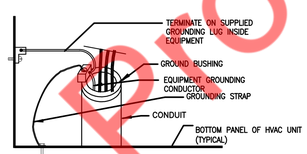
3 / E-4.0 BRAND WALL LIGHTING DETAIL
NOT TO SCALE

GENERAL NOTES

1. PLACE LED FIXTURE AT DESIRED LOCATION AND INSTALL FIXTURE FROM LEFT TO RIGHT WHEN FACING ARCADE AND ATTACH POWER SUPPLY AND MOUNTING BRACKET AS RECOMMENDED BY MANUFACTURER.
2. EC SHALL CONNECT NEW FIXTURES TO THE NEXT AVAILABLE SPARE 120V CIRCUIT AND MAKE ALL ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.
3. POWER SUPPLY SHALL ALWAYS BE INSTALLED TO THE LEFT SIDE OF FIXTURE WHEN FACING ARCADE.
4. OVERALL FIXTURE RUN TO BE CENTERED ON OVERALL LENGTH OF WALL.
5. CONNECT NEW LED FIXTURES TO EXISTING LIGHTING CIRCUIT(S) AS REQUIRED. ENSURE THAT CIRCUIT BREAKER AND CONDUCTOR SIZES DO NOT EXCEED 1200 WATTS ON A 15A CIRCUIT AND 1600 WATTS ON A 20A CIRCUIT. VERIFY EXISTING CONDITIONS AND REQUIREMENTS IN FIELD. PROVIDE ADDITIONAL CIRCUITS (C.B.,WIRING,CONDUITS) AS REQUIRED.

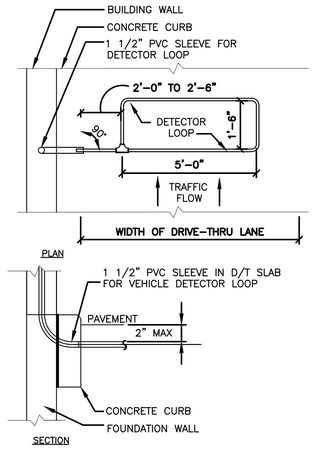
CONDUIT, WIRE SIZE AND GROUNDING FOR HVAC UNITS

HACR BRKR SIZE	CONDUIT & WIRE SIZE
40A	1"C-3#8
45A	1"C-3#6
50A	1"C-3#6
60A	1"C-3#6
70A	1-1/4"C-3#4
80A	1-1/4"C-3#3
90A	1-1/4"C-3#3
100A	1-1/4"C-3#2
125A	1-1/2"C-3#1
150A	1-1/2"C-3#1/0
175A	2"C-3#2/0
200A	2"C-3#3/0
225A	2"C-3#4/0
250A	2-1/2"C-3#250

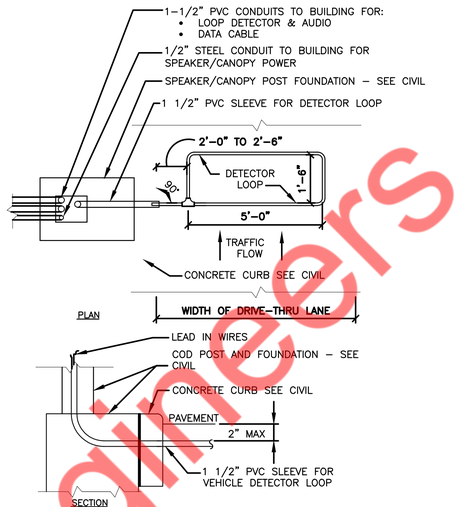


4 / E-4.0 HVAC GROUNDING DETAIL
NOT TO SCALE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINAL COORDINATION OF ALL ELECTRICAL FEEDERS AND CIRCUIT BREAKERS WITH THE MANUFACTURER'S WRITTEN DATA FOR EACH MECHANICAL DEVICE PRIOR TO SUBMITTAL OF ANY ELECTRICAL EQUIPMENT FOR REVIEW. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR ANY CHANGES TO ELECTRICAL FEEDERS OR CIRCUIT BREAKERS REQUIRED FOR ANY MECHANICAL DEVICES.



B – DT WINDOW DETECTOR LOOP

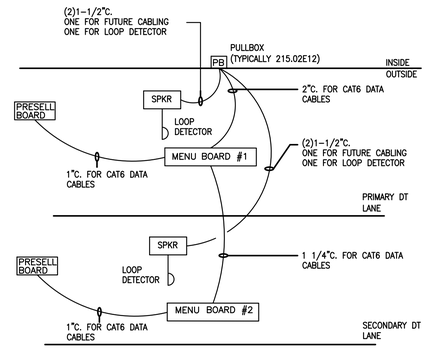


A – C.O.D. DETECTOR LOOP

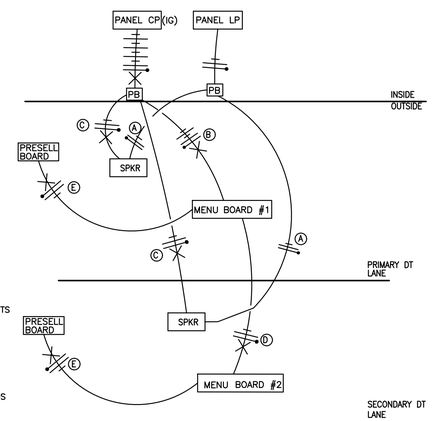
2 / E-4.0 DETECTOR LOOP DETAILS
NOT TO SCALE

NOTES

1. VERIFY CONDUIT SIZES AND LAYOUT WITH DETECTOR LOOP MANUFACTURER.
2. CENTER VEHICLE DETECTOR LOOP (ITEM # 217.11E1) IN DRIVE THRU LANE. INSTALL PER MFR. RECOMMENDATIONS.
3. SEE CIVIL FOR DIMENSIONS OF DRIVE-THRU LANE CONCRETE PAD FOR DETECTOR LOOP.
4. NO STEEL (REBAR OR ELECTRICAL WIRE) SHALL BE USED WITHIN 2' OF LOOP.
5. DETECTOR LOOP MANUFACTURERS:
   DETECTOR LOOPS MAY BE BY ONE OF THE FOLLOWINGS COMPANIES OR EQUAL.
   3M: 1-800-328-0033
   HME: 1-800-848-4468
6. DETECTOR LOOP MATERIAL:
   PVC TUBING 1/2" I.D. 100 PSI LOOP MADE FROM ONE LENGTH OF THIN FOURTEEN GAUGE STRANDED WIRE. LEAD-IN IS PRE-TWISTED AT FACTORY.
7. DETECTOR LOOP CONSTRUCTION:
   FORMED WITH ONE CONTINUOUS LENGTH OF PVC WITH NO SHARP CORNERS AS DETAILED. WIRE LOOPED, FORMED, & PIGTAILED AS DETAILED.



DT LOW VOLTAGE CONDUIT DIAGRAM
NOT TO SCALE



NOTE:

* VERIFY EXACT CIRCUITS & QUANTITIES OF CIRCUITS WITH PANEL SCHEDULES AND MANUFACTURERS INSTALLATION INSTRUCTIONS.

(A) 2#12 & 1#12 GND. TO LP-1 FOR COD CANOPY LIGHTING.

(B) 4#12 & 1#12 GND & 1#12 ISOLATED GND., TO CP FOR ISOLATED GROUND POWER TO MENUBOARDS AND MEDIA PLAYERS.

(C) 2#12 & 1#12 GND & 1#12 ISOLATED GND., TO CP FOR ISOLATED GROUND POWER TO SPEAKER CANOPY/STAND. EACH CANOPY/STAND SHALL BE ON ITS OWN SEPARATE CIRCUIT.

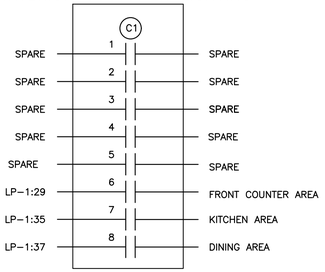
(D) 2#12 & 1#12 GND & 1#12 ISOLATED GND., TO CP FOR ISOLATED GROUND POWER TO MENUBOARDS AND MEDIA PLAYERS.

(E) 2#12 & 1#12 GND & 1#12 ISOLATED GND., TO CP FOR ISOLATED GROUND POWER TO FOR PRESELL BOARDS AND MEDIA PLAYER.

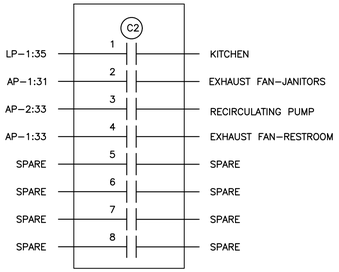
DRIVE THRU POWER DIAGRAM
NOT TO SCALE

LIGHTING CONTROL SYSTEM

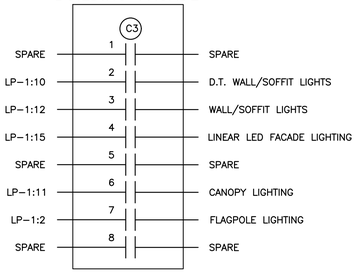
INTERIOR CUSTOMER LIGHTING



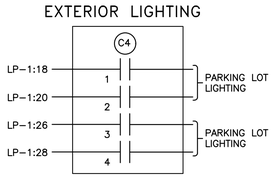
INTERIOR CREW LIGHTING



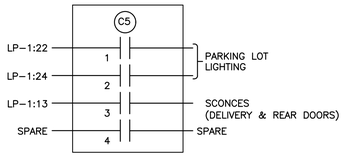
BUILDING FACADE



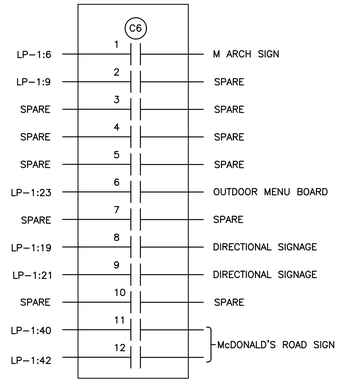
EXTERIOR LIGHTING



EXTERIOR LIGHTING



EXTERIOR SIGNAGE



LIGHTING CONTROL NOTES:

LIGHTING CONTROL NOTES

LC1. CONTACTOR DETAILS ARE DIAGRAMMATIC ONLY AND ARE SHOWN WITH TYPICAL LOADS AND CIRCUIT ASSIGNMENTS. LOADS, CIRCUIT ASSIGNMENTS AND NUMBER OF CONTACTORS MAY VARY BY RESTAURANT LOCATION AND PER BAS SUPPLIERS SYSTEMS. VERIFY EXACT REQUIREMENTS WITH BAS INSTALLATION DETAILS, SITE PLANS, ELECTRICAL PANEL SCHEDULES AND ACM. EC SHALL MAKE ALL MODIFICATIONS AS REQUIRED. FINAL INSTALLATION SHALL BE FULLY NEC AND ENERGY CODE COMPLIANT.

LC2. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL WIRING, CONNECTIONS, TERMINATIONS, ETC. THAT ARE NOT PROVIDED BY THE BAS SUPPLIER FOR A COMPLETE, FULLY OPERATIONAL AND CODE COMPLIANT LIGHTING CONTROL SYSTEM.

LC3. ALL COMPONENTS FOR THIS LIGHTING CONTROL SYSTEM SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR. SEE BOXED NOTE BELOW FOR OPTIONS.

LC4. ALL COMPONENTS SHALL BE UL LISTED AND LABELED AND THE SYSTEM SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL ENERGY CODE REQUIREMENTS.

LC5. ALL CONTACTORS SHALL BE LOCATED IN A NEMA 1 ENCLOSURE WITH SCREW TYPE COVER MOUNTED DIRECTLY ABOVE LIGHTING PANEL OR SWITCHGEAR SO AS TO BE ACCESSIBLE.

LC6. ALL CONTACTORS SHALL BE RATED FOR 30 AMP LOADS UNLESS NOTED OTHERWISE AND SHALL BE HID RATED WHERE REQUIRED.

LC7. COIL VOLTAGES FOR ALL CONTACTORS SHALL BE 120 VOLT UNLESS NOTED OTHERWISE.

LC8. CONTACTOR C5 IS INTENDED TO CONTROL PARKING LOT LIGHTS NEAR TRASH CORRAL, DELIVERY DOORS, AND EMPLOYEE PARKING, THUS ALLOWING A DIFFERENT LIGHTING SCHEDULE TO BE USED IN THOSE AREAS.

LIGHTING CONTROL INSTALLATION OPTIONS

OPTION 1 (STANDARD) CONTACTORS AND CONTACTOR ENCLOSURE FOR THIS LIGHTING CONTROL SYSTEM SHALL BE FURNISHED BY THE BAS SUPPLIER AND INSTALLED BY THE ELECTRICAL CONTRACTOR ON SITE FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.

OPTION 2 (OPTIONAL) LIGHTING CONTROL CAN BE ACCOMPLISHED VIA UTILIZATION OF A SMART TYPE BREAKER PANEL REPLACING STANDARD PANEL LP-1. PANEL SHALL UTILIZE AN INTEGRAL MOTOR OPERATED CIRCUIT BREAKERS OR AN INTEGRAL CIRCUIT BREAKER/CONTACTOR TYPE COMBINATION DEVICE WITH AN INTEGRAL PROGRAMMING CONTROL MODULE AND SHALL BE ORDERED THROUGH OUR ELECTRICAL EQUIPMENT NATIONAL ACCOUNT PROGRAM (SQUARE-D) THROUGH OUR CONSTRUCTION PURCHASING TEAM.

BUILDING AUTOMATION SYSTEM NOTES

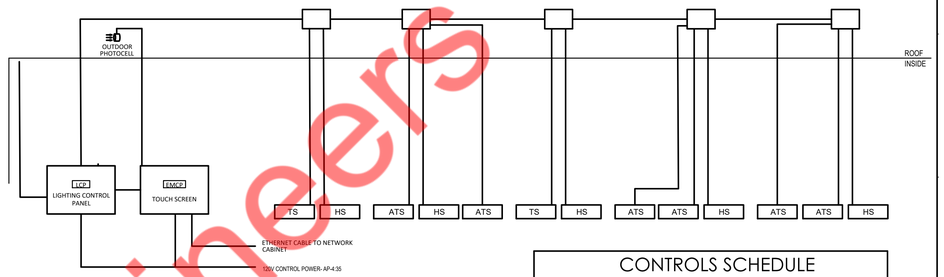
BAS1. THE DIAGRAM SHOWN ABOVE IS SCHEMATIC IN NATURE AND SHOWS THE GENERAL REQUIREMENTS FOR THE INSTALLATION OF THE BUILDING AUTOMATION SYSTEM. EXACT EQUIPMENT REQUIREMENTS AND QUANTITIES WILL VARY PER SITE. G.C., M.C., T.C.C. AND E.C. SHALL COORDINATE ALL EXACT EQUIPMENT AND INSTALLATION REQUIREMENTS WITH SUPPLIER PRIOR TO SUBMITTING BID FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.

BAS2. THE BUILDING AUTOMATION SYSTEM ALSO HAS ADDITIONAL OPTIONS AVAILABLE SUCH AS MONITORING DOOR CONTACTS (RESTROOM & COOLER FREEZER), ENERGY METER, COOLER/FREEZER TEMP. ADDITIONAL OPTIONS MAY BE SELECTED ON CENTRAL PURCHASING PROJECT DETAIL FORM. G.C., M.C., T.C.C. AND E.C. SHALL COORDINATE ALL EXACT INSTALLATION REQUIREMENTS WITH SUPPLIER PRIOR TO SUBMITTING BID FOR A COMPLETE AND FULLY FUNCTIONAL SYSTEM.

BAS3. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LINE AND LOW VOLTAGE WIRING AND CONNECTIONS, INCLUDING BUT NOT LIMITED TO CONTROL POWER TO ALL BAS COMPONENTS AND POWER CIRCUITRY WIRING OF ALL LIGHTING CONTACTORS. COORDINATE INSTALLATION WITH SITE SPECIFIC BAS INSTALLATION DETAILS PROVIDED BY SUPPLIER.

BUILDING AUTOMATION SYSTEM

INSTALLATION & TECHNICAL ASSISTANCE INFORMATION:
LENNOX BAS: McD@CCBAC.com



PROVIDE AND INSTALL DATA OUTLET NEXT TO BAS PANEL. REMOTE COMMISSIONING IS NOT POSSIBLE WITHOUT DATA CONNECTION.

INSTALLATION NOTES:
1. PROVIDE, INSTALL AND SECURE ALL NECESSARY CABLE & CONDUIT PER BAS DRAWINGS AND SPECIFICATIONS.
2. MOUNT ALL BAS CONTROL ENCLOSURES.
3. PERFORM ALL LOW VOLTAGE TERMINATIONS.
4. ROUGH-IN, INSTALLATION AND WIRING FOR TEMPERATURE SENSORS AND TOUCHSCREEN PER PLAN LOCATIONS.
5. PROVIDE POWER CIRCUITS INTO CONTROL CANS PER BAS DETAILS.
6. COORDINATE WITH SUPPLIER TO SCHEDULE REMOTE COMMISSIONING.
7. CORRECT ALL PUNCH LIST ITEMS FOUND DURING REMOTE COMMISSIONING.

CONTROLS SCHEDULE

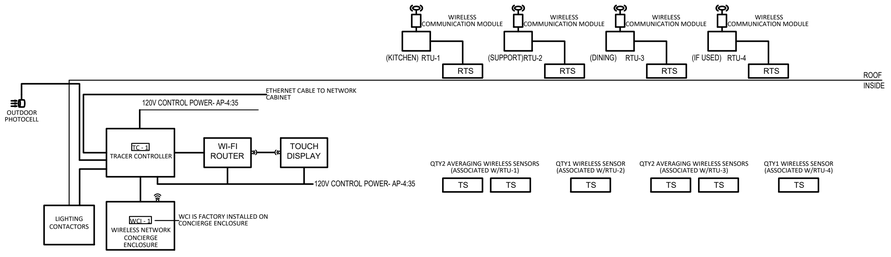
MARK	DESCRIPTION	MANUFACTURER MODEL
TS	TEMPERATURE SENSOR	*PROVIDED WITH BAS
ATS	AVERAGING TEMPERATURE SENSOR	*PROVIDED WITH BAS
HS	HUMIDITY SENSOR	*PROVIDED WITH BAS

NOTES:
1. FOR TS, HS AND ATS LOCATIONS, REFER TO M1.2

WIRE LEGEND

MARK	WIRE/CABLE TYPE
———	CAT 5E
———	18 AWG CONDUCTORS

INSTALLATION & TECHNICAL ASSISTANCE INFORMATION:
TRANE BAS: McDcontrols@Trane.com



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INSTALLATION NOTES:
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5. PROVIDE POWER CIRCUITS INTO CONTROL CANS PER BAS DETAILS.
6. COORDINATE WITH SUPPLIER TO SCHEDULE REMOTE COMMISSIONING.
7. CORRECT ALL PUNCH LIST ITEMS FOUND DURING REMOTE COMMISSIONING.

CONTROLS SCHEDULE

MARK	DESCRIPTION	MANUFACTURER MODEL
TS	WIRELESS SPACE TEMPERATURE SENSOR	*PROVIDED WITH BAS
RTS	RETURN TEMPERATURE SENSOR	*PROVIDED WITH BAS
HS	OUTDOOR TEMP/HUMIDITY SENSOR	FACTORY FURNISHED AND INSTALLED W/EACH RTU

NOTES:
1. FOR TS LOCATIONS, REFER TO M1.2
2. RTS TO BE MOUNTED IN RETURN AIR DUCT OF RTU

WIRE LEGEND

MARK	WIRE/CABLE TYPE
———	CAT 5E
———	18 AWG CONDUCTORS

MOUNTING: SURFACE				PANEL AP-1						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
1200			ICE MACHINE 1000LB	H	15A-1	1	2	20A-1	G	RELOCATED BLENDER	1600		
	132		ICE MACHINE 1000LB	H	15A-1	3	4	35A-3		AC-3		2906	
		3500	HEAT TREAT COMBINATION SHAKE/SUNDAE	G	30A-3	5	6	I		I			2906
3500			I		I	7	8	I		I	2906		
	3500		I		I	9	10	20A-2	G	QING OVEN PIN & SLEEVE		2080	
		1056	EF-1		20A-1	11	12	I		I			2080
960			WASHER	G	15A-1	13	14	20A-1		SPARE	0		
	768		EF-2		20A-1	15	16	20A-2	G	QING OVEN PIN & SLEEVE		2080	
		336	EF-5		20A-1	17	18	I		I			2080
1296			ICE MACHINE 1000LB CONDENSER	H	30A-3	19	20	30A-3	H	ICE MACHINE 1000LB CONDENSER	1296		
	1296		I	I	I	21	22	I		I		1296	
		1296	I	I	I	23	24	I		I			1296
960			AC-1		20A-1	25	26	20A-2		SE-1	915		
	2906		AC-2		35A-3	27	28	I		I		915	
		2906	I		I	29	30	20A-1		SAFE STANDARD BLDG			180
2906			I		I	31	32	30A-3	H	ICE MACHINE 1000LB CONDENSER	1296		
	138		EF-4		20A-1	33	34	I		I		1296	
		1800	HAND HELD ORDER TAKER	G	20A-1	35	36	I		I			1296
240			GAS WATER HEATER		20A-1	37	38			SPACE	0		
	132		ICE MACHINE 1000LB	H	15A-1	39	40			SPACE		0	
		0	SPACE			41	42			SPACE			1490
										TOTAL CONNECT	19075	19445	22222
										CONNECT AMPS		168.80	AMPS
										DEMAND AMPS		109.72	AMPS

MOUNTING: SURFACE				PANEL AP-2						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
1080			FROZEN FRY DISPENSER	G	20A-1	1	2	20A-1		SPARE	0		
	120		EXISTING COFFEE CREAM DISPENSER	G	20A-1	3	4	20A-1		SPARE		0	
		1520	UNIVERSAL EXHAUST HOOD	G	20A-1	5	6	20A-1		GENERAL PURPOSE RECEPTACLE			360
2900			FBC DISPENSER	G	30A-1	7	8	20A-1		GENERAL PURPOSE RECEPTACLE	1440		
	1200		BLENDER	G	20A-1	9	10	20A-1		GENERAL PURPOSE RECEPTACLE		204	
		0	SPARE			11	12	20A-1		GENERAL PURPOSE RECEPTACLE			360
1350			RELOCATED ICED TEA BREWER	G	20A-2	13	14	20A-1	G	FRY BAGGING STATION 36"	1850		
	1350		I		I	15	16	20A-1	G	3 VAT LOV FRYER - GAS		1520	
		1490	RAPID BUN STEAMER	G	20A-2	17	18	20A-2	G	RAPID BUN STEAMER			1490
1490			I		I	19	20	I		I	1490		
	840		PREP TABLE	G	20A-1	21	22	20A-3	G	ECU TABLE - CONVEYOR		588	
		0	SPARE		20A-1	23	24	I		I			588
2625			HRT TOSATER PIN & SLEEVE	G	30A-2	25	26	I		I	588		
	2625		I		I	27	28	20A-1		SPARE		0	
		1612	RELOCATED COFFEE BREWER	G	20A-2	29	30	20A-2		SPARE			0
1612			I		I	31	32	I		SPARE	0		
	120		RECIRCULATING PUMP		20A-1	33	34	20A-1	S	TRASH CORAL		180	
		240	RELOCATED ICE MACHINE	G	20A-1	35	36	20A-1		GENERAL PURPOSE RECEPTACLE			180
204			GENERAL PURPOSE RECEPTACLE		20A-1	37	38	20A-2		ELECTRIC COMMUNICATION UTILITY	1352		
	204		GENERAL PURPOSE RECEPTACLE		20A-1	39	40	I		I		1352	
		300	5-PAN REFRIGERATED RAIL	G	20A-1	41	42	20A-1		SPARE			0
										TOTAL CONNECT	17981	10303	8140
										CONNECT AMPS		101.22	AMPS
										DEMAND AMPS		65.79	AMPS

MOUNTING: SURFACE				PANEL AP-3						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
1560			UNIVERSAL HOLDING CABINET	G	20A-2	1	2	20A-2	G	UNIVERSAL HOLDING CABINET	1560		
	1560		I		I	3	4	I		I		1560	
		384	BASE REFRIGERATOR	G	20A-1	5	6	20A-1	G	51" UHC TABLE			240
384			BASE REFRIGERATOR	G	20A-1	7	8	30A-2	G	HCT TOASTER PIN & SLEEVE	2625		
	0		SPARE		20A-1	9	10	I		I		2625	
		1356	REACH IN REFRIGERATOR-SINGLE WIDE	G	20A-1	11	12			SPARE			0
2080			QING OVEN PIN & SLEEVE	G	20A-2	13	14	20A-2	G	QING OVEN PIN & SLEEVE	2080		
	2080		I		I	15	16	I		I		2080	
		0	SPARE		20A-1	17	18	20A-1		SPARE			0
0			SPARE		20A-1	19	20	20A-1		SPARE	0		
	0		SPARE		20A-1	21	22	20A-1		SPARE		0	
		0	SPARE		20A-1	23	24	15A-1		SPARE			0
0			SPARE		20A-1	25	26	20A-1	L,G	SPARE	0		
	1812		COMBI CONVOTHERM OVEN	G	30A-3	27	28	20A-1	G	DINING ROOM CELING DCO		720	
		1812	I		I	29	30	20A-1	G	BASE REFRIGERATOR			384
1812			I		I	31	32	20A-1	G	BASE REFRIGERATOR	384		
	960		HALTON VENTLESS HOOD		20A-1	33	34	20A-1	G	ROOF RECEPTACLE		900	
		960	HALTON VENTLESS HOOD		20A-1	35	36	30A-3	G	COMBI CONVOTHERM OVEN			1812
0			SPARE		20A-1	37	38	I		I	1812		
	0		SPARE		20A-1	39	40	I		I		1812	
		0	SPARE		20A-1	41	42	20A-1		SPARE			0
										TOTAL CONNECT	14297	16109	6948
										CONNECT AMPS		103.81	AMPS
										DEMAND AMPS		67.47	AMPS

MOUNTING: SURFACE				PANEL AP-4						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
3096			3-PLATEN CLAMSHELL GRILL -ELECTRIC	G	50A-3	1	2	50A-3	G	3-PLATEN CLAMSHELL GRILL -ELECTRIC	5760		
	3096		I		I	3	4	I		I		5760	
		3096	I		I	5	6	I		I			5760
0			SPARE		20A-1	7	8	20A-1		SPARE	0		
	2112		UNIVERSAL EXHAUST HOOD FULL-CLAM	G	20A-1	9	10	20A-1		SPARE		0	
		1668	UNIVERSAL EXHAUST HOOD	G	20A-1	11	12	20A-1		SPARE			0
0			SPARE		20A-1	13	14	20A-1		SPARE	0		
	0		SPARE		20A-1	15	16	20A-1		SPARE		0	
		1656	UNIVERSAL EXHAUST HOOD FULL-CLAM	G	20A-1	17	18	20A-1		SPARE			0
0			SPARE		20A-1	19	20	20A-1		SPARE	0		
	0		SPARE		20A-1	21	22	20A-1		SPARE		0	
		0	SPARE		20A-1	23	24	20A-1		SPARE			0
0			SPARE		20A-1	25	26	20A-1		SPARE	0		
	0		SPARE		20A-1	27	28	20A-1		SPARE		0	
		0	SPARE		20A-1	29	30	20A-1		SPARE			0
0			SPARE		20A-1	31	32	50A-3	G	3-PLATEN CLAMSHELL GRILL -ELECTRIC	3096		
	0		SPACE			33	34	I		I		3096	
		0	SPACE			35	36	I		I			3096
0			SPACE			37	38	50A-3	G	3-PLATEN CLAMSHELL GRILL -ELECTRIC	5760		
	0		SPACE			39	40	I		I		5760	
		0	SPACE			41	42	I		I			5760
										TOTAL CONNECT	17712	19824	21036
										CONNECT AMPS		162.77	AMPS
										DEMAND AMPS		105.80	AMPS

1200A MCB,AIC NOTES D6,D7&D8 MOUNTING:FREE STANDING, NEMA 1				PANEL MDP						208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
18990	19360	22222	PANEL:AP-1		225A-3	1	2	40A-3		PANEL:AP-2	17981	10303	8140
14297	16109	6948	PANEL:AP-3		225A-3	3	4	125A-3		PANEL:AP-4	17712	19824	21036
25896	26284	23600	PANEL:AP-5		225A-3	5	6	150A-3	L	PANEL:CP-1	4764	2280	3460
4992	4992	4992	RTU-1	H	50A-3	7	8	50A-3	H	RTU-2	4992	4992	4992
6096	6096	6096	RTU-3	H	60A-3	9	10	60A-3	H	RTU-4	6096	6096	6096
3348	3348	3348	RTU-5	H	40A-3	11	12	100A-3		PANEL:LP-1	3894	6068	6717
8184	7608	4140	PANEL:AP-6			13	14			SPACE	0	0	0
										TOTAL CONNECT	137242	133360	121787
										CONNECT AMPS		1090.45	AMPS

SEE SHEET E3.1 FOR GENERAL ELECTRICAL NOTES

BREAKER MODIFICATIONS:

G – GFCI PERSONNEL PROTECTION (5MA)
HID – HID & SWD RATED
L – HANDLE LOCK
H – HACR RATED
S – SWITCH DUTY RATED
SHT – SHUNT TRIP

TOTAL BUILDING 208Y/120V, 3 PHASE, 4–WIRE GENERAL SERVICE POWER BASED ON NEC 220.88 FOR A "NOT ALL ELECTRIC" NEW RESTAURANT.

SERVICE LOAD CALC

NEC 220.88 OPTIONAL METHOD	KW	A
1. TOTAL CONNECTED LOAD	393	1091
2. BASE VALUE PER 220.88	325	903
3.AMOUNT OVER BASE VALUE(1-2)	68	188
4.DEMAND FACTOR	45%	
5.ADJUSTED VALUE(3x4)	30	84
6.BASE VALUE NEC 220.88	263	729
7.DEMAND (9+10)	293	814

MOUNTING: SURFACE				PANEL AP-5						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
0			SPARE		20A-1	1	2	20A-1	G	WALL MOUNT FREEZER-SINGLE WIDE	600		
	1368		WARE WASHER	G	20A-1	3	4	20A-1		SPARE		0	
		0	SPARE		20A-1	5	6	20A-1		SPARE			0
936			MEAT FREEZER - DOUBLE WIDE	G	20A-1	7	8	20A-1		SPARE	0		
	1800		RELOCATED SUGAR DISPENSER	G	20A-1	9	10	50A-3	G	4-VAT LOV FRYER - ELECTRIC		4680	
		1200	WALK-IN COOLER / FREEZER	G	20A-1	11	12	I		I			4680
2400			FREEZER REMOTE CONDENSER UNIT	H	30A-3	13	14	I		I	4680		
	2400		I		I	15	16	20A-1		SPARE		0	
		2400	I		I	17	18	20A-2	H	COOLER EVAPORATOR			200
200			FREEZER EVAPORATOR	H	20A-2	19	20	I		I	200		
	200		I		I	21	22	20A-1		SPARE		0	
		720	GENERAL PURPOSE RECEPTACLE		20A-1	23	24	20A-1		SPARE			0
1224			GENERAL PURPOSE RECEPTACLE		20A-1	25	26	20A-1	L,G	HD	1200		
	180		GENERAL PURPOSE RECEPTACLE		20A-1	27	28	20A-1	L,G	HD		1200	
		0	SPARE		20A-1	29	30	50A-3	G	4-VAT LOV FRYER - ELECTRIC			4680
416			COOLER REMOTE CONDENSING UNIT	H	15A-2	31	32	I		I	4680		
	416		I		I	33	34	I		I		4680	
		4680	4-VAT LOV FRYER - ELECTRIC	G	50A-3	35	36	50A-3	G	4-VAT LOV FRYER - ELECTRIC			4680
4680			I		I	37	38	I		I	4680		
	4680		I		I	39	40	I		I		4680	
		360	DELIVARY TABLET	G	20A-1	41	42			SPACE			0
										TOTAL CONNECT	25896	26284	23600
										CONNECT AMPS		210.59	AMPS
										DEMAND AMPS		136.89	AMPS

MOUNTING: SURFACE				PANEL AP-6						225A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
240			SODA TOWER	G	20A-1	1	2	20A-2	G	CREAM DISPENSER	1800		
	240		SODA TOWER	G	20A-1	3	4	I		I		1800	
		1020	GENERAL PURPOSE RECEPTACLE DINING		20A-1	5	6	20A-1		SPARE			0
1224			GENERAL PURPOSE RECEPTACLE DINING		20A-1	7	8	20A-1	G	AUTO. BEVERAGE SYSTEM	600		
	0		SPARE		20A-1	9	10	20A-1	G	AUTO. BEVERAGE SYSTEM		1788	
		2080	RELOCATED SPECIALITY COFFEE	G	30A-2	11	12	20A-1	G	RELOCATED SPECIALITY COFFEE REF			840
2080			I		I	13	14	20A-1		CO2 SAFETY SYSTEM	240		
	1800		RELOCATED SMOOTHIE MACHINE	G	20A-1	15	16	20A-1		DOOR ALARM		180	
		0	SPARE		20A-1	17	18	20A-2	G	COFFEE SERVER STAND - 1SH/2SH			200
1800			COFFEE BREWER	G	20A-2	19	20	I		I	200		
	1800		I		I	21	22	20A-1		SPARE		0	
		0	SPARE		20A-1	23	24			SPACE			0
0			SPARE		20A-1	25	26			SPACE	0		
	0		SPARE		20A-1	27	28			SPACE		0	
		0	SPARE		20A-1	29	30			SPACE			0
0			SPACE			31	32			SPACE	0		
	0		SPACE			33	34			SPACE		0	
		0	SPACE			35	36			SPACE			0
0			SPACE			37	38			SPACE	0		
	0		SPACE			39	40			SPACE		0	
		0	SPACE			41	42			SPACE			0
										TOTAL CONNECT	8184	7608	4140
										CONNECT AMPS		55.39	AMPS
										DEMAND AMPS		36.00	AMPS

MLO,AIC NOTES D6,D7&D8 MOUNTING: MDP, NEMA 1				PANEL LP-1						225A,208Y/120VAC,3PH,4W,CB TYPE:BL OR BLH			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
120			SPARE		20A-1	1	2	20A-1	S	FLAG POLE	220		
	0		SPARE		20A-1	3	4	20A-1		SPARE		0	
		0	SPARE		20A-1	5	6	20A-1	S	EXTERIOR SIGN			1200
294			DELIVERY POD LIGHT	S	20A-1	7	8	20A-1		SPARE	0		
	500		CEILING LIGHT	S	20A-1	9	10	20A-1		EXTERIOR WALL/SOFFIT LIGHT D/T		114	
		193	FLOOD LIGHTS AND CANOPY LIGHTS	S	20A-1	11	12	20A-1	S	EXTERIOR WALL/SOFFIT LIGHT			132
100			DELIVERY & REAR SCONCE LIGHTS		20A-1	13	14	20A-1		DCO IN ROAD SIDE BASE	180		
	100		LINEAR LED FACADE LIGHTING	S	20A-1	15	16	20A-1	S,L	SECURITY LIGHTING/DR ALARM		524	
		0	SPARE		20A-1	17	18	30A-2		LOT LIGHTS			480
100			DIRECTIONAL SIGN	S	20A-1	19	20	I		I	480		
	100		DIRECTIONAL SIGN	S	20A-1	21	22	30A-2		LOT LIGHTS		480	
		150	COD LIGHTING	S	20A-1	23	24	I		I			480
1164			SPARE	S	20A-1	25	26	30A-2		LOT LIGHTS	480		
	100		TOY DISPLAY	S	20A-1	27	28	I		I		480	
		480	FRONT COUNTER AREA LIGHTING	S	20A-1	29	30	30A-2		SPARE			0
0			SPARE		20A-1	31	32	I		I	0		
	0		SPARE		20A-1	33	34	20A-1		BAS CONTROLLER		300	
		440	KITCHEN LIGHTING	S	20A-1	35	36	20A-1		LIGHTING CONTROL PANEL			180
540			DINING AREA LIGHTING	S	20A-1	37	38	20A-1	S,L	NIGHT LTG/EMERGENCY LED	216		
	874		BASEMENT LIGHTING	S	20A-1	39	40	60A-2	S	Mcd'S ROAD SIGN		2496	
		486	NIGHT/EXIT/EMERGENCY LIGHTING	S,L	20A-1	41	42	I	I	I			2496
										TOTAL CONNECT	3894	6068	6717
										CONNECT AMPS		46.35	AMPS
										DEMAND AMPS		30.13	AMPS

MOUNTING: SURFACE				PANEL CP-1						100A,208Y/120VAC,3PH,4W			
WATTS			DESCRIPTION OF LOAD	BRKR	TRP	CCT	CCT	TRP	BRKR	DESCRIPTION OF LOAD	WATTS		
A	B	C		REQ	PLS	NO	NO	PLS	REQ		A	B	C
624			RELOCATED MENUBOARD		20A-1	1	2	20A-1		SPARE	0		
	360		POS REGISTER	L	20A-1	3	4	20A-1	L	RELOCATED VIDEO MONITOR		360	
		100	CCTV/TIMER	L	20A-1	5	6	20A-1		SPARE			0
0			SPARE		20A-1	7	8	20A-1		SPARE	0		
	0		SPARE		20A-1	9	10	20A-1		SPARE		0	
		960	KIOSK	L	20A-1	11	12	20A-1	L	KIOSK			960
1800			COMPUTER @ CREW TRAINING	L	20A-1	13	14	20A-1	L	KIOSK	960		
	0		SPARE	L	20A-1	15	16	20A-1		SPARE		0	
		360	TECHONOLOGY RACK	L	20A-1	17	18	20A-1		SPARE			0
180			WIRE LESS INTERNET SERVER	L	20A-1	19	20	20A-1	L	OFFICE DESK	1200		
	360		EXTERIOR MENU BOARD	L	20A-1	21	22	20A-1	L	OFFICE DESK		1200	
		360	EXTERIOR MENU BOARD	L	20A-1	23	24	20A-1	L	POS VIDEO MONITOR W/SUPPORTS			720
0			SPARE		20A-1	25	26	20A-1		SPARE	0		
	0		SPARE		20A-1	27	28			SPACE		0	
		0	SPARE		20A-1	29	30			SPACE			0
0			SPARE		20A-1	31	32			SPACE	0		
	0		SPARE		20A-1	33	34			SPACE		0	
		0	SPARE		20A-1	35	36			SPACE			0
0			SPARE		20A-1	37	38			SPACE	0		
	0		SPARE		20A-1	39	40			SPACE		0	
		0	SPARE		20A-1	41	42			SPACE			0
										TOTAL CONNECT	4764	2280	3460
										CONNECT AMPS		29.19	AMPS
										DEMAND AMPS		29.19	AMPS

DISTRIBUTION EQUIPMENT NOTES:

D1. ALL ELECTRICAL MATERIAL USED ON THIS PROJECT SHALL BE "UL" LISTED AND LABELED.

D2. THE EC/GC/AREA CONSTRUCTION MANAGER WHEN ORDERING PANELBOARDS, SHALL DETERMINE THE NUMBER OF SERVICE ENTRANCE CONDUCTORS, SIZE AND MATERIAL TYPE, AND SHALL PROVIDE THIS INFORMATION TO THE PANELBOARD SUPPLIER SO THAT THE APPROPRIATE LUGS CAN BE PROVIDED FROM THE FACTORY.

D3. ALUMINUM SERVICE ENTRANCE CONDUCTORS SHALL ONLY BE USED WHEN THEY ARE TERMINATED DIRECTLY TO THE LINE LUGS ON A C/T AND METERING CABINET, THE LINE LUGS OF A FUSIBLE DISCONNECT SWITCH OR TO THE LINE LUGS OF A MAIN LUG ONLY (6 HANDLE RULE) SERVICE ENTRANCE PANEL. ALUMINUM SERVICE ENTRANCE CONDUCTORS SHALL NOT BE TERMINATED TO THE LINE LUGS OF ANY MAIN BREAKER SINCE DOING SO WILL VIOLATE IT'S 100% UL RATING. IF ALUMINUM CONDUCTORS ARE USED AS PREVIOUSLY INDICATED THEY SHALL BE TERMINATED AS FOLLOWS, AND THE WIRE SIZE INCREASED DUE TO LOWER AMPACITY OF ALUMINUM. EXPOSED ALUMINUM CONDUCTOR STRANDS SHALL BE COATED WITH AN ANTI–OXIDANT IMMEDIATELY AFTER INSULATION IS STRIPPED AWAY. A COMPRESSION LUG SHALL BE PROPERLY INSTALLED ONTO THE EXPOSED ALUMINUM CONDUCTOR STRANDS, AND THAT COMPRESSION LUG SHALL THEN BE BOLTED TO THE TRANSFORMER TAPS AND SWITCHBOARD BUSS USING PROPERLY SIZED BOLTS, NUTS AND WASHERS. MERELY INSERTING ALUMINUM STRANDS UNDER A SCREW LUG SHALL NOT BE ACCEPTABLE.

D4. THE SURGE PROTECTIVE DEVICE (SPD) UNIT SHALL BE AN INTEGRAL UNIT PROVIDED AND INSTALLED BY THE SWITCHBOARD MANUFACTURER. ORDER APPROVED UNITS AS SHOWN IN D5.

D5. APPROVED SWITCHBOARDS, PANEL, & SPD SUPPLIER (IN ADDITION TO ORDERING SWITCHBOARD & PANELS ALSO ORDER SPD) SUPPLIERS:

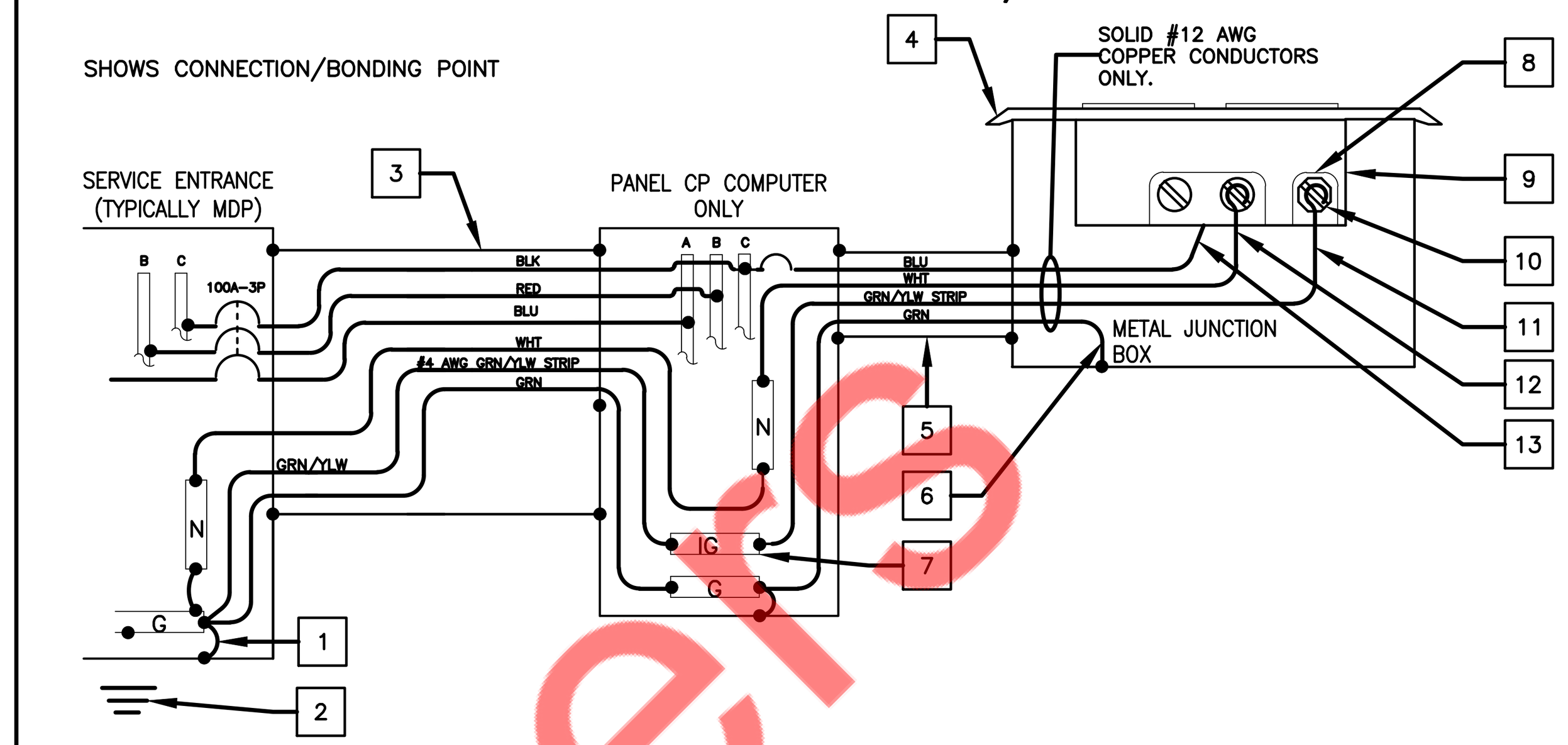
SQUARE D VIA GRAYBAR
900 REGENCY DRIVE
GLENDALE HEIGHTS, IL 60139
TEL: (800)784–6059 OR (630) 671.6304

SPD INTEGRAL: I–LINE SERIES,
(208Y/120V, 3Ø)

D6. MAIN INCOMING METER / CURRENT TRANSFORMER CABINET, MAIN DISTRIBUTION PANEL MDP, SERVICE CABINET AND SWITCH SHALL BE BRACED FOR THE HIGHEST AVAILABLE FAULT CURRENT BUT NOT LESS THAN NEMA SYMMETRICAL RMS OF 65,000 AMPERES. CONTACT UTILITY/PM/GC/EC AS REQUIRED.

D7. BRANCH BREAKERS IN ALL LP, AP AND (CP IF USED) PANELS SHALL HAVE A NEMA SYMMETRICAL RMS RATING OF 10,000 AMPS. ALL CIRCUIT BREAKERS IN AP, LP AND CP PANELS SHALL BE SERIES RATED WITH THE CIRCUIT BREAKERS IN PANEL MDP SO THAT ALL CIRCUIT BREAKERS IN ALL BRANCH PANELBOARDS ARE PROTECTED AGAINST THE MAXIMUM FAULT CURRENT AVAILABLE AT THE MAIN SERVICE DISCONNECT. NO DESIGN CHANGES SHALL BE MADE TO THE DISTRIBUTION SYSTEM WITHOUT THE WRITTEN APPROVAL OF THE PROFESSIONAL ELECTRICAL ENGINEER OF RECORD. FOR A SERIES RATED SYSTEM USING PANEL BOARDS MANUFACTURED BY SQUARE–D USE A FULLY RATED MAIN BREAKER (SM–RGC) AS WELL AS OTHER FULLY RATED BREAKERS IN THE MDP (QG, FH, RGC) AND SERIES RATED BREAKERS (QO (B), QO (B) VH) IN THE SUB–BREAKERS.

POS & COD ISOLATED GROUND/DEDICATED CIRCUIT



NOTES

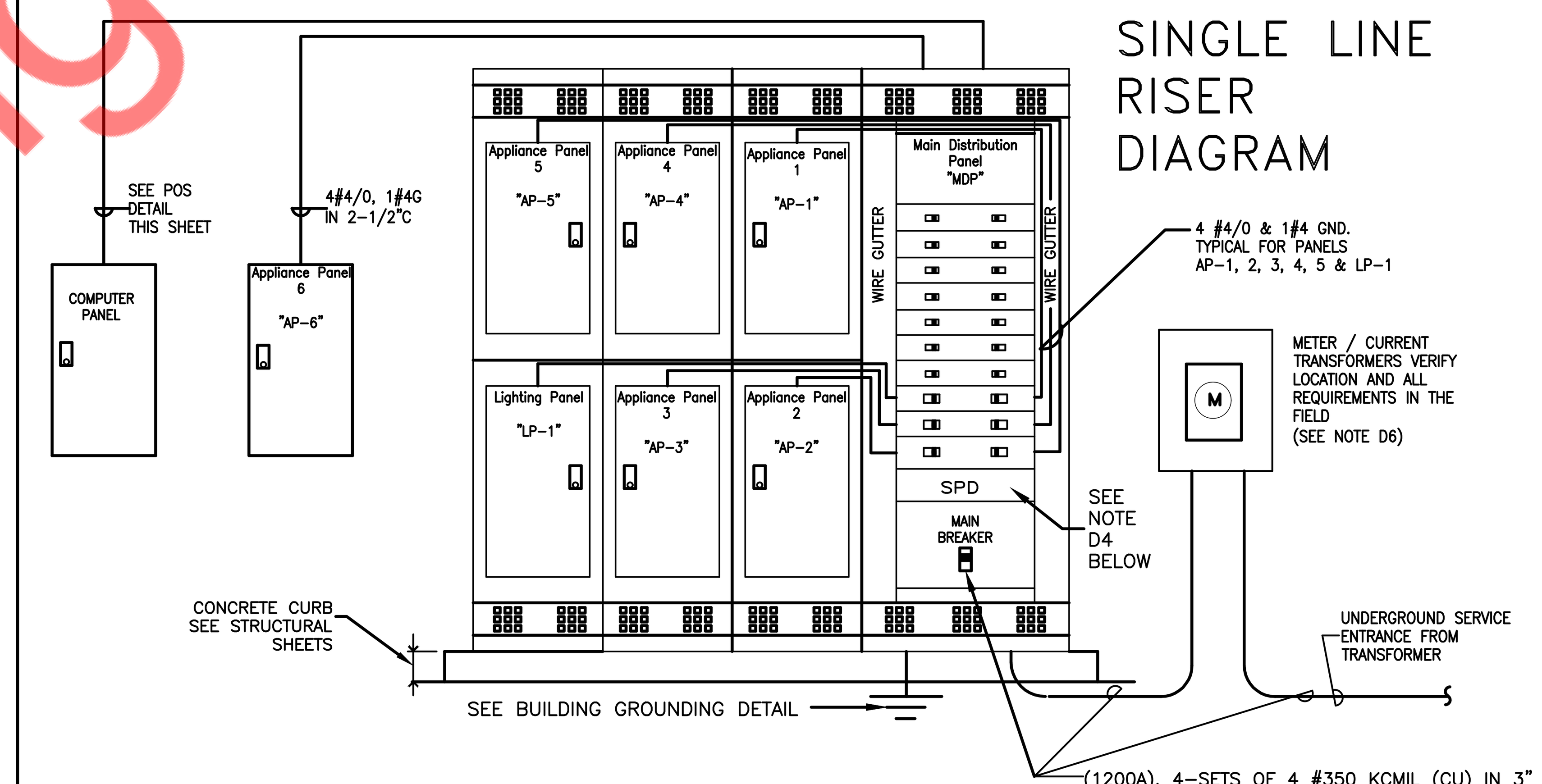
1. ALL P.O.S. EQUIPMENT (COMPUTERS,PRINTERS,MONITORS KVS, MODEM, HUB & COD) SHALL BE POWERED FROM THE COMPUTER PANEL.

   ALL OTHER COMPUTER/DIGITAL EQUIPMENT SHALL BE POWERED FROM PHASE "A" IN THE COMPUTER PANEL.
2. ISOLATED GROUND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF NEC SECTION 250 .
3. EACH 20 AMP CIRCUIT SHALL HAVE IT'S OWN ISOLATED EQUIPMENT GROUNDING CONDUCTOR.
4. ENTIRE GROUNDING SYSTEM SHALL COMPLY WITH NEC ARTICLE 250 AND MCDONALD's BUILDING GROUNDING DETAIL.
5. EC SHALL VERIFY CORRECT POLARITY AT RECEPTACLE.
6. EC SHALL VERIFY THAT SUBPANEL CP DOES NOT CONTAIN ANY ILLEGAL NEUTRAL TO GROUND BONDS.
7. PANEL CP SHALL ONLY BE USED TO POWER SENSITIVE ELECTRONIC EQUIPMENT, AS OUTLINED IN NOTE #1. IT SHALL NOT BE USED TO POWER ANY OTHER LOADS.
8. IT IS A SAFETY HAZARD AND AN NEC VIOLATION FOR THE POS SYSTEM TO HAVE ITS OWN INDEPENDENT GROUNDING ROD. IF AN INDEPENDENT GROUND ROD IS FOUND FOR THE POS SYSTEM, IT SHALL BE BONDED TO THE BUILDING GROUNDING SYSTEM.

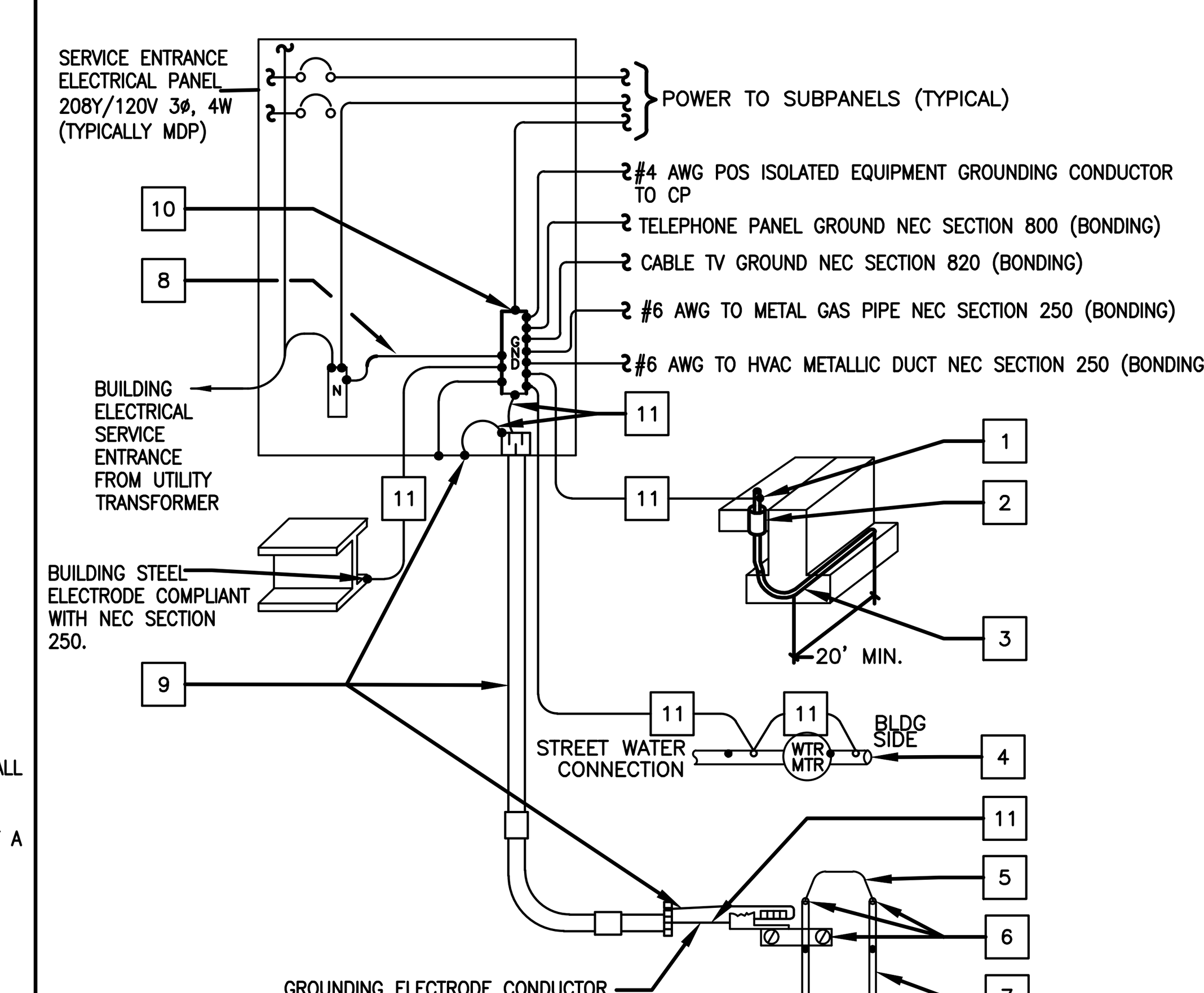
KEY NOTES

1. THIS IS THE ONLY POINT WHERE THE ISOLATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE CONNECTED TO THE BUILDING'S GROUNDING SYSTEM.
2. SEE BUILDING GROUNDING DETAIL THIS SHEET.
3. 1–1/2" METAL CONDUIT: 4–#1 CU + 1–#6 CU EQUIP GND + 1–#4 CU ISOLATED GND.
4. ALL ISOLATED GROUND/ DEDICATED CIRCUIT RECEPTACLE COVER PLATES SHALL BE ORANGE HUBBELL PJ7CO (SINGLE), PJ8CO (ONE DUPLEX) OR PJ82CO (TWO DUPLEX) MARKED "COMPUTER ONLY".
5. METAL CONDUIT SHALL CONTAIN ONLY P.O.S. CIRCUIT CONDUCTORS (DEDICATED CIRCUIT). ONLY USE RIGID NON–METALLIC CONDUIT BELOW GRADE WHEN REQUIRED BY LOCAL CODE.
6. EQUIPMENT GROUNDING BONDING CONDUCTOR (TYPICAL)
7. ISOLATED GROUND BUS, ELECTRICALLY INSULATED FROM PANEL ENCLOSURE USED TO TERMINATE ONLY ISOLATED EQUIPMENT GROUNDING CONDUCTORS.
8. ALL CONDUCTORS SHALL BE SOLID COPPER AND TERMINATED TO THEIR APPROPRIATE TERMINAL SCREWS BY WRAPPING THE CONDUCTOR COMPLETELY AROUND THE SCREW BARREL AND TIGHTENING THE SCREW PER MANUFACTURER'S TORQUE SPECIFICATIONS.
9. ISOLATED GROUND RECEPTACLE HUBBELL–IG4700,IG4710,IG5262 OR IG5261. SEE ROUGH IN SCHEDULE FOR THE APPROPRIATE RECEPTACLE TO USE.
10. ISOLATED GREEN GROUND SCREW.
11. ISOLATED EQUIPMENT GROUNDING CONDUCTOR (GRN W/YLW STRIP)
12. NEUTRAL CONDUCTOR TERMINATED ON SILVER SCREW.
13. PHASE CONDUCTOR TERMINATED ON BRASS SCREW

SINGLE LINE RISER DIAGRAM



BUILDING ELECTRICAL GROUNDING DETAIL



KEY NOTES

1. PROVIDE ENOUGH LENGTH TO TERMINATE DIRECTLY TO GROUND BUS OR USE BOLTED–TYPE CONNECTION DEVICE OR EXOTHERMIC WELD.
2. NON–METALLIC PROTECTIVE SLEEVE. LOCATE SLEEVE DIRECTLY UNDER THE ELECTRICAL SERVICE ENTRANCE PANEL. EC TO PROVIDE PLIABLE SEALANT BETWEEN COPPER WIRE AND SLEEVE.
3. FOR NEW CONSTRUCTION WHEN A SPREAD FOOTING OR DOWN TURNED SLAB IS USED, EC SHALL INSTALL A CONCRETE ENCASED ELECTRODE, COMPLIANT WITH NEC SECTION 250, CONSISTING OF AT LEAST 20 FEET OF BARE #4 AWG COPPER ENCASED IN 2 INCHES OF CONCRETE NEAR THE BOTTOM OF THE FOOTING OR FOUNDATION (BELOW GRADE) THAT IS IN DIRECT CONTACT WITH EARTH.
4. METAL UNDERGROUND WATER PIPE ELECTRODE COMPLIANT WITH NEC SECTION 250. THE GROUNDING CONNECTION TO THE INTERIOR METAL WATER PIPE SHALL BE MADE WITHIN THE FIRST FIVE FEET OF THE WATER PIPE ENTRANCE TO THE BUILDING.
5. IF MULTIPLE GROUNDING RODS ARE BEING USED OR NEED TO BE USED, THEY SHALL ALL BE BONDED TOGETHER PER NEC SECTION 250.
6. CLAMPS SUITABLE FOR DIRECT BURIAL OR EXOTHERMIC WELD.
7. 8'–0" X 5/8" CU ROD GROUNDING ELECTRODE COMPLIANT WITH NEC SECTION 250.
8. CU BONDING JUMPER SIZED PER NEC SECTION 250 OR FACTORY PROVIDED NEUTRAL TO GROUND BAR LINK. (THIS IS THE ONLY PLACE IN THE BUILDING WHERE N–G SHALL BE BONDED TOGETHER)
9. ALL METAL RACEWAYS CONTAINING GROUNDING ELECTRODE CONDUCTORS SHALL BE BONDED AT BOTH ENDS AS REQUIRED BY NEC SECTION 250. PROVIDE GROUNDING TYPE BUSHINGS & FITTINGS.
10. MCDONALD'S GROUNDING STANDARDS PURPOSELY EXCEED THOSE GIVEN BY THE NEC. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A BUILDING GROUNDING SYSTEM MEETING NEC AND MCDONALD'S STANDARDS AS SHOWN ON THIS DRAWING.
11. CU GROUNDING ELECTRODE CONDUCTORS (GEC) AND BONDING JUMPERS (BJ) SHALL BE SIZED BASED UPON ELECTRICAL SERVICE SIZE PER NEC SECTION 250

800A	1000A	1200A
3/0 CU GEC 3/0 CU BJ	3/0 CU GEC 3/0 CU BJ	3/0 CU GEC 4/0 CU BJ

● SHOWS CONNECTION/BONDING POINT

D8. PANELBOARD SUPPLIER SHALL MARK CLEARLY & LEGIBLY ON THE DOORS OF ALL PANELS. DOORS OF ALL PANELS "CAUTION – SERIES RATED SYSTEM _______A AVAILABLE. IDENTIFIED REPLACEMENT COMPONENTS REQUIRED."

D9. ALL BREAKERS SHALL BE THE BOLT–ON TYPE. ALL CIRCUIT BREAKERS SHALL BE CAPABLE OF BEING LOCKED OUT TO COMPLY WITH OSHA REGULATION 1910.147 LOCKOUT/TAGOUT PROCEDURES.

D10. BRANCH BREAKERS OF 2P AND 3P CONFIGURATION SHALL HAVE A COMMON TRIP.

D11. ALL CIRCUIT BREAKERS USED TO SWITCH LIGHT FIXTURES SHALL BE APPROVED FOR THE PURPOSE AND MARKED "SWD".

D12. ALL CIRCUIT BREAKERS USED FOR HID TYPE FIXTURES SHALL BE HID RATED.

D13. ALL HVAC CIRCUIT BREAKERS SHALL BE HACR TYPE. SEE TABLE ON SHEET E4.0 FOR CONDUIT AND WIRE SIZE REQUIREMENTS.

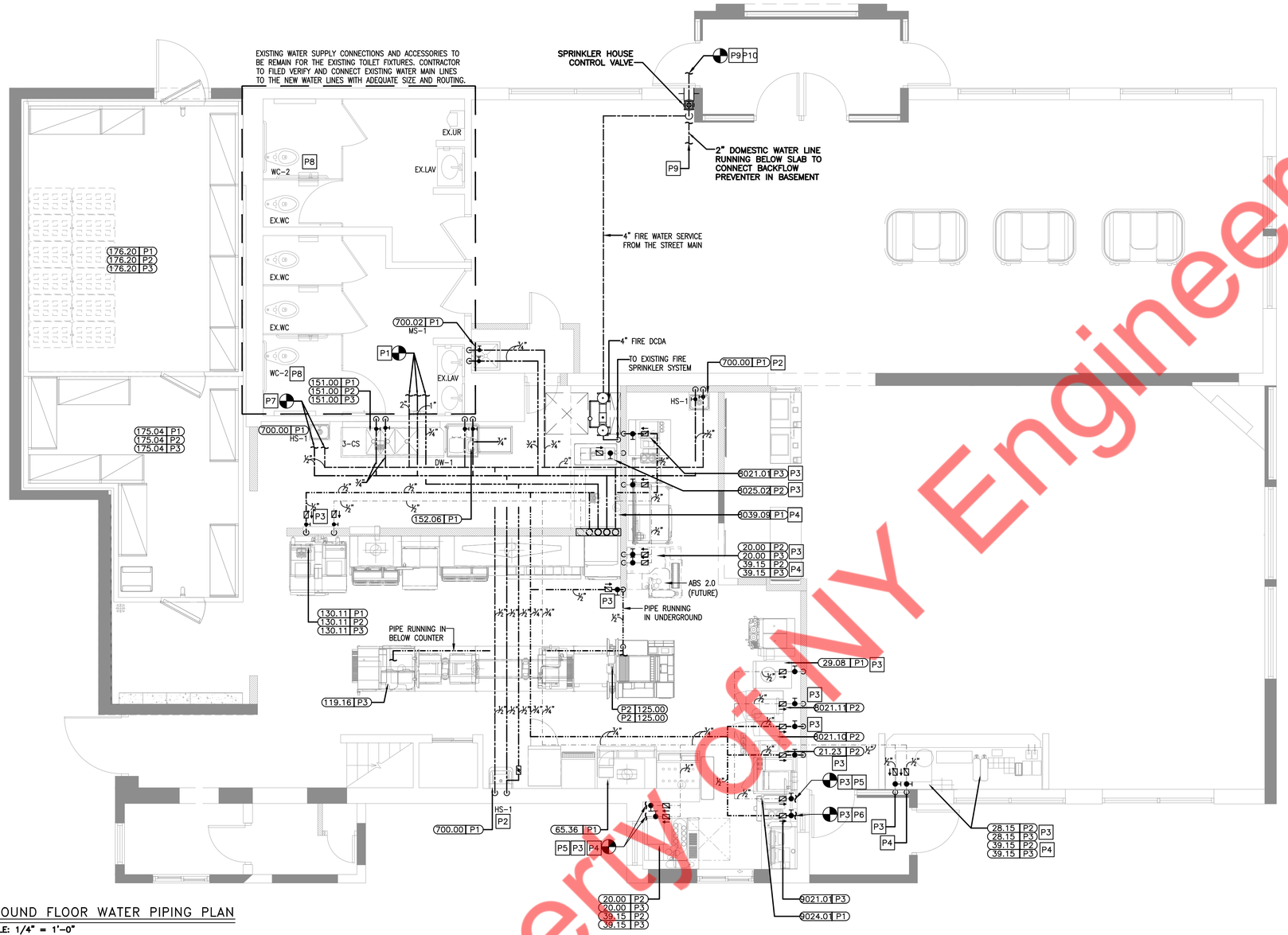
D14. PANELBOARD SUPPLIER SHALL PROVIDE ENGRAVED PLASTIC LAMINATED LABELS TO IDENTIFY ALL PANELS. LABEL FOR COMPUTER PANEL SHALL READ "COMPUTER ONLY PANEL".

D15. ALL PANELS SHALL BE PROVIDED WITH A KEY LOCK AND LATCH. EACH PANEL SHALL HAVE TWO KEYS WITH ALL PANELS KEYED ALIKE.

D16. PANELBOARD MANUFACTURER SHALL PROVIDE ARC–FLASH WARNING LABELS FOR MDP AND ALL BRANCH PANELBOARDS IN ACCORDANCE WITH NEC110.

D17. ALL RECEPTACLES IN THE KITCHEN AREA MUST HAVE GROUND FAULT CIRCUIT–INTERRUPTER PROTECTION PER NEC 210.8 (B) (2).

D18. ON PROJECTS RATED 1200 AMPS OR MORE, AND FOLLOWING NEC 2017 OR NEWER, ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR DATA COLLECTION INCLUDING BUT NOT LIMITED TO UTILITY TRANSFORMER DATA, CABLE LENGTHS, ETC AND COORDINATING WITH THE SWITCHBOARD SUPPLIER OR ELECTRICAL ENGINEER SO THAT AN ARC FLASH STUDY CAN BE PREFORMED. SUPPLIER SHALL SHARE THE RESULTS OF THE STUDY WITH THE ENGINEER OF RECORD SO THAT THE APPROPRIATE ARC ENERGY REDUCTION METHOD MEETING THE REQUIREMENTS ON NEC 240.87 CAN BE APPLIED. CONTRACTOR SHALL ALSO BE RESPONSIBLE TO AFFIX THE LABELS ON THE DESIGNATED EQUIPMENT PROVIDED BY THE SUPPLIER.



1 / P1.0 GROUND FLOOR WATER PIPING PLAN

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

GENERAL NOTES:

1. CW/HW PIPING TO BE PROVIDED WITH INSULATION AS PER 2018 INTERNATIONAL ENERGY CODE CODE (REFER SHEET P4.0)
2. PROVIDE BRANCH PRV IF PRESSURE EXCEEDS 80 PSI.
3. PROVIDE ACCESS PANELS FOR WATER HAMMER ARRESTOR, CLEANOUTS & SHUT-OFF VALVES AS REQUIRED.
4. REFER RISER DIAGRAMS FOR ALL PIPE SIZES.
5. BEVERAGE SYSTEM INSTALLER / PLUMBING CONTRACTOR ENSURE THAT SECONDARY BFP PROVIDED FOR KITCHEN EQUIPMENTS AS PER LOCAL CODE REQUIREMENTS.
6. PROVIDE TRAP PRIMER AS PER LOCAL CODE REQUIREMENTS

DRAWING NOTES

1. PIPING ROUTES AS SHOWN ARE GENERAL AND MAY VARY DUE TO FIELD CONDITIONS. COORDINATE ALL PIPE ROUTES WITH OTHER TRADES.
2. ALL WATER DISTRIBUTION PIPING SHALL BE INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE PLUMBING NOTES FOR INSULATION REQUIREMENTS.

DRAWINGS AND SPECIFICATIONS ARE TO BE CONSIDERED AS SUPPLEMENTING EACH OTHER. WORK SPECIFIED BUT NOT SHOWN ON DRAWINGS, OR SHOWN ON DRAWINGS BUT NOT SPECIFIED, SHALL BE PERFORMED OR FURNISHED AS THOUGH MENTIONED IN BOTH SPECIFICATIONS AND DRAWINGS. IF NOT OTHERWISE DIRECTED, INSTALLATION OF ALL SYSTEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES AND IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. WHERE WORK DESCRIBED IN THE SPECIFICATIONS IS IN CONFLICT WITH THE WORK SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL SUPPLY THE GREATER QUANTITY, QUALITY AND COST VIA THE BID AND CONTACT THE ENGINEER FOR CLARIFICATION ON DIRECTION PRIOR TO INSTALLATION.

PRIOR TO BID, THE CONTRACTOR SHALL REVIEW THE MECHANICAL, ELECTRICAL AND KITCHEN EQUIPMENT DRAWINGS. THE CONTRACTOR SHALL INCLUDE IN HIS BID ALL RELEVANT WORK IN THE ENTIRE SET OF DOCUMENTS AND REPORT ALL DISCREPANCIES BETWEEN THESE DRAWINGS TO THE ENGINEER PRIOR TO BIDDING FOR CLARIFICATION. IF DISCREPANCIES REMAIN UNRESOLVED DUE TO A SHORT TIME FRAME, THE CONTRACTOR SHALL INCLUDE THE MOST WORK AND THE HIGHER COSTS IN THE BID. SOLUTIONS TO UNREPORTED DISCREPANCIES WILL BE DETERMINED BY THE ARCHITECT/ENGINEER, WITH NO ADDITIONAL COMPENSATION DUE TO THE CONTRACTOR.

KEYED NOTES

P1 CONTRACTOR ROUTE AND CONNECT NEW CW, HW AND HWR WATER PIPING WITH SHUT-OFF VALVES TO THE EXISTING WATER MAIN LINES FOR THE TOILETS.CONTRACTOR TO FIELD VERIFY TIE-IN CONNECTION LOCATION, SIZE AND ROUTING. NOTIFY THE ENGINEER IF ANY DISCREPANCIES IN THE FIELD.

P2 PROVIDE A TEMPERING VALVE FOR HAND SINK AND LAVATORY. POWER HYDROGUARD SERIES LFLM495, ASSE 1070 OR EQUAL. SET TEMPERATURE TO A MAXIMUM OF 110°F. SET TEMPERATURE AS PER FIXTURE REQUIREMENT FOR OTHER REQUIRED FIXTURES

P3 PROVIDE ASSE-1022 APPROVED 1/2" BFP BY WATTS MODEL SD-3 OR EQUIVALENT FOR/OVENS/STEAMER/ CARBONATED BEVERAGE DISPENSERS/COFFEE/TEA BREWER/BREWERS/SHAKE MACHINE/SODA SYSTEM CONTRACTOR TO FIELD VERIFY AND INSTALL BFP AT AN ACCESSIBLE LOCATION.

P4 PROVIDE ASSE-1012 APPROVED 1/2" BFP BY WATTS MODEL LF-9D OR EQUIVALENT FOR ICE MACHINES. CONTRACTOR TO FIELD VERIFY AND INSTALL BFP AT AN ACCESSIBLE LOCATION.

P5 CONNECT NEW 1/2" FILTER WATER LINE TO THE EXISTING FILTER WATER LINE IN THE SPACE FOR THE EXIATING / PROPOSED EQUIPMENTS. CONTRACTOR TO FILED VERIFY ROUTING AND EXISTING BFP REQUIREMENT. PROVIDE APPROVED SECONDARY BFP FOR THE EXISTING EQUIPMENT IF NOT PROVIDED.

P6 CONNECT NEW 1/2" RO WATER LINE TO THE EXISTING RO WATER LINE FOR THE EXITING / PROPOSED KITCHEN EQUIPMENTS. CONTRACTOR TO FILED VERIFY ROUTING AND EXISTING BFP REQUIREMENT. PROVIDE APPROVED SECONDARY BFP FOR THE EXISTING EQUIPMENT IF NOT PROVIDED.

P7 CONNECT NEW 1/2" CW AND HW LINE TO THE EXISTING HAND SINK. CONTRACTOR TO FILED VERIFY SIZE, LOCATION AND MODIFY OR EXTEND THE PIPE LINES AS REQUIRED IN THE FILED.

P8 EXISTING WATER CLOSETS TO BE REPLACED IN KIND WITH NEW WATER CLOSET WITH EXISTING WATER LINES WITH ASSOCIATED ACCESSORIES AND FITTINGS TO REMAIN. CONTRACTOR TO VERIFY IN FIELD CONDITION OF EXISTING PIPING AND REPLACED IF REQUIRED.

KEYED NOTES

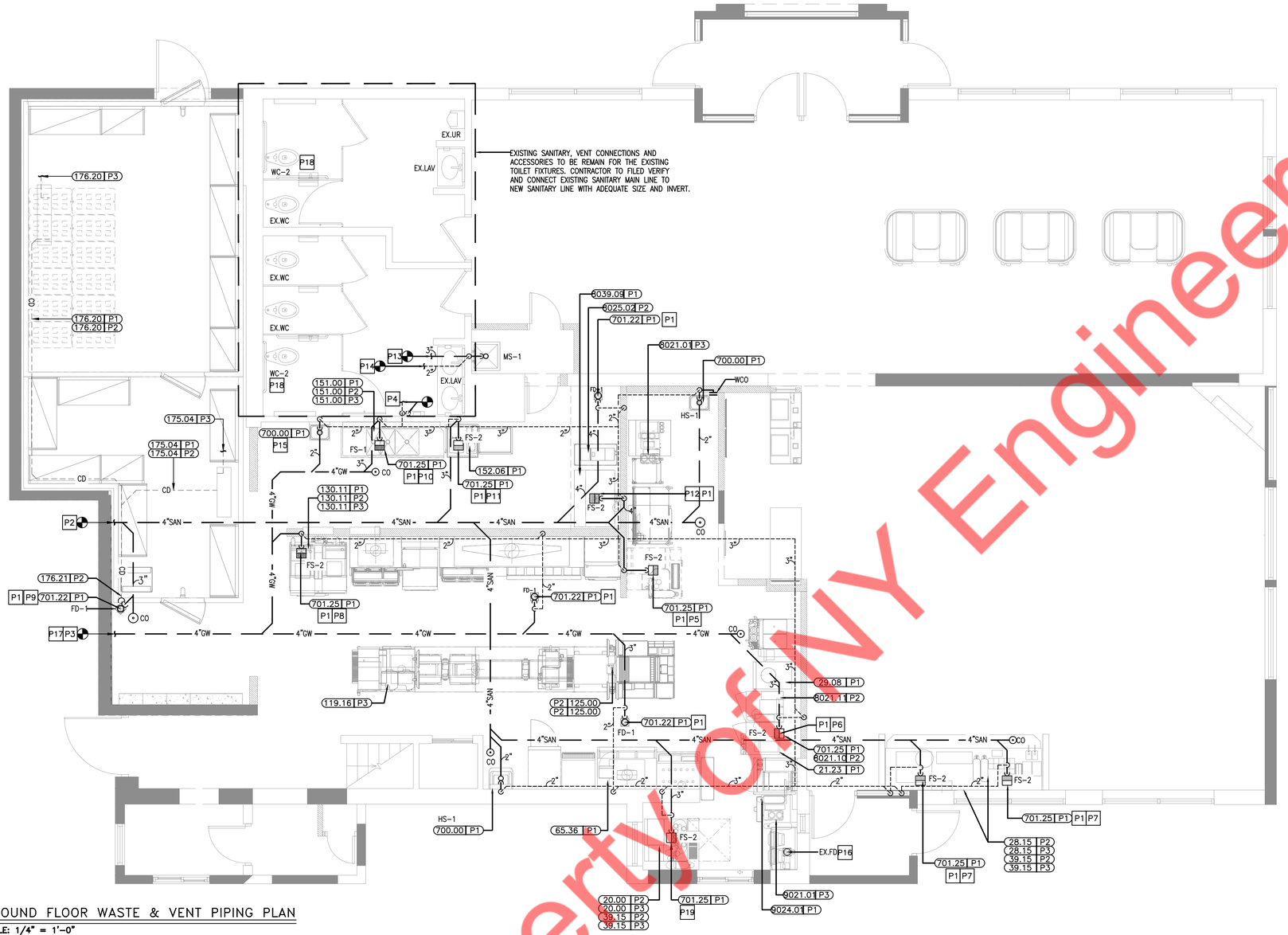
P9 INCOMING 4" FIRE WATER SERVICE (SEE SITE PLAN FOR CONTINUATION). ROUTE NEW DOMESTIC 2" CW PIPING WITH SHUT OFF VALVE AND TIE-INTO THE INCOMING WATER LINE. CONTRACTOR TO FIELD VERIFY TIE-IN CONNECTION LOCATION, SIZE, AND ROUTING

10 INCOMING 4" FIRE WATER SERVICE (SEE SITE PLAN FOR CONTINUATION). CONTRACTOR TO PROVIDE AIN 4" HOUSE CONTROL VALVE AS PER LOCAL / FIRE CODE

SUPPLY PIPE SIZING

FIXTURE TYPE	COLD	HOT	TOTAL	SIZE	QUANTITY	TOTAL W.S.F.U.
WATER CLOSET	10	–	10	1"	5	50
LAVATORY SINK	1.5	1.5	2.0	½"	3	6.0
HAND SINK	0.5	0.5	0.7	½"	3	2.1
DISHWASHER	–	1.4	1.4	½"	1	1.4
3-COMP SINK	3.0	3.0	4.0	¾"	1	4.0
MOP SINK	2.25	2.25	3.0	¾"	1	3.0
WASHER	2.25	2.25	3.0	½"	1	3.0
MISC**	0.5	–	0.5	½"	18	9.0
URINAL	5.0	–	5.0	¾"	1	5.0
TOTAL FIXTURE UNITS:						83.5

NOTE: * COFFEE/TEA BREWERS/BEVERAGE DISPENSERS/ICE MACHINES
83.5 WSFU = 61.2 GPM
2" PIPE AT 5 TO 8 FT/S VELOCITY
(BASED ON NORTH CONWAY PLUMBING CODE (ADOPTS 2018 IPC, APPENDIX E.)



1 P1.2 GROUND FLOOR WASTE & VENT PIPING PLAN

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

GENERAL NOTES:

1. ALL EXISTING PIPING IN THE FOUNDATION IS ASSUMED. THIS CONTRACTOR SHALL VERIFY ALL EXISTING PIPING AND WITHIN THREE (3) WEEKS OF AWARD THIS CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ALL DEVIATIONS FROM THE ASSUMED EXISTING CONDITIONS. TYPICAL FOR ALL.
2. THIS CONTRACTOR SHALL PROVIDE ALL EXCAVATING, TRENCHING AND BACKFILLING AS REQUIRED TO PROVIDE ALL THE NEW WORK AT NO ADDITIONAL CHARGE. TYPICAL FOR ALL.
3. CONTRACTOR TO FILED VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT
4. REFER RISER DIAGRAM FOR ALL PIPE SIZES

DRAWING NOTES

1. ALL SANITARY AND VENT PIPE SHALL BE CAST-IRON WHERE REQUIRED BY CODE.
2. DOMESTIC WATER SUPPLY SHALL BE TYPE K COPPER TUBING OR COPPER PIPE.
3. ALL WATER DISTRIBUTION PIPING SHALL BE INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE PLUMBING NOTES FOR INSULATION REQUIREMENTS.
4. PIPING ROUTES ARE GENERAL AND MAY VARY DUE TO FIELD CONDITIONS. COORDINATE ALL PIPE ROUTES WITH OTHER TRADES.
5. PROVIDE PROSET TRAP GUARD® OR TRAP PRIMER FOR FLOOR DRAINS.

KEYED NOTES

P1 PROVIDE PROSET TRAP GUARD® OR TRAP PRIMER FOR TRENCH DRAIN, FLOOR DRAIN OR FLOOR SINK.

P2 CONNECT NEW 4" SANITARY PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION, INVERT AND ADEQUATE SIZE.

P3 CONNECT NEW 4" GREASE SANITARY PIPING TO EXISTING GREASE INTERCEPTOR. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION, INVERT AND ADEQUATE SIZE.

P4 CONNECT NEW 3" VENT PIPING TO EXISTING VENT LINE IN THE SPACE. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION ROUTING AND SIZE.

P5 CONNECT INDIRECT DRAIN PIPING FROM COFFEE BREWER STATION AND ABS (FUTURE) TO NEW FLOOR SINK. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P6 CONNECT INDIRECT DRAIN PIPING FROM RELOCATED SMOOTHIE, SPECIALITY COFFEE NEW COFFEE BREWER MACHINE & FROZEN CARBONATED BEVERAGE DISPENSER, TO NEW FLOOR SINK. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

KEYED NOTES

P7 CONNECT INDIRECT DRAIN PIPING FROM ICE MACHINE AND SODA SYSTEM TO NEW FLOOR SINK. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P8 CONNECT INDIRECT DRAIN PIPING FROM COMBI OVEN TO NEW FLOOR SINK. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P9 ROUTE AND CONNECT CONDENSATE DRAIN PIPING FROM WALK-IN COOLER AND FREEZER TO HUB/FLOOR DRAIN. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P10 ROUTE INDIRECT WASTE FROM 3-COMP SINK TO FLOOR SINK WITH AN APPROVED AIR GAP.

P11 ROUTE INDIRECT WASTE FROM WARE WASHER TO FLOOR SINK WITH AN APPROVED AIR GAP.

P12 CONNECT INDIRECT DRAIN PIPING FROM ICE MACHINE AND TEA BREWER TO NEW FLOOR SINK. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P13 CONNECT NEW 3" SANITARY PIPING TO EXISTING SANITARY MAIN LINE. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION, INVERT AND ADEQUATE SIZE.

P14 CONNECT NEW 2" VENT PIPING TO EXISTING VENT LINE IN THE SAPCE. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION AND SIZE.

P15 NEW HAND SINK IN THE EXISTING HAND SINK LOCATION REMAINS WITH EXISTING SANITARY AND VENT CONNECTIONS. PROPOSE NEW UNDERGROUND SANITARY LINE FOR THE SINK TO CONNECT WITH NEW GREASE SANITARY MAIN LINE IN THE SPACE.

KEYED NOTES

P16 EXISTING FLOOR DRAIN REMAINS WITH EXISTING SANITARY AND VENT CONNECTIONS FOR THE EXISTING KITCHEN EQUIPMENTS TO REMAIN. CONTRACTOR TO FILED VERIFY THE EXISTING ROUTING AND INVERT OF THE DRAIN PIPES TO CONNECT WITH THE NEW SANITARY MAIN LINE WITH ADEQUATE OF SIZE.

P17 CONTRACTOR TO VERIFY IN FIELD FOR EXISTING GREASE INTERCEPTOR CAPACITY,LOCATION AND INVERT,ENSURE THAT THE EXISTING GREASE INTERCEPTOR WILL SUFFICE THE ADDITION OF FLOOR SINK'S. IF NOT,UPGRADE THE GREASE INTERCEPTOR AS REQUIRED. ALSO NOTIFY THE ENGINEER IF CONDITION DIFFER FROM THOSE SHOWN ON THE PLAN.

P18 EXISTING WATER CLOSETS TO BE REPLACED IN KIND WITH NEW WATER CLOSET WITH EXISTING SANITARY AND VENT WITH ASSOCIATED ACCESSORIES AND FITTINGS TO REMAIN. CONTRACTOR TO VERIFY IN FIELD CONDITION OF EXISTING PIPING AND REPLACED IF REQUIRED.

P19 ROUTE INDIRECT WASTE FROM ICE MACHINE AND ABS 2.0 TO FLOOR SINK WITH AN APPROVED AIR GAP.

GREASE WASTE PIPE SIZING

FIXTURE TYPE	QUANTITY	TRAP SIZE	D.F.U	TOTAL D.F.U.
FLOOR SINK	3	3"	5	15
FLOOR/HUB DRAIN	2	3"	5	5
HAND SINK	1	2"	3	3
		TOTAL FIXTURE UNITS:		23

23 DFU = 4" PIPING HORIZONTAL @ 1/4" PER FLOOR SLOPE
(BASED ON NORTH CONWAY PLUMBING CODE(IPC 2018), TABLE 709.1 AND SECTION 710.1(1)

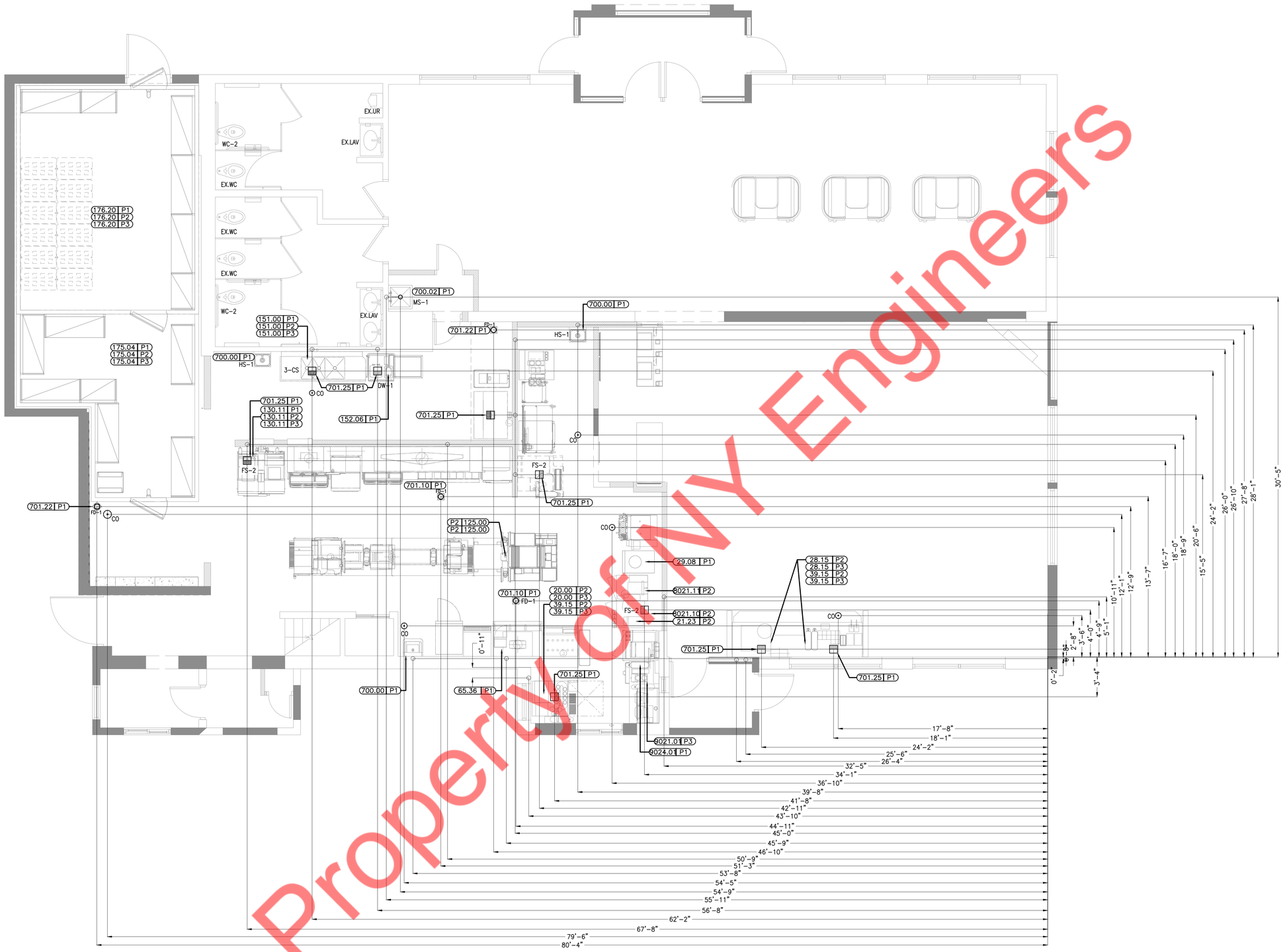
SANITARY DRAINAGE PIPE SIZING

FIXTURE TYPE	QUANTITY	TRAP SIZE	D.F.U	TOTAL D.F.U.
FLOOR/HUB DRAIN	2	3"	5	10
WATER CLOSET	5	4"	4	20
LAVATORY	3	2"	2	6
HAND SINK	3	2"	2	6
WASHER	1	2"	3	3
EX.FLOOR/HUB DRAIN	5	3"	5	25
FLOOR SINK	7	3"	5	35
URINAL	1	2"	3	3
MOP SINK	1	3"	5	5
		TOTAL FIXTURE UNITS:		113

113 DFU = 4" PIPING HORIZONTAL @ 1/8" PER FLOOR SLOPE
(BASED ON NORTH CONWAY PLUMBING CODE(IPC 2018), TABLE 709.1 AND SECTION 710.1(1)

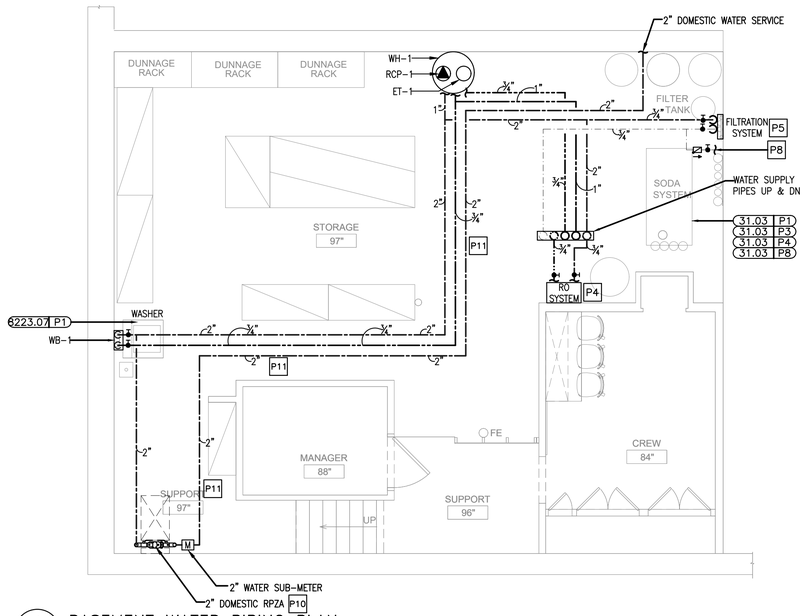
1 / P1.4 OVERHEAD ROUGH-IN PLAN

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

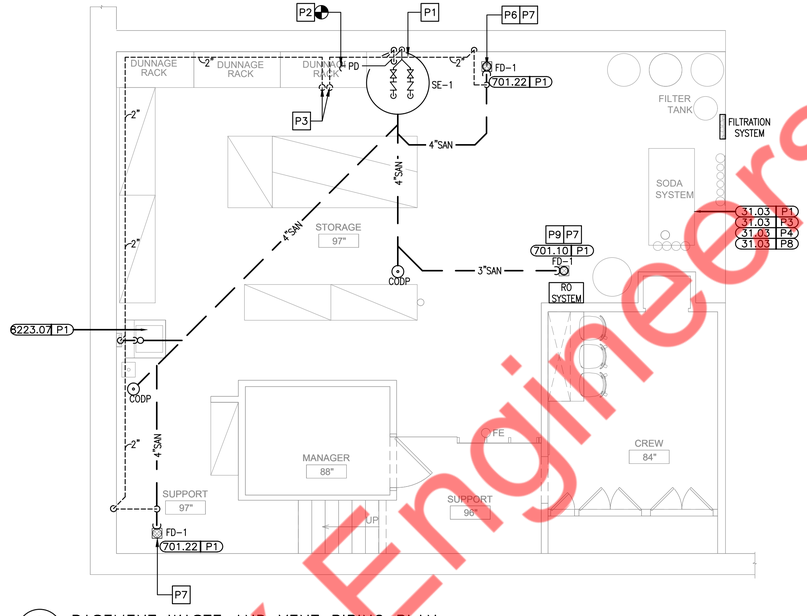


1 / P1.6 UNDERGROUND ROUGH-IN PLAN

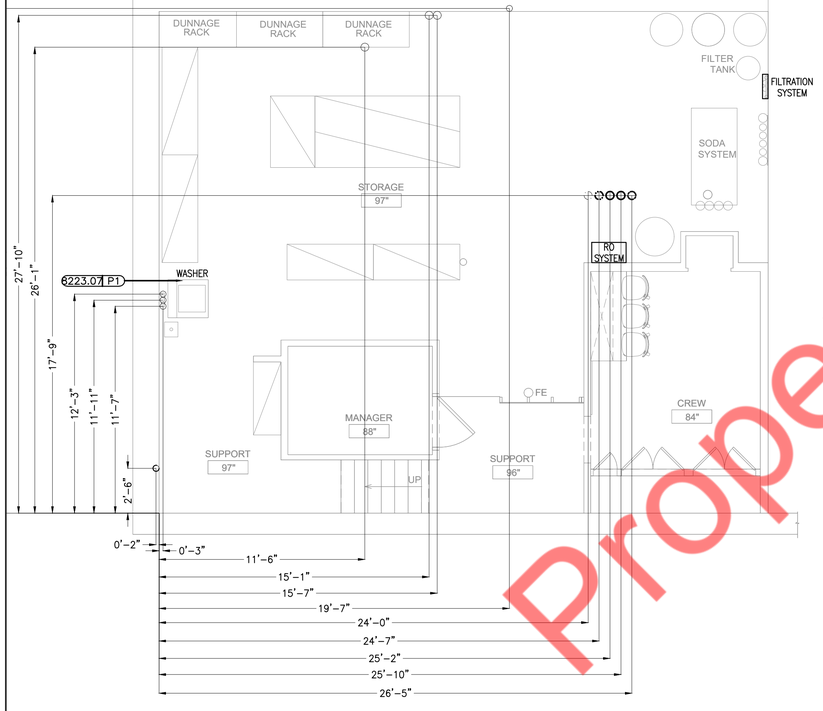
SCALE: 1/4" = 1'-0"



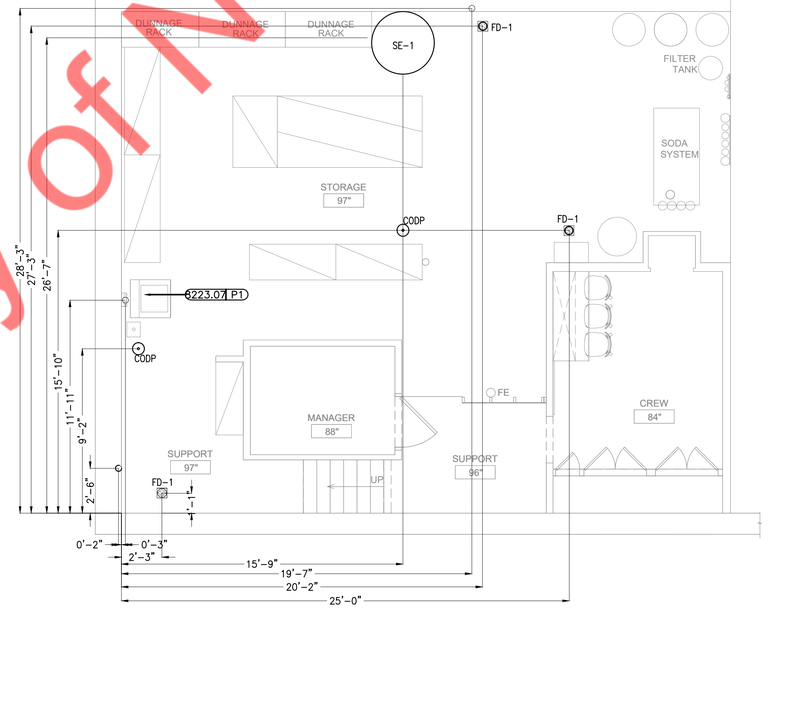
1 P1.8 BASEMENT WATER PIPING PLAN
SCALE: 1/4" = 1'-0"



2 P1.8 BASEMENT WASTE AND VENT PIPING PLAN
SCALE: 1/4" = 1'-0"



3 P1.8 OVERHEAD ROUGH-IN PLAN
SCALE: 1/4" = 1'-0"



4 P1.8 UNDERGROUND ROUGH-IN PLAN
SCALE: 1/4" = 1'-0"

DRAWING NOTES

1. ALL SANITARY AND VENT PIPE SHALL BE CAST-IRON WHERE REQUIRED BY CODE.
2. DOMESTIC WATER SUPPLY SHALL BE TYPE K COPPER TUBING OR COPPER PIPE.
3. ALL WATER DISTRIBUTION PIPING SHALL BE INSULATED. INSULATION NOT SHOWN FOR CLARITY. SEE PLUMBING NOTES FOR INSULATION REQUIREMENTS.
4. PIPING ROUTES ARE GENERAL AND MAY VARY DUE TO FIELD CONDITIONS. COORDINATE ALL PIPE ROUTES WITH OTHER TRADES.
5. PROVIDE PROSET TRAP GUARD® OR TRAP PRIMER FOR FLOOR DRAINS.

GENERAL NOTES

1. ALL EXISTING PIPING IN THE FOUNDATION IS ASSUMED. THIS CONTRACTOR SHALL VERIFY ALL EXISTING PIPING AND WITHIN THREE (3) WEEKS OF AWARD THIS CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ALL DEVIATIONS FROM THE ASSUMED EXISTING CONDITIONS. TYPICAL FOR ALL.
2. THIS CONTRACTOR SHALL PROVIDE ALL EXCAVATING, TRENCHING AND BACKFILLING AS REQUIRED TO PROVIDE ALL THE NEW WORK AT NO ADDITIONAL CHARGE. TYPICAL FOR ALL.
3. CONTRACTOR TO FILED VERIFY FEASIBILITY OF SLAB PENETRATION AS PER STRUCTURAL REQUIREMENT
4. REFER RISER DIAGRAM FOR ALL PIPE SIZES

KEYED NOTES

P1 REMOVE EXISTING SEWAGE EJECTOR AND PROVIDE NEW SEWAGE EJECTOR IN THE EXISTING LOCATION.CONTRACTOR TO FILED VERIFY THE EXISTING EJECTOR LOCATION.

P2 CONNECT 3" EJECTOR PUMP DISCHARGE LINE TO THE ABOVE FLOOR SANITARY LINE. CONTRACTOR TO FIELD VERIFY TIE-IN SANITARY LOCATION AND SIZE.

P3 CONNECT NEW 2" VENT PIPING TO THE EXISTING VENT LINE IN THE SPACE. CONTRACTOR TO VERIFY IN FIELD FOR EXACT LOCATION AND SIZE.

P4 CONNECT NEW 3/4" RO LINE TO KITCHEN EQUIPMENTS FROM RO SYSTEM. CONTRACTOR TO FIELD VERIFY & INSTALL RO SYSTEMS AS PER FSE EQUIPMENT MANUFACTURER / BSI RECOMMENDATIONS AND LOCAL CODES.

P5 CONNECT NEW 3/4" FILTER WATER LINE TO KITCHEN EQUIPMENTS FROM FILTRATION SYSTEM. CONTRACTOR TO FIELD VERIFY & INSTALL FILTRATION SYSTEMS FSE EQUIPMENT MANUFACTURER / BSI RECOMMENDATIONS AND LOCAL CODES.

P6 ROUTE TEMPERATURE AND PRESSURE RELIEF DRAIN FROM WATER HEATER TO NEAREST DRAIN. PROVIDE AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P7 PROVIDE PROSET TRAP GUARD® OR TRAP PRIMER FOR TRENCH DRAIN, FLOOR DRAIN OR FLOOR SINK.

P8 PROVIDE ASSE-1022 APPROVED 1/2" BFP BY WATTS MODEL SD-3 OR EQUIVALENT FOR/ SODA SYSTEM CONTRACTOR TO FIELD VERIFY AND INSTALL BFP AT AN ACCESSIBLE LOCATION.

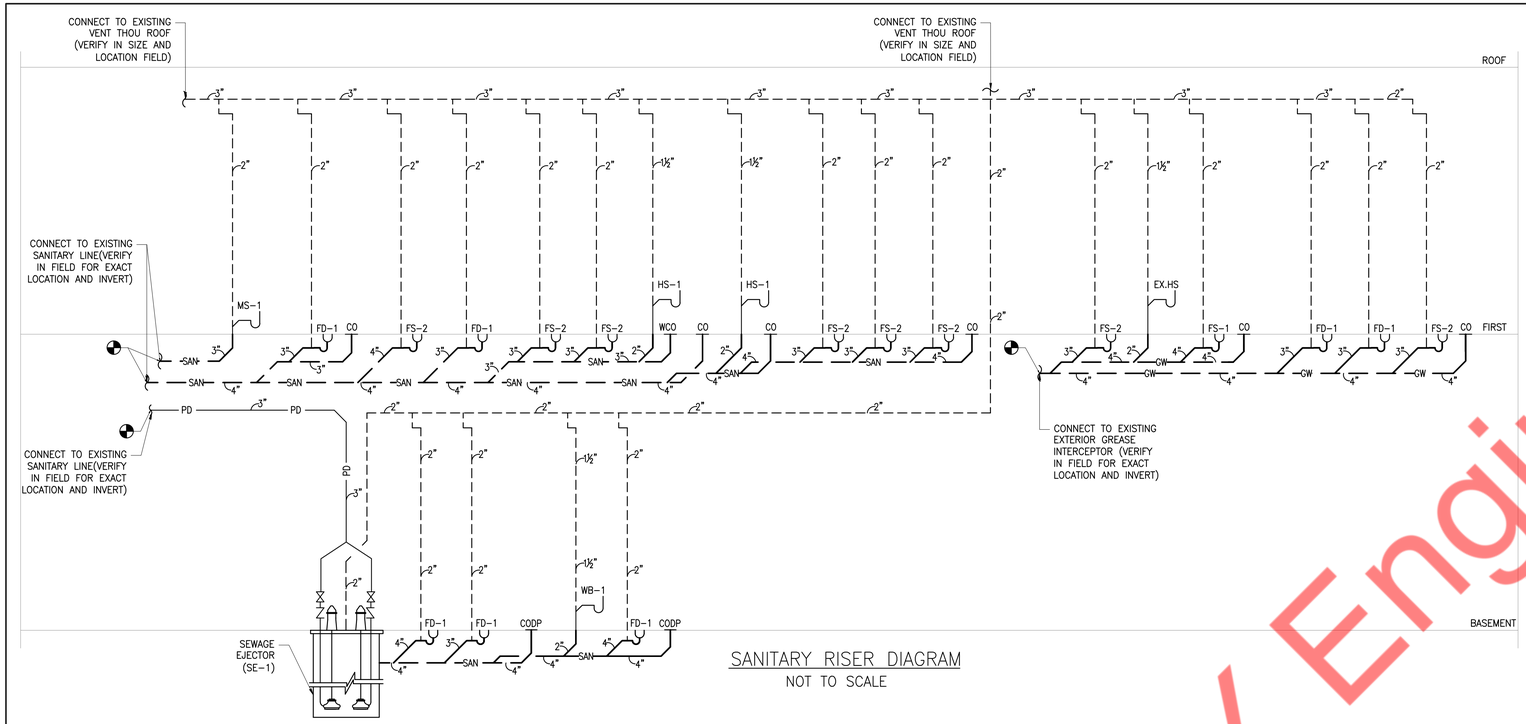
P9 ROUTE DRAIN FROM SODA AND RO SYSTEM TO NEAREST DRAIN. PROVIDE APPROVED AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

P10 ROUTE INDIRECT DRAIN FROM RPZ TO NEAREST DRAIN. PROVIDE APPROVED AIR GAP MINIMUM OF TWICE THE EFFECTIVE OPENING OF THE INDIRECT WASTE PIPE.

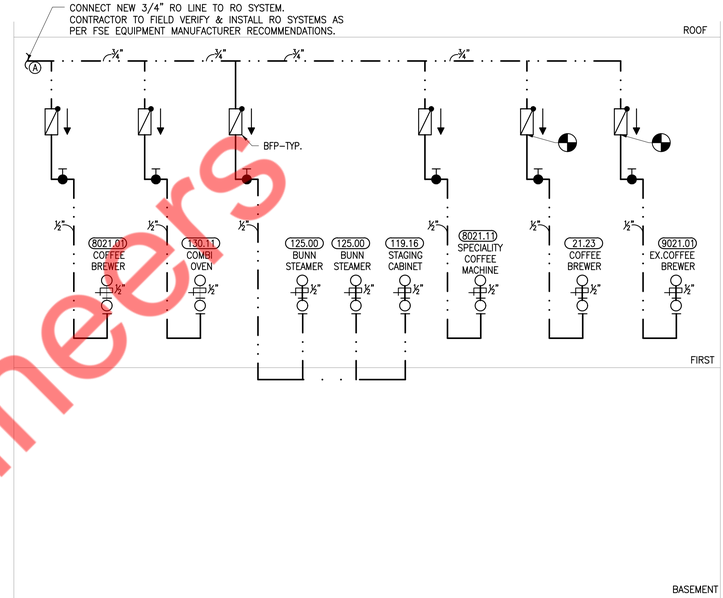
P11 NO TAP-OFF TO BE TAKEN BEFORE BFP

PLUMBING SCHEDULE

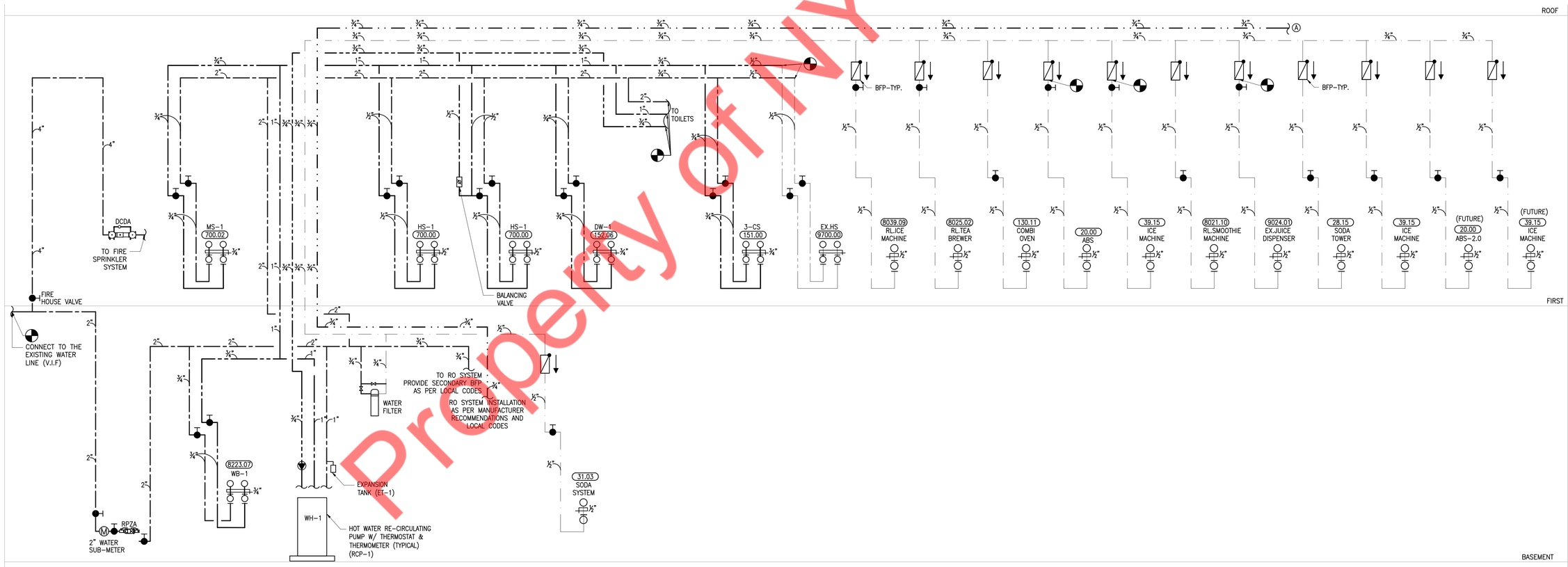
ITEM #	QTY	ITEM DESCRIPTION	GAS TYPE	GAS BTU	GAS SIZE	HOT WATER	COLD WATER	MISC PLBG	HGT AFF	DRAIN	REQUIREMENTS
119.16 P3	1	STAGING CABINET F/ FLASH FINISH	–	–	–	–	–	R.O.	SEE RMKS	–	SODA SYSTEM INSTALLER EXTENDS CW LINE FROM SODA PACKAGE & TERMINATE W/QUICK DISCONNECT–BEV INSTALLER TO INSTALL SHUTOFF VALVE
125.00 P2	2	RAPID FILET BUN STEAMER	–	–	–	–	3/8" R.O.	–	SEE RMKS	–	DN ECU CHASE, SODA SYSTEM INSTALLER EXTENDS CW LINE FROM SODA PACKAGE & TERMINATE W/QUICK DISCONNECT (TO ECU CHASE)
130.11 P1	2	COMBI–CONVOTHERM OVEN	–	–	–	–	1/2" ID TUBING	R.O.	SEE RMKS	–	DN CHASE FROM REVERSE OSMOSIS SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES IF TWO OVENS ARE REQUIRED, ONE MAIN LINE CAN BE SPLIT IF NEEDED. BEV INSTALLER TO INSTALL SHUTOFF VALVE
130.11 P2	2	COMBI–CONVOTHERM OVEN	–	–	–	–	1/2" ID TUBING	FILTERED WATER	SEE RMKS	–	DN CHASE FROM FILTERED WATER. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES IF TWO OVENS ARE REQUIRED, ONE MAIN LINE CAN BE SPLIT IF NEEDED. BEV INSTALLER TO INSTALL SHUTOFF VALVE
130.11 P3	2	COMBI–CONVOTHERM OVEN	–	–	–	–	–	–	SEE RMKS	1 1/2"	RUN DRAIN LINE TO FLOOR SINK PER LOCAL CODES. IF TWO OVENS REQUIRED GC TO TIE EACH DRAIN INTO ONE IF NEEDED
151.00 P1	1	WORK SINK– 3 COMPARTMENT	–	–	–	–	–	3"WASTE 2"VENT	–	–	PC MAKES FINAL CONNECTIONS &VENT PER LOCAL CODE
151.00 P2	1	WORK SINK– 3 COMPARTMENT	–	–	–	–	–	–	–	1 1/2"	PC TO MAKE FINAL CONNECTIONS PER LOCAL CODE
151.00 P3	1	WORK SINK– 3 COMPARTMENT	–	–	–	3/4" 140	3/4"	–	1'–6"	–	PC MAKES FINAL CONNECTIONS PER LOCAL CODE
152.06 P1	1	TSC WAREWASHER	–	–	–	1/2" 140	3/8"	1/2" LINE	SEE RMKS	2"	GC TO MAKE FINAL CONNECTIONS AND A DRAIN LINE NEEDS TO BE RUN TO EXISTING DRAIN
175.04 P1	1	COOLER EVAPORATOR – AIR–COOLED	–	–	–	–	–	3/4" LINE	–	–	3/4" CONDENSATE DRAIN LINE W/RETURN BEND & TRAP–SUPP. BY REFRIG. CONTRACTOR
175.04 P2	1	COOLER EVAPORATOR – AIR–COOLED	–	–	–	–	–	–	–	–	OPENING FOR 3/4" CONDENSATION DRAIN LINE–SEALED WEATHER TIGHT BY GC
175.04 P3	1	COOLER EVAPORATOR – AIR–COOLED	–	–	–	–	–	REFRIG LINES	–	–	RUN TO REMOTE CONDENSING UNIT–INSULATE FULL RUN LENGTH–INSTALLED BY REFRIG. CONTRACTOR
176.20 P1	1	FREEZER EVAPORATOR – AIR–COOLED	–	–	–	–	–	3/4" LINE	–	–	3/4" CONDENSATE DRAIN LINE W/RETURN BEND & TRAP–SUPP. BY REFRIG. CONTRACTOR
176.20 P2	1	FREEZER EVAPORATOR – AIR–COOLED	–	–	–	–	–	–	–	–	OPENING FOR 3/4" CONDENSATION DRAIN LINE–SEALED WEATHER TIGHT BY GC
176.20 P3	1	FREEZER EVAPORATOR – AIR–COOLED	–	–	–	–	–	REFRIG LINES	–	–	RUN TO REMOTE CONDENSING UNIT–INSULATE FULL RUN LENGTH–INSTALLED BY REFRIG. CONTRACTOR
176.21 P2	1	FREEZER EVAPORATOR – AIR–COOLED	–	–	–	–	–	–	–	–	OPENING FOR 3/4" CONDENSATION DRAIN LINE–SEALED WEATHER TIGHT BY GC
20.00 P2	2	AUTOMATED BEVERAGE SYSTEM	–	–	–	–	–	6" PVC CONDUIT	SEE RMKS	–	GC TO INSTALL, ABOVE CEILING FROM SODA SYSTEM – TERMINATE AT CHASE
20.00 P3	2	AUTOMATED BEVERAGE SYSTEM	–	–	–	–	–	6" DRINK COND.	SEE RMKS	–	BSI INSTALL DN CHASE FROM SODA SYSTEM, MAKE FINAL CONNECTIONS, PER LOCAL CODES
21.23 P2	1	COFFEE BREWER	–	–	–	–	–	1/4" FILTERED	SEE RMKS	–	DN CHASE FROM SODA SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
28.15 P2	1	SODA TOWER – RECIRCULATING –12 VALVE–PORTION CONTROL	–	–	–	–	–	6" PVC CONDUIT	SEE RMKS	–	ABOVE CEILING FROM SODA SYSTEM – TERMINATE AT CHASE
28.15 P3	1	SODA TOWER – RECIRCULATING –12 VALVE–PORTION CONTROL	–	–	–	–	–	6" DRINK COND.	SEE RMKS	–	DN CHASE FROM SODA SYSTEM – BSI TO MAKE FINAL CONNECTIONS, PER LOCAL CODES
29.08 P1	1	FROZEN	–	–	–	–	–	1/4" FILTERED	SEE RMKS	–	DN CHASE FROM SODA SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
39.15 P2	3	ICE MACHINE – 1000 LB.	–	–	–	–	–	1/2" TREATED	SEE RMKS	3/4" IND	WATER LINE OVERHEAD FROM SODA SYSTEM – BSI TO MAKE FINAL CONNECTIONS, PER LOCAL CODES
39.15 P3	3	ICE MACHINE – 1000 LB.	–	–	–	–	–	REFRIG LINES	–	–	PRE–CHARGED REFRIGERATION LINES OVERHEAD FROM REMOTE CONDENSING UNIT
65.36 P1	1	3–VAT LOV FRYER – GAS – F/F/F	–	225,000	1"	–	–	–	–	–	EXTEND (1) GAS LINE DN CHASE AFTER EQUIPMENT ITEM(S) INSTALLED
700.00 P1	2	HAND SINK 15" X 18"	–	–	–	1/2"	1/2"	–	SEE RMKS	2 1/2"	2" WASTE @ 1'–3" AFF WITH 1 1/2" VENT UP – WATER LINES @ 1'–10" – HW =110 DEGREES
701.22 P1	6	4"/3" FLOOR DRAIN	–	–	–	–	–	2" VENT	–	4" DRAIN	PC TO INSTALL NEW DRAIN OR RELOCATE EXISTING AS NEEDED.
701.25 P1	8	8" X 8" FLOOR SINK WITH 3" DRAIN	–	–	–	–	–	2" VENT	–	1 1/2"	PC TO INSTALL NEW DRAIN OR RELOCATE EXISTING AS NEEDED.
8021.01 P3	1	RELOCATED COFFEE BREWER	–	–	–	–	–	1/4" FILTERED	SEE RMKS	–	DN WALL FROM REVERSE OSMOSIS SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
8021.10 P2	1	RELOCATED SPECIALITY COFFEE	–	–	–	–	–	1/2" FILTERED	SEE RMKS	–	DN CHASE FROM REVERSE OSMOSIS SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
8021.11 P2	1	RELOCATED SMOOTHIE MACHINE	–	–	–	–	–	1/2" FILTERED	SEE RMKS	–	DN CHASE FROM SODA SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
8025.02 P2	1	RELOCATED ICED TEA BREWER	–	–	–	–	–	1/2" TREATED	SEE RMKS	–	DN CHASE FROM SODA SYSTEM. BEV INSTALLER TO CONN CW LINE, PER LOCAL CODES
8039.09 P1	1	RELOCATED ICE MACHINE	–	–	–	–	–	–	–	–	PC TO RELOCATE UTILITIES AS NEEDED
31.03 P1	1	SODA SYSTEM PACKAGE–B.I.B.(RECIRCULATING)	–	–	–	–	3/8" OUTLET	–	SEE RMKS	–	FLEX LINE OVERHEAD TO VARIOUS EQUIP. BSI TO MAKE FINAL CONN PER LOCAL CODES
31.03 P3	1	SODA SYSTEM PACKAGE–B.I.B.(RECIRCULATING)	–	–	–	–	–	6" DRINK COND.	SEE RMKS	–	OVERHEAD TO SODA TOWER CHASE(S) – BEVERAGE INSTLLER TO MAKE FINAL CONNECTIONS, LOCAL CODES PERMITTING
31.03 P4	1	SODA SYSTEM PACKAGE–B.I.B.(RECIRCULATING)	–	–	–	–	3/4"	–	1'–6"	3/4" IND	BSI TO MAKE CONNECTION FROM BACKFLOW PREVENTER (VERIFY HEIGHT IN FIELD)
31.03 P8	1	SODA SYSTEM PACKAGE–B.I.B.(RECIRCULATING)	–	–	–	–	–	REFRIG LINES	SEE RMKS	–	RUN TO REMOTE CONDENSING UNIT–INSULATE FULL RUN LENGTH–INSTALLED BY REFRIG. CONTRACTOR
9021.01 P3	1	EXISTING COFFEE BREWER	–	–	–	–	ETR	–	SEE RMKS	–	EXISTING TO REMAIN WITH ASSOCIATED CONNECTIONS AND FITTINGS.
9024.01 P1	1	EXISTING JUICE DISPENSER, DUAL FLAVOR	–	–	–	–	ETR.	SEE RMKS	–		EXISTING TO REMAIN WITH ASSOCIATED CONNECTIONS AND FITTINGS
8223.07 P1	1	RELOCATED WASHER	–	–	–	1" 140	1"	–	4'–0"	1 1/2" D	PC TO MAKE FINAL CONNECTIONS AND DRAIN LINES PER LOCAL CODE
8700.07 P1	1	RELOCATED WATER HEATER – GAS	–	–	–	–	–	–	SEE RMKS	–	PC TO MAKE FINAL CONNECTIONS AS PER LOCAL CODE
700.02 P1	1	MOP SINK	–	–	–	3/4"	3/4"	–	2'–8"	3" DRAIN	3" WASTE DOWN W/ 2" VENT UP – HW =140 DEGREES



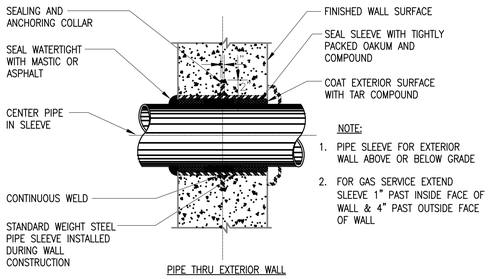
SANITARY RISER DIAGRAM
NOT TO SCALE

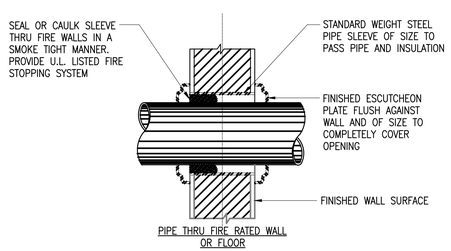


WATER SUPPLY RISER DIAGRAM
NOT TO SCALE

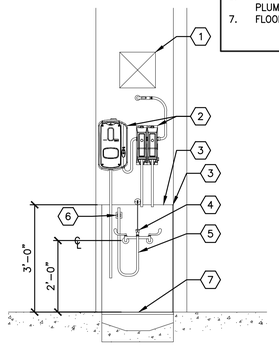


WATER SUPPLY RISER DIAGRAM
NOT TO SCALE





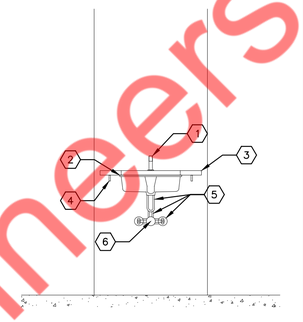
DETAIL 1 P3.0
PIPE SLEEVE THRU WALL SECTION
SCALE: N.T.S



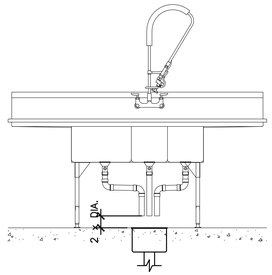
KEYED NOTES:
1. ACCESS PANEL FOR THERMOSTATIC MIXING VALVE (SEE CHEMICAL SYSTEM INSTALLATION DETAIL)
2. ECOLAB CHEMICAL SYSTEM (SEE CHEMICAL SYSTEM INSTALLATION DETAIL)
3. 24"Wx36"H WALL GUARD (QTY. 2) FURNISHED WITH MOP SINK (SEE PLUMBING FIXTURE SCHEDULE)
4. MOP SINK FAUCET WITH INTEGRAL VACUUM BREAKER (SEE PLUMBING FIXTURE SCHEDULE)
5. HOSE FURNISHED WITH MOP SINK FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
6. HOSE BRACKET FURNISHED WITH MOP FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
7. FLOOR GRATE

DETAIL 2 P3.0
RECESSED MOP SINK
SCALE: N.T.S

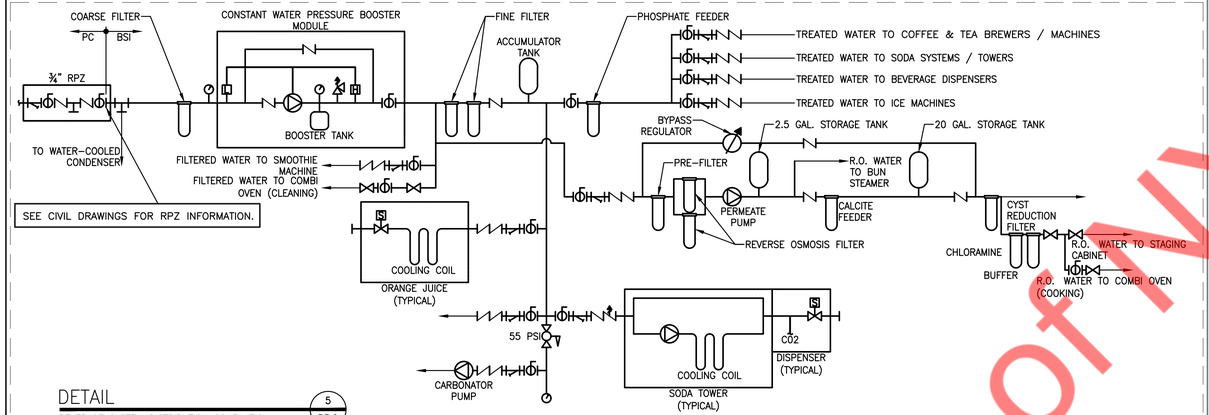
KEYED NOTES:
1. FAUCET (SEE PLUMBING FIXTURE SCHEDULE)
2. LAVATORY OR HAND SINK (SEE PLUMBING FIXTURE SCHEDULE)
3. CORIAN COUNTERTOP – TOILET ROOMS ONLY (FURNISHED BY G.C.)
4. LAVATORY CARRIER – TOILET ROOMS ONLY (SEE ARCHITECTURAL DRAWINGS)
5. OUTLINE OF ADA COMPLIANT WRAP (SEE PLUMBING FIXTURE SCHEDULE)
6. THERMOSTATIC MIXING VALVE (SEE VALVE SCHEDULE)



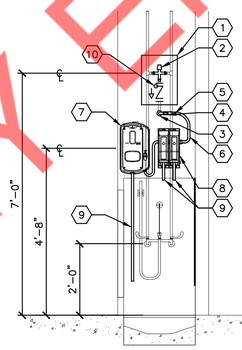
DETAIL 3 P3.0
LAVATORY (OR HAND SINK)
SCALE: N.T.S

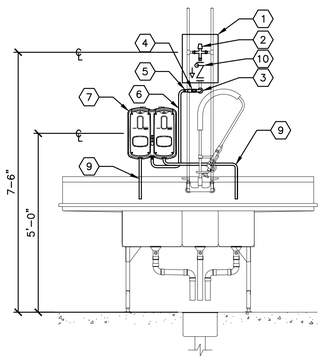


DETAIL 4 P3.0
INDIRECT DRAINAGE PIPING (TYP.)
SCALE: N.T.S



DETAIL 5 P3.0
BEVERAGE SYSTEM DISTRIBUTION SCHEMATIC
SCALE: N.T.S



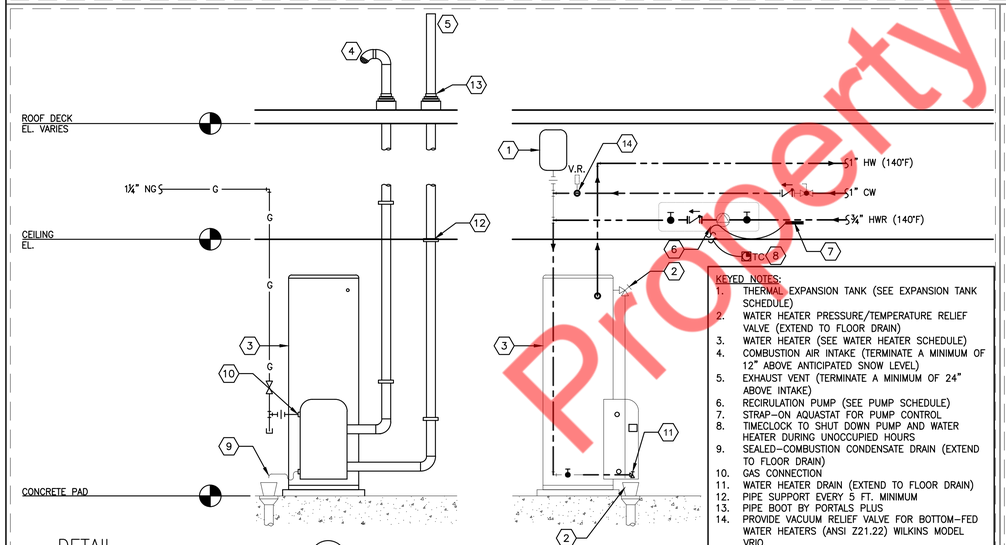


KEYED NOTES:
1. 12"x12" ACCESS PANEL (COORDINATE INSTALLATION WITH G.C.)
2. THERMOSTATIC MIXING VALVE SET TO 110°F (SEE VALVE SCHEDULE)
3. PIPE THROUGH WALL WITH ESCUTCHEON PLATE
4. SHUT-OFF VALVE
5. ¾" MHT CONNECTION

PLUMBER'S WORK ENDS AT MHT CONNECTION

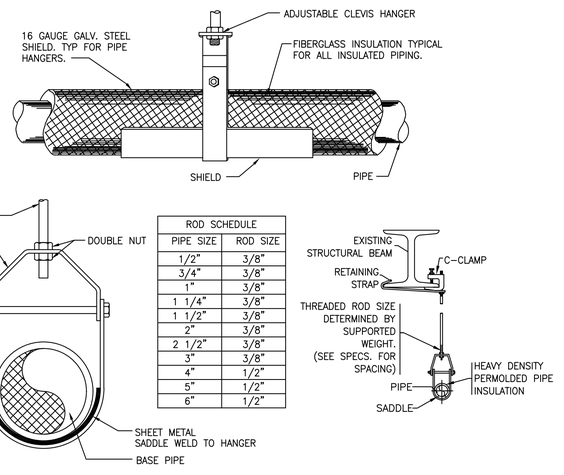
6. HOSE TO CHEMICAL SYSTEM
7. ECOLAB SOLIDSENSE CHEMICAL DISPENSER
8. ECOLAB SMARTSHAPE CHEMICAL DISPENSER
9. CHEMICAL DISPENSING HOSE
10. 140° WATER SUPPLY WITH ASSE 1055 RATED BACK FLOW PREVENTOR.

DETAIL 6 P3.0
CHEMICAL SYSTEM INSTALLATION
SCALE: N.T.S



KEYED NOTES:
1. THERMAL EXPANSION TANK (SEE EXPANSION TANK SCHEDULE)
2. WATER HEATER PRESSURE/TEMPERATURE RELIEF VALVE (EXTEND TO FLOOR DRAIN)
3. WATER HEATER (SEE WATER HEATER SCHEDULE)
4. COMBUSTION AIR INTAKE (TERMINATE A MINIMUM OF 12" ABOVE ANTICIPATED SNOW LEVEL)
5. EXHAUST VENT (TERMINATE A MINIMUM OF 24" ABOVE INTAKE)
6. RECIRULATION PUMP (SEE PUMP SCHEDULE)
7. STRAP-ON AQUASTAT FOR PUMP CONTROL
8. TIMECLOCK TO SHUT DOWN PUMP AND WATER HEATER DURING UNOCCUPIED HOURS
9. SEALED-COMBUSTION CONDENSATE DRAIN (EXTEND TO FLOOR DRAIN)
10. GAS CONNECTION
11. WATER HEATER DRAIN (EXTEND TO FLOOR DRAIN)
12. PIPE SUPPORT EVERY 5 FT. MINIMUM
13. PIPE BOOT BY PORTALS PLUS
14. PROVIDE VACUUM RELIEF VALVE FOR BOTTOM-FED WATER HEATERS (ANSI Z21.22) WILKINS MODEL VRIO.

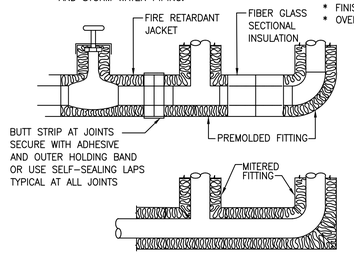
DETAIL 7 P3.0
WATER HEATER PIPING
SCALE: N.T.S



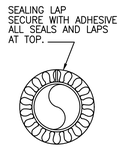
ROD SCHEDULE	
PIPE SIZE	ROD SIZE
1/2"	3/8"
3/4"	3/8"
1"	3/8"
1 1/4"	3/8"
1 1/2"	3/8"
2"	3/8"
2 1/2"	3/8"
3"	3/8"
4"	1/2"
5"	1/2"
6"	1/2"

DETAIL 8 P3.0
PIPE HANGERS
SCALE: N.T.S

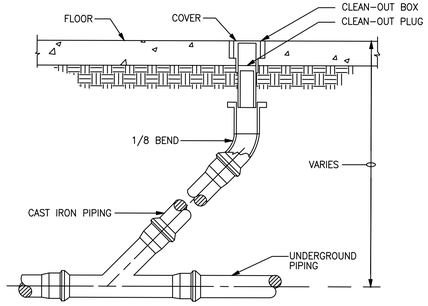
CONCEALED VALVES AND FITTINGS
* WRAP WITH 1-INCH THICK, 1-POUND DENSITY TO REQUIRED PIPE INSULATION THICKNESS
* SECURE WITH WIRE OR TAPE.
* VAPOR SEAL COLD WATER, CHILLED WATER AND STORM WATER PIPING.



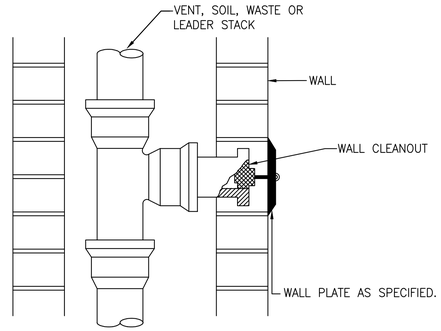
CONCEALED VALVES AND FITTINGS
* PREMOLDED FIBER GLASS OR RADIAL MITERED PIPE INSULATION
* SKIM COAT OF INSULATION CEMENT
* COAT OF MASTIC
* WRAP WITH FIBER GLASS REINFORCING CLOTH.
* FINISH COAT OF MASTIC
* OVERLAP 2-INCHES ON PIPE INSULATION.



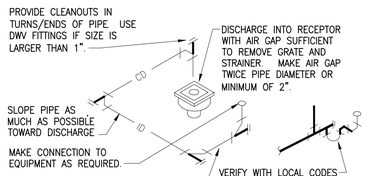
DETAIL 9 P3.0
INSULATION OF PIPING, VALVES AND FITTINGS.
SCALE: N.T.S



DETAIL 1 P3.2
FLOOR CLEANOUT DETAILS
SCALE: N.T.S

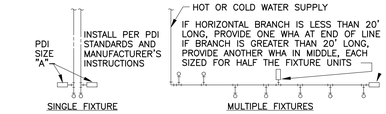


DETAIL 2 P3.2
WALL CLEANOUT DETAILS
SCALE: N.T.S



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

DETAIL 3 P3.2
INDIRECT CONDENSATE DRAIN
SCALE: N.T.S



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

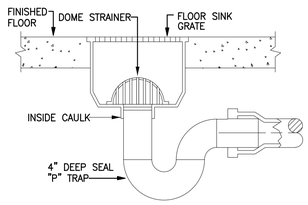
FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

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

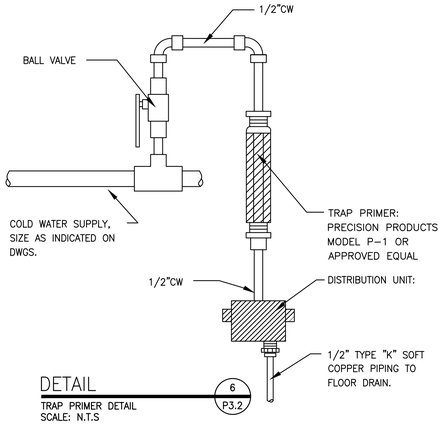
NOTE:

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

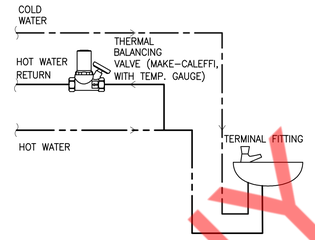
DETAIL 4 P3.2
WATER HAMMER ARRESTOR
SCALE: N.T.S



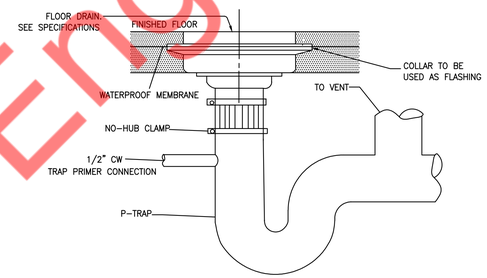
DETAIL 5 P3.2
FLOOR SINK DETAIL
SCALE: N.T.S



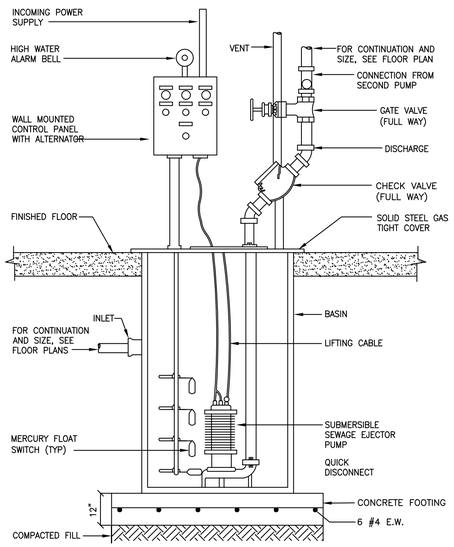
DETAIL 6 P3.2
TRAP PRIMER DETAIL
SCALE: N.T.S



DETAIL 7 P3.2
BALANCING VALVE PIPING DETAIL
SCALE: N.T.S



DETAIL 8 P3.2
FLOOR DRAIN
SCALE: N.T.S



DETAIL 9 P3.2
DUPLEX SEWAGE EJECTOR DETAIL
SCALE: N.T.S

GENERAL PLUMBING NOTES

GENERAL:

1. ALL WORK PERFORMED SHALL BE IN ACCORDANCE WITH ALL LOCAL CODES AND ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
2. ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER.
3. ALL DIMENSIONS, CLEARANCES AND TOLERANCES SHALL BE VERIFIED PRIOR TO INSTALLATION. ALL ROUGH–IN LOCATIONS SHALL BE COORDINATED WITH THE MANUFACTURER'S SUBMITTAL INFORMATION.
4. ALL DIMENSIONAL INFORMATION IS AS FOLLOWS (UNLESS NOTED OTHERWISE):
   A. UNDERGROUND PIPE IS TO FOUNDATION
   B. OVERHEAD PIPE IS TO FINISHED WALL
   C. ELEVATIONS ARE TO FINISHED FLOOR
5. ALL MATERIALS, FIXTURES AND EQUIPMENT USED SHALL BE IN ACCORDANCE WITH McDONALD'S SPECIFICATIONS. SPECIFICATIONS ARE CONTAINED WITHIN THESE DRAWINGS AND THE McDONALD'S PROJECT MANUAL. ANY CONTRACTOR IN NEED OF A COPY OF THE McDONALD'S PROJECT MANUAL SHALL CONTACT THE McDONALD'S AREA CONSTRUCTION MANAGER. ANY VARIANCE FROM THE McDONALD'S SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER–OF–RECORD.
6. SEE COORDINATION SCHEDULE FOR ADDITIONAL SCOPE OF WORK.
7. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH ITS LISTING AND/OR THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
8. WHERE POOR SOIL CONDITIONS EXIST OR WHERE SUBSTANTIAL SETTLEMENT OF EITHER THE PIPING, THE BUILDING OR ADJACENT WALKS, PLANTERS, ETC., MAY OCCUR, THE CONTRACTOR SHALL PROVIDE ADEQUATE UNDERSLAB STAINLESS STEEL PIPE HANGERS OR APPROVED OTHER SUPPORT.
9. ALL PIPE SLEEVES SHALL BE PROPERLY SEALED AND INSULATED TO PREVENT HEAT LOSS AND SEEPAGE.
10. ALL PIPE INSULATION SHALL BE PROTECTED FROM DAMAGE FROM PIPE HANGERS. PROTECTION SHALL BE LIGHT GAUGE GALVANIZED STEEL OR EQUAL.
11. ALL PENETRATIONS OF FIRE–RATED WALLS SHALL BE FIRESTOPPED WITH AN APPROVED AND LISTED FIRESTOPPING SYSTEM.

SANITARY AND VENT SYSTEMS:

1. THE BUILDING SANITARY PIPE SHALL BE LOCATED A MINIMUM OF 5 FT. FROM THE INCOMING WATER SERVICE. WHERE A 5 FT. SEPARATION IS NOT POSSIBLE, THE BOTTOM OF THE WATER SERVICE PIPE SHALL BE A MINIMUM OF 12 IN. ABOVE THE TOP OF THE HIGHEST POINT OF THE SANITARY PIPE.
2. ALL SANITARY AND VENT PIPE SHALL BE PVC TYPE DWV, ABS OR CAST–IRON WHERE REQUIRED BY CODE.
3. ALL HORIZONTAL SANITARY PIPE SHALL BE INSTALLED WITH A MINIMUM PITCH OF ¼" PER FOOT, OR IF THE (AHJ) ALLOWS AS FOLLOWS;

PIPE SIZE	MIN. SLOPE
2½" OR LESS	½" PER FT.
3" TO 6"	⅜" PER FT.
8" OR LARGER	⅛" PER FT.

4. CLEANOUTS SHALL BE INSTALLED IN ALL HORIZONTAL DRAINAGE PIPE AND SHALL BE LOCATED NOT MORE THAN 100 FT. APART.
5. CLEANOUTS SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION GREATER THAN 45 DEGREES. WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A SINGLE PIPE RUN, ONLY ONE (1) CLEANOUT SHALL BE REQUIRED FOR EVERY 40 FEET OF DEVELOPED LENGTH.
6. CLEANOUTS SHALL BE INSTALLED ON PIPES PRIOR TO ANY SLAB PENETRATION.
7. WHERE PIPING IS LOCATED WITHIN WALL CAVITIES, ACCESS TO THE CLEANOUTS SHALL BE PROVIDED.
8. CLEANOUTS ON 6–IN. AND SMALLER PIPES SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 18 IN. CLEANOUTS ON 8–IN. AND LARGER PIPE SHALL BE PROVIDED WITH A CLEARANCE OF NOT LESS THAN 36 IN.
9. ALL SUSPENDED SANITARY AND VENT PIPE SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
ABS	4 FT.	10 FT.
PVC (TYPE DWV)	4 FT.	10 FT.
CAST–IRON (<10 FT. PIPE SECTIONS)	5 FT.	15 FT.
CAST–IRON (10 FT. PIPE SECTIONS)	10 FT.	15 FT.

10. ALL PLUMBING FIXTURES SHALL BE VENTED AND THE MAXIMUM DISTANCE FROM THE FIXTURE TRAP TO THE VENT SHALL BE AS FOLLOWS:

TRAP SIZE	SLOPE	DISTANCE
1¼"	¼" PER FT.	5'–0"
1½"	¼" PER FT.	6'–0"
2"	¼" PER FT.	8'–0"
3"	⅛" PER FT.	12'–0"
4" & LARGER	⅛" PER FT.	16'–0"

11. ALL PLUMBING VENTS THROUGH THE ROOF SHALL TERMINATE A MINIMUM OF 18 INCHES ABOVE THE ROOF AND SHALL BE LOCATED A MINIMUM OF 8 FT. FROM ANY PARAPET WALL. WHERE A VENT TERMINATES WITHIN 8 FT. OF A PARAPET WALL, THE VENT SHALL TERMINATE A MINIMUM OF 6 INCHES ABOVE THE PARAPET.
12. ALL PLUMBING VENTS SHALL TERMINATE A MINIMUM OF 10 FT. HORIZONTALLY FROM ANY OUTDOOR AIR INTAKE. WHERE A PLUMBING VENT IS LOCATED WITHIN 10 FT. OF AN INTAKE, THE VENT SHALL TERMINATE A MINIMUM OF 3 FT. ABOVE THE INTAKE.
13. ALL SIDE WALL VENT TERMINATIONS SHALL BE PROTECTED TO PREVENT BIRDS OR RODENTS FROM ENTERING OR BLOCKING THE VENT OPENING.
14. ALL FLOOR DRAINS THAT DO NOT SERVE EQUIPMENT SHALL BE PROTECTED AGAINST DRYING OUT EITHER THROUGH THE INSTALLATION OF A TRAP PRIMER, DEEP SEAL TRAP OR PROSET TRAP GUARD. TRAP GUARD NOT ALLOWED IN KITCHEN AREA
15. ALL APPLIANCES SHALL DRAIN TO AN APPROVED SANITARY WASTE RECEPTOR (FLOOR SINK OR FLOOR DRAIN WITH FUNNEL). INDIRECT DRAINAGE FROM AN APPLIANCE SHALL MAINTAIN AN AIR GAP BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR. THE MINIMUM DISTANCE BETWEEN THE PIPE OUTLET AND THE TOP OF THE RECEPTOR SHALL BE TWICE THE DIAMETER OF THE APPLIANCE DRAIN PIPE.
16. THE PVC PLASTIC PIPING TO BE INSTALLED MUST COMPLY WITH ONE OF THE FOLLOWING ASTM STANDARDS: D2665, OR F891. THE INSTALLATION MUST COMPLY WITH ASTM STANDARD D2321
17. ALL PLASTIC PIPE USED FOR DRAIN, WASTE, AND VENT SYSTEM (ABS, PVC). SHALL COMPLY WITH ASTM D2661 OR F268 (ABS) AND D2665, D2949 OR F891 (PVC). ABOVE GRADE HORIZONTAL RUNS OF PLASTIC WASTE AND VENT PIPE CANNOT EXCEED 35 FEET IN TOTAL LENGTH. AND ABOVE GRADE VERTICAL STACKS CONSTRUCTED OF PLASTIC PIPE MAY EXCEED 35 FEET IN TOTAL HEIGHT ONLY IF AN APPROVED EXPANSION JOINT IS USED. SOLVENT WELD JOINTS IN PVC AND CPVC PIPE MUST INCLUDE USE OF PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT.
18. CAST IRON PIPE USED FOR ABOVE GROUND WASTE SYSTEMS MUST MEET ASTM STANDARD A–74 OR ASTM A888 OR CIPSI 301.

GREASE INTERCEPTORS:

1. SEE SITE PLAN / EXISTING PLUMBING DRAWING FOR THE SIZE AND LOCATION OF THE EXISTING GREASE INTERCEPTOR.
2. CONTRACTOR TO VERIFY IN FIELD FOR EXISTING GREASE INTERCEPTOR CAPACITY,LOCATION AND INVERT,ENSURE THAT THE EXISTING GREASE INTERCEPTOR WILL SUFFICE THE ADDITION OF FLOOR SINK'S. IF NOT,UPGRADE THE GREASE INTERCEPTOR AS REQUIRED. ALSO NOTIFY THE ENGINEER IF CONDITION DIFFER FROM THOSE SHOWN ON THE PLAN.

DOMESTIC SUPPLY SYSTEMS:

1. THE INCOMING WATER SERVICE PIPE SHALL BE LOCATED A MINIMUM OF 5 FT. FROM THE EXITING SANITARY PIPE. WHERE A 5 FT. SEPARATION IS NOT POSSIBLE, THE BOTTOM OF THE WATER SERVICE PIPE SHALL BE A MINIMUM OF 12 IN. ABOVE THE TOP OF THE HIGHEST POINT OF THE SANITARY PIPE.
2. ALL UNDERGROUND SITE PLUMBING SHALL CONFORM TO NSF 61, SHALL BE TYPE K COPPER TUBING OR COPPER PIPE, POLYETHYLENE (PE) OR CPVC. IF CPVC IS USED, FOAM INSULATION SHALL BE INSTALLED AT ALL CHANGES OF DIRECTION TO ACCOUNT FOR EXPANSION AND CONTRACTION. CPVC PIPE SHALL NOT BE USED PRIOR TO THE WATER METER. ALL COPPER PIPING MUST COMPLY WITH ASTM STANDARD B88. GALVANIZED STEEL PIPE SHALL MEET ASTM STANDARD A53.
3. INCOMING WATER SERVICE PRESSURE SHOULD BE BETWEEN 45 AND 55 PSI STATIC. WHERE WATER PRESSURE SERVICE EXCEEDS 80 PSI STATIC, AN APPROVED WATER–PRESSURE REDUCING VALVE WITH STRAINER CONFORMING TO ASSE 1003 SHALL BE INSTALLED. WHERE INCOMING WATER PRESSURE IS BELOW 45 PSI STATIC, A PRESSURE BOOSTER SYSTEM SHALL BE INSTALLED.
4. IF THE RESTAURANT HAS A COMBINED WATER AND FIRE SPRINKLER SERVICE, THE INCOMING WATER SERVICE SHALL BE SIZED BASED ON THE FIRE SPRINKLER CONTRACTOR'S HYDRAULIC CALCULATIONS.
5. PROVIDE A MINIMUM ½" ANNULAR CLEARANCE AROUND ALL PIPE SLAB PENETRATIONS.
6. A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT THE INCOMING SERVICE WHERE REQUIRED BY CODE.
7. AN EXPANSION TANK SHALL BE INSTALLED ON THE COLD WATER LINE INLET TO THE WATER HEATER. SEE EXPANSION TANK SCHEDULE.
8. ALL WATER SUPPLY PIPE WITHIN 5 FT. OF THE BUILDING AND INSIDE THE BUILDING SHALL COMPLY WITH NSF 61 AND SHALL BE TYPE L COPPER TUBING, COPPER PIPE OR CPVC PIPE.
9. CPVC PIPE SHALL BE FLOWGUARD GOLD OR FLOWGUARD BENDABLE AS MANUFACTURED BY LUBRIZOL.
10. CPVC PIPE SHALL BE CONNECTED WITH FLOWGUARD GOLD YELLOW LOW–VOC SOLVENT CEMENT AS MANUFACTURED BY IPS WELD–ON OR OATEY.
10. ALL CPVC PIPE SHALL BE INSULATED TO PREVENT EXPOSURE TO GREASE.
11. ALL SUSPENDED PIPE SHALL BE SUPPORTED AS FOLLOWS:

MATERIAL	MAX. HORIZ. SPACING	MAX. VERT. SPACING
COPPER PIPE	12 FT.	10 FT.
COPPER TUBING ≤1¼"	6 FT.	10 FT.
COPPER TUBING >1¼"	10 FT.	10 FT.
CPVC ≤1"	3 FT.	10 FT.
CPVC ≥1¼"	4 FT.	10 FT.

12. A REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER (RPZ) SHALL BE INSTALLED AT THE INLET TO THE WATER FILTRATION SYSTEM. ALL PIPING DOWNSTREAM OF THE RPZ SHALL BE COPPER OR CROSS–LINKED POLYETHYLENE (PEX).
13. ALL DEVICES, APPLIANCES, AND APPARATUS INTENDED TO SERVE SOME SPECIAL FUNCTION SHALL BE PROVIDED WITH PROTECTION AGAINST BACKFLOW AND CONTAMINATION OF THE WATER SUPPLY SYSTEM. ALL BACKFLOW PREVENTION DEVICES SHALL BE ASSE LISTED AND APPROVED FOR THE DEVICE OR APPLIANCE THEY SERVE.
14. ALL WATER SUPPLY LINES SHALL BE PROVIDED WITH A QUARTER–TURN SHUT–OFF VALVE BEFORE FINAL CONNECTION TO EQUIPMENT.
15. QUARTER–TURN SHUT–OFF VALVES SHALL BE INSTALLED UPSTREAM OF ANY INLINE BACKFLOW PREVENTION DEVICE.
16. ALL VALVES AND BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED WITH FITTINGS THAT FACILITATE REMOVAL IN CASE OF FAILURE.
17. ALL OVERHEAD WATER LINES SHALL BE INSULATED WITH 1" THICK EXTERNAL JACKETED INSULATION AND A MINIMUM INSTALLED R–VALUE OF 3.7.
18. PRIOR TO BUILDING TURNOVER, THE DOMESTIC WATER SUPPLY SYSTEM SHALL BE PURGED OF DELETERIOUS MATERIAL AND DISINFECTED. DISINFECTION SHALL BE DONE IN ACCORDANCE WITH THE LOCAL HEALTH CODE, PLUMBING CODE OR IN ACCORDANCE WITH AWWA C651 OR AWWA C652.

PLUMBING KITCHEN COORDINATION NOTES:

1. ALL PLUMBING WORK INDICATED IN THE KITCHEN CONSULTANTS DRAWINGS AND SPECIFICATIONS (PREPARED BY OTHERS) ARE PART OF THIS CONTRACTORS SCOPE OF WORK. THIS CONTRACTOR AND ALL SUB–CONTRACTORS SHALL PROVIDE ALL WORK IN COMPLETE ACCORDANCE WITH THE KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS. LAYOUT OF THE KITCHEN, OVENS, RANGES, FRYERS, DISHWASHERS, FLOOR DRAINS, FLOOR SINKS, TROUGH DRAINS, TRENCH DRAINS, HAND SINKS, 3–COMPARTMENT SINKS, REFRIGERATION, WALK–IN BOXES, KITCHEN SUPPORT (FOOD AREAS), BAG IN BOX, WASHDOWN HOSE BIBS, ETC. ARE DESIGNED BY THE KITCHEN CONSULTANT. IF THERE ARE ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND THE KITCHEN CONSULTANT'S DRAWINGS AND SPECIFICATIONS, THEN THIS CONTRACTOR SHALL INCLUDE THE ITEM OF GREATER VALUE AND/OR GREATER QUANTITY IN THEIR BID.
2. PLUMBING CONTRACTOR SHALL PROVIDE DCW, HW, HWR, SANITARY, INDIRECT DRAINS, WALK–IN BOX CONDENSATE DRAINS, REFRIGERATION DISPLAY CASE CONDENSATE DRAINS, VENTS, NATURAL GAS, ETC... TO ALL EQUIPMENT ON KITCHEN CONSULTANT'S DRAWINGS.
3. REFER TO KITCHEN CONSULTANT'S DRAWINGS, SPECIFICATIONS AND MANUFACTURER CUT SHEETS (PREPARED BY OTHERS) FOR ALL ADDITIONAL INFORMATION.
4. THIS CONTRACTORS SUBMISSION OF THE BID WILL BE CONSTRUED AS EVIDENCE THAT ALL THE REQUIRED REVIEW OF ALL KITCHEN CONSULTANT DRAWINGS, ARCHITECTURAL DRAWINGS, SITE DRAWINGS, ALL TRADE DRAWINGS, MANUFACTURE CUT SHEETS, REVIEW AND VERIFICATIONS HAVE BEEN MADE BY THIS CONTRACTOR. THIS CONTRACTOR MUST NOTIFY THE OWNER IN WRITING OF ANY CONFLICTS BETWEEN ANY TRADE DRAWING AND THESE DRAWINGS PRIOR TO SUBMITTING THEIR BID. ALL UNCLEAR CONCERNS OF THIS CONTRACTOR SHALL BE SUBMITTED IN WRITING TO THE ENGINEER BEFORE THE CONTRACTOR SUBMITS THE BID. NO ADDITIONAL COST WILL BE ALLOWED BECAUSE OF THIS CONTRACTORS FAILURE TO PROPERLY SURVEY, REVIEW AND VERIFY ALL OF THE CONDITIONS AND ALL OF THE WORK ON ALL TRADE DRAWINGS. LATER CLAIMS FOR EXTRA LABOR, MATERIALS AND EQUIPMENT DUE TO ANY CONFLICTS BETWEEN ANY TRADE DRAWINGS THAT COULD HAVE BEEN FORESEEN, WILL NOT BE ALLOWED.
5. ALL THE COUNTY DEPARTMENT OF HEALTH APPROVALS ARE REQUIRED FOR A COMMERCIAL COOKING KITCHEN.
6. KITCHEN EQUIPMENT APPROVED FINAL SHOP DRAWINGS MUST BE REVIEWED BY THIS CONTRACTOR PRIOR TO START OF WORK. COORDINATE ALL KITCHEN EQUIPMENT FINAL LOCATIONS AND HEIGHTS WITH THE KITCHEN CONSULTANT PRIOR TO START OF WORK. COORDINATE FINAL KITCHEN EQUIPMENT PLUMBING REQUIREMENTS WITH KITCHEN CONSULTANT PRIOR TO START OF WORK. CONNECT ALL EQUIPMENT IN ACCORDANCE WITH ALL MANUFACTURERS REQUIREMENTS (PIPE CONNECTIONS, PRESSURE REQUIREMENTS, DRAINS, SANITARY WASTES, INDIRECT WASTES, GREASE, FLOOR DRAINS, FLOOR SINKS, TROUGH DRAINS, DCW, DHW, DHWR, NATURAL GAS, FILTERED WATER, FLUES, VENTS, ETC.). REVIEW ALL DRAIN REQUIRED DISTANCES TO ALL EQUIPMENT. NOTIFY ENGINEER IN WRITING OF ANY DISCREPANCIES BETWEEN THE EQUIPMENT AND THE PLUMBING PLANS. DRAIN LOCATIONS SHALL NOT CREATE A TRIPPING HAZARD. FINAL DRAIN LOCATIONS SHALL BE REVIEWED AND APPROVED BY THE KITCHEN CONSULTANT PRIOR TO INSTALLATION.
7. ALL McDONALD'S OWNER REQUIREMENTS, SYSTEM CHECK OUT MANUALS, COMMISSIONING REQUIREMENTS AND BALANCING MANUALS MUST BE COMPLIED WITH BY THIS CONTRACTOR AND SHALL BE PART OF THIS CONTRACTOR'S BID.

ENERGY CONSERVATION NOTES

1. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.4, PIPING FROM A WATER HEATER TO THE TERMINATION OF HEATED WATER FIXTURE SUPPLY PIPE SHALL BE INSULATED IN ACCORDANCE WITH TABLE OF MINIMUM PIPE INSULATION THICKNESS.

MINIMUM PIPE INSULATION THICKNESS							
FLUID OPERATING TEMPERATURE RANGE AND USAGE (°F)	INSULATION CONDUCTIVITY		NOMINAL PIPE OR TUBE SIZE (INCHES)				
	CONDUCTIVITY BTU. IN./(H. FT2. °F)	MEAN RATING TEMPERATURE, °F	<1	1 to < 1½	1½ to < 4	4 to < 8	< 8
141–200	0.25–0.29	125	1.5	1.5	2	2	2
105–140	0.21–0.28	100	1.0	1.0	1.5	1.5	1.5
40–60	0.21–0.27	75	0.5	0.5	1.0	1.0	1.0

2. HOT WATER SYSTEM PIPING IS DESIGNED AS PER MAXIMUM ALLOWED PIPE LENGTH METHOD AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.5.1. THE HOT WATER VOLUME FROM THE NEAREST SOURCE OF HEATED WATER TO THE TERMINATION OF THE FIXTURE SUPPLY PIPE SHALL BE AS PER MAXIMUM PIPING LENGTH TABLE.
3. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.6, AUTOMATIC CONTROLS SHALL BE INSTALLED THAT LIMITS THE OPERATION OF A RE–CIRCULATING PUMP AND THE SYSTEM RETURN PIPE SHALL BE A DEDICATED RETURN PIPE OR A COLD WATER SUPPLY PIPE.
4. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.7, PUMPS SHALL HAVE CONTROLS THAT COMPLY WITH BOTH OF THE FOLLOWING:
   A. THE CONTROL SHALL START THE PUMP UPON RECEIVING A SIGNAL FROM THE ACTION OF A USER OF A FIXTURE OR APPLIANCE, SENSING THE PRESENCE OF A USER OF A FIXTURE OR SENSING THE FLOW OF HOT OR TEMPERED WATER TO A FIXTURE FITTING OR APPLIANCE.
   B. THE CONTROL SHALL LIMIT THE TEMPERATURE OF THE WATER ENTERING THE COLD–WATER PIPING TO 104°F (40°C).
5. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.3, WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NON RE–CIRCULATING SYSTEM SHALL BE PROVIDED WITH HEAT TRAPS ON SUPPLY AND DISCHARGE PIPING ASSOCIATED WITH EQUIPMENT.
6. AS PER 2018 INTERNATIONAL ENERGY CONSERVATION CODE C404.6.3, THE CONTROLS ON PUMPS THAT CIRCULATE WATER BETWEEN A WATER HEATER AND A HEATED–WATER STORAGE TANK SHALL LIMIT THE OPERATION OF THE PUMP FROM HEATING CYCLE STARTUP TO NOT GREATER THAN 5 MINUTES AFTER THE END OF THE CYCLE.

LEGEND

— — ——— — —	COLD WATER PIPING
— — — — — —	TEMPERED WATER PIPING (110°F)
——— — — ———	HOT WATER PIPING (140°F)
——— — — ———	RECIRCULATED HOT WATER PIPING
— · — · — · —	FILTER WATER PIPING
— — · — · —	RO WATER PIPING
— — SAN · — —	UNDERGROUND SANITARY PIPING
— — GW · — —	UNDERGROUND GREASE WASTE PIPING
- - - - - - -	VENT PIPING
	HOSE BIBB
OR	CHECK VALVE
	BALL VALVE
	THERMOSTATIC MIXING VALVE
	FLOOR DRAIN
	CLEAN–OUT (FLOOR OR YARD)
	FLOOR SINK
	PRESSURE GUAGE
	THREE–WAY VALVE
	PRESSURE REGULATOR
	DUAL CHECK VALVE OR RPZ
	DUAL CHECK VALVE WITH ATMOSPHERIC VENT
	STRAINER
	RELIEF VENT
	FULL–PORT BALL VALVE
	PUMP
	BACK FLOW PREVENTER
	WALL CLEANOUT

ABBREVIATIONS

HB	HOSE BIBB
DW	DISHWASHER
MS	MOP SINK
3CS	3 COMPARTMENT SINK
WC	WATER CLOSET
HS	HAND SINK
LAV	LAVATORY
TD	TRENCH DRAIN
WCO	WALL CLEANOUT

ABBREVIATIONS

ACM	AREA CONSTRUCTION MANAGER
AVB	ATMOSPHERIC VACUUM BREAKER
BSI	BEVERAGE SYSTEM INSTALLER
CO	CLEAN–OUT
DC	DOWNSPOUT COVER
DFU	DRAINAGE FIXTURE UNIT(S)
EC	ELECTRICAL CONTRACTOR
CO	FLOOR CLEAN–OUT
FD	FLOOR DRAIN
FPC	FIRE PROTECTION CONTRACTOR
FS	FLOOR SINK
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GPF	GALLONS PER FLUSH
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
I.P.S.	IRON PIPE SIZE (ALSO NPS)
KEI	KITCHEN EQUIPMENT INSTALLER
KES	KITCHEN EQUIPMENT SUPPLIER
MC	MECHANICAL CONTRACTOR
WB/WM	WASHER BOX / WASHING MACHINE
MS	MOP SINK
NPS	NATIONAL PIPE THREAD STANDARD
NPT	NATIONAL PIPE THREAD TAPERED
O/O	OWNER/OPERATOR
PC	PLUMBING CONTRACTOR
CW	COLD WATER
HW	HOT WATER
HWR	HOT WATER RETURN
FW	FILTERED WATER
RPZ	REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER
SAN	SANITARY SEWER
GW	GREASE WASTE
WH–1	WATER HEATER
UG	UNDERGROUND
RCP–1	RE–CIRCULATION PUMP
V	VENT
WCO	WALL CLEAN–OUT
WSFU	WATER SUPPLY FIXTURE UNIT(S)
ET–1	EXPANSION TANK

COORDINATION SCHEDULE

GENERAL REQUIREMENTS	FURNISH	INSTALL	FINAL CONNECTION	NOTES
MECHANICAL PERMIT	MC			1–3
HOT WORK (WELDING) PERMIT (IF APPLICABLE)	KES			1–3
REFRIGERATION PERMIT (IF APPLICABLE)	MC			1–3
PLUMBING PERMIT	PC			1–3
ELECTRICAL PERMIT	EC			1–3
FIRE SPRINKLER PERMIT (IF APPLICABLE)	FPC			1–3
FIRE ALARM PERMIT (IF APPLICABLE)	FAC			1–3
CONTRACTOR COORDINATION REQUIREMENTS				
HEATING & AIR–CONDITIONING				
ROOFTOP UNITS, INTAKE AND RELIEF	MC	MC		1–5, 17, 22
ROOF CURBS	MC	MC		1–3, 20, 22
GAS PIPING AND GAS PIPE KIT	PC	PC	PC	1–3, 14, 22–23
CONTROLS WIRING	MC	EC	EC	1–3, 19, 22, 24
POWER WIRING	EC	EC	EC	1–3, 19, 22, 24
CONDENSATE TRAP	MC	PC		1–3, 22–23
CONDENSATE PIPING (IF APPLICABLE)	PC	PC		1–3, 22–23
DUCT–MOUNTED SMOKE DETECTOR	MC	MC	EC	1–3, 22, 24
GENERAL EXHAUST SYSTEMS				
EXHAUST FANS	MC	MC		1–3, 17, 22
ROOF CURBS	MC	MC		1–3, 22
CONTROLS (WHERE APPLICABLE)	MC	EC	EC	1–3, 22, 24
POWER WIRING	EC	EC	EC	1–3, 22, 24
TEMPERATURE CONTROLS				
THERMOSTATS & SUBBASES	MC	MC	EC	1–3, 22, 24
REMOTE SENSORS (RH AND/OR TEMPERATURE)	MC	MC	EC	1–3, 22, 24
CONTROLS WIRING (WHERE APPLICABLE)	MC	EC	EC	1–3, 22, 24
POWER WIRING	EC	EC	EC	1–3, 22, 24
DUCTWORK AND ACCESSORIES				
GALVANIZED SHEET METAL DUCTWORK	MC	MC		1–3, 22
EXTERNAL INSULATION	MC	MC		1–3, 22
INTERNAL INSULATION (IF APPLICABLE)	MC	MC		1–3, 22
WEATHERPROOFING (IF APPLICABLE)	MC	MC		1–3, 22
SPIN–IN COLLARS	MC	MC		1–3, 22
FLEXIBLE DUCTWORK	MC	MC		1–3, 22
VOLUME/BALANCING DAMPERS	MC	MC		1–3, 22
FIRE DAMPERS (IF APPLICABLE)	MC	MC		1–3, 22
FIRESTOPPING (IF APPLICABLE)	MC	MC		1–3, 22
AIR DEVICES AND ACCESSORIES	MC	MC	MC	1–3, 7, 22, 28
PLUMBING SYSTEMS				
WATER HEATERS	PC	PC	PC	1–3, 11–12, 23
HOT AND COLD WATER PIPE	PC	PC	PC	1–3, 23
VENTS AND INTAKES	PC	PC	PC	1–3, 23
THERMOSTATIC MIXING VALVE	PC	PC	PC	1–3, 23
POWER AND CONTROL WIRING	EC	EC	EC	1–3, 23–24
KITCHEN EXHAUST SYSTEMS				
McDONALD'S BACKSHELF EXHAUST HOODS	KES	KEI		1–3, 6, 22, 27
CANOPY EXHAUST HOODS (IF APPLICABLE)	KES	KEI		1–3, 6, 22, 27
BLACK IRON DUCTWORK	KES	KEI		1–3, 6, 22
STAINLESS STEEL DUCTWORK (IF APPLICABLE)	KES	KEI		1–3, 6, 22
ALUMINUM DUCTWORK (IF APPLICABLE)	KES	KEI		1–3, 6, 22
UL LISTED DUCT WRAP	MC	MC		1–3, 6, 22
FIRE–RATED DUCT ENCLOSURE (IF APPLICABLE)	GC	GC		1–3, 6, 20, 22
EXHAUST FANS	MC	MC		1–3, 6, 17, 22
ROOF CURBS	MC	MC		1–3, 6, 20, 22
CURB EXTENSIONS	MC	MC		1–3, 6, 22
CONTROLS (WHERE APPLICABLE)	EC	EC	EC	1–3, 6, 22, 24
POWER WIRING	EC	EC	EC	1–3, 6, 22, 24
FIRE SUPPRESSION SYSTEM	KES	KES	KES	1–3, 16, 22, 27
KITCHEN EQUIPMENT				
COOLER/FREEZER	KES	GC		1–3, 27
EVAPORATOR COILS	KES	MC		1–3, 27
CONDENSATE PIPING	PC	PC	PC	1–3, 23, 27
REMOTE CONDENSING UNIT (MAC)	KES	MC		1–3, 22, 27
ROOF CURBS	MC	MC		1–3, 22
REFRIGERANT PIPING	KES	MC	MC	1–3, 22, 27
POWER WIRING	EC	EC	EC	1–3, 22, 24, 27
CONTROL WIRING	EC	EC	EC	1–3, 24, 27
PIPE PORTALS	MC	MC		1–3, 22
ICE MACHINES	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27
REMOTE CONDENSING UNITS	KES	MC		1–3, 22, 27
ROOF CURBS	MC	MC		1–3, 22, 27
REFRIGERANT PIPING	KES	MC	MC	1–3, 22, 27
POWER WIRING	EC	EC	EC	1–3, 22, 24, 27
CONTROL WIRING	KES	EC	EC	1–3, 24, 27
PIPE PORTALS	MC	MC		1–3, 22
GRILLS	KES	KES		1–3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1–3, 23, 27
POWER WIRING	EC	EC	EC	1–3, 24, 27
CONTROL CABLE (6' CLAMSHELL ONLY)	MC	EC	EC	1–3, 23, 24, 27
FRYERS	KES	KES		1–3, 27
GAS PIPING (IF APPLICABLE)	PC	PC	PC	1–3, 23, 27
POWER WIRING	EC	EC	EC	1–3, 24, 27
3–COMPARTMENT SINK	KES	KES		1–3, 12, 27
FAUCETS AND PRE–RINSE SPRAYER	KES	KES		1–3, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
HAND SINKS	PC	PC		1–3, 23, 27
FAUCET	PC	PC		1–3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
WASHING MACHINE				
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
WARE WASHER	KES	KES		1–3, 23, 27
WATER SUPPLY PIPING	PC	PC	PC	1–3, 23, 27
SANITARY DRAIN PIPING	PC	PC	PC	1–3, 23, 27
MISCELLANEOUS ITEMS				
FIRE SPINKLER SYSTEMS	FPC	FPC	FPC	1–3, 15, 25
HVAC EQUIPMENT START–UP	MC			1–3, 22
TEST, ADJUST AND BALANCE HVAC SYSTEMS	TAB			1–3, 22
DOOR GRILLES (IF APPLICABLE)	MC	GC		1–3, 20, 22
ROOF/WALL OPENINGS	GC			1–3, 20–24
APPLIANCE BACKFLOW PREVENTION	KES/BSI	PC	PC	1–3, 23, 27
CO2 DETECTION SYSTEM	MC	EC	EC	1–3, 22, 27
BEVERAGE DISPENSER	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27
COMBI OVENS	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27
TEA/COFFEE BREWERS	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27
SHAKE MACHINE/SODA SYSTEM	KES	KEI		1–3, 27
WATER SUPPLY PIPING	KES	KEI	BSI	1–3, 27

NOTES:
1. THIS SCHEDULE IS INTENDED AS A GUIDE FOR THE WORK TO BE PERFORMED. ALL WORK SHALL BE COORDINATED BETWEEN THE McDONALD'S AREA CONSTRUCTION MANAGER AND ALL GC AND O/O SUBCONTRACTORS.
2. ONE (1) COPY OF THE DECOR PACKAGE DRAWINGS SHALL BE SUPPLIED TO THE GENERAL CONTRACTOR AND EACH OF THE SUBCONTRACTORS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND THE SUBCONTRACTORS TO INSURE THAT THEY HAVE RECEIVED THE DECOR PACKAGE DRAWINGS.
3. FOR ANY WORK NOT CLARIFIED IN THIS SCHEDULE OR IN THE NOTES AND SPECIFICATIONS, PLEASE CONSULT THE McDONALD'S CONSTRUCTION MANAGER FOR SCOPE OF WORK.
4. ALL ROOFTOP UNIT EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND THE KITCHEN EQUIPMENT SUPPLIER SHALL BE ON SITE AT THE SAME TIME FOR A SINGLE CRANE LIFT. EQUIPMENT SITE ARRIVAL DATE SHALL BE COORDINATED BETWEEN THE CONSTRUCTION MANAGER, MECHANICAL CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER.
5. ALL ROOFTOP UNITS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY EQUIPMENT. THE INSTALLATION OF STANDARD EFFICIENCY ROOFTOP UNITS IS PROHIBITED.
6. ALL KITCHEN EQUIPMENT REQUIRING EXHAUST SHALL BE INSTALLED IN ACCORDANCE WITH THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER AND THE ENGINEER–OF–RECORD.
7. WHERE GYPSUM BOARD CEILINGS ARE INSTALLED, THE MECHANICAL CONTRACTOR SHALL SUPPLY DRYWALL MOUNTING FRAMES FOR LAY–IN TYPE DIFFUSERS.
8. ALL WORK ON P–1.0 & P–1.2 DRAWING(S) SHALL BE BY THE PLUMBING CONTRACTOR.
9. THE BEVERAGE SYSTEM INSTALLER FURNISHES, RUNS AND CONNECTS ALL FLEXIBLE WATER AND SYRUP LINES FOR ALL AFFECTED EQUIPMENT INCLUDING THE FOLLOWING:

   A. TEA BREWER
   B. COFFEE BREWER
   C. ICE MACHINE
   D. JUICE DISPENSERS
   E. SMOOTHIE MACHINE
   F. SODA TOWERS
   G. CARBONATED BEVERAGE DISPENSERS

11. ALL WATER HEATERS INSTALLED IN McDONALD'S RESTAURANTS SHALL BE HIGH EFFICIENCY SEALED–COMBUSTION WATER HEATERS. THE INSTALLATION OF STANDARD EFFICIENCY GRAVITY–VENTED WATER HEATERS IS PROHIBITED.
12. THE CONSTRUCTION MANAGER, PLUMBING CONTRACTOR AND KITCHEN EQUIPMENT SUPPLIER SHALL COORDINATE WHICH SOILED DISHWASHER (3–COMPARTMENT SINK) IS BEING INSTALLED IN THE RESTAURANT.
13. ALL GAS PIPING FOR COOKING EQUIPMENT SHALL TERMINATE IN THE CEILING PRIOR TO THE INSTALLATION OF THE PIPING CHASE. UPON INSTALLATION OF THE CHASE, THE GAS PIPING SHALL THEN BE CONTINUED IN THE CHASE FOR FINAL CONNECTION TO THE APPLIANCE.
14. ALL GAS PIPING FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE PLUMBING CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
15. ALL FIRE PROTECTION DRAWINGS CONTAINED WITHIN THIS SET ARE STRICTLY FOR REFERENCE ONLY. FIRE SPRINKLER DRAWINGS SHALL BE DESIGNED AND PERMITTED BY A FIRE PROTECTION CONTRACTOR.
16. ALL R–102 WET CHEMICAL FIRE SUPPRESSION SYSTEMS FOR TYPE I HOODS SHALL BE DESIGNED AND INSTALLED BY A LOCAL ANSUL AGENT. THE USE OF DRY CHEMICAL SYSTEMS IS PROHIBITED. THE LOCAL ANSUL AGENT CONTRACT IS HANDLED THROUGH THE KITCHEN EQUIPMENT SUPPLIER.
17. ALL ROOFTOP UNITS AND EXHAUST FANS ARE SUPPLIED WITH A FACTORY–INSTALLED DISCONNECT SWITCH.
18. ELECTRICAL CONTRACTOR SHALL PROVIDE DISCONNECT SWITCHES FOR REMOTE CONDENSING UNITS.
19. ALL ELECTRICAL CONDUITS FOR ROOFTOP EQUIPMENT SHALL BE BROUGHT UP THROUGH THE BASE OF THE UNIT TO MINIMIZE ROOF PENETRATIONS. WHERE THIS IS NOT POSSIBLE, THE ELECTRICAL CONTRACTOR SHALL PROVIDE THE NECESSARY PIPE PORTALS ON ROOF.
20. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
21. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
22. SEE MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION.
23. SEE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
24. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.
25. SEE FIRE PROTECTION DRAWINGS FOR ADDITIONAL INFORMATION.
26. SEE FIRE ALARM DRAWINGS FOR ADDITIONAL INFORMATION.
27. SEE KITCHEN DRAWINGS FOR ADDITIONAL INFORMATION.
28. SEE DECOR DRAWINGS FOR ADDITIONAL INFORMATION.

RE-CIRCULATION PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	HP	V	ø	Hz	ACCESSORIES
P–1	GRUNDFOS	UP 15–18 B7	1/25	120	1	60	1–3

ACCESSORIES:
1. TIMECLOCK
2. AQUASTAT
3. CHECK VALVE

NOTES:
1. SEE ELECTRICAL DRAWINGS FOR TIMECLOCK WIRING
2. DESIGN: 2 GPM, 10 FT. HEAD
3. SEE DETAIL 7 ON DRAWING P3.0

BACKFLOW PREVENTER SCHEDULE

TYPE	MFR.	MODEL	ASSE LISTING	SERVES	LOCATION
AG	FURN. WITH CHEM. SYS.		1055B	CHEMICAL SYSTEM	KITCHEN–MOP SINK
AVB	FURN. WITH CHEM. SYS.		1001	CHEMICAL SYSTEM	SUPP. RM.–3–COMP
AVB	FURN. WITH FAUCET		–	MOP SINK FAUCET	SEE DRAWINGS
DCV	WATTS	SD–3	1022	SODA TOWERS AND SPEC. COFFEE	
RPZ	WILKINS	375XL–SXL–AG	1013	INCOMING WATER	SUPPORT ROOM
RPZ	WILKINS	375XL–AG	1013	FILTRATION SYSTEM	SUPPORT ROOM
DCV	WATTS	SD–3	1022	BEVERAGE DISPENSER, BREWERS, ESPRESSO & COFFEE MC.	
DCV	WATTS	LF–9D	1012	ICE MACHINES	

EXPANSION TANK SCHEDULE

TAG	MANUFACTURER	MODEL	TOTAL VOL.	CONNECTION	ACCESSORIES
ET–1	AMTROL	ST–12	4.4 GAL.	¾"	–

WATER HEATER SCHEDULE

TAG	MANUFACTURER	MODEL	SIZE	HEATING			RECOV. 100°F ΔT	ELECTRICAL			
			GAL.	TYPE	MBH	GPH		VOLTS	ø	Hz	F.L.A.
WH–1	A.O. SMITH	BTH–120	60	GAS	120	138		120	1	60	<20

ACCESSORIES:
1. NSF INSTALLATION KIT

VALVE SCHEDULE

MANUFACTURER	MODEL	TEMP. SETTING	LISTING	SERVES
WATTS	LFMMV	110°F	ASSE 1017,1069,1070	CHEMICAL SYSTEM MIXING
WATTS	LFMMV	104°F	ASSE 1017,1069,1070	LAVS & HAND SINKS MIXING
ZURN	ZW3870XLT	104°F		
B & G	CR–1/2	–	–	RECIRC. SYSTEM BALANCING VALVE
NIBCO	585–70–HC	–	–	CHEMICAL SYSTEM SHUT–OFF
NIBCO	S–FP–600A–LF	–	–	RESTROOM SHUT–OFF
NIBCO	S–FP–600A–LF	–	–	COMBI OVEN WATER SHUT OFF
WATTS	LFFBV–PEX	–	–	COMBI OVEN RO WATER SHUT OFF
ZURN	ZW1017XL	140°F	ASSE 1017,1070	MASTER TMV FOR WATER HEATER

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MANUFACTURER	MODEL	WATER USE	ACCESSORIES/COMMENTS	
F–1	FAUCET FOR LAV–1 & LAV–2	EXISTING TO REMAIN	EXISTING TO REMAIN		–	
F–2	FAUCET FOR MS–1	ZURN	Z843M4		FAUCET OPERATION: MANUAL SEE DETAIL 2 ON DRAWING P3.0	5' VINYL HOSE WALL HOOK
CO	6x6 FLOOR CLEAN OUT	ZURN	Z1400–SZ		SEE DRAWINGS FOR PIPE SIZES SEE NOTE 8	
		JAY R. SMITH	4040			
FD–1	6x6 FLOOR DRAIN	ZURN	Z415–SZ		PIPE SIZE: 4" STRAINER SIZE: 6" NICKEL BRONZE	FUNNEL: NONE SEE NOTE 8
		JAY R. SMITH	2005			
FS–1	12x12 FLOOR SINK WITH HALF–GRATE	ZURN	ZN1901		PIPE SIZE: 3" DOME STRAINER: ALUMINUM	GRATE: HALF – NICKEL–BRONZE SEE NOTE 8
		JAY R. SMITH	3435			
FS–2	8x8 FLOOR SINK WITH HALF–GRATE	ZURN	ZN1910		PIPE SIZE: 3" DOME STRAINER: ALUMINUM	GRATE: HALF – NICKEL–BRONZE SEE NOTE 8
		JAY R. SMITH	3415			
HS–1	STAINLESS STEEL HAND SINK	ADVANCE TABCO	7–PS–61		FAUCET: INCLUDED WITH SINK	SEE NOTES 6,10 & 12
EX.LAV	EXISTING LAVATORY	EXISTING TO REMAIN	EXISTING TO REMAIN		–	–
MS–1	MOP SINK	FIELD FABRICATED	RECESSED – FLOOR (24x24x12)		FAUCET:F–2 INCLUDES HOSE, HOSE BRACKET AND TWO (2) 24"Wx48"H WALL GUARDS SEE DETAIL 2 ON P3.0	
		ADVANCE TABCO	9–OP–24FM			
EX.UR	ADA WALL–HUNG URINAL	EXISTING TO REMAIN	EXISTING TO REMAIN		–	–
WB–1	WALL BOX FOR WASHING MACHINE	SIOUX CHIEF	696–2313		HAMMER ARRESTERS INCLUDED WITH BOX	SEE NOTE 7
EX.WC	EXISTING WATER CLOSET	EXISTING TO REMAIN	EXISTING TO REMAIN		–	–
WC–2	ADA WATER CLOSET	TOTO	CT705ELN#01	1.28 GPF	FLUSH VALVE: TOTO TET1LA32#CP ZURN ZTR6200EV–LL 1" I.P.S., 1½" TOP SPUD	FLUSH VALVE OPERATION: SENSOR SEAT: BEMIS MODEL 2155CT SEE NOTE 11
		ZURN	Z5665			
3CS	3–COMPARTMENT SINK	–	–		ITEM: 151.00	SEE NOTE 7
WB–1	WASHING MACHINE	–	–		ITEM: 8223.07 WALL BOX: WB–1	SEE NOTE 7
WCO	6x6 WALL CLEAN OUT	ZURN	Z1441–VP		SEE DRAWINGS FOR PIPE SIZES	SEE NOTE 8

NOTES:
1. SEE McDONALD'S PROJECT MANUAL FOR ADDITIONAL MANUFACTURERS
2. PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE BLOCKING FOR PROPER URINAL SUPPORT
3. PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE INTERIOR BLOCKING ON W/W BUILDING FOR WALL CLAMP
4. YARD HYDRANT IS FOR TRASH CORRAL – SEE SITE PLAN FOR LOCATION
5. PLUMBING CONTRACTOR SHALL ROUTE ⅜" DRAIN PIPE FROM HOSE BIBB TO NEAREST FLOOR DRAIN OR FLOOR SINK
6. PLUMBING CONTRACTOR SHALL COORDINATE WITH G.C. TO PROVIDE BLOCKING FOR PROPER SINK SUPPORT
7. SEE KITCHEN DRAWINGS FOR ADDITIONAL INFORMATION – PLUMBING CONTRACTOR SHALL COORDINATE INSTALLATION WITH K.E.S.
8. PLUMBING CONTRACTOR SHALL SPECIFY CONNECTION MATERIAL/TYPE WHEN ORDERING
9. PLUMBING CONTRACTOR SHALL SPECIFY BURY DEPTH WHEN ORDERING
10. PLUMBING CONTRACTOR SHALL PROVIDE GRID DRAIN, P–TRAP AND VALVE STOPS FOR ALL SINKS & LAVS
11. WATER CLOSETS MUST MEET ALL REQUIREMENTS OF ANSI STANDARD A112.19.2
12. PROVIDE SIDE SPLASH GUARDS FOR SINKS WITHIN 18" OF WORK SURFACE OR COOKING AREA.

SEWAGE EJECTOR PUMP SCHEDULE

TAG	MANUFACTURER	MODEL	HP	V	ø	Hz	GPM	HEAD	ACCESSORIES
SE–1	LIBERTY	LE 100 SERIES (DUPLEX)	1	208	1	60	120	18 FT	1–3

ACCESSORIES:
1. PUMP BASIN – 42" DIA X 68 IN DEPTH
2. CHECK VALVE&ISOLATION VALVE
3. FLOAT CONTROL / FLOAT SWITCH

NOTES:
1. SEE ELECTRICAL DRAWINGS FOR TIMECLOCK WIRING
2. DESIGN: 120 GPM, 18 FT. HEAD
3. SEE DETAIL 9 ON DRAWING P3.2