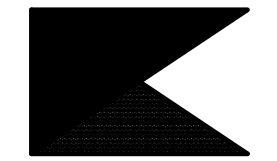




Chick-fil-A

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FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

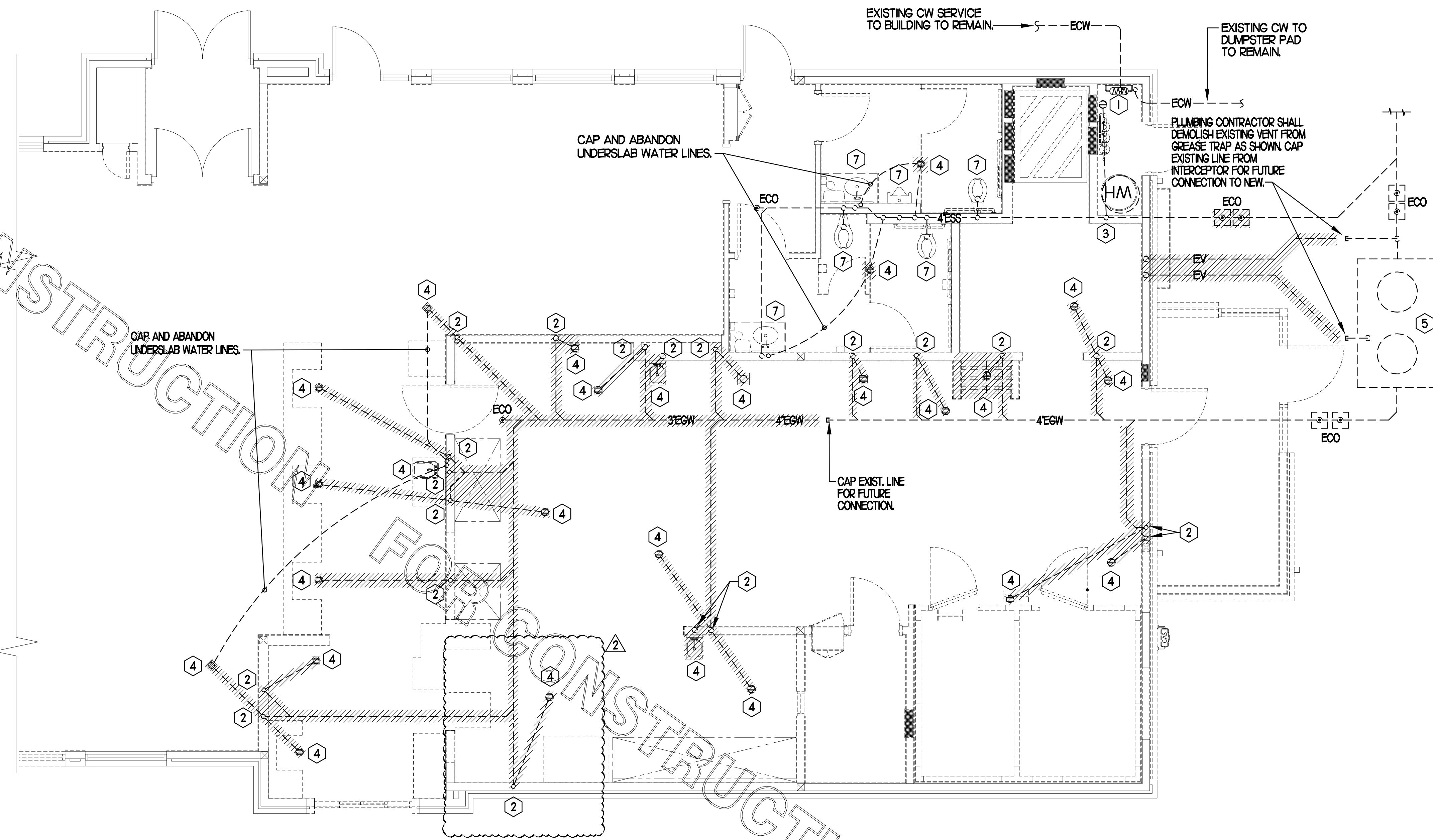
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	03/25/23	DN Update

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SHEET
BELOW SLAB
DEMO PLAN
SHEET NUMBER

P0.1



PLUMBING CONTRACTOR SHALL CAP AND ABANDON ALL EXISTING WATER PIPING LOCATED BELOW SLAB AND WITHIN WALLS. WHERE WATER PIPING IS LOCATED IN ACCESSIBLE AREA OR WALL TO BE DEMOLISHED, PIPING SHALL BE DEMOLISHED.

NOTE
PLUMBING CONTRACTOR SHALL CLEAN OUT THE EXISTING SANITARY SEWER LINES AND EXISTING GREASE WASTE LINES WITHIN SPACE TO MAIN BUILDING SEWER LINE WHICH SHALL BE FIELD VERIFIED EITHER AT THE STREET OR IN THE PARKING LOT AND ALSO VERIFY ALL NEW WASTE LINES ARE CLEAR. LINES SHALL BE CLEARED OF ALL EXISTING DEBRIS AND SHALL BE GUARANTEED THAT A CLEAR FLOW SHALL EXIST WHEN CFA TAKES POSSESSION. AFTER WASTE LINES ARE INSTALLED, PRIOR TO GRAVEL AND CONCRETE POUR, PLUMBING CONTRACTOR SHALL MAINTAIN THAT WASTE LINE STUB-UPS ARE CAPPED TO ENSURE THAT GRAVEL AND CONCRETE DO NOT ENTER PIPING.

1 BELOW SLAB PLUMBING DEMOLITION PLAN
SCALE: 1/4"=1'-0"

SHEET NOTES

- VERIFY IF EXISTING SLAB IS A POST TENSION TYPE. CONTRACTOR IS REQUIRED TO PERFORM GROUND PENETRATING RADAR (GPR) TEST ON THE FLOOR PRIOR TO CUTTING FLOOR FOR KITCHEN DRAIN RELOCATIONS.
- LOCATIONS OF WASTE LINES, VENTS, CW LINES & OTHER UNDER AND ABOVE GROUND ITEMS AS SHOWN ON THESE PLANS ARE APPROXIMATE AND THEIR ACTUAL LOCATION MAY VARY SIGNIFICANTLY. FIELD VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION, FALL, DIRECTION OF FLOW AND CONNECTING INVERTS, PRIOR TO COMMENCING WORK. NOTIFY CHICK-FIL-A CONSTRUCTION REPRESENTATIVE IF EXISTING MAJOR DISCREPANCIES IN ROUTING OF SERVICE LINES ARE DISCOVERED IN FIELD.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE DURING BID PHASE, WITH EXISTING DRAWINGS PROVIDED BY THE OWNER, IN ORDER TO DETERMINE THE TRUE AS-BUILT CONDITIONS OF THE POTABLE WATER, SANITARY WASTE-VENT AND OTHER PIPING SYSTEMS.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING, STORING, AND RELOCATING EXISTING PLUMBING EQUIPMENT. PLUMBING CONTRACTOR TO COORDINATE DISCONNECTING OF EXISTING EQUIPMENT WITH GENERAL CONTRACTOR PRIOR TO COMMENCING WORK.
- ALL LINES THAT ARE TO BE ABANDONED IN PLACE SHALL BE DEMOLISHED MIN. 6" BELOW SLAB, IN WALL OR ABOVE CEILING AND PLUGGED WATER/AIR TIGHT. ALL AFFECTED ADJACENT SURFACES SHALL BE REPAIRED AND REFINISHED TO MATCH SURROUNDING AREA.
- VERIFY ALL FIXTURES THAT ARE TO BE REUSED ARE IN GOOD USABLE CONDITION; REPLACE FIXTURE IF DEFICIENCIES ARE FOUND
- EXCEPT AS NOTED ON PLAN OR DETAILS, ALL NEW OR RELOCATED FLOOR DRAINS SHALL BE INSTALLED CENTERED IN 3 FT. DIAM. 1" DEEP SLAB DEPRESSION.
- CONTRACTOR IS RESPONSIBLE FOR REPAIRING AND LEVELING OF FLOOR DEPRESSIONS IN AREAS WHERE EXISTING FLOOR DRAINS, CLEANOUTS &/OR OTHER FLOOR ITEMS ARE BEING DEMOLISHED, ABANDONED OR RELOCATED.

KEY NOTES

- EXISTING FLOOR FIXTURE TO REMAIN. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING FIXTURE IS CLEAR AND USABLE AND TRAP PRIMER (IF EXISTING) IS WORKING PROPERLY. IF DEFICIENCIES FOUND IN FIELD, REPLACE PRIMER &/OR WATER SUPPLY LINE OR REPLACE FIXTURE AS NECESSARY.
- DEMOLISH EXISTING VENT IN WALL AND CAP OFF ABOVE CEILING AND BELOW SLAB. VENT BELOW SLAB SHALL BE CAPPED OFF JUST ABOVE TAKE-OFF FROM WASTE LINE.
- EXISTING VENT TO REMAIN IN WALL.
- DEMOLISH EXISTING FLOOR FIXTURE OR ABOVE SLAB FIXTURE, IF NECESSARY, PREPARE LINES FOR CONNECTION OF NEW FIXTURE OR EXTENSION. REFER TO P.I.L. COORDINATE WORK WITH G.C. IF FLOOR DRAIN IS DEMOLISHED, IF EXISTING, CAP WATER LINE FROM TRAP PRIMER.
- EXISTING GREASE INTERCEPTOR TO REMAIN.
- PLUMBING CONTRACTOR SHALL DEMOLISH EXISTING TRAP PRIMER LOCATED BELOW COUNTER AND CAP OFF AND ABANDON EXISTING WATER PIPING BELOW SLAB.
- DEMOLISH EXISTING RESTROOM FIXTURE. CAP WASTE CONNECTION BELOW SLAB, WHERE APPLICABLE. CAP EXISTING VENT/CW/HW CONNECTIONS BACK TO RESPECTIVE MAINS FOR FUTURE CONNECTION.

SITE PIPING DEMO NOTES
PRIOR TO CONSTRUCTION, PLUMBING CONTRACTOR SHALL COORDINATE EXISTING LOCATIONS OF EXISTING WATER LINES (BUILDING SUPPLY, DUMPSTER PAD, FIRE SPRINKLER, ETC.) IF DEEMED NECESSARY, REROUTE NEW LINES, SIZED SAME AS EXISTING FROM BUILDING IN ORDER TO AVOID ANY CONFLICT WITH NEW BUILDING ADDITION. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PIPING & TRENCHING REQUIRED.

PIPING LEGEND

EXISTING GREASE WASTE (EGW)	EGW
EXISTING SANITARY SEWER (ESS)	ESS
EXISTING FILTERED WATER UNDER GROUND (EFW)	EFW
EXISTING COLD WATER UNDER GROUND (ECW)	ECW
EXISTING TEMPERED WATER UNDER GROUND (ETW)	ETW
EXISTING HOT WATER UNDER GROUND (EHW)	EHW
EXISTING LINE/FIXTURE TO BE DEMOLISHED	//////
EXISTING WATER LINES IN WALL TO BE DEMOD	∞

CONSTRUCTION



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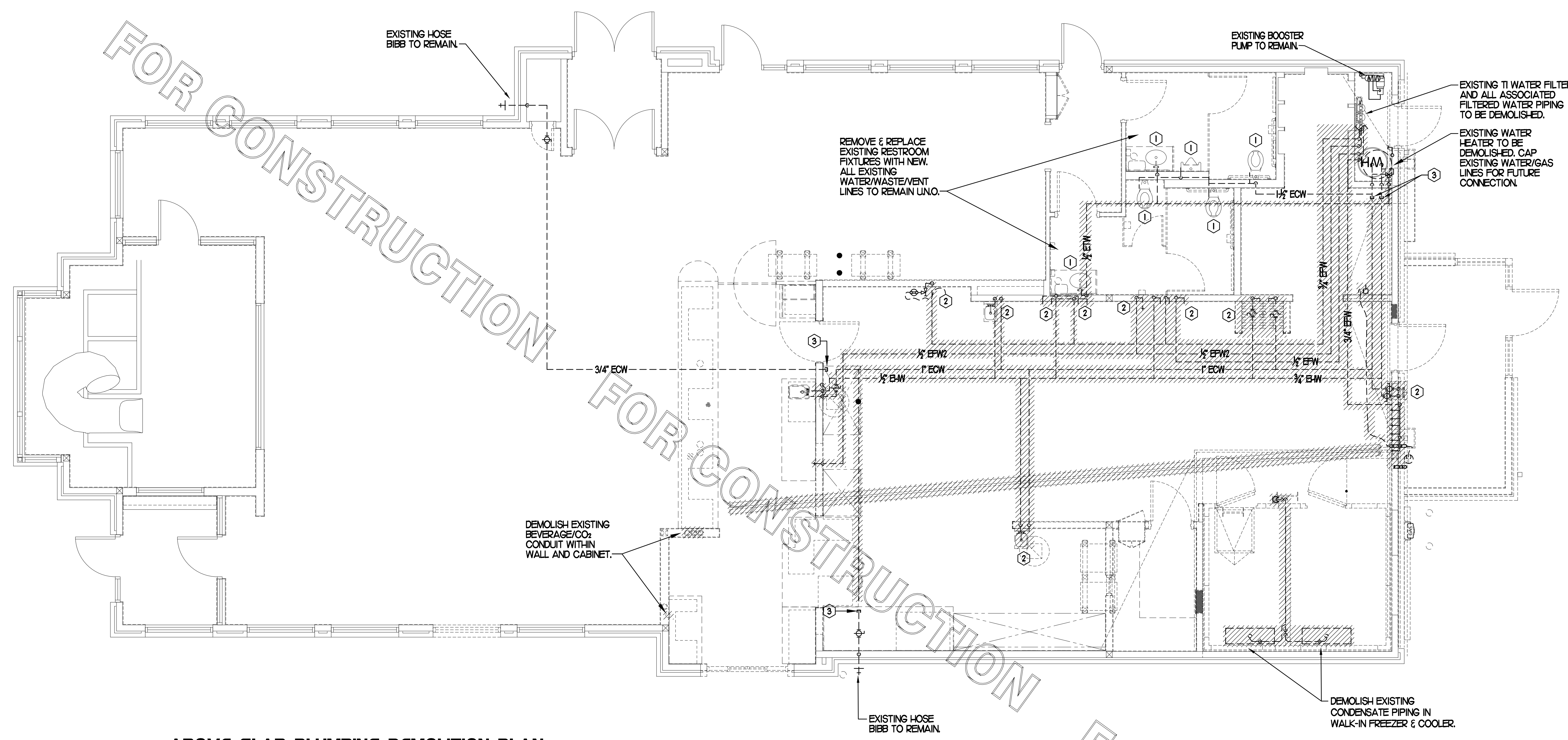
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NO.	DATE	DESCRIPTION

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SHEET
ABOVE SLAB
DEMO PLAN
SHEET NUMBER

P0.2



1 ABOVE SLAB PLUMBING DEMOLITION PLAN
SCALE: 1/4"=1'-0"

SITE PIPING DEMO NOTES

- CAREFULLY EXAMINE & VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING ANY DEMOLITION WORK. FIELD VERIFY ALL SERVICE LINES LOCATIONS, DIAMETERS, ROUTING, INVERTS ETC.
- REFER TO SITE PLAN FOR EXACT LOCATION OF EXISTING GREASE INTERCEPTOR AND ALL SITE PIPING.

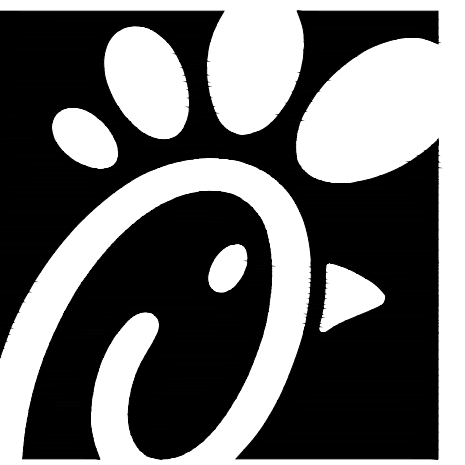
PIPING LEGEND

EXISTING GREASE WASTE (EGW)	---	EGW
EXISTING SANITARY SEWER (ESS)	---	ESS
EXISTING FIRE PROTECTION LINE (F)	---	4"
EXISTING COLD WATER UNDER GROUND (ECW)	---	ECW
EXISTING TEMPERED WATER UNDER GROUND (ETW)	---	ETW
EXISTING HOT WATER UNDER GROUND (EHW)	---	EHW
EXISTING LINE/FIXTURE TO BE DEMOLISHED	////	
EXISTING WATER LINE(S) IN WALL TO BE DEMOD	oo	

KEY NOTES

- DEMOLISH EXISTING RESTROOM FIXTURE. CAP EXISTING WATER LINES AND WASTE/VENT LINES WITHIN WALL. PREPARE LINES FOR CONNECTION TO NEW FIXTURE. SEE SHEET P1.1 AND P2.1.
- DEMOLISH HOT AND/OR COLD AND/OR FILTERED WATER LINES IN WALL AND/OR ABOVE CEILING AND/OR BELOW SLAB.
- CAP EXISTING WATER LINE(S) ABOVE CEILING FOR FUTURE CONNECTION. SEE SHEET P2.1 FOR ALL NEW WATER PIPING.

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BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/25/23	DN Update

7 12/20/23 Final CD Coordination

CONSULTANT PROJECT # 22130.HF.R

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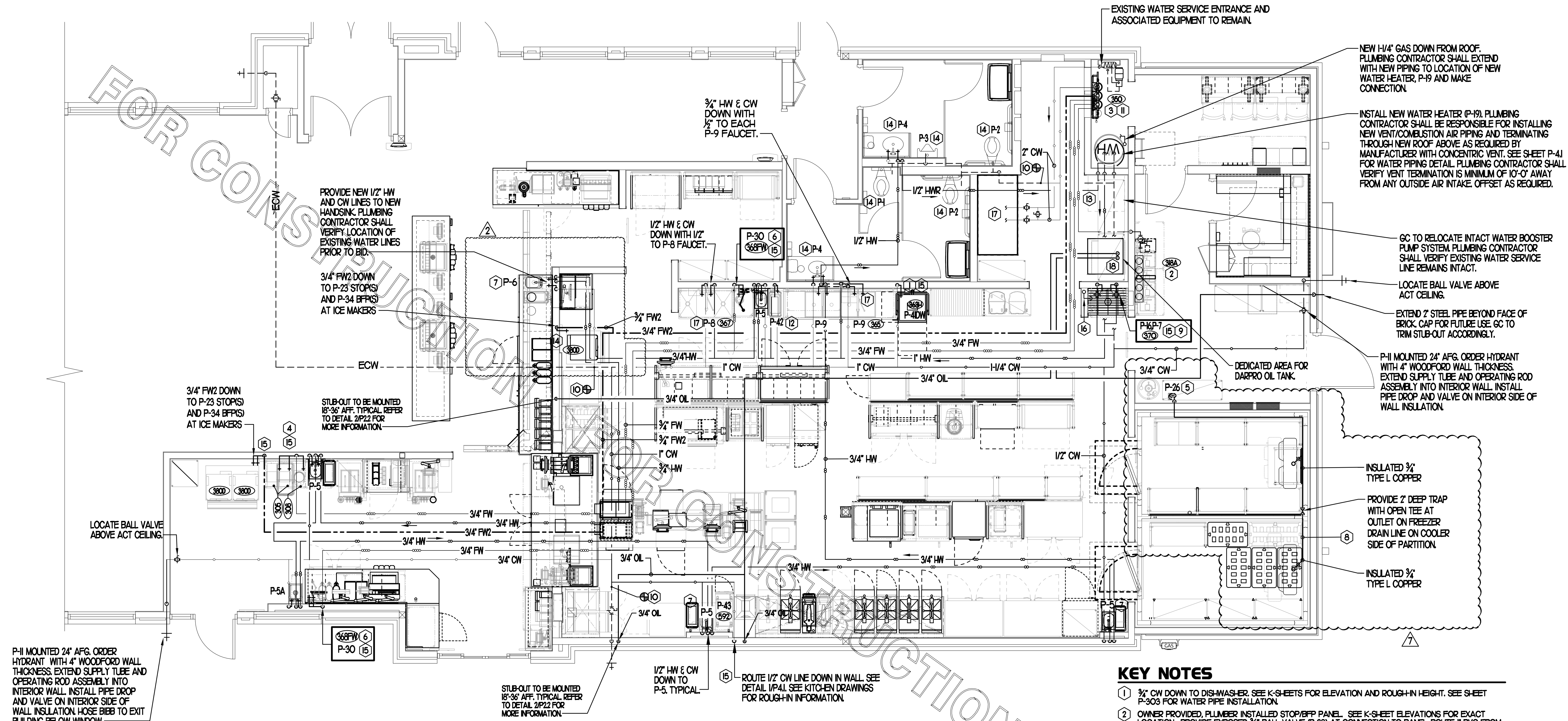
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SHEET ABOVE SLAB PLUMBING PLAN

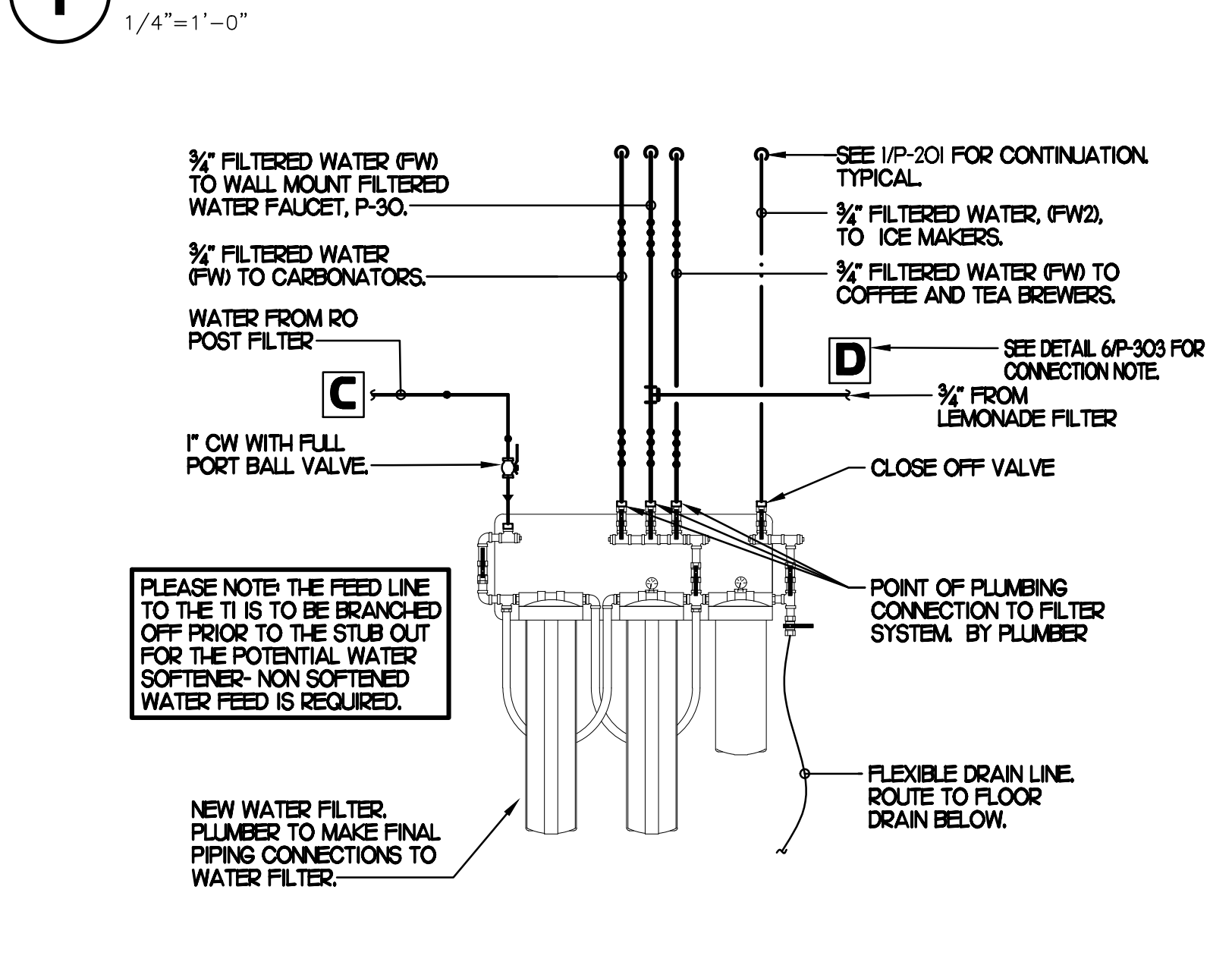
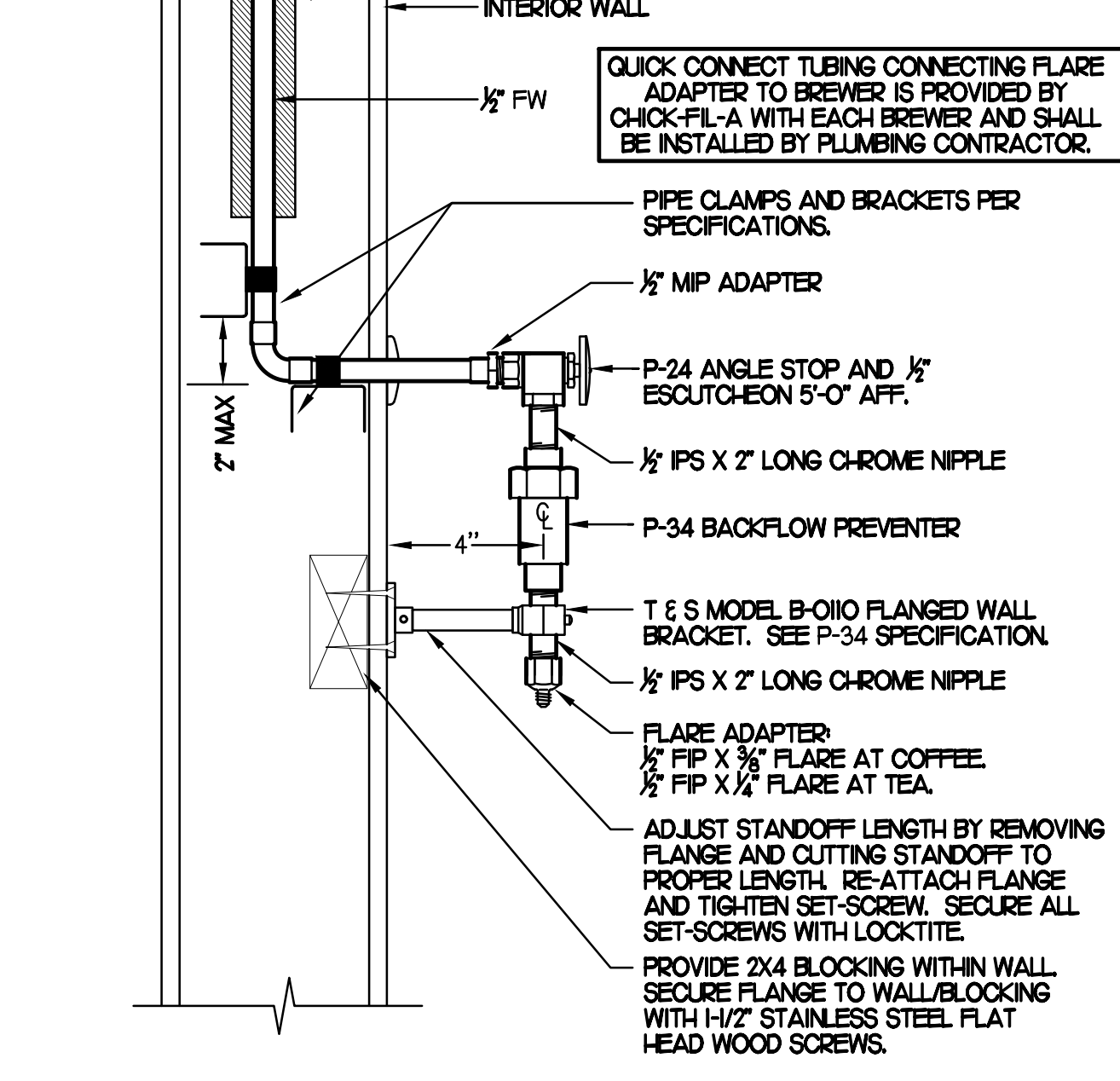
SHEET NUMBER

CONSTRUCTION

P2.1



1 ABOVE SLAB PLUMBING PLAN
1/4" = 1'-0"



PIPING LEGEND

EXISTING COLD WATER (ECW)	ECW
EXISTING HOT WATER (EHW)	EHW
EXISTING FILTERED WATER (EFW)	EFW
EXISTING PREFILTERED WATER (EPW)	EPW
POINT OF CONNECTION	⊕
NEW COLD WATER	CW
NEW HOT WATER	HW
NEW TEMPERED WATER	TW
NEW FILTERED WATER	FW
NEW FW2 TO COFFEE/TEA BREWERS	FW2
BEVERAGE CONDUIT	-----

SHEET NOTES

- COORDINATE VENT TERMINAL LOCATIONS WITH FRESH AIR HOODS ON ROOFTOP EQUIPMENT SO AS TO MAINTAIN MINIMUM 15'-0" CLEARANCE.
- HOLD ALL PIPING ABOVE THE CEILING TIGHT TO STRUCTURE. DUCT LOCATIONS TAKE PRIORITY. SEE DRAWING M/J FOR DUCT LAYOUT. COORDINATE CONFLICTS WITH GC.
- SEE K-SHEET ELEVATIONS FOR KITCHEN EQUIPMENT WATER PIPING ROUGH-IN LOCATIONS.
- VERIFY WALL TYPE AND WALL THICKNESS AT EXTERIOR HOSE BIBBS PRIOR TO ORDERING EQUIPMENT.
- COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.
- UNLESS NOTED OTHERWISE, WATER PIPING SHALL BE COPPER OR CPVC AS LISTED IN SPECIFICATIONS. SEE SPECIFICATIONS.

KEY NOTES

- 3/4" CW DOWN TO DISHWASHER. SEE K-SHEETS FOR ELEVATION AND ROUGH-IN HEIGHT. SEE SHEET P-303 FOR WATER PIPE INSTALLATION.
- OWNER PROVIDED, PLUMBER INSTALLED STOP/BFP PANEL. SEE K-SHEET ELEVATIONS FOR EXACT LOCATION. PROVIDE EXPOSED 3/4" BALL VALVE (P-28) AT CONNECTION TO PANEL. ROUTE 1" PVC FROM FACTORY PANEL. DRAIN CONNECTION TO P-12 FUNNEL. DRAIN LOCATED BELOW BEVERAGE RACK.
- FW & FW2 LINES FROM WATER FILTRATION SYSTEM. REFER TO DETAIL ON P-23.
 - 3/4" FW TO CARBONATOR
 - 3/4" FW TO JUICE STATION
 - 3/4" FW TO COFFEE & TEA MAKERS
 - 3/4" FW TO ICE MACHINES
- 1/2" FW TO P-24 & P-34 AT TWO (2) TEA BREWERS AND ONE COFFEE MAKER. SEE DETAIL THIS SHEET.
- TURN 3/4" CONDENSATE PIPING OUT OF COOLER/FREEZER AND EXTEND OUTLET TO P-12 FUNNEL DRAIN. SECURE PIPING TO COOLER WALL WITH RUBBER INSULATED PIPE CLAMPS TO PREVENT GALVANIC CORROSION. SEAL ALL PENETRATIONS IN WALLS WITH PERMAGUM CORD. TERMINATE ABOVE FUNNEL WITH ELBOW AND AIR GAP. PROVIDE 2" DEEP TRAP WITH OPEN TEE OUTLET.
- 3/4" FW DROP TO TWO-HANDLE FAUCET P-30. MOUNT FAUCET ON WALL. SEE K-SHEETS FOR EXACT LOCATION. PIPE 1/2" FW TO EACH FAUCET INLET WITH 6" SPREAD. PROVIDE BALL VALVE ABOVE CEILING.
- PROVIDE 1/2" HW & CW CONNECTIONS TO FIXTURE.
- APPLY RAYCHEM XL-TRACE, MODEL 5XL-1 SELF REGULATING HEATING CABLE. USE END SEAL KIT FROM MANUFACTURER. CONTRACTOR SHALL HEAT TRACE ENTIRE LENGTH OF CONDENSATE PIPING UNTIL TERMINATION POINT.
- INSTALL P-16 3-WAY VALVE WITH BACKFLOW PREVENTER ON P-7 FAUCET SPOUT FOR CONNECTION TO ECOLAB DETERGENT DISPENSER. SEE DETAIL THIS SHEET. PROVIDE BALL VALVE FOR EACH WATER LINE ABOVE CEILING WITH P-22 BALL CHECK VALVE IN EACH DROP.
- MAKE CONNECTION TO EXISTING WATER LINE ABOVE CEILING/WITHIN WALL.
- NEW WATER FILTERS. SEE DETAIL 9/P21.
- ROUTE 1/2" HW & CW TO P-42 EMERGENCY EYEWASH MIXING VALVE. ROUTE 1/2" TW FROM P-42 VALVE TO EMERGENCY EYEWASH STATION.
- 1/2" HOT WATER RETURN LINE. MAKE CONNECTION TO CW INLET SIDE OF WATER HEATER. SEE DETAIL 4/P41.
- INSTALL NEW FIXTURE IN RESTROOM, RECONNECT TO EXISTING CW &/OR TW, VENT & SANITARY SEWER SERVICES.
- INSTALL SHOCK ABSORBER (P-25) AT TOP OF WATER LINE DROP DOWN TO FIXTURE.
- 1/2" INSULATED CONDENSATE PIPING WITH-IN WALL DOWN FROM ROOF. TERMINATE OVER MOP SINK 1'-0" ABOVE GRATE WITH 90 DEGREE ELBOW AND ESCUTCHEON. SEE 1/P41 FOR CONTINUATION.
- WATER SOFTENER SYSTEM TO BE LOCATED WITHIN OUTLINED AREA. SEE DETAIL 6/P41 FOR WATER SOFTENER SYSTEM AND WATER LINE CONNECTIONS FOR BUILDING WATER CONNECTION. PROVIDE AND INSTALL 1/2" WATTS LFU009 REDUCED PRESSURE BACKFLOW PREVENTER ON INLET SIDE OF SOFTENER SYSTEM. ROUTE DRAIN LINE DOWN TO EXISTING FLOOR SINK LOCATED BELOW.
- TURN 3/4" AND 2" SCHEDULE 40 STEEL PIPE DOWN THROUGH CEILING FOR FUTURE DARPRO OIL TANK AND CAP ACCORDINGLY. PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS. 1" OIL LINE TO BE CAPPED 2' BELOW CEILING. PROVIDE 3/4" DIAETER, SCHEDULE 40 BLACK OR GALVANIZED STEEL PIPING BACK TO FUTURE DARPRO OIL TANK. PIPING TO BE ROUTED TO ALLOW AS MUCH FALL AS POSSIBLE TO THE TANK.

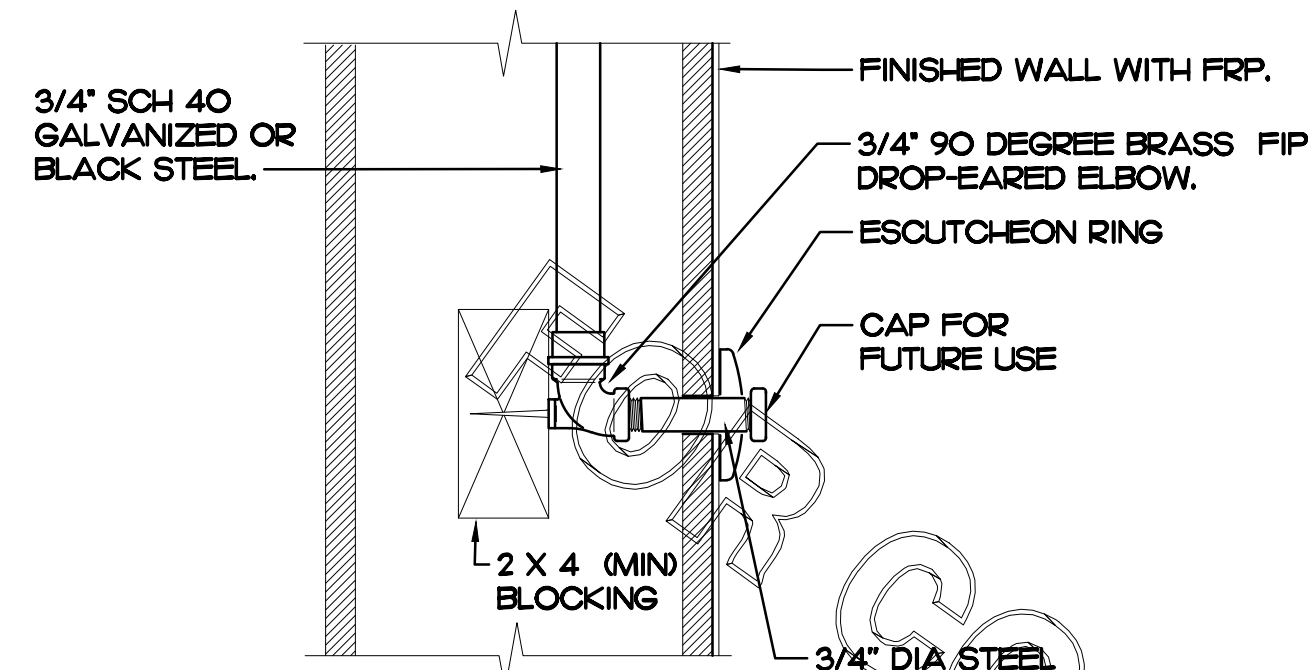
6 COFFEE & TEA BREWER STOP & BFP
NO SCALE

9 WATER FILTER RISER PIPING
NO SCALE

FOR CONSTRUCTION

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FOR CONSTRUCTION



2 DARPRO OIL PIPING SECTION WITHIN WALL

SCALE: NONE

BEVERAGE CONDUIT NOTES

1. REMOVE EXISTING BEVERAGE CONDUITS OR THEIR PORTIONS WHERE INDICATED ON DRAWINGS. ROUTE BEVERAGE SYSTEM PIPING OVER-HEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN 6" SCH 40 PVC CONDUITS. ALL CONDUITS SHALL BE HELD TIGHT TO STRUCTURE AND SUPPORTED WITH THREADED ROD AND CLEVIS HANGERS AT INTERVALS SHOWN IN SPECIFICATIONS FOR HORIZONTAL OVER-HEAD PIPING. COORDINATE ROUTING WITH THE GENERAL CONTRACTOR TO AVOID MECHANICAL AND ELECTRICAL SYSTEMS.
2. COORDINATE ROUTING OF ALL CONDUITS WITH HVAC DUCT IN KITCHEN. SEE SHEET M-HI FOR LOCATION OF AC UNITS AND DUCT ROUTING.
3. TURN CONDUITS DOWN THROUGH THE CEILING AT THE BEVERAGE RACK AND PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS. TERMINATE OPPOSITE END ABOVE CEILING OVER SERVING AREA OR TURN DOWN TO WALLS, AS PER PLANS.
4. INSTALL CONTINUOUS CONDUIT FROM CO2 FILL-BOX LOCATION TO BULK CO2 TANK AS SHOWN ON PLANS AND DETAILS. COORDINATE 4" CONDUIT WALL STUB INSTALLATION CLOSELY WITH GENERAL CONTRACTOR AND BRICK MASON PRIOR TO COVERING UP OF CONDUIT. VERIFY WITH GENERAL CONTRACTOR THE FULL LENGTH OF FILL/VENT TUBING MAY BE INSTALLED AND SUBSEQUENTLY REMOVED FROM CONDUIT. SEE PLAN AND DETAIL #6 THIS SHEET.
5. ROUTE 2" DIA BULK CO2 CONDUIT ABOVE CEILING. PROVIDE CHROME ESCUTCHEON AT WALL WITH 45 DEGREE ELBOW TIGHT TO ESCUTCHEON AND DIRECTED DOWNWARD. TERMINATE INTERIOR END OF CONDUIT 1'-0" ABOVE KITCHEN CEILING WITH 90 DEGREE ELBOW DIRECTED TOWARD CARBONATORS. EXTEND 2" DIA CONDUIT FROM WITHIN 1'-0" OF ELBOW TOWARD CARBONATORS. TERMINATE OPPOSITE END ABOVE CEILING ABOVE CARBONATORS.
6. AT CONDUIT DROP IN DRIVE-THRU, PROVIDE 1/8TH BEND FITTING WITH SHORT PIPE STUB AT BASE OF DROP. CUT STUB AND FITTINGS FLUSH WITH FINISHED WALL.
7. FOR BEVERAGE CONDUIT DROPS AT WALL WITH SHEATHING ABOVE THE CEILING, PROVIDE APPROPRIATE FITTING AT UPPER END OF CONDUIT DROP TO EXTEND CONDUIT THROUGH SHEATHING.

FIXTURE CONNECTION SCHEDULE

MARK	FIXTURE	FW	FW2	CW	HW	WASTE
P-1	WATER CLOSET - FLOOR MOUNT (1.6 GPF)	X	X	1"	X	4"
P-2	WATER CLOSET - ADA FLOOR MOUNT (1.6 GPF)	X	X	1"	X	4"
P-3	URINAL - ADA WALL HUNG (1.0 GPF)	X	X	3/4"	X	2"
P-4	LAVATORY - ADA COUNTER TOP (0.50 GPM)	X	X	1/2"	1/2"	1-1/4"
P-5	KITCHEN HAND SINK - WALL HUNG (1.0 GPM)	X	X	1/2"	1/2"	1-1/2"
P-5A	KITCHEN DUMP SINK - WALL HUNG (1.0 GPM)	X	X	1/2"	1/2"	1-1/2"
P-6	SINGLE COMP SINK - COUNTERTOP (1.0 GPM)	X	X	1/2"	1/2"	1-1/2"
P-7	MOP SINK	X	X	1/2"	1/2"	3"
P-8	VEGETABLE PREP SINK (0.65 GPM SPRAYER)	X	X	1/2"	1/2"	(2) 1-1/2"
P-9	POT SINK (0.65 GPM SPRAYER)	X	X	(2) 1/2"	(2) 1/2"	(4) 1-1/2"
P-10	FLOOR DRAIN (ROUND TOP)	X	X	X	X	3"
P-11	WALL HYDRANT (NON FREEZE)	X	X	3/4"	X	X
P-12	FUNNEL DRAIN (3")	X	X	X	X	3"
P-13A	FLOOR SINK (3") 12" TOP	X	X	X	X	3"
P-13B	FLOOR SINK (3") 8" TOP	X	X	X	X	3"
P-13C	FLOOR SINK	X	X	X	X	3"
P-14	CLEANOUT INSIDE BUILDING	X	X	X	X	SEE PLAN
P-16	3-WAY VALVE/ VACUUM BREAKER	X	X	3/4"	3/4"	X
P-18	EXPANSION TANK	X	X	3/4"	X	X
P-19	WATER HEATER	X	X	1"	1"	X
P-20	THERMOMETER	X	X	X	1/2"	X
P-22	MOP SINK CHECK VALVES	X	X	1/2"	1/2"	X
P-23	UTILITY CONNECTION (ICE MAKER)	X	1/2"	X	X	X
P-24	UTILITY CONNECTION (COFFEE & TEA)	1/2"	X	X	X	X
P-25	SHOCK ABSORBER	1/2"	1/2" & 3/4"	1/2"	1/2"	X
P-26	FUNNEL DRAIN	X	X	X	X	3"
P-26A	TRAP SEAL PROTECTOR	X	X	X	X	3"
P-27	WATER PRESSURE GAUGE	X	X	1/4"	X	X
P-28	BALL VALVE-CARBONATOR STOP/BFP PANEL	3/4"	X	X	X	X
P-29A	ICE MACHINE TRENCH DRAIN (18"x14.5")	X	X	X	X	4"
P-29B	ICE MACHINE TRENCH DRAIN (36"x14.5")	X	X	X	X	4"
P-30	FILTERED WATER FAUCET	(2) 1/2"	X	X	X	X
P-31	DUMPSTER POST HYDRANT	X	X	3/4"	X	X
P-32	DUMPSTER DRAIN	X	X	X	X	3"
P-33	TRAP PRIMER (MECHANICAL TYPE)	X	X	1/2"	X	X
P-34	DISPENSER BACKFLOW PREVENTER	1/2"	X	X	X	X
P-35	FLOOR DRAIN	X	X	X	X	3"
P-36	BEVERAGE TOWER INDIRECT RECEIVER	X	X	X	X	3"
P-37	FLOOR DRAIN (SQUARE TOP)	X	X	1/2"	X	3"
P-38	HOT WATER CIRCULATING PUMP	X	X	X	1/2"	X
P-41DW	DISHWASHER SUPPLY FAUCET	X	X	3/4"	X	X
P-42	EMERGENCY THERMOSTATIC MIXING VALVE (EMERGENCY EYE WASH)	X	X	1/2"	1/2"	X
P-43	REHEATER SUPPLY VALVE	X	X	1/2"	X	X

NOTES: ① REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT INSTALLATION AND HOOK-UP RESPONSIBILITIES.

PLUMBING CONTRACTOR SHALL COORDINATE BEVERAGE CONDUIT INSTALLATION WITH FLOOR DRAIN LOCATIONS AND ANY ELECTRICAL CONDUITS PRIOR TO INSTALLATION SO AS NOT TO INTERFERE. TYPICAL OF ALL BEVERAGE CONDUITS.

6" BEVERAGE CONDUIT BELOW SLAB. COORDINATE WITH THE INSTALLATION OF FLOOR DRAINS LOCATED BELOW BEVERAGE TOWERS.

6" DIA SCHED 40 BEVERAGE CONDUITS UP FROM BELOW SLAB. EXTEND WITHIN WALL. TERMINATE ABOVE CEILING WITH 90 DEGREE LONG TURN ELBOW. TYPICAL.

1 BEVERAGE CONDUIT PIPING PLAN

1/4"=1'-0"

PRIOR TO DEMOLITION OF ANY EXISTING CONDUITS, PLUMBING CONTRACTOR SHALL COORDINATE WITH BEVERAGE PROVIDER IF EXISTING CONDUITS ARE ADEQUATE. ALL EXISTING CONDITIONS SHALL BE VERIFIED PRIOR TO BID.

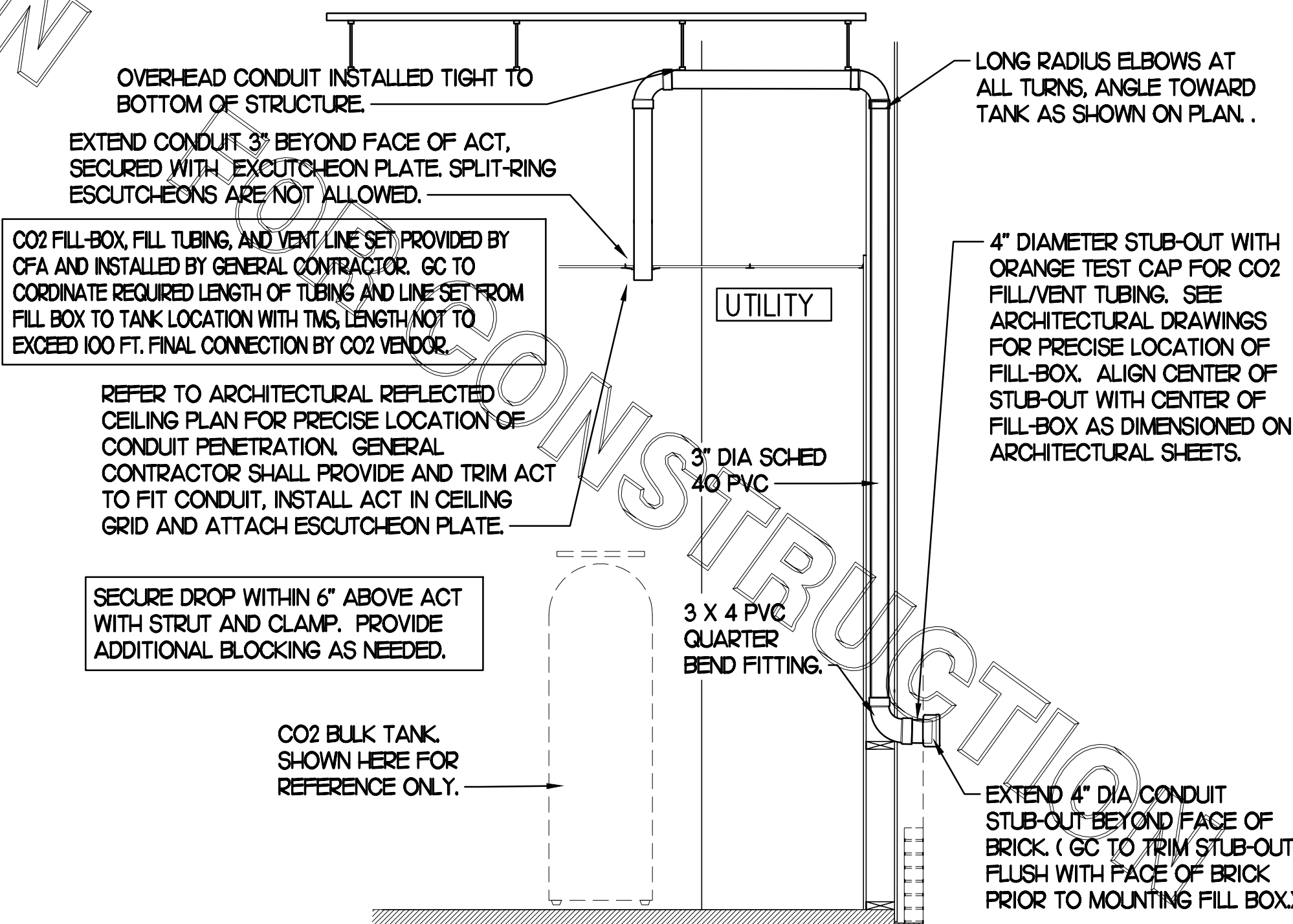
KITCHEN EQUIPMENT SCHEDULE

TAG	DESCRIPTION	FW	FW2	CW	HW	WASTE	ROUGH-IN
308	TEA BREWER	1/2"	X	X	X	X	P-24
308	COFFEE MAKER	1/2"	X	X	X	X	P-24
308A	CARBONATOR BFP PANEL	3/4"	X	X	X	X	SEE K-41
309	WATER FILTER PANEL	(3) 3/4"	3/4"	3/4"	X	X	SEE DET 9/P21
303	DISHWASHER	X	X	3/4"	X	INDIRECT	SEE K-41
306	POT SINK	X	X	(2) 1/2"	(2) 1/2"	INDIRECT	TWO #365F FAUCETS, P-9
307	VEGETABLE PREP SINK	X	X	1/2"	1/2"	INDIRECT	ONE #367F FAUCET, P-8
307A	KITCHEN WALL FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.
307B	KITCHEN WALL FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.
309	MOP SINK	X	X	1/2"	1/2"	3" P-35	SEE DET 2/P21
308	ICE BIN	X	X	X	X	INDIRECT	P-26 DRAIN
304	ICE BIN	X	X	X	X	INDIRECT	P-26 DRAIN
300	ICE MAKER	X	1/2"	X	X	INDIRECT	P-23, SEE DET3/P41
300B	ICE MAKER	X	(2) 1/2"	X	X	INDIRECT	P-23, SEE DET3/P41
302	REHEATER	X	X	1/2"	X	INDIRECT	SEE KITCHEN DWGS

NOTES: ① REVIEW PLANS AND KITCHEN EQUIPMENT DRAWINGS IN ORDER TO DETERMINE WHICH EQUIPMENT IS NEW, EXISTING TO BE RELOCATED OR EXISTING TO REMAIN IN PLACE.

4" DIA SCHED 40 PVC BEVERAGE CONDUIT DOWN IN WALL. START ABOVE CEILING AND TURN OUT THRU WALL TOWARDS DRINK TOWER WITH BOTTOM EDGE OF WALL PENETRATION 0'-8" ABOVE FINISHED FLOOR. SEE BEVERAGE CONDUIT NOTE #7.

3" DIA SCHED 40 PVC SWEEP TURNED DOWN WITH DROP THROUGH ACT ABOVE BULK CO2 TANK. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR PRECISE LOCATION. SEE DETAIL #6 THIS SHEET.



6 CO2 FILL/VENT CONDUIT AND FILL-BOX INSTALLATION

SCALE: NONE

OVER-HEAD 3" DIA SCHED 40 PVC CONDUIT FOR CO2 FILL/VENT TUBING. SEE BEV CONDUIT NOTE #4 THIS SHEET.

4" DIA STUB-OUT AT REMOTE FILL-BOX. SEE DETAIL #6 THIS SHEET.



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1-18-24

CHICK-FIL-A
RANSON
156 JOSHUA M FREEMAN BLVD
RANSON, WV 25438

FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

REVISION SCHEDULE

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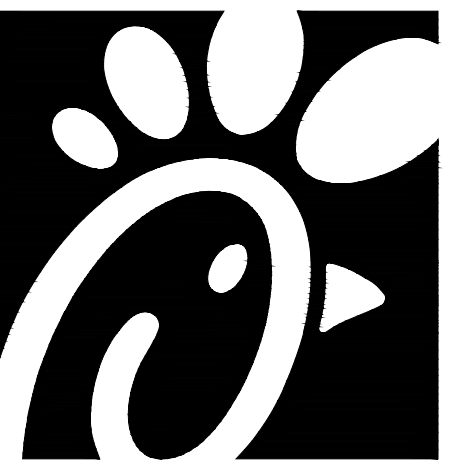
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SHEET BEVERAGE CONDUIT PLAN

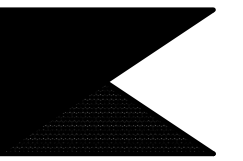
SHEET NUMBER

P2.2



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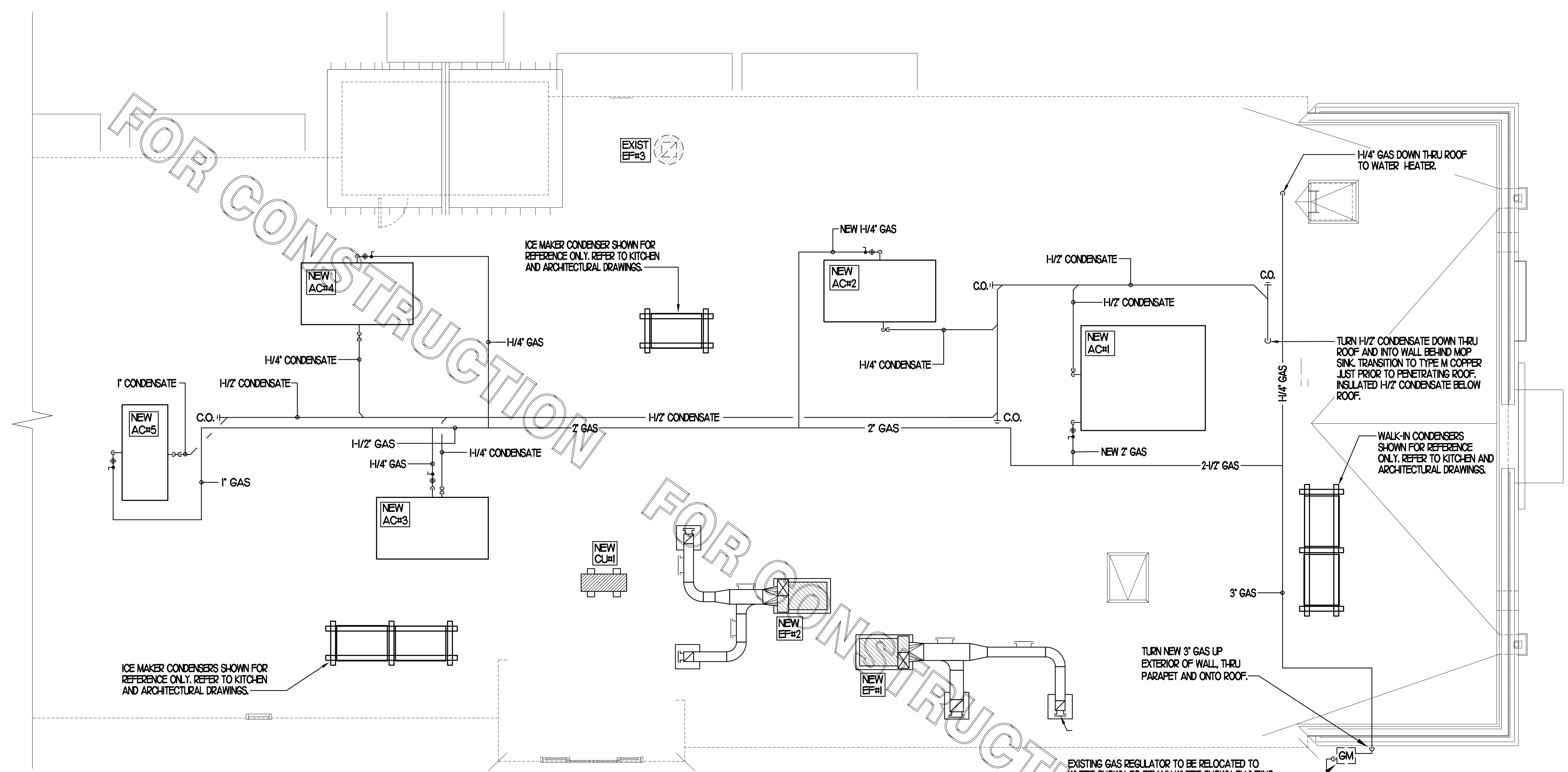
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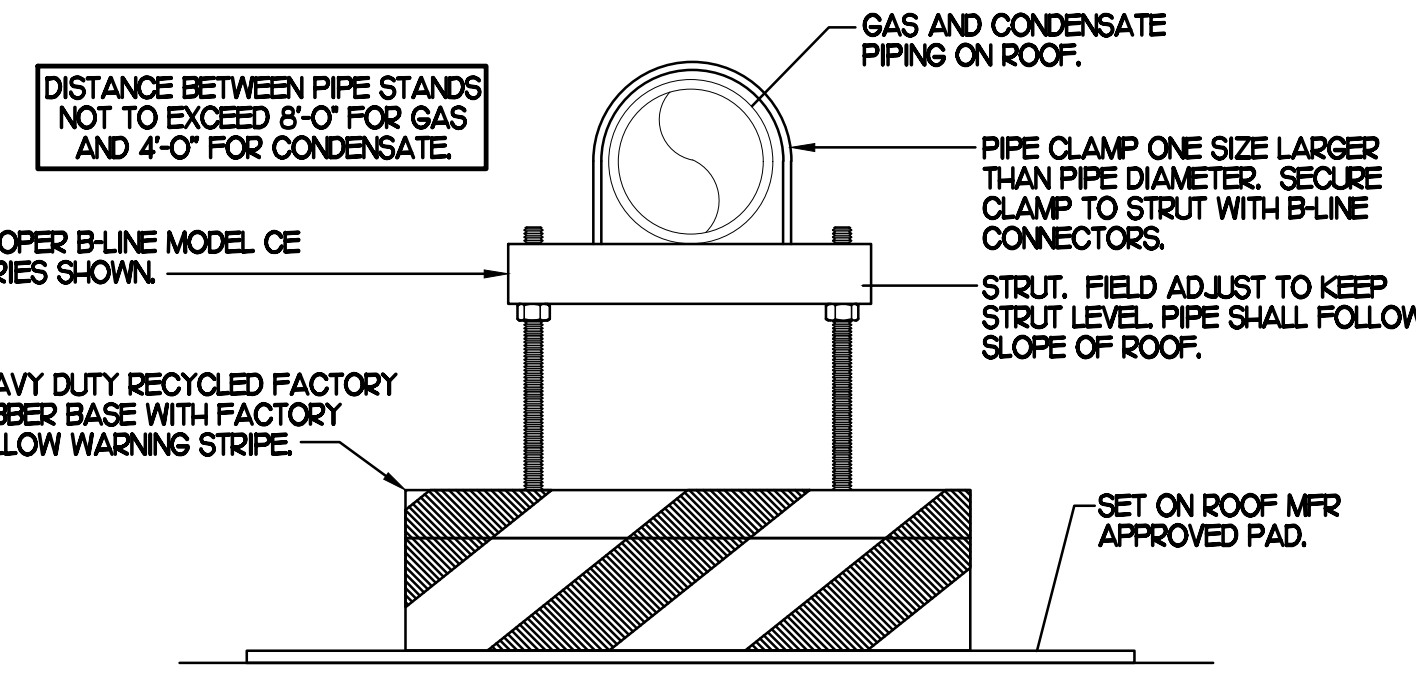
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SHEET
ROOF PLAN
AND DETAILS
SHEET NUMBER

P3.1



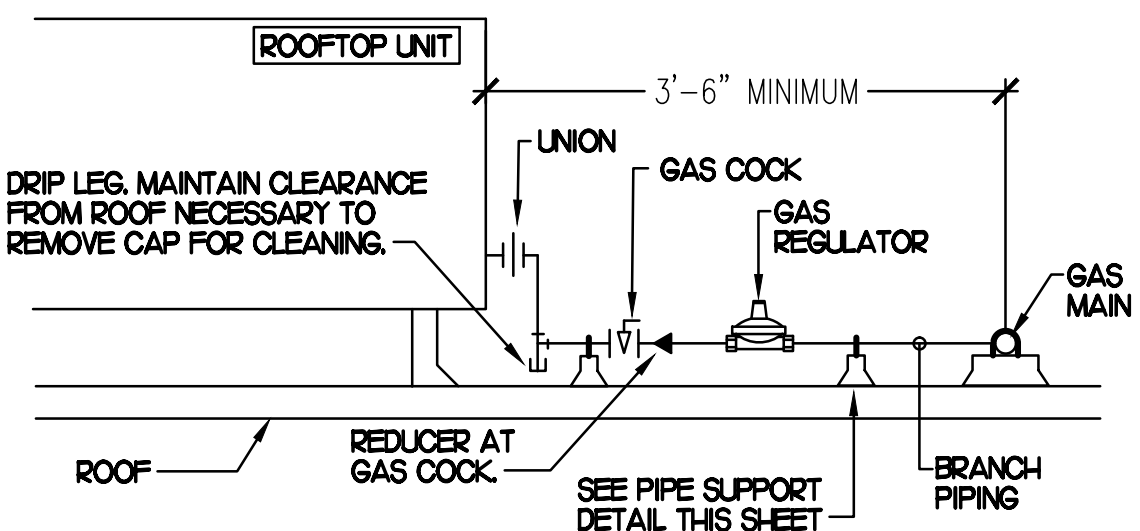
ROOF PIPING NOTE:
PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF EXISTING GAS & CONDENSATE PIPING NO LONGER NEEDED ALONG WITH THE INSTALLATION OF ALL NEW GAS & CONDENSATE PIPING REQUIRED. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW PIPING REQUIRED. WHERE EXISTING PIPE SIZE IS NOTED, IF VERIFIED IN FIELD EXISTING SIZE IS SMALLER THAN PLANS, PLUMBING CONTRACTOR SHALL INSTALL NEW PIPE SIZED AS NOTED ON PLAN.

- NOTES:**
- NON ADJUSTABLE MODEL CIO PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
 - PROVIDE MODEL CE-8 OR CE-12 OR CE-16 AS NEEDED FOR ELEVATING CONDENSATE PIPING TO MAINTAIN PROPER SLOPE AND FOR GAS PIPING CROSSING OVER CONDENSATE PIPING.
 - ENSURE GAS AND CONDENSATE PIPING DO NOT OBSTRUCT ROOFTOP EQUIPMENT ACCESS OPENINGS. RE-PIPING OF SYSTEMS DUE TO CONFLICTS WITH EQUIPMENT ACCESS OPENINGS SHALL BE DONE AT PLUMBING CONTRACTOR'S EXPENSE.

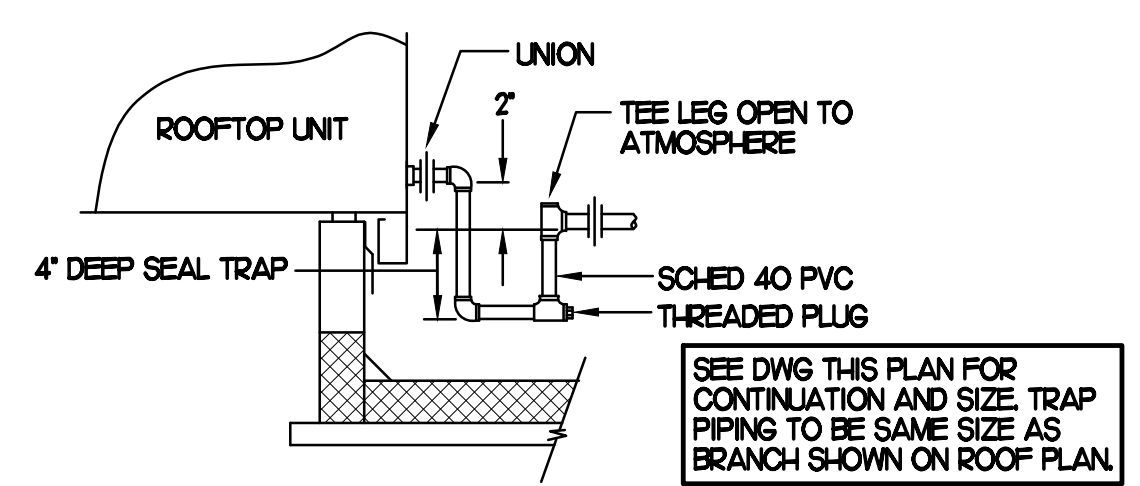


4 PIPING SUPPORT
NO SCALE

1 PLUMBING ROOF PLAN
SCALE: 1/4"=1'-0"



3 GAS PIPING AT RTU
NO SCALE



2 CONDENSATE DRAIN PIPING
NO SCALE

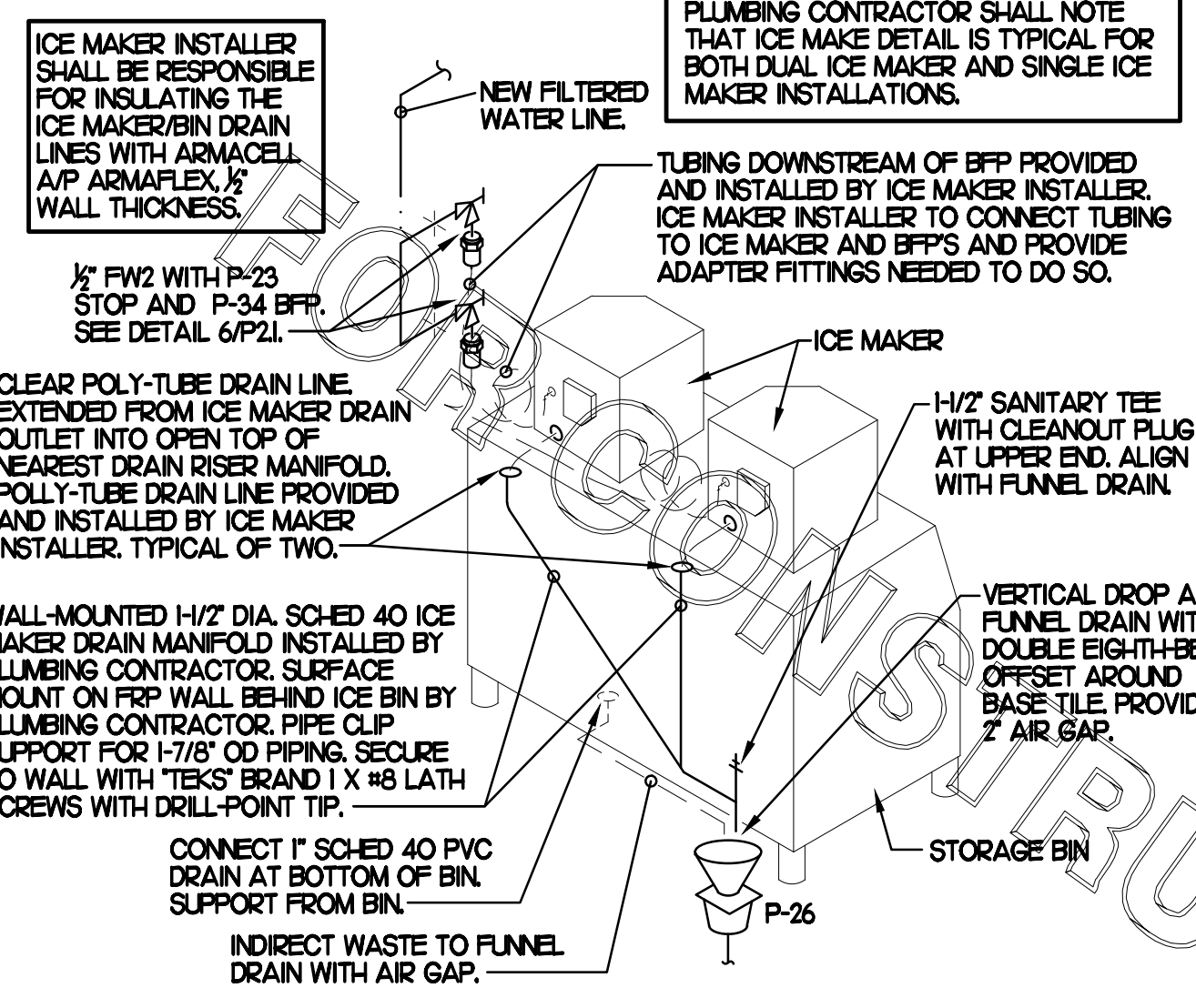
SHEET NOTES

- NEW GAS PIPING SHALL BE PAINTED WITH A ZINC BASED PRIMER WITH A COLOR TOP COAT SPECIFIED BY THE GC. WHERE COLOR TOP COAT IS NOT REQUIRED, TWO COATS OF ZINC BASE PRIMER SHALL BE USED. ALL FIELD JOINTS SHALL BE COATED WITH TWO COATS OF A ZINC BASED PRIMER. SLEEVE ALL WALL PENETRATIONS WITH SCHEDULE 40 PVC AND PROVIDE STAINLESS STEEL ESCUTCHEONS ON BOTH SIDES OF WALL PENETRATIONS.
- PIPING ON ROOF SHALL NOT BE INSTALLED NEARER THAN 1'-0" FROM INSIDE EDGE OF PARAPET UNLESS NOTED OTHERWISE.
- CONDENSATE PIPING ON ROOF SHALL BE SCHEDULE 40 PVC.
- ANY EXISTING PENETRATIONS OF ROOF BY EXISTING GAS, CONDENSATE, REFRIGERANT OR OTHER PIPING THAT ARE NOT BEING REUSED FOR NEW PIPING SHALL BE PATCHED AND REPAIRED (WATERTIGHT) TO MATCH SURROUNDING AREA.
- FIELD VERIFY ALL LOCATIONS, DIAMETERS, CLEARANCES AND ROUTING OF EXISTING LINES AND EQUIPMENT.

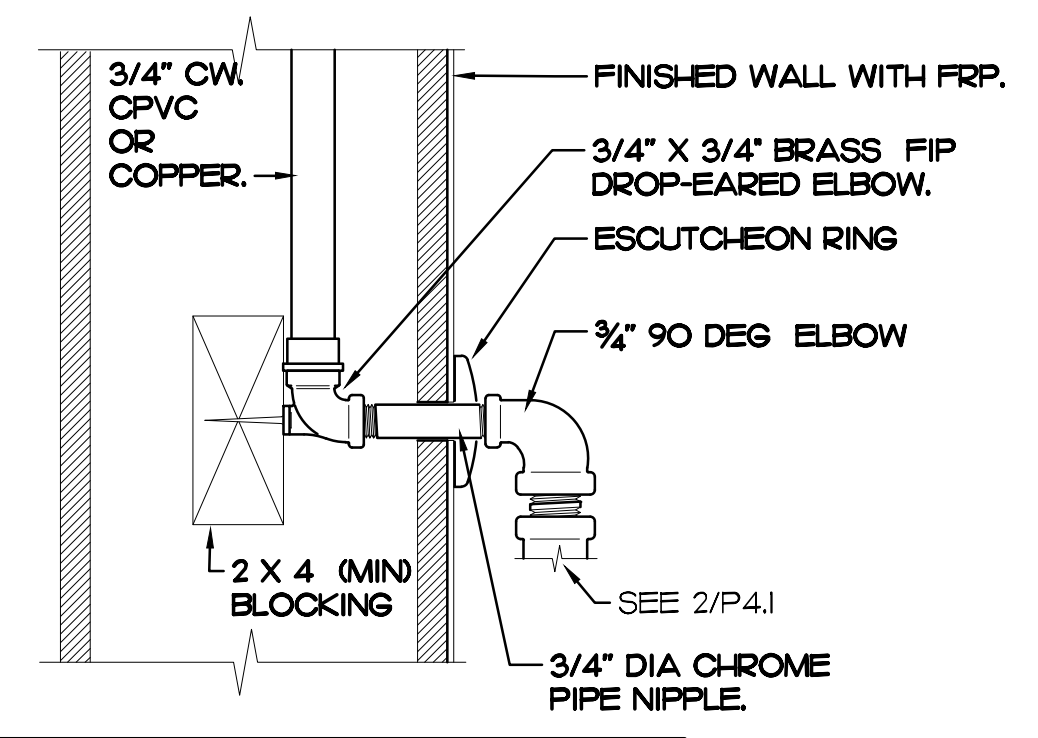
GAS CONNECTION SCHEDULE

EQUIPMENT	GAS LOAD
AC#1 (NEW)	480,000 BTUS
AC#2 (NEW)	240,000 BTUS
AC#3 (NEW)	240,000 BTUS
AC#4 (NEW)	240,000 BTUS
AC#5 (NEW)	150,000 BTUS
WATER HEATER (NEW)	199,000 BTUS
TOTAL CONNECTED LOAD	1,549,000 BTUS

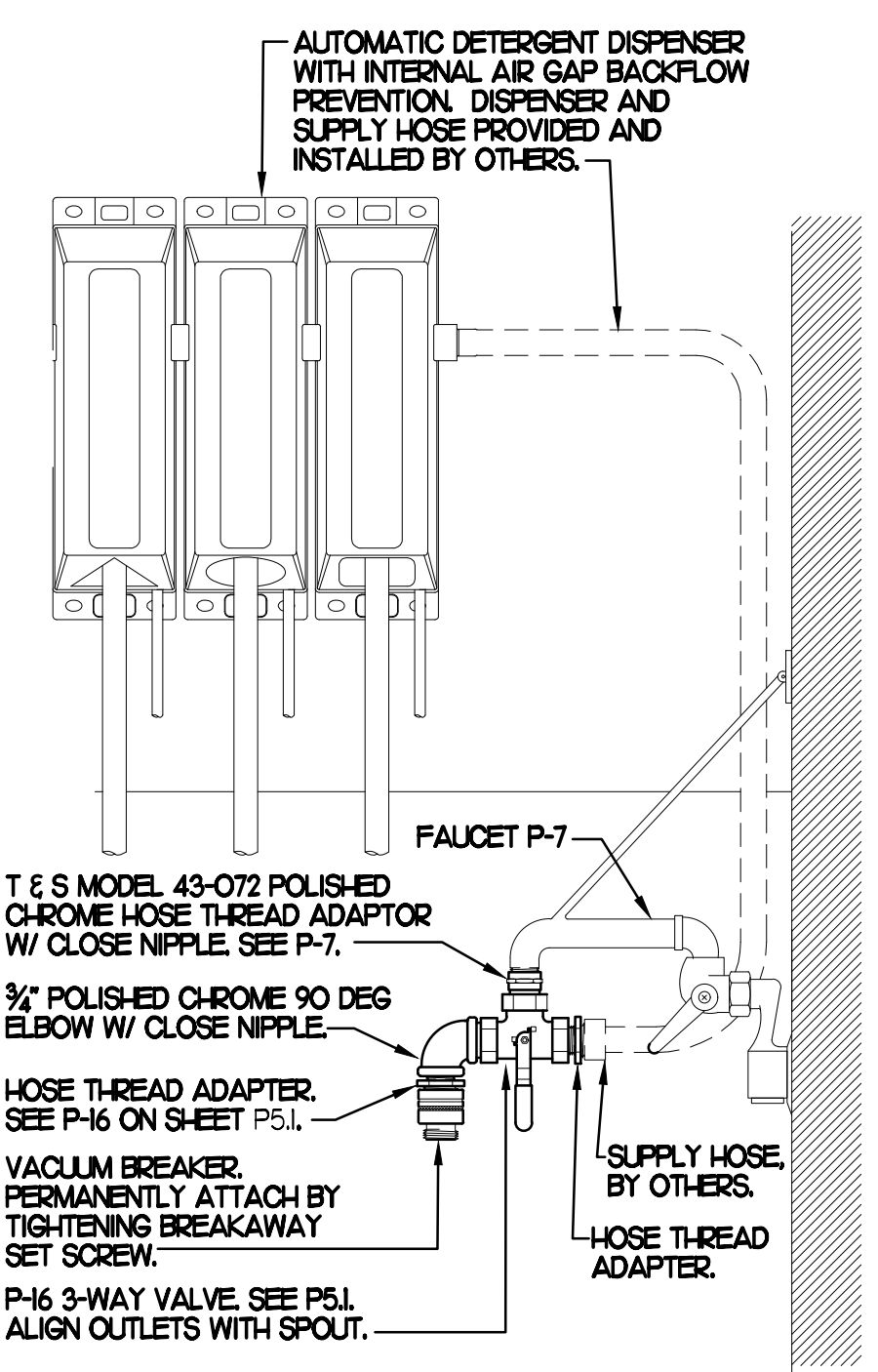
REMARKS:
1) EQUIVALENT TO 1549.0 CFH
2) 7" W.C. DELIVERY PRESSURE
3) DEVELOPED LENGTH 150 FT. (METER TO AC#5), 250 FEET TO 6IN AT P22' ORDER CANOPY.
4) VERIFY GAS LOAD OF EXISTING EQUIPMENT.



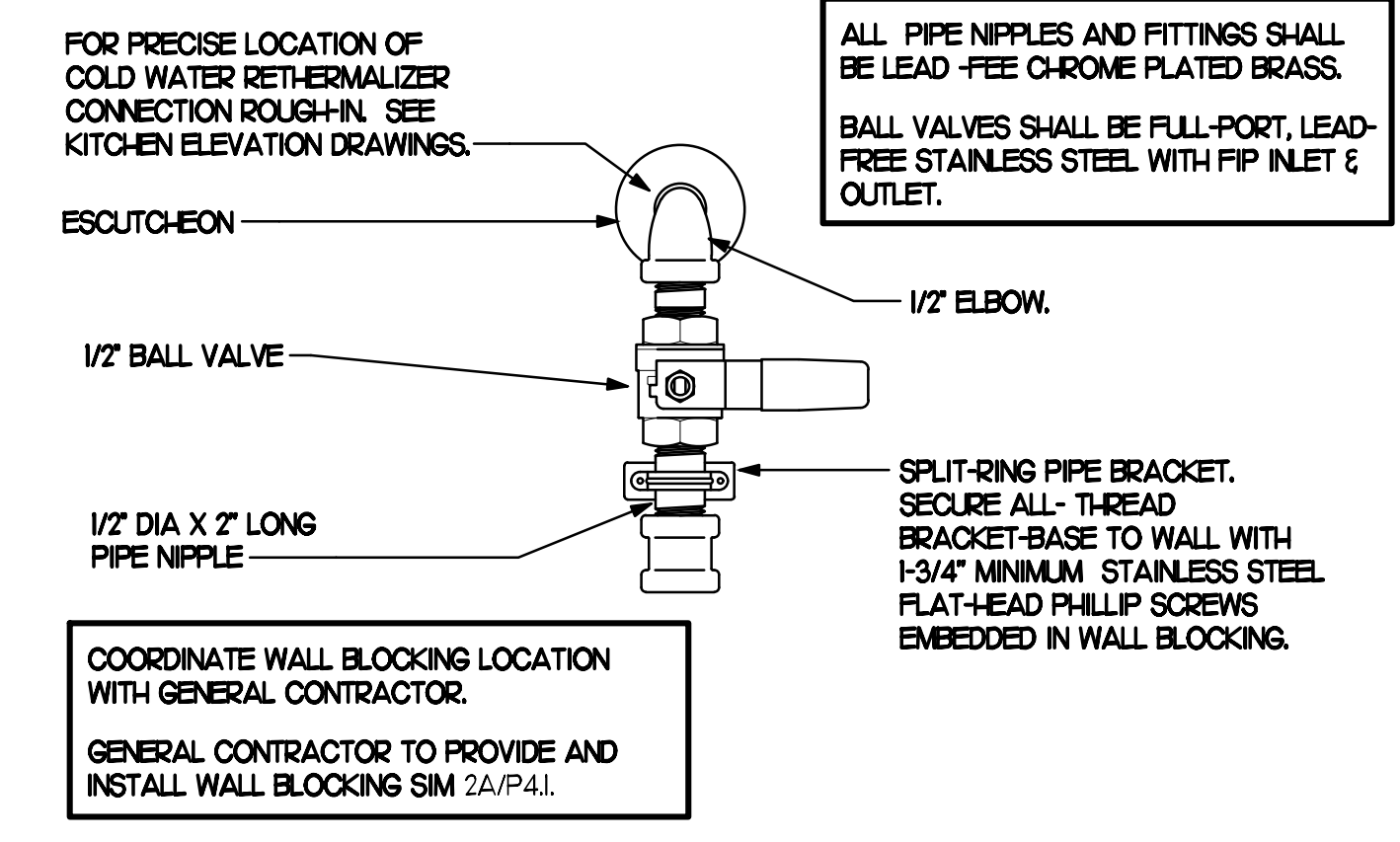
3 ICE MACHINE PIPING
SCALE: NONE



2A SECTION AT PIPING WITHIN WALL
SCALE: NONE



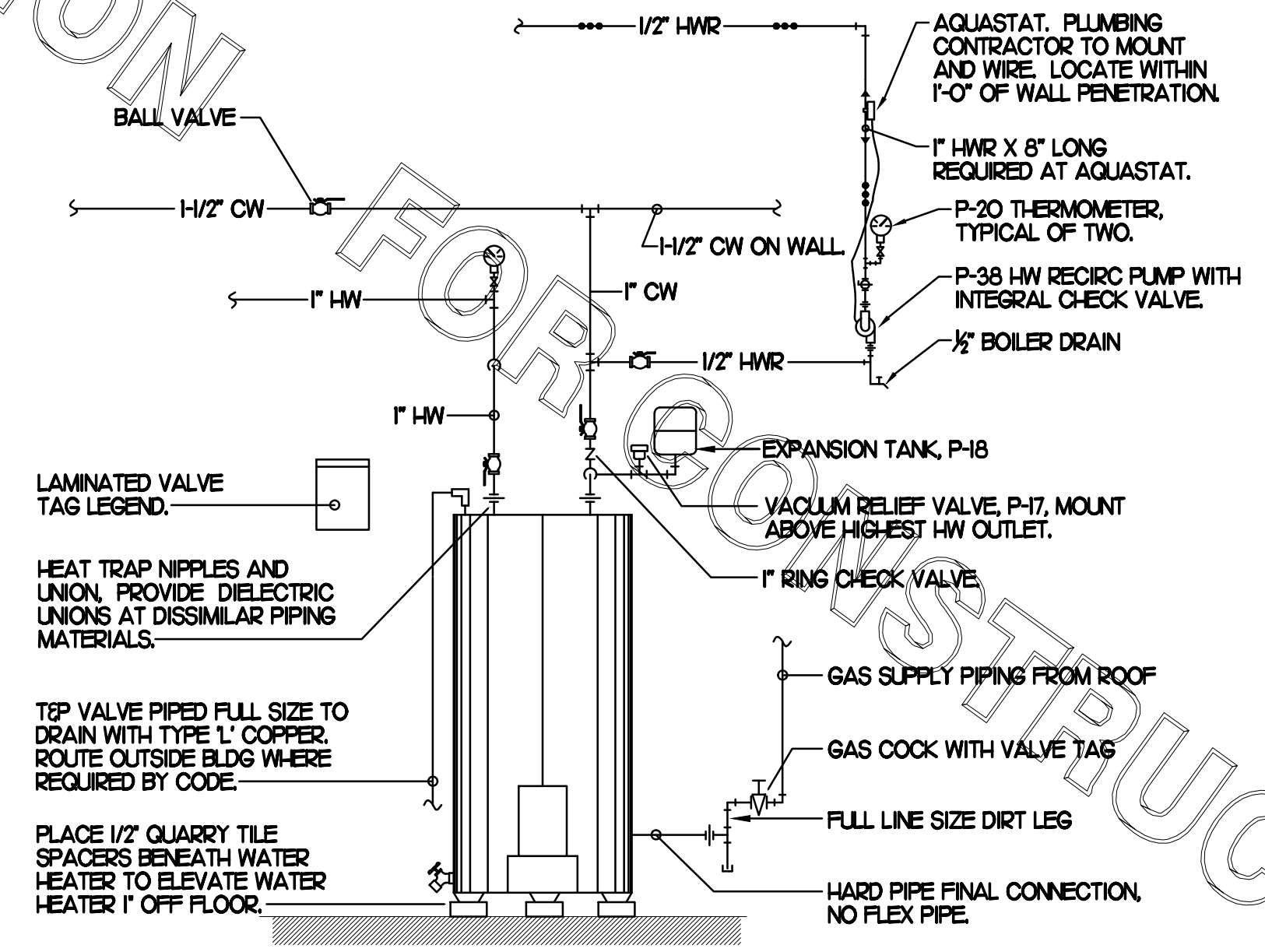
4 3-WAY VALVE AT MOP SINK
SCALE: NONE



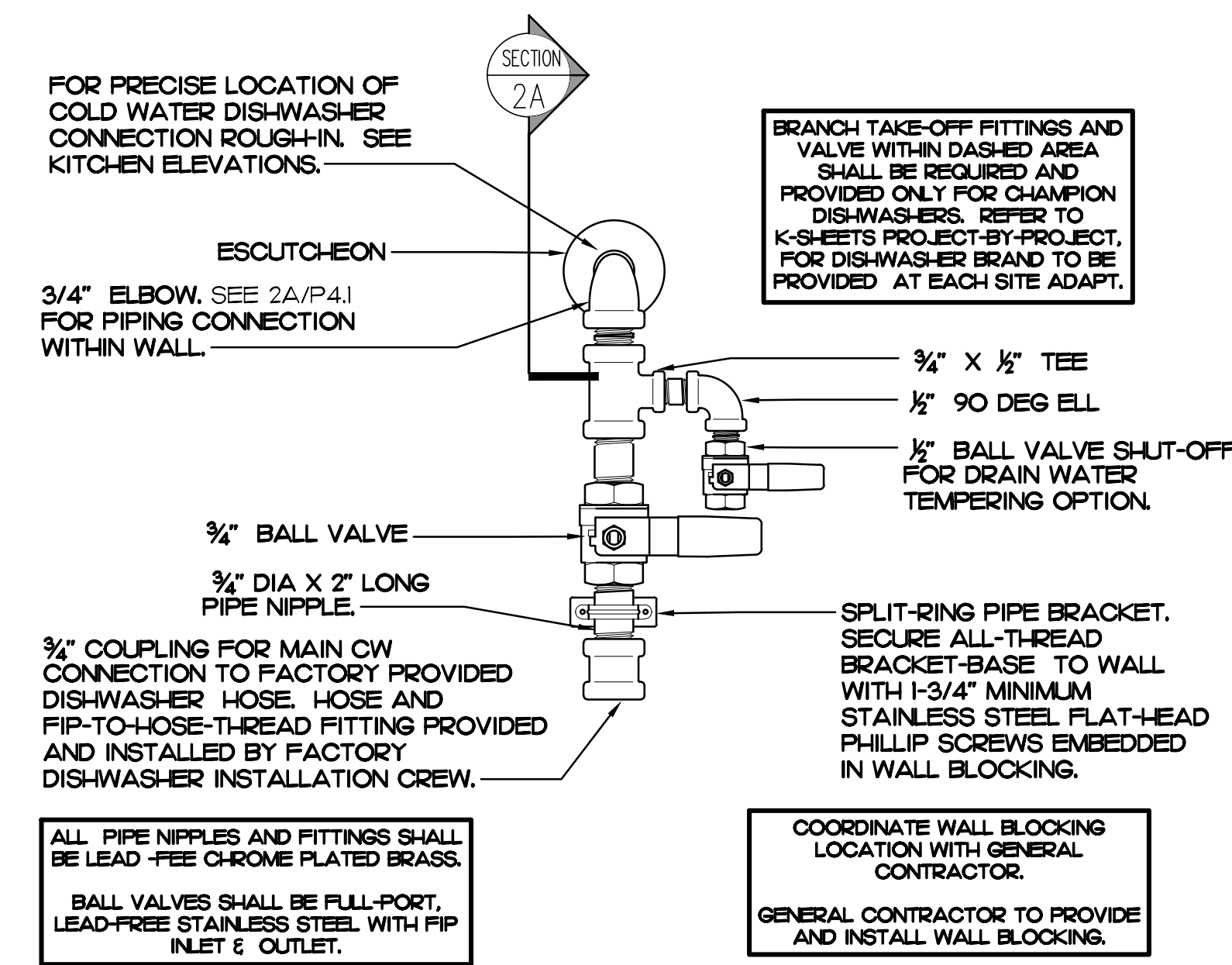
1 RETHERMALIZER WATER SUPPLY VALVE
SCALE: NONE

NOTE TO WATER HEATER INSTALLER:

1 POSITION VALVES AND TRIM IN MECH ROOM SUCH THAT VALVES AND TRIM ARE UNOBSTRUCTED TO VIEW AND SO THAT ACCESS FOR OPERATION OR REPAIR IS POSSIBLE WITHOUT USE OF STEP LADDERS OR NEED TO DISASSEMBLE ANY COMPONENTS.



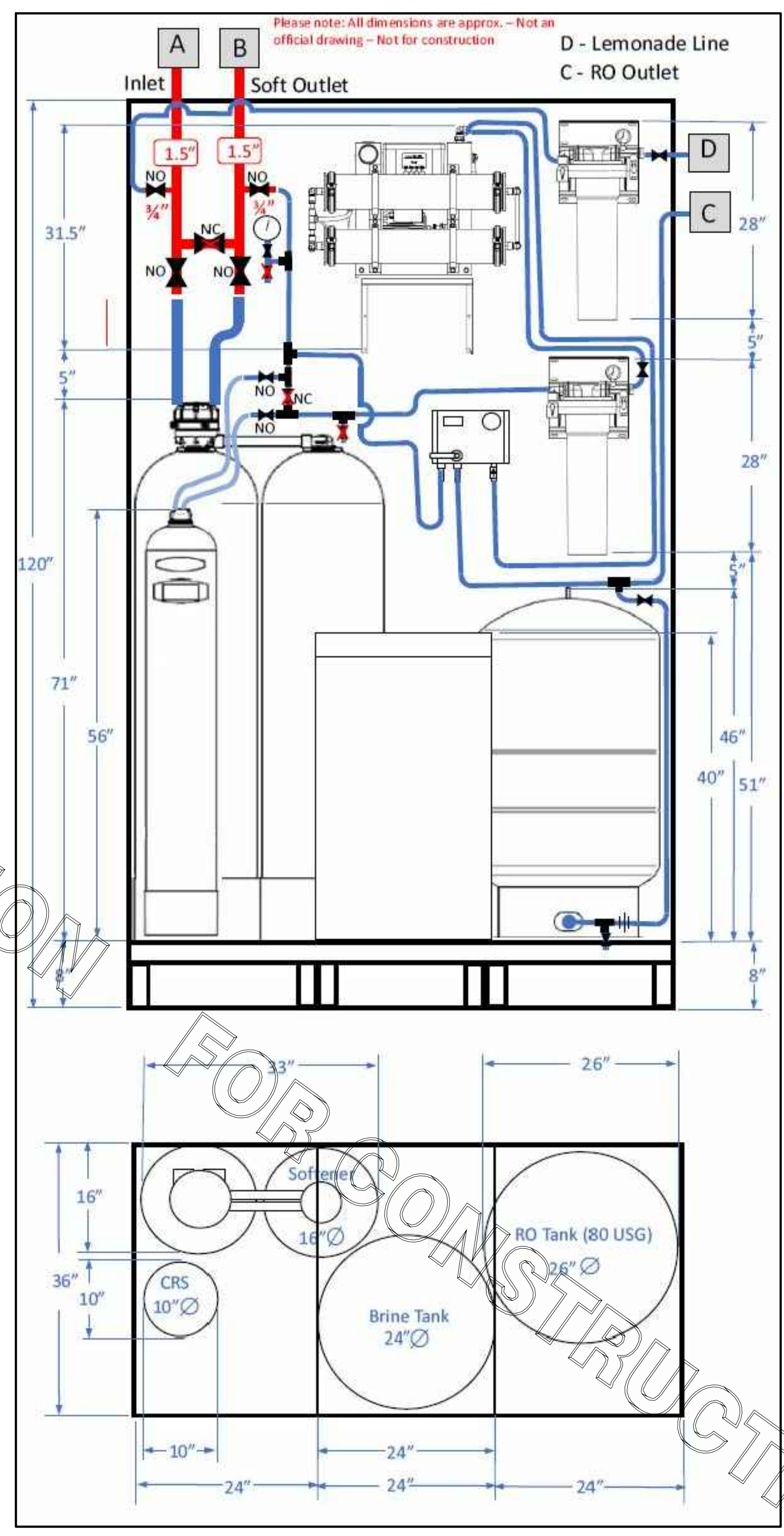
5 WATER HEATER & PIPING DETAIL
SCALE: NONE



2 DISHWASHER WATER SUPPLY VALVE ASSEMBLY
SCALE: NONE

WATER FILTRATION SYSTEM NOTES:

- 1 PLUMBING CONTRACTOR IS RESPONSIBLE FOR PROVIDING WATER CONNECTIONS (INLET & OUTLET SIZED PER DETAIL, 3-WAY VALVE BYPASS, CAPPED FILTERED WATER LINES TO OUTLET OF OWNER PROVIDED & INSTALLED KINETICO WATER SOFTENER/FILTRATION SYSTEM. SEE DETAIL BELOW FOR NUMBER OF LINES AND PIPE SIZES.
- 2 PLUMBING CONTRACTOR IS RESPONSIBLE FOR WATER FILTER CONNECTIONS FROM PROTOTYPICAL TI FILTRATION SYSTEM (#360). SEE DETAIL.
- 3 PLUMBING CONTRACTOR SHALL REVIEW DESIGNNOTE 2020-07 AND SYSTEMS TYPE GUIDE DEVELOPED BY CFA AND KNETICO.



6 TYPE E - BEVERAGE TOWER / COFFEE-TEA / ICE RO + TYPE B SOFTENER
SCALE: NONE



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SHEET PLUMBING DETAILS
SHEET NUMBER

I. SECTION CIS100 - PLUMBING SPECIFICATIONS

PART I - PRODUCTS (C15100)

1.01 GENERAL REQUIREMENTS

A. THE FOLLOWING SPECIFICATIONS ARE THE MINIMUM REQUIREMENT. WHERE FEDERAL, STATE OR LOCAL REQUIREMENTS DIFFER FROM THIS SPECIFICATION, THE MORE RESTRICTIVE OF THE TWO SHALL BE FOLLOWED.

1.02 SCOPE

A. HOT AND COLD POTABLE WATER PIPING ABOVE SLAB SHALL BE TYPE "L" HARD DRAWN COPPER OR FLOWGUARD GOLD CPVC AS MANUFACTURED BY NIBCO OR CHARLOTTE PIPE & FOUNDRY AND MEETING ASTM D-2846. FILTERED WATER PIPING SHALL BE FLOWGUARD GOLD CPVC. HOT AND COLD PIPING WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE COPPER.

B. POTABLE WATER PIPING BELOW SLAB AND OUTSIDE BELOW GRADE SHALL BE TYPE "K" SOFT ANNEALED SEAMLESS. NO JOINTS SHALL BE ALLOWED BELOW SLAB. POTABLE WATER PIPING BELOW GRADE SHALL BE SLEEVED FOR ITS ENTIRE LENGTH WITH POLY SLEEVE AS MADE BY IPS WATER-TITE. ALL SLAB PENETRATIONS SHALL BE SLEEVED WITH POLY SLEEVE TO PROTECT PIPING FROM CORROSION BY CONCRETE.

C. COPPER PIPE FITTINGS SHALL BE WROUGHT COPPER SWEEP FITTING FITTINGS SOLDERED USING 95-5 LEAD-FREE SOLDER MEETING ASTM B-32 OR BRAZED WITH SIL-FOS. SOLDER FLUXES SHALL MEET ASTM B-813 AND SHALL BE LEAD FREE. BRAZING FLUXES SHALL MEET AWS B3.1 OR F55-C.

D. WATER PIPING DOWNSTREAM OF SOFT DRINK CARBONATORS SHALL BE PROVIDED AND INSTALLED BY LOCAL SOFT DRINK VENDOR.

E. CPVC FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE MEETING ASTM D-2846 WITH CEMENTS MEETING ASTM F-493 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. FOR CPVC PIPING INSTALLATION, WALL STUBS AT FIXTURES AND EQUIPMENT SHALL BE COPPER AND SHALL BE SERIES 630-C. CPVC TO COPPER STUB OUT ELBOWS WITH SIOUX CHIEF.

F. NIPPLES, ELBOWS, AND OTHER ACCESSORY FITTINGS REQUIRED TO COMPLETE ANY WATER PIPING CONNECTION SHALL BE BRASS OR OF SIMILAR TYPE METAL AS THE FITTING TO WHICH IT IS CONNECTED. GALVANIZED FITTINGS ARE PROHIBITED. (EXCEPTION: GALVANIZED HEAT TRAP WATER HEATER NIPPLES IF INTERNALLY PROTECTED WITH TEFLON OR POLYMER CORROSION-RESISTANT COATING.)

G. ALL HVAC CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-1784, D-1785 AND D-2665.

H. U.N.O. ALL SANITARY WASTE, VENT, STORM DRAINAGE PIPING AND FITTINGS INSIDE THE BUILDING, ABOVE AND BELOW GRADE, AND FOR ROOFTOP CONDENSATE, SHALL BE SOLID WALL SCHEDULE 40 PVC DWV AS MANUFACTURED BY CHARLOTTE PIPE AND MEETING ASTM D-2665 AND D-2949. FOAM CORE AND/OR CELLULAR CORE PVC PIPING SHALL NOT BE ALLOWED. PVC PIPING OUTSIDE THE BUILDING, BELOW GRADE, SHALL BE TYPE SDR-35 MEETING ASTM D-3034, U.N.O.

I. DWV PIPE AND FITTINGS WITHIN WALLS BEHIND KITCHEN HOODS SHALL BE SERVICE WEIGHT HUBLESS CAST IRON WITH SLEEVE, SHIELD, AND DRAWNBAND JOINTS MEETING ASTM A-888 AND ASTM C-564.

J. PVC-DWV FITTINGS FOR PIPING SHALL BE SOLVENT WELD TYPE INSIDE AND UNDERSLAB MEETING ASTM D-2665, D-3311 AND F-186. CEMENTS SHALL MEET ASTM D-2564 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. EXTERIOR PIPING JOINTS SHALL BE NEOPRENE PUSH-ON TYPE.

K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 1/2" THICK INSULATION FOR ALL ABOVE SLAB COLD WATER, FILTERED WATER, CONDENSATE PIPING, AND HORIZONTAL RAIN WATER CONDUCTORS INSIDE THE BUILDING. PIPING INSULATION SHALL BE KNAUF 100F 25/50 FIBERGLASS PIPE COVERING, WHITE KRAFT PAPER VAPOR BARRIER (0.2 PERMS) BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBERS. MAXIMUM THERMAL CONDUCTIVITY OF 0.23 AT 75F. LONGITUDINAL LAP SHALL BE SELF SEALING. INSULATION FOR WALK-IN COOLER/FREEZER CONDENSATE PIPING SHALL BE ARMACELL AP ARMAFLEX WITH MINIMUM 1/2" WALL THICKNESS.

L. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NOT GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED. THE ONLY EXCEPTION SHALL BE ARMAFLEX AP, WHEN SPECIFIED, WHICH SHALL NOT EXCEED 100 SMOKE DEVELOPED.

M. A PVC 25/50 PRE-FORMED COVER SHALL BE PROVIDED AT ALL INSULATED PIPING FITTINGS EQUAL TO PROTO PVC CORP LOSMOKE, 800-875-7788.

N. ALL NATURAL GAS PIPING SHALL BE SCHEDULE 40 BLACK STEEL MEETING ASTM A53 WITH SCREWED OR WELDED FITTINGS AND GASKET TYPE UNIONS AND FLANGES. FOR SCREWED PIPING, RIPS SHALL BE JOINED WITH BLACK 150 POUND MALLEABLE IRON SCREWED FITTINGS AS ALLOWED BY LOCAL AUTHORITY. CONTRACTOR SHALL VERIFY THE NEED FOR WELDED PIPING AS REQUIRED BY THE LOCAL GAS CODE AND/OR APPLICABLE LOCAL ORDINANCES AND AMENDMENTS.

O. EXPOSED SUPPORTS AND ATTACHMENTS SHALL BE STAINLESS STEEL, CHROME OR CHROME PLATED. GALVANIZED ATTACHMENTS WILL NOT BE ACCEPTED.

P. USE MATERIALS SPECIFIED ON THESE PLANS. SUBSTITUTIONS ARE ALLOWED ONLY IF SPECIFIED MATERIALS ARE UNAVAILABLE. PRODUCT SUBSTITUTIONS WILL NOT BE ACCEPTED WITHOUT PRIOR APPROVAL. ALL WATER PIPING, FITTINGS, FIXTURES AND ACCESSORIES SHALL BE CERTIFIED LEAD FREE AS DEFINED IN, AND PER THE INTENT OF, THE "REDUCTION IN LEAD IN DRINKING WATER ACT".

PART II - EXECUTION (C15100)

2.01 TRENCHING (C15100)

A. EXCAVATION, BACKFILLING, AND TRENCH WORK SHALL BE DONE IN ACCORDANCE WITH LATEST O.S.H.A. AND APPLICABLE SAFETY STANDARDS.

B. PROVIDE NECESSARY SHORING AND CLEANING TO KEEP TRENCHES IN GOOD WORKING CONDITION, INCLUDING PUMPING OUT WATER.

C. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE GRAVEL. GRAVEL SHALL BE REMOVED FROM UNDER PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

D. IN MOSTLY EARTH OR SAND MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH FINE SAND OR GRAVEL. TRENCH BOTTOM SHALL BE REMOVED AT PIPE BELLS SO THE PIPE RESTS FIRMLY ON THE TRENCH BOTTOM.

E. BACKFILLING AND TAMPING SHALL BE CAREFULLY DONE BY HAND SIMULTANEOUSLY ALONG BOTH SIDES OF THE PIPE USING ROCK FREE EARTH, CRUSHED STONE OR SAND UNTIL THE PIPE IS COVERED TO A DEPTH OF AT LEAST 12". BACKFILL SHALL BE ACCOMPLISHED IN SUCCESSIVE 6" LAYERS. THE REST OF THE

FILL-UP TO THE TOPSOIL LAYER MAY BE GRAVEL OR ROCK FREE EARTH.

F. ACCEPTABLE SOIL MATERIALS FOR BACKFILL AND FILL SHALL BE FREE OF CLAY, ROCK OR GRAVEL LARGER THAN 2" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS AND OTHER DELETERIOUS MATTER HAVING A PLASTICITY INDEX LESS THAN 30. BACKFILL SHALL BE ACCOMPLISHED IN LAYERS OF NOT MORE THAN 6" AND EACH LAYER SHALL BE COMPACTED. THE LAST 12" OF BACKFILL SHALL BE ROCK FREE TOPSOIL.

G. SURFACE SHALL BE RESTORED TO ITS ORIGINAL CONDITION.

2.02 INSTALLATION (C15100)

A. WATER PIPING IN EXTERIOR WALL SHALL BE INSTALLED ON THE HEATED SIDE OF WALL INSULATION.

B. EXPOSED HOT AND COLD WATER TRIM FITTINGS AND ACCESSORIES IN FINISHED AREAS SHALL BE CHROME FINISHED.

C. ACCEPTABLE METHODS OF PIPE SUPPORT WITHIN WALLS SHALL BE THE SUMNER SYSTEM, POSIFIX, STAKFIX, PIPEFIX, HOLDRITE OR CHANNEL.

D. PROVIDE J.R. SMITH OR APPROVED EQUAL SHOCK ABSORBERS #5005 THRU 5050 SIZE AS RECOMMENDED BY MANUFACTURER. INSTALLED ON HOT AND COLD WATER BRANCH LINES CONTAINING SINGLE LEVER FAUCETS, FLUSH VALVES OR EQUIPMENT WITH QUICK CLOSING VALVES BETWEEN THE LAST TWO FIXTURES AS SHOWN ON THE CONTRACT DRAWINGS. SHOCK ABSORBERS SERVING FIXTURES WITH FLUSH VALVES SHALL BE SECURELY ANCHORED IN THEIR VERTICAL POSITION.

E. SANITARY WASTE LINES SHALL BE UNIFORMLY GRADED TO ELEVATIONS SHOWN. IF NO ELEVATIONS ARE GIVEN, SEWERS SHALL BE PITCHED NOT LESS THAN 1/4" PER FOOT FOR ALL PIPING 2-1/2" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR ALL PIPING 3" IN DIAMETER AND LARGER.

F. STORM PIPING SHALL BE SLOPED AT 1/8" PER FT (2%) UNLESS NOTED OTHERWISE ON PLANS.

G. SUPPORT HORIZONTAL PIPING ACCORDING TO LOCAL PLUMBING CODE. HANGER RODS SHALL BE SIZED AS FOLLOWS:

NOMINAL PIPE SIZE (IN)	MINIMUM HANGER DIAMETER (IN)
1/2	3/8
3/4 TO 1-1/2	3/8
2 TO 2-1/2	3/8
3 TO 6	1/2

H. HANGERS FOR PIPING GREATER THAN 1" SHALL PASS OVER THE INSULATION. PROVIDE SADDLES FOR INSULATED PIPING.

I. INSULATION SHALL BE APPLIED WITH JOINTS TIGHTLY BUTTED. OPEN CRACKS, VOIDS AND DEPRESSIONS SHALL BE FILLED WITH HYDRAULIC SETTING GEMENT. LAPPING MATCHING THE FINISH SHALL BE PASTED NEATLY OVER JOINTS. FITTINGS AND VALVES SHALL BE INSULATED WITH THE SAME TYPE.

J. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE QUIT LEG AT CONNECTION TO EACH GAS-FIRED PIECE OF EQUIPMENT. INSTALL PIPING AT AND AROUND EQUIPMENT SO AS TO NO WAY OBSTRUCT EQUIPMENT ACCESS PANELS AND/OR ACCESS DOORS.

K. COORDINATE ABOVE-CEILING PIPING LOCATIONS AND ROUTING WITH HVAC CONTRACTOR AND M-SHEETS PRIOR TO INSTALLATION. ALL MAIN DUCT TRUNK LOCATIONS SHALL TAKE PRIORITY. PIPING MAY REQUIRE REMOVAL AND REINSTALLATION AT PLUMBING CONTRACTOR'S EXPENSE IF PIPING OBSTRUCTS THE M-SHEET DUCT LAYOUT AS SHOWN OR PREVENTS ACCESS TO GREASE DUCT CLEANOUT OPENINGS.

L. ALL GAS PIPING ABOVE ROOF SHALL BE CLEANED FREE OF RUST AND PAINTED WITH COAT OF ZINC RUST PRIMER AND ONE COAT OF ALUMINUM BASE PAINT. METER AND GAS RISER SHALL BE PRIMED AND PAINTED TO MATCH BUILDING. APPLY TWO COATS OF ASPHALTUM BASE PAINT TO PIPING BURIED UNDERGROUND.

2.03 TESTING (C15100)

A. POTABLE WATER PIPING SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

B. THE POTABLE WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FLOWING WATER UNTIL IT RUNS CLEAR. AFTER PIPE CLEANING IS COMPLETED, THE STRAINERS SHALL BE REMOVED, CLEANED, AND REPLACED. THEN THE ENTIRE POTABLE WATER SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION.

C. THE SANITARY WASTE SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY WITH FLOWING WATER UNTIL IT RUNS CLEAR.

D. THE ENTIRE SANITARY WASTE SYSTEM AND STORM DRAINAGE SYSTEM SHALL BE PRESSURE TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

E. NATURAL GAS PIPING SHALL BE LEAK TESTED IN ACCORDANCE WITH APPLICABLE CODE REQUIREMENTS AND MANUFACTURERS RECOMMENDATIONS.

PART III - MANUFACTURERS

3.01 PRODUCTS - PIPING SYSTEMS, ETC (C15100)

A. HYDRANTS, CARRIERS, DRAINS, AND SHOCK ABSORBERS: ZURN. ACCEPTABLE ALTERNATES: JAY R. SMITH, JONES STEPHENS CORP, WATTS, OR JOSAM.

B. ALTERNATES TO ZURN (ZRN) FIXTURES: ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH (JRS), WATTS (WTS), MODEL NUMBERS LISTED ON FIXTURE SCHEDULE, THIS SHEET.

3.02 PRODUCTS - RESTROOM FIXTURES PORCELAIN & VALVES (C15405)

A. PREFERRED FIXTURES: TOTO. NO EXCEPTION.

B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS.

C. FITTINGS: AS SPECIFIED ON THE PLANS. NO SUBSTITUTIONS ALLOWED.

D. FLUSH VALVES AND LAVATORY FAUCETS: TOTO MANUFACTURING. NO SUBSTITUTIONS ALLOWED.

E. PREFERRED TOILET SEATS: TOTO. ALTERNATE TOILET SEATS: CHURCH, BEMIS, AND BENEKE.

F. FLOOR SINKS: ZURN WITH ALUMINUM SEDIMENT BUCKETS. NO SUBSTITUTIONS ALLOWED.

2. PLUMBING FIXTURES

RESTROOM FIXTURES (C15405)

P-1 WATER CLOSET: TOTO MODEL CT705LJN01 BOWL WITH 128 GPF TETIL320CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE, VITREOUS CHINA, 1/2" TOP SPUD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE, CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-2 WATER CLOSET (ADA): TOTO MODEL CT705LJN01 BOWL WITH 128 GPF TETIL320CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. HC, ACCESSIBLE, WHITE, FLOOR MOUNTED, 17-1/2" HIGH, FLUSH VALVE TYPE, VITREOUS CHINA, 1/2" TOP SPUD, ELONGATED BOWL, ELECTRONIC SENSOR OPERATED HANDS-FREE FLUSH VALVE, WHITE OPEN FRONT SEAT WITH CHECK HINGE, CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-3 URINAL: TOTO MODEL UT445LJ01 URINAL WITH TEULI420CP 0125 GPF SELF SUSTAINED HYDROPOWER SELF-GENERATING ELECTRONIC SENSOR-OPERATED FLUSH VALVE NO SUBSTITUTIONS. VITREOUS CHINA, 3/4" TOP SPUD, SENSOR OPERATED WITH MANUAL OVERSIDE BUTTON, INTERNAL VALVE FILTER PROTECTION. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

P-4A LAVATORY FAUCET: BUILT-IN COUNTERTOP LAVATORY PROVIDED BY OWNER; TOTO MODEL TELI05-DIC0ETCP ECO-POWER SENSOR HOT/COLD FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET. 0.02 GALLONS PER CYCLE. NO SUBSTITUTIONS. PROVIDE MCGUIRE LFT75 SUPPLY WITH STOP. MCGUIRE 85720 GRID DRAIN WITH OFFSET TAILPEACE MCGUIRE 85720 POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. PROVIDE A TLEBROO INC. HANDI LAY-GUARD INSULATION KIT MODELS IOEZ AND IOSEZ. CHICK-FIL-A HAS NATIONAL ACCOUNTS WITH TOTO. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO FIXTURES.

PLUMBING (C15100)

P-5 KITCHEN HAND SINK ROUGH-IN (SINK BY TMS) FAUCET: TOTO MODEL #TEL05-C20ETCP - PROVIDED WITH TP3094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT75 SUPPLIES WITH STOPS AND A MCGUIRE 8912C POLISHED CHROME P-TRAP. ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F (OR HIGHER AS REQUIRED BY LOCAL JURISDICTION).

P-5A KITCHEN DUMP SINK ROUGH-IN (SINK BY TMS) FAUCET: TMS MODEL #H446-CFA-VF05 - PROVIDED WITH TP3094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT75 SUPPLIES WITH STOPS. PROVIDE MCGUIRE 8912C POLISHED CHROME P-TRAP PROVIDED BY HJC.

P-6 SERVING COUNTER DROP IN SINK ROUGH-IN (SINK BY CLAYTON FIXTURE) FAUCET: TMS EC-3100-7X7176 WITH 1.0 GPM AERATOR. CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE A MCGUIRE 8912C POLISHED CHROME P-TRAP AND MCGUIRE LFT75R20 SUPPLIES WITH STOPS WITH 20" CHROME PLATED 3/8" COPPER RISERS. ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F (OR HIGHER AS REQUIRED BY LOCAL JURISDICTION).

P-7 MOP SINK FAUCET: MOP SINK BASIN BUILT BY GENERAL CONTRACTOR; PROVIDE TMS BRASS MODEL B-2345 FAUCET WITH CERRAMA SPRING CHECK VALVE CARTRIDGES, HOSE THREADED SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TO 8", INCLUDE TMS BRASS MODEL 43-072 HOSE THREADED X 3/4" FEMALE NPT CHROME ADAPTER. NO SUBSTITUTIONS. SEE ALSO P-16.

P-8 VEGETABLE PREP SINK ROUGH-IN (SINK BY TMS) FAUCET: TMS B-0152-14-CR2CT WITH 0.65 GPM SPRAY HEAD. CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT08 STOPS AND BRASS CRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC. ASSEMBLE AND MOUNT TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1/2" SCH 40 PVC PIPE AND FITTINGS IN INDIRECT WASTE LINES FROM EACH SINK BASIN TO FLOOR SINK. P-13B, NO P-TRAPS. HJC TO PROVIDE FISHER #2209 DRAINS WITH FLAT STRAINERS.

P-9 FOUR COMPARTMENT POT SINK ROUGH-IN (SINK BY TMS) FAUCETS: TMS B-0152-14-CR2CT & 82099-CR WITH 0.65 GPM SPRAY HEAD. CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS, AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFT08 STOPS AND BRASS CRAFT 36" CHROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH SPOUT AT BASE OF PRE-RINSE RISER. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1/2" SCH 40 PVC PIPE AND FITTINGS IN INDIRECT WASTE LINES FROM EACH SINK BASIN TO FLOOR SINK. P-13A, NO P-TRAPS. HJC TO PROVIDE FISHER #2209 DRAINS WITH FLAT STRAINERS.

P-10 FLOOR DRAIN (3") ZURN E21-PV3-R8 BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: JONES STEPHENS CORP D59-144.

P-11 WALL HYDRANT (NON-FREEZE): WOODFORD MODEL 67C AUTOMATIC DRAINING WALL HYDRANT WITH DUAL CHECK BFP, ASSE 1052 APPROVED, WALL CLAMP, POLISHED BRASS FINISH, 'C' STYLE INLET. SEE WALL HYDRANT NOTES ON I/P-201 FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) HY-42.

P-12 FUNNEL DRAIN (3") ZURN MODEL ZN415-3N-3L-6S-4 FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE STRAINER WITH 4" ROUND FUNNEL AT WALK-IN COOLER. 4" ROUND FUNNEL. ZURN ZN828-A.

P-13A FLOOR SINK (POT SINK) ZURN MODEL Z1901-4N-1-23-KC CAST IRON INDIRECT WASTE RECEIVER WITH 12" SQUARE BODY, FLASHING CLAMP, 8" DEEP, ALUMINUM SEDIMENT BUCKET, AND NO GRATE NO SUBSTITUTIONS.

P-13B FLOOR SINK (VEGETABLE SINK) ZURN MODEL Z1901-N-1-23-KC CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE NO SUBSTITUTIONS.

P-13C FLOOR SINK (DUMP SINK) 3" WASTE CONNECTION ZURN MODEL Z1901-N-KC-2-23-KC CAST IRON BODY WITH INDIRECT WASTE RECEIVER, NEO-LOC OUTLET, ANCHOR FLANGE WITH SEEPAGE HOLES AND CLAMP COLLAR, WITH HALF GRATE, AND ALUMINUM BUCKET. PROVIDE BY HJC. NO SUBSTITUTIONS.

P-14 CLEANOUTS INSIDE BUILDING ZURN ZN400-XN-T-BP CLEANOUT WITH 6" SQUARE NICKEL BRONZE TOP AND TAPER THREADED BRONZE PLUG. SEE PLAN FOR SIZE, (X-PIPE DIA).

P-15 CLEANOUTS OUTSIDE BUILDING ZURN Z1474-NX EXTRA HEAVY DUTY CAST IRON CLEANOUT, 'CO.' CAST IN COVER, ABS PLUG, NEO-LOC OUTLET, (X-PIPE DIA). ALT: ZURN Z1474-X-N

P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH 3/4" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS 3/4" MIP X 3/4" MALE GARDEN HOSE THREADED ADAPTERS PLUMBEST MODEL 620-H03 OR EQUAL. PROVIDE WITH ONE ASSE 1011 APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 34H-CH OR EQUAL) FOR INSTALLATION AT MOP SINK. SEE DETAIL ON P41. PROVIDE ALSO TWO 3/4" GLOBE CHROME PLATED BRASS NIPPLE AND 3/4" POLISHED CHROME 90 DEGREE ELBOW.

P-17 VACUUM RELIEF VALVES WATTS MODEL #LFR16M, 3/4" CONNECTION.

P-18 EXPANSION TANK: AO SMITH MODEL TW12-5, ACCEPTANCE 219 GALLONS AT 40 PSI PRECHARGE, 3/4" CONNECTION. ALTERNATE MODELS SIZED PER WATER HEATER MANUFACTURER RECOMMENDATIONS ARE ACCEPTABLE.

P-19 WATER HEATER: BRADFORD-WHITE EF-60T-199E-3N STORAGE TYPE GAS FIRED 60 GALLON WATER HEATER, 199 MBH INPUT, 276 GPM RECOVERY AT 80F RISE, DIRECT VENT, BLOWER POWERED, CONDENSING TYPE WITH THREE-YEAR WARRANTY, CONTRACTOR TO PROVIDE DIELECTRIC HEAT TRAP NIPPLES AND CONCENTRIC VENT TERMINATION KIT. STATE INDUSTRIES SLE-100-199-ME, BHEM GLE80-190, AND BRADFORD WHITE EF-60T-199-3N MODELS ARE ACCEPTABLE SUBSTITUTES.

P-20 THERMOMETER: PROVIDE TRERICE MODEL B83404 - 04 3" DIAL TYPE THERMOMETER WITH BOTTOM 1/2" NPT. CONNECTION, 4" STEM AND 0 DEG F TO 200 DEG F RANGE. LEAD FREE.

P-21 BACKFLOW PREVENTERS: COORDINATE LOCATION WITH CIVIL SITE UTILITY PLAN. BACKFLOW PREVENTER TYPE AND MODEL IS DETERMINED BY CIVIL ENGINEER IF LOCATED OUTSIDE THE BUILDING.

DOUBLE CHECK TYPE: WATTS NO. LFUC07M0T 1/2" DUAL CHECK MODULAR TYPE BACKFLOW PREVENTER MEETING ASSE 1016 AND AWWA C510-92. WHERE REQUIRED BY LOCAL AUTHORITY, USE THE RPZ TYPE BFP 8-10IN BELOW. ALT: (ZURN) IJ-350XL

REDUCED PRESSURE ZONE (RPZ) TYPE: WATTS NO. LFUC09M2 1/2" MODULAR TYPE WITH TEST PORTS AND INTERMEDIATE RELIEF VALVE MEETING ASSE 1016 AND AWWA 511-89. PROVIDE WATTS NO. 909-AG-C AIR GAP DEVICE. ALT: (ZURN) IJ-975XLTL

P-22 MOP SINK CHECK VALVES: TMS BRASS 1/2" MODEL B-CVH-2 BALL CHECK.

P-23 UTILITY CONNECTION (ICE MAKER): PROVIDE A MCGUIRE MODEL LF-H5T06SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BFP P-34. SEE DETAIL ON P41 FOR PIPING AT ICE MAKERS.

P-24 UTILITY CONNECTION (COFFEE & TEA BREWERS): PROVIDE A MCGUIRE MODEL LF-H5T06SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET & OUTLET. PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BFP P-34.

P-25 SHOCK ABSORBER: ZURN Z1700-100 THRU Z1700-300 AS NEEDED, SIZE AS RECOMMENDED BY MANUFACTURER. ALT: (WTS) SSA + SSB, URS 5005 THRU 5050.

P-26 FUNNEL DRAIN (3") ZURN ZN415-3N-3L-6S-4 FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" ROUND STRAINER WITH 3.25"X8.25" OBLONG FUNNEL. ALT: (URS) 3510L05-PZ2B.

P-26A TRAP SEAL PROTECTOR: PROVENT TRAP GUARD MODEL TG34 3" TRAP SEAL INSERT FOR INTERIOR INSTALLATION AND REPLACEMENT. ACCESS THROUGH STRAINER. PROVIDE AS NOTED ON P.11. PROVIDE PROSET MODEL TG33-ZURN WHEN USING ZURN FLOOR FIXTURES.

P-27 WATER PRESSURE GAUGE: TRERICE MODEL 800B, 2-1/2" ROUND, BOTTOM OUTLET WITH 1/4" NPT. CONNECTION AND 0 TO 100 PSI RANGE.

P-28 ISOLATION BALL VALVE (8-STOP WATER MANIFOLD PANEL) NIBCO MODEL 4660-T, 3/4", WITH IPS INLET AND OUTLET.

P-29A ICE MACHINE TRENCH DRAIN: ZURN/STAINLESS STEEL DRAINS TR12-CFA-18 STAINLESS STEEL TRENCH DRAIN, 14.5" X 18", STAINLESS STEEL SEDIMENT CLIP, AND STAINLESS STEEL SERRATED LADDER GRATE. NO SUBSTITUTIONS.

P-29B ICE MACHINE TRENCH DRAIN: ZURN/STAINLESS STEEL DRAINS TR12-CFA-36 STAINLESS STEEL TRENCH DRAIN, 14.5" X 36", STAINLESS STEEL SEDIMENT CLIP, AND STAINLESS STEEL SERRATED LADDER GRATE. NO SUBSTITUTIONS.

P-30 FILTERED WATER FAUCET: FILTERED WATER FAUCETS: TMS B-0223-0R-063X (KITCHEN FAUCET) & TMS B-0223-0R-063X (DRINKING WATER FAUCET). TWO-HANDLE WALL MOUNT FAUCET WITH SWING SPOUT. MOUNT ON WALL AS SHOWN ON K-SHEETS. PIPE FILTERED WATER TO BOTH SETS OF FAUCET. CONNECT TO SUPPLY PIPING WITH BRASS OR CHROME NIPPLES. GALVANIZED NOT ALLOWED.

P-31 DUMPSTER POST HYDRANT (NON-FREEZE): WOODFORD MODEL Y2 LEVER TYPE POST HYDRANT, 3/4" HOSE CONNECTION, LOCKABLE LEVER HANDLE, BRASS CASING, BRASS OPERATING ROD, ASSE 1052 APPROVED AND 36" DEPTH OF BURT.

P-32 DUMPSTER PAD DRAIN: JR. SMITH FIGURE NO. Z280C03 3" FLOOR DRAIN WITH 7-1/2" HINGED CAST IRON SLOTTED GRATE AND SEDIMENT BUCKET. INSTALLED BY SITE CONTRACTOR. ALT: ZURN Z415E-3N-L.

P-33 TRAP PRIMER (MECHANICAL TYPE): DO NOT USE UNLESS REQUIRED BY LOCAL AUTHORITY. PRECISION PRODUCTS PR-500. PROVIDE DISTRIBUTION LINE SERVICING MULTIPLE DRAINS. PROVIDE SCHEDULEDRIVER STOP AT PRIMER INLET. ALT: (WTS) M-300A-0R.

P-34 DISPENSER BACKFLOW PREVENTER: WATTS MODEL #LFUR2-2 ASSE 1024 RATED WITH 1/2" FIP INLET AND OUTLET, DUAL CHECK TYPE. PROVIDE 1/2" DIA X 2" LONG CHROME NIPPLE AT BFP INLET AND OUTLET. PROVIDE TMS BRASS MODEL B-0110 CHROME WALL BRACKET.

P-35 FLOOR DRAIN (3") ZURN E21-PV3-R6 PVC BODY, BRONZE SPUD WITH 6" DIAMETER NICKEL BRONZE STRAINER. ALT: JONES STEPHENS CORP D50-064.

P-36 BEVERAGE TOWER INDIRECT RECEIVER (3") ZURN E21-PV3-R8 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: JONES STEPHENS CORP D59-144.

P-37 FLOOR DRAIN (3") ZURN E21-PV3-R6 PVC BODY, BRONZE SPUD WITH 6" SQUARE NICKEL BRONZE STRAINER. ALT: JONES STEPHENS CORP D50-077.

P-38 HOT WATER CIRCULATING PUMP: TACO MODEL 006-S07-1FC, 1/2" UNION CONNECTIONS, INTEGRAL FLOW CHECK. ELECTRICIAN TO PROVIDE AND WIRE PLUS AND GND, 1/40 HP, 3 GPM AT 1 FT TOTAL DYNAMIC HEAD, PROVIDE CONTROL WIRING AND HOVEYWELL MODEL L500C016 110 VAC AQUA-STAT, WITH ADJUSTABLE SETPOINT, MOUNTED DIRECTLY ON PIPE. SET SHUT-OFF TEMPERATURE AT 130 DEG F.

P-39 2" PRESSURE REDUCING VALVE: WATTS NO. #LFP23-SB WITH BUILT-IN BYPASS FEATURE. SET NO FLOW CONDITION AT 70 PSI. ALT: (ZURN) SERIES 300AL1SBR.

P-40 WYE STRAINER WITH #100 MESH SCREEN 2" WATTS LF777SMS-2 BRONZE WYE STRAINER WITH THREADED CONNECTION AND TAPPED RETAINER CAP. PROVIDE #100 MESH SCREEN. PROVIDE WATTS 1/2" LFB-D-C BRASS BOILER CONNECTION TO WYE STRAINER. RETAINER CAP OUTLET TAP.

1 KITCHEN EQUIPMENT SCHEDULE - CHICK-FIL-A REMODEL STORE #2131

VERIFY THE QUANTITY AND ROUGH-IN OF EACH EQUIPMENT ITEM WITH THE KITCHEN EQUIPMENT SCHEDULE

SCHEDULE NOTES	EQUIP. NO.	EQUIPMENT DESCRIPTION	ELECTRICAL LOAD				NEMA CONFIG		COOPER/ARROW HART (UON) RECEPTACATOG NO.	WIRE/CONDUIT MARK NO.	COMMENTS AND REMARKS
			VOLTS	PH	WIRES	KW	AMPS	WALL			
	180	ORDER REGISTER (POS)	120	1	2		0.7	5-20R	N/A	IG5362RN (ORANGE)	H-6
	182	RECEIPT PRINTER	120	1	2		0.18	5-20R	5-20R	IG5362RN (ORANGE)	H-6
	182L	LABEL PRINTER	120	1	2		0.18	5-20R	5-20R	IG5362RN (ORANGE)	H-6
NOTE 5	183	ORDER MONITOR	120	1	2		0.125	5-20R	5-20R	IG5362RN (ORANGE)	H-6
NOTE 2 OR 5	184	IPAD	120	1	2	0.120	1.0	5-20R	5-20R	VGFP20	1
NOTE 5	184T	TIMER	120	1	2			5-20R	5-20R		1
NOTE 2	190	DRIVE-THRU VIDEO MONITOR	120	1	2		0.8	5-20R	N/A	CR20	1
NOTE 5	211B	FLY SYSTEM - KITCHEN AREA	120	1	2	0.078	0.650	5-15R	N/A	TR780W (DUPEX)	1
	269	ANSUL FIRE SYSTEM	120	1	2		VERIFY	DIRECT	N/A		1
	270	ANSUL FIRE SYSTEM	120	1	2		VERIFY	DIRECT	N/A		1
NOTE 2	300A	MILKSHAKE DISPENSER	120	1	2		4.0	5-20R	N/A	I877 (SIMPLEX)	1
	300X	DOUBLE BARREL ICE DREAM	208	3	3		15.0	15-20R	N/A	HUBBELL HBL8420	2
			208	3	3		19.0	15-30R	N/A	HUBBELL HBL8430A	8
NOTE 2	305	TEA BREWER	120	1	2	1.650	13.8	5-20R	N/A	VGFP20	1
	308	COFFEE BREWER	208	1	3	4.000	19.2	114-30R	N/A	AH1430R	8
NOTE 2	309	SINGLE JUICE DISPENSER	120	1	2		3.6	5-20R	N/A	I877 (SIMPLEX)	1
NOTE 2	310	DOUBLE JUICE DISPENSER	120	1	2		8.5	5-20R	N/A	I877 (SIMPLEX)	1
	315W	DRINK TOWER	120	1	2		10.0	5-20R	N/A	CR20	1
NOTE 2	320	TURBO CARBONATOR	120	1	2		6.2	5-20R	N/A	CR20	1
	363H	HIGH-TEMP DISH-MACHINE	208	3	3		53.7	DIRECT	N/A		17
	380A	ICE BIN SANITATION SYSTEM	120	1	2	0.010		5-15R	N/A		1
NOTE 5	380	INTERIOR ICE MAKER	120	1	2	0.600	5.0	5-15R	N/A	817 (SIMPLEX) CR15 (DUPEX)	1
	380C	ROOF MTD ICE CONDENSER	208	3	4	5.1/2	14.2	DIRECT	N/A		3
NOTE 5	380D	INTERIOR ICE MAKER	120	1	2	0.600	5.0	5-15R	N/A	817 (SIMPLEX) CR15 (DUPEX)	1
	380CD	ROOF MTD ICE CONDENSER	208	3	4		15.7	DIRECT	N/A		6
NOTE 2	400	REACH-IN FRY FREEZER	120	1	2		9.4	5-20R	L5-20R	VGFP20 / AH1520R	1
	410	WALK-IN FREEZER DOOR HTR/LTG	120	1	2		3.3	DIRECT			1
		WI FREEZER CONDENSER	208	3	3		16.30	DIRECT			11
		WI FREEZER EVAP COIL	208	1	2		1.5	DIRECT			1
NOTE 5	420	SINGLE UC REFRIGERATOR	120	1	2		4.7	5-20R	L5-20R	I877 (SIMPLEX) / AH1520R	1
NOTE 2	421	DOUBLE UC REFRIGERATOR	120	1	2		6.3	5-20R	L5-20R	I877 (SIMPLEX) / AH1520R	1
NOTE 5	422	REFRIGERATED EQUIPMENT STAND	120	1	2		6.7	5-15R	L5-15R	I877 (SIMPLEX) / CML515C	1
NOTE 5	432	REFRIGERATED WORK TABLE	120	1	2		6.3	5-20R	L5-20R	I877 (SIMPLEX) / AH1520R	1
NOTE 2	439	COLD RAIL	120	1	2		7.1	5-20R	N/A	VGFP20	1
NOTE 2	440CT	ICE BATH-BREADING TABLE	120	1	2		1.0	L5-15R	L5-15R	CML515R / CML515C	1
NOTE 5	441	REFRIGERATED SALAD PREP	120	1	2		9.0	L5-15R	L5-15R	CML515R / CML515C	1
NOTE 2	442WCT	SINGLE UPRIGHT REFRIGERATOR	120	1	2		7.0	L5-15R	L5-15R	CML515R / CML515C	1
NOTE 2	443GT	SINGLE UPRIGHT REFRIGERATOR	120	1	2		8.0	L5-15R	L5-15R	CML515R / CML515C	1
	444	DOUBLE DOOR THAWING CABINET	120	1	2		16.0	DIRECT	DIRECT		1
	444S	SINGLE DOOR THAWING CABINET	120	1	2		16.0	DIRECT	DIRECT		1
	449	WALK-IN COOLER LIGHTING	120	1	2		2.4	DIRECT			1
		WI COOLER CONDENSER	208	3	3		9.50	DIRECT			2
		WI COOLER EVAP COIL	208	1	2		1.0	DIRECT			1
NOTE 2 OR 5	500A	VERTICAL CONTACT TOASTER	120	1	2	1.800	15.0	5-20R	L5-20R	VGFP20 / AH1520R	1
	500B	RADIANT TOASTER	208	1	3	5.000	24.0	L6-30R	L6-30R	AH1530R / AH1530C	8
NOTE 5	503	EGG STATION	208	1	3	2.500	12.5	6-20R	L6-20R	I876 (SIMPLEX) / AHCL620C	2
	505V	MULTI-COOK OVEN	208	3	3	7.920	22.0	L15-30R	L15-30R	AH1530R / AHCL1530C	9
NOTE 3	522	OPEN FRYER - ELECTRIC	208	3	3	22.000	61.0	NOTE 3	N/A		22
NOTE 3	522A	DOUBLE OPEN FRYER - REQUIRES TWO ELECTRICAL CONNECTIONS EACH OF THE SAME LOAD AND CHARACTERISTICS AS #522 ABOVE									
	523	PRESSURE FRYER - ELECTRIC	208	3	3	13.500	38.0	15-50R	N/A	HUBBELL HBL8450A	14
	524	DUAL SIDED CHAR-GRILL	208	3	3	9.000	241/28/2731	15-50R	N/A	HUBBELL HBL8450A	14
NOTE 2	560	FRY HOLDING STATION	120	1	2	1.840	15.4	5-20R	N/A	I877 (SIMPLEX)	1
NOTE 5	562A	HOT HOLDING TOWER	120	1	2	1.911	15.9	L5-20R	L5-20R	AH1520R / AH1520C	1
	563	SANDWICH SLIDE	208	1	3	1.730	9.2	L14-20R	N/A	CML420R	2
NOTE 5	563D	DOUBLE SANDWICH SLIDE	120	1	2	1.090	9.13	5-20R	N/A	I877 (SIMPLEX)	1
NOTE 5	563S	SINGLE SANDWICH SLIDE	120	1	2	0.548	4.56	5-20R	N/A	I877 (SIMPLEX)	1
	564A	PRODUCT HOLDING CABINET	120	1	2	0.660	5.50	5-20R	L5-20R	I877 / AH1520C	1
	564B	PRODUCT HOLDING CABINET	120	1	2	0.660	5.50	5-20R	L5-20R	I877 / AH1520C	1
NOTE 2	565C	FOOD COOKER/WARMER	120	1	2	1.500	12.50	5-20R	L5-20R	VGFP20 / AH1520R	1
NOTE 5	580A	MULTI-USE HOLDING CABINET	120	1	2	1.920	16.0	5-20R	L5-20R	I877 / AH1520C	1
	592	SOUP THERMALIZER	208	3	3	7.920	22.0	15-30R	L15-30R	AH1530R / AH1530C	9
NOTE 5	600	MIXER	120	1	2		8.0	5-20R	L5-20R	VGFP20 / AH1520C	1
NOTE 2	607	LEMON JUICER	120	1	2		1/4 HP	5-20R	N/A	VGFP20	1
	669	OFFICE SAFE (SMART SAFE)	120	1	2			5-20R	N/A	CR20	1
NOTE 2	671	LED MENU BOARD	120	1	2		12.50	5-20R	N/A	CR20	1

WIRING DEVICE PACKAGE, INCLUDING SWITCHES (EXCEPT HUBBELL BRAND DEVICES) SHALL BE PURCHASED AS A PART OF A NATIONAL ACCOUNTS PROGRAM THROUGH GEXPRO (FORMERLY GE SUPPLY). CONTACT BRIAN REECE AT 770-840-4162 (EMAIL: BRIANREECE@GEXPRO.COM)

NOTE 1: ALL SO CORD LENGTHS SHALL BE MEASURED FROM THE REAR OF THE EQUIPMENT TO THE END OF THE CORD.

NOTE 2: CONTRACTOR SHALL PROVIDE GROUND-FAULT PROTECTION FOR ALL 120 VOLT 15 AMP AND 20 AMP RECEPTACLES IN THE KITCHEN / FOOD PREPARATION AREAS. GROUND-FAULT PROTECTION SHALL BE PROVIDED AT THE RECEPTACLE AS A GFCI TYPE RECEPTACLE UNLESS NOTED OTHERWISE ON THE PLANS WHERE A GFCI TYPE BREAKER IS INDICATED.

NOTE 3: A RECESSED PIN & SLEEVE BOX IS PROVIDED WITH THE EXHAUST HOOD PACKAGE AND INSTALLED BY THE CONTRACTOR. THE P&S BOX INCLUDES THE "SLEEVE" RECEPTACLES FOR THE OPEN FRYERS. THE OPEN FRYER SUPPLIER WILL PROVIDE PRE-WIRED CORDSET WITH A "PIN" DEVICE INTEGRAL WITH THE OPEN FRYER TO PLUG INTO THE "SLEEVE" RECEPTACLE.

NOTE 4: WIRE NUMBER INDICATED DOES NOT INCLUDE THE REQUIRED GREEN EQUIPMENT GROUND CONDUCTOR OR, WHEN APPLICABLE, THE STRIPED IG CONDUCTOR.

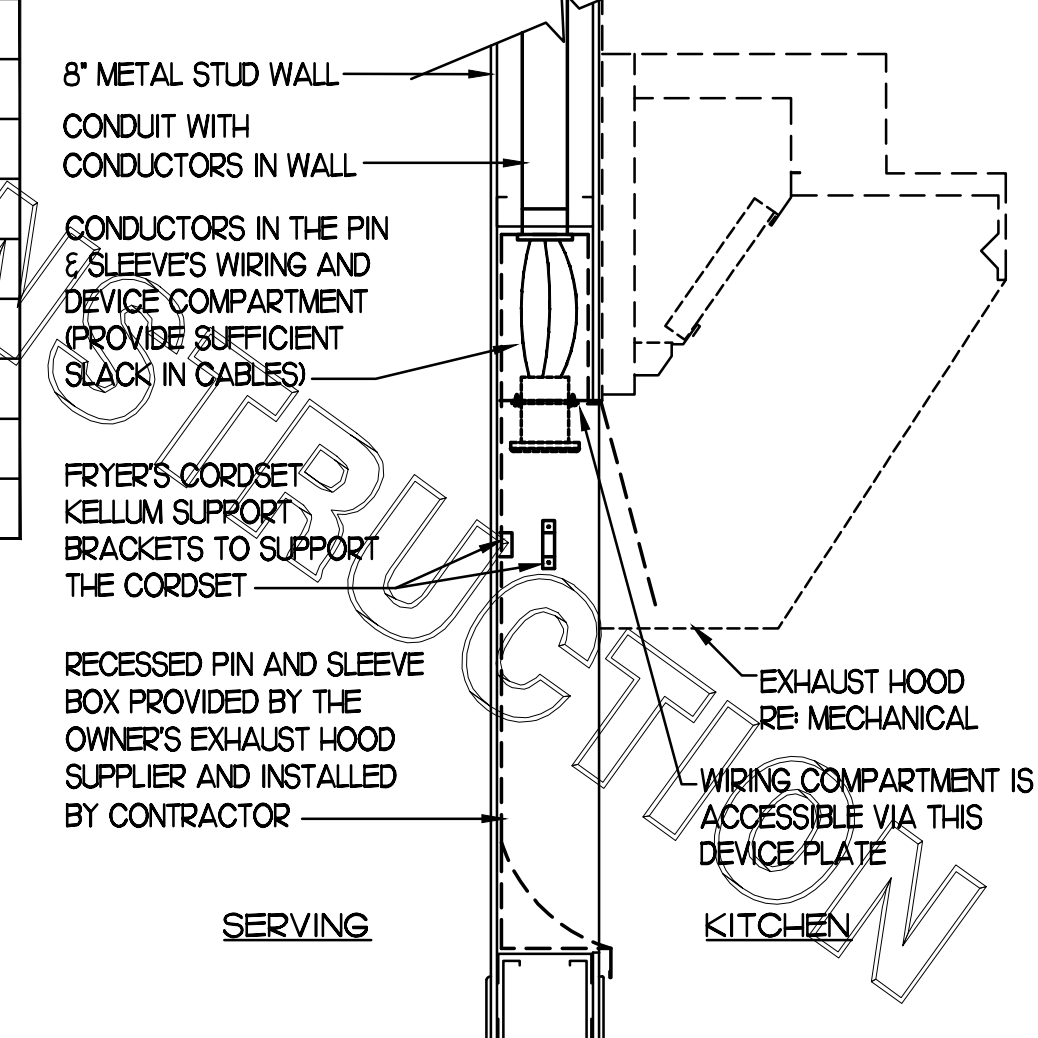
NOTE 5: PROVIDE GFCI TYPE BRANCH BREAKER FOR KITCHEN/FOOD PREPARATION AREA RECEPTACLES THAT ARE TWIST-LOCK, CLOCK STYLE, OR IG (ISOLATED GROUND) TYPE.

NOTE 6: REFER TO THE CONDUIT AND CONDUCTOR SCHEDULE FOR THE WIRE/CONDUIT MARK NUMBER AND THE MINIMUM WIRE AND CONDUIT SIZE FOR EACH EQUIPMENT ITEM.

NOTE 7: THE "R" SUBSCRIPT ON EQUIPMENT NUMBERS ON THE KITCHEN SERIES DRAWINGS REFERS TO EXISTING EQUIPMENT THAT HAS BEEN RELOCATED. IN SEVERAL CASES THERE MAY BE ONE OR MORE NEW AND ONE OR MORE RELOCATED ITEMS. THEREFORE, IN ORDER TO AVOID CONFUSION, ALL EQUIPMENT IS LISTED AS NEW AND THIS SUBSCRIPT IS NOT USED. FIELD VERIFY ELECTRICAL REQUIREMENTS - WHAT IS INDICATED IN THIS SCHEDULE IS BASED ON NEW BUILD PROTOTYPICAL EQUIPMENT ITEMS.

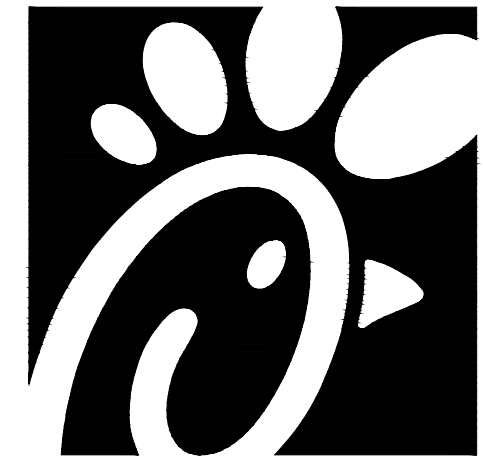
2 ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MTG HT AFF TO CL	SYMBOL	DESCRIPTION	MTG HT AFF TO CL
LIGHTING FIXTURES					
□	SURFACE MTD FLUORESCENT LIGHTING FIXTURE				
⊞	RECESSED FLUORESCENT LIGHTING FIXTURE				
○	SURFACE MTD FLUORESCENT OR HID LIGHTING FIXTURE				
○	RECESSED FLUORESCENT OR HID LIGHTING FIXTURE				
○	WALL MOUNTED LIGHTING FIXTURE. SEE LIGHTING FIXTURE SCHEDULE (FLUORESCENT OR HID FIXTURE)	AS NOTED			
○	WALL MOUNTED EXIT SIGN. SHADING INDICATES FACES. PROVIDE WITH CHEVRON DIRECTIONAL ARROWS WHERE INDICATED ON PLANS PROVIDED WITH BATTERY PACK	6" BELOW CEILING TO TOP			
○	CEILING MOUNTED EXIT SIGN. SHADING INDICATES FACES. PROVIDE WITH CHEVRON DIRECTIONAL ARROWS WHERE INDICATED ON PLANS PROVIDED WITH BATTERY PACK				
⊞	COMBO EXIT WITH TWO LAMP-HEADS. SEE LIGHTING FIXTURE SCHEDULE				
⊞	WALL MOUNTED EMERGENCY BATTERY PACK LIGHTING FIXTURE	AS NOTED			
⊞	CEILING MOUNTED EMERGENCY BATTERY PACK LIGHTING FIXTURE				
—	FLUORESCENT STRIP LIGHTING FIXTURE				
—	WALLWASHER STYLE RECESSED DOWNLIGHT, AIM LIGHT TOWARD WALL				
⊞	RECESSED LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK				
⊞	PENDANT LIGHTING FIXTURE	AS NOTED			
—	LIGHTING TRACK WITH TRACK HEADS				
CONDUIT/RACEWAYS					
—	CONDUIT CONCEALED ABOVE CEILING OR IN WALL				
—	CIRCUIT HOMERUN TO PANELBOARD WITH MINIMUM 2#12, #12G, 3/4"C				
—	CONDUIT TURNING UP				
—	CONDUIT TURNING DOWN				
—	CONDUIT CONCEALED IN OR BELOW SLAB (OUTSIDE - UNDERGROUND)				
—	FLEXIBLE LIGHT FIXTURE WHIP, SIX FOOT MAXIMUM LENGTH				
—	METAL CLAD CABLE ASSEMBLY - ONLY WHERE INDICATED ON DWGS OR SPECS				
NOTES: FOR ALL CONDUITS: REFER TO PLANS FOR OTHER CONDUITS, REFER TO VENDOR DRAWINGS FOR CONDUIT AND WIRING REQUIREMENTS FOR LOW VOLTAGE SYSTEMS AND CONTROL WIRING.					
MULTIPLE IPH CIRCUITS MAY OCCUPY THE SAME CONDUIT IN ACCORDANCE WITH THE NEC, MAXIMUM OF THREE AND OF DIFFERENT PHASES.					
LOW VOLTAGE AND CONTROL WIRING SHALL BE IN SEPARATE CONDUIT FROM POWER WIRING.					
DISTRIBUTION EQUIPMENT					
⊞	NON-FUSIBLE SAFETY SWITCH. SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/ENCLOSURE) OR ON SCHEDULE. NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R ENCLOSURE.	6'-6"			
⊞	FUSIBLE SAFETY SWITCH. SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/FUSE AMPS/ENCLOSURE) OR ON SCHEDULE. NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R.	6'-6"			
—	FLUSH MOUNTED LIGHTING PANELBOARD	6'-6"			
—	SURFACE MOUNTED LIGHTING PANELBOARD	6'-6"			
⊞	TRANSFORMER, PROVIDE SECONDARY GROUNDING PER NEC				
⊞	ENCLOSED CIRCUIT BREAKER. SIZE AND TYPE AS NOTED (AMPS/POLES/ENCLOSURE) NEMA 1 ENCLOSURE IF NOT NOTED, WP-NEMA 3R	6'-6"			
* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE					
MISCELLANEOUS SYMBOLS					
⊞	GROUND				
⊞	MOTOR				
⊞	EXHAUST FAN MOTOR				
⊞	JUNCTION BOX				
⊞	CONDUIT AND WIRE "MARK" NUMBER, REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE				
⊞	KITCHEN EQUIPMENT "MARK" NUMBER, REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS				
⊞	NOTE NUMBER				
⊞	HOOD EXTINGUISHING ANSUL PULL STATION				
⊞	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" CONDUIT STUB-UP				
⊞	PUSH-BUTTON				
⊞	BELL, TYPE AS NOTED ON PLANS				
⊞	PHOTO-ELECTRIC CELL				
TELEPHONE					
⊞	TELEPHONE OUTLET	18" UON			
⊞	TELEPHONE OUTLET AT SPECIAL MOUNTING HEIGHT	60" UON			
NOTE: EACH TELEPHONE OUTLET (FLOOR OR WALL MOUNTED) SHALL BE PROVIDED WITH A 3/4" EMPTY CONDUIT, WITH PULL WIRE, TO ACCESSIBLE CEILING SPACE.					
CCTV / SECURITY SYSTEM					
⊞	CLOSED CIRCUIT TELEVISION CAMERA				
⊞	SECURITY ALARM KEYPAD				
⊞	SECURITY ALARM HOLD-UP BUTTON				
⊞	SECURITY SYSTEM KEY NOTE				
ABBREVIATIONS					
AFF	ABOVE FINISHED FLOOR				
AFG	ABOVE FINISHED GRADE				
AHJ	AIR HANDLING UNIT				
C	CONDUIT				
CL	CENTER-LINE				
EF	EXHAUST FAN				
FLA	FULL LOAD AMPS				
GF/GFI	GROUND FAULT CIRCUIT INTERRUPTER				
GND/GRD	GROUND				
HT	HEIGHT				
IG	ISOLATED GRD, PROVIDE ORANGE DEVICE WHEN ADJACENT TO WIRING DEVICE				
MOCP	MAXIMUM OVER-CURRENT PROTECTION				
MUA	MAKE UP AIR UNIT				
NEC	LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70)				
NL	NIGHT LIGHT (ON 24 HOURS)				
OC	ON CENTER				
POS	POINT OF SALE EQUIPMENT				
RTU	ROOF TOP UNIT				
TL	TWIST-LOCK TYPE DEVICE				
TR	TAMPER-RESISTANT				
UON	UNLESS OTHERWISE NOTED				
WP	WEATHERPROOF (NEMA 3R)				



3 PIN & SLEEVE BOX DETAIL

NO SCALE



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FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
 RELEASE: V05.22

REVISION SCHEDULE

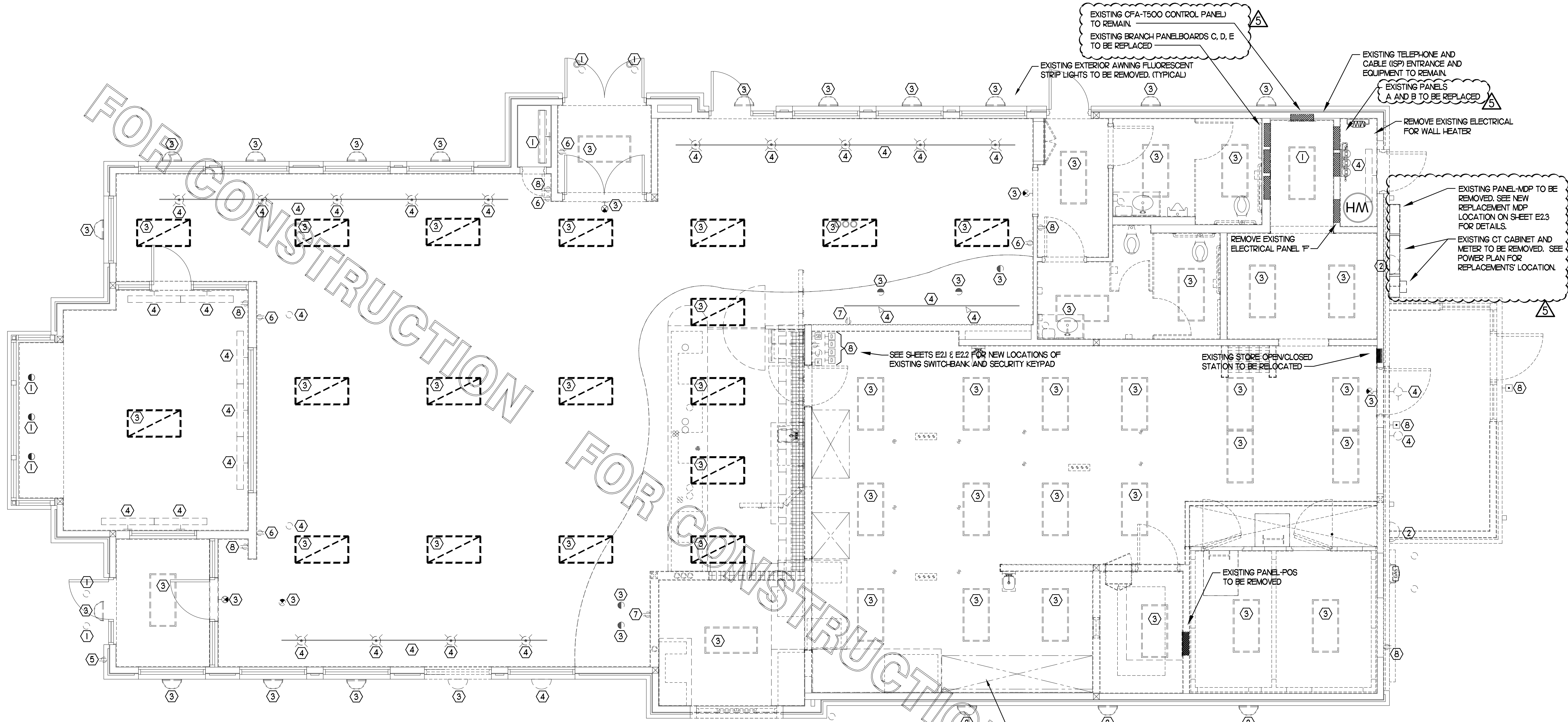
NO.	DATE	DESCRIPTION
2	03/25/23	DN Update
5	11/28/23	Electrical Changes

CONSULTANT PROJECT # 22130.HF.R
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 SHEET SCHEDULES AND DETAILS

SHEET NUMBER

E1.1



1 ELECTRICAL DEMOLITION PLAN
SCALE: 1/4"=1'-0"

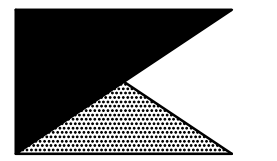
THE INFORMATION USED TO DEVELOP THE EXISTING CONDITIONS AS SHOWN ON THESE PLANS IS FROM PREVIOUS BUILDING DRAWINGS. WHAT WAS SHOWN ON PLAN AND WHAT WAS ACTUALLY INSTALLED MAY VARY. FIELD VERIFY ALL EXISTING CONDITIONS.

- 2 KEYNOTES (APPLY TO THIS SHEET ONLY)**
- 1 EXISTING LIGHTING FIXTURE TO REMAIN. CLEAN AND RELAMP THE FIXTURE AND RECONNECT TO THE EXISTING BRANCH CIRCUIT.
 - 2 EXISTING LIGHTING FIXTURE TO BE RELOCATED. SEE LIGHTING PLAN FOR NEW LOCATION.
 - 3 EXISTING LIGHTING FIXTURE TO BE REMOVED AND REPLACED. SEE THE LIGHTING FLOOR PLAN.
 - 4 EXISTING LIGHTING FIXTURE TO BE REMOVED, EXISTING BRANCH CIRCUIT WIRING TO BE REUSED IF POSSIBLE AND FEASIBLE.
 - 5 EXISTING WIRING DEVICE/JUNCTION BOX TO REMAIN.
 - 6 EXISTING WIRING DEVICE TO BE REPLACED WITH TAMPER-RESISTANT USB CHARGING TYPE DEVICE.
 - 7 RELOCATE EXISTING ELECTRICAL ITEMS AS NECESSARY TO NEWLY FLURRED OUT WALL.
 - 8 EXISTING ELECTRICAL ITEMS TO BE REMOVED AND/OR RELOCATED. SEE THE POWER FLOOR PLAN FOR THE REUSE OF THE EXISTING CIRCUITS.



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RELEASE: v05.22

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
5	11/28/23	Electrical Changes
CONSULTANT PROJECT # 22130.HF.R		
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SHEET ELECTRICAL DEMOLITION PLAN

SHEET NUMBER

E2.0

CONSTRUCTION

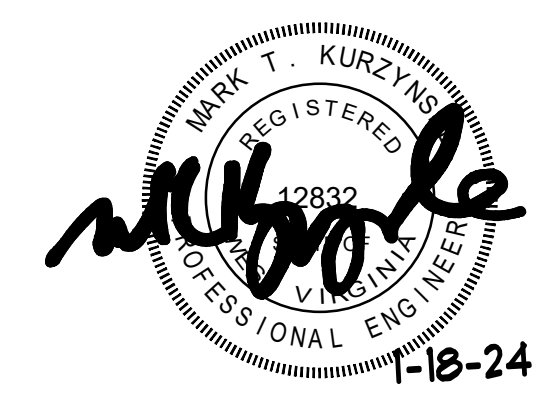


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REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/25/23	DN Update
3	04/04/23	FM Comments
5	11/28/23	Electrical Changes
7	12/20/23	Final CD Coordination

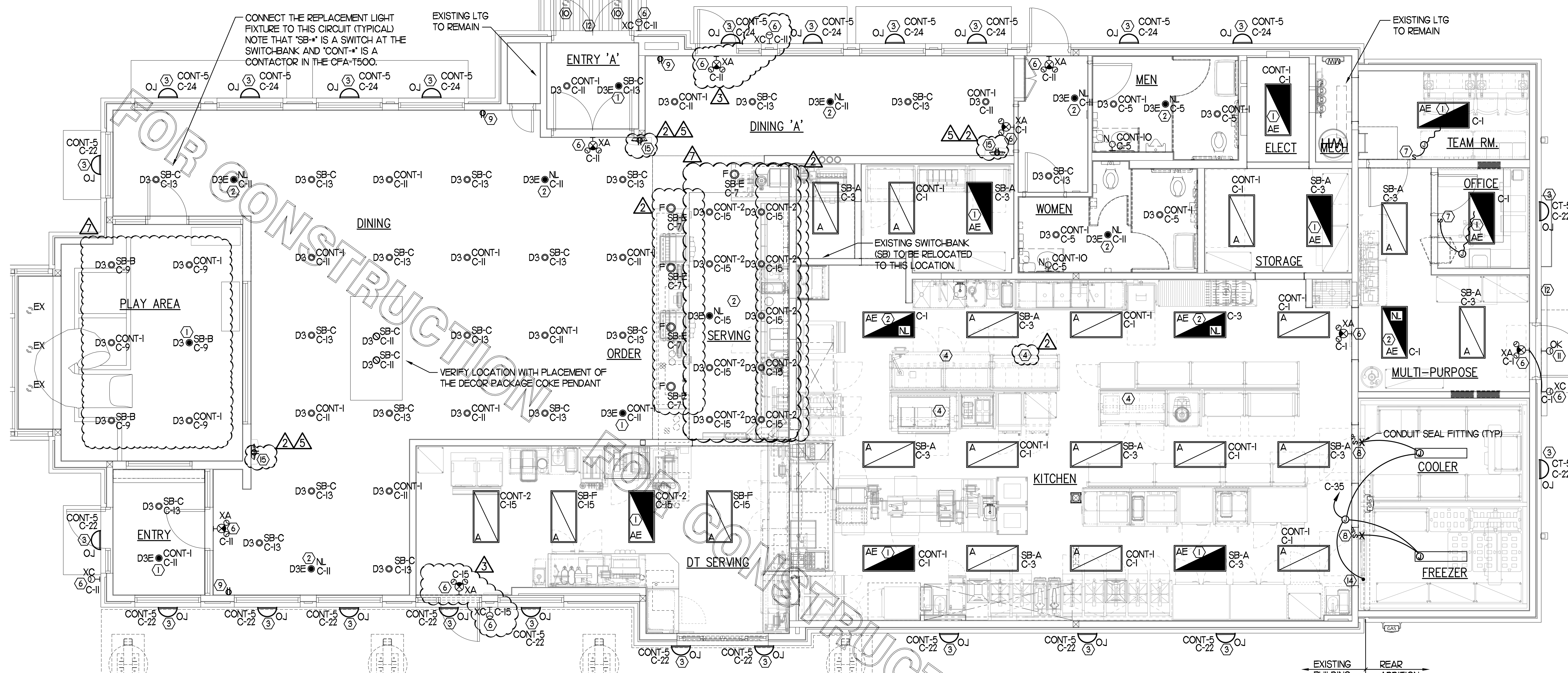
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SHEET LIGHTING PLAN

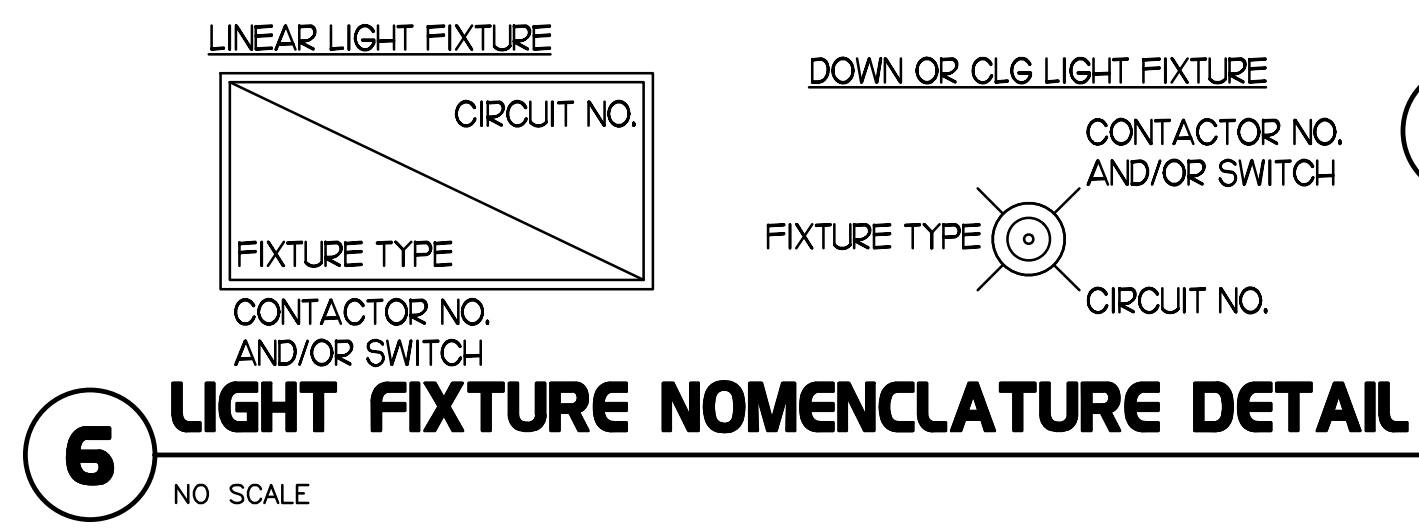
SHEET NUMBER

E2.1



3 KEYNOTES (APPLY TO THIS SHEET ONLY)

- CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
- CONNECT FIXTURE SO THAT LAMP AND EMERGENCY BATTERY PACK ARE NOT SWITCHED. 'NL' ADJACENT TO FIXTURE INDICATES THAT FIXTURE SHALL BE ON 24 HOURS.
- THE EXISTING EXTERIOR WALL-MOUNTED FIXTURE TO BE REPLACED. CONNECT REPLACEMENT TO THE EXISTING CIRCUIT.
- PROVIDE A TYPE B1 LIGHT FIXTURE. MOUNT TO THE UNDERSIDE OF THE WIRE SHELVING. PROVIDE FLEX CONDUIT AND CONNECT TO A SWITCH IN AN FS BOX MOUNTED TO THE SHELF. FROM FS BOX PROVIDE AN SO CORD WITH PLUG AND CONNECT TO THE GEN RECEPTACLE.
- NOT USED.
- CONNECT FIXTURE TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS. THIS FIXTURE SHALL NOT BE SWITCHED.
- PROVIDE A WALL SWITCH LINE VOLTAGE OCCUPANCY SENSOR EQUIVALENT TO SENSOR SWITCH #WSD-WH
- PILOT LIGHT SWITCH FOR CONTROL OF LED LIGHT INSIDE THE WIC OR WIF UNIT. PROVIDE CONDUIT SEAL-OFF FITTINGS FOR ALL CONDUIT PENETRATIONS THRU THE FREEZER'S WALL. LED LIGHT FURNISHED WITH THE UNIT BY THE EQUIPMENT SUPPLIER.
- PROVIDE TAMPER-RESISTANT DUPLEX RECEPTACLE AT STANDARD HEIGHT FOR FUTURE COMPACTING TRASH CAN ON A DEDICATED 20 AMP CIRCUIT. USE CIRCUITS C-47, C-49, AND C-51.
- CONNECT THE INTEGRAL CANOPY FIXTURE TO C-12 VIA THE EXISTING DUSK-TO-DAWN CIRCUIT IN THE CFA-1500.
- CONNECT THE 'OK' FIXTURE TO C-12 VIA THE EXISTING DUSK-TO-DAWN CIRCUIT IN THE CFA-1500.
- COORDINATE CONNECTION OF REPLACEMENT SIGNAGE TO EXISTING OKT.
- NOT USED.
- TO WALK-IN DOOR FRAME HEATER AND AIR RELIEF ASSEMBLY. J-BOX TO BE ABOVE THE UNIT AND EXTEND DOWN ALONG THE FRONT AT 9'-6" AFF TO HEATER. AIR RELIEF VALVE ASSEMBLY AND LIGHT SWITCHES.
- PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #WFR2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEM #21C. CL OF BOX AT 7'-1" AND CONNECT OUTLET TO CIRCUIT B-31.

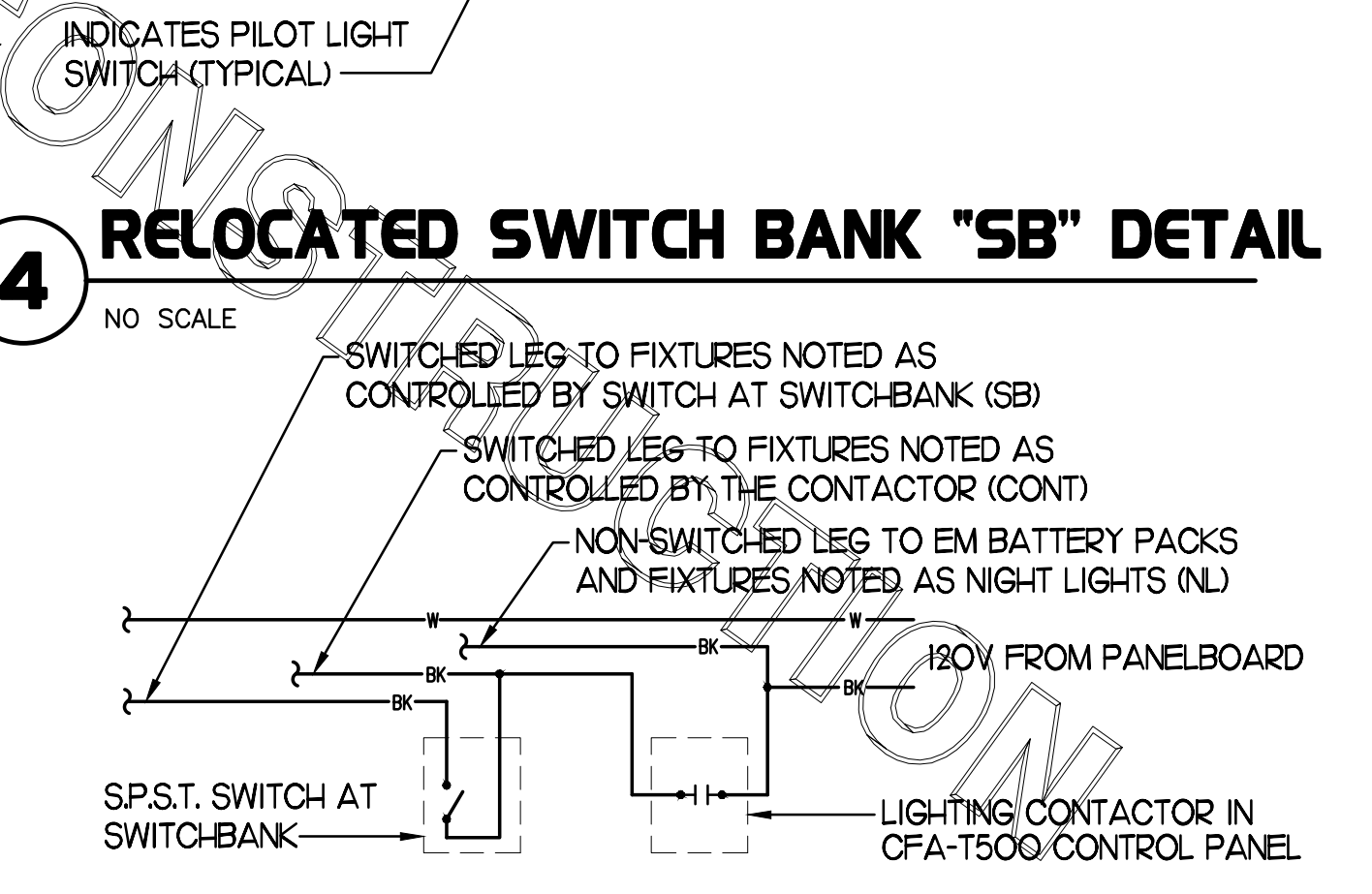
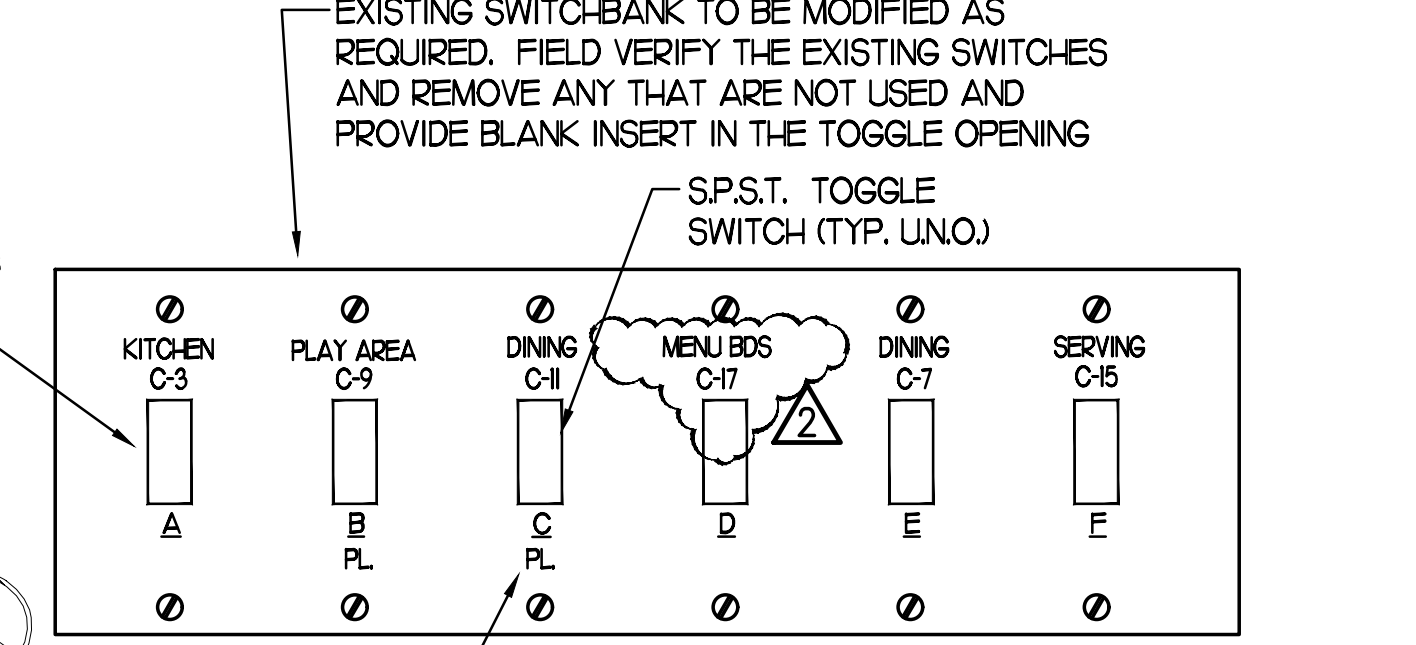


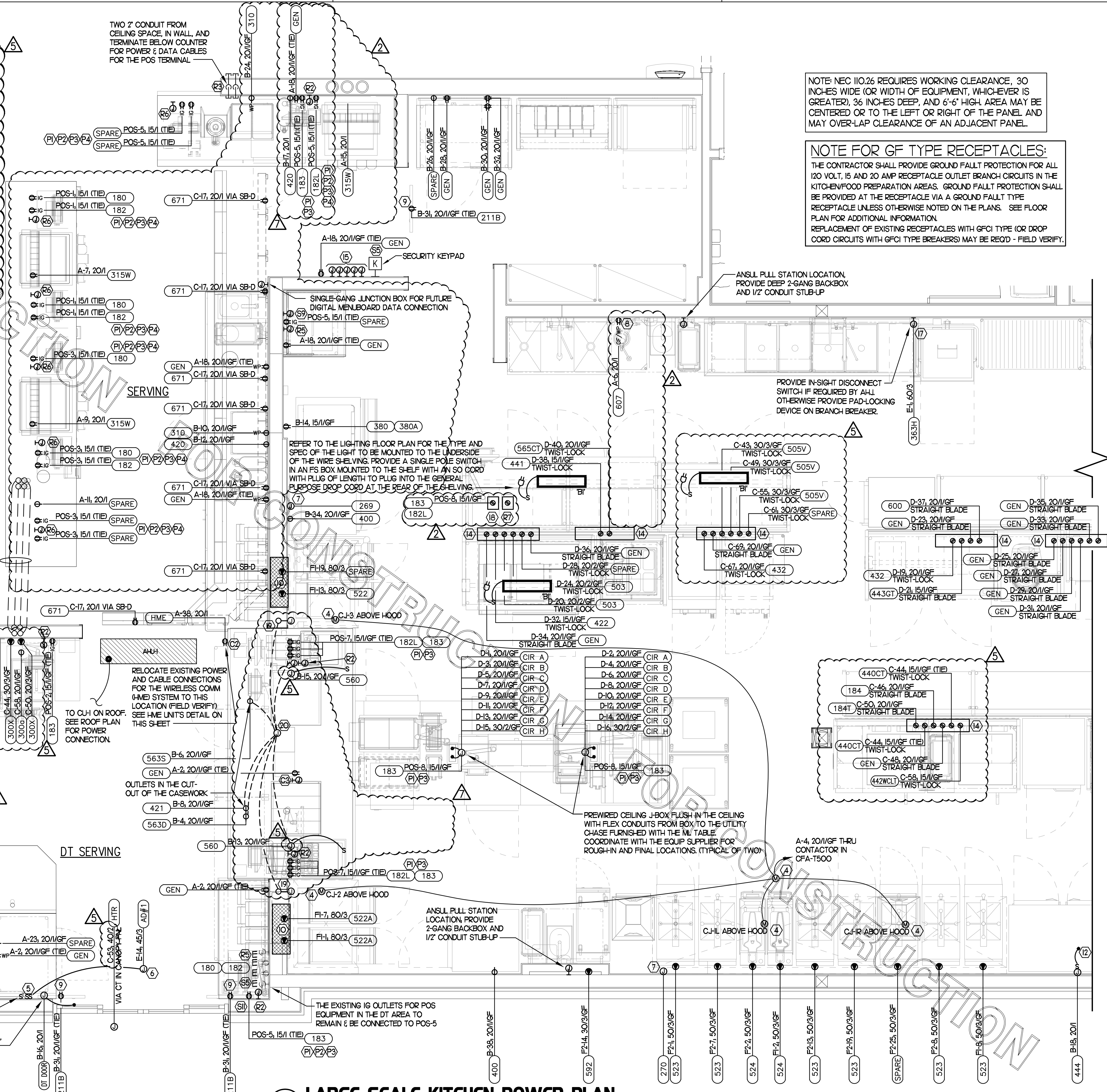
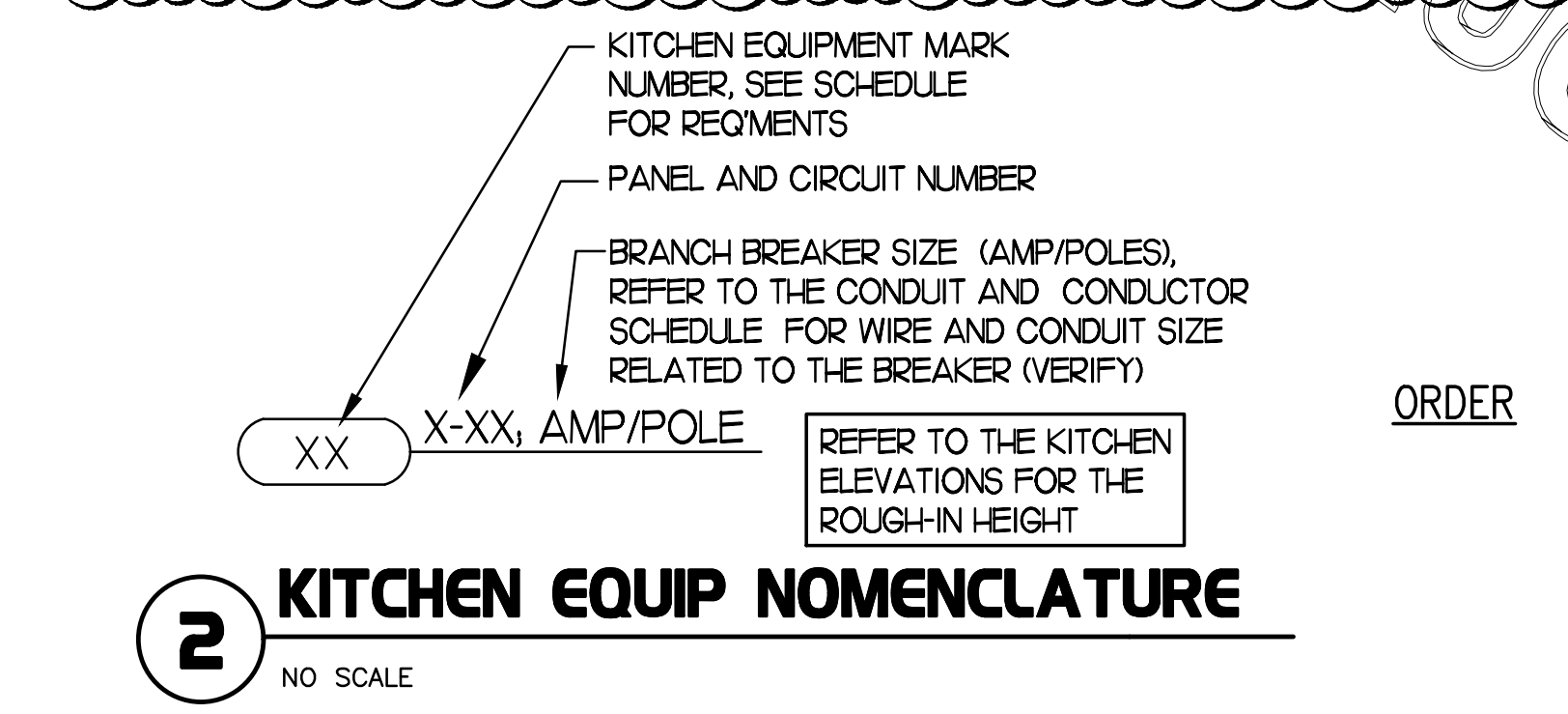
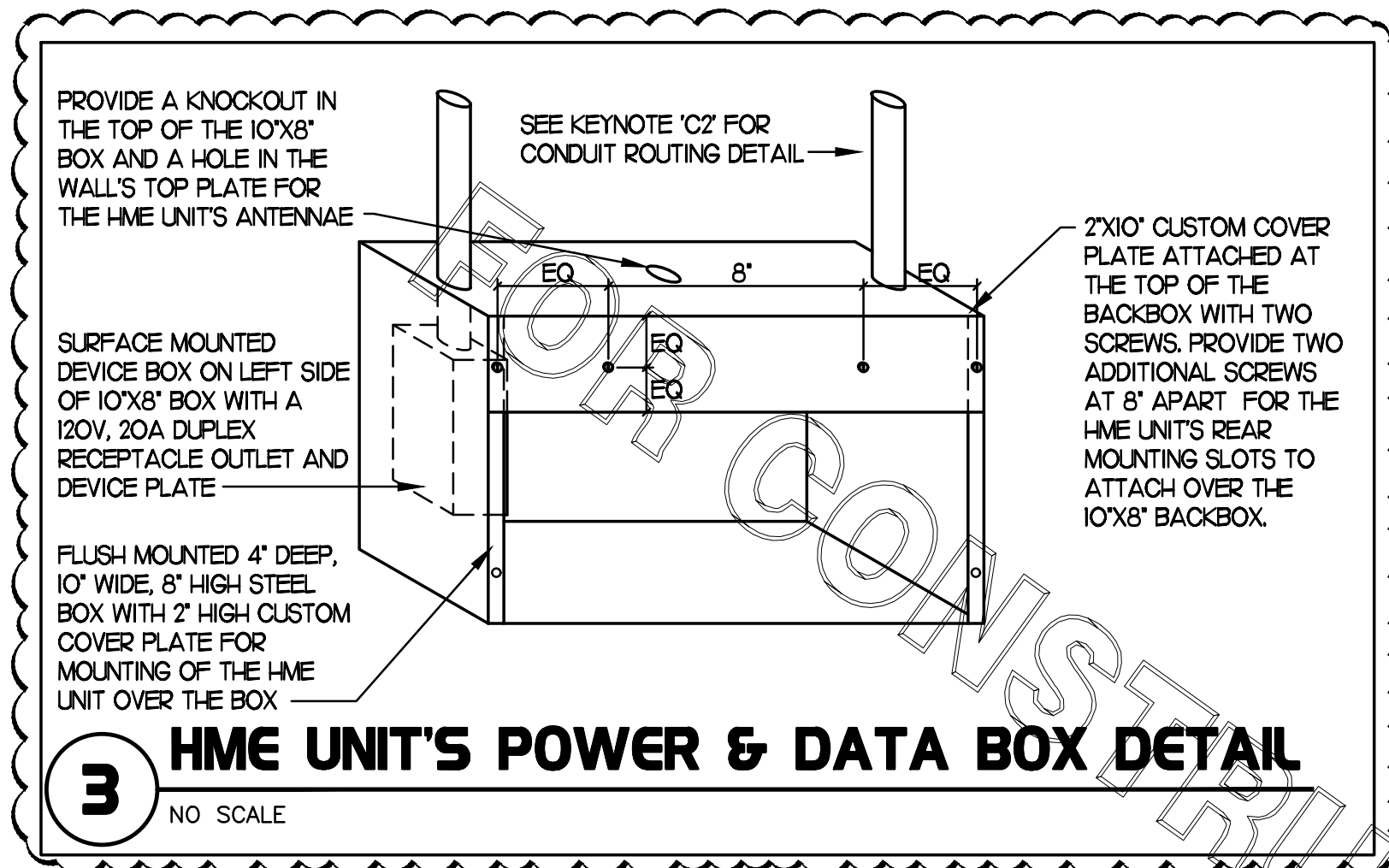
2 LIGHTING FIXTURE (LUMINAIRE) SCHEDULE - CHICK-FIL-A REMODEL STORE #2131

MARK	MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	WATTS	VOLTS	MOUNTING	REMARKS
A	COOPER/METALLUX	24FP6440C	INTEGRAL WITH FIXTURE	59.4	120	RECESSED	KITCHEN AREA, 2X4' LED PANEL TROFFER, 4000K COLOR TEMP
AE	COOPER/METALLUX	24FP6440C-EL14W	INTEGRAL WITH FIXTURE	59.4	120	RECESSED	SAME AS 'A' WITH EMERGENCY BATTERY PACK. SEE PLAN NOTES ABOUT LAMP SWITCHING
B1	METALLUX	2V73-LD5-UNV-LB40-CDI-SSL-U	INTEGRAL WITH FIXTURE	32	120	SURFACE	MOUNT LIGHT TO BTM OF OVER-HEAD WIRE SHELVING WITH CORD & PLUG
D3	COOPER/HALO	HC6-20-DOIO-HM6-12-830-6-IND-C	INTEGRAL WITH FIXTURE	21	120	RECESSED	PUBLIC AREA, 6" DIAMETER LED DOWNLIGHT
D3E	COOPER/HALO	HC6-20-DOIO-HM14-HM6-12-830-6-IND-C	INTEGRAL WITH FIXTURE	21	120	RECESSED	SAME AS D3' WITH EMERGENCY BATTERY PACK
F	COOPER/HALO	SLD5L6069SIEMWR	INTEGRAL WITH FIXTURE	9	120	SURFACE	SURFACE-MOUNTED LED DOWNLIGHT, 600 LUMENS, 3000K COLOR TEMP
G	COOPER/METALLUX	48-SIP64000-UNV	INTEGRAL WITH FIXTURE	44	120	SURFACE	2X60 LUMEN 4 FOOT BY 6 FOOT LED STRAIGHT
J	NOT USED						
N	MINIKA	4831-267B	FLEXIDIA97827D	11	120	WALL	LAVATORY WALL SCOURE-SHADE POINTED DOWN W/ LED LAMP & CL ON LAVATORY
S	NOT USED						
SE	NOT USED						
XA	COOPER/SURE-LITES	APCHTR	INTEGRAL WITH FIXTURE	4J1	120	WALL	EXIT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMP-HEADS
XC	MILLE LTG	MAKO-LED-ACEM-NK-H	INTEGRAL WITH FIXTURE	13	120	WALL	EXTERIOR WALL MOUNTED EMERGENCY LIGHTING UNIT, LOCATE NEAR EGRESS DOOR
OJ	SECURITY LTG	RWSC-72L-3K-LD-U-DB	FURNISHED	25	120	WALL	UP/DOWN LED EXTERIOR WALL SCOURE. SEE ELEVATIONS FOR MOUNTING HEIGHT
OK	HUBBELL	LNC-5LU-3K-31	FURNISHED	129	120	WALL	LED WALLPACK W/ CENTERLINE OF FIXTURE AT 8'-0" ABV 0'-0" (FINISH FLOOR LINE)

NOTES:
 1. LUMINAIRES UTILIZING DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OF EXTERNAL TO EACH LUMINAIRE PER NEC 410.10(G).
 2. THE LIGHTING FIXTURE PACKAGE IS AVAILABLE THROUGH A NATIONAL ACCOUNT PROGRAM. REFER TO THE ELECTRICAL SPECIFICATIONS SHEET, SECTION C16500 FOR VENDOR INFORMATION.
 3. THE ASTERISK (*) BESIDE THE FIXTURE MARK IN THE ABOVE SCHEDULE INDICATES THE FIXTURE IS A NON-PROTOTYPICAL LIGHT FIXTURE PER THE CFA NATIONAL P12 PROTOTYPE.

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





NOTE: NEC 110.26 REQUIRES WORKING CLEARANCE, 30 INCHES WIDE (OR WIDTH OF EQUIPMENT, WHICHEVER IS GREATER), 36 INCHES DEEP, AND 6'-6" HIGH. AREA MAY BE CENTERED OR TO THE LEFT OR RIGHT OF THE PANEL AND MAY OVER-LAP CLEARANCE OF AN ADJACENT PANEL.

NOTE FOR GF TYPE RECEPTACLES:
THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL 120 VOLT, 15 AND 20 AMP RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN/FOOD PREPARATION AREAS. GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE RECEPTACLE VIA A GROUND FAULT TYPE RECEPTACLE UNLESS OTHERWISE NOTED ON THE PLANS. SEE FLOOR PLAN FOR ADDITIONAL INFORMATION.
REPLACEMENT OF EXISTING RECEPTACLES WITH GFCI TYPE (OR DROP CORD CIRCUITS WITH GFCI TYPE BREAKERS) MAY BE REQ'D - FIELD VERIFY.

1 LARGE SCALE KITCHEN POWER PLAN
SCALE: 1/2" = 1'-0"
REFER TO SHEET E23 FOR THE KEYNOTES ON THIS SHEET.



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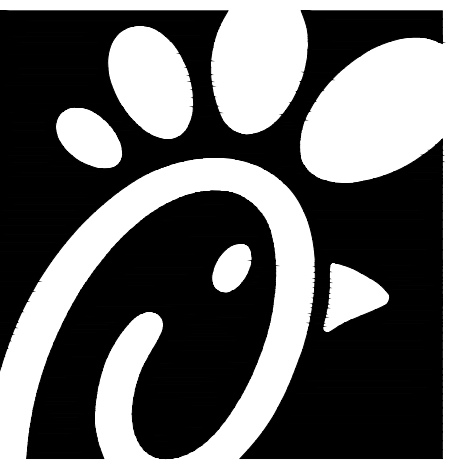
CHICK-FIL-A
RANSON
156 JOSHUA M FREEMAN BLVD
RANSON, WV 25438

FSR#02131
BUILDING TYPE / SIZE: S08N-LR-R
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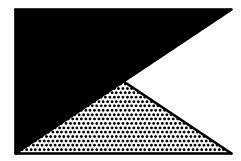
NO.	DATE	DESCRIPTION
2	03/25/23	DN Update
5	11/28/23	Electrical Changes
7	12/20/23	Final CD Coordination

CONSULTANT PROJECT # 22130 HF-R
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SHEET
LARGE SCALE KITCHEN POWER
SHEET NUMBER



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FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	03/25/23	DN Update

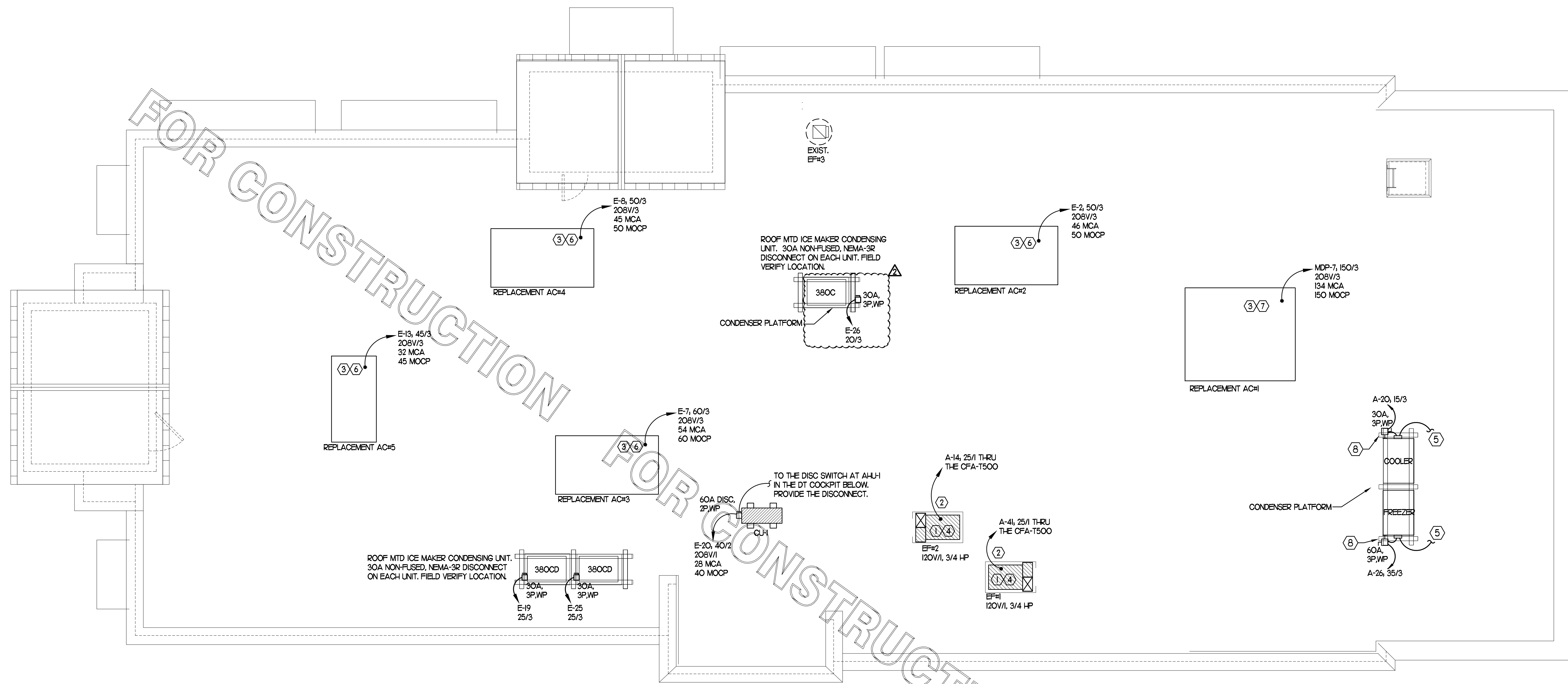
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SHEET ROOF POWER PLAN

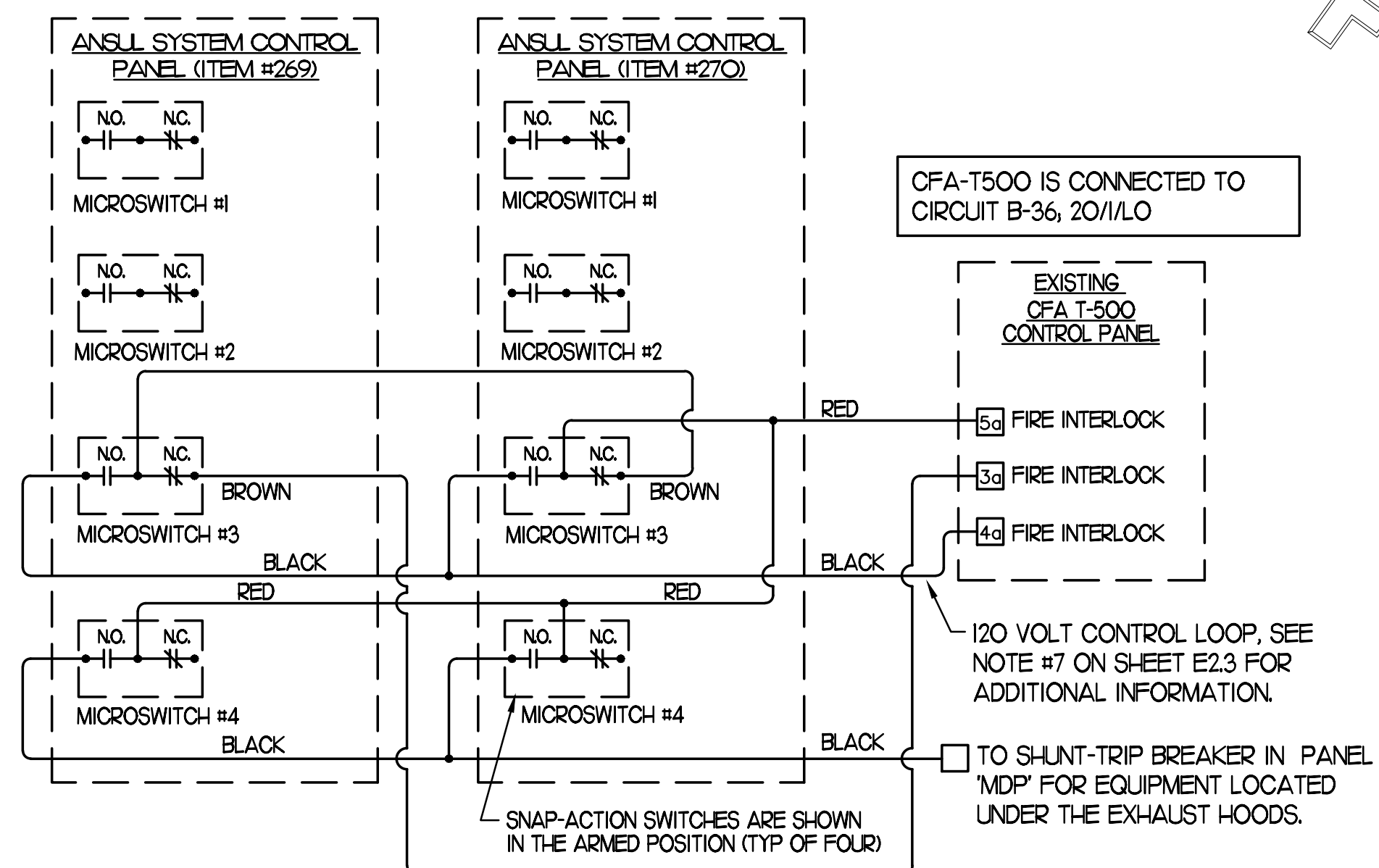
SHEET NUMBER

E2.4



1 ROOF POWER PLAN
SCALE: 1/4" = 1'-0"

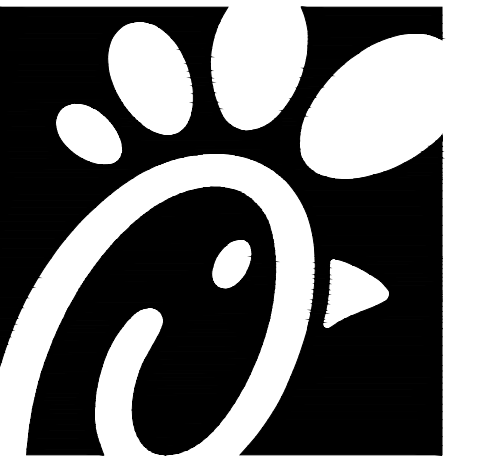
THE INFORMATION USED TO DEVELOP THE EXISTING CONDITIONS AS SHOWN ON THESE PLANS IS FROM PREVIOUS BUILDING DRAWINGS. WHAT WAS SHOWN ON PLAN AND WHAT WAS ACTUALLY INSTALLED MAY VARY. FIELD VERIFY ALL EXISTING CONDITIONS.



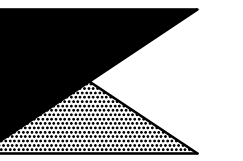
3 ANSUL SYSTEM PANEL WIRING DIAGRAM
NOT TO SCALE

- 2 KEYNOTES (APPLY TO THIS SHEET ONLY)**
- CONNECT EF#1, EF#2, AND EF#4 THRU THE CFA-500 CONTROL PANEL.
 - COORDINATE EXACT LOCATION OF CONDUIT AND DISCONNECT AT EXHAUST FAN. CONDUIT SHALL BE INSTALLED THROUGH ROOF ON OUTSIDE OF FAN CURB. CONDUIT SHALL BE LOCATED AT FAN HINGE SUCH THAT THE FAN HOOD CAN BE FULLY HINGED OPEN AND NOT TOUCH THE CONDUIT. PROVIDE 1/2" DIAMETER LOOP IN THE FLEXIBLE CONDUIT BETWEEN THE ROOF AND THE FAN ELECTRICAL CONNECTION.
 - A/C UNIT DISCONNECT IS FURNISHED WITH A/C UNIT AND SHALL BE CONNECTED BY THE CONTRACTOR.
 - EXHAUST FAN DISCONNECT IS FURNISHED WITH THE FAN AND SHALL BE CONNECTED BY THE CONTRACTOR.
 - CONNECT POWER FROM EACH CONDENSING UNITS COMPRESSOR CONTRACTOR TO THE EVAPORATOR COIL UNITS JUNCTION BOX BELOW. REFER TO E2.2 & E2.3 FOR LOCATION.
 - CONVENIENCE OUTLET SUPPLIED WITH UNIT. PROVIDE POWER THROUGH CIRCUIT B-25, VERIFY CIRCUIT NUMBER.
 - CONVENIENCE OUTLET SUPPLIED WITH UNIT AND UNIT POWERED.
 - MOUNT DISCONNECT SWITCHES FOR WIC AND WIF CONDENSERS ON UNISTRUT WITH CONDUIT DOWN INTO CEILING SPACE BELOW THRU ROOF PENETRATION DEVICE (NOT THRU ROOF). PROVIDE FUSE SIZE PER MANUFACTURER REQUIREMENTS.

CONSTRUCTION



Chick-fil-A
5200 Buffington Road
Atlanta, Georgia 30349



Kurzynske & Associates
CONSULTING ENGINEERS
2705 Lebanon Pike - Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203



CHICK-FIL-A
RANSON
156 JOSHUA M FREEMAN BLVD
RANSON, WV 25438

FSR#02131
BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

NO.	DATE	DESCRIPTION
2	03/25/23	DN Update

CONSULTANT PROJECT # 22130.HF.R
PRINTED FOR CONSTRUCTION
DATE 10/25/2022
DRAWN BY LK

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SHEET LIGHTING COMCHECK

SHEET NUMBER

E5.1

COMcheck Software Version 4.1.5.1
Interior Lighting Compliance Certificate

Project Information
Energy Code: 2015 IECC
Project Title: Chick-fil-A #2131
Project Type: Addition

Construction Site: 156 Joshua M Freeman Blvd, Ranson, WV 25438
Owner/Agent: Chick-fil-A, 5200 Buffington Road, Atlanta, GA 30349
Designer/Contractor: Kurzynske & Associates, 2705 Lebanon Pike - Suite One, Nashville, TN 37214, 615-255-5203

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft ²)	C Allowed Watts / ft ²	D Allowed Watts (B X C)
1-Service (Common Space Types:Storage)	273	0.63	172
2-Office & Team Room (Common Space Types:Office - Enclosed)	171	1.11	190
3-Mech Room (Common Space Types:Electrical/Mechanical)	40	0.95	38
4-Kitchen & Serving (Common Space Types:Food Preparation)	2076	1.21	2512
5-Dining (Common Space Types:Dining Area - Family Restaurant)	1827	0.89	1626
6-Restrooms & Vestibule (Common Space Types:Restrooms)	254	0.98	249
Total Allowed Watts =			4787

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Service (Common Space Types:Storage)				
LED 1: A/AE: LED Troffer: Other	1	5	59	297
2-Office & Team Room (Common Space Types:Office - Enclosed)				
LED 1: A/AE: LED Troffer: Other	1	2	59	119
3-Mech Room (Common Space Types:Electrical/Mechanical)				
LED 1: A/AE: LED Troffer: Other	1	2	59	119
4-Kitchen & Serving (Common Space Types:Food Preparation)				
LED 1: A/AE: LED Troffer: Other	1	22	59	1307
LED 2: B1: Task Lighting: Other	1	3	35	105
LED 4: D3/D3E: Dining Downlight: LED Panel 19W	1	5	20	100
5-Dining (Common Space Types:Dining Area - Family Restaurant)				
LED 1: S/S/E: Dining Troffer: LED Panel 49W	1	4	59	237
LED 4: D3/D3E: Dining Downlight: LED Panel 19W	1	37	21	781
LED 7: F: Serving Ceiling Fixture: Other	1	4	9	36
6-Restrooms & Vestibule (Common Space Types:Restrooms)				
LED 4: D3/D3E: Dining Downlight: LED Panel 19W	1	8	21	169
LED 11: N: Vanity Fixture: Other	1	2	11	22

Project Title: Chick-fil-A #2131 Report date: 04/12/23
Data filename: Z:\Shared\02 Prototypes\Chick-fil-A\2022\Remodels\22130.HF.R - Ranson, WV - 2131\ComCheck\CFA #2131 2015 IECC ComCheck.cck Page 1 of 9

Total Proposed Watts = 3290

Interior Lighting PASSES: Design 31% better than code
Interior Lighting Compliance Statement
Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: Chick-fil-A #2131 Report date: 04/12/23
Data filename: Z:\Shared\02 Prototypes\Chick-fil-A\2022\Remodels\22130.HF.R - Ranson, WV - 2131\ComCheck\CFA #2131 2015 IECC ComCheck.cck Page 2 of 9

COMcheck Software Version 4.1.5.1
Exterior Lighting Compliance Certificate

Project Information
Energy Code: 2015 IECC
Project Title: Chick-fil-A #2131
Project Type: Addition
Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site: 156 Joshua M Freeman Blvd, Ranson, WV 25438
Owner/Agent: Chick-fil-A, 5200 Buffington Road, Atlanta, GA 30349
Designer/Contractor: Kurzynske & Associates, 2705 Lebanon Pike - Suite One, Nashville, TN 37214, 615-255-5203

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B X C)
Illuminated area of facade wall or surface	2500 ft ²	0.1	No	250
Total Tradable Watts (a) =				0
Total Allowed Watts =				250
Total Allowed Supplemental Watts (b) =				600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Illuminated area of facade wall or surface (2500 ft ²): Non-tradable Wattage				
LED 2: OK: Other	1	1	13	13
LED 3: OJ: Other	1	24	25	600
Total Tradable Proposed Watts =				0

Exterior Lighting PASSES: Design 0.0% better than code

Exterior Lighting Compliance Statement
Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.5.1 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

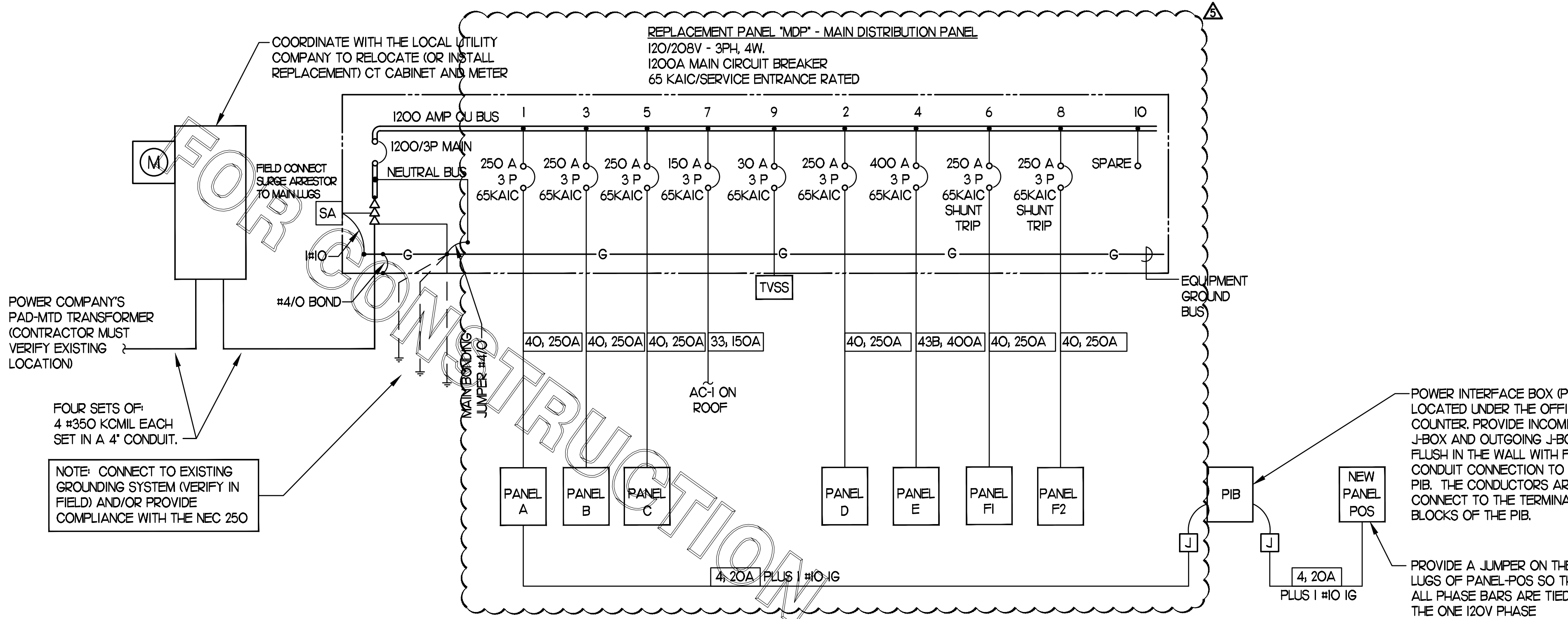
Project Title: Chick-fil-A #2131 Report date: 04/12/23
Data filename: Z:\Shared\02 Prototypes\Chick-fil-A\2022\Remodels\22130.HF.R - Ranson, WV - 2131\ComCheck\CFA #2131 2015 IECC ComCheck.cck Page 3 of 9

FOR CONSTRUCTION

PANELBOARD SCHEDULE -- REPLACEMENT PANEL-A #2131																
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS								
PANELBOARD NAME:		PANELBOARD DESCRIPTION		ARC-FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
MANUFACTURER / TYPE:		PANELBOARD DESCRIPTION		GROUND FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
VOLTS:		PANELBOARD DESCRIPTION		HACR:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
PHASE / WIRE:		PANELBOARD DESCRIPTION		HID LTG RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
MAIN TYPE / CU BUS AMPS:		PANELBOARD DESCRIPTION		HIGH MAG LOAD:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
AC SERIES RATING:		PANELBOARD DESCRIPTION		ISOLATED GROUND:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
MOUNTING:		PANELBOARD DESCRIPTION		LOCK-ON:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
NEMA RATING:		PANELBOARD DESCRIPTION		SHUNT TRIP:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
QUANTITY OF SECTIONS:		PANELBOARD DESCRIPTION		SWITCH RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C		
1	TELEPHONE / VIDEO	190	R	0.360	20/1	A	20/1/GF	0.720	R	GEN OUTLETS	2	A				
3	OFFICE GEN & PRINTER	R	0.900	20/1	B	20/1/GF	1.080	M1	HA	CAPTURE LET FANS	4	A				
7	SOA DISPENSER	315W	K	1.200	20/1	A	20/1	1.440	MS	WATER HEATER/RECRIP. P.	8	B				
9	SOA DISPENSER	315W	K	1.200	20/1	B	20/1/HM	1.440	MS	POS PANEL (THRU UPS)	10	A				
11	SPARE OUTLET - FUTURE	R	0.180	20/1/GF	C	20/1	0.180	R	HA	PLAY AREA OUTLET	12	A				
13	SOA DISPENSER	315W	K	1.200	20/1/GF	A	20/1	1.656	M1	FFZ	14	A				
15	SOA DISPENSER	315W	K	1.200	20/1	B	20/1/LD	0.540	R	SECURITY SYSTEM	16	A				
17	GEN OUTLETS	R	0.720	20/1	C	20/1/GF	1.080	R	HA	GEN OUTLETS	18	A				
19	DOUBLE JUICE DISP	310	K	0.884	20/1/GF	A	20/1	1.258	X	449	WALK-IN COOLER	20	A			
21	TRAINING DESK OUTLET	R	0.360	20/1	A	20/1	1.258	X	449	WALK-IN COOLER	22	A				
23	SPARE OUTLET - FUTURE	R	0.564	20/1/GF	C	15/3/LO	1.140	X	449	WALK-IN COOLER	24	A				
25	CARBONATOR	320	K	0.744	20/1	A	20/1	1.956	X	410	WALK-IN FREEZER	26	A			
27	CARBONATOR	320	K	0.744	20/1	B	35/3/LO	2.221	X	410	WALK-IN FREEZER	28	A			
29	CARBONATOR	320	K	0.744	20/1	C	20/1	2.221	X	410	WALK-IN FREEZER	30	A			
31	CARBONATOR	320	K	0.744	20/1	A	20/1/GF	0.564	X	420	U.C. REFRIGERATOR	32	A			
33	SPARE OUTLET - FUTURE	R	0.744	20/1	B	20/1/GF	0.564	X	420	U.C. REFRIGERATOR	34	A				
35	ROOSTER PUMP	MS	1.440	20/2	C	20/1/GF	0.756	X	421	U.C. REFRIGERATOR	36	A				
37	GEN OUTLETS/DAMPER XF	MI	1.440	20/1	A	20/1	0.540	MS	421	U.C. REFRIGERATOR	38	A				
39	GEN OUTLETS/DAMPER XF	MI	1.440	20/1	A	20/1	0.540	MS	421	U.C. REFRIGERATOR	40	A				
41	FFZ	MS	0.360	20/1	C	20/1	1.200	MS	421	U.C. REFRIGERATOR	42	A				
43	SPARE	R	0.360	20/1	A	20/1					44	A				
45	SPARE	R	0.360	20/1	B	20/1					46	A				
47	SPARE	R	0.360	20/1	C	20/1					48	A				
49	SPARE	R	0.360	20/1	A	20/1					50	A				
51	SPARE	R	0.360	20/1	B	20/1					52	A				
53	SPARE	R	0.360	20/1	C	20/1					54	A				
55	SPARE	R	0.360	20/1	A	20/1					56	A				
57	SPARE	R	0.360	20/1	B	20/1					58	A				
59-83	SPARE	R	0.360	20/1	C	20/1					60-84	A				

PANELBOARD SCHEDULE -- REPLACEMENT PANEL-B #2131															
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS							
PANELBOARD NAME:		PANELBOARD DESCRIPTION		ARC-FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MANUFACTURER / TYPE:		PANELBOARD DESCRIPTION		GROUND FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
VOLTS:		PANELBOARD DESCRIPTION		HACR:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
PHASE / WIRE:		PANELBOARD DESCRIPTION		HID LTG RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MAIN TYPE / CU BUS AMPS:		PANELBOARD DESCRIPTION		HIGH MAG LOAD:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
AC SERIES RATING:		PANELBOARD DESCRIPTION		ISOLATED GROUND:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MOUNTING:		PANELBOARD DESCRIPTION		LOCK-ON:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
NEMA RATING:		PANELBOARD DESCRIPTION		SHUNT TRIP:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
QUANTITY OF SECTIONS:		PANELBOARD DESCRIPTION		SWITCH RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
1	CIRCUIT A - M.L. TABLE	R	1.911	20/1/GF	A	20/1/GF	1.911	K	AC2	CIRCUIT A - M.L. TABLE	2	A			
3	CIRCUIT B - M.L. TABLE	R	1.800	20/1/GF	B	20/1/GF	1.800	K	AC2	CIRCUIT B - M.L. TABLE	4	A			
5	CIRCUIT C - M.L. TABLE	R	0.180	20/1/GF	C	20/1/GF	0.180	R	AC2	CIRCUIT C - M.L. TABLE	6	A			
7	CIRCUIT D - M.L. TABLE	R	1.500	20/1/GF	D	20/1/GF	1.500	K	AC2	CIRCUIT D - M.L. TABLE	8	A			
9	CIRCUIT E - M.L. TABLE	R	1.920	20/1/GF	E	20/1/GF	1.920	K	AC2	CIRCUIT E - M.L. TABLE	10	A			
11	CIRCUIT F - M.L. TABLE	R	0.180	20/1/GF	F	20/1/GF	0.180	R	AC2	CIRCUIT F - M.L. TABLE	12	A			
13	CIRCUIT G - M.L. TABLE	R	0.564	20/1/GF	A	20/1/GF	0.564	X	AC2	CIRCUIT G - M.L. TABLE	14	A			
15	CIRCUIT H - M.L. TABLE	R	2.500	30/2/GF	B	30/2/GF	2.500	K	AC2	CIRCUIT H - M.L. TABLE	16	A			
17	WORKTOP REFRIG	432	X	0.756	20/1/GF	A	20/2/GF	1.250	K	503	EGG COOKER	20	A		
21	UPRIGHT REFRIG	443GT	X	0.960	20/1/GF	C	20/2/GF	1.250	K	503	EGG COOKER	22	A		
23	DROP CORD OUTLET	R	0.180	20/1/GF	C	20/2/GF	1.250	K	503	EGG COOKER	24	A			
25	DROP CORD OUTLET	R	0.180	20/1/GF	C	20/2/GF	1.250	K	503	EGG COOKER	26	A			
27	DROP CORD OUTLET	R	0.180	20/1/GF	C	20/2/GF	1.250	K	503	EGG COOKER	28	A			
29	DROP CORD OUTLET	R	0.180	20/1/GF	C	20/2/GF	1.250	K	503	EGG COOKER	30	A			
31	DROP CORD OUTLET	R	0.180	20/1/GF	C	15/1/GF	0.804	X	422	REFRIG EQUIP STAND	32	A			
33	DROP CORD OUTLET	R	0.180	20/1/GF	B	20/1/GF	0.180	R	AC2	DROP CORD OUTLET	34	A			
35	DROP CORD OUTLET	R	0.180	20/1/GF	C	20/1/GF	0.180	R	AC2	DROP CORD OUTLET	36	A			
37	FLOOR MIXER	600	R	0.960	20/1/GF	A	15/1/GF	1.080	X	441	REFRIGERATED TABLE	38	A		
39	SPARE	R	2.0/1	B	20/1/GF	1.500	K	565C	COOKER/WARMER	40	A				
41	SPARE	R	2.0/1	C	20/1						42	A			
43	SPARE	R	2.640	30/3/GF	A	15/1/GF	0.360	X	440C1	ICE BATH BREAKING TRBS	44	A			
45	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	B	20/1/GF	0.180	R	184	DROP CORD OUTLET	46	A		
47	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	C	20/1/GF	0.180	R	184	DROP CORD OUTLET	48	A		
49	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	A	20/1/GF	0.180	R	184T	DROP CORD OUTLET	50	A		
51	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	B	20/1/GF	0.180	R	184T	DROP CORD OUTLET	52	A		
53	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	C	20/1/GF	0.180	R	184T	DROP CORD OUTLET	54	A		
55	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	A	20/1	1.920	X	444	SPARE FOR THAWING CAB	56	A		
57	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	B	20/1/GF	0.840	X	442T	UPRIGHT REFRIGERATOR	58	A		
59	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	C	20/1	1.920	X	444	THAWING CABINET	60	A		
61	SPARE	R	2.640	30/3/GF	A	20/1/GF	0.180	R	AC2	DROP CORD OUTLET	62	A			
63	SPARE	R	2.640	30/3/GF	B	20/1					64	A			
65	SPARE	R	2.640	30/3/GF	C	20/1					66	A			
67	WORKTOP REFRIG	432	X	0.756	20/1/GF	A	20/1				68	A			
69	DROP CORD OUTLET	R	0.180	20/1/GF	B	20/1					70	A			
71	SPARE	R	0.180	20/1	C	20/1					72	A			
73-83	SPARE	R	0.180	20/1	A	20/1					74-84	A			

PANELBOARD SCHEDULE -- REPLACEMENT PANEL-C #2131															
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS							
PANELBOARD NAME:		PANELBOARD DESCRIPTION		ARC-FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MANUFACTURER / TYPE:		PANELBOARD DESCRIPTION		GROUND FAULT:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
VOLTS:		PANELBOARD DESCRIPTION		HACR:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
PHASE / WIRE:		PANELBOARD DESCRIPTION		HID LTG RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MAIN TYPE / CU BUS AMPS:		PANELBOARD DESCRIPTION		HIGH MAG LOAD:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
AC SERIES RATING:		PANELBOARD DESCRIPTION		ISOLATED GROUND:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
MOUNTING:		PANELBOARD DESCRIPTION		LOCK-ON:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
NEMA RATING:		PANELBOARD DESCRIPTION		SHUNT TRIP:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
QUANTITY OF SECTIONS:		PANELBOARD DESCRIPTION		SWITCH RATED:		BREAKER OPTIONS		LOADS		KVA PHASE A		KVA PHASE B		KVA PHASE C	
1	COUNTER POS STATIONS	MS	0.130	15/1	B	15/1/GF	0.200	MS	ML0P STATION	2	A				
3	COUNTER POS STATIONS	MS	0.130	15/1	C	15/1	0.260	MS	NETWORK CABINET	4	A				
5	OT POS STATION	MS	0.240												



1 SINGLE LINE DIAGRAM
NO SCALE

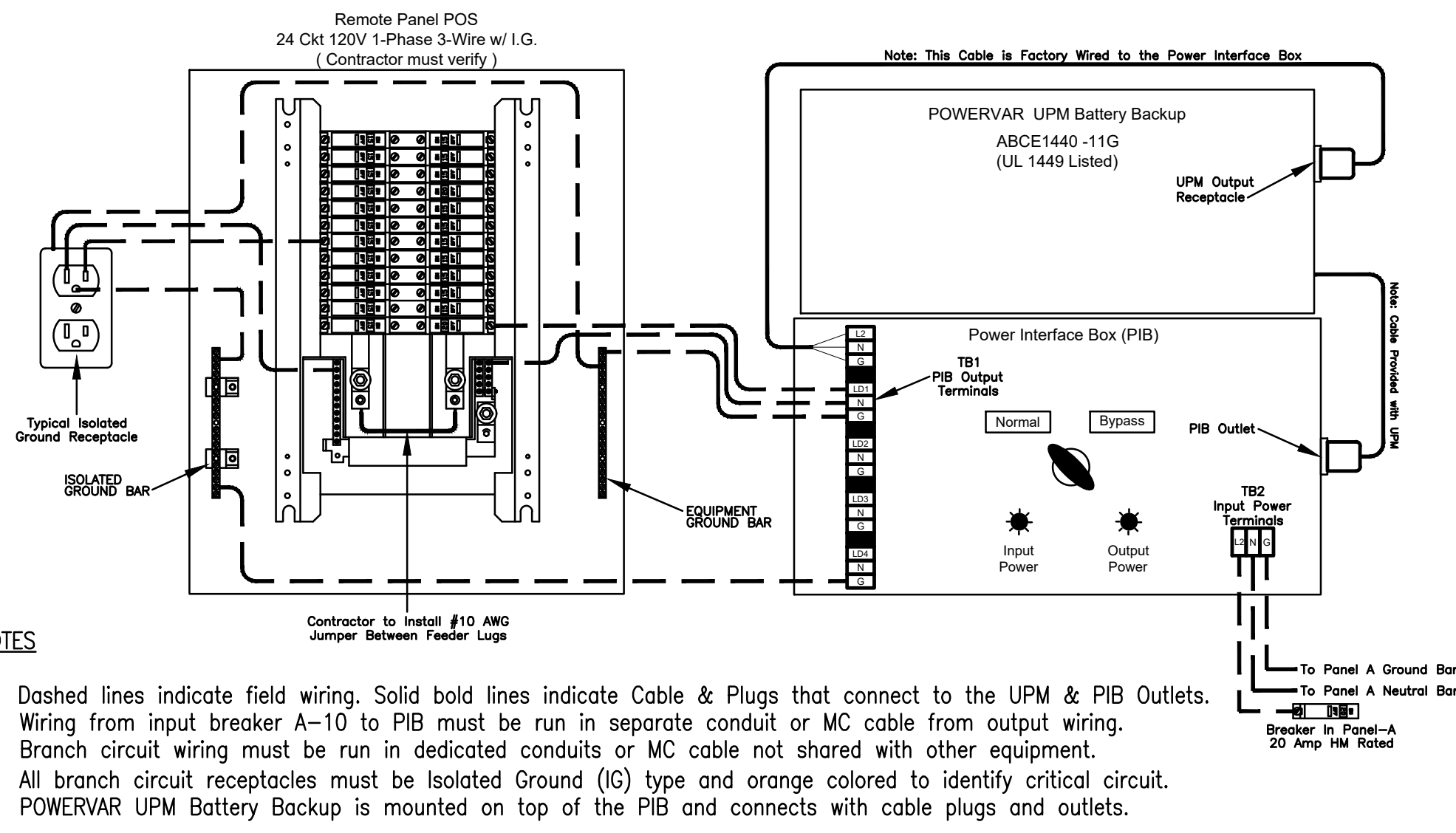
PANELBOARD SCHEDULE - REPLACEMENT PANEL-MDP #2131									
PANELBOARD DESCRIPTION					BREAKER OPTIONS			LOADS	
PANELBOARD NAME:	MDP				ARC-FAULT:	AF	KVA PHASE A	204.7	
MANUFACTURER / TYPE:	SQ-D / I-LINE				GROUND FAULT:	GF	KVA PHASE B	205.1	
VOLTS:	208 Y 120				HACR:	HA	KVA PHASE C	192.7	
PHASE / WIRE:	3 / 4				HID LTG RATED:	HD	AMPS PHASE A	1706	
MAIN TYPE / CU BUS AMPS:	MCB / 1200A/3P				HIGH MAG LOAD:	HM	AMPS PHASE B	1709	
AIC SERIES RATING:	65K				ISOLATED GROUND:	IG	AMPS PHASE C	1606	
MOUNTING:	SURFACE				LOCK-ON:	LO	KVA CONNECTED	602.5	
NEMA RATING:	3R				SHUNT TRIP:	ST	KVA DIVERSIFIED	475.4	
QUANTITY OF SECTIONS:	1				SWITCH RATED:	SW	AMPS CONNECTED	1672	
							AMPS DIVERSIFIED	1320	

PHI	CIR NO.	LOAD DESCRIPTION	EQ NO.	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PHI	CIR BKR *A/P/O	LOAD TYPE	EQ NO.	LOAD DESCRIPTION	CIR NO.	PHI
	1	REPLACEMENT PANEL-A			14.74	250/3	A	250/3			REPLACEMENT PANEL-D	2	
					14.27		B						
					13.38		C						
	3	REPLACEMENT PANEL-B			11.41	250/3	A	400/3			REPLACEMENT PANEL-E	4	
					12.28		B						
					10.55		C						
	5	REPLACEMENT PANEL-C			24.93	250/3	A	250/3/ST			PANEL-F1 (INTERLOCK ST WITH ANSUL SYSTEM)	6	
					21.53		B						
					24.85		C						
	7	REPLACEMENT AC-1			16.08	150/3	A	250/3/ST			PANEL-F2 (INTERLOCK ST WITH ANSUL SYSTEM)	8	
					16.08		B						
					16.08		C						
	9	TVSS				30/3	A	X/3			SPARE	10	
							B						
							C						

*A/P/O INDICATES CIRCUIT BREAKER AMPACITY/NO. POLES/OPTIONS WITH OPTIONS AS NECESSARY

PANELBOARD LOAD SUMMARY			
LOAD DESCRIPTION	TYPE	(KVA) X DEMAND FACTOR	DIVERSIFIED KVA
LIGHTING	L	4.665	5.831
EXTERIOR LIGHTING & SIGNAGE	EL	26.865	33.581
RECEPTACLES	R	16.500	13.250
MISCELLANEOUS	MS	14.284	17.855
HVAC	HV	117.784	117.784
HEAT	HT	17.795	17.795
SINGLE PHASE MOTOR	M1	10.504	13.130
KITCHEN EQUIPMENT	K	343.040	222.976
KITCHEN REFRIG EQUIPMENT	X	51.070	33.196
TOTAL		602.507	475.398

ELECTRICAL LOAD SUMMARY - Store #2131	
(NOT ALL ELECTRIC RESTAURANT)	
THE FOLLOWING IS BASED ON NEC 220.88	
LOAD DESCRIPTION	KVA
LIGHTING	4.67
EXTERIOR LTG AND SIGNAGE	26.87
RECEPTACLES	16.50
MISCELLANEOUS	14.28
AIR CONDITIONING	117.78
ELECTRIC HEAT	17.80
SINGLE PHASE MOTORS	10.50
KITCHEN EQUIPMENT	343.04
KITCHEN REFRIGERATION EQUIPMENT	\$1.07
TOTAL CONNECTED KVA	602.51
IF TOTAL IS 0-200 KVA, THEN TOTAL LOAD 100%	0.00
IF TOTAL IS 201-325 KVA, THEN LOAD OVER 200 AT 50% + 200	0.00
IF TOTAL LOAD IS 326-800 KVA, THEN LOAD OVER 325 AT 45% + 262.5	387.38
IF TOTAL LOAD IS OVER 800 KVA, THEN LOAD OVER 800 AT 20% + 476.3	0.00
DIVERSIFIED AMPS AT 208 VOLT	1076.05



2 POWERVAR LAPC with PIB and Panel POS Wiring Diagram
NO SCALE

CONDUIT AND CONDUCTORS SCHEDULE																	
Mark No.	OCP Device Amp/Poles	Conductors		Conductors			Raceway Size (nominal inches)										
		Total Ampacity	60d C	75d C	Phase Qty	Neutral Size	Min Eq Grd Size	No. Sets	Phase, EMT	Neutral, IMC	Equip Grd, RIGID	With Isolated Ground, PVC	EMT	IMC	PVC		
1	20/1	20	-	-	2	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
2	20/2	20	-	-	3	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
3	20/3	20	-	-	4	12	THHN	1	12	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4	25/1	30	-	-	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
5	25/2	30	-	-	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
6	25/3	30	-	-	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
7	30/1	30	-	-	2	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
8	30/2	30	-	-	3	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
9	30/3	30	-	-	4	10	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
10	40/1	40	-	-	2	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
11	40/2	40	-	-	3	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
12	40/3	40	-	-	4	8	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	1.00
13	50/1	55	-	-	2	6	THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
14	50/2	55	-	-	3	6	THHN	1	10	One	0.75	0.75	0.75	0.75	1.00	1.00	1.00
15	50/3	55	-	-	4	6	THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00	1.00
16	60/1	70	-	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
17	60/2	70	-	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
18	60/3	70	-	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
19	70/1	70	-	-	2	4	THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
20	70/2	70	-	-	3	4	THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
21	70/3	70	-	-	4	4	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
22	80/2	85	-	-	3	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
23	80/3	85	-	-	4	3	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
24	90/2	95	-	-	3	2	THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
25	90/3	95	-	-	4	2	THW	1	8	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
26	100/2	110	-	-	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
27	100/3	110	-	-	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
28	110/2	-	115	-	3	2	THW	1	6	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
29	110/3	-	115	-	4	2	THW	1	6	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
30	125/2	-	130	-	3	1	THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
31	125/3	-	130	-	4	1	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
32	150/2	-	150	-	3	1/0	THW	1	6	One	2.00	1.50	2.00	2.00	2.00	2.00	2.00
33	150/3	-	150	-	4	1/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
34	175/2	-	175	-	3	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
35	175/3	-	175	-	4	2/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
36	200/2	-	200	-	3	3/0	THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
37	200/3	-	200	-	4	3/0	THW	1	6	One	2.50	2.50	2.50	2.50	2.50	2.50	2.50
38	225/2	-	230	-	3	4/0	THW	1	4	One	2.50	2.00	2.50	2.50	2.50	2.50	2.50
39	225/3	-	230	-	4	4/0	THW	1	4	One	2.50	2.50	2.50	2.50	2.50	3.00	3.00
40	250/3	-	255	-	4	250	THW	1	4	One	2.50	3.00	3.00	3.00	3.00	3.00	3.00
41A	300/3	-	285	-	4	300	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
41B	300/3	-	310	-	4	350	THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
42A	350/3	-	335	-	4	400	THW	1	4	One	3.00	3.50	3.50	3.50	3.50	3.50	3.50
42B	350/3	-	380	-	4	500	THW	1	4	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43A	400/3	-	380	-	4	500	THW	1	3	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
43B	400/3	-	400	-	4	3/0	THW	2	3	Two	2.50	2.50	2.50	2.50	2.50	2.50	2.50
44A	600/3	-	570	-	4	300	THW	2	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.00
44B	600/3	-	620	-	4	350	THW	2	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.50
45A	800/3	-	760	-	4	500	THW	2	1/0	Two	3.50	3.50	3.50	3.50	3.50	3.50	3.50
45B	800/3	-	820	-	4	600	THW	2	1/0	Two	4.00	4.00	4.00	4.00	4.00	4.00	4.00
46	1000/3	-	1005	-	4	400	THW	3	2/0	Three	3.50	3.50	3.50	3.50	3.50	3.50	3.50
47	1200/3	-	1240	-	4	350	THW	4	3/0	Four	3.50	3.50	3.50	3.50	3.50	3.50	4.00
48	1600/3	-	1675	-	4	400											

SECTION C16100 ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

- 1.01 WORK INCLUDED
A. Provide all materials, labor and equipment required to furnish and install a complete electrical system as indicated on drawings and as specified herein.
1.02 REGULATORY REQUIREMENTS
A. Equipment furnished shall be UL listed where such label is available.
B. Electrical work shall be installed in accordance with drawings and specifications, NEC and NFPA codes in effect at project location, state and local electrical and building codes and special codes having jurisdiction over specific portions within complete installation.
1.03 SUBMITTALS
A. Submit list of materials and equipment prior to manufacture, order or installation and within twenty days after award of contract for approval.
B. Certified shop drawings and submittals shall bear stamp of approval of contractor as evidence that drawings have been checked.
C. If submittals show variances or substitutions from requirements of contract, contractor shall make specific mention of such variation in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment.
1.04 SITE VISIT
A. Visit job site prior to bid date to determine actual conditions under which work shall be done, to familiarize oneself with project and to verify total scope of work required.

SECTION C16101 BASIC MATERIALS AND METHODS

PART 1 - GENERAL

- 1.01 COORDINATION
A. Obtain and review shop drawings, product data, and manufacturer's instructions for equipment furnished under other sections to determine connection locations and requirements.
B. Sequence rough-in of electrical connections to coordinate with installation and start-up of equipment furnished under other sections.

PART 2 - PRODUCTS

- 2.01 SUBSTITUTIONS
A. Where specifications list one or more manufacturers and do not include "or approved equal", furnish materials made by one of manufacturers listed.
PART 3 - EXECUTION
3.01 INSTALLATION
A. Make electrical connections to utilization equipment in accordance with equipment manufacturer's instructions.
B. Drawings are diagrammatic and shall not be scaled for exact sizes or locations, they are not intended to disclose absolute or unconditional knowledge of actual field conditions.
C. Protect work and materials from damage by weather, entrance of water and dirt.
D. Satisfactorily repair or remove and replace damaged work with new materials.
E. Trenches shall be excavated 6" below elevation of bottom of conduit.
F. Failure to route conduit through building without interfering with other equipment and construction shall not constitute a reason for an extra charge.

PART 3 - EXECUTION

- 3.02 TESTING AND EQUIPMENT SERVICING
A. Make test to ensure that entire system is in proper operating condition, and that adjustments and apparatus setting of circuit breakers, fuses, control equipment and apparatus have been made. Correct defects discovered during tests.

- 3.03 REMOVAL OF DEBRIS
A. Remove surplus materials and debris caused by, or incidental to, electrical work.
3.04 IDENTIFICATION OF EQUIPMENT
A. Identify electrical distribution equipment, disconnects, and contactors with black laminated plastic name-plates, attached with two screws, engraved with 1/4" high, white letters.
3.05 TEMPORARY LIGHTING AND POWER IN AREAS OF CONSTRUCTION
A. Provide, maintain and remove after construction is completed, temporary lighting adequate for workman safety and temporary power for all trades including any 3 phase power required.
B. Provide and maintain barricade lighting where required to adequately protect owner against liability for damage to public or personnel.
3.06 GUARANTEE-WARRANTY
A. Guarantee work to be free from defects of materials and workmanship for a period of one year from date of final acceptance of building.

SECTION C16120 RACEWAYS AND CONDUIT SYSTEMS

PART 1 - PRODUCTS

- 1.01 ACCEPTABLE MANUFACTURERS
A. Rigid IMC, and EMT conduit shall be hot-dipped, galvanized, or electro-galvanized steel by Allied, Republic, Triangle, Wheatland, or approved equal.
B. PVC conduit shall be Carlon, schedule 40, 90 degrees C. rated, unless otherwise noted.
C. MC cable shall be manufactured by AFC Cable Systems or approved equal.
D. Associated couplings, connectors and fittings shall be steel as manufactured by Raco or equivalent.
E. Erickson Couplings, Series 1502, shall be used where neither length of conduit can be rotated.
F. Insulated bushings shall be series 1402.
G. EMT box connectors shall be compression or set-screw fittings.
H. Conduit, connectors, couplings and fittings shall be UL listed and labeled.
1.02 ELECTRICAL METALLIC TUBING (EMT)
A. Use Electrical Metallic Tubing (EMT) where drawings call for conduit to be:
1. Concealed in walls.
2. Installed above suspended ceilings.
3. Installed exposed, above 6 feet.
1.03 INTERMEDIATE METAL CONDUIT (IMC)
A. Use Intermediate Metal Conduit (IMC) where drawings call for conduit to be:
1. Installed for panelboard feeders.
2. Installed in wet locations (interior and exterior).
3. Installed exposed below 6 feet.
1.04 POLYVINYL CHLORIDE (PVC) RACEWAY
A. Use PVC raceway for:
1. Underground service entrance conduits for telephone and power.
2. Exterior branch circuits installed underground.
3. Interior branch circuit conduits installed in or under concrete slab on ground floor.
1.05 RIGID STEEL CONDUIT (RSC)
A. Use Rigid Steel Conduit for:
1. Install underground for power Service Entrance elbows penetrating floor slab.
2. Exposed to physical damage.
1.06 FLEXIBLE METAL CONDUIT
A. Provide flexible metal conduit for termination subject to motion and vibration.
B. Length shall not exceed 6 feet in accessible ceiling areas.
C. Shall not be concealed in walls.
D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
E. For connection to ceiling mounted lighting fixtures from outlet boxes.
1.07 MC (METAL-CLAD) CABLE
A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocked

- galvanized steel, and shall conform to the requirements of Article 330 of the National Electrical Code.
B. MC Cable with an isolated grounding conductor shall be used, concealed above ceiling and in walls, for the connection of the Point Of Sales (POS) system equipment from the isolated ground receptacles to the panelboard serving the POS loads when allowed by local codes and Article 330 of the National Electrical Code.
C. MC Cable may be used when allowed by local codes and Article 330 of the National Electrical Code for branch circuits (except the main homerun to the panelboard which shall be conduit with conductors) for the following:
1. Lighting
2. Dining area receptacles
3. Fly Lights
4. Building mounted signage
5. Office area receptacles
D. MC Cable shall not be used for branch circuits serving Kitchen Equipment Items and similar circuits in the Kitchen, the Drive-Thru area, and the Serving area's back counter.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Minimum size of conduits shall be 1/2 inch.
B. Run concealed conduits in direct line with long sweep bends or offsets.
C. Cap ends of conduits to prevent entrance of water and other foreign material during construction.
D. Provide No. 12 AWG copper pull wires or nylon cord in all empty conduits.
E. Where IMC enters a cabinet, junction box, or pull box conductors shall be protected by an insulated bushing.
F. In areas where enclosed and gasketed fixtures and weatherproof devices are specified, where Rigid Conduit enters a sheet metal enclosure, junction box and outlet box, and not terminated in a threaded hub, a steel, or malleable iron nylon insulated hub, complete with recessed sealing "O" ring or sealing locknut shall be used.
G. Provide seal-off fitting in all conduits entering a cold temperature area such as freezers and dry refrigerators.
H. In concrete slabs, block up conduit from forms and securely fasten in place.
I. Failure to route conduit through building without interfering with other equipment, and construction shall not constitute a reason for an extra charge.
2.02 EMT (ELECTRICAL METALLIC TUBING) RACEWAY
A. Do not use Electrical Metallic Tubing in cinder concrete or cinder fill or where conduit system is in contact with dissimilar metals or in wet locations.
2.03 PVC RACEWAY
A. Use threaded fittings for all connectors and adapters.
E. Provide 1/4-inch nylon pull rope in all primary power and incoming telephone service entrance conduits.
F. PVC conduit shall convert to galvanized rigid metal per detail on drawings.
2.04 FLEXIBLE METAL CONDUIT
A. Where fittings for liquid tight flexible conduit are brought into an enclosure with a knock-out, a gasket assembly, consisting of one piece "O" ring, with Buna-N sealing material, series 3400, shall be installed on outside of box.
B. In dry locations, where final connections to motors and other equipment may be made with Flexible Metal Conduit, fittings shall be of steel or malleable iron only with insulated throats or insulated bushings, and shall be of wedge and screw type having an angular wedge fitting between convolutions of conduit.
2.05 MC CABLE
A. MC Cable may be used for branch circuits as noted in Part 1 above and where the local code allows use of MC Cable.
B. MC Cables shall be secured and supported by the building structure per the National Electrical Code and any local code requirements.

- 2.06 GUARANTEE-WARRANTY
A. Guarantee work to be free from defects of materials and workmanship for a period of one year from date of final acceptance of building.
B. Provide and maintain barricade lighting where required to adequately protect owner against liability for damage to public or personnel.
3.06 GUARANTEE-WARRANTY
A. Guarantee work to be free from defects of materials and workmanship for a period of one year from date of final acceptance of building.

- 2.07 FLEXIBLE METAL CONDUIT
A. Provide flexible metal conduit for termination subject to motion and vibration.
B. Length shall not exceed 6 feet in accessible ceiling areas.
C. Shall not be concealed in walls.
D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
E. For connection to ceiling mounted lighting fixtures from outlet boxes.
1.07 MC (METAL-CLAD) CABLE
A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocked

- 2.08 FLEXIBLE METAL CONDUIT
A. Provide flexible metal conduit for termination subject to motion and vibration.
B. Length shall not exceed 6 feet in accessible ceiling areas.
C. Shall not be concealed in walls.
D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
E. For connection to ceiling mounted lighting fixtures from outlet boxes.
1.07 MC (METAL-CLAD) CABLE
A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocked

- 2.09 FLEXIBLE METAL CONDUIT
A. Provide flexible metal conduit for termination subject to motion and vibration.
B. Length shall not exceed 6 feet in accessible ceiling areas.
C. Shall not be concealed in walls.
D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
E. For connection to ceiling mounted lighting fixtures from outlet boxes.
1.07 MC (METAL-CLAD) CABLE
A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocked

- 2.10 FLEXIBLE METAL CONDUIT
A. Provide flexible metal conduit for termination subject to motion and vibration.
B. Length shall not exceed 6 feet in accessible ceiling areas.
C. Shall not be concealed in walls.
D. Where exposed to continuous or intermittent moisture, conduit shall be UL Type EF liquidtight or type as indicated.
E. For connection to ceiling mounted lighting fixtures from outlet boxes.
1.07 MC (METAL-CLAD) CABLE
A. MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocked

- B. Conductors shall be manufactured by Triangle, American, Rome, Southwire or approved equal.
C. Provide No. 14 AWG type THHN fixture conductors, for conductors entering lighting fixtures.
D. Branch circuit conductors shall be minimum #12 AWG, copper.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Install pull boxes in circuits or feeders over 100 feet long.
B. Make all splices or connections only at outlet, pull or junction boxes.
C. All conductors and connections shall test free of grounds, shorts, and opens prior to energizing circuit.
D. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100 feet linear length to prevent excessive voltage drop.
E. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.
F. Make feeder taps and joints with OZ Type T, PT, PM or PTS, or approved equivalent clamp connectors as manufactured by Kupler, or with approved compression sleeves.
G. Leave a minimum of 8" slack wire in every outlet box.
H. Provide color coded wire and with a different color for each phase and neutral and ground as follows: Phase A, B, C: Black, Red and Blue respectively; Neutral: White; Isolated Ground: Green with Yellow Stripes.
I. All conductors shall be continuous from origin to panel or equipment termination without splices where possible.
J. Tighten all electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values.

SECTION C16122 OUTLET AND JUNCTION BOXES

PART 1 - GENERAL

- 1.01 PROJECT CONDITIONS
A. Verify field measurements are as shown on drawings.
B. Verify locations of floor boxes and outlets in work areas prior to rough-in.

PART 2 - PRODUCTS

- 2.01 OUTLET BOXES
A. Sheet metal outlet boxes: galvanized steel.
B. Cast boxes: type FS, cast ferrolloy. Provide gasketed cover by box manufacturer.
C. Manufacturers: National, Appleton, General Electric, RACO, OR Steel City.
D. Provide boxes for fixtures with fixture studs in center.
E. Outlet boxes for lighting, switches and receptacles in interior areas with exposed conduit shall be pressed steel and in exterior areas with exposed conduit shall be cast metal with threaded hubs, "FS" type.
2.02 PULL AND JUNCTION BOXES
A. Sheet metal boxes: galvanized steel.
B. Surface-mounted cast metal box: type 4, flat-flanged, surface-mounted junction box.
C. In-ground cast metal box: inside flanged, recessed cover box for flush mounting.
D. Manufacturers: National, Appleton, General Electric, RACO, Oz-Gedney or Steel City.

PART 3 - EXECUTION

- 3.01 INSTALLATION
A. Install electrical boxes as shown on drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
B. Install pull boxes and junction boxes above accessible ceilings.
C. Inaccessible ceiling areas: Install outlet and junction boxes no more than 6

- inches from ceiling access panel or from removable recessed light fixture.
D. Use flush mounting outlet boxes in finished areas.
E. Use stamped steel bridges to fasten flush mounting outlet box between studs.
F. Install flush mounted box without damaging wall insulation or reducing its effectiveness.
G. Use adjustable steel channel fasteners for hung ceiling outlet box.
H. Do not fasten boxes to ceiling support wires.
I. Support boxes independently of conduit, except cast box that is connected to two Rigid Metal Conduits both supported within 12 inches of box.
J. Use gang box where more than one device is mounted together.
K. Use gang box with plaster ring for single device outlets.
L. Use cast outlet box in exterior locations and wet locations.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Install pull boxes in circuits or feeders over 100 feet long.
B. Make all splices or connections only at outlet, pull or junction boxes.
C. All conductors and connections shall test free of grounds, shorts, and opens prior to energizing circuit.
D. Provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 100 feet linear length to prevent excessive voltage drop.
E. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.
F. Make feeder taps and joints with OZ Type T, PT, PM or PTS, or approved equivalent clamp connectors as manufactured by Kupler, or with approved compression sleeves.
G. Leave a minimum of 8" slack wire in every outlet box.
H. Provide color coded wire and with a different color for each phase and neutral and ground as follows: Phase A, B, C: Black, Red and Blue respectively; Neutral: White; Isolated Ground: Green with Yellow Stripes.
I. All conductors shall be continuous from origin to panel or equipment termination without splices where possible.
J. Tighten all electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values.

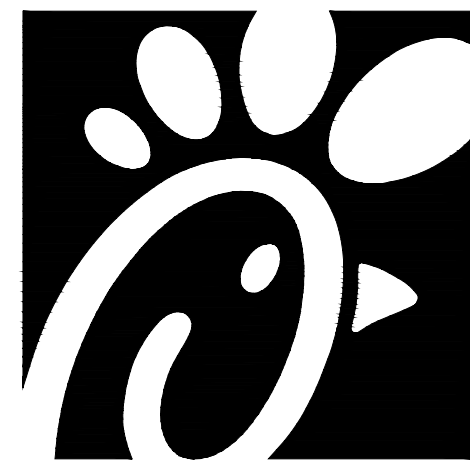
SECTION C16123 GROUNDING AND BONDING

PART 1 - PRODUCTS

- 1.01 ROD ELECTRODES
A. Material: copper-clad steel.
B. Diameter: 3/4 inch.
C. Length: 10 feet.
1.02 MECHANICAL CONNECTORS
A. Material: bronze.
1.03 GROUNDING CONDUCTOR (WIRE)
A. Material: stranded copper, sized to meet NFPA 70, Article 250 requirements.

PART 2 - EXECUTION

- 2.01 INSTALLATION
A. Install rod electrodes at locations indicated.
B. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing.
C. Provide bonding to meet regulatory requirements.
D. Bond together each metallic raceway, pipe, duct and other metal objects.
E. Provide isolated grounding conductor for circuits supplying all isolated ground outlets.
2.02 GROUNDING
A. Ground electrical system in accordance with NEC Article 250 and local authorities having jurisdiction.
B. Install a #3/0 bare copper wire bond across the water meter attached to ground clamps on water line on each side of meter.
C. From the point of entrance of the water main into the building and on the meter side of the main inside water valve and union install a stranded copper cable #3/0 in 1-1/4" conduit to the main distribution panel.
D. Install a green equipment grounding conductor in each raceway, sized per NEC Table 250-122.
E. Install #6 awg copper grounding conductor from ground bar in main telephone box to grounded neutral bus in main distribution panel.
F. All separate grounding electrode conductors shall be bonded together to limit potential differences between them and between their associated wiring systems.
2.03 FIELD QUALITY CONTROL
A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.



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FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: V05.22

Table with 3 columns: NO., DATE, DESCRIPTION

Table with 2 columns: CONSULTANT PROJECT #, PRINTED FOR

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SHEET ELECTRICAL SPECIFICATIONS

SHEET NUMBER

E4.1

SECTION C16124
SUPPORTING DEVICES AND HANGERS

PART 1 - PRODUCTS

- 1.01 ACCEPTABLE MANUFACTURERS
- A. Supporting devices and hangers shall be manufactured by RACO Fasteners, or approved equivalent.

PART 2 - EXECUTION

- 2.01 INSTALLATION
- A. Secure conduits to within 3" of each outlet box, junction box, cabinet, fitting, etc., and at intervals not to exceed ten feet (10') and in accordance with the National Electric Code. In seismic zones, support conduits 1" and under at 6' intervals.
- B. Install clamps secured to structure for feeder and other conduits routed against the structure. Use drop rods and hangers or racks to support conduits run apart from the structure.
- C. Provide and install suitable angle iron, channel iron or steel metal framing with accessories to support or brace electrical equipment including safety switches, fixtures, panelboards, etc.
- D. Use of chains, perforated iron, baling wire, or tie wire for supporting conduit runs is not permitted.
- E. For support of low voltage wiring not required to be in conduit, bundle cables together in a neat manner using approved nylon tie wraps. Bundled cables shall be supported with "J" hooks on telephone type bridle rings, a minimum of 6 feet on centers. Clearly identify all differing types of cables being run and tag with tape tags regarding telephone, POS System, music/communication, security, etc. for various system utilizing said cable. Identification tape shall be provided at minimum intervals of 25 feet on center and within each building space.
- F. Provide a system of supporting devices and hangers to insure secure support or bracing for conduit, electrical equipment, including safety switches, fixtures, panelboards, outlet boxes, junction boxes, cabinets, etc.

SECTION C16140
WIRING DEVICES AND PLATES

PART 1 - PRODUCTS

- 1.01 WALL SWITCHES
- a. Shall be purchased from the National Accounts Vendor indicated on the plans.
- B. Ratings: 20 amps, 120/277 volts a.c. or as identified on drawings.
- C. Devices: (Cooper/Arrow Hart catalog numbers are listed unless noted otherwise):
 - 1. Single pole toggle switches:
 - 20 AMP device - #AH1221-GY (Kitchen) or #AH1221-B (Dining)
 - 20 AMP Pilot lights illuminated with load on - #AH1221-PL
 - 2. Double pole toggle switches:
 - 20 AMP device - #AH1222-GY (Kitchen) or #AH1222-B (Dining)
- 1.02 RECEPTACLES
- A. Shall be purchased from the National Accounts Vendor indicated on the plans.
- B. Devices: (Cooper/Arrow Hart catalog numbers are listed unless otherwise noted):
 - 1. Specification grade devices (grey device color in Kitchen, brown device color in Dining, and orange for IG type) to be 20 amp, 125 volts, a.c. receptacles:
 - Single (simplex) device: #1877-GY (Kitchen) or #1877-B (Dining)
 - Duplex device: #CR20-GY (Kitchen) or #CR20-B (Dining)
 - Tamper Resistant duplex: #TRCR20-B (Vestibules & Play Area)
 - Tamper Resistant USB Charger duplex: #TR7756-B (Dining)
 - GF (ground-fault circuit interrupter) duplex device: #VGF20-GY (Kitchen) or #VGF20-B (Dining)
 - IG (isolated ground) duplex device: #IG5362-RN (orange face)

1.03 SPECIAL DEVICES

- A. Manual motor starter switch: SQ. D Class 2510, Type F, for use on motors up to 3/4 horsepower. Provide NEMA 1 enclosure in dry locations; provide NEMA 3R enclosure in wet or exterior locations.

1.04 WALL PLATES

- A. Provide Cooper/Arrow Hart, or approved equal, smooth satin stainless steel 302-SS series for switches and receptacles in the Kitchen areas. All other areas shall be brown Nylon plastic.
- B. Provide blank plates on all outlet boxes for future outlets, or outlets without devices. Plate style shall match device plates.
- C. Provide non-metallic weatherproof covers for duplex GF receptacles located outside or in wet locations that feature 'while-in-use' cover equivalent to Arrow Hart #WIU-1.
- D. Where devices installed in exposed boxes or conduit fittings; provide properly designed plates and covers equal to Arrow Hart RS-Series exposed work covers.
- E. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted boxes.

PART 2 - EXECUTION

2.01 INSTALLATION

- A. Mounting
 - 1. Mount switches and receptacles at height above finished floor as indicated on plans, and legend.
 - 2. Mount switches on strike side of door maximum 8" from door frame. Outlet box for switch shall be located clear of door frame. Coordinate with architectural plans prior to rough-in.
 - 3. Install switches with off position down.
 - 4. Do not use the feed thru feature for the GF Type receptacle, unless required by the plans.
 - 5. Use jumbo sized plates for outlets installed in masonry walls.
 - 6. Each receptacle shall be provided with a #12 green grounding jumper between the ground terminal of the receptacle and the outlet box.
 - 7. The grounding conductor to each receptacle shall be installed such that the removal of the device will not interfere with the continuity of the ground.
- B. Testing
 - 1. Test each switch and verify proper operation with energized circuit.
 - 2. Test each receptacle for proper polarity on energized circuit.
 - 3. Test each GF receptacle with a GF receptacle tester and verify circuit is opened by GF device at milli-ampere ranges established by the manufacturer.

SECTION C16440
PANELBOARDS

PART 1 - PRODUCTS

- 1.01 MANUFACTURER (via Chick-fil-A National Accounts Program)
- A. Siemens (West, Midwest, and Southwest Regions); from Suncoast Environmental Controls (SEC), Scott Dyer (877) 544-6679.
- B. Square-D (Northeast, Atlantic, and Southeast Regions); from Accu-Serv, Bob Harpring (502) 961-0036.
- 1.02 PANELBOARD FEATURES
- A. Panelboards shall have a minimum symmetrical interrupting rating to meet or exceed the available symmetrical interrupting fault current at the device intended to interrupt current.
- B. Bus bars shall be copper or tin plated aluminum.
- C. Provide factory-installed copper ground bus in each panelboard with lugs or connectors on bar.
- D. Provide electrically isolated, factory installed, neutral bus in each 3 phase, 4 wire or 1 phase 3 wire panelboard.
- E. In addition to the ground bus required by paragraph 1.02D (above), provide factory installed, electrically isolated, copper ground bus in each panelboard serving isolated ground receptacles.
- F. Main lugs and main circuit breaker lugs shall be UL Listed for use with both aluminum and copper conductors.
- G. Provide panelboard doors with chrome-plated locks and catches. All locks shall be keyed alike. Provide two keys for each lock.
- H. Provide thermal-magnetic circuit breakers which are rated for 40 degrees C ambient temperature. Breakers shall be quick-make, quick-break type trip with trip indication shown by handle position other than on or off. Multi-pole breakers shall have a common trip handle. Tandem type circuit breakers shall not be permitted.
- I. Provide typed directory card with clear holder for each panelboard.

PART 2 - EXECUTION

- 2.01 INSTALLATION
- A. Panelboards shall be mounted at height above finished floor such that the height of the top-most breaker in the panel is not more than 6-1/2 feet above finished floor in its highest position per the NEC.
- B. Where multiple panelboards are installed on walls in common areas of buildings, the panelboards shall be installed with the top of all panelboards at the same height.
- C. Provide blank filler plates over all unused spaces in panelboards.
- D. A typed directory card shall indicate devices being served and the space name where the device is located.
- E. Provide minimum of one (1) 3/4" empty spare conduit for every 3 poles of spare breaker or space in the panelboard. Stub conduit to nearest accessible ceiling space. Label conduit as spare at panelboard and termination point.
- F. Non-isolated ground bars shall be grounded to panelboard can and main service entrance ground bus with a code sized grounding conductor installed in the same conduit as the phase and neutral conductors.
- G. Circuits using a common neutral shall be installed in accordance with the National Electrical Code.
- H. Inspect each panelboard for proper installation, physical damage, tightness and installation of overcurrent devices. Verify proper color coding of conductors. Correct or repair all items found in inspection.
- I. Neutral wires, ground wires, and isolated ground wires shall be connected to the appropriate panel bus bar. Do not mix bus wire connections.

SECTION C16441
ENCLOSED SWITCHES

PART 1 - PRODUCTS

1.01 MANUFACTURERS

- A. Square D.
- B. General Electric.
- C. Siemens
- 1.02 ENCLOSED SWITCHES
- A. Nonfusible switch assemblies: NEMA KS 1, General Duty Type for 208 volt load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in on position. Handle lockable in off position. Provide equipment ground lug in each switch.
- B. Enclosures: NEMA KS 1.
 - 1. Interior dry locations: Type 1.
 - 2. Exterior locations: Type 3R.

SECTION C16442
UTILITY SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 - GENERAL

- 1.01 SYSTEM DESCRIPTION
- A. The underground electrical system service characteristics shall be 208Y/120 volts, Three Phase, Four Wire service and shall extend from utility company transformer secondary.
- B. Metering of electrical usage shall be located as required by local electrical utility company. Coordinate requirements with local utility company.
- C. Distribution system originates at secondary of utility transformer and includes service entrance conduit and conductors, distribution equipment, lighting panelboards, utilization equipment, overcurrent devices, disconnecting means, controls, branch and feeder circuits, etc.

PART 2 - PRODUCTS

- 2.01 MATERIALS
- A. Furnish service entrance conduit, cable, and miscellaneous hardware as required by plans and specifications for electrical service entrance and system grounding at main electrical service.

PART 3 - EXECUTION

- 3.01 EXAMINATION AND PREPARATION
- A. Coordinate exact locations of electrical service utility transformer, metering equipment, service lateral, etc. prior to commencement of installation. Contact engineer with conflicts prior to bid.
- B. Ensure pad mounted transformer is not located within roadway or sidewalk.
- C. Coordinate with local electrical utility for all utility company requirements and provide for the following items and any others required by the utility:
 - 1. Concrete pad for utility transformer with required dimensions and details.
 - 2. Primary underground conduit, excavation, and backfill requirements.
 - 3. Pay for all fees associated with establishment of electrical service.
 - 4. Furnish list of loads to the electrical utility company serving the facility.
 - 5. Verify that utility company clearances are provided on all sides of utility equipment.
- D. Ensure proper access to utility equipment is maintained.
- E. Provide pull rope, excavation in accordance with electrical utility company requirements, backfill and concrete envelope for primary in accordance with electrical utility company requirements. Turn conduits up riser pole as required. cap spare conduits 12 inches above grade with plumbers pipe cap.
- F. Provide secondary lugs on utility transformer and perform drilling and installation of lugs in accordance with utility requirements. Type of lugs shall be in accordance with electrical utility company requirements. Connect service conductor to transformer secondary lugs as directed by electrical utility.

SECTION C16500
LIGHTING FIXTURES (LUMINAIRES)

PART 1 - GENERAL

- 1.01 ACCEPTABLE MANUFACTURERS AND VENDORS
- A. Lighting fixtures indicated on lighting fixture schedule are to be purchased from the National Account Vendor for the region of the project (verify region designation with Owner's Representative):
 - 1. Accu-Serv Lighting - Atlantic region and Southeast region. Contact at Accu-Serv: Bob Harpring at 877-707-7378, fax - 502-961-0357, email - bharpring@accu-serv.com
 - 2. Villa Lighting - Midwest region, Northeast region, Southwest region, and West region. Contact at Villa Lighting: Dave Christianell at 800-325-0963, fax- 314-531-8720, email - dave.christianell@villalighting.com
- B. Ballasts to be electronic ballast provided with lighting fixture by the manufacturer.
- C. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

1.02 FIXTURE REQUIREMENTS

- A. Provide regulating, HPF ballasts in all HID lighting fixtures. HID lamp types shall be as indicated on the drawings.
- B. Recessed fluorescent lighting fixture ballasts shall be provided with integral thermal protection.

- C. Provide energy-saving Instant or Rapid Start lamps for all fluorescent fixtures.
- D. All lamps and ballasts shall meet or exceed the requirements of the National Energy Policy Act of 1992 and any other applicable Codes or Criteria.
- E. All components of recessed fixtures shall be accessible without disturbing fixture in or on ceiling.
- F. Energy saving ballasts and energy saving lamps provided shall be compatible for operation together.
- G. Exterior fixtures and poles shall be suitable for exterior use, shall be UL Listed, and shall be a standard design for exterior application.
- H. Exterior poles for fixtures with luminaires installed shall be designed for maximum constant velocity wind load with luminaires installed, applicable to the geographic area.

1.03 CONTROLS

- A. Lighting contactors shall be Square-D, General Electric, Cutler-Hammer or Siemens of types and quantity shown on drawings, except those furnished with the switchgear as part of the National Account Program by Suncoast Environmental Controls (SEC).

1.04 EMERGENCY LIGHTING UNITS

- A. Batteries shall supply emergency power for lighting with minimum operating time of 1-1/2 hours.
- B. Emergency lighting shall be automatically operational upon normal utility power failure.

PART 3 - EXECUTION

- 3.01 INSTALLATION
- A. Lighting fixtures shall be structurally supported. Fluorescent fixtures mounted in suspended ceilings shall be supported by and attached to ceiling system as required by NEC Article 410. In addition, fluorescent troffers shall be supported at two opposite corners to building structure.
- B. Recessed fixtures in dropped ceiling areas shall be connected to power source using flexible conduit. Flexible conduit shall contain a separate insulated green No. 12 copper ground wire. Flexible conduit shall be connected to junction box and fixture. Green ground wire shall provide ground continuity between conduit system and fixture. Grounding conductors shall be permanently and mechanically connected between fixture and conduit system so as to be electrically continuous.
- C. Fixtures surface mounted on exposed tee bar ceilings shall use grip clamps on tee bars to support fixtures.
- D. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminals.
- E. Maintain the integrity of enclosures on enclosed and gasketed fixtures. Minimize the number of enclosure penetrations and make such penetrations water and dust tight with appropriate gaskets and fittings.
- F. Concrete bases shall be provided for all exterior ground mounted or pole mounted fixtures.
- G. Install accessories furnished with each fixture.
- H. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fuseholder with Bussman 'Limitron' fuse of ampere rating 3 times the load current.
- I. Surface and recessed fixtures on or in plastered or drywall ceilings shall be supported by support channels. Support channels shall span across main support channels and shall not depend upon ceilings for support.

3.02 FIELD QUALITY CONTROL

- A. Relamp fixtures that have failed lamps at substantial completion.

SECTION C16506
SPECIAL SYSTEMS

PART 1 - GENERAL

- 1.01 WORK INCLUDED
- A. Furnish and install raceway system for music/communications security, CCTV, POS, and other owner-furnished systems, consisting of empty conduits, junction boxes, outlet boxes, and device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
- B. Interior system equipment will be furnished by Owner's Vendor.
- C. Install special backboxes furnished by Owner's Vendor. Coordinate with the Vendor for the installation. Coordinate with the Vendor if backboxes are to be contractor provided in order to provide and install the appropriate item for the Vendor.

PART 2 - PRODUCTS

- 2.01 MATERIALS
- A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.
- B. Cable shall be in conduit where installed in walls or inaccessible ceilings.
- C. Minimum conduit size shall be 3/4"

PART 3 - EXECUTION

- 3.01 INSTALLATION
- A. Furnish and install conduits, junction boxes, outlet boxes, and plates.
- B. Provide one #10 equivalent nylon pull wire in each system empty conduit.
- C. Provide a complete raceway system in accordance with interior system vendor requirements. Interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
- D. Final connections and testing of systems will be provided by the system vendor. Contractor shall contact the owner's vendor and schedule the work so as to complete system installation and testing prior to occupancy of the facility.
- E. Terminate each conduit stub-up or termination with nylon insulated bushing.

SECTION C16597
TELEPHONE SERVICE

PART 1 - GENERAL

- 1.01 WORK INCLUDED
- A. Furnish and install telephone system consisting of empty conduits, junction boxes, outlet boxes, device plates, etc., as specified and shown on owner selected vendor wiring schematics. Cable, equipment, and installation of the interior system will be provided by the owner's system vendor.
- B. Provide underground PVC, Schedule 40, service conduit as required by plans.
- C. Telephone Utility Company will provide service entrance cable.
- D. Interior telephone system will be furnished by owner's vendor.
- E. Special backboxes (unless otherwise noted) and faceplates will be furnished by the owner's vendor.

PART 2 - PRODUCTS

- 2.01 MATERIALS
- A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for telephone outlets to match those specified in wiring device section. Provide separate conduit to nearest accessible ceiling space from each outlet.
- B. Minimum conduit size shall be 3/4"
- C. Provide lightning arrester for telephone service entrance at main telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.
- D. Cable shall be in conduit where installed in walls or above inaccessible ceiling spaces.

PART 3 - EXECUTION

- 3.01 INSTALLATION
- A. Provide one #10 equivalent nylon pull wire in each empty telephone conduit.
- B. Provide trenching, backfilling, etc., for installation of service entrance conduit in accordance with other divisions, plans, and telephone utility requirements. Provide pull wire in empty conduit.
- C. Coordinate with the local utility for point of service and type of service required. Pay for any utility company charges and fees for establishment of service.
- D. Provide a complete raceway system in accordance with telephone utility company and interior system vendor/utility requirements. Telephone utility company and interior system vendor shall review the drawings. Contractor shall provide for any additional or varying requirements.
- E. Terminate each conduit stub-up or termination with nylon insulated bushings.
- F. Final connections and testing of system will be provided by the system vendor. Contractor shall contact the owner and vendor and schedule the work.

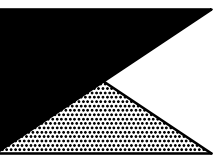
CLOSE OUT DOCUMENT REQUIREMENTS

Provide the following to the building owner upon completion of construction:

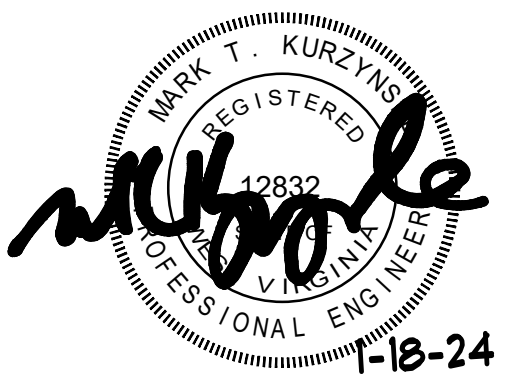
1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
2. Operation manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
3. Names and addresses of at least one qualified service agency.
4. A complete narrative of how each system is intended to operate.



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FSR#02131

BUILDING TYPE / SIZE: S08N-LR-R
RELEASE: v05.22

NO.	DATE	DESCRIPTION

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SHEET NUMBER

E4.2

CONSTRUCTION