

DIVISION 15 SPECIFICATIONS

PART I - PRODUCTS

1.01 GENERAL REQUIREMENTS

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

1.02 SCOPE

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

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

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

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

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

K. PROVIDE 1" THICK PIPE INSULATION FOR ALL ABOVE SLAB HOT AND TEMPERED WATER PIPING. PROVIDE 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 ARMAFLEX WITH MINIMUM 3/4" WALL THICKNESS.

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

M. A PVC 25/50 PRE-FORMED COVER SHALL BE PROVIDED AT ALL INSULATED PIPING FITTINGS EQUAL TO PROTO PVC CORP LOSMOKE, 800-875-7768.

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

O. 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

2.01 TRENCHING

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

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 3" IN DIAMETER AND SMALLER AND 1/8" PER FOOT FOR ALL PIPING 4" IN DIAMETER AND LARGER.

F. STORM PIPING SHALL BE SLOPED AT 1/4" 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. 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.

2.03 TESTING

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

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

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

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

PART III - MANUFACTURERS

3.01 PRODUCTS - PIPING SYSTEMS, ETC

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

B. ALTERNATES TO ZURN FIXTURES: ONLY AS SHOWN ON PLANS. APPROVED JAY R. SMITH, WATTS, MODEL NUMBERS LISTED ON FIXTURE SCHEDULE.

C. ALL FIXTURES NOTED ABOVE AND IN THE PLUMBING FIXTURE SCHEDULE SHALL BE PROVIDED THROUGH A NATIONAL ACCOUNT PROGRAM WITH HJC.

3.02 PRODUCTS - RESTROOM FIXTURES PORCELAIN & VALVES

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. REFERRED TOILET SEATS: TOTO. ALTERNATE TOILET SEATS: CHURCH, BEMIS, AND BENEKE.

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

PLUMBING GENERAL NOTES

DRAIN WASTE AND VENT NOTES

1. COORDINATE INSTALLATION OF SANITARY PIPING WITH FOOTINGS IN THE FIELD. SLEEVE PENETRATIONS IN FOOTINGS WITH PVC.

2. COORDINATE VENT TERMINAL LOCATIONS WITH FRESH AIR HOODS ON ROOFTOP EQUIPMENT SO AS TO MAINTAIN MINIMUM 15'-0" CLEARANCE.

3. ALL UNDERGROUND VENT PIPING TO BE 2" DIAMETER MIN U.N.O.

4. ALL BELOW SLAB SANITARY AND GREASE WASTE PIPING SHALL BE 3" DIAMETER U.N.O.

WATER DISTRIBUTION NOTES

1. FOR WATER HEATER INSTALLATION POSITION VALVES AND TRIM SUCH THAT VISIBLE OBSERVATION OF VALVES AND TRIM IS UNOBSTRUCTED AND SUCH THAT ACCESS FOR OPERATION OR REPAIR IS POSSIBLE WITHOUT USE OF STEP LADDERS OR ANY NEED TO DISASSEMBLE ANY COMPONENTS.

2. ALL WATER PIPING INSTALLED WITHIN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF THE INSULATION.

3. SEE KITCHEN DRAWINGS FOR KITCHEN EQUIPMENT WATER PIPING ROUGH-IN LOCATIONS AND ELEVATIONS.

4. WATER HEATER PIPING IS SHOWN FOR BRADFORD WHITE. ADJUST PIPING AS NEEDED TO ACCOMMODATE OTHER CONNECTION POINTS WHEN ALTERNATE MODELS ARE PROVIDED.

5. ALL OVERHEAD WATER PIPING SHALL BE LOCATED ABOVE THE CEILING. RUN WATER PIPING THROUGH JOIST WEBBING. COORDINATE ALL DROP LOCATIONS WITH OTHER TRADES.

BEVERAGE CONDUIT NOTES

1. ROUTE BEVERAGE SYSTEM PIPING OVERHEAD FROM THE BEVERAGE RACK TO DRINK TOWERS IN FOUR (4)-6" DIA SCH 40 PVC DWV CONDUITS. ALL CONDUIT 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. SEE 1/P-101 AND 1/P-104 FOR BELOW-SLAB BEVERAGE CONDUIT.

2. COORDINATE ROUTING OF ALL CONDUITS WITH HVAC DUCT IN KITCHEN. SEE SHEET M-101 FOR LOCATION OF AC UNITS AND DUCT ROUTING.

3. TURN THE 6" DIA CONDUIT DOWN THROUGH THE CEILING AT THE BEVERAGE RACK AND PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS. TERMINATE OPPOSITE END ABOVE CEILING WHERE SHOWN ON PLANS.

4. FOR BEVERAGE CONDUIT DROPS AT WALLS WITH SHEATHING EXTENDED ABOVE THE CEILING, PROVIDE APPROPRIATE FITTING AT UPPER END OF CONDUIT DROP TO EXTEND CONDUIT THROUGH SHEATHING.

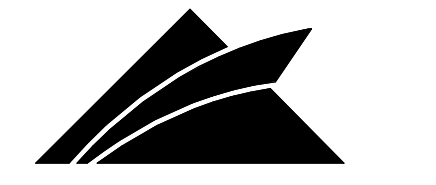
5. INSTALL CONTINUOUS CONDUIT FROM CO2 FILL-BOX LOCATION TO BULK CO2 TANK AS SHOWN ON PLANS AND DETAILS. COORDINATE 4" CONDUIT WALL STUB INSTALLATION CLOSELY WITH GENERAL CONTRACTOR AND BRICK MASON. PRIOR TO COVERING UP OF CONDUIT, VERIFY WITH GENERAL CONTRACTOR THE FULL LENGTH OF FILL/VENT TUBING MAY BE INSTALLED AND SUBSEQUENTLY REMOVED FROM CONDUIT. SEE PLAN ON 1/P-104 AND DETAIL 9/P-501.

ABBREVIATIONS	
EC	ELECTRICAL CONTRACTOR
GC	GENERAL CONTRACTOR
MC	MECHANICAL CONTRACTOR
PC	PLUMBING CONTRACTOR
O.C.	ON CENTER
FS	FLOOR SINK
FD	FLOOR DRAIN
FV	FLUSH VALVE
FCO	FLOOR CLEAN OUT
WC	WATER CLOSET
KEQ	KITCHEN EQUIPMENT

LEGEND	
-----	DOMESTIC COLD WATER LINE (DASHED)
-----	DOMESTIC HOT WATER LINE (DOUBLE DASHED)
-----	DOMESTIC HOT WATER RETURN LINE (DOUBLE DOT)
-----	DOMESTIC FILTERED WATER LINE (DASH DOT)



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04/05/24

CHICK-FIL-A
BENTON HARBOR
1917 PIPESTONE RD
BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE: P14 LS BS
RELEASE: 23.11

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REVISION SCHEDULE

NO.	DATE	DESCRIPTION
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CONSULTANT PROJECT # 2023223.91

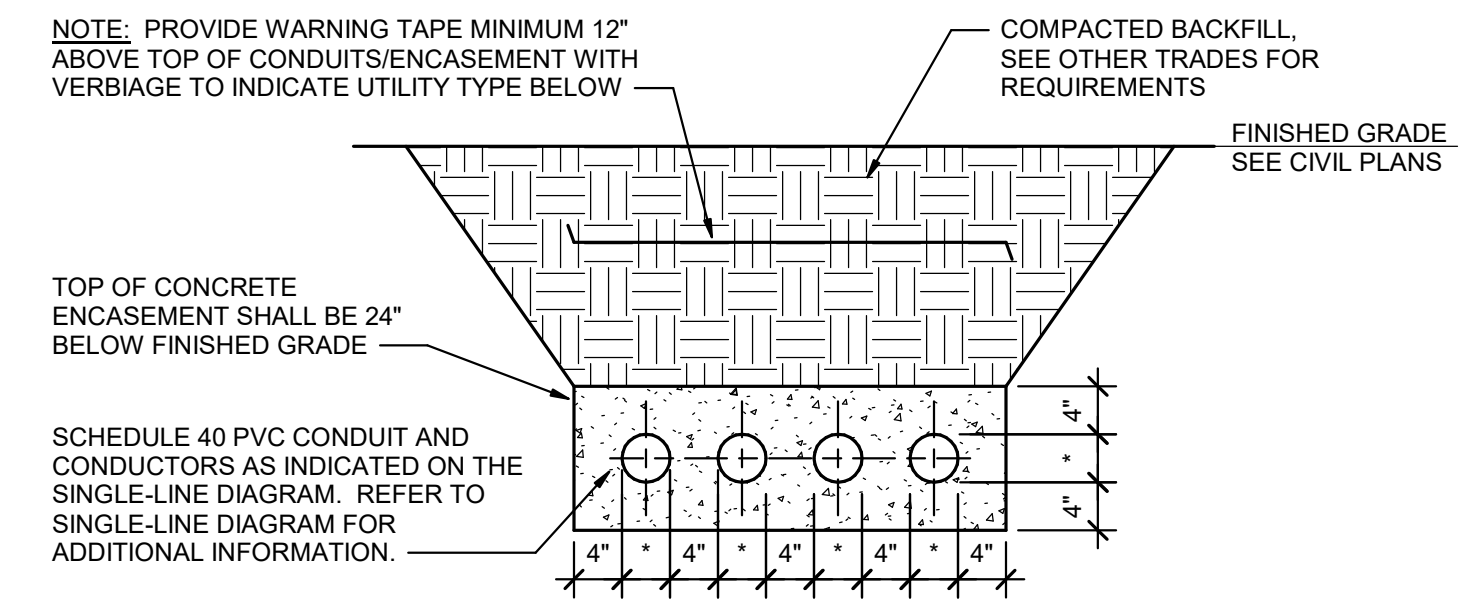
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PLUMBING SPECIFICATIONS, GENERAL NOTES & LEGENDS

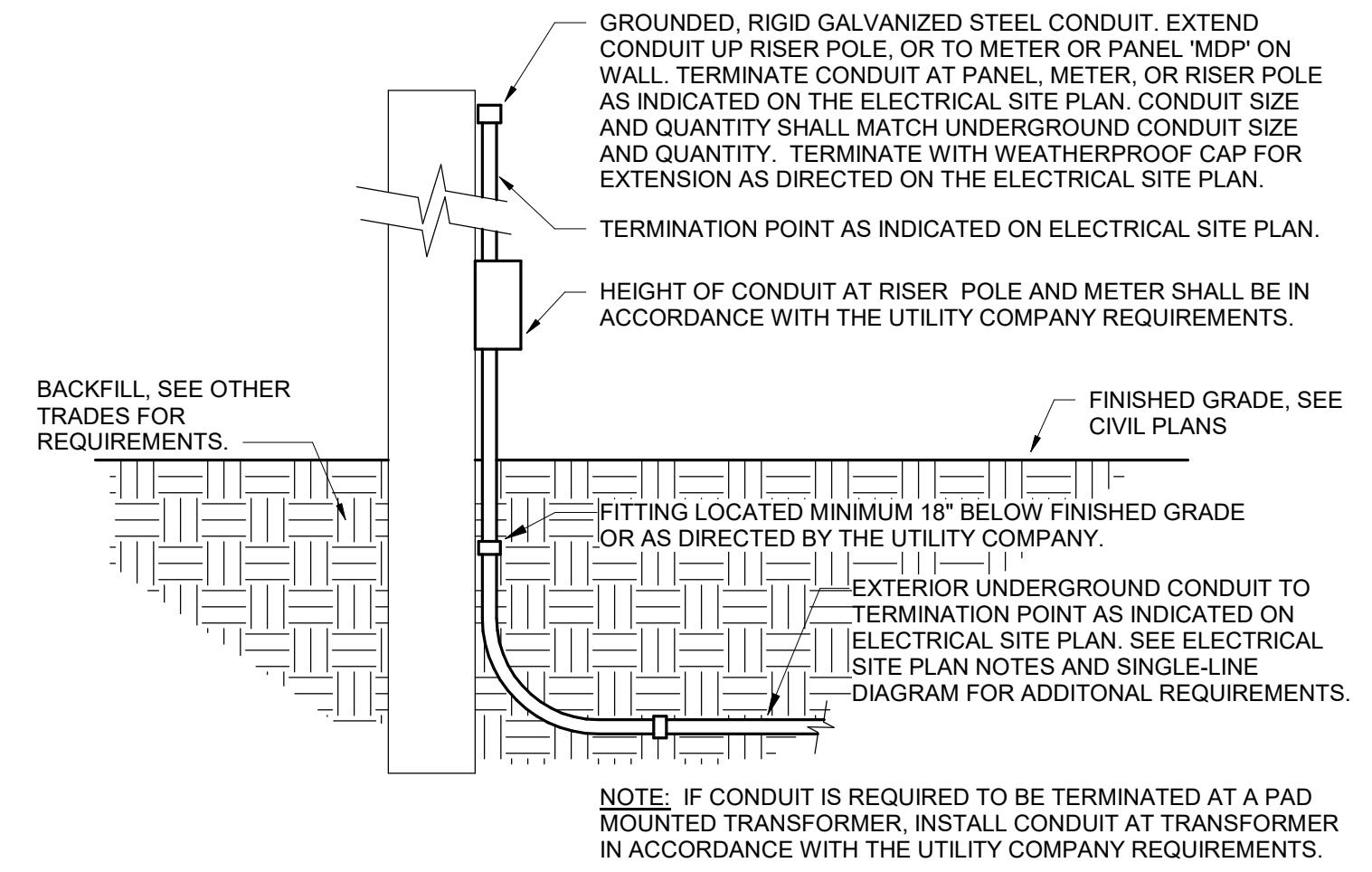
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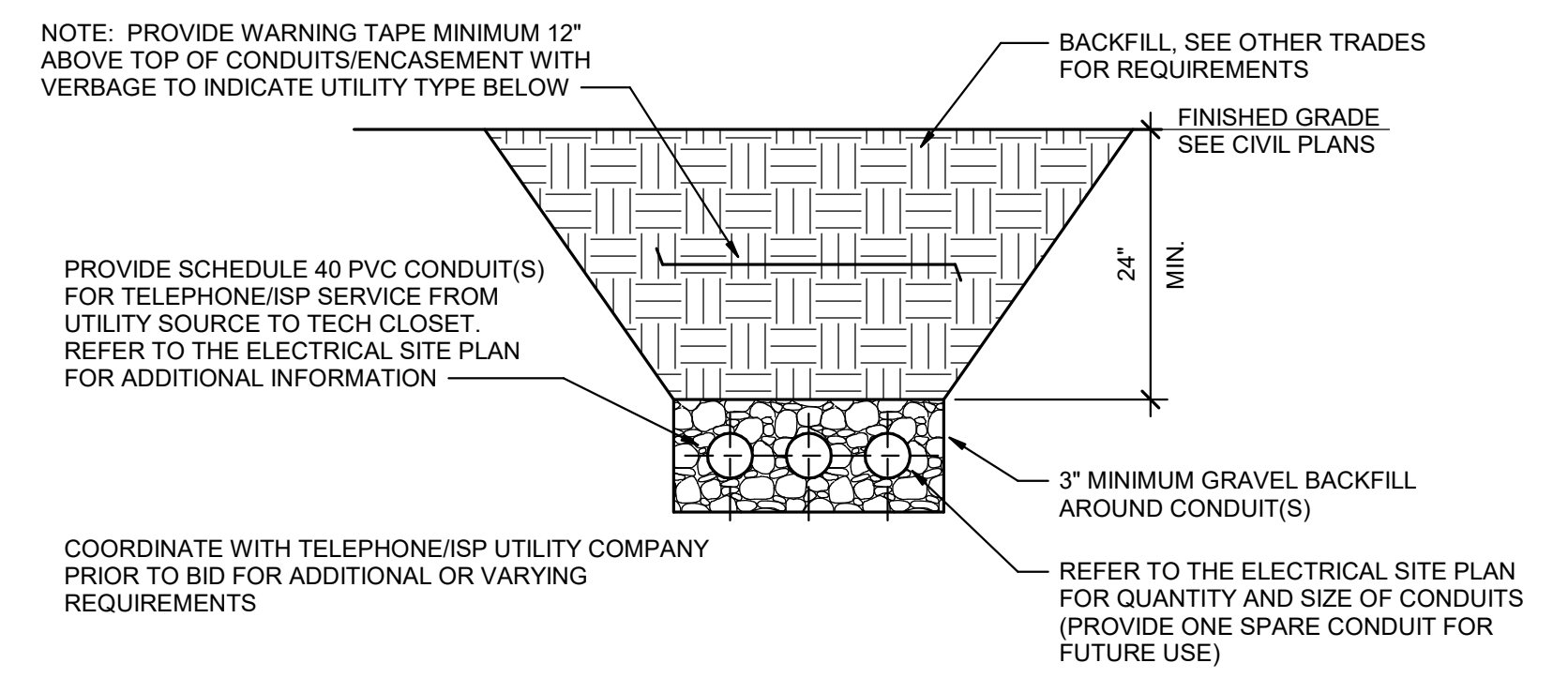


NOTE: WHERE THE SECONDARY CONDUITS FROM THE UTILITY TRANSFORMER TO THE CURRENT TRANSFORMER CABINET (OR MAIN PANELBOARD) ARE FURNISHED BY THE UTILITY COMPANY (FOR INSTALLATION BY THE CONTRACTOR) OR ARE FURNISHED AND INSTALLED BY THE UTILITY COMPANY, THE CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS WITH THE UTILITY COMPANY PRIOR TO BID. REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.

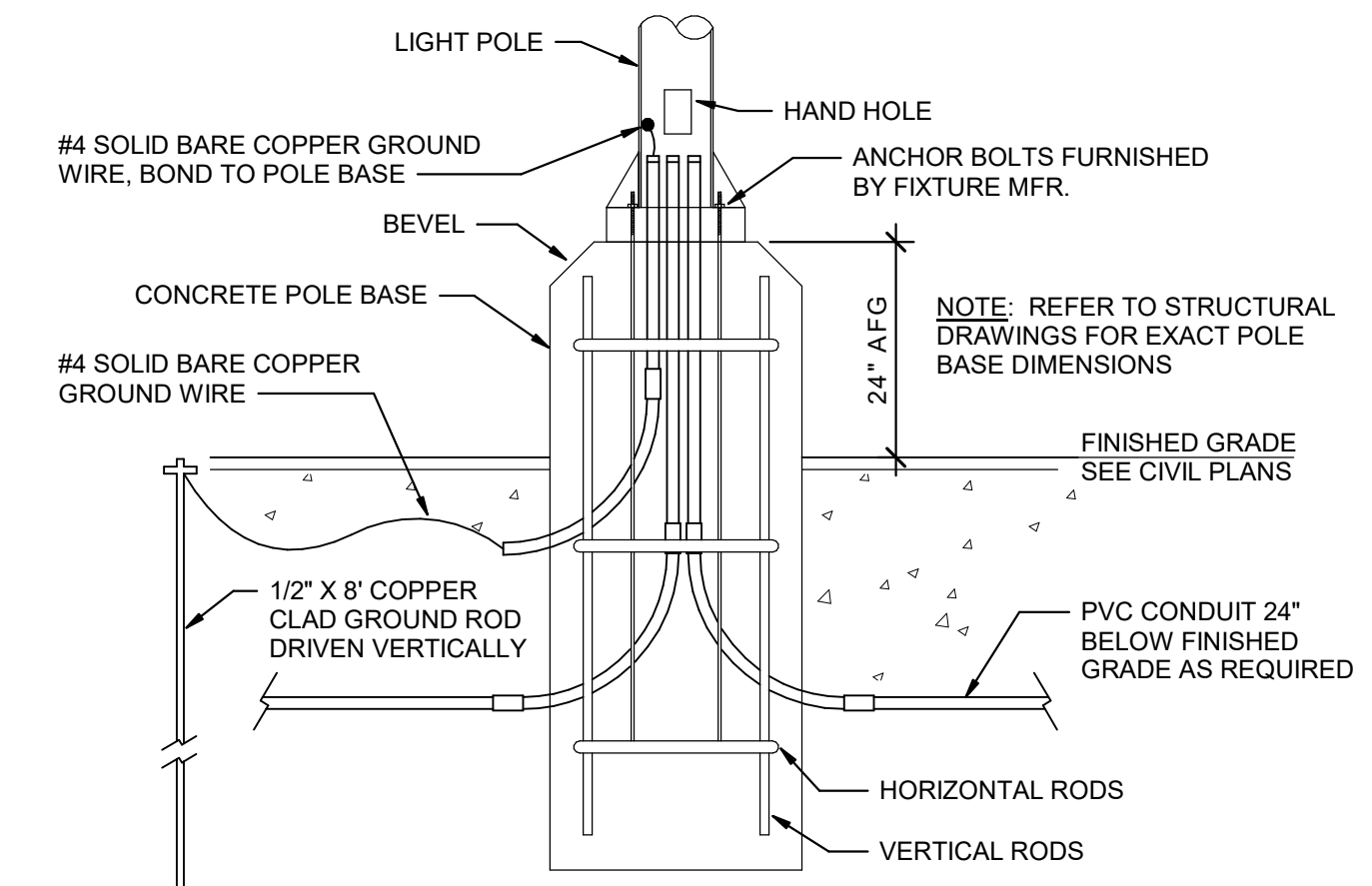
E1 ELECTRICAL SERVICE LATERAL CONDUIT DETAIL
N.T.S.



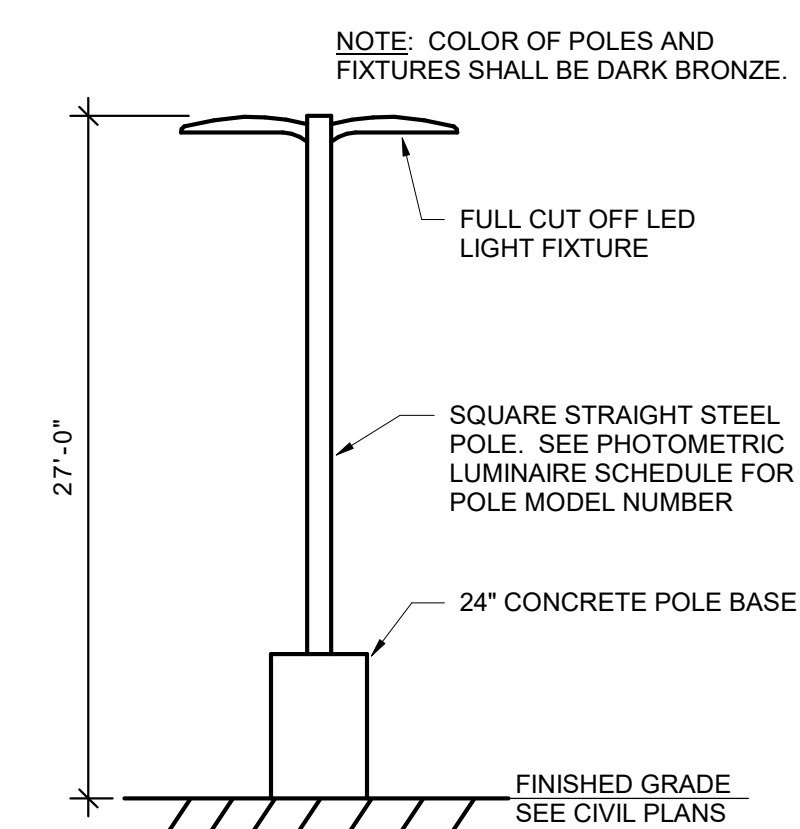
D1 EXTERIOR CONDUIT TURN UP DETAIL
N.T.S.



C1 TELEPHONE/ISP SERVICE CONDUIT DETAIL
N.T.S.



B1 TYPICAL LIGHT POLE BASE DETAIL
N.T.S.



A1 SITE LIGHTING POLE DETAIL
N.T.S.



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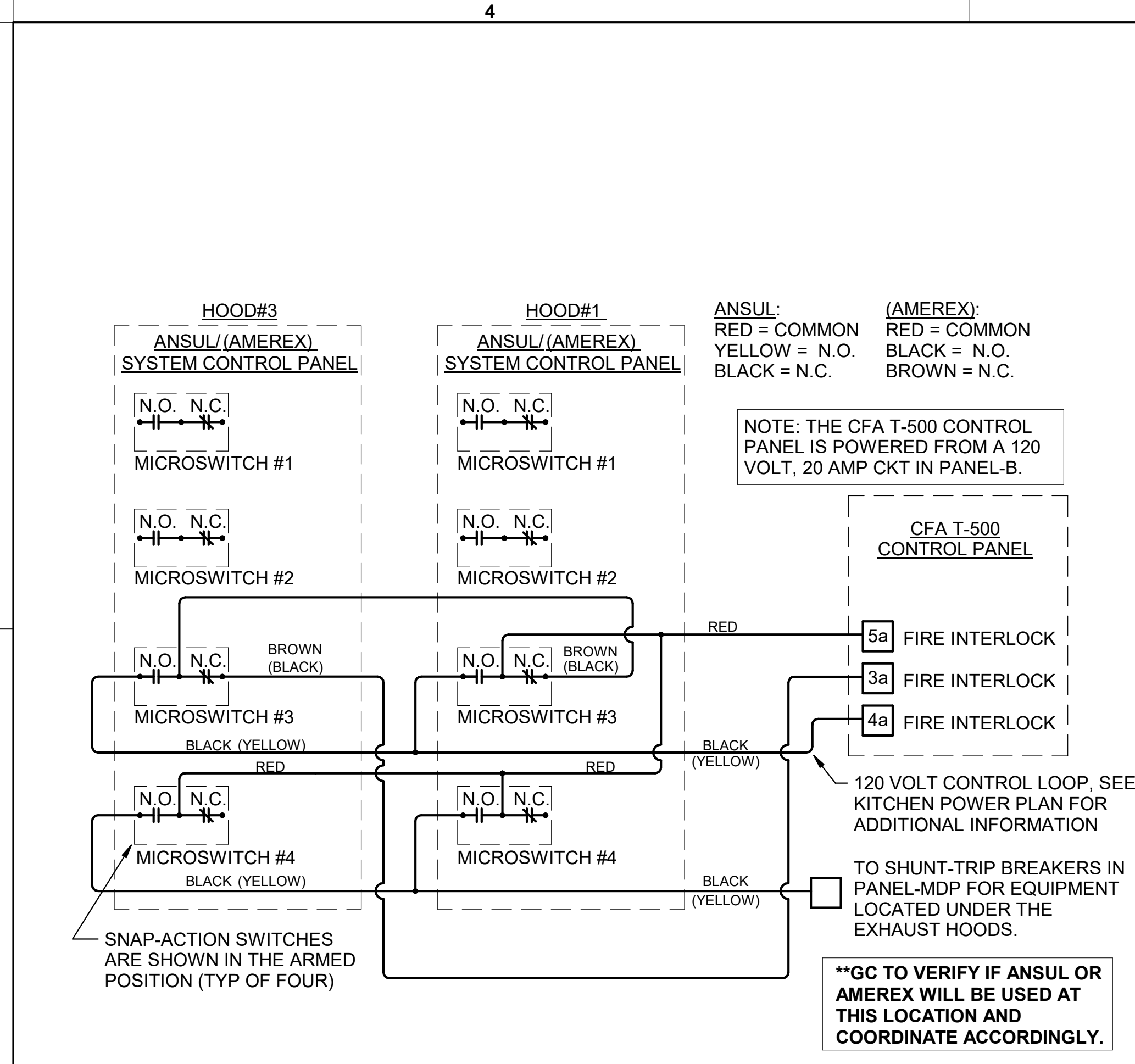
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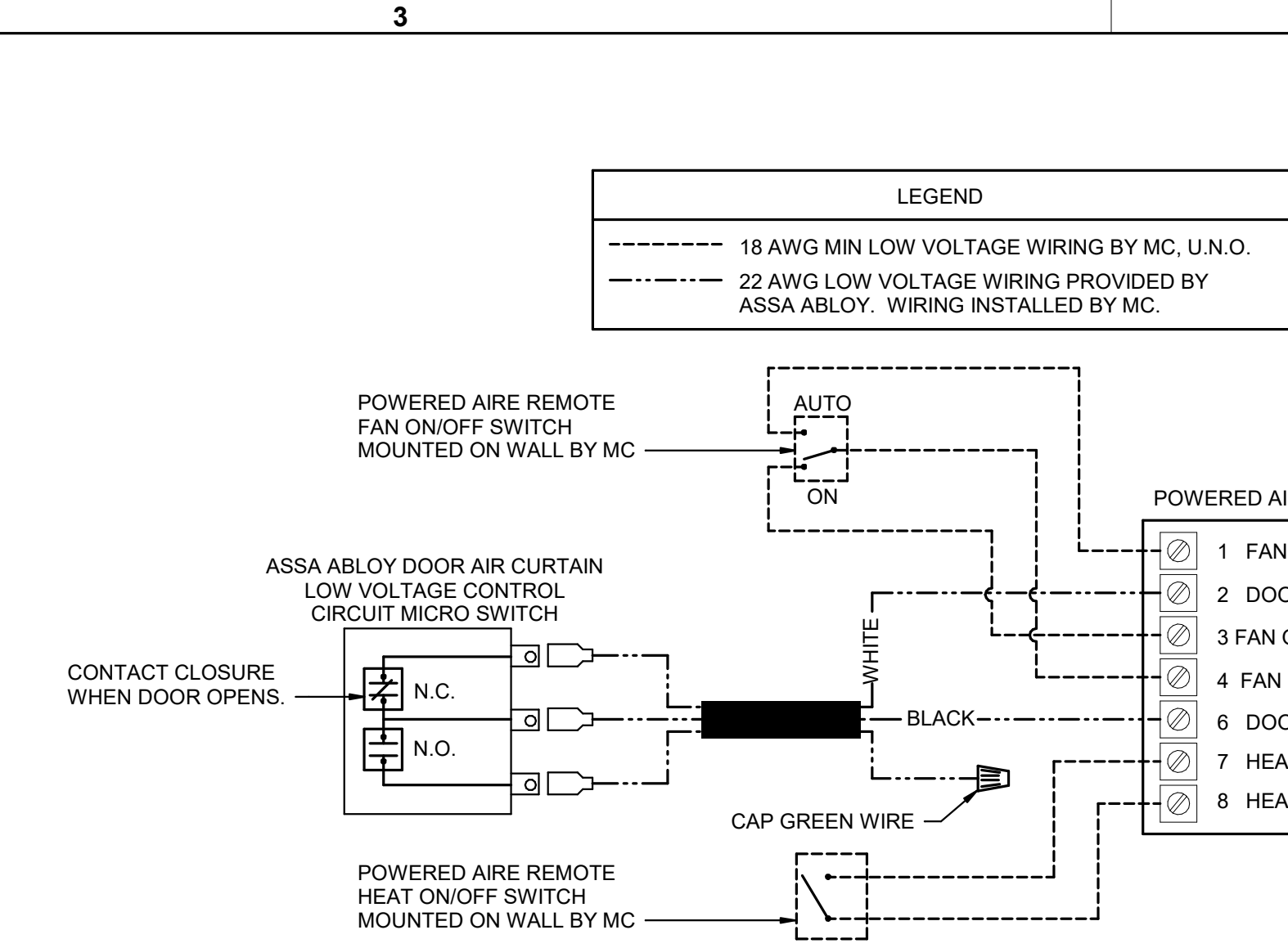
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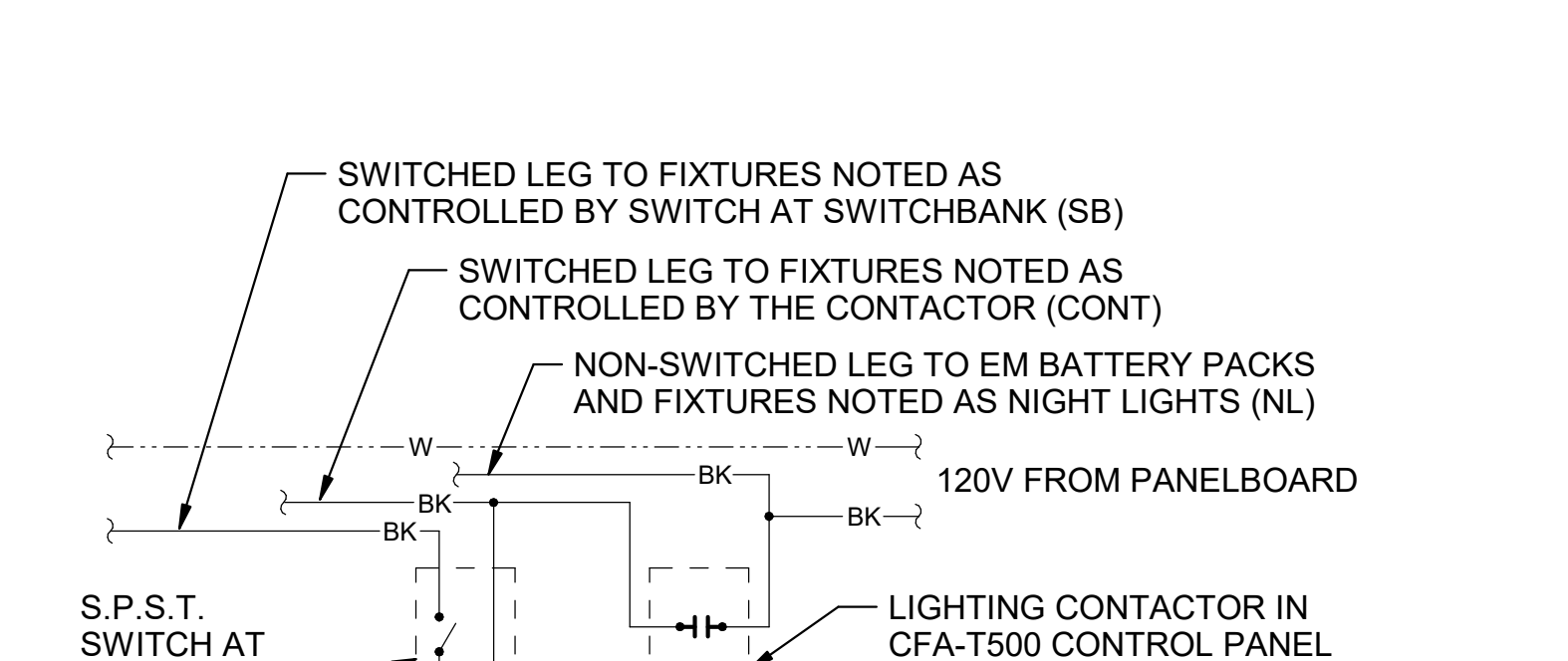
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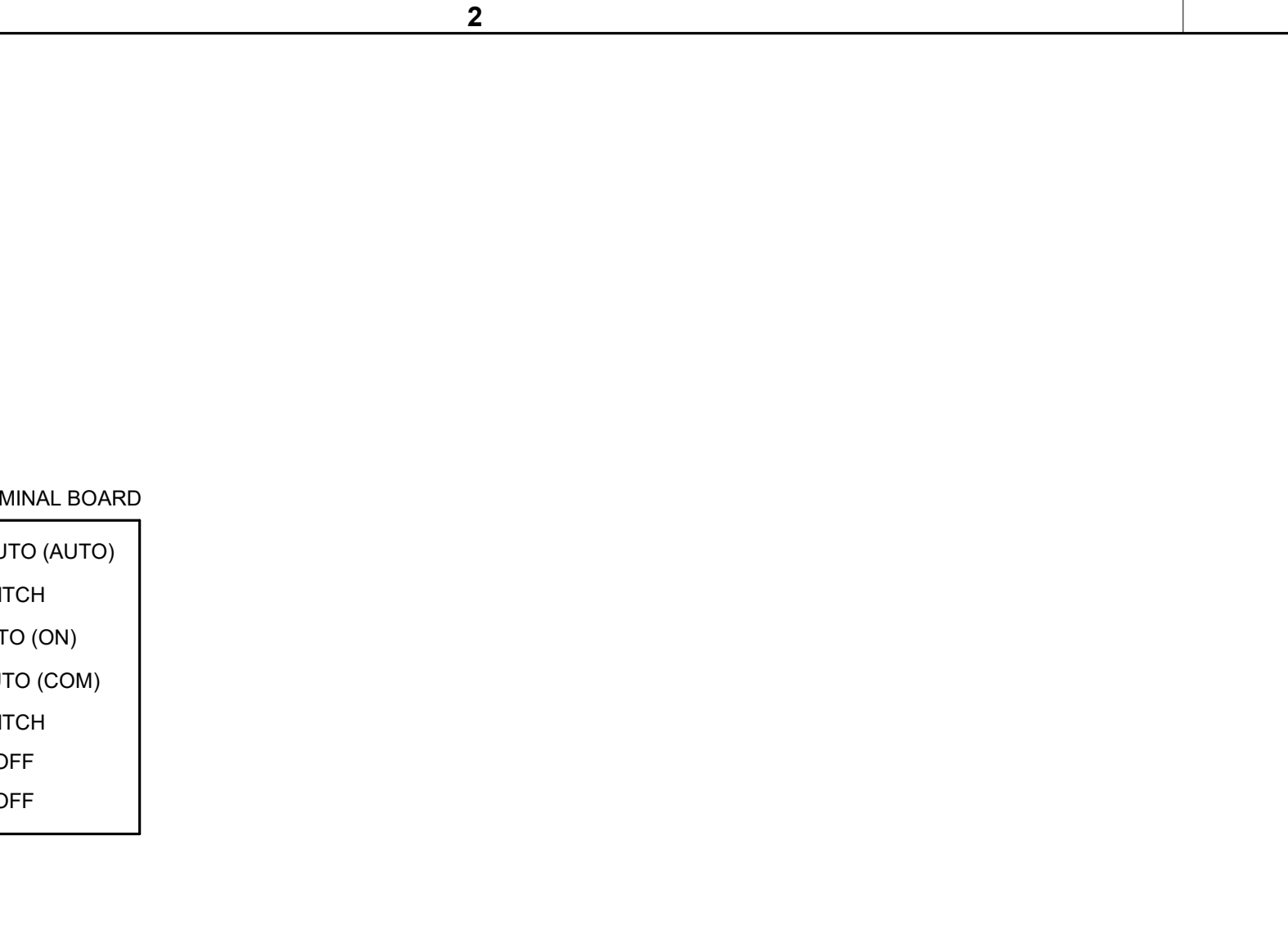
D4 FIRE SUPPRESSION SYSTEM PANEL WIRING DIAGRAM NO SCALE



E3 AIR CURTAIN WIRING DIAGRAM NO SCALE



D3 LIGHTING CONTROL DIAGRAM NO SCALE



D2 INVERTER XD WIRING DIAGRAM NO SCALE

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

NOTES

- CONTRACTOR SHALL PURCHASE CONTROL PANEL DIRECT FROM SUNCOAST ENVIRONMENTAL CONTROLS (727-544-6679).
- COORDINATE WITH GC TO ESTABLISH LOCATION TO MOUNT PANEL IN A CONDITIONED SPACE INSIDE THE BUILDING. SUGGESTED LOCATION IS SURFACE MOUNTED DIRECTLY ABOVE THE LOCATION OF THE CFA-T500 CONTROL PANEL.
- THE SUNCOAST ENVIRONMENTAL CONTROLS (SEC) IS TO BE SURFACE MOUNTED, UNLESS OTHERWISE REQUESTED TO SUNCOAST.
- PROVIDE LAMINATED LEGEND SHOWING NAMED LOCATIONS OF FANS AND IR HEATERS. MOUNT LEGEND AT PANEL.

LEGEND	
SEC	SUNCOAST ENVIRONMENTAL CONTROLS (SUPPLIER OF CONTROL PANELS)
---	LOW VOLTAGE BY CONTRACTOR
---	LOW VOLTAGE WIRING BY SUNCOAST
---	120 VOLT BY CONTRACTOR
---	120 VOLT BY SUNCOAST

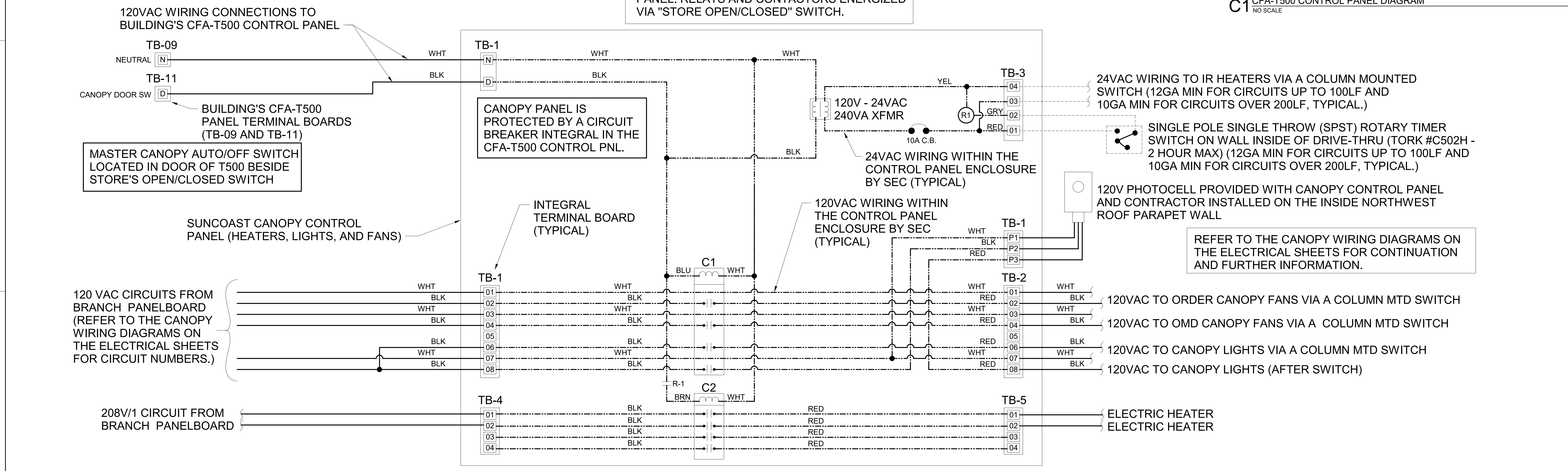
SUNCOAST RELAYS CONTACTORS SHOWN IN DE-ENERGIZED "STORE UNOCCUPIED" CONDITION. RELAYS AND CONTACTORS FACTORY INSTALLED BY SEC IN CONTROL PANEL. RELAYS AND CONTACTORS ENERGIZED VIA "STORE OPEN/CLOSED" SWITCH.

CONTACTOR-1		CONTACTOR-2		CONTACTOR-3		CONTACTOR-4		CONTACTOR-5		CONTACTOR-6		CONTACTOR-7		CONTACTOR-8		CONTACTOR-9		CONTACTOR-10		CONTACTOR-11	
CIR C-1	30A 4-POLE	CIR C-7	30A 4-POLE	CIR C-43	30A 4-POLE	CIR C-19	30A 4-POLE	SPARE	30A 4-POLE	SPARE	30A 4-POLE	CIR C-21	30A 4-POLE	SPARE	30A 4-POLE	CIR C-29	30A 4-POLE	CIR C-48	30A 4-POLE	CIR C-54	30A 4-POLE
CIR C-3	120 VOLT COIL	CIR C-9	120 VOLT COIL	CIR C-45	120 VOLT COIL	CIR C-37	120 VOLT COIL	SPARE	120 VOLT COIL	SPARE	120 VOLT COIL	CIR C-23	120 VOLT COIL	SPARE	120 VOLT COIL	SPARE	120 VOLT COIL	CIR C-50	120 VOLT COIL	SPARE	120 VOLT COIL
CIR C-5	(STORE SWITCH ON AND OFF)	CIR C-13	(STORE SWITCH ON AND OFF)	CIR C-47	(P'CELL ON AND SWITCH OFF)	CIR C-39	(P'CELL ON AND SWITCH OFF)	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	(P'CELL ON AND SWITCH OFF)	SPARE	(SWITCH ON & OFF, FS ON)	SPARE	(SWITCH ON & OFF, FS ON)
CIR C-11		SPARE		CIR C-49		CIR C-41		SPARE		SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE	SPARE
	KITCHEN LTG		DINING LTG		BLDG. SIGNAGE		DIRECTIONAL SIGNS		SPARE		SPARE		PARKING LOT LTG		SPARE		SECURITY/FLAG LTG		EXHAUST FAN EF-1		HOOD CJ FAN/LIGHTS
	KITCHEN LTG		SERV AREA LTG		BLDG. SIGNAGE		MAIN ID SIGN		SPARE		SPARE		PARKING LOT LTG		SPARE		SPARE		EXHAUST FAN EF-2		SPARE
	RESTROOM LTG / EF-3		WATER RECIRC PUMP		BLDG. SIGNAGE		MAIN ID SIGN		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE
	DINING LTG		SPARE		BLDG. SIGNAGE		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE		SPARE

NOTES:

- VERIFY WITH SUNCOAST ENVIRONMENTAL CONTROLS' SHOP DRAWINGS.
- ONLY THE "HOT" CONDUCTOR OF EACH CIRCUIT SHALL BE RUN THRU THE CONTACTOR.
- ANY TAPS OR WIRING CONNECTIONS OTHER THAN TO THE TERMINALS SHALL BE DONE IN A JUNCTION BOX OUTSIDE OF THIS CABINET.
- VERIFY WITH THE LOCAL CODE IF CONTACTORS #10 AND #11 WILL BE ON OR OFF WHEN THE FS SYSTEM IS INITIATED.
- CIRCUITS C-49, C-25, AND C-27 WILL BE SPARES IF NOT NEEDED.

C1 CFA-T500 CONTROL PANEL DIAGRAM NO SCALE



A1 SUNCOAST CANOPY CONTROL PANEL WIRING DIAGRAM NO SCALE



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STEVEN P. SCHAUB
ENGINEER
License No. 6201060461
04/05/24

CHICK-FIL-A
BENTON HARBOR
1917 PIPESTONE RD
BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE:	P14 LS BN	
RELEASE:	23.11	
PRINTED FOR:	ISSUED FOR CONSTRUCTION	
REVISION SCHEDULE:		
NO.	DATE	DESCRIPTION
CONSULTANT PROJECT #	2023223.91	
DATE:	04/05/24	
DRAWN BY:	JPW	
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SHEET:	WIRING DIAGRAMS	
SHEET NUMBER:	E-702	

- 2.02 PULL AND JUNCTION BOXES
 - A. Sheet metal boxes: galvanized steel.
 - B. Surface-mounted cast metal box: type 4; flat-flanged, surface-mounted junction box.
 - 1. Material: galvanized cast iron.
 - 2. Cover: furnish with ground flange, neoprene gasket, and stainless steel cover screws.
 - C. In-ground cast metal box: inside flanged, recessed cover box for flush mounting.
 - 1. Material: galvanized cast iron.
 - 2. Cover: nonskid cover with neoprene gasket and stainless steel cover screws.
 - 3. Cover legend: electric.
 - D. Manufacturers: National, Appleton, General Electric, RACO, Oz-Gedney or Steel City.

PART 3 - EXECUTION

- 3.01 INSTALLATION
 - A. Install electrical boxes as shown on drawings, and as required for splices, taps, wire pulling, equipment connections and compliance with regulatory requirements.
 - B. Install pull boxes and junction boxes above accessible ceilings.
 - C. Inaccessible ceiling areas: Install outlet and junction boxes no more than 6 inches from ceiling access panel or from removable recessed light fixture.
 - D. Use flush mounting outlet boxes in finished areas.
 - E. Use stamped steel bridges to fasten flush mounting outlet box between studs.
 - F. Install flush mounted box without damaging wall insulation or reducing its effectiveness.
 - G. Use adjustable steel channel fasteners for hung ceiling outlet box.
 - H. Do not fasten boxes to ceiling support wires.
 - I. Support boxes independently of conduit, except cast box that is connected to two Rigid Metal Conduits both supported within 12 inches of box.
 - J. Use gang box where more than one device is mounted together. Do not use sectional box.
 - K. Use gang box with plaster ring for single device outlets.
 - L. Use cast outlet box in exterior locations and wet locations.

OUTLET BOXES

- 3.02 OUTLET BOXES
 - A. Select boxes according to intended use and type of outlet. Ceiling outlet boxes shall be 4" octagon and 1-1/2" deep. Use 2-1/8" deep octagon boxes or 4" square boxes required. All ceiling outlet boxes shall have a fixture stud of no bolt self-locking type installed if required to hang the fixture specified at the outlet.
- 3.03 JUNCTION BOXES
 - A. Junction boxes shall be sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4-11/16" square and 2-1/8" deep. Provide screw covers for junction boxes.
 - B. Use code gauge steel with screw covers for pull boxes with prime coat and provide with screw cover. Size pull boxes according to the NEC.
 - C. Provide pull box every 100 feet of conduit run or where excessive number of bends necessitates a box for ease of wire installation.

SECTION C16123 GROUNDING AND BONDING

PART 1 - PRODUCTS

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

PART 2 - EXECUTION

- 2.01 INSTALLATION
 - A. Install rod electrodes at locations indicated. Install additional rod electrodes as required to achieve resistance to ground of less than 25 ohms.
 - B. Provide grounding electrode conductor and connect to reinforcing steel in foundation footing.
 - C. Provide bonding to meet regulatory requirements.
 - D. Bond together each metallic raceway, pipe, duct and other metal objects.
 - E. Provide isolated grounding conductor for circuits supplying all isolated ground outlets. Insulation shall be green with yellow stripe. Size per NEC Table 250.66. This isolated grounding conductor shall run in addition to equipment grounding conductor and along with the branch circuit conductors.

2.02 GROUNDING

- A. Ground electrical system in accordance with NEC Article 250 and local authorities having jurisdiction.
- B. Install a #3/0 bare copper wire bond across the water meter attached to ground clamps on water line on each side of meter. Arrangements shall be made to do this work at the time the water meter is installed.
- C. From the point of entrance of the water main into the building and on the meter side of the main inside water valve and union install a stranded copper cable #3/0 in 1-1/4" conduit to the main distribution panel. Connect the cable to the equipment ground bus.
- D. Install a green equipment grounding conductor in each raceway, sized per NEC Table 250-122. Terminate on equipment ground bus within panelboard serving load.

- E. Install #6 awg copper grounding conductor from ground bar in main telephone box to inter system bonding termination to grounded neutral bus in main distribution panel.
- F. All separate grounding electrode conductors shall be bonded together to limit potential differences between them and between their associated wiring systems. This includes the power system, telephone system, etc.

2.03 FIELD QUALITY CONTROL

- A. Inspect grounding and bonding system conductors and connections for tightness and proper installation.

SECTION C16124 SUPPORTING DEVICES AND HANGERS

PART 1 - PRODUCTS

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

PART 2 - EXECUTION

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

SECTION C16140 WIRING DEVICES AND PLATES

PART 1 - PRODUCTS

- 1.01 WALL SWITCHES
 - A. Ratings: 20 amps, 120/277 volts a.c. or as identified on drawings.
 - B. Devices: (Cooper/Arrow Hart catalog numbers are listed unless noted otherwise)
 - 1. Single pole toggle switches: 20 AMP device - #AH1221-GY (Kitchen) or #AH1221-B (Dining) 20 AMP Pilot lights illuminated with load on - #AH1221-PL
 - 2. Double pole toggle switches: 20 AMP device - #AH1222-GY (Kitchen) or #AH1222-B (Dining)
 - 3. Three-way toggle switches: 20 AMP device - #AH1223-GY (Kitchen) or #AH1223-B (Dining)

1.02 RECEPTACLES

- A. Devices: (Cooper/Arrow Hart catalog numbers are listed unless otherwise noted)
 - 1. Specification grade devices to be 20 amp, 125 volts, a.c. receptacles:
 - a. Single (simplex) device: #1877-GY (Kit) or #1877-B (Dining)
 - b. Duplex device: #CR20-GY (Kitchen) of #CR20-B (Dining)
 - c. Tamper resistant duplex device: #TRCR20-B or #TR7756-B (with USB charging)
 - d. GF (ground-fault circuit interrupter) duplex device: #VGF20-GY (Kitchen) or #VGF20-B (Dining)
 - e. IG (isolated ground) duplex device: #IG5362-RN (orange face)
 - B. Color:
 - 1. Devices mounted in the FRP or tile shall be gray.
 - 2. Devices mounted in wood finish shall be brown.
 - 3. Isolated ground receptacles shall be orange.

1.03 SPECIAL DEVICES

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

1.04 WALL PLATES

- A. Provide blank plates on all outlet boxes for future outlets, or outlets without devices. Plate style shall match device plates.
- B. 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 #WU1-1.
- C. Where devices installed in exposed boxes or conduit fittings; provide properly designed plates and covers equal to Arrow Hart RS-Series exposed work covers.
- D. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted boxes.

E. Color:

- 1. Wall plates mounted in FRP or tile shall be smooth satin stainless steel 302-ss series.
- 2. Wall plates mounted in wood finish shall be brown nylon plastic.
- 3. Isolated ground wall plates shall be orange nylon plastic with a circuit number printed in 3/16 inch black lettering on clear adhesive label adhered to plate.

PART 2 - EXECUTION

2.01 INSTALLATION

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

SECTION C16440 PANELBOARDS

PART 1 - PRODUCTS

- 1.01 MANUFACTURER (via Chick-fil-A National Accounts Program)
 - A. Square-D (for all Regions): Refer to General Sheets (G-Sheets) for Chick-fil-A National Accounts Program Contact Information.

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.
- C. Provide factory-installed copper ground bus in each panelboard with lugs or connectors on bar.
- D. Provide electrically isolated, factory installed, neutral bus in each 3 phase, 4 wire or 1 phase 3 wire panelboard.
- E. In addition to the ground bus required by paragraph 1.02D (above), provide factory installed, electrically isolated, copper ground bus in each panelboard serving isolated ground receptacles.
- F. Main lugs and main circuit breaker lugs shall be UL Listed for use with both aluminum and copper conductors.
- G. Provide panelboard doors with chrome-plated locks and catches. All locks shall be keyed alike. Provide two keys for each lock.
- H. Provide thermal-magnetic circuit breakers which are rated for 40 degrees C ambient temperature. Breakers shall be quick-make, quick-break type trip with trip indication shown by handle position other than on or off. Multi-pole breakers shall have a common trip handle. Tandem type circuit breakers shall not be permitted.
- I. MDP 100% rated main breaker, 1200 Amps or higher, shall be equipped with Arc Flash Maintenance Setting switch for use as a temporary arc-flash incident energy reduction device during maintenance activities.
- J. Provide typed directory card with clear holder for each panelboard.

PART 2 - EXECUTION

2.01 INSTALLATION

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

SECTION C16441 ENCLOSED SWITCHES

PART 1 - PRODUCTS

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

SECTION C16442 UTILITY SERVICE ENTRANCE AND DISTRIBUTION SYSTEM

PART 1 - GENERAL

1.01 SYSTEM DESCRIPTION

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

PART 2 - PRODUCTS

2.01 MATERIALS

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

PART 3 - EXECUTION

3.01 EXAMINATION AND PREPARATION

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

SECTION C16500 LIGHTING FIXTURES (LUMINAIRES)

PART 1 - GENERAL

1.01 ACCEPTABLE MANUFACTURERS AND VENDORS

- A. Lighting fixtures indicated on lighting fixture schedule are to be purchased from the National Account Vendor. Refer to General Sheets (G-Sheets) for Chick-fil-A National Accounts Program Contact Information.

B. Lamps to be Osram-Sylvania and will typically be provided with the luminaire by the lighting manufacturer.

1.02 FIXTURE REQUIREMENTS

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

1.03 CONTROLS

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

1.04 EMERGENCY LIGHTING UNITS

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

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Lighting fixtures shall be structurally supported. Fluorescent fixtures mounted in suspended ceilings shall be supported by and attached to ceiling system as required by NEC Article 410. In addition, fluorescent troffers shall be supported at two opposite corners to building structure.

- B. Recessed fixtures in dropped ceiling areas shall be connected to power source using flexible conduit. Flexible conduit shall contain a separate insulated green No. 12 copper ground wire. Flexible conduit shall be connected to junction box and fixture. Green ground wire shall provide ground continuity between conduit system and fixture. Grounding conductors shall be permanently and mechanically connected between fixture and conduit system so as to be electrically continuous.

- C. Fixtures surface mounted on exposed tee bar ceilings shall use grip clamps on tee bars to support fixtures.

- D. Wire shall be continuous from splice in outlet box of building wiring system to lamp socket or ballast terminals.

- E. Maintain the integrity of enclosures on enclosed and gasketed fixtures. Minimize the number of enclosure penetrations and make such penetrations water and dust tight with appropriate gaskets and fittings.

- F. Concrete bases shall be provided for all exterior ground mounted or pole mounted fixtures.

- G. Install accessories furnished with each fixture.

- H. Wiring from pole bases to pole mounted luminaire shall be No. 12 with fuse protection provided by a 30 amp, 600 volt waterproof fuseholder with Bussman 'Limiter' fuse of ampere rating 3 times the load current.

- I. Surface and recessed fixtures on or in plastered or drywall ceilings shall be supported by support channels. Support channels shall span across main support channels and shall not depend upon ceilings for support.

3.02 FIELD QUALITY CONTROL

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

SECTION C16596 SPECIAL SYSTEMS

PART 1 - GENERAL

1.01 WORK INCLUDED

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

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide 4-11/16" square boxes, with plaster rings. Provide device plates for system outlets as specified in Section 16141. Provide separate conduit to nearest accessible ceiling space from each outlet.
- B. Minimum conduit size shall be 3/4".
- C. Provide lightning arrester for telephone service entrance at main telephone backboard in accordance with UL96A paragraph 11.2 and NFPA 780.
- D. Cable shall be in conduit where installed in walls or above inaccessible ceiling spaces.

PART 3 - EXECUTION

3.01 INSTALLATION

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

CLOSE OUT DOCUMENT REQUIREMENTS

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

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



Chick-fil-A

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GPD GROUP



04/05/24

CHICK-FIL-A BENTON HARBOR 1917 PIPESTONE RD BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE: P14 LS BN RELEASE: 23.11

ISSUED FOR CONSTRUCTION

REVISION SCHEDULE

NO. DATE DESCRIPTION

CONSULTANT PROJECT # 202323.91

DATE 04/05/24

DRAWN BY JPV

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SHEET ELECTRICAL SPECIFICATIONS

SHEET NUMBER

E-002

7/11/2024 9:43:41 AM Autodesk Docs:MI_05680_Benton Harbor (MI) FSU_2023.11_FSR05680_Benton Harbor (MI) FSU_PLB.rvt
40-LS-05680-P-101-DRAIN WASTE AND VENT PLAN

KEY NOTES

- 1 LOCATION OF GREASE INTERCEPTOR SHOWN FOR REFERENCE ONLY - SEE DETAIL SHEET FOR MORE INFORMATION, SEE CIVIL DRAWINGS FOR ACTUAL LOCATION OF THE GREASE INTERCEPTOR ON SITE.
- 2 PROVIDE TRAP SEAL PROTECTION DEVICE.
- 3 SEE CIVIL DRAWINGS FOR CONTINUATION.
- 4 APPLY RAYCHEM XL-TRACE, MODEL 5XL-1, SELF REGULATING HEATING CABLE. USE END SEAL KIT FROM MFR. PROVIDE P-TRAP IN CONDENSATE DRAIN ON COOLER SIDE OF COOLER-FREEZER PANEL WALL WITH OPEN-TOPPED TEE AT TRAP OUTLET. PROVIDE 6" OF FALL IN FREEZER DRAIN LINE PRIOR TO PENETRATING PANEL WALL.
- 5 INSTALL PIPING TIGHT TO WALL SO AS NOT TO INTERFERE WITH COOLER AND FREEZER SHELVES. PROVIDE UNION FITTINGS IMMEDIATELY DOWNSTREAM OF CONNECTION TO EVAPORATORS. ALL CONDENSATE PIPING SHALL BE SLOPED A MIN. 1/4" PER FOOT.
- 6 3/4" TYPE L COPPER. COVER WITH 1-3/8" I.D. X 3/4" ARMACELL A/P ARMAFLEX OVER HEAT TRACE CABLE.
- 7 INSTALL TRAP IN CONDENSATE PIPE.
- 8 3/4" CONDENSATE PIPING OUT OF COOLER AND EXTEND OUTLET TO INDIRECT DRAIN. SECURE PIPING TO COOLER/FREEZER WALL WITH RUBBER INSULATED PIPE CLAMPS TO PREVENT GALVANIC CORROSION. SEAL ALL PENETRATIONS IN WALLS WITH PERMAGUM CORD. TERMINATE ABOVE FUNNEL WITH ELBOW AND AIR GAP.
- 9 INSTALL FLOOR DRAIN FD-5 AT MOP SINK DEPRESSION WITH TOP OF STRAINER 0'-7" BFF. PROVIDE TRAP PRIMER (TP-1) WHERE TRAP PROTECTION DEVICES IS NOT PERMITTED BY LOCAL CODE OR AHJ.
- 10 1-1/2" PIPE STUB FOR FUTURE SINK CAPPED BEHIND WALL.
- 11 3" PIPE STUB FOR FUTURE WATER CLOSET CAPPED BELOW SLAB.



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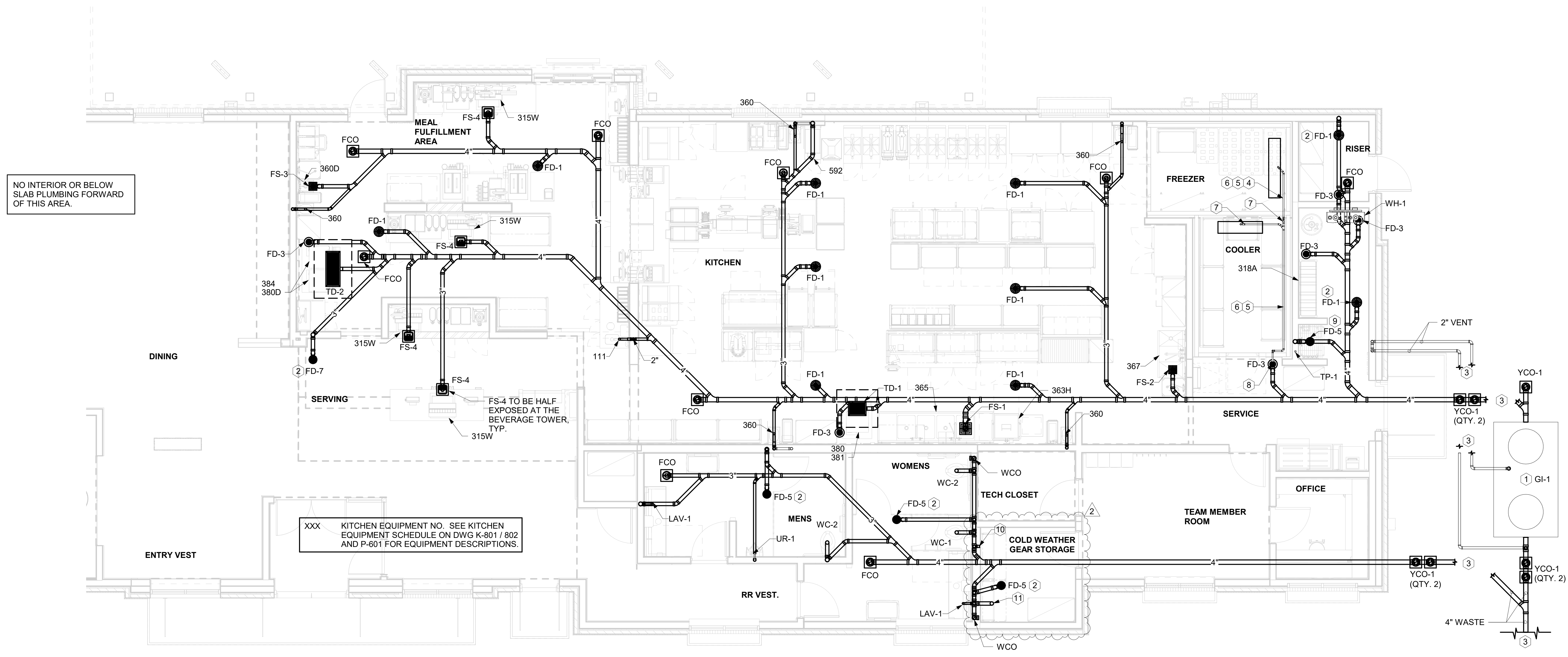
BUILDING TYPE / SIZE: P14 LS BS
RELEASE DATE: 23.11
PRINTED FOR: 23.11
ISSUED FOR CONSTRUCTION

REVISION	SCHEDULE NO.	DATE	DESCRIPTION
1	04/05/2024	ISSUED FOR CONSTRUCTION	
2	07/12/2024	Bulletin 2	

CONSULTANT PROJECT # 202323.91
DATE 04/05/24
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DRAIN WASTE AND VENT PLAN

SHEET NUMBER

P-101



1 DRAIN WASTE AND VENT PLAN
1/4" = 1'-0"

NOTE OF SPECIAL IMPORTANCE:

BELOW-SLAB BEVERAGE CONDUIT SHALL BE 6" DIAMETER SCHED 40 DWV SOLID WALL, NO FOAM CORE ALLOWED. USE LONG RADIUS ELBOWS ON ALL BEVERAGE CONDUIT. PLEASE NOTE BEVERAGE CONDUIT ROUGH-IN LOCATIONS ARE MEASURED TO THE FRACTION OF AN INCH. CARE MUST BE TAKEN WHEN INSTALLING 6" DIAMETER CONDUIT LOCATED WITHIN A 2X8 WALL. THE MARGIN FOR ERROR IS ONLY 1/16TH INCH.

NOTES ABOUT (0,0) BENCHMARK ORIGIN

1. THE (X=0, Y=0) BENCHMARK ORIGIN IS LOCATED AT THE OUTSIDE FACE-OF-FRAMING FOR THE EXTERIOR WALL AT THE CORNER WHERE SHOWN.
2. IT IS EXTREMELY IMPORTANT FOR THE PLUMBING INSTALLER TO BECOME COMPLETELY FAMILIAR WITH THE FACE-OF-FRAMING POSITION AND ITS RELATION TO THE FLOOR SLAB CONSTRUCTION PRIOR TO BEGINNING THE UNDERSLAB PLUMBING ROUGH-IN.
3. PLUMBING CONTRACTOR SHALL REVIEW STRUCTURAL DETAILS FOR PRECISE LOCATION OF FACE-OF-FRAMING WITH RESPECT TO THE SLAB INSTALLATION PRIOR TO LOCATING SLAB ROUGH-INS.



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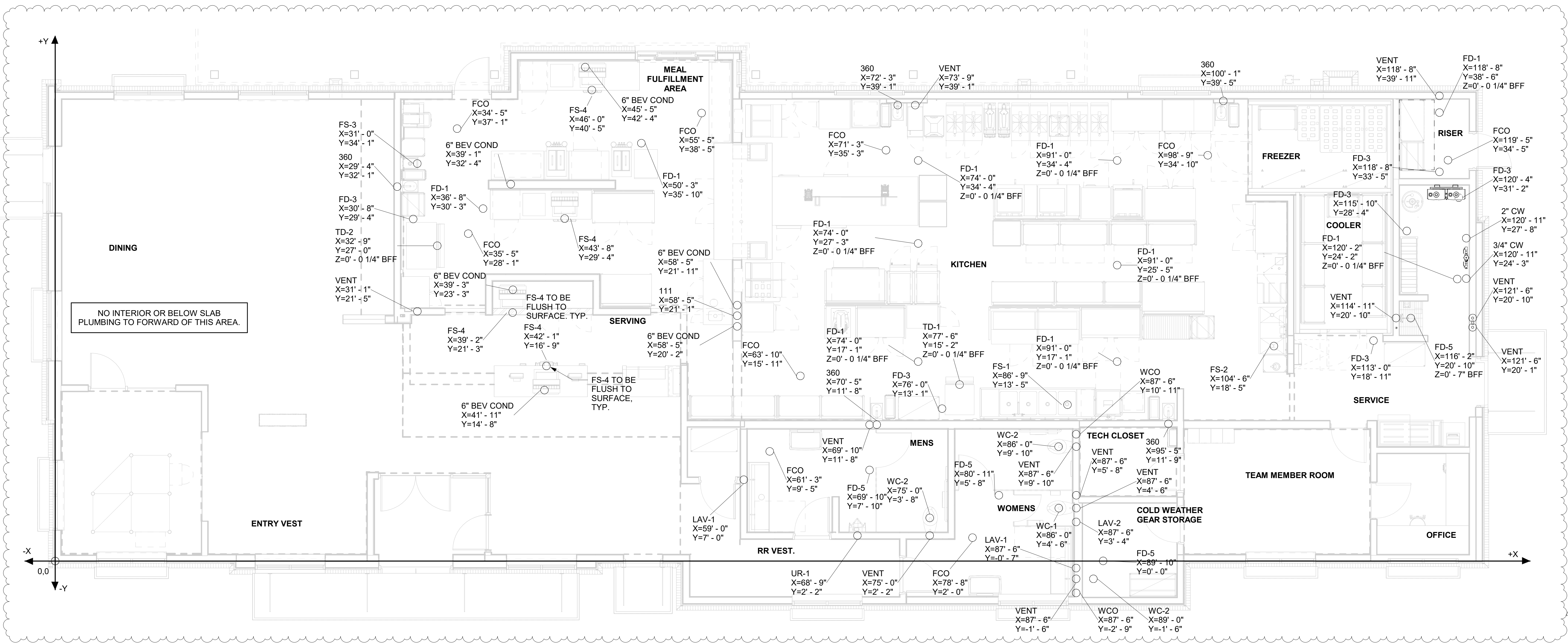
CHICK-FIL-A
BENTON HARBOR
1917 PIPESTONE RD
BENTON HARBOR, MI 49022

FSR#05680
BUILDING TYPE / SIZE: P14 LS BS
RELEASE: 23.11

NO.	DATE	DESCRIPTION
1	04/05/2024	ISSUED FOR CONSTRUCTION
2	07/12/2024	Bulletin 2
8	09/23/24	BULLETIN 8

CONSULTANT PROJECT #	2023223.91
DATE	04/05/24
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UNDERGROUND ROUGH-IN PLAN	
SHEET NUMBER	

P-102

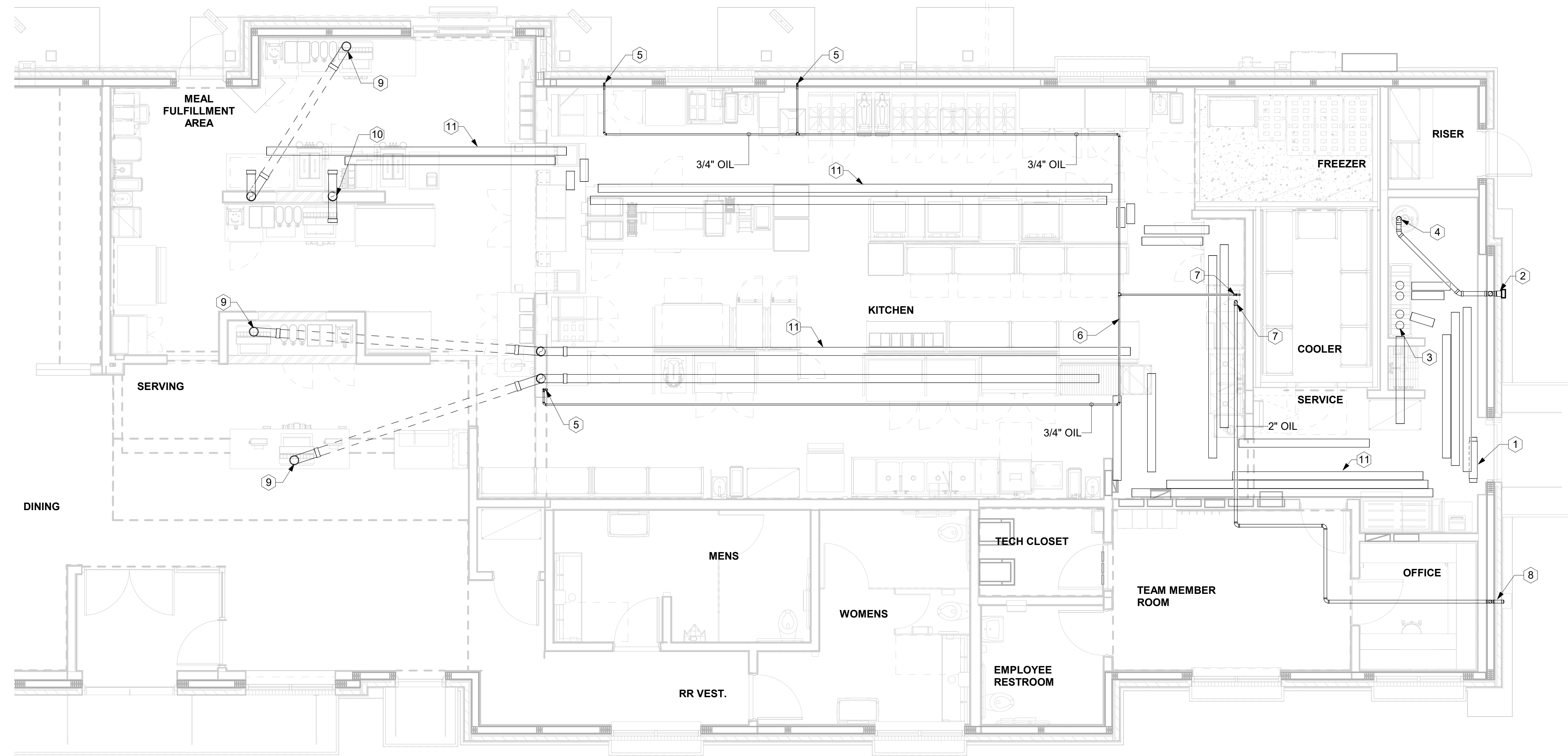


1 UNDERGROUND ROUGH-IN PLAN
1/4" = 1'-0"

9/23/2024 2:21:21 PM Autodesk Docs://M/05680_Benton Harbor (MI) FSR#05680_Benton Harbor (MI) FSU_PLB.rvt
40-LS-05680-P-102-UNDERGROUND ROUGH-IN PLAN

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40-LS-05680-P-104-BEVERAGE CONDUIT AND OIL PIPING PLAN



NOTE: REFER TO SHEET P-001 FOR ALL GENERAL BEVERAGE CONDUIT NOTES

KEY NOTES

- 1 PLAN STORAGE TUBE ABOVE DOOR. MOUNT 6" DIA X 30" LONG PVC WITH CLEANOUT PLUGS AT EACH END. SECURE TO WALL ABOVE EMERGENCY LIGHT WITH STRUT AND CLAMPS.
- 2 4" DIA STUB OUT AT REMOTE FILL-BOX. SEE DETAIL 9/P-501.
- 3 6" BEVERAGE CONDUIT TURNED DOWN THRU ACT. TYPICAL. SEE BEVERAGE CONDUIT NOTE #3 ON SHEET P-001 FOR MORE INFORMATION.
- 4 3" DIA SCHED 40 PVC SWEEP TURNED DOWN WITH DROP THRU ACT ABOVE BULK CO2 TANK. SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR PRECISE LOCATION.
- 5 STUB OUT TO BE MOUNTED 30" AFF. SEE DETAIL SHEET FOR MORE INFORMATION.
- 6 PROVIDE SCHEDULE 40 (BLACK OR GALVANIZED) STEEL PIPING BACK TO FUTURE DARPRO OIL TANK. PIPING TO BE ROUTED TO ALLOW AS MUCH FALL AS POSSIBLE TO THE TANK.
- 7 3/4" AND 2" SCHEDULE 40 STEEL PIPES DOWN THROUGH CEILING. CAP PIPES 2" BELOW THE CEILING FOR FUTURE CONNECTION. PROVIDE CHROMED ESCUTCHEONS AT CEILING PENETRATIONS.
- 8 EXTEND 2" STEEL PIPE BEYOND FACE OF BRICK. CAP FOR FUTURE USE. GC TO TRIM STUB-OUT ACCORDINGLY.
- 9 6" BEVERAGE CONDUIT UP FROM BELOW SLAB. COORDINATE WITH DEVICES, CONDUITS, AND FIXTURES FROM OTHER DISCIPLINES DURING PRE-CONSTRUCTION MEETING.
- 10 6" BEVERAGE CONDUIT DOWN IN WALL. START ABOVE CEILING AND TURN OUT THRU WALL TOWARDS DRINK TOWER WITH BOTTOM EDGE OF WALL PENETRATION 0'-8" ABOVE FINISHED FLOOR. SEE BEVERAGE CONDUIT NOTE #4 ON P-001.
- 11 ROUTE 6" BEVERAGE CONDUIT IN THIS AREA BELOW RECTANGULAR DUCT. COORDINATE CLOSELY WITH DEVICES, CONDUITS, HVAC INSTALLER, AND FIXTURES FROM OTHER DISCIPLINES DURING PRE-CONSTRUCTION MEETING AND PRIOR TO INSTALLATION.



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BUILDING TYPE / SIZE: P14 LS BS
RELEASE: 23.11

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CONSULTANT PROJECT # 202323.91
DATE 04/05/24

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BEVERAGE CONDUIT AND OIL PIPING PLAN

SHEET NUMBER

P-104

1 BEVERAGE CONDUIT AND OIL PIPING PLAN
1/4" = 1'-0"

4

3

2

1

A

Distribution Panel: MDP

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like HVAC, kitchen equipment, and lighting.

LOAD SUMMARY

Summary table with columns: TOTAL CONNECTED KVA, IF TOTAL LOAD IS OVER 200 KVA, IF TOTAL LOAD IS OVER 201,325 KVA, etc.

Branch Panel: POS

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

GFCI REQUIREMENTS PER 2020 NEC:

THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN / FOOD PREPARATION AREAS IN ACCORDANCE WITH THE 2020 EDITION OF THE NEC.

PANELBOARD NOTES

- (A) CONTROLLED BY RELAY IN CONTROL PANEL CFA-T500 AND STORE-OPEN EXHAUST FAN SWITCH.
(B) CONTROLLED BY EXTERIOR LIGHTING RELAY IN CONTROL PANEL CFA-T500.
(C) CONTROLLED BY EXTERIOR LIGHTING RELAY - DUSK TO DAWN ZONE.
(D) CONTROLLED BY PARKING LOT LIGHTING CONTROL SWITCH.
(E) GFCI TYPE BREAKER TO BE 30MA TYPE BREAKER.
(F) THE CONTRACTOR SHALL PROVIDE GROUND FAULT TYPE RECEPTACLES FOR ALL 120 VOLT, 15 AND 20 AMP. RECEPTACLES IN THE KITCHEN/FOOD PREPARATION AREA UNLESS NOTED OTHERWISE.
(G) GFCI TYPE BREAKER TO BE 5MA TYPE BREAKER.
(H) ISOLATED GROUND.
(I) CONTROLLED BY INTERIOR LIGHTING RELAYS IN CONTROL PANEL T-500. LIGHTS SHALL TURN ON WHEN STORE IS OCCUPIED.
(L) LOCK-ON.
(M) LOCK-OFF FOR MAINTENANCE.
(N) HIGH MAG LOAD.
(O) THRU (1) SB6100-020-0 GFCI PROTECTION DEVICE IN SB6000 PANEL ENCLOSURE OR (1) SB6100-021-0 GFCI PROTECTION DEVICE SURFACE MOUNTED ENCLOSURE FOR 80 AMP FRYERS; OR (1) SB5050-021-0 GFCI PROTECTION DEVICE SURFACE MOUNTED ENCLOSURE FOR 60 AMP DISHWASHER.
(P) SHUNT TRIP, INTERLOCK W/ FIRE SUPPRESSION SYSTEM VIA T-500 PANEL. REFER TO WIRING INSTRUCTIONS INCLUDED WITH SHUNT TRIP BREAKER.
(Q) SURGE PROTECTION FOR INDIVIDUAL CIRCUIT. MOUNT SINGLE CIRCUIT SURGE PROTECTION DEVICE (SQUARE D) SDSA1175T TO FACEPLATE MOUNTED ON JUNCTION BOX DIRECTLY ABOVE PANELBOARD SERVING LOAD.



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Branch Panel: A

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

Branch Panel: B

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

Branch Panel: C

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

Branch Panel: D1

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

Branch Panel: D2

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.

Branch Panel: D3

Table with columns: NT, CKT, LOAD DESCRIPTION, TRIP, POLE, A, B, C, POLE, TRIP, LOAD DESCRIPTION, CKT, NT. Includes location, supply, and voltage information.

Table with columns: Load Classification, Connected Load, Demand Factor, Estimated Demand, Panel Totals. Lists various equipment like kitchen equipment and lighting.



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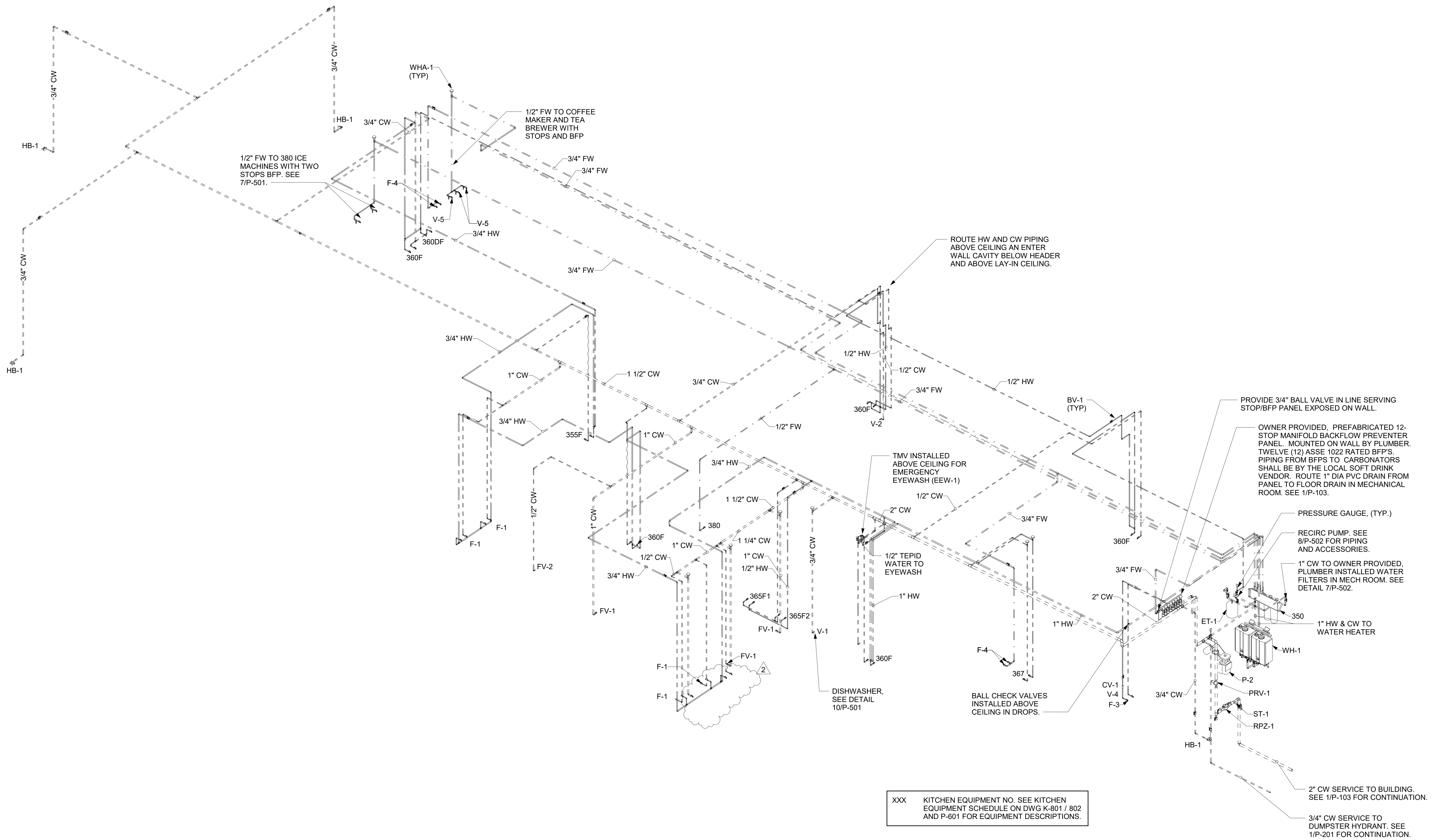
FSR#05680

BUILDING TYPE / SIZE: P14 LS BN
RELEASE DATE: 23.11
PRINTED FOR: ISSUED FOR CONSTRUCTION
REVISION SCHEDULE: NO. DATE DESCRIPTION
2 07/12/24 Bulletin 2
CONSULTANT PROJECT # 2023223 91
DATE 04/05/24
DRAWN BY: JPVW
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PANEL SCHEDULES
SHEET NUMBER: E-602

7/18/2024 5:52:10 PM AutoCAD Docs/MI_05680_Benton Harbor (MI) FSU_2023.11_FSR/05680_Benton Harbor (MI) FSU_ELE.rvt
50-LS-05680-E-602-PANEL SCHEDULES

7/11/2024 9:43:48 AM Autodesk Docs/MI/LS-05680-P-902-WATER DISTRIBUTION ISOMETRIC

1 WATER DISTRIBUTION ISOMETRIC



XXX KITCHEN EQUIPMENT NO. SEE KITCHEN EQUIPMENT SCHEDULE ON DWG K-801 / 802 AND P-601 FOR EQUIPMENT DESCRIPTIONS.



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BUILDING TYPE / SIZE: P14 LS BS
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NO.	DATE	DESCRIPTION
1	04/05/2024	ISSUED FOR CONSTRUCTION
2	07/12/2024	Bulletin 2

CONSULTANT PROJECT # 202323 91

DATE 04/05/24

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WATER DISTRIBUTION ISOMETRIC

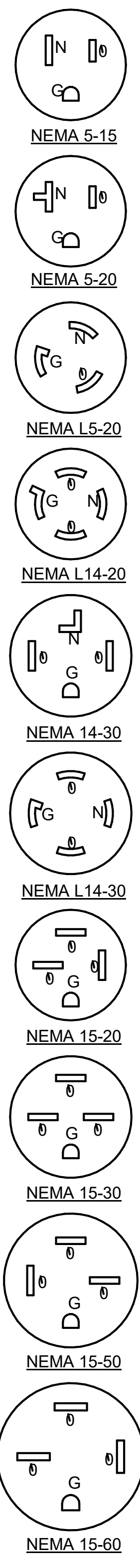
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P-902

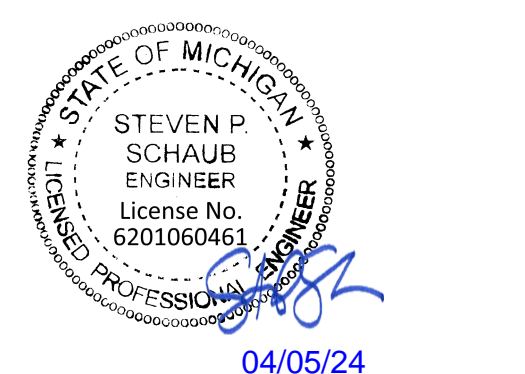
KITCHEN EQUIPMENT SCHEDULE - CHICK-FIL-A P14 EDITION

Table with columns: ITEM NO., DESCRIPTION OF EQUIPMENT, VOLTS, PH, KW, AMPS, NEMA-RATING, COMMENTS AND REMARKS, WIRE/CONDUIT SEE SHEET E-601, NOTES. Lists various kitchen equipment like registers, printers, monitors, dispensers, and refrigerators.

NOTE 1: ALL CORD LENGTHS SHALL BE MEASURED FROM REAR OF THE EQUIPMENT TO THE END OF THE CORD.
NOTE 2: CONTRACTOR SHALL PROVIDE GROUND-FAULT PROTECTION RECEPTACLES PER 2017 NEC - IN KITCHEN/FOOD PREPARATION AREAS...



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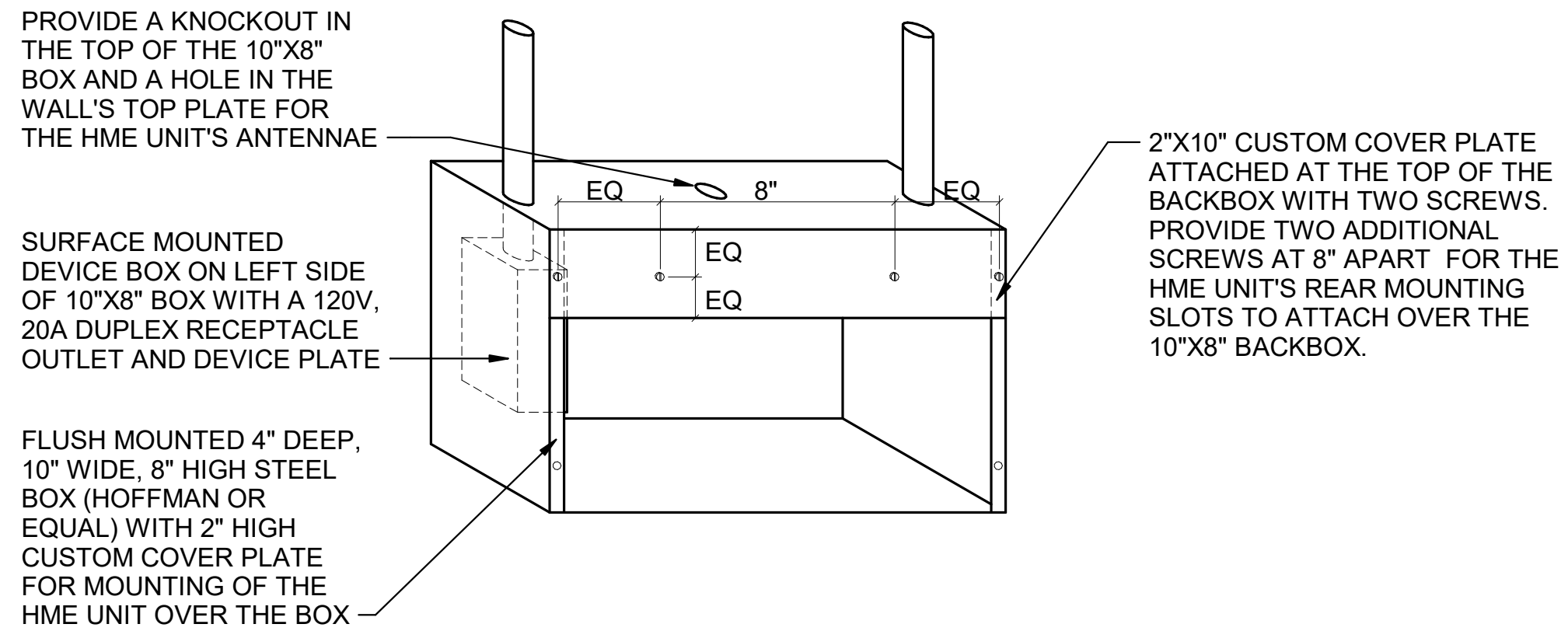
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1917 PIPESTONE RD
BENTON HARBOR, MI 49022

FSR#05680
BUILDING TYPE / SIZE: P14 LS BN
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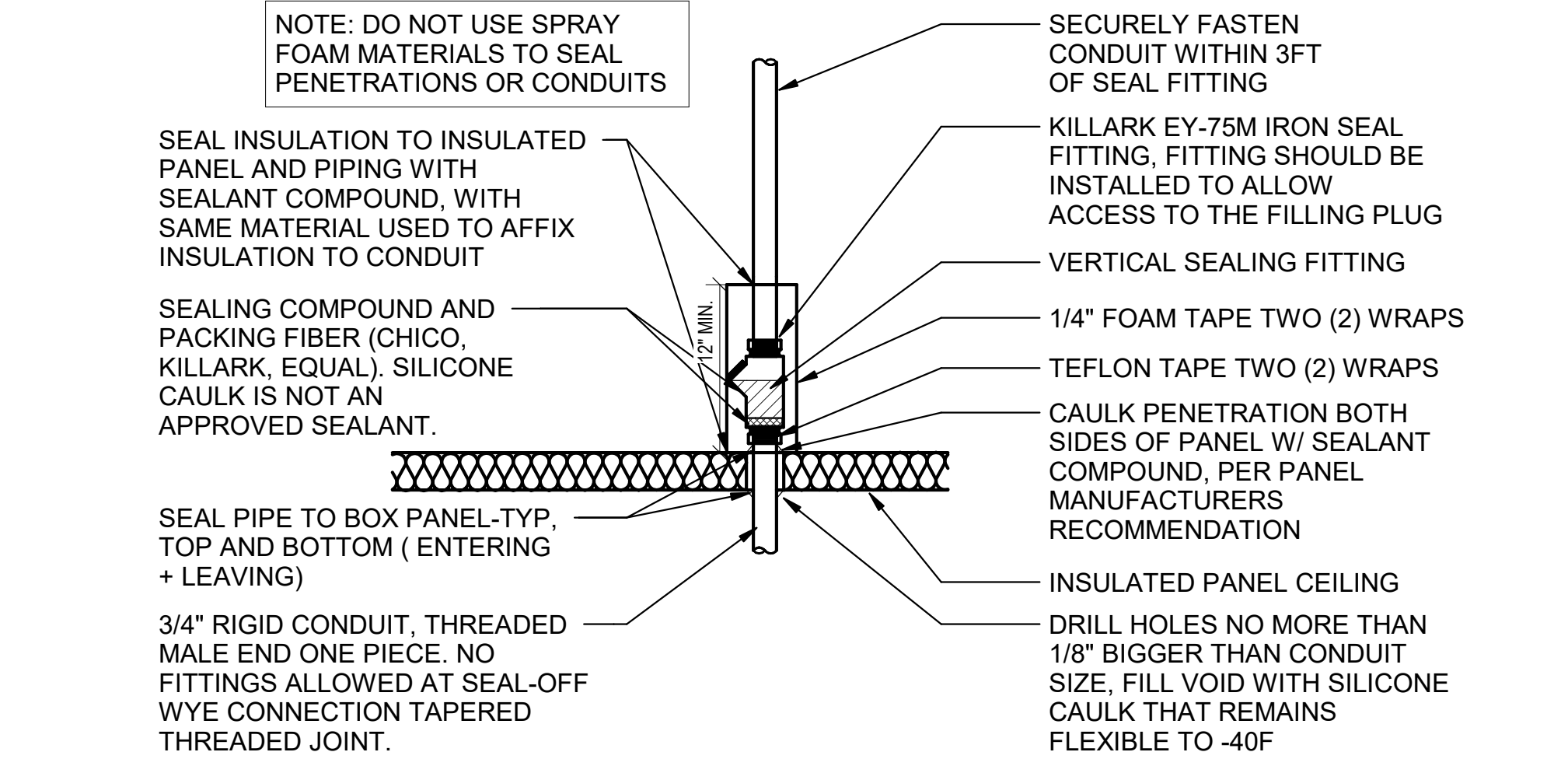
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E-601

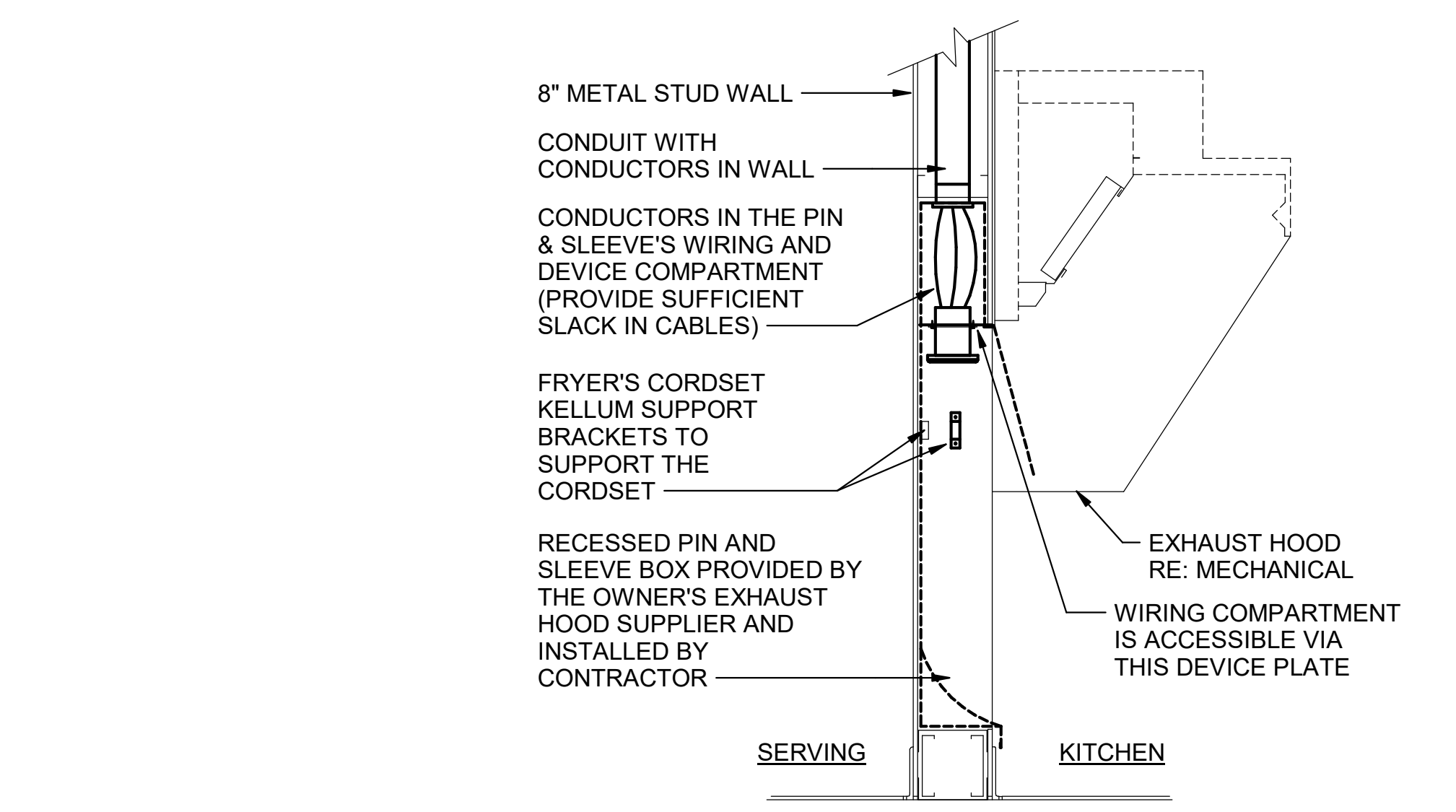
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50-LS-05680-E-501-DETAILS



E3 HME UNIT POWER & DATA BOX DETAIL
N.T.S.



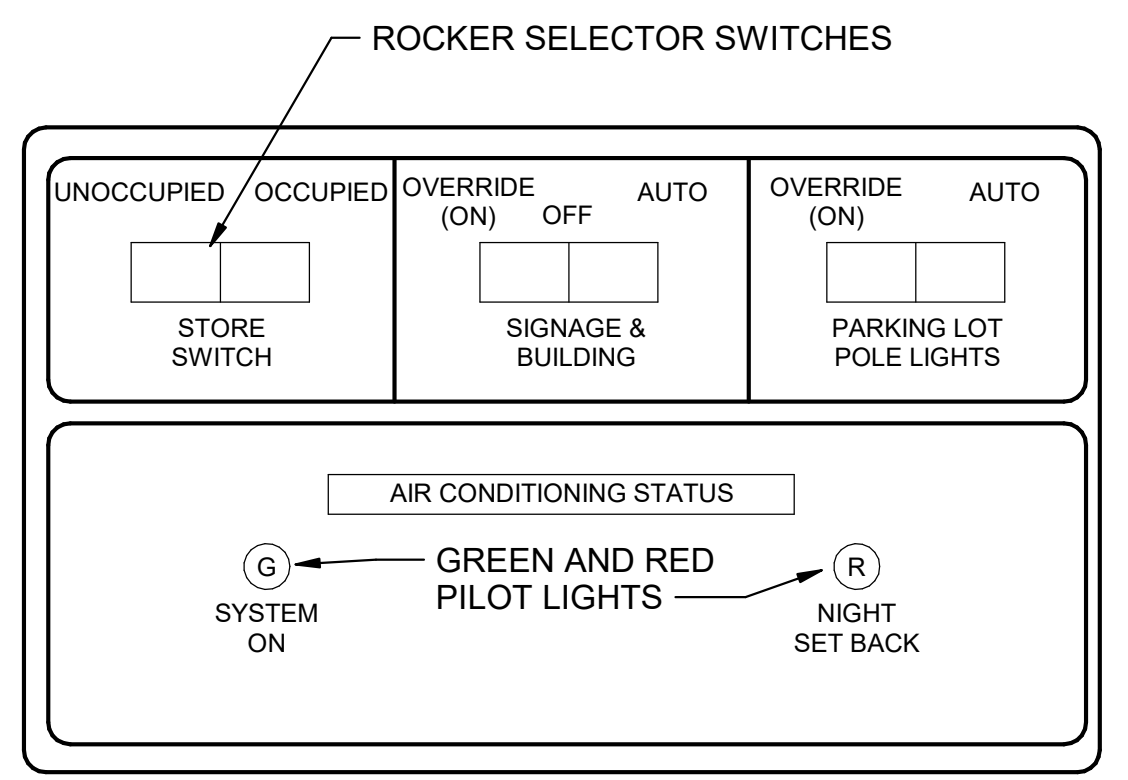
D3 WICAWIF SEAL-OFF DETAIL
N.T.S.



B3 PIN & SLEEVE BOX DETAIL
N.T.S.

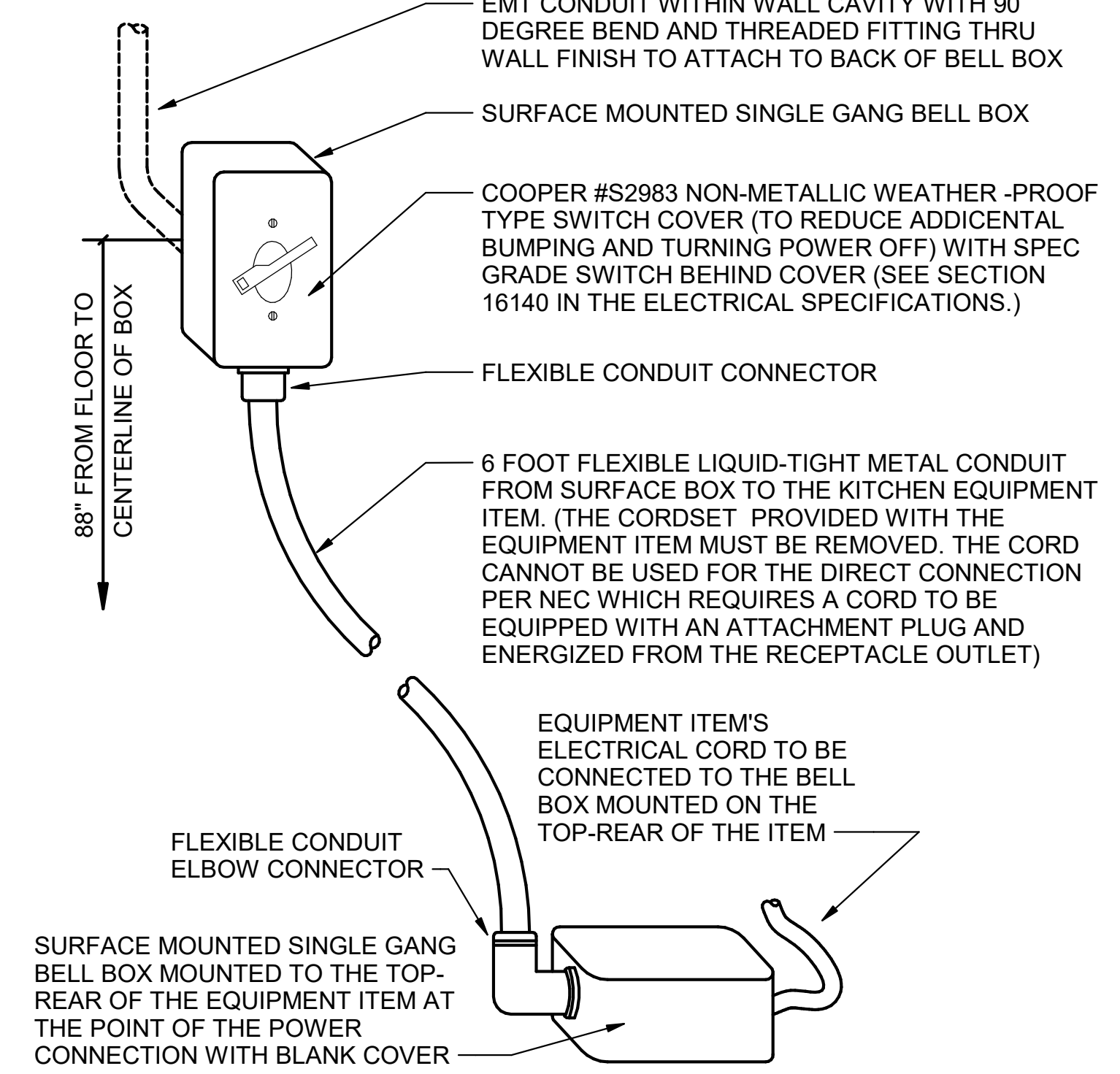


A2 INTERIOR PVC CONDUIT DETAIL
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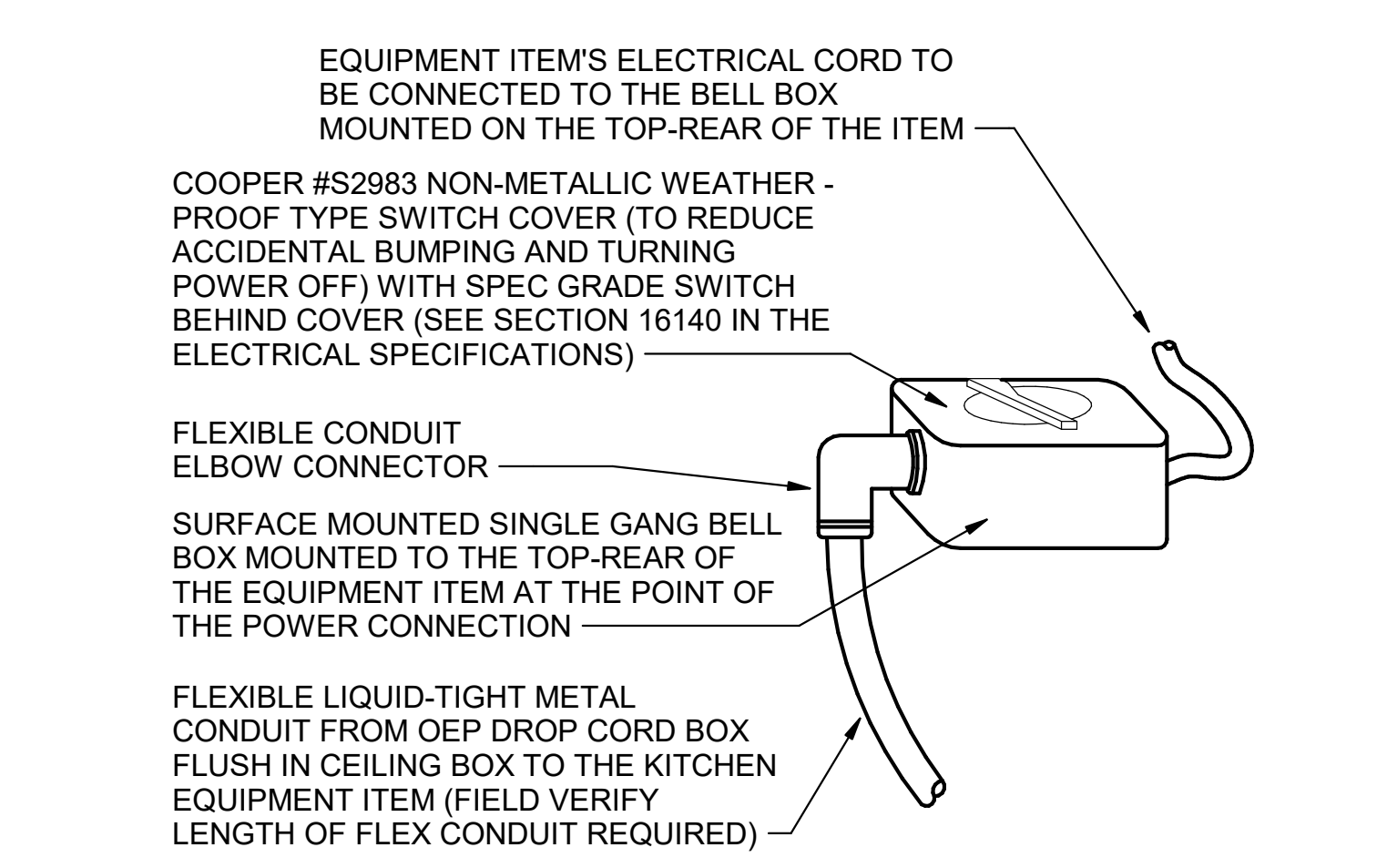


NOTE:
THIS UNIT IS MOUNTED IN THE DOOR OF THE CFA-T500 CONTROL CABINET AND IS INCLUDED WITH THE GEAR ORDER FROM SUNCOAST ENVIRONMENTAL INC.

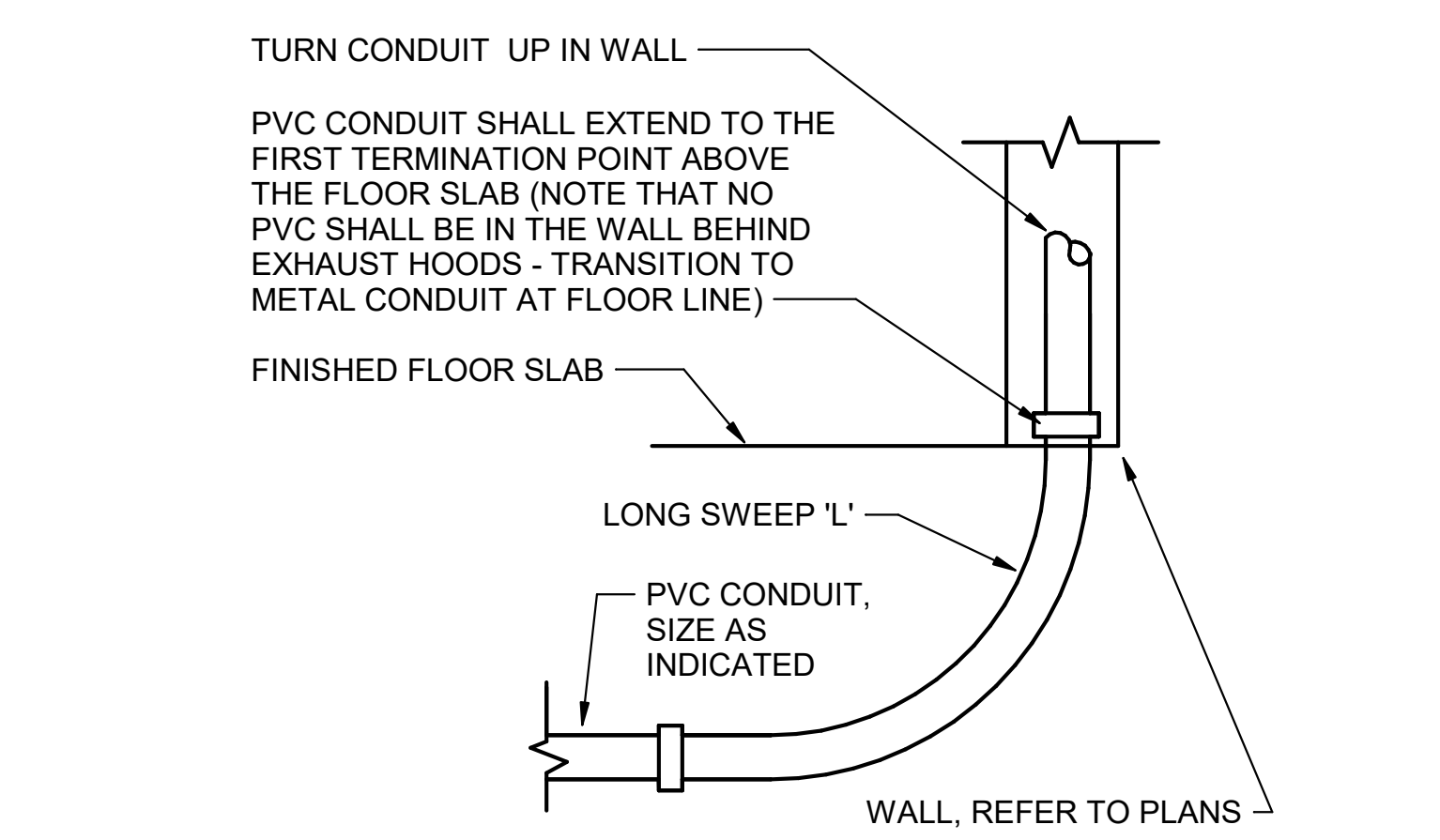
D2 OPEN-CLOSED CONTROL SWITCH
N.T.S.



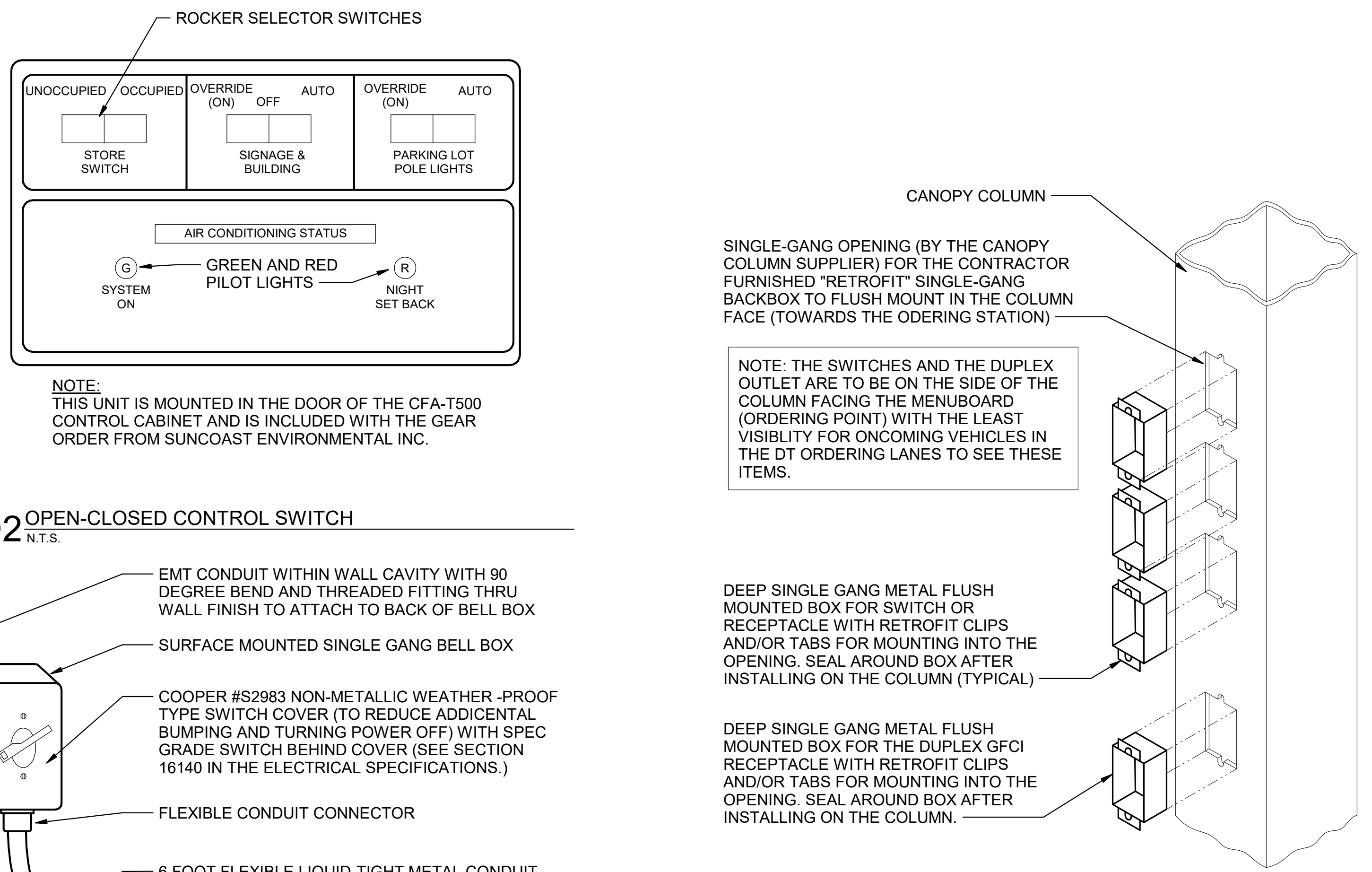
C2 DIRECT CONNECTION - WALL LOCATION
N.T.S.



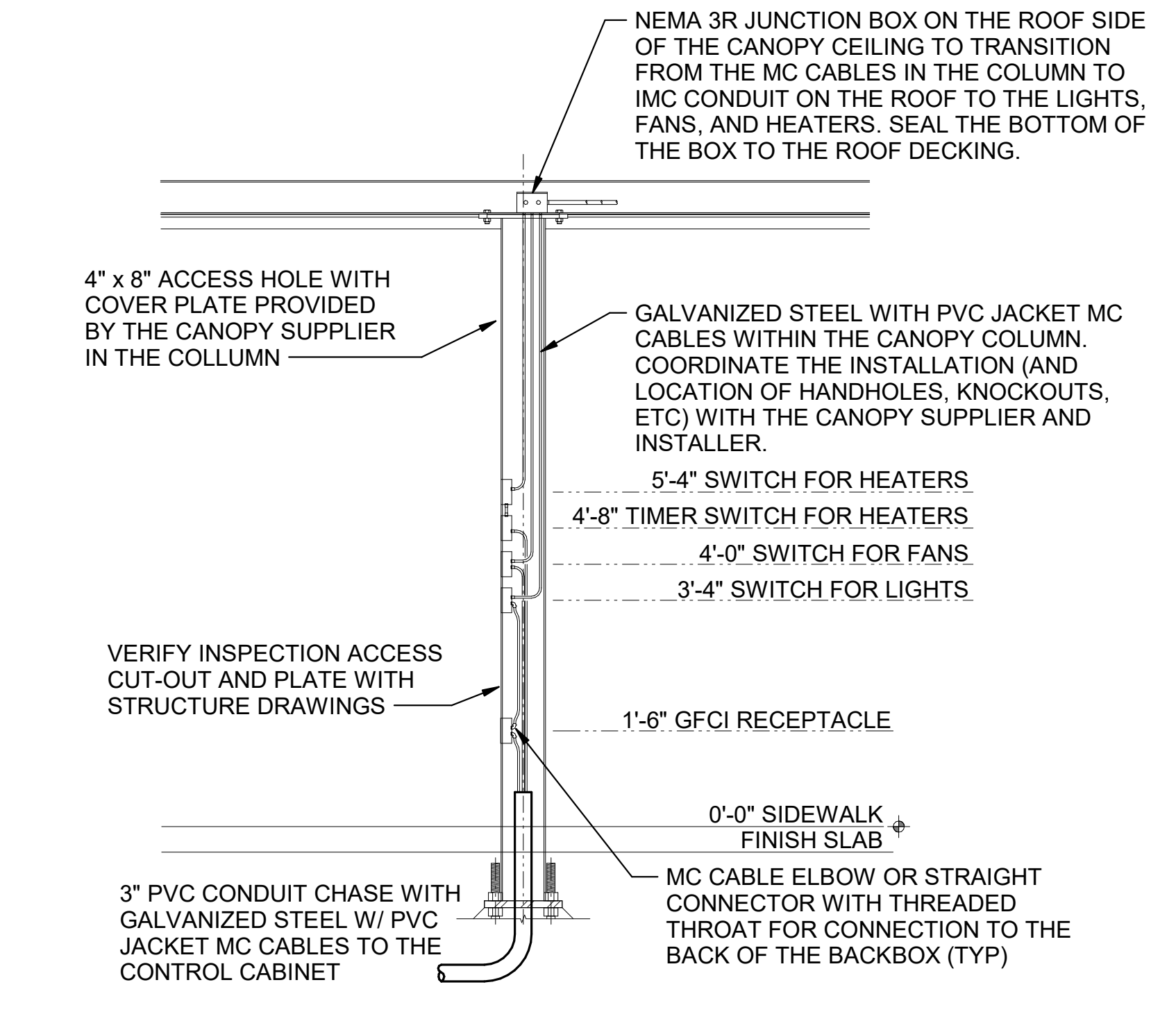
B2 DIRECT CONNECTION - ISLAND LOCATION
N.T.S.



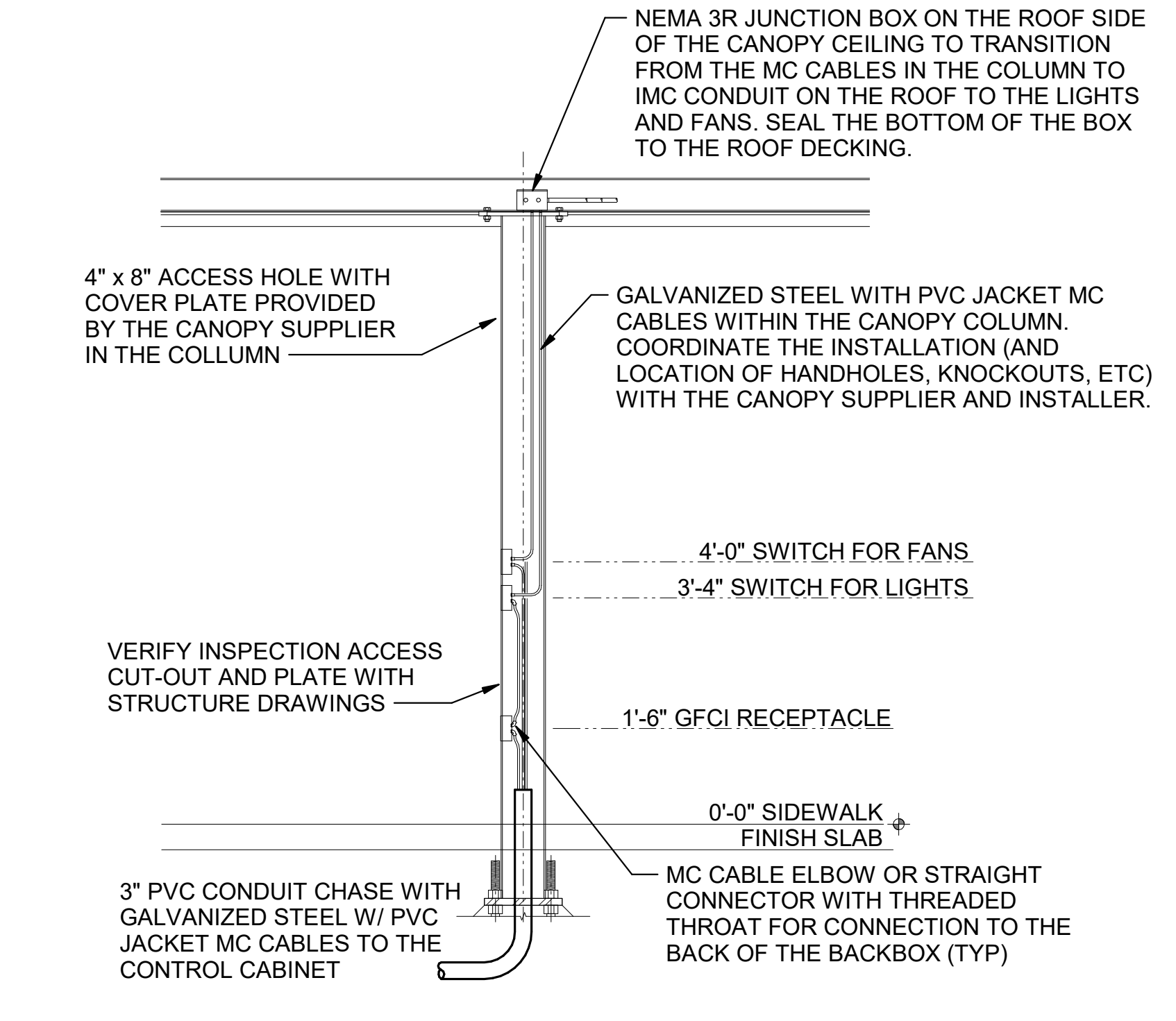
A1 MEAL DELIVERY CANOPY COLUMN SECTION
N.T.S.



D1 CANOPY COLUMN ISOMETRIC
N.T.S.



B1 MLOP ORDER CANOPY COLUMN SECTION
N.T.S.



A1 MEAL DELIVERY CANOPY COLUMN SECTION
N.T.S.



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04/05/24

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BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11

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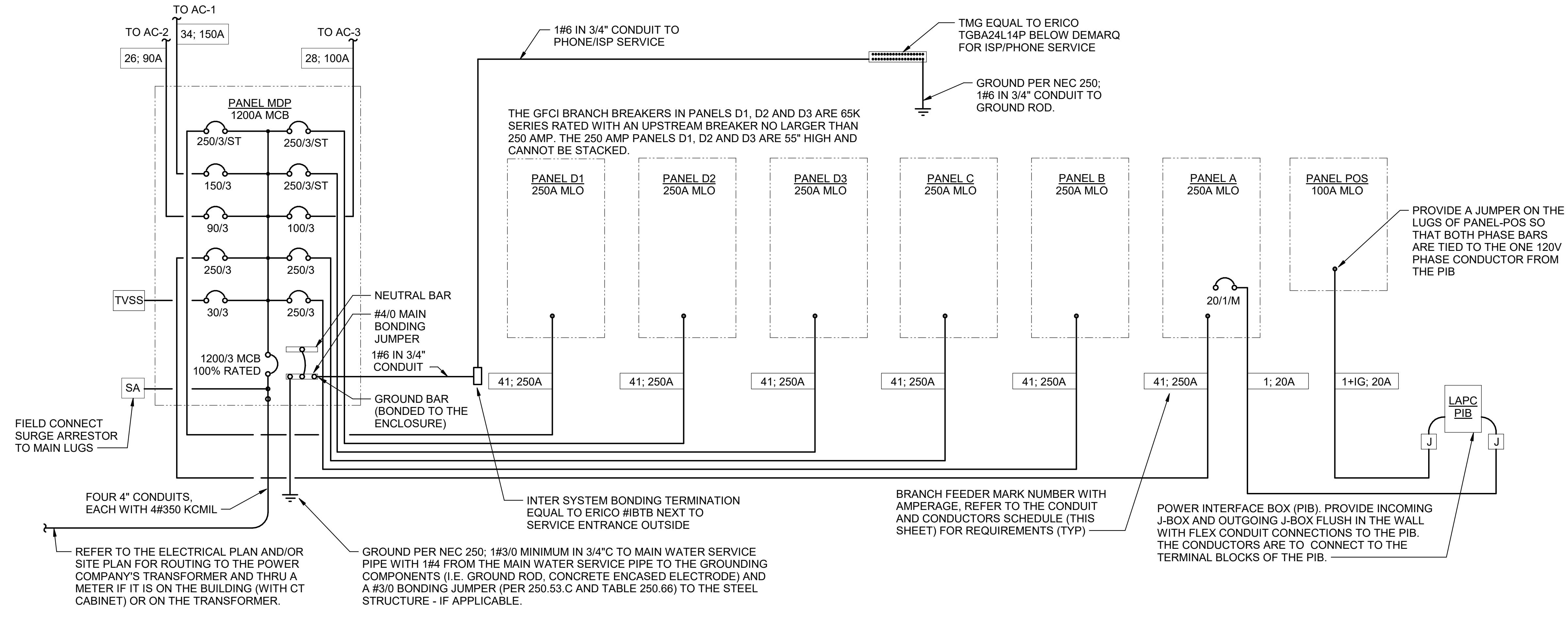
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DETAILS

SHEET NUMBER

E-501

4/4/2024 5:24:11 PM Autodesk Docs://MI_05680_Benton Harbor (MI) FSU_2023.11_FSR#05680_Benton Harbor (MI) FSU_ELE.rvt
50-LS-05680-E-701-SINGLE LINE DIAGRAM



C2 SINGLE LINE DIAGRAM
NO SCALE

SINGLE-LINE DIAGRAM NOTES

- VERIFY SERVICE LOCATIONS AND CONFORM TO THE REQUIREMENTS OF THE POWER COMPANY AND/OR DEVELOPER. POWER COMPANY AND/OR DEVELOPER SHALL BE CONTACTED PRIOR TO BEGINNING CONSTRUCTION TO ARRANGE AND VERIFY FOR THE INSTALLATION OF THE POWER COMPANY SERVICE, METER, AND OTHER ITEMS.
- GROUND ALL EQUIPMENT AND SERVICES IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE, LOCAL APPLICABLE CODES, AND ALSO AS INDICATED ON DRAWINGS.
- MAKE NECESSARY INSPECTIONS OF EXISTING SITE AND SERVICE LOCATIONS AS REQUIRED FOR THIS WORK AND MAKE ALLOWANCE FOR EXISTING CONDITIONS BEFORE SUBMITTING BID. VERIFY WORK REQUIRED WITH POWER COMPANY AND TELEPHONE COMPANY.
- CUT AND PATCH THE CONSTRUCTION WORK AS REQUIRED FOR PROPER INSTALLATION OF THE ELECTRICAL WORK. ALL PATCHING SHALL MATCH THE SURROUNDING WORK TO THE SATISFACTION OF THE ARCHITECT. ALL CONDUIT SHALL BE INSTALLED CONCEALED UNLESS SPECIFICALLY APPROVED BY THE ARCHITECT. COORDINATE SAW CUTTING WITH LANDLORD'S OR OWNER'S REPRESENTATIVE.
- WIRE AND CABLE:
 - CONDUCTORS SHALL BE COPPER, #12 AWG, MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
 - CONDUCTOR #10 AWG AND SMALLER SHALL BE SOLID AND #8 AWG AND LARGER SHALL BE STRANDED. INSULATION SHALL BE 600 VOLT, THHN/THWN.
- PROVIDE ENGRAVED LAMINATED PHENOLIC BLOCK-ON-WHITE (UNLESS NOTED OTHERWISE) NAMEPLATES SECURED TO EQUIPMENT WITH ADHESIVE AND SCREWS FOR PANELBOARDS, RELAY CABINETS, TRANSFORMERS, DISTRIBUTION BOARDS, AND MAIN PANELBOARD - IDENTIFYING EQUIPMENT DESIGNATION (CORRESPONDING WITH DESIGNATION USED ON DRAWINGS) AND EQUIPMENT VOLTAGE. LETTERING SHALL BE 1/4" HIGH. PROVIDE LABELS FOR CIRCUIT BREAKERS, FUSIBLE SWITCHES AND STARTERS IN PANELBOARDS AND DISTRIBUTION BOARDS FOR EACH DEVICE IDENTIFYING EQUIPMENT CONTROLLED. LETTERING SHALL BE 1/8" HIGH.
- ALL DEVICES SHALL HAVE AN INTERRUPTING CAPACITY NOT LESS THAN THE POWER COMPANY AVAILABLE FAULT CURRENT, OR AS INDICATED ON THE DRAWINGS.
- 120/208 VOLT BRANCH CIRCUIT PANELBOARD BREAKERS SHALL HAVE A MINIMUM U.L. SERIES RATING OF 65 KAIC WITH UP-STREAM FEEDER BREAKERS AS NOTED.
- AVAILABLE SPACE FOR MAIN PANELBOARD IS LIMITED. PANELBOARD MUST FIT IN ALLOCATED SPACE. COORDINATE WITH CONSTRUCTION AS REQUIRED.
- ALL WIRING SHALL BE IN CONDUIT, E.M.T OR RIGID. FLEXIBLE CONDUIT MAY ONLY BE USED FOR FINAL CONNECTIONS AND WITH GREEN EQUIPMENT GROUNDING CONDUCTORS.

SWITCHGEAR AND CONTROL EQUIPMENT NOTES

- PURCHASE PANELBOARDS, SURGE ARRESTOR, AND TVSS FROM AN APPROVED NATIONAL ACCOUNTS VENDOR (SEE ELECTRICAL SPECIFICATIONS, SECTION C16440, PANELBOARDS) PROVIDING SQUARE-D EQUIPMENT. NO SUBSTITUTIONS ALLOWED.
- PURCHASE CONTROL PANEL 'CFA-T500' FROM SUNCOAST ENVIRONMENTAL, INC. (NO SUBSTITUTIONS ALLOWED). ALL EQUIPMENT IN THE CONTROL PANEL SHALL BE INSTALLED, WIRED AND CONNECTED AT THE FACTORY, INCLUDING AUTOMATIC LIGHTING CONTROL SYSTEM, LIGHTING RELAYS, HVAC STARTERS, POWER SUPPLIES, MISCELLANEOUS RELAYS AND CONTROLS, AND THERMOSTATS.
- CONTRACTOR SHALL PROVIDE PANEL FEEDERS A, B, C, D1, D2, D3, AND POS, BRANCH CIRCUIT CONDUIT AND WIRE, AND INSTALL ALL EQUIPMENT AS REQUIRED.
- ALL BREAKERS AND PANELS SHALL BE SQUARE-D.
- TVSS AND SURGE ARRESTOR UNITS SHALL BE MOUNTED DIRECTLY ADJACENT TO THE SIDE OF THE MAIN DISTRIBUTION PANEL IN NEMA 3R ENCLOSURES. CLOSE NIPPLE THE UNITS TO THE SIDE OF THE PANEL. PROVIDE CONNECTION OF TVSS UNIT TO BREAKER IN PANEL. CONNECT SURGE ARRESTOR TO MAIN INCOMING LUGS OF THE PANEL. CONNECT USING MINIMUM LENGTH OF WIRE WITHOUT SHARP BENDS IN THE WIRE AND SHALL NOT BE LENGTHENED FROM WIRE LENGTH PROVIDED WITH THE TVSS OR SURGE SUPPRESSOR DEVICE.

E1 CONDUIT AND CONDUCTORS SCHEDULE

Mark No.	OCP Device (Amp/Poles)	Conductors Total Amps	Conductors			Raceway Size (Nominal Inches)									
			Phase Qty	Neutral Size	Min Eq Qty/Set	No. Sets	Phase EMT	Neutral IMC	Equip RIGID	Grd PVC	With IG 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	0.75
13	45/3	55	-	4	6 THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14	50/1	55	-	2	6 THHN	1	10	One	0.75	0.75	0.75	0.75	0.75	0.75	0.75
15	50/2	55	-	3	6 THHN	1	10	One	0.75	0.75	0.75	0.75	1.00	1.00	1.00
16	50/3	55	-	4	6 THHN	1	10	One	1.00	1.00	1.00	1.00	1.00	1.00	1.00
17	60/1	70	-	2	4 THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
18	60/2	70	-	3	4 THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
19	60/3	70	-	4	4 THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
20	70/1	70	-	2	4 THW	1	8	One	1.00	1.00	1.00	1.00	1.25	1.00	1.25
21	70/2	70	-	3	4 THW	1	8	One	1.25	1.00	1.25	1.25	1.25	1.25	1.25
22	70/3	70	-	4	4 THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
23	80/2	85	-	3	3 THW	1	8	One	1.25	1.25	1.25	1.25	1.25	1.25	1.25
24	80/3	85	-	4	3 THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.50	1.50
25	90/2	95	-	3	2 THW	1	8	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
26	90/3	95	-	4	2 THW	1	8	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
27	100/2	110	-	3	1 THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
28	100/3	110	-	4	1 THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
29	110/2	-	150	3	1/0 THW	1	6	One	1.25	1.25	1.25	1.25	1.50	1.25	1.50
30	110/3	-	150	4	1/0 THW	1	6	One	1.50	1.25	1.50	1.50	1.50	1.50	1.50
31	125/2	-	150	3	1/0 THW	1	6	One	1.50	1.50	1.50	1.50	2.00	2.00	2.00
32	125/3	-	150	4	1/0 THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
33	150/2	-	150	3	1/0 THW	1	6	One	2.00	1.50	2.00	2.00	2.00	2.00	2.00
34	150/3	-	150	4	1/0 THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
35	175/2	-	175	3	2/0 THW	1	6	One	2.00	2.00	2.00	2.00	2.00	2.00	2.00
36	175/3	-	175	4	2/0 THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
37	200/2	-	200	3	3/0 THW	1	6	One	2.00	2.00	2.00	2.00	2.50	2.50	2.50
38	200/3	-	200	4	3/0 THW	1	6	One	2.50	2.50	2.50	2.50	2.50	2.50	2.50
39	225/2	-	230	3	4/0 THW	1	4	One	2.50	2.00	2.50	2.50	2.50	2.50	2.50
40	225/3	-	230	4	4/0 THW	1	4	One	2.50	2.50	2.50	2.50	2.50	3.00	3.00
41	250/3	-	255	4	250 THW	1	4	One	2.50	3.00	3.00	3.00	3.00	3.00	3.00
42A	300/3	-	285	4	300 THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
42B	300/3	-	310	4	350 THW	1	4	One	3.00	3.00	3.00	3.00	3.00	3.00	3.00
43A	350/3	-	335	4	400 THW	1	4	One	3.00	3.50	3.50	3.50	3.50	3.50	3.50
43B	350/3	-	380	4	500 THW	1	4	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
44A	400/3	-	380	4	500 THW	1	3	One	3.50	3.50	3.50	3.50	3.50	3.50	3.50
44B	400/3	-	400	4	3/0 THW	1	3	Two	2.50	2.50	2.50	2.50	2.50	2.50	2.50
45A	600/3	-	570	4	300 THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.00
45B	600/3	-	620	4	350 THW	1	1	Two	3.00	3.00	3.00	3.00	3.00	3.00	3.00
46A	800/3	-	760	4	500 THW	1	1/0	Two	3.50	3.50	3.50	3.50	3.50	3.50	3.50
46B	800/3	-	820	4	600 THW	1	1/0	Two	4.00	4.00	4.00	4.00	4.00	4.00	4.00
47	1000/3	-	1005	4	400 THW	1	2/0	Three	3.50	3.50	3.50	3.50	3.50	3.50	3.50
48	1200/3	-	1240	4	350 THW	1	3/0	Four	3.50	3.50	3.50	3.50	3.50	3.50	4.00
49	1600/3	-	1675	4	400 THW	1	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) - formerly Table 310.16 - 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.

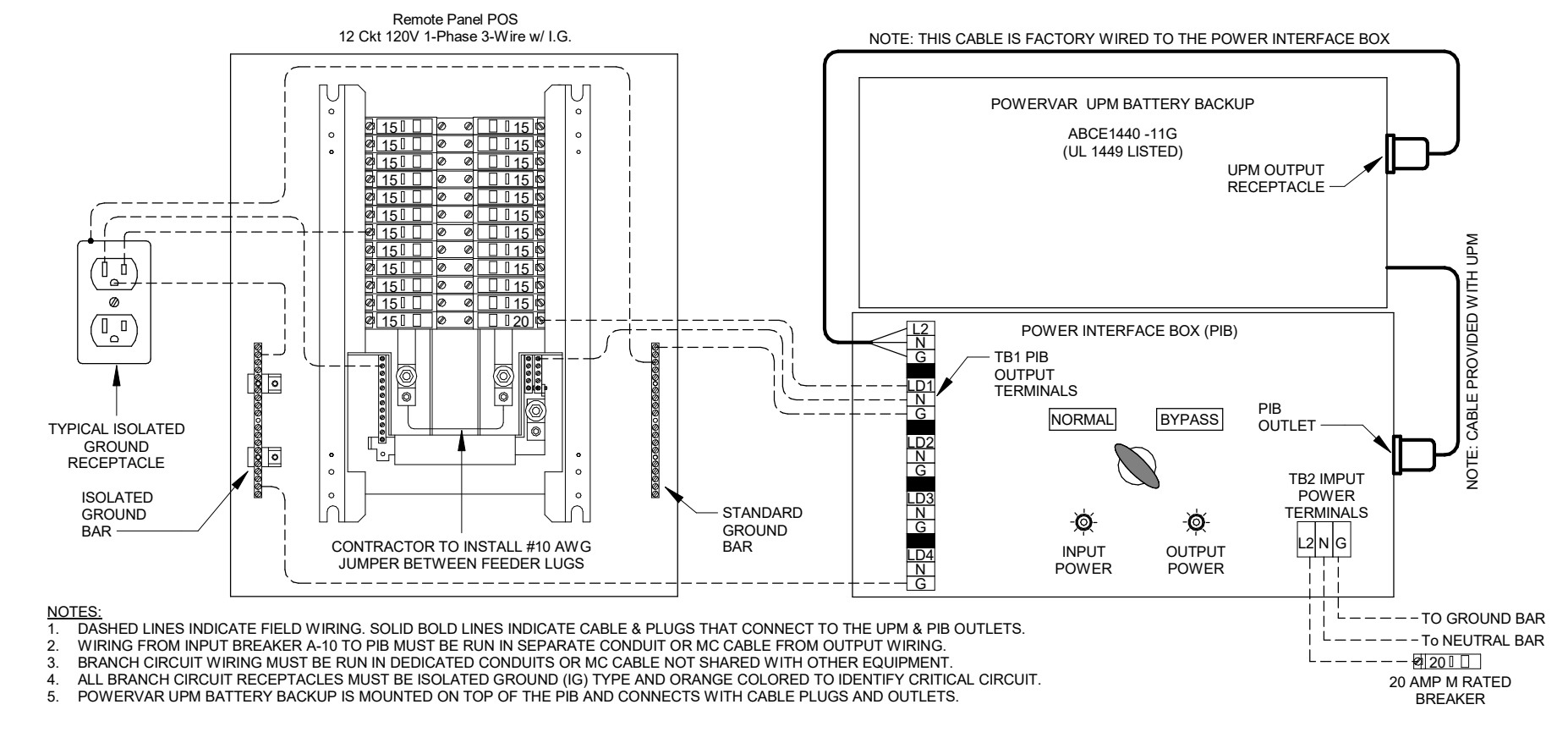
NEC Tables 4, 5, and Appendix C is used for the basis of the conduit sizes. Table C1 for EMT, Table C4 for IMC, Table C8 for Rigid, and Table C10 for PVC (Sch 40).

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

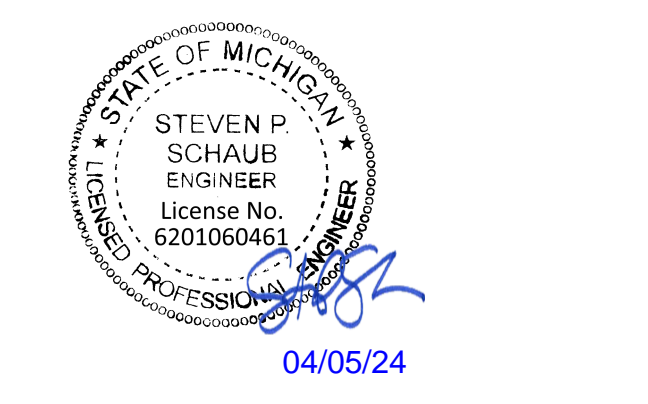
Omit Grounding conductor on Service Entrance Feeders.

Omit Neutral conductor on all Delta primary transformer feeders or single-phase 2 pole loads and 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.



A1 POS AND LAPC/PIB WIRING DIAGRAM
NO SCALE



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BENTON HARBOR, MI 49022

FSR#05680

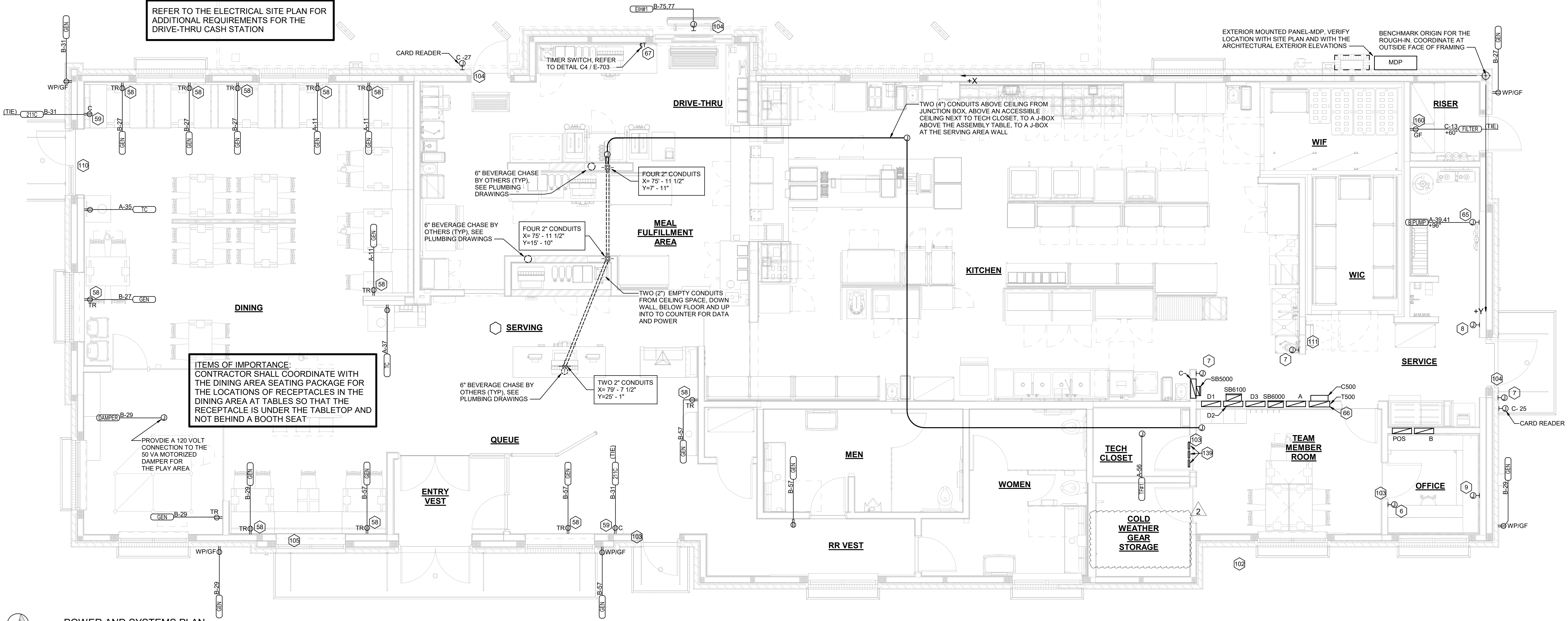
BUILDING TYPE / SIZE: P14 L5 BN
RELEASE: 23.11
PRINTED FOR:
ISSUED FOR CONSTRUCTION

REVISION SCHEDULE	NO.	DATE	DESCRIPTION

CONSULTANT PROJECT # 2023223.91
DATE 04/05/24
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SHEET SINGLE LINE DIAGRAM
SHEET NUMBER **E-701**

REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL REQUIREMENTS FOR THE DRIVE-THRU CASH STATION



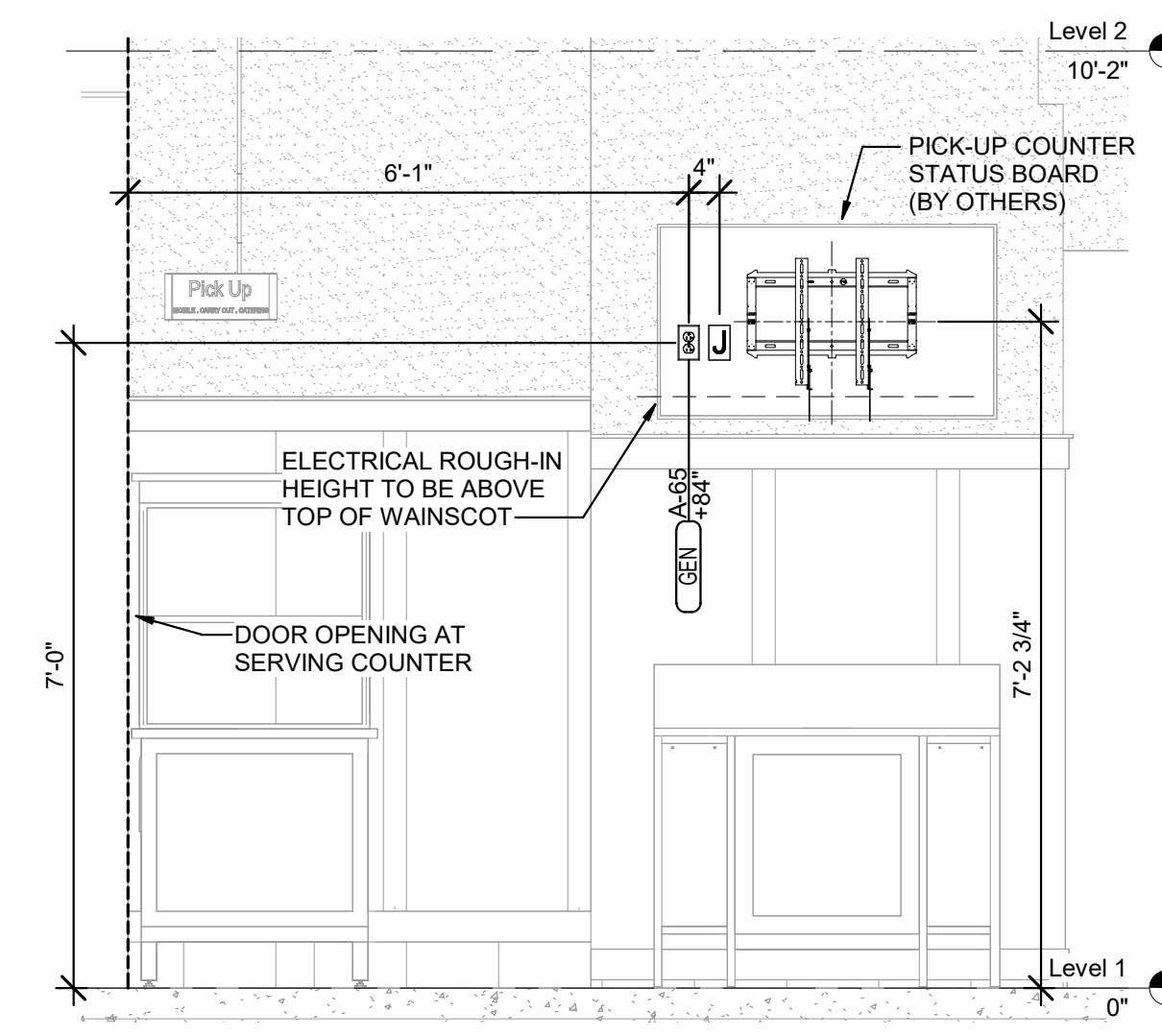
ITEMS OF IMPORTANCE:
CONTRACTOR SHALL COORDINATE WITH THE DINING AREA SEATING PACKAGE FOR THE LOCATIONS OF RECEPTACLES IN THE DINING AREA AT TABLES SO THAT THE RECEPTACLE IS UNDER THE TABLETOP AND NOT BEHIND A BOOTH SEAT

EXTERIOR MOUNTED PANEL-MDP, VERIFY LOCATION WITH SITE PLAN AND WITH THE ARCHITECTURAL EXTERIOR ELEVATIONS
BENCHMARK ORIGIN FOR THE ROUGH-IN. COORDINATE AT OUTSIDE FACE OF FRAMING

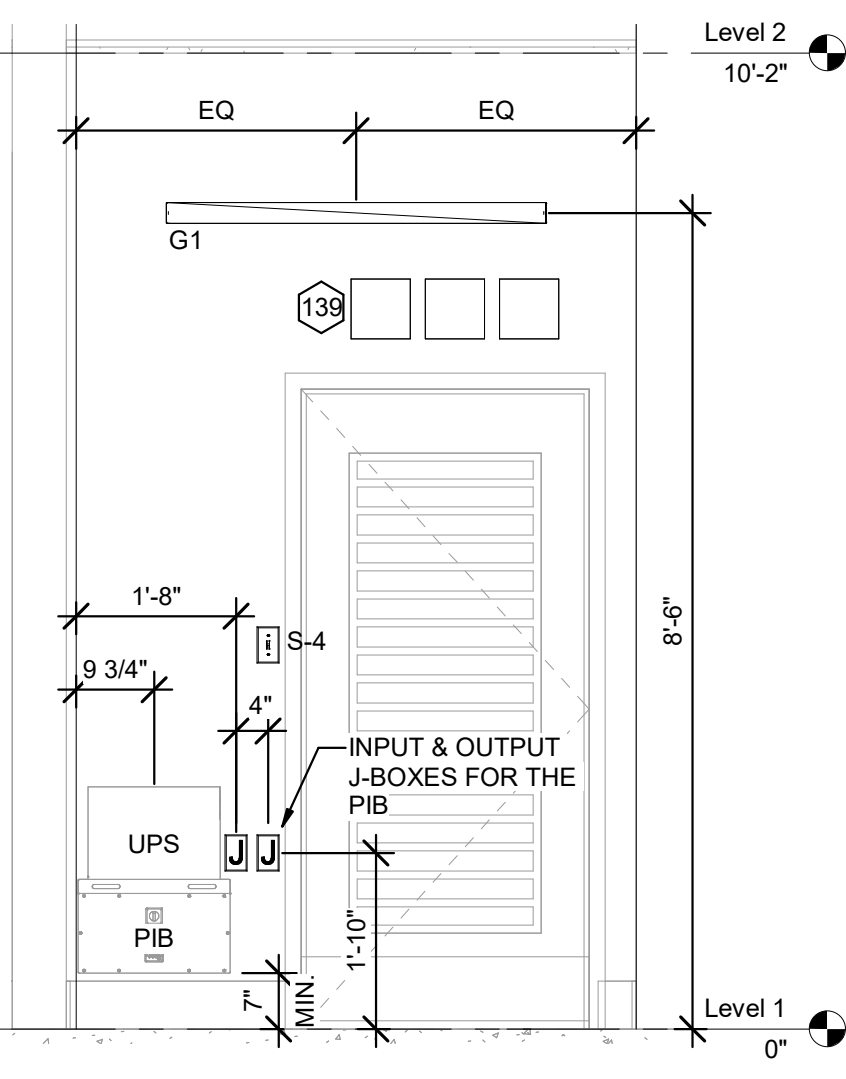
C1 POWER AND SYSTEMS PLAN
1/4" = 1'-0"

ELECTRICAL KEYNOTES

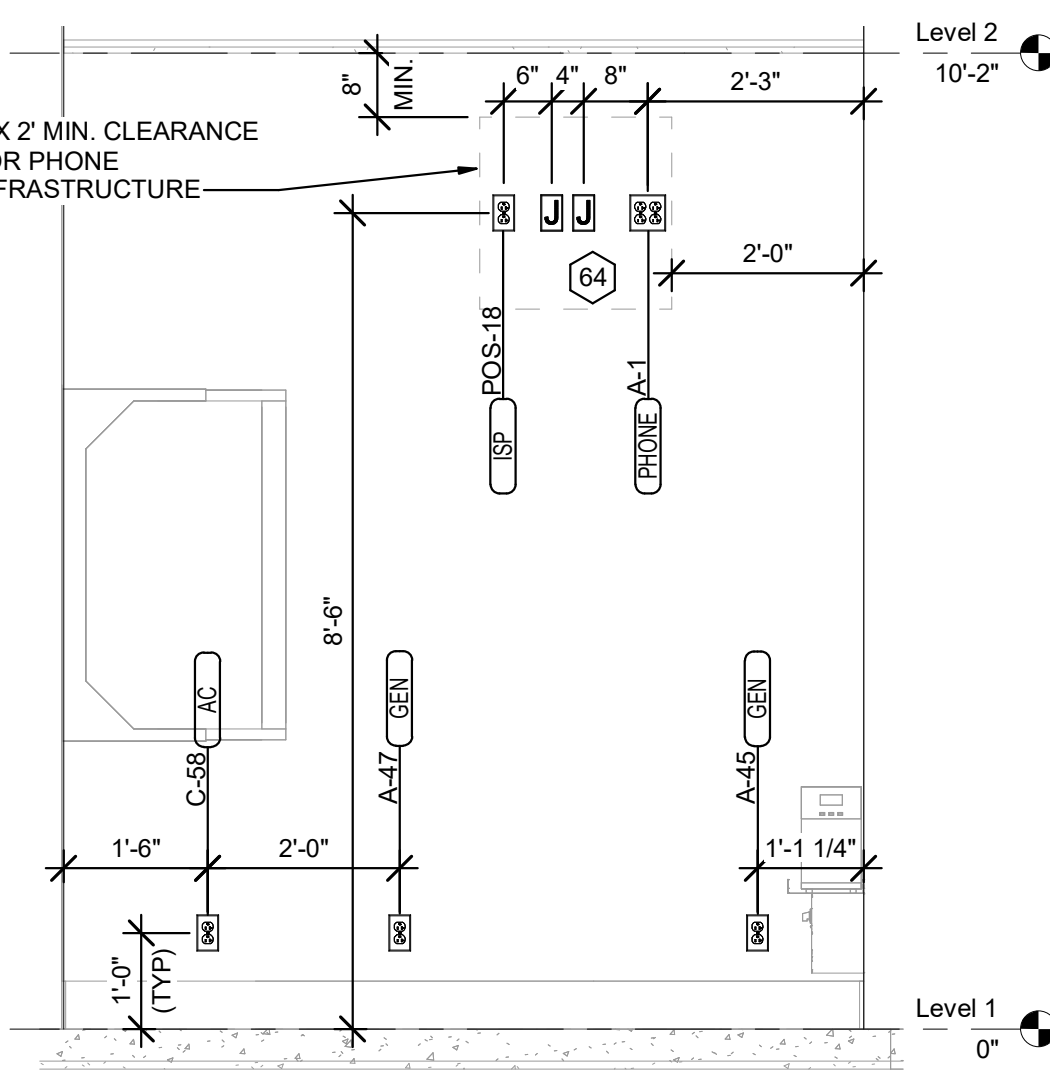
- 6 CO2 CENTRAL CONTROL UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 7 CO2 ANNUNCIATOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 60" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 8 CO2 SENSOR UNIT - PROVIDE SINGLE-GANG BACKBOX AT 12" AFF WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE
- 9 CO2 POWER SUPPLY - PROVIDE SINGLE-GANG BACKBOX AT 18" BELOW CEILING WITH 3/4" CONDUIT STUBBED ABOVE ACCESSIBLE CEILING SPACE. PROVIDE DUPLEX OUTLET, AND CONNECT TO A LOCAL GENERAL OUTLET CIRCUIT. FIELD VERIFY EXACT LOCATION WITH STRONG SYSTEMS 800-500-5566
- 58 TAMPER RESISTANT (TR) DUPLEX RECEPTACLE (IN DINING AREAS) WITH USB CHARGER SHALL BE COOPER/ARROW HART #TR7756-B (BROWN) WITH MATCHING COLOR 'DECOR' STYLE PLATE. VERIFY COLOR WITH OWNER.
- 59 PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVFR2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX
- 64 PROVIDE TWO 6" X 6" X 4" J-BOXES (ONE FOR TELEPHONE AND ONE FOR ISP) AT 6'-8" AFF AND EXTEND A 2" CONDUIT WITH PULL STRING IN THE WALL FROM EACH J-BOX INTO THE ACCESSIBLE CEILING SPACE. PROVIDE A 36" X 36" X 3/4" PLYWOOD BACKBOARD ON THE WALL ABOVE THE J-BOXES (AT THE CEILING) FOR USE BY THE ISP. PROVIDE A COPPER TGBA24L14P) AT THE BOTTOM OF THE BACKBOARD WITH A #6 AWG INSULATED CU GROUNDING CONDUCTOR IN A 3/4" FROM THE GROUND BAR TO THE INTER SYSTEM BONDING TERMINATION NEXT TO THE SERVICE ENTRANCE. THE GROUND BAR SHALL HAVE TAPS FOR USE BY THE TELEPHONE AND ISP UTILITY COMPANIES AND FOR THE #6 COMMUNICATIONS GROUNDING CONDUCTOR TO THE GES. PROVIDE A 15 AMP ISOLATED GROUND (IG) ORANGE-FACED DUPLEX RECEPTACLE IN THE WALL BESIDE THE BACKBOARD AND LABEL THE RECEPTACLE "FOR FIBER TO CABLE MODEM USE ONLY". BOND NETWORK RACKS TO GROUND BAR.
- 65 PROVIDE JUNCTION BOX AT 8'-0" AFF WITH CONDUIT AND CONDUCTORS TO PANELBOARD FOR FUTURE CONNECTION TO BOOSTER PUMP. REFER TO THE PLUMBING DRAWINGS FOR ADDITIONAL INFORMATION.
- 66 THE STORE OPEN-CLOSE UNIT SWITCH IS FURNISHED WITH THE CFA-T500 CONTROL PANEL AND FACTORY INSTALLED IN THE DOOR OF THE CFA-T500 CABINET.
- 67 TIMER SWITCH FOR OUTSIDE ELECTRIC HEATER. REFER TO DETAILS SHEET E-502 AND WIRING DIAGRAMS E-703.
- 102 PROVIDE A 1/2" CONDUIT THRU THE EXTERIOR WALL AND STUBBED INTO THE ACCESSIBLE CEILING SPACE FOR THE EXTERIOR WALL MOUNTED AUDIO-VISUAL ALARM NOTIFICATION DEVICE. VERIFY LOCATION WITH THE EXTERIOR ELEVATIONS AND WITH THE SECURITY INSTALLER - TYPICALLY TO BE LOCATED NEAR THE FIRE PROTECTION SYSTEMS EXTERIOR ALARM UNIT AND VISIBLE FROM THE STREET.
- 103 EXTEND 1/2" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- 104 EXTEND 3/4" RIGID CONDUIT FROM TOP OF STRIKE-SIDE DOOR FRAME CHANNEL TO ABOVE ACCESSIBLE CEILING.
- 105 EXTEND 1/2" CONDUIT FROM A POINT 3" WITHIN EITHER HINGE-SIDE DOOR VERTICAL FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- 110 EXTEND 1/2" CONDUIT FROM A POINT 3" INSIDE THE STRIKE-SIDE DOOR FRAME MULLION TO ABOVE ACCESSIBLE CEILING.
- 111 PROVIDE JUNCTION BOX ON THE LATCH SIDE OF THE ROOF ACCESS HATCH WITH 1/2" CONDUIT ABOVE THE CEILING TO AN ACCESSIBLE CEILING SPACE FOR A DOOR CONTACT.
- 139 ACCESS CONTROL PANELS LOCATED ABOVE DOOR. SECURITY CONTRACTOR TO INSTALL AND PROVIDE POE.
- 160 VERIFY WITH THE PLUMBING PLANS FOR THE LOCATION OF THE WATER FILTER OUTLET.



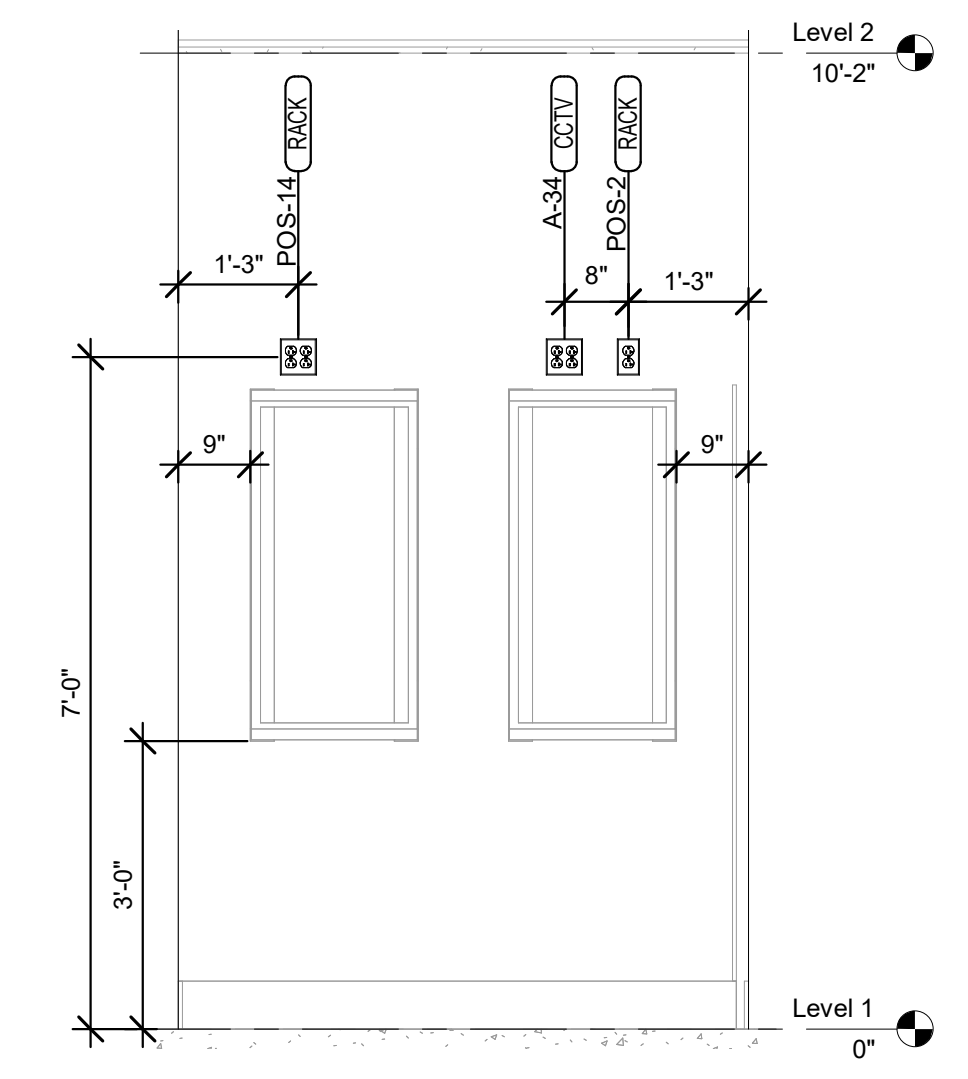
B4 PICK-UP COUNTER ELEV
1/2" = 1'-0"



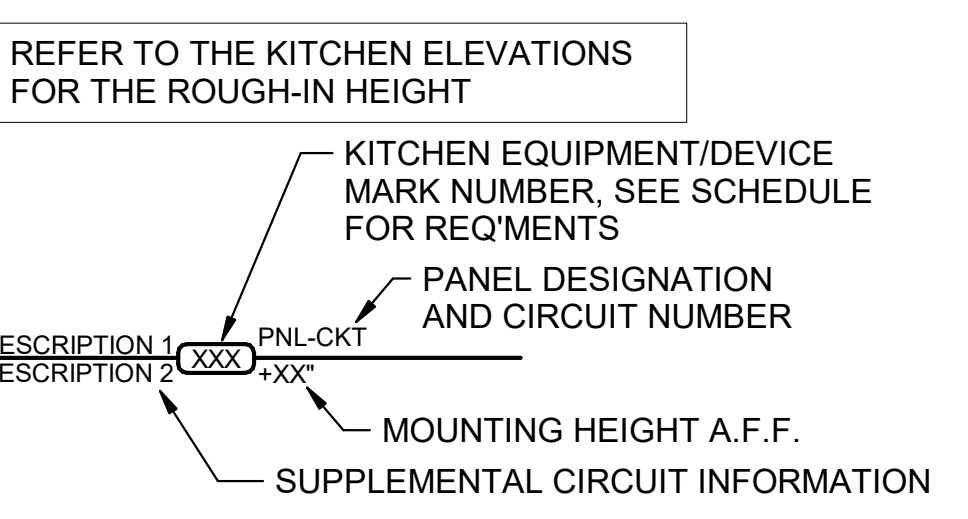
B3 TECH CLOS. ELEV LEFT
1/2" = 1'-0"



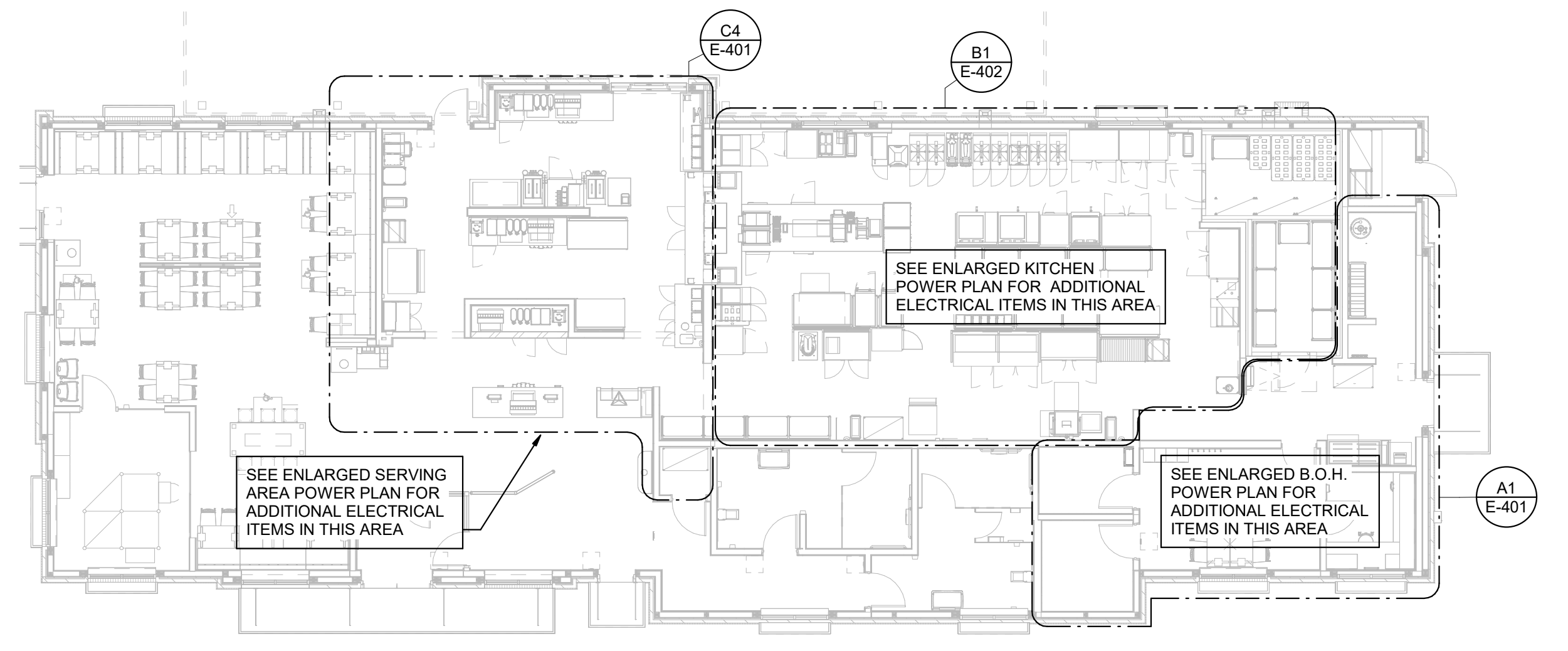
B2 TECH CLOS. ELEV CENTER
1/2" = 1'-0"



B1 TECH CLOS. ELEV RIGHT
1/2" = 1'-0"



A3 KITCHEN EQUIP NOMENCLATURE
N.T.S.



A1 ELECTRICAL KEY PLAN
N.T.S.



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Atlanta, Georgia
30349-2998



CHICK-FIL-A
BENTON HARBOR
1917 PIPESTONE RD
BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE:	P14 LS BN	
RELEASE:	23.11	
PRINTED FOR:		
ISSUED FOR CONSTRUCTION		
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
2	07/12/24	Update 2

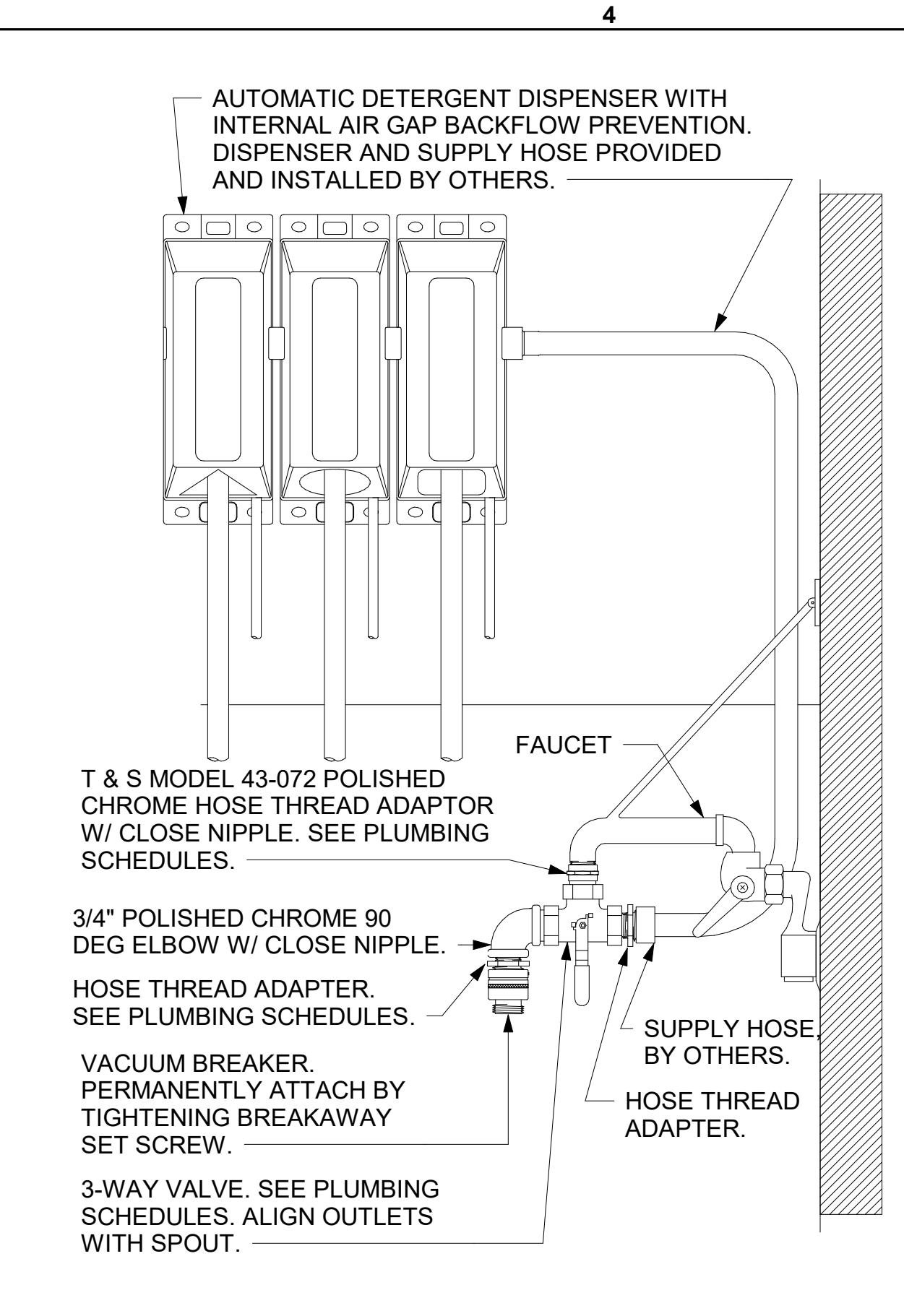
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DATE	04/05/24
DRAWN BY	JPW
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POWER AND SYSTEMS PLAN	

SHEET NUMBER
E-104

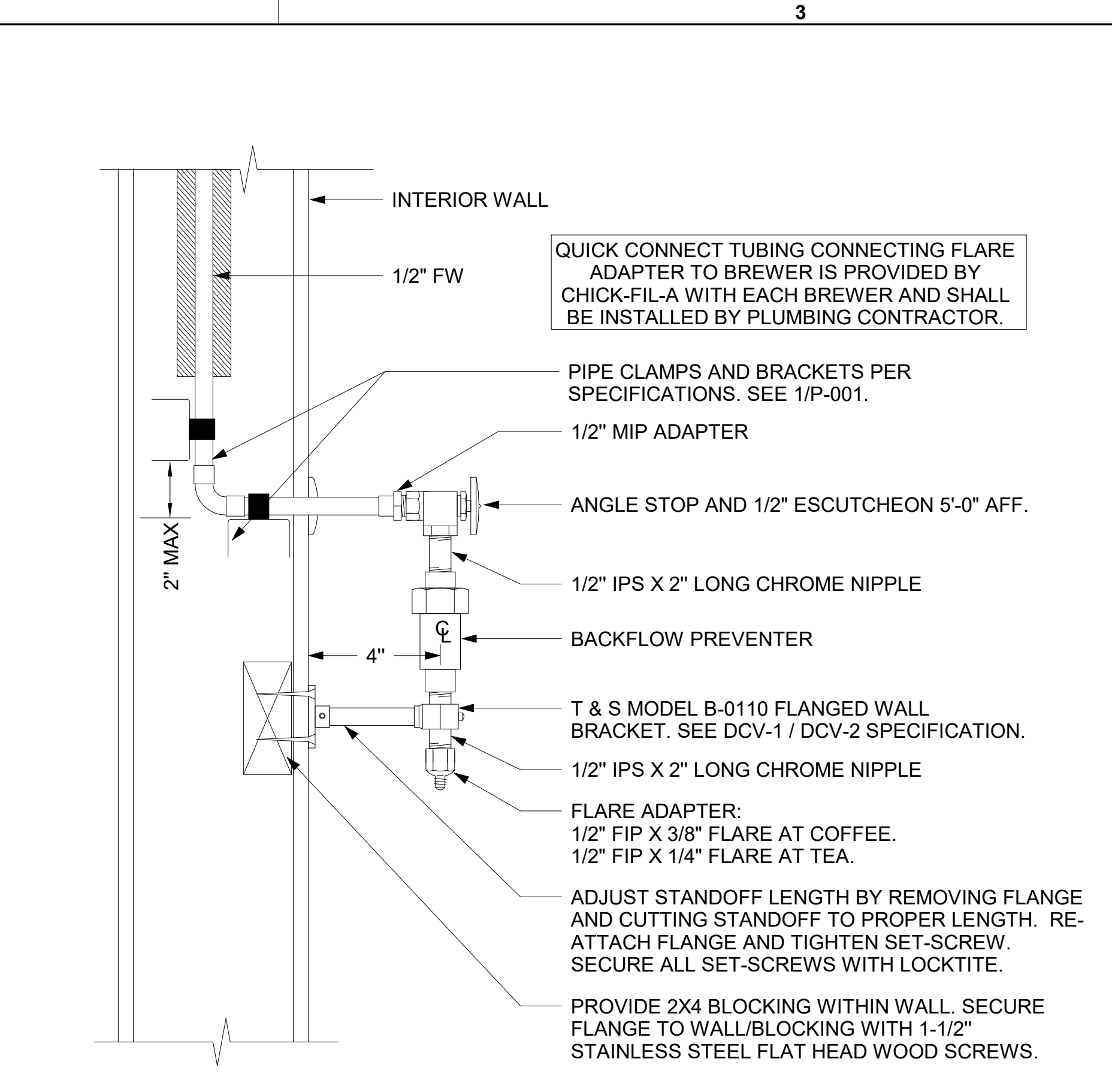
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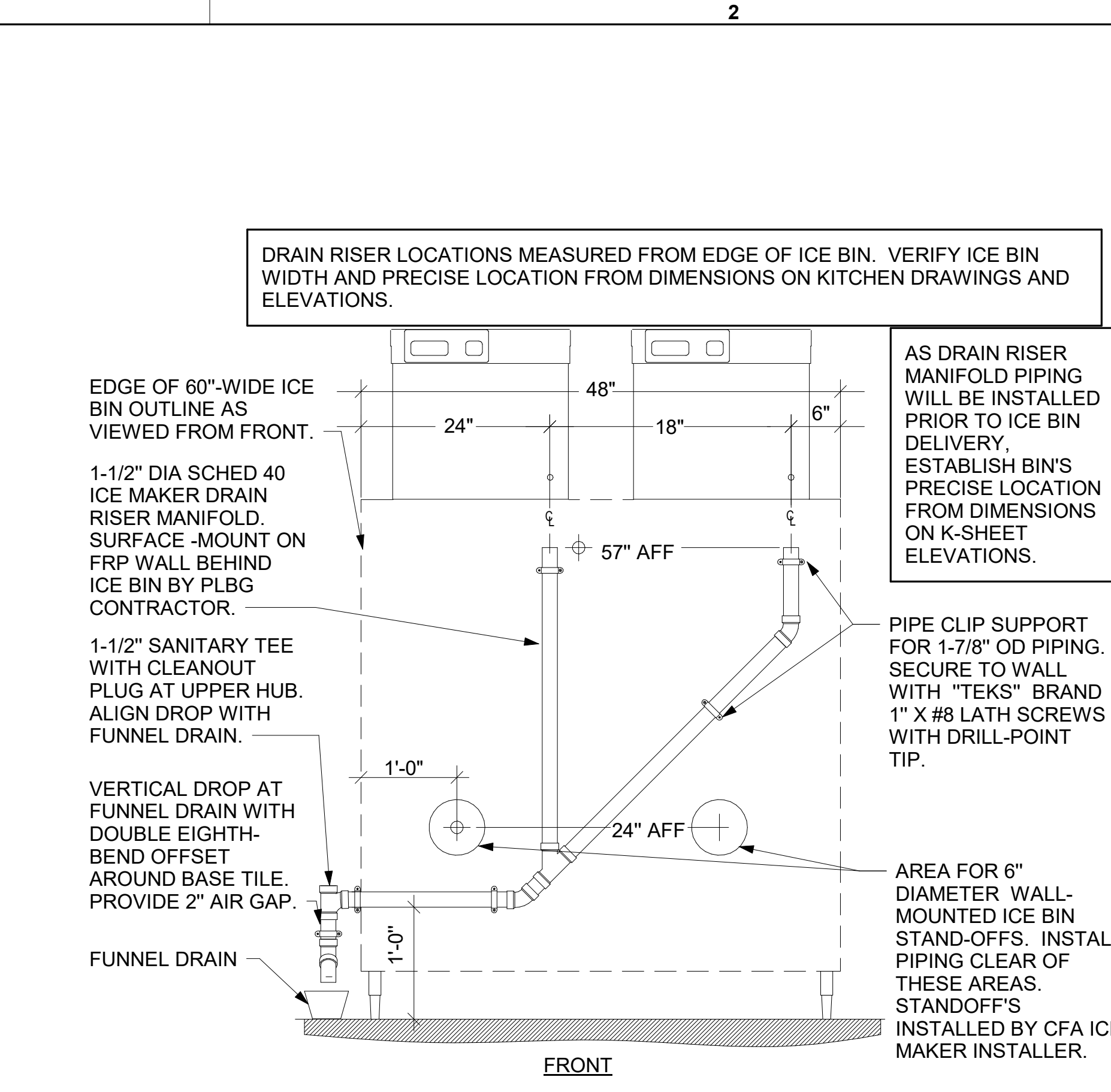
E
D
C
B
A



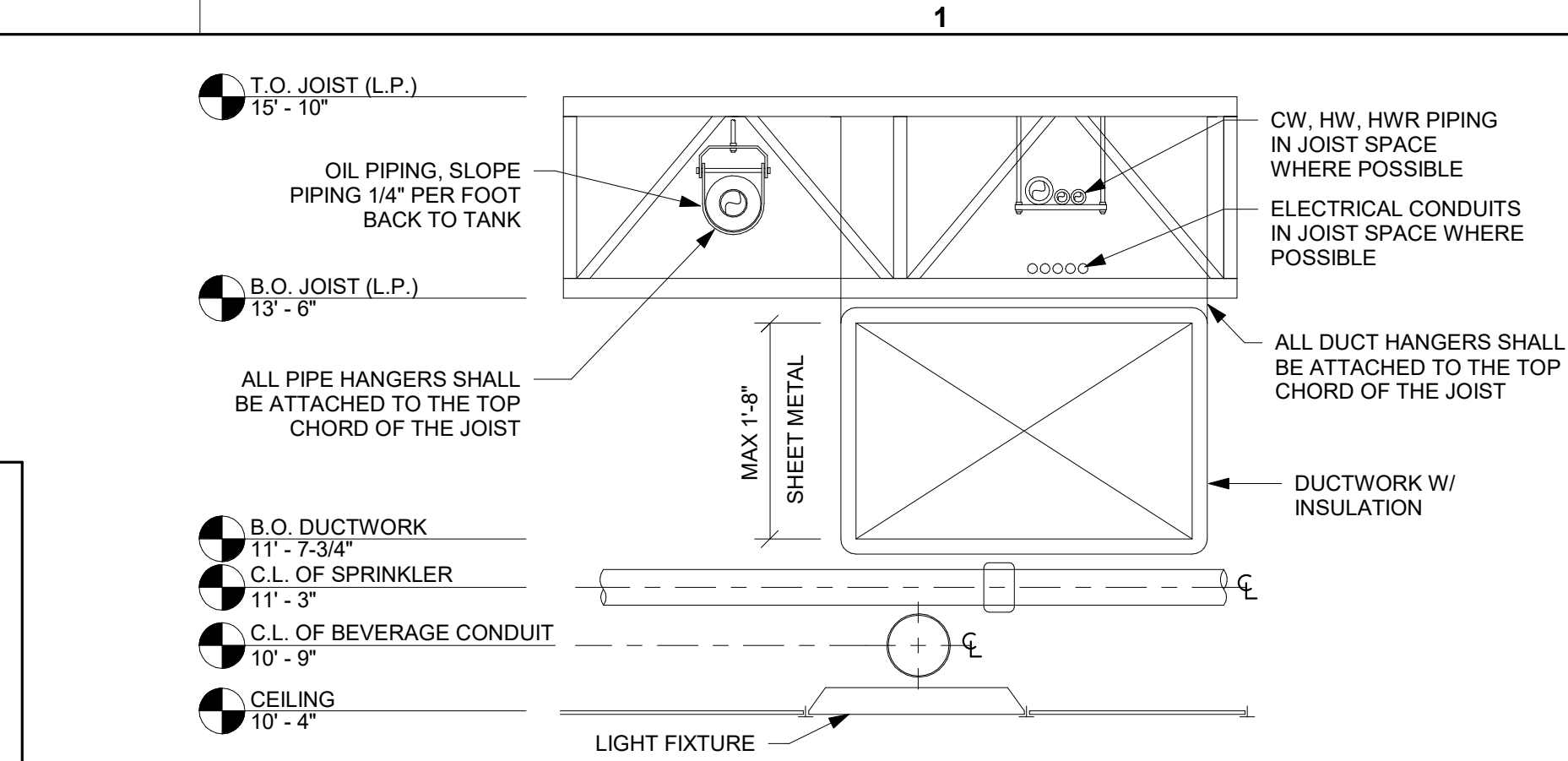
1 3-WAY VALVE AT MOP SINK NOT TO SCALE



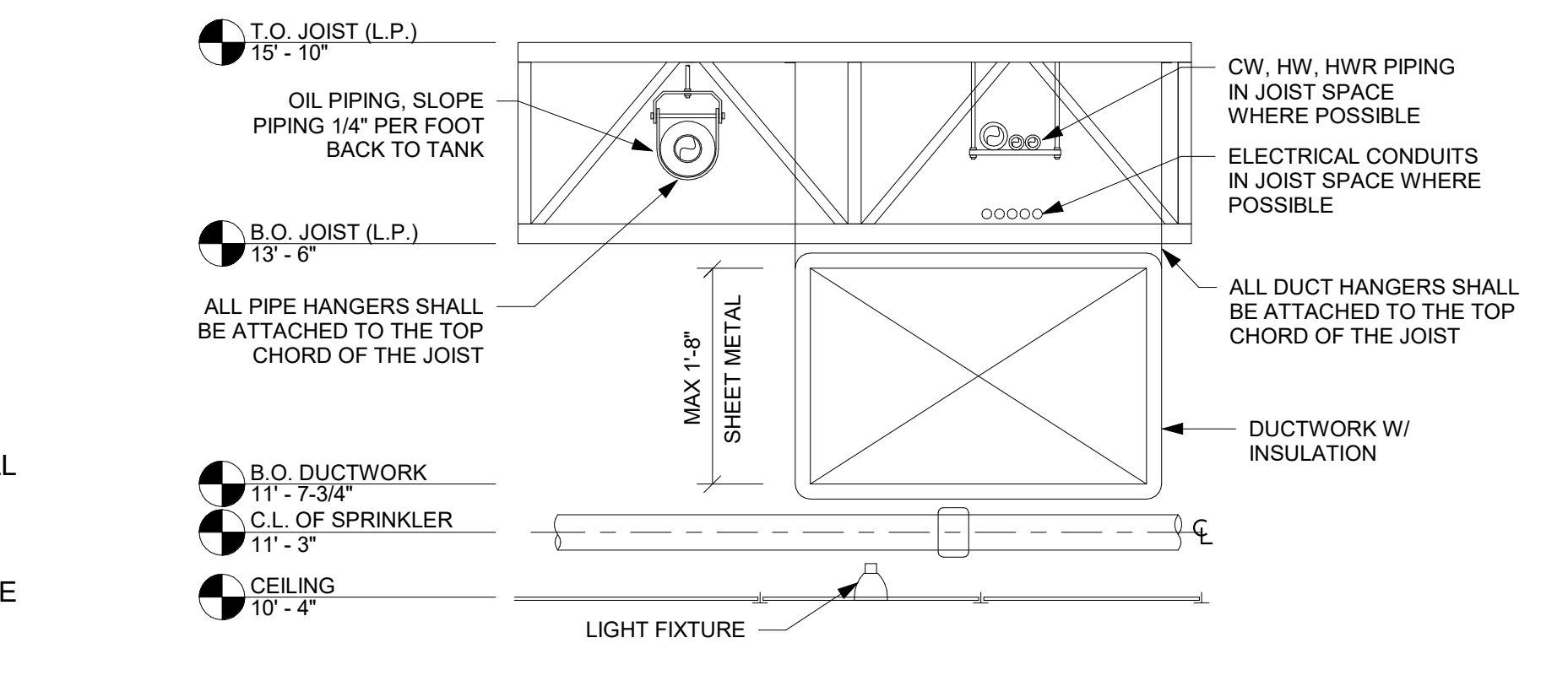
2 COFFEE & TEA BREWER STOP & BFP NOT TO SCALE



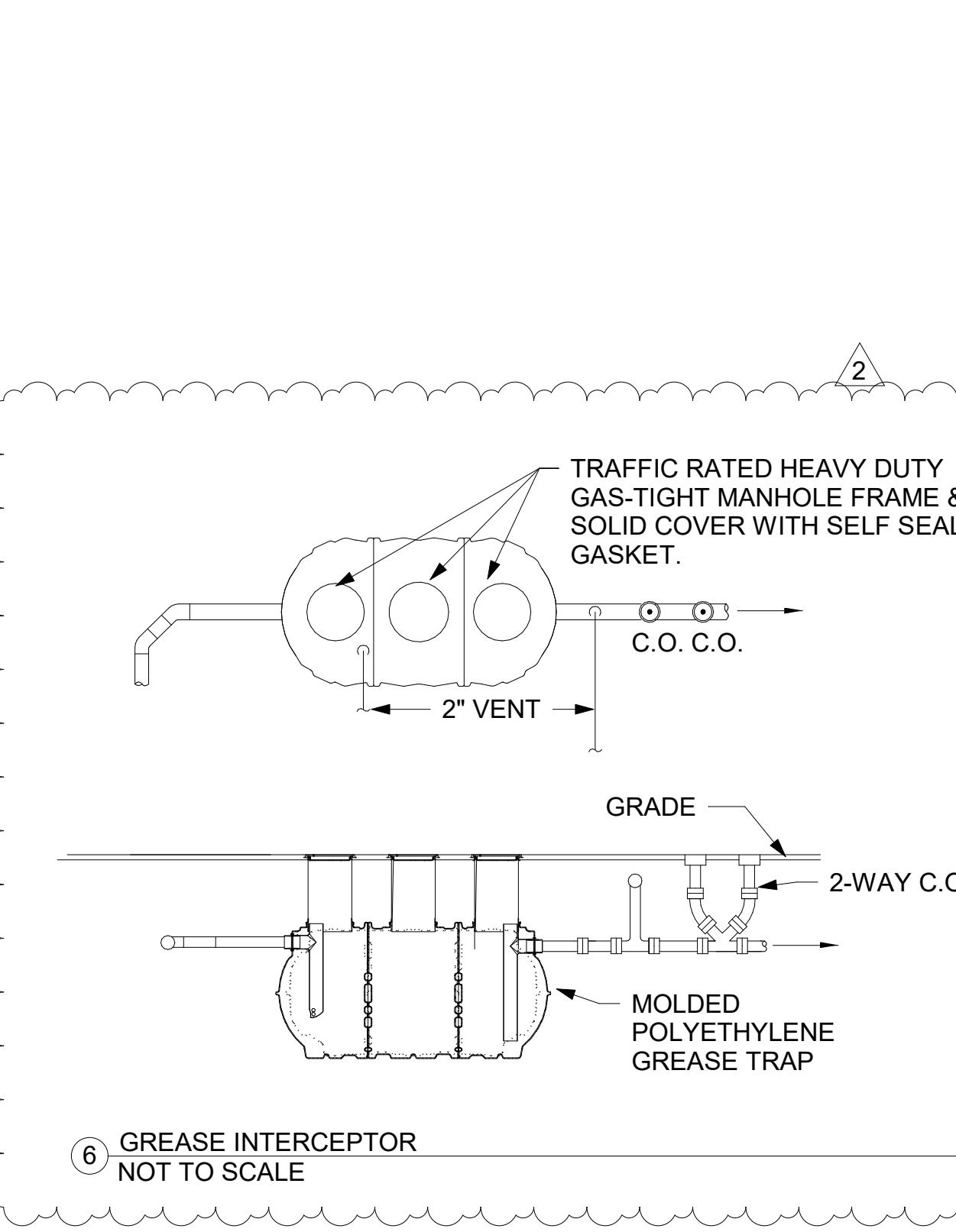
3 ICE MAKER DRAIN ON WALL NOT TO SCALE



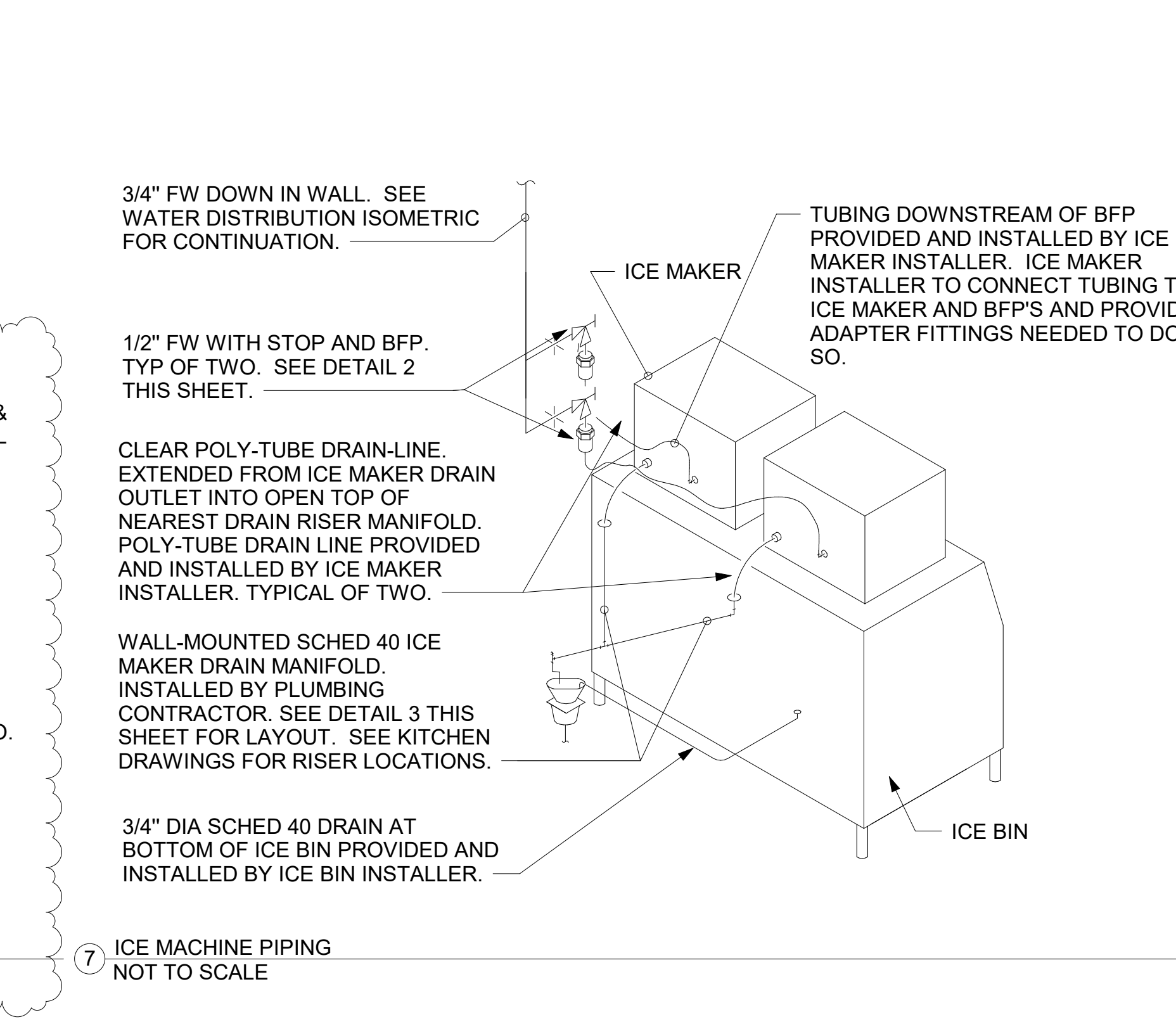
4 PIPING ELEVATION DETAIL - BOH NOT TO SCALE



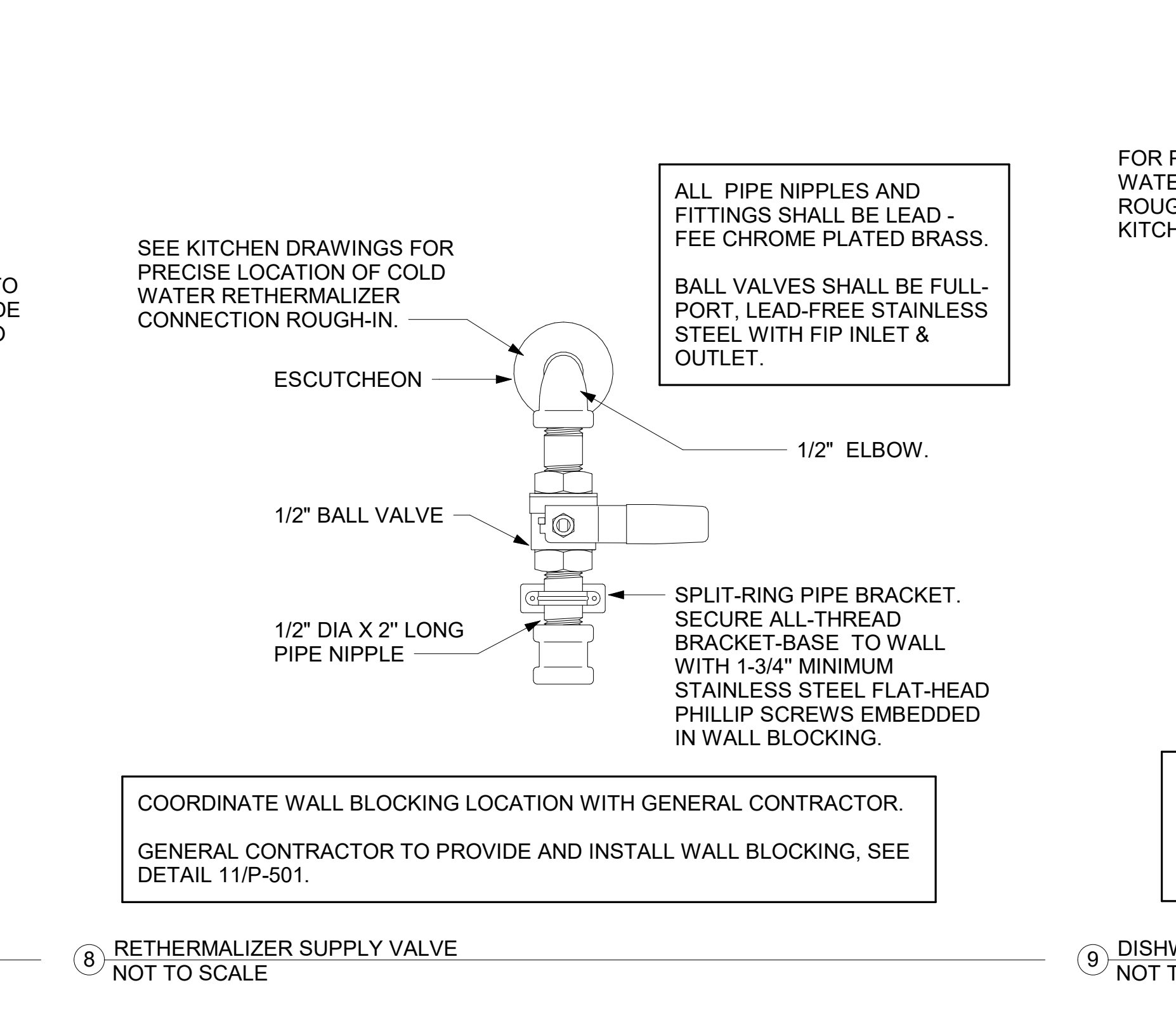
5 PIPING ELEVATION DETAIL - FOH NOT TO SCALE



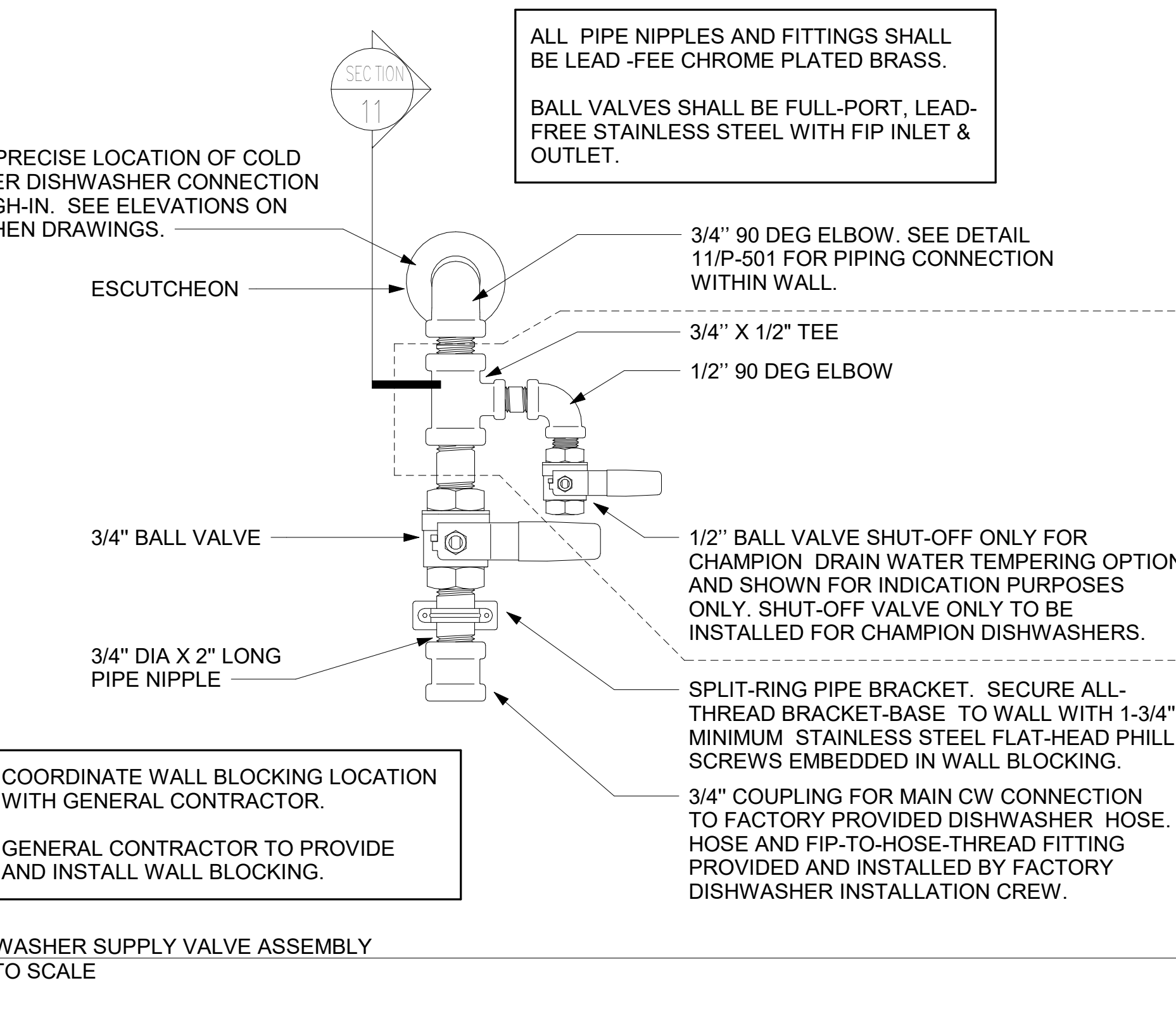
6 GREASE INTERCEPTOR NOT TO SCALE



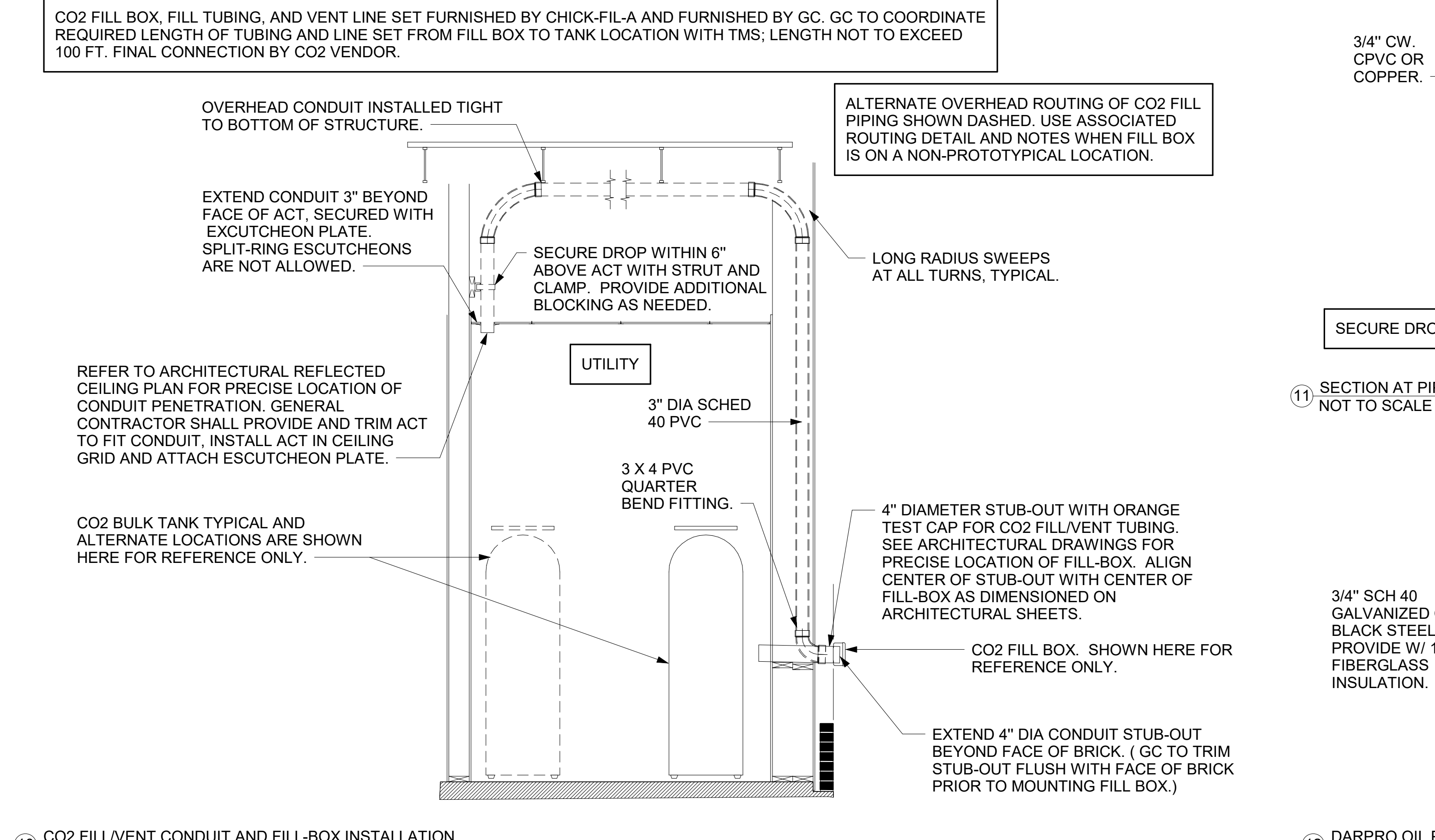
7 ICE MACHINE PIPING NOT TO SCALE



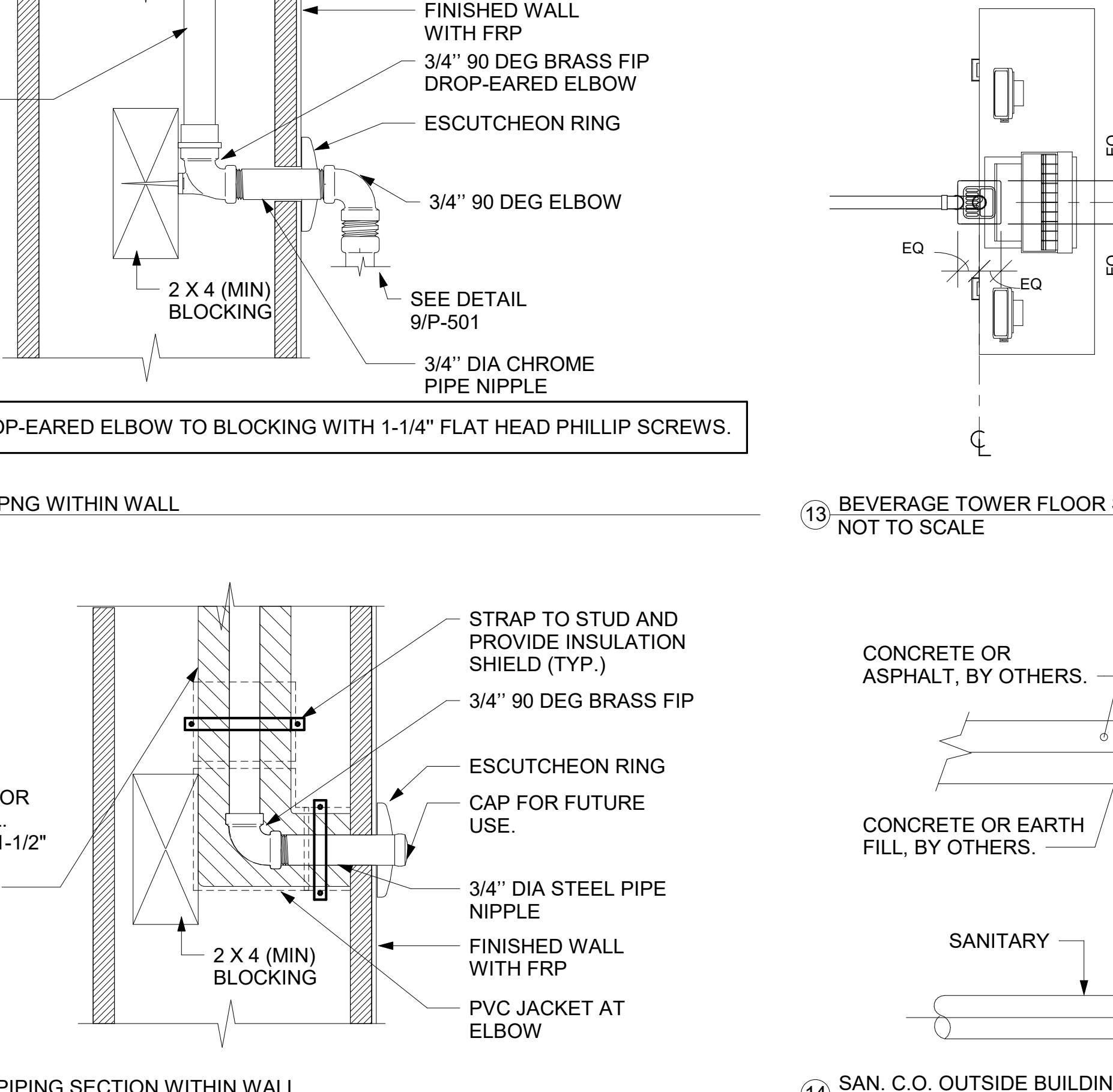
8 RETHERMALIZER SUPPLY VALVE NOT TO SCALE



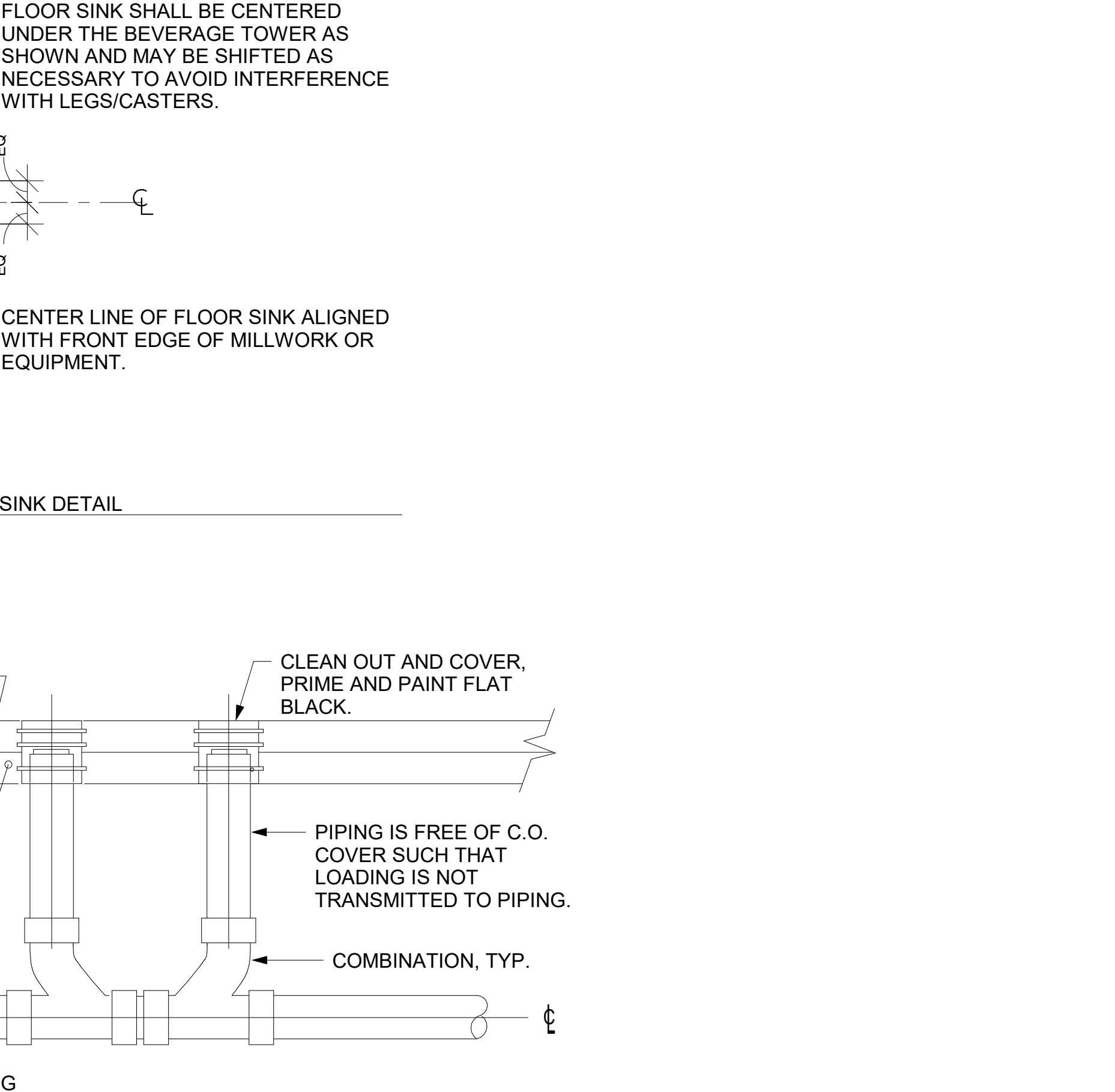
9 DISHWASHER SUPPLY VALVE ASSEMBLY NOT TO SCALE



10 CO2 FILL/VENT CONDUIT AND FILL-BOX INSTALLATION NOT TO SCALE



11 SECTION AT PIPNG WITHIN WALL NOT TO SCALE



12 DARPRO OIL PIPING SECTION WITHIN WALL NOT TO SCALE

Chick-fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

GPD GROUP
Professional Corporation
520 South Main Street, Suite 2351
Akron, OH 44313
330.572.2100 Fax 330.572.2101

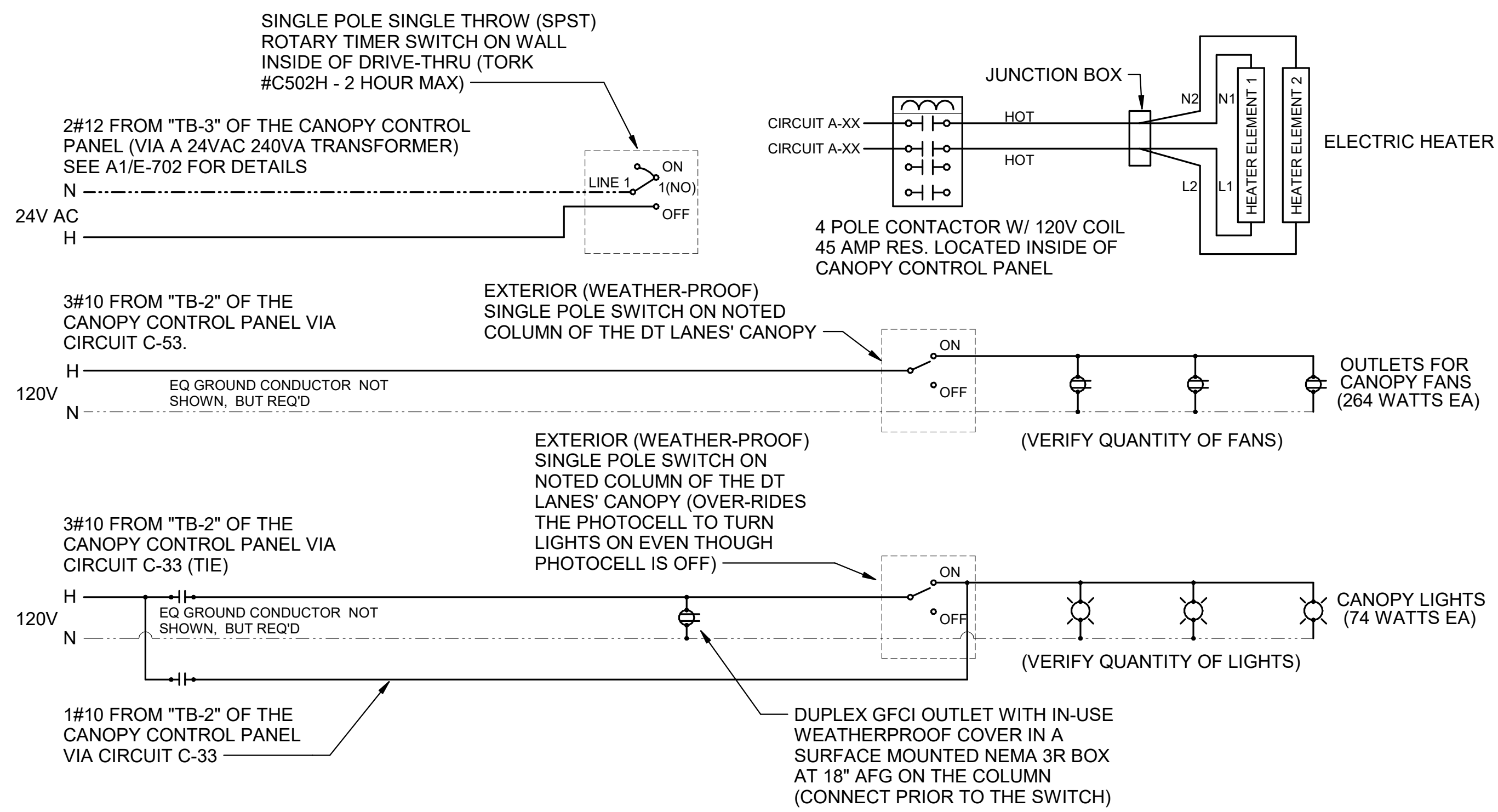
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BRANDON M. MARZLEY
ENGINEER
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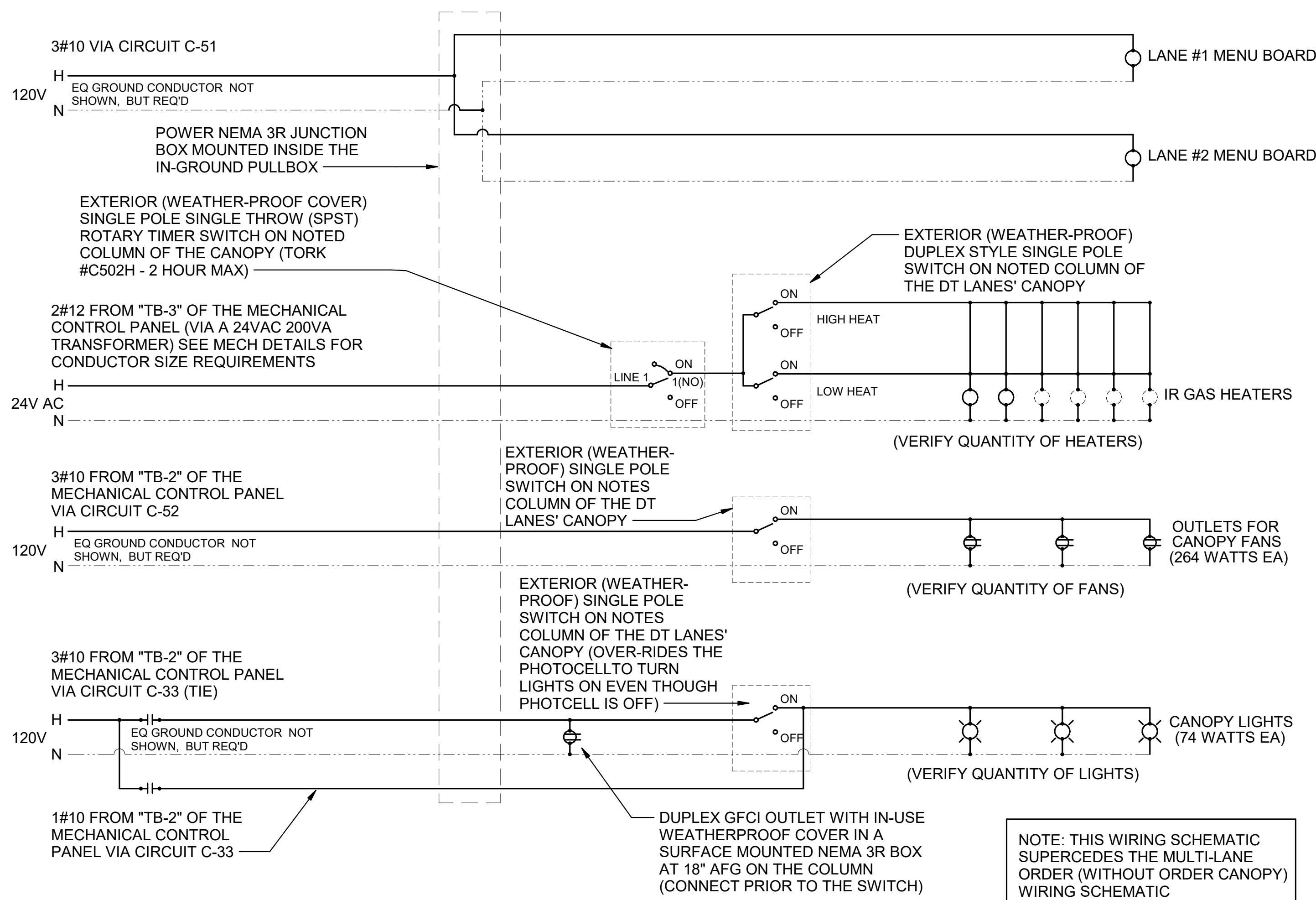
FSR#05680
BUILDING TYPE / SIZE: P14 LS BS
RELEASE: 23.11
PRINTED FOR: ISSUED FOR CONSTRUCTION
REVISION SCHEDULE
NO. DATE DESCRIPTION
2 07/12/2024 Bulletin 2

CONSULTANT PROJECT # 202323.91
DATE 04/05/24
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SHEET PLUMBING DETAILS
SHEET NUMBER P-501

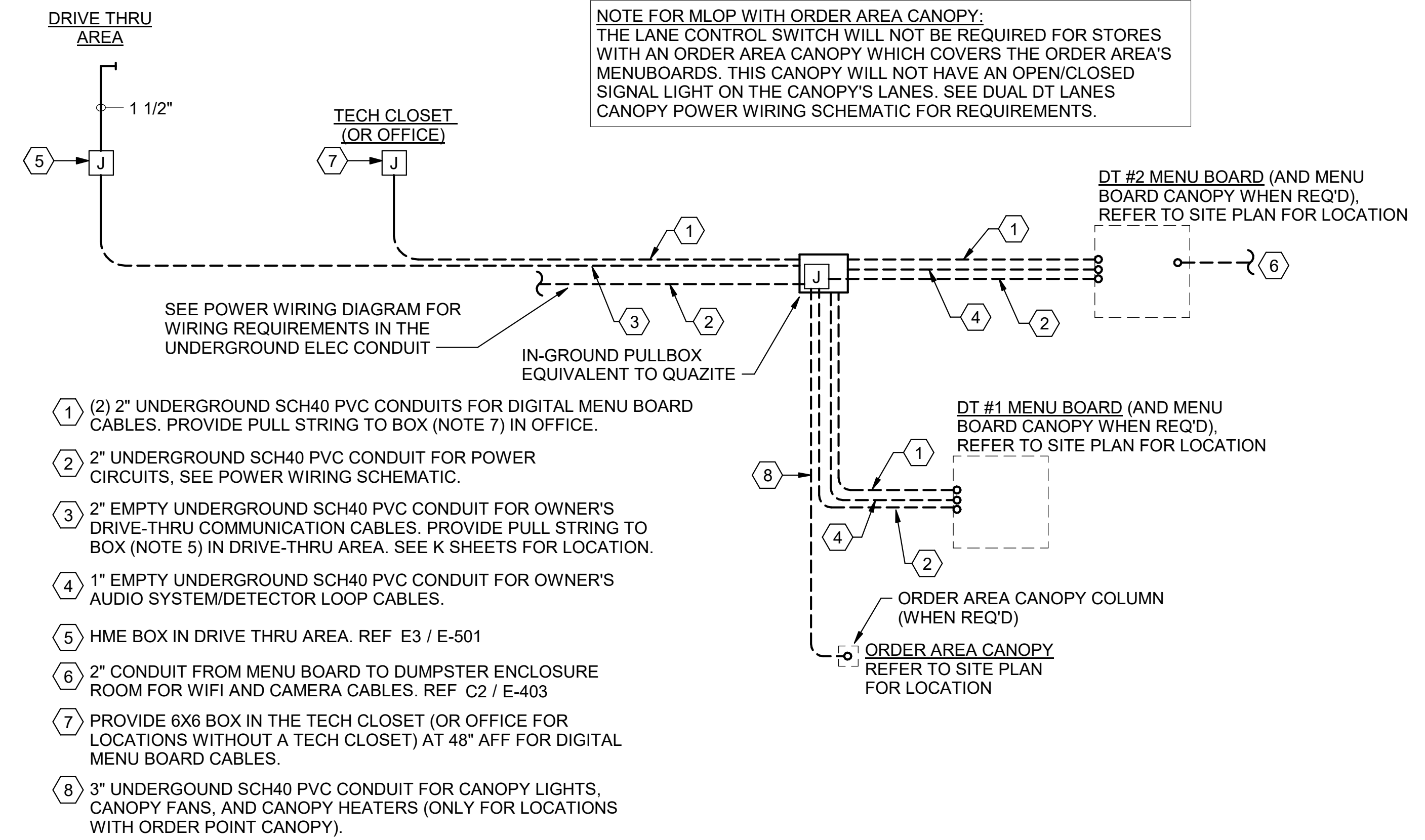
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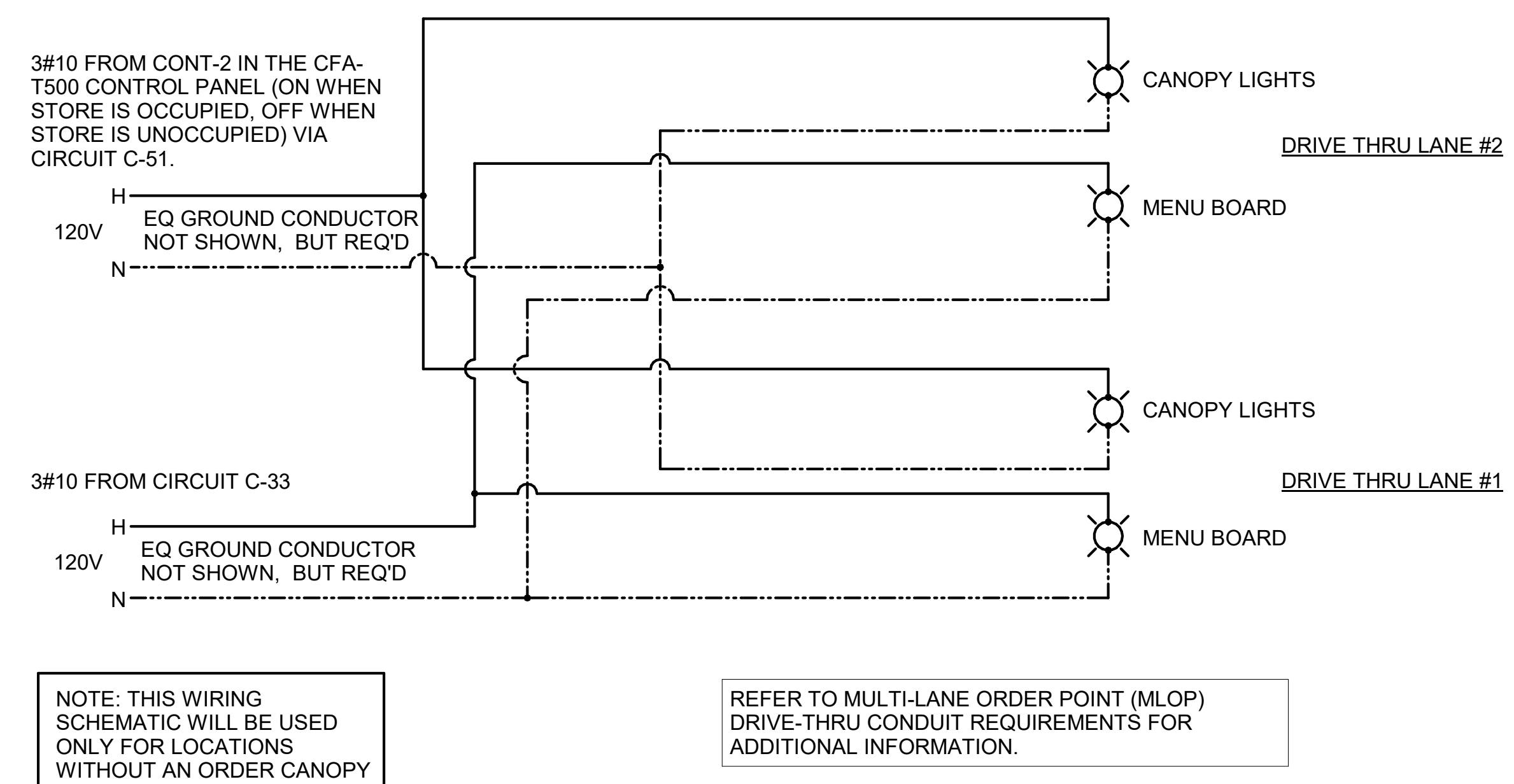
C4 OUTSIDE MEAL DELIVERY (OMD) CANOPY POWER WIRING SCHEMATIC
N.T.S.



A4 MULTI-LANE ORDER CANOPY POWER WIRING SCHEMATIC
N.T.S.



C1 MULTI-LANE ORDER POINT (MLOP) DRIVE-THRU CONDUIT REQUIREMENTS
NO SCALE



A1 MULTI-LANE ORDER CANOPY POWER WIRING SCHEMATIC
NO SCALE



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04/05/24

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BENTON HARBOR, MI 49022

FSR#05680

BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23.11

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REVISION SCHEDULE
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2023223.91

DATE 04/05/24

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SHEET
WIRING DIAGRAMS

SHEET NUMBER

E-703



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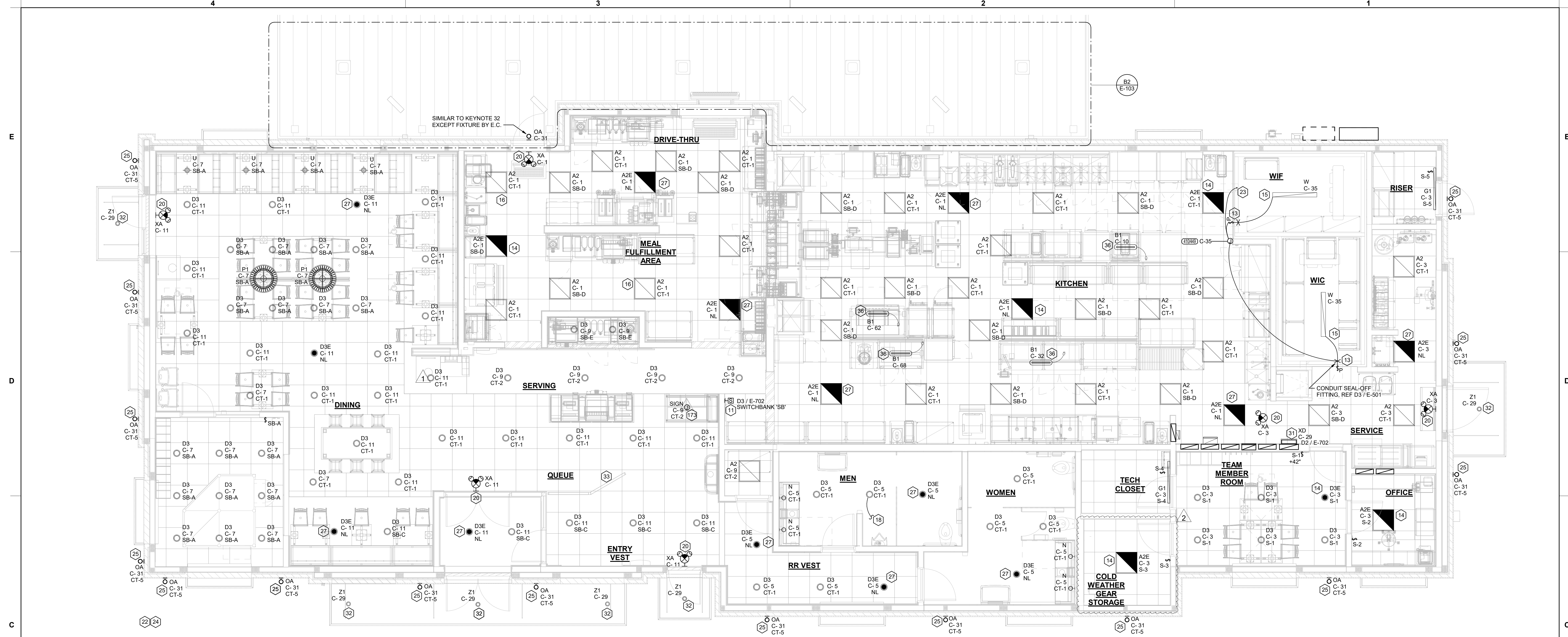
CHICK-FIL-A
BENTON HARBOR
 1917 PIPESTONE RD
 BENTON HARBOR, MI 49022

FSR#05680
 BUILDING TYPE / SIZE: P14 LS BN
 RELEASE: 23.11
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NO.	DATE	DESCRIPTION
1	04/05/24	Construction
2	07/12/24	Bulletin 2

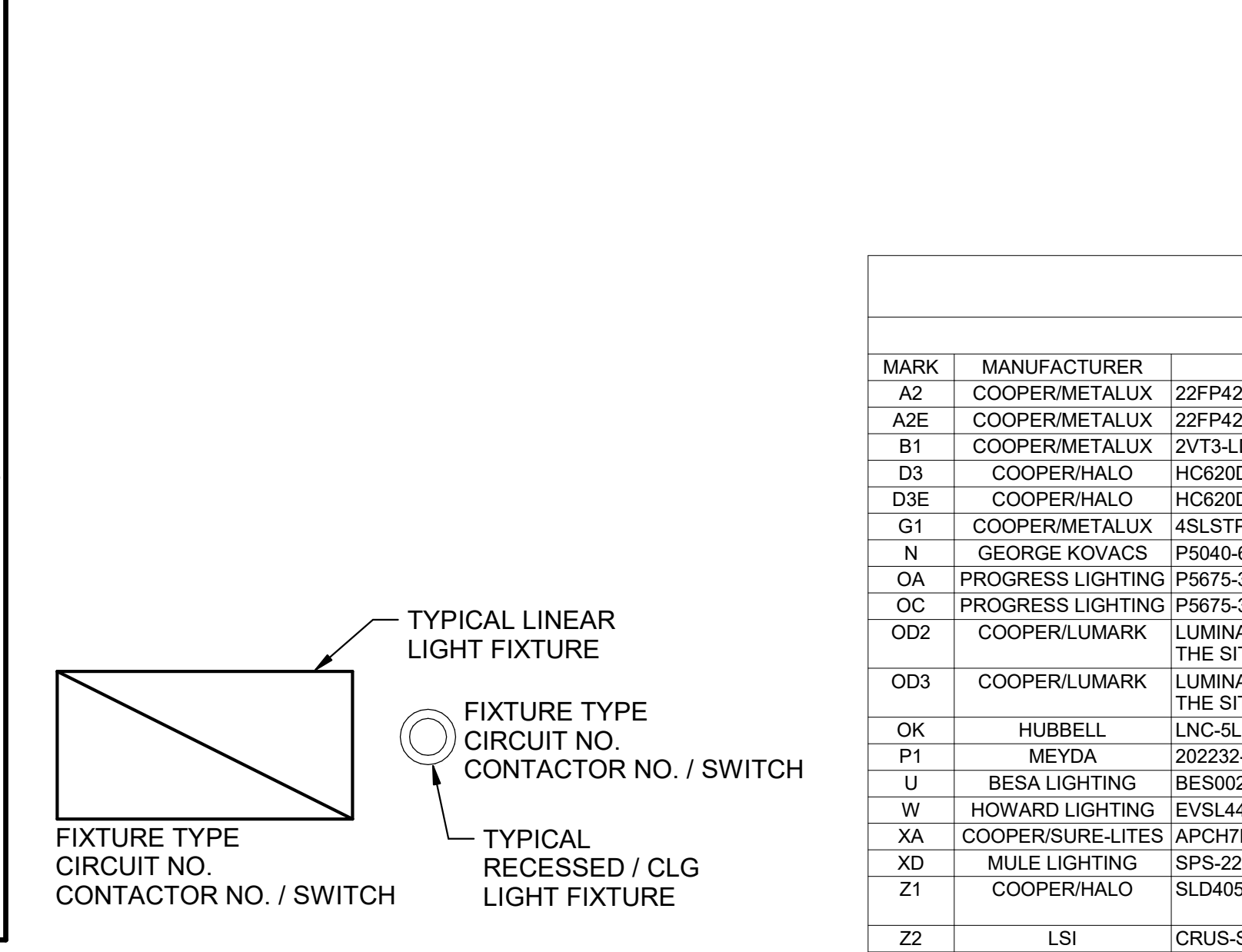
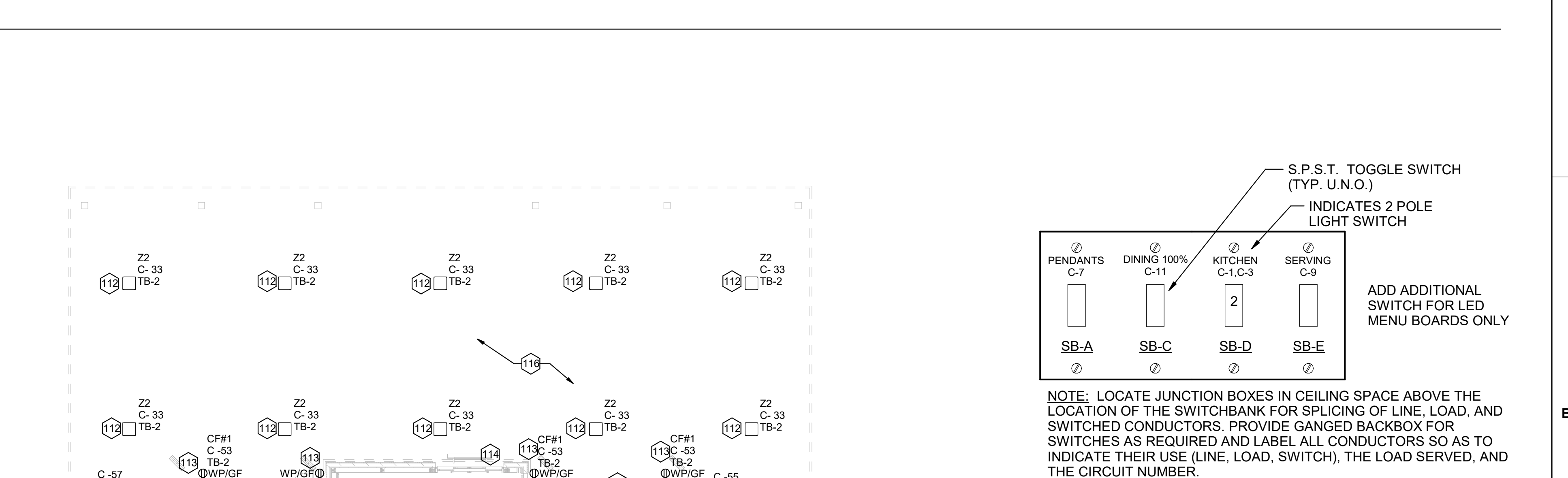
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LIGHTING PLAN

SHEET NUMBER
E-103



- ELECTRICAL KEYNOTES**
 11 APPROXIMATE LOCATION OF SWITCH BANK 'SB'. SEE DETAIL ON THE LIGHTING PLAN FOR MORE INFORMATION.
 13 FOR CONTROL OF LIGHTING FIXTURE IN WALK-IN COOLER AND FREEZER, SWITCH FURNISHED WITH EQUIPMENT, INSTALLED BY ELECTRICAL CONTRACTOR.
 14 CONNECT FIXTURE SO THAT BATTERY PACK IS NOT SWITCHED WITH LIGHTS, BUT ALL LAMPS ARE SWITCHED.
 15 FOR CONNECTION TO LIGHTING FIXTURE IN THE WALK-IN COOLER AND FREEZER WHICH IS FURNISHED WITH EQUIPMENT, CONTRACTOR SHALL ROUGH-IN AND CONNECT ALL FIXTURES AS REQUIRED BY THE EQUIPMENT MANUFACTURER.
 16 THE LIGHT FIXTURES IN THE MEAL FULFILLMENT AREA ARE PROVIDED WITH LAMP SHIELDING VIA A LENS.
 18 TO THE TOILET EXHAUST FAN ON ROOF. SEE SHEET E-105, ELECTRICAL ROOF PLAN.
 20 THIS FIXTURE SHALL NOT BE SWITCHED. CONNECT TO CIRCUIT AHEAD OF ALL SWITCHING AND CONTROLS.
 22 SEE THE ELECTRICAL ROOF PLAN FOR LOCATION OF TYPE 'OC' ROOF MOUNTED FLAG POLE LIGHT. FIXTURE TO BE CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500 CONTROL PANEL CONTACTOR #9 (AHEAD OF THE INVERTER, NOT THRU THE INVERTER.)
 23 TO WALK-IN FREEZER DOOR FRAME HEATER AND AIR RELIEF ASSEMBLY (PRESSURE REDUCTION VALVE - PRV), THRU SEAL-OFF FITTING. VERIFY ROUGH-IN AND FINAL CONNECTION WITH EQUIPMENT.
 24 SEE THE SITE ELECTRICAL PLAN FOR LOCATION OF TYPE 'OC' GROUND MOUNTED FLAG POLE LIGHT. FIXTURE TO BE CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500 CONTROL PANEL CONTACTOR #9 (AHEAD OF THE INVERTER, NOT THRU THE INVERTER.)
 25 ROUTE THROUGH CONTROL PANEL CFA-T500 AND CONTROLLED BY OCCUPIED SWITCH AND PHOTOCELL.
 27 CONNECT LIGHTING FIXTURE SO THAT LAMP BALLAST OR DRIVER AND EMERGENCY BATTERY PACK ARE NOT SWITCHED. 'NL' ADJACENT TO FIXTURE INDICATES THAT FIXTURE SHALL BE ON 24 HOURS.
 31 TYPE 'XD' INVERTER CABINET TO BE WALL MOUNTED AT THE CEILING AND CONNECTED TO CIRCUIT C-29 THRU THE CFA-T500'S CONTACTOR #9 (DUSK TO DAWN CONTROL). CONNECT WITH BOTH A CONTROLLED (VIA THE CONTACTOR FOR LIGHTS ON AT DUSK AND OFF AT DAWN) LEG AND AN UNSWITCHED LEG FOR THE BATTERY IN THE INVERTER. WHEN POWER IS DISRUPTED ON THE UNSWITCHED LEG, THEN THE INVERTER'S BATTERY WILL ENERGIZE THE LIGHTS CONNECTED TO THE INVERTER NO MATTER THE TIME OF DAY. PROVIDE CONNECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 32 CANOPY LIGHTS PROVIDED BY THE CANOPY SUPPLIER INTEGRAL WITH THE CANOPY. ELECTRICAL CONTRACTOR SHALL PROVIDE ROUGH-IN CONDUIT CHASE AT CL OF AWNING AND AT 10'-0" AFF (VERIFY) AND CONNECT THE 120V CIRCUIT TO THE 'XD' INVERTER UNIT. COORDINATE LOCATIONS OF LIGHTS AND ROUGH-IN REQUIREMENTS WITH THE CANOPY SUPPLIER. LIGHTS WILL COME ON AT DUSK, TURN OFF AT DAWN, AND BE ENERGIZED WHENEVER THERE IS A POWER OUTAGE.
 33 REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR LOCATIONS OF PENDANTS, DOWNLIGHTS, ACCENTS LIGHTS, AND OTHER CEILING MOUNTED LIGHT FIXTURES.
 36 PROVIDE A TYPE B1 SHELF MOUNTED TASK LIGHT FIXTURE. MOUNT LIGHT TO THE UNDERSIDE OF THE WIRE SHELVING. PROVIDE A CORD FROM THE FIXTURE(S) TO A SWITCH IN AN FS BOX MOUNTED TO THE SHELF. FROM FS BOX PROVIDE AN SO CORD WITH PLUG AND CONNECT TO THE GEN RECEPTACLE (WALL OR DROP CORD). SEE ENLARGED POWER PLAN FOR FURTHER INFORMATION.
 112 CEILING LIGHT FIXTURE PROVIDED BY THE CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR.

- ELECTRICAL KEYNOTES**
 113 AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR. PROVIDE A DUPLEX RECEPTACLE OUTLET (WITH IN-USE WP COVER PLATE) AT THE TOP OF THE COLUMN FLUSH MOUNTED IN THE CUT-OUT FOR THE FAN'S PLUG AND CORD CONNECTION.
 114 INFRARED HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
 115 PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE) AND TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE) AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED IN THE COLUMN IN FLUSH MOUNTED METAL SINGLE-GANG BOXES FOR LOCAL ON-OFF CONTROL OF THE FANS, HEATERS, AND CANOPY LIGHTS. SEE WIRING SCHEMATIC FOR FURTHER INFORMATION. ALL SURFACE (OR VISIBLE) ITEMS AND COVERPLATES TO BE FIELD PAINTED MATTE BLACK.
 116 ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW. IN WALLS OR ABOVE THE CANOPY (ON THE ROOF), MC CABLE (GALVANIZED STEEL WITH PVC JACKET) MAY BE USED INSIDE THE WALL FOR THE DEVICES, BUT MUST CONVERT TO IMC ABOVE THE CANOPY ROOF. (PROVIDE A NEMA 3R JUNCTION BOX ON THE ROOF SIDE OF THE CANOPY TO TRANSITION FROM MC CABLES IN WALL TO IMC CONDUIT ON THE ROOF.) ALL EXPOSED BOXES AND FITTINGS TO BE CAST-METAL NEMA 3R. REFER TO THE MECHANICAL SHEETS FOR CONDUIT MOUNTING DETAILS ON THE ROOF.
 117 JUNCTION BOX MOUNTED ABOVE CEILING FOR ELECTRICAL CONNECTION TO PICK-UP COUNTER SIGNAGE. COORDINATE FINAL LOCATION WITH FURNITURE PLANS.



NOTE: NOT ALL FIXTURE TYPES ARE USED IN ALL OF THE P14 BUILDINGS. CONFIRM WITH THE LIGHTING VENDOR FOR ANY UPDATES TO THE CURRENT LIGHTING MANUFACTURER AND CATALOG NUMBER.

MARK	MANUFACTURER	CATALOG NUMBER	NO. LAMPS/TYPE	WATTS	VOLTS	MOUNTING	REMARKS
A2	COOPERMETALUX	22FP4240C	39 VA	120 V	RECESSED	2X2 LED FLAT PANEL	
AZE	COOPERMETALUX	22FP4240C	39 VA	120 V	RECESSED	2X2 EMERGENCY LED FLAT PANEL	
B1	COOPERMETALUX	2V73-L05-4-G-120V-L840-D1-SS-L-U	32 VA	120 V	SURFACE	MOUNT LIGHT TO BTM OF OVERHEAD WIRE SHELVING WITH CORD & PLUG	
D3	COOPERHALO	H620D010-HM60525830-6INDCIE	21 VA	120 V	RECESSED	LED DOWNLIGHT WITH CLEAR REFLECTOR & TRIM RATED 2000 LUMENS, 3000K COLOR TEMP	
D3E	COOPERHALO	H620D010-HM60525830-6INDCIE	21 VA	120 V	RECESSED	SAME AS D3 EXCEPT WITH EMERGENCY BATTERY PACK/INTEGRAL TEST SWITCH	
G1	COOPERMETALUX	4SL3T94000D-UNV	44 VA	120 V	SURFACE	4780 LUMEN 4 FOOT LENSED LED STRIPLIGHT, MTD ABOVE DOOR FRAME OR CEILING	
N	GEORGE KOVACS	P5040-66A-L	12 VA	120 V	WALL	LAVATORY WALL SCONCE GL ON LAVATORY	
OA	PROGRESS LIGHTING	P5675-31/30K WITH P860038 TOP COVER LENS	34 VA	120 V	WALL	5" DIAMETER, 14" HEIGHT, WET LOCATION, UP/DOWN CYLINDER	
OC	PROGRESS LIGHTING	P5675-31 WITH P8799 TOP COVER LENS	24 VA	120 V	WALL	5" DIAMETER, 14" HEIGHT, WET LOCATION, UP/DOWN CYLINDER W/ 12 WATT PAR30 3K NFL LED LAMPS	
OD2	COOPERLUMARK	LUMINAIRE: PRV-C600-JNV--SA-B2 (DISTRIBUTION TYPES TO BE DETERMINED BY THE REGIONAL TEAM SPECIFIC TO THE SITE) POLE: SSS-4A-25-SFM-1.4 (SINGLE LUMINAIRE)	153 VA	120 V	POLE W/ CONCRETE BASE	COORDINATE WITH THE SPECIFIC SITE CONDITIONS FOR THE TYPE OF POLES REQUIRED, THE HEIGHT, AND THE CONFIGURATION. CONTACT VENDOR IF HIGHER THAN 100 MPH WIND LOADING REQUIRED.	
OD3	COOPERLUMARK	LUMINAIRE: PRV-C600-JNV--SA-B2 (DISTRIBUTION TYPES TO BE DETERMINED BY THE REGIONAL TEAM SPECIFIC TO THE SITE) POLE: SSS-4A-25-SFM-2.4 (TWO LUMINAIRES AT 180 DEGREES)	306 VA	120 V	POLE W/ CONCRETE BASE	COORDINATE WITH THE SPECIFIC SITE CONDITIONS FOR THE TYPE OF POLES REQUIRED, THE HEIGHT, AND THE CONFIGURATION. CONTACT VENDOR IF HIGHER THAN 100 MPH WIND LOADING REQUIRED.	
OK	HUBBELL	LNC-SLU-9K-3-1	13 VA	120 V	INTEGRAL WITH FIXTURE		
P1	MEYDA	202232-16-LED (264088)	16 VA	120 V	PENDANT	31" DIA PEACH BASKET LED PENDANT WITH BTM AT 8'-0" AFF	
U	BESA LIGHTING	BE500298-060	9 VA	120 V	PENDANT	RED FRIT GLASS, BRONZE CABLE & CANOPY, 8'-0" AFF	
W	HOWARD LIGHTING	EVS14404MVS	40 VA	120 V	SURFACE	50" VAPOR-TIGHT LED FIXTURE PROVIDED BY THERMO-KOOL	
XA	COOPERSURE-LITES	APCH7R	4 VA	120 V	WALL	EXT SIGN WITH BATTERY PACK AND TWO INTEGRAL ADJUSTABLE LAMPHEADS	
XD	MULE LIGHTING	SPS-220/250-120/277	250 VA	120 V	WALL	INVERTER UNIT FOR EXTERIOR EGRESS LIG. ON AT DUSK, OFF AT DAWN, ON DURING PWR OUTAGE	
Z1	COOPERHALO	SLD405630WH	12 VA	120 V	RECESSED	LED DOWNLIGHT PROVIDED BY CANOPY SUPPLIER. INSTALLED BY ELECTRICAL CONTRACTOR	
Z2	LSI	CRUS-SC-LED-LW30-UE-WHT	74 VA	120 V	RECESSED	CANOPY LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY ELECTRICAL CONTRACTOR	

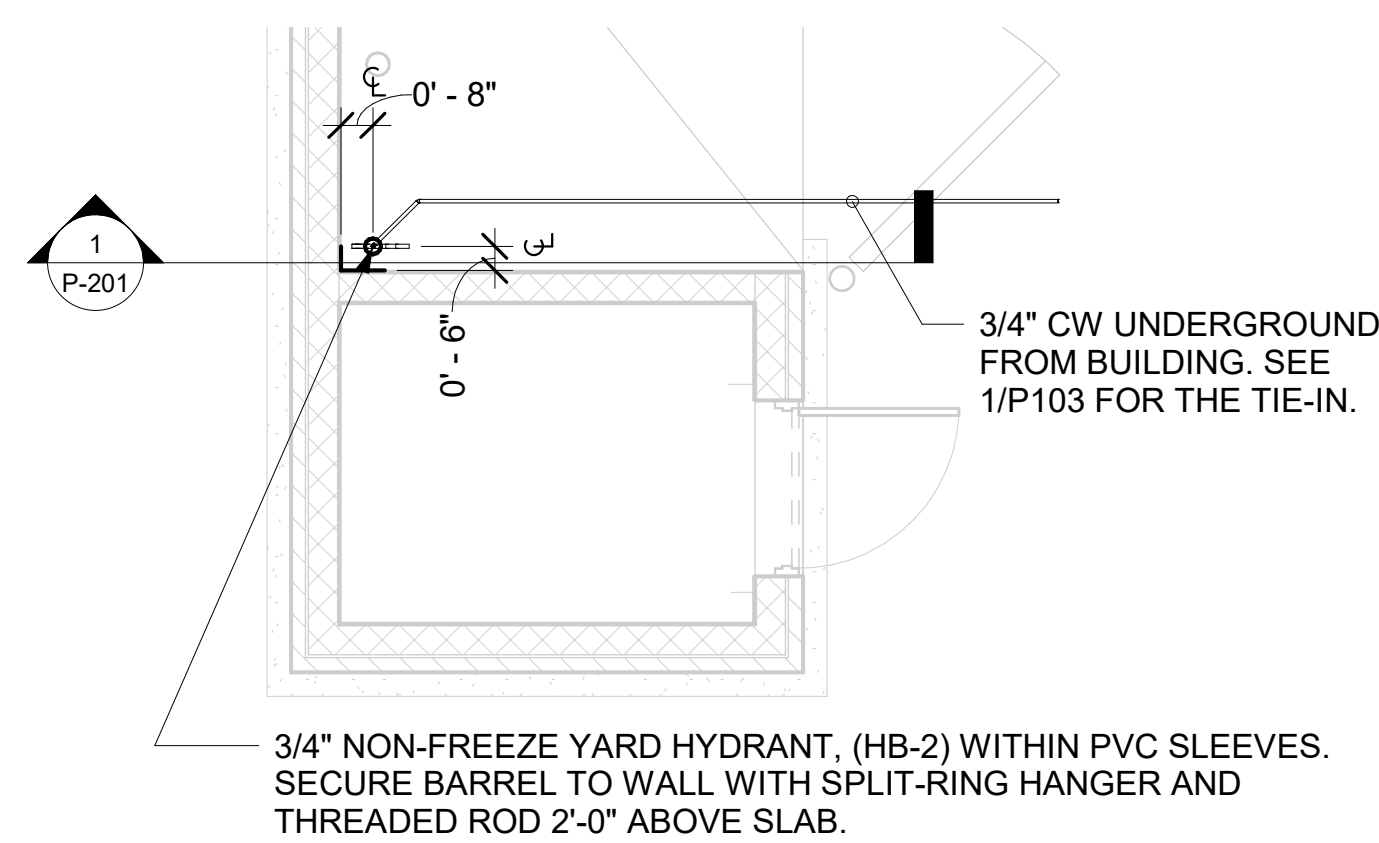
NOTES:
 1. LUMINAIRES UTILIZING DOUBLE-ENDED LAMPS AND CONTAIN BALLASTS THAT CAN BE SERVICED IN PLACE SHALL HAVE A DISCONNECTING MEANS EITHER INTERNAL OR EXTERNAL TO EACH LUMINAIRE PER NEC 410.130(G).
 2. THE LIGHTING FIXTURE PACKAGE IS AVAILABLE THROUGH A NATIONAL ACCOUNT PROGRAM. REFER TO THE ELECTRICAL SPECIFICATIONS SHEET, SECTION C1600 FOR VENDOR INFORMATION.
 3. THE ASTERISK (*) BESIDE THE FIXTURE MARK IN THE ABOVE SCHEDULE INDICATES THE FIXTURE IS A NON-PROTOTYPICAL LIGHT FIXTURE PER THE CFA NATIONAL P14 PROTOTYPE.
 4. IF TYPE OC IS GROUND MOUNTED IN LIEU OF ROOF MOUNTED, PROVIDE EITHER THE FL-VISOR-DB (VISOR) OR THE FL-LOUVER-BL (LOUVER) FOR GLARE CONTROL.

7/8/2024 6:55:37 PM Autodesk Docs://MI_05680_Benton Harbor (MI) FSR05680_Benton Harbor (MI) FSU_ELE.rvt 50-LS-05680-E-103-LIGHTING PLAN

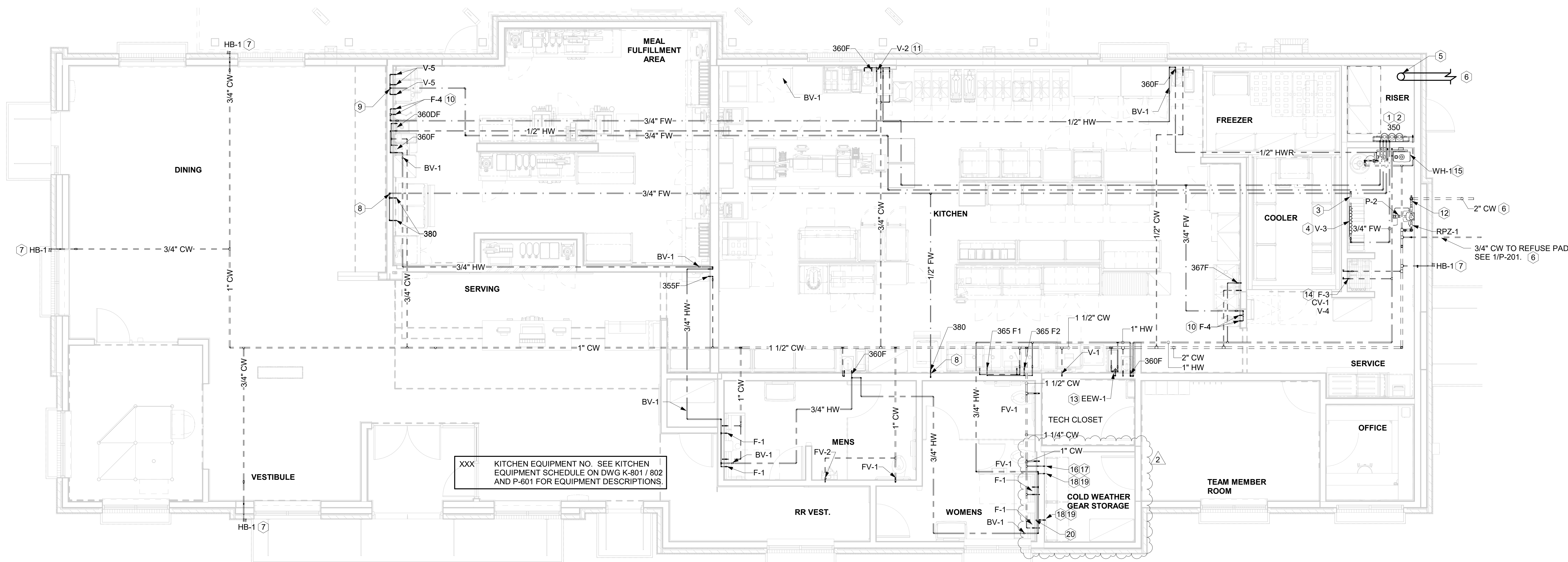
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40-LS-05680-P-103-WATER DISTRIBUTION PLAN

KEY NOTES

- 1 FW FROM WATER FILTERS. SEE DETAIL SHEET FOR MORE INFORMATION.
- 2 OWNER FURNISHED, PLUMBER INSTALLED WATER FILTERS. SEE DETAIL SHEET FOR MORE INFORMATION.
- 3 1" DIAMETER PVC DRAIN FROM BACKFLOW PREVENTER PANEL. CONNECT 1" PVC TO FACTORY PROVIDED COUPLING MOUNTED ON BACK PANEL. ROUTE TO DRAIN AT END OF BAG-N-BOX. MOUNT PIPING TIGHT TO WALL WITH STRUT AND CLAMP.
- 4 OWNER FURNISHED, PLUMBER INSTALLED STOP/BFP PANEL. SEE KITCHEN DRAWINGS FOR LOCATION AND ELEVATION. PROVIDE EXPOSED 3/4" BALL VALVE AT CONNECTION TO PANEL. ROUTE 1" PVC DRAIN FROM FACTORY PANEL DRAIN CONNECTION TO DRAIN AT END OF BEVERAGE RACK AND TERMINATE WITH ELBOW AND AIR GAP.
- 5 FIRE SPRINKLER RISER SHOWN FOR REFERENCE ONLY.
- 6 SEE CIVIL DRAWINGS FOR CONTINUATION.
- 7 HOSE BIBB 24" ABOVE EXTERIOR GRADE. VERIFY WALL THICKNESS AT EXTERIOR HOSE BIBB PRIOR TO ORDERING (TYP).
- 8 3/4" FW DOWN TO STOP(S) AT ICE MAKER(S). SEE DETAIL SHEET FOR MORE INFORMATION.
- 9 1/2" FW FOR TWO TEA BREWERS AND ONE COFFEE MAKER. SEE DETAILS SHEET FOR MORE INFORMATION.
- 10 3/4" FW DOWN. SEE KITCHEN DRAWINGS FOR LOCATION. PIPE 1/2" FW TO EACH FAUCET INLET WITH 6" SPREAD. PROVIDE BALL VALVE ABOVE CEILING. SEE WATER DISTRIBUTION ISOMETRIC.
- 11 1/2" CW DOWN TO RETHERMALIZER.
- 12 2" CW ON WALL. SEE DETAILS SHEET FOR EXACT ROUTING LOCATIONS OF CW PIPING IN THIS AREA.
- 13 1/2" TEPID WATER TO EYEWASH #360E.
- 14 1/2" HW AND CW DROPS TO MOP SINK FAUCET (F-3) WITH VACUUM BREAKER FOR DEDICATED CONNECTION TO ECOLAB DETERGENT DISPENSER. INSTALL SHUT OFF AND CHECK VALVE IN HOT AND COLD WATER PIPE ABOVE CEILING. MOUNT AS SHOWN ON K-SHEETS. SEE WATER DISTRIBUTION ISOMETRIC.
- 15 GAS DOWN FROM ROOF FOR WATER HEATER. SEE MECHANICAL ROOF PLANS FOR CONTINUATION AND PIPE SIZE.
- 16 SHUT-OFF VALVE (N.C.) IN HWR PIPE FROM FUTURE LAVATORY TO HWR LOOP.
- 17 HW DROP IN WALL WITH CAPPED TEE FOR CONNECTION TO FUTURE PLUMBING FIXTURE.
- 18 CW DROP IN WALL WITH CAPPED ELBOW FOR CONNECTION TO FUTURE PLUMBING FIXTURE.
- 19 PROVIDE 15x15 ACCESS PANEL IN WALL FOR ACCESS TO PIPE STUB(S).
- 20 SHUT-OFF VALVE (N.C.) IN PIPE TO FUTURE PLUMBING FIXTURE.



2 REFUSE PAD PLUMBING PLAN
1/4" = 1'-0"



1 WATER DISTRIBUTION PLAN
1/4" = 1'-0"



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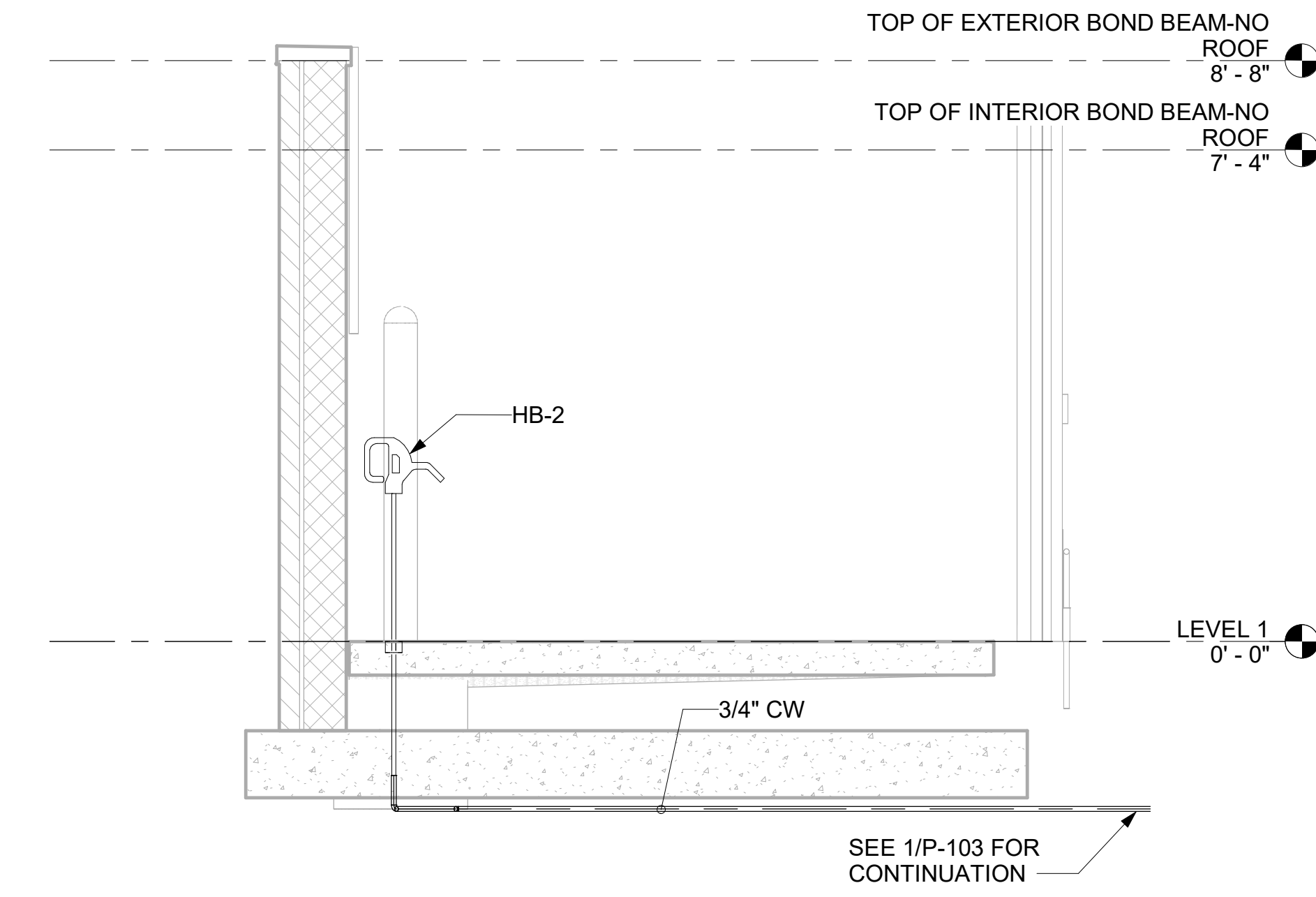


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FSR#05680

BUILDING TYPE / SIZE:	P14 LS BS	
RELEASE:	23.11	
PRINTED FOR	ISSUED FOR CONSTRUCTION	
REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
1	04/05/2024	ISSUED FOR CONSTRUCTION
2	07/12/2024	Bulletin 2

CONSULTANT PROJECT #	202323.91
DATE	04/05/24
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SHEET	WATER DISTRIBUTION PLAN
SHEET NUMBER	P-103



1 YARD HYDRANT ELEVATION
1/2" = 1'-0"



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FSR#05680

BUILDING TYPE / SIZE: P14 LS BS
RELEASE: 23.11
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REVISION SCHEDULE
NO. DATE DESCRIPTION

CONSULTANT PROJECT # 2023223.91
DATE 04/05/24

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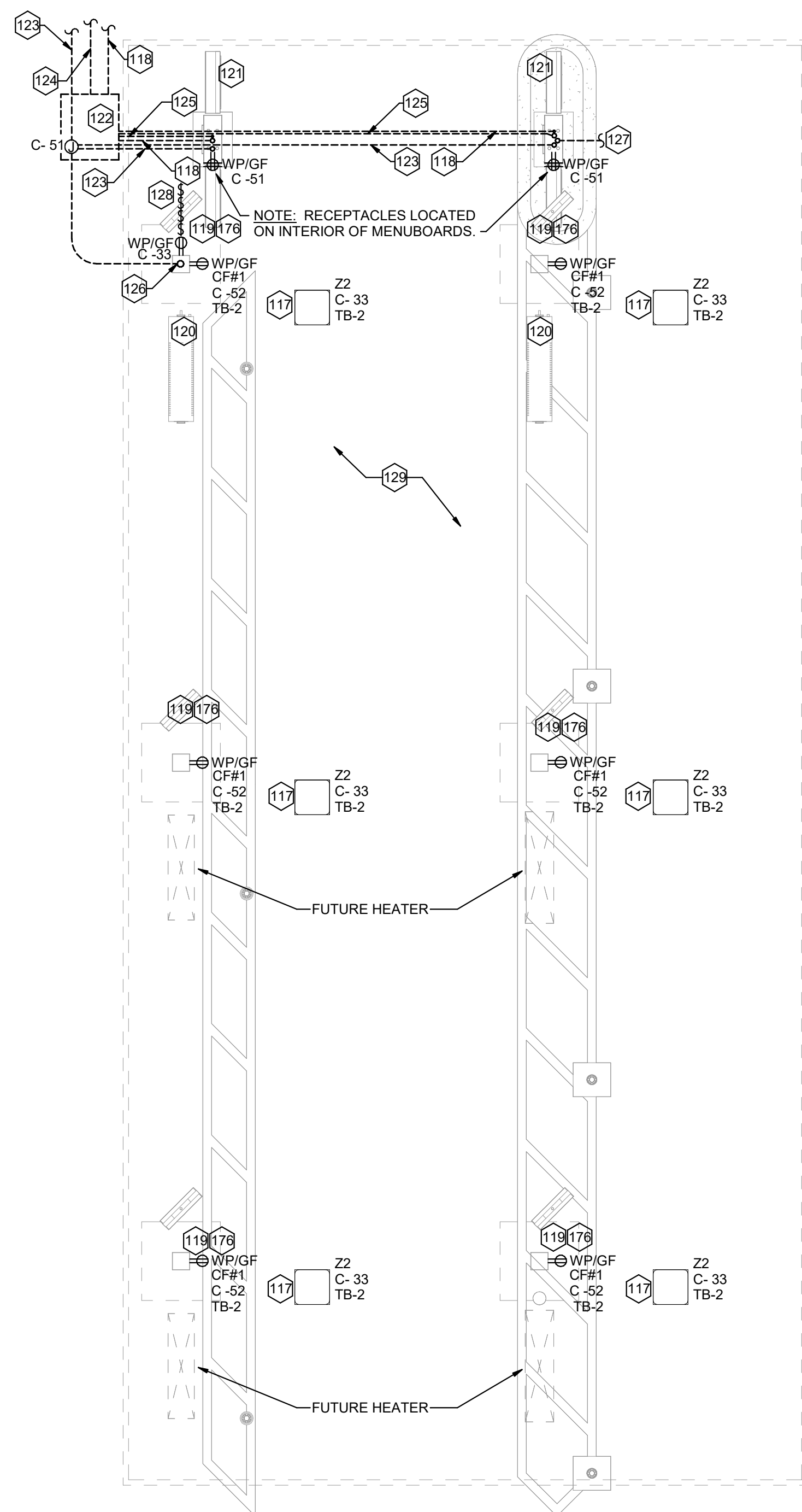
PLUMBING ELEVATIONS

SHEET NUMBER

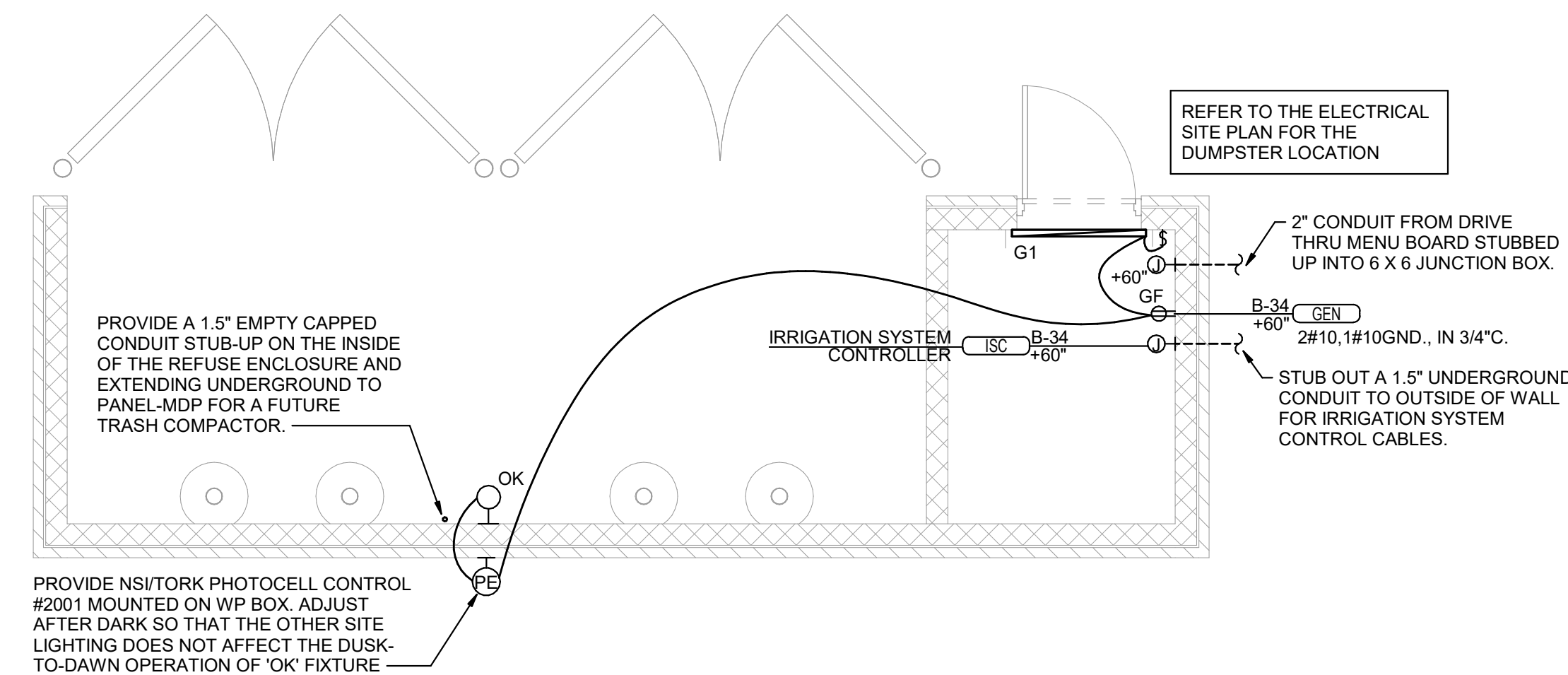
P-201

ELECTRICAL KEYNOTES

- 117 CEILING LIGHT PROVIDED BY CANOPY SUPPLIER AND INSTALLED BY E.C.
- 118 (2) 2" UNDERGROUND SCH40 PVC CONDUIT FOR MENU BOARD FIBER. PROVIDE PULL STRING. STUB UP INTO ACCESSIBLE CEILING SPACE AT DTT CLOSET OR OFFICE IF NO DTT CLOSET.
- 119 AIR CIRCULATING FAN (WITH INTEGRAL ON-OFF SWITCH) PROVIDED BY OTHERS. PROVIDE A DUPLEX OUTLET (WITH IN-USE COVER PLATE) FLUSH MOUNTED IN CUT-OUT AT TOP OF COLUMN FOR FAN'S PLUG AND CORD. OUTLET TO BE ON DOWNSTREAM SIDE OF COLUMN AND AWAY FROM ONCOMING VEHICLES' VIEW.
- 120 INFRARED GAS HEATER WITH INTEGRAL ON-OFF SWITCH PROVIDED BY OTHERS.
- 121 MENUBOARD PROVIDED BY OTHERS.
- 122 PROVIDE IN-GROUND QUAZITE PULLBOX FOR MLOP DATA CABLES WITH POWER NEMA 3R JUNCTION BOX MOUNTED INSIDE THE PULLBOX.
- 123 2" UNDERGROUND SCH40 PVC CONDUIT WITH POWER CIRCUITS. SEE WIRING SCHEMATIC.
- 124 2" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S DETECTOR LOOP CABLES. EXTEND CONDUITS UP INTO ACCESSIBLE CEILING SPACE ABOVE THE HME BOX IN THE DRIVE THRU AREA.
- 125 1" EMPTY UNDERGROUND SCH40 PVC CONDUIT FOR OWNER'S AUDIO SYSTEM/DETECTOR LOOP CABLES.
- 126 INSTALL UNDERGROUND 3" SCH40 PVC CONDUIT UP INTO THE CANOPY COLUMN WITH TYPE MC CABLE (GALVANIZED STEEL WITH PVC JACKET) RUN WITHIN FOR THE 120V POWER FOR LIGHTS, 120 VOLT POWER FOR FANS, AND 24 VOLT POWER FOR THE INFRARED GAS HEATERS.
- 127 2" CONDUIT FROM DRIVE-THRU MENU BOARD TO DUMPSTER ENCLOSURE ROOM FOR WIFI AND CAMERA CABLES.
- 128 PROVIDE ONE DUPLEX GFCI (WITH IN-USE WP COVER PLATE), TWO 120V SINGLE-POLE SWITCHES (EACH WITH HUBBELL #RW51550 WP COVER PLATE), AND ONE DUPLEX SINGLE-POLE SWITCH (WITH HUBBELL #RW51470 WP COVER PLATE) MOUNTED ON THE COLUMN IN B12 PLATES TO BE FIELD PAINTED MATTE BLACK.
- 129 ALL CONDUIT AND BOXES SHALL BE CONCEALED FROM NORMAL VIEW; UNDERGROUND, IN COLUMNS, OR ABOVE THE CANOPY (ON THE ROOF). MC CABLE (GALVANIZED STEEL WITH PVC JACKET) TO BE USED INSIDE THE COLUMNS, BUT MUST CONVERT BACK TO IMC ABOVE THE ROOF. REFER TO THE MECHANICAL DRAWINGS FOR LOCATIONS OF GAS PIPING ABOVE THE ROOF AND INSTALL CONDUIT ALONG THE SAME LOCATIONS USING THE SAME PIPE STAND FOR PIPING AND CONDUIT. ALL EXPOSED ELECTRICAL BOXES TO BE NEMA 3R CAST-METAL.
- 176 PROVIDE A SINGLE-GANG SIMPLEX RECEPTACLE FOR THE FLY LIGHT SYSTEM TO THE RIGHT OF THE UNIT LEVEL WITH THE BOTTOM OF THE LIGHT. DO NOT CUT CORDSET FURNISHED WITH THE UNIT. INSTEAD, COIL THE CORD ON THE RIGHT SIDE OF THE UNIT. IF THE DUPLEX CLOCK-STYLE RECEPTACLE HAS ALREADY BEEN INSTALLED BEHIND THE FLY LIGHT, PROVIDE A NEW HORIZONTAL SINGLE-GANG SIMPLEX RECEPTACLE CENTERED DIRECTLY BELOW THE FLY LIGHT AND CONNECT TO THE EXISTING CIRCUIT. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT. INSTEAD, COIL THE EXCESS CORD ON THE RIGHT SIDE OF THE UNIT.



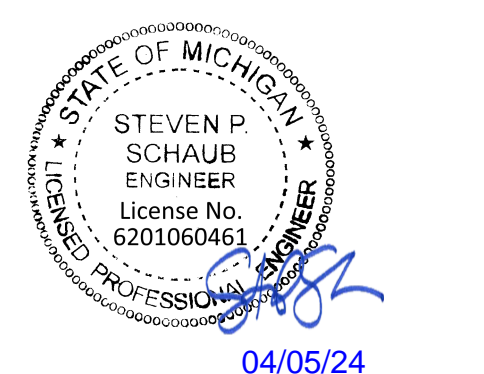
B4 MLOP ORDER CANOPY POWER PLAN
1/4" = 1'-0"



C2 REFUSE ENCLOSURE ELECTRICAL PLAN
1/4" = 1'-0"



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FSR#05680
BUILDING TYPE / SIZE: P14 LS BN
RELEASE: 23-11
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REVISION SCHEDULE		
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CONSULTANT PROJECT # 2023223.91
DATE 04/05/24
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SHEET ORDER CANOPY PLAN AND REFUSE ENCLOSURE
SHEET NUMBER **E-403**

ELECTRICAL LEGEND		MTG HT AFF TO CL	SYMBOL		DESCRIPTION	MTG HT AFF TO CL
LIGHTING FIXTURES						
□	SURFACE MOUNTED LIGHTING FIXTURE		⊕	GROUND		
⊞	RECESSED LED TROFFER LIGHTING FIXTURE		Ⓜ	MOTOR		
○	SURFACE/RECESSED MOUNTED LED LIGHTING FIXTURE		Ⓜ	EXHAUST FAN MOTOR		
⊞	WALL MOUNTED LIGHTING FIXTURE, SEE LIGHTING FIXTURE SCHEDULE	AS NOTED, 6" FROM CEILING TO TOP	Ⓜ	JUNCTION BOX		
⊞	WALL MOUNTED EXIT SIGN, SHADE INDICATES FACES, PROVIDE CHEVRON DIRECTIONALS WHEN NEEDED		Ⓜ	CONDUIT AND WIRE 'MARK' NUMBER, REFER TO CONDUCTORS AND CONDUIT SCHEDULE FOR SIZE		
⊞	CEILING MTD EXIT SIGN, SHADING INDICATES FACES, PROVIDE W/ CHEVRON DIRECTIONALS WHEN NEEDED		Ⓜ	KITCHEN EQUIPMENT 'MARK' NUMBER, REFER TO KITCHEN EQUIPMENT SCHEDULE FOR REQUIREMENTS		
⊞	COMBO EXIT WITH TWO LAMPHEADS		Ⓜ	NOTE NUMBER		
⊞	WALL MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE		Ⓜ	HOOD EXTINGUISHING FS PULL STATION		
⊞	CEILING MTD EMERGENCY BATTERY PACK LIGHTING FIXTURE		Ⓜ	SMOKE DETECTORS REMOTE STATUS INDICATOR W/ 1/2" C STUB-UP		
⊞	FLUORESCENT STRIP LIGHTING FIXTURE		Ⓜ	PUSHBUTTON		
⊞	WALLWASHER TYPE RECESSED DOWNLIGHT, AIM LIGHT TOWARD WALL		Ⓜ	BELL, TYPE AS NOTED ON PLANS		
⊞	RECESSED LIGHTING FIXTURE W/ EMERGENCY BATTERY PACK		Ⓜ	PHOTO-ELECTRIC CELL		
⊞	PENDANT LIGHTING FIXTURE	AS NOTED	Ⓜ	TRANSFORMER / DRIVER		
⊞	LIGHTING TRACK WITH TRACK HEADS		Ⓜ	LOCKABLE SINGLE POLE SWITCH		
WIRING DEVICES						
⊞	120 VOLT DUPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	Ⓜ	ABOVE FINISHED FLOOR		
⊞	120 VOLT QUADRAPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	Ⓜ	ABOVE FINISHED GRADE		
⊞	120 VOLT SIMPLEX RECEPTACLE, 20 AMPS U.O.N.	14" UON	Ⓜ	AIR HANDLING UNIT		
⊞	INDICATES DEVICES WITH RECESSED FACEPLATES COMPATIBLE WITH RECEPTACLE TYPE		Ⓜ	CONDUIT		
⊞	SINGLE SPECIAL PURPOSE RECEPT W/ VOLTS, AMPS, & PHASE AS NOTED, NEMA CONFIGURATION AS REQUIRED BY EQUIP.	14" UON	Ⓜ	CENTER-LINE		
⊞	RECEPTACLE MOUNTED ON DROP CORD, 120 VOLT, 20 AMP, UON, OUTLET BOX FLUSH WITH CEILING		Ⓜ	CONTACTOR		
⊞	SINGLE POLE TOGGLE SWITCH	48"	Ⓜ	EXHAUST FAN		
⊞	DOUBLE POLE TOGGLE SWITCH	48"	Ⓜ	FULL LOAD AMPS		
⊞	THREE WAY TOGGLE SWITCH	48"	Ⓜ	GROUND FAULT CIRCUIT INTERRUPTER		
⊞	SWITCH WITH TIMER	48"	Ⓜ	GROUND		
⊞	MANUAL MOTOR STARTER SWITCH (WP=NEMA 3R)	48"	Ⓜ	HEIGHT		
⊞	SWITCH WITH PILOT LIGHT (ON WHEN SWITCH IS ON)	48"	Ⓜ	ISOLATED GRD, PROVIDE ORANGE DEVICE WHEN ADJACENT TO WIRING DEVICE		
NOTE: RECEPTACLES ON A DEDICATED CIRCUIT (THAT IS, NO OTHER LOAD CONNECTED TO THE BRANCH CIRCUIT) SHALL HAVE AMPACITY RATING NOT LESS THAN THE AMPERAGE OF THE CIRCUIT BREAKER SERVING THE DEVICE.						
CONDUIT/RACEWAYS						
—	CONDUIT CONCEALED ABOVE CEILING OR IN WALL		Ⓜ	MAXIMUM OVER-CURRENT PROTECTION		
—	CIRCUIT HOMERUN TO PANELBOARD W/ MIN 2#12, 1#12G, 3/4" C		Ⓜ	MAKE UP AIR UNIT		
—	CONDUIT TURNING UP		Ⓜ	LOCALLY ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE (NFPA 70)		
—	CONDUIT TURNING DOWN		Ⓜ	NIGHT LIGHT (ON 24 HOURS)		
—	CONDUIT CONCEALED IN OR BELOW SLAB (OR UNDERGROUND)		Ⓜ	ON CENTER		
—	FLEXIBLE LIGHT FIXTURE WHIP, SIX FOOT MAXIMUM LENGTH		Ⓜ	POINT OF SALE EQUIPMENT		
—	METAL CLAD CABLE ASSEMBLY - ONLY WHERE INDICATED ON DWGS OR SPECS		Ⓜ	ROOF TOP UNIT		
DISTRIBUTION EQUIPMENT						
⊞	NON-FUSIBLE SAFETY SWITCH, SIZE AND TYPE AS NOTED ON PLANS (AMP/POLES/ENCLOSURE) OR ON SCHEDULE, NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R ENCLOSURE.	6'-6" *	Ⓜ	TERMINAL BLOCK		
⊞	FUSIBLE SAFETY SWITCH, SIZE & TYPE AS NOTED ON PLANS (AMP/POLES/FUSE AMPS/ENCLOSURE) OR ON SCHEDULE, NEMA 1 ENCLOSURE UNLESS NOTED WP FOR NEMA 3R.	6'-6" *	Ⓜ	TL TWIST-LOCK TYPE DEVICE		
⊞	FLUSH MOUNTED (RECESSED) PANELBOARD	6'-6" *	Ⓜ	TR TAMPER-RESISTANT		
⊞	SURFACE MOUNTED PANELBOARD	6'-6" *	Ⓜ	UNLESS OTHERWISE NOTED		
* 6'-6" DISTANCE IS TO TOP-MOST DISCONNECTING DEVICE OR HIGHEST POSITION OF OPERATING HANDLE OF DISCONNECTING DEVICE						
TELEPHONE						
⊞	TELEPHONE OUTLET	18" UON	Ⓜ	WEATHERPROOF (NEMA 3R)		
⊞	TELEPHONE OUTLET AT SPECIAL MOUNTING HEIGHT	60" UON	Ⓜ			
NOTE: EACH TELEPHONE OUTLET (FLOOR OR WALL MOUNTED) SHALL BE PROVIDED WITH A 3/4" EMPTY CONDUIT, WITH PULL WIRE, TO ACCESSIBLE CEILING SPACE.						
CCTV / SECURITY SYSTEM						
⊞	SECURITY ALARM KEYPAD		Ⓜ			

POWER PLAN GENERAL NOTES

- ALL SECURITY, POS, MUSIC, COMMUNICATIONS, AND POWER ROUGH-IN SHALL BE INSTALLED DURING THE FRAMING/ROUGH-IN PHASE OF CONSTRUCTION.
- REFER TO KITCHEN EQUIPMENT SHEETS FOR EQUIPMENT ELECTRICAL ROUGH-IN ELEVATIONS ABOVE FINISHED FLOOR.
- ALL EMPTY CONDUITS SHALL BE PROVIDED WITH PULL STRING.
- PROVIDE INSULATED BUSHING AT TERMINATION POINTS OF ALL CONDUITS FOR LOW VOLTAGE WIRING.
- 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.

SECTION C16100 ELECTRICAL GENERAL PROVISIONS

PART 1 - GENERAL

- 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.
- 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 be included 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 C16101 BASIC MATERIALS AND METHODS

PART 1 - GENERAL

- 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

- 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

- INSTALLATION
 - Make electrical connections to utilization equipment in accordance with equipment manufacturer's instructions.
 - Drawings are diagrammatic and shall not be scaled for exact sizes or locations, they are not intended to disclose absolute or unconditional knowledge of actual field conditions.
 - 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.

- 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.

- 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.

- 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.

- 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.

- 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 C16120 RACEWAYS AND CONDUIT SYSTEMS

PART 1 - PRODUCTS

- ACCEPTABLE MANUFACTURERS
 - Rigid IMC, and EMT conduit shall be hot-dipped, galvanized, or electro-galvanized 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 additional isolated ground (green + yellow stripe) conductor for isolated ground circuits (POS system). Fittings used for connecting MC cable to boxes, cabinets, or other equipment shall be listed and identified for such use.
 - 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 or set-screw fittings.
 - Conduit, connectors, couplings and fittings shall be UL listed and labeled.

- ELECTRICAL METALLIC TUBING (EMT)
 - Use Electrical Metallic Tubing (EMT) where drawings call for conduit to be:
 - Concealed in walls.
 - Installed above suspended ceilings.
 - Installed exposed, above 6 feet.
 - Installed for panelboard feeders above slab.

- INTERMEDIATE METAL CONDUIT (IMC)
 - Use Intermediate Metal Conduit (IMC) where drawings call for conduit to be:
 - Installed for panelboard feeders run below ground.
 - Installed in wet locations (interior and exterior).
 - Installed exposed below 6 feet.

- 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 or under concrete slab on ground floor.

- RIGID STEEL CONDUIT (RSC)
 - Use Rigid Steel Conduit for:
 - Install underground for power Service Entrance elbows penetrating floor slab.
 - Exposed to physical damage.

- 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 liquidtight or type as indicated.

- For connection to ceiling mounted lighting fixtures from outlet boxes.

- MC (METAL-CLAD) CABLE
 - MC Cable shall be UL listed per standard 1569, color coded copper conductors (type THHN), the sheathing shall be constructed of interlocking galvanized steel, and shall conform to the requirements of Article 330 of the National Electrical Code.
 - MC Cable with an isolated grounding conductor shall be used, concealed above ceiling and in walls, for the connection of the Point Of Sales (POS) system equipment from the isolated ground receptacles to the panelboard serving the POS loads when allowed by local codes and Article 330 of the National Electrical Code.
 - MC Cable may be used when allowed by local codes and Article 330 of the National Electrical Code for branch circuits serving Kitchen Equipment Items and similar circuits in the Kitchen, the Drive-Thru area, and the Serving area's back counter.

- Lighting
 - Dining area receptacles
 - Fly Lights
 - Building mounted signage
 - Office area receptacles

- MC Cable shall not be used for branch circuits serving Kitchen Equipment Items and similar circuits in the Kitchen, the Drive-Thru area, and the Serving area's back counter.

PART 2 - EXECUTION

- 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 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, 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.

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- EMT (ELECTRICAL METALLIC TUBING) RACEWAY
 - Do not use Electrical Metallic Tubing in cinder concrete or cinder fill or where conduit system is in contact with dissimilar metals or in wet locations.

- 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 on drawings.

- 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.

- MC CABLE
 - MC Cable may be used for branch circuits as noted in Part 1 above and where the local code allows use of MC Cable. The installation shall conform to Article 330 of the National Electrical Code and shall be concealed in walls and above ceilings. (Exposed MC Cable will not be acceptable.)
 - MC Cables shall be secured and supported by the building structure per the National Electrical Code and any local code requirements. MC Cable shall not lay on ceilings.

- CONDUCTORS
 - Provide 98% conductivity copper conductors with 600-volt insulation. For conductors No. 12 AWG and No. 10 AWG, provide solid type. For all conductors No. 8 AWG and larger, provide stranded type. All conductors shall have THHN/THWN insulation unless noted otherwise.
 - Conductors shall be manufactured by Triangle, American, Rome, Southwire or approved equal.
 - Provide No. 14 AWG type THHN fixture conductors, for conductors entering lighting fixtures.
 - Branch circuit conductors shall be minimum #12 AWG, copper.

- INSTALLATION
 - Install pull boxes in circuits or feeders over 100 feet 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 feet linear length to prevent excessive voltage drop.
 - Use Ideal wing nuts, Scotchlok 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 Kupler, 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.

- OUTLET BOXES
 - Sheet metal outlet boxes: galvanized steel.
 - Cast boxes: type FS, cast ferrolloy. 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 1-1/2" deep minimum.

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 - Provide 98% conductivity copper conductors with 600-volt insulation. For conductors No. 12 AWG and No. 10 AWG, provide solid type. For all conductors No. 8 AWG and larger, provide stranded type. All conductors shall have THHN/THWN insulation unless noted otherwise.
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Chick-Fil-A
5200 Buffington Road
Atlanta, Georgia
30349-2998

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5200 Buffington Road
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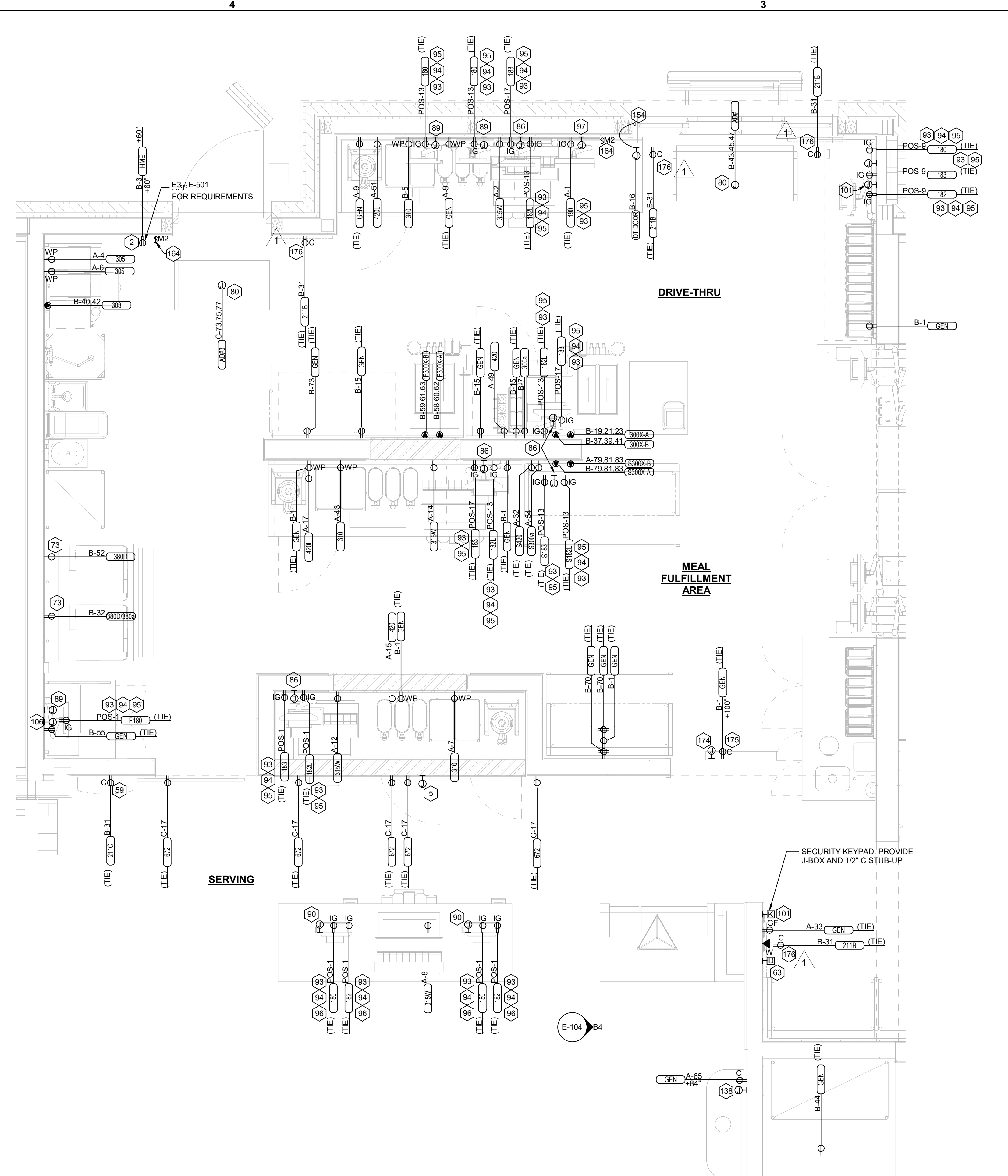
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Chick-F



C4 ENLARGED SERVING AREA POWER PLAN
 1/2" = 1'-0"

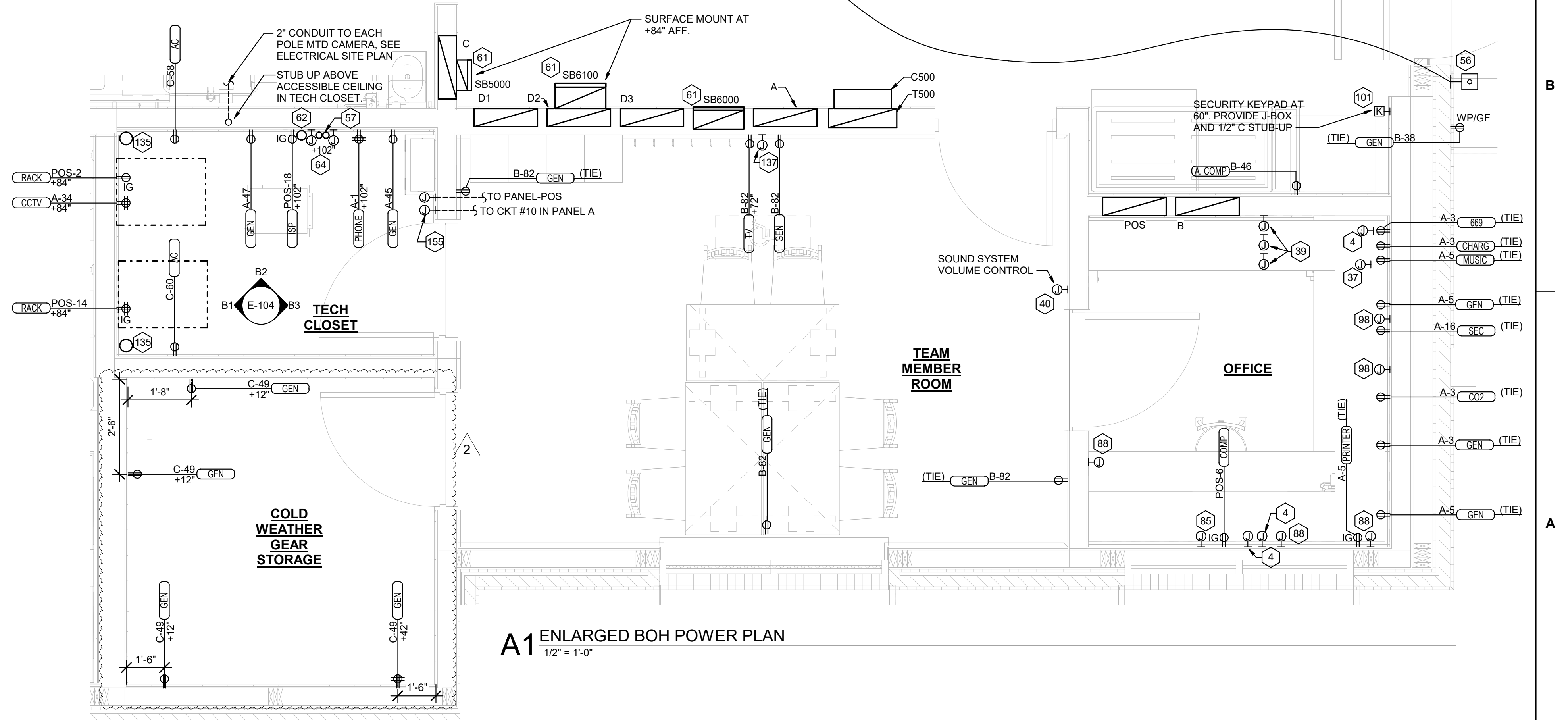
NOTE FOR GF TYPE RECEPTACLES IN KITCHEN/FOOD PREP AREAS:
 THE CONTRACTOR SHALL PROVIDE GROUND FAULT CIRCUIT INTERRUPTER PROTECTION FOR PERSONNEL FOR ALL 125V - 250V RECEPTACLES SUPPLIED BY 120V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, 208V SINGLE-PHASE BRANCH CIRCUITS 50 AMPS OR LESS, AND 208V THREE-PHASE BRANCH CIRCUITS 100 AMPS OR LESS. SEE FLOOR PLANS FOR ADDITIONAL INFORMATION.

GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BRANCH BREAKER VIA A GROUND FAULT TYPE BREAKER FOR ALL 50 AMP AND LESS RECEPTACLE CIRCUITS UNLESS ALREADY NOTED TO BE PROVIDED WITH AN ACCESSIBLE GFCI TYPE RECEPTACLE. (NOTE THAT SQUARE-D DOES NOT HAVE ANY GFCI TYPE BRANCH BREAKERS ABOVE 50 AMP AVAILABLE AT THIS TIME. HOWEVER, GFCI PROTECTION IS REQUIRED.)

NOTE FOR POS GF IN KITCHEN:
 THE CONTRACTOR SHALL PROVIDE GROUND FAULT PROTECTION FOR ALL 120 VOLT, 15 AND 20 AMP ISOLATED GROUND RECEPTACLE OUTLET BRANCH CIRCUITS IN THE KITCHEN/FOOD PREPARATION AREAS. GROUND FAULT PROTECTION SHALL BE PROVIDED AT THE BREAKER VIA A GROUND FAULT TYPE BRANCH BREAKER. (GFCI TYPE ISOLATED GROUND RECEPTACLES ARE NOT AVAILABLE.)

NOTE:
 RECEPTACLES FOR THE POS EQUIPMENT SHALL BE THE ONLY ITEMS THAT CONNECT TO PANEL POS. THERE SHALL BE NO OTHER LOADS CONNECTED TO THIS ISOLATED GROUND PANEL AND, IF SO, SHALL BE REMOVED AND RECONNECTED TO ANOTHER PANELBOARD AT THE EXPENSE OF THE CONTRACTOR.

- ### ELECTRICAL KEYNOTES
- PROVIDE JUNCTION BOX, LESS COVER PLATE, AND EXTEND 1-1/2" CONDUIT UP IN WALL TO ABOVE CEILING FOR INSTALLATION OF WIRELESS COMMUNICATION CONTROL UNIT.
 - PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR OWNER'S VOIP PHONE, JACK AND CABLES.
 - PROVIDE SINGLE-GANG JUNCTION BOX WITH A 3/4" EMPTY CONDUIT STUBBED UP INTO THE ACCESSIBLE CEILING SPACE FOR THE DIGITAL MENU BOARD MEDIA ENGINE CABLES.
 - PROVIDE JUNCTION BOX WITH STAINLESS STEEL COVER PLATE AND 3/4" HOLE IN PLATE WITH GROMMET ON HOLE IN PLATE. EXTEND 3/4" CONDUIT UP IN WALL TO ABOVE CEILING FOR MUSIC SYSTEM.
 - THREE SINGLE GANG EXTRA DEEP J-BOXES STACKED WITH A 1/2" CONDUIT FROM EACH TO THE TOP J-BOX AND A 1" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS PROVIDED BY OWNER'S VENDOR.
 - PROVIDE A SINGLE GANG EXTRA DEEP JUNCTION BOX AT 74" AFF WITH 1/2" CONDUIT STUBBED INTO THE CEILING SPACE FOR MUSIC SYSTEM VOLUME CONTROLS.
 - PROVIDE EDWARDS #340-4N5 VIBRATING 4" DIAMETER BELL. THE BELL SHALL BE RATED AT 120 VOLTS.
 - PROVIDE A 120 VOLT WEATHERPROOF DOORBELL PUSHBUTTON AT DOOR. PUSHBUTTON SHALL BE FLUSH MOUNTED. PROVIDE DORTRONICS SYSTEMS #WS286-P25 CLEAR ANODIZED ALUMINUM PUSHBUTTON WITH SINGLE GANG SWITCHPLATE.
 - 2" TELEPHONE SERVICE ENTRANCE CONDUIT(S). EXTEND WITH PULL STRING FROM TELEPHONE SERVICE J-BOX TO THE UTILITY SOURCE. REFER TO THE ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
 - PROVIDE DUPLEX RECEPTACLE (SEE ELEVATIONS FOR MTG HT) IN AN ARLINGTON #DVF2R2W DOUBLE-GANG RECESSED BOX FOR THE FLY SYSTEM ITEMS. DO NOT CUT THE CORSET FURNISHED WITH THE UNIT, BUT COIL THE CORD ON THE BACK OF THE UNIT AND TUCK INTO THE BACKBOX.
 - SB6000 PANEL ENCLOSURE WITH 3 LITTLEFUSE SHOCKBLOCK GFCI PROTECTION DEVICES, SB6100 SHOCK BLOCK GFCI PROTECTION DEVICE, AND SB5000 SHOCK BLOCK GFCI PROTECTION DEVICE. ENSURE CONDUITS ARE INSTALLED FOR LINE AND LOAD WIRES TO BE INSTALLED WITH PROPER WIRE BENDING SPACE. LABEL EACH SHOCK BLOCK WITH PANEL AND CIRCUIT NUMBER IT CONTROLS.
 - ONE 3" ISP SERVICE CONDUIT. EXTEND WITH PULL STRING FROM J-BOX TO SUPPLIER'S SOURCE. REFER TO ELECTRICAL SITE PLAN FOR ADDITIONAL INFORMATION.
 - PROVIDE 2 GANG DEEP BOX (2" MIN.) FOR EACH DUCT SMOKE DETECTOR INDICATED ON THE MECHANICAL DRAWINGS FOR INSTALLATION OF DUCT DETECTOR REMOTE ANNUNCIATORS BY MECHANICAL. THE DUCT SMOKE REMOTE ANNUNCIATORS ARE PROVIDED TO THE ELECTRICIAN WITH THE SUNCOST ELECTRONICS PACKAGE OF GEAR AND CONTROLS. EXTEND 1/2" CONDUIT FROM EACH BOX AND STUB ABOVE CEILING.
 - PROVIDE TWO 6" X 6" X 4" D J-BOXES (ONE FOR TELEPHONE AND ONE FOR ISP) AT 6'-6" AFF AND EXTEND A 2" CONDUIT WITH PULL STRING IN THE WALL FROM EACH J-BOX INTO THE ACCESSIBLE CEILING SPACE. PROVIDE A 36" X 36" X 3/4" PLYWOOD BACKBOARD ON THE WALL ABOVE THE J-BOXES (AT THE CEILING) FOR USE BY THE ISP. PROVIDE A COPPER GROUND BAR (EQUAL TO ERICO TGBA24L14P) AT THE BOTTOM OF THE BACKBOARD WITH A #6 AWG INSULATED CU GROUNDING CONDUCTOR IN A 3/4" C FROM THE GROUND BAR TO THE INTER SYSTEM BONDING TERMINATION NEXT TO THE SERVICE ENTRANCE. THE GROUND BAR SHALL HAVE TAPS FOR USE BY THE TELEPHONE AND ISP UTILITY COMPANIES AND FOR THE #6 COMMUNICATIONS GROUNDING CONDUCTOR TO THE GES. PROVIDE A 15 AMP ISOLATED GROUND (IG) ORANGE-FACED DUPLEX RECEPTACLE IN THE WALL BESIDE THE BACKBOARD AND LABEL THE RECEPTACLE "FOR FIBER TO CABLE MODEM USE ONLY". BOND NETWORK RACKS TO GROUND BAR.
 - SEE THE ELECTRICAL ROOF PLAN FOR THE LOCATION OF THE ICE MAKER CONDENSERS AND ANY ADDITIONAL REQUIREMENTS.
 - JUNCTION BOX ABOVE CEILING FOR AIR CURTAIN.
 - PROVIDE A 'RETROFIT' DOUBLE GANG RING (CARLON #SC200RR) FOR OWNER'S DEVICE PLATE WITH A 1 1/4" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
 - PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" CONDUIT EXTENDING UP INTO THE CEILING SPACE FOR POS MONITOR(S). COVER PLATE PROVIDED BY OWNER'S POS SYSTEM VENDOR.
 - PROVIDE A 'RETROFIT' SINGLE GANG RING (CARLON #SC100RR) FOR OWNER'S DEVICE PLATE WITH A 1" EMPTY CONDUIT AT THE OPENING STUBBED UP INTO THE CEILING SPACE FOR OWNER'S DATA CABLES.
 - PROVIDE SINGLE-GANG JUNCTION BOX WITH A 1" CONDUIT EXTENDING UP INTO THE CEILING SPACE FOR POS TERMINAL. POS SYSTEM SUPPLIER WILL PROVIDE COVER PLATE ON BOX.
 - PROVIDE SINGLE-GANG EXTRA DEEP JUNCTION BOX MOUNTED ON THE MOUNTING PLATE WITHIN THE FRONT SERVING COUNTER CASEWORK. MOUNT BOX ADJACENT TO THE RECEPTACLE FOR EQUIPMENT 180. DO NOT MOUNT BOX BETWEEN EQUIPMENT 180 AND EQUIPMENT 182 RECEPTACLES.
 - PROVIDE ORANGE ISOLATED GROUND (IG) DUPLEX RECEPTACLE.
 - PROVIDE GROUND FAULT PROTECTION FOR THESE DEVICES VIA A GROUND FAULT CIRCUIT BREAKER IF LOCAL CODE DEFINES THIS A FOOD PREPARATION AREA.
 - USE TYPE MC CABLE FOR THE ISOLATED GROUND CIRCUIT: #12 HOT, NEUTRAL, GREEN GROUND, STRIPED ISOLATED GROUND. EACH 15 AMP HOMERUN SHALL BE DEDICATED TO A CIRCUIT BREAKER VIA DEDICATED CONDUCTORS WITHIN A CABLE ASSEMBLY. ALL MC CABLES SHALL BE RUN OVERHEAD ABOVE THE CEILING AND RACKED TOGETHER ON J-HOOKS. NO SPLICES IN ANY HOMERUN CABLES FROM FIRST RECEPTACLE TO BREAKER.



A1 ENLARGED BOH POWER PLAN
 1/2" = 1'-0"

- ### ELECTRICAL KEYNOTES
- THE RECEPTACLE BACKBOX AND SYSTEM CABLE JUNCTION BOX FOR ITEMS 180 AND 182 SHALL BE TURNED HORIZONTAL. REFER TO THE KITCHEN EQUIPMENT ROUGH-IN ELEVATIONS FOR ADDITIONAL INFORMATION.
 - PROVIDE SINGLE GANG JUNCTION BOX AND STAINLESS STEEL COVER PLATE WITH 7/8" HOLE IN CENTER. EXTEND 1" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
 - PROVIDE 4"W X 4"H X 3"D FLUSH JUNCTION BOX WITHOUT A COVERPLATE. EXTEND 2" CONDUIT UP TO ABOVE ACCESSIBLE OFFICE CEILING AREA AND PROVIDE BUSHING ON CONDUIT.
 - PROVIDE SINGLE GANG BOX WITHOUT COVER PLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
 - PROVIDE SINGLE GANG JUNCTION BOX WITHOUT COVERPLATE. EXTEND 1/2" CONDUIT UP IN WALL TO ABOVE ACCESSIBLE CEILING.
 - PROVIDE SINGLE GANG JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED ABOVE THE CEILING SPACE AND ABOVE ON THE INTERIOR SIDE OF THE REAR DOOR. ROUTE 1" CONDUIT FROM THE BOX TO THE "109" BOX NOTED BELOW.
 - PROVIDE SINGLE GANG, WEATHER-PROOF JUNCTION BOX WITH STAINLESS STEEL COVER PLATE MOUNTED ABOVE THE REAR DOOR ON THE EXTERIOR WALL. ROUTE 1" CONDUIT FROM THE BOX AND INTO THE BUILDING AND TERMINATE CONDUIT IN THE BOX NOTED IN "107" ABOVE.
 - 4" EMPTY CONDUIT FROM 6" ABOVE THE TOP OF THE NETWORK RACK TO ABOVE ACCESSIBLE CEILING.
 - SINGLE GANG JUNCTION BOX AT +72" A.F.F. WITH 3/4" CONDUIT STUB-UP INTO CEILING SPACE.
 - PROVIDE A JUNCTION BOX WITH A 3/4" CONDUIT STUBBED UP INTO CEILING SPACE FOR THE PICK-UP STATUS BOARD MONITOR AT +84" A.F.F.
 - CONCEAL CONNECTION FROM J-BOX TO DOOR IN WALL. POWER TO BE RUN THROUGH 1" MAX HOLE CENTERED IN THE WIDTH OF THE HEADER. VERIFY WITH STRUCTURAL ON EXACT LOCATION.
 - LOCATION OF THE INPUT & OUTPUT J-BOXES FOR THE PIB (POWER INTERFACE BOX) PROVIDED BY THE OWNER.
 - AIR CURTAIN WITH MICROSWITCH FURNISHED BY MECHANICAL CONTRACTOR.
 - PROVIDE PLUG AND CORDSET.
 - LABEL AS SWITCHED OUTLET.
 - ON/OFF SWITCH FOR AIR CURTAIN PROVIDED AND INSTALLED BY MECHANICAL CONTRACTOR.
 - PROVIDE JUNCTION BOX WITH 1" CONDUIT STUBBED UP INTO CEILING SPACE FOR REQUIRED CABLES FOR SECURITY CAMERA(S) LOCATED ABOVE THE SERVING COUNTER.
 - PROVIDE A JUNCTION BOX WITH A 3/4" CONDUIT STUBBED UP INTO CEILING SPACE FOR SECURITY MONITOR POWER.
 - PROVIDE A SINGLE-GANG SIMPLEX RECEPTACLE FOR THE FLY LIGHT SYSTEM TO THE RIGHT OF THE UNIT LEVEL WITH THE BOTTOM OF THE LIGHT. DO NOT CUT CORSET FURNISHED WITH THE UNIT. INSTEAD, COIL THE CORD ON THE RIGHT SIDE OF THE UNIT. IF THE DUPLEX CLOCK-STYLE RECEPTACLE HAS ALREADY BEEN INSTALLED BEHIND THE FLY LIGHT, PROVIDE A NEW HORIZONTAL SINGLE-GANG SIMPLEX RECEPTACLE CENTERED DIRECTLY BELOW THE FLY LIGHT AND CONNECT TO THE EXISTING CIRCUIT. DO NOT CUT THE CORDSET FURNISHED WITH THE UNIT. INSTEAD, COIL THE EXCESS CORD ON THE RIGHT SIDE OF THE UNIT.

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FSR#05680

BUILDING TYPE / SIZE: P14 LS BN
 RELEASE: 23.11
 PRINTED FOR: ISSUED FOR CONSTRUCTION

REVISION	SCHEDULE	NO.	DATE	DESCRIPTION
1	04/05/24	1	04/05/24	Issued for Construction
2	07/12/24	2	07/12/24	Bulletin 2

CONSULTANT PROJECT # 2023223.91
 DATE 04/05/24
 DRAWN BY JPV
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ENLARGED SERVING AND BOH POWER PLAN
 SHEET NUMBER **E-401**

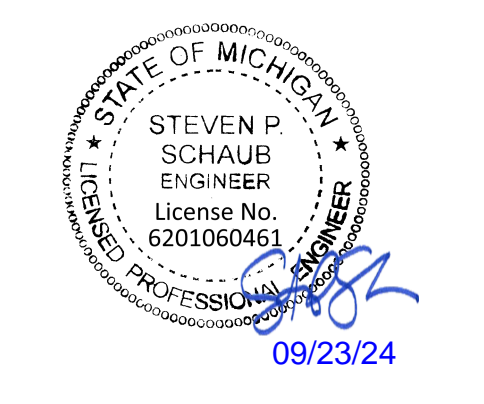


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FSR#05680
BUILDING TYPE / SIZE: P14 LS BN
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REVISION SCHEDULE		
NO.	DATE	DESCRIPTION
5	08/12/24	Bulletin 5
6	09/04/24	Bulletin 6
8	09/23/24	Bulletin 8

CONSULTANT PROJECT # 202323.91
DATE 09/24/24
DRAWN BY JPW
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SHEET
SITE PHOTOMETRIC PLAN

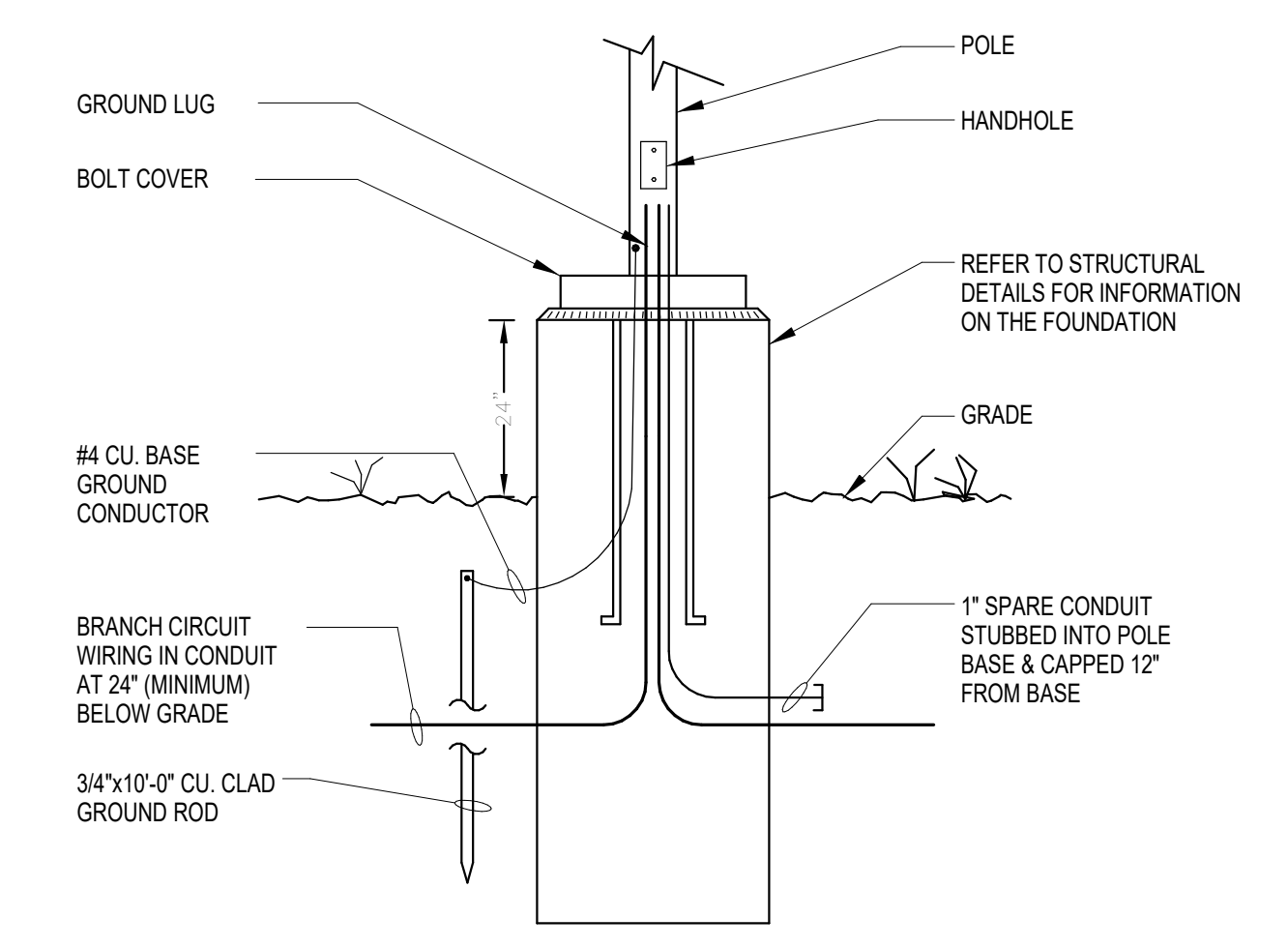
SHEET NUMBER
E-102

LIGHTING FIXTURE SCHEDULE									
SYMBOL	LABEL	QTY	CATALOG NUMBER	MANUFACTURER	DESCRIPTION	LAMP	WATTS	VOLTS	MOUNTING
○	OA	16	P5675-31 WITH P8799 TOP COVER LENS	PROGRESS LIGHTING	5" DIAMETER, 14" HEIGHT, WET LOCATION, UPDOWN CYLINDER W/ 12 WATT PAR30 3K NFL LED LAMPS	(2)GE4LED2P3 0RW83025	24	120	WALL
□	003	2	LUMINAIRE: PRV-C40-D-UNV-T3-BK-MSDIM-40W (TYPE 3 DISTRIBUTION) POLE: SSP25-4-0-7-BLK-DM2180-8C (TWO LUMINAIRES AT 180 DEGRESS) ANCHOR BOLT SET: ABSS5-5	COOPERLUMARK KV INDUSTRIES	TWIN AREA LIGHT FIXTURE WITH TYPE 3 MEDIUM DISTRIBUTION. FIXTURES, BRACKETS, AND POLES TO HAVE BLACK FINISH. DRILL MOUNT THE ARMS/BRACKETS TO THE POLES. PROVIDE SINGLE POLE FUSE HOLDER AND 3A FUSES IN HAND HOLE OF POLE.	INTEGRAL LED	282	120	POLE - 25'
□	002	11	LUMINAIRE: PRV-C40-D-UNV-T4-BK-HSS-MSDIM-40W (TYPE 4 DISTRIBUTION WITH HSS) POLE: SSP25-4-0-7-BLK-DM10-8C (SINGLE LUMINAIRE) ANCHOR BOLT SET: ABSS5-5	COOPERLUMARK KV INDUSTRIES	SINGLE AREA LIGHT FIXTURE WITH TYPE 4 FORWARD-THROWN DISTRIBUTION AND HOUSE SIDE SHIELD. FIXTURES, BRACKETS, AND POLES TO HAVE BLACK FINISH. DRILL MOUNT THE ARMS/BRACKETS TO THE POLES. PROVIDE SINGLE POLE FUSE HOLDER AND 3A FUSES IN HAND HOLE OF POLE.	INTEGRAL LED	131	120	POLE - 25'
□	OK	1	LNC-SLU-3K-3-1	HUBBELL	LED WALLPACK W/ CENTERLINE OF FIXTURE AT 8'-0" ABV 0'-0" (FINISH FLOOR LINE)	INTEGRAL LED	13	120	WALL
○	OP	16	C-CP-A-SQ-79L-50K-WH	CLITE	CEILING LIGHT FIXTURE PROVIDED BY THE CANOPY SUPPLIER AND INSTALLED BY THE ELECTRICAL CONTRACTOR.	INTEGRAL LED	88	120	CANOPY - 9.5'

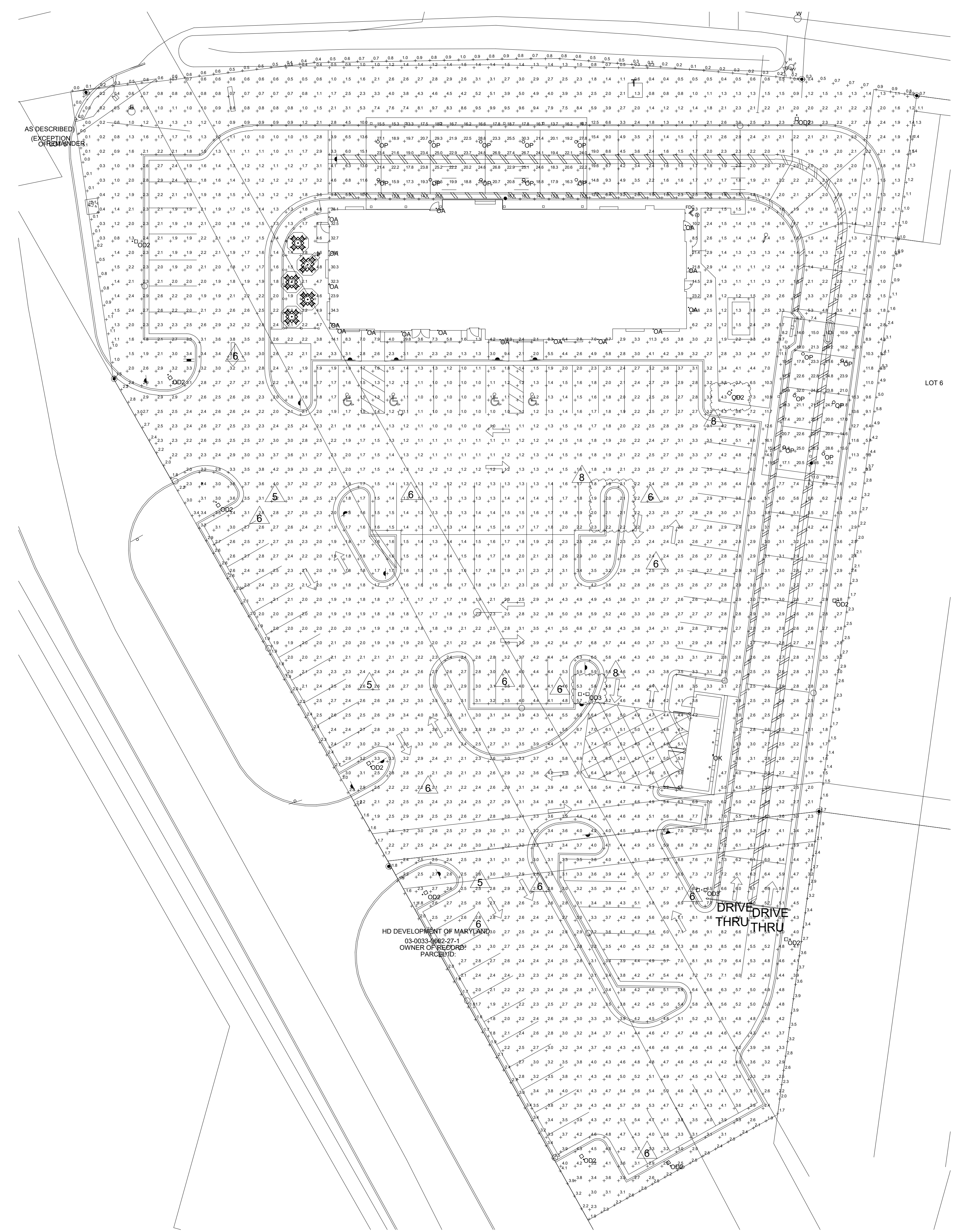
STATISTICS						
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN
CFA HARDCAPE	+ 1	3.1 fc	19.6 fc	1.0 fc	19.6:1	3.1:1
PEDESTRIAN WALKWAYS	+ 2	6.2 fc	34.3 fc	1.3 fc	26.4:1	4.8:1
PROPERTY LINE	+ 1	1.8 fc	5.8 fc	0.0 fc	N/A	N/A

PHOTOMETRIC NOTES

- ALL FIXTURES UTILIZED IN THIS SITE PHOTOMETRIC ARE FULL CUTOFF.
- MOUNT AREA LUMINAIRE TYPES '002' & '003' AT 25' AFG (INCLUDING POLE BASE) UNLESS OTHERWISE NOTED.
- SEE FIXTURE SCHEDULE FOR COLOR TEMPERATURES.



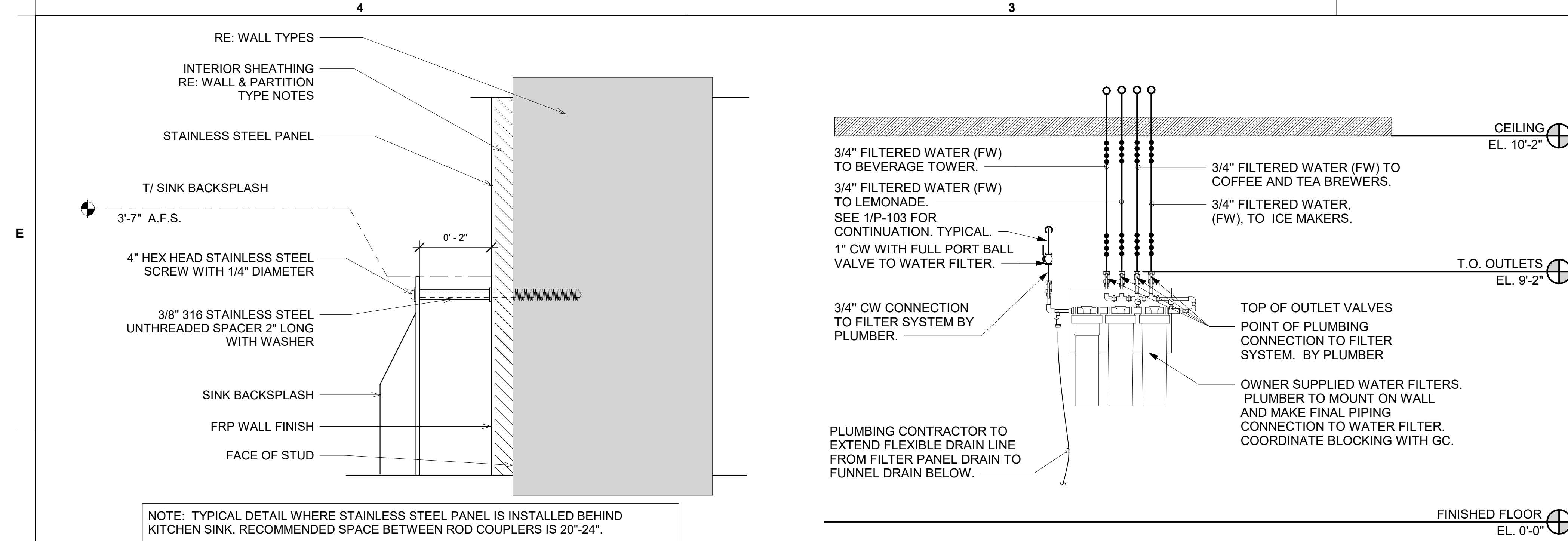
B5 LIGHT POLE BASE DETAIL
N.T.S.



B4 ELECTRICAL PHOTOMETRIC PLAN
1" = 20'-0"

9/23/2024 8:20:33 AM Autodesk Docs://MI_05680_Benton Harbor (MI) FSR05680_Benton Harbor (MI) FSU_ELE.rvt
50-LS-05680-E-102-SITE PHOTOMETRIC PLAN

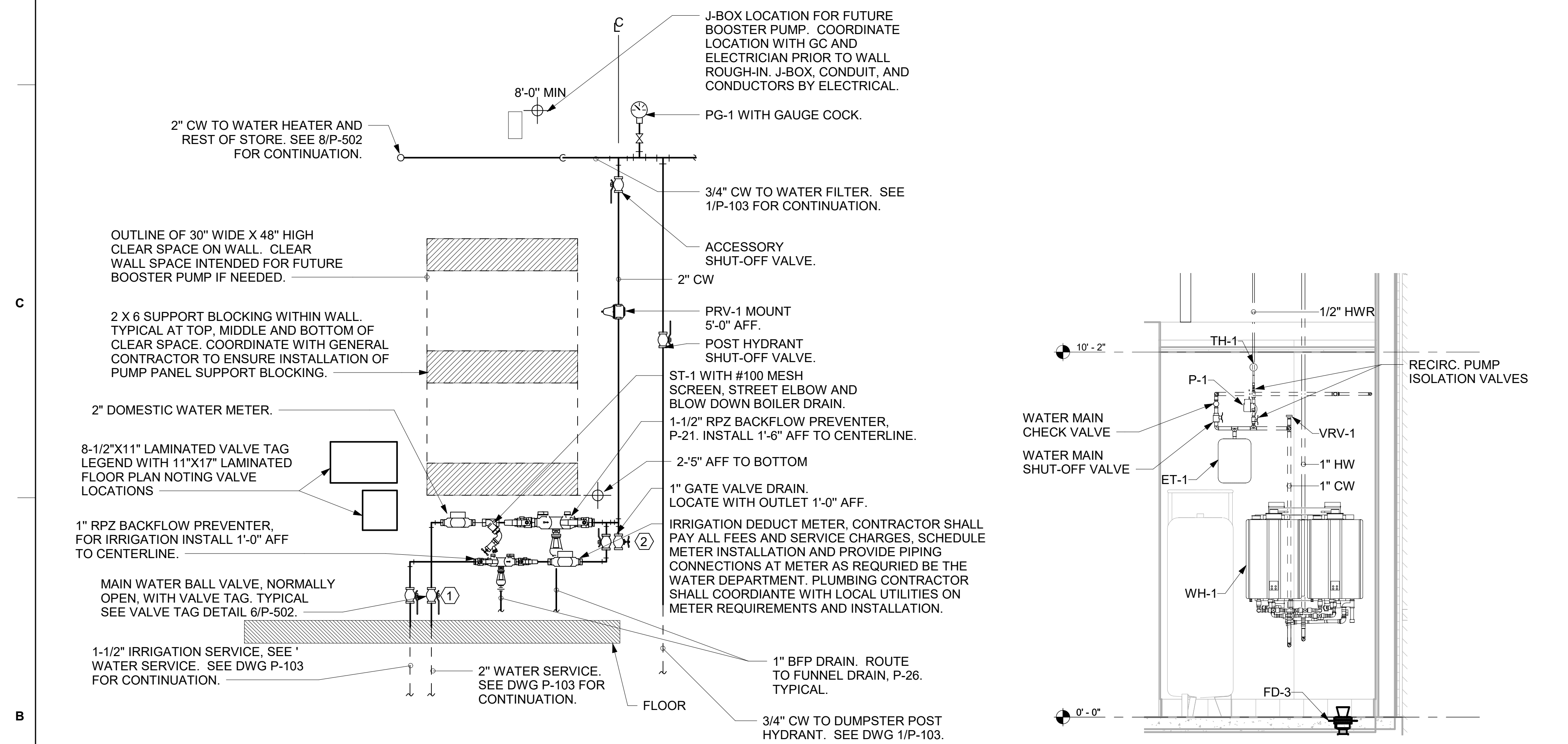
7/11/2024 9:43:46 AM Autodesk Docs://MI_05680_Benton Harbor (MI) FSU_2023.11_FSR05680_Benton Harbor (MI) FSU_PLB.rvt 40-LS-05680-P-502-PLUMBING DETAILS



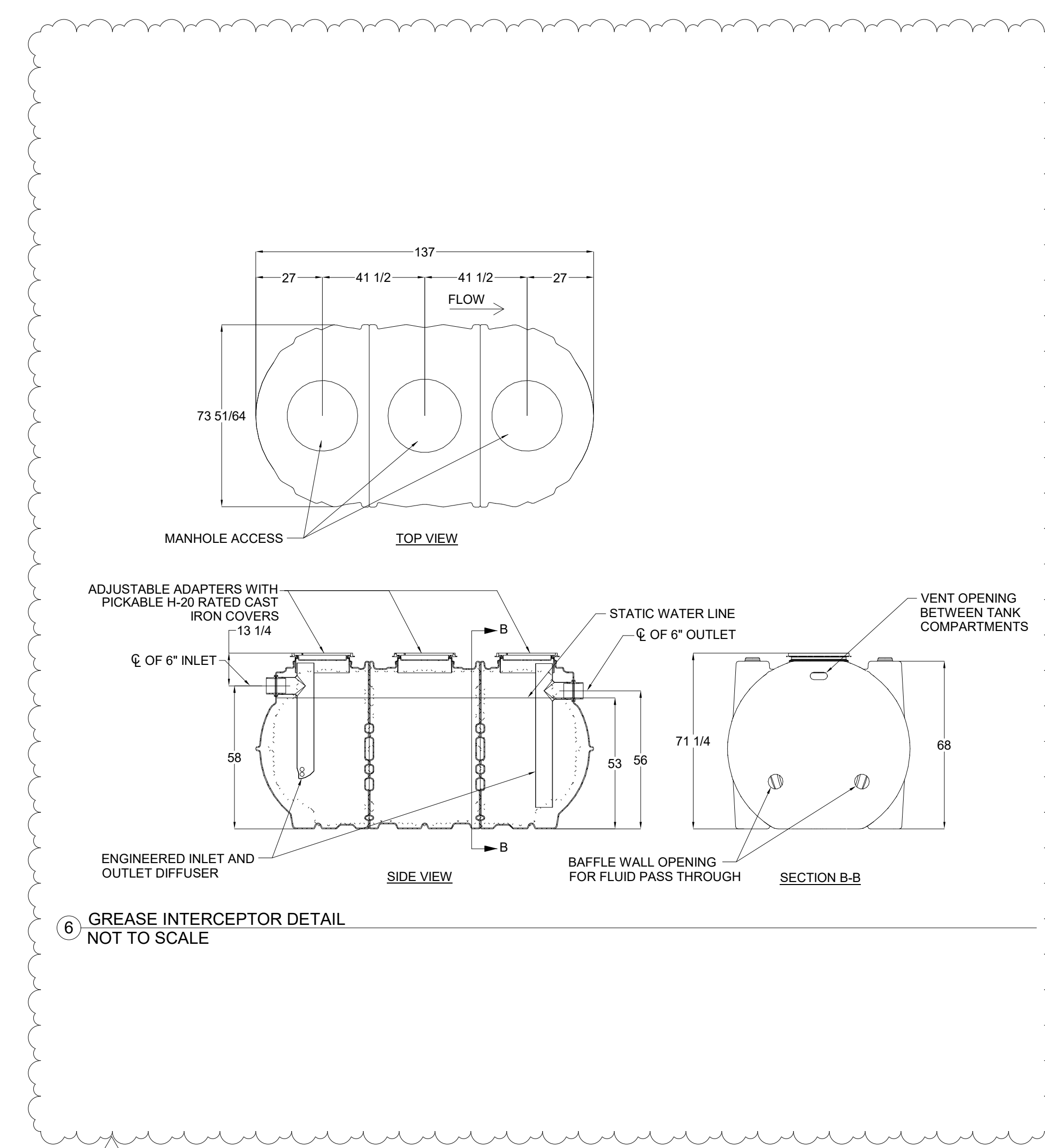
1 STANDOFF DETAIL NOT TO SCALE
 2 PIPING AT WATER FILTER NOT TO SCALE

NOTE OF SPECIAL IMPORTANCE

- LOCATIONS OF 2" CW RISER AND CLEAR SPACE ARE DIMENSIONED BECAUSE THEY ARE CRITICAL FOR THE FUTURE PUMP PANEL INSTALLATION.
- GENERAL CONTRACTOR SHALL ENSURE OTHER TRADES SHALL NOT INSTALL ANY OTHER BUILDING COMPONENT WITHIN CLEAR SPACE OR WITHIN 10" OF EDGES.



4 PIPING AT WATER SERVICE ENTRANCE IN MECHANICAL ROOM NOT TO SCALE
 3 TANKLESS WATER HEATER DETAIL NOT TO SCALE



6 GREASE INTERCEPTOR DETAIL NOT TO SCALE



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FSR#05680
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REVISION	SCHEDULE	NO.	DATE	DESCRIPTION
2			07/12/2024	Bulletin 2

CONSULTANT PROJECT # 202323.91
 DATE 04/05/24
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PLUMBING DETAILS
 SHEET NUMBER
P-502

