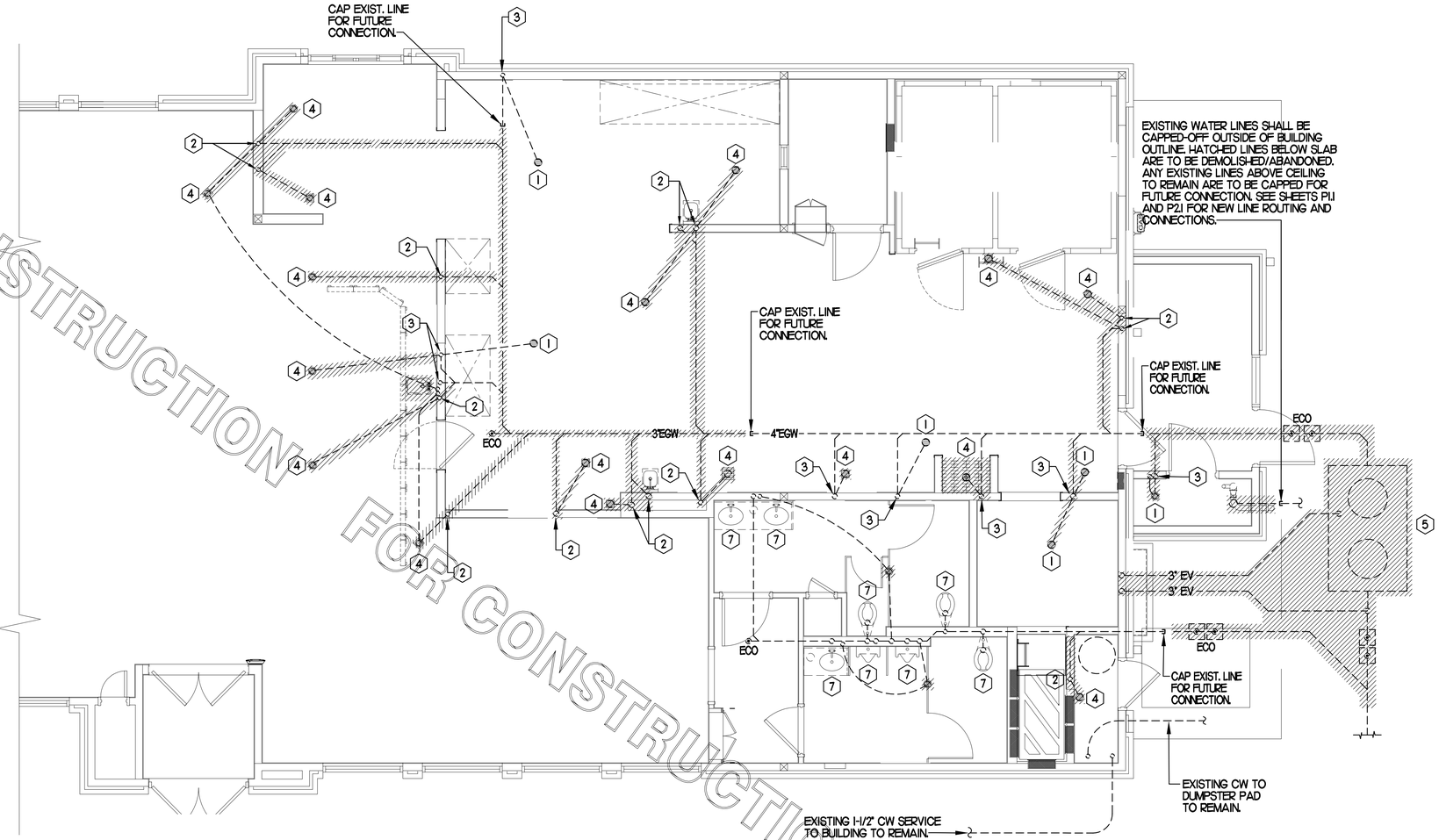


PLUMBING CONTRACTOR SHALL CAP AND ABANDON ALL EXISTING WATER PIPING LOCATED BELOW SLAB AND WITHIN WALLS. WHERE WATER PIPING IS LOCATED IN ACCESSIBLE AREA OR WALL TO BE DEMOLISHED, PIPING SHALL BE DEMOLISHED.

NOTE:
PLUMBING CONTRACTOR SHALL CLEAN OUT THE EXISTING SANITARY SEWER LINE 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"

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.

SHEET NOTES

1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. VERIFY ALL FIXTURES THAT ARE TO BE REUSED ARE IN GOOD USABLE CONDITION, REPLACE FIXTURE IF DEFICIENCIES ARE FOUND
7. 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.
8. 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

1. 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.
2. 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.
3. EXISTING VENT TO REMAIN IN WALL.
4. DEMOLISH EXISTING FLOOR FIXTURE OR ABOVE SLAB FIXTURE, IF NECESSARY, PREPARE LINES FOR CONNECTION OF NEW FIXTURE OR EXTENSION. REFER TO P1.1. COORDINATE WORK WITH G.C. IF FLOOR DRAIN IS DEMOLISHED, IF EXISTING, CAP WATER LINE FROM TRAP PRIMER.
5. REMOVE EXISTING GREASE INTERCEPTOR. DEMOLISH ALL LINES FROM EXISTING GREASE INTERCEPTOR TO POINTS OF CONNECTION INDICATED ON P1.1 AND CIVIL PLANS. COORDINATE WITH SITE & NEW CONSTRUCTION WORK. CAP EXISTING LINES FOR FUTURE CONNECTION WHERE SHOWN.
6. PLUMBING CONTRACTOR SHALL DEMOLISH EXISTING TRAP PRIMER LOCATED BELOW COUNTER AND CAP OFF AND ABANDON EXISTING WATER PIPING BELOW SLAB.
7. DEMOLISH EXISTING RESTROOM FIXTURE. CAP WASTE CONNECTION BELOW SLAB, WHERE APPLICABLE. CAP EXISTING VENT/CW/HW CONNECTIONS BACK TO RESPECTIVE MAINS FOR FUTURE CONNECTION.
8. CAP AND ABANDON BELOW SLAB WATER LINE(S).
9. EXISTING WATER LINES IN WALL AND BELOW SLAB SERVING RESTROOMS ARE TO REMAIN. SEE P1.1 AND P2.1 FOR CONNECTION NOTES.

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 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 LINE(S) IN WALL TO BE DEMO'D	

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

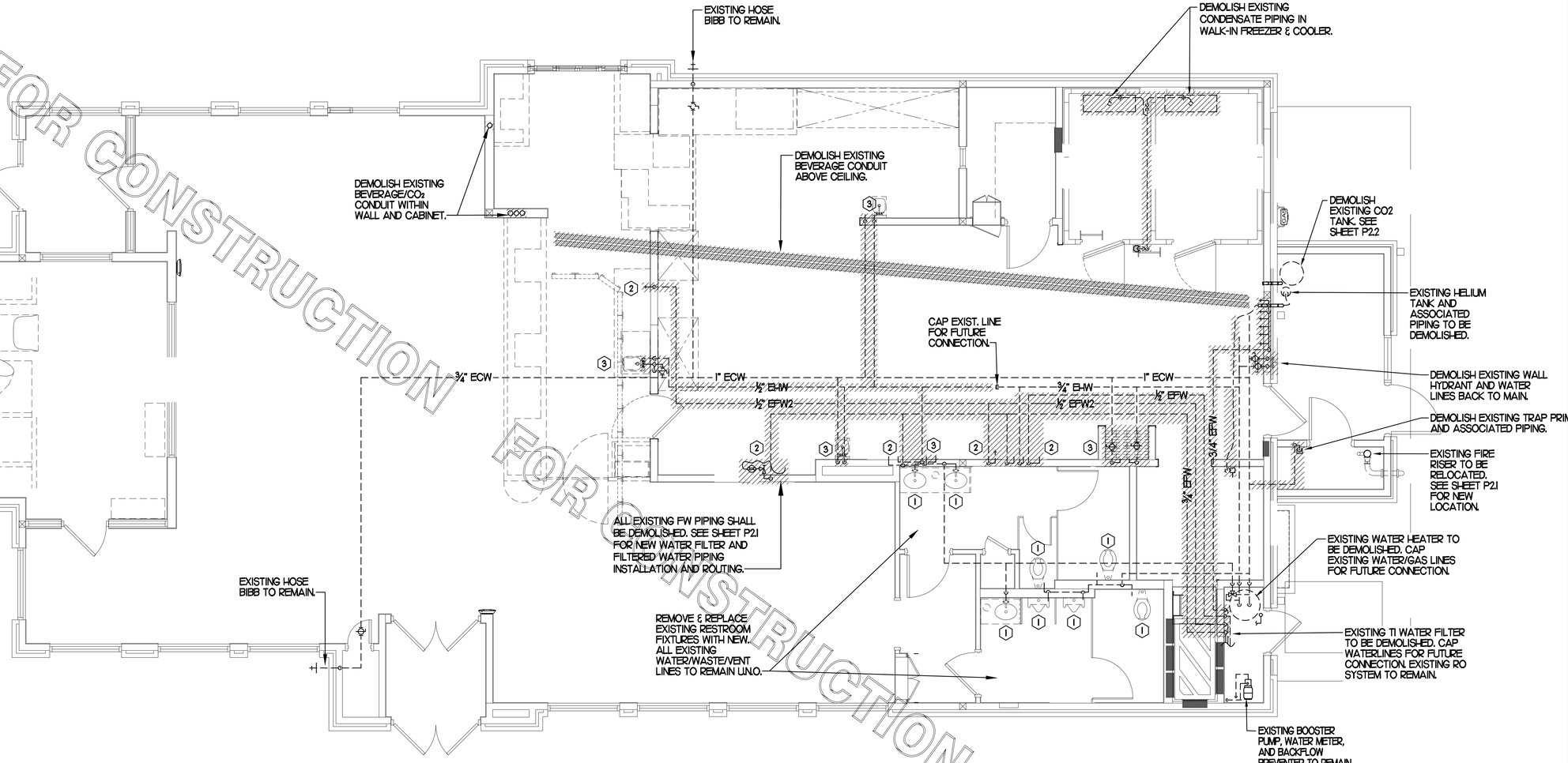
NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY JP

SHEET
BELOW SLAB DEMO PLAN

SHEET NUMBER
P0.1

CONSTRUCTION



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"F----
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 DEMO'D	∞

KEY NOTES

1. 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.
2. DEMOLISH HOT AND/OR COLD AND/OR FILTERED WATER LINES IN WALL AND CAP OFF ABOVE CEILING AND/OR BELOW SLAB.
3. CAP EXISTING WATER LINE(S) ABOVE CEILING FOR FUTURE CONNECTION. SEE SHEET P2.1 FOR ALL NEW WATER PIPING.

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

Kurzynske & Associates
CONSULTING ENGINEERS
2708 Lebanon Pike – Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSTRUCTION

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY AK

SHEET
ABOVE SLAB DEMO PLAN

SHEET NUMBER
P0.2

FLOOR FIXTURE ELEVATIONS

IMPORTANT: INSTALL THE FLOOR FIXTURE SUCH THAT THE TOP-OF-RIM ELEVATION IS AS FOLLOWS:

FIXTURE	TYPE	RIM ELEVATION
P-10	FLOOR DRAIN	1/" BFF
P-35	MOP SINK DRAIN	1" BFF
P-36	INDIRECT WASTE RECEIVER	1/" BFF
P-37	FLOOR DRAIN	1/" BFF

NOTE: THE RIM ELEVATIONS SHOWN HERE SHOULD MATCH THE DEPRESSED SLAB. CONFIRM WITH ARCHITECTURAL PLANS. SEE ARCHITECTURAL PLANS FOR FLOOR SLOPE AT SLAB DEPRESSION FOR FIXTURES INSTALLED BELOW FINISHED FLOOR ELEVATION. FLOOR FIXTURES NOT LISTED HERE SHALL BE INSTALLED FLAT AND FLUSH WITH FINISHED FLOOR ELEVATION.

SITE PIPING NOTES

- CAREFULLY EXAMINE & VERIFY ALL EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
- REFER TO SITE PLAN FOR EXACT LOCATION OF EXISTING & NEW GREASE INTERCEPTOR AND ALL SITE PIPING.
- CLOSELY COORDINATE INSTALLATION W/ EARTH WORK.
- PROVIDE PVC SLEEVES ON ALL PIPING PENETRATING EXISTING OR NEW FOUNDATIONS.

SHEET NOTES

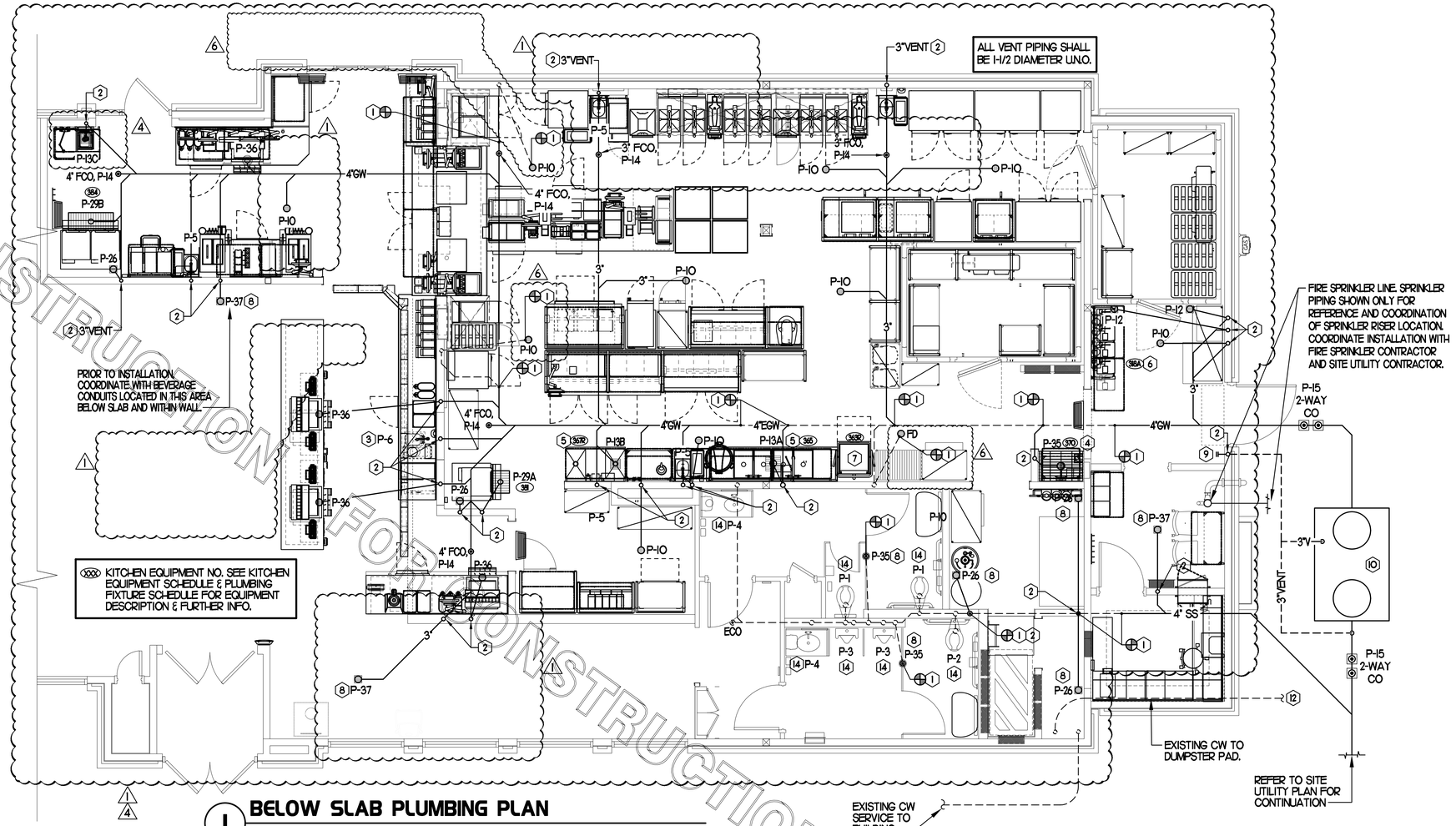
1. COORDINATE INSTALLATION OF SANITARY PIPING WITH FOOTINGS IN THE FIELD. SLEEVE ALL NEW AND EXISTING PIPING PENETRATIONS IN FOOTINGS WITH PVC.
2. WHERE REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION, PROVIDE SAFE-WASTE SYSTEM AS OUTLINED IN STATE AND LOCAL CODE AMENDMENTS.
3. ALL WATER PIPING INSTALLED WITHIN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF THE INSULATION.
4. ALL VENT PIPING TO BE H/2" DIAMETER U.N.O.

MOP SINK NOTE

IMPORTANT: INSTALL P-35 FLOOR DRAIN WITH TOP OF DRAIN 0'-7" BFF. COORDINATE WITH GENERAL CONTRACTOR. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS.

PLUMBING CONTRACTOR SHALL VERIFY LOCATION, INVERT ELEVATION AND FLOW DIRECTION OF EXISTING LINE PRIOR TO ANY WORK. COORDINATE WILL ALL OTHER UTILITIES LOCATED BELOW GROUND PRIOR TO ANY EARTHWORK.

PLUMBING CONTRACTOR SHALL ROUTE ALL NEW VENT LINES SHOWN AND NOTED UP IN WALL AND TO ABOVE CEILING AND MAKE CONNECTION TO NEAREST VENT HEADER THE SAME SIZE OR LARGER.



1 BELOW SLAB PLUMBING PLAN

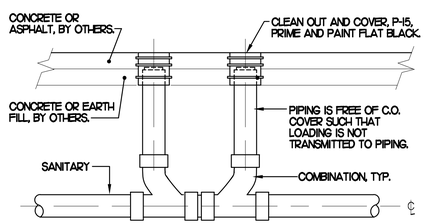
SCALE: 1/4"=1'-0"

KEY NOTES

1. CONNECT NEW WASTE/VENT LINE TO EXISTING AS SHOWN. VERIFY FALL, FLOW DIRECTION AND CONNECTING INVERTS. PROVIDE VENT CONNECTION TO EXISTING SYSTEM WHERE APPLICABLE.
2. ROUTE NEW VENT LINE UP IN WALL TO ABOVE CEILING. MAKE CONNECTION TO EXISTING VENT HEADER OF SAME SIZE OR LARGER. WHERE DRAIN IS LOCATED IN NEW ADDITION, ROUTE VENT LINE UP IN WALL AND ABOVE CEILING INTO EXISTING BUILDING AND MAKE NECESSARY CONNECTION.
3. INSTALL NEW PLUMBING FIXTURE. MAKE CONNECTION TO EXISTING WASTE LINE LOCATED BELOW SLAB/WITHIN WALL. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL PIPE REQUIRED.
4. INSTALL FLOOR DRAIN P-35 AT MOP SINK DEPRESSION WITH TOP OF STRAINER 0'-7" BFF.
5. PROVIDE AND INSTALL NEW WASTE PIPING BELOW KITCHEN SINK. PROVIDE H/2" SHED 40 PVC INDIRECT WASTE DRAIN FROM EACH SINK BASIN TO FLOOR SINK, NO P-TRAPS REQUIRED.
6. OWNER PROVIDED, PLUMBER INSTALLED STOP/BFP PANEL. SEE K-SHEET ELEVATIONS FOR EXACT LOCATION. ROUTE I" DIA SCHED 40 PVC BFP DRAIN TIGHT TO WALL TO TERMINATE AT MOP SINK DRAIN ON OPPOSITE SIDE OF WALL.
7. ROUTE DRAIN LINE FULL SIZE TO FLOOR SINK LOCATED BELOW POT SINK AND TERMINATE WITH CODE APPROVED AIR GAP.
8. PROVIDE WITH TRAP SEAL PROTECTOR, P-26A.
9. INSTALL NEW RESTROOM PLUMBING FIXTURE. MAKE CONNECTION TO EXISTING WASTE LINE LOCATED BELOW SLAB/WITHIN WALL. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL PIPE REQUIRED.
10. PROVIDE AND INSTALL NEW GREASE INTERCEPTOR, REFER TO DETAIL FOR REQUIREMENTS. REFER TO SITE PLAN FOR LOCATION AND ALL CONNECTIONS, VERIFY IN FIELD W/ SITE & NEW CONSTRUCTION WORK. SEE PO.1 FOR DEMOLITION REQUIREMENTS.
11. NEW 3" DIAMETER VENT PIPING UNDER GROUND AND RISER IN WALL. INSTALL WALL CLEANOUT W/ CLEANOUT PLUG CHARLOTTE PIPE NO. 445-X ON RISER AT 3'-0" ABOVE GRADE TO CENTER OF PLUG. INSTALL J.R. SMITH 4760-12"X12" ACCESS DOOR.
12. WHERE NEW BUILDING ADDITION INTERFERES WITH EXISTING REFUSE PAD WATER LINE, PLUMBING CONTRACTOR SHALL ROUTE NEW 3/4" CW BELOW GRADE AS REQUIRED TO YARD HYDRANT. THERE SHALL BE NO JOINTS BELOW SLAB.

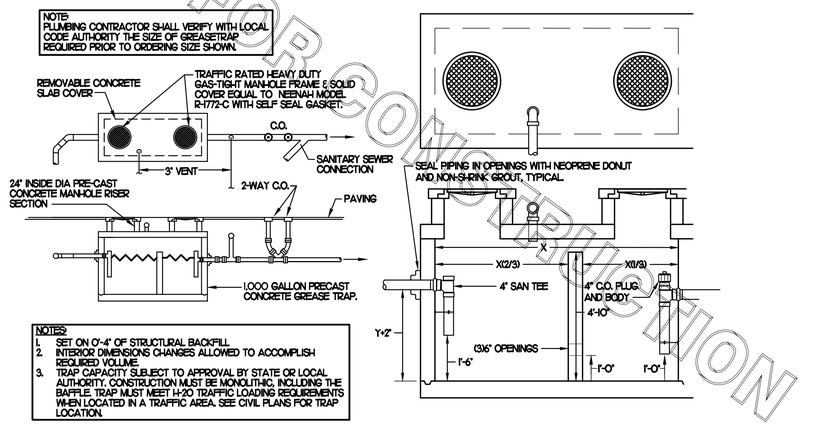
PIPING LEGEND (This Sheet)

EXISTING FLOOR DRAIN	FD
EXISTING FLOOR SINK	FS
EXISTING GREASE WASTE (EGW)	EGW
NEW GREASE WASTE (EGW)	GW
EXISTING SANITARY SEWER (ESS)	ESS
EXISTING COLD WATER UNDER GROUND (ECW)	ECW
EXISTING HOT WATER UNDER GROUND (EHW)	EHW
EXISTING TEMPERED WATER UNDER GROUND (ETW)	ETW
NEW WATER UNDER GROUND (CW, HW, TW OR FW/FW2)	CW
POINT OF CONNECTION	
FLOOR DRAIN	
FLOOR SINK	
FLOOR/EXTERIOR CLEANOUT	



4 SAN. C.O. OUTSIDE BUILDING

SCALE: NONE



2 GREASE INTERCEPTOR

SCALE: NONE

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

MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
COMMONWEALTH OF PENNSYLVANIA
2-15-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

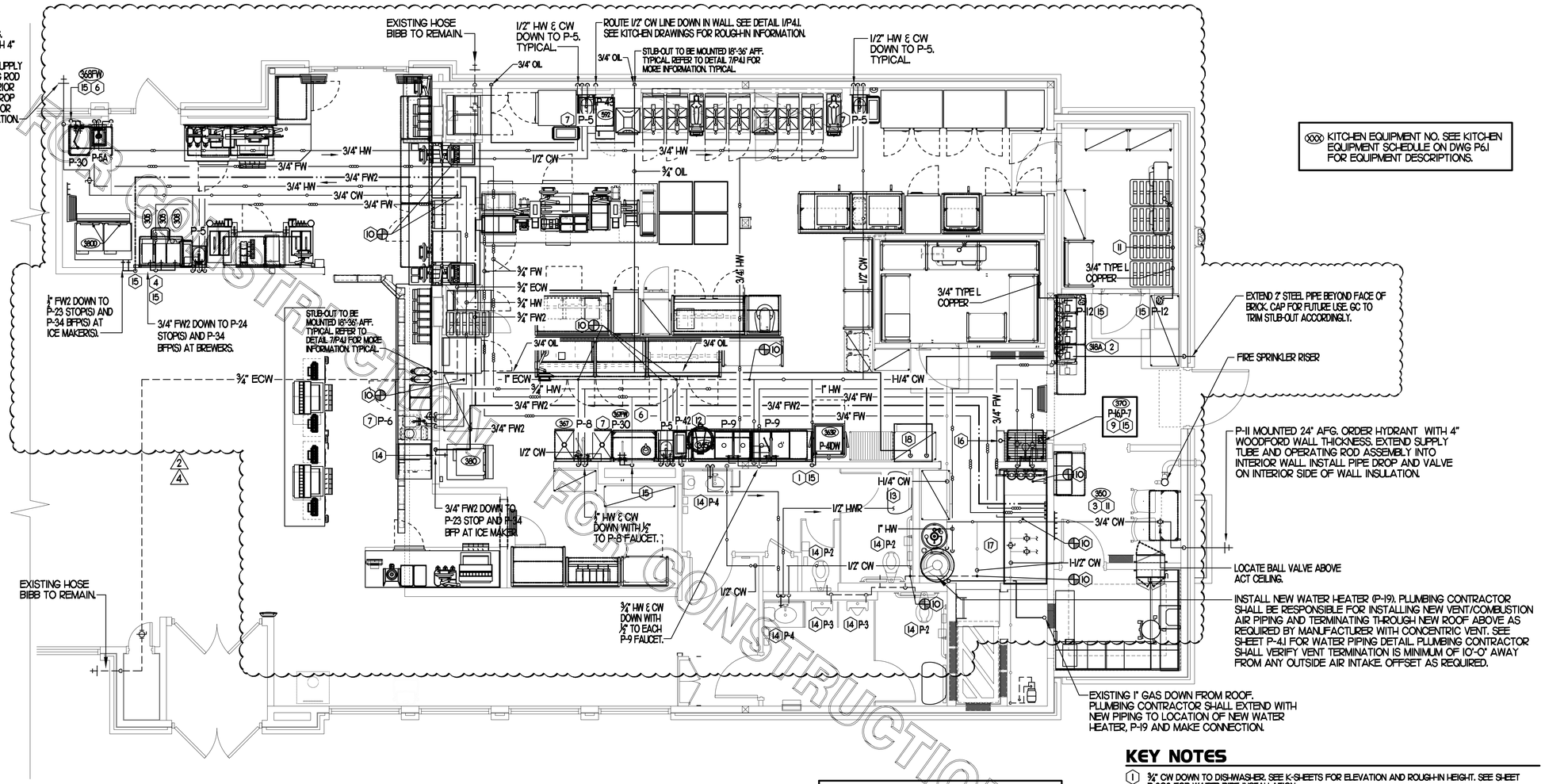
NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision
6	02/07/23	Pre-Bid Notes

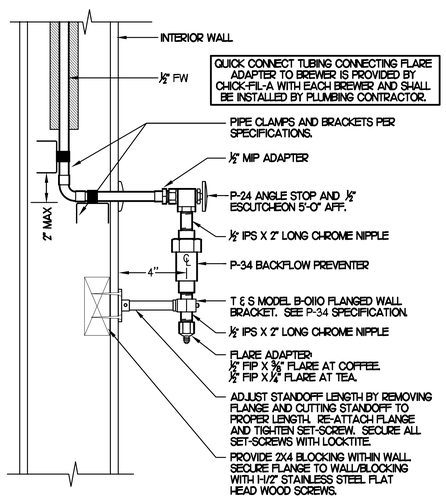
CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY BF

CONSTRUCTION

SHEET
BELOW SLAB PLUMBING PLAN

SHEET NUMBER
P1.1



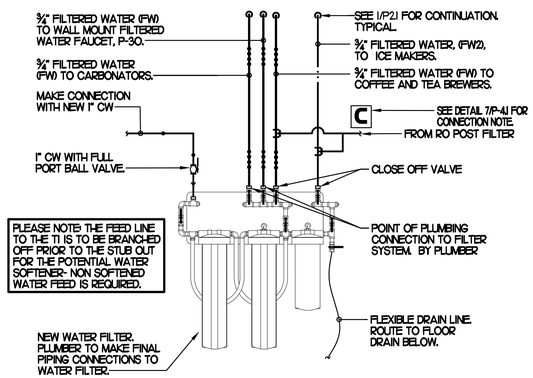


6 COFFEE & TEA BREWER STOP & BFP

NO SCALE

1 ABOVE SLAB PLUMBING PLAN

1/4"=1'-0"



9 WATER FILTER RISER PIPING

SCALE: NONE

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

1. COORDINATE VENT TERMINAL LOCATIONS WITH FRESH AIR HOODS ON ROOFTOP EQUIPMENT SO AS TO MAINTAIN MINIMUM 15'-0" CLEARANCE.
2. HOLD ALL PIPING ABOVE THE CEILING TIGHT TO STRUCTURE. DUCT LOCATIONS TAKE PRIORITY. SEE DRAWING M1.1 FOR DUCT LAYOUT. COORDINATE CONFLICTS WITH GC.
3. SEE K-SHEET ELEVATIONS FOR KITCHEN EQUIPMENT WATER PIPING ROUGH-IN LOCATIONS.
4. VERIFY WALL TYPE AND WALL THICKNESS AT EXTERIOR HOSE BIBBS PRIOR TO ORDERING EQUIPMENT.
5. 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.
6. UNLESS NOTED OTHERWISE, WATER PIPING SHALL BE COPPER OR CPVC AS LISTED IN SPECIFICATIONS. SEE SPECIFICATIONS.

KEY NOTES

1. 3/4" CW DOWN TO DISHWASHER. SEE K-SHEETS FOR ELEVATION AND ROUGH-IN HEIGHT. SEE SHEET P-303 FOR WATER PIPE INSTALLATION.
2. 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.
3. FW & FW2 LINES FROM WATER FILTRATION SYSTEM, REFER TO DETAIL ON P2.2:
   - 3/4" FW TO CARBONATOR
   - 3/4" FW TO JUICE STATION
   - 3/4" FW TO COFFEE & TEA MAKERS
   - 3/4" FW2 TO ICE MACHINES
4. 1/2" FW TO P-24 & P-34 AT TWO (2) TEA BREWERS AND ONE COFFEE MAKER. SEE DETAIL THIS SHEET.
5. 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.
6. 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.
7. PROVIDE 1/2" HW & CW CONNECTIONS TO FIXTURE.
8. 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.
9. 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.
10. MAKE CONNECTION TO EXISTING WATER LINE ABOVE CEILING/WITHIN WALL.
11. NEW WATER FILTERS. SEE DETAIL 9/P2.1.
12. ROUTE 1/2" HW & CW TO P-42 EMERGENCY EYEWASH MIXING VALVE. ROUTE 1/2" TW FROM P-42 VALVE TO EMERGENCY EYEWASH STATION.
13. 1/2" HOT WATER RETURN LINE. MAKE CONNECTION TO CW INLET SIDE OF WATER HEATER. SEE DETAIL 4/P4.1.
14. INSTALL NEW FIXTURE IN RESTROOM, RECONNECT TO EXISTING CW & HW, VENT & SANITARY SEWER SERVICES.
15. INSTALL SHOCK ABSORBER (P-25) AT TOP OF WATER LINE DROP DOWN TO FIXTURE.
16. 1/2" INSULATED CONDENSATE PIPING WITHIN WALL DOWN FROM ROOF. TERMINATE OVER MOP SINK 1'-0" ABOVE GRATE WITH 90 DEGREE ELBOW AND ESCUTCHEON. SEE 1/P4.1 FOR CONTINUATION.
17. WATER SOFTENER SYSTEM TO BE LOCATED WITHIN OUTLINED AREA. SEE DETAIL 6/P4.1 FOR WATER SOFTENER SYSTEM AND WATER LINE CONNECTIONS. PLUMBING CONTRACTOR SHALL ROUTE INCOMING WATER SERVICE TO WATER SOFTENER AFTER BOOSTER PUMP. THERE SHALL BE NO TAKE-OFFS PRIOR TO SOFTENER. SOFTENER DISCHARGE SHALL ROUTE TO CW MAIN LINE AND MAKE CONNECTION AS SHOWN.
18. DEDICATED AREA FOR DARPRO OIL TANK. 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" DIAMETER, 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.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY BF

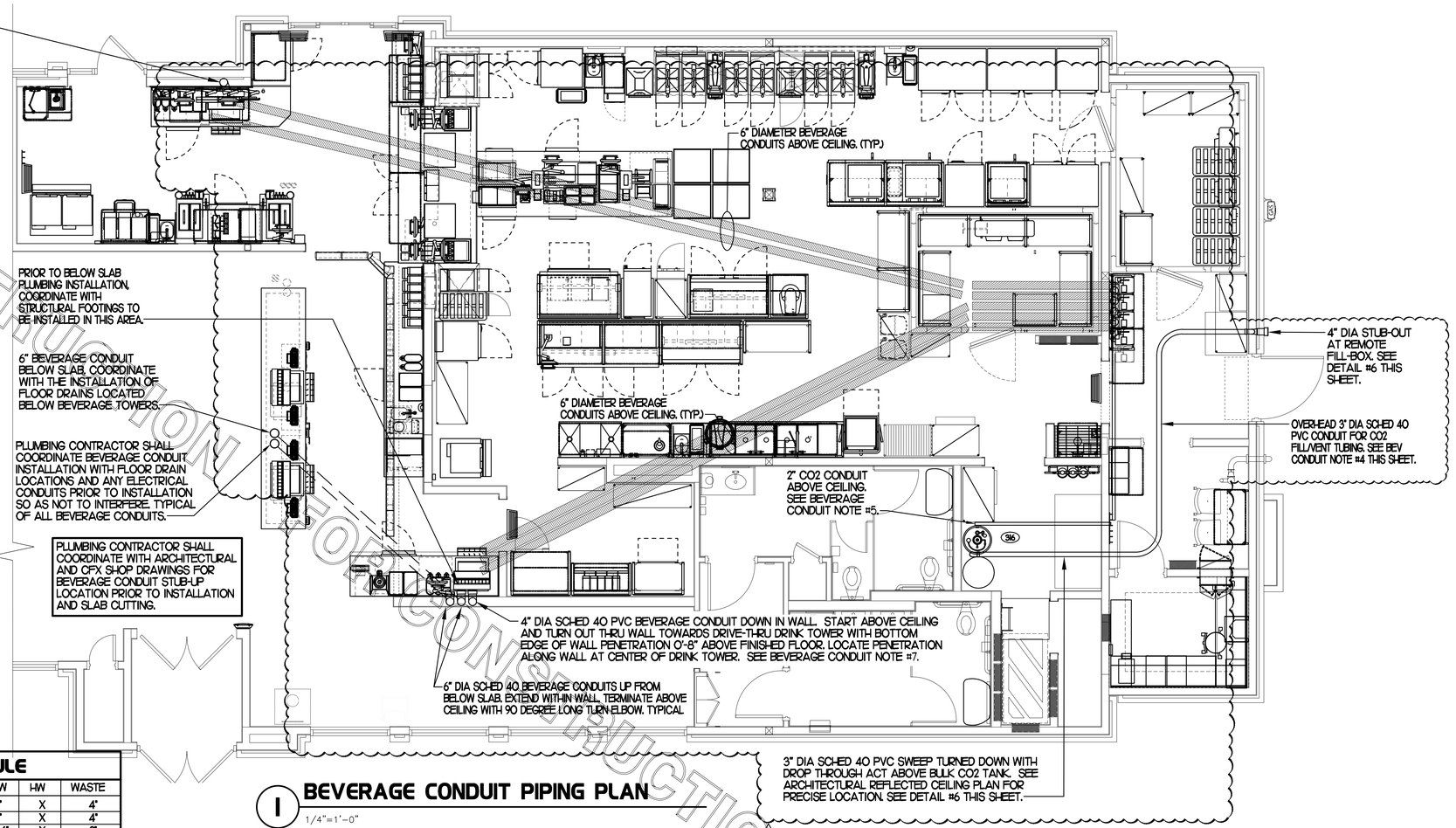
CONSTRUCTION

SHEET: ABOVE SLAB PLUMBING PLAN

SHEET NUMBER **P2.1**

BEVERAGE CONDUIT NOTES

1. REUSE EXISTING BEVERAGE CONDUITS OR THEIR PORTIONS WHERE INDICATED ON DRAWINGS. ROUTE BEVERAGE SYSTEM PIPING OVERHEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN 6" SCH-1 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 OVERHEAD PIPING. COORDINATE ROUTING WITH THE GENERAL CONTRACTOR TO AVOID MECHANICAL AND ELECTRICAL SYSTEMS.
2. COORDINATE ROUTING OF ALL CONDUITS WITH H-VAC DUCT IN KITCHEN. SEE SHEET M-1.1 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 CO_2 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.



1 BEVERAGE CONDUIT PIPING PLAN

1/4"=1'-0"

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-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	RETHERMALIZER SUPPLY VALVE	X	X	1/2"	X	X

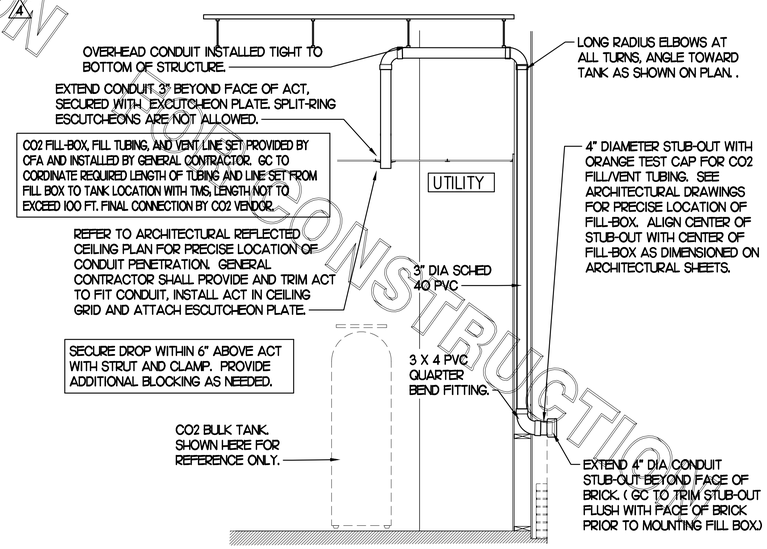
NOTES: ① REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT INSTALLATION AND HOOK-UP RESPONSIBILITIES.

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
300②	TEA BREWER	1/2"	X	X	X	X	P-24
308②	COFFEE MAKER	1/2"	X	X	X	X	P-24
360A	CARBONATOR BFP PANEL	3/4"	X	X	X	X	SEE K-4.1
350	WATER FILTER PANEL	(3) 3/4"	3/4"	3/4"	X	X	SEE DET 9/P2.1
303②	DISHWASHER	X	X	3/4"	X	INDIRECT	SEE K-4.1
365	POT SINK	X	X	(2) 1/2"	(2) 1/2"	INDIRECT	TWO #365F FAUCETS, P-9
367	VEGETABLE PREP SINK	X	X	1/2"	1/2"	INDIRECT	ONE #367F FAUCET, P-8
368FW	KITCHEN WALL FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.
367FW	KITCHEN WALL FAUCET	(2) 1/2"	X	X	X	X	P-30 48" AFF.
370	MOP SINK	X	X	1/2"	1/2"	3" P-35	SEE DET 2/P2.1
381	ICE BIN	X	X	X	X	INDIRECT	P-26 DRAIN
384	ICE BIN	X	X	X	X	INDIRECT	P-26 DRAIN
390	ICE MAKER	X	1/2"	X	X	INDIRECT	P-23, SEE DET3/P4.1
390②	ICE MAKER	X	(2) 1/2"	X	X	INDIRECT	P-23, SEE DET3/P4.1
592	RETHERMALIZER	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, EXSITING TO BE RELOCATED OR EXISTING TO REMAIN IN PLACE.



6 CO2 FILL/VENT CONDUIT AND FILL-BOX INSTALLATION

SCALE: NONE

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

Kurzynske & Associates
CONSULTING ENGINEERS
2708 Lebanon Pike – Suite One
Nashville, Tennessee 37214
Telephone: (615) 255-5203

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

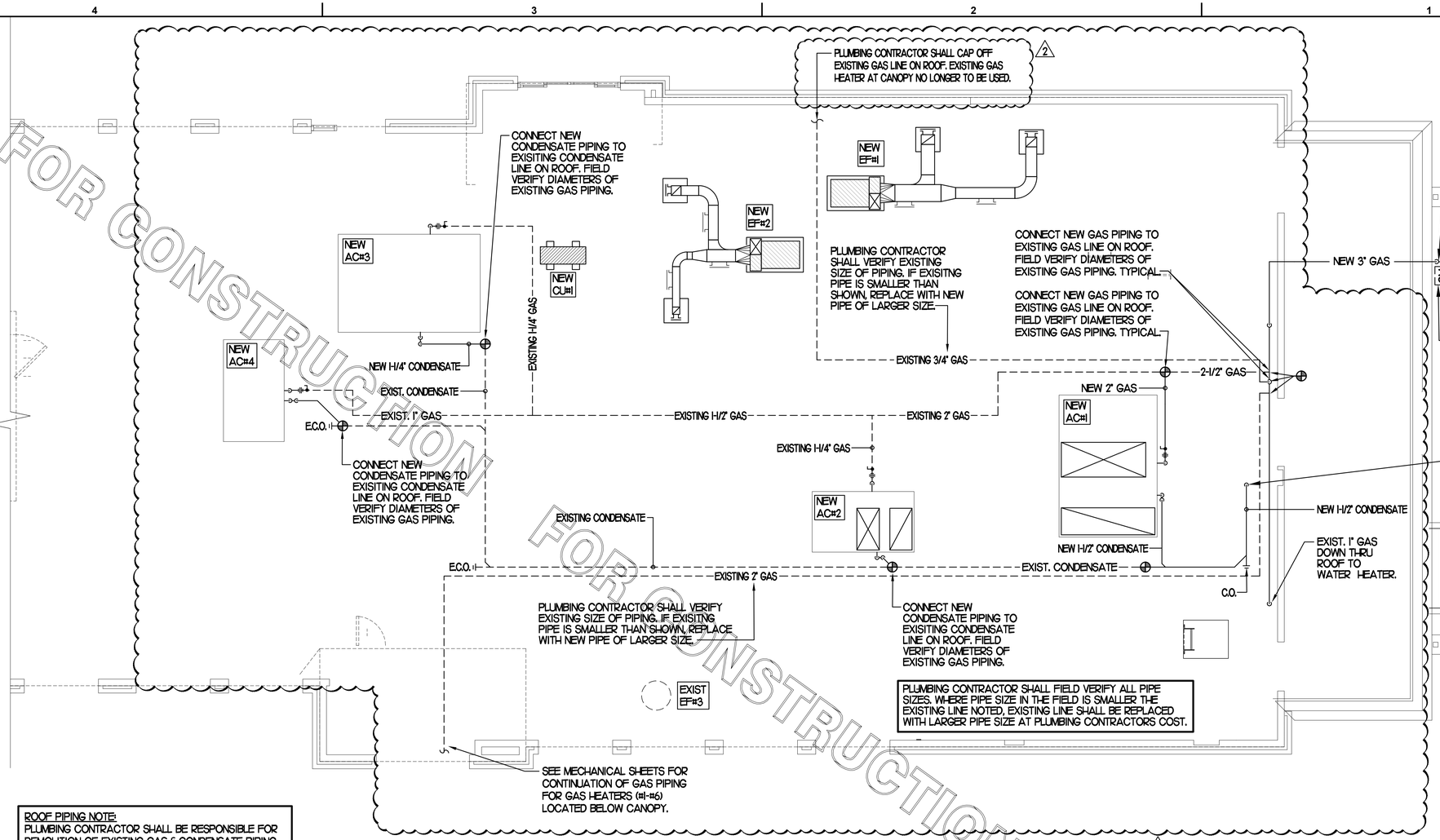
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY BF

SHEET: BEVERAGE CONDUIT PLAN

SHEET NUMBER: **P2.2**

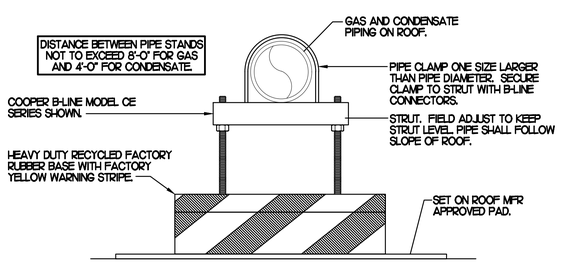


ROOF PIPING NOTE:
PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION OF EXISTING GAS & CONDENSATE PIPING NO LONGER NEEDED ALONG WITH THE INSTALLATION OF ALL NEW GAS & CONDENSATE PIPING REQUIRED. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NEW PIPING REQUIRED.

1 PLUMBING ROOF PLAN

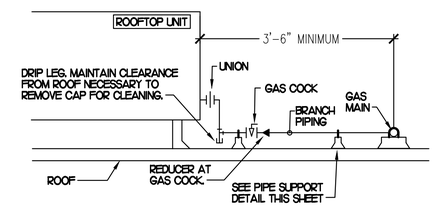
SCALE: 1/4"=1'-0"

NOTES:
1. NON ADJUSTABLE MODEL C10 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
2. 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.
3. 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.



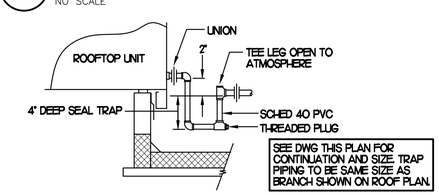
4 PIPING SUPPORT

NO SCALE



3 GAS PIPING AT RTU

NO SCALE



2 CONDENSATE DRAIN PIPING

NO SCALE

SHEET NOTES

1. 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.
2. PIPING ON ROOF SHALL NOT BE INSTALLED NEARER THAN 1'-0" FROM INSIDE EDGE OF PARAPET UNLESS NOTED OTHERWISE.
3. CONDENSATE PIPING ON ROOF SHALL BE SCHEDULE 40 PVC.
4. 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.
5. FIELD VERIFY ALL LOCATIONS, DIAMETERS, CLEARANCES AND ROUTING OF EXISTING LINES AND EQUIPMENT.

2
1

GAS CONNECTION SCHEDULE

EQUIPMENT	GAS LOAD
AC#1 (NEW)	400,000 BTUS
AC#2 (NEW)	200,000 BTUS
AC#3 (NEW)	250,000 BTUS
AC#4 (NEW)	130,000 BTUS
WATER HEATER (NEW)	125,000 BTUS
GH-#1-#6 (50,000 EA)	300,000 BTUS
TOTAL CONNECTED LOAD	1,450,000 BTUS

REMARKS: 1) EQUIVALENT TO 1,450 CFH
2) 7" W.C. DELIVERY PRESSURE
3) DEVELOPED LENGTH 175 FT. (METER TO GH-1)
4) VERIFY GAS LOAD OF EXISTING EQUIPMENT.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

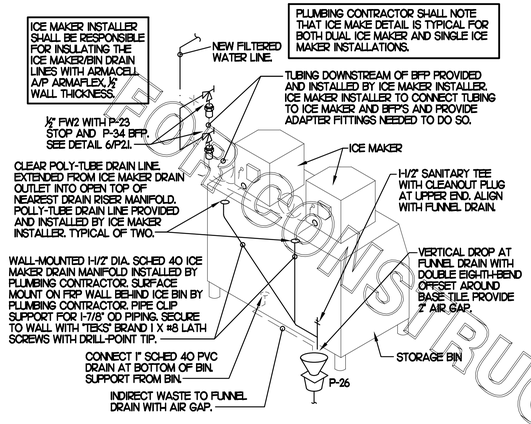
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY BF

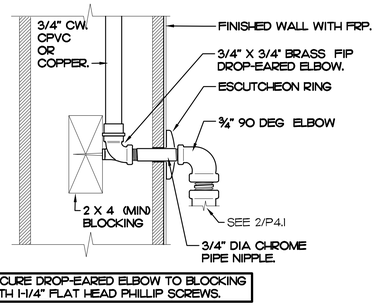
SHEET
ROOF PLAN AND DETAILS

SHEET NUMBER
P3.1



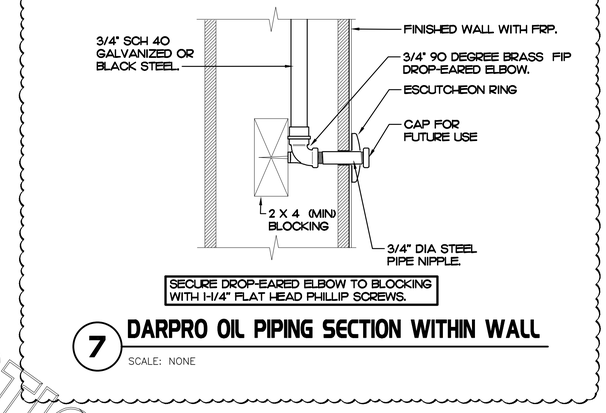
3 ICE MACHINE PIPING

SCALE: NONE



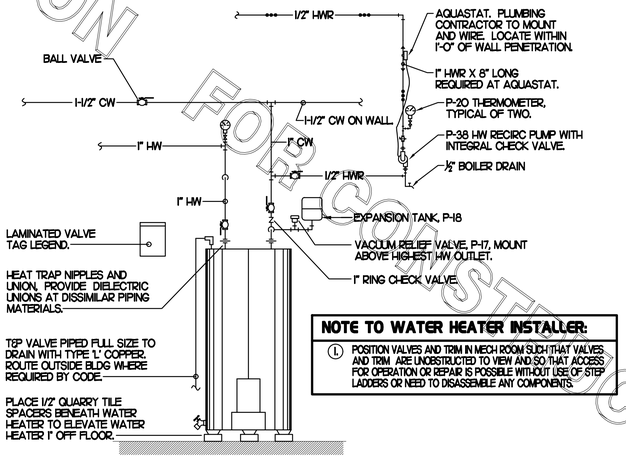
2A SECTION AT PIPING WITHIN WALL

SCALE: NONE



7 DARPRO OIL PIPING SECTION WITHIN WALL

SCALE: NONE

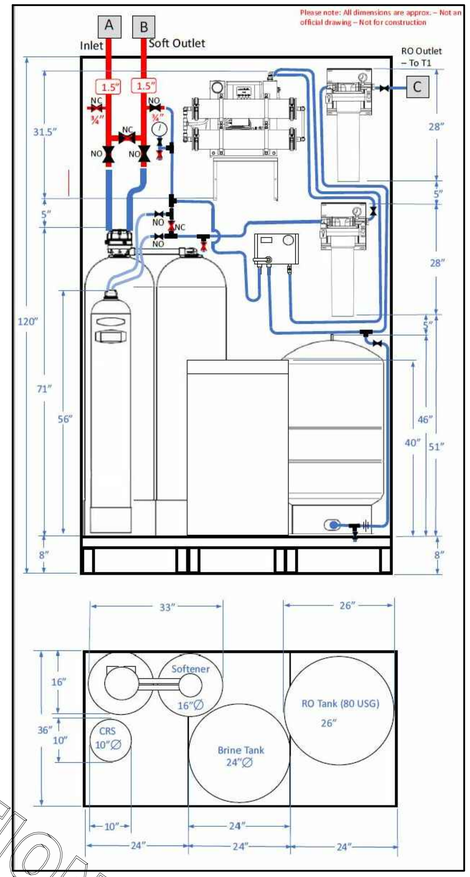


NOTE TO WATER HEATER INSTALLER:

(L) 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

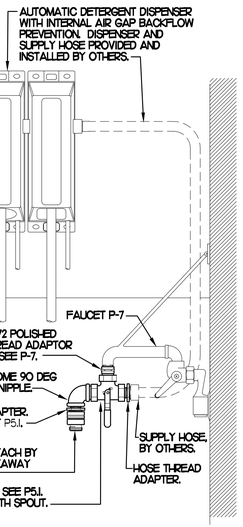


WATER FILTRATION SYSTEM NOTES:

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 T1 FILTRATION SYSTEM (#350). SEE DETAIL.
3. PLUMBING CONTRACTOR SHALL REVIEW DESIGNOTE 2020-017 AND SYSTEMS TYPE GUIDE DEVELOPED BY CFA AND KINETICO.

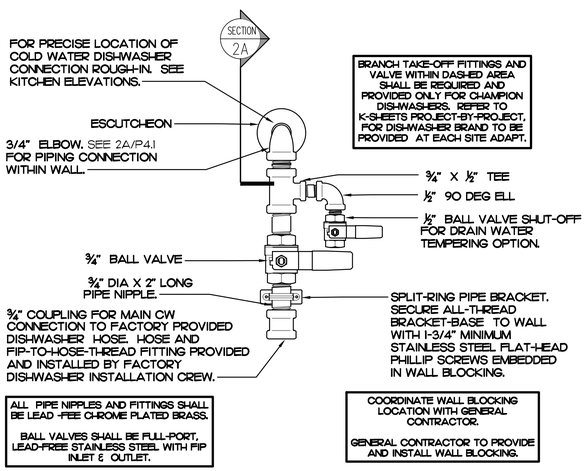
6 TYPE E + BEVERAGE TOWER/COFFEE-TEA / ICE RO + LEMONADE FILTER + WH SOFTENER

SCALE: NONE



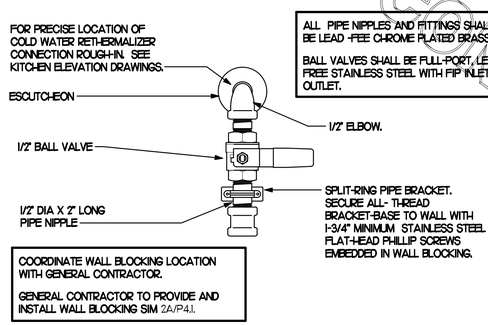
4 3-WAY VALVE AT MOP SINK

SCALE: NONE



2 DISHWASHER WATER SUPPLY VALVE ASSEMBLY

SCALE: NONE



1 RETHERMALIZER WATER SUPPLY VALVE

SCALE: NONE

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY BF

SHEET: PLUMBING DETAILS
SHEET NUMBER: **P4.1**

1. SECTION C15100 - 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 PATTERN 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 FB3-A OR FB3-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 BY 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 DRAWBAND 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 ½" 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 1000F 25/50 FIBERGLASS PIPE COVERING, WHITE KRAFT PAPER VAPOR BARRIER (.02 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 A/P ARMAFLEX WITH MINIMUM ½" 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, 800-875-7768.

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, PIPING SHALL BE JOINED WITH BLACK 150 POUND MALEABLE 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 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 SERVICING 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 ¼" 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 CEMENT, CAPPING 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 DIRT 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. 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.

COORDINATION NOTE

CONTRACTOR SHALL THOROUGHLY REVIEW THE KITCHEN EQUIPMENT DRAWINGS TO ENSURE ALL ITEMS REGARDING THE PLUMBING SCOPE ARE FULLY UNDERSTOOD. MOST NOTABLY, ALL FAUCETS ARE REQUIRED TO BE PROVIDED (THROUGH HJC) & INSTALLED BY THE CONTRACTOR AS OUTLINED IN THE KITCHEN EQUIPMENT SCHEDULES.

NATIONAL ACCOUNTS

1.	TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). HAINES, JONES, & CADBUR LLC. (HJC DISTRIBUTORS). PLEASE CONTACT HJC-CFA CUSTOMER SERVICE REPRESENTATIVE AT (800) 459-7099 OR VIA E-MAIN AT: CFA@HJCINC.COM FOR NATIONAL ACCOUNT PRICING AND DELIVERY FOR ALL ITEMS ON PLUMBING FIXTURE SCHEDULE.

2. PLUMBING FIXTURES

RESTROOM FIXTURES (C15405)

P-1 WATER CLOSET: TOTO MODEL CT705EN BOWL WITH 1.28 GPF TET-1-LA # 32CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. H.C. ACCESSIBLE. WHITE, FLOOR MOUNTED, FLUSH VALVE TYPE, VITREOUS CHINA, 1-1/2" 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 CT705ELN BOWL WITH 1.28 GPF TET-1-LA # 32CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. H.C. ACCESSIBLE. WHITE, FLOOR MOUNTED, 17-1/2" HIGH, FLUSH VALVE TYPE, VITREOUS CHINA, 1-1/2" 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 UT445U URINAL WITH TEU 1 UA 12#CP 0.125 GPF SELF SUSTAINED HYDROPOWER SELF-GENERATING ELECTRONIC SENSOR-OPERATED FLUSH VALVE. NO SUBSTITUTIONS. VITREOUS CHINA, 3/4" TOP SPUD, SENSOR OPERATED WITH MANUAL OVERRIDE BUTTON, INTERNAL VALVE FILTER PROTECTION. PLEASE SEE NATIONAL ACCOUNT INFORMATION ON THIS SHEET FOR PRICING OF TOTO PRODUCTS.

P-4 LAVATORY FAUCET: (BUILT-IN COUNTERTOP LAVATORY PROVIDED BY OWNER) TOTO MODEL TL26551ET#CP ECO-POWER SENSOR HOT/COLD FAUCET WITH THERMOSTATICALLY CONTROLLED ASSE 1070 MIXING VALVE FAUCET, 0.09 GALLONS PER CYCLE. NO SUBSTITUTIONS. PROVIDE MCGUIRE LF175 SUPPLY WITH STOP, MCGUIRE 155-WC GRID DRAIN WITH OFFSET TAILPIECE. MCGUIRE 8872 POLISHED CHROME P-TRAP. P-TRAP SHALL BE PARALLEL WITH BACK WALL. PROVIDE A TRUEBRO INC., HANDI LAV-GUARD INSULATION KITS MODELS 101E-Z AND 105E-Z. 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 #TEL165-C20E#CP - PROVIDED BY HJC WITH TH-P3094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912C POLISHED CHROME P-TRAP (PROVIDED BY HJC). ADJUST FAUCET OUTLET TEMPERATURE TO 110 DEGREES F (OR HIGHER AS REQUIRED BY LOCAL JURISDICTION.

2 P-5A KITCHEN DUMP SINK ROUGH-IN SINK BY TMS, FAUCET: T&S MODEL #B-1146-CFA-WF05 - PROVIDED BY HJC WITH TH-P3094 NOZZLE. CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912C POLISHED CHROME P-TRAP (PROVIDED BY HJC.

P-6 SERVING COUNTER DROP-IN SINK: ROUGH-IN: SINK PROVIDED BY CLAYTON FIXTURE, FAUCET-TOTO MODEL T24751ET#CP WITH 1.0 GPM AERATOR PROVIDED BY HJC. CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. MCGUIRE 8912C POLISHED CHROME P-TRAP AND MCGUIRE LF175R2.0 STOPS WITH 20" CHROME PLATED ½" COPPER RISERS (PROVIDED BY HJC). 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 T&S BRASS MODEL B-23-45 FAUCET WITH CERAMA SPRING CHECK VALVE CARTRIDGES, HOSE THREAD SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TOP 6", INCLUDE T&S BRASS MODEL 43-072 HOSE THREAD X ¾" FEMALE NPT CHROME ADAPTOR. NO SUBSTITUTIONS. SEE ALSO P-16.

P-8 VEGETABLE PREP SINK: ROUGH-IN: (SINK PROVIDED BY TMS, FAUCET T&S B-0152-14-CRBCT WITH 0.65 GPM SPRAY HEAD BY HJC. CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED ½" OD COPPER RISERS MODEL 3-36AC (PROVIDED BY HJC). ASSEMBLE AND MOUNT TWO 1-HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE LINES FROM EACH SINK BASIN TO FLOOR SINK P-13A, NO P-TRAPS REQUIRED. HJC TO PROVIDE FISHER #22209 DRAINS WITH FLAT STRAINERS.

P-9 FOUR COMPARTMENT POT SINK: ROUGH-IN: (SINK PROVIDED BY TMS, FAUCETS: T&S B-0152-14-CRBCT & B2299-CR WITH 0.65 GPM SPRAY HEAD PROVIDED BY HJC). CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS AND MAKE FINAL CONNECTIONS. MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CHROME PLATED ½" OD COPPER RISERS MODEL 3-36AC (PROVIDED BY HJC). ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE LINES FROM EACH SINK BASIN TO FLOOR SINK P-13A, NO P-TRAPS REQUIRED. HJC TO PROVIDE FISHER #22209 DRAINS WITH FLAT STRAINERS.

P-10 FLOOR DRAIN (3"): JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 2110-HP-NB, (WTS) FD103-A8-6O, (ZRN) FRO6NIP3S-C.

P-11 WALL HYDRANT (NON-FREEZE): WOODFORD MODEL 67-C 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/P2.1 FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) HY-42.

P-12 FUNNEL DRAIN (3"): ZURN MODEL ZN415-3NL-6S-4 FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE STRAINER WITH 4" ROUND FUNNEL AT ICE MACHINE & WALK-IN COOLER. ALT: (WTS) FD103P-M6-F4-I, (JRS) 3510L03.

P-13A FLOOR SINK (POT SINK): ZURN MODEL ZI90I-KC-I-3NL-1-23 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 ZI90I-KC-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.

2 P-13C FLOOR SINK (DUMP SINK: 3" WASTE CONNECTION): ZURN MODEL ZI90I-NL-KC-2-23 CAST IRON BODY WITH INDIRECT WASTE RECEIVER, NEO-LOC OUTLET, ANCHOR FLANGSE WITH SEEPAGE HOLES AND CLAMP COLLAR, WITH HALF GRATE, AND ALUMINUM BUCKET. PROVIDE BY HJC. NO SUBSTITUTIONS.

P-14 CLEANOUTS INSIDE BUILDING: ZURN ZN1400-XNL-T-8P CLEANOUT WITH 6" SQUARE NICKEL BRONZE TOP AND TAPER THREAD BRONZE PLUG. SEE PLAN FOR SIZE. ALT (X=PIPE DIA): (WTS) CO-200XP-S, (JRS) 4059-L.

P-15 CLEANOUTS OUTSIDE BUILDING: ZURN Z1474-X-N EXTRA HEAVY DUTY CAST IRON CLEANOUT, "C.O." CAST IN COVER, ABS PLUG, NEO-LOOCK OUTLET. ALT (X=PIPE DIA): (WTS) CO-X00-MF + CO-38X, (ZRN) Z1474-X-N (JRS) 4261-L.

P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH ¾" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS ¾" MIP X ¾" MALE GARDEN HOSE THREAD ADAPTERS (PLUMBEST MODEL G20-009 OR EQUAL). PROVIDE WITH ONE ASSE 1011 APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 34-H-CH OR EQUAL). FOR INSTALLATION AT MOP SINK. SEE 2/P2-1. PROVIDE ALSO TWO ¾" CLOSE CHROME PLATED BRASS NIPPLE AND ¾" POLISHED CHROME 90 DEGREE ELBOW.

P-17 VACUUM RELIEF VALVE: WATTS MODEL #LFN36M, 3/4" CONNECTION.

P-18 EXPANSION TANK: STATE INDUSTRIES MODEL ETC-5X, ACCEPTANCE 3.05 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-6OT-125E-3N STORAGE TYPE GAS FIRED 60 GALLON WATER HEATER, 125 MBH INPUT, 145 GPH RECOVERY AT 100F RISE, DIRECT VENT, BLOWER POWERED, CONDENSING TYPE WITH THREE YEAR WARRANTY (PROVIDED BY HJC). CONTRACTOR TO PROVIDE DIELECTRIC HEAT TRAP NIPPLES. PROVIDE AND INSTALL CONCENTRIC VENT TERMINATION KIT. STATE INDUSTRIES SUF-100-199-NE, RHEEM GHE80-130, AD BRADFORD-WHITE 60T-199-3N MODELS ARE ACCEPTABLE SUBSTITUTES. (ANY SUBSTITUTIONS PROVIDED ON REQUEST FROM HJC)

P-20 THERMOMETER: PROVIDE TRERICE MODEL B834 - 04 - 04 3" DIAL TYPE THERMOMETER WITH BOTTOM 1/2" NPT. CONNECTION, 4" STEM AND O 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. LF007DCAI-QT 1-1/2" DUAL CHECK MODULAR TYPE BACKFLOW PREVENTER MEETING ASSE 1015 AND AWWA C510-92. WHERE REQUIRED BY LOCAL AUTHORITY, USE THE RPZ TYPE BFP SHOWN BELOW. ALT: (ZRN) 112-350XL.

REDUCED PRESSURE ZONE (RPZ) TYPE:
WATTS NO. LF009QM2 1-1/2" MODULAR TYPE WITH TEST PORTS AND INTERMEDIATE RELIEF VALVE MEETING ASSE 1013 AND AWWA C511-89. PROVIDE WATTS NO. 909-AG-C AIR GAP DEVICE. ALT: (ZRN) 112-975XL-2.1

P-22 MOP SINK CHECK VALVES: T&S BRASS 1/2" MODEL B-CVI-2 BALL CHECK.

P-23 UTILITY CONNECTION (ICEMAKER): PROVIDE A MCGUIRE MODEL LFH-5TC6SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCHEON. INSTALL WITH BFP P-34. SEE DETAIL 3/P2-1 FOR PIPING AT ICE MAKERS.

P-24 UTILITY CONNECTION (COFFEE & TEA BREWERS): PROVIDE A MCGUIRE MODEL LFH-5TC6SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND 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, (JRS 5005 THROUGH 5050)

P-26 FUNNEL DRAIN (3"): ZURN ZN415-3NL-8S-OF FLOOR DRAIN W/FUNNEL. INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 8" ROUND STRAINER WITH 3.25"X 8.25" OBLONG FUNNEL. ALT: (WTS) FD-103P-A8-G-1, (JRS) SMITH 3510L03.

P-26A TRAP SEAL PROTECTOR: PREVENT TRAP GUARD MODEL TG3H 3" TRAP SEAL INSERT FOR INTERIOR INSTALLATION AND REPLACEMENT ACCESS THROUGH STRAINER. PROVIDE AT P-35 FLOOR DRAINS IN RESTROOMS, P-37 FLOOR DRAINS DINING ROOM, AND P-26 FUNNEL DRAINS IN MECH ROOM. TRAP GUARDS TO BE USED ALONG WITH MECHANICAL TRAP PRIMERS. 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" N.P.T. CONNECTION AND 0 TO 100 PSI RANGE.

P-28 BALL VALVE: NIBCO MODEL 4660-T, 3/4", WITH IPS INLET AND OUTLET.

P-29A ICE MACHINE TRENCH DRAIN (18"): ZURN ZR12-CFA-18 TRENCH DRAIN WITH SEDIMENT CUP AND SERRATED LADDER GRATES. PROVIDE WITH 4" DRAIN AND TRAP. TRENCH DRAIN SHALL BE RECESSED INTO SLAB SO THE TOP OF THE PERIMETER FRAME IS FLUSH WITH THE FINISHED FACE OF THE ADJACENT TILE FLOOR. TRENCH DRAIN, SEDIMENT CUP, AND GRATES SHALL BE 304 STAINLESS STEEL.

P-29B ICE MACHINE TRENCH DRAIN (36"): ZURN ZR12-CFA-36 TRENCH DRAIN WITH SEDIMENT CUP AND SERRATED LADDER GRATES. PROVIDE WITH 4" DRAIN AND TRAP. TRENCH DRAIN SHALL BE RECESSED INTO SLAB SO THE TOP OF THE PERIMETER FRAME IS FLUSH WITH THE FINISHED FACE OF THE ADJACENT TILE FLOOR. TRENCH DRAIN, SEDIMENT CUP, AND GRATES SHALL BE 304 STAINLESS STEEL.

2 P-30 FILTERED WATER FAUCET: FILTERED WATER FAUCET: FAUCETS: T&S B-0238-CR-0.65X (KITCHEN FAUCET) & T&S B-0599-CR (DRIVE-THRU FAUCET). TWO-HANDLE WALL MOUNT FAUCET WITH SWING SPOUT. MOUNT ON WALL AS SHOWN ON K-SHEETS. PIPE FILTERED WATER TO BOTH SIDES 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 BURY.

P-32 DUMPSTER PAD DRAIN: JR. SMITH FIGURE NO. 2280C

1 KITCHEN EQUIPMENT SCHEDULE - CHICK-FIL-A REMODEL Store #2219

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

SCHEDULE NOTES	EQUIP. NO.	EQUIPMENT DESCRIPTION	ELECTRICAL LOAD VOLTS	PH	WIRES	KW	AMPS	NEMA CONFIG WALL	DROP-CORD	COOPER/ARROW HART (UON) RECEP CATATOG NO.	Wire/Conduit MARK NO.	COMMENTS AND REMARKS
	180	ORDER REGISTER (POS)	120	1	2		0.7	5-20R	N/A	IG5362RN (ORANGE)	1-IG	
	182	RECEIPT PRINTER	120	1	2		0.18	5-20R	5-20R	IG5362RN (ORANGE)	1-IG	
	182L	LABEL PRINTER	120	1	2		0.18	5-20R	5-20R	IG5362RN (ORANGE)	1-IG	
NOTE 5	183	ORDER MONITOR	120	1	2		0.125	5-20R	5-20R	IG5362RN (ORANGE)	1-IG	
NOTE 2 OR 5	184	IPAD	120	1	2	0.120	1.0	5-20R	5-20R	VGF20	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 (DUPLEX)	1	CLOCK STYLE RECEPTACLE REQ'D
	269	ANSUL FIRE SYSTEM	120	1	2		VERIFY	DIRECT	N/A	–	1	FED FROM CFA-T500 PANEL
	270	ANSUL FIRE SYSTEM	120	1	2		VERIFY	DIRECT	N/A	–	1	FED FROM CFA-T500 PANEL
NOTE 2	300a	MILKSHAKE DISPENSER	120	1	2		4.0	5-20R	N/A	1877 (SIMPLEX)	1	
	300X	DOUBLE BARREL ICE DREAM	208	3	3		15.0	15-20R	N/A	HUBBELL HBL8420	2	FURNISHED WITH ANGLE PLUG
			208	3	3		19.0	15-30R	N/A	HUBBELL HBL8430A	8	FURNISHED WITH ANGLE PLUG
NOTE 2	305	TEA BREWER	120	1	2	1.650	13.8	5-20R	N/A	VGF20	1	
	308	COFFEE BREWER	208	3	3	4.000	19.2	L14-30R	N/A	AHL1430R	8	
NOTE 2	309	SINGLE JUICE DISPENSER	120	1	2		3.6	5-20R	N/A	1877 (SIMPLEX)	1	
NOTE 2	310	DOUBLE JUICE DISPENSER	120	1	2		8.5	5-20R	N/A	1877 (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	
	363	HIGH-TEMP DISHMACHINE	208	3	3		49.0	DIRECT	N/A	–	17	PROVIDE IN-SIGHT DISC SWITCH OR PAD-LOCK DEVICE ON BRANCH BREAKER IF ALLOWED BY AHJ
	380A	ICE BIN SANITATION SYSTEM	120	1	2	0.010		5-15R	N/A	–	–	PLUGS INTO DUPLEX OF ONE #380Z UNIT
NOTE 5	380	INTERIOR ICE MAKER	120	1	2	0.600	5.0	5-15R	N/A	817 (SIMPLEX) CR15 (DUPLEX)	1	
	380C	ROOF MTD ICE CONDENSER	208	3	4	5.112	14.2	DIRECT	N/A	–	3	
NOTE 5	380D	INTERIOR ICE MAKER	120	1	2		5.0	5-15R	N/A	817 (SIMPLEX) CR15 (DUPLEX)	1	
	380CD	ROOF MTD ICE CONDENSER	208	3	4		15.7	DIRECT	N/A	–	6	
NOTE 2	400	REACH-IN FRY FREEZER	120		2		9.4	5-20R	L5-20R	VGF20 / AHL520R	1	⚠4
	410	WALK-IN FREEZER DOOR HTR/LTG	120	1	2		3.3	DIRECT		–	1	REFER TO LIGHTING FLOOR PLAN
		WI FREEZER CONDENSER	208	3	3		16.30	DIRECT		–	11	REQUIRES 35 AMP MOCP
		WI FREEZER EVAP COIL	208	1	2		1.5	DIRECT		–		POWER FED FROM CONDENSER
NOTE 5	420	SINGLE UC REFRIGERATOR	120	1	2		4.7	5-20R	L5-20R	1877 (SIMPLEX) / AHL520R	1	
NOTE 2	421	DOUBLE UC REFRIGERATOR	120	1	2		6.3	5-20R	L5-20R	1877 (SIMPLEX) / AHL520R	1	
NOTE 5	422	REFRIGERATED EQUIPMENT STAND	120	1	2		6.7	5-15R	L5-15R	1877 (SIMPLEX) / CWL515C	1	
NOTE 5	432	REFRIGERATED WORK TABLE	120	1	2		6.3	5-20R	L5-20R	1877 (SIMPLEX) / AHL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTE 2	440CT	BREADING TABLE	120	1	2		1.0	5-15R	L5-15R	1877 (SIMPLEX) / CWL515C	1	⚠1
NOTE 5	441	REFRIGERATED SALAD PREP	120	1	2		9.0	L5-15R	L5-15R	CWL515R / CWL515C	1	⚠1 15 AMP TWIST LOCK PLUG PROVIDED W/ EQUIP
NOTE 2	442WCT	SINGLE UPRIGHT REFRIGERATOR	120	1	2		7.0	L5-15R	L5-15R	CWL515R / CWL515C	1	PROVIDE TWIST LOCK PLUG IN FIELD
	444	DOUBLE DOOR THAWING CABINET	120	1	2		16.0	DIRECT	DIRECT	–	1	PROVIDE 6 FT LIQUID-TIGHT FLEX CONDUIT
	444S	SINGLE DOOR THAWING CABINET	120	1	2		16.0	DIRECT	DIRECT	–	1	PROVIDE 6 FT LIQUID-TIGHT FLEX CONDUIT
	449	WALK-IN COOLER LIGHTING	120	1	2		2.4	DIRECT		–	1	REFER TO LIGHTING FLOOR PLAN
		WI COOLER CONDENSER	208	3	3		9.50	DIRECT		–	2	REQUIRES 15 AMP MOCP
		WI COOLER EVAP COIL	208	1	2		1.0	DIRECT		–	1	POWER FED FROM CONDENSER
NOTE 2 OR 5	500A	VERTICAL CONTACT TOASTER	120	1	2	1.800	15.0	5-20R	L5-20R	VGF20 / AHL520R	1	
	500B	RADIANT TOASTER	208	1	3	5.000	24.0	L6-30R	L6-30R	AHL530R / AHL530C	8	
NOTE 5	503	EGG STATION	208	1	3	2.500	12.5	6-20R	L6-20R	1876 (SIMPLEX) / AHCL620C	2	TWIST LOCK PLUG PROVIDED W/ EQUIP
	505V	MULTI-COOK OVEN	208	3	3	7.920	22.0	L15-30R	L15-30R	AHLC1530R / AHCL1530C	9	PROVIDE 6 FT CORD AND PLUG
NOTE 3	522	OPEN FRYER – ELECTRIC	208	3	3	22.000	61.0	NOTE 3	N/A	–	22	PLUG AND CORD-SET PROVIDED W/ EQUIP
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	PLUG AND CORD-SET PROVIDED W/ EQUIP
	524	DUAL SIDED CHAR-GRILL	208	3	3	9.000	24.1/28.2/23.1	15-50R	N/A	HUBBELL HBL8450A	14	
NOTE 2	560	FRY HOLDING STATION	120	1	2	1.840	15.4	5-20R	N/A	1877 (SIMPLEX)	1	
NOTE 5	562A	HOT HOLDING TOWER	120	1	2	1.911	15.9	L5-20R	L5-20R	AHL520R / AHL520C	1	
NOTE 5	563D	DOUBLE SANDWICH SLIDE	120	1	2	1.090	9.13	5-20R	N/A	1877 (SIMPLEX)	1	
NOTE 5	563S	SINGLE SANDWICH SLIDE	120	1	2	0.548	4.56	5-20R	N/A	1877 (SIMPLEX)	1	
	564A	PRODUCT HOLDING CABINET	120	1	2	0.660	5.50	5-20R	L5-20R	1877 / AHL520C	1	
	564B	PRODUCT HOLDING CABINET	120	1	2	0.660	5.50	5-20R	L5-20R	1877 / AHL520C	1	
NOTE 2	565C	FOOD COOKER/WARMER	120	1	2	1.500	12.50	5-20R	L5-20R	VGF20 / AHL520R	1	
NOTE 5	580H	MULTI-USE HOLDING CABINET	120	1	2	1.920	16.0	5-20R	L5-20R	1877 / AHL520C	1	
	592	SOUP RETHERMALIZER	208	3	3	7.920	22.0	15-30R	L15-30R	AH8430N / AHL1530C	9	PROVIDE TWIST LOCK PLUG IN FIELD WHEN REQ'D
NOTE 5	600	MIXER	120	1	2		8.0	5-20R	L5-20R	VGF20 / AHL520C	1	PROVIDE TWIST LOCK PLUG IN FIELD WHEN REQ'D
NOTE 5	602	SALAD SPINNER	120	1	2	0.373		5-20R	L5-20R	VGF20 / AHL520C	1	
NOTE 2	607	LEMON JUICER	120	1	2		1/4 HP	5-20R	N/A	VGF20	1	PROVIDE GFCI DUPLEX RECEPTACLE
	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	
	672	FUTURE DIGITAL MENUBOARD	120	1	2	0.085 EA		5-20R	N/A	CR20	1	ON NON-SWITCHED CIRCUIT
		FUTURE MEDIA PLAYER	120	1	2	0.156		5-20R	N/A	CR20	1	ON NON-SWITCHED CIRCUIT

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: BRIAN.REECE@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
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 H.I.D. 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	
WIRING DEVICES		
	120 VOLT DUPLEX RECEPTACLE, 20 AMPS U.O.N.	18"
	120 VOLT DUPLEX AT SPECIAL MOUNTING HEIGHT, 20 AMPS U.O.N.	44" UON
	120 VOLT QUADRAPLEX RECEPTACLE, 20 AMPS U.O.N.	18" UON
	120 VOLT QUADRAPLEX AT SPECIAL MOUNTING HEIGHT, 20 AMPS U.O.N.	44"
	120 VOLT SIMPLEX RECEPTACLE, 20 AMPS U.O.N.	18" UON
	SINGLE SPECIAL PURPOSE RECEPTACLE WITH VOLTS, AMPS, AND PHASE AS NOTED, NEMA CONFIGURATION AS REQUIRED BY EQUIPMENT	18" UON
	RECEPTACLE MOUNTED ON CORD DROP, 120 VOLT, 20 AMP, U.O.N. OUTLET BOX FLUSH WITH CEILING	
S	SINGLE POLE TOGGLE SWITCH	48"
S_2	DOUBLE POLE TOGGLE SWITCH	48"
S_3	THREE WAY TOGGLE SWITCH	48"
S_M	MANUAL MOTOR STARTER SWITCH (WP=NEMA 3R)	48"
S_P	SWITCH WITH PILOT LIGHT (ON WHEN SWITCH IS ON)	48"
S_K	KEY OPERATED SWITCH	48"

NOTE: RECEPTACLES ON A DEDICATED CIRCUIT (THAT IS, NO OTHER LOAD CONNECTED TO THE BRANCH CIRCUIT) SHALL HAVE AMPACITY RATING NOT LESS THAN THE AMPERAGE OF THE CIRCUIT BREAKER SERVING THE DEVICE.

ABBREVIATIONS	
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	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)

SYMBOL	DESCRIPTION	MTG HT AFF TO CL
CONDUIT/RACEWAYS		
	CONDUIT CONCEALED ABOVE CEILING OR IN WALL	
	CIRCUIT HOMERUN TO PANELBOARD WITH MINIMUM 2#12, 1#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	
MC	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 1PH 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" *
T	TRANSFORMER, PROVIDE SECONDARY GROUNDING PER NEC	
ECB	ENCLOSED CIRCUIT BREAKER, SIZE AND TYPE AS NOTED (AMPS/POLES/ENCLOSURE) NEMA 1 ENCLOSURE IF NOT NOTED, WP=NEMA 3R	6'-6" *

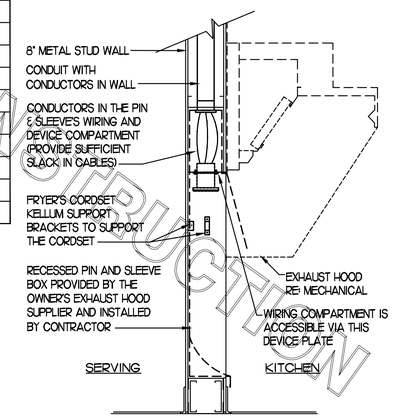
* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE

MISCELLANEOUS SYMBOLS	
	GROUND
M	MOTOR
EF	EXHAUST FAN MOTOR
J	JUNCTION BOX
1	CONDUIT AND WIRE 'MARK' NUMBER, REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE
101	KITCHEN EQUIPMENT 'MARK' NUMBER, REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS
1	NOTE NUMBER
A	HOOD EXTINGUISHING ANSUL PULL STATION
D	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" CONDUIT STUB-UP
	PUSH-BUTTON
B	BELL, TYPE AS NOTED ON PLANS
PE	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	
C	CLOSED CIRCUIT TELEVISION CAMERA
SK	SECURITY ALARM KEYPAD
HU	SECURITY ALARM HOLD-UP BUTTON
S1	SECURITY SYSTEM KEY NOTE



3 PIN & SLEEVE BOX DETAIL

NO SCALE

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

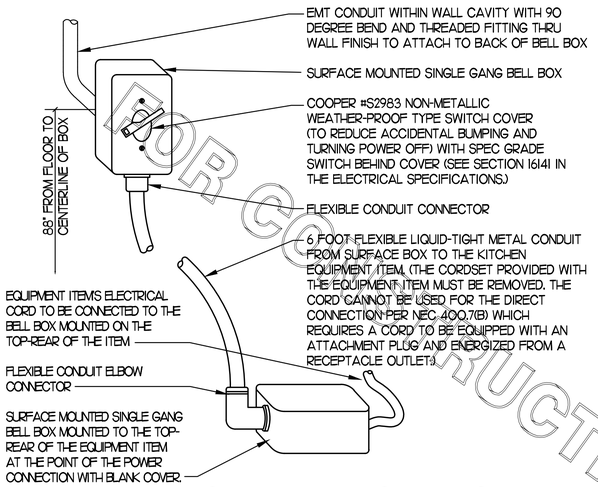
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

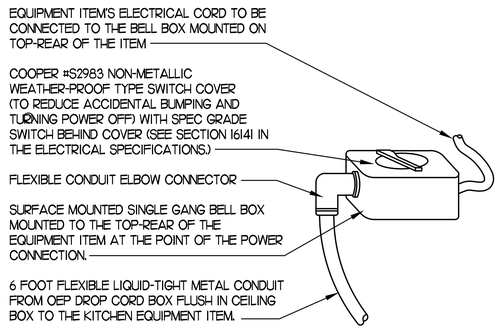
SHEET
SCHEDULES AND DETAILS

SHEET NUMBER
E1.1



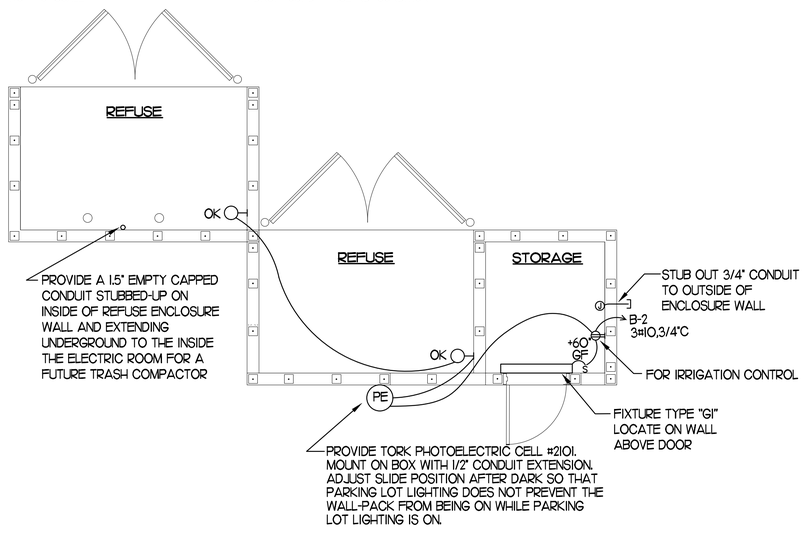
KITCHEN EQUIP DIRECT CONNECTION

NOT TO SCALE — WALL MOUNT CONDITION



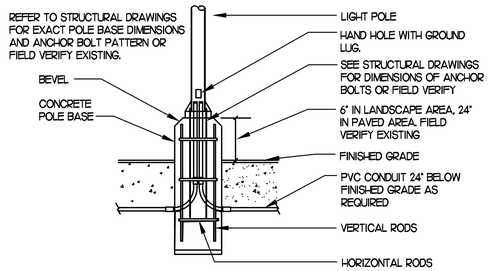
KITCHEN EQUIP DIRECT CONNECTION

NOT TO SCALE — DROP CORD – ISLAND CONDITION



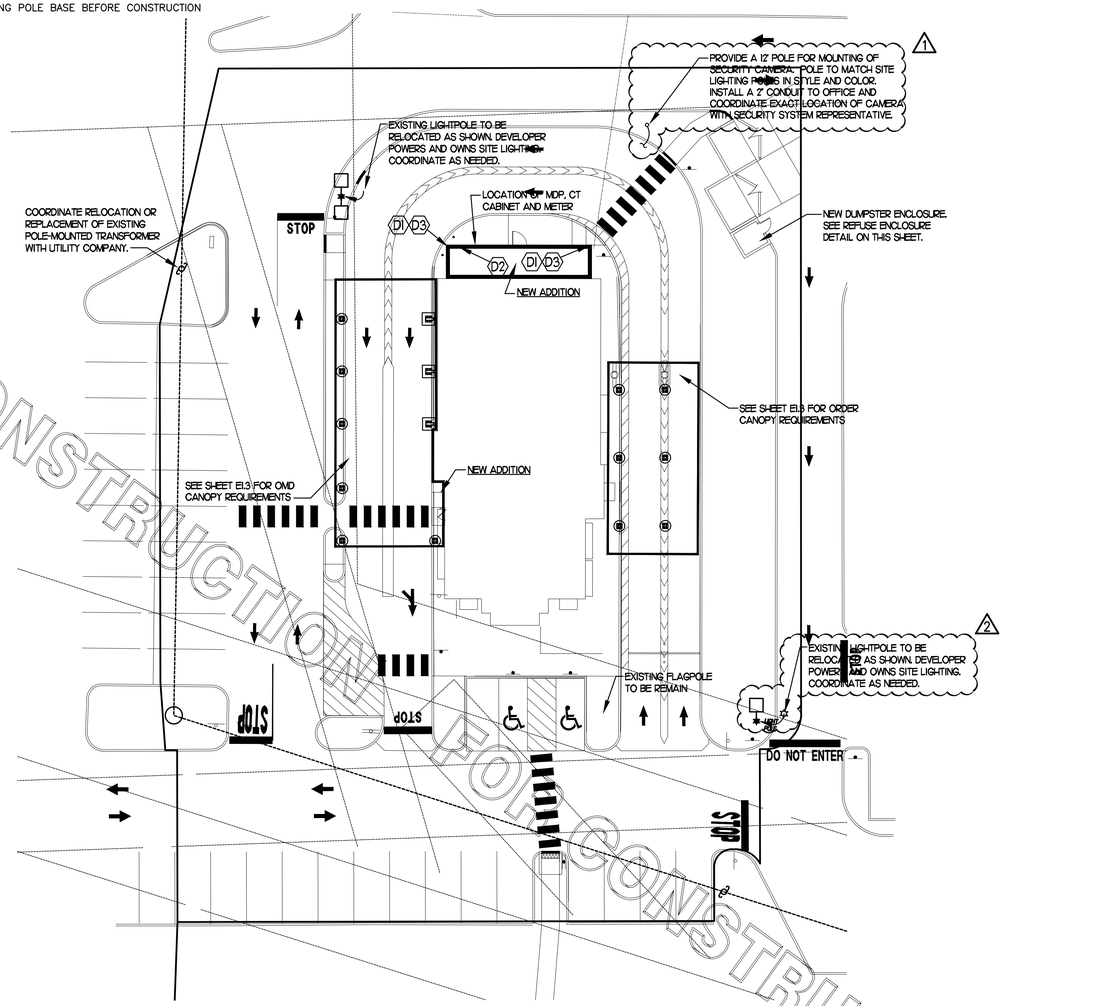
2 REFUSE ENCLOSURE PLAN - ELECTRICAL

NOT TO SCALE



TYPICAL POLE BASE DETAIL

NOT TO SCALE – FIELD VERIFY EXISTING POLE BASE BEFORE CONSTRUCTION



KEYNOTES - DT CASH STATION

- (D1) LOCATION OF A 360 DEGREE BUILDING MOUNTED EXTERIOR CAMERA (BY OTHERS). PROVIDE A 3/4" CONDUIT AT 9'-4" AFF TO AN EXTERIOR WALL MOUNTED WP JUNCTION BOX WITH THE CONDUIT ABOVE THE INTERIOR CEILING AND EXTENDED TO AN ACCESSIBLE CEILING AREA FOR CAMERA CABLES BY OTHERS.
- (D2) PROVIDE AN EXTERIOR DUPLEX 120V, 20A RECEPTACLE AT 18" AFF WITH 'IN-USE' STYLE LOCKABLE WP COVER AND CONNECT TO A GENERAL PURPOSE 120V RECEPTACLE CIRCUIT. FIELD COORDINATE WHETHER THIS OUTLET IS NEEDED.
- (D3) PROVIDE A JUNCTION BOX ON THE INSIDE PARAPET WALL ABOVE THE ROOF WITH A 3/4" CONDUIT STUBBED DOWN INTO AN ACCESSIBLE CEILING SPACE AREA BELOW FOR THE OWNER PROVIDED WI-FI EXTERIOR ANTENNAE.

ELECTRICAL SITE PLAN

SCALE: 1" = 20'-0"

0 10' 20' 40'
1"=20'

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update

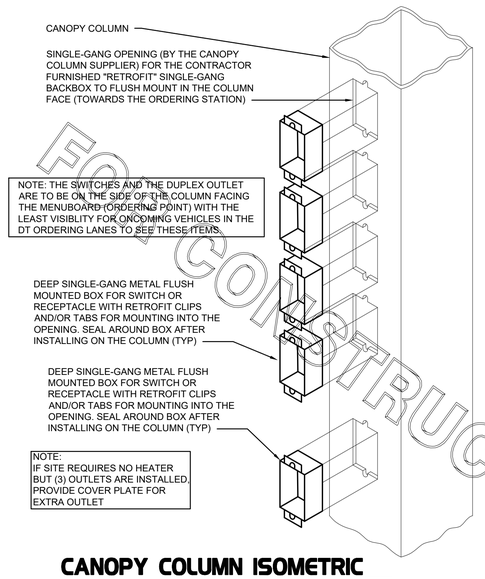
CONSTRUCTION

CONSULTANT PROJECT #	21071.HF.R
PRINTED FOR	CONSTRUCTION
DATE	06/14/2021
DRAWN BY	ML

SHEET: ELECTRICAL SITE PLAN & DETAILS

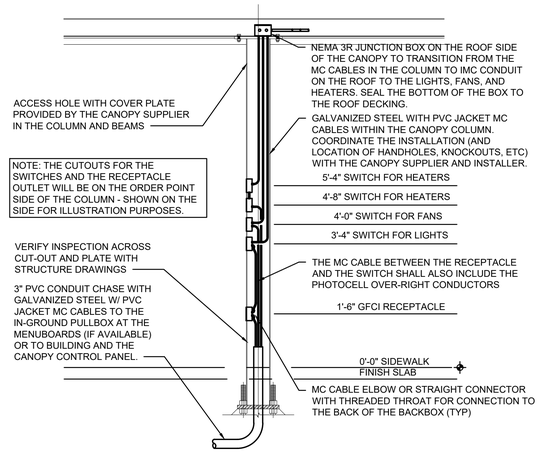
SHEET NUMBER

E1.2



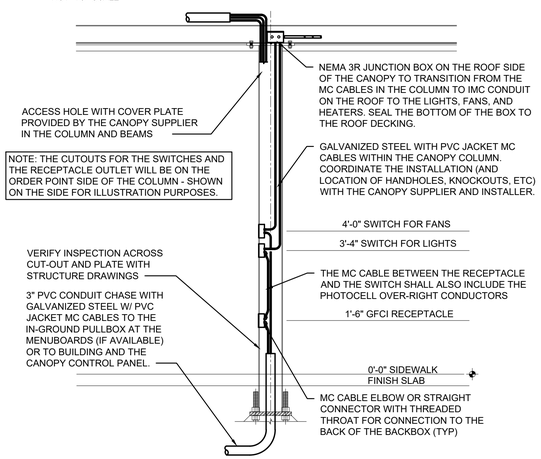
CANOPY COLUMN ISOMETRIC

NOT TO SCALE



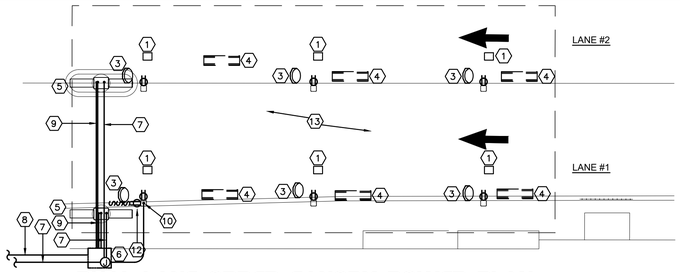
ORDER CANOPY COLUMN SECTION

NOT TO SCALE



OMD CANOPY COLUMN SECTION

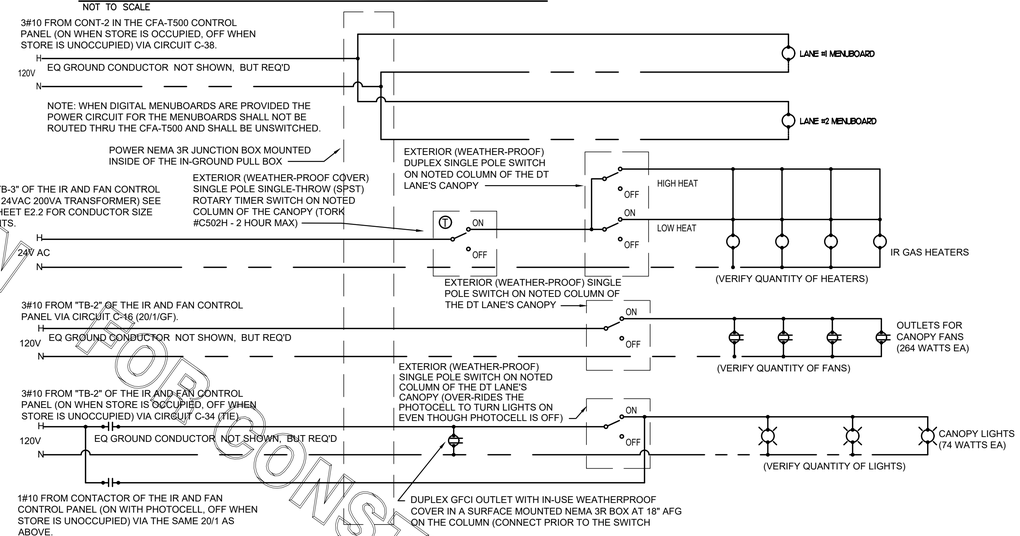
NOT TO SCALE



NOTE:
REFER TO SHEET E1.4 FOR THE ABOVE ROOF PIPING SUPPORT DETAIL AND ROUTE THE CONDUIT FOR FANS, HEATERS, AND LIGHTS ABOVE THE ROOF WITH THE LOCATION OF THE ABOVE ROOF GAS PIPING.

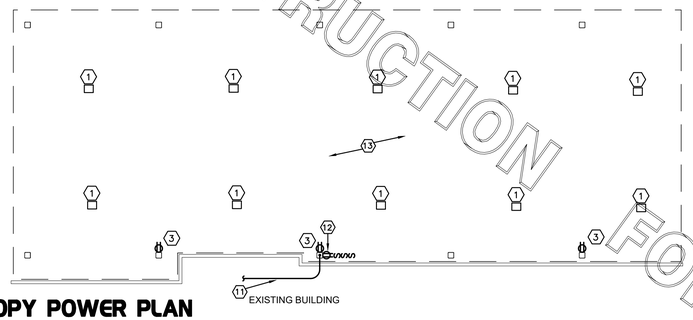
DUAL LANE ORDER CANOPY POWER PLAN

NOT TO SCALE



ORDER CANOPY POWER WIRING SCHEMATIC

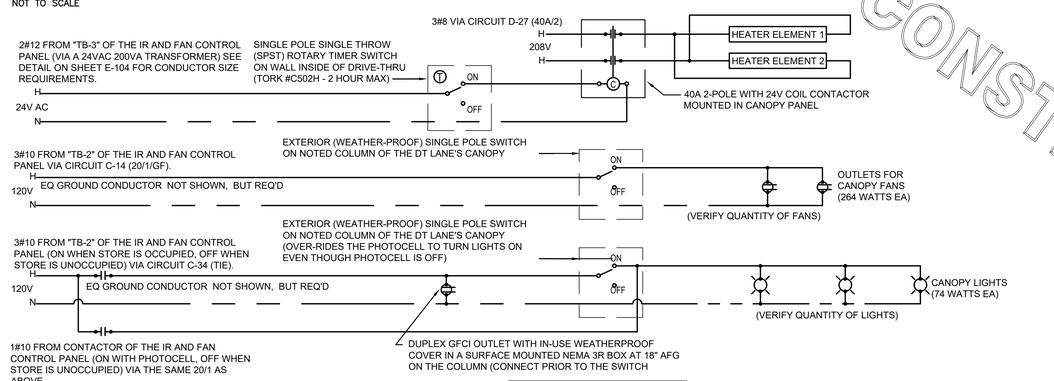
NOT TO SCALE



NOTE:
REFER TO SHEET E1.4 FOR THE ABOVE ROOF PIPING SUPPORT DETAIL AND ROUTE THE CONDUIT FOR FANS, HEATERS, AND LIGHTS ABOVE THE ROOF WITH THE LOCATION OF THE ABOVE ROOF GAS PIPING.

OMD CANOPY POWER PLAN

NOT TO SCALE



OMD CANOPY POWER WIRING SCHEMATIC

NOT TO SCALE

NOTE: REFER TO E1.4 FOR THE IR AND FAN CONTROL PANEL DIAGRAM

ELECTRICAL KEYNOTES (NEW ORDER POINTS):

1. CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C.
2. NOT USED.
3. AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. PROVIDE A DUPLEX OUTLET (WITH IN-USE WP COVER PLATE) FLUSH MTD. IN CUT-OUT FOR FAN'S PLUG & CORD. LOCATE CUT-OUT AT TOP OF COLUMN ON DOWNSTREAM SIDE.
4. INFRARED GAS HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED BY OTHERS.
5. MENUBOARD PROVIDED BY OTHERS.
6. PROVIDE IN-GROUND QUAZITE PULLBOX FOR MLOP DATA CABLES WITH POWER NEMA 3R JUNCTION BOX MOUNTED INSIDE THE PULLBOX.
7. 2" UNDERGROUND SCH40 PVC CONDUIT WITH POWER CONDUCTORS, SEE WIRING SCHEMATIC.
8. TWO 2" EMPTY UNDERGROUND SCH40 PVC CONDUIT, ONE 2" FOR OWNER'S AUDIO SYSTEM/DETECTOR LOOP CABLES AND ONE 2" FOR OWNER'S DIGITAL MENUBOARD CABLES.
9. 1" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S AUDIO SYSTEM/DETECTOR LOOP CABLES AND 2" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S DIGITAL MENUBOARD CABLES.
10. INSTALL UNDERGROUND 3" SCH40 PVC CONDUIT UP INTO THE CANOPY COLUMN WITH TYPE MC CABLE (GALVANIZED STEEL WITH PVC JACKET) RUN WITHIN FOR THE 120V POWER FOR LIGHTS, 120 VOLT POWER FOR FANS, AND 24 VOLT POWER FOR THE INFRARED GAS HEATERS.
11. NOT USED.
12. PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE), TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE), AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED ON THE COLUMN IN FLUSH MOUNTED METAL SINGLE GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FAN, HEATERS, AND CANOPY LIGHTS. SEE WIRING SCHEMATIC AND CANOPY COLUMN DETAILS FOR FURTHER INFORMATION. ALL SURFACE MOUNTED ITEMS AND COVER PLATES TO BE FIELD PAINTED MATTE BLACK.
13. ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW; UNDERGROUND, IN COLUMNS, OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) TO BE USED INSIDE THE COLUMNS, BUT MUST CONVERT BACK TO IMC ABOVE THE ROOF. REFER TO THE MECHANICAL DRAWINGS FOR DETAILS OF MOUNTING CONDUIT ON THE ROOF OF THE CANOPY. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.

ELECTRICAL KEYNOTES (OMD CANOPY):

1. CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C.
2. NOT USED.
3. AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. PROVIDE A DUPLEX OUTLET (WITH IN-USE WP COVER PLATE) FLUSH MTD. IN CUT-OUT FOR FAN'S PLUG & CORD. LOCATE CUT-OUT AT TOP OF COLUMN ON DOWNSTREAM SIDE.
4. SEE SHEET E-202 FOR INFORMATION RELATED TO WALL MTD ELECTRIC HEATED ABOVE DT DOOR.
5. THRU 9 NOT USED.
10. NOT USED.
11. AT EXISTING BUILDINGS STUB A 3" CHASE THRU THE EXTERIOR WALL FROM THE CEILING SPACE ABOVE THE KITCHEN TO ABOVE THE CANOPY'S COLUMN FOR THE MC CABLE POWER CIRCUITS TO GO THRU THE COULMN MOUNTED SWITCHES AND OUTLET.
12. PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE), TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE), AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED ON THE COLUMN IN FLUSH MOUNTED METAL SINGLE GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FAN, HEATERS, AND CANOPY LIGHTS. SEE WIRING SCHEMATIC AND CANOPY COLUMN DETAILS FOR FURTHER INFORMATION. ALL SURFACE MOUNTED ITEMS AND COVER PLATES TO BE FIELD PAINTED MATTE BLACK.
13. ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW; UNDERGROUND, IN COLUMNS, OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) TO BE USED INSIDE THE COLUMNS, BUT MUST CONVERT BACK TO IMC ABOVE THE ROOF. REFER TO THE MECHANICAL DRAWINGS FOR DETAILS OF MOUNTING CONDUIT ON THE ROOF OF THE CANOPY. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

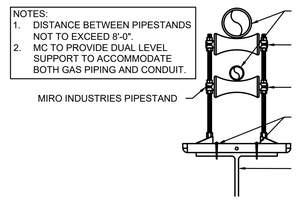
NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

CONSTRUCTION

SHEET
CANOPY PLANS AND DETAILS

SHEET NUMBER
E1.3
2



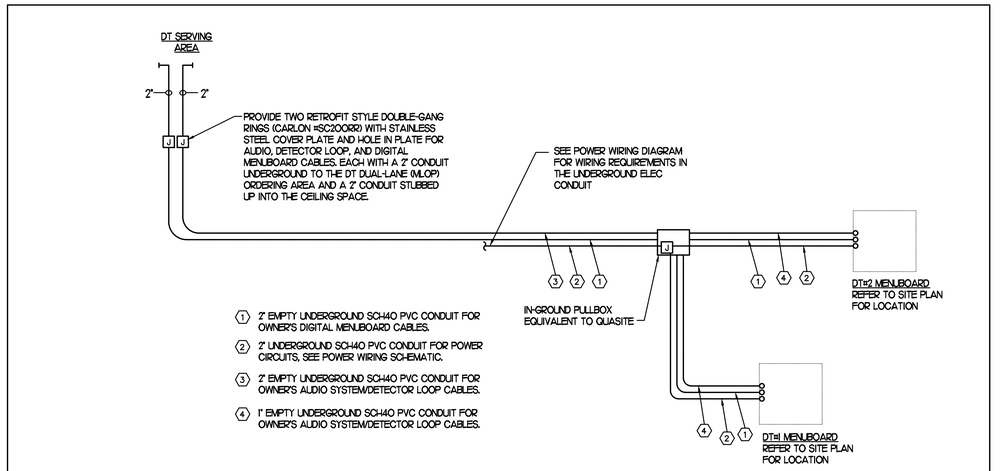
CONDUIT SUPPORT ON CANOPY

NOT TO SCALE

CIRCULATING FAN SCHEDULE					
MARK	CFM	RPM	HP	MODEL	MANUFACTURER
CF	5,750	1,625	1/8	U18TE-HD	TPI

REMARKS
1. ALUMINUM PADDLE WITH STEEL HUB/SPIDER PROPELLER.
2. 360° ROTATING HEAD HORIZONTALLY AND VERTICALLY.
3. OSHA COMPLIANT DOUBLE LOCKING, COATED STEEL WIRE GUARD
4. 3-SPEED, TOTALLY ENCLOSED, PERMANENTLY LUBRICATED BALL BEARING MOTOR.
5. FACTORY PRE-WIPED POWER CORD.
6. PROVIDE FACTORY WALL MOUNTING BRACKET. SEE FAN MOUNTING DETAIL ON CANOPY SHOP DRAWINGS FOR TYPICAL INSTALLATION INSTRUCTIONS.
7. PROVIDE ENGRAVED PLASTIC LABEL AT EACH UNIT WITH UNIT DESIGNATION IN 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND. MOUNT TO UNDERSIDE OF CANOPY OR EXISTING OVERHANG, FACING DOWNWARD, 12" LATERALLY FROM THE FAN LOCATION.
8. REMOVE PULL CHAIN EXTENSION AT ON/OFF SWITCH IN FIELD.
9. FACTORY CERTIFIED FOR OUTDOOR INSTALLATION.

NATIONAL ACCOUNTS
1. TPI FAN PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.



2 MULTI-LANE DRIVE-THRU ORDER AREA CONDUIT REQUIREMENTS

NO SCALE

SEQUENCE OF OPERATION	
STORE SWITCH IN "STORE OPEN" POSITION	STORE SWITCH IN "STORE CLOSED" POSITION
A. INFRARED HEATERS ARE ENABLED. B. COOLING FANS ARE ENABLED. C. LIGHTS ARE ENABLED. D. MASTER AUTO/OFF SWITCH FOR IR HEATERS AND COOLING FANS PROVIDE SINGLE POINT OF ON/OFF CONTROL.	A. INFRARED HEATERS ARE DISABLED. B. COOLING FANS ARE DISABLED. C. LIGHTS ARE DISABLED.

NOTES
1. CONTRACTOR SHALL PURCHASE CONTROL PANEL DIRECT FROM SUNCOAST ENVIRONMENTAL CONTROLS, TELE NO 727-544-6679.
2. COORDINATE WITH GC TO ESTABLISH LOCATION TO MOUNT PANEL IN A CONDITIONED SPACE INSIDE THE BUILDING.
3. INFORM SUNCOAST ENVIRONMENTAL CONTROLS (SEC) ASAP AS TO WHETHER THE PANEL IS TO BE SURFACE OR FLUSH MOUNTED FOR CORRECT MOUNTING TYPE.
4. PROVIDE LAMINATED LEGEND SHOWING NAMED LOCATIONS OF FANS AND IR HEATERS. MOUNT LEGEND AT PANEL.

IMPORTANT:
WHEN HEATERS ARE PROVIDED ON THE CANOPIES AND THE 200VA XFMR IS WITHIN THIS CONTROL PANEL, CHANGE OUT 2 AMP CIRCUIT BREAKER IN THE EXISTING CFA-T500 SEC BUILDING CONTROL PANEL LOCATED IN THE OFFICE TO A 6 AMP CIRCUIT BREAKER. THE BREAKER IS LOCATED IN THE UPPER HALF OF THE CFA-T500 PANEL IMMEDIATELY TO THE RIGHT OF THE PHOTOCELL CONTROLLER. FAILURE TO DO SO WILL CAUSE THE CONTROL CIRCUIT BREAKER TO TRIP.

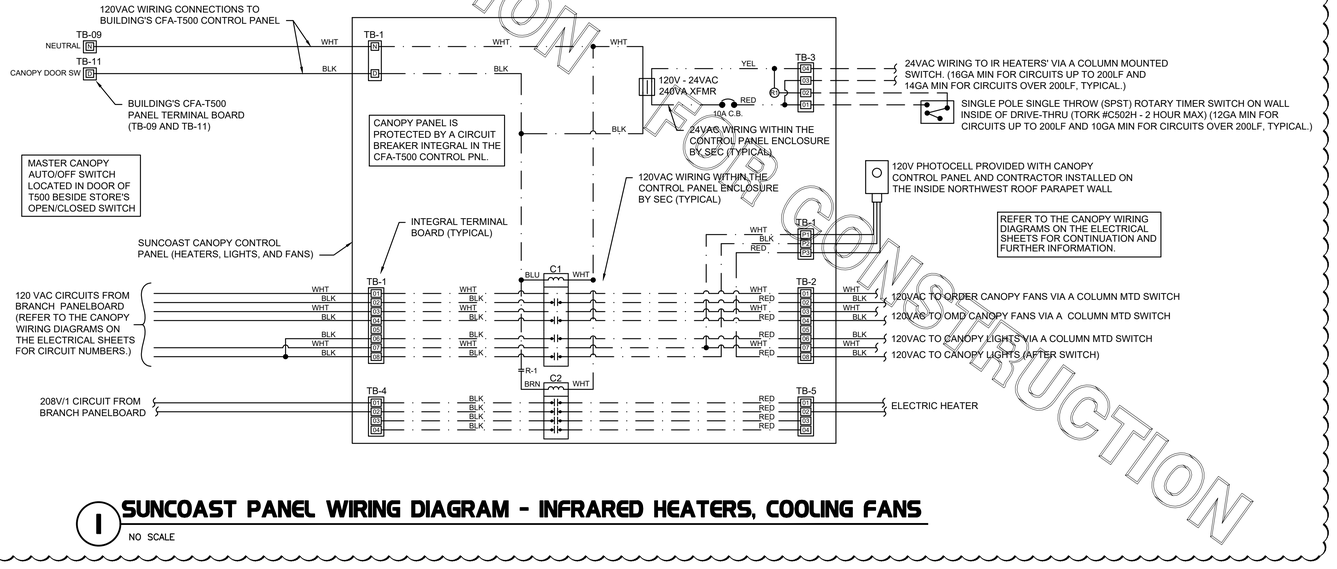
SUNCOAST RELAYS CONTACTORS SHOWN IN DE-ENERGIZED "STORE UNOCCUPIED" CONDITION. RELAYS AND CONTACTORS FACTORY INSTALLED BY SEC IN CONTROL PANEL. RELAYS AND CONTACTORS ENERGIZED VIA "STORE OPEN/CLOSED" SWITCH. FOR LOCATIONS WITH AN EXISTING BUILDING CFA-T500 REFER TO THE WIRING DIAGRAM IN THE EXISTING CFA-T500 SUNCOAST PANEL LOCATED IN OFFICE FOR REFERENCE.

LEGEND

S.E.C.	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF TEMP/FAN CONTROL PANELS)
MC	MECHANICAL CONTRACTOR
EC	ELECTRICAL CONTRACTOR
– – – – –	LOW VOLTAGE BY MECHANICAL CONTRACTOR
— · · —	18 GA. MIN LOW VOLTAGE WIRING BY SUNCOAST
———	120 VOLT BY ELECTRICAL CONTRACTOR
— · —	120 VOLT BY SUNCOAST

LABELING:
PROVIDE ENGRAVED LABEL AT SWITCHES WITH ½" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.

2



1 SUNCOAST PANEL WIRING DIAGRAM - INFRARED HEATERS, COOLING FANS

NO SCALE

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

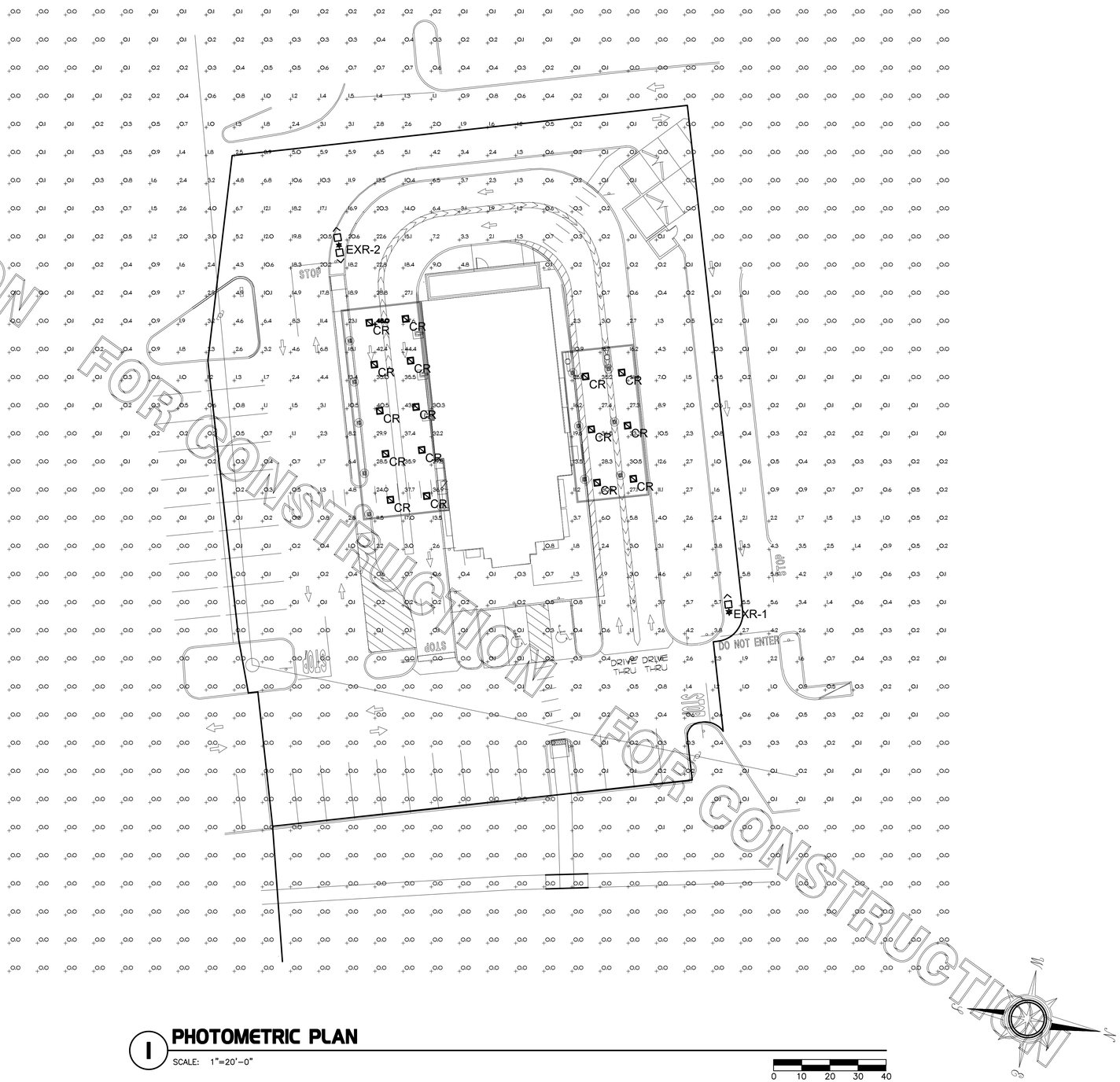
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET
ORDER CANOPY CONTROL PANEL

SHEET NUMBER
E1.4

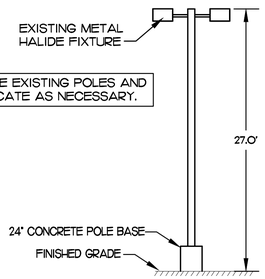


1 PHOTOMETRIC PLAN

SCALE: 1"=20'-0"

0 10 20 30 40

FIXTURES WILL BE MOUNTED
90 DEGREES TO POLE



2 SITE LIGHTING POLE DETAIL

NOT TO SCALE

Schedule							
Symbol	Label	QTY	Catalog Number	Number Lamps	Lumens per Lamp	LLF	Wattage
	EXR-1	1	LITHONIA KAD 400M R3 RELOCATED	1	38000	0.72	456
	EXR-2	1	LITHONIA KAD 400M R3 RELOCATED	2	38000	0.72	912
	CRUS	16	CRUS-AC-LED-LW-30	1	8412	0.5	73.1

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	2.1 fc	48.0 fc	0.0 fc	N/A	N/A

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

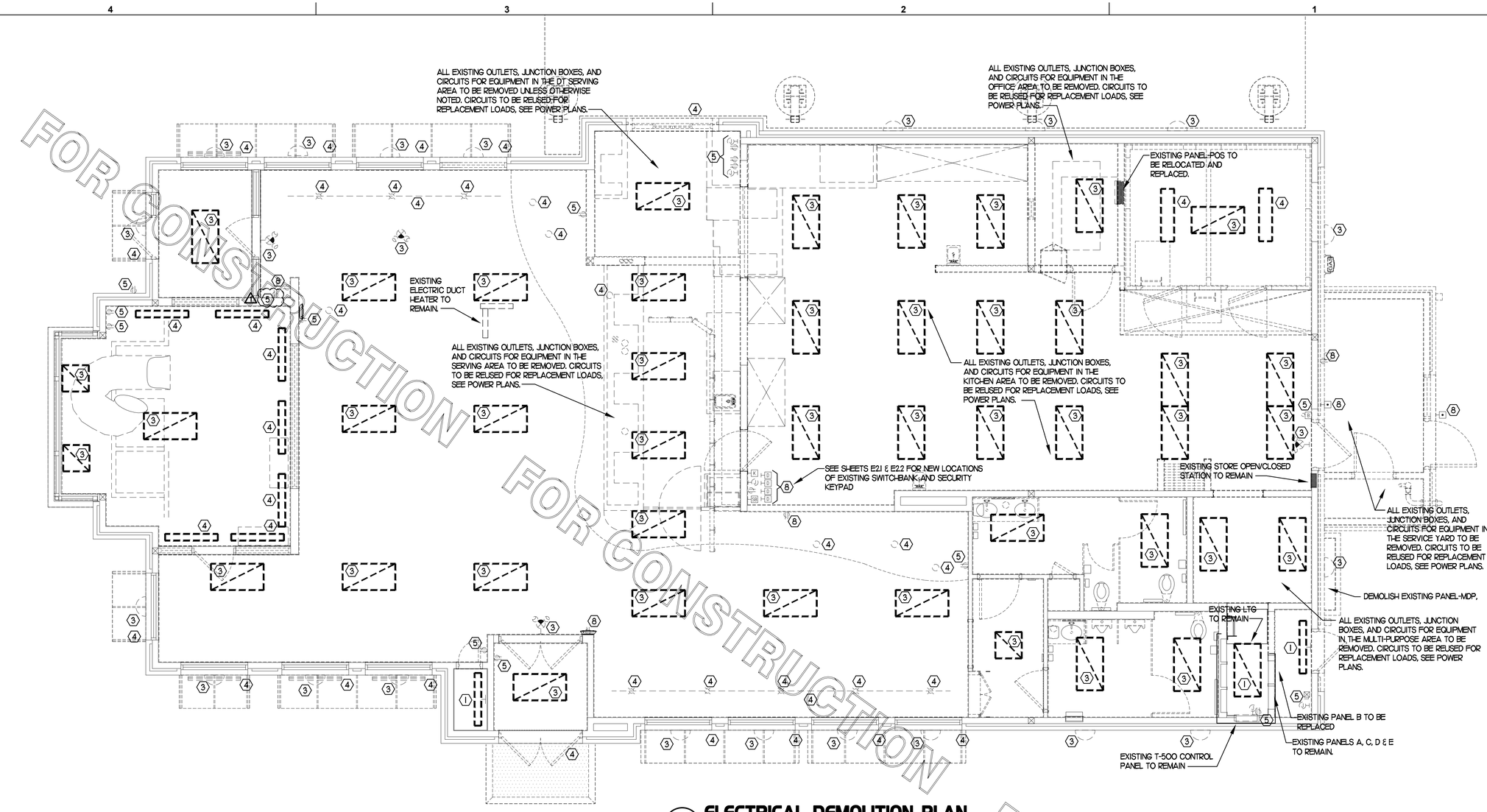
NO.	DATE	DESCRIPTION

CONSTRUCTION

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY LK

SHEET
PHOTOMETRIC PLAN

SHEET NUMBER
E1.5



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. NOT USED.
8. EXISTING ELECTRICAL ITEMS TO BE REMOVED AND/OR RELOCATED. SEE THE POWER FLOOR PLAN FOR THE REUSE OF THE EXISTING CIRCUITS.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

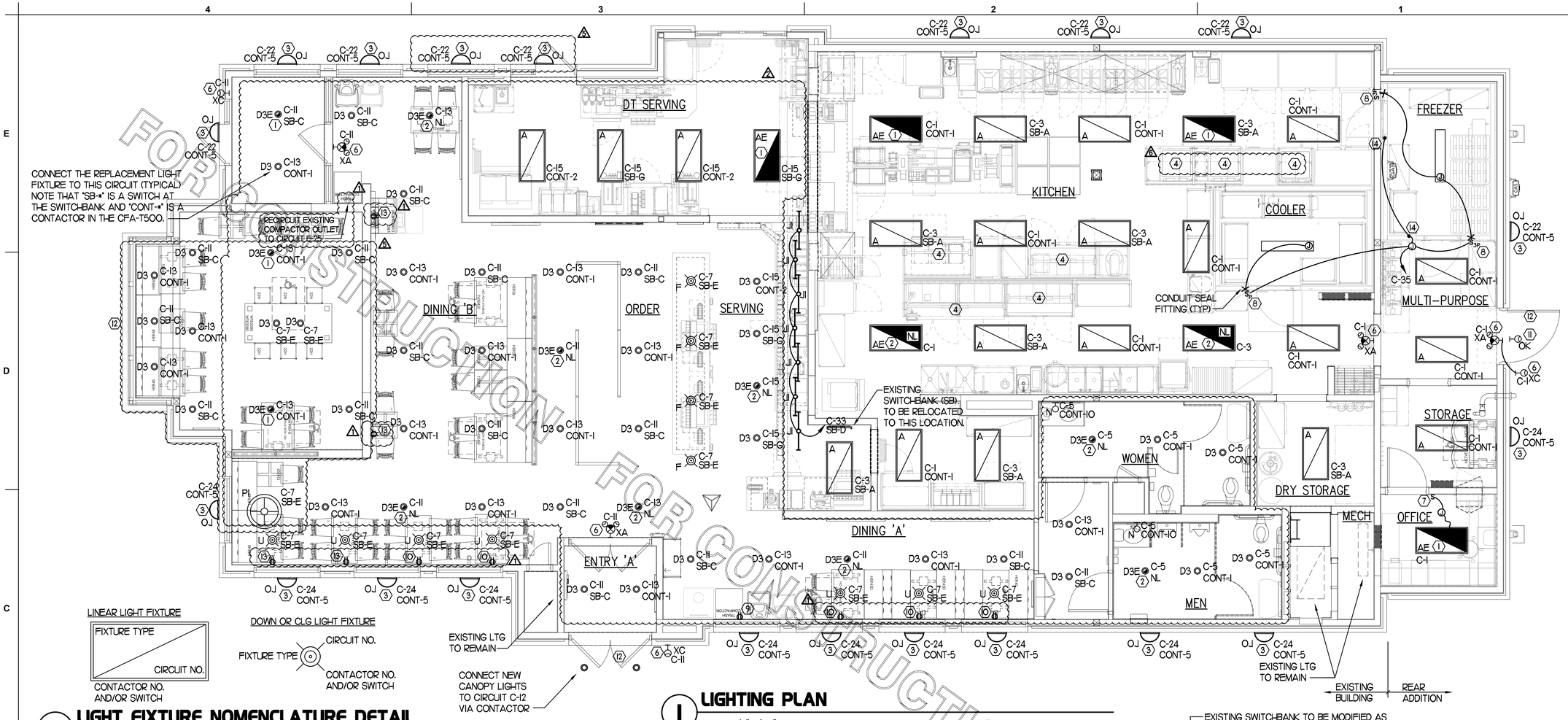
NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

CONSTRUCTION

SHEET
ELECTRICAL DEMOLITION PLAN

SHEET NUMBER
E2.0



1 LIGHTING PLAN

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

LINEAR LIGHT FIXTURE

FIXTURE TYPE / CIRCUIT NO.

CONTACTOR NO. AND/OR SWITCH

DOWN OR CLG LIGHT FIXTURE

CIRCUIT NO. / FIXTURE TYPE / CONTACTOR NO. AND/OR SWITCH

6 LIGHT FIXTURE NOMENCLATURE DETAIL

NO SCALE

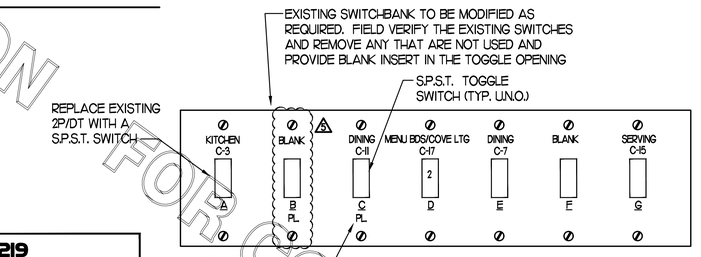
3 KEYNOTES (APPLY TO THIS SHEET ONLY)

1. CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
2. CONNECT FIXTURE SO THAT LAMP AND EMERGENCY BATTERY PACK ARE NOT SWITCHED. 'NL' ADJACENT TO FIXTURE INDICATES THAT FIXTURE SHALL BE ON 24 HOURS.
3. THE EXISTING EXTERIOR WALL-MOUNTED FIXTURE TO BE REPLACED. CONNECT REPLACEMENT TO THE EXISTING CIRCUIT.
4. PROVIDE A TYPE BI 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.
5. NOT USED.
6. CONNECT FIXTURE TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS. THIS FIXTURE SHALL NOT BE SWITCHED.
7. PROVIDE A WALL SWITCH LINE VOLTAGE OCCUPANCY SENSOR EQUIVALENT TO SENSOR SWITCH #WSD-WH
8. 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.
9. PROVIDE TAMPER-RESISTANT DUPLEX RECEPTACLE AT STANDARD HEIGHT FOR FUTURE COMPACTING TRASH CAN ON A DEDICATED 20 AMP CIRCUIT. USE CIRCUIT E-27.
10. PROVIDE 20A, 120V TAMPER-RESISTANT, USB CHARGING TYPE DUPLEX RECEPTACLE OUTLETS (ARROW-HART #TR7756-B) IN THE DINING AREA AT 18" AFF. CONNECT THE NEW DEVICES TO C-8 (20/1).
11. CONNECT THE 'OK' FIXTURE TO C-12 VIA THE EXISTING DUSK-TO-DAWN CIRCUIT IN THE CFA-T500.
12. COORDINATE CONNECTION OF REPLACEMENT SIGNAGE TO EXISTING CKT.
13. PROVIDE 20A, 120V TAMPER-RESISTANT, USB CHARGING TYPE DUPLEX RECEPTACLE OUTLETS (ARROW-HART #TR7756-B) IN THE DINING AREA AT 18" AFF. CONNECT THE NEW DEVICES TO C-10 (20/1).
14. 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.

2 LIGHTING FIXTURE (LUMINAIRE) SCHEDULE - CHICK-FIL-A REMODEL Store #2219

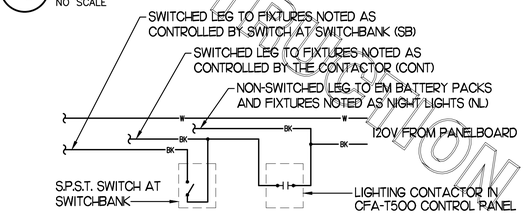
MARK	MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	WATTS	VOLTS	MOUNTING	REMARKS
A	COOPER/METALUX	24FP6440C	INTEGRAL WITH FIXTURE	59.4	120	RECESSED	KITCHEN AREA, 2'X4' LED PANEL TROFFER, 4000K COLOR TEMP
AE	COOPER/METALUX	24FP6440C-EL14W	INTEGRAL WITH FIXTURE	59.4	120	RECESSED	SAME AS 'A' WITH EMERGENCY BATTERY PACK. SEE PLAN NOTES ABOUT LAMP SWITCHING
B1	METALUX	2VT3-LD5-UNV-L840-CD1-SSL-U	INTEGRAL WITH FIXTURE	32	120	SURFACE	MOUNT LIGHT TO BTM OF OVERHEAD WIRE SHELVING WITH CORD & PLUG
D3	COOPER/HALO	HC6-20-D010-HM6-12-830-61-ND-C	INTEGRAL WITH FIXTURE	21.1	120	RECESSED	PUBLIC AREA, 6" DIAMETER LED DOWNLIGHT
D3E	COOPER/HALO	HC6-20-D010-IEM14-HM6-12-830-61-ND-C	INTEGRAL WITH FIXTURE	21.1	120	RECESSED	SAME AS 'D3' WITH EMERGENCY BATTERY PACK
F	MEYDA	30894-8 (144638)	1-SATS9238	12	120	CEILING	EGG LIGHT FURNISHED WITH A 12 WATT A19-GU24 LED LAMP
J1	COOPER/METALUX	SSF-132-UNV-EB81-U	1-FO28/835/XP/SS/ECO	28	120	COVE	MOUNT IN MENUBOARD COVE AND PROVIDE TUBE GUARDS ON LAMPS
N	MINKA	4531-267B	1-LED11A19/827/D	11	120	WALL	LAVATORY WALL SCONCE-SHADE POINTED DOWN W/ LED LAMP & CL ON LAVATORY
P1	MEYDA	142776	2-LED11A19/827/D	22	120	PENDANT	31" DIA PEACH BASKET PENDANT WITH BTM AT 6'-3" AFF ABV TABLE, 7'-6" OTHERWISE
U	BESA LIGHTING	BES00298-060	FURNISHED	7.5	120	PENDANT	MONO-POINT PENDANT, RED FRIT GLASS, BRONZE CABLE & CANOPY, 6'-6" AFF
XA	COOPER/SURE-LITES	APCH7R	INTEGRAL WITH FIXTURE	4.11	120	WALL	EXIT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMPHEADS
XC	MULE LTG	MAKO-LED-ACEM-NK-IH	INTEGRAL WITH FIXTURE	13	120	WALL	EXTERIOR WALL MOUNTED EMERGENCY LIGHTING UNIT, LOCATE NEAR EGRESS DOOR
OJ	SECURITY LTG	RWSC-72L-3K-UD-U-DB	FURNISHED	25	120	WALL	UP/DOWN LED EXTERIOR WALL SCONCE, SEE ELEVATIONS FOR MOUNTING HEIGHT
OK	HUBBELL	LNC-5LU-3K-3-1	FURNISHED	12.9	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 410.130(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.



4 EXISTING SWITCH BANK "SB" DETAIL

NO SCALE



5 TYPICAL LIGHTING CONTROL DETAIL

NO SCALE

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-15-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

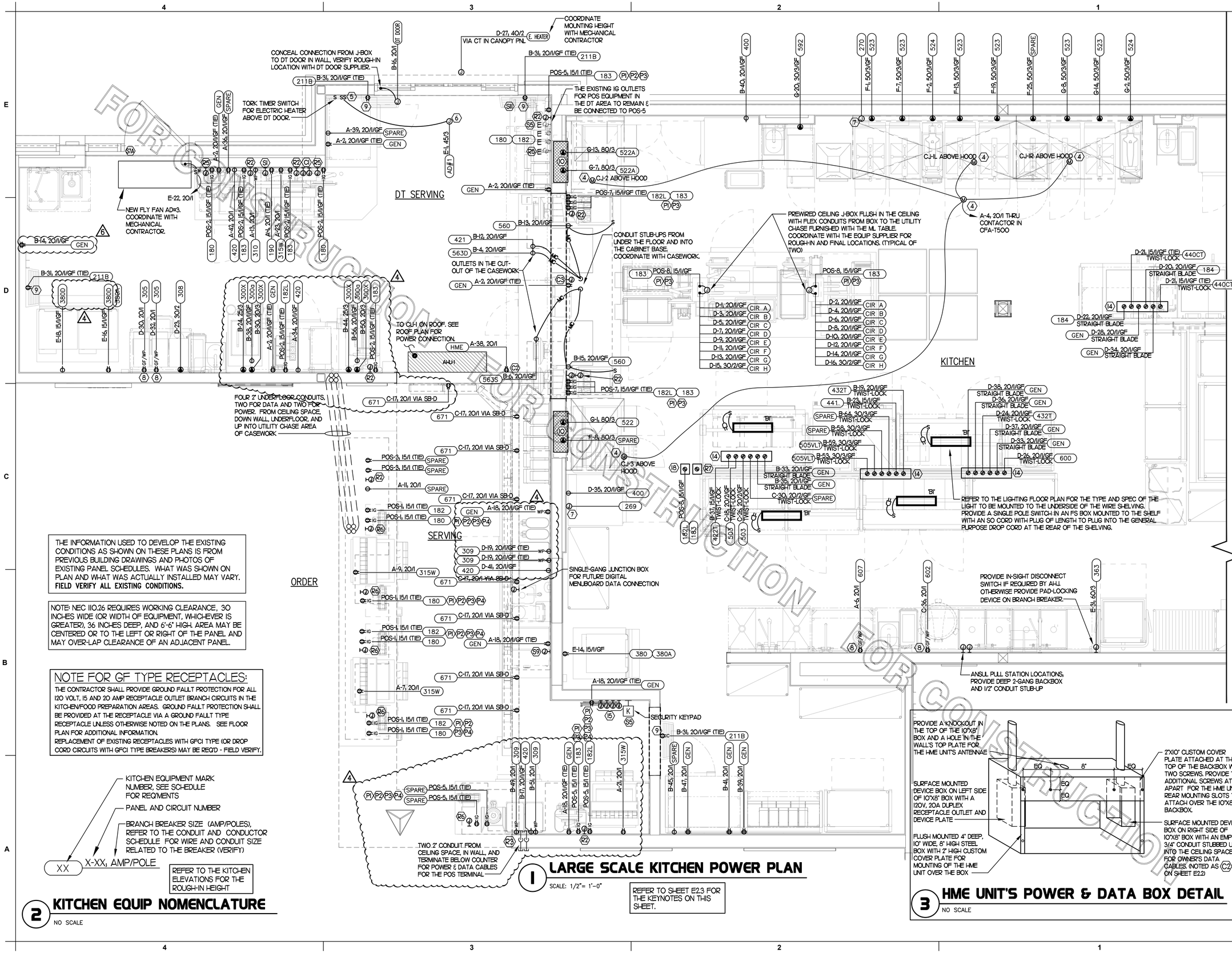
REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
5	01/18/23	Playground Removal
6	02/07/23	Pre-Bid Notes

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET: LIGHTING PLAN

SHEET NUMBER **E2.1**



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

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.

2 KITCHEN EQUIP NOMENCLATURE

NO SCALE

1 LARGE SCALE KITCHEN POWER PLAN

SCALE: 1/2"= 1'-0"

REFER TO SHEET E2.3 FOR THE KEYNOTES ON THIS SHEET.

3 HME UNIT'S POWER & DATA BOX DETAIL

NO SCALE

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-15-23

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision
6	02/07/23	Pre-Bid Notes

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET
LARGE SCALE KITCHEN POWER

SHEET NUMBER
E2.2

CONSTRUCTION

2 KEY NOTES - POWER:

1. CONNECT EVAPORATOR UNIT IN FREEZER TO FREEZER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE ROOF POWER PLAN.
2. CONNECT EVAPORATOR UNIT IN COOLER TO COOLER CONDENSING UNIT CONTROLS LOCATED ON ROOF. SEE ROOF POWER PLAN.
3. PROVIDE EDWARDS #340-4N5 VIBRATING 4" DIAMETER BELL. BELL SHALL BE RATED AT 120 VOLTS.
4. CONNECT AS REQUIRED TO CJ FAN VIA SPEED CONTROLLER. CONNECT HOMERUN VIA RELAY IN "T-500" CONTROL SECTION.
5. PROVIDE DOUBLE GANG BOX AND DOUBLE GANG DECORA PLATE FOR SWITCHES.
6. PROVIDE A JUNCTION BOX ABOVE CEILING FOR THE AIR DOOR ABOVE THE DT SLIDING DOOR. COORDINATE WITH THE MECHANICAL DRAWINGS AND WITH THE UNIT'S SUPPLIER FOR THE ROUGH-IN REQUIREMENTS AND ANY CONTROL WIRING.
7. PROVIDE 3#12 IN 1/2" CONDUIT BETWEEN THE T-500 CONTROL PANEL AND THE ANSUL SYSTEM PANEL. SEE ANSUL SYSTEM WIRING DIAGRAM FOR ADDITIONAL INFORMATION.
8. PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPTACLE IN COMPLIANCE WITH THE NEC REQUIREMENT FOR KITCHENS. IF NOT NOTED AS GFCI, THEN THE BREAKER IS TO BE GFCI TYPE.
9. PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVFR2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
10. THE OUTLETS FOR THE OPEN FRYERS (ITEM #522) ARE FURNISHED BY THE EXHAUST HOOD SUPPLIER AND INSTALLED BY THE CONTRACTOR.
11. TWO 2" TELEPHONE SERVICE ENTRANCE CONDUIT(S), AND ONE 3" ISP SERVICE CONDUIT. EXTEND WITH PULL STRING FROM THE J-BOX TO THE UTILITY SOURCE. INSTALL IN THE SAME TRENCH AS THE NEW SECONDARY ELECTRICAL SERVICE CONDUITS.
12. LOCKABLE SINGLE POLE SWITCH SHALL SERVE AS THE LOCAL "IN-SIGHT" MEANS OF DISCONNECT FOR EQUIPMENT ITEM AS NOTED. THE SWITCH SHALL BE COOPER #S2983 AND INSTALLED PER THE DETAILS ON SHEET E1.2
13. PROVIDE TWO 6'-H X 6'-W X 4'-D J-BOXES (ONE FOR TELEPHONE AND ONE FOR ISP) AT 6'-6" AFF AND EXTEND A 2" CONDUIT WITH PULL STRING FROM EACH J-BOX INTO THE ACCESSIBLE CEILING SPACE. PROVIDE A 36" X 36" X 3/4" PLYWOOD BACKBOARD ON THE WALL ABOVE THE J-BOXES (AT THE CEILING) FOR USE BY THE ISP. PROVIDE A COPPER GROUND BAR AT THE BOTTOM OF THE BACKBOARD WITH A #6 AWG INSULATED CU GROUNDING CONDUCTOR IN A 3/4"C FROM THE GROUND BAR TO THE BUILDING'S ELECTRICAL SERVICE GROUNDING ELECTRODE SYSTEM (GES). THE GROUND BAR SHALL HAVE TAPS FOR USE BY THE TELEPHONE AND ISP UTILITY COMPANIES AND FOR THE #6 COMMUNICATIONS GROUNDING CONDUCTOR TO THE GES. PROVIDE A 15 AMP ISOLATED GROUND (IG) ORANGE-FACED DUPLEX RECEPTACLE IN THE WALL BESIDE THE BACKBOARD, CONNECT TO CIRCUIT POS-12 (15A/1P BRANCH BREAKER), AND LABEL THE RECEPTACLE "FOR FIBER TO CABLE MODEM USE ONLY".
14. OVER-HEAD EQUIPMENT POWER (OEP) DROP CORD RECEPTACLES FROM A FLUSH MOUNTED CEILING OEP BOX. PROVIDE A-C-S OEP ASSEMBLY #12360-1000. ASSEMBLY WILL CONSIST OF A FLUSH CEILING OUTLET BOX, TWIST-LOCK PENDANT RECEPTACLES, STRAIGHT BLADE PENDANT RECEPTACLES, CORDS, STRAIN RELIEF, AND TWISTLOCK PLUGS. CONTACT BRIDGID DEFRAMCESHI EMAIL: BRIDGIDI985@GMAIL.COM (800-639-7584) TO PURCHASE OEP BOX AND DROP CORD RECEPTACLES. PROVIDE LIQUID-TIGHT CONDUIT WITH CONDUCTORS FOR DIRECT CONNECTED EQUIPMENT. CONDUIT SHALL NOT TOUCH THE FLOOR WHEN EQUIPMENT IS IN PLACE. USE SUPPORT GRIPS W/ SUPPORT HOOK ATTACHED TO SHELVING ABOVE AS NEEDED. PASS & SEYMOUR MODEL #PS075-U-GH5 OR EQUIVALENT.
15. PROVIDE FOUR 2-GANG DEEP BOXES (2" MIN.) FOR INSTALLATION OF DUCT DETECTOR REMOTE ANNUNCIATORS BY MECHANICAL. THE DUCT SMOKE REMOTE ANNUNCIATORS ARE PROVIDED TO THE ELECTRICIAN WITH THE SUNCOAST ELECTRONICS PACKAGE OF GEAR AND CONTROLS. EXTEND 1/2" CONDUIT FROM EACH BOX AND STUB ABOVE CEILING.
16. PROVIDE A 120V CONNECTION TO THE 50VA MOTORIZED DAMPER IN THE DUCTWORK SERVING THE SERVICE AREA. COORDINATE WITH MECHANICAL CONTRACTOR. 2
17. RELOCATE EXISTING POWER AND CABLE CONNECTIONS FOR THE WIRELESS COMM (HME) SYSTEM TO THIS LOCATION (FIELD VERIFY) SEE HME UNIT'S DETAIL ON SHEET E2.2
18. PROVIDE A DOUBLE-GANG BOX FLUSH MOUNTED IN THE CEILING WITH A BLANK PLATE WITH HOLE FOR A DROP CORD. PROVIDE THE #12 DROP CORD (WITH STRAIN RELIEF AT THE OUTLET BACK BOX) AND CONNECT THE CORD TO AN OUTLET BOX CONTAINING TWO 15 AMP IG (ORANGE) RECEPTACLE OUTLETS. OUTLET BOX TO BE MOUNTED TO THE OVER-HEAD SHELVING AT THE PRINTER AND MONITOR MOUNTING BRACKET.

4 GENERAL NOTES:

1. ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
2. REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
3. ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
4. PROVIDE INSULATED BUSHINGS AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
5. THE ELECTRICAL INSTALLER SHALL COORDINATE THE ROUTING OF ALL CONDUIT IN THE BUILDING WITH OTHER TRADES (SPECIFICALLY THE DUCTWORK INSTALLATION) TO AVOID CONFLICTS OF SPACE REQUIREMENTS IN WALLS AND CEILING SPACES.

5 KEY NOTES - COMMUNICATIONS:

- C1 PROVIDE TWO RETROFIT STYLE DOUBLE-GANG RINGS (CARLON #SC2OORR) WITH STAINLESS STEEL COVER PLATE AND HOLE IN PLATE FOR AUDIO, DETECTOR LOOP, AND DIGITAL MENUBOARD CABLES. EACH WITH A 2" CONDUIT UNDERGROUND TO THE DT DUAL-LANE (MLOP) ORDERING AREA AND A 2" CONDUIT STUBBED UP INTO THE CEILING SPACE.
- C2 PROVIDE JUNCTION BOX, LESS COVER PLATE, AND EXTEND 3/4" E.C. UP IN WALL TO ABOVE CEILING FOR INSTALLATION OF WIRELESS COMMUNICATION CONTROL UNIT.
- C3 PROVIDE SINGLE-GANG JUNCTION BOX ABOVE THE PASS THRU OPENING WITH A 1" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR OWNER'S TV CABLES.
- C4 PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR OWNER'S VOIP PHONE JACK AND CABLES.

8 KEY NOTES - POS:

- P1 PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
- P2 PROVIDE GROUND FAULT PROTECTION FOR THESE DEVICES VIA A GROUND FAULT CIRCUIT BREAKER IF LOCAL CODE DEFINES THIS A FOOD PREPARATION AREA.
- P3 USE TYPE MC CABLE FOR THE ISOLATED GROUND CIRCUIT- #12 HOT, NEUTRAL, GREEN GROUND, STRIPED ISO GRD. EACH 15A HOMERUN SHALL BE DEDICATED TO A CIRCUIT BREAKER VIA DEDICATED CONDUCTORS WITHIN A CABLE ASSEMBLY. ALL MC CABLES SHALL BE RUN OVER-HEAD ABOVE THE CEILING AND RACKED TOGETHER ON J-HOOKS. NO SPLICES IN ANY HOMERUN CABLES FROM FIRST RECEPTACLE TO BREAKER.
- P4 THE RECEPTACLE BACKBOX AND SYSTEM CABLE JUNCTION BOX FOR ITEMS 180 AND 182 SHALL BE TURNED HORIZONTAL. REFER TO THE KITCHEN EQUIPMENT ROUGH-IN ELEVATIONS FOR ADDITIONAL INFORMATION.

3 KEY NOTES - SECURITY:

- S1 PROVIDE SINGLE GANG JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER. EXTEND 1" E.C. UP IN WALL TO ABOVE ACCESSIBLE CEILING.
- S2 PROVIDE 4"W X 4"H X 3"D FLUSH JUNCTION BOX WITHOUT COVERPLATE. EXTEND 2" RIGID CONDUIT UP TO ABOVE ACCESSIBLE OFFICE CEILING AREA AND PROVIDE BUSHING ON CONDUIT END.
- S3 PROVIDE A 4"W X 4"H X 3" D JUNCTION BOX WITHOUT COVERPLATE AND EXTEND A 2" CONDUIT DOWN AND BELOW GRADE TO EACH OF THE SITE'S POLE MOUNTED CAMERA LOCATIONS (SEE ELECTRICAL SITE PLAN FOR CONTINUATION) AND A 2" CONDUIT UP INTO THE ACCESSIBLE CEILING SPACE WITH A BUSHING ON THE CONDUIT END. PROVIDE A SINGLE-GANG JUNCTION BOX ADJACENT TO THE DOUBLE-GANG BOX WITH A 1.5" CONDUIT DOWN TO A SECOND SINGLE-GANG JUNCTION BOX AT THE CCTV MONITOR LOCATION.
- S4 PROVIDE TWO GANG WEATHERPROOF JUNCTION BOX AND STAINLESS STEEL PLATE WITH 7/8" HOLE IN CENTER FOR PANIC BUTTON. MOUNT AT 48" AFF, EXTEND 1/2" RIGID CONDUIT UP TO ABOVE ACCESSIBLE CEILING WITH CONDUIT SEAL FITTING. SEAL CONDUIT PENETRATION AT WIC/WIF CEILING.
- S5 PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING AND TURN TOWARD SERVING AREA SIDE OF WALL.
- S6 PROVIDE SINGLE GANG JUNCTION BOX ON INSIDE FACE OF PARAPET WALL APPROX. 12" BELOW TOP OF PARAPET WALL. EXTEND 1/2" CONDUIT DOWN TO ABOVE ACCESSIBLE OFFICE CEILING.
- S7 EXTEND 1/2" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- S7A EXTEND 3/4" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- S8 EXTEND 1/2" RIGID CONDUIT FROM A POINT 3" WITHIN EITHER HINGE-SIDE DOOR VERTICAL FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- S9 PROVIDE SINGLE GANG JUNCTION BOX WITHOUT COVERPLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING AND TURN TOWARD SERVING AREA SIDE OF WALL.
- S10 PROVIDE SINGLE GANG, WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED 18" FROM THE CORNER OF THE SERVICE YARD AND JUST BELOW ROOF DECK MOUNTING BRACKETS. ROUTE 1" EMT CONDUIT FROM THE BOX SURFACE MOUNTED JUST BELOW THE ROOF DECK MOUNTING BRACKETS AND TERMINATE THE CONDUIT AT S12.
- S11 EXTEND 1/2" RIGID CONDUIT FROM A POINT 3" WITHIN STRIKE-SIDE WINDOW FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- S12 PROVIDE SINGLE GANG, WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED JUST ABOVE THE STRIKE SIDE OF OUTSIDE DOOR ON INSIDE OF SERVICE YARD. ROUTE 1" EMT CONDUIT SURFACE MOUNTED FROM BOX JUST BELOW THE ROOF DECK MOUNTING BRACKETS. TERMINATE CONDUIT IN THE ACCESSIBLE CEILING SPACE INSIDE THE BUILDING.

6 KEY NOTES - MUSIC:

- M1 PROVIDE JUNCTION BOX WITH STAINLESS STEEL COVER PLATE AND 3/4" HOLE IN PLATE WITH GROMMET ON HOLE IN PLATE. EXTEND 3/4" E.C. UP IN WALL TO ABOVE CEILING FOR MUSIC SYSTEM.
- M2 NOT USED.
- M3 PROVIDE THREE SINGLE GANG EXTRA DEEP J-BOXES STACKED ABOVE EACH OTHER WITH 1/2" CONDUIT FROM EACH TO THE TOP BOX AND A 1" CONDUIT STUBBED UP INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS.
- M4 PROVIDE A SINGLE GANG EXTRA DEEP JUNCTION BOX AT 74" AFF WITH 1/2" CONDUIT STUBBED INTO THE CEILING SPACE. FOR MUSIC SYSTEM VOLUME CONTROLS.

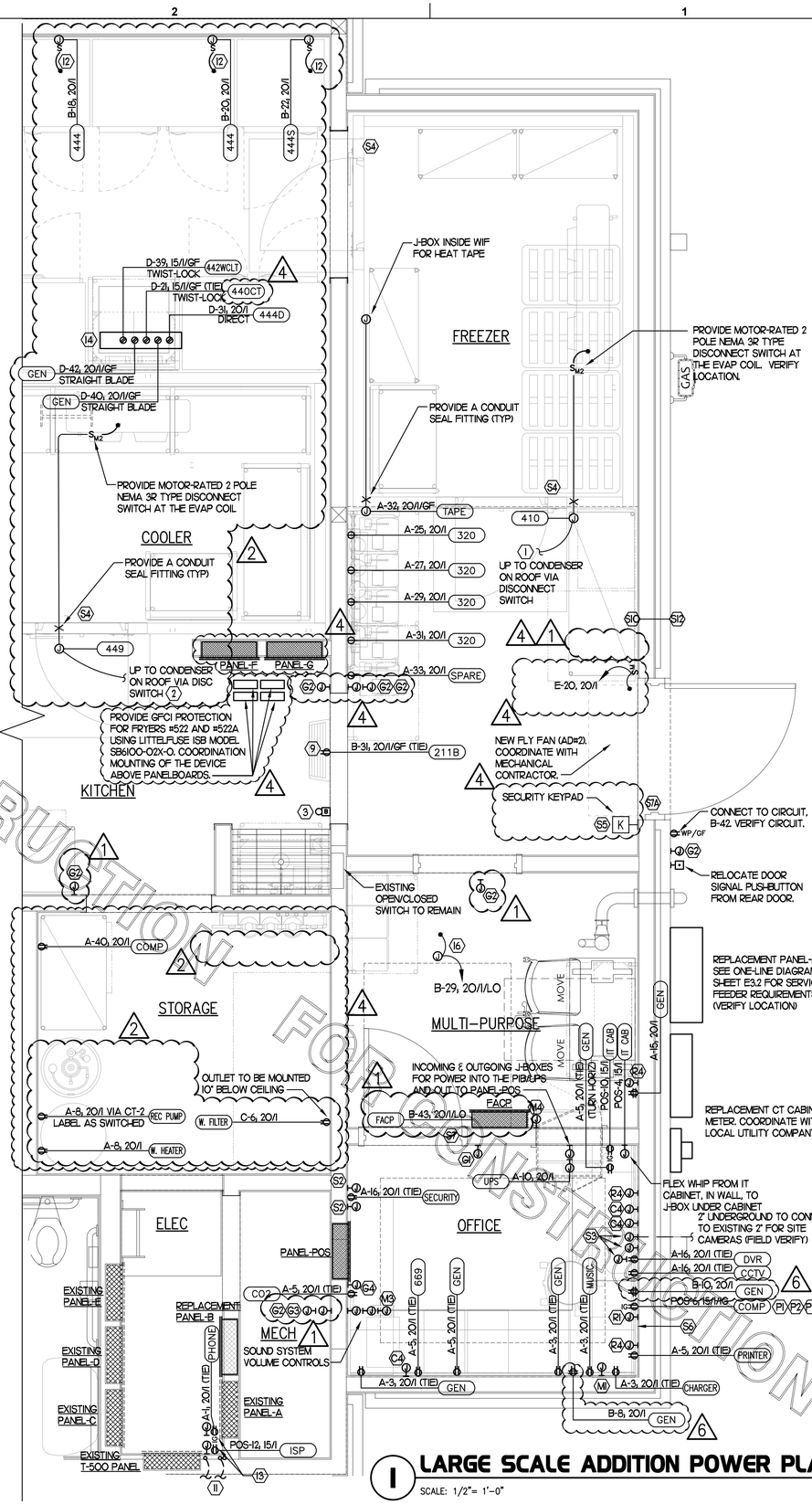
7 KEY NOTES - POS SYSTEM:

- R1 PROVIDE A "RETROFIT" DOUBLE-GANG RING (CARLON #SC2OORR) FOR OWNER'S DEVICE PLATE WITH A 3" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- R2 PROVIDE JUNCTION BOX FOR TERMINATION OF 1" CONDUIT. PROVIDE 1" CONDUIT EXTENDING FROM CEILING AND TERMINATED AT JUNCTION BOX ON THE SERVING AREA SIDE OF THE WALL. COVER PLATE PROVIDED BY OWNER'S POS SYSTEM VENDOR.
- R3 PROVIDE A 2" CONDUIT FROM FACE OF WALL AND EXTEND CONDUIT TO JUNCTION BOX IN CEILING SPACE ABOVE SERVING AREA. CONDUIT SHALL TERMINATE FLUSH WITH FACE OF WALL BELOW COUNTER. CUSTOM STAINLESS STEEL COVER PLATE IN WALL WITH GROMMET ON 2" DIAMETER HOLE AT CONDUIT TERMINATION IN WALL.
- R4 PROVIDE A "RETROFIT" SINGLE GANG RING (CARLON #SC1OORR) FOR OWNER'S DEVICE PLATE WITH A 2" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
- R5 PROVIDE JUNCTION BOX FOR TERMINATION OF 1" CONDUIT. PROVIDE 1" CONDUIT EXTENDING FROM CEILING AND TERMINATED AT JUNCTION BOX ON THE SERVING AREA SIDE OF THE WALL. POS SYSTEM SUPPLIER WILL PROVIDE COVER PLATE ON BOX.
- R6 PROVIDE SINGLE GANG EXTRA DEEP JUNCTION BOX MOUNTED ON THE MOUNTING PLATE WITHIN THE FRONT SERVING COUNTER CASEWORK. MOUNT BOX ADJACENT TO THE RECEPTACLE FOR EQUIPMENT 180. DO NOT MOUNT BOX BETWEEN EQUIPMENT 180 AND EQUIPMENT 182 RECEPTACLES.
- R7 PROVIDE A SINGLE-GANG BOX FLUSH MOUNTED IN THE CEILING FOR THE POS DATA PLATE. (BY OTHERS) FOR THE SALAD PREP AREA POS MONITOR AND PRINTER.

9 CO2 DETECTOR NOTES:

- G1 CO2 CENTRAL CONTROL UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE.
- G2 CO2 ANNUNCIATOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE.
- G3 CO2 SENSOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 12" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE.
- G4 CO2 POWER SUPPLY - PROVIDE SINGLE-GANG BACKBOX AT 18" BELOW CEILING WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE. PROVIDE A DUPLEX OUTLET, AND CONNECT TO A LOCAL GENERAL OUTLET CIRCUIT. FIELD VERIFY EXACT LOCATION WITH STRONG SYSTEMS 800-500-5566.

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



1 LARGE SCALE ADDITION POWER PLAN

SCALE: 1/2"= 1'-0"

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-15-23

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision
6	02/07/23	Pre-Bid Notes

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

CONSTRUCTION

SHEET
LARGE SCALE POWER PLAN

SHEET NUMBER
E2.3

COMcheck Software Version 4.1.5.1

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Chick-fil-A #2219
Project Type: Addition

Construction Site:
602 N West End Blvd.
Quakertown, PA 18951

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 (ft2)	C Allowed Watts / ft2	D Allowed Watts (B X C)
1-Kitchen (Common Space Types:Food Preparation)	1769	1.21	2140
3-Storage (Common Space Types:Storage >=50 - <=1000 sq.ft.)	170	0.63	107
2-Office (Common Space Types:Office - Enclosed)	75	1.11	83
4-Restrooms (Common Space Types:Restrooms)	255	0.98	250
5-Dining (Common Space Types:Dining Area - Family Restaurant)	1520	0.89	1353
		Total Allowed Watts =	3934

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-Kitchen (Common Space Types:Food Preparation)				
LED: A/AE: 2x4 Troffer: Other:	1	21	59	1247
LED: B1: Task Light: Other:	1	2	35	70
LED/ F: LED Egg Light: Other:	1	4	12	48
Linear Fluorescent: J1: Cove Lighting: 48" T8 28W (Super T8): Electronic:	1	7	28	196
LED: D3/D3E: LED Downlight: Other:	1	4	20	80
3-Storage (Common Space Types:Storage >=50 - <=1000 sq.ft.)				
LED: A/AE: 2x4 Troffer: Other:	1	3	59	178
2-Office (Common Space Types:Office - Enclosed)				
LED: A/AE: 2x4 Troffer: Other:	1	1	59	59
4-Restrooms (Common Space Types:Restrooms)				
LED: D3/D3E: LED Downlight: Other:	1	6	20	119
LED: N: Vanity: Other:	1	2	11	22
5-Dining (Common Space Types:Dining Area - Family Restaurant)				
LED: D3/D3E: LED Downlight: Other:	1	40	20	796
LED: U: Pendant: Other:	1	7	8	52
			Total Proposed Watts =	2868

Interior Lighting PASSES: Design 27% 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.

Mark Kurzynske - PE
Name - Title | Signature | Date

COMcheck Software Version 4.1.5.1

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2015 IECC
Project Title: Chick-fil-A #2219
Project Type: Addition
Exterior Lighting Zone: 2 (Neighborhood business district)

Construction Site:
602 N West End Blvd.
Quakertown, PA 18951

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	2585 ft2	0.1	No	258
Free standing/attached sales canopy	3497 ft2	0.6	Yes	2098
			Total Tradable Watts (a) =	2098
			Total Allowed Watts =	2357
			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 (2585 ft2): Non-tradable Wattage				
LED: OJ: Wall Sconce: Other:	1	19	25	475
LED: OK: Wall Pack: Other:	1	1	13	13
Free standing/attached sales canopy (3497 ft2): Tradable Wattage				
LED: OMD Canopy Ltg: Integral Light: Other:	1	14	74	1036
			Total Tradable Proposed Watts =	1036

Exterior Lighting PASSES: Design 58% 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.

Mark Kurzynske - PE
Name - Title | Signature | Date

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

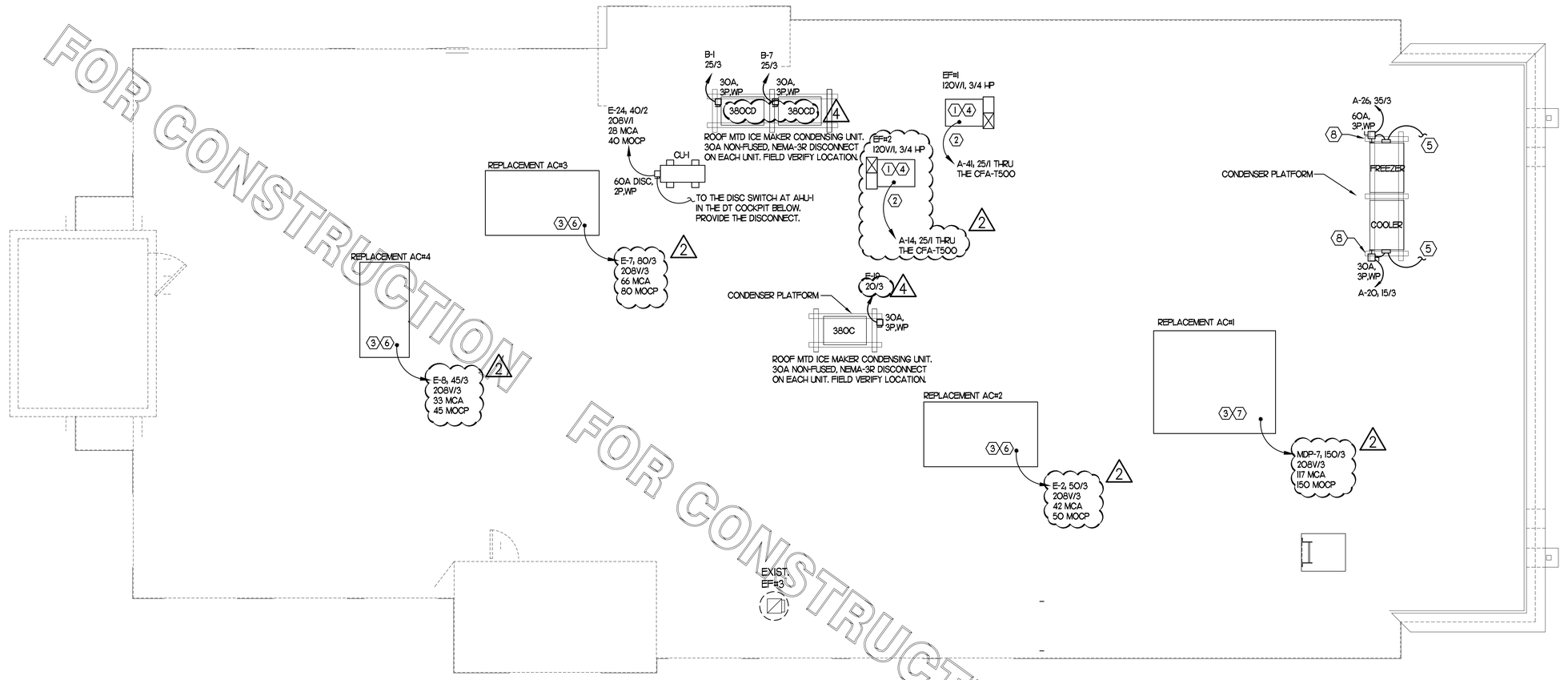
REVISION SCHEDULE

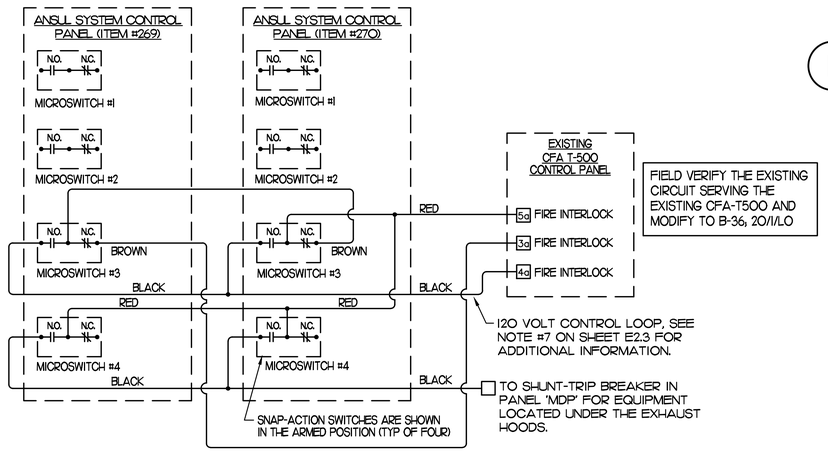
NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET
LIGHTING COMCHECK

SHEET NUMBER
E5.1
2





3 ANSUL SYSTEM PANEL WIRING DIAGRAM

NOT TO SCALE

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.

2 KEYNOTES (APPLY TO THIS SHEET ONLY)

1. CONNECT EF#1, EF#2, AND EF#4 THRU THE CFA-500 CONTROL PANEL.
2. 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 14" DIAMETER LOOP IN THE FLEXIBLE CONDUIT BETWEEN THE ROOF AND THE FAN ELECTRICAL CONNECTION.
3. A/C UNIT DISCONNECT IS FURNISHED WITH A/C UNIT AND SHALL BE CONNECTED BY THE CONTRACTOR.
4. EXHAUST FAN DISCONNECT IS FURNISHED WITH THE FAN AND SHALL BE CONNECTED BY THE CONTRACTOR.
5. CONNECT POWER FROM EACH CONDENSING UNIT'S COMPRESSOR CONTACTOR TO THE EVAPORATOR COIL UNIT'S JUNCTION BOX BELOW. REFER TO E2.2 & E2.3 FOR LOCATION.
6. CONVENIENCE OUTLET SUPPLIED WITH UNIT. PROVIDE POWER THROUGH CIRCUIT B-25, VERIFY CIRCUIT NUMBER.
7. CONVENIENCE OUTLET SUPPLIED WITH UNIT AND UNIT POWERED.
8. 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.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

CONSTRUCTION

SHEET
ROOF POWER PLAN

SHEET NUMBER
E2.4

PANELBOARD SCHEDULE - EXISTING PANEL-A

#2219

PANELBOARD DESCRIPTION			BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	A		ARC-FAULT:	AF	KVA PHASE A	14.29
MANUFACTURER / TYPE:	SQ-D / NQOD		GROUND FAULT:	GF	KVA PHASE B	14.48
VOLTS:	208 Y 120		HACR:	HA	KVA PHASE C	14.3
PHASE / WIRE:	3 / 4		HID LTG RATED:	HD	AMPS PHASE A	119.1
MAIN TYPE / CU BUS AMPS:	MLO / 225 AMP		HIGH MAG LOAD:	HM	AMPS PHASE B	120.6
AIC SERIES RATING:	65/10KA		ISOLATED GROUND:	IG	AMPS PHASE C	119.2
MOUNTING:	FLUSH		LOCK-ON:	LO	KVA CONNECTED	43.07
NEMA RATING:	1		SHUNT TRIP:	ST	KVA DIVERSIFIED	38
QUANTITY OF SECTIONS:	1		SWITCH RATED:	SW	AMPS CONNECTED	119.5
					AMPS DIVERSIFIED	105.5

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
C	1	TELEPHONE OF VIDEO	190	R	0.360	20/1	A	20/1/GF	0.720	R		GEN OUTLETS	2	A,C
	3	OFFICE GEN & PRINTER		R	0.720	20/1	B	20/1	1.000	M1		CAPTURE JET FANS	4	
	5	OFFICE GEN & MUSIC		R	0.900	20/1	C	20/1	0.600	R	607	JUICER STATION	6	
	7	SODA DISPENSER	315W	K	1.200	20/1	A	20/1	1.440	MS		WATER HEATER	8	
⚠4	9	SODA DISPENSER	315W	K	1.200	20/1	B	20/1/HM	1.440			POS PANEL (THRU UPS)	10	C
	11	SPARE JUICE DISP.	310	K	0.984	20/1	C	20/1	0.180	R		PLAY AREA OUTLET	12	
C	13	DOUBLE JUICE DISP.	310	K	0.984	20/1	A	25/1	1.656	M1		EF#2	14	C
C	15	TRAINING DESK OUTLET		R	0.360	20/1	B	20/1/LO	0.540	R		SECURITY SYSTEM	16	C
	17	WALL HEATER		HT	0.750	20/2	C	20/1/GF	0.750	R		GEN OUTLETS	18	A,C
	19			HT	0.750		A		1.258	X			20	
	21	SODA DISPENSER	315W	K	1.200	20/1	B	15/3/LO	1.258	X	449	WALK-IN COOLER	22	C
C	23	SODA DISPENSER	315W	K	1.200	20/1	C		1.140	X			24	
C	25	CARBONATOR	320	K	0.744	20/1	A		1.956	X			26	
C	27	CARBONATOR	320	K	0.744	20/1	B	35/3/LO	2.221	X	410	WALK-IN FREEZER	28	C
C	29	CARBONATOR	320	K	0.744	20/1	C		2.221	X			30	
⚠4 C	31	CARBONATOR	320	K	0.744	20/1	A	20/1/GF	0.900	R		FREEZER HEAT TAPE	32	A,C
C	33	SPARE CARBONATOR	320	K	0.744	20/1	B	20/1/GF	0.564	X	420	U.C. REFRIGERATOR	34	A,C
	35	BOOSTER PUMP		M1	1.440	20/2	C	20/1	1.200	K	315W	SPARE SODA DISPENSER	36	C
⚠2	37			M1	1.440		A	20/1	0.540	MS		HME/COMMUNICATIONS	38	C
A,C	39	U.C. REFRIGERATOR	420	X	0.564	20/1/GF	B	20/1	1.920	MS		FUTURE AIR COMPRESSOR	40	C
	41	EF#1	EF-1	M1	1.656	25/1	C	20/1/GF	0.564	X	420	U.C. REFRIGERATOR	42	A,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
RECEPTACLES	R	5.100	PER(>10KVA@50%)		5.100
MISCELLANEOUS	MS	5.340	1.25		6.675
HEAT	HT	2.000	1		2.000
SINGLE PHASE MOTOR	M1	7.192	1.25		8.990
KITCHEN EQUIPMENT	K	11.688	0.65		7.597
KITCHEN REFRIG EQUIPMENT	X	11.746	0.65		7.635
TOTAL		43.066	TOTAL		37.997

PANELBOARD SCHEDULE - EXISTING PANEL-D

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	D	ARC-FAULT:	AF	KVA PHASE A	16
MANUFACTURER / TYPE:	SQ-D / NQOD	GROUND FAULT:	GF	KVA PHASE B	17.66
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	15.01
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	133.4
MAIN TYPE / CU BUS AMPS:	MLO / 400 AMP	HIGH MAG LOAD:	HM	AMPS PHASE B	147.2
AIC SERIES RATING:	65/10KA	ISOLATED GROUND:	IG	AMPS PHASE C	125.1
MOUNTING:	FLUSH	LOCK-ON:	LO	KVA CONNECTED	48.67
NEMA RATING:	1	SHUNT TRIP:	ST	KVA DIVERSIFIED	34.62
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	135.1
				AMPS DIVERSIFIED	96.1

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
A,C	1	CIRCUIT A – ML TABLE		K	1.911	20/1/GF	A	20/1/GF	1.911	K		CIRCUIT A – ML TABLE	2	A,C
A,C	3	CIRCUIT B – ML TABLE		K	1.800	20/1/GF	B	20/1/GF	1.800	K		CIRCUIT B – ML TABLE	4	A,C
A,C	5	CIRCUIT C – ML TABLE		R	0.180	20/1/GF	C	20/1/GF	0.180	R		CIRCUIT C – ML TABLE	6	A,C
A,C	7	CIRCUIT D – ML TABLE		K	1.500	20/1/GF	A	20/1/GF	1.500	K		CIRCUIT D – ML TABLE	8	A,C
A,C	9	CIRCUIT E – ML TABLE		K	1.920	20/1/GF	B	20/1/GF	1.920	K		CIRCUIT E – ML TABLE	10	A,C
A,C	11	CIRCUIT F – ML TABLE		R	0.180	20/1/GF	C	20/1/GF	0.180	R		CIRCUIT F – ML TABLE	12	A,C
A,C	13	CIRCUIT G – ML TABLE		X	0.564	20/1/GF	A	20/1/GF	0.564	X		CIRCUIT G – ML TABLE	14	A,C
A,C	15 17	CIRCUIT H – ML TABLE		K	2.500	30/2/GF	B C	30/2/GF	2.500	K		CIRCUIT H – ML TABLE	16 18	A,C
A,C	19	TWO SINGLE JUICE DISP.	319	K	0.984	20/1/GF	A	20/1/GF	0.180	R	184	DROP CORD OUTLET	20	A,C
A,C	21	BREADING TABLES	440CT	X	0.360	15/1/GF	B	20/1/GF	0.180	R	184	DROP CORD OUTLET	22	A,C
C	23	COFFEE MAKER	308	K	2.000	30/2	C	20/1/GF	0.756	K	432	WORKTOP REFRIG	24	A,C
⚠2	25			K	2.000		A	20/1/GF	0.960	K	600	FLOOR MIXER	26	A,C
C	27	6 KW ELECTRIC HEATER		HT	3.000	40/2	B	20/1/GF	0.180	R		DROP CORD OUTLET	28	A,C
	29			HT	3.000		C	20/1	1.650	K	305	TEA BREWER	30	
	31	THAWING CABINET	444	X	1.920	20/1	A	20/1	1.650	K	305	TEA BREWER	32	
A,C	33	DROP CORD OUTLET		R	0.180	20/1/GF	B	20/1/GF	0.180	R		DROP CORD OUTLET	34	A,C
A,C	35	FRY FREEZER	400	X	1.128	20/1/GF	C	20/1/GF	0.180	R		DROP CORD OUTLET	36	A,C
A,C	37	DROP CORD OUTLET		R	0.180	20/1/GF	A	20/1/GF	0.180	R		DROP CORD OUTLET	38	A,C
A,C	39	DISPLAY REFRIG.	442WC	X	0.960	15/1/GF	B	20/1/GF	0.180	R		DROP CORD OUTLET	40	A,C
C	41	U.C. REFRIGERATOR	420	X	0.396	20/1/GF	C	20/1/GF	0.180	R		DROP CORD OUTLET	42	A,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
RECEPTACLES	R	2.520	PER(>10KVA@50%)		2.520
KITCHEN EQUIPMENT	K	34.262	0.65		22.270
KITCHEN REFRIG EQUIPMENT	X	5.892	0.65		3.830
TOTAL		48.674	TOTAL		34.620

PANELBOARD SCHEDULE - PANEL-POS

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	POS	SWITCH RATED:	SW	KVA PHASE A	0
MANUFACTURER / TYPE:	SQ-D / NQ	ISOLATED GROUND:	IG	KVA PHASE B	1.44
VOLTS:	208 Y 120	GROUND FAULT:	GF	KVA PHASE C	0
PHASE / WIRE:	1 / 4	HACR:	HA	AMPS PHASE A	0
MAIN TYPE / CU BUS AMPS:	MLO / 100 AMP	SHUNT TRIP:	ST	AMPS PHASE B	12
AIC SERIES RATING:	10,000	LOCK-ON:	LO	AMPS PHASE C	0
MOUNTING:	FLUSH	NOTES: FED FROM PANEL A. CONNECT BOTH PHASE BARS TO PHASE B, FURN. WITH I.G. BAR, SEE RISER DIAGRAM		KVA CONNECTED	1.44
NEMA RATING:	1			KVA DIVERSIFIED	1.44
QUANTITY OF SECTIONS:	1			AMPS CONNECTED	12
				AMPS DIVERSIFIED	12

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
	1	COUNTER POS STATIONS		MS	0.130	15/1	B	15/1/GF	0.200	MS		MLOP STATION	2	A
	3	COUNTER POS STATIONS		MS	0.130	15/1	B	15/1	0.260	MS		NETWORK CABINET	4	
	5	DT POS STATION		MS	0.240	15/1	B	15/1	0.070	MS		OFFICE RECEPTACLE	6	
A	7	PASS-THRU MONITORS		MS	0.110	15/1/GF	B	15/1/GF	0.170	MS		ML TABLE MONITORS	8	A
	9	SPACE				1 POLE	B	15/1	0.040	MS		NETWORK CABINET	10	
	11	SPACE				1 POLE	B	15/1	0.090	MS		ISP – FIBER INTERNET	12	
	13	SPACE				1 POLE	B	20/1/LO				BACKFED MAIN BKR	14	
	15-23	SPACE				1 POLE	B	1 POLE				SPACE	16-24	

*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
MISCELLANEOUS	MS	1.440	1		1.440
TOTAL		1.440	TOTAL		1.440

PANELBOARD SCHEDULE - REPLACEMENT PANEL-B

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	B	ARC-FAULT:	AF	KVA PHASE A	31.58
MANUFACTURER / TYPE:	SQ-D / NQOD	GROUND FAULT:	GF	KVA PHASE B	32.13
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	29.95
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	263.2
MAIN TYPE / CU BUS AMPS:	MLO / 225 AMP	HIGH MAG LOAD:	HM	AMPS PHASE B	267.8
AIC SERIES RATING:	65/10KA	ISOLATED GROUND:	IG	AMPS PHASE C	249.6
MOUNTING:	FLUSH	LOCK-ON:	LO	KVA CONNECTED	93.67
NEMA RATING:	1	SHUNT TRIP:	ST	KVA DIVERSIFIED	63.95
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	260
				AMPS DIVERSIFIED	177.5

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
	1			X	1.884		A	20/1	0.380	EL		REFUSE ENCLOSURE	2	
	3	ROOF ICE CONDENSER	380CD	X	1.884	25/3	B	20/1/GF	1.090	K	563D	SANDWICH SLIDE	4	A
	5			X	1.884		C	20/1/GF	0.548	K	563S	SANDWICH SLIDE	6	A
	7			X	1.884		A	20/1	0.360	R		GEN OUTLET	8	
	9	ROOF ICE CONDENSER	380CD	X	1.884	25/3	B	20/1	0.360	R		GEN OUTLET	10	
	11			X	1.884		C	20/1/GF	0.684	X	421	U.C. REFRIGERATOR	12	A
A	13	FRY STATION	560	K	1.840	20/1/GF	A	20/1/GF	0.360	R		GEN OUTLET	14	A
A	15	FRY STATION	560	K	1.840	20/1/GF	B	20/1	0.500	MS		D.T. DOOR	16	
A	17	U.C. REFRIGERATOR	420	X	0.564	20/1/GF	C	20/1	1.920	X	444	THAWING CABINET	18	
A	19	WORKTOP REFRIG	432	K	0.756	20/1/GF	A	20/1	1.920	X	444S	THAWING CABINET	20	
⚠2	21	SPARE				20/1	B	20/1	1.920	X	444S	THAWING CABINET	22	
A	23	REFRIG SALAD PREP	441	X	1.080	15/1/GF	C		2.280	K			24	
	25	ROOF RECEPTACLES		R	0.540	20/1	A	25/3	2.280	K	300X	ICE DREAM MACHINE	26	
	27	DINING OUTLETS		R	1.080	20/1	B		2.280	K			28	
	29	DAMPER XFMR		MS	0.050	20/1/LO	C		1.800	K			30	
A	31	FLY SYSTEM		K	0.240	20/1/GF	A	20/3	1.800	K	300X	ICE DREAM MACHINE	32	
A	33	DROP CORD OUTLET		R	0.180	20/1/GF	B		1.800	K			34	
A	35	DROP CORD OUTLET		R	0.180	20/1/GF	C	20/1/LO	1.000	MS		T-500/SHUNT TRIP	36	
⚠4 A	37	REFRIG EQUIP STAND	422	X	0.804	15/1/GF	A	20/1/GF	0.480	K	300A	MILKSHAKE DISPENSER	38	A
	39	GEN OUTLET		R	0.360	20/1	B	20/1/GF	1.128	X	400	FRY FREEZER	40	A
	41	GEN OUTLET		R	0.360	20/1	C	20/1	0.720	R		GEN OUTLET/DOORBELL	42	
⚠2 F	43	FIRE ALARM PANEL		MS	0.500	20/1/LO	A		2.280	K			44	
A	45	SPARE WORKTOP REFRIG	432	K	0.756	20/1/GF	B	25/3	2.280	K	300X	SPARE ICE DREAM MACHINE	46	
	47	GEN OUTLET		R	0.360	20/1	C		2.280	K			48	
A	49	SINGLE JUICE DISPENSER		K	0.43	20/1	A		1.800	K			50	
A	51	SINGLE JUICE DISPENSER		K	0.43	20/1	B	20/3	1.800	K	300X	SPARE ICE DREAM MACHINE	52	
	53			K	2.640		C		1.800	K			54	
	55	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	A	20/1/GF	0.480	K	300A	SPARE MILKSHAKE DISP.	56	A
	57			K	2.640		B		2.640	K			58	
	59			K	2.640		C	30/3/GF	2.640	K	505V	SPARE FOR MULTI-COOK OVEN	60	
	61	MULTI-COOK OVEN	505V	K	2.640	30/3/GF	A		2.640	K			62	
	63			K	2.640		B		2.640	K			64	
	65	SPACE				1 POLE	C	30/3/GF	2.640	K	505V	SPARE FOR MULTI-COOK OVEN	66	
	67	SPACE				1 POLE	A		2.640	K			68	
	69	SPACE				1 POLE	B	1 POLE				SPACE	70	
	71	SPACE				1 POLE	C	1 POLE				SPACE	72	

*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
EXTERIOR LIGHTING & SIGNAGE	EL	0.380	1		0.380
RECEPTACLES	R	4.860	PER(>10KVA@50%)		4.860
MISCELLANEOUS	MS	2.050	1.25		2.563
SINGLE PHASE MOTOR	M1	0.000	1.25		0.000
KITCHEN EQUIPMENT	K	65.054	0.65		42.285
KITCHEN REFRIG EQUIPMENT	X	21.324	0.65		13.861
TOTAL		93.668	TOTAL		63.948

PANELBOARD SCHEDULE - EXISTING PANEL-E

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	E	ARC-FAULT:	AF	KVA PHASE A	43.26
MANUFACTURER / TYPE:	SQ-D / NQOD	GROUND FAULT:	GF	KVA PHASE B	40.34
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	40.4
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	360.5
MAIN TYPE / CU BUS AMPS:	MLO / 400	HIGH MAG LOAD:	HM	AMPS PHASE B	336.2
AIC SERIES RATING:	65/10KA	ISOLATED GROUND:	IG	AMPS PHASE C	336.7
MOUNTING:	FLUSH	LOCK-ON:	LO	KVA CONNECTED	124
NEMA RATING:	1	SHUNT TRIP:	ST	KVA DIVERSIFIED	116.8
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	344.2
				AMPS DIVERSIFIED	324.3

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
	1			HT	4.053		A		5.040	HV			2	
C	3	HEATED AIR DOOR	AD#1	HT	4.053	45/3	B	50/3	5.040	HV	AC-2	REPLACEMENT ROOF TOP UNIT AC-2	4	C
	5			HT	4.053		C		5.040	HV			6	
	7			HV	7.920		A		3.960	HV			8	
C	9	REPLACEMENT ROOF TOP UNIT AC-3	AC-3	HV	7.920	80/3	B	45/3	3.960	HV	AC-4	REPLACEMENT ROOF TOP UNIT AC-4	10	C
	11			HV	7.920		C		3.960	HV			12	
	13			HT	8.330		A	15/1/GF	0.600	X	380	INTERIOR ICE MAKER	14	A,C
C	15	ELEC DUCT HEATER	EDH-1	HT	8.330	90/3	B	15/1/GF	0.600	X	380	INTERIOR ICE MAKER	16	A,C
	17			HT	8.330		C	15/1/GF	0.600	X	380	INTERIOR ICE MAKER	18	A,C
	19			X	1.704		A	20/1	1.656	M1	AD#2	UNHEATED AIR DOOR	20	C
C	21	ROOF ICE MAKER	380C	X	1.704	20/3	B	20/1	1.656	M1	AD#3	UNHEATED AIR DOOR	22	C
	23			X	1.704		C		2.912	HV			24	
C	25	TRASH COMPACTOR REC.		MS	1.200	20/1	A	40/2	2.912	HV		AHU-1 & CU-1	26	C
C	27	TRASH COMPACTOR REC.		MS	1.200	20/1	B	20/1				SPARE	28	C
	29	SPARE				20/1	C	20/1				SPARE	30	C
	31			K	5.880		A	20/1				SPARE	32	C
D	33	DISHWASHER	363	K	5.880	60/3	B	20/1				SPARE	34	C
	35			K	5.880		C	20/1				SPARE	36	C
C	37	SPARE				20/1	A	20/1				SPARE	38	C
C	39	SPARE				20/1	B	20/1				SPARE	40	C
C	41	SPARE				20/1	C	20/1				SPARE	42	

*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
MISCELLANEOUS	MS	2.400	1.25		3.000
HVAC	HV	56.584	1		56.584
HEAT	HT	37.149	1		37.149
SINGLE PHASE MOTOR	M1	3.312	1.25		4.140
KITCHEN EQUIPMENT	K	17.640	0.65		11.466
KITCHEN REFRIG EQUIPMENT	X	6.912	0.65		4.493
TOTAL		123.997	TOTAL		116.832

PANELBOARD SCHEDULE - EXISTING PANEL-C

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	C	ARC-FAULT:	AF	KVA PHASE A	14.8
MANUFACTURER / TYPE:	SQ-D / NQOD	GROUND FAULT:	GF	KVA PHASE B	12.51
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	12.79
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	123.4
MAIN TYPE / CU BUS AMPS:	MLO / 225 AMP	HIGH MAG LOAD:	HM	AMPS PHASE B	104.3
AIC SERIES RATING:	65/10KA	ISOLATED GROUND:	IG	AMPS PHASE C	106.6
MOUNTING:	FLUSH	LOCK-ON:	LO	KVA CONNECTED	40.11
NEMA RATING:	1	SHUNT TRIP:	ST	KVA DIVERSIFIED	44.97
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	111.3
				AMPS DIVERSIFIED	124.8

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
	1	KITCHEN LTG		L	0.710	20/1	A	20/1	1.620	EL		BUILDING SIGNAGE	2	
	3	KITCHEN LTG		L	0.414	20/1	B	20/1	1.620	EL		BUILDING SIGNAGE	4	
	5	RR LTG / EF#3		L	0.219	20/1	C	20/1	0.180	R		WATER FILTER	6	
	7	DINING AREA LTG		L	0.161	20/1	A	20/1	0.720	R		DINING OUTLETS	8	
	9	SPARE				20/1	B	20/1	0.900	R		DINING OUTLETS	10	
	11	DINING AREA LTG		L	0.592	20/1	C	20/1/LO	0.725	EL		SEC/FLAG LTG	12	
	13	DINING AREA LTG		L	0.494	20/1	A	20/1/GF	0.528	MS		OMD CANOPY FANS	14	A,C
	15	SERVING LTG		L	0.238	20/1	B	20/1/GF	1.056	MS		MLOP CANOPY FANS	16	A,C
	17	MENUBOARDS	671	L	0.900	20/1	C	20/2/GF	1.250	K	503	EGG COOKER	18	
	19	DIRECTIONAL SIGNS		EL	1.620	20/1	A		1.250	K			20	
	21	PARKING LOT LTG		EL	1.400	30/1	B	20/1	0.200	EL		AWNING LTG	22	
	23	PARKING LOT LTG		EL	1.400	30/1	C	20/1	0.275	EL		AWNING LTG	24	
	25	PARKING LOT LTG		EL	1.400	30/1	A	20/2/GF	1.250	K	503	EGG COOKER	26	
	27	PARKING LOT LTG		EL	1.400	30/1	B		1.250	K			28	
	29	PARKING LOT LTG		EL	1.400	30/1	C	20/2/GF	1.250	K	503	EGG COOKER (SPARE)	30	
	31	PARKING LOT LTG		EL	1.400	30/1	A		1.250	K			32	
	33	MENUBOARD COVE LTG		L	0.500	20/1	B	20/1	0.296	EL		OMD/MLOP CANOPY LTG	34	
	35	FREEZER/COOLER LTG		L	1.000	20/1/LO	C	20/1	0.360	K	602	SALAD SPINNER	36	
	37	MAIN ID SIGN		EL	1.620	20/1	A	20/1	0.780	EL		DT MENUBOARDS	38	
	39	MAIN ID SIGN		EL	1.620	20/1	B	20/1	1.620	EL		BUILDING SIGNAGE	40	
	41	MAIN ID SIGN		EL	1.620	20/1	C	20/1	1.620	EL		BUILDING SIGNAGE	42	

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

PANELBOARD LOAD SUMMARY

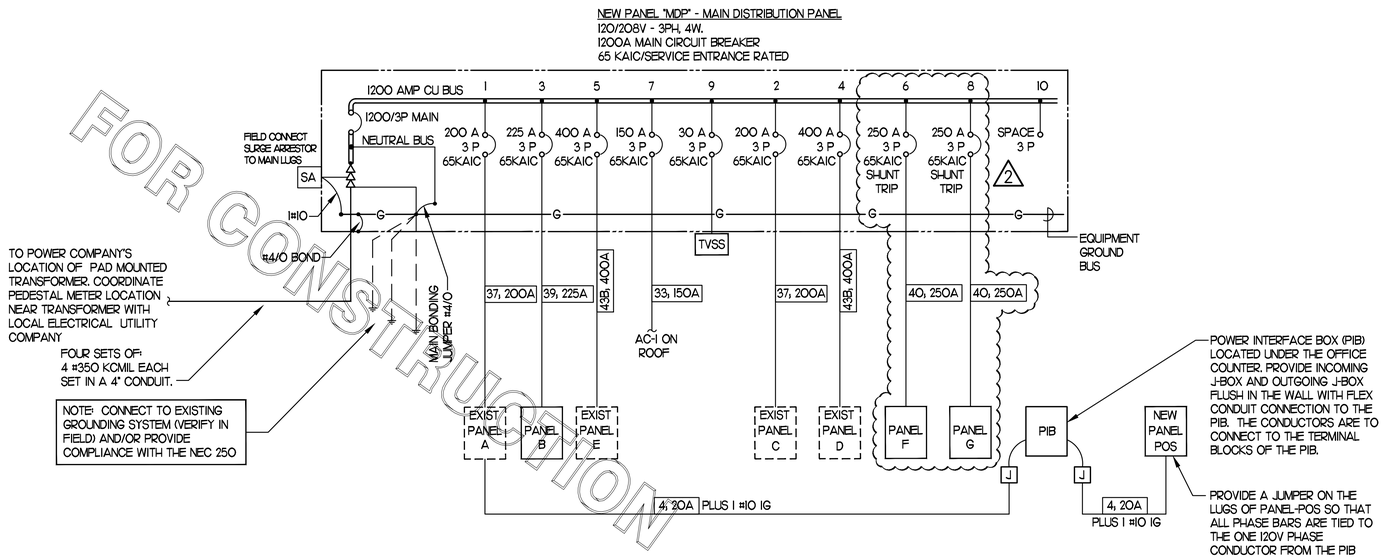
LOAD DESCRIPTION	TYPE	(KVA) X	DEMAND FACTOR	=	DIVERSIFIED KVA
LIGHTING	L	5.228	1.25		6.535
EXTERIOR LIGHTING & SIGNAGE	EL	23.636	1.25		29.545
MISCELLANEOUS	MS	1.584	1.25		1.980
TOTAL		40.108	TOTAL		44.969

PANELBOARD SCHEDULE - PANEL-F

#2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	F	ARC-FAULT:	AF	KVA PHASE A	33.01
MANUFACTURER / TYPE:	SQ-D / NQ	GROUND FAULT:	GF	KVA PHASE B	33.98
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	32.89
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	275.1
MAIN TYPE / CU BUS AMPS:	MLO / 250 AMP	HIGH MAG LOAD:	HM	AMPS PHASE B	283
AIC SERIES RATING:	65K/10K	ISOLATED GROUND:	IG	AMPS PHASE C	274.1
MOUNTING:	FLUSH	LOCK-ON:	LO	KVA CONNECTED	99.86
NEMA RATING:	1	SHUNT TRIP:	ST	KVA DIVERSIFIED	64.91
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	277.2
				AMPS DIVERSIFIED	180.2

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
	1			K	4.560		A		2.892	K			2	
A	3	PRESSURE FRYER	523	K	4.560	50/3/GF	B	50/3/GF	3.840	K	524	CHARGRILL COOKER	4	A
	5			K	4.560		C		2.772	K			6	
	7			K	4.560		A		7.320	K			8	
A	9	PRESSURE FRYER	523	K	4.560	50/3/GF	B	80/3	7.320	K	522	OPEN FRYER	10	A
	11			K	4.560		C		7.320	K			12	
	13			K	4.560		A						14	
A	15	PRESSURE FRYER	523	K	4.560	50/3/GF	B	3 POLE				SPACE	16	
	17			K	4.560		C						18	
	19			K	4.560		A						20	
A	21	PRESSURE FRYER	523	K	4.560	50/3/GF	B	3 POLE				SPACE	22	
	23			K	4.560		C						24



1 SINGLE LINE DIAGRAM

NO SCALE

PANELBOARD SCHEDULE - REPLACEMENT PANEL-MDP #2219

PANELBOARD DESCRIPTION		BREAKER OPTIONS		LOADS	
PANELBOARD NAME:	MDP	ARC-FAULT:	AF	KVA PHASE A	202.9
MANUFACTURER / TYPE:	SQ-D / I-LINE	GROUND FAULT:	GF	KVA PHASE B	202.3
VOLTS:	208 Y 120	HACR:	HA	KVA PHASE C	195.9
PHASE / WIRE:	3 / 4	HID LTG RATED:	HD	AMPS PHASE A	1691
MAIN TYPE / CU BUS AMPS:	MCB / 1200A/3P	HIGH MAG LOAD:	HM	AMPS PHASE B	1686
AIC SERIES RATING:	65K	ISOLATED GROUND:	IG	AMPS PHASE C	1632
MOUNTING:	SURFACE	LOCK-ON:	LO	KVA CONNECTED	601.1
NEMA RATING:	3R	SHUNT TRIP:	ST	KVA DIVERSIFIED	474.7
QUANTITY OF SECTIONS:	1	SWITCH RATED:	SW	AMPS CONNECTED	1668
				AMPS DIVERSIFIED	1318

Pnl Notes	CIR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CIR BKR *A/P/O	PH	CIR BKR *A/P/O	LOAD KVA	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CIR NO.	Pnl Notes
					14.292		A		14.80					
2	1	EXISTING PANEL-A			14.475	200/3	B	200/3	12.51			EXISTING PANEL-C	2	
					14.299		C		12.79					
					30.860		A		16.004					
	3	REPLACEMENT PANEL-B			31.774	225/3	B	400/3	17.660			EXISTING PANEL-D	4	
					29.954		C		15.010					
					43.295		A		33.01					
	5	EXISTING PANEL-E			40.343	400/3	B	250/3/ST	33.96			PANEL-F (INTERLOCK ST WITH ANSUL SYSTEM)	6	
					40.399		C		32.89					
				HV	14.04		A		36.61					
	7	REPLACEMENT AC-1		HV	14.04	150/3	B	250/3/ST	37.56			PANEL-G (INTERLOCK ST WITH ANSUL SYSTEM)	8	
				HV	14.04		C		36.49					
							A							
	9	TVSS				30/3	B	3 POLE				SPACE	10	
							C							

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

PANELBOARD LOAD SUMMARY

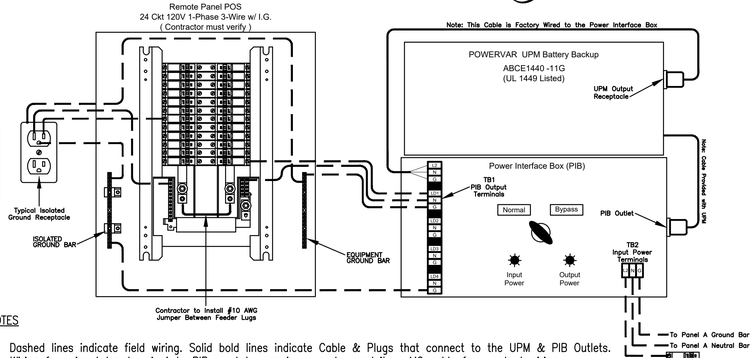
LOAD DESCRIPTION	TYPE	(KVA) X	DEMAND FACTOR	=	DIVERSIFIED KVA
LIGHTING	L	5.228	1.25		6.535
EXTERIOR LIGHTING & SIGNAGE	EL	24.016	1.25		30.020
RECEPTACLES	R	13.200	PER(>10KVA@50%)		11.600
MISCELLANEOUS	MS	11.374	1.25		14.218
HVAC	HV	98.704	1		98.704
HEAT	HT	45.149	1		45.149
SINGLE PHASE MOTOR	M1	10.504	1.25		13.130
KITCHEN EQUIPMENT	K	347.032	0.65		225.571
KITCHEN REFRIG EQUIPMENT	X	45.874	0.65		29.818
TOTAL		601.081		TOTAL	474.744

ELECTRICAL LOAD SUMMARY - Store #2219

(NOT ALL ELECTRIC RESTAURANT)
THE FOLLOWING IS BASED ON NEC 220.88

LOAD DESCRIPTION	KVA
LIGHTING	5.17
EXTERIOR LTG AND SIGNAGE	24.02
RECEPTACLES	13.20
MISCELLANEOUS	11.37
AIR CONDITIONING	98.70
ELECTRIC HEAT	45.15
SINGLE PHASE MOTORS	10.50
KITCHEN EQUIPMENT	347.03
KITCHEN REFRIGERATION EQUIPMENT	45.87
TOTAL CONNECTED KVA	601.02
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	386.71
IF TOTAL LOAD IS OVER 800 KVA, THEN LOAD OVER 800 AT 20% + 476.3	0.00
DIVERSIFIED AMPS AT 208 VOLT	1074.19

1 2 4



NOTES

1. Dashed lines indicate field wiring. Solid bold lines indicate Cable & Plugs that connect to the UPM & PIB Outlets.
2. Wiring from input breaker A-4 to PIB must be run in separate conduit or MC cable from output wiring.
3. Branch circuit wiring must be run in dedicated conduits or MC cable not shared with other equipment.
4. All branch circuit receptacles must be Isolated Ground (IG) type and orange colored to identify critical circuit.
5. POWERVAR UPM Battery Backup is mounted on top of the PIB and connects with cable plugs and outlets.

2 POWERVAR LAPC with PIB and Panel POS Wiring Diagram

NO SCALE

CONDUIT AND CONDUCTORS SCHEDULE

Mark No.	OCP Device Amp/Poles	Conductors Total Ampacity 60d C	75d C	Conductors Phase & Neutral Qty	Size	Type	Min Eq Grd Qty	Size	No. Sets	Raceway Size (nominal inches) Phase, Neutral & Equip Grd EMT	IMC	RIGID	PVC	With Isolated Ground 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	–	1875	4	400	THW	5	4/0	Five	4.00	4.00	4.00	4.00	4.00	4.00	4.00

Notes:

Conductors are rated at 600 volt or below and are to be copper.

NEC Table 310.15(B)(16) is used for the basis of the conductor ampacities, which is not more than three current carrying conductors in a raceway at an ambient temperature of 30 deg C with 60 deg C rated conductors and connectors per 110.14-C-1 for up to 100 amp rated and up to #1 AWG conductors for equipment terminations and 75 deg C rated conductors and termination connectors for larger than 100 amp or above #1 AWG conductors.

NEC Tables 4, 5, and Appendix C is used for the basis of the conduit sizes. Table C1 for EMT, Table C4 for IMC, Table C8 for Rigid, and Table C10 for PVC (Sch 40).

All Branch Feeders and Branch Circuits shall include a green Equipment Grounding Conductor.

Omit Grounding conductor on Service Entrance Feeders.

Omit Neutral conductor on all Delta primary transformer feeders or 3 phase loads not requiring a neutral.

The above conductors are not calculated for Voltage Drop. Any circuits that exceed 100 feet, shall be calculated by the Installer to have less than a three percent voltage drop on feeders and five percent on branch circuits per the NEC.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CHICK-FIL-A QUAKERTOWN

602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION
1	10/22/21	Operator Revision
2	03/14/22	Nov. Release Update
4	11/11/22	DesigNote Revision

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET: SINGLE LINE RISER DIAGRAM

SHEET NUMBER: **E3.2**

CONSTRUCTION

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. Installation shall conform to UL standards where applicable.

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.

C. Obtain permits and certificates of approval from all authorities having jurisdiction over the installation and pay all fees required.

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. Include each item of material and equipment whether or not shop drawings are also required. List shall include name of manufacturer, catalog number and other complete identification as well as dimensions and detailed data. Submittals shall included for the following:
1. Lighting Fixtures
2. Panelboards/Breakers
3. Wiring Devices and Device Plates
4. Enclosed Switches

B. Certified shop drawings and submittals shall bear stamp of approval of contractor as evidence that drawings have been checked. Drawings submitted without this stamp of approval will not be considered and will be returned for proper resubmission.

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. Otherwise contractor shall not be relieved of responsibility for executing work in accordance with contract even though such submittals have been approved.

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. Failure to do so shall not constitute a reason for an extra charge.

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. Where "or approved equal" is included, contractor may substitute equal products by another manufacturer subject to approval by engineer and owner.

PART 3 - EXECUTION

3.01 INSTALLATION
A. Make electrical connections to utilization equipment in accordance with equipment manufacturer's instructions.

B. Drawings are diagramatic 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. cap conduit during installation. Avoid damage to materials and equipment in place.

D. Satisfactorily repair or remove and replace damaged work with new materials. Deliver equipment and materials to job site in original, unopened, labeled containers. Store ferrous materials to prevent rusting. Store finished materials and equipment to prevent staining and discoloring.

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. Equipment, conduit and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure. Equipment requiring service shall be readily accessible.

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. Remove such debris at frequent intervals. Keep job clean during construction.

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. All lamps used in barricade shall be 60 watt red, installed in weatherproof socket with wire guard. All wiring shall be approved for weatherproof installation.

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. Repair and replace defective work and other work damaged thereby which becomes defective during term of guarantee-warranty. Furnish owner with three written copies of guarantee-warranty.

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. Type "AC-90" is not allowed. All MC Cables shall have a green equipment ground conductor and an additional isolated ground (green + yellow stripe) conductor for isolated ground circuits (POS System). Fittings used for connecting MC cable to boxes, cabinets, or other equipment shall be listed and identified for such use.

D. Associated couplings, connectors and fittings shall be steel as manufactured by Raco or equivalent. Catalog numbers used below are those of Raco.

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 at equipment 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. Run exposed conduits parallel to and at right angles to building lines. Group multiple conduit runs in banks.

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. Steel wire not acceptable as pull wire.

E. Where IMC enters a cabinet, junction box, or pull box conductors shall be protected by an insulated bushing. Locknuts shall be installed on conduit outside and inside enclosure.

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. all conduits in slabs shall have a minimum of 4" inches concrete coverage above.

I. Failure to route conduit through building without interfering with other equipment, and construction shall not constitute a reason for an extra charge. Equipment, conduit, and fixtures shall fit into available spaces in building and shall not be introduced into building at such times and manner as to cause damage to structure or equipment. Equipment requiring servicing shall be readily accessible.

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. Fittings shall be made of either steel or malleable iron only, and shall have insulated throats or insulated bushings.

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. The installation shall conform to Article 330 of the National Electrical Code and shall be concealed in walls and above ceilings. (Exposed MC Cable will not be acceptable.)

B. MC Cables shall be secured and supported by the building structure per the National Electrical Code and any local code requirements. MC Cable shall not lay on ceilings.

SECTION C16121
CONDUCTORS

PART 1 - PRODUCTS

1.01 CONDUCTORS
A. Provide 98% conductivity copper conductors with 600-volt insulation. For conductors No. 12 AWG and No. 10 AWG, provide solid type. For all conductors No. 8 AWG and larger, provide stranded type. All conductors shall have THHN/THWN insulation unless noted otherwise.

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. Wrap connectors with No. 10 Electro-Seal or approved equivalent plastic filler and vinyl tape.

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. Approved color tape is acceptable for feeders using larger than #6 conductors.

I. All conductors shall be continuous from origin to panel or equipment termination without splices where possible. Where splices and taps are necessary or are required, they shall be made in splice boxes with suitable connectors.

J. Tighten all electrical connectors and terminals, including screws and bolts, in accordance with manufacturer's published torque tightening values. Where manufacturer's torquing requirements are not indicated, tighten connectors and terminals to comply with tightening torques specified in UL486A and UL486B.

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 feralloy. 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. Use galvanized steel for concealed boxes. Boxes shall be 1-1/2" deep minimum.

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.
1. Material: galvanized cast iron.
2. Cover: furnish with ground flange, neoprene gasket, and stainless steel cover screws.

C. In-ground cast metal box: inside flanged, recessed cover box for flush mounting.
1. Material: galvanized cast iron.
2. Cover: nonskid cover with neoprene gasket and stainless steel cover screws.
3. Cover legend: electric.

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. Do not use sectional box.

K. Use gang box with plaster ring for single device outlets.

L. Use cast outlet box in exterior locations and wet locations.

3.02 OUTLET BOXES
A. Select boxes according to intended use and type of outlet. Ceiling outlet boxes shall be 4" octagon and 1-1/2" deep. Use 2-1/8" deep octagon boxes or 4" square boxes required. All ceiling outlet boxes shall have a fixture stud of no bolt self-locking type installed if required to hang the fixture specified at the outlet.

3.03 JUNCTION BOXES
A. Junction boxes shall be sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4-11/16" square and 2-1/8" deep. Provide screw covers for junction boxes.

B. Use code gauge steel with screw covers for pull boxes with prime coat and provide with screw cover. Size pull boxes according to the NEC.

C. Provide pull box every 100 feet of conduit run or where excessive number of bends necessitates a box for ease of wire installation.

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. Install additional rod electrodes as required to achieve resistance to ground of less than 25 ohms.

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. Insulation shall be green with yellow stripe. Size per NEC Table 250.66. This isolated grounding conductor shall run in addition to equipment grounding conductor and along with the branch circuit conductors.

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. Arrangements shall be made to do this work at the time the water meter is installed.

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. Connect the cable to the equipment ground bus.

D. Install a green equipment grounding conductor in each raceway, sized per NEC Table 250-122. Terminate on equipment ground bus within panelboard serving load.

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. This includes the power system, telephone system, etc.

2.03 FIELD QUALITY CONTROL
A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A
QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

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)961-0096.

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 Christanell at 800-325-0963, fax- 314-531-8720, email - dave.christanell@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 compatable 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 C16596
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.

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

COMMONWEALTH OF PENNSYLVANIA
MARK TRENTON KURZYNSKE
ENGINEER
PE-056176-E
2-1-23

CONSTRUCTION

CHICK-FIL-A QUAKERTOWN
602 N WEST END BLVD.
QUAKERTOWN, PA 18951-4100

FSR#02219

BUILDING TYPE / SIZE: S06E
RELEASE: v02.21

REVISION SCHEDULE

NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 21071.HF.R
PRINTED FOR CONSTRUCTION
DATE 06/14/2021
DRAWN BY ML

SHEET
ELECTRICAL SPECIFICATIONS

SHEET NUMBER
E4.2