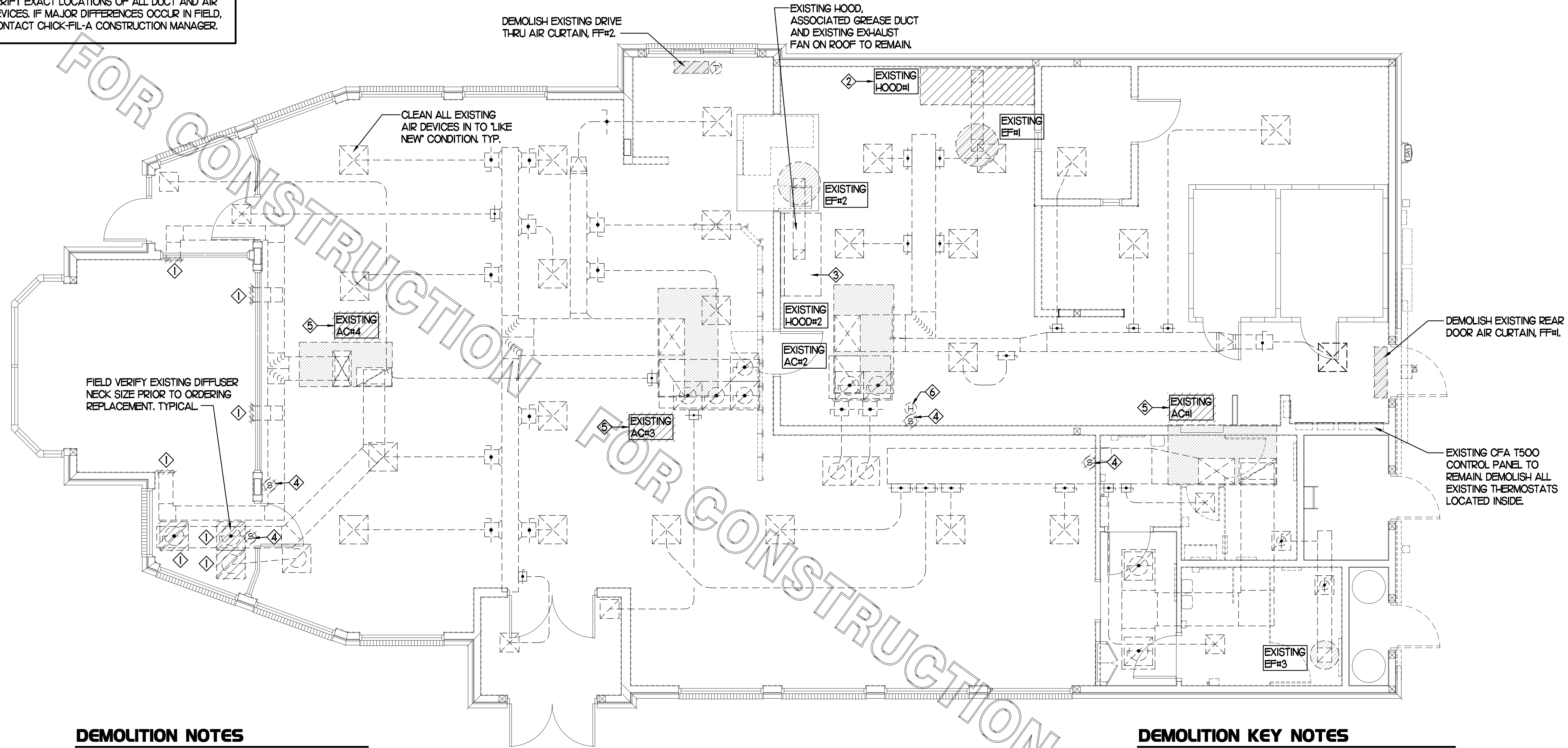


EXISTING CONDITIONS SHOWN ARE FROM PREVIOUS DRAWINGS. MECHANICAL CONTRACTOR SHALL FIELD VERIFY EXACT LOCATIONS OF ALL DUCT AND AIR DEVICES. IF MAJOR DIFFERENCES OCCUR IN FIELD, CONTACT CHICK-FIL-A CONSTRUCTION MANAGER.



**DEMOLITION NOTES**

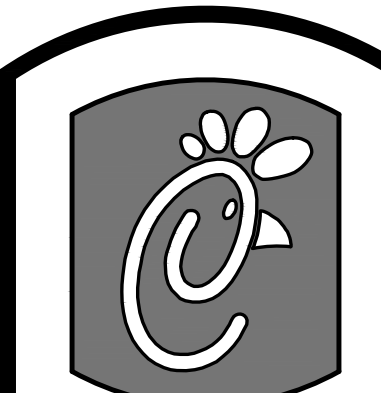
- ① CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND PAYING ALL APPLICABLE FEES.
- ② DISPOSAL OF EQUIPMENT AND MATERIALS REQUIRED TO BE REMOVED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE WORK.
- ③ DE-ENERGIZE ALL ELECTRICAL CIRCUITS RELATED TO EQUIPMENT THAT WILL BE MOVED OR REMOVED PRIOR TO STARTING WORK. DE-ENERGIZED CIRCUITS SHALL BE PROTECTED WITH LOCKING DEVICES USING APPROPRIATE WARNING LABELS.
- ④ MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PATCHING ROOF AFTER REMOVAL OF EXISTING MECHANICAL EQUIPMENT. SEE ARCHITECTURAL DRAWINGS FOR ROOF PATCHING REQUIREMENTS.
- ⑤ EXISTING REMOTE TEMPERATURE &/OR HUMIDITY SENSORS TO BE DEMOLISHED, UNLESS NOTED OTHERWISE.
- ⑥ MECHANICAL CONTRACTOR SHALL REPLACE FILTERS FOR ALL RTUs AT END OF PROJECT AND PRIOR TO REOPENING. MC TO PROVIDE PROPOSAL TO FACILITIES MANAGER, CONSTRUCTION MANAGER, AND OPERATOR TO CORRECT EXISTING RTU PUNCH ITEMS IDENTIFIED BY HALTON.
- ⑦ CONTRACTOR SHALL INDICATE SALVAGE VALUE IN BID FOR ROOFTOP UNITS BEING REPLACED.

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

DEMOLITION LEGEND	
	EXISTING EQUIPMENT, DUCT, AIR DEVICE ETC. TO REMAIN INTACT
	EQUIPMENT, DUCT, AIR DEVICE ETC. TO BE DEMOLISHED

**DEMOLITION KEY NOTES**

- ① DETACH FROM DUCT AND DEMOLISH EXISTING AIR DEVICE.
- ② DEMOLISH EXISTING KITCHEN HOOD, ALL ASSOCIATED GREASE DUCT, EXHAUST FAN ON ROOF, AND ITS ROOF CURB. COVER ROOF OPENING WEATHER-TIGHT FOR RE-USE. SEE SHEET M.I. FOR FURTHER INFORMATION.
- ③ DETACH EXISTING PRE-PIPE ANSUL SYSTEM FOR EXISTING HOOD#2 FROM CONNECTION TO EXISTING HOOD#1. CAP PIPE FOR RE-CONNECTION. SEE SHEET M.I. FOR RE-CONNECTION DETAILS. OTHERWISE EXISTING HOOD#2 IS TO REMAIN INTACT.
- ④ DEMOLISH EXISTING REMOTE TEMP SENSOR AND ITS ACCOMPANYING THERMOSTAT LOCATED IN CFA T500 TEMP CONTROL PANEL. SEE SHEET M.I. FOR REPLACEMENT INFORMATION.
- ⑤ EXISTING A/C UNIT TO BE REPLACED WITH NEW AS SCHEDULED ON SHEET M3.I. DETACH ALL ELECTRICAL, GAS, AND CONTROL CONNECTIONS TO EXISTING RTU AND DEMOLISH UNIT. EXISTING ROOF CURB IS TO REMAIN. SEE SHEETS M.I. AND M3.I. FOR FURTHER INFORMATION.
- ⑥ RELOCATE EXISTING REMOTE HUMIDITY SENSOR FOR RTU TO WHERE SHOWN ON SHEET M.I.



**Chick-fil-A**

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By

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STORE  
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FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colanades Way  
Cary, NC 27518

SHEET TITLE  
MECHANICAL  
DEMO PLAN

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : BM  
Checked By: MK

Sheet

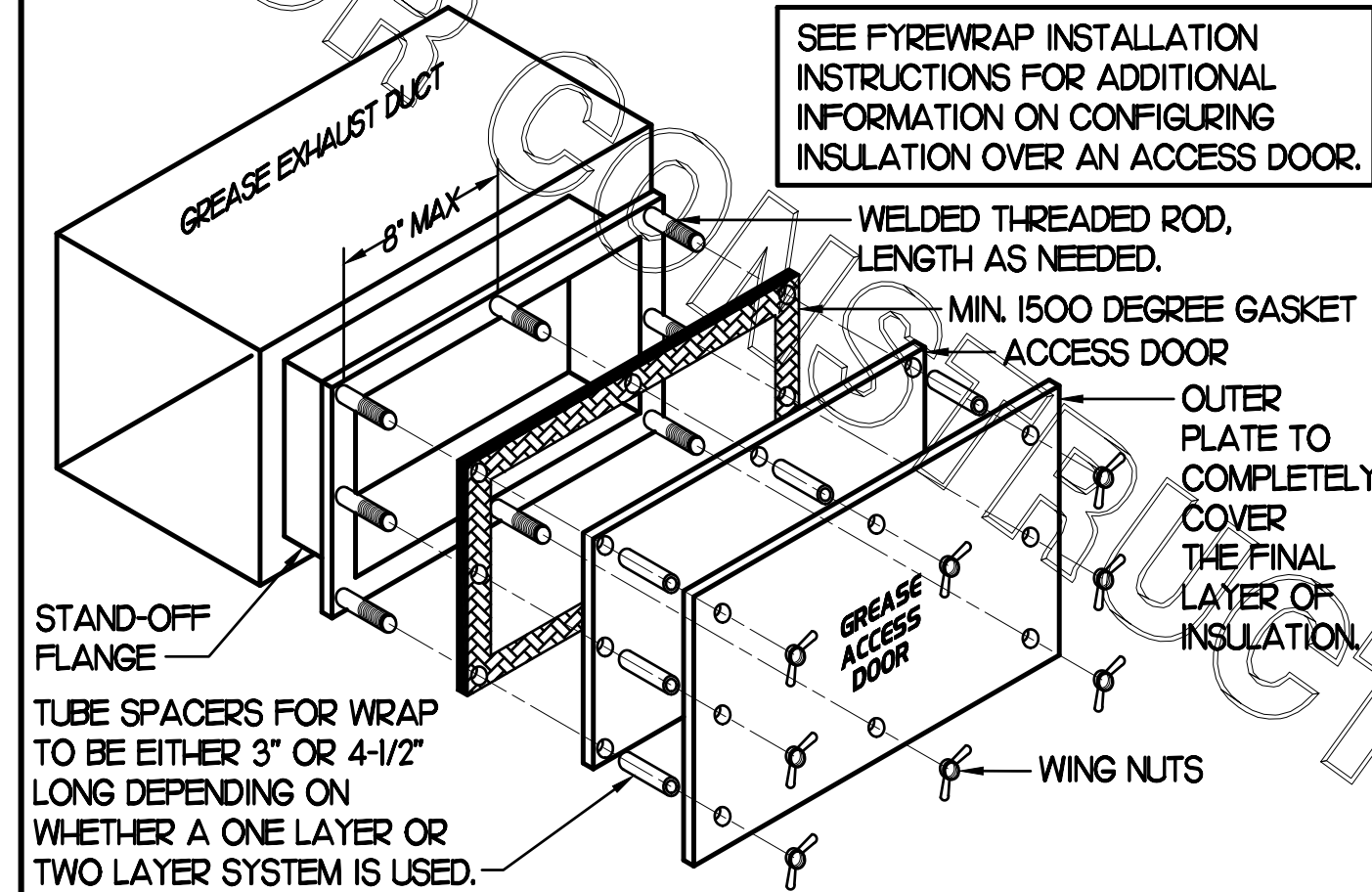
**MO.I**



### GREASE ACCESS DOOR SCHEDULE

MARK	OPENING SIZE	DOOR SIZE	REMARKS
A	7.5H X 14W	9.5H X 16W	1

1. ACCESS DOORS SHALL BE UL 1978 LISTED OR FIELD FABRICATED, REQUIRE NO TOOLS FOR REMOVAL AND MEET THE REQUIREMENTS OF THE CURRENT EDITION OF THE IMC. ACCESS DOOR ASSEMBLY SHALL BE WELDED IN PLACE TO THE GREASE EXHAUST DUCT AND THE ACCESS DOOR SHALL BE SECURED WITH THUMB SCREWS. ACCESS DOORS SHALL BE SEALED WITH A MINIMUM 1500 DEGREE GASKET MATERIAL EQUIVALENT TO THAT MANUFACTURED BY BRETON INDUSTRIES, INC (800) 382-2491.



### HOOD SCHEDULE

MARK	EXHAUST CFM	SP • TAB PORT	CAPTURE JET CFM & SP.	TYPE	COLLAR SIZE	WIDTH	DEPTH	HEIGHT	MFR	MODEL	REMARKS
HOOD#1 (NEW)	1,465	0.12'	96 @ 0.30'	BACKSHELF	15x8	129"	37"	38"	HALTON	KVL-2	1-3
HOOD#2 (EXISTING)	1,648	-	-	BACKSHELF	-	70"	34"	45"	EXISTING	-	-

**NOTES**

DIMENSIONS OF HOODS INCLUDE BACK AND SIDE SPACERS (HEIGHT DOES NOT INCLUDE CLOSURE PANELS).

ALL HOODS SHALL BE STAINLESS STEEL CONSTRUCTION AND PROVIDED W/ FOLLOWING:

- TOP PLENUM CAPTURE JET FAN, SPEED CONTROLLER AND COLLAR
- FULL HEIGHT SS CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO REMOVE CAPTURE JET FAN
- CAPTURE JET AIR INLET AND COLLAR AT FRONT OF CLOSURE PANEL
- PRE-PIPED ANSUL R-102 WET FIRE EXTINGUISHING SYSTEM
- EQUIPMENT I.D. LABELS LOCATED ON FRONT LEADING EDGE OF HOOD

VERIFY ALL DATA AND REQUIREMENTS LISTED HEREIN W/ HALTON SHOP DRAWINGS. CONSULT FACTORY FOR ANY DISCREPANCIES.

**REMARKS**

1. ANSUL CABINET AND COMPONENTS ABOVE HOOD. PROVIDE FULL HEIGHT STAINLESS STEEL CLOSURE PANEL WITH ACCESS PANEL IN FRONT LARGE ENOUGH TO SERVICE ANSUL COMPONENTS.
2. PROVIDE 3" REAR STAND-OFF WITH 1" THICK INSULATION.
3. PROVIDE 1" RIGHT SIDE STANDOFF AND 1"x1" TRIM STRIP FOR STAND-OFF.

### KITCHEN HOOD SYSTEMS NOTES

1. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT WITH HALTON CO. FOR THE HOODS. CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.
2. THE HOOD SHALL BE FURNISHED PRE-PIPED BY HALTON.
3. THE R-102 ANSUL FIRE SUPPRESSION SYSTEM EXTERNAL TO THE HOODS SHALL BE INSTALLED IN ACCORDANCE WITH HOOD MANUFACTURER'S SHOP DRAWINGS BY AN AUTHORIZED ANSUL SYSTEM INSTALLER HIRED BY HALTON.
4. HOOD EXHAUST DUCTWORK SHALL BE 16 GA. BLACK STEEL WITH CONTINUOUS LIQUID TIGHT WELD OF JOINTS & SEAMS.
5. TURNS IN GREASE EXHAUST DUCTWORK SHALL BE LONG RADIUS TYPE, WITH A CENTERLINE RADIUS R=3W/2, NO EXCEPTIONS ALLOWED. NO MITERED FITTINGS ALLOWED.
6. ALL STAINLESS STEEL CLOSURE PANELS SHALL BE SUPPLIED BY HOOD MANUFACTURER AND INSTALLED BY THE MECHANICAL CONTRACTOR ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. SLOPE ALL GREASE EXHAUST DUCT BACK TO HOOD AT 1/4" PER FOOT OF RUN.
8. WRAP NEW GREASE DUCT WITH UNIFRAX FYREWRAP. INSULATION ON ACCESS DOORS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S INSTALLATION RECOMMENDATIONS. UNIFRAX FYREWRAP PRODUCT USED SHALL MEET LOCAL CODE REQUIREMENTS.
9. SUPPORT HOOD#1 WITH THREADED ROD AT EACH FACTORY SUPPORT POINT. EACH SUPPORT POINT MUST SUPPORT THE HOOD WEIGHT EQUALLY. ATTACH TO STRUCTURE AS DETAILED ON STRUCTURAL DRAWINGS.

#### CLEANOUT DOOR NOTE:

DUCT WRAP SHALL BE APPLIED TO THE CLEANOUT DOOR PER THE WRAP MFR'S INSTALLATION INSTRUCTIONS, NO EXCEPTIONS. ALSO, THE CLEANOUT DOOR MUST BE REMOVABLE WITHOUT TOOLS AND MUST BE CLEARLY AND PERMANENTLY LABELED.

#### HOOD ELEVATIONS NOTE:

HOOD ELEVATIONS ON THIS SHEET ONLY SERVE ILLUSTRATIVE PURPOSES. SEE DETAILS ON ARCHITECTURAL SHEETS AND HALTON SHOP DRAWINGS ON SHEET M-H-1 FOR DETAILS ON STANDOFFS, CLEARANCES AND HOOD CONSTRUCTION.

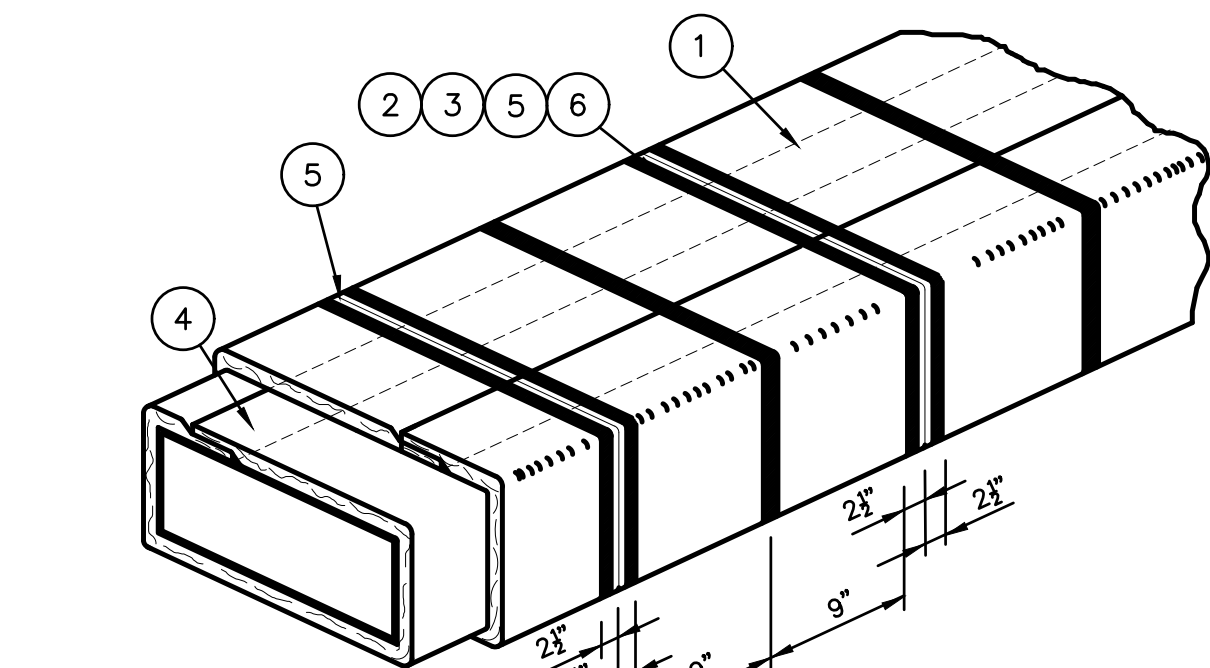
#### GREASE EXHAUST DUCT NOTE:

CLEARANCES ABOVE CEILING ARE TIGHT. MECHANICAL CONTRACTOR TO FIELD VERIFY EXACT ROUTING AND CLEARANCES PRIOR TO FABRICATING GREASE EXHAUST DUCT.

#### CAPTURE JET FAN NOTES:

• REFER TO 'CAPTURE-JET FAN INSTALLATION AND DIMENSIONAL DATA' SCHEDULE ON HALTON SHOP DRAWINGS (SHEET M-H-1) FOR INFORMATION

FyreWrap® Elite® 1.5 Duct Insulation  
Commercial Kitchen Grease Duct System  
ASTM E 2336/ICC-ES AC101 System  
1 and 2 Hour Fire-Rated Enclosure, Shaft Alternative  
Zero Clearance to Combustibles  
Intertek Design No. UNI/BI 120-02  
Butt Joint System (Both Layers, Max. 24"x24" Duct)



**Legend**

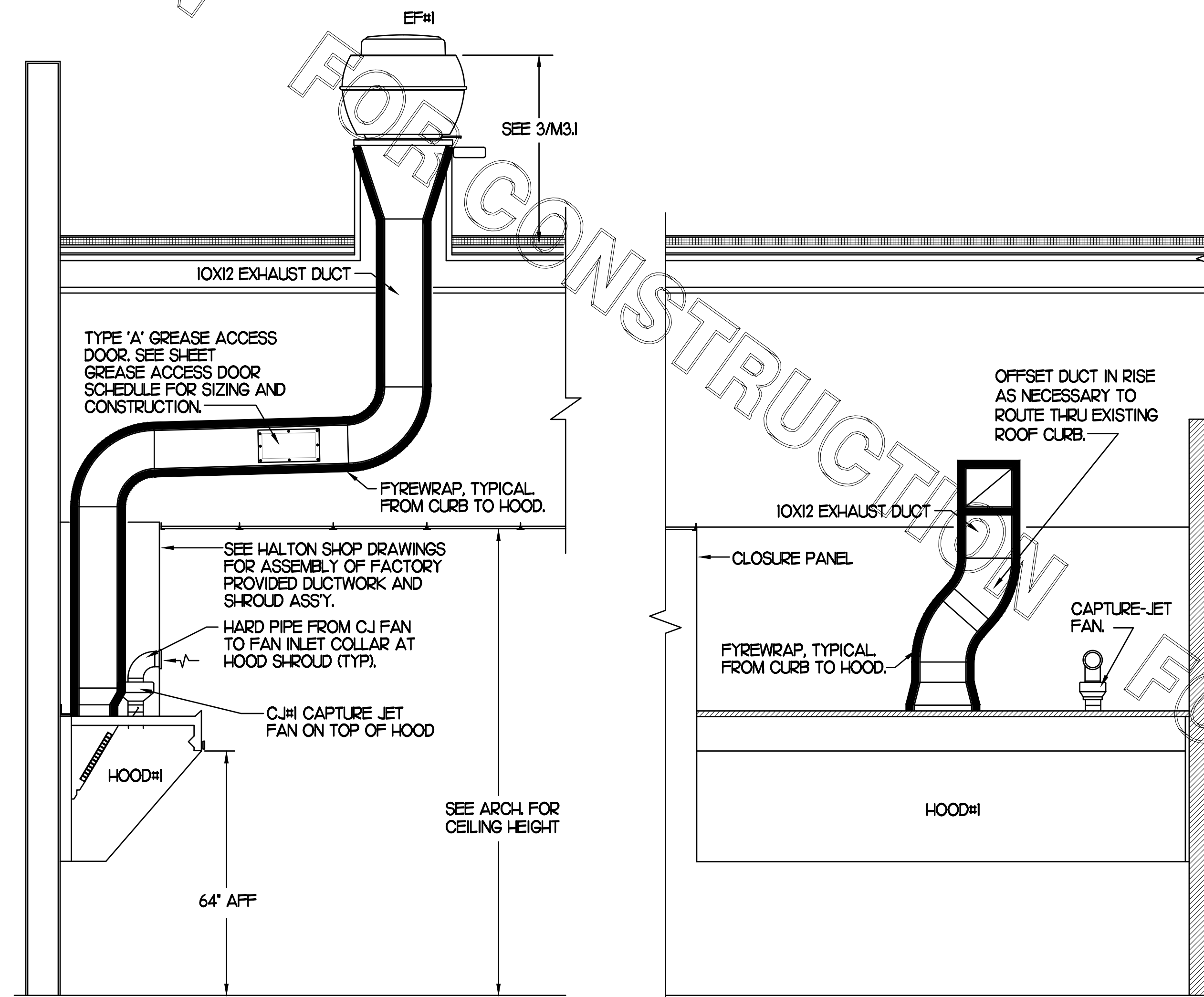
- 1 FyreWrap® Elite® 1.5 Duct Insulation, Two Layers (each 1 1/2", total thickness = 3")
- 2 Filament Tape (Temporary Hold)
- 3 1/2" Carbon or SS Banding Straps (Permanent Hold)
- 4 3" Minimum Longitudinal Overlap
- 5 1" Compressed Butt Joint
- 6 3" Wide Aluminum Foil Tape at End Layer Transverse Butt Joints

**Butt-Joint Adjacent Blanket Pieces**

Revisions	Comments

UNIFRAX

LOCATION-	DATE-	DRAWING NO.
BLDG. NO.-	04-05-2011	FP-693
DRAWN- S.A. Rustay	DESIGNED	PROJECT NO.
SCALE- N.T.S.	DATE	



SECTION "A-A"

SECTION "B-B"

2 HOOD ELEVATION

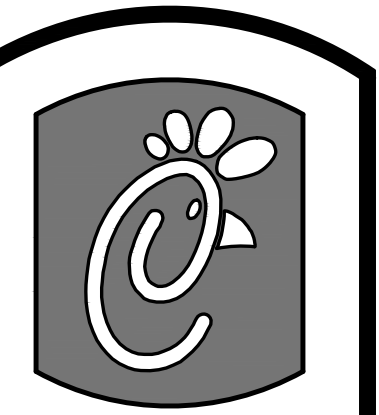
1 HOOD LAYOUT

### KEY NOTES

1. CONNECT NEW HOOD#1 & EXISTING HOOD#2 ANSUL SYSTEM TO RELOCATED ANSUL PULL STATION. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL ANY EXTRA MATERIALS NECESSARY FOR CONNECTION.

1/8"=1'-0"

M2.I



5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By

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S97-100 Remodel  
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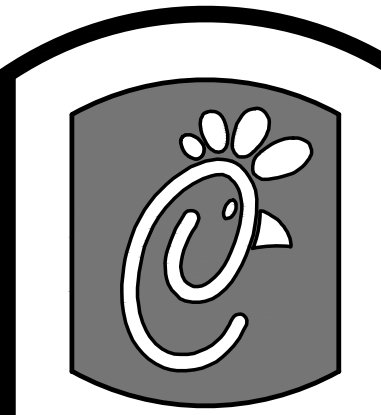
SHEET TITLE  
HOOD DETAILS  
& SCHEDULES

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : BM  
Checked By: MK

Sheet

M2.I



**Chick-fil-A**

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By

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Mark Date By

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Mark Date By  
△ 09/06/17

OWNER REVISION  
Mark Date By  
△ 10/17/17

PLAN REVIEW COMMENTS

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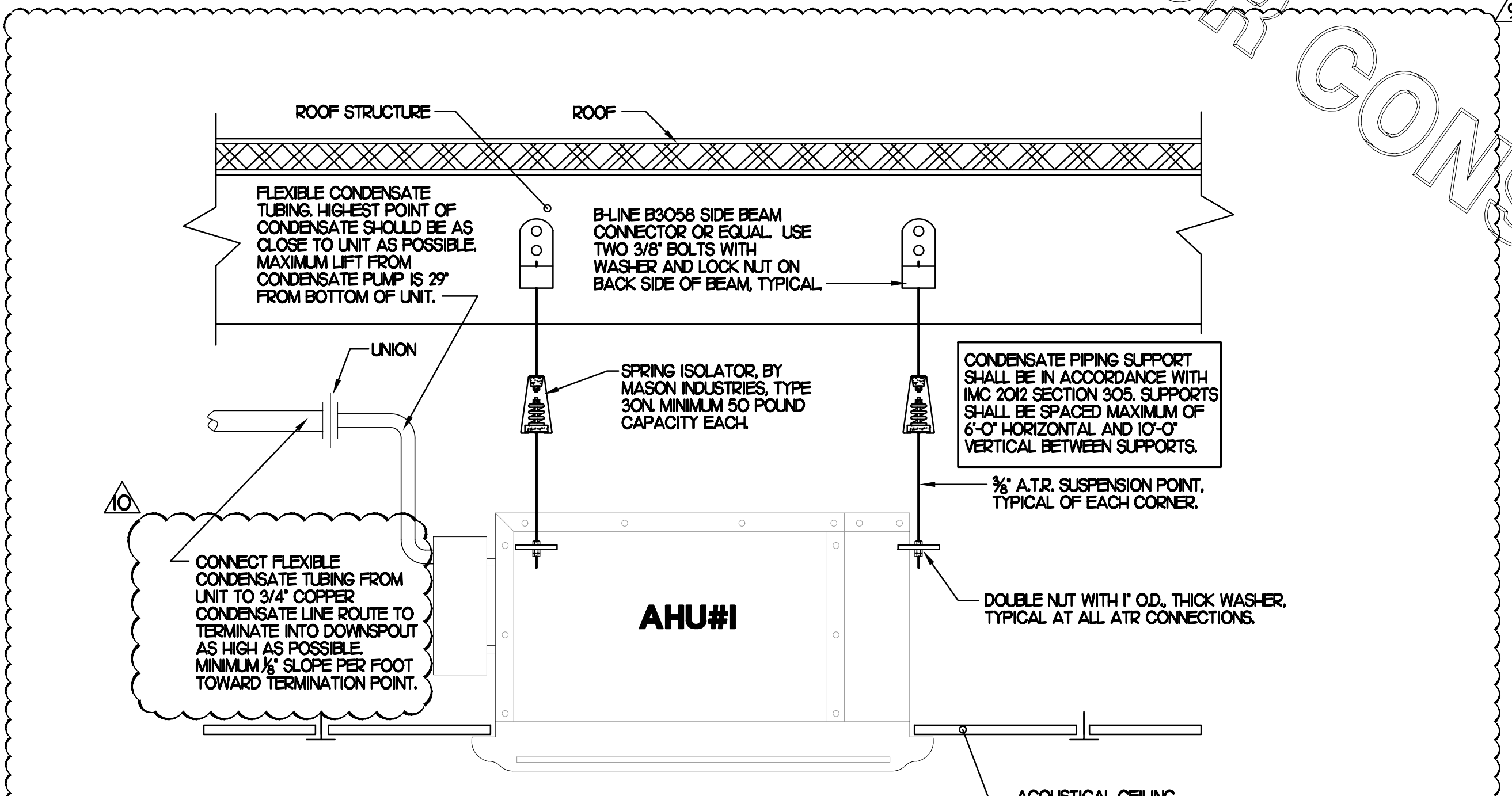
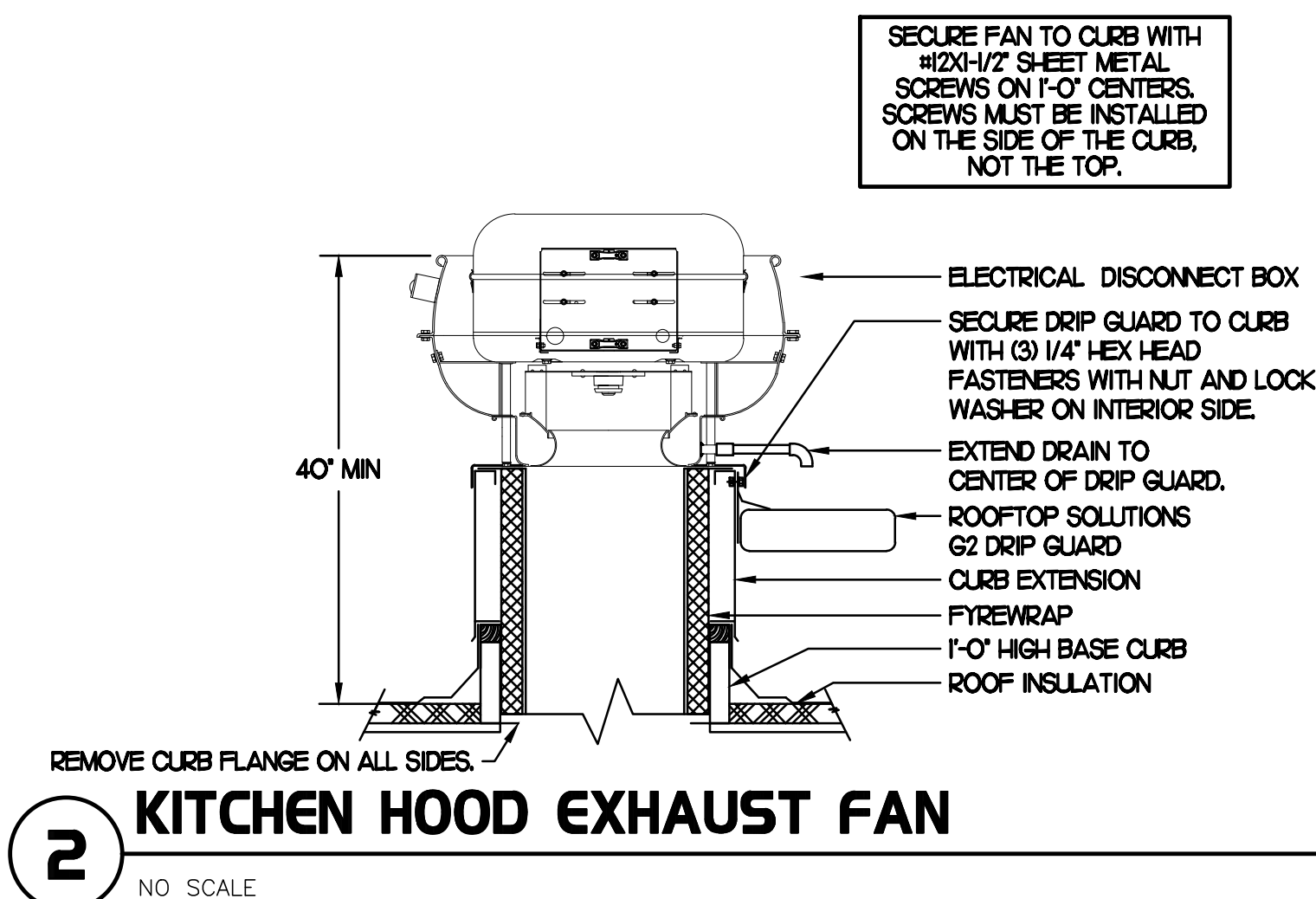
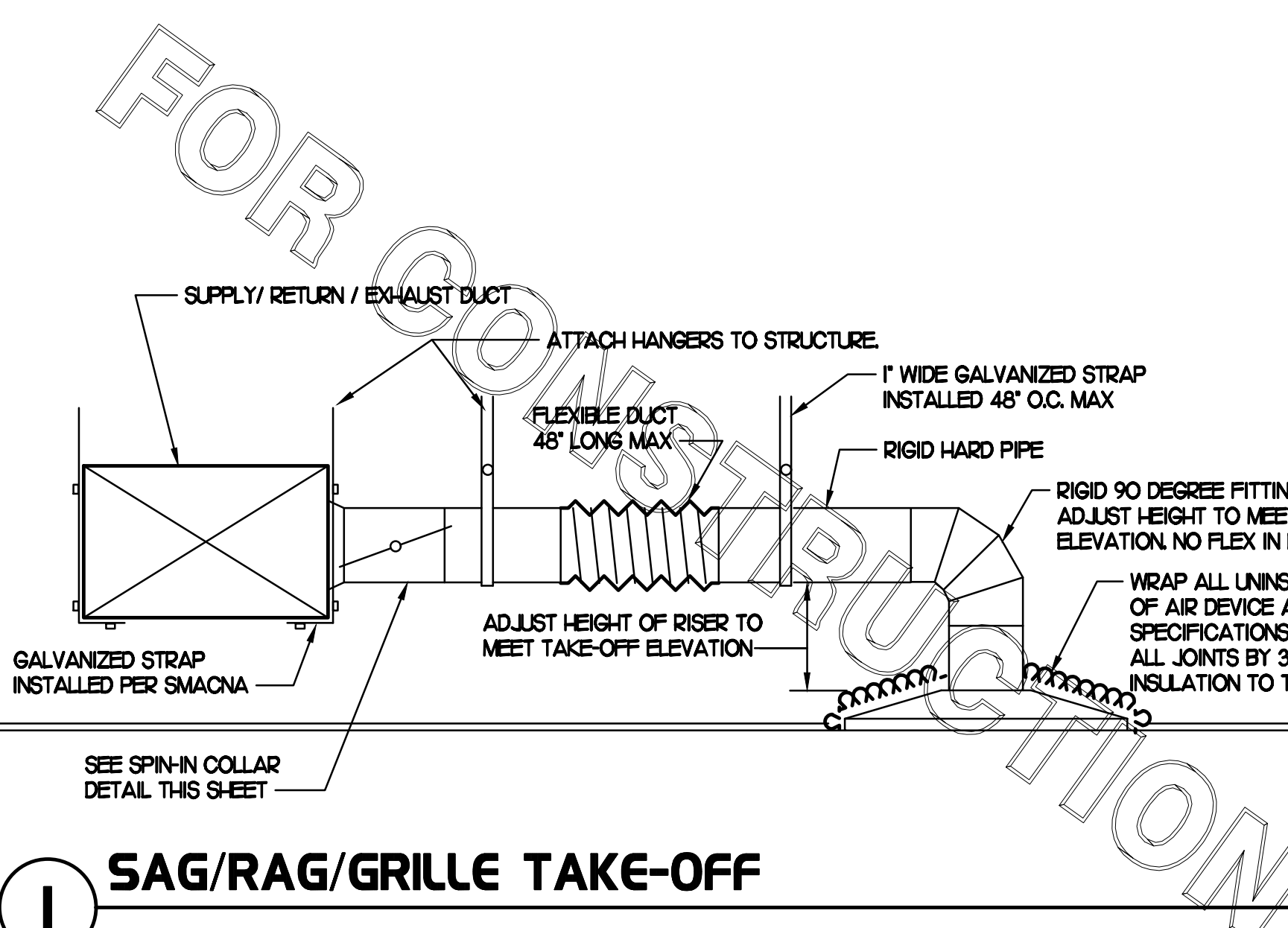
Date : 01.26.17

Drawn By : BM

Checked By: MK

Sheet

**M.B.I.**



DUCTLESS SPLIT SYSTEM HEAT PUMP UNIT SCHEDULE												
MARK	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)		EFFICIENCIES		FAN SECTION (CFM)		ELECTRICAL DATA		R-410A MODEL	MFR
	MIN.	MAX.	MIN.	MAX.	SEER	HSPF	SUPPLY	MCA	MOCP	VOLTAGE		
AHJ1/CUH1 (NEW)	41	133	41	163	13.0	9.0	240-410	15	15	208/1/60	CS-E22B4U1   CU-E22B4U1	PANASONIC
NOTES	<ul style="list-style-type: none"> <li>MECHANICAL CONTRACTOR SHALL PURCHASE THE SPLIT SYSTEM HEAT PUMP DIRECTLY FROM TOM BARRROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-0101, FOR PRICING AND AVAILABILITY.</li> </ul>											
REMARKS	<ol style="list-style-type: none"> <li>ELECTRICIAN TO PROVIDE NON-FUSED DISCONNECT.</li> <li>MECHANICAL TO PROVIDE AND INSTALL REFRIGERANT PIPING AS PER MFR RECOMMENDATIONS.</li> <li>PROVIDE ENGRAVED PLASTIC LABEL AT AHJ1 AND CUH1 WITH 1" HIGH WHITE LETTERS ON A BLACK BACKGROUND RIVETED TO UNIT CABINET.</li> <li>PROVIDE WITH ADEQUATE REFRIGERANT LINE SET. FIELD VERIFY DISTANCE FROM WHERE CONDENSER IS TO BE SET TO AIR HANDLER LOCATION PRIOR TO ORDERING.</li> <li>PROVIDE WITH FACTORY WIRED 7-DAY PROGRAMMABLE WALL THERMOSTAT.</li> </ol>											

AIR DEVICE SCHEDULE							
MARK	DESCRIPTION	LOCATION	NECK SIZE	FACE SIZE	FRAME TYPE	REMARKS	
D	PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE FRONT BLADE PARALLEL TO SHORT SIDE.	PLAY AREA	12X10	14X12	SURFACE	1	
E	PRICE MODEL 22 DOUBLE DEFLECTION ALUMINUM SIDEWALL SUPPLY GRILLE FRONT BLADE PARALLEL TO LONG SIDE.	PLAY AREA	12X10	14X12	SURFACE	1	
F	PRICE MODEL 80 EGGRORATE RETURN AIR GRILLE WITH REMOVABLE WHITE CORE, FACTORY FLAT BLACK BACKPAN AND ROUND NECK.	DINING AREA	SEE PLAN	24X24	LAY-IN	12	
NOTES	<ul style="list-style-type: none"> <li>MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARRROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-0101, FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARRROW COMPANY WILL NOT BE ACCEPTED.</li> </ul>						
REMARKS	<ol style="list-style-type: none"> <li>STANDARD OFF WHITE FINISH.</li> <li>FACTORY INSULATED R-6 BACKPAN.</li> </ol>						

EXHAUST FAN SCHEDULE									
MARK	CFM	ESP	RPM	TIP SPEED (FPM)	HP (WATTS)	AREA SERVED	MODEL	MANUFACTURER	REMARKS
EF#1 (NEW)	1465	0.75	1082	5105	1/2	HOOD#1	165 VCR-1P	LOREN COOK	1234567
EF#2 (EXISTING)	1648	--	--	--	--	HOOD#2	--	--	--
EF#3 (EXISTING)	350	--	--	--	--	RESTROOMS	--	--	--
NOTES	<ul style="list-style-type: none"> <li>GREASE EXHAUST FAN RPM BASED ON 80 DEGREE F AIR AT 1,000 FEET ABOVE SEA LEVEL.</li> <li>GREASE EXHAUST FANS TO BE UL 762 LISTED.</li> <li>CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARRROW COMPANY FOR FAN/CLUB PACKAGE. MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CLUB PACKAGE DIRECTLY FROM TOM BARRROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-0101, FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARRROW COMPANY WILL NOT BE ACCEPTED.</li> </ul>								
REMARKS	<ol style="list-style-type: none"> <li>PROVIDE FACTORY 2'-0" INSULATED 16 GA. GALVANIZED OR STAINLESS STEEL ROOF CURB WITH CONTINUOUSLY WELDED CORNERS.</li> <li>PROVIDE FACTORY INSTALLED, PRE-WIRED, NEMA 3 NON-FUSED DISCONNECT.</li> <li>PROVIDE FACTORY INSTALLED, HINGED BASE KIT.</li> <li>PROVIDE AND INSTALL ROOFTOP SOLUTIONS G2 DRIP GUARD. MECHANICAL CONTRACTOR TO CONTACT ROOFTOP SOLUTIONS AT 800-913-7034.</li> <li>PROVIDE FACTORY INSTALLED HELICAL SPRING AUTOMATIC BELT TENSIONER.</li> <li>INTEGRAL THERMAL OVERLOAD WITH AUTOMATIC RESET.</li> <li>EXHAUST FAN IS TO BE HURRICANE RATED.</li> </ol>								

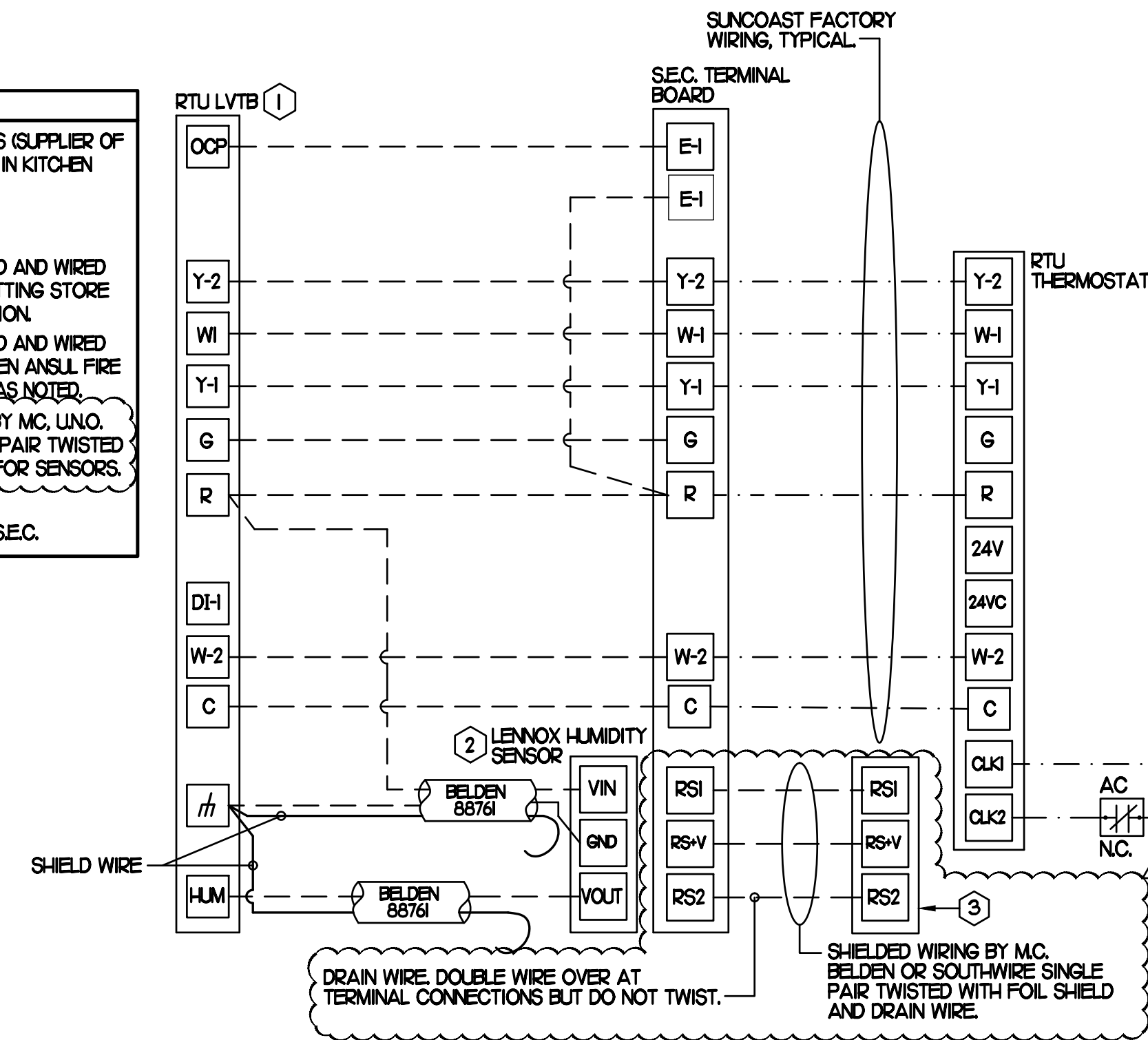
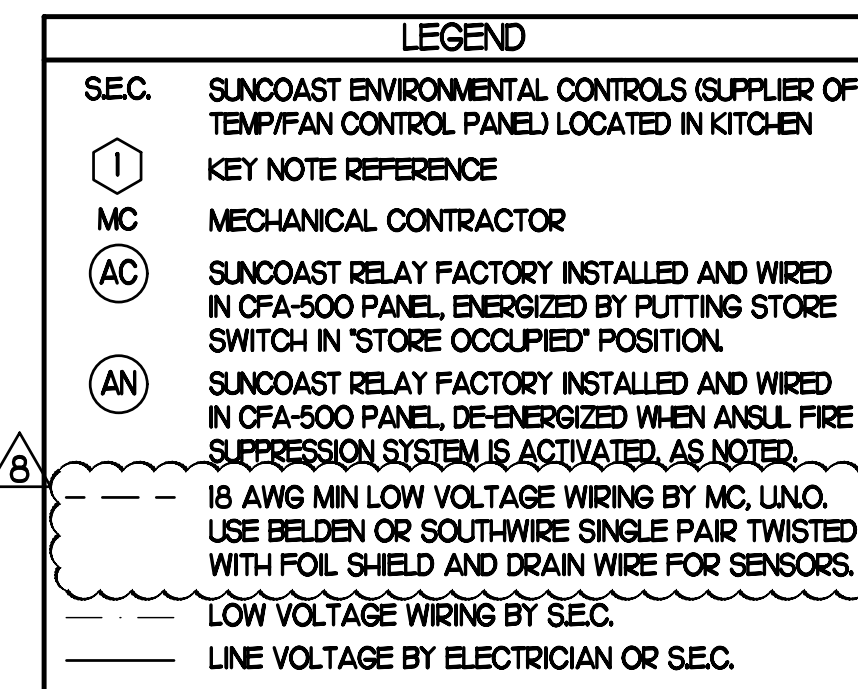
AIR DOOR SCHEDULE									
MARK	CFM	VELOCITY	HEATING CAP	HP	AREA SERVED	MODEL	MANUFACTURER	REMARKS	
FF#1	3,667	4.28	NA	3/4	REAR DOOR	RBT-48	POWERED-AIRE	3	
FF#2	750	3.050	4.5 KW	1/5	DRIVE THRU	MP-30E	POWERED-AIRE	12	
NOTES	<ul style="list-style-type: none"> <li>CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH TOM BARRROW COMPANY FOR THE AIR DOORS. THE MECHANICAL CONTRACTOR SHALL PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARRROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-0101, FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARRROW COMPANY WILL NOT BE ACCEPTED.</li> </ul>								
REMARKS	<ol style="list-style-type: none"> <li>FACTORY PROVIDED, WIRED, AND UNIT MOUNTED THERMOSTAT LOCATED ON RIGHT SIDE.</li> <li>FACTORY PROVIDED, WIRED, AND UNIT MOUNTED SPEED CONTROLLER LOCATED ON BOTTOM.</li> <li>FACTORY PROVIDED MAGNETIC DOOR CONTACT WITH FACTORY INSTALLED LOW VOLTAGE CONTROLS LOCATED IN AIR DOOR CABINET.</li> </ol>								

GAS FIRED ROOFTOP UNIT SCHEDULE										
MARK	COOLING CAPACITY (MBH)		HEATING CAPACITY (MBH)		FAN SECTION (CFM)			MODEL	MANUFACTURER	REMARKS
	TOTAL	SENS	INPUT	OUTPUT	SUPPLY	O.A.	HP			
AC#1 (NEW)	120.5	81.3	240.0	192.0	3,400	950	2.0	0.85	LGH420H4B	LENNOX 123456789101113
AC#2 (EXISTING)	--	--	--	--	4,400	1,250	--	--	EXISTING UNIT	LENNOX --
AC#3 (NEW)	158.0	91.6	240.0	192.0	4,920	1,220	5.0	0.85	LGH450S4B	LENNOX 123456789101113
AC#4 (NEW)	63.3	46.8	108.0	86.0	2,000	350	2.0	1.2	LGH406S4T	LENNOX 1234567891213
NOTES	<ul style="list-style-type: none"> <li>COOLING CAPACITIES ARE GROSS, BASED ON INDOOR EDB 80F, INDOOR EWB 67F, OUTDOOR EDB 95F.</li> <li>FOR PROPER BUILDING AIR BALANCE, VERIFY AMOUNT OF OUTSIDE AIR PROVIDED BY ALL EXISTING UNITS. ADJUST AS PER SCHEDULE IF NECESSARY.</li> <li>VERIFY MIN. 10' DISTANCE OF O.A. INTAKE OPENINGS OF A/C UNITS FROM ANY EXISTING SOURCE OF AIR POLLUTION (EXHAUST FAN, COMBUSTION FLUE, VENT ETC.). IF SUCH CONDITIONS EXIST, CONTRACTOR IS REQUIRED TO DUCT OUTSIDE AIR INTAKE ON ROOF AWAY FROM ANY SUCH SOURCE.</li> </ul>									
REMARKS	<ol style="list-style-type: none"> <li>PROVIDE DIFFERENTIAL ENTHALPY ECONOMIZER WITH POWER EXHAUST.</li> <li>SEE DETAIL 2/M4-1 FOR SETTING OF PRODIGY M3 BOARD CONTROL PARAMETERS BY MC.</li> <li>PROVIDE FACTORY INSTALLED 115V GFI SERVICE OUTLET.</li> <li>PROVIDE FACTORY INSTALLED RETURN SIDE SMOKE DETECTOR.</li> <li>PROVIDE FACTORY INSTALLED NON-FUSED DISCONNECT.</li> <li>PROVIDE 2" MERV 8 THROW AWAY FILTERS.</li> <li>PROVIDE HINGED PANELS FOR FILTER ACCESS, FAN MOTOR ACCESS, COMPRESSOR ACCESS AND CONTROL COMPARTMENT ACCESS.</li> <li>ADJUST GAS MANIFOLD PRESSURE AT LOCATIONS WHERE ELEVATION EXCEEDS 2000' ABOVE SEA LEVEL AS RECOMMENDED BY MANUFACTURER.</li> <li>PROVIDE FACTORY OIL DRAIN GUARD, FIELD INSTALLED.</li> <li>PROVIDE HUMIDITROL OPTION WITH FACTORY WALL MOUNTED HUMIDITY SENSOR (STATES OF CA AND AZ EXCLUDED).</li> <li>PROVIDE WITH FACTORY RETURN AIR ADAPTOR PLATE.</li> <li>PROVIDE WITH ADAPTER CURB. UNIT BEING REPLACED IS LENNOX MODEL LG4060S2Y. ADAPTER CURB IS PROVIDED BY LENNOX AS PART OF THE TOTAL EQUIPMENT PACKAGE.</li> <li>PROVIDE FACTORY BLOWER BELT AUTO-TENSIONER.</li> </ol>									

PROVIDE A PROFESSIONALLY LAMINATED COPY OF THESE DETAILS TO BE INSTALLED INSIDE THE ROOFTOP UNIT CONTROL CABINET. USE A SETON CHART FRAME STYLE #68624. TELEPHONE NUMBER 800-243-6624. FOR MOUNTING THE DETAIL, ATTACH THE FRAME TO THE INTERIOR OF THE UNIT IN PLAIN AND EASY VIEW OF THE CONTROLS SECTION. CONTACT ENGINEER OF RECORD FOR A REPRODUCIBLE COPY OF THE DETAIL.

FOR CONSTRUCTION

FOR CONSTRUCTION



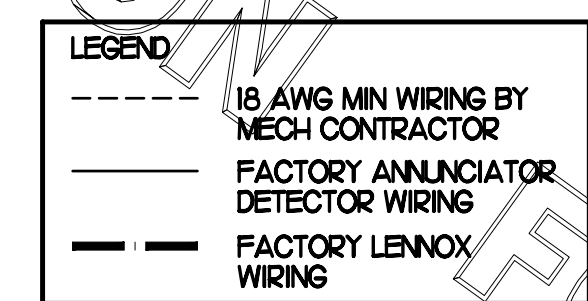
- NOTES**
- FOR ALL RTUS EXCEPT AT AC#2, CHANGE PRODIGY-M3 BOARD CONTROL PARAMETER #65 TO ZERO (#58 ON LGH UNITS). ON OLDER BOARDS THIS IS ECTO PARAMETER 3.01 FOR LGH UNITS OR ECTO 2.01 FOR LGH UNITS. THIS WILL CAUSE THE O.A. DAMPER TO OPEN ON 'OCCUPIED' START. AT AC#2 (LGH TYPE) LEAVE THE SETTING AT THE DEFAULT VALUE SO THE O.A. DAMPER WILL REMAIN CLOSED FOR THE FIRST 60 MINUTES AFTER 'OCCUPIED' START. AT AC#2 (LGH TYPE) CHANGE THE VALUE TO 5400 SO THE O.A. DAMPER WILL REMAIN CLOSED FOR THE FIRST 90 MINUTES AFTER 'OCCUPIED' START.
  - MECHANICAL CONTRACTOR SHALL MAKE PLASTIC LAMINATE OF THIS DETAIL AND INSTALL PERMANENTLY ON INSIDE DOOR OF ROOFTOP UNIT CONTROL COMPARTMENT.
  - SEE DETAILS THIS SHEET FOR SMOKE DETECTOR AND ANNUNCIATOR WIRING.
  - AT HUMIDITROL RTUS SET PRODIGY-M3 BOARD CONTROL PARAMETER #105 FOR DE-HUMIDIFICATION OPERATION TO A VALUE OF 5. OLDER M-3 IMC BOARD ECTO PARAMETER 4.24 VALUE TO BE SET TO A VALUE OF 5.
  - SET ALL THERMOSTATS FOR AUTO CHANGEOVER.
  - SET TSTAT COM SWITCH ON PRODIGY BOARD TO OPEN POSITION.
  - FOR MSAV UNITS, SET THE MSAV LOW SPEED SETTING TO THE SAME VALUE AS THE HIGH SPEED SETTING AFTER TAB IS COMPLETE.
- ② PROVIDE PLASTIC ENGRAVED LABEL AT ALL NEW SENSORS WITH 1/2" HIGH WHITE LETTERING ON BLACK BACKGROUND, I.E. 'ACH2 HUMIDITY SENSOR' OR 'ACH2 TEMP SENSOR'. PLACE LABELS ON WALL ADJACENT TO DEVICE DO NOT APPLY DIRECTLY TO DEVICE.

- KEYED NOTES:**
- LOW VOLTAGE WIRING TO RTU TO BE ROUTED TO UNIT THRU FACTORY WIREWAY.
  - HUMIDITROL UNITS ONLY: WIRING TO HUMIDITY SENSOR TO BE MADE WITH TWO SEPARATE RUNS OF SHIELDED TWISTED PAIR. TERMINATE SHIELD WIRES AT TB-1, LEAVE OPEN AT SENSOR.
  - NETWORK TSTAT REMOTE TEMP SENSOR PROVIDED BY SUNCOAST AND INSTALLED BY MC. FIELD CALIBRATE EACH SENSOR.

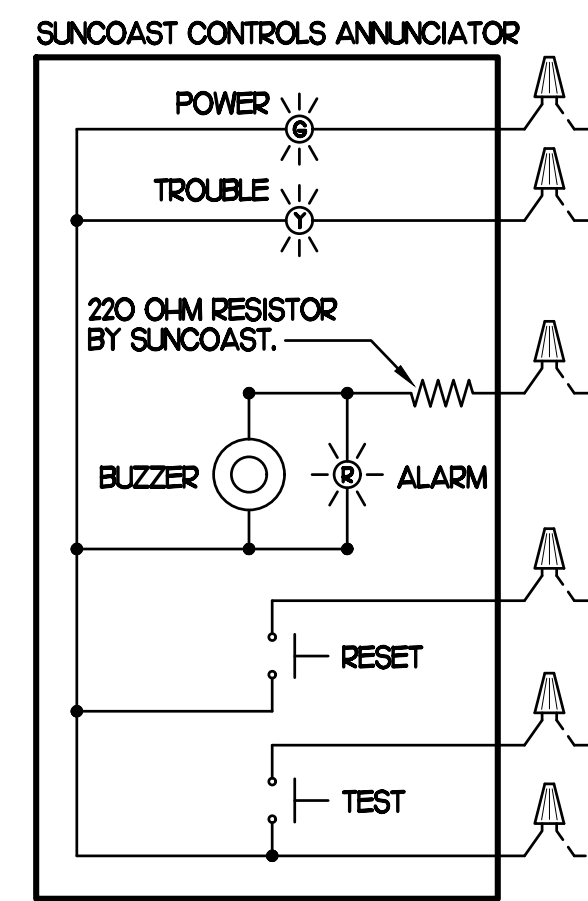
**2 ROOFTOP UNIT CONTROL WIRING - LENNOX**

NONE

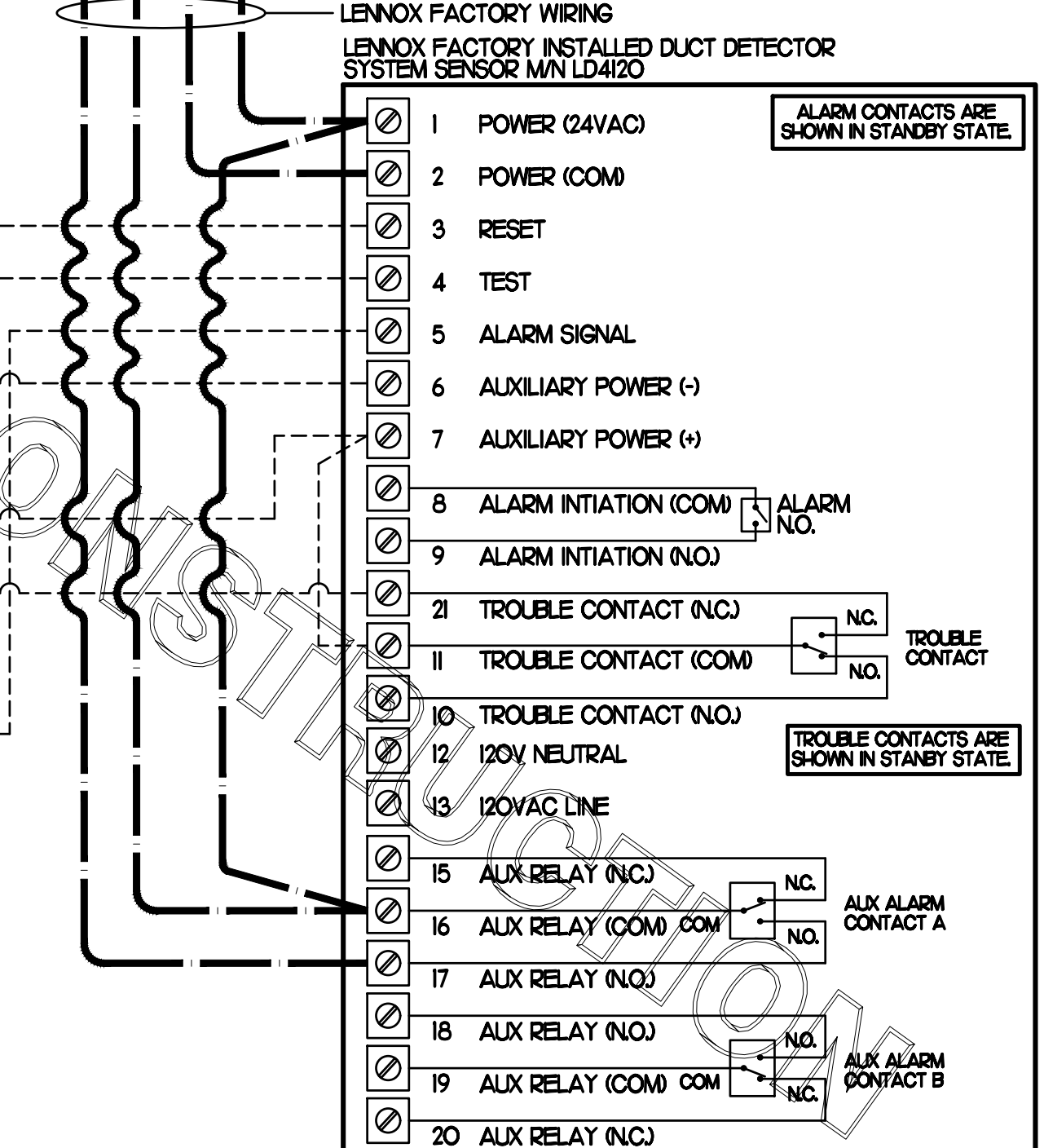
SUPPLY SIDE DETECTORS: IF SUPPLY SIDE SMOKE DETECTORS ARE SHOWN ON DWG MILL AND CALLED FOR ON RTU SCHEDULE, THE CONTRACTOR IS TO RELOCATE FACTORY INSTALLED SUPPLY SMOKE DETECTOR FROM BLOWER SECTION TO DUCTWORK. SEE NOTES ON DWG MILL.



**LABELING:** PROVIDE ENGRAVED LABEL WITH 1/2" HIGH WHITE LETTERS ON BLACK BACKGROUND IDENTIFYING UNIT SERVED.

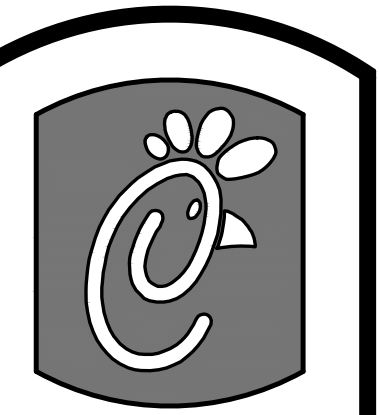


FIELD INSTALLED WIRING: WITHIN THE ROOFTOP UNIT, WIRING SHALL BE ROUTED BY WAY OF FACTORY WIREWAYS ONLY. WIRING ROUTED OVER THE BLOWER HOUSING OR BY WAY OF OTHER ROUTES DETRIMENTAL TO THE WIRING LIFE WILL NOT BE ACCEPTED.



**1 SMOKE DETECTOR AND ANNUNCIATOR WIRING DIAGRAM - LENNOX**

NO SCALE



**Chick-fil-e**

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By

△

Mark Date By

△ 07/26/17

DESIGNOTE REVISION

Mark Date By

△

Mark Date By

△

Kurzynske & Associates License  
No. F-0823, Expires 12/31/17



Kurzynske & Associates  
CONSULTING ENGINEERS  
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Email: mail@kurzynske.com

STORE  
WAVERLY PLACE,  
FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colonades Way  
Cary, NC 27518

SHEET TITLE  
HVAC  
CONTROLS

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : BM  
Checked By: MK

Sheet

**M4.I**

# I. SECTION C15000 - MECHANICAL SPECIFICATIONS

## PART I - GENERAL

### 1.01 SCOPE

- A. IT IS THE RESPONSIBILITY OF CONTRACTOR TO READ ALL SPECIFICATIONS AND CONSULT ALL DRAWINGS WHICH MAY AFFECT THE INSTALLATION AND COORDINATION OF HIS WORK WITH OTHER TRADES. CONTRACTOR SHALL COORDINATE AND MAKE MINOR ADJUSTMENTS IN LOCATION OF EQUIPMENT AND MATERIALS AS NECESSARY TO SECURE COORDINATION.
- B. COMPLETED INSTALLATION SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES, INCLUDING BUT NOT LIMITED TO THE LATEST APPROVED EDITIONS OF NFPA-96, NFPA-90A, NFPA-54, SMACNA, ASHRAE 90.1 AND ASHRAE 62.
- C. SYSTEM LAYOUT IS SCHEMATIC AND EXACT LOCATIONS SHALL BE DETERMINED BY STRUCTURAL CONDITIONS, COORDINATION WITH OTHER TRADES, COORDINATION WITH FINISHES AND OTHER CONDITIONS. STRUCTURAL SUPPORTS SHALL NOT BE CUT OR ALTERED TO ASSURE FIT OF HVAC SYSTEM. TEN FOOT CLEARANCE SHALL BE MAINTAINED BETWEEN OUTSIDE AIR INTAKES AND EXHAUST FANS AND PLUMBING VENT TERMINALS.
- D. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEFECTS, REPAIRS AND REPLACEMENTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR AFTER FINAL PAYMENT IS APPROVED. CONTRACTOR SHALL HONOR FACTORY WARRANTIES ON ALL EQUIPMENT PROVIDED AS PART OF THIS SYSTEM.
- E. UPON COMPLETION OF PROJECT, ALL SYSTEM EQUIPMENT AND MATERIALS SHALL BE IN NEW, CLEAN CONDITION WITH ALL DAMAGE RESTORED TO CONDITION ACCEPTABLE TO THE OWNERS REPRESENTATIVE. ALL EQUIPMENT, COMPONENTS AND DUCTWORK SHALL BE INSPECTED AND THOROUGHLY CLEANED, READY FOR USE. AT COMPLETION OF JOB, ALL MISCELLANEOUS TOOLS, SCAFFOLDING, SURPLUS MATERIALS, RUBBISH AND DEBRIS SHALL BE REMOVED BY CONTRACTOR.
- F. CONTRACTOR SHALL PROVIDE TWO SETS OF 2" MERV 8 OR HIGHER THROW AWAY TYPE FILTERS. A CLEAN SET SHALL BE PROVIDED PRIOR TO TEST AND BALANCE AND AGAIN PRIOR TO OPENING.

## PART II - PRODUCTS

### 2.01 HEATING AND COOLING EQUIPMENT (C15730)

- A. FURNISH AND INSTALL R-410A ROOFTOP SINGLE PACKAGE COMBINATION ELECTRIC COOLING AND NATURAL GAS FIRED HEATING UNITS BY LENNOX AS SHOWN ON DRAWINGS. EQUIPMENT SHALL BE ARI CERTIFIED AND A.G.A. AND U.L. LISTED.
- B. ACCESSORIES SHALL INCLUDE LOW AND HIGH PRESSURE SAFETIES, CRANK CASE HEATER, OVERCURRENT AND OVERTEMPERATURE SAFETY, COMPRESSOR VIBRATION ISOLATORS, FILTER DRIERS, REFRIGERANT SERVICE VALVES, COIL HAIL GUARDS WHERE SCHEDULED, CONVENIENCE OUTLETS FACTORY INSTALLED ON SCHEDULED UNITS, UNIT MOUNTED NON-FUSED DISCONNECTS, LOW AMBIENT OPERATION DOWN TO 30 DEGREES F AND EVAPORATOR FREEZE STAT.
- C. COMPRESSORS SHALL BE FULLY HERMETIC SCROLL TYPE WITH INTERNAL VIBRATION ISOLATORS. COMPRESSORS SHALL BE PROVIDED WITH A MINIMUM FIVE (5) YEAR FULL WARRANTY.
- D. THE UNIT HEAT EXCHANGERS SHALL BE STEEL WITH ALUMINIZED STEEL COATING. HEATING CONTROLS SHALL CONSIST OF REDUNDANT GAS VALVES, INTERMITTENT PILOT WITH ELECTRONIC SPARK OR HOT PLATE IGNITION SYSTEM, COMBUSTION/EXHAUST FAN PROTECTED BY CENTRIFUGAL SWITCHES, HEAT LIMIT SWITCHES, TIME-DELAY RELAY, FLAME, AND PILOT SENSORS. ALL UNITS SHALL BE CAPABLE OF TWO STAGES OF HEAT. HEAT EXCHANGES SHALL HAVE A TEN (10) YEAR WARRANTY. BURNERS SHALL BE ALUMINIZED IN-SHOT TYPE. THE DRAFT MOTOR SHALL BE MONITORED BY THE CONTROL SYSTEM.
- E. CHICK-FIL-A MAINTAINS A NATIONAL ACCOUNT FOR EQUIPMENT WITH LENNOX CORPORATION. PRICING FOR THE EQUIPMENT HAS BEEN ESTABLISHED IN ADVANCE. CONTACT LENNOX NATIONAL ACCOUNTS AT 972-497-6260 (OR BY FAX AT 972-497-5112) FOR PRICING, ORDERING AND AVAILABILITY.

- 2.02 DUCTWORK (C15735) (SEE DWG M2.1 FOR ADDITIONAL GREASE DUCT SYSTEM REQ.)
  - A. ACCEPTABLE MANUFACTURERS OF INSULATION ARE MANVILLE, OWENS CORNING OR KNAUF.
  - B. ALL DUCTWORK SHALL BE SHEET METAL, UNLESS NOTED OTHERWISE (U.N.O.).
  - C. DUCT DIMENSIONS SHOWN ARE INSIDE CLEAR DIMENSIONS, U.N.O.
  - D. CONSTRUCTION OF DUCTWORK SHALL MEET SMACNA 1" W.C. PRESSURE CLASS STANDARD AND RECOMMENDATIONS. SMACNA SHALL BE FOLLOWED WITH RESPECT TO GAGE THICKNESS, JOINTS, REINFORCING, CONSTRUCTION, INSTALLATION AND SUPPORT FOR PRESSURE CLASS STATED. ALL TRANSVERSE JOINTS IN RECTANGULAR AND ROUND DUCT SHALL BE SEALED PER SMACNA SEAL CLASS C WITH U.L. DUCT MASTIC SEALANT APPROVED FOR INTENDED USE. DUCT TAPE IS NOT AN ACCEPTABLE SUBSTITUTE FOR MASTIC UNLESS EQUAL TO HARDCAST FOIL-GRIP 1402 BUTYL RUBBER ADHESIVE TAPE.
  - E. ALL DUCT INSULATION SHALL MEET MINIMUM R-VALUE REQUIRED BY ASHRAE 90.1 LATEST EDITION. ALL DUCT WRAP SHALL BE MINIMUM 2" THICK, 3/4 PCF AND 5.6 R-VALUE INSTALLED WITH EITHER A VAPOR BARRIER WITH MAXIMUM PERMEANCE 0.05 OR A MINIMUM 2 MIL ALUMINUM REINFORCED FOIL/KRAFT FACING.
  - F. ALL DUCT DROPS FROM THE ROOFTOP UNITS SHALL BE EXTERNALLY INSULATED.
  - G. SUPPLY AND RETURN AIR DUCTWORK SERVING ALL AREAS SHALL BE EXTERNALLY INSULATED.
  - H. ALL AIR CONVEYANCE COMPONENTS SUCH AS, BUT NOT LIMITED TO DUCT, DUCT PLENUMS, GRILLES/DIFFUSERS, BACK PANS, AND BOOTS SHALL BE INSULATED. INSULATION TYPE IS COVERED ELSEWHERE IN THIS SPECIFICATION.
  - I. RESTROOM RECTANGULAR EXHAUST AIR DUCTWORK SHALL BE LINED WITH 1" THICK, 1-1/2 PCF INSULATION. RESTROOM ROUND EXHAUST DUCT SHALL BE EXTERNALLY INSULATED PER SECTION 2.02F.
  - J. TRUNK DUCTS SHALL BE ISOLATED FROM UNIT VIBRATION WITH THE USE OF NFPA AND U.L. APPROVED FLEXIBLE CONNECTORS INSTALLED AT THE TOP OF BOTH SUPPLY AND RETURN DROPS.
  - K. INSULATED FLEXIBLE DUCT MAY BE UTILIZED FOR RUNOUTS TO GRILLES AND DIFFUSERS ONLY IN THE HORIZONTAL POSITION AND IN MAXIMUM LENGTHS OF 4'-0", NO EXCEPTIONS. SEE TAKE-OFF DETAIL ON DRAWING M3.1.
  - L. CONSTRUCTION OF FLEXIBLE DUCTWORK SHALL INCLUDE SPIRAL METAL HELIX BONDED TO A POLYESTER CORE, FIBERGLASS INSULATION WITH POLYETHYLENE OR MYLAR VAPOR BARRIER. ALL COMPONENTS SHALL HAVE APPROPRIATE U.L. APPROVAL AND SHALL BE EQUIVALENT TO THERMAFLEX MKE.
  - M. FLEXIBLE DUCT SHALL BE INSTALLED PER THE "ADC FLEXIBLE DUCT PERFORMANCE AND INSTALLATION STANDARDS, 4TH ED" USING FOIL TAPE AND DRAWBAND ON THE INNER CORE AND TAPE OR DRAWBAND ON THE OUTER JACKET.
  - N. DUCT TAPE SHALL BE EQUAL TO FASSON 181-B FX, 2-1/2" WIDE.
  - O. SINGLE THICKNESS TURNING VANES SHALL BE INSTALLED AT 90 DEGREE TURNS IN SUPPLY DUCTWORK WHERE ANY ONE DIMENSION IS GREATER THAN 12".
  - P. RADIUSSED ELBOWS MAY BE SUBSTITUTED FOR 90 DEGREE ELBOWS AT THE DISCRETION OF THE CONTRACTOR. CENTERLINE RADIUS EQUAL TO: R=W PER FIGURE NO. 2-2 IN SMACNA HVAC DUCT CONSTRUCTION STANDARDS.
  - Q. EXTERNAL INSULATION ON BOTTOM OF DUCTS 24" OR WIDER SHALL BE SUPPORTED WITH STICK PINS ON 18" CENTERS. STICK PIN WASHERS SHALL BE COVERED WITH DUCT TAPE OR MASTIC.

### 2.03 CONTROLS (C15735)

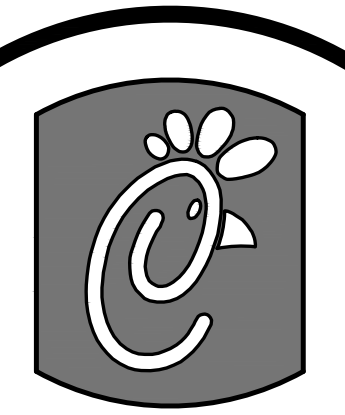
- A. SYSTEMS SHALL BE COMPLETE WITH CONNECTIONS TO EXISTING CFA-500 TEMPERATURE CONTROL PANEL AS MANUFACTURED BY SUNCOAST ENVIRONMENTAL CONTROLS (S.E.C.) (PH: 877-544-6679). CONTROL WIRING TERMINATIONS ARE BY THE MECHANICAL CONTRACTOR.
- B. THE SMOKE DETECTORS SHALL BE FACTORY INSTALLED AND WIRED BY THE ROOFTOP UNIT MANUFACTURER.
- C. A FACTORY INSTALLED SMOKE DETECTOR IN THE RETURN AIR SECTION OF EACH AIR CONDITIONING UNIT SHALL STOP THE INDOOR FAN AND CLOSE THE OUTSIDE AIR DAMPER IN THE EVENT OF EXCESSIVE TEMPERATURE OR SMOKE. SMOKE DETECTOR SHALL BE LOCATED PRIOR TO ANY EXHAUST FROM THE BUILDING OR MIXING WITH FRESH AIR MAKE-UP. UPON DETECTION, THE SYSTEM SHALL NOT RESTART UNTIL THE DEVICE IS MANUALLY RESET. DEVICES SHALL BE LOCATED WHERE THEY CAN BE EASILY ACCESSED AND WHERE CLEAR OF FILTERS.
- D. CHICK-FIL-A HAS A NATIONAL ACCOUNT WITH SUNCOAST ENVIRONMENTAL CONTROLS FOR THE SMOKE DETECTOR TEST/RESET ANNUNCIATOR STATIONS. THE TEST/RESET STATIONS WILL BE PURCHASED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS A PART OF A NATIONAL ACCOUNT PACKAGE.
- E. THE REMOTE TEST/RESET ANNUNCIATORS SHALL BE PROVIDED AND INSTALLED BY THE MECHANICAL CONTRACTOR. INSTALLATION BY MECHANICAL SHALL INCLUDE MOUNTING OF THE ANNUNCIATORS AND ALL WIRING FROM EACH DEVICE TO THE RTU OR AHU. PROVIDE A JUNCTION BOX IN THE WALL WITH 1/2" CONDUIT STUBBED UP ABOVE THE CEILING FOR EACH REMOTE TEST STATION IF NOT EXISTING. ANNUNCIATOR SHALL BE SUNCOAST CONTROLS REMOTE TEST/RESET STATION WITH POWER LED, TROUBLE LED, ALARM LED, 90DB HORN AND TEST/RESET BUTTON.
- F. THE HOOD FANS SHALL BE CONTROLLED VIA THE SUNCOAST CFA-500 CONTROL PANEL. WIRING, RELAYS AND SWITCHES FOR CONTROL OF ALL FANS ARE BY ELECTRICAL CONTRACTOR.
- G. LENNOX UNITS - A THERMOSTAT AND REMOTE SENSOR WILL BE PROVIDED BY SUNCOAST ENVIRONMENTAL CONTROLS FOR EACH RTU. MECHANICAL CONTRACTOR SHALL INSTALL ALL WIRING BETWEEN THE THERMOSTAT, THE REMOTE SENSOR AND THE ROOFTOP UNIT OR AHU.
- H. MECHANICAL CONTRACTOR SHALL INSTALL CONTROL WIRING IN 1/2" CONDUIT WHERE REQUIRED BY CODE. WHERE NOT REQUIRED TO BE IN CONDUIT, ALL WIRING SHALL BE RUN PARALLEL TO STRUCTURAL MEMBERS OR PERPENDICULAR WITH NO DIAGONAL ROUTING. ALL WIRING SHALL BE SECURED TO THE FRAMING TO PREVENT SAGGING IN RUNS. WIRING TO ROOFTOP UNITS SHALL BE ROUTED THROUGH THE FACTORY THRU-BASE FITTING IN THE UNIT BASE. NO SPLICING OF WIRING WILL BE ACCEPTED. ALL WIRING ABOVE THE ROOF SHALL BE INSTALLED IN EXTERIOR GRADE FLEXIBLE CONDUIT. ALL CONTROL WIRING AND CONTROL WIRING CONDUIT SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LATEST EDITION OF NEC. ALL LOW VOLTAGE CONTROL WIRING SHALL BE NO LESS THAN 18 AWG MIN. CONTROL WIRING CONDUCTORS SHALL BE SIZED TO ACCOUNT FOR LOAD AND LENGTH OF RUN TO ALLOW SUFFICIENT VOLTAGE AVAILABLE AT CONTROLLED DEVICE TO OPERATE THE SYSTEM RELIABLY.

## PART III - EXECUTION

### 3.01 SCOPE

- A. FURNISH AND INSTALL SYSTEM IN ACCORDANCE WITH REFERENCED STANDARDS, APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS AND AS INDICATED ON DRAWINGS.
- B. OWNER SHALL TEST AND BALANCE MECHANICAL SYSTEM IN ACCORDANCE WITH NCI OR AABC STANDARDS TO ASSURE CONFORMANCE WITH DESIGN. G.C. WILL MAKE MECHANICAL CONTRACTOR AVAILABLE DURING TEST AND BALANCE TO ASSIST TESTING AGENCY AND TO MAKE CORRECTIONS IMMEDIATELY NECESSARY. CONTRACTOR SHALL CORRECT ITEMS ON WRITTEN TEST AND BALANCE REPORT.
- C. CONTRACTOR SHALL INSTRUCT THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT THROUGH DEMONSTRATION AND EXPLANATION OF OPERATING & MAINTENANCE MANUALS.
- D. CONTRACTOR SHALL PROVIDE A "SAMPLE MAINTENANCE PROPOSAL" TO THE OWNER'S REPRESENTATIVE IN ALL MATTERS PERTAINING TO THE PROPER MAINTENANCE OF EQUIPMENT FURNISHED UNDER THIS CONTRACT.
- E. CONTRACTOR SHALL COMPLETE A/C EQUIPMENT STARTUP DOCUMENTATION PROVIDED BY OWNER.

NATIONAL ACCOUNTS	
1.	LENNOX EQUIPMENT - CONTACT LENNOX NATIONAL ACCOUNTS AT 800-367-6285 (OR BY FAX AT 972-497-5112) FOR PRICING, ORDERING AND AVAILABILITY. LENNOX EQUIPMENT NOT PURCHASED THRU LENNOX NATIONAL ACCOUNTS WILL NOT BE ACCEPTED.
2.	LOREN COOK FAN AND CURB PACKAGE - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE FAN/CURB PACKAGE DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. FANS AND CURBS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
3.	PRICE AIR DEVICES - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DEVICES DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DEVICES NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
4.	AIR DOORS - THE MECHANICAL CONTRACTOR IS REQUIRED TO PURCHASE THE AIR DOORS DIRECTLY FROM TOM BARROW COMPANY. CONTACT MR. SCOTT GEORGE AT 404-351-1010 FOR PRICING AND AVAILABILITY. AIR DOORS NOT PURCHASED THRU TOM BARROW COMPANY WILL NOT BE ACCEPTED.
5.	SUNCOAST ENVIRONMENTAL CONTROLS - THE TEST/RESET STATIONS WILL BE PURCHASED AND PROVIDED BY THE MECHANICAL CONTRACTOR AS A PART OF
6.	A NATIONAL ACCOUNT PACKAGE. SEE PART II PARAGRAPH 3A, 3D, AND 3E OF THE MECHANICAL SPECIFICATIONS FOR MORE INFORMATION.
	HALTON HOODS - CHICK-FIL-A WILL PURCHASE AND PROVIDE THE HOODS FOR INSTALLATION BY THE MECHANICAL CONTRACTOR. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING THE HOODS. CONTACT HALTON CO. AT 270-237-5600 FOR MORE INFO.



**Chick-fil-A**

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By  
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Kurzynske & Associates License  
No. F-0823, Expires 12/31/17



Kurzynske & Associates  
CONSULTING ENGINEERS  
2900 Lebanon Pike, Ste. 201  
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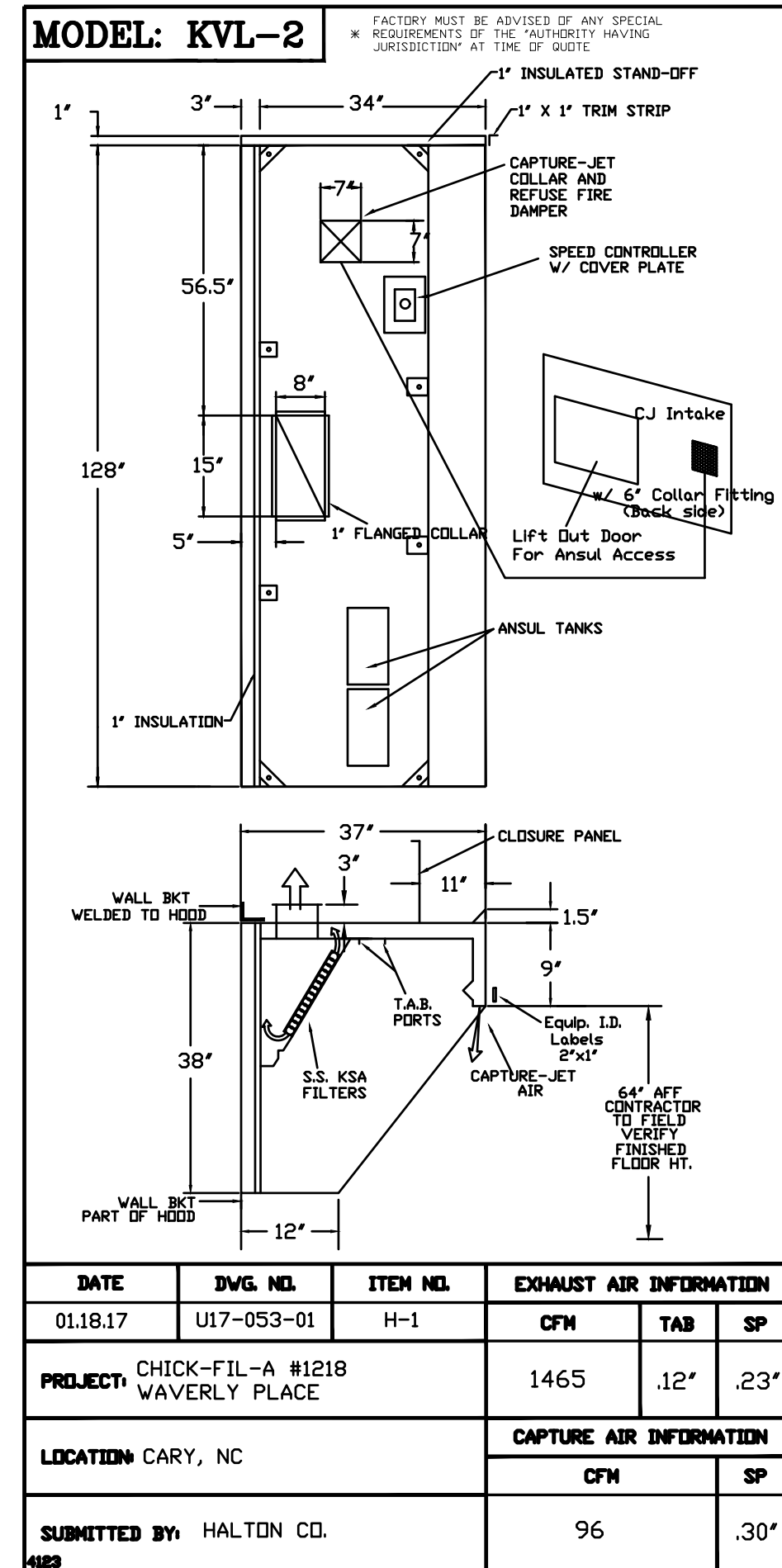
STORE  
WAVERLY PLACE,  
FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colanades Way  
Cary, NC 27518

SHEET TITLE  
MECHANICAL  
SPECIFICATIONS

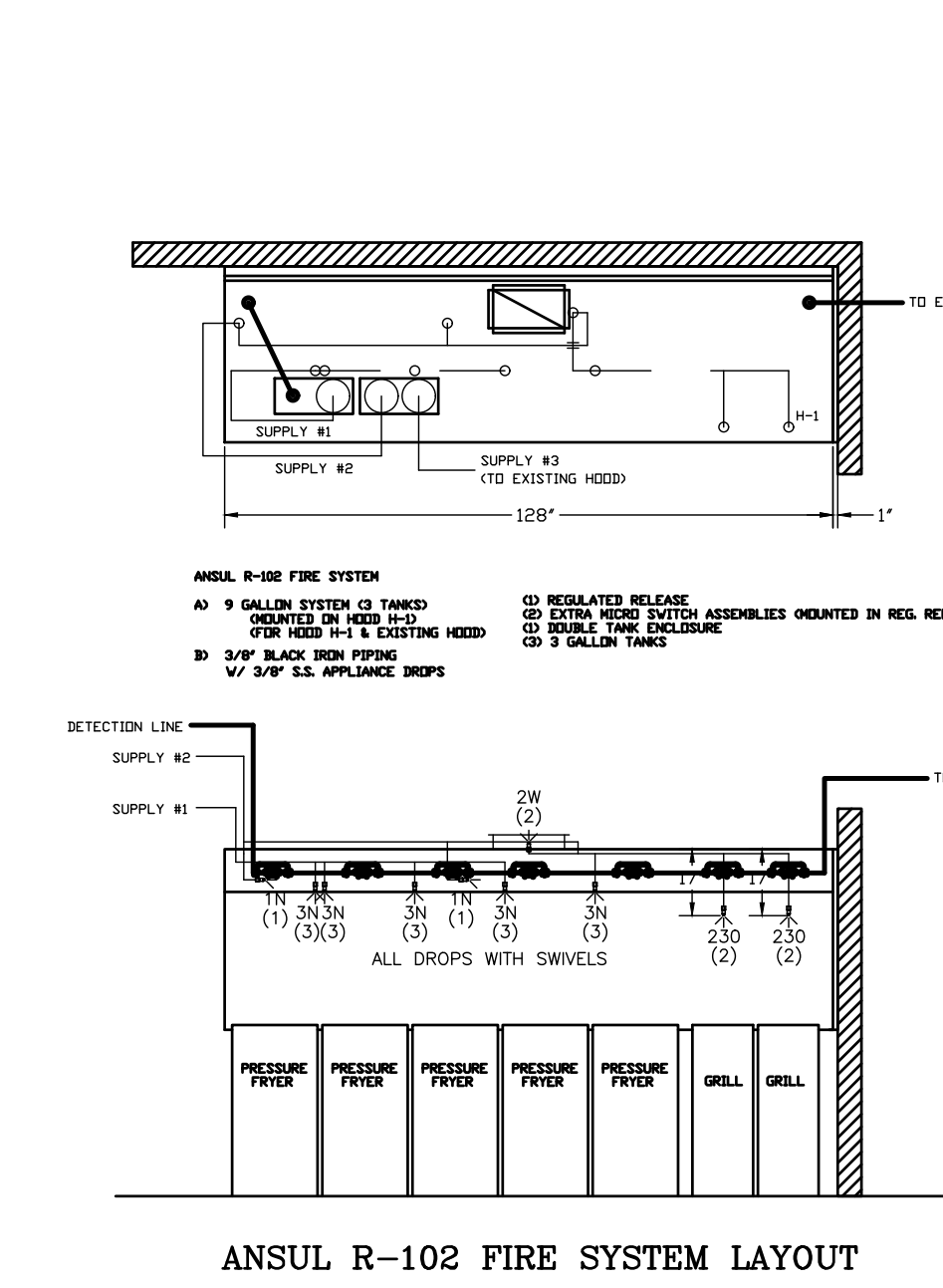
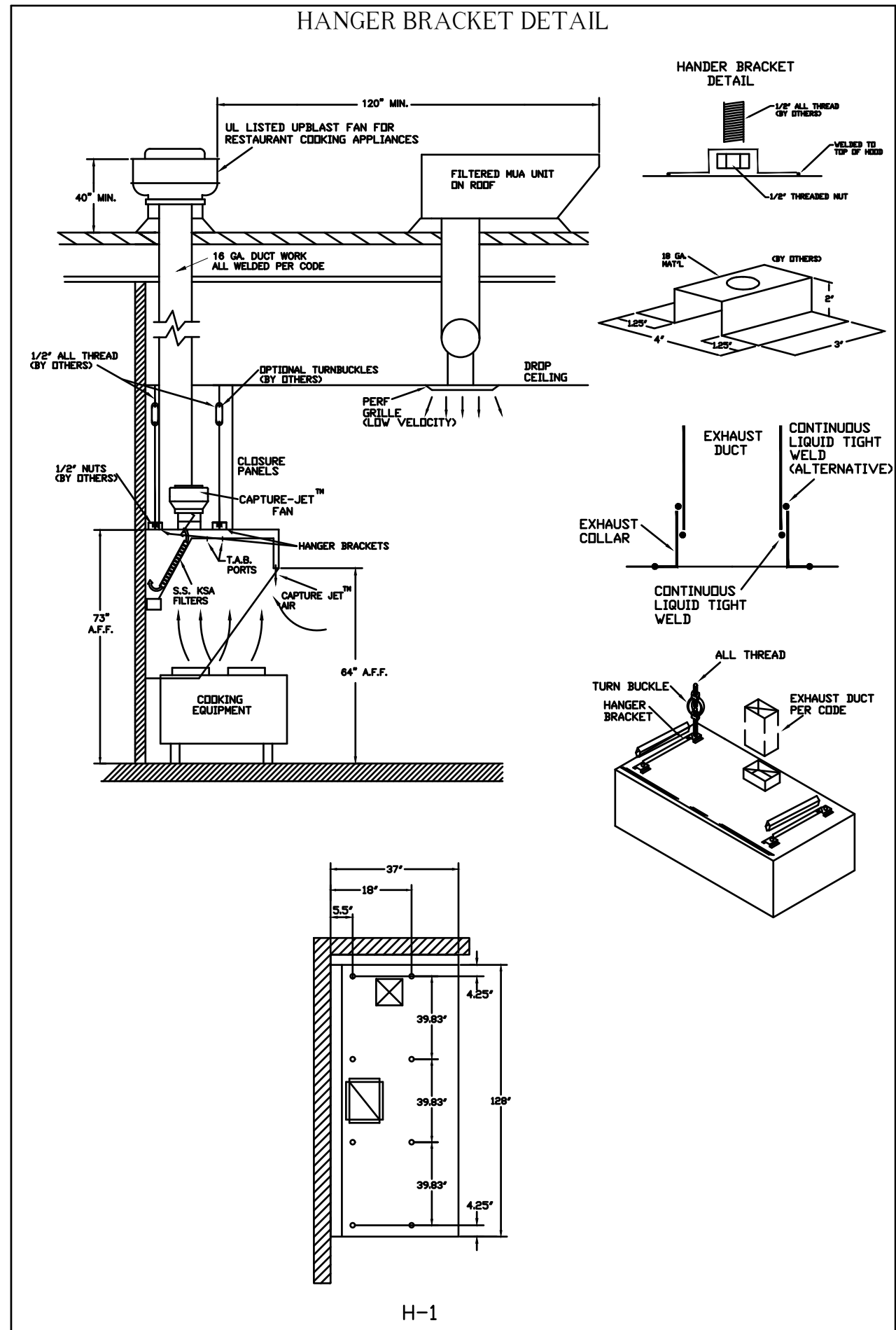
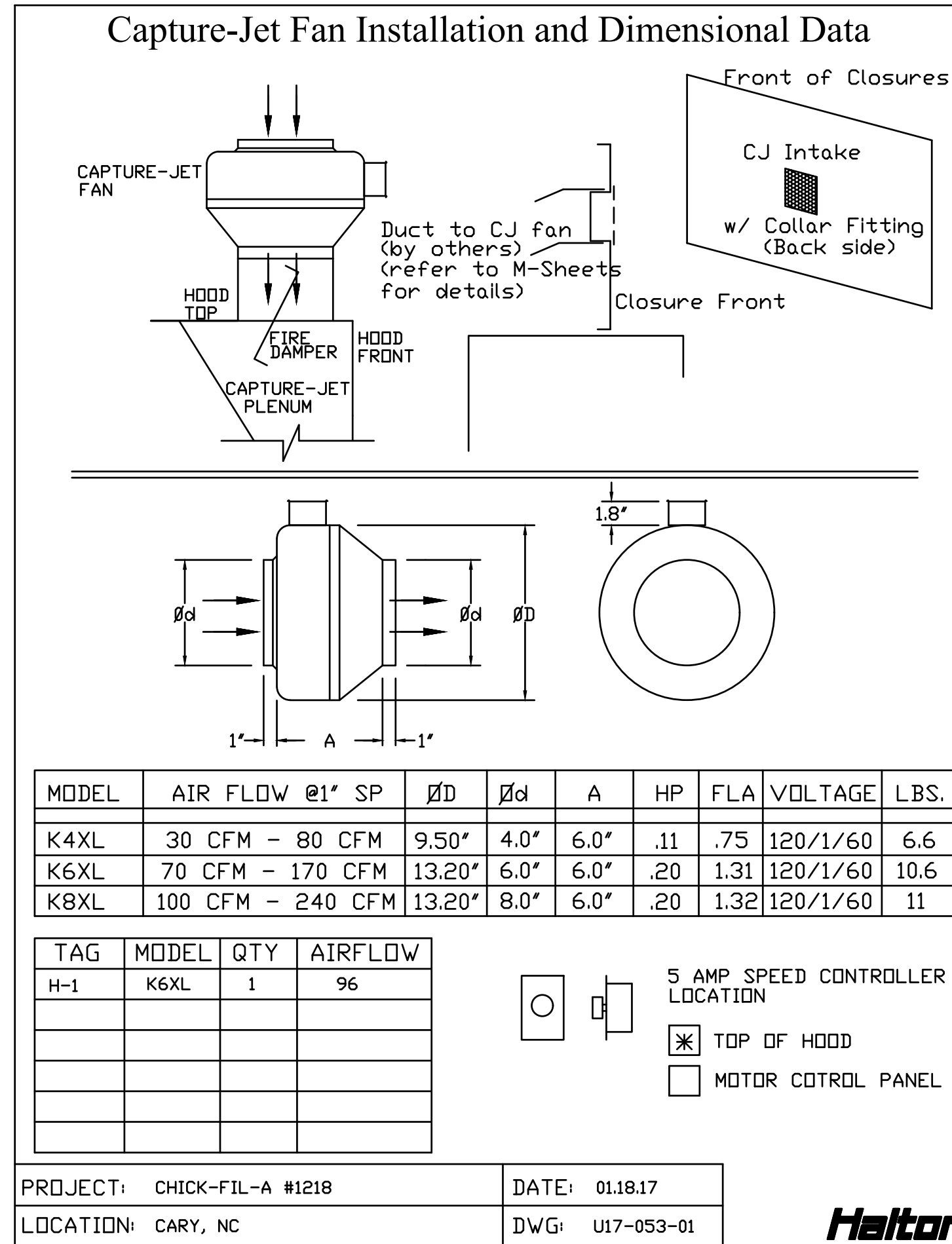
PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : BM  
Checked By: MK

Sheet  
**M5.I**



STANDARD FEATURES	
S.S. FILTERS (KSA)	6
1/2 S.S. FILTERS (KXSA)	0
CAPTURE-JET FIRE DAMPER	*
STAND-OFF	*
OPTIONS	
REMOTE SWITCH PANEL	
FIRE PROTECTION	*
ETL LISTED W/D EXHAUST DAMPER	*
CEILING CLOSURE	2
STD. BACKSPASH	
INSULATED BACKSPASH	
MATERIAL	
EXPOSED SURFACES	18 GA. S.S.
ALL	18 GA. S.S.
COMMENTS:	
1) CLOSURE HEIGHT = TBD (TWO SIDES) CEILING HEIGHT = ADVISE CEILING CLOSURE RECESSED 11" FROM FRONT TO CREATE SHELF	
FRONT CLOSURE PANEL WITH 54"x24" ACCESS DOOR LEFT SIDE (ACCESS TO ANSUL TANKS) & 18"x18" ACCESS DOOR RIGHT SIDE AT CAPTURE-JET W/ FRONT CJ INTAKE	
1" X 1" TRIM STRIP FOR STANDOFF ON RIGHT END	
1" SIDE STAND-OFF & 3" REAR STAND-OFF TO HAVE 1" THICK INSULATION	
*EQUIPMENT COVERED CJ PRESSURE FRYER CJ GRILL	
ANSUL WEIGHT= 63 LBS HOOD WEIGHT= 759 LBS	
<b>Halton</b>	



ITEM	TEMP
OPEN FRYERS	450°
2 BURNER / FLAT TOP	450°
PRESSURE FRYERS	450°
GRILL	450°
EXHAUST COLLARS	450°

ANSUL R-102 FIRE SYSTEM NOTES  
THREE TANK SYSTEM MOUNTED ON TOP OF (H-1)  
MAXIMUM FLOW POINTS = 33

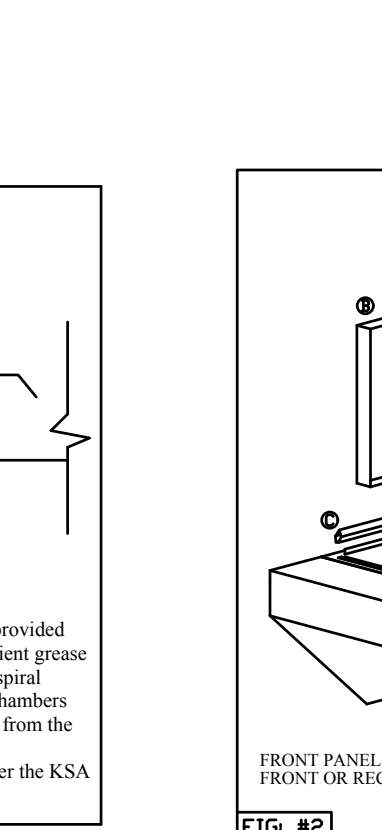
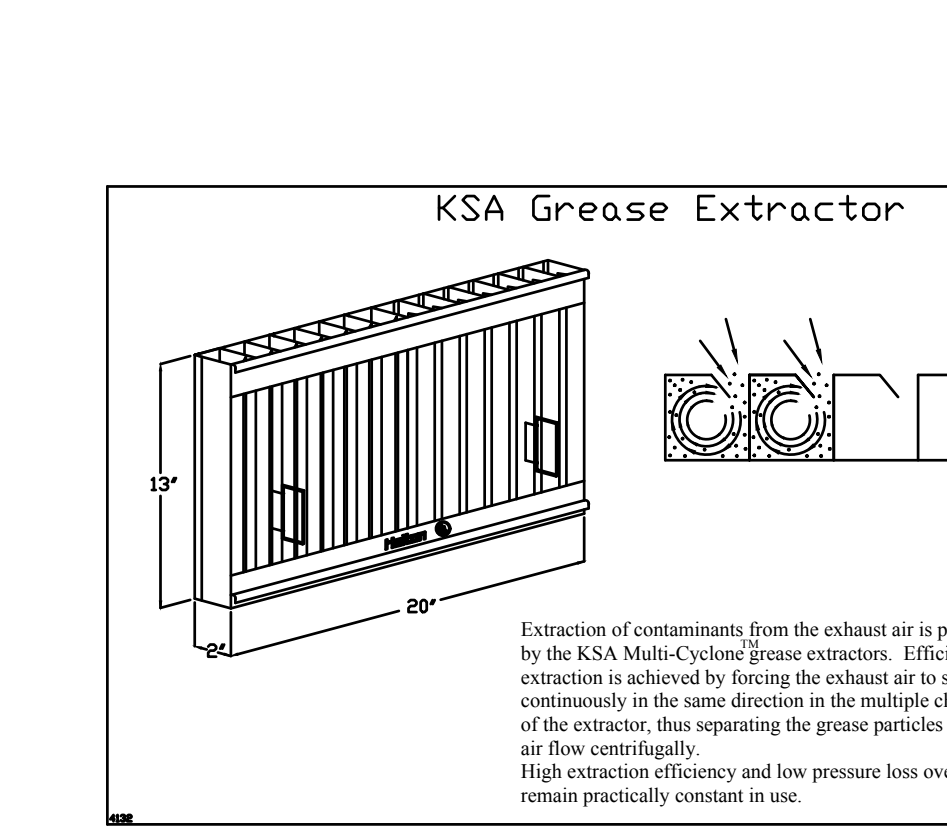
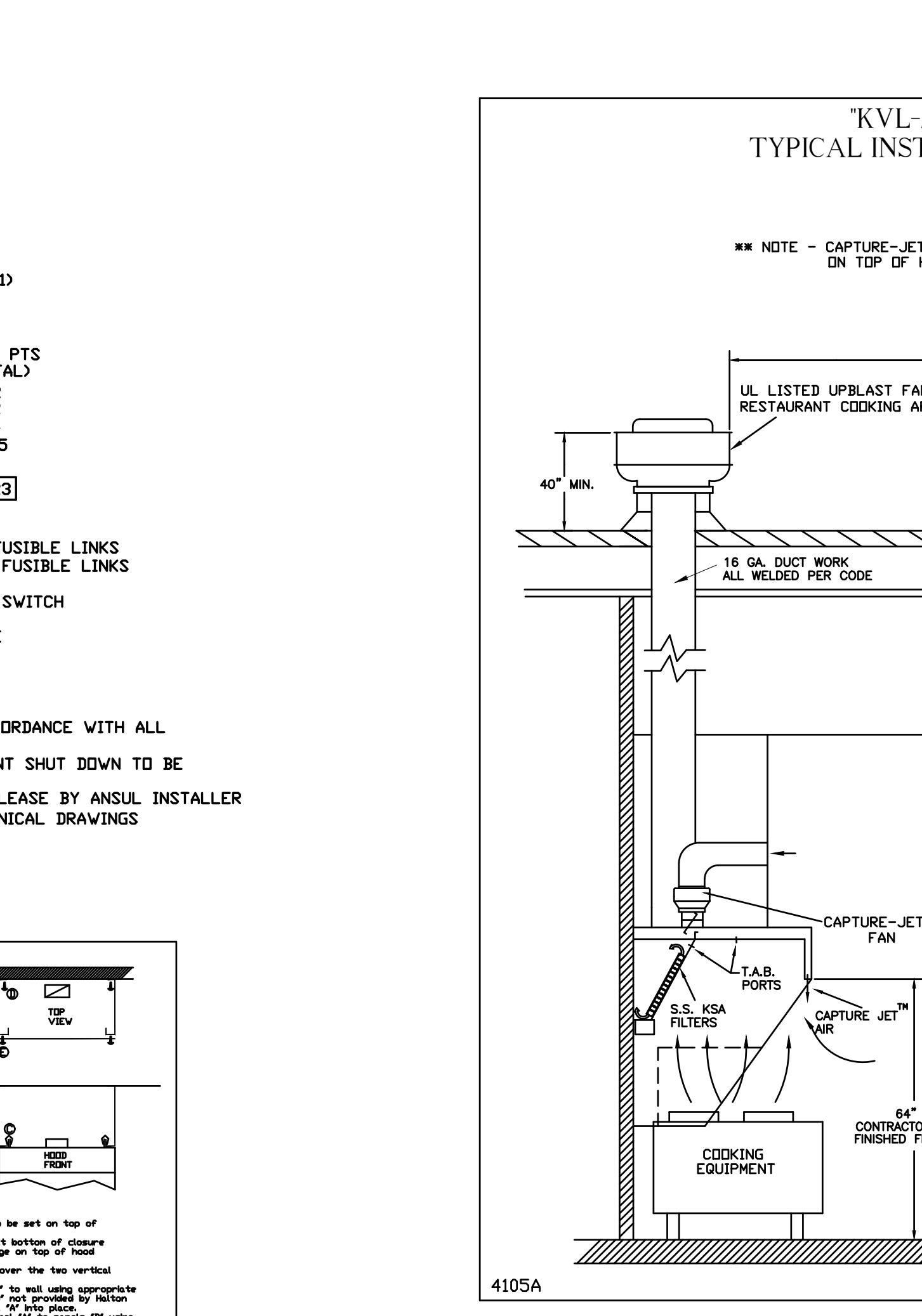
ITEM #	QTY	DESCRIPTION	FLOW PTS (TOTAL)
2W	1	DUCT NOZZLES	2
1N	2	PLENUM NOZZLES	2
230	2	APPLIANCE NOZZLES	4
3N	5	APPLIANCE NOZZLES	15

TOTAL FLOW POINTS = 23

ITEM #	QTY	DESCRIPTION
#200	6	SERIES DETECTORS W/ FUSIBLE LINKS
#201	1	TERMINAL DETECTOR W/ FUSIBLE LINKS
#202	1	REGULATED RELEASE W/ DOUBLE POLE MICRO SWITCH
#203	3	3 GALLON TANKS
#204	1	DOUBLE TANK ENCLOSURE
#205	1	REMOTE PULL STATION

ANSUL R-102 FIRE SYSTEM  
UL LISTED PER STD LATEST STD 300

- FINAL INSTALLATION IS TO BE MADE IN ACCORDANCE WITH ALL APPLICABLE CODES
- ALL ELECTRICAL COMPONENTS FOR EQUIPMENT SHUT DOWN TO BE PROVIDED BY THE ELECTRICIAN
- MICRO-SWITCH INSTALLED IN REGULATED RELEASE BY ANSUL INSTALLER
- REMOTE PULL STATION LOCATED PER MECHANICAL DRAWINGS



4105A

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW: WWW.HALTONCOMPANY.COM

PROJECT: CHICK-FIL-A #1218 DATE: 01.18.17  
LOCATION: CARY, NC DWG: U17-053-01

**Halton**

HALTON HOODS  
- ETL LISTED PER LATEST 710 STANDARD  
- BUILT PER NFPA 96  
- NSF LISTED

**Halton**  
CARE FOR INDOOR AIR

GENERAL REQUIREMENTS  
 400°F (204°C) COOKING SURFACE TEMPERATURE  
 A. HOOD CLEARANCE TO THE COOKING SURFACE, SEE TABLE 1 TO FRONT EDGE OF HOOD.  
 B. HOODMAN DESIGN EXHAUST AIR FLOW, SEE TABLE 1.  
 C. HOODFACE FILTERS SHOWN WITH UL CLASSIFIED GREASE FILTERS OF THE SAME MODEL AND MANUFACTURER.  
 D. SUITABLE FOR USE WITH COOKING APPLIANCE DEVELOPING SURFACE TEMPERATURES UP TO 400°F (204°C).  
 E. DESIGN SUPPLY AIR FLOW PRESSURE AT SIDE JETS TO BE SET AT SEE TABLE 1 AT PRESSURE POINT.  
 F. HOOD OVERHANG FROM COOKING SURFACE, 6 IN. (152.4 MM) HOODMAN TO FRONT EDGE OF HOOD.  
 G. HOOD UNDERHANG FROM COOKING SURFACE, 6 IN. (152.4 MM) HOODMAN TO FRONT EDGE OF HOOD.

HOOD CLEARANCE TO THE COOKING SURFACE	HOODMAN DESIGN EXHAUST AIR FLOW	DESIGN SUPPLY AIR FLOW PRESSURE
60 IN. (1524 MM) TO 36 IN. (914 MM)	100 CFM (2832 L/MIN)	0.5 IN. W.G.
36 IN. (914 MM) TO 24 IN. (610 MM)	75 CFM (2124 L/MIN)	0.5 IN. W.G.
24 IN. (610 MM) TO 18 IN. (457 MM)	50 CFM (1416 L/MIN)	0.5 IN. W.G.
18 IN. (457 MM) TO 12 IN. (305 MM)	25 CFM (708 L/MIN)	0.5 IN. W.G.

CHICK-FIL-A #1218  
 WEVERLY PLACE  
 CARY, NC  
 DATE: 01.18.17  
 DRAWN BY: M.H. DATE: 01.18.17  
 SCALE: NTS  
 Halton Dwg: U17-053-01

THIS DRAWING MUST BE CHECKED, SIGNED AND RETURNED TO THE APPROPRIATE FACTORY, PLEASE VERIFYING THE FOLLOWING:

- ALL DIMENSIONAL INFORMATION, MOUNTING POSITIONS
- THE LOCATION AND TYPE OF COOKING EQUIPMENT.

NOTE TO APPROVER  
ANY CHANGES IN COOKING EQUIPMENT SUCH AS INCREASED ENERGY INPUTS OR EQUIPMENT POSITION MAY AFFECT EXHAUST AIRFLOW. HALTON MUST BE NOTIFIED IF ANY OF THESE CHANGES OCCUR. A RECALCULATION EXHAUST AIRFLOW MAY BE REQUIRED.

REVISE AND RESUBMIT  
 WITH NO CHANGES  
 WITH CHANGES AS NOTED

APPROVED FOR FABRICATION

MAIL APPROVED DRAWINGS TO APPROPRIATE FACTORY BELOW: WWW.HALTONCOMPANY.COM  
 HALTON CO. (USA)  
 101 INDUSTRIAL DRIVE  
 SCOTTSVILLE, KY 42164  
 1-270-237-5600

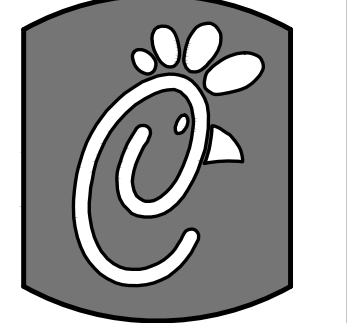
HALTON CO. (CANADA)  
 100 BREWIK PLACE 3B7  
 MISSISSAUGA, ONTARIO  
 L4W 1Y1  
 1-905-624-0301

PROJECT: CHICK-FIL-A #1218  
 LOCATION: CARY, NC  
 DATE: 01.18.17  
 DRAWN BY: M.H.  
 SCALE: NTS  
 Halton Dwg: U17-053-01

SHEET NO. 1 OF 1  
 DATE:

REVISION DESCRIPTION  
 1  
 2  
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 5  
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 7

Sheet  
**MHI**



Chick-fil-A

5200 Buffington Rd.  
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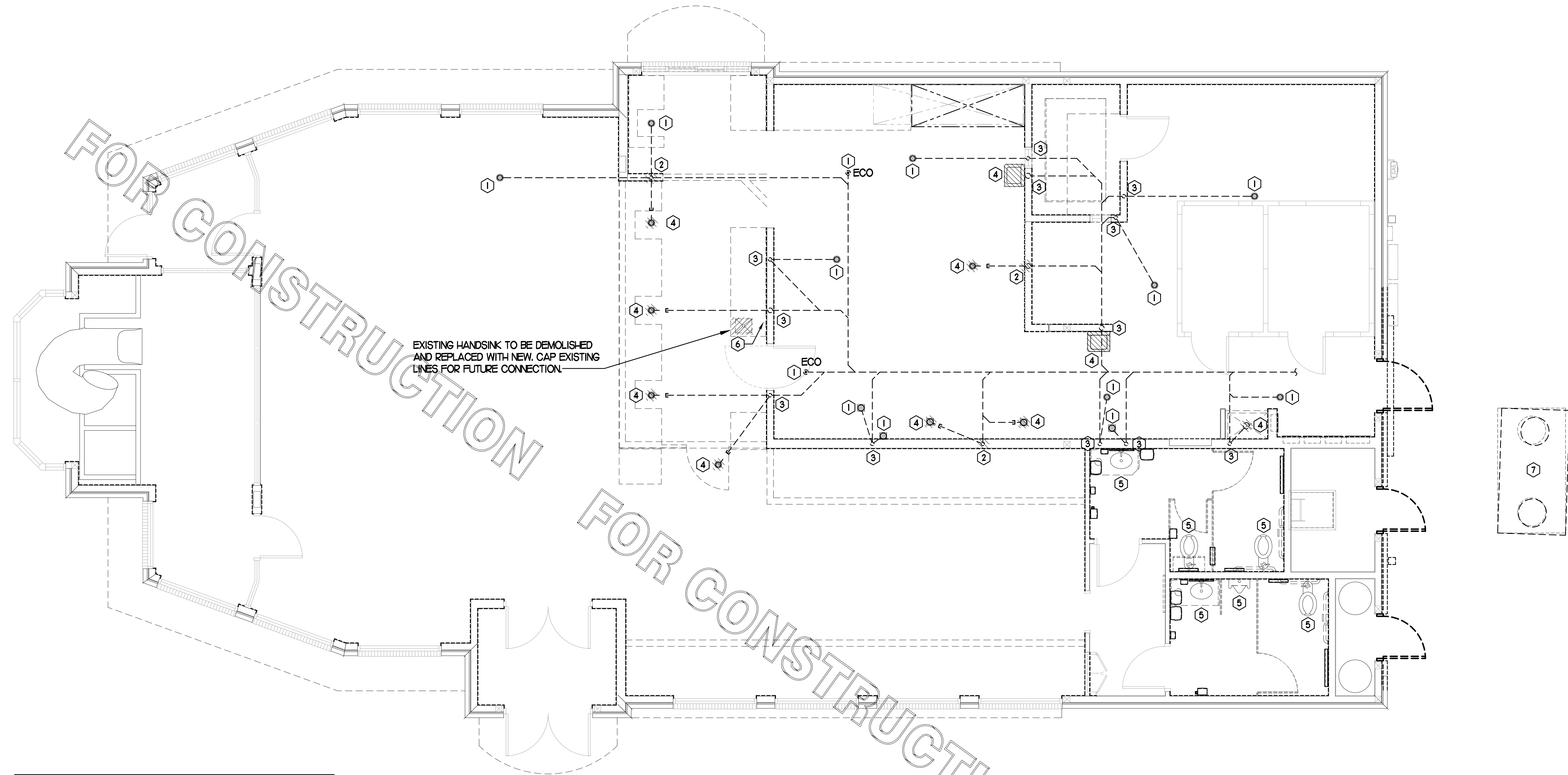
SHEET TITLE  
BELOW SLAB  
PLB DEMO PLAN

PROTOTYPE S97-100

Job No. : 170021.HF.R  
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EXISTING HANDSINK TO BE DEMOLISHED  
AND REPLACED WITH NEW. CAP EXISTING  
LINES FOR FUTURE CONNECTION.

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"

#### 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.

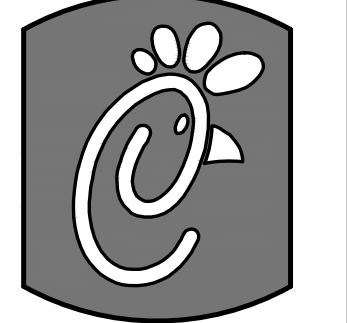
#### KEY NOTES

- 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 P.I.I. COORDINATE WORK WITH G.C. IF FLOOR DRAIN IS DEMOLISHED, IF EXISTING, CAP WATER LINE FROM TRAP PRIMER.
- 5 DEMOLISH EXISTING RESTROOM FIXTURE. CAP WASTE CONNECTION FOR FUTURE CONNECTION. CAP EXISTING WATER LINES WITHIN WALL AND PREPARE FOR CONNECTION TO NEW EQUIPMENT.
- 6 PLUMBING CONTRACTOR SHALL VERIFY WORKING ORDER OF EXISTING TRAP PRIMER LOCATED BELOW COUNTER AND REPLACE IF EXISTING PRIMER IS NOT IN WORKING ORDER.
- 7 EXISTING GREASE INTERCEPTOR TO REMAIN.

#### 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 (GW)	--- 4"GW
EXISTING SANITARY SEWER (SS)	--- 4"SS
EXISTING FIRE PROTECTION LINE (F)	--- 4"F
EXISTING COLD WATER UNDER GROUND (CW)	--- CW
EXISTING TEMPERED WATER UNDER GROUND (TW)	--- TW
EXISTING HOT WATER UNDER GROUND (HW)	--- HW
EXISTING LINE/FIXTURE TO BE DEMOLISHED	-----
EXISTING WATER LINE(S) IN WALL TO BE DEMO'D	∞



Chick-fil-e

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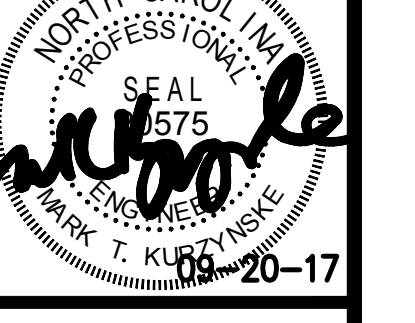
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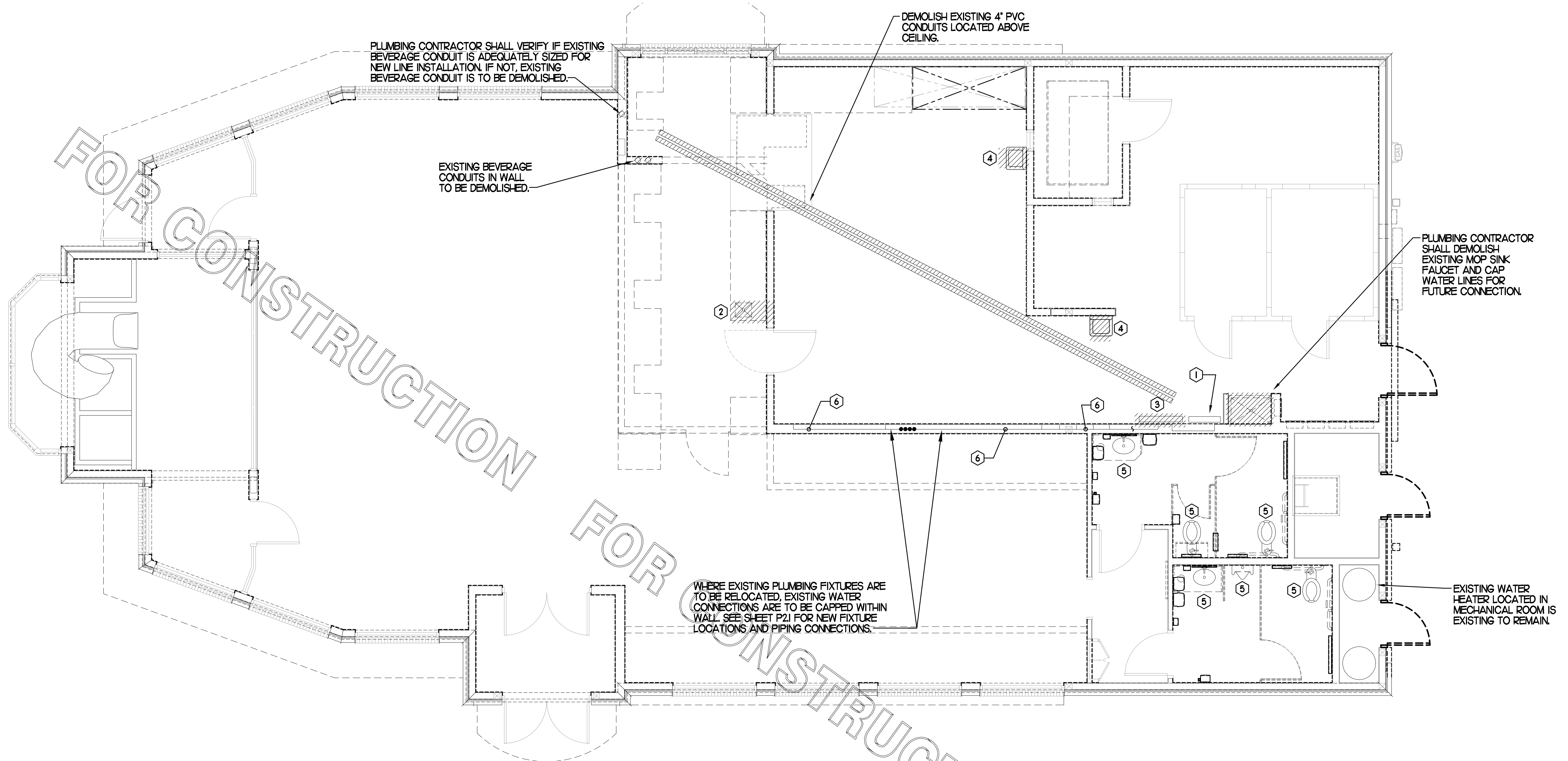
SHEET TITLE  
BELOW SLAB  
PLB DEMO PLAN

PROTOTYPE S97-100

Job No. : 170021.HF.R  
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PO.2



### 1 ABOVE SLAB PLUMBING DEMOLITION PLAN

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

#### KEY NOTES

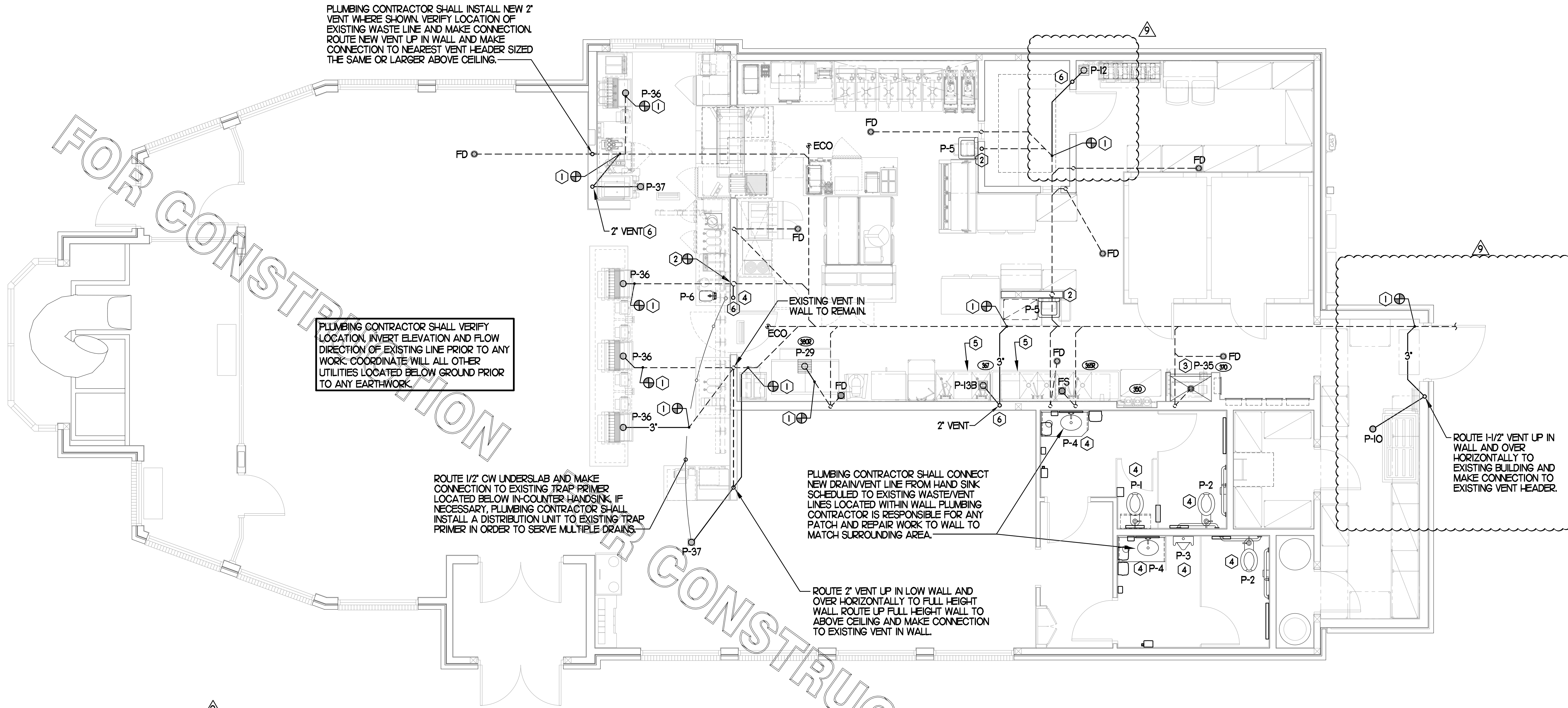
- ① EXISTING WATER FILTRATION SYSTEM IN THIS AREA TO REMAIN. DEMOLISH EXISTING FILTERED WATER LINES AND CAP EXISTING FW MAIN WITHIN WALL/ABOVE CEILING. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY PATCH AND REPAIR WORK TO WALL NEEDED TO MATCH SURROUNDING AREA. FIELD VERIFY EXISTING CONDITION PRIOR TO BID.
- ② DEMOLISH EXISTING IN-COUNTER HAND SINK. CAP WATER LINES BELOW COUNTER AND WASTE/VENT LINES IN WALL. SEE SHEET P2I FOR NEW FIXTURE CONNECTION.
- ③ DEMOLISH EXISTING STOP/BFP PANEL SERVING CARBONATORS IN THIS AREA. CAP EXISTING CW LINE SUPPLYING PANEL. ABOVE CEILING/WITHIN WALL. PATCH AND REPAIR ARE TO MATCH SURROUNDING.
- ④ DEMOLISH EXISTING WALL MOUNTED HAND SINK. CAP WATER LINES WITHIN WALL AND WASTE/VENT LINES IN WALL. SEE SHEET P2I FOR NEW FIXTURE CONNECTION.
- ⑤ DEMOLISH EXISTING RESTROOM FIXTURE. CAP EXISTING WATER LINES AND WASTE/VENT LINES WITHIN WALL. PREPARE LINES FOR CONNECTION TO NEW FIXTURE. SEE SHEET P1I AND P2I.
- ⑥ EXISTING FILTERED WATER LINES ARE TO CAPPED OFF AND ABANDONED WITHIN WALL. SEE SHEET P2I FOR NEW FILTERED WATER PIPING.

#### 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 (GW)	4"GW ---
EXISTING SANITARY SEWER (SS)	4"SS ---
EXISTING FIRE PROTECTION LINE (F)	4"F ---
EXISTING COLD WATER UNDER GROUND (CW)	-CW ---
EXISTING TEMPERED WATER UNDER GROUND (TW)	-TW ---
EXISTING HOT WATER UNDER GROUND (HW)	-HW ---
EXISTING LINE/FIXTURE TO BE DEMOLISHED	//////
EXISTING WATER LINE(S) IN WALL TO BE DEMOD	∞



PLUMBING CONTRACTOR SHALL INSTALL NEW 2\"/>

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

ROUTE 1/2\"/>

PLUMBING CONTRACTOR SHALL CONNECT NEW DRAIN/VENT LINE FROM HAND SINK SCHEDULED TO EXISTING WASTE/VENT LINES LOCATED WITHIN WALL. PLUMBING CONTRACTOR IS RESPONSIBLE FOR ANY PATCH AND REPAIR WORK TO WALL TO MATCH SURROUNDING AREA.

ROUTE 2\"/>

ROUTE 1/2\"/>

### 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	1/4\"/>
P-29	ICE BIN FLOOR SINK	3/4\"/>
P-35	MOP SINK DRAIN	7\"/>
P-36	INDIRECT WASTE RECEIVER	1/4\"/>
P-37	FLOOR DRAIN	1/4\"/>

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.

### MOP SINK NOTE

IMPORTANT: INSTALL P-35 FLOOR DRAIN WITH TOP OF DRAIN 0'-7\"/>

### PIPING LEGEND (This Sheet)

EXISTING FLOOR DRAIN	FD
FLOOR SINK	FS
EXISTING GREASE WASTE (GW)	---4\"/>
NEW GREASE WASTE (GW)	---GW---
EXISTING SANITARY SEWER (SS)	---4\"/>
EXISTING WATER UNDER GROUND (CW)	---CW---
NEW WATER UNDER GROUND (CW, HW, TW OR FW/FW2)	---CW---
POINT OF CONNECTION	⊕
FLOOR DRAIN	⊙
FLOOR SINK	⊙
FLOOR/EXTERIOR CLEANOUT	⊙

### BELOW SLAB PLUMBING PLAN

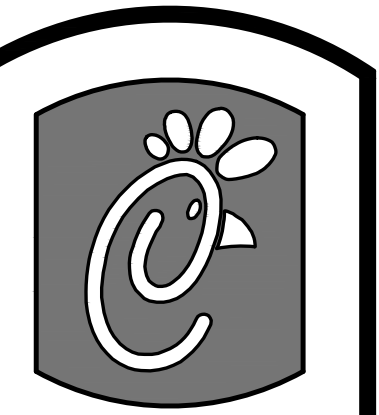
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### KEY NOTES

- CONNECT NEW WASTE LINE TO EXISTING AS SHOWN. VERIFY FALL, FLOW DIRECTION AND CONNECTING INVERTS. PROVIDE VENT CONNECTION TO EXISTING SYSTEM WHERE APPLICABLE.
- MAKE CONNECTION TO EXISTING WASTE/VENT LINE LOCATED WITHIN WALL WHERE SHOWN.
- INSTALL FLOOR DRAIN P-35 AT MOP SINK DEPRESSION WITH TOP OF STRAINER 0'-7\"/>
- PROVIDE AND INSTALL NEW PLUMBING FIXTURE. MAKE CONNECTION TO EXISTING WASTE LINE LOCATED BELOW SLAB/WITHIN WALL.
- PROVIDE AND INSTALL NEW WASTE PIPING BELOW KITCHEN SINK. PROVIDE 2\"/>
- ROUTE NEW VENT LINE UP IN WALL TO ABOVE CEILING AND MAKE CONNECTION TO EXISTING VENT HEADER.

### SHEET NOTES

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



**Chick-fil-A**

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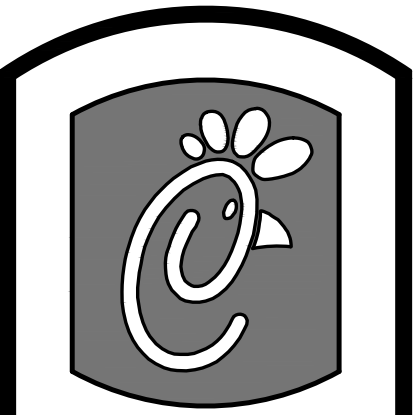
SHEET TITLE  
BELOW SLAB  
PLUMBING PLAN

PROTOTYPE S97-100

Job No. : 170021.HF.R  
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SHEET TITLE  
ABOVE SLAB  
PLUMBING PLAN

PROTOTYPE S97-100

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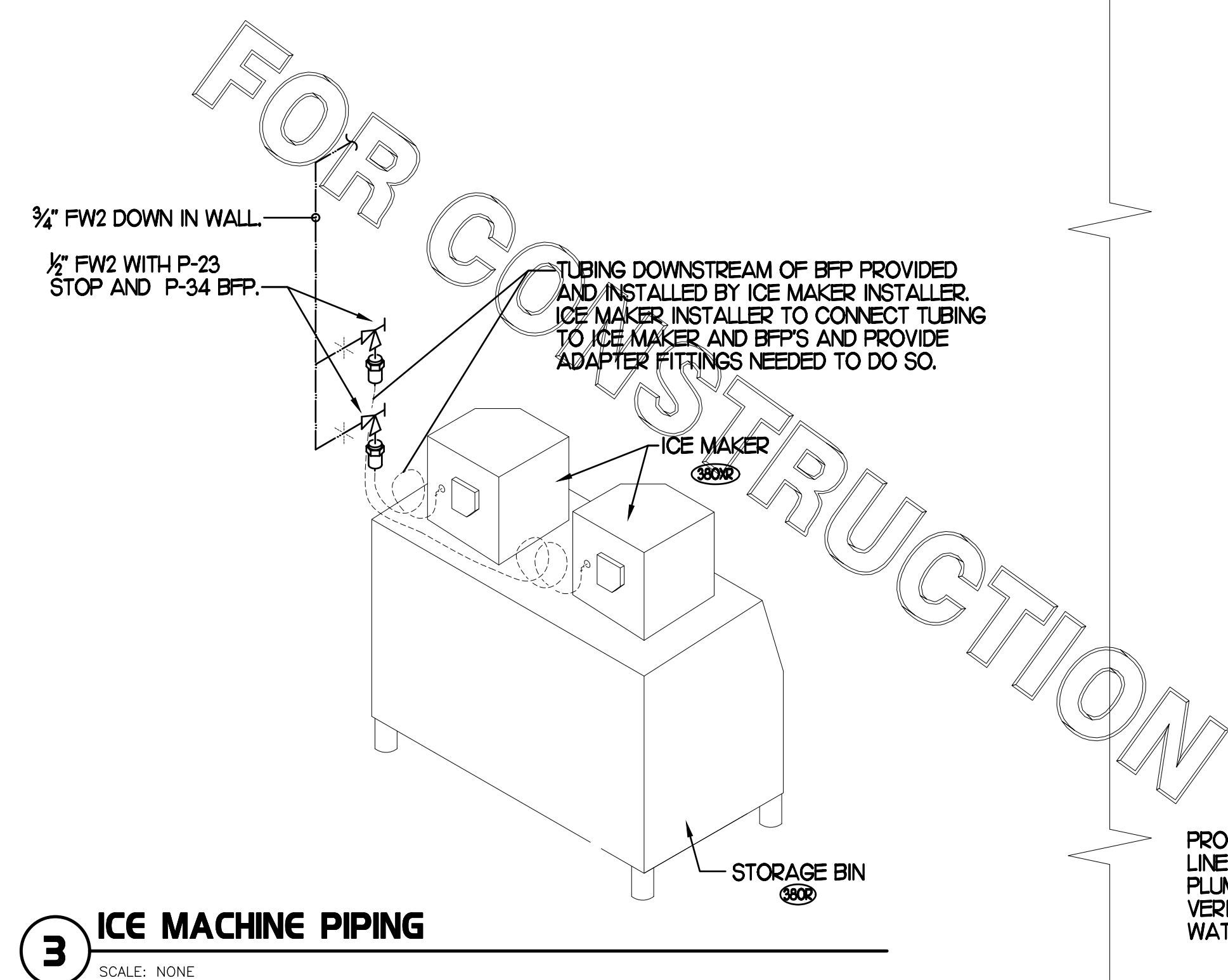
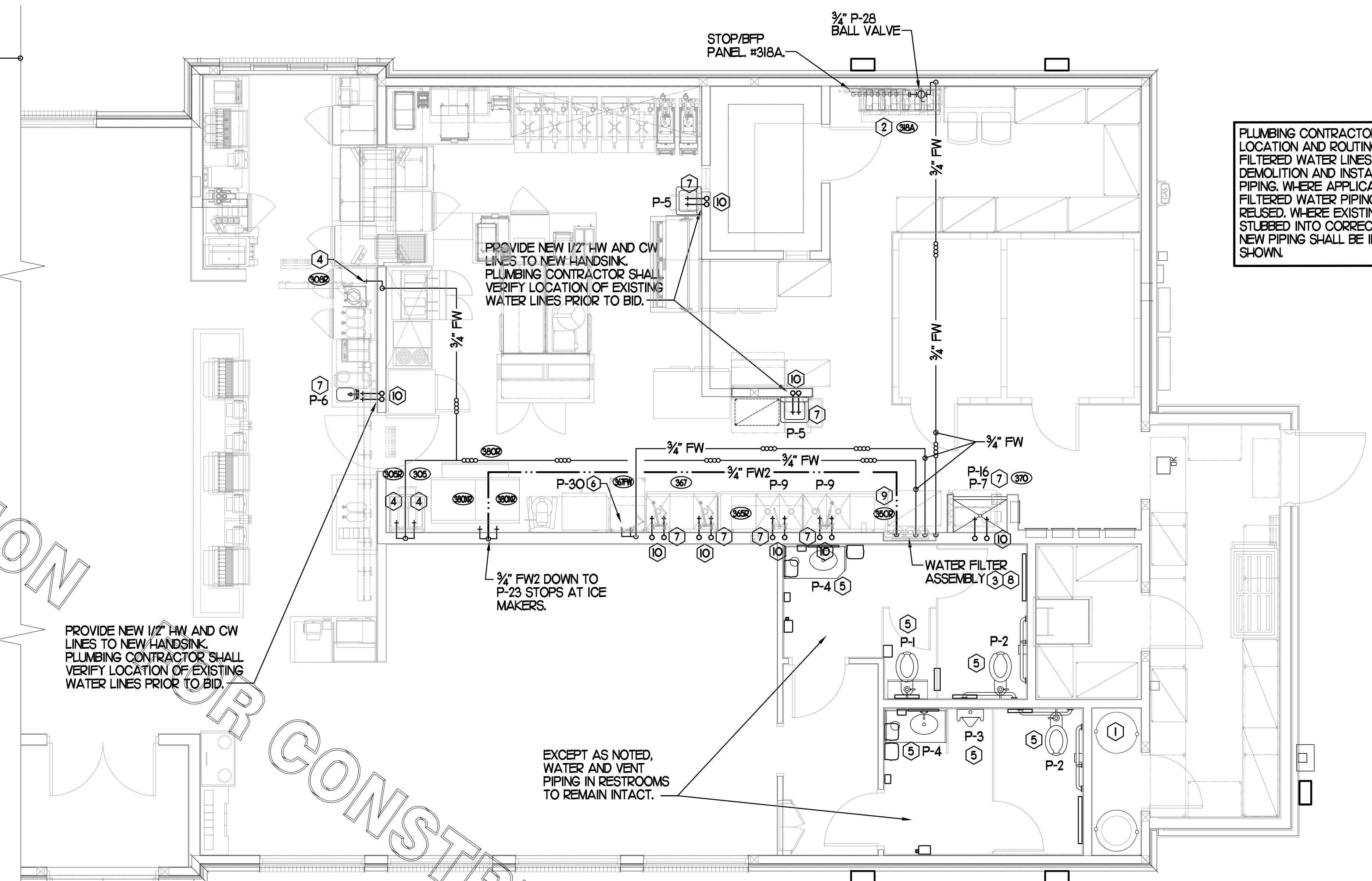
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**P2.I**

NO INTERIOR OR BELOW SLAB  
PLUMBING FORWARD OF THIS  
BREAK LINE SEE A-11 FOR  
FLOOR PLAN IN THIS AREA.

PLUMBING CONTRACTOR SHALL VERIFY  
LOCATION AND ROUTING OF EXISTING  
FILTERED WATER LINES PRIOR TO  
DEMOLITION AND INSTALLATION OF NEW  
PIPING. WHERE APPLICABLE, EXISTING  
FILTERED WATER PIPING SHALL BE  
REUSED. WHERE EXISTING PIPING IS NOT  
STUBBED INTO CORRECT LOCATION,  
NEW PIPING SHALL BE INSTALLED AS  
SHOWN.



**3 ICE MACHINE PIPING**  
SCALE: NONE

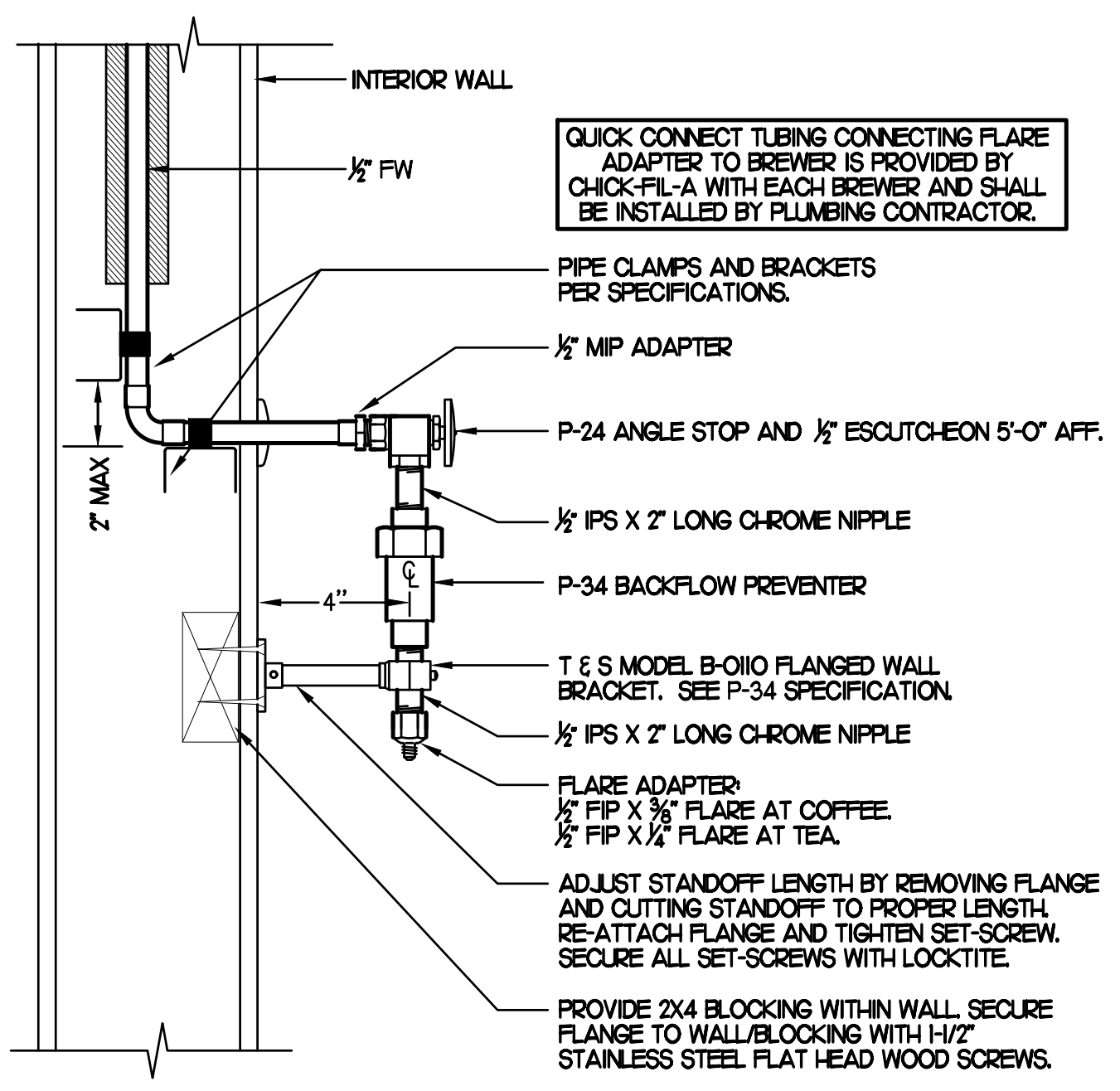
FIXTURE CONNECTION SCHEDULE							
MARK	FIXTURE	FW	FW2	CW	TW	HW	WASTE
P-1	WATER CLOSET - FLOOR MOUNT (1.6 GPF)	X	X	1"	X	X	4"
P-2	WATER CLOSET - ADA FLOOR MOUNT (1.6 GPF)	X	X	1"	X	X	4"
P-3	URINAL - ADA WALL HUNG (1.0 GPF)	X	X	3/4"	X	X	2"
P-4	LAVATORY - ADA COUNTER TOP (0.50 GPM)	X	X	1/2"	X	1/2"	H-1/2"
P-5	KITCHEN HAND SINK - WALL HUNG (0.50 GPM)	X	X	1/2"	X	1/2"	H-1/2"
P-6	SINGLE COMP SINK - COUNTERTOP	X	X	1/2"	X	X	H-1/2"
P-7	MOP SINK	X	X	1/2"	X	1/2"	3"
P-8	VEGETABLE PREP SINK (0.65 GPM SPRAYER)	X	X	1/2"	X	1/2"	(2) H-1/2"
P-9	POT SINK (0.65 GPM SPRAYER)	X	X	(2) 1/2"	X	(2) 1/2"	(4) H-1/2"
P-10	FLOOR DRAIN (ROUND TOP)	X	X	X	X	X	3"
P-12	FUNNEL DRAIN (3")	X	X	X	X	X	3"
P-13A	FLOOR SINK (3") 1/2" TOP	X	X	X	X	X	3"
P-16	3-WAY VALVE/ VACUUM BREAKER	X	X	3/4"	X	3/4"	X
P-23	UTILITY CONNECTION (ICE MAKER)	X	1/2"	X	X	X	X
P-24	UTILITY CONNECTION (COFFEE & TEA)	1/2"	X	X	X	X	X
P-28	BALL VALVE-CARBONATOR STOP/BFP PANEL	3/4"	X	X	X	X	X
P-29	ICE MACHINE FLOOR SINK	X	X	X	X	X	3"
P-30	FILTERED WATER FAUCET	(2) 1/2"	X	X	X	X	X
P-34	DISPENSER BACKFLOW PREVENTER	1/2"	X	X	X	X	X
P-36	BEVERAGE TOWER INDIRECT RECEIVER	X	X	X	X	X	3"
P-37	FLOOR DRAIN (SQUARE TOP)	X	X	1/2"	X	X	3"

NOTES: ① NOT ALL FIXTURES LISTED HEREIN MAY BE USED ON THIS PROJECT, REVIEW PLANS AND DETAILS FOR ACTUAL REQUIREMENTS.  
② REFER TO FOOD SERVICE DRAWINGS FOR KITCHEN EQUIPMENT INSTALLATION AND HOOK-UP RESPONSIBILITIES.  
③ PROVIDE CONNECTIONS TO FIXTURES AS LISTED IN THIS SCHEDULE UNLESS SHOWN OTHERWISE ON PLANS, SCHEMES OR DETAILS.

KITCHEN EQUIPMENT SCHEDULE							
TAG	DESCRIPTION	FW	FW2	CW	HW	WASTE	ROUGH-IN
305	TEA BREWER	1/2"	X	X	X	X	P-24, SEE 6/P21
308	TEA BREWER	1/2"	X	X	X	X	P-24, SEE 6/P21
309	COFFEE MAKER	1/2"	X	X	X	X	SEE KITCHEN DWGS
318A	CARBONATOR BFP PANEL	3/4"	X	X	X	X	SEE KITCHEN DWGS
350	WATER FILTER PANEL	(3) 3/4"	3/4"	3/4"	X	X	SEE DET 9/P22
365	POT SINK	X	X	(2) 1/2"	(2) 1/2"	INDIRECT	TWO #365F FAUCETS, P-9
367	VEGETABLE PREP SINK	X	X	(2) 1/2"	(2) 1/2"	INDIRECT	TWO #367F FAUCETS, P-8
380	ICE BIN	X	X	X	X	INDIRECT	
380B	ICE MAKER	X	(2) 1/2"	X	X	INDIRECT	

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

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



**6 COFFEE & TEA BREWER STOP & BFP**  
SCALE: NONE

③ KITCHEN EQUIPMENT NO. SEE KITCHEN EQUIPMENT SCHEDULE & PLUMBING FIXTURE SCHEDULE FOR EQUIPMENT DESCRIPTION & FURTHER INFO.

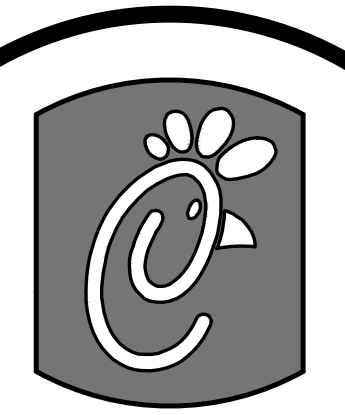
PIPING LEGEND	
EXISTING COLD WATER (ECW)	--- ECW ---
EXISTING HOT WATER (EHW)	--- EHW ---
POINT OF CONNECTION	⊕
NEW COLD WATER	--- CW ---
NEW FILTERED WATER	--- FW ---
NEW FILTERED WATER2	--- FW2 ---

**KEY NOTES**

- EXISTING WATER HEATER.
- OWNER PROVIDED, PLUMBER INSTALLED STOP/BFP PANEL. SEE K-SHEET ELEVATIONS FOR EXACT LOCATION. PROVIDE EXPOSED 3/4" BALL VALVE AT CONNECTION TO PANEL.
- FW & FW2 LINES FROM WATER FILTRATION SYSTEM, REFER TO DETAIL ON P21:  
• 3/4" FW TO CARBONATOR  
• 3/4" FW TO JUICE STATION  
• 3/4" FW2 TO COFFEE & TEA MAKERS  
• 3/4" FW2 TO ICE MACHINES
- 1/2" FW2 TO P-24 & P-34 AT TWO (2) TEA BREWERS AND ONE COFFEE MAKER. SEE DETAIL THIS SHEET.
- INSTALL NEW RESTROOM FIXTURE AND MAKE CONNECTION TO EXISTING WATER LINE AND VENT. COORDINATE WATER LINE LOCATION WITH FIXTURE CONNECTION.
- 3/4" FW DROP TO TWO-HANDLE FAUCET P-30. MOUNT FAUCET ON WALL. SEE K-SHEETS FOR EXACT LOCATION. PIPE 1/2" FW TO EACH FAUCET INLET WITH 6" SPREAD. PROVIDE BALL VALVE ABOVE CEILING.
- PROVIDE 1/2" DIAM. CW & HW CONNECTIONS TO FIXTURE FROM EXISTING LINES IN WALL.
- EXISTING WATER FILTER. SEE DETAIL 9/P22.
- PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONNECTION OF WATER FILTER TO EXISTING WATER SUPPLY LINE LOCATED IN THIS AREA, PROVIDE 1" CW CONNECTION. IF EXISTING WATER LINE IS FOUND TO BE SMALLER THAN REQUIRED SIZE, CONTRACTOR SHALL LOCATE AND MAKE CONNECTION TO EXISTING MAIN WATER SERVICE IN MECHANICAL ROOM.
- PLUMBING CONTRACTOR SHALL CONNECT TO EXISTING HW/CW MAIN LINES LOCATED WITHIN WET WALL.

**SHEET NOTES**

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



Chick-fil-e

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By

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Mark Date By

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Kurzynske & Associates License  
No. F-0823, Expires 12/31/17



Kurzynske & Associates  
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STORE  
WAVERLY PLACE,  
FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colanades Way  
Cary, NC 27518

SHEET TITLE  
PLUMBING  
DETAILS

PROTOTYPE S97-100

Job No. : 170021.HF.R

Store : 01218

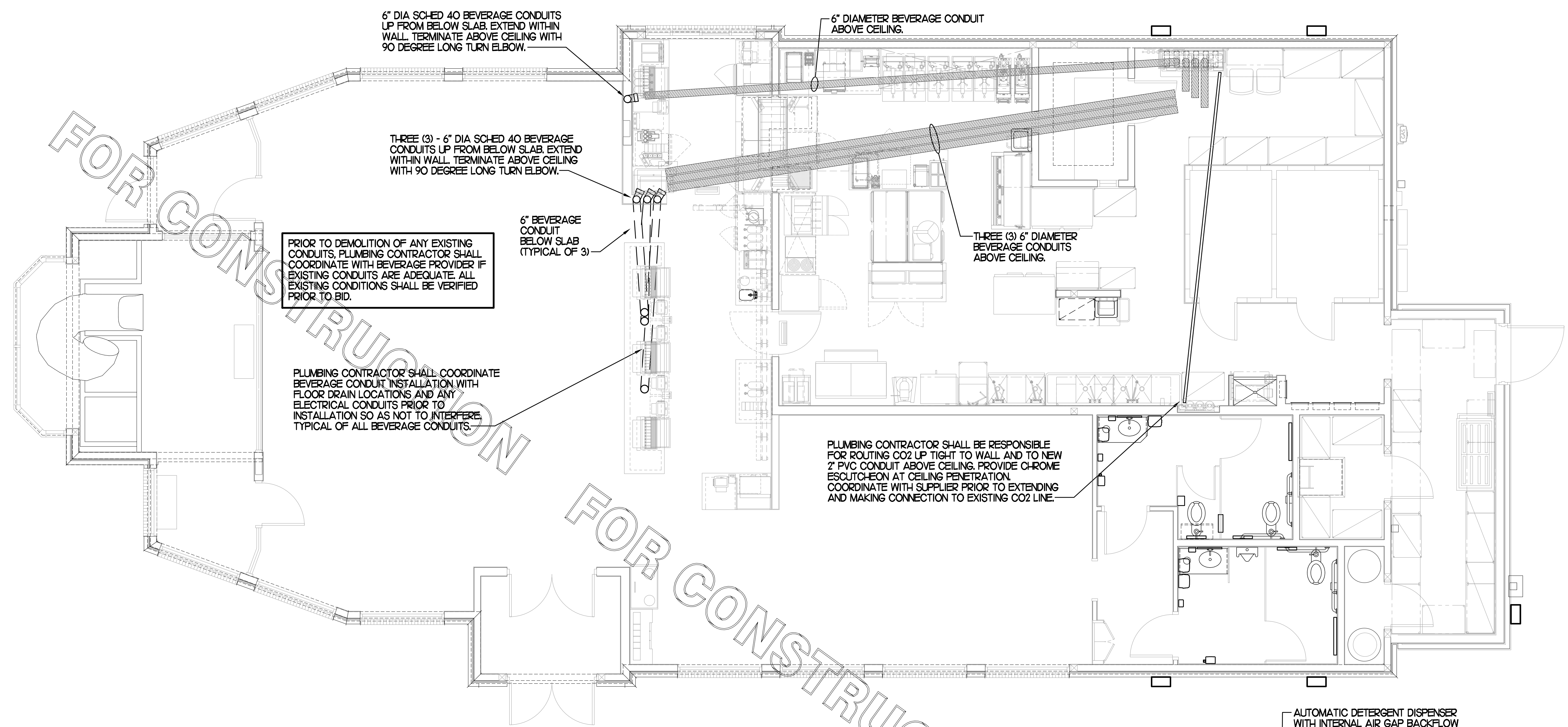
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Checked By: MK

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P2.2



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

6" DIAMETER BEVERAGE CONDUIT  
ABOVE CEILING.

THREE (3) - 6" DIA SCHED 40 BEVERAGE  
CONDUITS UP FROM BELOW SLAB. EXTEND  
WITHIN WALL. TERMINATE ABOVE CEILING  
WITH 90 DEGREE LONG TURN ELBOW.

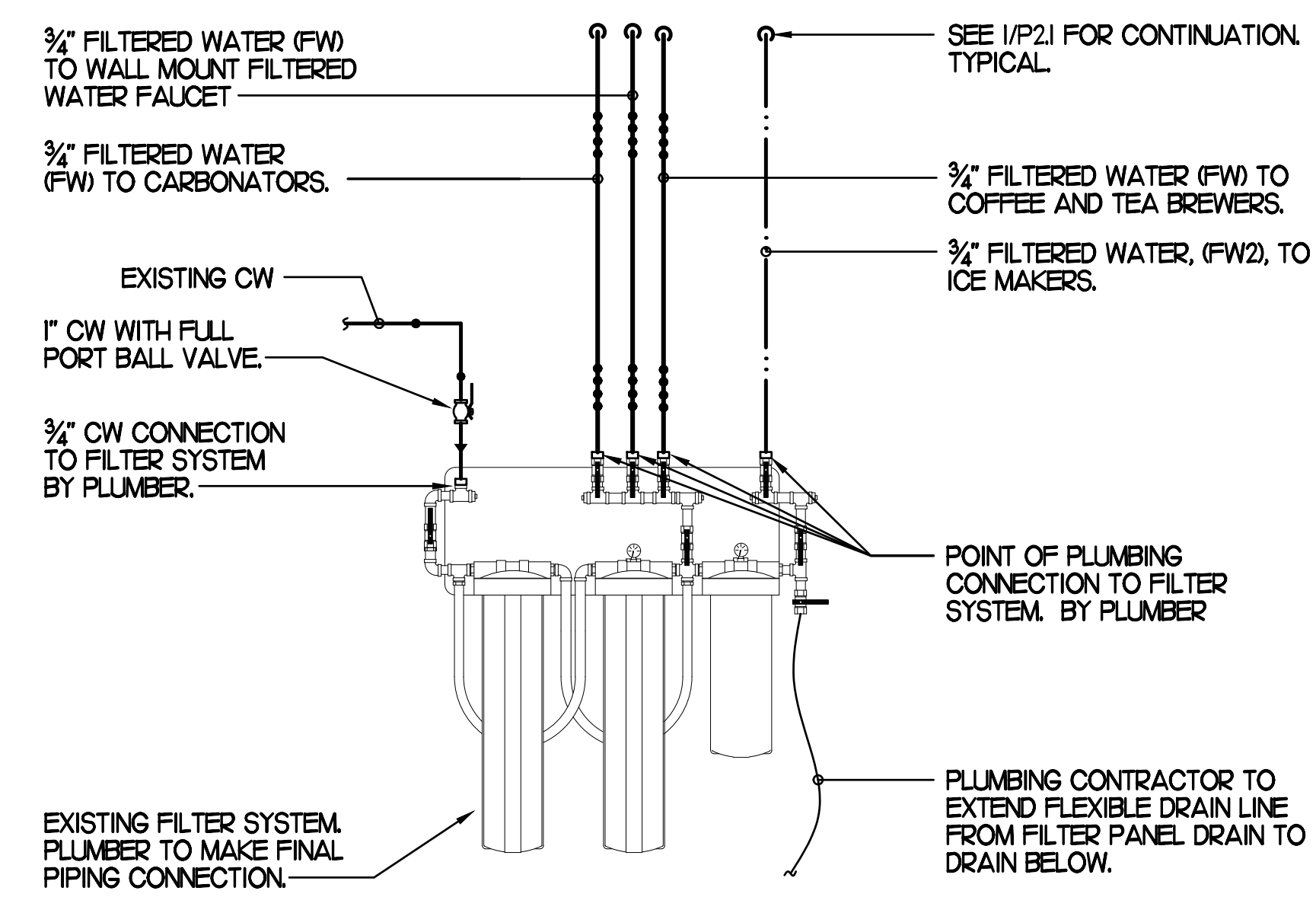
6" BEVERAGE  
CONDUIT  
BELOW SLAB  
(TYPICAL OF 3)

THREE (3) 6" DIAMETER  
BEVERAGE CONDUITS  
ABOVE CEILING.

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.

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

PLUMBING CONTRACTOR SHALL BE RESPONSIBLE  
FOR ROUTING CO2 UP TIGHT TO WALL AND TO NEW  
2" PVC CONDUIT ABOVE CEILING. PROVIDE CHROME  
ESCUTCHEON AT CEILING PENETRATION.  
COORDINATE WITH SUPPLIER PRIOR TO EXTENDING  
AND MAKING CONNECTION TO EXISTING CO2 LINE.



3/4" FILTERED WATER (FW)  
TO WALL MOUNT FILTERED  
WATER FAUCET

3/4" FILTERED WATER  
(FW) TO CARBONATORS.

EXISTING CW  
1" CW WITH FULL  
PORT BALL VALVE.

3/4" CW CONNECTION  
TO FILTER SYSTEM  
BY PLUMBER.

EXISTING FILTER SYSTEM.  
PLUMBER TO MAKE FINAL  
PIPING CONNECTION.

SEE 1/P21 FOR CONTINUATION.  
TYPICAL.

3/4" FILTERED WATER (FW) TO  
COFFEE AND TEA BREWERS.

3/4" FILTERED WATER (FW2), TO  
ICE MAKERS.

POINT OF PLUMBING  
CONNECTION TO FILTER  
SYSTEM. BY PLUMBER

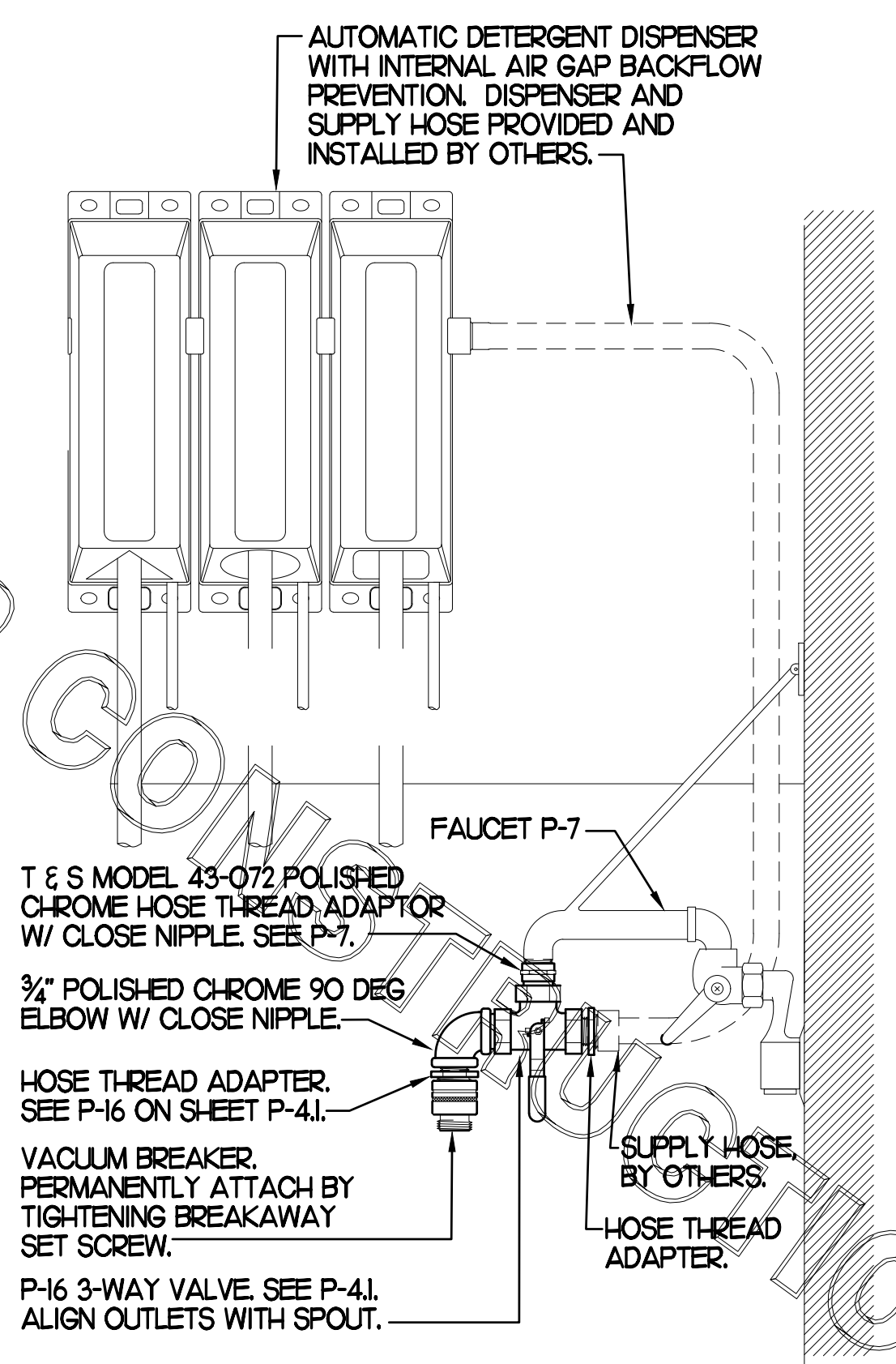
PLUMBING CONTRACTOR TO  
EXTEND FLEXIBLE DRAIN LINE  
FROM FILTER PANEL. DRAIN TO  
DRAIN BELOW.

### 1 BEVERAGE CONDUIT PIPING PLAN

1/4"=1'-0"

### BEVERAGE CONDUIT NOTES

- ROUTE BEVERAGE SYSTEM PIPING OVERHEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN 6" SCH 40 PVC CONDUITS. ALL CONDUITS SHALL BE HELD TIGHT TO STRUCTURE AND SUPPORTED WITH THREADED ROD AND CLEVIS HANGERS AT INTERVALS SHOWN IN SPECIFICATIONS FOR HORIZONTAL OVERHEAD PIPING. COORDINATE ROUTING WITH THE GENERAL CONTRACTOR TO AVOID MECHANICAL AND ELECTRICAL SYSTEMS.
- COORDINATE ROUTING OF ALL CONDUITS WITH HVAC DUCT IN KITCHEN.
- 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.
- ROUTE 2" DIA BULK CO<sub>2</sub> 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.



AUTOMATIC DETERGENT DISPENSER  
WITH INTERNAL AIR GAP BACKFLOW  
PREVENTION. DISPENSER AND  
SUPPLY HOSE PROVIDED AND  
INSTALLED BY OTHERS.

FAUCET P-7

T & S MODEL 43-072 POLISHED  
CHROME HOSE THREAD ADAPTOR  
W/ CLOSE NIPPLE. SEE P-7.

3/4" POLISHED CHROME 90 DEG  
ELBOW W/ CLOSE NIPPLE.

HOSE THREAD ADAPTER.  
SEE P-16 ON SHEET P-41.

VACUUM BREAKER.  
PERMANENTLY ATTACH BY  
TIGHTENING BREAKAWAY  
SET SCREW.

P-16 3-WAY VALVE. SEE P-41.  
ALIGN OUTLETS WITH SPOUT.

SUPPLY HOSE  
BY OTHERS.

HOSE THREAD  
ADAPTER.

### 2 3-WAY VALVE AT MOP SINK

NO SCALE

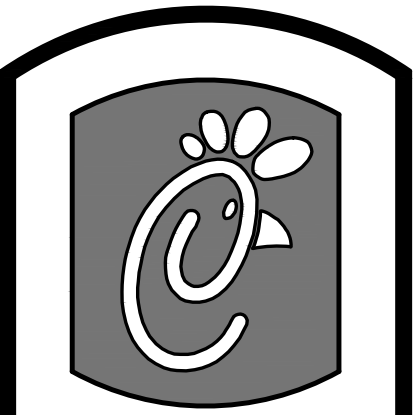
### 9 WATER FILTER RISER PIPING

SCALE: NONE

FOR CONSTRUCTION

FOR CONSTRUCTION

FOR CONSTRUCTION



Chick-fil-e

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

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STORE  
WAVERLY PLACE,  
FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colanades Way  
Cary, NC 27518

SHEET TITLE  
ROOF PIPING  
AND DETAILS

PROTOTYPE S97-100

Job No. : 170021.HF.R

Store : 01218

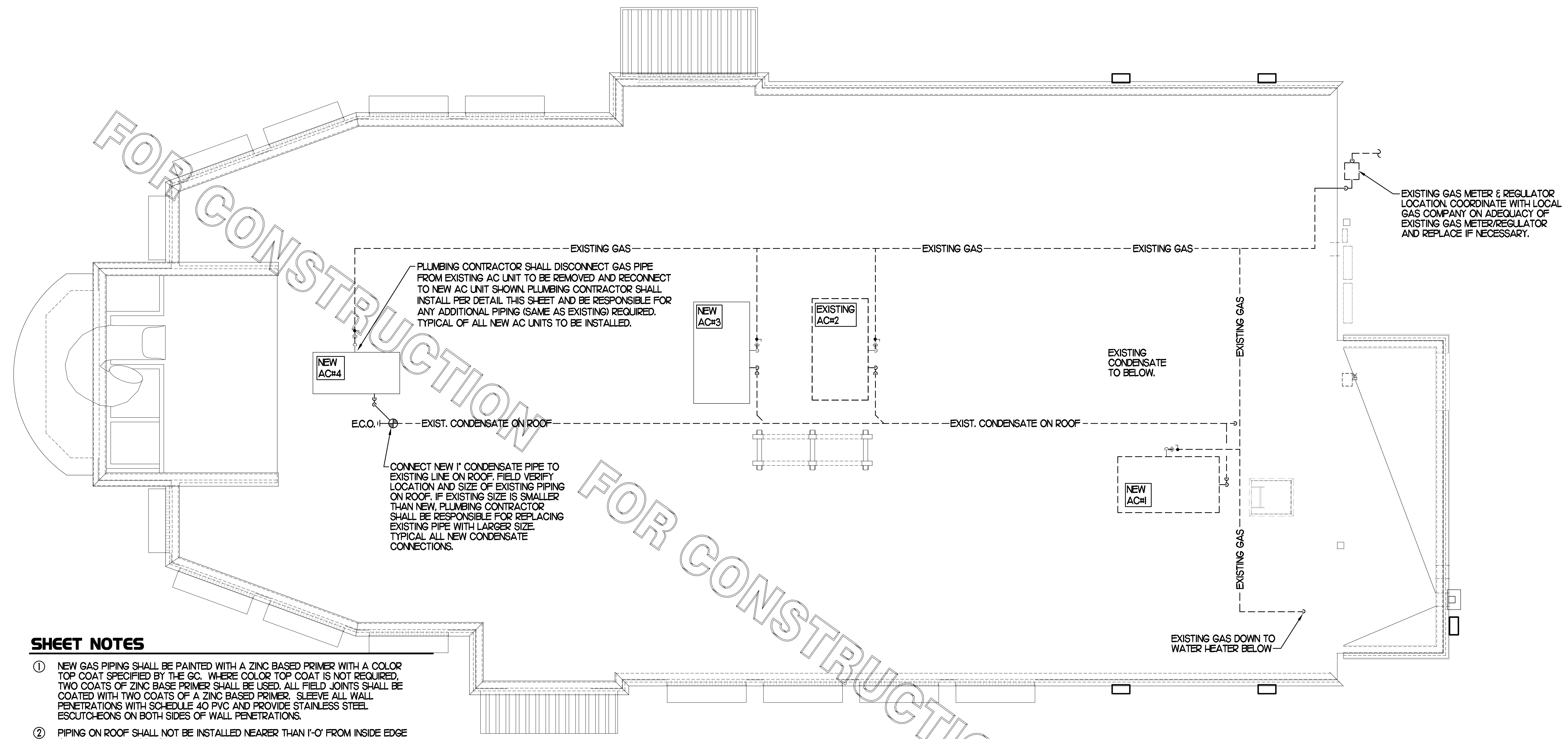
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Checked By: MK

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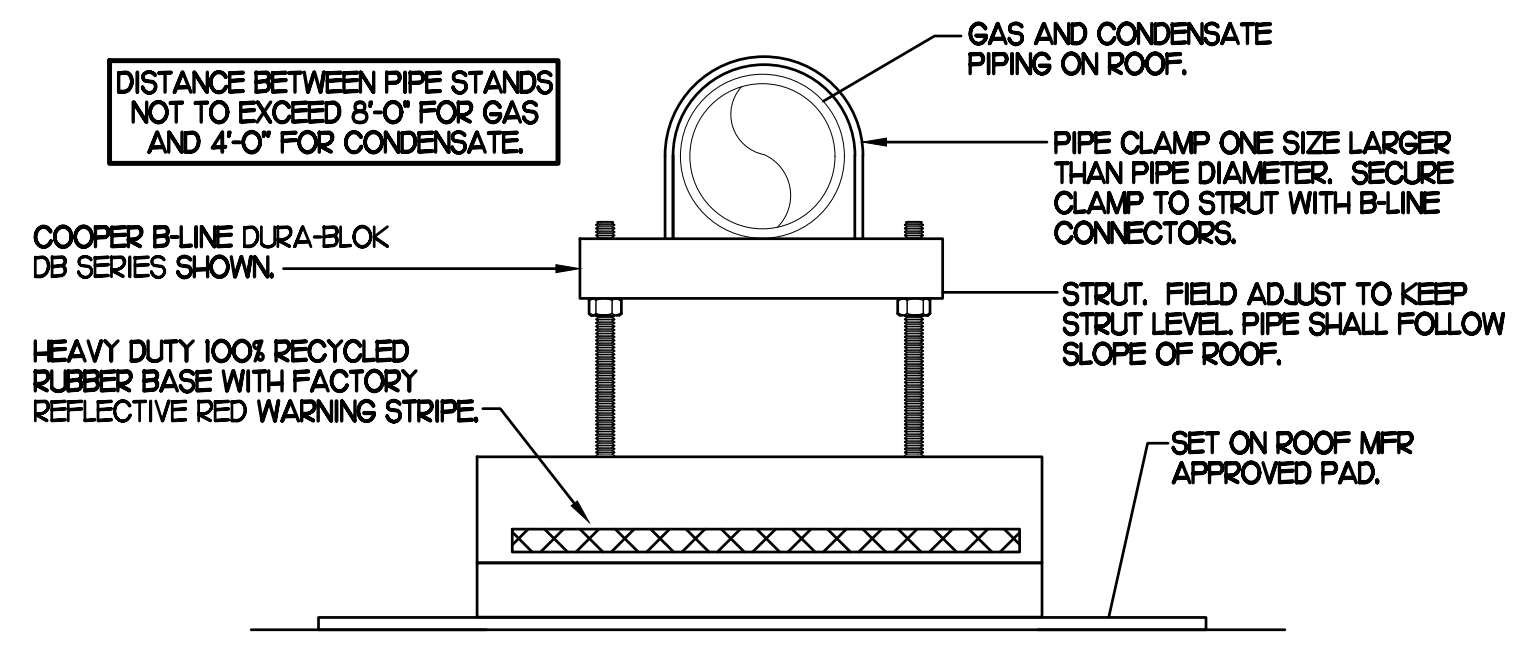
P3.I



**SHEET NOTES**

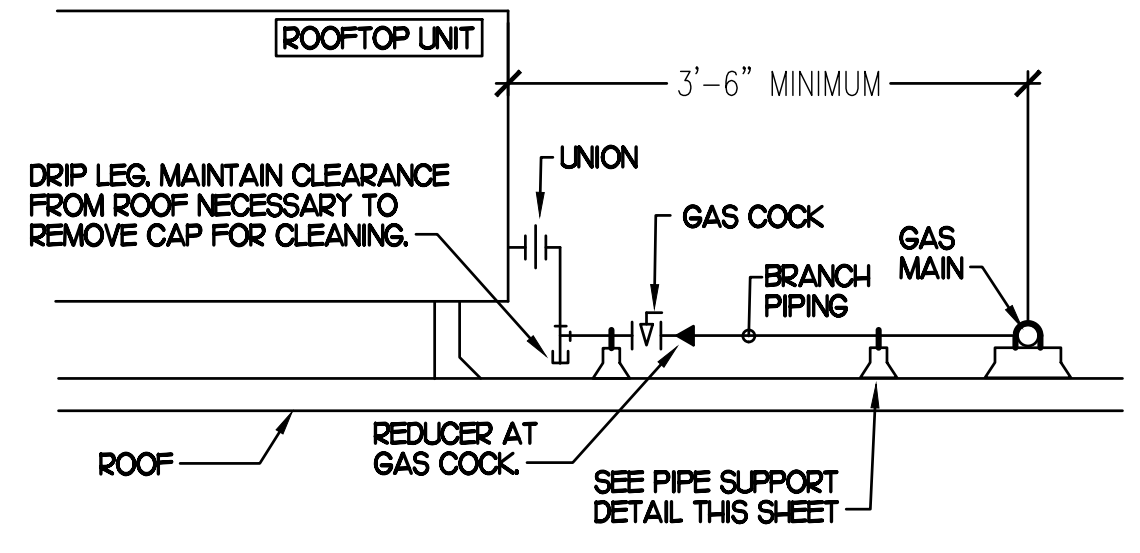
- ① NEW GAS PIPING SHALL BE PAINTED WITH A ZINC BASED PRIMER WITH A COLOR TOP COAT SPECIFIED BY THE GC. WHERE COLOR TOP COAT IS NOT REQUIRED, TWO COATS OF ZINC BASE PRIMER SHALL BE USED. ALL FIELD JOINTS SHALL BE COATED WITH TWO COATS OF A ZINC BASED PRIMER. SLEEVE ALL WALL PENETRATIONS WITH SCHEDULE 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.

- NOTES**
- 1. NON ADJUSTABLE MODEL DB610 PIPE STAND TO BE USED FOR NON-ELEVATED PIPING INSTALLED FLAT ON ROOF DECK.
  - 2. PROVIDE MODEL DBE 10-8 OR DBE 10-12 OR DBE 10-16 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.



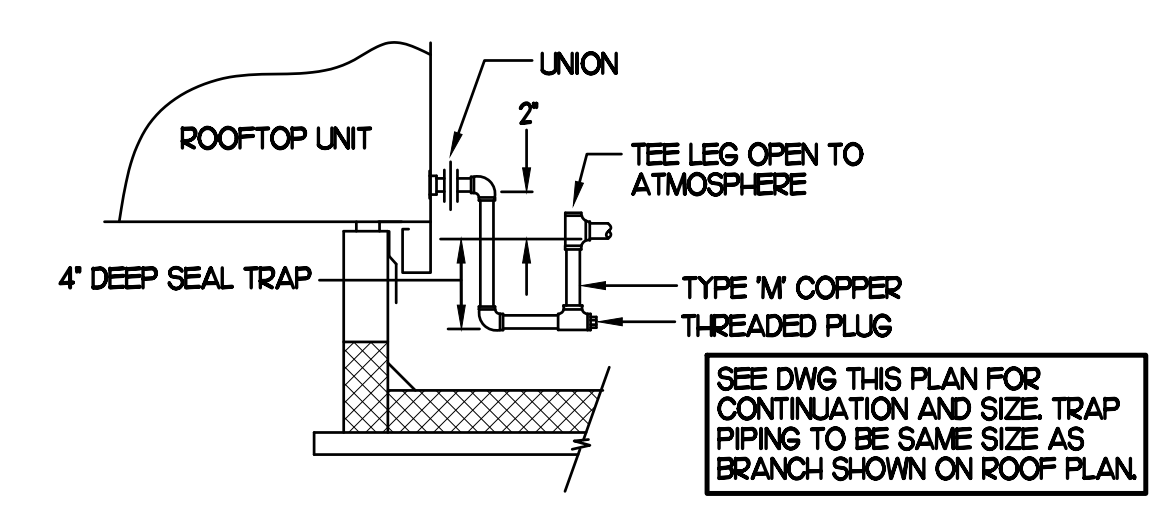
**4 PIPING SUPPORT**  
NO SCALE

- NOTES**
- 1. INSTALL GAS PIPING SUCH THAT HVAC EQUIPMENT ACCESS PANELS AND/OR DOORS ARE IN NO WAY OBSTRUCTED BY PIPING, VALVES, OR SUPPORTS.
  - 2. TO AVOID CONFLICT WITH AC UNIT ACCESS DOORS, INSTALL GAS PIPING NO CLOSER THAN 3'-6" FROM AC UNIT. (EXCEPT FOR BRANCH LINE CONNECTED TO AC UNIT.)
  - 3. ROUTE BRANCH TAKE-OFF DIRECTLY FROM MAIN TO ROOFTOP UNIT AS SHOWN ON PLAN AND DETAILS WITHOUT LATERAL OFFSETS WHICH MAY OBSTRUCT UNIT ACCESS DOORS.



**3 GAS PIPING AT RTU**  
NO SCALE

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



**2 CONDENSATE DRAIN PIPING**  
NO SCALE

GAS CONNECTION SCHEDULE	
EQUIPMENT	GAS LOAD
AC#1 (NEW)	240,000 BTUS
AC#2 (EXISTING)	235,000 BTUS
AC#3 (NEW)	240,000 BTUS
AC#4 (NEW)	108,000 BTUS
WATER HEATER (EXISTING)	140,000 BTUS
<b>TOTAL CONNECTED LOAD</b>	<b>963,000 BTUS</b>
REMARKS:	1) EQUIVALENT TO 963.0 CFH 2) 7" W.C. DELIVERY PRESSURE 3) DEVELOPED LENGTH 125 FT. (METER TO AC#5) 4) VERIFY GAS LOAD OF EXISTING EQUIPMENT.

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 WITH 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 GRADE. 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 SWEET 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-106. CEMENTS SHALL MEET ASTM D-2564 AND PRIMER MEETING ASTM F-656. CURE TIME MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS. EXTERIOR PIPING JOINTS SHALL BE NEOPRENE PUSH-ON TYPE.

K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 1/2" THICK INSULATION FOR ALL ABOVE SLAB COLD WATER, FILTERED WATER, CONDENSATE PIPING, AND HORIZONTAL RAIN WATER CONDUCTORS INSIDE THE BUILDING. PIPING INSULATION SHALL BE KNAUF 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 ARMALFLEX WITH MINIMUM 1/2" WALL THICKNESS.

L. PIPE INSULATION AND COVERINGS SHALL HAVE A RATING OF NOT GREATER THAN 25 FLAME SPREAD, NO HIGHER THAN 50 SMOKE DEVELOPED, AND NO MORE THAN 50 FUEL CONTRIBUTED. THE ONLY EXCEPTION SHALL BE ARMALFLEX 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, 800-975-7788.

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

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

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

PART II - EXECUTION (C15100)

2.01 TRENCHING (C15100)

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

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

C. IN MOSTLY ROCK MATERIAL, TRENCHES SHALL BE EXCAVATED TO 6" BELOW THE ELEVATION OF THE BOTTOM OF THE PIPES. AFTER EXCAVATION, TRENCH SHALL THEN BE FILLED TO THE PROPER ELEVATION WITH CRUSHED LIMESTONE. GRAVEL 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 1/8" PER FT (2%) UNLESS NOTED OTHERWISE ON PLANS.

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

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

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

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

J. PROVIDE AND INSTALL A CUT-OFF VALVE, UNION AND FULL SIZE 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 MANUFACTURER'S RECOMMENDATIONS.

B. THE POTABLE WATER SYSTEM SHALL BE FLUSHED OUT PROGRESSIVELY BY OPENING OUTLETS AND FILTERED 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 MANUFACTURER'S RECOMMENDATIONS.

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

PART III - MANUFACTURERS

3.01 PRODUCTS - PIPING SYSTEMS, ETC (C15100)

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

B. ALTERNATE FIXTURES: ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH (JRS), WATTS (WTS), AND ZURN (ZRN) 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.

NATIONAL ACCOUNTS	
I.	TOTO VALVES AND FIXTURES (NO SUBSTITUTIONS). PLEASE CONTACT TRINA LINDSEY WITH HJC DISTRIBUTORS AT (800) 459-7099 OR VIA E-MAIL 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 1/2" GPF TET-1-LNC # 32CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. 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 1/2" GPF TET-1-LNC # 32CP ECO-POWER FLUSH VALVE AND SC534 SEAT. NO SUBSTITUTIONS. HC, 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 UN 12#CP Q125 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 TEL 105-D10ET # 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 TRAILPIECE. 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 AND FAUCET WITH 0.50 GPM AERATOR FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL WALL HUNG, STAINLESS STEEL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LF175 SUPPLIES WITH STOPS AND A MCGUIRE 8912 POLISHED CHROME P-TRAP.

P-6 SERVING COUNTER DROP IN SINK ROUGH-IN (SINK AND FAUCET WITH 0.50 GPM AERATOR FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK AND FAUCET SET AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE 8912 POLISHED CHROME P-TRAP AND MCGUIRE LF175 STOPS WITH 20" CHROME PLATED 3/8" COPPER RISERS.

P-7 MOP SINK FAUCET: (MOP SINK BASIN BUILT BY GENERAL CONTRACTOR) PROVIDE T&S BRASS MODEL B-2345 FAUCET WITH CERAMA SPRING CH-ROCK VALVE CARTRIDGES, HOSE THREAD SPOUT OUTLET, TOP BRACE, ADJUSTABLE INLET SPREAD FROM 3" TOP 8". INCLUDE T&S BRASS MODEL 43-072 HOSE THREAD X 3/4" FEMALE NPT CH-ROME ADAPTOR. NO SUBSTITUTIONS. SEE ALSO P-16.

P-8 VEGETABLE PREP SINK ROUGH-IN (SINK AND FAUCET WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CH-ROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT TWO HANDLE FAUCET WITH PRE-RINSE SPRAY ARM. INSTALL ADD-ON FAUCET WITH 15" SPOUT AT BASE OF PRE-RINSE RISER. SEE K-SHEET ELEVATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE MANIFOLD FROM SINK BASIN TO FLOOR SINK P-13B, NO P-TRAP REQUIRED. INSTALL CLEANOUT AT TURN.

P-9 FOUR COMPARTMENT POT SINK ROUGH-IN (SINK AND FAUCETS WITH 0.65 GPM SPRAY HEAD FURNISHED BY OWNER) CONTRACTOR SHALL INSTALL SINK, ASSEMBLE & MOUNT TWO FAUCETS, AND MAKE FINAL CONNECTIONS. PROVIDE MCGUIRE LFST08 STOPS AND BRASSCRAFT 36" CH-ROME PLATED 1/2" OD COPPER RISERS MODEL 3-36AC, ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH PRE-RINSE SPRAY. INSTALL ADD-ON FAUCET WITH 18" SPOUT AT BASE OF PRE-RINSE RISER. ASSEMBLE AND MOUNT ONE TWO-HANDLE FAUCET WITH DOUBLE JOINT SPOUT ON OPPOSITE SIDE. SEE K-SHEET ELEVATIONS FOR FAUCET LOCATIONS. PROVIDE 1-1/2" SCHED 80 PVC (PIPE AND FITTINGS) INDIRECT WASTE MANIFOLD FROM EACH SINK BASIN TO FLOOR SINK P-13A, NO P-TRAPS REQUIRED. PROVIDE CLEANOUT AT EACH END.

P-10 FLOOR DRAIN (3") JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 210-P-NB, (WTS) FDI03-A8-60, (ZRN) FR08NIP35-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 1/P2-1 FOR WALL THICKNESS AT WALL HYDRANTS. ALT: (WTS) HY-42.

P-12 FUNNEL DRAIN (3") JR. SMITH 3510L03 FUNNEL-CEPTOR 3" INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 6" SQUARE F12 STRAINER WITH 4" ROUND FUNNEL AT ICE MACHINE & WALK-IN COOLER. ALT: (WTS) FDI03P-M6-F4-1, (ZRN) ZN415-3NL-65-4.

P-13A FLOOR SINK (POT SINK) ZURN MODEL Z1901-KC-1-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH 1/2" SQUARE BODY, FLASHING CLAMP, 8" DEEP, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.

P-13B FLOOR SINK (VEGETABLE SINK) ZURN MODEL Z1910-KC-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET, AND NO GRATE. NO SUBSTITUTIONS.

P-14 CLEANOUTS INSIDE BUILDING: JR. SMITH 4053L CLEANOUT WITH 6-1/2" SQUARE NICKEL BRONZE TOP AND TAPER THREAD BRONZE PLUG. SEE PLAN FOR SIZE. ALT (X-PIPE DIA): (WTS) CO-20XP-S, (ZRN) ZN4400-XNL-T-BP.

P-15 CLEANOUTS OUTSIDE BUILDING: JR. SMITH 426L SERIES EXTRA HEAVY DUTY CAST IRON CLEANOUT, 'CO', CAST IN COVER, ABS PLUG, SPEEDI SET OUTLET. ALT (X-PIPE DIA): (WTS) CO-X00-MF + CO-38X, (ZRN) Z1474-X-N.

P-16 3-WAY DIVERTER VALVE ASSEMBLY: WATTS MODEL LFB 6780 ROUGH BRASS LEAD-FREE DIVERTER BALL VALVE WITH 3/4" FIP INLET AND OUTLETS AND QUARTER TURN LEVER HANDLE. PROVIDE WITH TWO (2) FORGED BRASS 3/4" MIP X 3/4" MALE GARDEN HOSE THREAD ADAPTERS (PLUMBEST MODEL G20-003 OR EQUAL). PROVIDE WITH ONE ASSE 1011 APPROVED CHROME PLATED VACUUM BREAKER (WOODFORD MODEL 34H-CH OR EQUAL). FOR INSTALLATION AT MOP SINK. SEE 2/P2-1. PROVIDE ALSO TWO 3/4" CLOSE CHROME PLATED BRASS NIPPLE AND 3/4" POLISHED CHROME 90 DEGREE ELBOW.

P-17 VACUUM RELIEF VALVE: WATTS MODEL #LFN36MI, 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: STATE INDUSTRIES MODEL GS5-75-YRV-TL, 75 GALLON GAS FIRED WATER HEATER, 76,000 BTUH INPUT, 79 GPH MINIMUM RECOVERY AT 100 DEGREE RISE, 3" PVC OR ABS VENT OUTLET, WITH ONE YEAR MANUFACTURER WARRANTY. CONTRACTOR TO PROVIDE HEAT TRAPS AT INLET AND OUTLET. ACCEPTABLE SUBSTITUTES: A.O SMITH GPVX75L, BRADFORD WHITE RG2-PV7546N, REEM GPV75-75FV-2.

P-20 THERMOMETER: PROVIDE TRERICE MODEL B834-.04-.04 3" DIAL TYPE THERMOMETER WITH BOTTOM 1/2" NPT. CONNECTION. 4" STEM AND 0 DEG F TO 200 DEG F RANGE. LEAD FREE.

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

DOUBLE CHECK TYPE: WATTS NO. LF1007MIQT 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) I12-350XL.

REDUCED PRESSURE ZONE (RPZ) TYPE: WATTS NO. LF1009M2 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) I12-975XL2L.

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

P-23 UTILITY CONNECTION (ICE MAKER): PROVIDE A MCGUIRE MODEL LF-STO6SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCH-EON. 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 LF-STO6SB LEAD-FREE CHROME WHEEL ANGLE STOP, 1/2" FIP INLET AND OUTLET. PROVIDE CHROME WALL ESCUTCH-EON. INSTALL WITH BFP P-34.

P-25 SHOCK ABSORBER: JR. SMITH FIGURE 5005 THROUGH 5050, SIZE AS RECOMMENDED BY MANUFACTURER. ALT: (WTS) SSA + SSB, (ZRN) Z1700-100 + Z1700-300.

P-26 FUNNEL DRAIN (3") JR. SMITH 3510L03 FUNNEL-CEPTOR 3" INDIRECT WASTE RECEIVER WITH NICKEL BRONZE STRAINER AND FUNNEL. PROVIDE 8" ROUND F22 STRAINER WITH 3.25" X 8.25" OBLONG FUNNEL. ALT: (WTS) FD-103P-A8-G-1, (ZRN) ZN415-3NL-85-0F.

P-26A TRAP SEAL PROTECTOR: PROVENT TRAP GUARD MODEL TG34 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" NPT. CONNECTION AND 0 TO 100 PSI RANGE.

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

P-29 ICE MACHINE FLOOR SINK: ZURN Z1910-KC-3NL-1-23 CAST IRON INDIRECT WASTE RECEIVER WITH FLASHING CLAMP, 8" SQ. BODY, ALUMINUM SEDIMENT BUCKET AND NO GRATE. NO SUBSTITUTIONS.

P-30 FILTERED WATER FAUCET: (FAUCET PROVIDED BY OWNER) 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, LOOKABLE LEVER HANDLE, BRASS CASING, BRASS OPERATING ROD, ASSE 1052 APPROVED AND 24" DEPTH OF BURY.

P-32 DUMPSTER PAD DRAIN: JR. SMITH FIGURE NO. 2280C03 3" FLOOR DRAIN WITH 7-1/2" HINGED CAST IRON SLOTTED GRATE AND SEDIMENT BUCKET. PROVIDED AND INSTALLED BY SITE CONTRACTOR. ALT: (ZRN) Z560-3NL-1.

P-33 TRAP PRIMER (MECHANICAL TYPE) PRECISION PRODUCTS PR-500. PROVIDE DISTRIBUTION UNIT WHERE SERVING MULTIPLE DRAINS. PROVIDE SCREWDRIVER STOP AT PRIMER INLET. ALT: (WTS) TP-300A-DR.

P-34 DISPENSER BACKFLOW PREVENTER: WATTS MODEL #WLF7R122D ASSE 1024 RATED WITH 1/2" FIP INLET AND OUTLET, DUAL CHECK TYPE. PROVIDE 1/2" DIA X 2" LONG CHROME NIPPLE AT BFP INLET AND OUTLET. PROVIDE T&S BRASS MODEL B-010 CH-ROME WALL BRACKET.

P-35 FLOOR DRAIN (3") JONES STEPHENS CORP D50-064 PVC BODY, BRONZE SPUD WITH 6" DIAMETER NICKEL BRONZE STRAINER. SEE DWG P-14 FOR DRAINS IN RESTROOMS REQUIRING 1/2" TRAP PRIMER CONNECTION. ALT: (WTS) FDI03-A6-60, (ZRN) FR06NIP35-C.

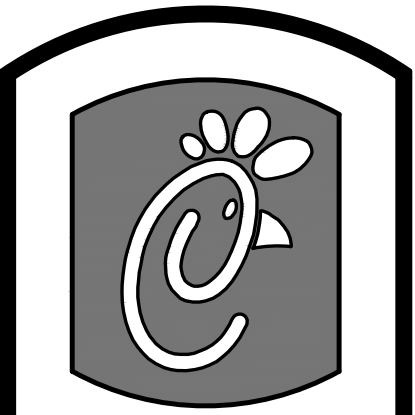
P-36 BEVERAGE TOWER INDIRECT RECEIVER (3") JONES STEPHENS CORP D53-144 PVC BODY, BRONZE SPUD WITH 8" DIAMETER NICKEL BRONZE STRAINER. ALT: (JRS) 210-P-NB, (WTS) FDI03-A8-60, (ZRN) FR08NIP35-C.

P-37 FLOOR DRAIN (3") JONES STEPHENS CORP D50-076 PVC BODY, BRONZE SPUD WITH 6" SQUARE NICKEL BRONZE STRAINER. PROVIDE 1/2" TRAP PRIMER CONNECTION FOR DINING ROOM DRAINS. ALT: (WTS) FDI03-M6-7-60, (ZRN) F506NIP35-C.

P-38 HOT WATER CIRCULATING PUMP: TACO MODEL 006-SC7-1FC, 1/2" UNION CONNECTIONS, INTEGRAL FLOW CHECK, 110 VAC, ELECTRICIAN TO PROVIDE AND WIRE PLUG AND CORD, 1/2" HP, 3 GPM AT 7 FT TOTAL DYNAMIC HEAD. PROVIDE CONTROL WIRING AND HONEYWELL MODEL L6006C 110 VAC AQUA-STAT, WITH ADJUSTABLE SETPOINT, MOUNTED DIRECTLY ON PIPE. SET SHUT-OFF TEMPERATURE AT 130 DEG F.

P-39 2" PRESSURE REDUCING VALVE: WATTS NO. #LFZ23-SB WITH BUILT-IN BYPASS FEATURE. NO FLOW CONDITION AT 70 PSI. ALT: (ZRN) SERIES 500XLYSBR.

P-40 WYE STRAINER WITH #100 SCREEN: 2" WATTS LF777SM3, BRONZE WYE STRAINER WITH THREADED CONNECTION AND TAPPED RETAINER CAP. PROVIDE #100 MESH SCREEN. PROVIDE WATTS 1/2" BD-IC BRASS BOILER DRAIN WITH BRASS STREET 90 DEGREE ELBOW, MALE END SIZED FOR CONNECTION TO WYE STRAINER RETAINER CAP OUTLET TAP.



5200 Buffington Rd.  
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30349-2998

Revisions:  
Mark Date By

Mark Date By

Mark Date By

Mark Date By

# 1 KITCHEN EQUIPMENT SCHEDULE - CHICK-FIL-A STORE #1218

VERIFY THE QUANTITY OF EACH EQUIPMENT ITEM WITH THE KITCHEN EQUIPMENT SCHEDULE ON SHEETS K21 AND K22

REQUIRES	EQUIP. NO.	EQUIPMENT DESCRIPTION	ELECTRICAL LOAD				NEMA CONFIG	COOPER/ARROW HART (UON) RECEPT. CAT. NO.	WIRE/CONDUIT MARK NO.	COMMENTS AND REMARKS	
			VOLTS	PH	WIRES	KW					AMPS
IG / NOTE 7	180	ORDER REGISTER (POS)	120	1	2		0.7	5-20R	IG5362RN (ORANGE)	HG	
IG / NOTE 7	182	RECEIPT PRINTER	120	1	2		0.18	5-20R	IG5362RN (ORANGE)	HG	
IG / NOTES 5 & 7	183	ORDER MONITOR	120	1	2		0.125	5-20R	IG5362RN (ORANGE)	HG	
NOTE 2 & 7	190	DRIVE-THRU VIDEO MONITOR	120	1	2		0.8	5-20R	CR20	1	
NOTE 5	211B	FLY SYSTEM	120	1	2	0.078	0.650	5-15R	TR780W (DUPLEX)	1	CLOCK STYLE RECEPTACLE REQ'D
	270	EXISTING ANSUL FIRE SYSTEM	120	1	2					1	FED FROM CFA-T500 PANEL
NOTES 2 & 7	300A	MILKSHAKE DISPENSER	120	1	2		4.0	5-20R	1877 (SIMPLEX)	1	
			208	3	3		15.0	15-20R	HUBBELL HBL8420	2	
			208	3	3		19.0	15-30R	HUBBELL HBL8430A	8	
NOTES 2 & 7	305	TEA BREWER	120	1	2	1.650	13.8	5-20R	VGFP20	1	
NOTE 7	308	COFFEE BREWER	120/208	1	3	4.000	19.2	14-30R	5744N	8	PROVIDE CORD AND ANGLE PLUG
NOTES 2 & 7	310	DOUBLE JUICE DISPENSER	120	1	2		8.2	5-20R	1877 (SIMPLEX)	1	
	315W	10 HEAD DRINK TOWER / ICE BIN	120	1	2		10.0	5-20R	CR20	1	
NOTE 5	320	TURBO CARBONATOR	120	1	2		6.2	5-20R	CR20	1	
NOTE 7	380X	ICE MAKER	208	1	3	4.040	19.4	DIRECT		8	
NOTES 5 & 7	420	SINGLE UC REFRIGERATOR	120	1	2	0.225	3.3	5-20R / L5-20R	1877 / CWL520R	1	
NOTE 2	421	DOUBLE UC REFRIGERATOR	120	1	2	0.480	5.7	5-20R	TR780W (DUPLEX)	1	
NOTE 5 & 7	432	REFRIGERATED WORK TABLE	120	1	2	0.480	5.7	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTE 2	439	COLD RAIL	120	1	2		7.1	5-20R	VGFP20	1	
NOTE 2 & 7	440	BREADING TABLE	120	1	2		12.0	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTE 2 & 7	441A	REFRIGERATED SALAD PREP	120	1	2		9.0	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTES 2 & 7	442P	REFRIGERATED DISPLAY CASE	120	1	2		9.0	5-20R	CR20	1	
NOTE 7	444	DOUBLE DOOR THAWING CABINET	120	1	2		16.0	DIRECT		1	SEE DETAIL FOR DIRECT CONNECTION
NOTES 5 & 7	500A	VERTICAL CONTACT TOASTER	120	1	2	1.800	15.0	5-20R	CR20	4	
NOTE 7	500B	RADIANT TOASTER	208	1	3	5.000	24.0	L6-30R	AH4630R	7	
NOTE 7	505	CONVECTION OVEN ON STAND	208	3	3	5.600	24/12/15	15-30R	AH8430N	8	PROVIDE ANGLE PLUG ON CORDSET
NOTE 7	505E	RANGE / CONVECTION OVEN	208	3	3	19.800	57.6	15-60R	AH8460N	17	PROVIDE 6 FT CORD AND ANGLE PLUG
NOTE 7	523	PRESSURE FRYER - ELECTRIC	208	3	3	13.500	38.0	15-50R	HUBBELL HBL8450A	14	PLUG AND CORD-SET PROVIDED W/ EQUIP
NOTE 7	524	CHAR-GRILL (DUAL-SIDED)	208	3	3	16.050	43.4 / 43.4 / 47	15-50R	HUBBELL HBL8450A	14	
NOTE 5	550	DOUBLE WARMING DRAWER	120	1	2	1.000	8.3	5-20R	EXISTING	1	
NOTES 2 & 7	560	FRY HOLDING STATION	120	1	2	1.840	15.4	5-20R	VGFP20	1	
NOTE 5 & 7	562A	HOT HOLDING TOWER	120	1	2	1.91	15.9	L5-20R	CWL530R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTE 7	563	SANDWICH SLIDE	208	1	3	1.420		L14-20R	EXISTING	2	
NOTE 2 & 7	564	PRODUCT HOLDING CABINET	120	1	2	1.600	13.3	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
	565C	FOOD WARMING WELL	120	1	2	1.500	12.5	DIRECT	CWL520R	4	PROVIDE TWIST LOCK PLUG IN FIELD
NOTES 5 & 7	580H	MULTI-USE HOLDING CABINET	120	1	2	2.040	16.0	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTES 5 & 7	600	FLOOR MIXER	120	1	2		8.0	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTES 5 & 7	601	1 HP FOOD CUTTER	120	1	2		16.0	L5-20R	CWL520R	1	PROVIDE TWIST LOCK PLUG IN FIELD
NOTE 2	606	JUICER WORK STATION						5-20R	VGFP20	1	PROVIDE TWO GFCI DUPLEX RECEPTABLES
	671	MENUBOARD BOX	120	1	2	0.054 EA	0.45 EA	5-20R	CR20	1	

WIRING DEVICE PACKAGE, INCLUDING SWITCHES (EXCEPT HUBBELL BRAND DEVICES) SHALL BE PURCHASED AS A PART OF A NATIONAL ACCOUNTS PROGRAM THROUGH GEXPRO (FORMERLY GE SUPPLY). CONTACT WAYNE SANDERS AT 770-840-4178 (EMAIL: WAYNESANDERS@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 RECEPTABLES 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: (NOT USED) A RECESSED PIN & SLEEVE BOX IS PROVIDED WITH THE EXHAUST HOOD PACKAGE AND INSTALLED BY THE CONTRACTOR. THE P&S BOX INCLUDES THE "SLEEVE" RECEPTABLES 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.

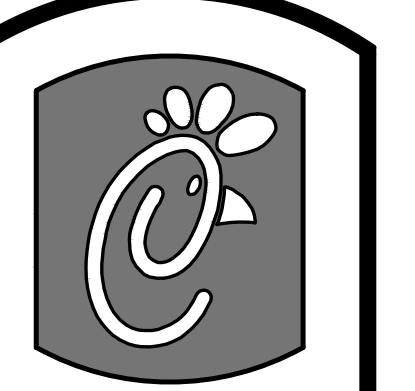
NOTE 5: PROVIDE GFCI TYPE BRANCH BREAKER FOR KITCHEN/FOOD PREPARATION AREA RECEPTABLES THAT ARE LOCKING, CLOCK, SPLIT-WIRED, OR IG TYPE OR A RECEPTACLE FINISHED IN THE CENTERLINE TABLE BY FRANKE FOODSERVICE SYSTEMS THAT IS NOT A GFCI TYPE RECEPTACLE.

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 IS PROTOTYPICAL.

# 2 ELECTRICAL LEGEND

SYMBOL	DESCRIPTION	MTG HT AFF TO CL	SYMBOL	DESCRIPTION	MTG HT AFF TO CL
LIGHTING FIXTURES			CONDUIT/RACEWAYS		
□	SURFACE MTD FLUORESCENT LIGHTING FIXTURE		—	CONDUIT CONCEALED ABOVE CEILING OR IN WALL	
◻	RECESSED FLUORESCENT LIGHTING FIXTURE		—	CIRCUIT HOMERUN TO PANELBOARD WITH MINIMUM 2#12, 1#12G, 3/4" C	
○	SURFACE MTD FLUORESCENT OR HID LIGHTING FIXTURE		—	CONDUIT TURNING UP	
○	RECESSED FLUORESCENT OR HID LIGHTING FIXTURE		—	CONDUIT TURNING DOWN	
○	WALL MOUNTED LIGHTING FIXTURE, SEE LIGHTING FIXTURE SCHEDULE (FLUORESCENT OR HID FIXTURE)	AS NOTED	—	CONDUIT CONCEALED IN OR BELOW SLAB (OUTSIDE - UNDERGROUND)	
⊕	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	—	FLEXIBLE LIGHT FIXTURE WHIP, SIX FOOT MAXIMUM LENGTH	
⊕	CEILING MOUNTED EXIT SIGN, SHADING INDICATES FACES, PROVIDE WITH CHEVRON DIRECTIONAL ARROWS WHERE INDICATED ON PLANS PROVIDED WITH BATTERY PACK		—	METAL CLAD CABLE ASSEMBLY - ONLY WHERE INDICATED ON DWGS OR SPECS	
⊕	COMBO EXIT WITH TWO LAMP-HEADS, SEE LIGHTING FIXTURE SCHEDULE		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.		
⊕	WALL MOUNTED EMERGENCY BATTERY PACK LIGHTING FIXTURE	AS NOTED	MULTIPLE IFC CIRCUITS MAY OCCUPY THE SAME CONDUIT IN ACCORDANCE WITH THE NEC, MAXIMUM OF THREE AND OF DIFFERENT PHASES.		
⊕	CELLING MOUNTED EMERGENCY BATTERY PACK LIGHTING FIXTURE		LOW VOLTAGE AND CONTROL WIRING SHALL BE IN SEPARATE CONDUIT FROM POWER WIRING.		
—	FLUORESCENT STRIP LIGHTING FIXTURE		DISTRIBUTION EQUIPMENT		
—	WALL WASHER STYLE RECESSED DOWNLIGHT, AIM LIGHT TOWARD WALL		□	NON-FUSIBLE SAFETY SWITCH, SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/ENCLOSURE) OR ON SCHEDULE, NEMA 1 ENCLOSURE UNLESS NOTED W/ FOR NEMA 3R ENCLOSURE	6'-6"
—	RECESSED LIGHTING FIXTURE WITH EMERGENCY BATTERY PACK		□	FUSIBLE SAFETY SWITCH, SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/ENCLOSURE) OR ON SCHEDULE, NEMA 1 ENCLOSURE UNLESS NOTED W/ FOR NEMA 3R	6'-6"
—	PENDANT LIGHTING FIXTURE	AS NOTED	—	FLUSH MOUNTED LIGHTING PANELBOARD	6'-6"
—	LIGHTING TRACK WITH TRUCK HEADS		—	SURFACE MOUNTED LIGHTING PANELBOARD	6'-6"
WIRING DEVICES			—	TRANSFORMER, PROVIDE SECONDARY GROUNDING PER NEC	
□	120 VOLT DUPLEX RECEPTACLE, 20 AMPS UON	18"	—	ENCLOSED CIRCUIT BREAKER, SIZE AND TYPE AS NOTED (AMPS/POLES/ENCLOSURE) NEMA 1 ENCLOSURE IF NOT NOTED, W/ NEMA 3R	6'-6"
□	120 VOLT DUPLEX AT SPECIAL MOUNTING HEIGHT, 20 AMPS UON	44" UON	—	* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE	
□	120 VOLT QUADRAPLEX RECEPTACLE, 20 AMPS UON	18" UON	MISCELLANEOUS SYMBOLS		
□	120 VOLT QUADRAPLEX AT SPECIAL MOUNTING HEIGHT, 20 AMPS UON	44"	⊕	GROUND	
□	120 VOLT SIMPLEX RECEPTACLE, 20 AMPS UON	18" UON	⊕	MOTOR	
⊕	SINGLE SPECIAL PURPOSE RECEPTACLE WITH VOLTS, AMPS, AND PHASE AS NOTED, NEMA CONFIGURATION AS REQUIRED BY EQUIPMENT	18" UON	⊕	EXHAUST FAN MOTOR	
⊕	RECEPTACLE MOUNTED ON CORD DROP, 120 VOLT, 20 AMP, UON, OUTLET BOX FLUSH WITH CEILING	18" UON	⊕	JUNCTION BOX	
⊕	SINGLE POLE TOGGLE SWITCH	48"	⊕	CONDUIT AND WIRE MARK NUMBER, REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE	
⊕	DOUBLE POLE TOGGLE SWITCH	48"	⊕	KITCHEN EQUIPMENT MARK NUMBER, REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS	
⊕	THREE WAY TOGGLE SWITCH	48"	⊕	NOTE NUMBER	
⊕	MANUAL MOTOR STARTER SWITCH (W/ NEMA 3R)	48"	⊕	HOOD EXTINGUISHING ANSUL PULL STATION	
⊕	SWITCH WITH PILOT LIGHT (ON WHEN SWITCH IS ON)	48"	⊕	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" CONDUIT STUB-UP	
⊕	KEY OPERATED SWITCH	48"	⊕	PUSH-BUTTON	
NOTE: RECEPTABLES 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.			⊕	BELL, TYPE AS NOTED ON PLANS	
ABBREVIATIONS			⊕	PHOTO-ELECTRIC CELL	
AFF	ABOVE FINISHED FLOOR		TELEPHONE		
AFG	ABOVE FINISHED GRADE		⊕	TELEPHONE OUTLET	18" UON
AHJ	AIR HANDLING UNIT		⊕	TELEPHONE OUTLET AT SPECIAL MOUNTING HEIGHT	60" UON
C	CONDUIT		NOTE: EACH TELEPHONE OUTLET (FLOOR OR WALL MOUNTED) SHALL BE PROVIDED WITH A 3/4" EMPTY CONDUIT, WITH PULL WIRE, TO ACCESSIBLE CEILING SPACE.		
CL	CENTER-LINE		CCTV / SECURITY SYSTEM		
EF	EXHAUST FAN		⊕	CLOSED CIRCUIT TELEVISION CAMERA	
FLA	FULL LOAD AMPS		⊕	SECURITY ALARM KEYPAD	
GF/GFI	GROUND FAULT CIRCUIT INTERRUPTER		⊕	SECURITY ALARM HOLD-UP BUTTON	
GND/GRD	GROUND		⊕	SECURITY SYSTEM KEY NOTE	
HT	HEIGHT				
IG	ISOLATED GRD, PROVIDE ORANGE DEVICE WHEN ADJACENT TO WIRING DEVICE				
MOC	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)				



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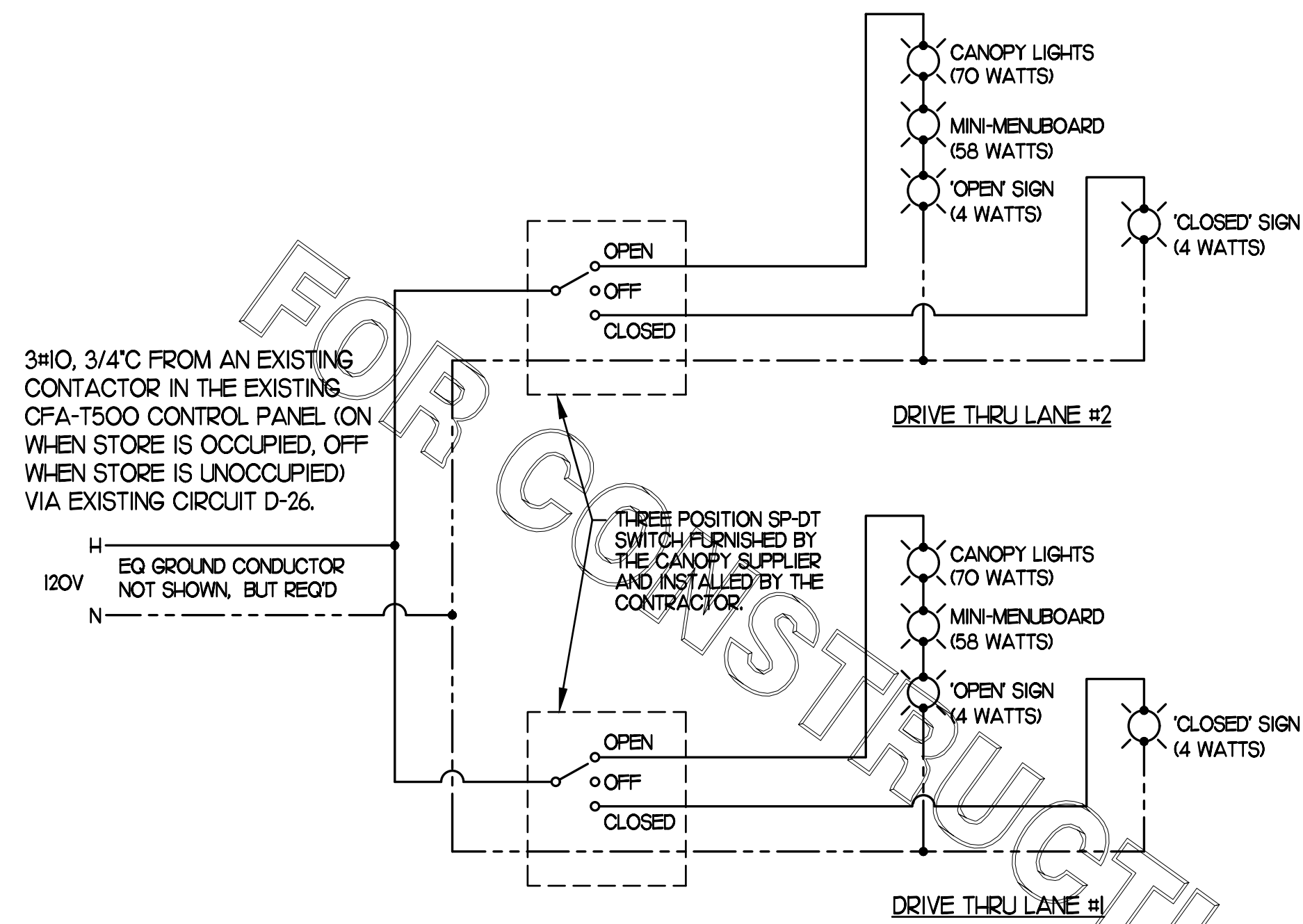
STORE  
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SHEET TITLE  
SCHEDULES  
AND DETAILS

PROTOTYPE S97-100

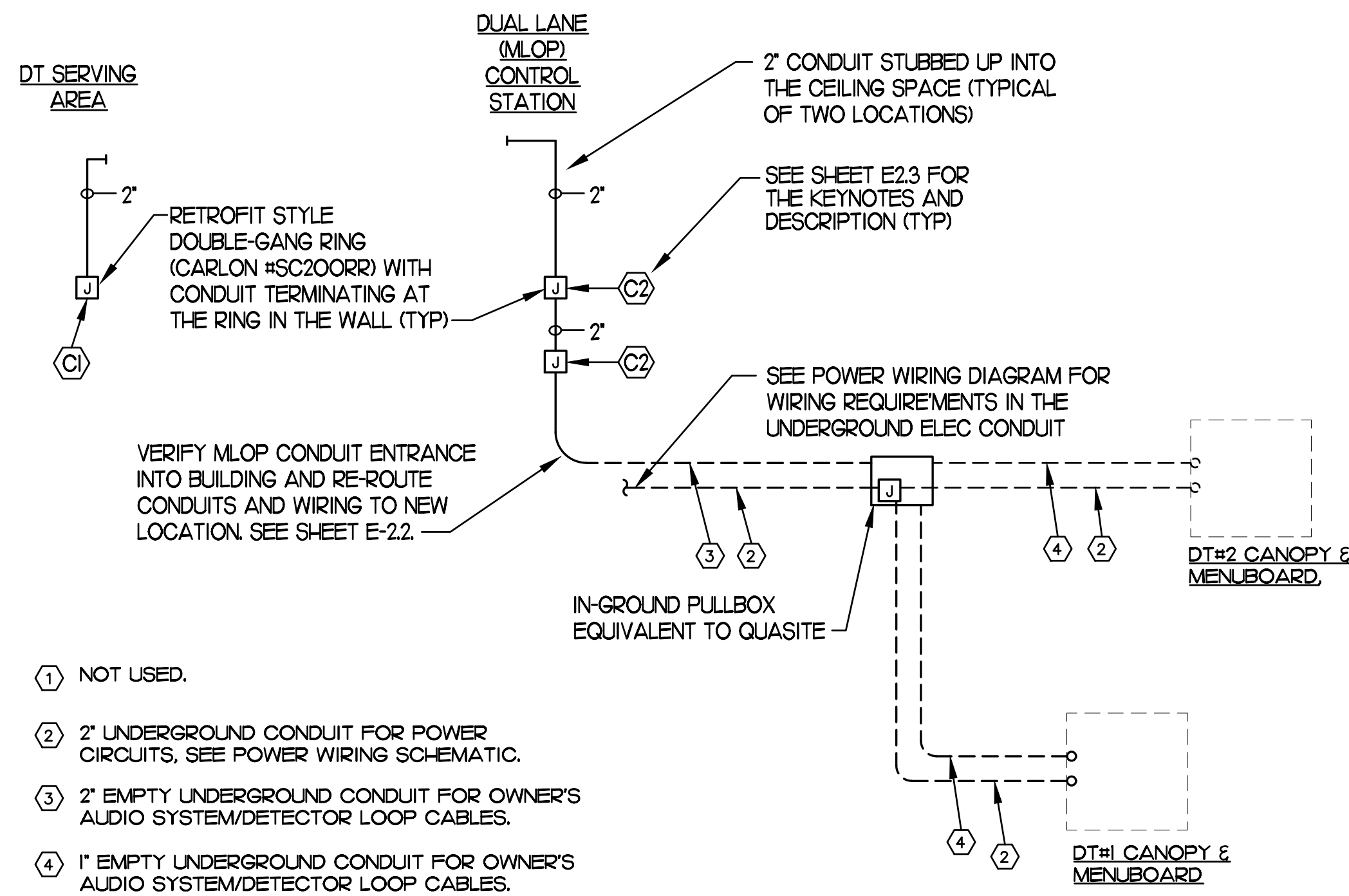
Job No. : 170021.H.F.R.  
Store : 01218  
Date : 01.26.17  
Drawn By : RW  
Checked By : MK

Sheet  
**E.I.**



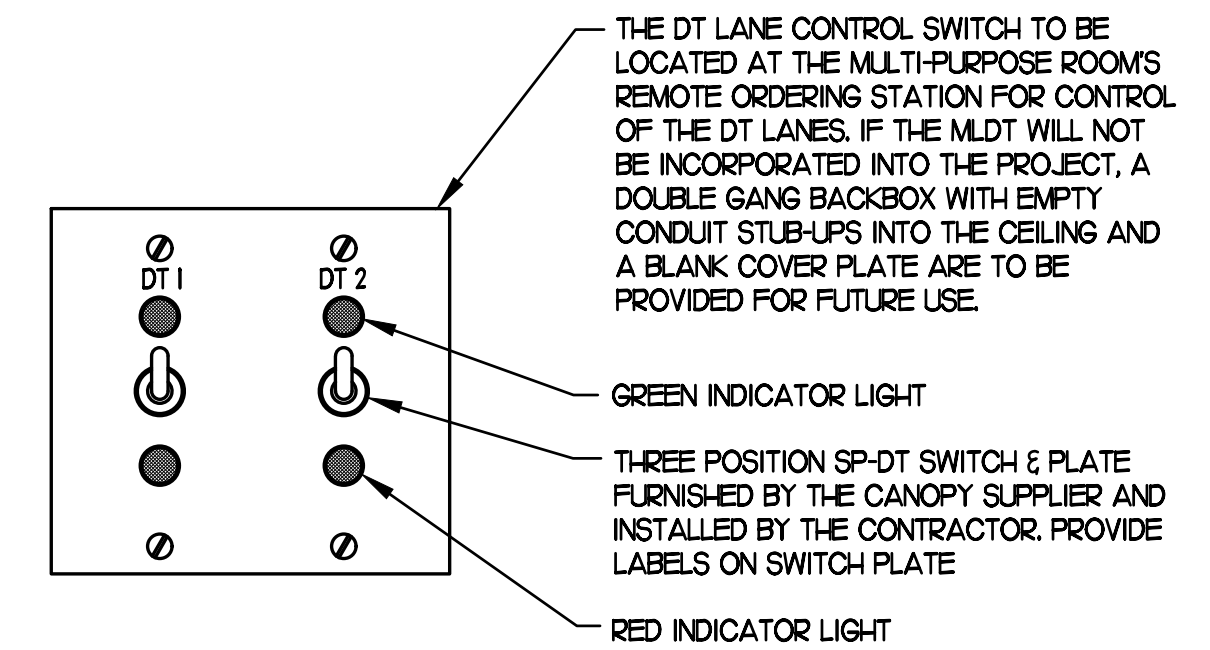
**MULTI-LANE DRIVE-THRU ORDER AREA CANOPY POWER WIRING SCHEMATIC**

NO SCALE - (FOR REFERENCE ONLY)



**MULTI-LANE DRIVE-THRU ORDER AREA CONDUIT REQUIREMENTS**

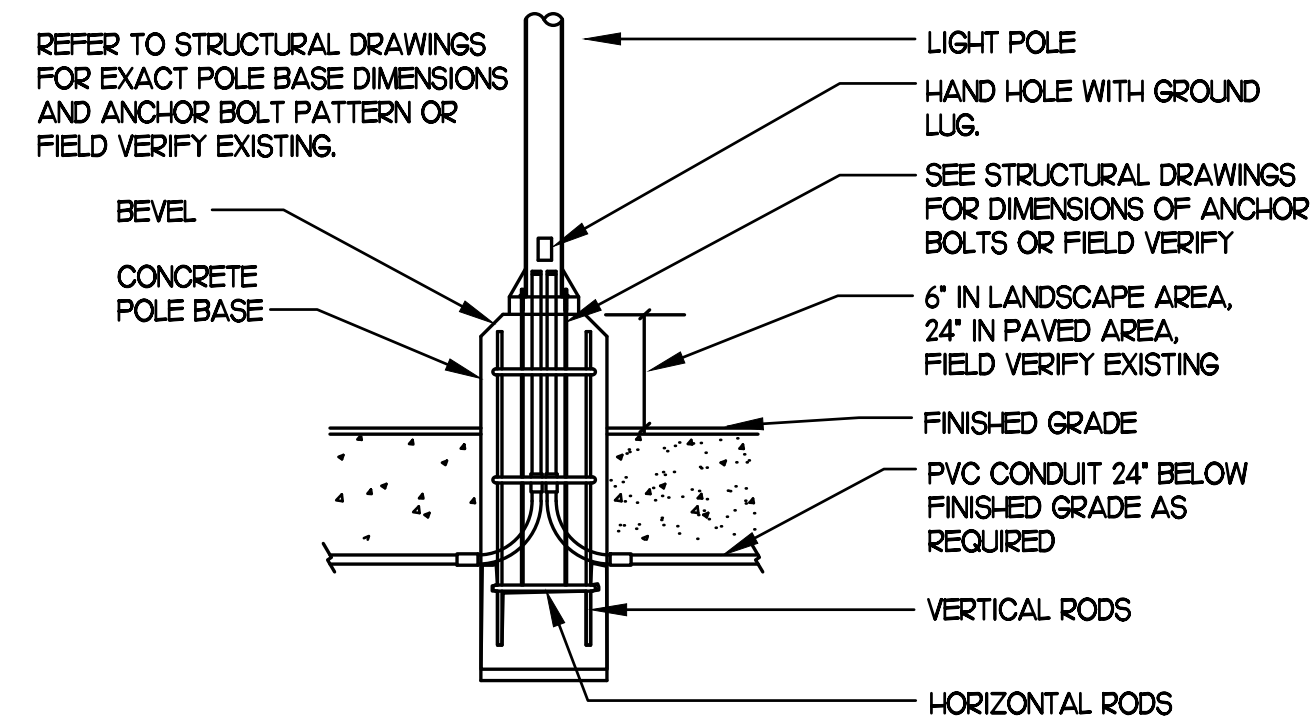
NO SCALE - (FOR REFERENCE ONLY)



**3 POSITION DT LANE CONTROL STATION**

NO SCALE

**MULTI-LANE DRIVE-THRU (MLDT) ORDER STATION REQUIREMENTS**

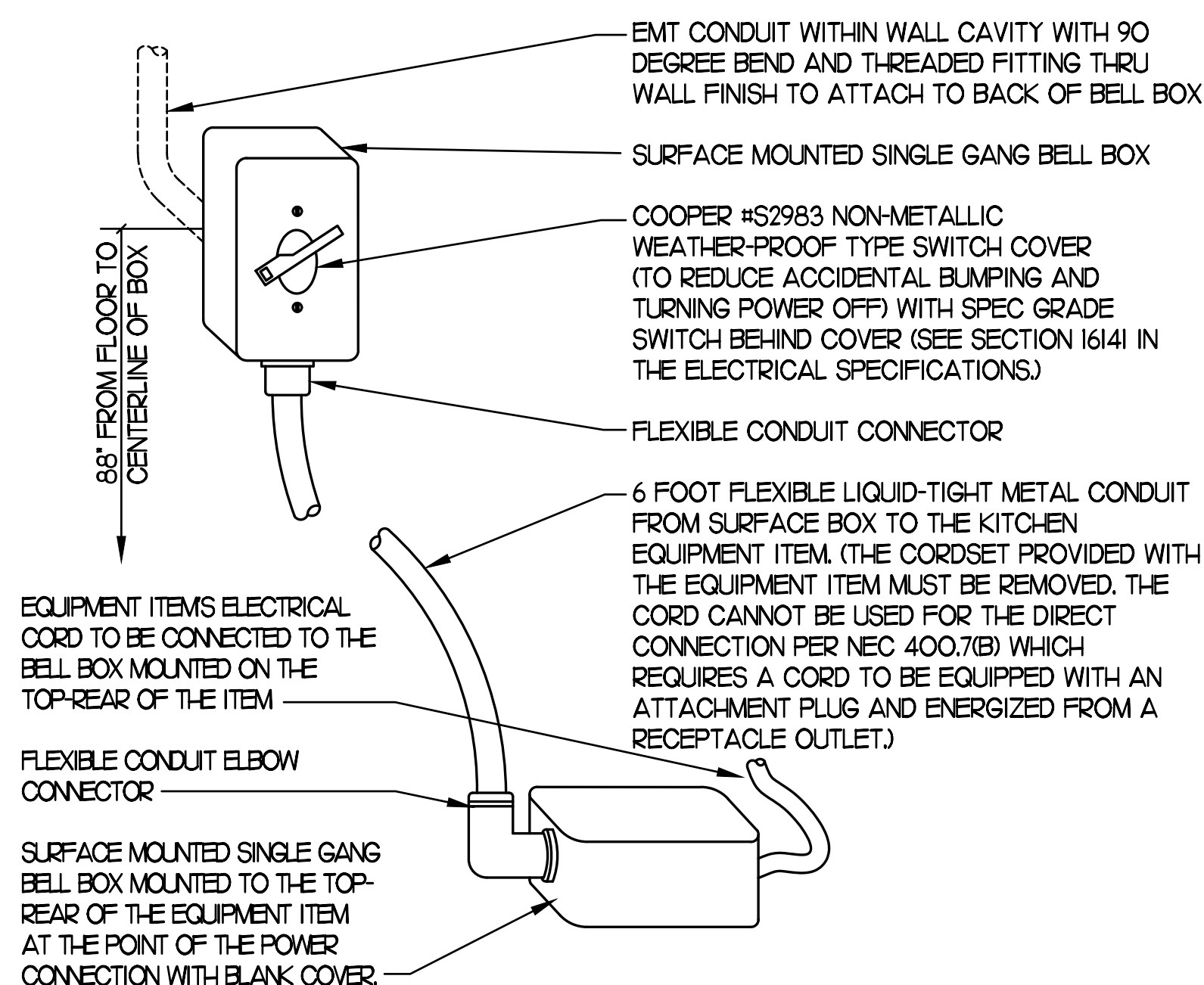


**TYPICAL POLE BASE DETAIL**

NOT TO SCALE

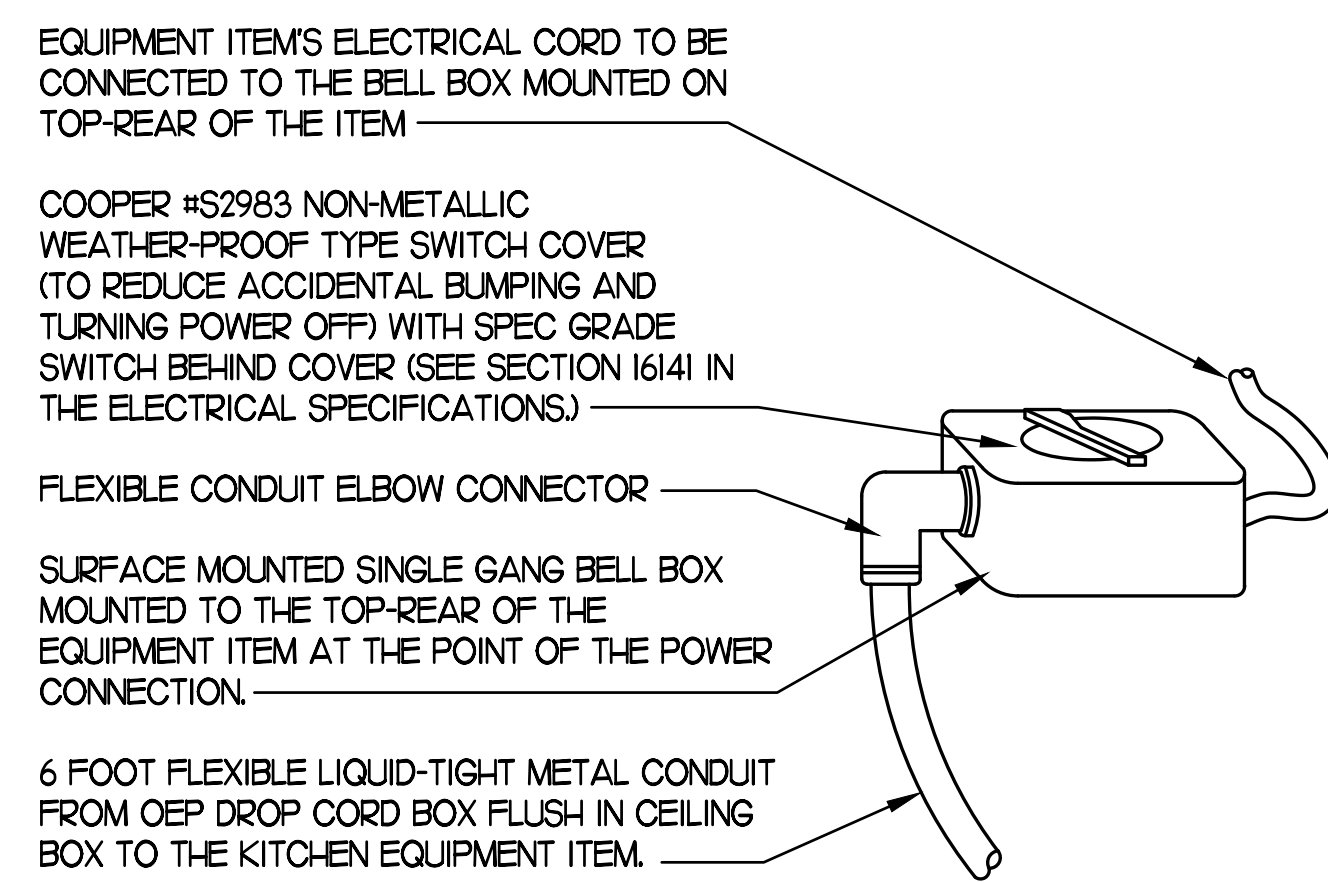
**KEY NOTES - DT CASH STATION**

- D1 LOCATION OF A 360 DEGREE BUILDING MOUNTED EXTERIOR CAMERA (BY OTHERS). PROVIDE A 3/4\"/>



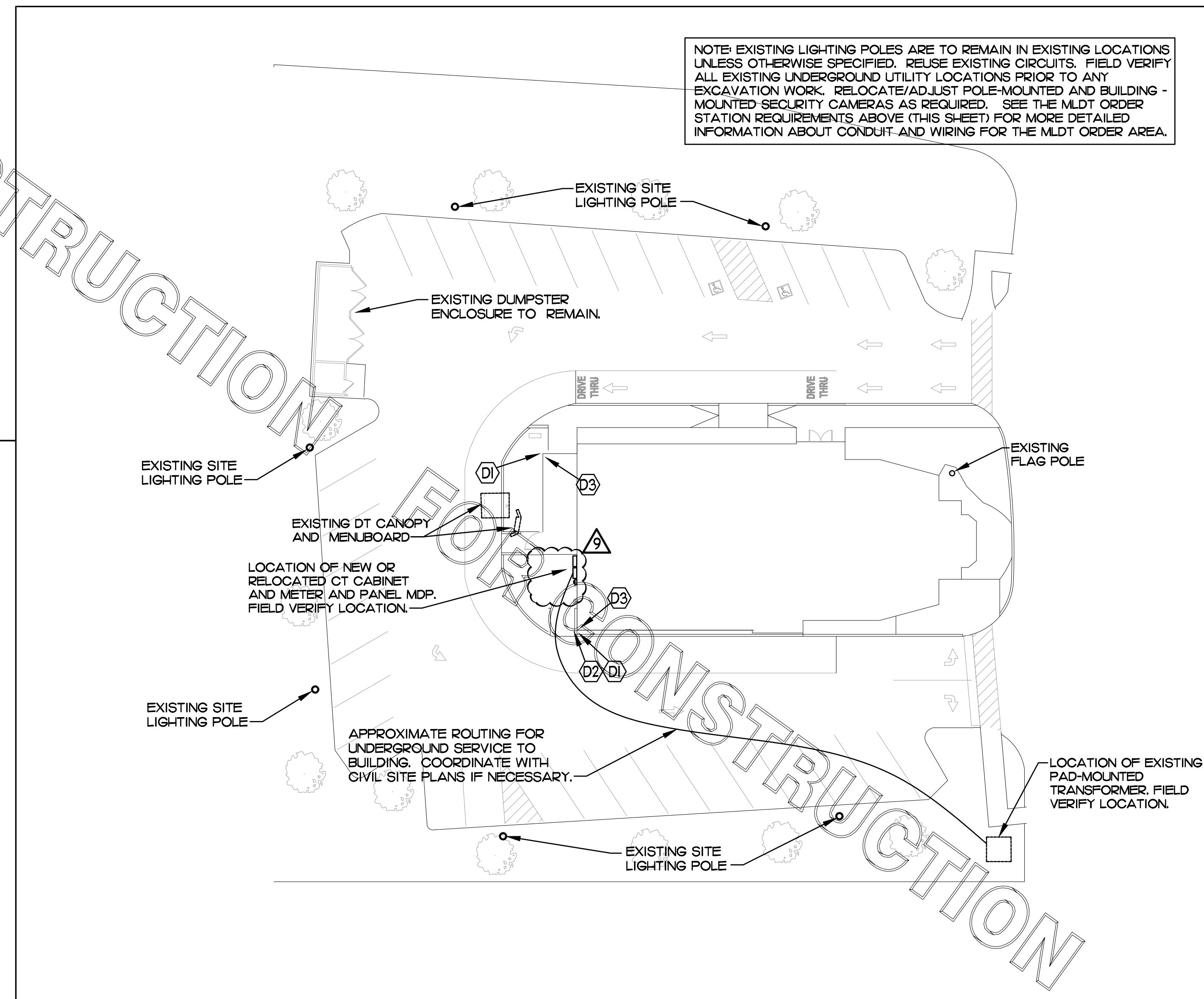
**KITCHEN EQUIP DIRECT CONNECTION**

NOT TO SCALE WALL MOUNT CONDITION



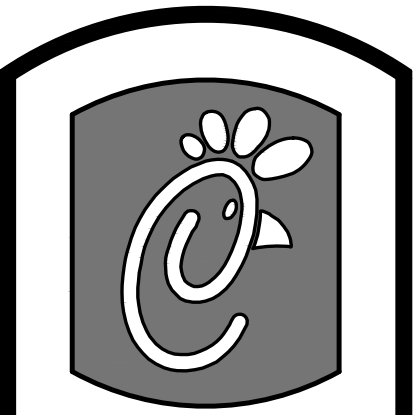
**KITCHEN EQUIP DIRECT CONNECTION**

NOT TO SCALE DROP CORD - ISLAND CONDITION



**ELECTRICAL SITE PLAN**

SCALE: 1" = 20'-0"



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SHEET TITLE  
DRIVE-THRU  
ORDER DETAILS

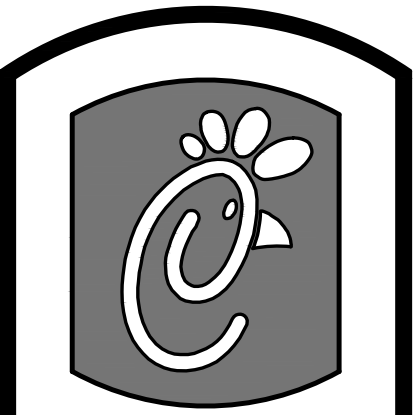
PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
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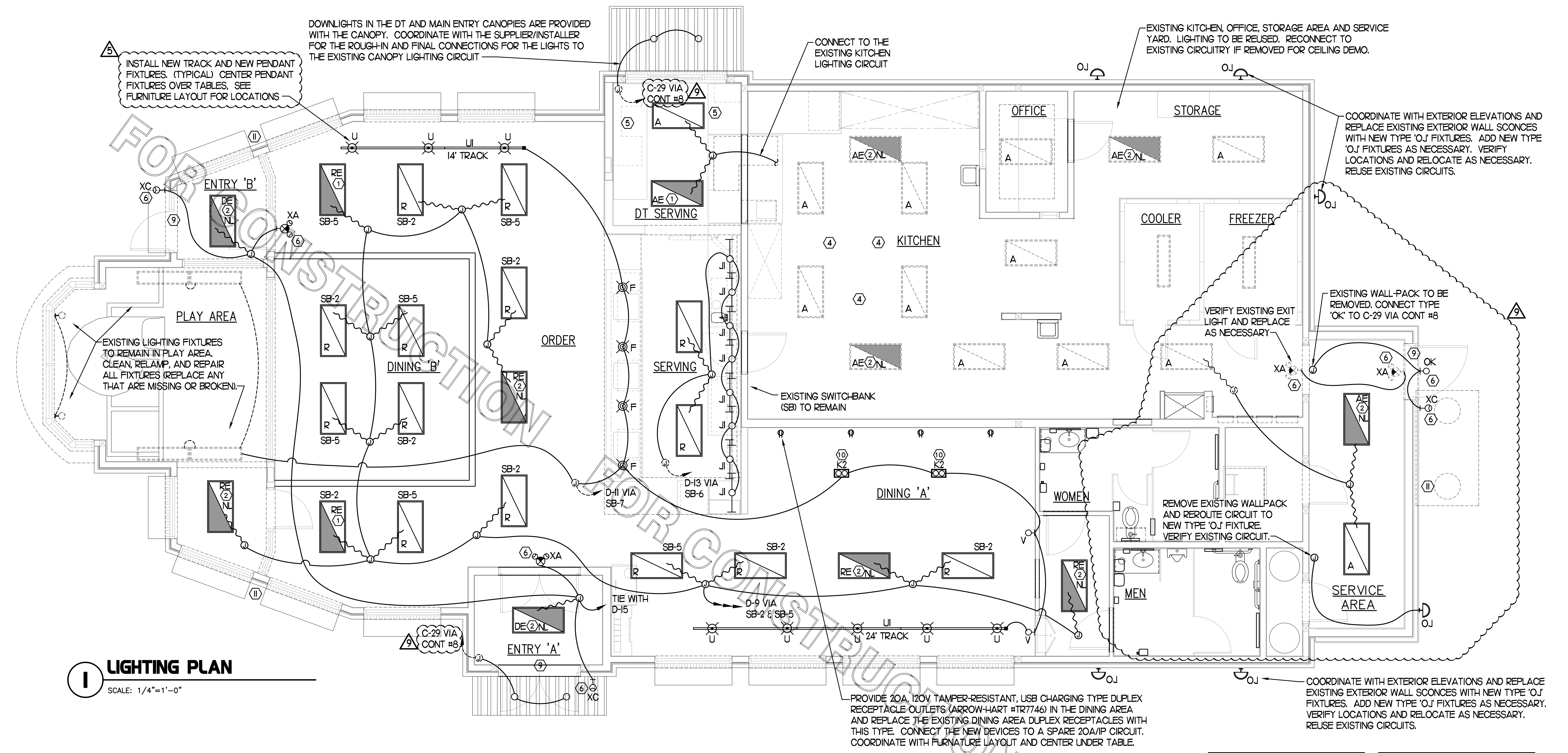
SHEET TITLE  
LIGHTING  
PLAN

PROTOTYPE S97-100

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E2.1



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

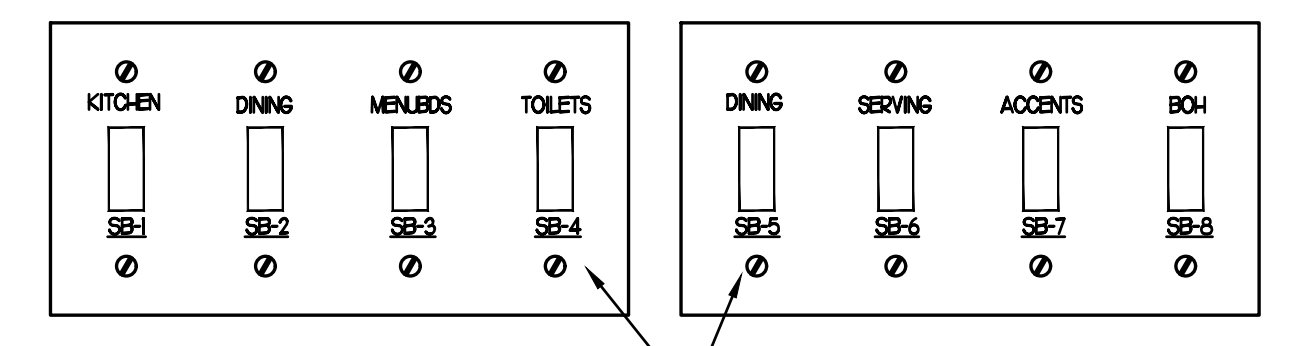
**2 LIGHTING FIXTURE (LUMINAIRE) SCHEDULE - CHICK-FIL-A REMODEL Store #1218**

MARK	MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	STYL LAMP NO.	WATTS	VOLTS	MOUNTING	REMARKS
A	LITHONIA	26T8-G-432-A12V-MVOLT-OSIOIS	4-F028/835/NP/SS/ECO	22178	99	120	RECESSED	2X4' STATIC TROFFER, SMOOTH SIDE OF PRISMATIC LENS DOWN
AE	LITHONIA	26T8-G-432-A12V-MVOLT-OSIOIS-EL14	4-F028/835/NP/SS/ECO	22178	99	120	RECESSED	SAME AS 'A' WITH EMERGENCY BATTERY PACK. SEE PLAN NOTES ABOUT LAMP SWITCHING
BI	ILLUMITEX	CSI-24-4-DW-6-35-U-WH	INTEGRAL WITH FIXTURE	-	35	120	SURFACE	REFER TO KEYNOTE #4, THIS SHEET, FOR ADDITIONAL INFORMATION.
B3	CON-TECH	UF228-P WITH PLUS & CORDSET	HFP28/835/ECO	20901	31	120	SURFACE	REFER TO KEYNOTE #5, THIS SHEET, FOR ADDITIONAL INFORMATION.
D	LITHONIA	2RT8S-232-MVOLT-OSIOIS/DGA24	2-F028/835/NP/SS/ECO	22178	50	120	RECESSED	2X4' VOLUMETRIC RECESSED LIGHTING SYSTEM WITH DRYWALL GRID ADAPTER TRIM
DE	LITHONIA	2RT8S-232-MVOLT-OSIOIS-EL14/DGA24	2-F028/835/NP/SS/ECO	22178	50	120	RECESSED	SAME AS 'D' WITH EMERGENCY BATTERY PACK
F	MEYDA	30894-B (144638)	1-OF18EL/GU24/B27	28957	13	120	CEILING	EGG LIGHT ABOVE SERVING COUNTER
J	LITHONIA	Z-125-MVOLT-GE810S	1-F025/830/NP/SS/ECO3	22553	21	120	COVE	36" STRIP STAGGERED IN THE MENUBOARD COVE WITH TUBE GUARDS ON LAMPS
K2	JUNO / INDY	MS302-WH-H-B-28/T5621	2-1P2R30S/END/F22/27K	PHILLIPS	24	120	RECESSED	WHITE HOUSING 2 LAMP MULTI-SPOT WITH LED RETROFIT LAMPS, AIM AS DIRECTED
L	NOT USED							
MS	NOT USED							
R	LITHONIA	2RT8S-232-MVOLT-OSIOIS	2-F028/835/NP/SS/ECO	22178	50	120	RECESSED	2X4' VOLUMETRIC RECESSED LIGHTING SYSTEM (NOT DUAL-LEVEL BALLAST)
RE	LITHONIA	2RT8S-232-MVOLT-OSIOIS-EL14	2-F028/835/NP/SS/ECO	22178	50	120	RECESSED	SAME AS R WITH EMERGENCY BATTERY PACK
U	BESA LIGHTING	BES00298-060	FURNISHED	-	7.5	120	PENDANT	RED FRIT GLASS, BRONZE CABLE & CANOPY, 6'-6" AFF
UI	CON-TECH	LT12-4' OR 8' TRACK, LA9 END FEED, LA2 MINI-CONNECTORS	-	-	-	120	CEILING	LIGHTING TRACK WITH ACCESSORIES AS REQD, LENGTHS AS NOTED ON PLANS
V	VISUAL COMFORT	SL2923BZ	HLED5A19/DIM/O/B27	78935	8	120	WALL	BOSTON LIBRARY LIGHT WITH RETROFIT LED LAMP, MOUNT BACKBOX AT 86" AFF
XA	LITHONIA	LHQM-S-WH-R-120	INTEGRAL WITH FIXTURE	-	4	120	WALL	EXIT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMPHEADS
XC	LITHONIA	AFN-BN-EXT (TWO LAMP UNIT)	INTEGRAL WITH FIXTURE	-	21	120	WALL	EXTERIOR WALL MOUNTED EMERGENCY LIGHTING UNIT, LOCATE NEAR EGRESS DOOR
OJ	SECURITY LTG	RWSC-50FM-HLD-DB-120 (DARK BRONZE)	HMP50/LMED	64587	72	120	WALL	UP/DOWN DECORATIVE EXTERIOR WALL SCONCE, SEE ELEVATIONS FOR MOUNTING HEIGHT
OK	LITHONIA	TWA-50M-120-LPI (DARK BRONZE)	HMP50/LMED	64587	72	120	WALL	WALL PACK WITH CUT-OFF DISTRIBUTION - SEE ELEVATIONS FOR MTG HT

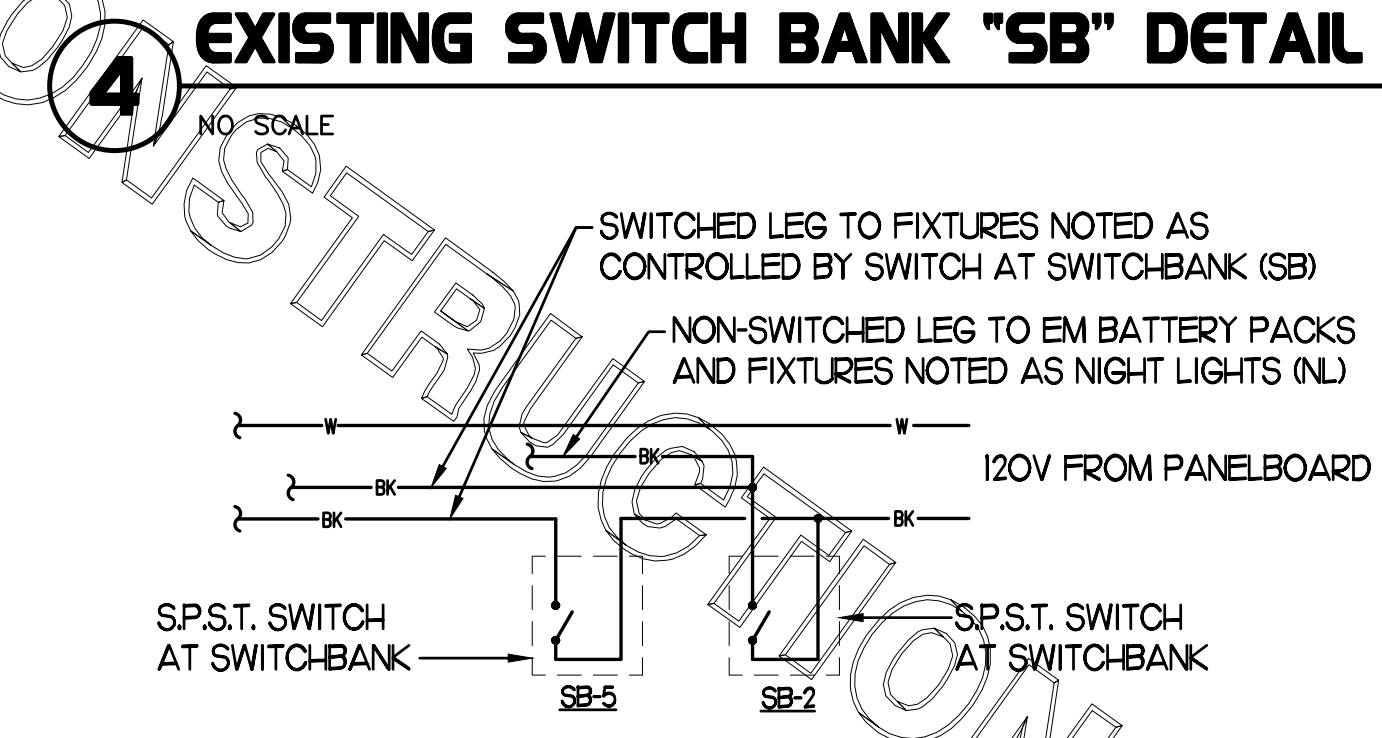
NOTES  
1. LUMINAIRES UTILIZING DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH LUMINAIRE PER NEC 410.103(G).  
2. THE LIGHTING FIXTURE PACKAGE IS AVAILABLE THROUGH A NATIONAL ACCOUNT PROGRAM REFER TO SHEET E4.2, SECTION 16500 FOR VENDOR INFORMATION.  
3. THE FLUORESCENT BALLAST CATALOG NUMBER INDICATES OSRAM AND ALL LAMP DESIGNATIONS ARE FOR OSRAM/SYLVANIA PER A NATIONAL ACCOUNT AGREEMENT.

**3 KEYNOTES (APPLY TO THIS SHEET ONLY)**  
NOTE: ALL NOTES MAY NOT BE USED ON THIS PROJECT

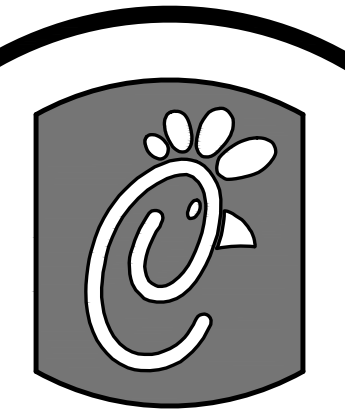
- CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
- CONNECT FIXTURE SO THAT LAMP BALLAST AND EMERGENCY BALLAST ARE NOT SWITCHED. 'NL' ADJACENT TO FIXTURE INDICATES THAT FIXTURE SHALL BE ON 24 HOURS.
- THE EXISTING BATTERY PACK EMERGENCY AND/OR EXIT LIGHTING FIXTURE TO REMAIN ON UN-SWITCHED PORTION OF CIRCUIT.
- 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 COORD WITH PLUG AND CONNECT TO THE GEN RECEPTACLE.
- PROVIDE A TYPE B3 LIGHT FIXTURE. MOUNT TO THE UNDERSIDE OF THE WIRE SHELVING. PROVIDE FLEX CONDUIT WITH A PLUG & CORDSET - PLUG INTO A GEN RECEPTACLE. FIXTURE SHALL BE MOUNTED TO SHELF WITH HARDWARE THAT WILL NOT INTERFERE WITH THE USE OF THE SHELF.
- CONNECT FIXTURE TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS. THIS FIXTURE SHALL NOT BE SWITCHED.
- NOT USED.
- NOT USED.
- STUB A NEW 1/2" CONDUIT DOWN IN WALL TO THE EXTERIOR DOOR'S FRAME FOR THE SECURITY SYSTEM. VERIFY ALL REQUIREMENTS WITH THE OWNER'S SECURITY SYSTEM VENDOR.
- COORDINATE WITH THE OWNER'S REPRESENTATIVE FOR THE AIMING OF THE TYPE K2 FIXTURES TOWARDS THE SERVICE COUNTER OR ARTWORK ON THE WALL.
- COORDINATE CONNECTION OF REPLACEMENT SIGNAGE TO EXISTING CKT.



**4 EXISTING SWITCH BANK "SB" DETAIL**  
NO SCALE



**5 TYPICAL LIGHTING CONTROL DETAIL**  
NO SCALE



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NORTH CAROLINA  
REGISTERED PROFESSIONAL  
SEAL  
575  
MARK T. KURZYSKIE  
06-20-17

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STORE  
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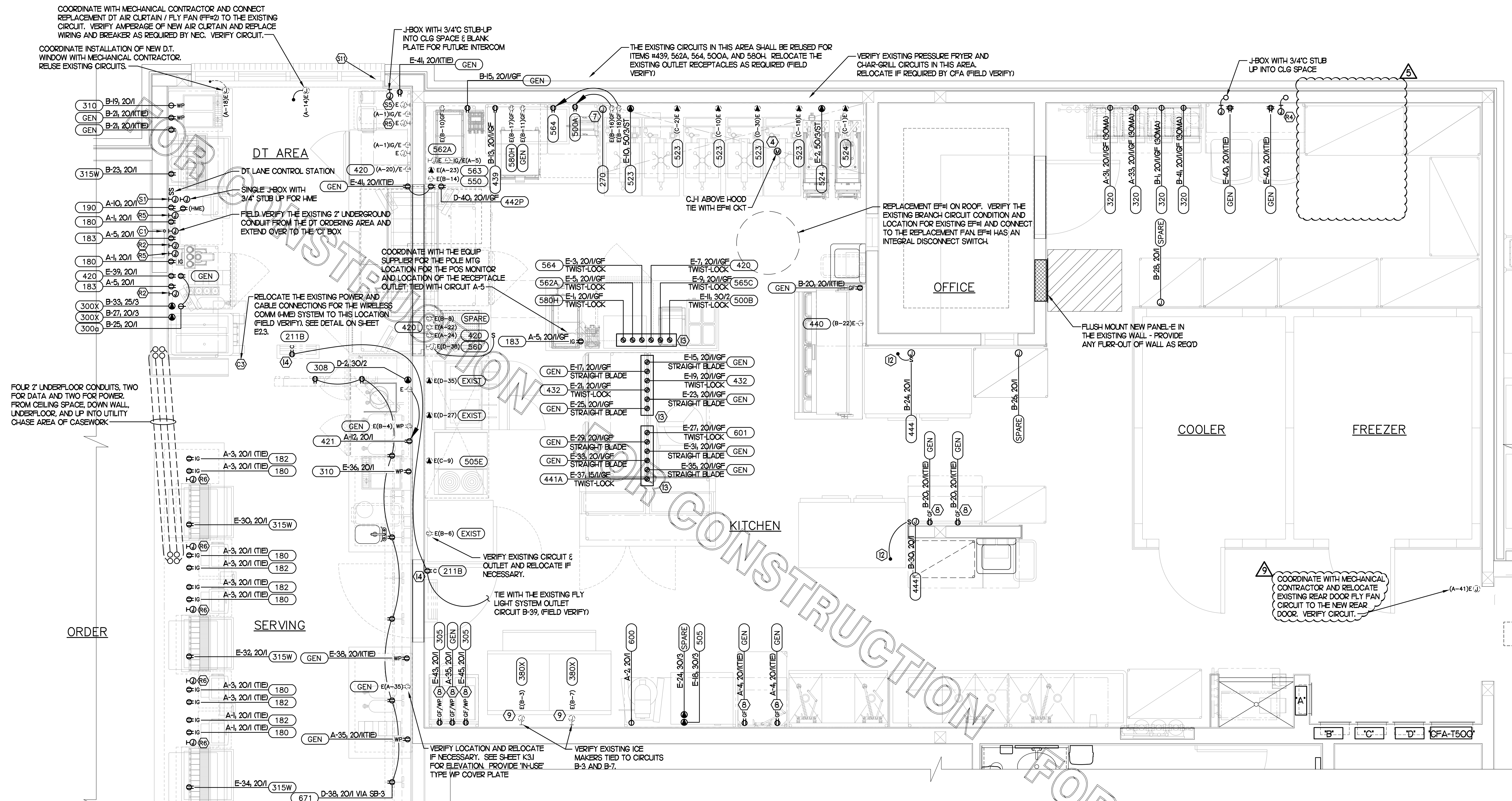
SHEET TITLE  
LARGE SCALE  
KITCHEN POWER

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : RW  
Checked By : MK

Sheet

E2.2



### 1 LARGE SCALE KITCHEN POWER PLAN

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

REFER TO SHEET E23 FOR THE KEYNOTES ON THIS SHEET.

KITCHEN EQUIPMENT MARK NUMBER, SEE SCHEDULE FOR REQUIREMENTS  
PANEL AND CIRCUIT NUMBER  
BRANCH BREAKER SIZE (AMP/POLES), REFER TO THE CONDUIT AND CONDUCTOR SCHEDULE FOR WIRE AND CONDUIT SIZE RELATED TO THE BREAKER (VERIFY)  
XX X-XX; AMP/POLE  
REFER TO THE KITCHEN ELEVATIONS FOR THE ROUGH-IN HEIGHT

### 2 KITCHEN EQUIP NOMENCLATURE

NO SCALE

### REPLACEMENT AC UNITS

UNIT#	EXIST MCA	EXIST CKT, BKR	NEW MCA	CKT, REQD BKR
AC#1	52 AMPS	A-38, 60A/3P	46 AMPS	A-38, 50A/3P
AC#3	64 AMPS	B-32, 80A/3P	70 AMPS	B-32, 80A/3P
AC#4	30 AMPS	B-38, 45A/3P	33 AMPS	B-38, 45A/3P

THE REPLACEMENT AC UNITS ARE FURNISHED WITH A FIELD WIRED GFCI RECEPTACLE WHICH SHALL BE CONNECTED TO THE EXISTING ROOF RECEPTACLE BRANCH CIRCUIT (FIELD VERIFY). IF NOT PRESENT, USE CIRCUIT D-42.

THE REPLACEMENT AC UNIT IS FURNISHED WITH A DISCONNECT AND SHALL BE CONNECTED BY THE CONTRACTOR.

### 3 AC UNIT REPLACEMENT

NO SCALE

**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 REQD - FIELD VERIFY.

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.

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.

TWO 2" CONDUIT FROM CEILING SPACE, IN WALL, AND TERMINATE BELOW COUNTER FOR POWER & DATA CABLES FOR THE POS TERMINAL

VERIFY LOCATION AND RELOCATE IF NECESSARY. SEE SHEET K31 FOR ELEVATION. PROVIDE "IN-USE" TYPE WP COVER PLATE

VERIFY EXISTING ICE MAKERS TIED TO CIRCUITS B-3 AND B-7.

VERIFY EXISTING CIRCUIT & OUTLET AND RELOCATE IF NECESSARY.

TIE WITH THE EXISTING FLY LIGHT SYSTEM OUTLET CIRCUIT B-39. (FIELD VERIFY)

RELOCATE THE EXISTING POWER AND CABLE CONNECTIONS FOR THE WIRELESS COMM (H-ME) SYSTEM TO THIS LOCATION (FIELD VERIFY). SEE DETAIL ON SHEET E23.

FIELD VERIFY THE EXISTING 2" UNDERGROUND CONDUIT FROM THE DT ORDERING AREA AND EXTEND OVER TO THE CT BOX

DT LANE CONTROL STATION

DT AREA

FOUR 2" UNDERFLOOR CONDUITS, TWO FOR DATA AND TWO FOR POWER, FROM CEILING SPACE, DOWN WALL, UNDERFLOOR, AND UP INTO UTILITY CHASE AREA OF CASEWORK

COORDINATE WITH MECHANICAL CONTRACTOR AND CONNECT REPLACEMENT DT AIR CURTAIN / FLY FAN (FF#2) TO THE EXISTING CIRCUIT. VERIFY AMPERAGE OF NEW AIR CURTAIN AND REPLACE WIRING AND BREAKER AS REQUIRED BY NEC. VERIFY CIRCUIT.

COORDINATE INSTALLATION OF NEW DT WINDOW WITH MECHANICAL CONTRACTOR. REUSE EXISTING CIRCUITS.

J-BOX WITH 3/4" STUB-UP INTO CLG SPACE & BLANK PLATE FOR FUTURE INTERCOM

THE EXISTING CIRCUITS IN THIS AREA SHALL BE REUSED FOR ITEMS #439, 562A, 564, 500A, AND 580H. RELOCATE THE EXISTING OUTLET RECEPTACLES AS REQUIRED (FIELD VERIFY)

VERIFY EXISTING PRESSURE FRYER AND CHAR-GRILL CIRCUITS IN THIS AREA. RELOCATE IF REQUIRED BY CFA (FIELD VERIFY)

J-BOX WITH 3/4" STUB UP INTO CLG SPACE

REPLACEMENT EF#1 ON ROOF. VERIFY THE EXISTING BRANCH CIRCUIT CONDITION AND LOCATION FOR EXISTING EF#1 AND CONNECT TO THE REPLACEMENT FAN. EF#1 HAS AN INTEGRAL DISCONNECT SWITCH.

FLUSH MOUNT NEW PANEL-E IN THE EXISTING WALL - PROVIDE ANY FLURR-OUT OF WALL AS REQD

COORDINATE WITH MECHANICAL CONTRACTOR AND RELOCATE EXISTING REAR DOOR FLY FAN CIRCUIT TO THE NEW REAR DOOR. VERIFY CIRCUIT.

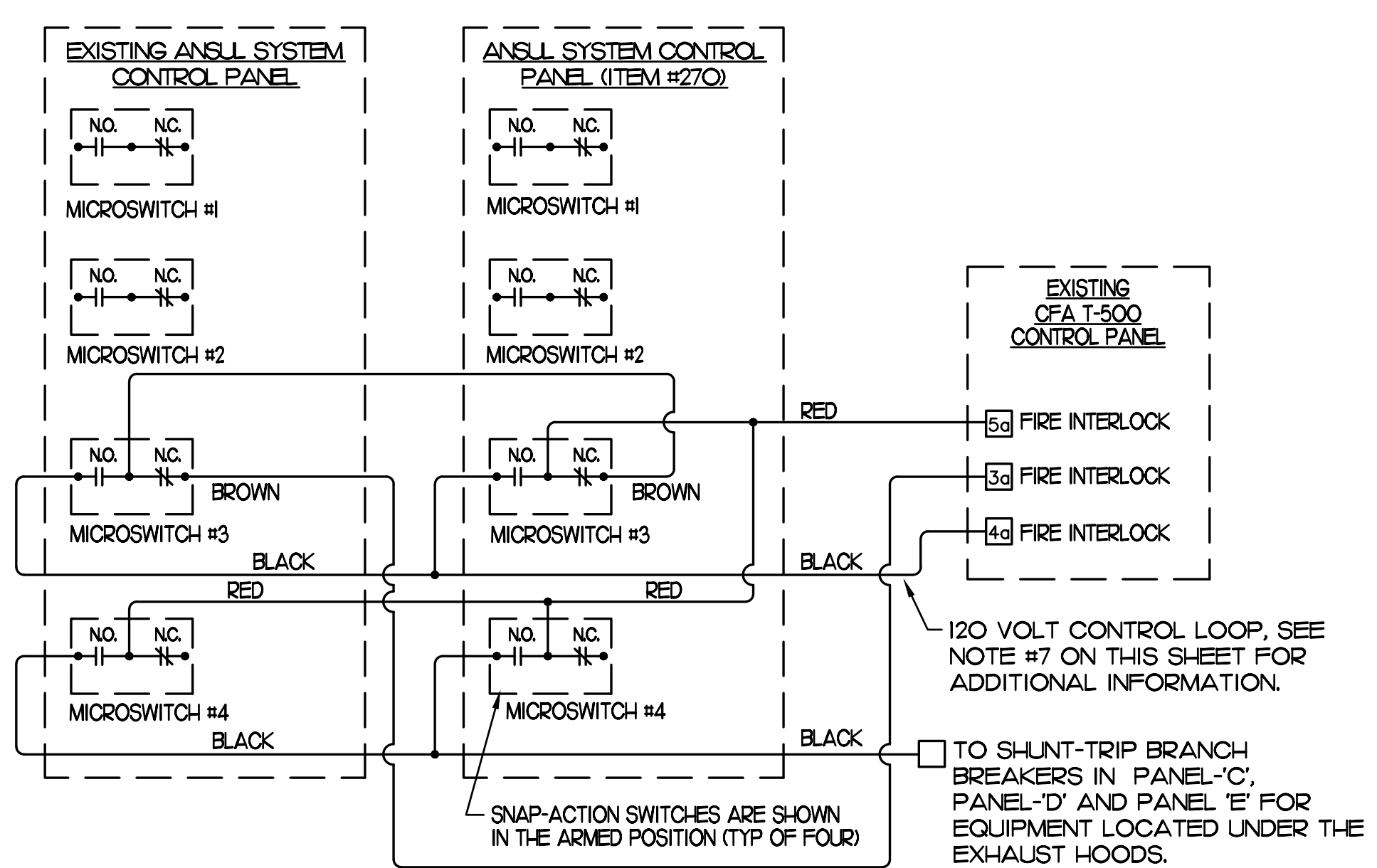
# 1 KEY NOTES - POWER:

- ① NOT USED.
- ② NOT USED.
- ③ NOT USED.
- ④ CONNECT AS REQUIRED TO CJ FAN VIA SPEED CONTROLLER. CONNECT HOWERLIN VIA RELAY IN "T-500" CONTROL SECTION.
- ⑤ NOT USED.
- ⑥ NOT USED.
- ⑦ PROVIDE 3/4" IN 1/2" CONDUIT BETWEEN THE T-500 CONTROL PANEL AND THE ANSUL SYSTEM PANEL. SEE ANSUL SYSTEM WIRING DIAGRAM. DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.
- ⑧ PROVIDE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) TYPE RECEPT IN COMPLIANCE WITH THE NEC REQUIREMENT FOR KITCHENS. IF NOT NOTED AS GFCI, THEN THE BREAKER IS TO BE GFCI TYPE.
- ⑨ VERIFY LOCATION OF THE EXISTING ICE MAKER DISCONNECT WHICH IS TO REMAIN.
- ⑩ NOT USED.
- ⑪ NOT USED.
- ⑫ SINGLE POLE SWITCHES SHALL SERVE AS THE LOCAL "IN-SIGHT" MEANS OF DISCONNECT FOR EQUIPMENT ITEMS NOTED. THE SWITCHES SHALL BE COOPER #52983 AND INSTALLED AS INDICATED IN DETAILS ON SHEET E1.2.
- ⑬ OVER-HEAD EQUIPMENT POWER (OEP) DROP CORD RECEPTACLES FROM A FLUSH MOUNTED CEILING OEP BOX. PROVIDE A-C-S OEP ASSEMBLY #1236-1000. ASSEMBLY WILL CONSIST OF A FLUSH CEILING OUTLET BOX, TWIST-LOCK PENDANT RECEPTACLES, STRAIGHT BLADE PENDANT RECEPTACLES, CORDS, STRAIN RELIEF, AND TWISTLOCK PLUGS. CONTACT MR. JIM JACOBSON AT A-C-S AT 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 #FS075-U-GH-S OR EQUIVALENT.
- ⑭ PROVIDE RECESSED 'CLOCK-STYLE' CONNECTION - ARLINGTON CATALOG NUMBER DVF22W WITH DUPLEX RECEPTACLE. CENTER FLY LIGHT OVER BOX. FIELD VERIFY MOUNTING LOCATION AND HEIGHT.

# 2 KEY NOTES - COMM:

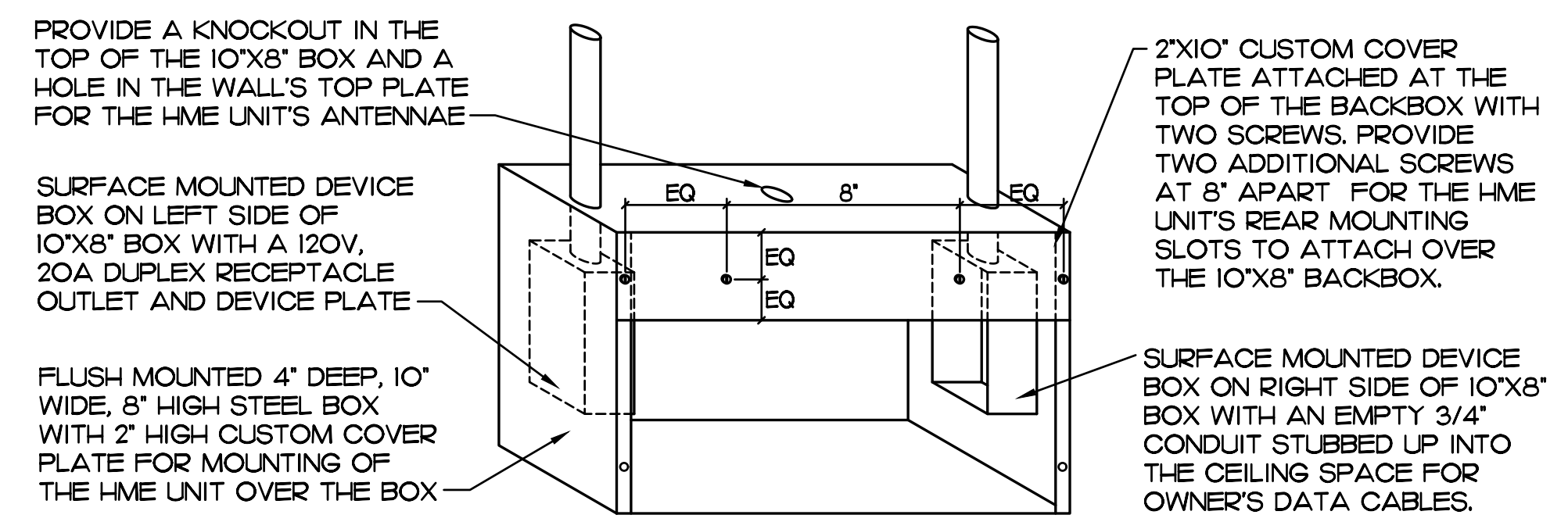
- (NOTE: ALL NOTES MAY NOT BE USED ON THIS PROJECT)
- ① PROVIDE A DOUBLE-GANG RING (CARLON #SC200RR) WITH A 2" CONDUIT STUBBED UP INTO THE CEILING SPACE FOR AUDIO/DETECTOR LOOP.
  - ② PROVIDE TWO DOUBLE-GANG RINGS (CARLON #SC200RR) WITH STAINLESS STEEL COVER PLATE AND HOLE IN PLATE FOR AUDIO WITH 2" CONDUIT TO THE DT DUAL-LANE ORDERING AREA AND A 2" CONDUIT STUBBED UP INTO THE CEILING SPACE.
  - ③ 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.

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.



# 3 ANSUL SYSTEM PANEL WIRING DIAGRAM

NOT TO SCALE



# 4 HME UNIT'S POWER & DATA BOX DETAIL

NO SCALE

# 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.

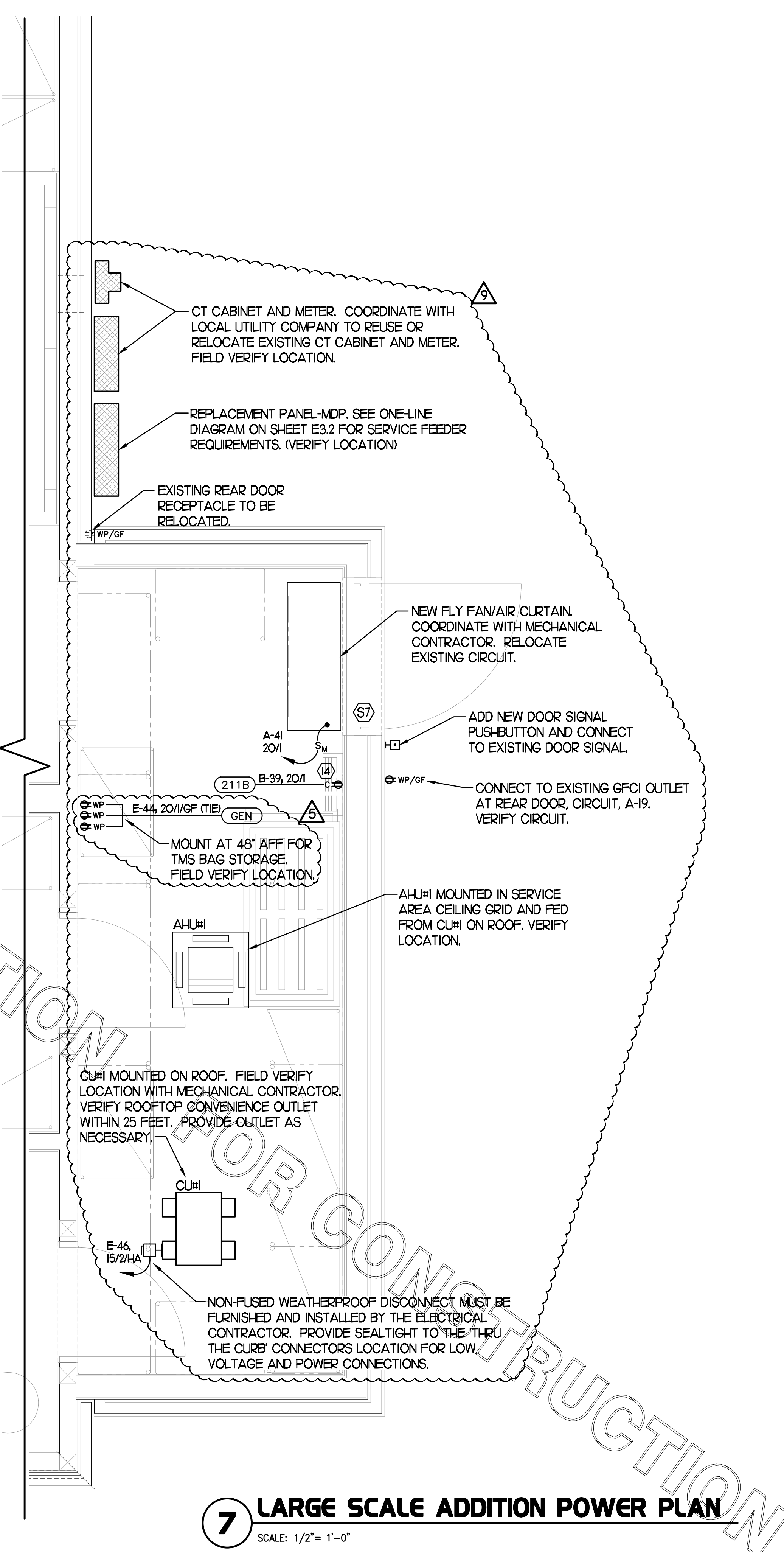
# 5 KEY NOTES - POS:

- (NOTE: ALL NOTES MAY NOT BE USED ON THIS PROJECT)
- ① PROVIDE A RETROFIT DOUBLE-GANG RING (CARLON #SC200RR) FOR OWNER'S DEVICE PLATE WITH A 3" EMPTY CONDUIT AT THE OPENING IN THE WALL UP TO THE CEILING SPACE FOR OWNER'S DATA CABLES.
  - ② 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.
  - ③ PROVIDE TWO 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.
  - ④ PROVIDE A RETROFIT SINGLE GANG RING (CARLON #SC100RR) FOR OWNER'S DEVICE PLATE WITH A 2" EMPTY CONDUIT AT THE OPENING IN THE WALL UP TO THE CEILING SPACE FOR OWNER'S DATA CABLES.
  - ⑤ 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.
  - ⑥ 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.

# 6 KEY NOTES - SECURITY:

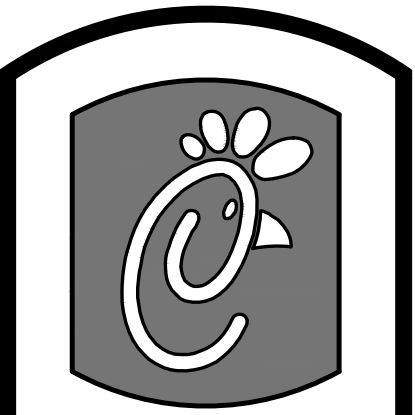
- (NOTE: ALL NOTES MAY NOT BE USED ON THIS PROJECT)
- ① PROVIDE SINGLE GANG JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER. EXTEND 1" E.C. UP IN WALL TO ABOVE ACCESSIBLE CEILING.
  - ② NOT USED.
  - ③ NOT USED.
  - ④ PROVIDE TWO GANG WEATHERPROOF JUNCTION BOX AND STAINLESS STEEL PLATE WITH 7/8" HOLE IN CENTER FOR PANIC BUTTON. MOUNT AT APPROXIMATELY 48" AFF. EXTEND 1/2" RIGID CONDUIT OVER TO THE WALL AND THEN UP TO ABOVE ACCESSIBLE CEILING. SEAL PENETRATION AT WIC/WIF CEILING.
  - ⑤ PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
  - ⑥ NOT USED.
  - ⑦ EXTEND 1/2" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
  - ⑧ NOT USED.
  - ⑨ 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.
  - ⑩ 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 ⑤.
  - ⑪ EXTEND 1/2" RIGID CONDUIT FROM A POINT 3" WITHIN STRIKE-SIDE WINDOW FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
  - ⑫ 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.

**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 REQD - FIELD VERIFY.



# 7 LARGE SCALE ADDITION POWER PLAN

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



5200 Buffington Rd.  
 Atlanta Georgia,  
 30349-2998

Revisions:  
 Mark Date By  
 ⑤ 03/15/17

BID COMMENTS  
 Mark Date By

Mark Date By  
 ⑥ 09/06/17

OWNER REVISION  
 Mark Date By

Kurzynske & Associates License  
 No. F-0823, Expires 12/31/17



Kurzynske & Associates  
 CONSULTING ENGINEERS  
 2900 Lebanon Pike, Ste. 201  
 Nashville, Tennessee 37214  
 Telephone: (615) 255-5203  
 Fax: (615) 255-5207  
 Email: mail@kurzynske.com

STORE  
 WAVERLY PLACE,  
 FSU  
 S97-100 Remodel  
 BIR DL Kitchen  
 411 Colonades Way  
 Cary, NC 27518

SHEET TITLE  
 LARGE SCALE  
 POWER PLAN

PROTOTYPE S97-100

Job No. : 170021.HF.R  
 Store : 01218  
 Date : 01.26.17  
 Drawn By : RW  
 Checked By : MK

Sheet

E2.3

PANELBOARD SCHEDULE - EXISTING PANEL-A												#218		
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS						
PANELBOARD NAME				ARC-FALLT				KVA PHASE A				22.38		
MANUFACTURER / TYPE				GROUND FALLT				KVA PHASE B				21.46		
VOLTS				HACR				KVA PHASE C				20.88		
PHASE / WIRE				HID LTG RATED				AMPS PHASE A				18.65		
MAIN TYPE / CU BUS AMPS				HIGH MAG LOAD				AMPS PHASE B				178.8		
AIC SERIES RATING				ISOLATED GROUND				AMPS PHASE C				174		
MOUNTING				LOCK-ON				KVA CONNECTED				64.71		
NEMA RATING				SLANT TRIP				KVA DIVERSIFIED				60.94		
QUANTITY OF SECTIONS				SWITCH RATED				AMPS CONNECTED				179.6		
								AMPS DIVERSIFIED				1691		
PNL NO.	CIR NO.	LOAD DESCRIPTION	EQ NO.	LOAD TYPE	LOAD KVA	CIR BKR	PH	CIR BKR	LOAD KVA	LOAD TYPE	EQ NO.	LOAD DESCRIPTION	CIR NO.	PNL NO.
D 1	1	POS STATIONS	180	R	0.700	20/1	A	20/1/GF	176	K	600	FLOOR MIXER	2	CD
D 3	3	POS STATIONS	180	R	0.600	20/1	B	20/1	0.360	R	606	JUICER STATION	4	
D 5	5	POS STATION MONITORS	180	R	0.600	20/1/GF	C	20/1				SPARE	6	
7	7	EXIST OFFICE OUTLETS	R	0.540	20/1	A	20/1	0.240	MS			EXIST WATER FILTER	8	
9	9	EXIST OFFICE OUTLETS	R	0.540	20/1	B	20/1	0.720	R			COMM OUTLETS	10	
11	11	EXIST OFFICE OUTLETS	R	0.780	20/1	C	20/MLO	0.684	X	421		UIC. REFRIGERATOR	12	
13	13	SPARE	R	0.180	20/1	A	20/1	3.200	HT			FF #2 - DT WINDOW FLY FAN	14	
15	15	SPARE	R	0.180	20/1	B	20/1	3.200	HT			FF #2 - DT WINDOW FLY FAN	16	
17	17	EXIST DOORBELL/TIMER	R	0.540	20/1	C	20/1	0.500	MS			DT WINDOW	18	
19	19	EXIST GEN OUTLETS	R	0.360	20/1	A	20/1	0.396	X	420		EXIST U.C. REFRIG	20	
21	21	EXIST GEN OUTLETS	R	0.540	20/1	B	20/1	0.396	X	420		EXIST U.C. REFRIG	22	
23	23	SANDWICH SLIDE	K	1.230	20/2	C	20/1	0.684	X	421		EXIST U.C. REFRIG	24	
25	25	EXIST WIC CONDENSER	X	0.750	20/2	A	20/1	1.130	X			EXIST WIF CONDENSER	26	
27	27	EXIST WIC CONDENSER	X	0.750	20/2	B	30/3	1.130	X			EXIST WIF CONDENSER	28	
29	29	EXIST WIC CONDENSER	X	0.750	20/2	C	20/1	1.130	X			EXIST WIF CONDENSER	30	
AD 31	31	CARBONATOR	320	K	0.744	20/1/GF	A	70/3	6.960	HV		ACH2	32	
AD 33	33	CARBONATOR	320	K	0.744	20/1/GF	B	70/3	6.960	HV		ACH2	34	
35	35	GEN OUTLETS	R	0.360	20/1	C	20/1	6.400	HV			ACH3	36	
37	37	SPARE			20/1	A	20/1	5.520	HV			ACH4	38	D
39	39	SPARE			20/1	B	20/1	5.520	HV			ACH4	40	D
41	41	REAR DOOR FLY FAN	FFH1	MI	1.200	20/1	C	50/3	5.520	HV		ACH4	42	D

\*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	6.760	PER(N)(KVA+500)	6.760
MISCELLANEOUS	MS	0.740	1.25	0.925
HVAC	HV	37.440	1	37.440
HEAT	HT	6.400	1	6.400
SINGLE PHASE MOTOR	MI	1.200	1.25	1.500
KITCHEN EQUIPMENT	K	5.124	0.65	3.331
KITCHEN REFRIG EQUIPMENT	X	7.050	0.65	4.583
<b>TOTAL</b>		<b>64.714</b>		<b>60.938</b>

PANELBOARD SCHEDULE - EXISTING PANEL-D												#218		
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS						
PANELBOARD NAME				ARC-FALLT				KVA PHASE A				30.3		
MANUFACTURER / TYPE				GROUND FALLT				KVA PHASE B				28.37		
VOLTS				HACR				KVA PHASE C				24.92		
PHASE / WIRE				HID LTG RATED				AMPS PHASE A				25.25		
MAIN TYPE / CU BUS AMPS				HIGH MAG LOAD				AMPS PHASE B				236.4		
AIC SERIES RATING				ISOLATED GROUND				AMPS PHASE C				207.7		
MOUNTING				LOCK-ON				KVA CONNECTED				83.59		
NEMA RATING				SLANT TRIP				KVA DIVERSIFIED				62.93		
QUANTITY OF SECTIONS				SWITCH RATED				AMPS CONNECTED				232		
								AMPS DIVERSIFIED				174.7		
PNL NO.	CIR NO.	LOAD DESCRIPTION	EQ NO.	LOAD TYPE	LOAD KVA	CIR BKR	PH	CIR BKR	LOAD KVA	LOAD TYPE	EQ NO.	LOAD DESCRIPTION	CIR NO.	PNL NO.
1	1	KITCHEN LTG	L	0.700	20/1	A	30/2	2.000	K	308		COFFEE MAKER	2	
3	3	TOILET LTG	L	0.500	20/1	B	20/1	2.000	K			SPARE	4	
5	5	KITCHEN LTG	L	0.850	20/1	C	20/1					SPARE	6	
7	7	SPARE			20/1	A	20/1	1.200	EL			EXT. WALL PACK DIN	8	
9	9	DINING LTG	L	0.950	20/1	B	20/1	1.200	EL			EXT. WALL PACK DT	10	
11	11	ACCENT LTG	L	0.700	20/1	C	20/1					SPARE	12	
13	13	SERVING LTG	L	0.400	20/1	A	20/1	0.360	R			GEN OUTLETS	14	
15	15	FREEZER/COOLER LTG	L	0.500	20/1	B	20/1	1.200	EL			MAIN ID SIGN	16	
17	17	HEAT TAPE	HT	0.500	20/1/GF	C	20/1	1.200	EL			MAIN ID SIGN	18	
19	19	UPPER SOFFIT DT	EL	1.440	20/1	A	20/1	1.200	EL			MAIN ID SIGN	20	
21	21	SPARE			20/1	B	20/1					SPARE	22	
23	23	EF-1	MI	1.176	20/1	C	20/1	0.750	MS			CONTROL PANEL	24	
25	25	EF-2	MI	1.176	20/1	A	20/1	0.780	EL			DRIVE-THRU CANOPY	26	
27	27		K	7.320		B	20/1	1.740	EL	671		MENUBOARDS	28	
29	29	EXISTING OPEN FRYER	K	7.320		C	20/1	4.563	K			EXISTING PRESSURE FRYER	30	
31	31	EXISTING OPEN FRYER	K	7.320		A	50/3/ST	4.563	K			EXISTING PRESSURE FRYER	32	
33	33	EXISTING OPEN FRYER	K	7.320		B	50/3/ST	4.563	K			EXISTING PRESSURE FRYER	34	
35	35	EXISTING OPEN FRYER	K	7.320		C	20/1	1.840	K	560		FRY STATION	36	
37	37	EXISTING OPEN FRYER	K	7.320		A	20/1/GF	1.090	X	442		REF DISPLAY CASE	40	
39	39	EXISTING OPEN FRYER	K	7.320		B	20/1	0.540	R			ROOFTOP RECEPTS	42	

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

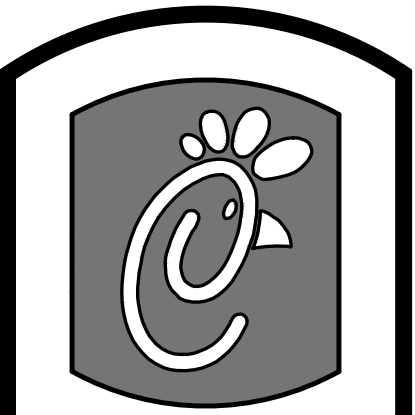
PANELBOARD LOAD SUMMARY				
LOAD DESCRIPTION	TYPE	(KVA) X	DEMAND FACTOR	DIVERSIFIED KVA
LIGHTING	L	4.600	1.25	5.750
EXTERIOR LIGHTING & SIGNAGE	EL	9.960	1	9.960
RECEPTACLES	R	0.900	PER(N)(KVA+500)	0.900
MISCELLANEOUS	MS	0.750	1.25	0.938
HEAT	HT	0.500	1	0.500
SINGLE PHASE MOTOR	MI	2.352	1.25	2.940
KITCHEN EQUIPMENT	K	63.449	0.65	41.242
KITCHEN REFRIG EQUIPMENT	X	1.080	0.65	0.702
<b>TOTAL</b>		<b>83.591</b>		<b>62.931</b>

PANELBOARD SCHEDULE - EXISTING PANEL-B												#218		
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS						
PANELBOARD NAME				ARC-FALLT				KVA PHASE A				22.87		
MANUFACTURER / TYPE				GROUND FALLT				KVA PHASE B				26.91		
VOLTS				HACR				KVA PHASE C				28.84		
PHASE / WIRE				HID LTG RATED				AMPS PHASE A				19.06		
MAIN TYPE / CU BUS AMPS				HIGH MAG LOAD				AMPS PHASE B				224.2		
AIC SERIES RATING				ISOLATED GROUND				AMPS PHASE C				240.4		
MOUNTING				LOCK-ON				KVA CONNECTED				78.62		
NEMA RATING				SLANT TRIP				KVA DIVERSIFIED				64.58		
QUANTITY OF SECTIONS				SWITCH RATED				AMPS CONNECTED				282.2		
								AMPS DIVERSIFIED				179.3		
PNL NO.	CIR NO.	LOAD DESCRIPTION	EQ NO.	LOAD TYPE	LOAD KVA	CIR BKR	PH	CIR BKR	LOAD KVA	LOAD TYPE	EQ NO.	LOAD DESCRIPTION	CIR NO.	PNL NO.
AD 1	1	CARBONATOR	320	K	0.744	20/1/GF	A	20/1				SPARE	2	
3	3	ICE MAKER	380X	X	2.018	30/2	B	20/1	0.360	R		GEN OUTLETS	4	
5	5	ICE MAKER	380X	X	2.018	30/2	C	20/1	0.760	K		EXIST REACH-IN FRZR	6	
7	7	ICE MAKER	380X	X	2.018	30/2	B	20/1/GF	1.911	X	562A	HOLDING TOWER	10	CD
CD 11	11	GEN OUTLET	R	0.180	20/1/GF	C	20/1					SPARE	12	
CD 13	13	40' COLD RAIL	439	X	0.820	20/1/GF	A	20/1/GF	1.000	K	550	WARMING DRAWER	14	CD
CD 15	15	GEN OUTLET	R	0.180	20/1/GF	B	20/1/GF	1.800	K	500A		BUN TOASTER	16	CD
CD 17	17	MULTI-USE HOLDING CAB	580H	K	2.040	20/1/GF	C	20/1/GF	1.600	K	564	PRODUCT HOLDING	18	CD
19	19	DOUBLE JUICE DISP.	310	K	0.984	20/1	A	20/1	0.360	R		GEN OUTLETS	20	
21	21	GEN OUTLET	R	0.360	20/1/GF	B	20/1/GF	1.440	X	440		BREADING TABLE	22	CD
CD 23	23	SODA DISPENSER	315W	K	1.200	20/1	C	20/1	1.920	X	444	THAWING CABINET	24	
CD 25	25	MILKSHAKE DISPENSER	300A	K	0.480	20/1	A	20/1				SPARE	26	
CD 27	27	ICE DREAM	300X	X	1.800	20/3	B	20/1	1.920	X	444	THAWING CABINET	30	
29	29	ICE DREAM	300X	X	1.800	20/3	A	20/1	1.920	X		THAWING CABINET	32	
33	33	EXISTING ICE DREAM	300	X	2.300	25/3	C	80/3/HA	8.400	HV		ACH3	34	
35	35	EXISTING ICE DREAM	300	X	2.300	25/3	C	80/3/HA	8.400	HV		ACH3	36	
37	37	EXISTING ICE DREAM	300	X	2.300	25/3	C	80/3/HA	8.400	HV		ACH3	38	
39	39	FLY SYSTEM		K	0.360	20/1	B	45/3/HA	3.960	HV		ACH4	40	
AD 41	41	CARBONATOR	320	K	0.744	20/1/GF	C	20/1				ACH4	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
RECEPTACLES	R	1.440	PER(N)(KVA+500)	1.440
HVAC	HV	37.080	1	37.080
KITCHEN EQUIPMENT	K	11.712	0.65	7.613
KITCHEN REFRIG EQUIPMENT	X	28.363	0.65	18.449
<b>TOTAL</b>		<b>78.615</b>		<b>64.582</b>

PANELBOARD SCHEDULE - PANEL-E												#218
PANELBOARD DESCRIPTION				BREAKER OPTIONS				LOADS				
PANELBOARD NAME				ARC-FALLT				KVA PHASE A				21.98
MANUFACTURER / TYPE				GROUND FALLT				KVA PHASE B				22
VOLTS				HACR				KVA PHASE C				22.5
PHASE / WIRE				HID LTG RATED				AMPS PHASE A				1831
MAIN TYPE / CU BUS AMPS				HIGH MAG LOAD				AMPS PHASE B				183.3
AIC SERIES RATING				ISOLATED GROUND				AMPS PHASE C				187.5
MOUNTING				LOCK-ON				KVA CONNECTED				66.47
NEMA												



**Chick-fil-E**

5200 Buffington Rd.  
Atlanta Georgia,  
30349-2998

Revisions:  
Mark Date By  
5 03/15/17

BID COMMENTS  
Mark Date By

Mark Date By  
9 09/06/17

OWNER REVISION  
Mark Date By

Kurzynske & Associates License  
No. F-0823, Expires 12/31/17



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Email: mail@kurzynske.com

STORE  
WAVERLY PLACE,  
FSU  
S97-100 Remodel  
BIR DL Kitchen  
411 Colanades Way  
Cary, NC 27518

SHEET TITLE  
SINGLE LINE  
RISER DIAGRAM

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : RW  
Checked By : MK

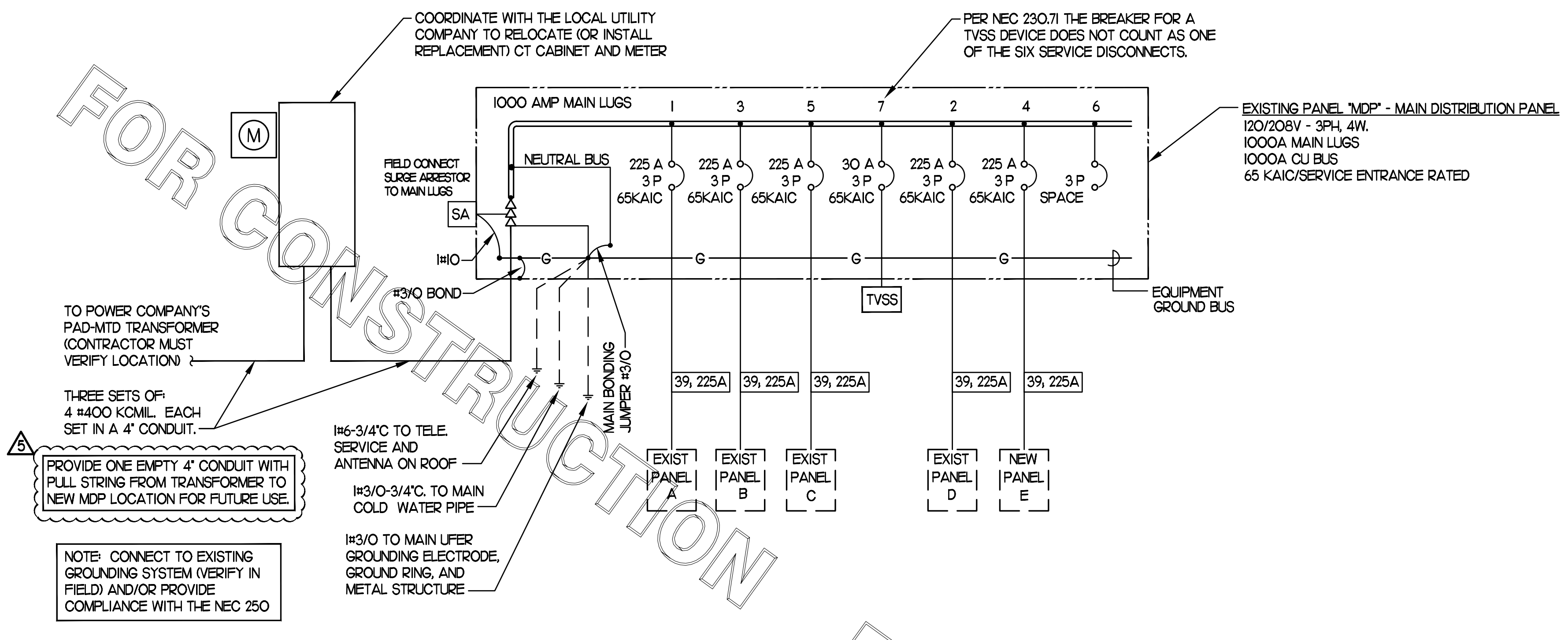
Sheet



**CONDUIT AND CONDUCTORS SCHEDULE**

Mark No.	OCF Device Amp/Poles	Conductors		Conductors		Raceway Size (nominal inches)							
		Total Ampacity	60d C 75d C	Phase & Neutral Qty Size	Min Eq Grd Qty Size	No. Sets	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	-	1675	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.



**I SINGLE LINE DIAGRAM**  
NO SCALE

PANELBOARD SCHEDULE - PANEL-MDP #1218														
PANELBOARD DESCRIPTION					BREAKER OPTIONS					LOADS				
PANELBOARD NAME: MDP					ARC-FALLT: GF					KVA PHASE A: 129				
MANUFACTURER / TYPE: SQ-D / HLINE					GROUND FALLT: HA					KVA PHASE B: 129.7				
VOLTS: 208 Y 120					HAOR: HD					KVA PHASE C: 129.6				
PHASE / WIRE: 3 / 4					HD LTG RATED: HM					AMPS PHASE A: 1075				
MAIN TYPE / CU BUS AMPS: MLO / 1000 AMP					HIGH MAG LOAD: IG					AMPS PHASE B: 1081				
AIC SERIES RATING: 65,000					ISOLATED GROUND: IG					AMPS PHASE C: 1080				
MOUNTING: SURFACE					LOCK-ON: LO					KVA CONNECTED: 388.2				
NEMA RATING: 3R					SHUNT TRIP: ST					KVA DIVERSIFIED: 306.8				
QUANTITY OF SECTIONS: 1					SWITCH RATED: SW					AMPS CONNECTED: 1078				
										AMPS DIVERSIFIED: 851.7				
PNL NO.	CR NO.	LOAD DESCRIPTION	EQ NO	LOAD TYPE	LOAD KVA	CR BKR *A/P/O	PH	CR BKR *A/P/O	LOAD TYPE	EQ NO	LOAD DESCRIPTION	CR NO.	PNL NOTES	
1		EXISTING PANEL-A			2238	225/3	A	225/3	30.30		EXISTING PANEL-D	2		
					2346		B		28.37					
					20.88		C		24.92					
					22.87		A		21.98					
3		EXISTING PANEL-B			26.91	225/3	B	225/3	22.00		PANEL E	4		
					28.84		C		22.50					
					31.43		A							
5		EXISTING PANEL-C			30.94	225/3	B	3-POLE			SPACE	6		
					32.44		C							
7		TVSS (PER NEC 230.71 THIS DEVICE DOES NOT COUNT AS A SERV DISC)				30/3	A				UNUSABLE	8		
							B							
							C							

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

PANELBOARD LOAD SUMMARY				
LOAD DESCRIPTION	TYPE	(KVA) X	DIVERSIFIED KVA	
LIGHTING	L	4600	125	5.750
EXTERIOR LIGHTING & SIGNAGE	EL	27.860	125	34.825
RECEPTACLES	R	13.060		11.530
MISCELLANEOUS	MS	1.490	PER(10KVA*50%)	1.490
IN/AC	IN/AC	16.920		76.920
HEAT	HT	6.900	1	6.900
SINGLE PHASE MOTOR	MI	3.552	125	4.440
KITCHEN EQUIPMENT	K	24.076	0.65	19.949
KITCHEN REFRIG EQUIPMENT	X	39.753	0.65	25.839
<b>TOTAL</b>		<b>388.21</b>		<b>306.844</b>

ELECTRICAL LOAD SUMMARY - Store #1218	
NOT ALL ELECTRIC RESTAURANT	
THE FOLLOWING IS BASED ON NEC 220.88	
LOAD DESCRIPTION	KVA
LIGHTING	460
EXTERIOR LTG AND SIGNAGE	27.86
RECEPTACLES	13.06
MISCELLANEOUS	1.49
AIR CONDITIONING	76.92
ELECTRIC HEAT	6.90
SINGLE PHASE MOTORS	3.55
KITCHEN EQUIPMENT	24.08
KITCHEN REFRIGERATION EQUIPMENT	39.75
<b>TOTAL CONNECTED KVA</b>	<b>388.2</b>
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	290.94
IF TOTAL LOAD IS OVER 800 KVA, THEN LOAD OVER 800 AT 20% + 476.3	0.00
DIVERSIFIED AMPS AT 208 VOLT	808.8

# I ELECTRICAL SPECIFICATIONS

## SECTION 16001 - ELECTRICAL GENERAL PROVISIONS

### PART 1 - GENERAL

- 1.01 WORK INCLUDED
- 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
- EQUIPMENT FURNISHED SHALL BE UL LISTED WHERE SUCH LABEL IS AVAILABLE. INSTALLATION SHALL CONFORM TO UL STANDARDS WHERE APPLICABLE.
  - 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.
  - OBTAIN PERMITS AND CERTIFICATES OF APPROVAL FROM ALL AUTHORITIES HAVING JURISDICTION OVER THE INSTALLATION AND PAY ALL FEES REQUIRED.
- 1.03 SUBMITTALS
- 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 INCLUDE FOR THE FOLLOWING:
    - LIGHTING FIXTURES
    - PANELBOARDS/BREAKERS
    - WIRING DEVICES AND DEVICE PLATES
    - ENCLOSED SWITCHES
  - 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.
  - 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
- 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 16050 - BASIC MATERIALS AND METHODS

### PART 1 - GENERAL

- 1.01 COORDINATION
- OBTAIN AND REVIEW SHOP DRAWINGS, PRODUCT DATA, AND MANUFACTURER'S INSTRUCTIONS FOR EQUIPMENT FURNISHED UNDER OTHER SECTIONS TO DETERMINE CONNECTION LOCATIONS AND REQUIREMENTS.
  - 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
- 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
- MAKE ELECTRICAL CONNECTIONS TO UTILIZATION EQUIPMENT IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS.
  - 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.
  - 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.
  - 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.
  - TRENCHES SHALL BE EXCAVATED 6" BELOW ELEVATION OF BOTTOM OF CONDUIT.
  - 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
- 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
- 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
- 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
- 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.

- 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
- 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 16111 - RACEWAYS AND CONDUIT SYSTEMS

### PART 1 - PRODUCTS

- 1.01 ACCEPTABLE MANUFACTURERS
- RIGID IMC, AND EMT CONDUIT SHALL BE HOT-DIPPED, GALVANIZED, OR ELECTROGALVANIZED STEEL BY ALLIED, REPUBLIC, TRIANGLE, WHEATLAND, OR APPROVED EQUAL.
  - PVC CONDUIT SHALL BE CARLON, SCHEDULE 40, 90 DEGREES C RATED, UNLESS OTHERWISE NOTED.
  - 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 ISOLATED GROUND (GREEN + YELLOW STRIPED) CONDUCTOR. CABLES FOR DATA SYSTEMS POWER CIRCUITS SHALL BE AS SPECIFIED ON PLANS.
  - ASSOCIATED COUPLINGS, CONNECTORS AND FITTINGS SHALL BE STEEL AS MANUFACTURED BY RACO OR EQUIVALENT. CATALOG NUMBERS USED BELOW ARE THOSE OF RACO.
  - ERICKSON COUPLINGS, SERIES 1502, SHALL BE USED WHERE NEITHER LENGTH OF CONDUIT CAN BE ROTATED.
  - INSULATED BUSHINGS SHALL BE SERIES 1402.
  - EMT BOX CONNECTORS SHALL BE COMPRESSION FITTINGS.
  - CONDUIT, CONNECTORS, COUPLINGS AND FITTINGS SHALL BE UL LISTED AND LABELED.
- 1.02 ELECTRICAL METALLIC TUBING (EMT)
- USE ELECTRIC METALLIC TUBING (EMT) WHERE DRAWINGS CALL FOR CONDUIT TO BE:
    - CONCEALED IN WALLS
    - INSTALLED ABOVE SUSPENDED CEILINGS
    - INSTALLED EXPOSED, ABOVE 6 FEET.
- 1.03 INTERMEDIATE METAL CONDUIT (IMC)
- USE INTERMEDIATE METAL CONDUIT (IMC) WHERE DRAWINGS CALL FOR CONDUIT TO BE:
    - INSTALLED FOR PANELBOARD FEEDERS
    - INSTALLED IN WET LOCATIONS (INTERIOR AND EXTERIOR)
    - INSTALLED EXPOSED BELOW 6 FEET.
- 1.04 POLYVINYL CHLORIDE (PVC) RACEWAY
- USE PVC RACEWAY FOR:
    - UNDERGROUND SERVICE ENTRANCE CONDUITS FOR TELEPHONE AND POWER
    - EXTERIOR BRANCH CIRCUITS INSTALLED UNDERGROUND
    - INTERIOR BRANCH CIRCUIT CONDUITS INSTALLED IN CONCRETE SLAB ON GROUND FLOOR

- 1.05 RIGID STEEL CONDUIT (RSC)
- USE RIGID STEEL CONDUIT FOR:
    - INSTALL UNDERGROUND FOR POWER SERVICE ENTRANCE ELBOWS PENETRATING FLOOR SLAB
    - EXPOSED TO PHYSICAL DAMAGE
- 1.06 FLEXIBLE METAL CONDUIT
- PROVIDE FLEXIBLE METAL CONDUIT FOR TERMINATION AT EQUIPMENT SUBJECT TO MOTION AND VIBRATION.
  - LENGTH SHALL NOT EXCEED 6 FEET IN ACCESSIBLE CEILING AREAS.
  - SHALL NOT BE CONCEALED IN WALLS.
  - WHERE EXPOSED TO CONTINUOUS OR INTERMITTENT MOISTURE, CONDUIT SHALL BE UL TYPE EF LIQUID TIGHT.
  - FOR CONNECTION TO CEILING MOUNTED LIGHTING FIXTURES FROM OUTLET BOXES.

- 1.07 MC (METAL-CLAD) CABLE
- MC CABLE SHALL BE USED FOR THE CONNECTION OF THE POINT OF SALES (POS) SYSTEM EQUIPMENT ONLY WHEN ALLOWED BY LOCAL CODES AND ARTICLE 330 OF THE NATIONAL ELECTRIC CODE.

- 1.08 RIGID STEEL CONDUIT (RSC)
- USE RIGID STEEL CONDUIT FOR:
    - INSTALL UNDERGROUND FOR POWER SERVICE ENTRANCE ELBOWS PENETRATING FLOOR SLAB
    - EXPOSED TO PHYSICAL DAMAGE

- 1.09 FLEXIBLE METAL CONDUIT
- PROVIDE FLEXIBLE METAL CONDUIT FOR TERMINATION AT EQUIPMENT SUBJECT TO MOTION AND VIBRATION.
  - LENGTH SHALL NOT EXCEED 6 FEET IN ACCESSIBLE CEILING AREAS.
  - SHALL NOT BE CONCEALED IN WALLS.
  - WHERE EXPOSED TO CONTINUOUS OR INTERMITTENT MOISTURE, CONDUIT SHALL BE UL TYPE EF LIQUID TIGHT.
  - FOR CONNECTION TO CEILING MOUNTED LIGHTING FIXTURES FROM OUTLET BOXES.

- 1.10 MC (METAL-CLAD) CABLE
- MC CABLE SHALL BE USED FOR THE CONNECTION OF THE POINT OF SALES (POS) SYSTEM EQUIPMENT ONLY WHEN ALLOWED BY LOCAL CODES AND ARTICLE 330 OF THE NATIONAL ELECTRIC CODE.

### PART 2 - EXECUTION

- 2.01 INSTALLATION
- MINIMUM SIZE OF CONDUITS SHALL BE 1/2" INCH.
  - 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.
  - CAP ENDS OF CONDUITS TO PREVENT ENTRANCE OF WATER AND OTHER FOREIGN MATERIAL DURING CONSTRUCTION.
  - PROVIDE NO. 12 AWG COPPER PULL WIRES OR NYLON CORD IN ALL EMPTY CONDUITS. STEEL WIRE NOT ACCEPTABLE AS PULL WIRE.
  - WHERE IMC CONDUIT 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.
  - 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.
  - PROVIDE SEAL-OFF FITTING IN ALL CONDUITS ENTERING A COLD TEMPERATURE AREA SUCH AS FREEZERS AND DRY REFRIGERATORS.
  - 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.
  - 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
- DO NOT USE ELECTRIC 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
- USE THREADED FITTINGS FOR ALL CONNECTORS AND ADAPTERS.
  - PROVIDE 1/4-INCH NYLON PULL ROPE IN ALL PRIMARY POWER AND INCOMING TELEPHONE SERVICE ENTRANCE CONDUITS.
  - PVC CONDUIT SHALL CONVERT TO GALVANIZED RIGID METAL PER DETAIL #4 ON SHEET E12.

## 2.04 FLEXIBLE METAL CONDUIT

- 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.
- 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.

## SECTION 16123 - CONDUCTORS

### PART 1 - PRODUCTS

- 1.01 CONDUCTORS
- PROVIDE 95% 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 TH-NV-TWN INSULATION UNLESS NOTED OTHERWISE.
  - CONDUCTORS SHALL BE MANUFACTURED BY TRIANGLE, AMERICAN, ROME, SOUTH-WIRE OR APPROVED EQUAL.
  - PROVIDE NO. 14 AWG TYPE TH-N FIXTURE CONDUCTORS, FOR CONDUCTORS ENTERING FIXTURES.
  - BRANCH CIRCUIT CONDUCTORS SHALL BE MINIMUM #12 AWG, COPPER.

### PART 2 - EXECUTION

- 2.01 INSTALLATION
- INSTALL PULL BOXES IN CIRCUITS OR FEEDERS OVER 100' LONG.
  - MAKE ALL SPLICES OR CONNECTIONS ONLY AT OUTLET, PULL, OR JUNCTION BOXES.
  - ALL CONDUCTORS AND CONNECTIONS SHALL TEST FREE OF GROUNDS, SHORTS, AND OPENS PRIOR TO ENERGIZING CIRCUIT.
  - PROVIDE NO. 10 WIRE IN LIEU OF NO. 12 WIRE FOR ANY BRANCH CIRCUIT IN EXCESS OF 100' LINEAR LENGTH TO PREVENT EXCESSIVE VOLTAGE DROP.
  - USE IDEAL WING NUTS, SCOTCH-LOK TYPE Y, R, G, OR B, OR APPROVED EQUIVALENT CONNECTORS FOR FIXTURE CONNECTIONS AT OUTLET BOXES.
  - MAKE FEEDER TAPS AND JOINTS WITH OZ TYPE T, PT, PM OR PTS, OR APPROVED EQUIVALENT CLAMP CONNECTORS AS MANUFACTURED BY KLIPPER, OR WITH APPROVED COMPRESSION SLEEVES. WRAP CONNECTORS WITH NO. 10 ELECTRO-SEAL OR APPROVED EQUIVALENT PLASTIC FILLER AND VINYL TAPE.
  - LEAVE A MINIMUM OF 8" SLACK WIRE IN EVERY OUTLET BOX.
  - 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.
  - 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.
  - 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 16130 - OUTLET AND JUNCTION BOXES

### PART 1 - GENERAL

- 1.01 PROJECT CONDITIONS
- VERIFY FIELD MEASUREMENTS ARE AS SHOWN ON DRAWINGS.
  - VERIFY LOCATIONS OF FLOOR BOXES AND OUTLETS IN WORK AREAS PRIOR TO ROUGH-IN.

### PART 2 - PRODUCTS

- 2.01 OUTLET BOXES
- SHEET METAL OUTLET BOXES: GALVANIZED STEEL.
  - CAST BOXES: TYPE FS, CAST FERROUS. PROVIDE GASKETED COVER BY BOX MANUFACTURER.
  - MANUFACTURERS: NATIONAL, APPLETON, GENERAL ELECTRIC, RACO, OR STEEL CITY.
  - PROVIDE BOXES FOR FIXTURES WITH FIXTURE STUDS IN CENTER.
  - 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 1/2" DEEP MINIMUM.
- 2.02 PULL AND JUNCTION BOXES
- SHEET METAL BOXES: GALVANIZED STEEL.
  - SURFACE-MOUNTED CAST METAL BOX: TYPE 4, FLAT-FLANGED, SURFACE-MOUNTED JUNCTION BOX.
    - MATERIAL: GALVANIZED CAST IRON.
    - COVER: FURNISH WITH GROUND FLANGE, NEOPRENE GASKET, AND STAINLESS STEEL COVER SCREWS.
  - IN-GROUND CAST METAL BOX: INSIDE FLANGED, RECESSED COVER BOX FOR FLUSH MOUNTING.
    - MATERIAL: GALVANIZED CAST IRON.
    - COVER: NONSKID COVER WITH NEOPRENE GASKET AND STAINLESS STEEL COVER SCREWS.
    - COVER LEGEND: ELECTRIC.
  - MANUFACTURERS: NATIONAL, APPLETON, GENERAL ELECTRIC, RACO, OZ-SEIDNEY OR STEEL CITY.

### PART 3 - EXECUTION

- 3.01 INSTALLATION
- INSTALL ELECTRICAL BOXES AS SHOWN ON DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS AND COMPLIANCE WITH REGULATORY REQUIREMENTS.
  - INSTALL PULL BOXES AND JUNCTION BOXES ABOVE ACCESSIBLE CEILINGS.
  - INACCESSIBLE CEILING AREAS: INSTALL OUTLET AND JUNCTION BOXES NO MORE THAN 6 INCHES FROM CEILING ACCESS PANEL OR FROM REMOVABLE RECESSED LIGHT FIXTURE.
  - USE FLUSH MOUNTING OUTLET BOXES IN FINISHED AREAS.
  - USE STAMPED STEEL BRIDGES TO FASTEN FLUSH MOUNTING OUTLET BOX BETWEEN STUDS.
  - INSTALL FLUSH MOUNTED BOX WITHOUT DAMAGING WALL INSULATION OR REDUCING ITS EFFECTIVENESS.

- USE ADJUSTABLE STEEL CHANNEL FASTENERS FOR HUNG CEILING OUTLET BOX.
- DO NOT FASTEN BOXES TO CEILING SUPPORT WIRES.
- SUPPORT BOXES INDEPENDENTLY OF CONDUIT, EXCEPT CAST BOX THAT IS CONNECTED TO TWO RIGID METAL CONDUITS BOTH SUPPORTED WITHIN 12 INCHES OF BOX.
- USE GANG BOX WHERE MORE THAN ONE DEVICE IS MOUNTED TOGETHER. DO NOT USE SECTIONAL BOX.
- USE GANG BOX WITH PLASTER RING FOR SINGLE DEVICE OUTLETS.
- USE CAST OUTLET BOX IN EXTERIOR LOCATIONS AND WET LOCATIONS.

## 3.02 OUTLET BOXES

- SELECT BOXES ACCORDING TO INTENDED USE AND TYPE OF OUTLET. CEILING OUTLET BOXES SHALL BE 4" OCTAGON AND 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

- JUNCTION BOXES SHALL BE SIZED ACCORDING TO NUMBER OF CONDUCTORS IN BOX OR TYPE OF SERVICE TO BE PROVIDED. MINIMUM JUNCTION BOX SIZE 4-1/16" SQUARE AND 2-1/8" DEEP. PROVIDE SCREW COVERS FOR JUNCTION BOXES.
- 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.
- PROVIDE PULL BOX EVERY 100' OF CONDUIT RUN OR WHERE EXCESSIVE NUMBER OF BENDS NECESSITATES A BOX FOR EASE OF WIRE INSTALLATION.

## SECTION 16141 - WIRING DEVICES AND PLATES

### PART 1 - PRODUCTS

- 1.01 WALL SWITCHES
- SHALL BE PURCHASED FROM THE NATIONAL ACCOUNTS VENDOR INDICATED ON THE PLANS.**
  - RATINGS: 20 AMPS, 120/277 VOLTS A.C. OR AS IDENTIFIED ON DRAWINGS.
  - DEVICES: (COOPER/ARROW HART CATALOG NUMBERS ARE LISTED UNLESS NOTED OTHERWISE):
    - SINGLE POLE TOGGLE SWITCHES:
      - 20 AMP GREY DEVICE - #A4122-GY
      - 20 AMP PILOT LIGHTS ILLUMINATED WITH LOAD ON - #A4122-PL
    - DOUBLE POLE TOGGLE SWITCHES: 20 AMP GREY DEVICE - #A4122-GY

## 1.02 RECEPTACLES

- SHALL BE PURCHASED FROM THE NATIONAL ACCOUNTS VENDOR INDICATED ON THE PLANS.**
- DEVICES: (COOPER/ARROW HART CATALOG NUMBERS ARE LISTED UNLESS OTHERWISE NOTED):
  - SPECIFICATION GRADE DEVICES (GREY DEVICE COLOR IN ALL AREAS, EXCEPT FOR IG TYPE) TO BE 20 AMP, 125 VOLTS, A.C. RECEPTACLES:
    - SINGLE (SIMPLEX) DEVICE: #1877-GY
    - DUPLEX DEVICE: #CR20-GY
    - TAMPER RESISTANT DUPLEX USB CHARGING DEVICE: #TR7746 (VERIFY COLOR)
    - GF (GROUND-FALLT CIRCUIT INTERRUPTER) DUPLEX DEVICE: #VGF20-GY
    - IG (ISOLATED GROUND) DUPLEX DEVICE: #IG5362-RN (ORANGE FACE)

## 1.03 SPECIAL DEVICES

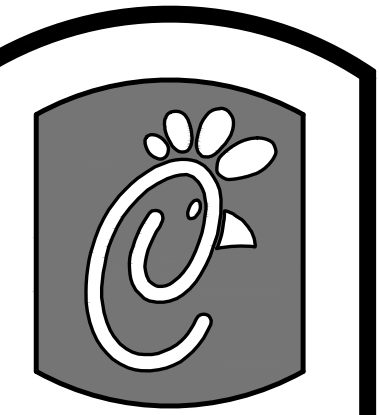
- MANUAL MOTOR STARTER SWITCH: SQ, D CLASS 2510, TYPE F, FOR USE ON MOTORS UP TO 3/4 HORSEPOWER. PROVIDE NEMA 1 ENCLOSURE IN DRY LOCATIONS, PROVIDE NEMA 3R ENCLOSURE IN WET OR EXTERIOR LOCATIONS.

## 1.04 WALL PLATES

- PROVIDE COOPER/ARROW HART, OR APPROVED EQUAL, SMOOTH SATIN STAINLESS STEEL 302-SS SERIES FOR SWITCHES AND RECEPTACLES.
- PROVIDE BLANK PLATES ON ALL OUTLET BOXES FOR FUTURE OUTLETS, OR OUTLETS WITHOUT DEVICES. PLATE STYLE SHALL MATCH DEVICE PLATES.
- 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 #WU-H.
- WHERE DEVICES INSTALLED IN EXPOSED BOXES OR CONDUIT FITTINGS, PROVIDE PROPERLY DESIGNED PLATES AND COVERS EQUAL TO ARROW-HART RS-SERIES EXPOSED WORK COVERS.
- 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
- MOUNTING
    - MOUNT SWITCHES AND RECEPTACLES AT HEIGHT ABOVE FINISHED FLOOR AS INDICATED ON PLANS, AND LEGEND.
    - 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.
    - INSTALL SWITCHES WITH OFF POSITION DOWN.
    - DO NOT USE THE FEED THRU FEATURE FOR THE GF TYPE RECEPTACLE, UNLESS REQUIRED BY THE PLANS.
    - USE JUMBO SIZED PLATES FOR OUTLETS INSTALLED IN MASONRY WALLS.
    - EACH RECEPTACLE SHALL BE PROVIDED WITH A #2 GREEN GROUNDING JUMPER BETWEEN THE GROUND TERMINAL OF THE RECEPTACLE AND THE OUTLET BOX.
    - 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.
  - TESTING
    - TEST EACH SWITCH AND VERIFY PROPER OPERATION WITH ENERGIZED CIRCUIT.
    - TEST EACH RECEPTACLE FOR PROPER POLARITY ON ENERGIZED CIRCUIT.
    - 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.



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SHEET TITLE  
ELECTRICAL  
SPECIFICATIONS

PROTOTYPE S97-100

Job No. : 170021.HF.R

Store : 01218

Date : 01.26.17

Drawn By : RW  
Checked By: MK

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**I ELECTRICAL SPECIFICATIONS (CONTINUED)**

**SECTION 16170 - 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 250.95. 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 ARTICLE 250, NATIONAL ELECTRICAL CODE, AND LOCAL AUTHORITIES HAVING JURISDICTION.
  - B. INSTALL A #3/0 BARE COPPER WIRE BOND ACROSS THE WATER METER, SAME TO BE 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 1/4" 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 GROUND 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.

**SECTION 16190 - SUPPORTING DEVICES AND HANGERS**

- PART 1 - PRODUCTS**
- 1.01 ACCEPTABLE MANUFACTURERS
- A. SUPPORTING DEVICES AND HANGERS SHALL BE MANUFACTURED BY RAYCO FASTENERS.
- PART 2 - EXECUTION**
- 2.01 INSTALLATION
- B. 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.
  - C. 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.
  - D. 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.
  - E. USE OF CHAINS, PERFORATED IRON, BALING WIRE, OR TIE WIRE FOR SUPPORTING CONDUIT RUNS IS NOT PERMITTED.
  - F. 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, PAR, 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.
  - G. 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 16441 - ENCLOSED SWITCHES**

- PART 1 - PRODUCTS**
- 1.01 MANUFACTURERS
- A. SQUARE D.
  - B. GENERAL ELECTRIC.
  - C. CUTLER-HAMMER.
- 1.02 ENCLOSED SWITCHES
- A. NONFUSIBLE SWITCH ASSEMBLIES: NEMA KS I, TYPE GENERAL DUTY 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 I.
    - 1. INTERIOR DRY LOCATIONS: TYPE 1.
    - 2. EXTERIOR LOCATIONS: TYPE 3R.

**SECTION 16470 - PANELBOARDS**

- PART 1 - PRODUCTS**
- 1.01 MANUFACTURERS (THRU A NATIONAL ACCOUNTS PROGRAM)
- A. SIEMENS - SUNCOAST ENVIRONMENTAL CONTROLS (SEC) - SCOTT DYER, 877.544.6679.
  - B. SQUARE-D - (THRU GRAYBAR-ATLANTA) - MICHAEL BROWN, 678.291.5207, EMAIL: MICHAEL.BROWN@GRABAR.COM
- 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, 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 KEYPED 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 HIGH-TEST 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 16500 - LIGHTING FIXTURES**

- PART 1 - GENERAL**
- 1.01 ACCEPTABLE MANUFACTURERS AND VENDORS
- A. LIGHTING FIXTURES INDICATED ON LIGHTING FIXTURE SCHEDULE ARE TO BE PURCHASED FROM THE CHICK-FIL-A NATIONAL ACCOUNT VENDOR FOR THE REGION OF THE PROJECT.
    - ACCU-SERV LIGHTING** - NORTH REGION AND SOUTH-EAST REGION. CONTACT AT ACCU-SERV/ BOB HARRING AT 877-707-7376, FAX - 502-961-0357, EMAIL - BHARRING@ACCU-SERV.COM
    - VILLA LIGHTING** - CENTRAL REGION, SOUTH-WEST REGION, AND WEST REGION. CONTACT AT VILLA LIGHTING DAVE CHRISTANEL AT 800-325-0963, FAX - 314-531-8720, EMAIL - DAVE@VILLALIGHTING.COM
  - B. BALLASTS TO BE ADVANCE MARK III ENERGY SAVING ELECTROMAGNETIC BALLAST OR EQUAL BY JEFFERSON OR UNIVERSAL.
  - C. LAMPS TO BE OSRAM-SYLVANIA, NORTH AMERICAN PHILLIPS, OR GENERAL ELECTRIC.

- 1.02 FIXTURE REQUIREMENTS
- A. PROVIDE REGULATING, HPF BALLASTS IN ALL HID LIGHTING FIXTURES. HID LAMP TYPES SHALL BE AS SHOWN IN PHOTOMETRIC TEST DATA.
  - B. PROVIDE CLASS 'P', UL LABELED, HPF, ENERGY SAVING BALLASTS IN ALL FLUORESCENT LIGHTING FIXTURES. RECESSED FLUORESCENT LIGHTING FIXTURE BALLASTS SHALL BE PROVIDED WITH INTEGRAL THERMAL PROTECTION.
  - C. PROVIDE 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.
  - E. ALL COMPONENTS OF RECESSED FIXTURES SHALL BE ACCESSIBLE WITHOUT DISTURBING FIXTURE IN OR ON CEILING.
  - F. ENERGY SAVING BALLASTS AND ENERGY SAVING LAMPS PROVIDED SHALL BE COMPATIBLE FOR OPERATION TOGETHER.
  - G. EXTERIOR FIXTURES AND POLES SHALL BE SUITABLE FOR EXTERIOR USE, SHALL BE UL LISTED, AND SHALL BE A STANDARD DESIGN FOR EXTERIOR APPLICATION.
  - H. EXTERIOR POLES FOR FIXTURES WITH LUMINAIRES INSTALLED SHALL BE DESIGNED FOR MAXIMUM CONSTANT VELOCITY WIND LOAD WITH LUMINAIRES INSTALLED, APPLICABLE TO THE GEOGRAPHIC AREA.

- 1.03 CONTROLS
- A. LIGHTING CONTACTORS SHALL BE CUTLER-HAMMER 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 DROPPED CEILINGS SHALL BE SUPPORTED BY AND ATTACHED TO CEILING SYSTEM AS REQUIRED BY NEC 410-16(C). 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. LOCATE NO SPLICE OR TAP WITHIN AN ARM, POST, OR POLE. 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 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 16751 - SPECIAL SYSTEMS**

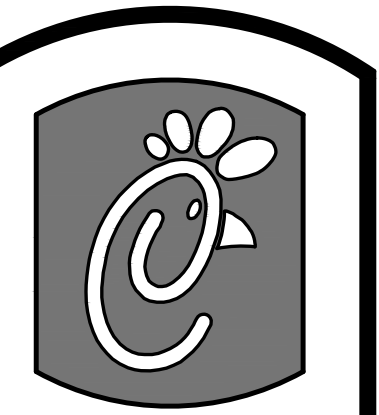
- PART 1 - GENERAL**
- 1.01 WORK INCLUDED
- A. FURNISH AND INSTALL RACEWAY SYSTEM FOR MUSIC/COMMUNICATIONS SECURITY, CCTV, POINT OF SALES, AND OTHER OWNER-FURNISHED SYSTEMS, CONSISTING OF EMPTY CONDUITS, JUNCTION BOXES, OUTLET BOXES, AND DEVICE PLATES, ETC., AS SPECIFIED AND SHOWN ON OWNER SELECTED VENDOR 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 THE ELECTRICAL CONTRACTOR.

- PART 2 - PRODUCTS**
- 2.01 MATERIALS
- A. PROVIDE 4-1/16" 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.

**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**

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SHEET TITLE  
ELECTRICAL  
SPECIFICATIONS

PROTOTYPE S97-100

Job No. : 170021.HF.R  
Store : 01218  
Date : 01.26.17  
Drawn By : RW  
Checked By: MK

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