

SLIDERS DRIVE-IN

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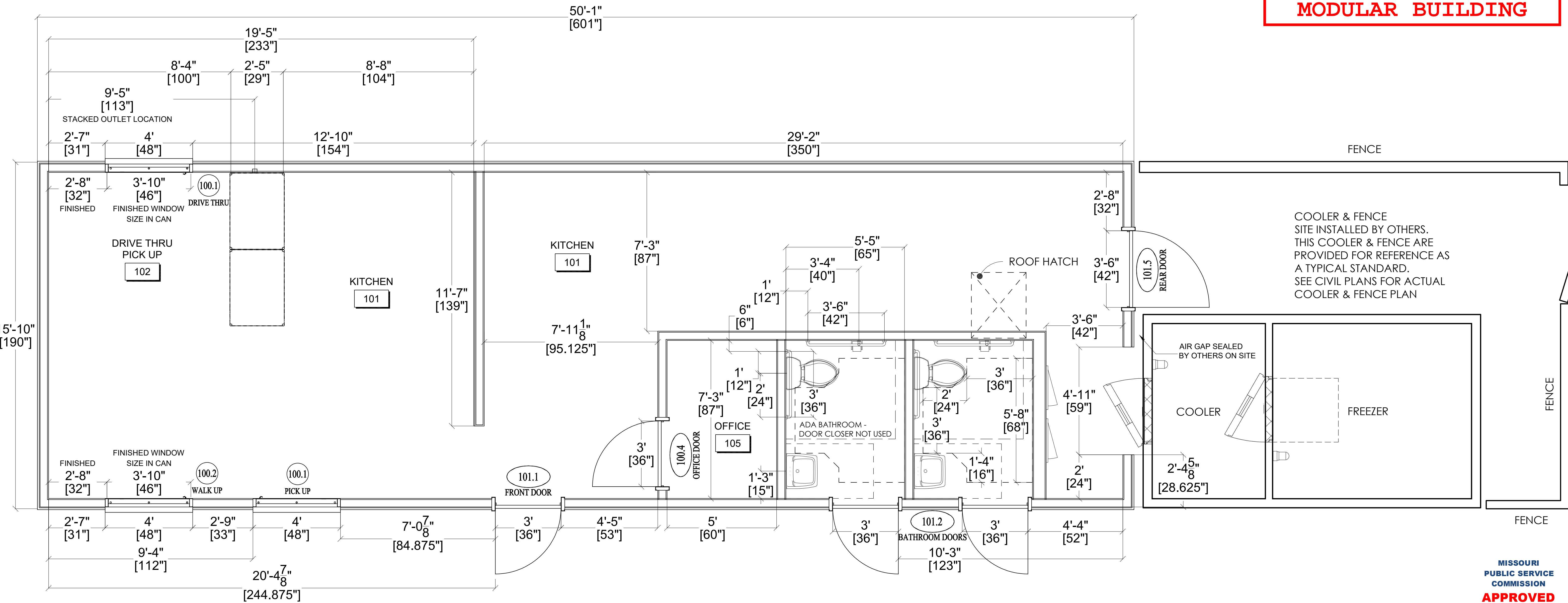
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6/23/2022



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MODULAR BUILDING



1 FLOOR PLAN  
1/2" = 1'-0"

MISSOURI  
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04/05/2024  
MANUFACTURED  
HOUSING

**ALIAINT MODULAR**  
VALIANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP  
STATE OF MISSOURI  
WALTER E. WOOD  
NUMBER  
PE-2017022073  
02-23-2 024

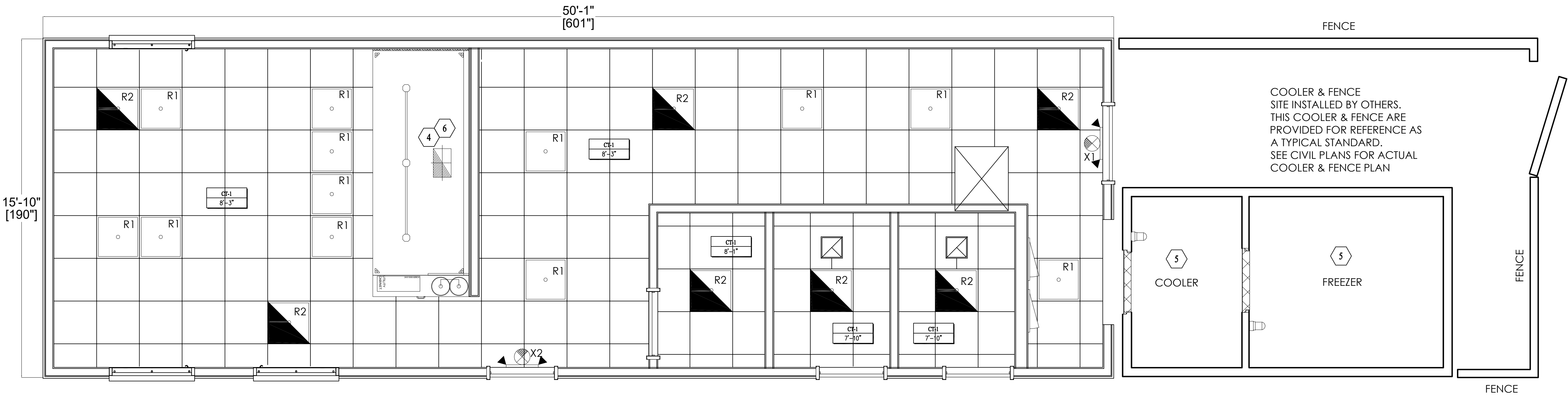
Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

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04-23-2024  
HWC  
HENDERSON, CARTER & ASSOCIATES

SHEET NAME  
FLOOR  
PLAN  
SHEET NUMBER

A1.1





1 REFLECTIVE CEILING PLAN  
3/8" = 1'-0"

### CEILING PLAN GENERAL NOTES

- SEE SHEET E1.1 FOR LIGHTING PLAN DETAILS AND CIRCUITRY.
- GENERAL CONTRACTOR TO VERIFY CLOCKING DETAIL WITH JOIST MANUFACTURER PRIOR TO HANGING ITEMS FROM ROOF TRUSS SYSTEM.
- BULKHEAD DIMENSIONS ARE FROM FINISH FACE TO FINISH FACE - NOT FRAMING TO FRAMING.
- REFER TO LIGHTING PLAN FOR LOCATIONS OF EXTERIOR LIGHT FIXTURES.
- LAY IN CEILING SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS. IF NOT NOTED CEILING TO BE CENTERED IN AREA

### CEILING PLAN CODED NOTES

- N/A
- N/A
- N/A
- EXTEND NFPA WELDED KITCHEN EXHAUST DUCT WITH FIRE BLANKET UP FROM HOOD TO FAN. (SEE MECHANICAL SHEETS)
- LIGHT NOT SHOWN BY COOLER / FREEZER MANUFACTURER. ALL CONNECTIONS BY ELECTRICAL CONTRACTOR. E.C. SEAL CONDUITS AT BOTH ENDS AND SEAL ALL PENETRATIONS THRU BOX.
- TYPE 1 KITCHEN EXHAUST HOOD
- N/A
- N/A
- N/A

### CEILING PLAN LEGEND

- 2' x 2' LIGHT FIXTURE
- 2' x 2' LIGHT FIXTURE, WITH POWER PACK BACK UP
- BATHROOM EXHAUST FAN
- CEILING MOUNTED EMERGENCY EXIT SIGN
- CT-1, 2' X 2' FIRE RATED VINYL COVERED GYPSUM (ACT)  
SACT SUSPENDE ACoustic CEILING TILE

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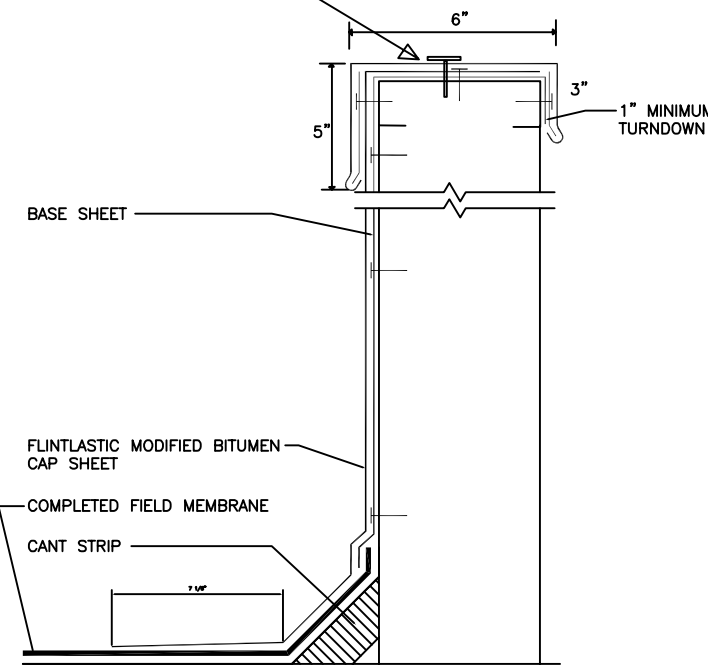
REFLECTIVE  
CEILING  
PLAN

SHEET NUMBER

A2.1

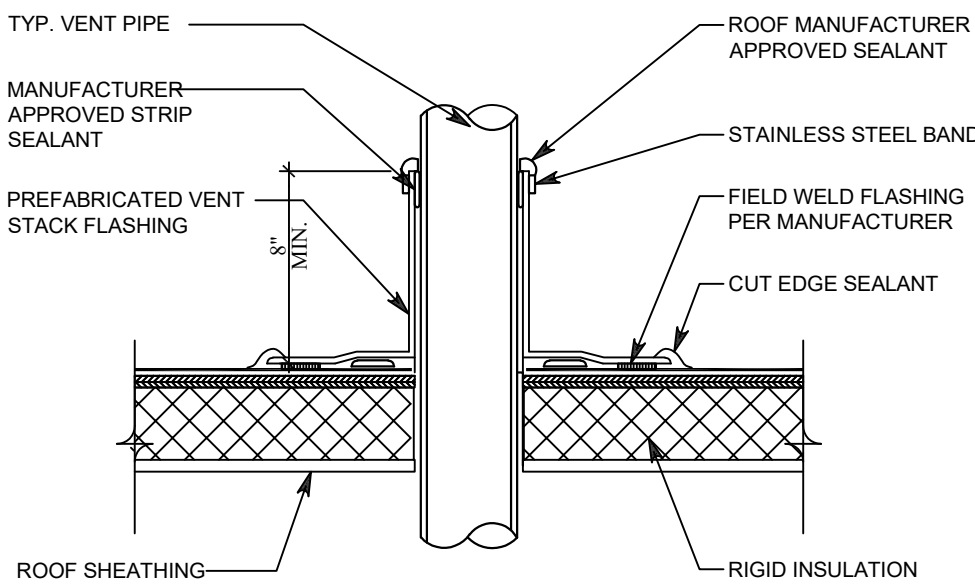


6" WIDE WHITE ALUMINUM COPING  
MIN. .024 IN THICKNESS  
FASTENED WITH 1/4"-14  
CORROSION RESISTANT  
SELF TAPPING SCREWS AT 24" O.C.



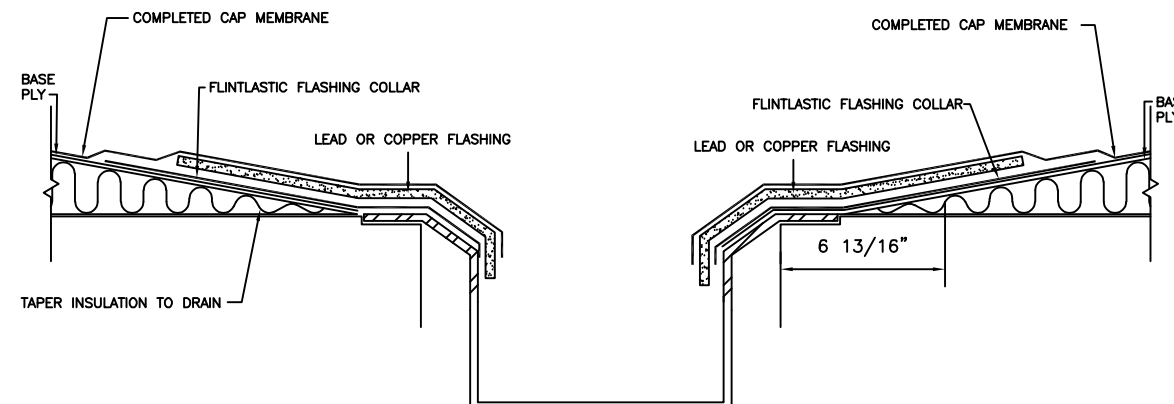
PARAPET DETAIL

C



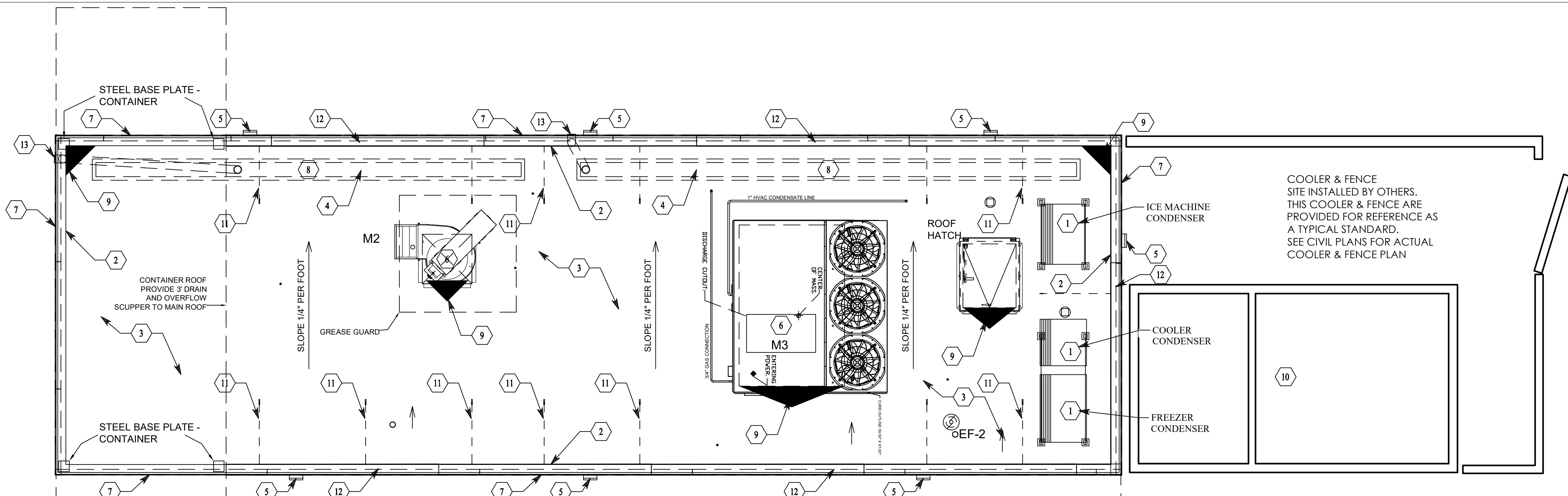
VENT PENETRATION DETAIL

B



STAINLESS GUTTER DETAIL

A



CONTAINER ON ROOF, HOOD EXHAUST FAN (EF-1), AND DOAS RTU (MUA-1) SUPPLIED BY VALIANT. REFRIGERATION CONDENSERS AND DISCONNECTS FOR THE REFRIGERATION CONDENSERS ARE NOT SUPPLIED BY VALIANT. PATIO CANOPY NOT BY VALIANT. SITE INSTALLED BY OTHERS.

U.L. REPORT - TGFU.R11656 (CLASS A - FULLY ADHERED) (SYSTEM 43)  
ICC-ES EVALUATION REPORT - ESR-1388 (TABLE 1C) (SYSTEM C-8) (TABLE 2C) (SYSTEM C-4)  
FLORIDA PRODUCT APPROVAL - FL2533.1 (TABLE 2C) (SYSTEM SC-75)  
MIAMI-DADE N.O.A. - 20-0226.03

1 ROOF PLAN  
3/8" = 1'-0"

ICC-ES ESR-1388 TABLE 1C - EXTERNAL ROOF FIRE CLASSIFICATION

SYSTEM NO.	CLASS	MAX. ROOF SLOPE	VAPOR BARRIER OR ANCHOR SHEET	INSULATION / THICKNESS	ROOF COVER			
					BASE SHEET	PLY SHEET	MEMBRANE	SURFACING
C-8	A	1/2:12	NONE	POLYISOCYANURATE, PERLITE, GLASS FIBER, OR WOOD FIBER / ANY THICKNESS, DENSDECK / MIN. 1/4-INCH	FLINTLASTIC SA NAILBASE (MA) OR FLINTLASTIC SA PLYBASE (SA TO PRIMED DENSDECK OR DENSDECK DURAGUARD ONLY)	FLINTLASTIC SA PLYBASE (SA)	FLINTLASTIC SA CAP FR, FLINTLASTIC SA CAP FR COOLSTAR (SA)	NONE

ICC-ES ESR-1388 TABLE 2C - WIND UPLIFT RESISTANCE

SYSTEM NO.	SUBSTRATE	INSULATION		COVERBOARD		ROOF COVER			ALLOWABLE UPLIFT CAPACITY (PSF)
		TYPE	ATTACH	TYPE	ATTACHMENT METHOD	BASE	PLY	CAP	
C-4	MIN. 22 GA. STEEL OR MIN. 2,500 PSI CONCRETE	MIN. 1.5-INCH, MIN. 2.0 PCF POLYISOCYANURATE	LOOSE LAID	(OPTIONAL) FM APPROVED MIN. 3/4-INCH PERLITE, MIN. 1/2-INCH WOOD FIBERBOARD, OR MIN. 1/4-INCH DENSDECK	LOOSE LAID	FLINTLASTIC SA NAILBASE ATTACHED 12-INCH O.C. IN A 4-INCH LAP AND 12-INCH O.C. IN TWO, EQUALLY SPACED, STAGGERED CENTER ROWS	(OPTIONAL) FLINTLASTIC SA MID PLY, SELF-ADHERED	SELF-ADHERED	60

## ROOF PLAN GENERAL NOTES

- THE BUILDING MANUFACTURER SHALL COORDINATE ALL WORK WITH RESPECTIVE TRADES, BUILDING / FIRE / HEALTH OFFICIALS, AND OWNER.
- THE BUILDING MANUFACTURER SHALL VERIFY EXISTING CONDITIONS, LOAD BEARING WALLS, AND STRUCTURAL ITEMS PRIOR TO STARTING WORK. NOTIFY AND COORDINATE WITH ARCHITECT ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND CONSTRUCTION DOCUMENTS.
- ROOF WORK TO BE INSTALLED WITH APPROVED ROOF MATERIAL SPECIFICATIONS. PROVIDE AND INSTALL ROOF INCLUDING BUT NOT LIMITED TO, INSULATION BOARD, EDGE FLASHING(S), COPINGS, SEALED TERMINATIONS AS REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SPECIFICATIONS. AT PENETRATIONS/ ATTACHMENTS IN THE ROOF, FLASH/ PROVIDE WEATHER TIGHT SEAL PER ROOFING SYSTEM MANUFACTURER'S WARRANTY REQUIREMENTS. METHOD AND HARDWARE FOR ATTACHMENTS TO STRUCTURE TO BE REVIEWED AND VERIFIED BY A.O.R. UPON COMPLETION. THE ROOFING CONTRACTOR SHALL ENSURE THE ENTIRE ROOF SHALL BE WEATHER AND WATER TIGHT WITH POSITIVE DRAINAGE TO THE ROOF DRAINS AND NO STANDING WATER/ PONDING.
- BUILDING MANUFACTURER SHALL INSTALL RIGID INSULATION TO MEMBRANE INSTALLATION IN ACCORDANCE WITH THE ROOFING MATERIAL LISTING. SYSTEM TO BE COMPLETE WITH ALL ACCEPTABLE PRODUCTS AND INSTALLATION REQUIRED TO PROVIDE A FULL MANUFACTURER'S WARRANTY.
- ROOFING DESIGN:  
E. CERTAINTED - SELF-ADHERED ROOF SYSTEM

## ROOF PLAN CODED NOTES

- FREEZER/ COOLER AND ICE MAKER CONDENSER UNITS BY OWNER. G.C. TO CONNECT ELECTRICAL. PIPING CONTRACTOR TO BRAZE ANY ROOF PENETRATIONS FOR REMOTE EQUIPMENT. G.C. TO VERIFY AND BE RESPONSIBLE FOR ANY AND ALL MECHANICAL AND ELECTRICAL CONNECTIONS.
- EXTEND ROOF MEMBRANE UP ROOF EDGE AND OVER TOP OF FRAMING (TYPICAL). SECURE PREFABRICATED DRIP EDGE THROUGH MEMBRANE AS SPECIFIED BY MANUFACTURER. SEE DETAIL C.
- SELF-ADHERED ROOF SYSTEM. SEE SPECIFICATIONS.
- ROOF DRAIN TROUGH - STAINLESS STEEL 4" X 8".
- EXTERIOR LIGHTING FIXTURES. (REFER TO ELECTRICAL)
- HVAC UNITS AND EXHAUST FANS. (REFER TO MECHANICAL)
- METAL ROOF EDGE: DRIP EDGE.
- TAPER INSULATION OVER RIGID INSULATION AT ROOF DRAIN (TYPICAL). FIELD VERIFY ROOF DRAIN LOCATIONS PRIOR TO INSTALLATION, AND INSTALL PER ROOF MANUFACTURER'S SPECIFICATIONS. G.C. TO COORDINATE ACTUAL EXTENTS OF TAPERED INSULATION MATERIALS WITH ROOF INSTALLER AND VERIFY INSTALLED COUNTER-SLOPE OF 1/4" PER FOOT TO DIRECT STORM WATER TOWARD ROOF DRAINS AS INDICATED ON PLAN.
- ROOF CRICKETS. (TYPICAL).
- FREEZER/ COOLER BOX AND ROOF BY FRANCHISEE.
- DASHED LINE INDICATES EXTENTS OF PARAPET BRACING, 1:1 SLOPE. (REFER TO STRUCTURAL)
- ROOFTOP PARAPET. (REFER TO STRUCTURAL)
- 3" DIA. MIN. ROOF DRAIN FROM ROOF DRAIN TROUGH.

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(717)-584-8151

APPROVED - 2024  
2-23-2024  
IWC  
WILSON, CARTER & ASSOCIATES

SHEET NAME  
ROOF  
PLAN  
DETAIL  
SHEET NUMBER

A3.1



ROOM FINISH SCHEDULE							
ROOM	FLOORS	WALLS		BASE	CEILING/SOFFIT		
NAME	FT-1	WF-1	WF-2	WB-1	CT-1	PT-1	HEIGHT
KITCHEN	•	•	•	•	•		8'-3"
DRIVE THRU	•	•		•	•		8'-3"
UNISEX RESTROOM	•	•		•	•		7'-10"
UTILITY/OFFICE	•	•		•	•		8'-1"

- CT-1

C

CLASS A: = FLAME SPREAD INDEX 0-25; SMOKE-DEVELOPED INDEX 0-450.
- WF-1

W

CLASS C: = FLAME SPREAD INDEX 76-200; SMOKE-DEVELOPED INDEX 0-450.
- WB-1

B

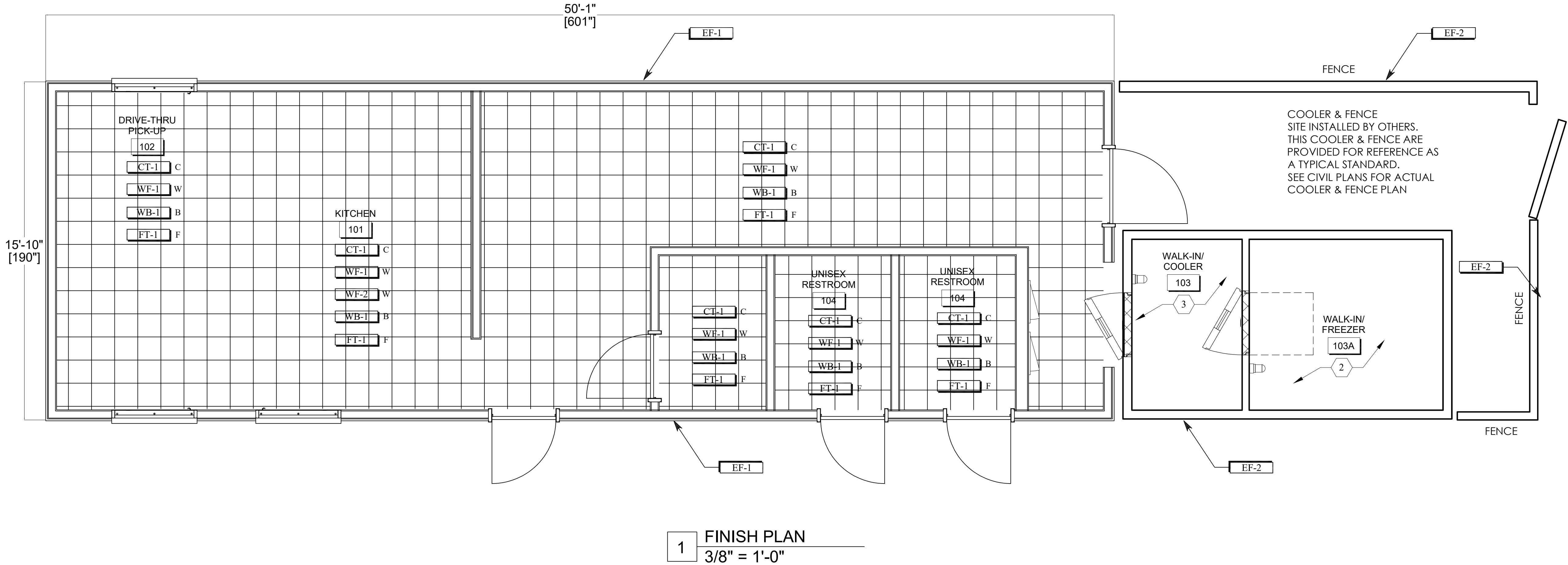
FIRE TEST NFPA TYPE 1 RATED
- FT-1

F

FIRE TEST NFPA TYPE 1 RATED

INTERIOR WALL AND CEILING FINISH MATERIAL; FLAME SPREAD AND SMOKE-DEVELOPED INDEXES	INTERIOR FLOOR FINISH AND FLOOR COVERING MATERIAL; -MINIMUM CRITICAL RADIANT FLUX
CLASS A: = FLAME SPREAD INDEX 0-25; SMOKE-DEVELOPED INDEX 0-450. CLASS B: = FLAME SPREAD INDEX 26-75; SMOKE-DEVELOPED INDEX 0-450. CLASS C: = FLAME SPREAD INDEX 76-200; SMOKE-DEVELOPED INDEX 0-450.	NOT LESS THAN CLASS II IN ACCORDANCE WITH NFPA 253 CLASS II, 0.22 WATTS/CM² OR GREATER

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1 FINISH PLAN  
3/8" = 1'-0"

FINISH PLAN CODED NOTES	
1.	NOT USED
2.	FREEZER TO HAVE INSULATED METAL FLOOR BY UNIT MANUFACTURER.
3.	COOLER TO RECEIVE TILE FLOOR & BASE BY G.C. AFTER THE UNIT HAS BEEN INSTALLED.
4.	NOT USED
5.	NOT USED
6.	NOT USED

FINISH SCHEDULE: INTERIOR MATERIALS		
CT-1	CEILING TILE	USG SHEETROCK: GYPSUM CEILING PANELS - VINYL COATED 24" X 24" SQUARE EDGE LAY IN - WHITE
EF-1	EXTERIOR FINISH	SEE EXTERIOR FINISH SCHEDULE ON ELEVATION SHEET A5.1
EF-2	EXTERIOR FENCE FINISH	MATCH EF-1
FT-1	FLOOR FINISH	PROTECT-ALL: FLOORING - DARK GRAY
PT-1	PAINT	SHERWIN WILLIAMS COLLECTION: HARMONY #SW7006 EXTRA WHITE, EGGSHELL
WB-1	WALL BASE	PROTECT-ALL: COVE BASE - DARK GRAY
WF-1	WALL FINISH	FRP: LP-S9 - SMOOTH FINISH, WHITE
WF-2	WALL FINISH	14GA. STAINLESS STEEL, FULL HEIGHT OF WALL TO MIN. 18" BEYOND HOOD

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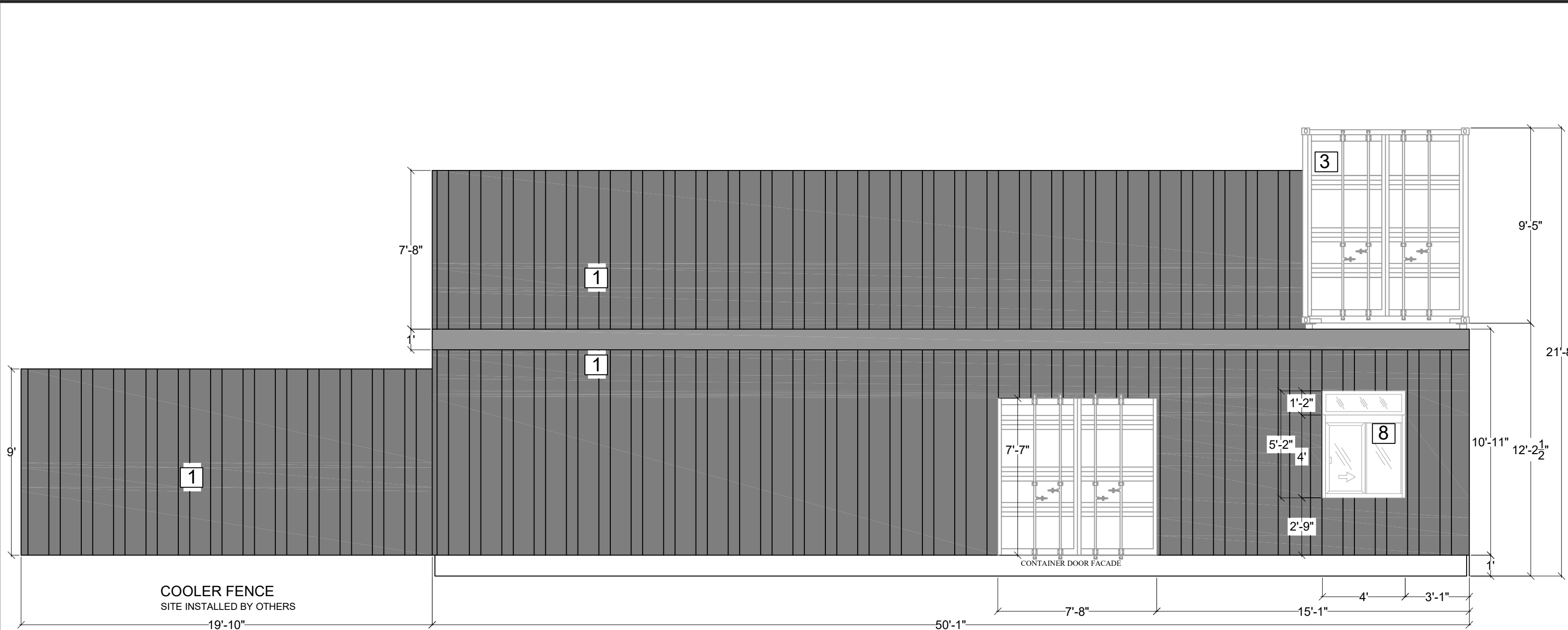
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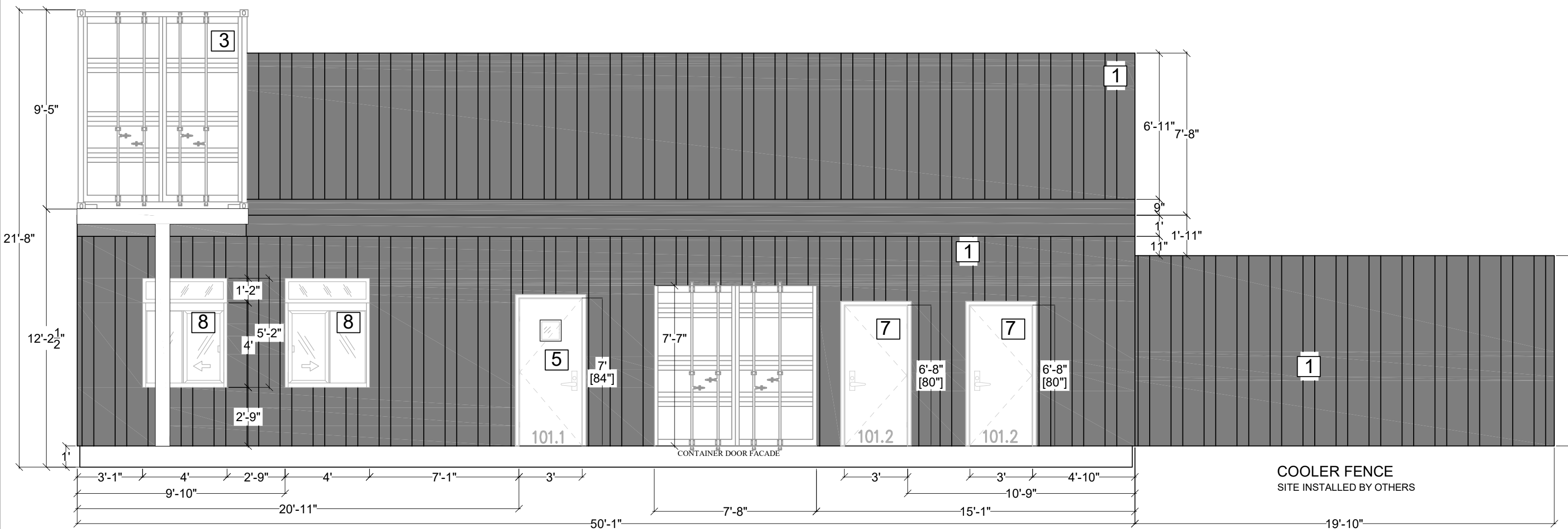
SHEET NAME  
FINISH  
PLAN

SHEET NUMBER  
A4.1

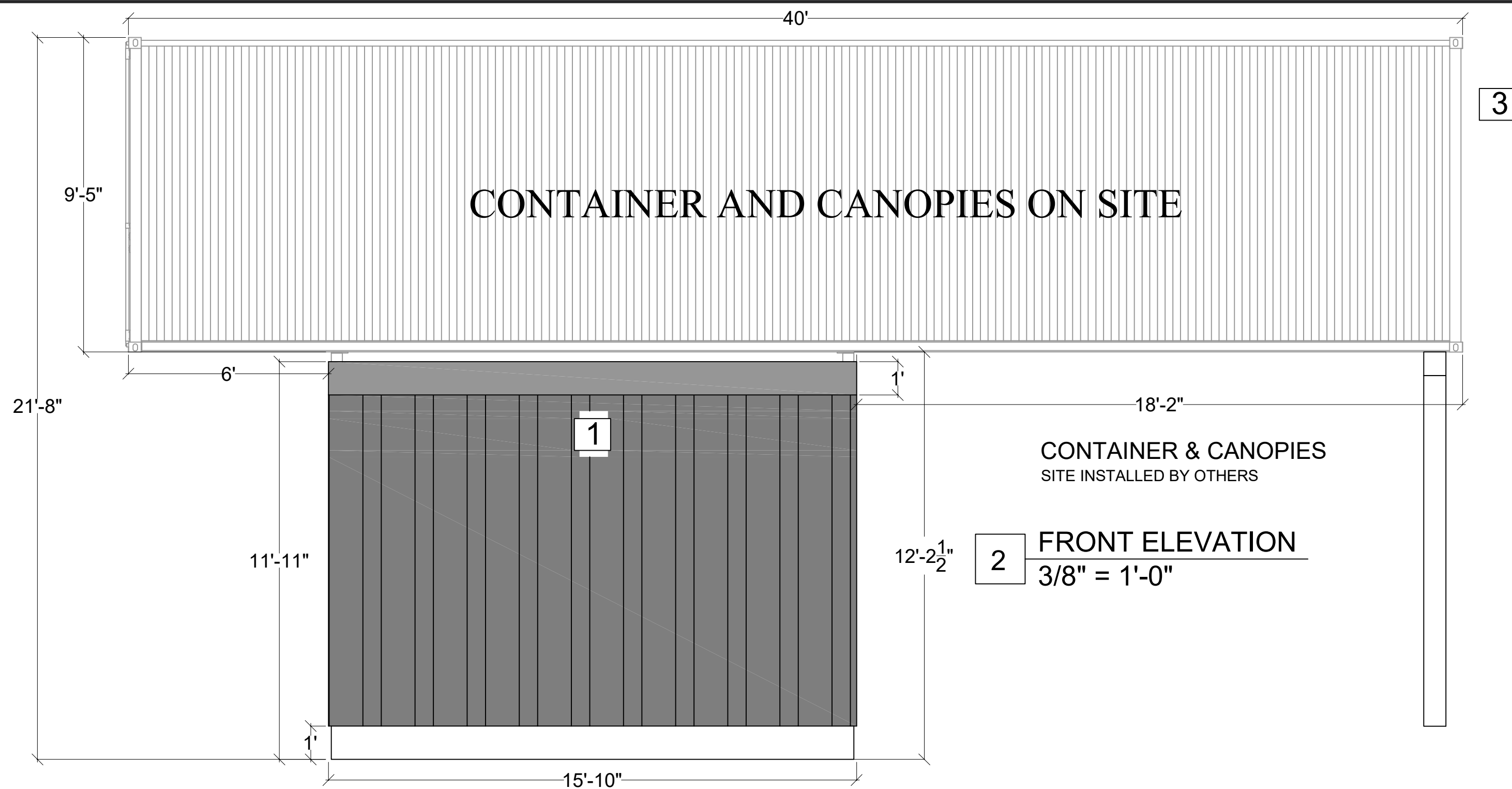




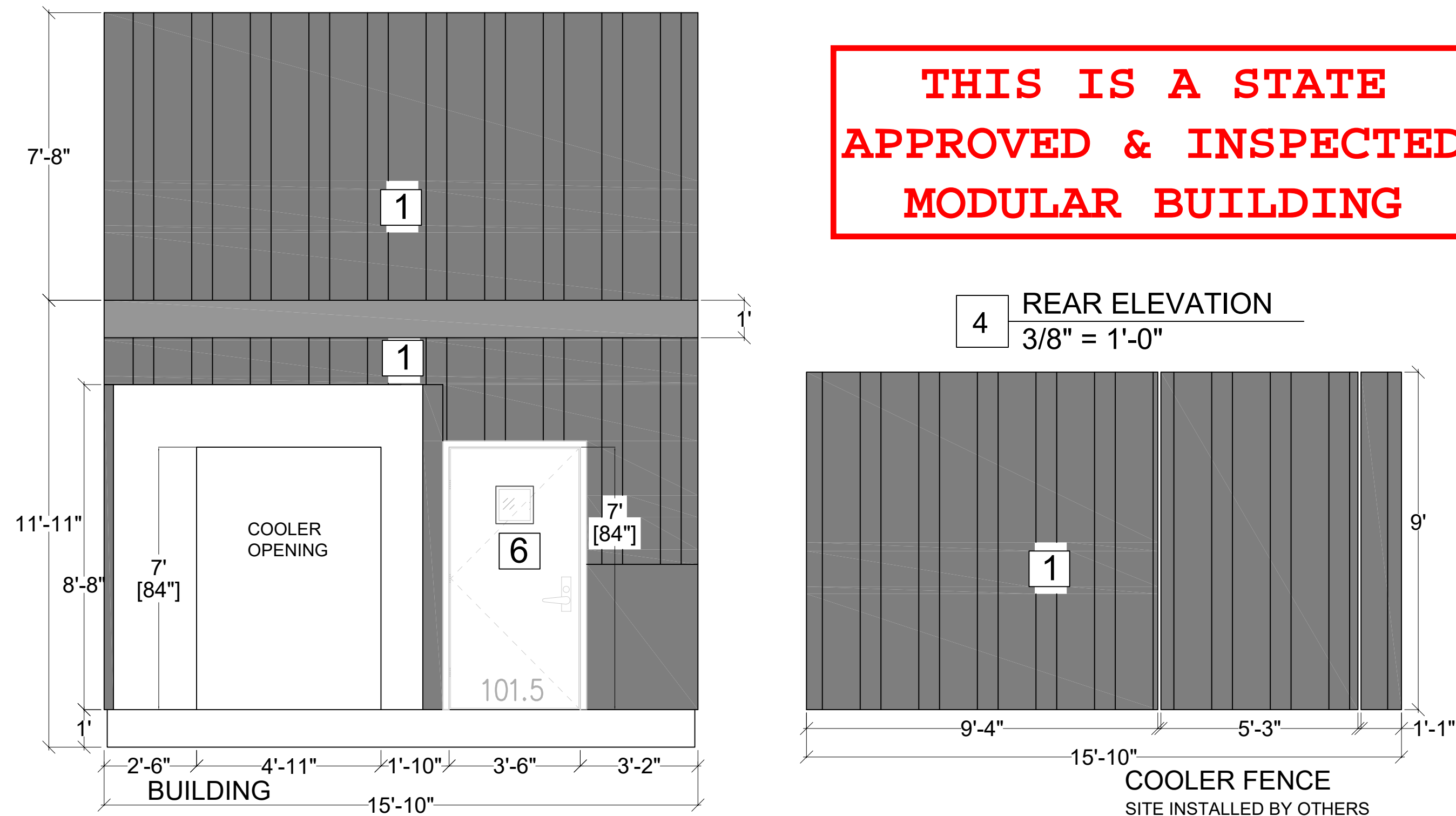
1 **DRIVE THRU ELEVATION**  
1/4" = 1'-0"



3 **PATIO SIDE ELEVATION**  
1/4" = 1'-0"



2 **FRONT ELEVATION**  
3/8" = 1'-0"



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4 **REAR ELEVATION**  
3/8" = 1'-0"

**ORANGE PAINT FORMULA FOR 1  
GALLON SIZE CANS**

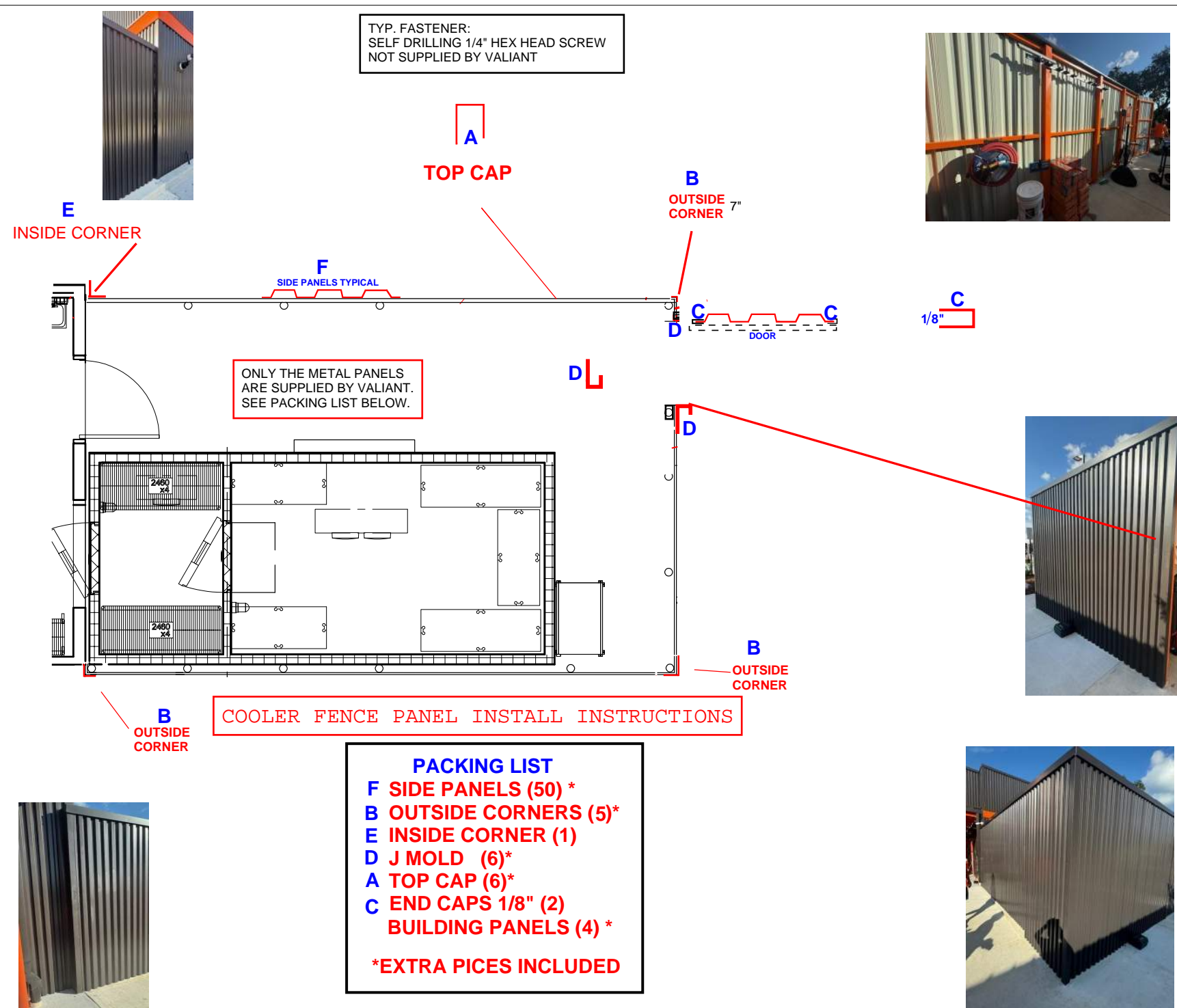
SW HYDROCHROMA PRECISION  
COLOR - LOWE'S ITEM #77957  
EXTERIOR DURAMAX,  
SEMI-GLOSS, BASE 4  
8913-8y25 8964-5y10 8920-.25

VALSPAR EXTERIOR DURAMAX,  
SEMI-GLOSS, BASE 4  
R3, TT-9Y

**ORANGE PAINT FORMULA FOR 5  
GALLON SIZE CANS**

SW HYDROCHROMA PRECISION  
COLOR - LOWE'S ITEM #10605  
EXTERIOR DURAMAX,  
SEMI-GLOSS, BASE 4  
8913-42y29 8964-26y2 8920-1.25

VALSPAR EXTERIOR DURAMAX,  
SEMI-GLOSS, BASE 4  
R-15Y, TT-45Y

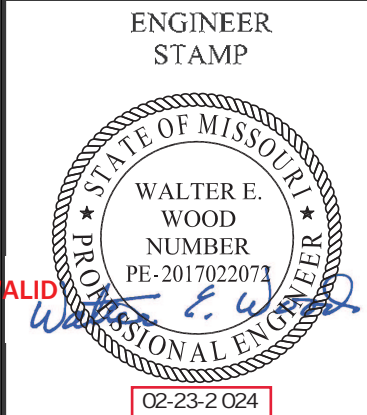


	Material	Color	Description
1	Metal Siding	Bronze	Vertical MASTERLINE 16, 24 GA. OR EQUAL
2	Fiber Cement	Bronze	Alternate Material = 1 x 4 Painted Hardie plank over Hardie board
3	Container	Slider's Colors Orange/White	40 Ft shipping Container
5	Door w/Glass	Bronze	(1) 36"/7' WITH GLASS WINDOW
6	Rear Service Door /Glass	Bronze	(1) 42"/7' WITH GLASS WINDOW
7	Bath Room Door	Bronze	(2) 36"/6'8"
8	Order Windows	Bronze	QUIK Serv WINDOWS WITH TRANSOM

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SHEET NAME

ELEVATIONS

SHEET NUMBER

A5.1



GENERAL NOTES

- ALL INTERIOR NON-STRUCTURAL PARTITIONS SHALL BE 3 5/8" 20G METAL STUDS @ 16" O.C. FROM FLOOR TO 6" ABOVE FINISHED CEILING, U.N.O. DIAGONALLY BRACE TOP OF WALL TO ROOF STRUCTURE AS REQUIRED TO SUPPORT ADDITIONAL LOADS.
- INTERIOR SOFFITS (SHOWN DASHED) ARE DIMENSIONED ON REFLECTED CEILING PLAN.
- SEE SITE PLAN FOR LOCATIONS & EXTENTS OF SIDEWALKS, ETC.
- ALL EXTERIOR WALLS SHALL BE FRAMED WITH 3 5/8" or (6" as noted on plan) METAL STUDS @ 16" O.C. SEE STRUCTURAL DRAWINGS & SPECIFICATIONS FOR LAYOUT DIMENSIONS, DETAILS, MATERIALS INFORMATION, & SPECIFIC STRUCTURAL DESIGN REQUIREMENTS.
- PROVIDE SOLID WOOD BLOCKING BEHIND ALL WALL MOUNTED FIXTURES AND ACCESSORIES.
- EXTERIOR DIMENSIONS ARE FROM FACE OF SHEATHING U.N.O. INTERIOR DIMENSIONS ARE TO FACE OF SHEATHING U.N.O.
- COORDINATE CURB CUTS AT DOOR WITH STOREFRONT MANUFACTURER PRODUCT DETAILS AND SHOP DRAWINGS.
- EXTERIOR WALLS SHALL BE INSULATED WITH CLOSED CELL SPRAY FOAM INSULATION AND HAVE A 5/8" PLYWOOD THERMAL BARRIER ON INTERIOR SIDE OF WALL.
- EXTERIOR FINISHES ARE NOTED ON EXTERIOR ELEVATIONS.
- SEE FINISH PLAN AND INTERIOR ELEVATIONS FOR EXTENT OR INTERIOR FINISHES.
- INSTALL TYVEK COMMERCIAL WRAP WEATHER BARRIER OVER SHEATHING BEHIND METAL PANELS. PROVIDE FLUID-APPLIED WEATHER BARRIER TO SHEATHING AT E.L.I.'S LOCATIONS. PROVIDE TILE MANUFACTURER APPROVED WEATHER BARRIER BEHIND NEW CERAMIC TILE. APPROVE ALTERNATES INSTALL STO FLUID APPLIED AIR & MOISTURE BARRIER BEHIND ALL EXTERIOR FINISHES.
- HOLD DOWN CLIPS SHALL BE PROVIDED FOR CEILING TILES IN THE VESTIBULES.
- SEE INTERIOR FINISH SPECIFICATIONS FOR CEILING TILE.
- DO NOT SCREW THE CEILING GRID TO THE STAINLESS STEEL HOODS. USE DOUBLE-FACED TAPE.
- REFER TO ELECTRICAL AND/OR HYAC DRAWINGS FOR ADDITIONAL INFORMATION REGARDING FIXTURES, DEVICES, AND EQUIPMENT SHOWN ON THIS PLAN.
- TYPICAL RECESSED FIXTURES TO BE CENTERED IN CEILING TILE, U.N.O.
- CENTER CEILING GRID WITHIN ROOM ARE UNLESS NOTED/ DIMENSIONED OTHERWISE.
- VOIDED
- SEE FINAL APPROVED SECURITY PLAN FOR LOCATIONS OF CEILING MOUNTED CAMERAS AND MONITORS.

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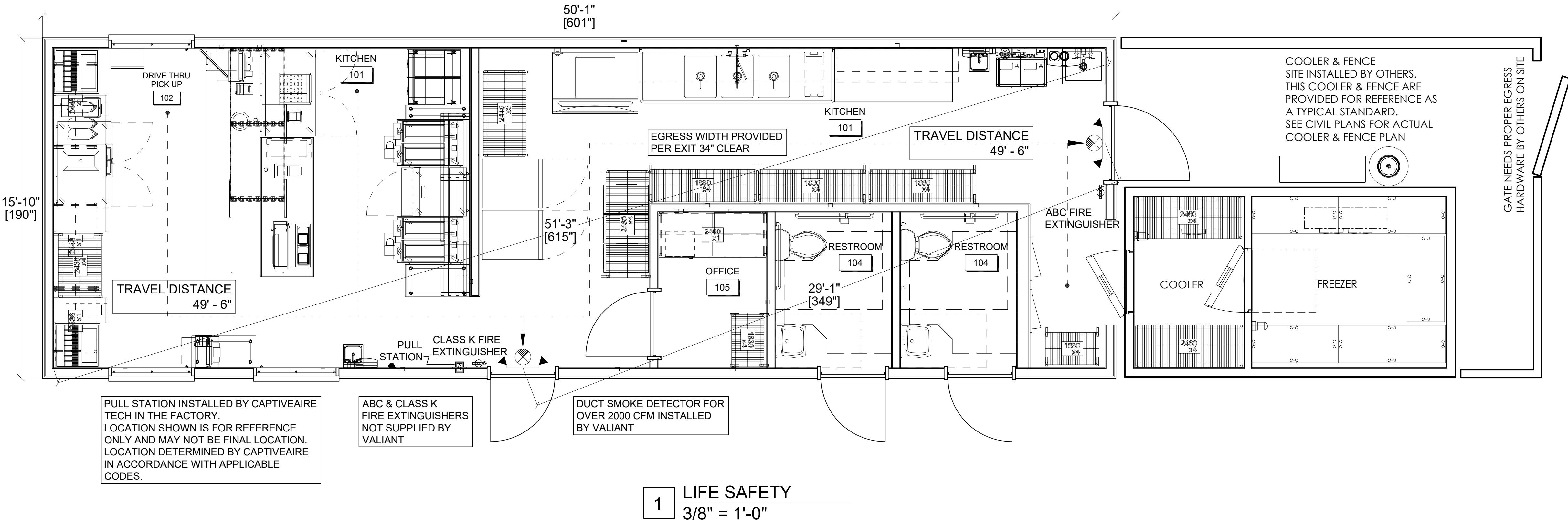
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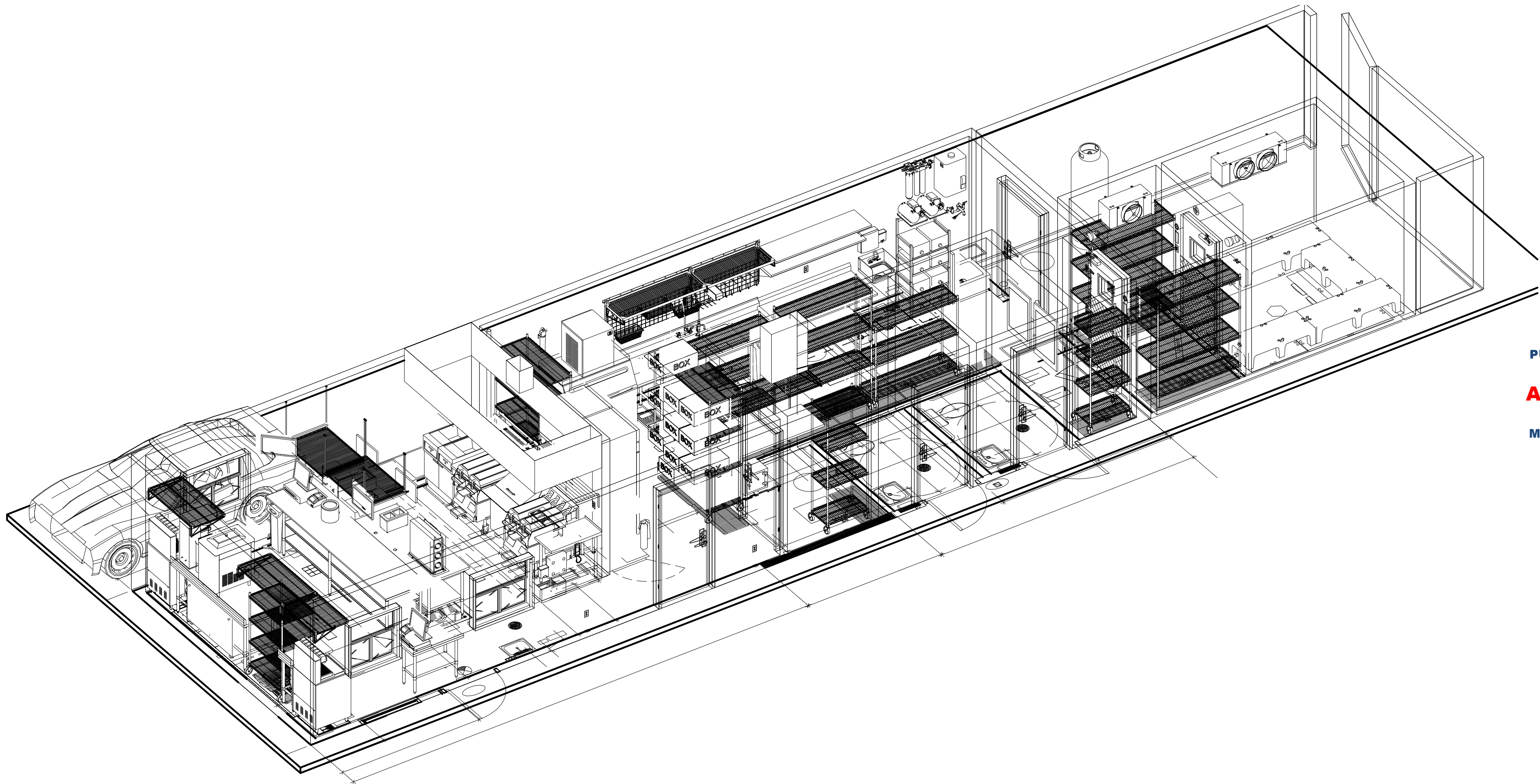
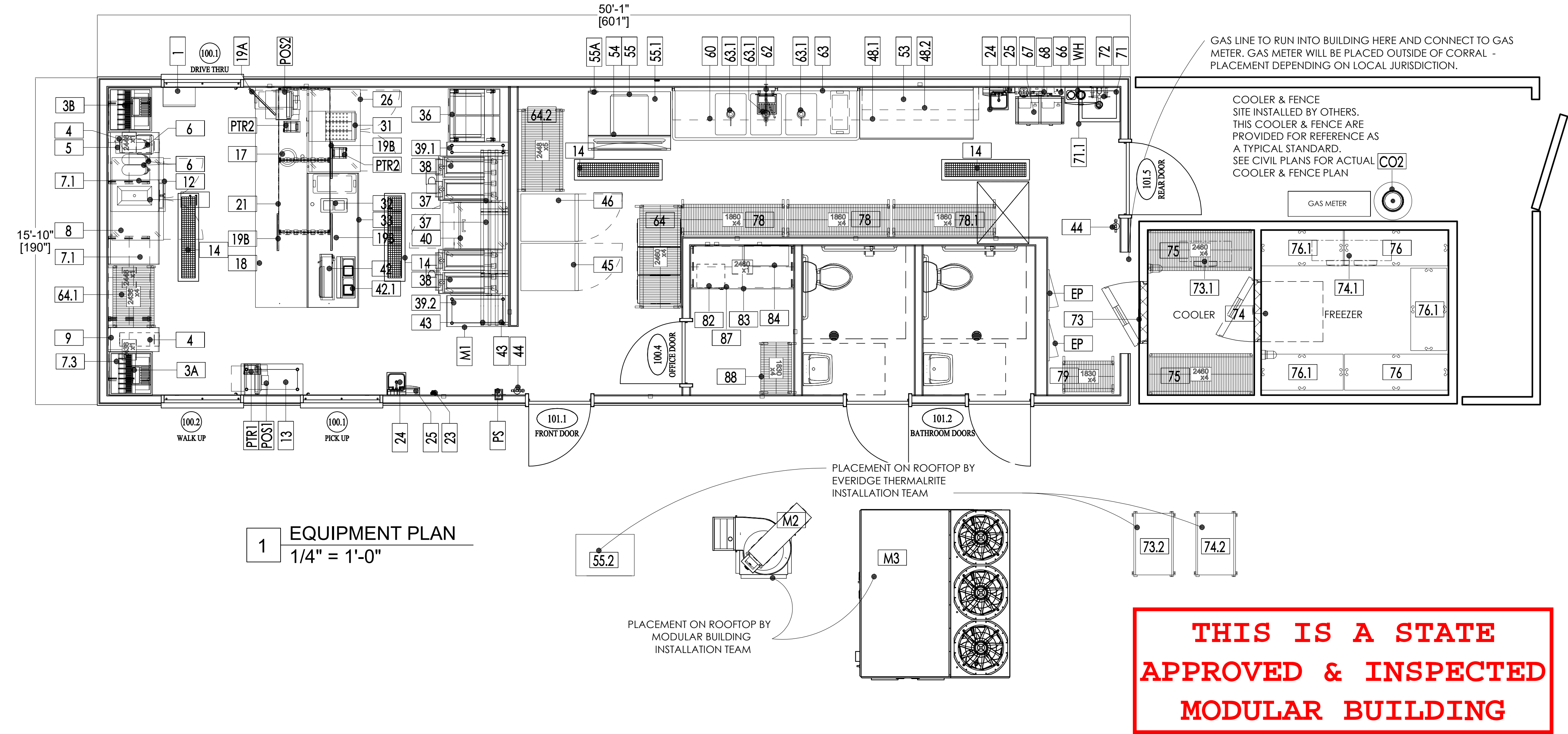
SHEET NAME
LIFE SAFETY
SHEET NUMBER

A6.1





Equipment Schedule					
Item Number	Qty	Description	Manufacturer	Model	Furnished By
1	1	Shelving, Wall Mounted	JLS	Custom	DON
2	1	Spare Number	--	--	--
3A	1	Soda Dispenser - Patio	By Vendor	By Vendor	VENDOR
3B	1	Soda Dispenser - Drive Thru	By Vendor	By Vendor	VENDOR
4	2	Cup Dispenser	San Jamar	C29038K	DON
5	1	Tea Brewer	By Owner	TBD	VENDOR
6	3	Tea Dispenser	By Owner	TBD	VENDOR
7.1	2	Shelving, Wall Mounted	Quantum	2448C/DWB24/DWBD24	DON
7.3	1	Shelving, Wall Mounted	Quantum	2436C/DWB24	DON
8	1	Beverage Counter	JLS	Custom	DON
9	1	Stainless Steel Work Table w/ Base	JLS	Custom	DON
10	1	Spare Number	--	--	--
11	1	Shake Machine	Taylor	490-A	DON
12	1	Refrigerator, Undercounter	Hoshizaki	UR48B	DON
13	1	POS Table	JLS	Custom	DON
14	4	Floor Trough Drain	By Others	Custom 6x48	VALIANT
15	1	Spare Number	--	--	--
16	1	Spare Number	--	--	--
17	1	Warmer	APW Wyott	RCW-75P	DON
18	1	Stainless Steel Top Work Tables	JLS	Custom	DON
19A	1	Kitchen Display System	By Owner	TBD	OWN
19B	3	Kitchen Display System	By Owner	TBD	OWN
20	1	Spare Number	--	--	--
21	1	Overhead Shelving, Ceiling Mounted	Quantum	3042C/P63C/S-Hook/FP	DON
22	1	Spare Number	--	--	--
23	1	Phone	By Owner	TBD	OWNER
24	2	Hand Sink	By Contractor	By Contractor	VALIANT
25	2	Soap & Towel Dispensers	Smallwares	Custom	VENDOR
26	1	Freezer, Worktop	Hoshizaki	WF48B	DON
27-30	1	Spare Number	--	--	--
31	1	Hot Food Holding Station	Carter-Hoffmann	CNH18	DON
32	1	Food Pan Warmer	Server Products	86090	DON
33	1	Stainless Steel Work Table w/ Undershef	JLS	Custom	DON
34-35	1	Spare Number	--	--	--
36	1	Fryers	Vulcan	2TR45DF	DON
37	2	Shelving, Tubular	JLS	Custom	DON
38	2	2 Platen Electric Double-Sided Grill	Taylor	L852	DON
39.1	1	Work Top Filler	John Boos	EF18-3608SSK Custom	DON
39.2	1	Work Top Filler	John Boos	EF18-3618SSK	DON
40	1	Refrigerated Prep Table	Hoshizaki	SR27B-12M	DON
41	1	Spare Number	--	--	--
42	1	Toaster, Vertical	Prince Castle	297-120	DON
42.1	1	Butter Wheel	Smallwares	TBD	VENDOR
43	1	Shelving, Tubular	JLS	Custom	DON
44	2	Fire Extinguisher	By Contractor	Per Code	OWNER
45	1	Freezer	Hoshizaki	F1A-F5	DON
46	1	Refrigerator	Hoshizaki	R1A-F5	DON
48.1	1	Shelving, Wall Mounted	JLS	Custom	DON
48.2	1	Shelving, Wall Mounted	JLS	Custom	DON
49	1	Spare Number	--	--	--
50	1	Spare Number	--	--	--
51	1	Spare Number	--	--	--
52	1	Spare Number	--	--	--
53	1	Work Table, Stainless Steel Top	JLS	Custom	DON
54	1	Ice Bin	Manitowoc Ice	D-970	DON
55	1	Ice Cube Machine, Remote w/ 50' Line Set	Manitowoc Ice	RNF1020C/RC51	DON
55.1	1	Ice Bin Adapter	Manitowoc Ice	K00473	DON
55.2	1	Icemaker Condenser, Remote	Manitowoc Ice	RCUF1000-261	DON
55A	1	Filter System, Ice Maker	Manitowoc Ice	AR-20000-P	DON
56-59	1	Spare Number	--	--	--
60	1	Smart Wall Dish Station Kit	Quantum	Lot	DON
61	1	Spare Number	--	--	--
62	1	Pre-Rinse Faucet Assembly, With Add-On Faucet	T&S Brass	B-0133-ADF12-B	DON
63	1	Three (3) Compartment Sink	JLS	Custom	DON
63.1	3	Drain, Lever Handle	T&S Brass	B-3952	DON
64	1	Wire Shelving	Quantum	2460C/P86C/WR-00H/DB	DON
64.1	1	Wire Shelving	Quantum	2436C/P54C/WR-00H/DB	DON
64.2	1	Wire Shelving	Quantum	2448C/P86C/WR-00H-DB	DON
65	1	Spare Number	--	--	--
66	2	Soda Carbonator	By Vendor	E2000 Big Mac	VENDOR
67	2	BIB Rack	By Vendor	By Vendor	VENDOR
68	1	Water Filtration System	Everpure	EV929322	DON
69-70	1	Spare Number	--	--	--
71	1	Map Sink	By Contractor	By Contractor	VALIANT
71.1	1	Stainless Steel Splash Shield	By Contractor	By Contractor	VALIANT
72	1	Service Faucet	By Contractor	By Contractor	VALIANT
73	1	Walk-In Cooler	Thermalrite	Custom	DON
73.1	1	Evaporator Coil (Refrigerator)	Thermalrite	Custom	DON
73.2	1	Cooler Condenser	Thermalrite	Custom	DON
74	1	Walk-In Freezer	Thermalrite	Custom	DON
74.1	1	Evaporator Coil (Freezer)	Thermalrite	Custom	DON
74.2	1	Freezer Condenser	Thermalrite	Custom	DON
75	2	Wire Shelving	Quantum	2460P/P74P	DON
76	2	Dunnage Rack	Quantum	QFSD-2260	DON
76.1	3	Dunnage Rack	Quantum	QFSD-2248	DON
77	1	Spare Number	--	--	--
78	2	Wire Shelving	Quantum	1860C/P86C/WR-00H/DB	DON
78.1	1	Wire Shelving	Quantum	1860C/P54C/WR-00H/DB	DON
79	1	Wire Shelving	Quantum	1830C/P74C/WR-00H/DB	DON
80-81	1	Spare Number	--	--	--
82	1	Safe	By Owner	TBD	OWN
83	1	Formica Desktop	By Contractor	Custom	VALIANT
84	1	Networking Box	By Vendor	TBD	VENDOR
85-86	1	Spare Number	--	--	--
87	1	Shelving, Wall Mounted	Quantum	2460C/DQ824	DON
88	1	Wire Shelving	Quantum	1830C/P74C/WR-00H/DB	DON
CO2	1	Bulk CO2	By Vendor	TBD	VENDOR
EP	2	Electrical Panel	By EC	--	VALIANT
M1	1	Hood System	CaptiveAire	By Contractor	VALIANT
M2	1	Exhaust Fan	CaptiveAire	By Contractor	VALIANT
M3	1	Dedicated Outside Air System RTU	CaptiveAire	By Contractor	VALIANT
POS1	1	POS - Patio	By Owner	TBD	OWN
POS2	1	POS - Drive Thru	By Owner	TBD	OWN
PS	1	Fire System Pull Station	Ansul	PS	VALIANT
PTR1	1	PTR - Patio	By Owner	TBD	OWN
PTR2	2	PTR - Drive Thru	By Owner	TBD	OWN
WH	1	Water Heater	By PC	By PC	VALIANT



REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

ALIAINT  
MODULAR  
VALIANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP

STATE OF MISSOURI  
WALTER E. WOOD  
NUMBER  
PE-2017022072  
02-23-2024

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

MISSOURI PUBLIC SERVICE COMMISSION  
APPROVED  
02-23-2024  
HWC  
HARRIS, CARTER & ASSOCIATES

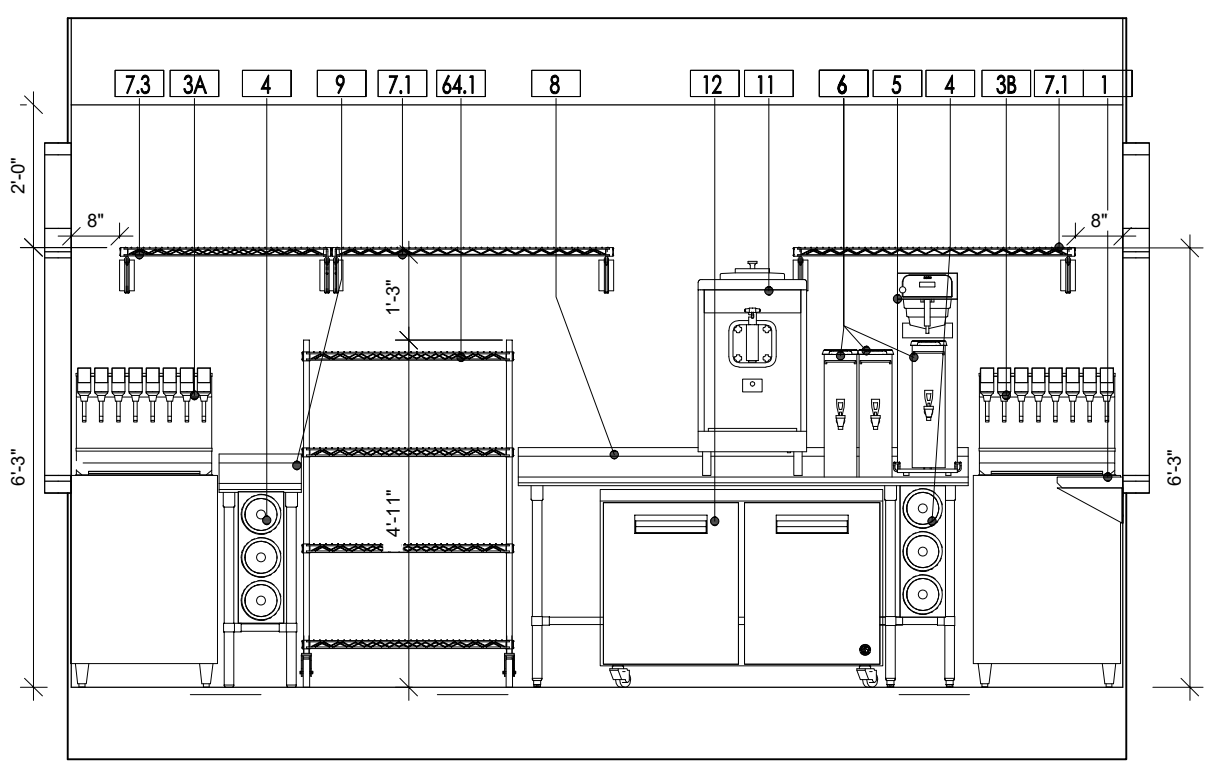
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EQUIPMENT PLAN	
SHEET NUMBER	
A9.1	



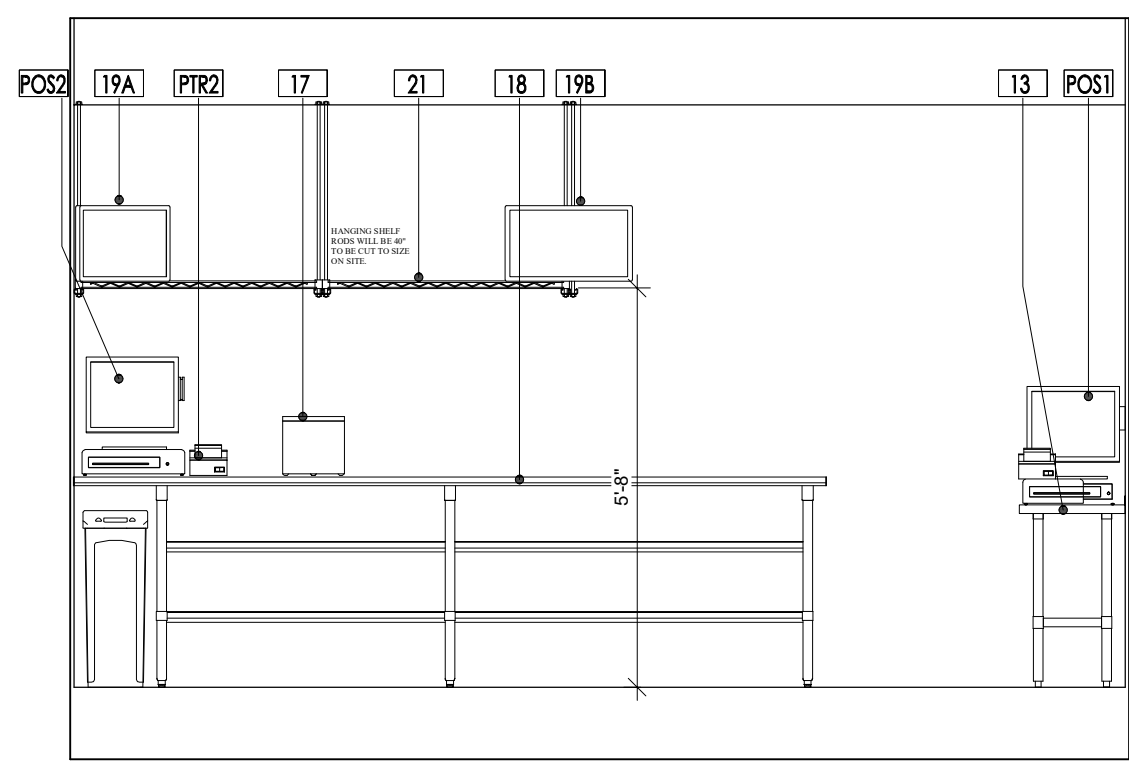




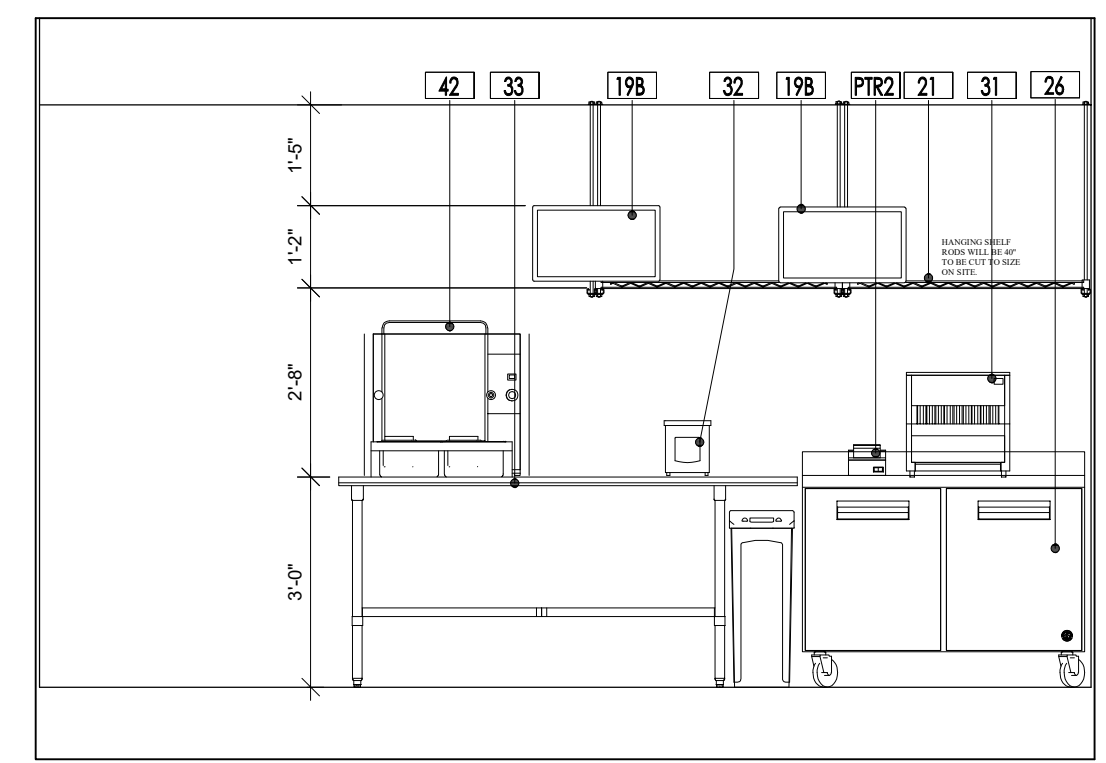
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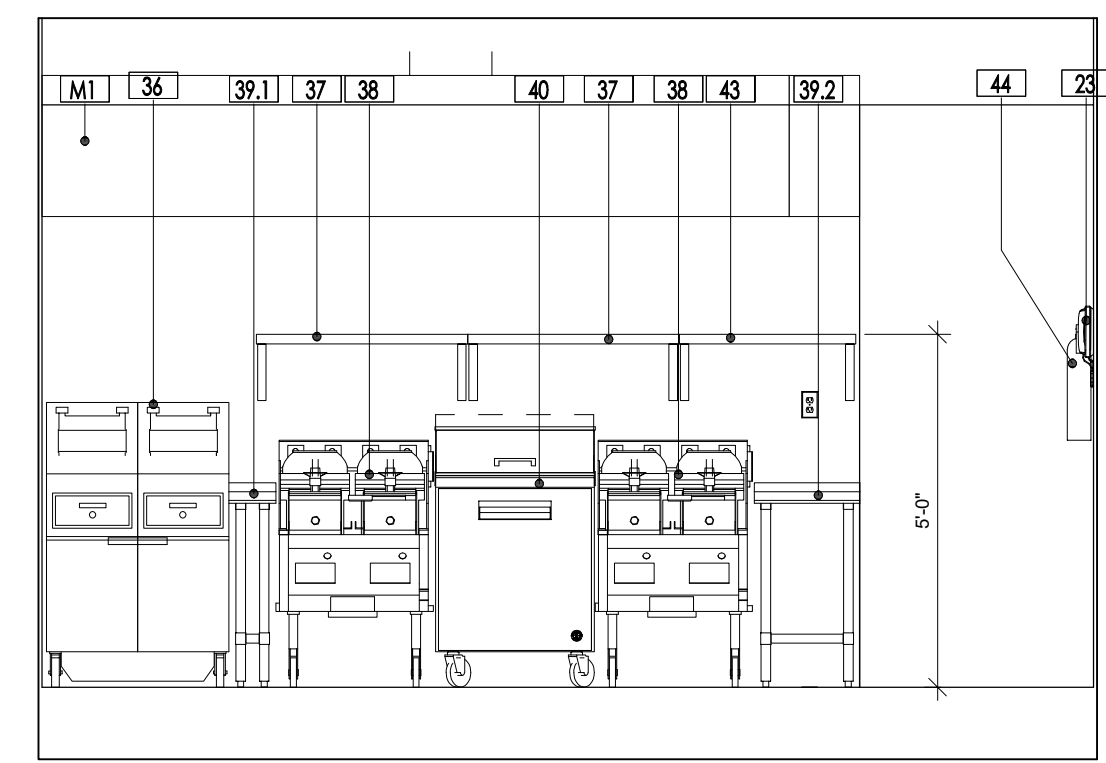
1 ELEVATION 1  
3/8" = 1'-0"



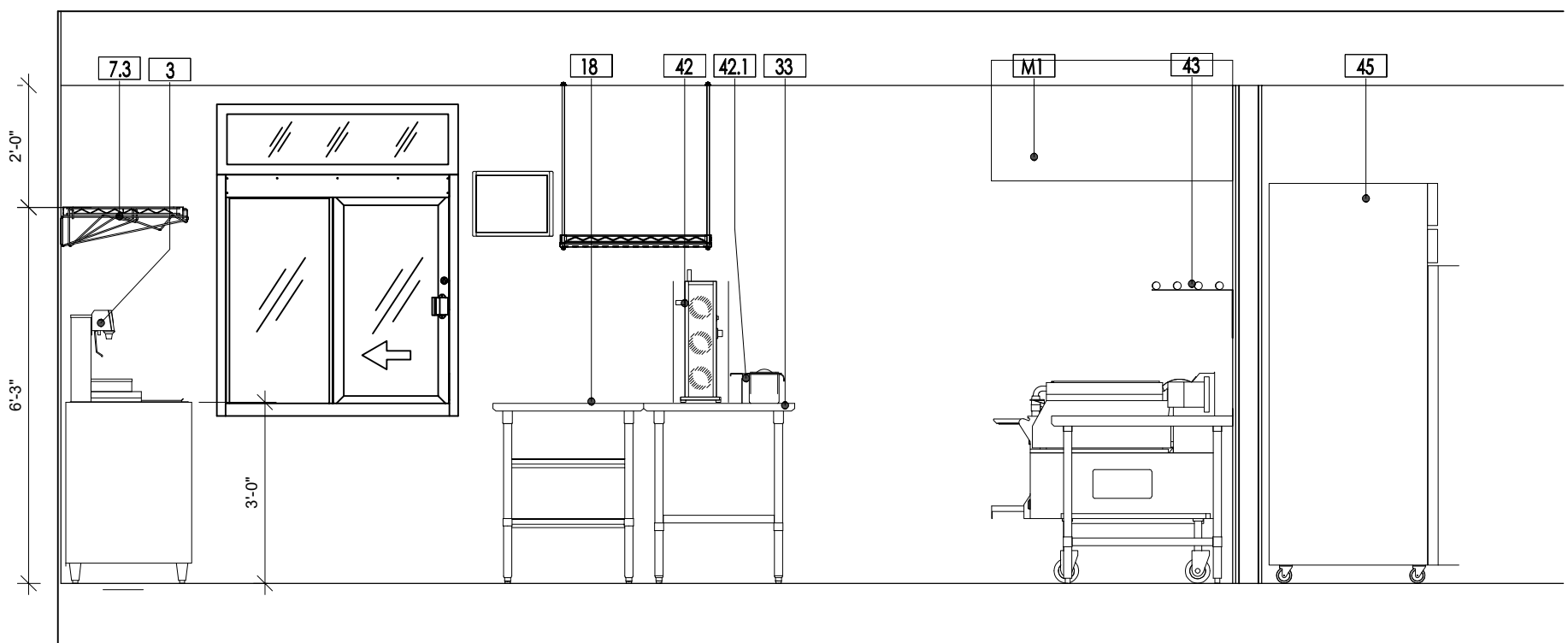
2 ELEVATION 2  
3/8" = 1'-0"



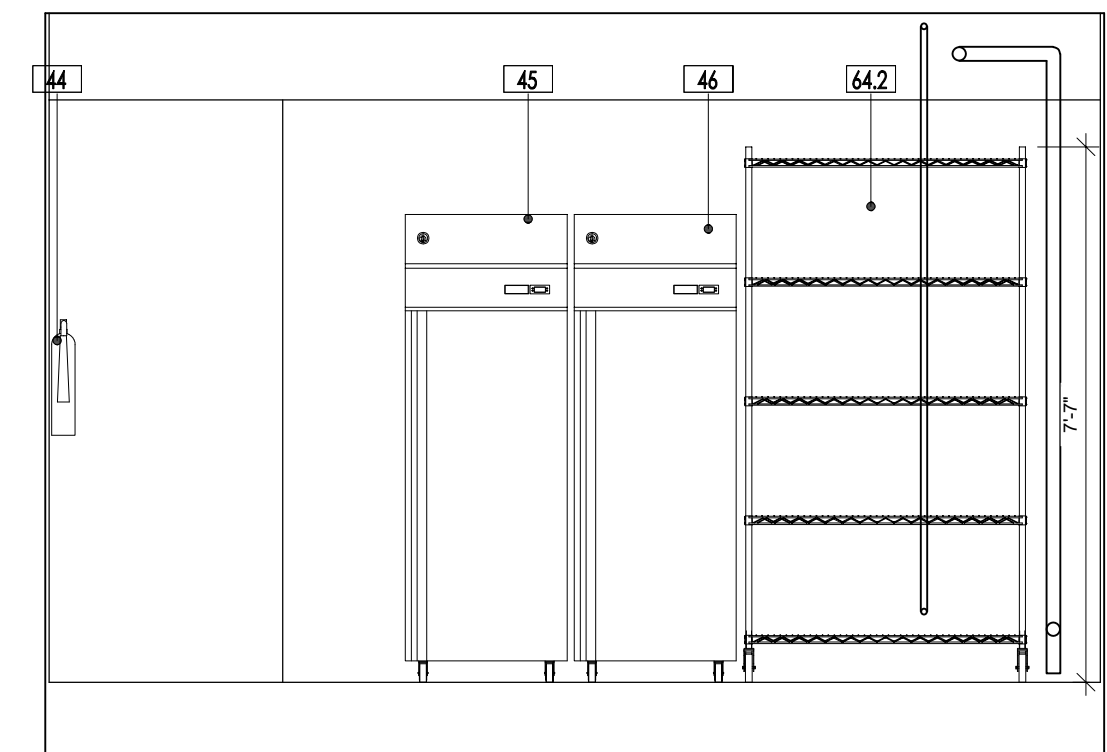
3 ELEVATION 3  
3/8" = 1'-0"



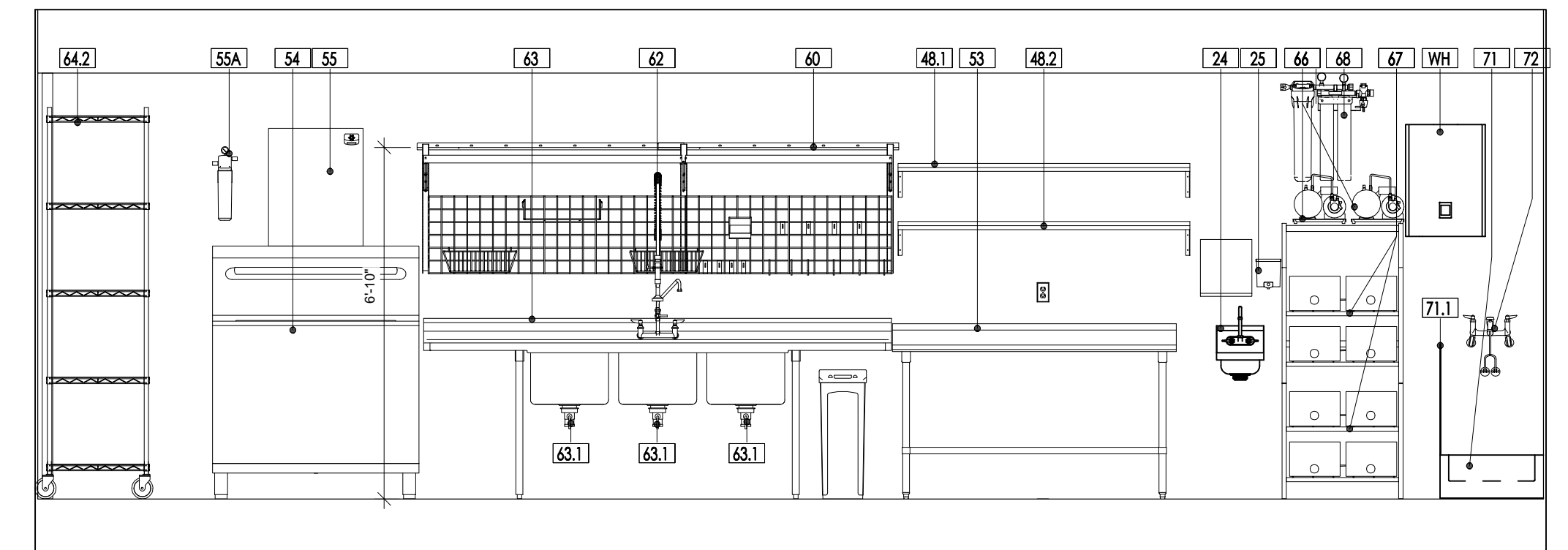
4 ELEVATION 4  
3/8" = 1'-0"



5 ELEVATION 5  
3/8" = 1'-0"



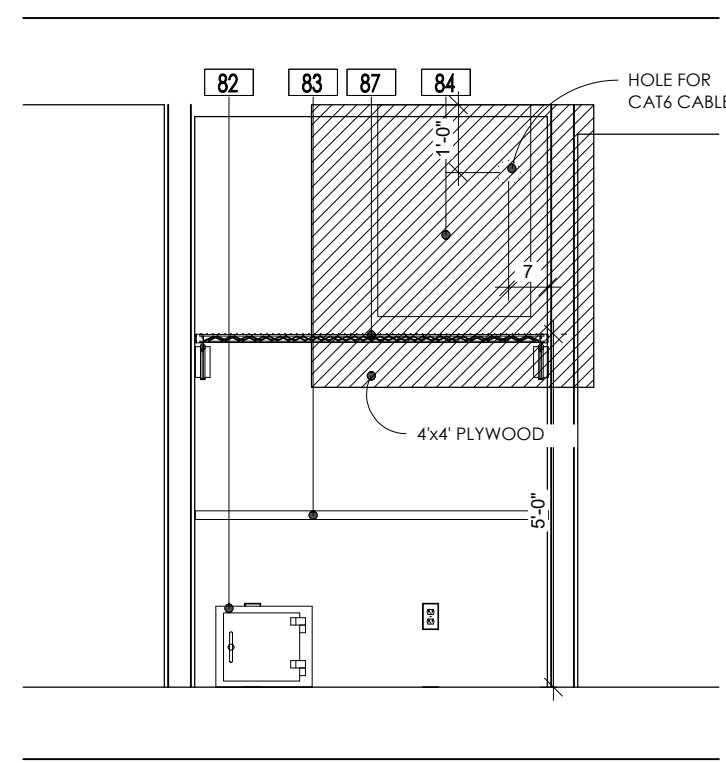
6 ELEVATION 6  
3/8" = 1'-0"



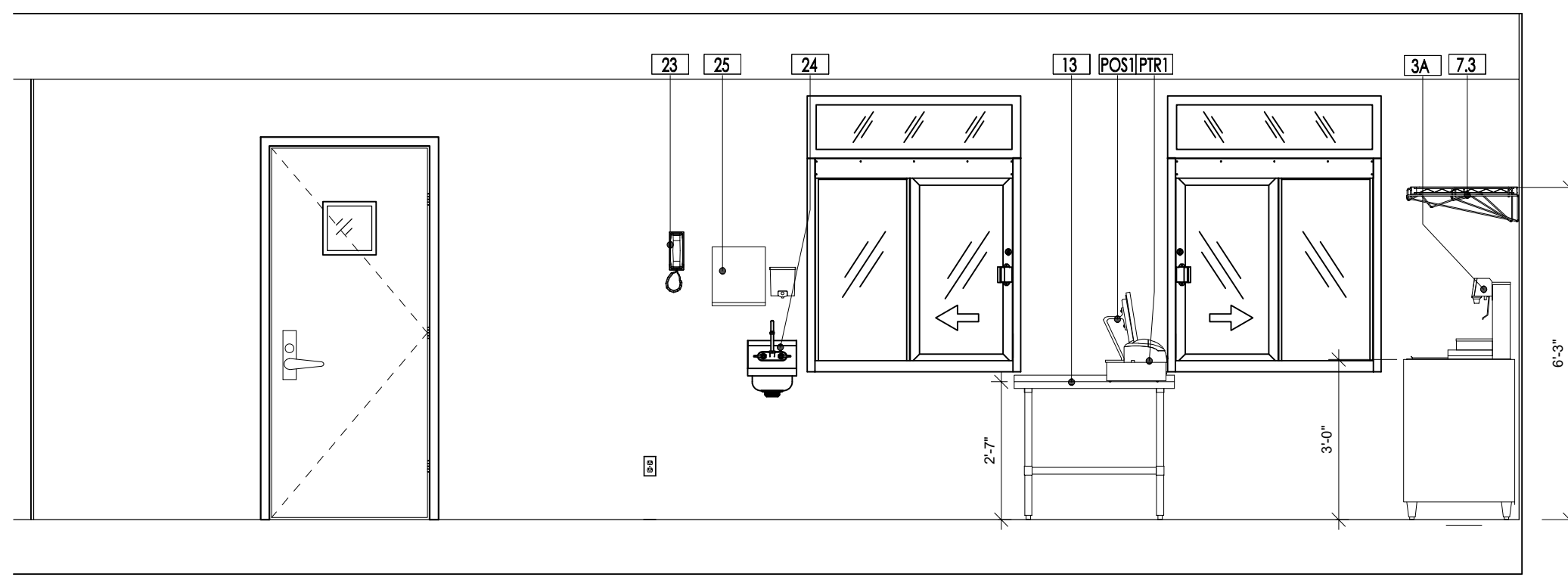
7 ELEVATION 7  
3/8" = 1'-0"

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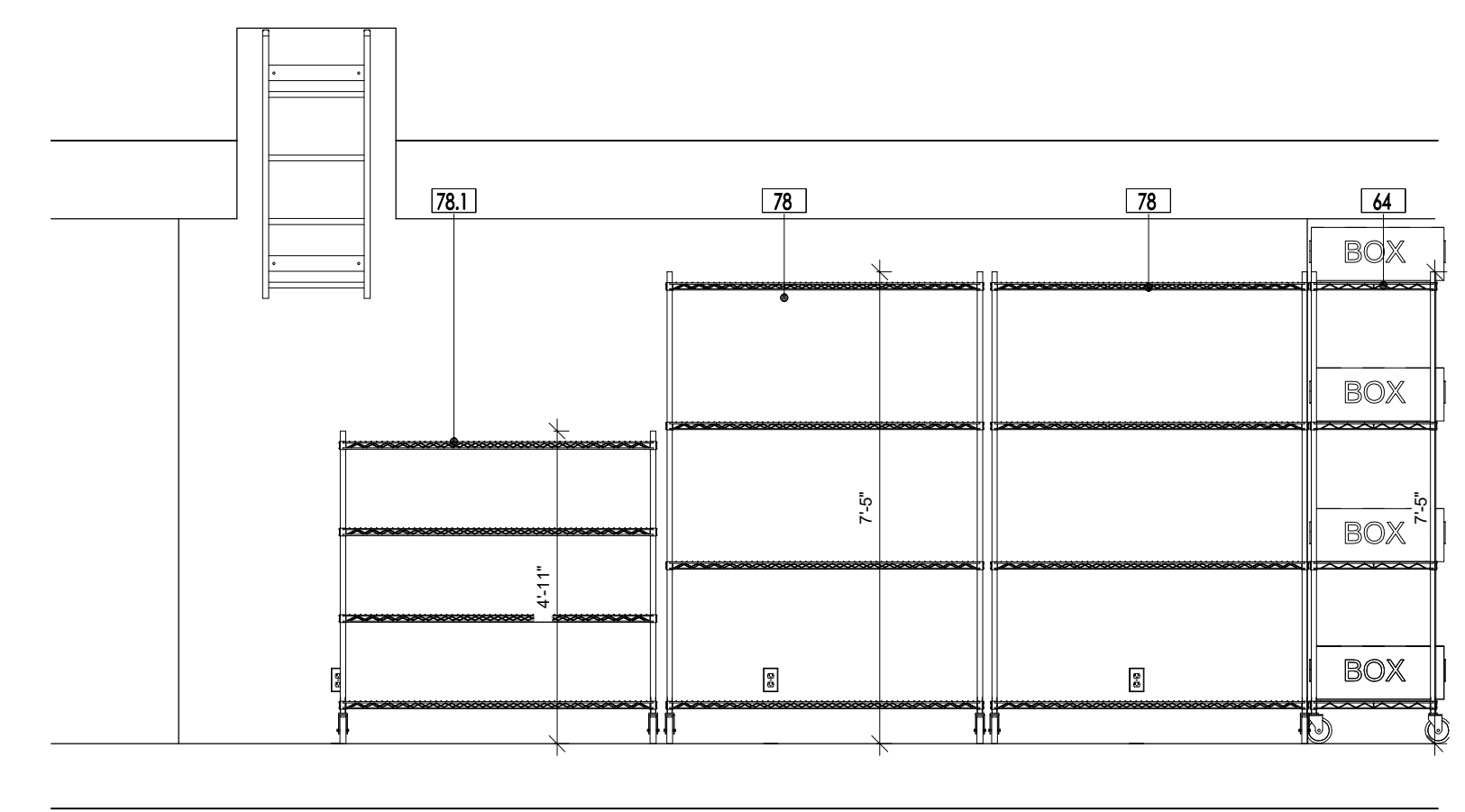
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HOUSING



8 ELEVATION 8  
3/8" = 1'-0"



9 ELEVATION 9  
3/8" = 1'-0"



10 ELEVATION 10  
3/8" = 1'-0"

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15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
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HWC  
HARTMAN, CARTER & ASSOCIATES

SHEET NAME

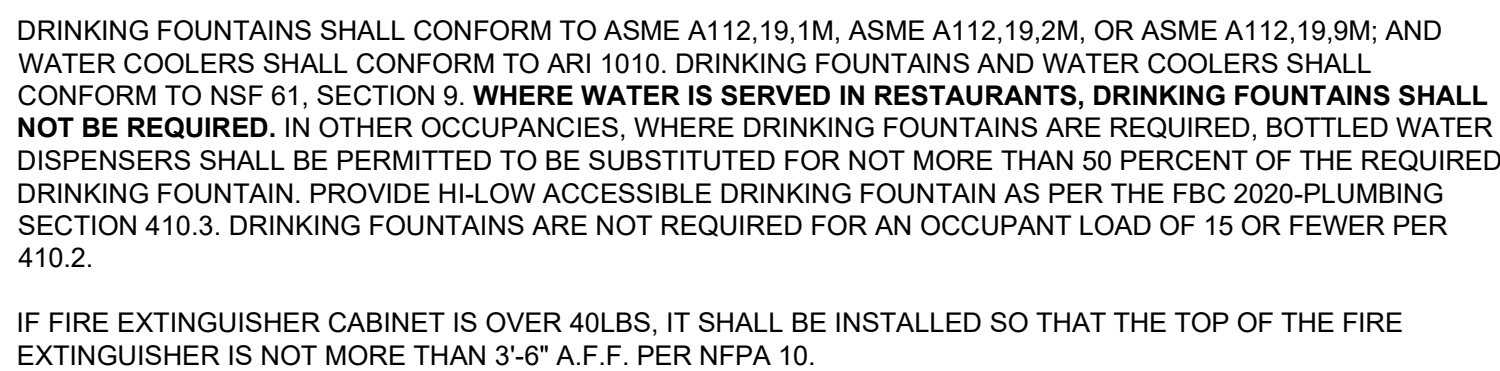
EQUIPMENT  
ELEVATIONS

SHEET NUMBER

A9.3



NOTE: ALL ACCESSIBLE FIXTURES SHALL COMPLY WITH ANSI A17.1-17

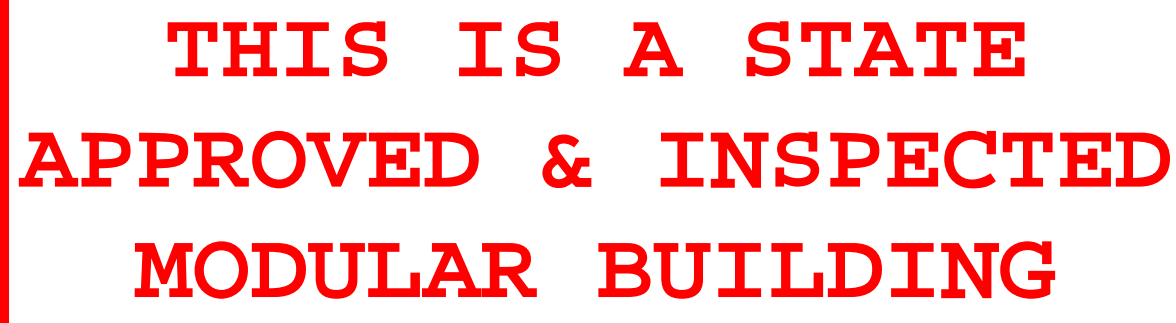


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**MODULAR**  
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15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9196

A9.4

## DIVISION 10

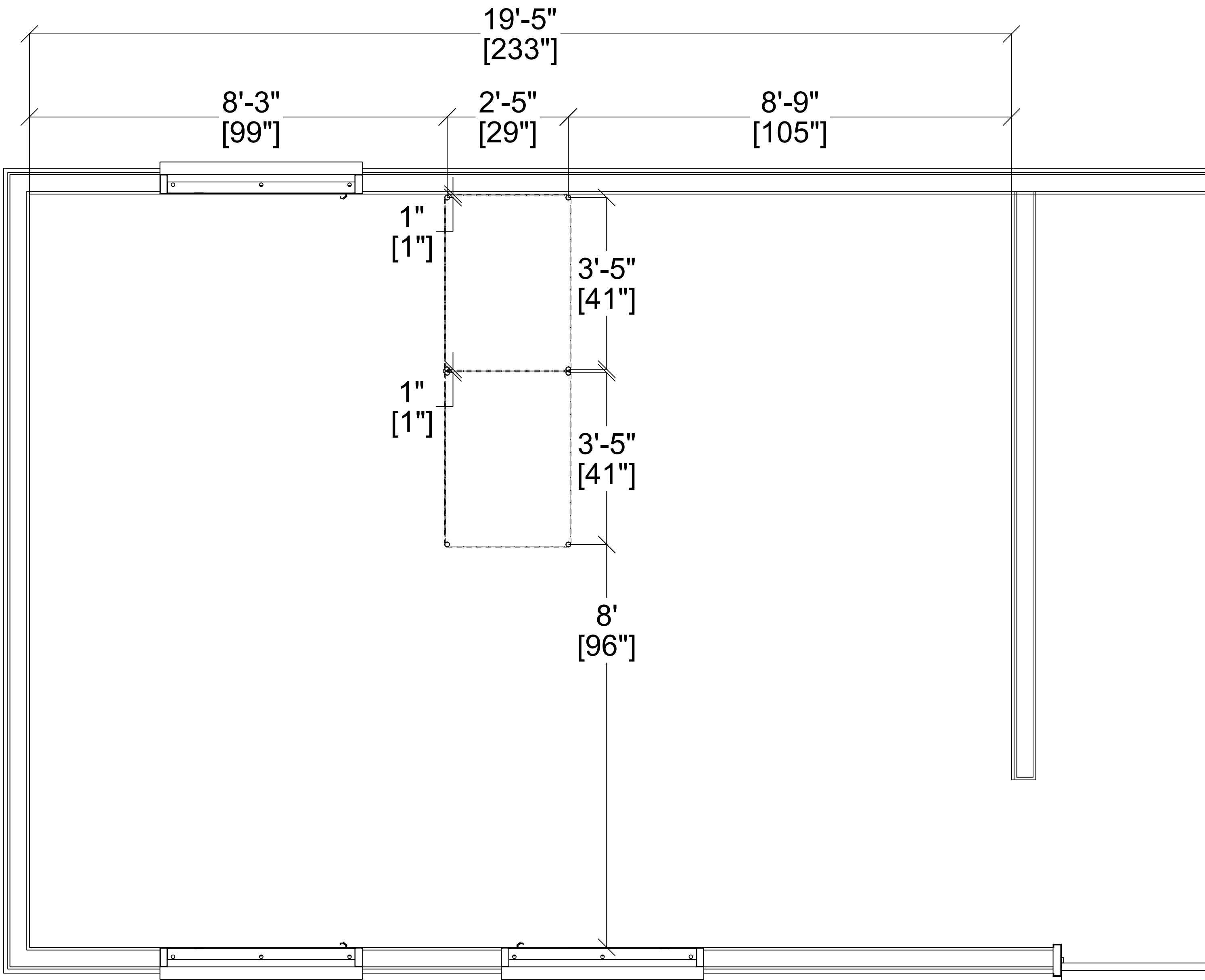
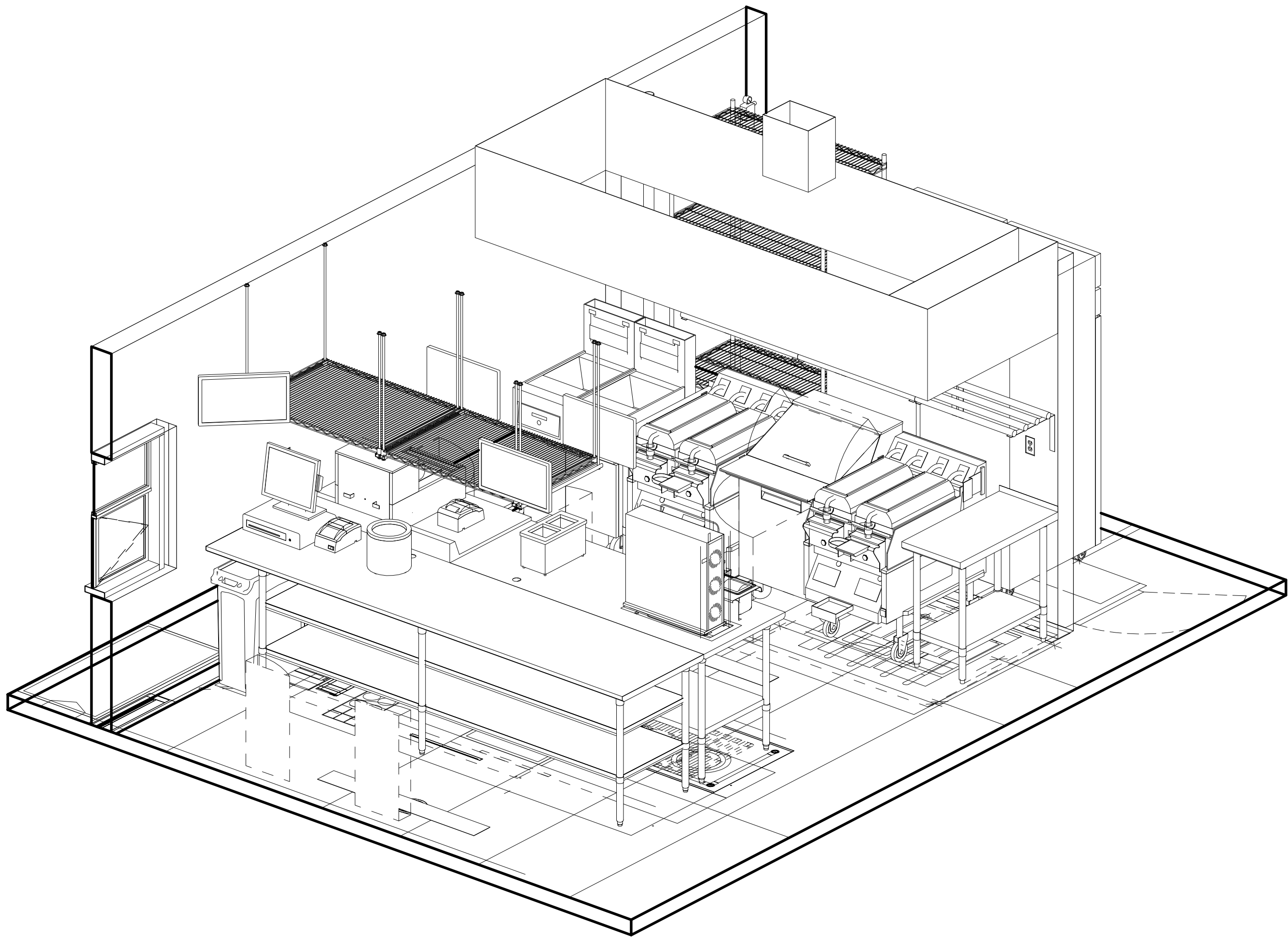
INSULATION FOR DRAIN AND WATER LINES IN LAVATORY = TRUEBRO LAV GUARD 2 MOLDED P-TRAP & SUPPLY COVER



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HOUSING**

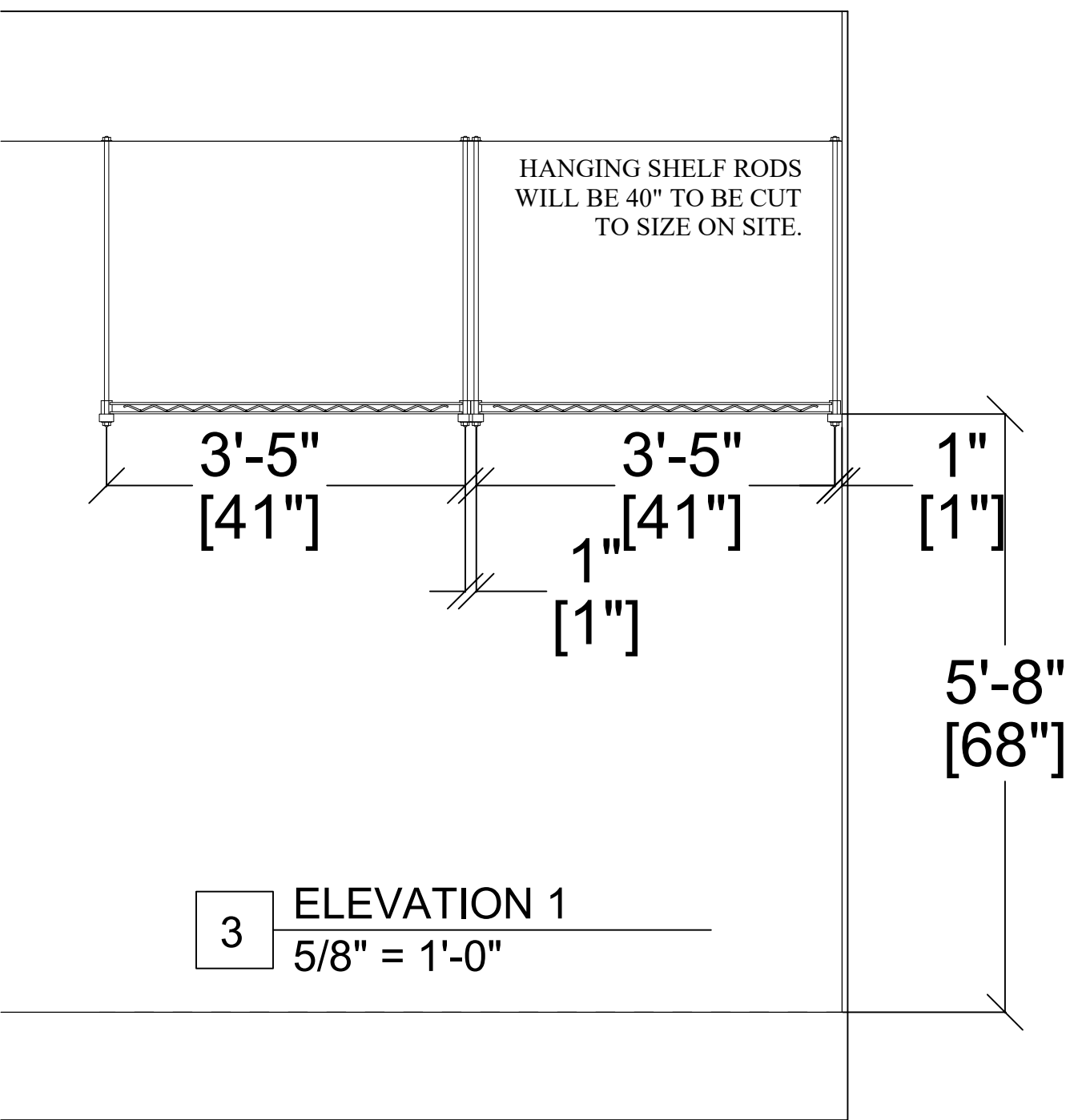
## 1 RESTROOM ELEVATIONS



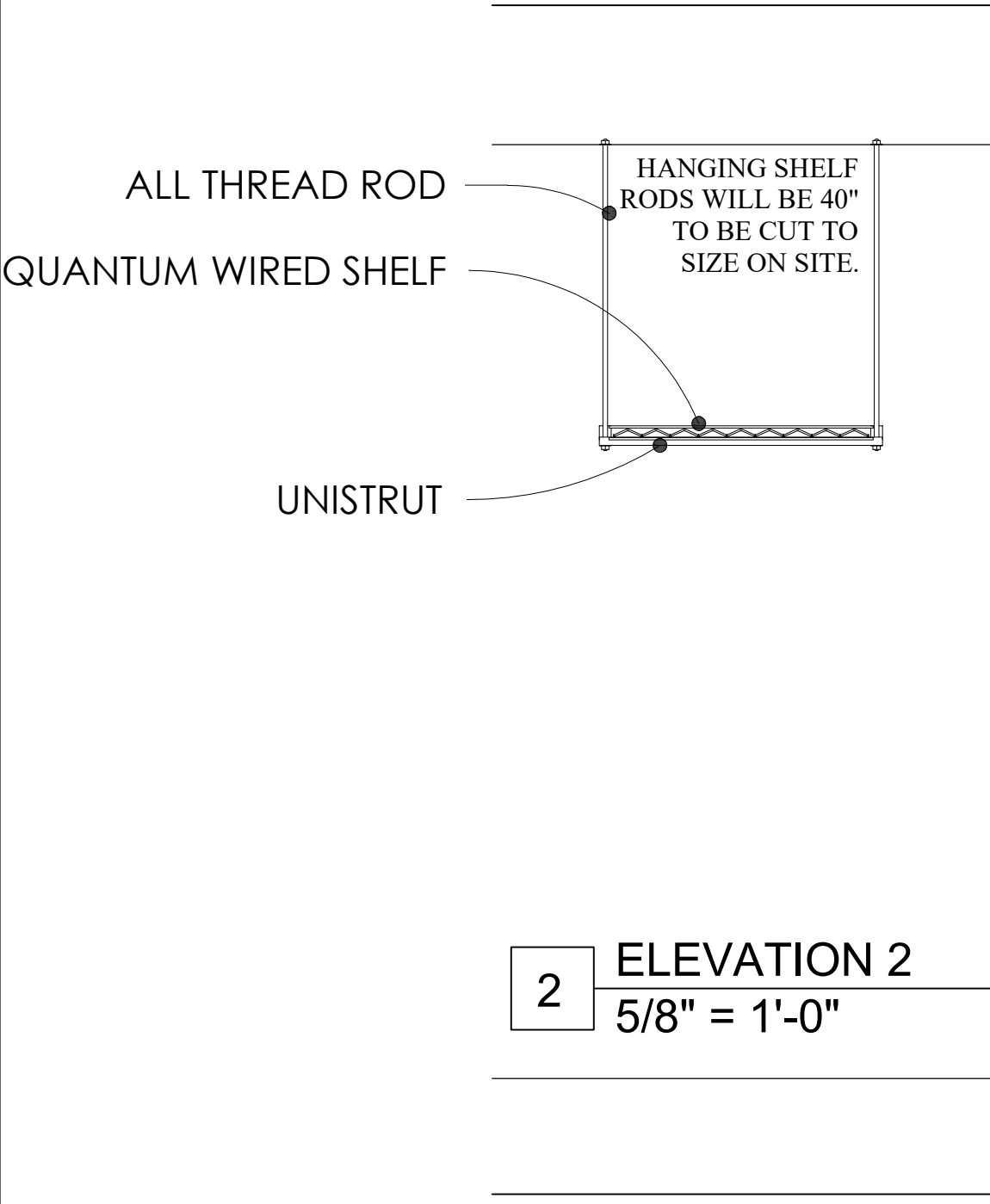


1 OVERHEAD SHELVING - HANGING POINTS  
5/8" = 1'-0"

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3 ELEVATION 1  
5/8" = 1'-0"



2 ELEVATION 2  
5/8" = 1'-0"

REVISION/ UPLOAD DATE		
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**MODULAR**

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MISSOURI  
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04/05/2024  
MANUFACTURED  
HOUSING

SHEET NAME  
**HANGING  
SHELVES**

SHEET NUMBER  
**A9.5**

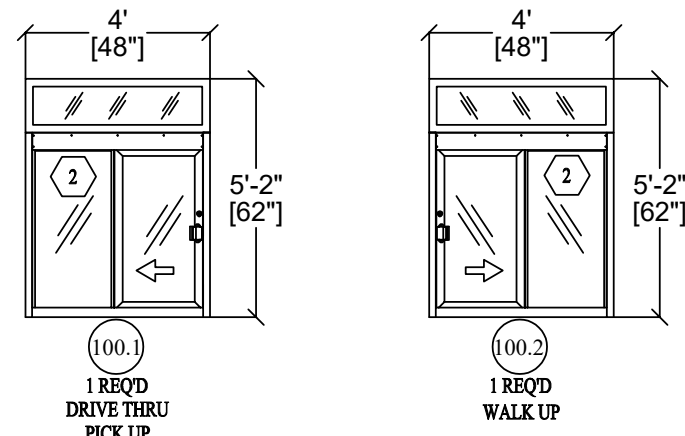


DOOR HARDWARE SCHEDULE AS SHOWN OR EQUIVALENT				DIVISION 8	
QTY.	DESCRIPTION	MANUFACTURER	MODEL #	FINISH	REMARKS
1	SET-01 - REAR				
3	HINGES	CAL-ROYAL	BB31	US32D	NRP
1	PANIC DEVICE	MARKS USA (OR CAL-ROYAL)	M9900H (OR A7700)	US32D	
1	KEYPAD ACCESS LOCK	ALARM LOCK	ETDL27-S10-26D-499	US26D	TRIOLOGY T2 SERIES
1	CLOSER	CAL-ROYAL	300	ALUM	PCOV
1	WEATHER-STRIPPING	PEMKO	303	MILL FINISH	ECO-V
1	DOOR SWEEP	PEMKO	3452	MILL FINISH	ECO-V
1	THRESHOLD	PEMKO	270	ALUM	
1	KICKPLATE	DIAMOND PLATE SHEET	.06 THICK		32" X 39.5"
2	SET-02 - WATER CLOSET				
3	HINGES	CAL-ROYAL	BB31	US32D	NRP
1	CYLINDRICAL LOCKSET	CAL-ROYAL	SL101	US26D	
1	CLOSER	CAL-ROYAL	300	ALUM	PCOV
1	WEATHER-STRIPPING	PEMKO	303	MILL FINISH	ECO-V
1	DOOR SWEEP	PEMKO	3452	MILL FINISH	ECO-V
1	THRESHOLD	PEMKO	270	ALUM	
1	KICKPLATE	DIAMOND PLATE SHEET	.06 THICK		12" X 34"
1	SET-03 - OFFICE				
3	HINGES	CAL-ROYAL	BB31	US32D	NRP
1	CYLINDRICAL LOCKSET	CAL-ROYAL	SL05	US26D	
1	KICKPLATE	DIAMOND PLATE SHEET	.06 THICK		12" X 34"
1	SET-04 - FRONT				
3	HINGES	CAL-ROYAL	BB31	US32D	NRP
1	PANIC DEVICE	CAL-ROYAL (OR MARKS USA)	A7700 (OR M9900H)	ALUM	
1	CYLINDRICAL LEVER/ CLUTCH	CAL-ROYAL	ENT-00L	US26D	
1	CLOSER	CAL-ROYAL	300	ALUM	PCOV
1	WEATHER-STRIPPING	PEMKO	303	MILL FINISH	ECO-V
1	DOOR SWEEP	PEMKO	3452	MILL FINISH	ECO-V
1	THRESHOLD	PEMKO	270	ALUM	
1	KICKPLATE	DIAMOND PLATE SHEET	.06 THICK		12" X 34"

HARDWARE SCHEDULE NOTES:

1. ALL HARDWARE IS NEW (UNLESS NOTED OTHERWISE).
2. ALL DOOR LOCKSETS/LATCHSETS SHALL BE "LEVER TYPE" IN COMPLIANCE WITH TAS 2012.
3. ALL DOOR HANDLES, PULLS, LATCHES, LOCKS, AND/OR OTHER OPERATING DEVICES SHALL BE INSTALLED BETWEEN 34" MIN. AND 48" MAXIMUM ABOVE FINISHED FLOOR.
4. ALL DOOR THRESHOLDS SHALL BE ½" HIGH MAXIMUM.
5. ALL DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70 DEGREES, THE DOOR WILL TAKE AT LEAST 3 SECONDS TO MOVE TO A POINT 3 INCHES FROM THE LATCH, MEASURED TO THE LEAD EDGE.
6. SET-02 - WATER CLOSET - OMIT DOOR CLOSER FOR ONE OF THE BATHROOMS TO COMPLY WITH ADA.

WINDOW ELEVATIONS



WINDOW SCHEDULE AS SHOWN OR EQUIVALENT						DIVISION 8
MARK	ROUGH OPENING SIZE	TYPE	CONSTRUCTION	GLASS TYPE	HEAD HEIGHT	REMARKS
100.1	4'W x 3 1/2" x 4'H x 3 1/2"	IFSC QUICK SERV - 4040 - B - R MODEL: 181	ALUM.	GL-2	7'-11 1/2"	DARK BRONZE ANODIZED (CLASS II, .4 MILS MINIMUM) FINISH, U=.30 MAX, SHGC=.28 MAX
100.2	4'W x 3 1/2" x 4'H x 3 1/2"	IFSC QUICK SERV - 4040 - B - L MODEL: 180	ALUM.	GL-2	7'-11 1/2"	DARK BRONZE ANODIZED (CLASS II, .4 MILS MINIMUM) FINISH, U=.30 MAX, SHGC=.28 MAX

WINDOW SCHEDULE NOTES:

1. REFER TO WINDOW ELEVATIONS FOR SPECIFIC DIMENSIONS AND ADDITIONAL DETAIL INFORMATION.
2. WINDOW CONTRACTOR SHALL FIELD VERIFY ALL ROUGH OPENINGS FOR ALL WINDOWS PRIOR TO PREPARATION OF SHOP DRAWINGS.
3. IF VELOCITY WIND SPEEDS ARE EQUAL TO OR GREATER THAN 140 MPH OR INSTALL LOCATION IS WITHIN A MILE OF THE COAST, STORM IMPACT GLASS WILL BE USED.

DOOR, FRAME, & HARDWARE SCHEDULE AS SHOWN OR EQUIVALENT

DOOR										DIVISION 8	
DOOR					FRAME			SET NO.	REMARKS		
	NO.	SIZE	R.O. SIZE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH			
OFFICE DOOR (1)	(100.4)	3'-0" x 6'-8" x 1 3/4" W/ LT KIT & GLASS 1'-11 1/2" X 2'-6"	DOOR WIDTH + 1-1/4" X DOOR HEIGHT + 5/8"	H.M.	PT	F1	H.M.	PT	03	1,2,3	U=.35 MAX
FRONT DOOR (1)	(101.1)	3'-0" x 7' x 1 3/4" W/ LT KIT & GLASS 10" X 10"	DOOR WIDTH + 1-1/4" X DOOR HEIGHT + 5/8"	H.M.	PT	F1	H.M.	PT	04	1,2,3	U=.35 MAX
BATHROOM DOOR (2)	(101.2)	3'-0" x 6'-8" x 1 3/4"	DOOR WIDTH + 1-1/4" X DOOR HEIGHT + 5/8"	H.M.	PT	F1	H.M.	PT	02	1,2,3	U=.35 MAX
REAR DOOR (1)	(101.5)	3'-6" x 7' x 1 3/4" W/ LT KIT & GLASS 10" X 10"	DOOR WIDTH + 1-1/4" X DOOR HEIGHT + 5/8"	H.M.	PT	F1	H.M.	PT	01	1,2,3	U=.35 MAX
DOOR TYPES								FRAME TYPES			

DOOR REMARKS LEGEND

- 1) UNDER CUT DOOR 5/8"
- 2) INSULATED, GALVANIZED HOLLOW METAL DOOR AND FRAME
- 3) DAYBAR DELTA R-7 HURRICANE UP TO 75PSF

GENERAL NOTES

1. THE BUILDING MANUFACTURER SHALL COORDINATE ALL WORK WITH RESPECTIVE TRADES, BUILDING / FIRE / HEALTH OFFICIALS AND OWNER.
2. SEAL EXTERIOR WALL AND ROOF PENETRATIONS AND JOINTS BETWEEN DISSIMILAR MATERIALS TO ENSURE A COMPLETELY WEATHER-TIGHT SEAL. SEALANT LOCATIONS INCLUDE BUT ARE NOT LIMITED TO: LIGHT FIXTURE MOUNTS, DOOR AND WINDOW FRAMES, FASCIA EDES, SIGNAGE MOUNTS, CONDUIT PENETRATIONS, SCUPPERS, ELECTRICAL OUTLETS, HOSE BIBS, AND UTILITY SERVICE ENTRANCES.
3. INSTALL COMMERCIAL GRADE BUILDING WRAP BEHIND RAINSCREEN SYSTEM & OVER EXTERIOR SHEATHING. CONTINUOUS VAPOR RETARDER SHALL BE ON INSTALLED ON THE INTERIOR SIDE OF THE WALL FRAMING CONSTRUCTION AND BEHIND APPLIED WALL FINISH SHEATHING. LAP AND TAPE ALL SEAMS TO ACHIEVE CONTINUOUS COVERAGE OVER THE ENTIRE UNPENETRATED BUILDING ENVELOPE.
4. EXTERIOR SIDEWALKS AND PAVING ARE SHOWN FOR DESIGN INTENT ONLY. G.C. SHALL BE RESPONSIBLE FOR COORDINATING SCOPE OF WORK WITH OWNER'S REPRESENTATIVE AND OR CIVIL DRAWINGS.
5. GRADES SHALL BE 2" MIN. BELOW FLOOR SLAB AND SHALL SLOPE AWAY FROM BUILDING @ 5% SLOPE EXCEPT @ PEDESTRIAN PATHS WHICH SHALL BE SLOPED AWAY FROM BUILDING @ 1" PER FOOT MIN. AND 1/4" PER FOOT MAX.
6. ITEMS MOUNTED ON TOP OF THE PARAPET ARE TO BE SET IN A FULL BED OF SEALANT AND HAVE FULL DEPTH BLOCKING IMMEDIATELY BELOW CAP, FASCIA, AND DRIP EDGE.
7. SEE STRUCTURAL PLAN AND DETAILS FOR ADDITIONAL FRAMING REQUIREMENTS.
8. 1/2" COVER BOARD SHALL BE INSTALLED OVER RIGID INSULATION TYP. ALL ROOF SURFACES. ALL VERTICAL PARAPET WALLS CONSTRUCTED OF CONCRETE MASONRY UNITS SHALL ALSO RECEIVE 1/2" COVER BOARD, TYP.

CODED NOTES

ELEVATIONS CODED NOTES

- (1) (GL-1): 1" INSULATED GLAZING PANEL, CLEAR GLASS
- (2) (GL-2): 1" INSULATED GLAZING PANEL, CLEAR TEMPERED GLASS
- (3) (GL-3): 1" INSULATED GLAZING PANEL, CLEAR STORM IMPACT GLASS

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MODULAR BUILDING

MISSOURI  
PUBLIC SERVICE  
COMMISSION  
**APPROVED**  
04/05/2024  
MANUFACTURED  
HOUSING

REVISION/UPLOAD DATE

REV.	DATE	DESCRIPTION

LANT DESIGN BULLETIN

NUM.	DATE	DESCRIPTION

DATE ISSUED:

VALANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORLAND BEACH, FL 32174  
(352) 677-3265

Project #

DRAWING NUMBER:  
**A11.1**

CHECKED BY:

DRAWN BY:



DEFINE

MECHANICAL ABBREVIATIONS

AD	ACCESS DOOR	HWS	HEATING HOT WATER SUPPLY
ADA	AMERICANS WITH DISABILITIES ACT	HWR	HEATING HOT WATER RETURN
AFF	ABOVE FINISHED FLOOR	KH	KITCHEN HOOD
AHU	AIR HANDLING UNIT	KW	KILOWATT
APD	AIR PRESSURE DROP	LAT	LEAVING AIR TEMPERATURE
BOD	BOTTOM OF DUCT	LWT	LEAVING WATER TEMPERATURE
BOP	BOTTOM OF PIPE	MBH	1000 BRITISH THERMAL UNITS PER HOUR
BTUH	BRITISH THERMAL UNITS PER HOUR	MVD	MANUAL VOLUME DAMPER
C	CONDENSATE	N.O.	NORMALLY OPEN
CFM	CUBIC FEET PER MINUTE	N.C.	NORMALLY CLOSED
CT	CHILLER	NTS	NOT TO SCALE
CHS	CHILLED WATER SUPPLY	NC	NOISE CRITERIA
CHR	CHILLED WATER RETURN	OA	OUTSIDE AIR
COP	COEFFICIENT OF PERFORMANCE	OBD	OPOSED BLADE DAMPER
CT	COOLING TOWER	PD	PRESSURE DROP
CU	CONDENSING UNIT	PHWR	PLANT HEATING HOT WATER RETURN
CV	CONSTANT VOLUME	PHWS	PLANT HEATING HOT WATER SUPPLY
CS	CONDENSER WATER SUPPLY	PRV	PRESSURE REDUCING VALVE
CR	CONDENSER WATER RETURN	PSIG	POUNDS PER SQUARE INCH GAGE
DB	DRY BULB	RA	RETURN AIR
DOAS	DEDICATED 100% OUTSIDE AIR UNIT	RH	RELATIVE HUMIDITY
EA	EXHAUST AIR	RHC	REHEAT COIL
EAT	ENTERING AIR TEMPERATURE	RPM	REVOLUTIONS PER MINUTE
ECO	EXTERIOR CLEANOUT	RTU	ROOFTOP A/C UNIT
EDH	ELECTRIC DUCT HEATER	SA	SUPPLY AIR
EER	ENERGY EFFICIENCY RATIO	SD	STORM DRAIN
EF	EXHAUST FAN	SEER	SEASONAL ENERGY EFFICIENCY RATIO
EMS	ENERGY MANAGEMENT SYSTEM	SF	SUPPLY FAN
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER	SWR	SIDE WALL REGISTER
EWC	ELECTRIC WATER COOLER	TSP	TOTAL STATIC PRESSURE
EWH	ELECTRIC WATER HEATER	TYP	TYPICAL
EWT	ENTERING WATER TEMPERATURE	UNO	UNLESS NOTED OTHERWISE
F	FAHRENHEIT	VAV	VARIABLE AIR VOLUME
FCO	FLOOR CLEANOUT	VFD	VARIABLE FREQUENCY DRIVE
FD	FLOOR DRAIN	VRF	VARIABLE REFRIGERANT FLOW
FLA	FULL LOAD AMPS	WB	WET BULB
FFE	FINISHED FLOOR ELEVATION	WG	WATER GAGE
FPI	FINS PER INCH	WPD	WATER PRESSURE DROP
HP	HORSEPOWER		

DESIGN

MECHANICAL LEGEND

GRILLES, REGISTERS, DIFFUSERS, AND LOUVERS

EXISTING	DEMO	NEW	DESCRIPTION
		A100	GRILLE DESIGNATION AND CFM
			SURFACE MOUNT
			LAY-IN SUPPLY CEILING DIFFUSER
			SUPPLY WALL DIFFUSER
			LINEAR SLOT DIFFUSER
			RETURN/EXHAUST CEILING GRILLE
			RETURN/EXHAUST WALL GRILLE
			EXHAUST LOUVER
			EXHAUST WALL CAP
			GRAVITY RELIEF HOOD
			INTAKE LOUVER
			INTAKE WALL CAP
			GRAVITY INTAKE HOOD

DUCTWORK

EXISTING	DEMO	NEW	DESCRIPTION
			RECTANGULAR DUCTWORK. REFER TO PLANS FOR SIZE.
			ROUND DUCTWORK. REFER TO PLANS FOR SIZE.
			ROUND DUCTWORK DROP/RISE.
			DUCT DROP/RISE

PIPING

EXISTING	DEMO	NEW	DESCRIPTION
			CHILLED WATER SUPPLY PIPING
			CHILLED WATER RETURN PIPING
			HOT WATER SUPPLY PIPING
			HOT WATER RETURN PIPING
			CONDENSER WATER SUPPLY PIPING
			CONDENSER WATER RETURN PIPING

DAMPERS

EXISTING	DEMO	NEW	DESCRIPTION
			BALANCING DAMPER
			MOTORIZED DAMPER
			FIRE DAMPER
			SMOKE DAMPER
			FIRE & SMOKE DAMPER

NOTES: 1. EXISTING ITEMS ON DEMO PLANS ARE "EXISTING TO REMAIN" UNLESS NOTED "EXISTING TO BE RELOCATED."  
2. ITEMS ON NEW CONSTRUCTION PLANS ARE NEW UNLESS NOTED "RELOCATED FROM PREVIOUS LOCATION".  
3. REFER TO SCHEDULES FOR GRILLE, REGISTER, DIFFUSER, AND LOUVER SIZES.  
4. REFER TO DRAWINGS FOR DIRECTION OF AIRFLOW FOR DIFFUSERS. IF DIRECTIONAL ARROWS ARE NOT INCLUDED, AIRFLOW IS IN FOUR DIRECTIONS. (4-WAY GRILLE)  
5. WALL MOUNTED CONTROL DEVICES SHALL BE MOUNTED AT 48" A.F.F.  
6. NOT ALL ITEMS SHOWN ON THIS LIST MAY BE APPLICABLE TO THIS PROJECT.

DELIVER

MECHANICAL GENERAL NOTES

1. CONTRACTOR SHALL VISIT THE SITE AND DETERMINE THE EXTENT OF DEMOLITION WORK AND NEW WORK NEEDED FOR THIS PROJECT, PRIOR TO SUBMITTING BID.

2. CONTRACTOR SHALL BECOME FAMILIAR WITH THE PROJECT SCOPE, CONSTRAINTS, UTILITY CONNECTIONS, AND BUILDING SERVICES, PRIOR TO SUBMITTING BID.

3. CONTRACTOR SHALL GIVE FIRST RIGHT TO REFUSAL OF SALVAGE TO THE OWNER. IF THE OWNER ELECTS TO NOT KEEP SALVAGE, CONTRACTOR SHALL REMOVE SALVAGE BY LAWFUL MEANS.

4. DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. DRAWINGS SHALL NOT BE SCALED. COORDINATE ROUTING OF SERVICES WITH SITE CONDITIONS AND WITH WORK OF OTHER TRADES.

5. FIELD VERIFY DIMENSIONS PRIOR TO ORDERING, FABRICATING, AND ERECTION OF MATERIAL AND/OR EQUIPMENT. NOTIFY THE ENGINEER OF DISCREPANCIES IN A TIMELY MANNER.

6. VERIFY CLEARANCE REQUIREMENTS AND ROUTING OF DUCTWORK AND PIPING PRIOR TO FABRICATION, AS MINOR MODIFICATIONS SUCH AS DUCT AND/OR PIPING RISES AND DROP MAY BE REQUIRED DUE TO FIELD CONDITIONS. MAKE MINOR MODIFICATIONS TO THE BUILDING, PIPING, SPRINKLER, DUCTWORK, ELECTRICAL, ETC. AS SHOWN ON THE DRAWINGS OR REQUIRED TO COMPLETE THE INSTALLATION OF A COMPLETED WORKABLE SYSTEM.

7. MAINTAIN WEATHER-TIGHT BARRIERS TO PREVENT DAMAGE FROM THE ELEMENTS DURING DEMOLITION AND NEW CONSTRUCTION PERIOD.

8. SEAL PENETRATIONS THROUGH THE BUILDING ENVELOPE.

9. PENETRATIONS THROUGH RATED WALLS, FLOORS, PARTITIONS AND ASSEMBLIES SHALL BE INSTALLED AND FIRESAFED TO MEET UL. FIRE RESISTANCE LISTING AND NFPA EQUIREMENTS FOR THE PENETRATION.

10. COORDINATE DEVICES REQUIRING ACCESS PANELS WITH THE ARCHITECT AND OTHER TRADES.COORDINATE DEVICES REQUIRING ACCESS PANELS WITH THE ARCHITECT AND OTHER TRADES.

11. MAINTAIN MINIMUM CLEARANCE 10'-0" BETWEEN OUTSIDE INTAKES AND EXHAUST OUTLETS AND PLUMBING VENTS.

12. COORDINATE FINAL LOCATIONS AND ELEVATIONS WITH THE ARCHITECT PRIOR TO INSTALLATION.

13. COORDINATE FINAL FINISH COLORS OF MATERIALS, DEVICES, DIFFUSER, GRILLES, LOUVERS, AND/OR EQUIPMENT WITH THE ARCHITECT PRIOR TO ORDERING, FABRICATION AND INSTALLATION.

14. SCHEDULE UTILITY SERVICES SHUTDOWNS WITH OWNER AND ARCHITECT. MINIMIZE DISRUPTIONS AND DOWNTIME TO THE OWNER.

15. INSTALL DEVICES AND EQUIPMENT TO MEET ADA REQUIREMENTS.

16. ROUTE DUCT AND PIPING CONCEALED IN INTERSTITIAL SPACE UNLESS NOTED OTHERWISE.

17. DOCUMENT LOCATIONS OF DEVICES, DUCT, PIPING, AND EQUIPMENT ON "AS-BUILT" RECORD DRAWINGS AS PER THE SPECIFICATIONS.

18. PAY FOR SERVICE, DEPOSITS, INSPECTION, AND CONNECTION FEES REQUIRED FOR A COMPLETE INSTALLATION. COORDINATE WITH THE UTILITY SERVICE PROVIDER FOR THE REQUIREMENTS NEEDED FOR THIS PROJECT.

19. HVAC SYSTEMS SHALL BE CONSTRUCTED IN ACCORDANCE WITH NFPA 90A AND NFPA 101.

20. WORK SHOWN IN THE DRAWINGS SHALL COMPLY WITH APPLICABLE NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES.

MISSOURI  
PUBLIC SERVICE  
COMMISSION  
APPROVED  
04/05/2024  
MANUFACTURED  
HOUSING

THIS IS A STATE  
APPROVED & INSPECTED  
MODULAR BUILDING

REVISION/ UPLOAD DATE

REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

ALANT  
MODULAR

VALANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP

Third Party: HWC & Asc. Inc.  
1627 SouthMyrtle Ave.  
Clearwater, FL. 34616  
(717)-584-8151

SHEET NAME

MECHANICAL  
LEGEND

SHEET NUMBER

M1.1



HVAC DUCTWORK INSULATION:

LOW PRESSURE SUPPLY, RETURN, OUTSIDE AIR, AND EX-HAUST TYPE DUCTS SHALL BE WRAPPED ON OUTSIDE WITH 2.125" MINIMUM THICKNESS, 3/4# DENSITY, MINIMUM INSTALLED R-VALUE OF R-6.0 FIBERGLASS INSULATION WITH ALUMINUM FOIL VAPOR BARRIER. INSULATION SHALL BE TAPED AT ALL JOINTS AND INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

SECURE INSULATION WITH VAPOR BARRIER AND SEAL JACKET JOINTS WITH VAPOR BARRIER ADHESIVE OR TAPE TO MATCH JACKET. INSTALL WITHOUT SAG ON UNDERSIDE OF DUCTWORK. USE 4"WIDE STRIPS OF ADHESIVE (FOSTER 85-60 OR CHILDERS CP-127 WATER BASED ADHESIVE) ON 8 INCH CENTERS OR MECHANICAL FASTENERS 12" ON CENTER TO PREVENT SAGGING. SEAL VAPOR BARRIER PENETRATIONS BY MECHANICAL FASTENERS WITH VAPOR BARRIER ADHESIVE. STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING. COVER SEAMS, JOINTS, PIN PENETRATIONS AND OTHER BREAKS WITH FOSTER 30-65 OR CHILDERS CP-34 VAPOR BARRIER COATING REINFORCED WITH REINFORCED GLASS CLOTH. REINFORCING MESH SHALL BE FOSTER MAST A FAB OR CHILDERS CHIL GLAS #10.

INSULATION SHALL HAVE A MINIMUM R-VALUE OF R-6 IF LOCATED IN AN UNCONDITIONED SPACE OR R-8 IF LOCATED OUTSIDE OF BUILDING.

LOW PRESSURE DUCTWORK:

ALL DUCTWORK SHALL BE GALVANIZED STEEL AND SHALL BE OF GAUGES AND CONSTRUCTION AS RECOMMENDED BY ASHRAE GUIDE AND DATA BOOK. GAUGES ARE AS FOLLOWS, WITH LONGEST SIDE GOVERNING. (DUCT DIMENSIONS ON PLANS ARE METAL-TO-METAL DIMENSIONS).

DIMENSIONS OF LONGEST SIDE: SHEET METAL GAUGE:

0" TO 12" 26 GAUGE  
13" TO 30" 24 GAUGE  
31" TO 54" 22 GAUGE  
55" TO 84" 20 GAUGE

ALL DUCTWORK SHALL BE SEALED AT SEAMS AND JOINTS WITH TAPE AND HARDCAST DUCT SEALANT MATERIAL.

JOINTS AND REINFORCING SHALL BE AS PER ASHRAE GUIDE AND DATA BOOK AND ALL SLIPS SHALL BE INSTALLED WITHOUT EDGE OF INTERNAL PART OF SLIP FACING DOWNSTREAM.

CONSTRUCTION STANDARDS OF ARTICLE 110 OF THE NATIONAL BOARD OF FIRE UNDERWRITERS, BULLETIN 90, LATEST EDITION, SHALL APPLY THROUGHOUT.

FLASHINGS SHALL BE SHEET COPPER OR GALVANIZED SHEET METAL, AND SHALL BE FURNISHED AND INSTALLED AROUND ALL OUTSIDE OPENINGS USED FOR DUCTS OF FANS AND WHEREVER REQUIRED. ROOF FLASHINGS SHALL EXTEND AT LEAST 8" ABOVE ROOF. PROVIDE 1/16" THICK RUBBER GASKET MATERIAL BETWEEN FLASHING AND FAN HOUSING AND OR SHEET METAL DUCTWORK. PROVIDE SEPARATION OF DISSIMILAR MATERIALS WITH DIE-ELECTRIC MATERIAL CONNECTION.

ALL DUCTS SHALL BE STRAIGHT AND TRUE AND INSTALLED IN A NEAT AND WORKMANLIKE MANNER.

ALL EDGES SHALL BE STRAIGHT AND TRUE, AND ALL BENDS SHALL BE MADE WITH VANED TURNS. WHERE LONG RADIUS TURNS CANNOT BE USED, THE CONTRACTOR SHALL USE SQUARE TURNS AND USE AIR SPLITTERS SPACED NOT MORE THAN 3" CENTER TO CENTER, AND OF A LENGTH SO AIR WILL BE PROPERLY DISTRIBUTED OVER THE DUCTS.

PROVIDE PAINT GRIP SHEET METAL WHERE INDICATED ON PLANS.

ROUND DUCTWORK:

SHALL BE CONSTRUCTED OF 26 GAUGE GALVANIZED SHEET METAL WITH SCREWED AND TAPED JOINTS.

AT CONTRACTOR'S OPTION, PRE-INSULATED FLEXIBLE DUCTWORK AS MANUFACTURED BY THERMAFLEX MODEL MKE, FLEXMASTER 8M OR PRIOR APPROVED EQUIVALENT (MANUFACTURERS LITERATURE AND SAMPLE WILL BE REQUIRED FOR PRIOR APPROVAL) MAY BE USED TO CONNECT TO CEILING DIFFUSERS (MAXIMUM 5'-0" LENGTH). FLEXIBLE DUCTWORK SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDED INSTALLATION INSTRUCTIONS. INNER AND OUTER LINER SHALL BE PROPERLY SEALED AND SECURED.

SPIN COLLARS:

ALL ROUND TAKE-OFFS TO ROUND BRANCH DUCT SHALL BE MADE WITH FACTORY FABRICATED SPIN-TYPE COLLAR FITTINGS WITH BALANCING DAMPER AND CONSTRUCTED OF MINIMUM 26 GA GALVANIZED STEEL. THE DAMPER SHALL HAVE A RAISED 2" HANDLE WITH A HIGH QUALITY LOCKING QUADRANT. A 3/8" CONTINUOUS ROD WITH "U" BOLTS CONNECTS THE DAMPER TO THE ROD. NYLON END BEARING ARE REQUIRED WHERE THE ROD PENETRATES THE SPIN COLLAR BARREL. THESE SPIN-COLLARS SHALL BE AS MANUFACTURED BY FLEXMASTER MODEL FLD-803, DACE #26GA MSD-C03 OR APPROVED EQUAL.

DUCTWORK SEALANT:

ALL DUCTWORK SHALL BE AIR TIGHT. ALL SEAMS, BOTH SHOP MADE AND FIELD INSTALLED, AND SHALL BE SEALED WITH MASTIC. ALL TRANSVERSE JOINTS SHALL BE SEALED AS WELL AS SPIN COLLAR TAKEOFFS AND ROUGH DUCT CONNECTIONS. ALL DUCT CONNECTIONS AND SEAMS SHALL BE SEALED WITH A UL APPROVED NON-FLAMMABLE MASTIC SYSTEM. STRICT ADHERENCE TO MANUFACTURERS INSTALLATION INSTRUCTION IS REQUIRED. THE DUCT SEALANT SHALL BE EQUAL TO HARDCAST SURE-GRIP 404, UNITED MCGILL SOLVENT BASED DUCT SEALANT, OR PRIOR APPROVED DUCT SEALING SYSTEM. IN RETURN AIR PLENUM SPACES, ALL SURFACES SHALL BE RATED FOR 25/50 FLAME SPREAD AND SMOKE DEVELOPMENT.

ALL LOW PRESSURE DUCTWORK SHALL BE SEALED TO "SEAL CLASS A". SEAL CLASS A IS TRANSVERSE JOINTS AND SEAMS AND WALL PENETRATIONS (SENSORS).

MOTORIZED DAMPERS: (RECTANGULAR TYPE DAMPERS)

MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL MOTORIZED DAMPERS AT OUTDOOR INTAKES AS INDICATED ON MECHANICAL AND ARCHITECTURAL DRAWINGS. DAMPER SHALL BE PARALLEL BLADE MOTORIZED TYPE EQUIVALENT TO RUSKIN CD36/PB, ARROW SERIES 1770, GREENHECK MODEL VCD-23 OR EQUAL. MOTORIZED DAMPERS SHALL BE OPERATED BY 120V/160 ELECTRIC ACTUATORS PROVIDED BY THE TEMPERATURE CONTROL CONTRACTOR OR 120V/160 ELECTRIC ACTUATOR AS INDICATED ON PLANS. DAMPER SHALL BE COMPLETE WITH OUTBOARD SUPPORT BEARING, BLADE AND JAMB SEALS. DAMPERS SHALL BE LOW - LEAKAGE TYPE.

MANUAL DAMPERS:

MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL MANUAL DAMPERS AT OUTDOOR AIR INTAKES AND IN OTHER RECTANGULAR DUCTWORK AS INDICATED ON PLANS. DAMPER SHALL BE COMPLETE WITH OUTBOARD SUPPORT BEARING, AND MANUAL LOCKING QUADRANT LEVER FOR BALANCING. DAMPERS SHALL BE MANUFACTURED BY RUSKIN MODEL MD25, GREENHECK MODEL MBD-10M OR PRIOR APPROVED EQUAL.

VENTILATING SYSTEM:

THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL EX-HAUST FANS SHOWN AND SCHEDULED ON PLANS. FANS SHALL BE OF THE TYPE INDICATED AND SHALL BE CAPTIVEAIRE, COOK, GREENHECK, ACME OR APPROVED EQUIVALENT.

ALL EXHAUST FANS SHALL BE EQUIPPED WITH BIRD SCREEN, AUTOMATIC BACK-DRAFT DAMPERS, SOLID STATE SPEED CONTROLLER (DIRECT DRIVE) AND INTEGRAL DISCONNECT SWITCH UNLESS NOTED OTHERWISE. FAN MOTORS SHALL BE OF THE 40 DEG C AMBIENT TEMPERATURE RISE TYPE AND SHALL BE SUITABLE FOR CONTINUOUS DUTY OPERATION.

DIRECT DRIVE FANS SHALL BE COMPLETE WITH SOLID STATE SPEED CONTROL SWITCH MOUNTED ON UNIT FOR BALANCING. INTERLOCK WITH REMOTE ON/OFF SWITCH.

THERMOSTAT:

PROVIDE FULLY AUTOMATIC PROGRAMMABLE (7 DAY) ROOM TYPE THERMOSTAT AS INDICATED ON PLANS TO CYCLE COMPRESSOR ON COOLING CYCLE, AND COMPRESSOR AND/OR ELECTRIC STRIPS IN STAGES ON HEATING CYCLE AS REQUIRED TO MAINTAIN SPACE CONDITIONS. UNIT SHALL BE WIRED FOR CONSTANT OR AUTOMATIC FAN OPERATION AND SHALL BE ELECTRICALLY INTERLOCKED SUCH THAT THE COMPRESSOR MAY NOT RUN NOR THE ELECTRIC STRIP HEATERS BE ENERGIZED UNLESS THE EVAPORATOR FAN IS OPERATING. THERMOSTAT SHALL BE COMPLETE WITH FAN "AUTO-ON" SWITCH AND SYSTEM "AUTO-HEAT-OFF-COOL" SWITCH. THERMOSTATS SHALL BE MOUNTED TO MEET LATEST A.D.A. REQUIREMENTS.

SMOKE DETECTOR:

THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL A SMOKE DETECTOR IN THE SUPPLY DUCT AND RETURN DUCT OF ALL AIR HANDLERS DELIVERING IN EXCESS OF 2000 C.F.M. AND SHALL BE INTERLOCKED TO DE-ENERGIZE FAN ON ACTUATION OF DETECTOR.

SMOKE DETECTORS SHALL HAVE AUXILIARY CONTACTS FOR INTERLOCK WITH THE FIRE ALARM SYSTEM. COORDINATE INSTALLATION AND SELECTION OF SMOKE DETECTORS. ENTIRE INSTALLATION SHALL MEET UL REQUIREMENTS FOR INTERLOCK WITH BUILDING FIRE ALARM AND SECURITY SYSTEM.

PROVIDE REMOTE AUDIBLE AND VISUAL ALARM UNIT (ONE PER AHU WITH SMOKE DETECTOR) IN ACCORDANCE WITH LATEST N.F.P.A. 90A REQUIREMENTS.

DUAL-CHAMBER, IONIZATION SMOKE DETECTORS: THE COMBINATION DETECTOR HEAD AND TWIST-LOCK BASE SHALL BE UL LISTED COMPATIBLE WITH A UL LISTED FIRE ALARM PANEL.

THE SMOKE DETECTOR SHALL HAVE A FLASHING STATUS INDICATION LED OR VISUAL SUPERVISION. WHEN THE DETECTOR IS ACTUATED, THE FLASHING LED SHALL LATCH ON STEADY AND AT FULL BRILLIANCE. THE DETECTOR MAY BE RESET BY ACTIVATING THE CONTROL PANEL RESET SWITCH.

THE SENSITIVITY OF THE DETECTOR SHALL BE MONITORED WITHOUT REMOVAL OF THE DETECTOR HEAD. METERING SETPOINTS SHALL BE ACCESSIBLE ON THE EXTERIOR OF THE DETECTOR HEAD. FIELD ADJUSTMENT THE SENSITIVITY SHALL BE POSSIBLE WHEN CONDITIONS REQUIRE A CHANGE.

IT SHALL BE POSSIBLE TO PERFORM A FUNCTIONAL TEST OF THE DETECTOR WITHOUT THE NEED OF GENERATING SMOKE. THE TEST METHOD MUST SIMULATE EFFECTS OF PRODUCTS OF COMBUSTION IN THE CHAMBER TO ENSURE TESTING OF ALL DETECTOR CIRCUITS.

VOLTAGE AND RF TRANSIENT SUPPRESSION TECHNIQUES SHALL BE EMPLOYED TO MINIMIZE FALSE ALARM POTENTIAL. A GATED ALARM OUTPUT SHALL BE USED FOR ADDITIONAL DETECTOR STABILITY.

AUXILIARY SPDT RELAYS AND/OR REMOTE LED ALARM INDICATORS SHALL BE INSTALLED AS REQUIRED.

DUCT MOUNTED SMOKE DETECTORS SHALL SHUT DOWN THE ASSOCIATED AIR HANDLING UNIT FAN MOTOR AN FIRE/SMOKE DAMPER. THIS CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR AS REQUIRED TO ACCOMPLISH SAME.

FLOAT SWITCH:

PROVIDE FLOAT SWITCH TO EMERGENCY DRAIN PAN OF EACH AHU. SWITCH SHALL BE INTERLOCKED WITH AHU TO DE-ENERGIZE THE UNIT WHEN THE WATER LEVEL IN THE PAN RISES ABOVE A SET LEVEL. FLOAT SWITCH SHALL MEET UL 508 REQUIREMENTS.

MOTORIZED DAMPERS:

O.A. MOTORIZED DAMPERS SHALL BE INTERLOCKED WITH THEIR RESPECTIVE UNIT TO OPEN WHEN THE A/C UNIT'S SUPPLY FAN IS ENTERGIZED(ON), AND SHALL CLOSE WHEN THE UNIT'S SUPPLY FAN IS DE-ENERGIZED(OFF). PROVIDE ALL NECESSARY RELAYS, SWITCHES, TRANSFORMERS, ETC. AS REQUIRED.

MOTORIZED DAMPERS SHALL BE FURNISHED AND SET IN PLACE BY CONTRACTOR INSTALLING THE DOAS UNIT.

DAMPER ACTUATORS SHALL BE 120V/160 ELECTRIC ACTUATORS SPECIFICALLY SELECTED FOR DAMPER MANUFACTURER'S REQUIREMENTS. CONTROLS CONTRACTOR SHALL FURNISH AND INSTALL ACTUATORS. COORDINATE ALL WORK WITH CONTRACTOR INSTALLING DAMPERS.

CONTROL WIRING:

ALL WIRING REQUIRED IN THE CONTROL SYSTEMS, INCLUDING ELECTRICAL CONNECTIONS FOR THE THERMOSTATS, FIRESTATS, SMOKE DETECTORS, EXHAUST FANS AND ALL INTERLOCKING MOTOR CONTROL WIRING SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR.

ALL WIRING SHALL BE IN CONDUIT AND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (N.E.C.).

ALL CONTROL WIRING LOCATED OUTDOORS SHALL BE INSTALLED IN RIGID OR INTERMEDIATE METAL CONDUIT.

ALL CONTROL WIRING LOCATED INDOORS WHERE AN ACCESSIBLE CEILING IS NOT AVAILABLE SHALL BE INSTALLED IN E.M.T. CONDUIT.

ALL CONTROL WIRING LOCATED ABOVE ACCESSIBLE CEILINGS SHALL BE N.E.C. APPROVED CABLE. ALL CONTROL WIRING LOCATED ABOVE ACCESSIBLE CEILINGS USED AS AIR PLENUMS SHALL BE N.E.C. APPROVED "PLENUM CABLE".

ALL CONDUCTORS SHALL BE COPPER. CONDUCTORS USED FOR POWER CIRCUITS SHALL BE #12 TW MINIMUM. CONDUCTORS USED FOR CONTROL CIRCUITS SHALL BE #18 TW (SINGLE STRAND) MINIMUM. CONDUCTORS USED FOR SENSOR CIRCUITS SHALL BE #18 TW (SINGLE STRAND) MINIMUM. CONTROL WIRING FOR DX EQUIPMENT THERMOSTATS SHALL BE 10 CONDUCTOR CABLES.

OUTSIDE AIR HANDLING UNIT:

SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPLACE COMPONENTS OF RTUS THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

WARRANTY PERIOD FOR COMPRESSORS: MANUFACTURER'S STANDARD, BUT NOT LESS THAN FIVE YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

WARRANTY PERIOD FOR GAS FURNACE HEAT EXCHANGERS: MANUFACTURER'S STANDARD, BUT NOT LESS THAN 10 YEARS FROM DATE OF SUBSTANTIAL COMPLETION.

WARRANTY PERIOD FOR VARIABLE FREQUENCY DRIVES: NOT LESS THAN 24 MONTHS FROM DATE OF SUBSTANTIAL COMPLETION.

PRODUCTS

PACKAGED A/C UNIT (MARKED "OAU-1")

ROOF MOUNTED, DOUBLE WALL, ELECTRONICALLY CONTROLLED HEATING AND COOLING UNIT UTILIZING HERMETIC SCROLL COMPRESSORS WITH CRANKCASE HEATERS FOR COOLING DUTY, DUAL REFRIGERANT CIRCUIT, STAGED AIR VOLUME CONTROL, AND WITH ELECTRIC HEAT. UNITS SHALL HAVE HORIZONTAL DISCHARGE SUPPLY AND RETURN AIR AS SHOWN ON DRAWINGS.

MANUFACTURERS SHALL BE ONE OF THE FOLLOWING OR PRIOR APPROVED EQUAL: BASIS OF DESIGN: CAPTIVEAIRE.

RTU CASING

GENERAL FABRICATION REQUIREMENTS FOR CASINGS: FORMED AND REINFORCED DOUBLE-WALL INSULATED PANELS, FABRICATED TO ALLOW REMOVAL FOR ACCESS TO INTERNAL PARTS AND COMPONENTS, WITH JOINTS BETWEEN SECTIONS SEALED.

EXTERIOR CASING MATERIAL: GALVANIZED STEEL WITH FACTORY-PAINTED FINISH, WITH PITCHED ROOF PANELS AND KNOCKOUTS WITH GROMMET SEALS FOR ELECTRICAL AND PIPING CONNECTIONS AND LIFTING LUGS.

EXTERIOR CASING THICKNESS: .0626 INCH THICK.

TOP COVER SHALL BE 18 GAGE SHEET METAL WITH 0.75 INCH THICK, 1.5 LB DENSITY, FIBERGLASS INSULATION.

INTERIOR CASING SHALL BE GALVANIZED STEEL INNER PANELS.

CASING INSULATION AND ADHESIVE: COMPLY WITH NFPA 90A OR NFPA 90B.

MATERIALS: ASTM C 1071, TYPE I.

THICKNESS: 1/2 INCH, 1.5 LB DENSITY.

LINER MATERIALS SHALL HAVE AIR-STREAM SURFACE COATED WITH AN EROSION- AND TEMPERATURE-RESISTANT COATING OR FACED WITH A PLAIN OR COATED FIBROUS MAT OR FABRIC.

LINER ADHESIVE: COMPLY WITH ASTM C 916, TYPE I.

CONDENSATE DRAIN PANS: FORMED SECTIONS OF STAINLESS-STEEL SHEET, A MINIMUM OF 2 INCHES DEEP, AND COMPLYING WITH ASHRAE 62.1.

DOUBLE-WALL CONSTRUCTION: FILL SPACE BETWEEN WALLS WITH FOAM INSULATION AND SEAL MOISTURE TIGHT. DRAIN CONNECTIONS: THREADED NIPPLE BOTH SIDES OF DRAIN PAN.

RTU FANS

DIRECT-DRIVEN SUPPLY-AIR FANS: DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL; WITH PERMANENTLY LUBRICATED, MOTOR RESILIENTLY MOUNTED IN THE FAN INLET. ALUMINUM OR PAINTED-STEEL WHEELS, AND GALVANIZED- OR PAINTED-STEEL FAN SCROLLS.

CONDENSER-COIL FAN: PROPELLER, MOUNTED ON SHAFT OF PERMANENTLY LUBRICATED MOTOR.

FAN MOTOR: COMPLY WITH REQUIREMENTS IN SECTION 230513 "COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT." FANS SHALL BE STATICALLY AND DYNAMICALLY BALANCED.

FAN DRIVE FOR THE STAGED AIR VOLUME UNITS SHALL BE EQUIPPED WITH VARIABLE FREQUENCY DRIVE INVERTER (VFDs). THE VFD SHALL CONTROL MOTOR SPEED TO USER CONFIGURABLE SPEEDS. THE CONTROLS SHALL ALLOW USER CONFIGURABLE SPEEDS FOR COOLING AND HEATING MODES. THE VFD SHALL BE FACTORY-MOUNTED, WIRED, AND TESTED.

RTU COILS

SUPPLY-AIR REFRIGERANT COIL: COPPER-PLATE FIN AND SEAMLESS INTERNALLY GROOVED COPPER TUBE IN STEEL CASING WITH EQUALIZING-TYPE VERTICAL DISTRIBUTOR.

CONDENSATE DRAIN PAN: STAINLESS STEEL FORMED WITH PITCH AND DRAIN CONNECTIONS COMPLYING WITH ASHRAE 62.1.

RTU CIRCUIT COMPONENTS

NUMBER OF REFRIGERANT CIRCUITS: TWO.

COMPRESSOR: HERMETIC, SCROLL, MOUNTED ON VIBRATION ISOLATORS; WITH INTERNAL OVERCURRENT AND HIGH-TEMPERATURE PROTECTION; INTERNAL PRESSURE RELIEF, AND CRANKCASE HEATER. REFRIGERATION SPECIALTIES:

REFRIGERANT: R-410A.  
EXPANSION VALVE WITH REPLACEABLE THERMOSTATIC ELEMENT.  
REFRIGERANT FILTER/DRYER.  
MANUAL-RESET HIGH-PRESSURE SAFETY SWITCH.  
AUTOMATIC-RESET LOW-PRESSURE SAFETY SWITCH.  
MINIMUM OFF-TIME RELAY.  
AUTOMATIC-RESET COMPRESSOR MOTOR THERMAL OVERLOAD.  
BRASS SERVICE VALVES INSTALLED IN COMPRESSOR SUCTION AND LIQUID LINES.  
LOW-AMBIENT KIT HIGH-PRESSURE SENSOR.

RTU AIR FILTRATION

MINIMUM ARRESTANCE ACCORDING TO ASHRAE 52.1, AND A MINIMUM EFFICIENCY REPORTING VALUE (MERV) ACCORDING TO ASHRAE 52.2.

PLEATED: MINIMUM 2" THICK DISPOSABLE FIBERGLASS FILTERS WITH 90 PERCENT ARRESTANCE, AND MERV 7.

RTU ELECTRIC HEATER SECTION

PROVIDE AN ELECTRIC RESISTANCE HEATER SECTION WITH CAPACITY AS SCHEDULED ON DRAWINGS.

RTU DAMPERS

OUTDOOR-AIR DAMPER: LINKED DAMPER BLADES, FOR 0 TO 25 PERCENT OUTDOOR AIR, WITH MOTORIZED DAMPER FILTER. DAMPER SHALL OPEN WHEN UNIT IS RUNNING AND SHALL CLOSE WHEN FAN IS OFF.

RTU ELECTRICAL POWER CONNECTION

PROVIDE FOR SINGLE CONNECTION OF POWER TO UNIT WITH UNIT-MOUNTED DISCONNECT SWITCH ACCESSIBLE FROM ADJACENT TO OUTSIDE UNIT AND CONTROL-CIRCUIT TRANSFORMER WITH BUILT-IN OVERCURRENT PROTECTION. DO NOT MOUNT DISCONNECT ON OUTDOOR UNIT.

CONTROLS

RTU BASIC UNIT CONTROLS:

CONTROL-VOLTAGE TRANSFORMER.

NON PROGRAMMABLE - WALL-MOUNTED THERMOSTAT OR SENSOR WITH THE FOLLOWING FEATURES:

HEAT-COOL-OFF SWITCH.  
FAN ON-AUTO SWITCH.  
FAN-SPEED SWITCH.  
AUTOMATIC CHANGEOVER.  
ADJUSTABLE DEADBAND.  
CONCEALED SET POINT.  
CONCEALED INDICATION.  
DEGREE F INDICATION.  
UNOCCUPIED-PERIOD-OVERRIDE PUSH BUTTON.

SUPPLY AIR SENSOR SHALL BE LOCATED IN THE UNIT AND SHALL BE USED FOR COMPRESSOR STAGE CONTROL. VARIABLE CAPACITY COMPRESSOR CONTROL:

VARIABLE COMPRESSOR CONTROL SHALL BE CAPABLE OF UNLOADING THIS COMPRESSOR IN AN INFINITE NUMBER OF STEPS FROM 100% OF COMPRESSOR CAPACITY DOWN TO 50% OF COMPRESSOR CAPACITY TO MEET THE DEMAND FOR THE STAGED AIR VOLUME CONTROL.

RTU ACCESSORIES

LOW-AMBIENT KIT USING STAGED CONDENSER FANS FOR OPERATION DOWN TO 35 DEG F.

FILTER DIFFERENTIAL PRESSURE SWITCH WITH SENSOR TUBING ON EITHER SIDE OF FILTER. SET FOR FINAL FILTER PRESSURE LOSS.

COIL GUARDS OF PAINTED, GALVANIZED-STEEL WIRE.

HAIL GUARDS OF GALVANIZED STEEL, PAINTED TO MATCH CASING.

HUMIDITY SENSOR.

SECURITY GRILLES.

INSTALLATION

EQUIPMENT CURB: INSTALL ON CONCRETE BASE, LEVEL AND SECURE. SECURE RTUS TO UPPER CURB RAIL, AND SECURE CURB BASE TO CONCRETE BASE WITH ANCHOR BOLTS.

CONNECTIONS

INSTALL CONDENSATE DRAIN, MINIMUM CONNECTION SIZE, WITH TRAP AND INDIRECT CONNECTION TO NEAREST ROOF DRAIN OR AREA DRAIN.

INSTALL PIPING ADJACENT TO RTUS TO ALLOW SERVICE AND MAINTENANCE.

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REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

ALIAN

MODULAR

VALANT MODULAR, LLC

15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174

(386) 677-9316

ENGINEER  
STAMP

WALTER E. WOOD  
NUMBER  
PE-2017022073

02-23-2024

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, Fl. 34616  
(717)-584-8151

APPROVED

2-23-2024

WALTER CARTER & ASSOCIATES

SHEET NAME

MECHANICAL  
SPECIFICATIONS

SHEET NUMBER

M1.2



REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
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VALIANT MODULAR, LLC  
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(386) 677-9316

ENGINEER  
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STATE OF MISSOURI

WALTER E. WOOD  
NUMBER  
PE-2017022072  
VALID  
02-23-2024

Third Party: HWC & Asoc. Inc.  
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Clearwater, FL 34616  
(717)-584-8151

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**HWC**

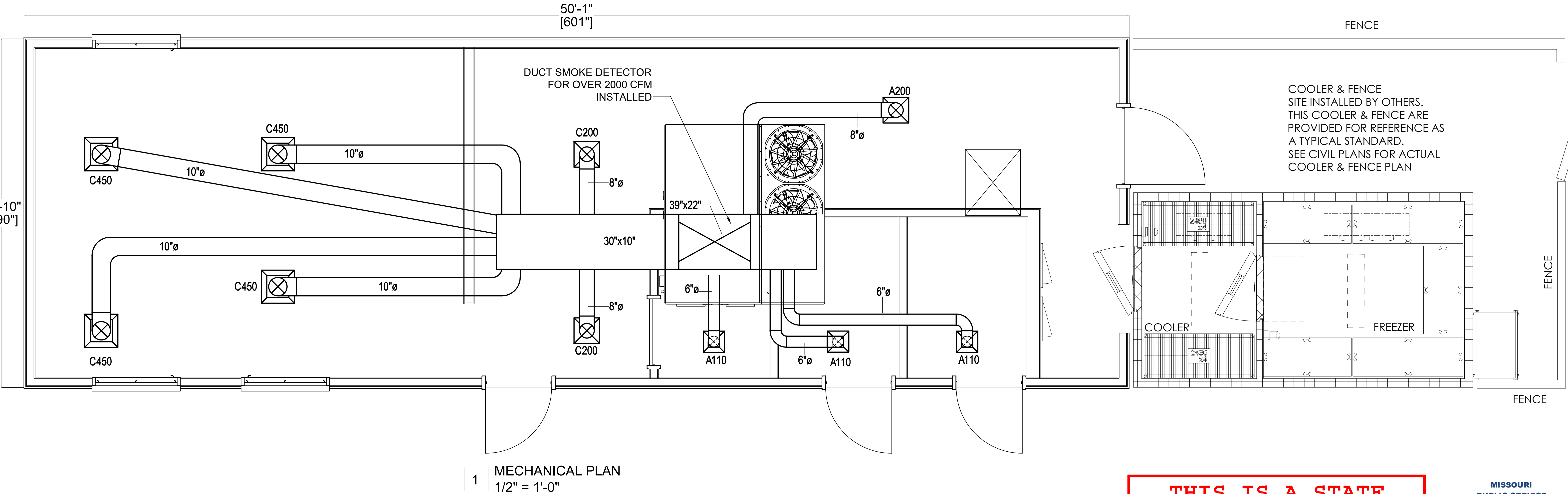
WALTER, CARTER & ASSOCIATES

SHEET NAME

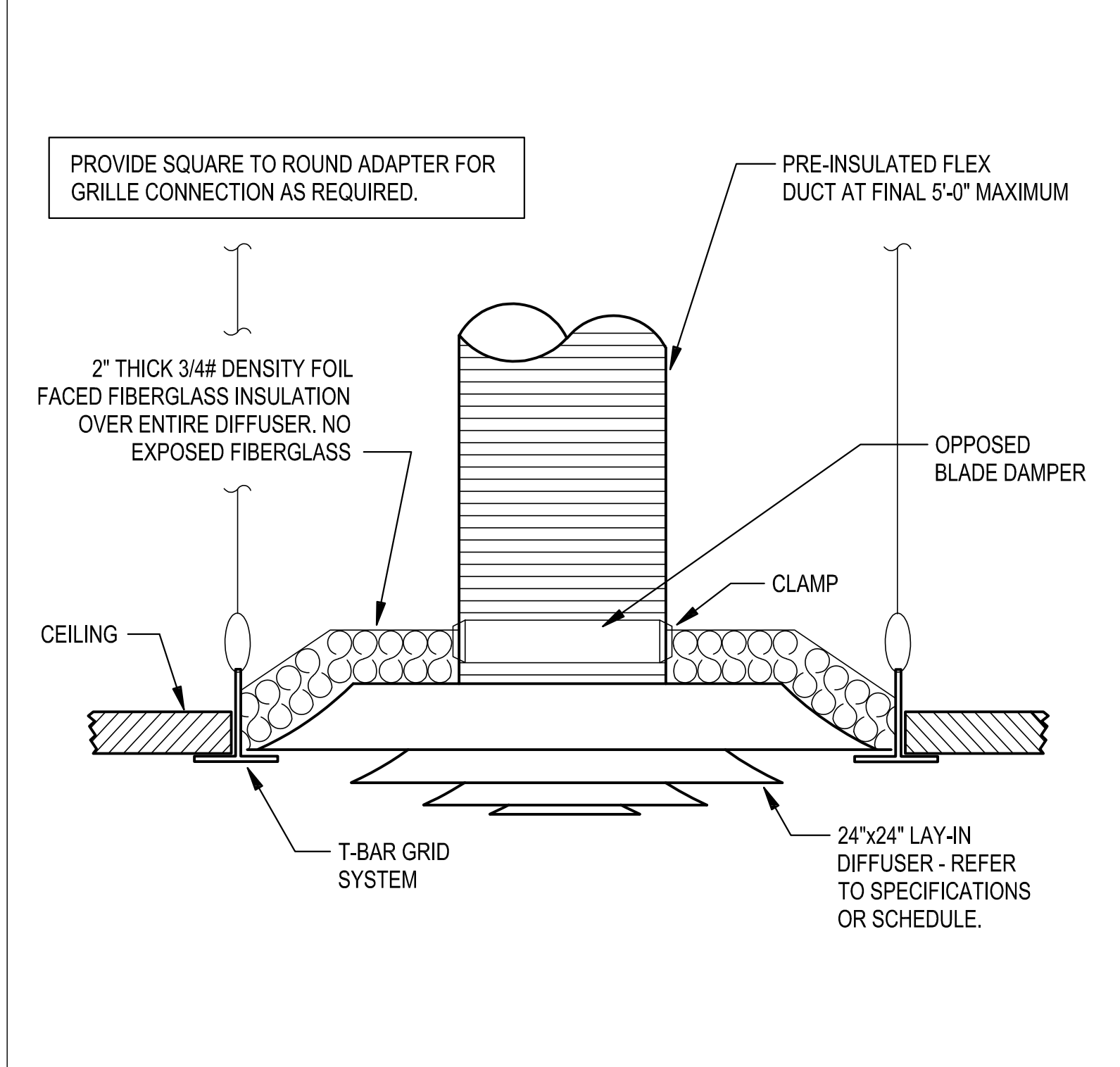
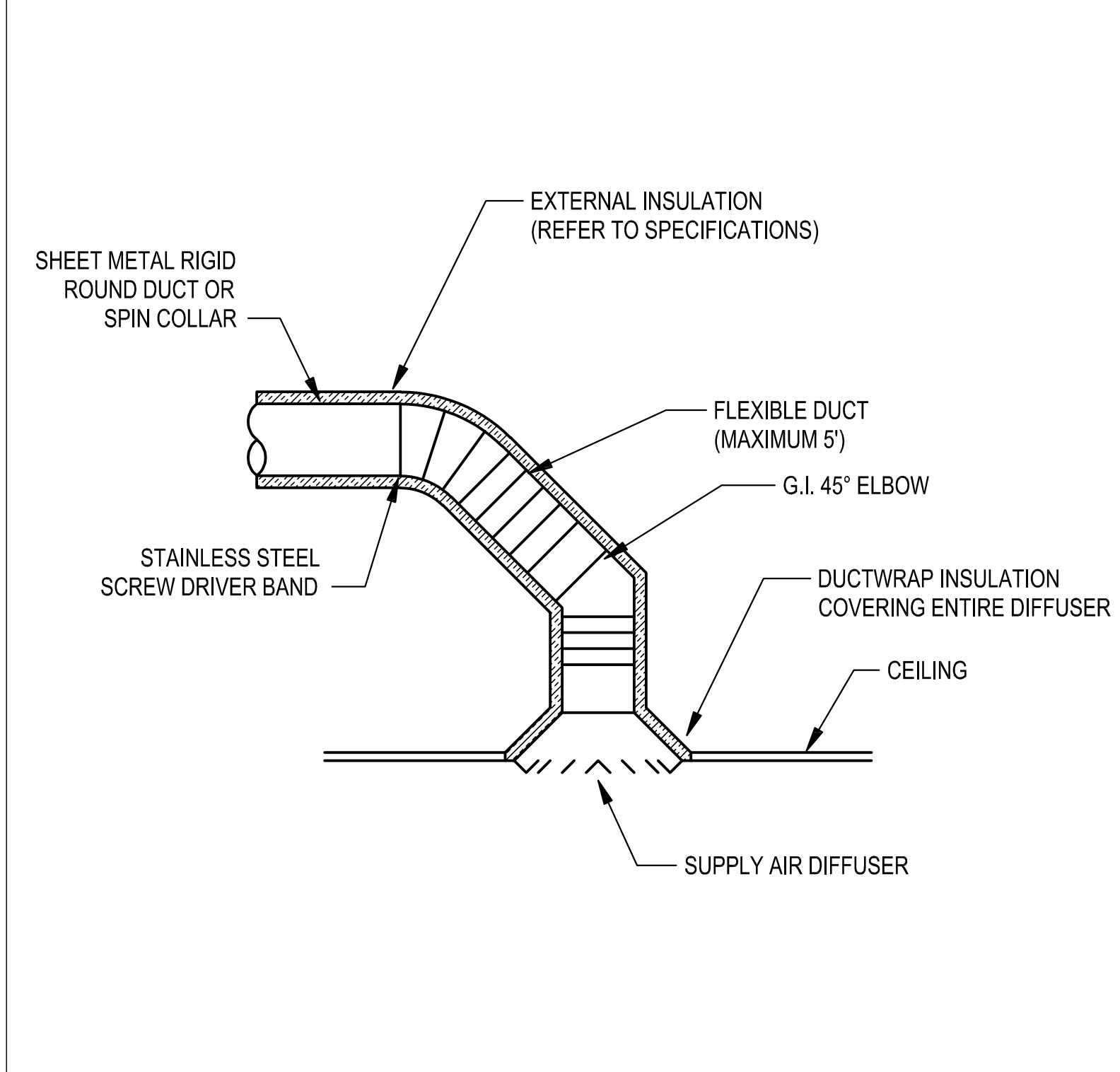
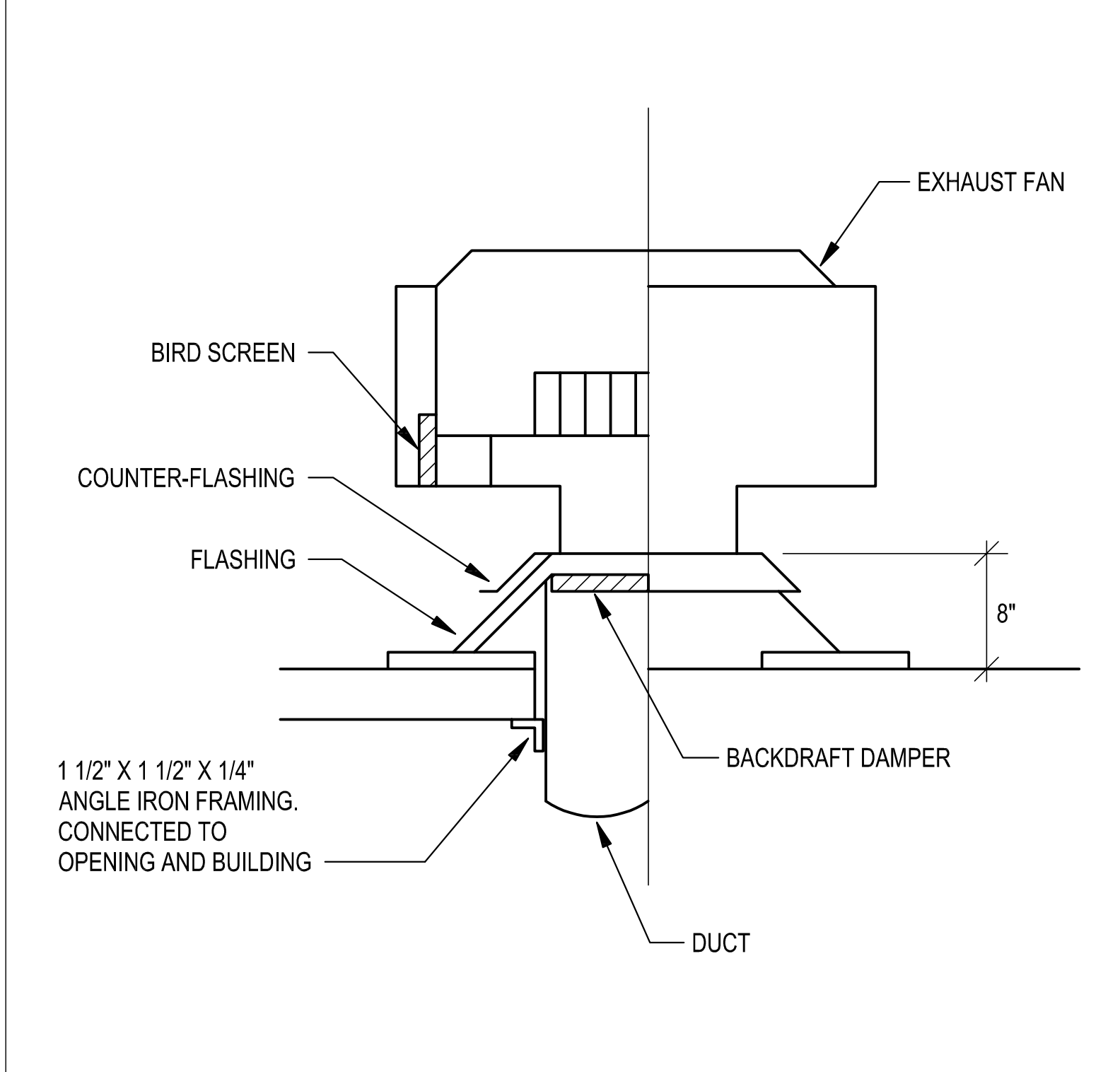
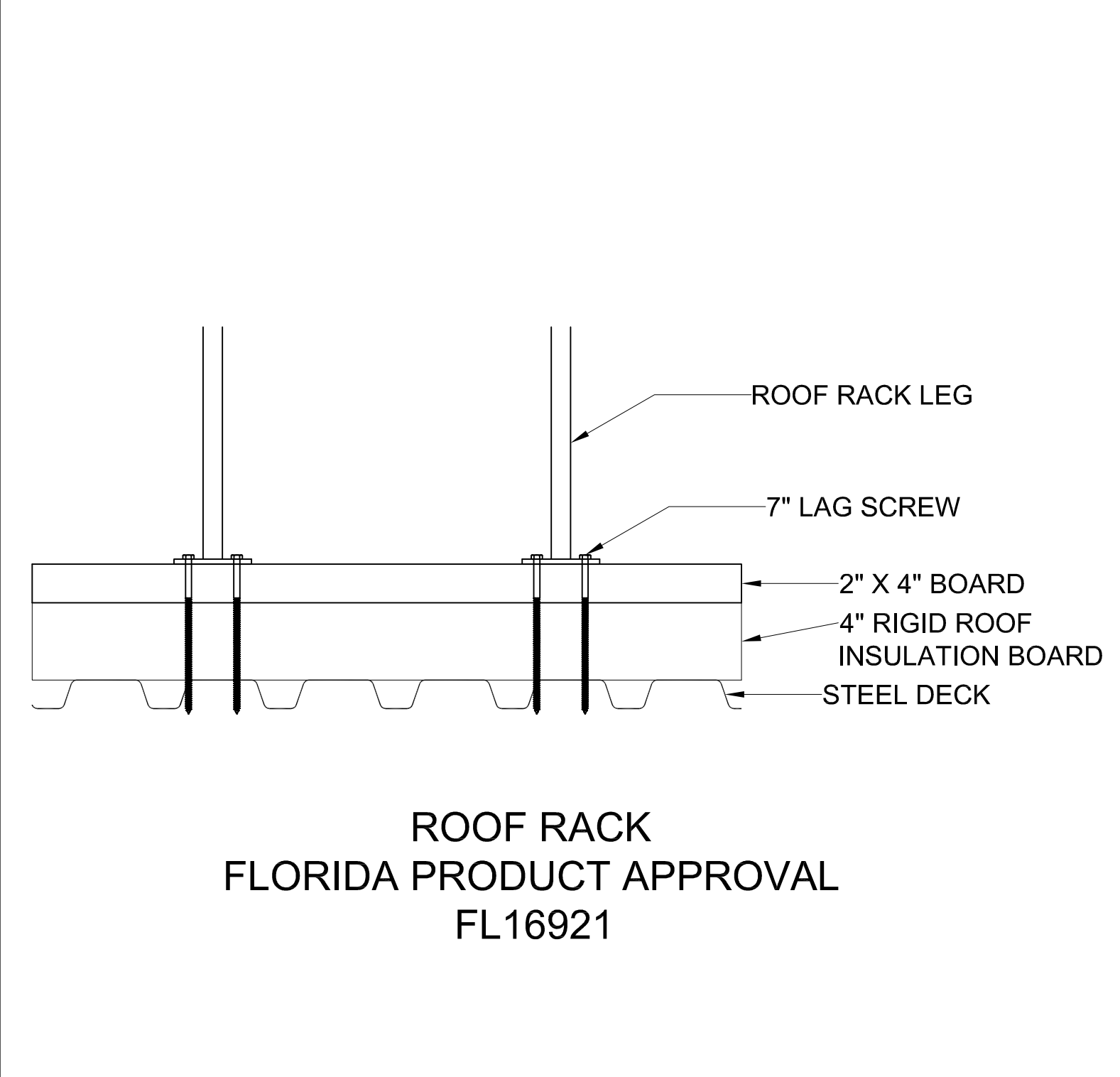
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SHEET NUMBER

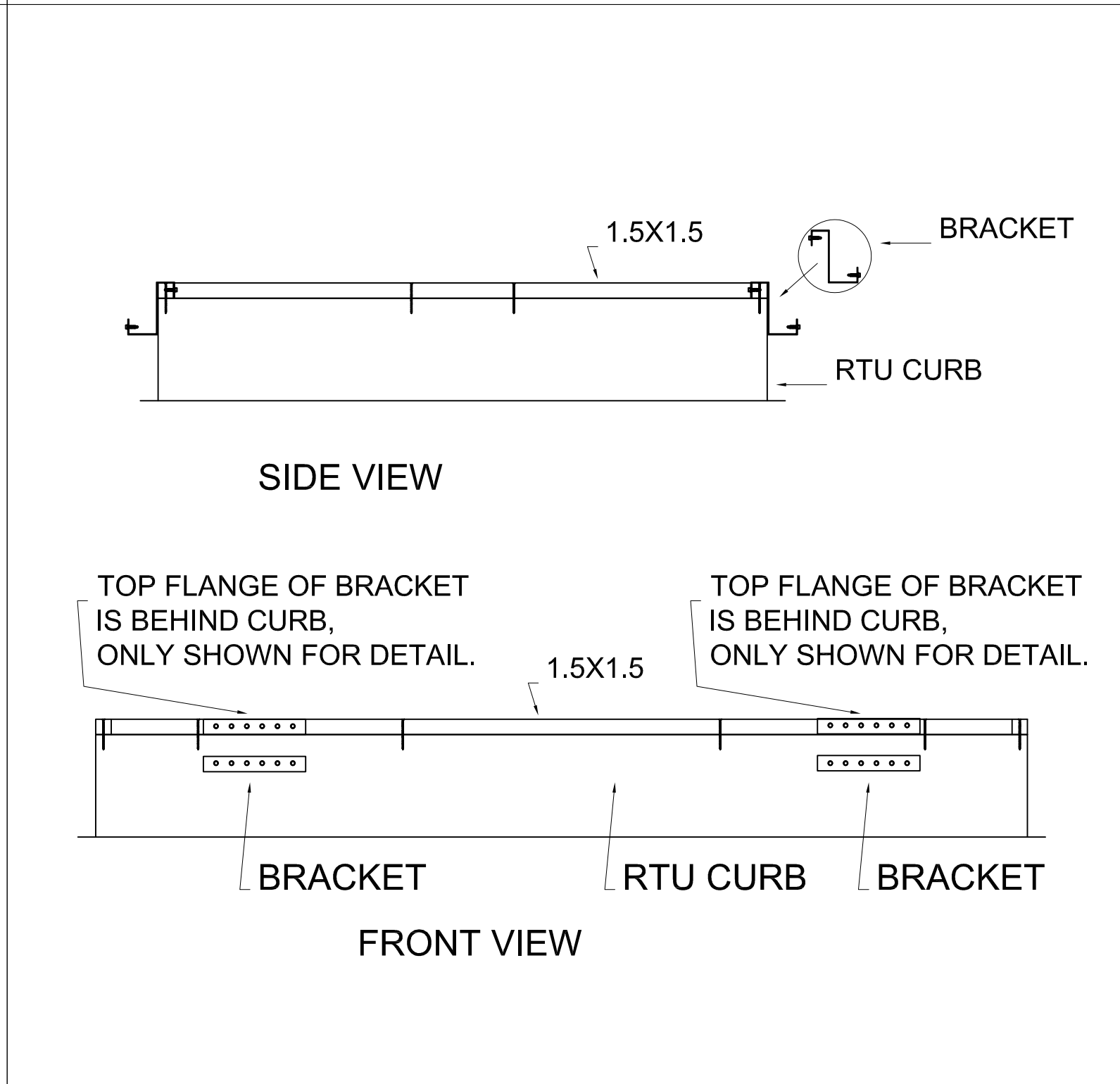
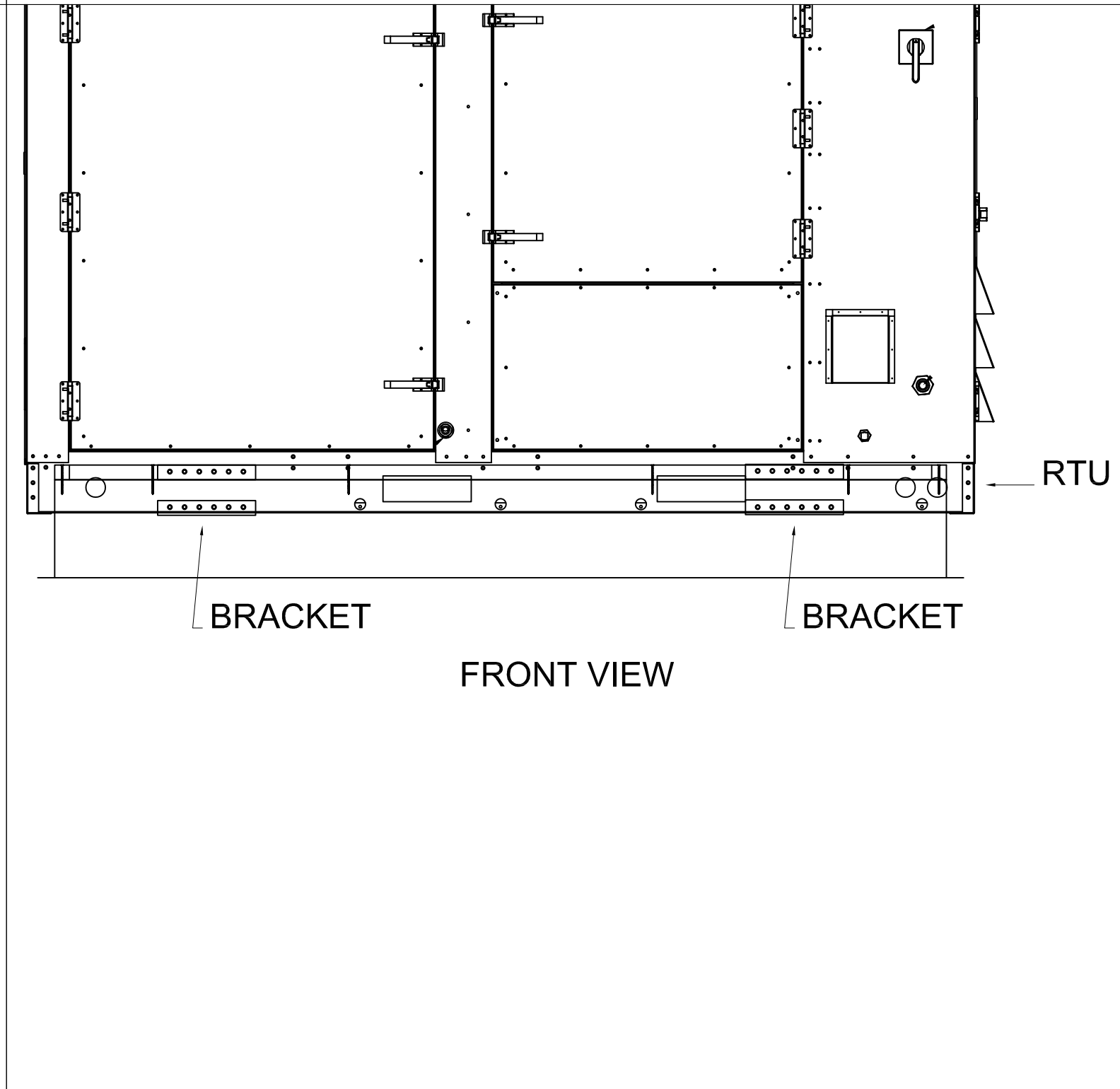
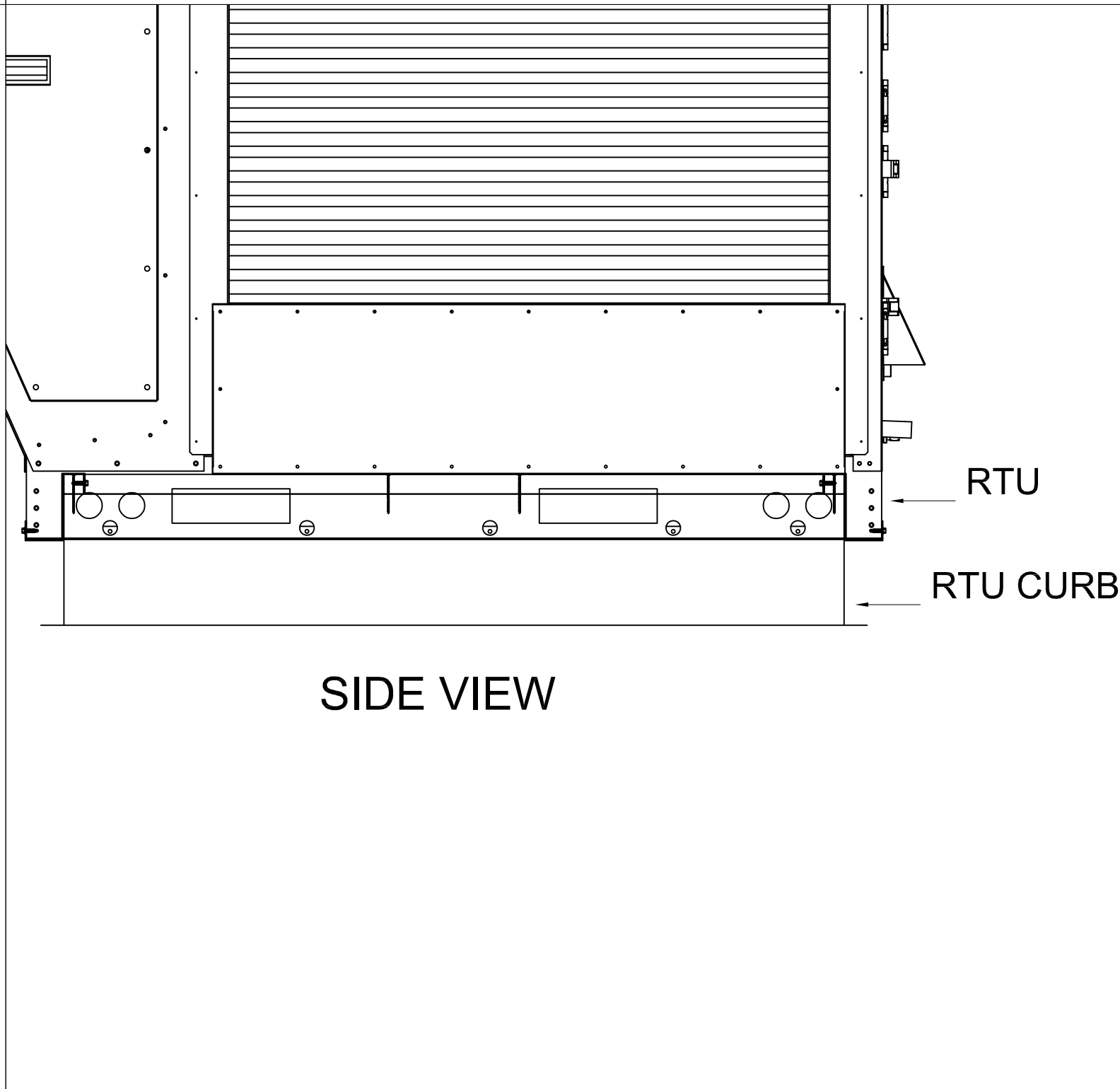
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DETAIL LEGEND		
	X48	#10 X 1" SELF TAPPING PLATED SCREW
	X20	#8 X 3" WOOD SCREW
	X4	WIND & SEISMIC BRACKET
RTU CURB SPOT WELDED 6" O.C. TO RED IRON STEEL ROOF		



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Clearwater, FL 34616  
(717)-584-8151

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2-23-2024

**HWC**

W. W. CARTER & ASSOCIATES

SHEET NAME

MECHANICAL  
SCHEDULE  
& DETAILS

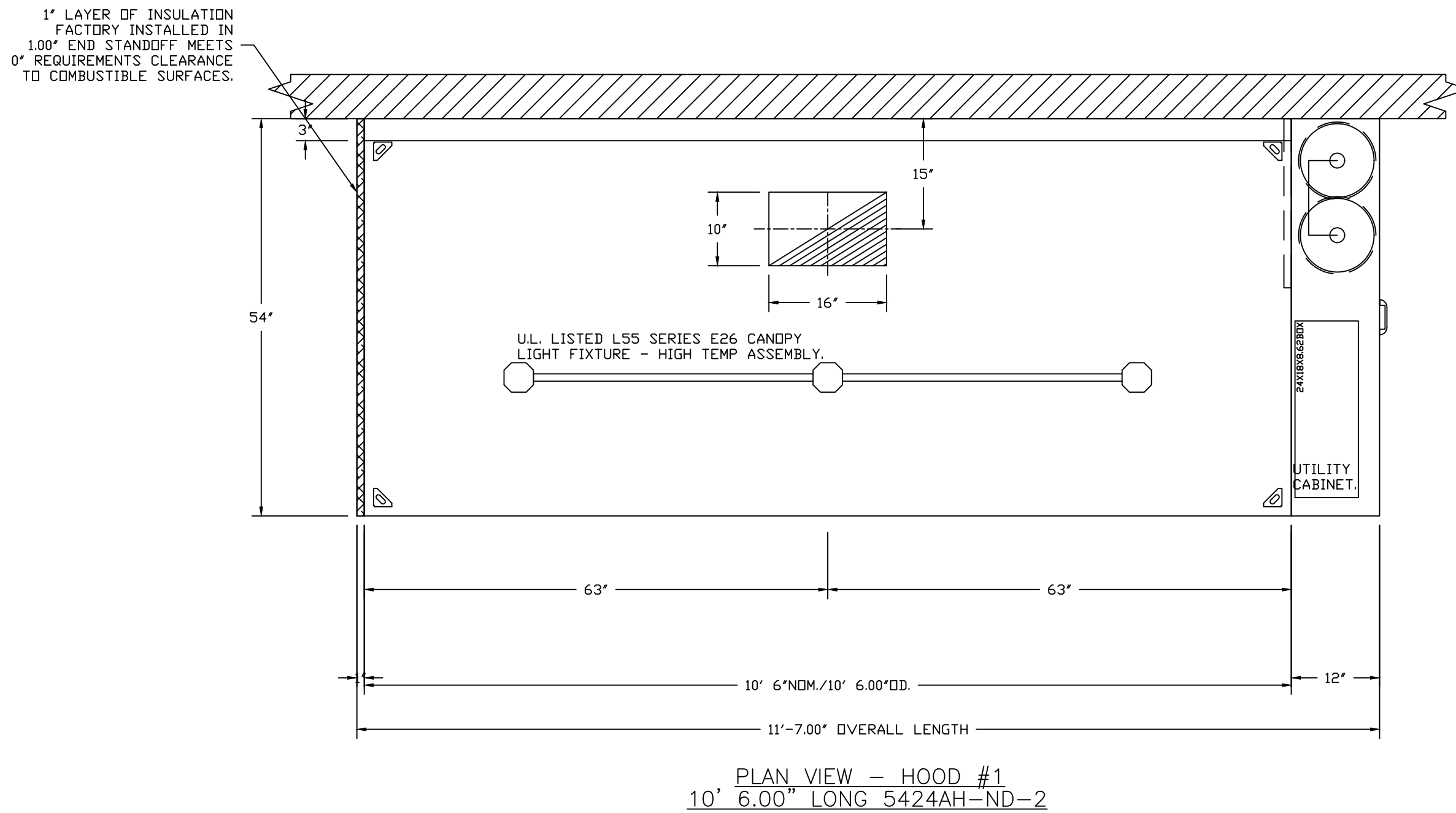
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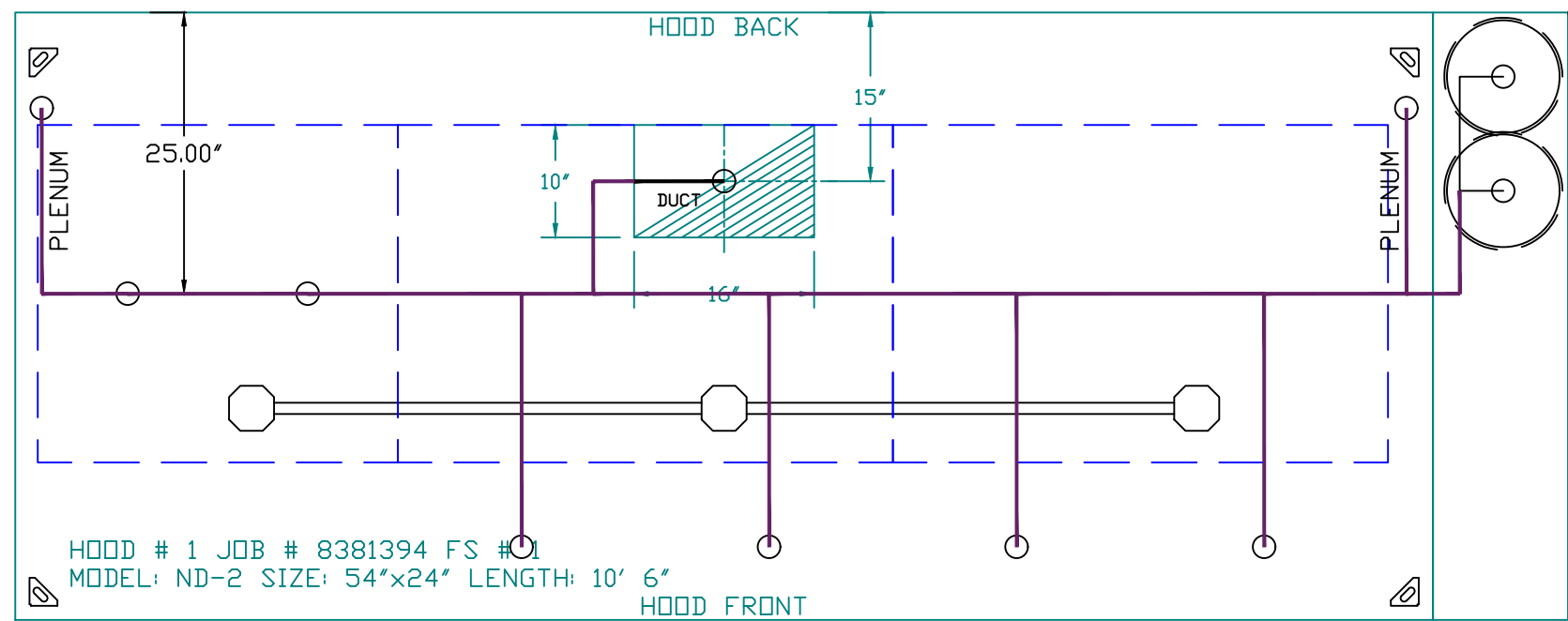


HOOD INFORMATION - JOB#8381394

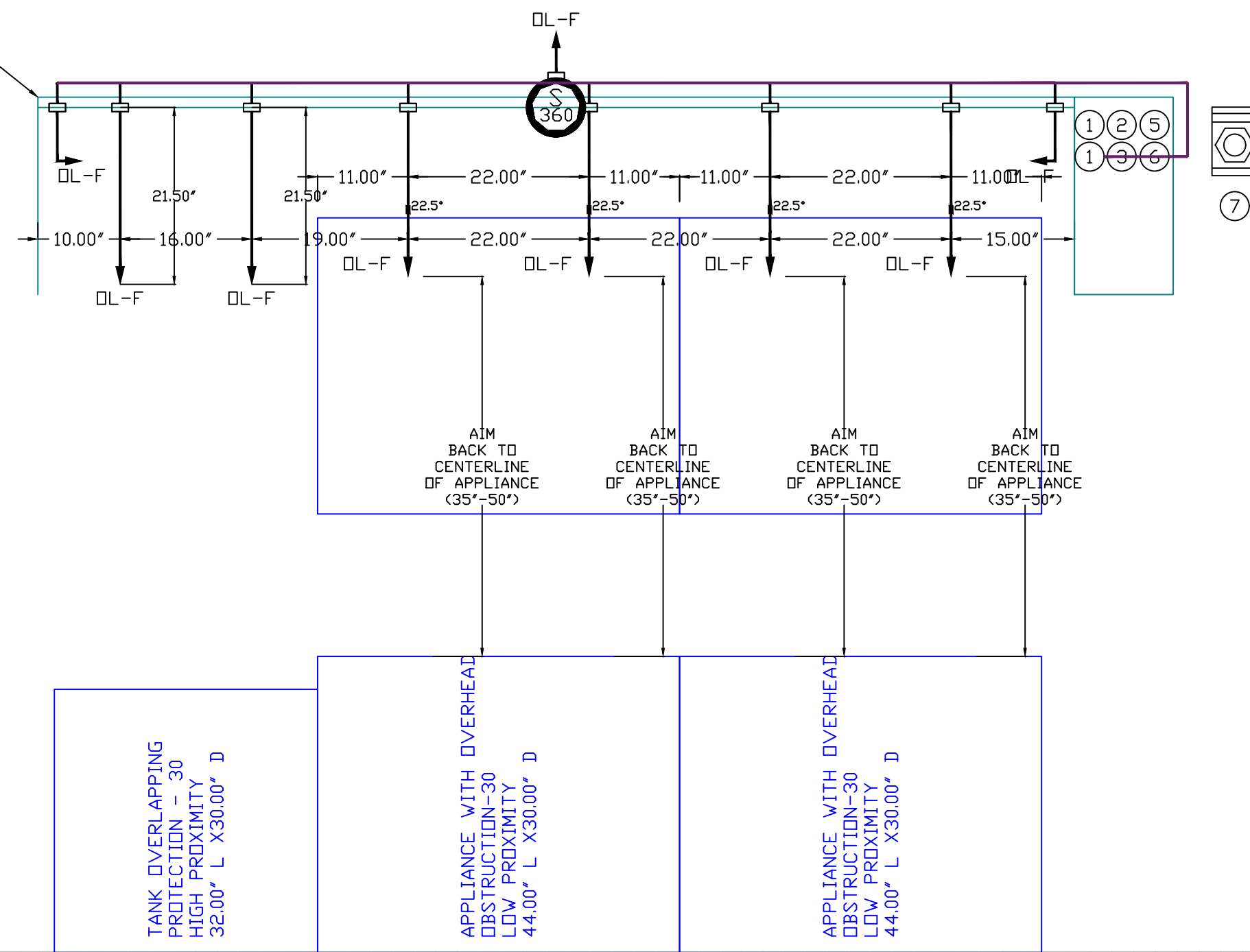
HOOD NO	TAG	MODEL	MANUFACTURER	LENGTH	MAX COOKING TEMP	TYPE	APPLIANCE DUTY	DESIGN CFM/FT	TOTAL EXH CFM	EXHAUST PLENUM RISER(S)							HOOD CONSTRUCTION	HOOD CONFIG	
										WIDTH	LENG	HEIGHT	DIA	CFM	VEL	SP		END TO END	ROW
1		5424 AH-ND-2	ADVANCED HOOD	10' 6'	450 DEG	I	MEDIUM	205	2152	10'	16'	4'		2152	1937	-0.872'	430 SS WHERE EXPOSED	ALONE	ALONE



EXHAUST HOOD WELD INSPECTION, 200W LIGHT TEST, INSTALLATION INSPECTION, AND GAS LINE INSPECTION ARE PERFORMED IN THE FACTORY BY:  
JOSEPH SMALLWOOD  
FLORIDA FIRE SAFETY INSPECTOR GRADE I #145324  
FLORIDA FIRE SAFETY INSPECTOR GRADE II #176236  
CERTIFICATES REGISTERED WITH PRO BOARD



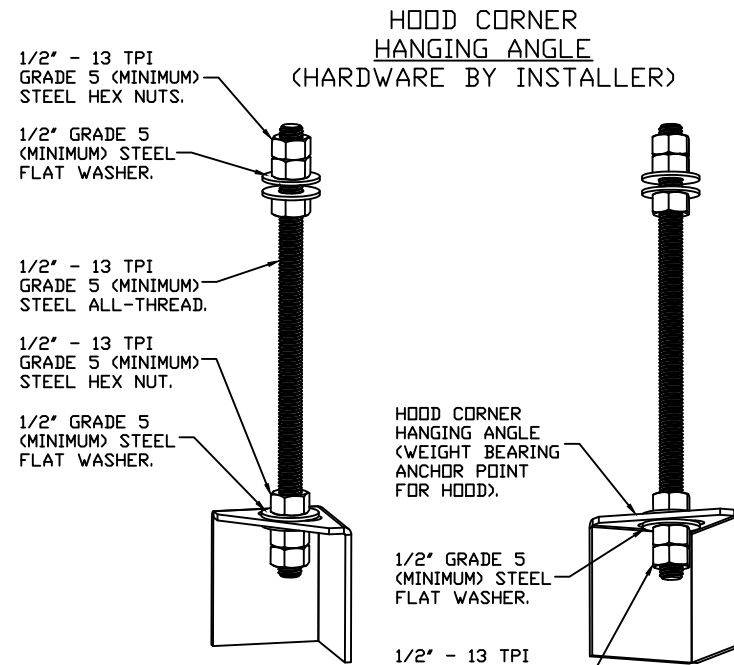
FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.



SYSTEM REQUIRES A MINIMUM OF 7 FT OF EQUIVALENT PIPE LENGTH BETWEEN TANK AND NEAREST APPLIANCE NOZZLE FOR MOST APPLIANCES. EACH 90 DEGREE ELBOW ADDS 1.3 FT OF EQUIVALENT LENGTH. SEE MANUAL FOR DETAILS

HOOD INFORMATION

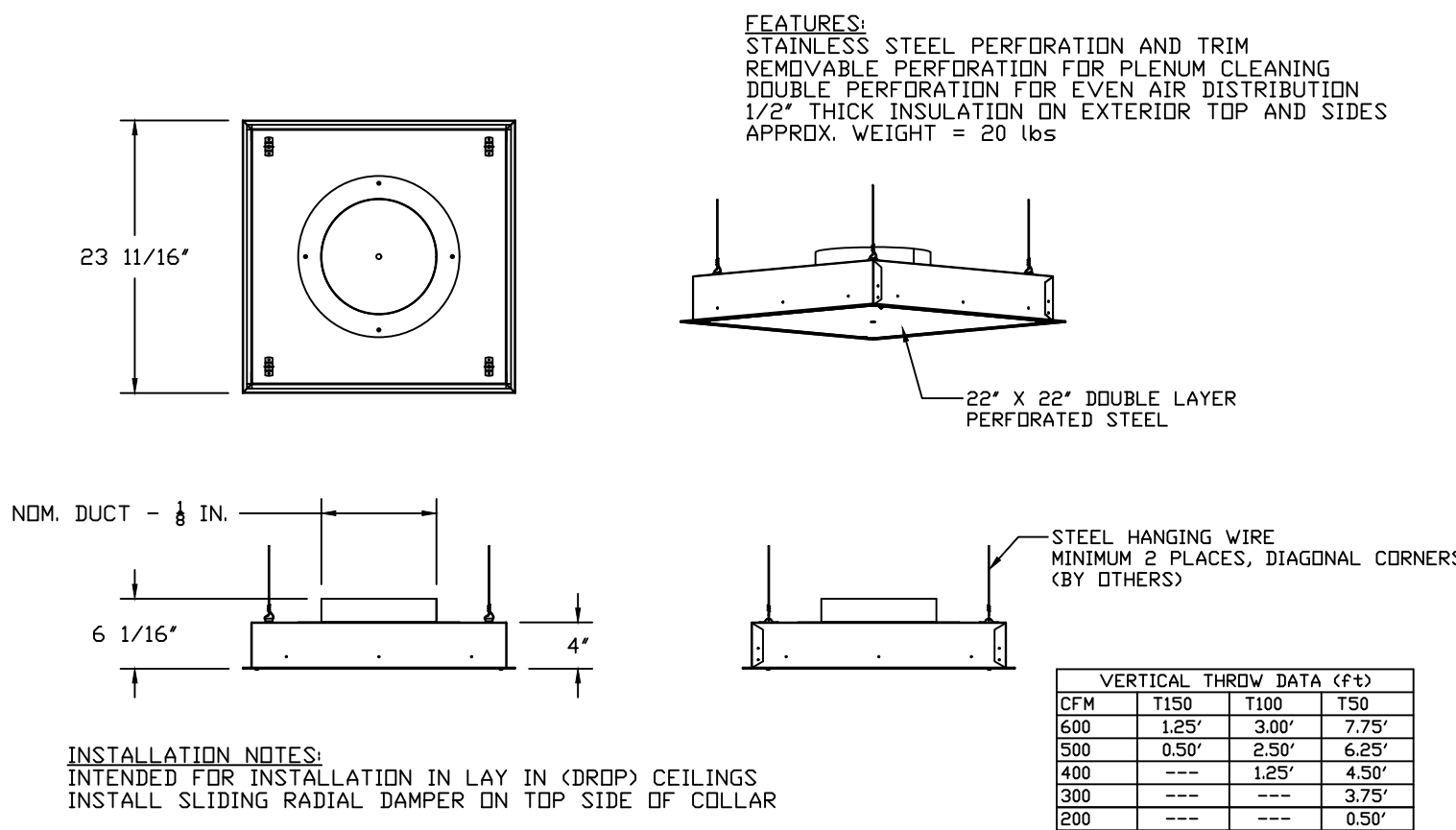
HOOD NO	TAG	TYPE	QTY	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	QTY	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S)				FIRE SYSTEM PIPING	HOOD HANGING WEIGHT
												FIRE SYSTEM	ELECTRICAL	SWITCHES	QUANTITY		
1		CAPTRATE SOLD FILTER	7	20"	16"	85% SEE FILTER SPEC	3	L55 SERIES E26	NO	RIGHT	12"x54"x24"	TANK FS	4.0/4.0	SC-311110MA	1 LIGHT 1 FAN	YES	767 LBS



ASSEMBLY INSTRUCTIONS

HANGING ANGLE MUST BE SUPPORTED WITH 1/2" - 13 TPI GRADE 5 (MINIMUM) ALL-THREAD SANDWICH HANGING ANGLES AND CEILING ANCHOR POINTS WITH 1/2" GRADE 5 (MINIMUM) STEEL FLAT WASHERS AND 1/2" - 13 TPI GRADE 5 (MINIMUM) HEX NUTS AS SHOWN. MUST USE DOUBLED HEX NUT CONFIGURATION BENEATH HOOD HANGING ANGLES AND ABOVE CEILING ANCHORS. MAINTAIN 1/4" OF EXPOSED THREADS BENEATH BOTTOM HEX NUT. TORQUE ALL HEX NUTS TO 57 FT-LBS.

QTY 7-DROP-IN PERFORATED SUPPLY PLENUM DIFFUSER (DI-PSP)



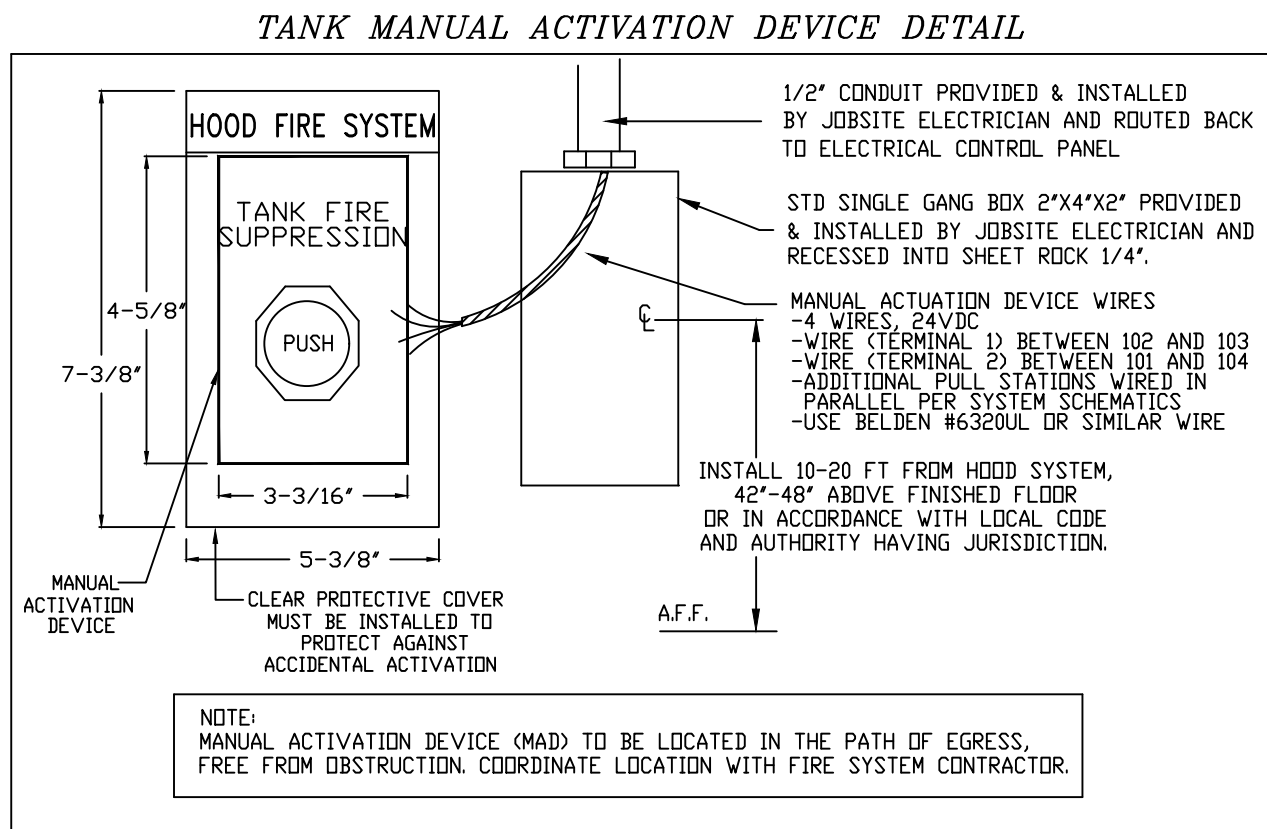
- NOTES
- FIELD PIPE DROPS AS SHOWN
  - PIPING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS.
  - FIELD INSTALLED DROP: FACTORY WILL PROVIDE QTY 2 60IN LONG PIECES OF CHROME PLATED PIPING SHIPPED LOOSE TO BE FIELD-INSTALLED.
  - SHIP LOOSE DROP: FACTORY WILL PROVIDE THE EXACT CHROME PIPE LENGTH NEEDED SHIPPED LOOSE TO BE FIELD-INSTALLED.
  - RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVEING, SALAMANDERS, ETC.
  - OVERLAPPING COVERAGE SHALL NOT BE USED ON ANY APPLIANCE WITH AN OBSTRUCTION.
  - IF APPLICABLE, EXTENDED PRE-PIPED DROPS ARE SHIPPED LOOSE.
  - FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.
  - APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.
  - THIS PRE-ENGINEERED FIRE SYSTEM COMPLIES WITH UL 300 REQUIREMENTS.

- DL-F NOZZLE PART NUMBER REPLACES 3070-3/8H-10-SS

JOB #: 8381394.  
JOB NAME: SLIDERS SOUTH LEE SUMMIT, MD.

SYSTEM SIZE: TANK-SP-2 DESIGN FP: 38. MAXIMUM FP: 40.  
HOOD # 1 10' 6.00" LONG x 54" WIDE x 24" HIGH.  
RISER # 1 SIZE: 10" x 16".  
HOOD # 1 METAL BLOW-OFF CAPS INCLUDED.

- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.



FIRE SYSTEM INFORMATION - JOB#8381394

FIRE SYSTEM NO	TAG	TYPE	SIZE	MAX FP	DESIGN FP	INSTALLATION	
						SYSTEM	LOCATION ON HOOD
1		TANK FS	4.0/4.0	40	38	FIRE CABINET RIGHT	RIGHT, HOOD 1

FOR QUESTIONS, CALL THE  
Advanced Hoods Systems, LLC  
REGION 140  
PHONE: 407-269-4813  
EMAIL: scott@advancedhoodsystems.com

REVISIONS		DESCRIPTION	DATE
1		Updated Capstone Sheets	12.11.25
2			
3			
4			

ADVANCED HOOD SYSTEMS  
Advanced Hoods Systems, LLC  
FL PHONE: 407-269-4813 FAX: 407-269-4813 EMAIL: juan@advancedhoodsystems.com

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WALTER E. WOOD  
PE-201902073  
WALTER CARTER & ASSOCIATES

STATE OF MISSOURI  
WALTER E. WOOD  
PE-201902073  
VALID  
12-23-2024

SLIDERS

DATE:

DWG.#:

DRAWN BY:

SCALE:  
3/4" = 1'-0"

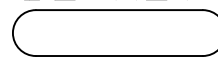
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SHEET NO.



FAN #2 AHRTU3-I.200-15-17.5T-DOAS - HEATER

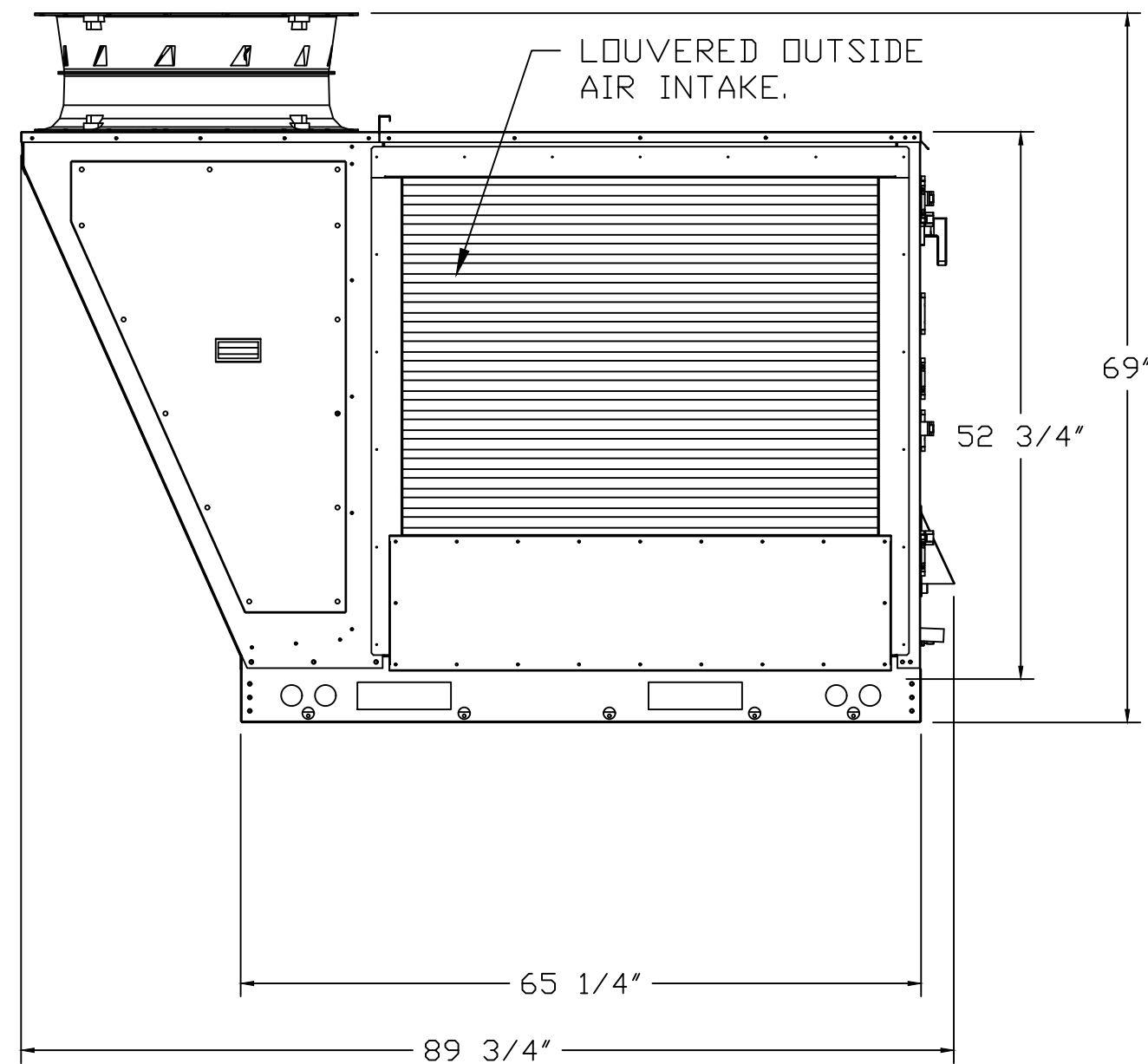
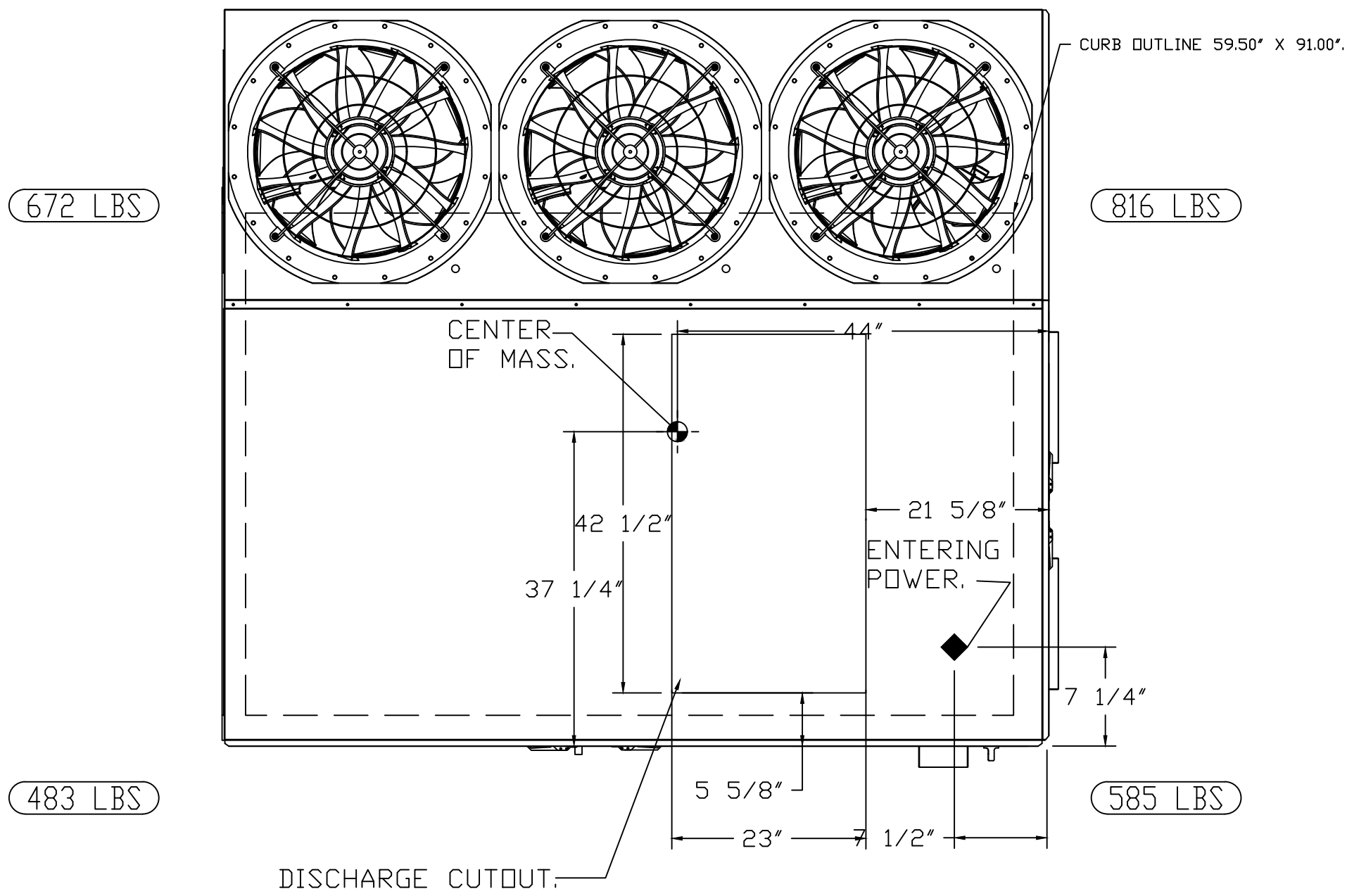
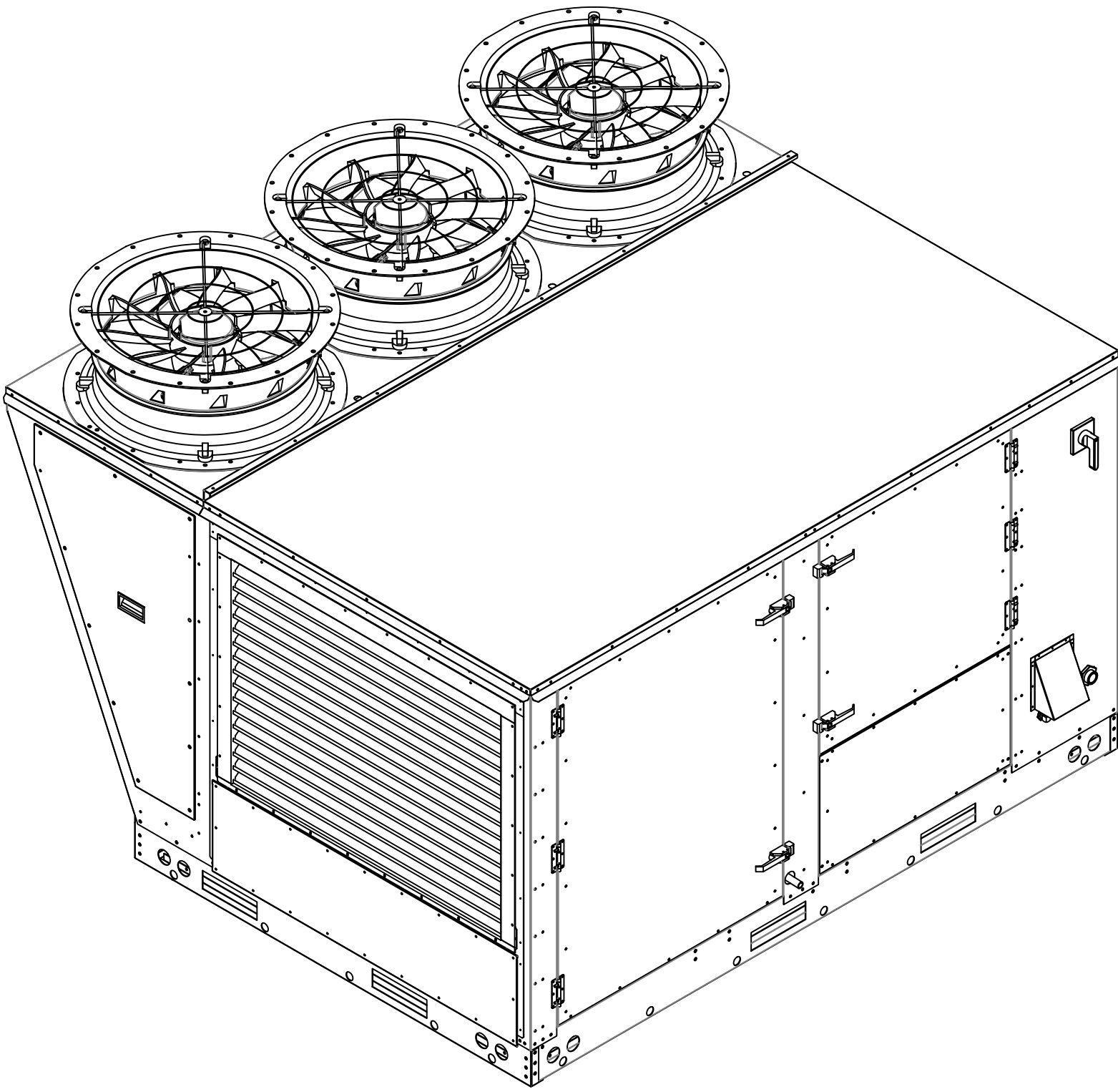
NOTES:

- DO NOT OBSTRUCT OUTSIDE AIR INLET, OUTSIDE AIR COIL OR OUTSIDE AIR FAN.
-  DENOTES CORNER WEIGHT.
- CONNECTION FROM BREAKER TO UNITS SAFETY DISCONNECT SWITCH TO BE COPPER WIRE ONLY.
- EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET.

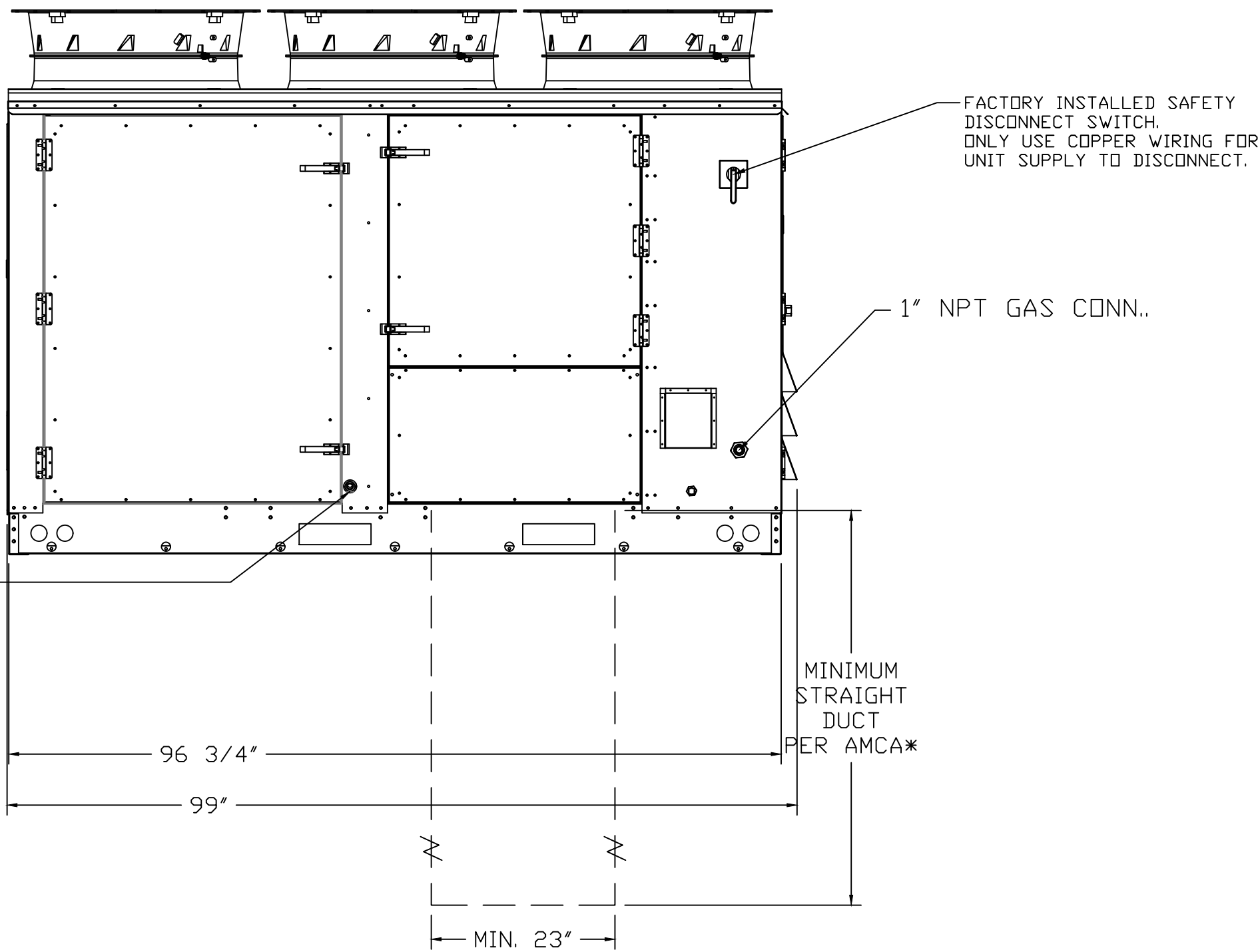
\*NOTE: INTEGRAL CO2 MONITORING AND CONTROL CAPABILITIES FOR ALL SPACE MOUNTED THERMOSTATS.

**\*NOTE: THIS UNIT IS INTENDED TO SERVE IN PLACE OF THE KITCHEN HVAC ROOF TOP UNIT (RTU) IN ADDITION TO PROVIDING APPROPRIATE MAKE-UP AIR FOR THE KITCHEN HOOD(S). RTU AND ASSOCIATED DUCTWORK SHALL BE REMOVED FROM SCOPE UNLESS REQUIRED FOR INTERNAL LOAD ESTIMATES. FINAL DESIGN SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OF RECORD.**

\*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. WHEN USING RECTANGULAR DUCTWORK, ELBOWS MUST BE RADIUS THROAT, RADIUS BACK WITH TURNING VANES. FLEXIBLE DUCTWORK AND SQUARE THROAT/SQUARE BACK ELBOWS SHOULD NOT BE USED. ANY TRANSITION AND/OR TURNS IN THE DUCTWORK WILL CAUSE SYSTEM EFFECT. SYSTEM EFFECT WILL DRASTICALLY INCREASE STATIC PRESSURE AND REDUCE AIRFLOW. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.  
SUGGESTED SUPPLY STRAIGHT DUCT SIZE IS 23" x 39".



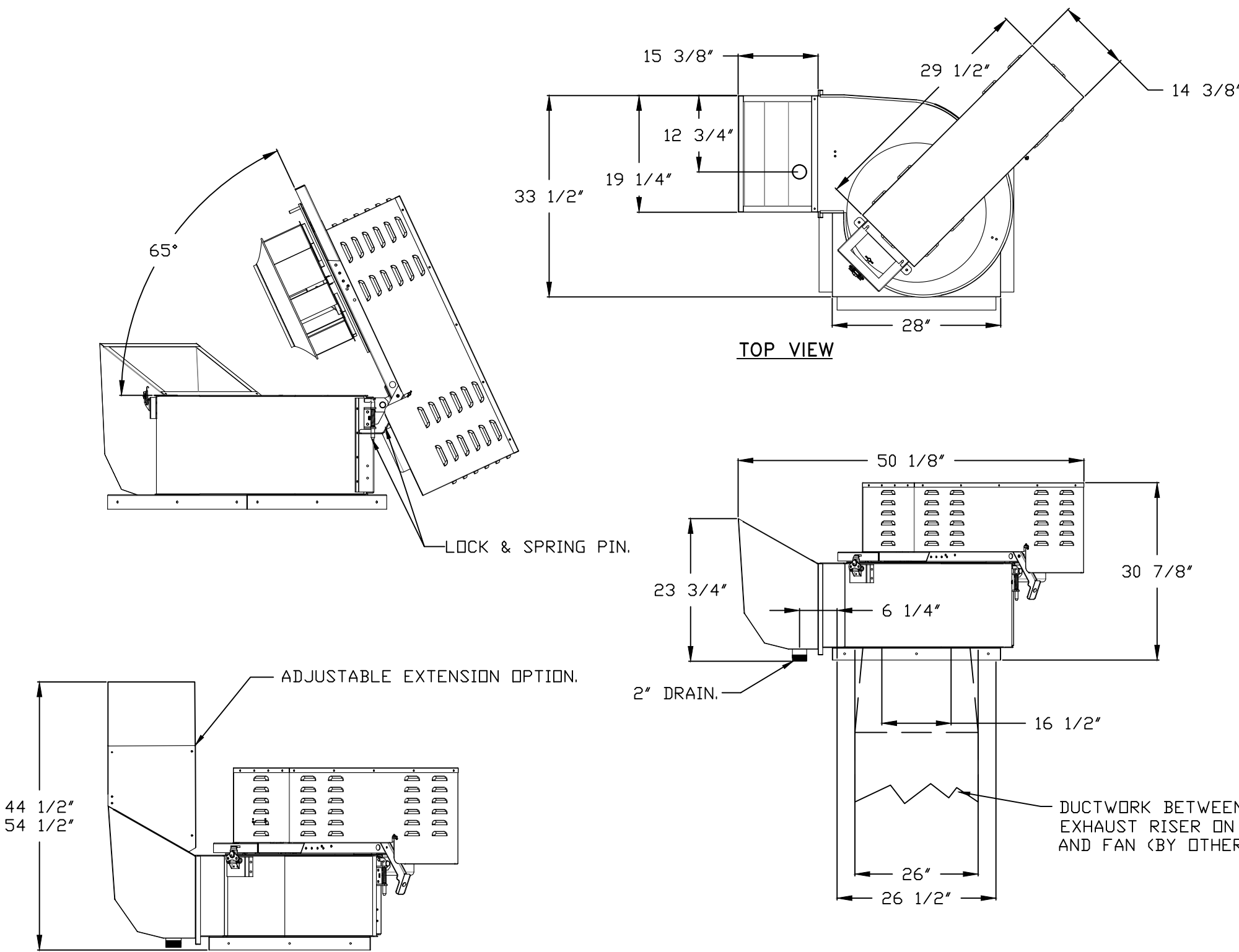
1" NPT SS EVAPORATOR DRAIN (TRAP REQ'D).  
4" MINIMUM TRAP DEPTH.



EXHAUST FAN INFORMATION - JOB#8381394

FAN UNIT NO	TAG	QTY	FAN UNIT MODEL #	MANUFACTURER	CFM	ESP	RPM	MOTOR ENCL	HP	BHP	PHASE	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS)	SDNES
1		1	AH-RE18DD	ADVANCED HOOD	2152	1.000	1251	DDP	2.000	1.0790	3	208	5.9	1248 FPM	286	16.4

FAN #1 AH-RE18DD - EXHAUST FAN



FEATURES:

- ROOF MOUNTED FANS.
- RESTAURANT MODEL.
- UL762 AND ULC-S645.
- HIGH HEAT OPERATION DIRECT DRIVE 300°F (149°C).
- HEAT SLINGER.
- GREASE CLASSIFICATION TESTING.
- TILT OUT WHEEL.
- LOCKING PIN FOR POWER PACK.
- MOTOR WEATHER COVER.
- INTERLOCKED DISCONNECT SWITCH.
- NEMA 4X SAFETY DISCONNECT SWITCH.

NORMAL TEMPERATURE TEST DIRECT DRIVE EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING AIR AT 300°F (149°C) UNTIL ALL FAN PARTS HAVE REACHED THERMAL EQUILIBRIUM AND WITHOUT ANY DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

ABNORMAL FLARE-UP TEST BELT & DIRECT DRIVE EXHAUST FAN MUST OPERATE CONTINUOUSLY WHILE EXHAUSTING BURNING GREASE VAPORS AT 600°F (316°C) FOR A PERIOD OF 15 MINUTES WITHOUT THE FAN BECOMING DAMAGED TO ANY EXTENT THAT COULD CAUSE AN UNSAFE CONDITION.

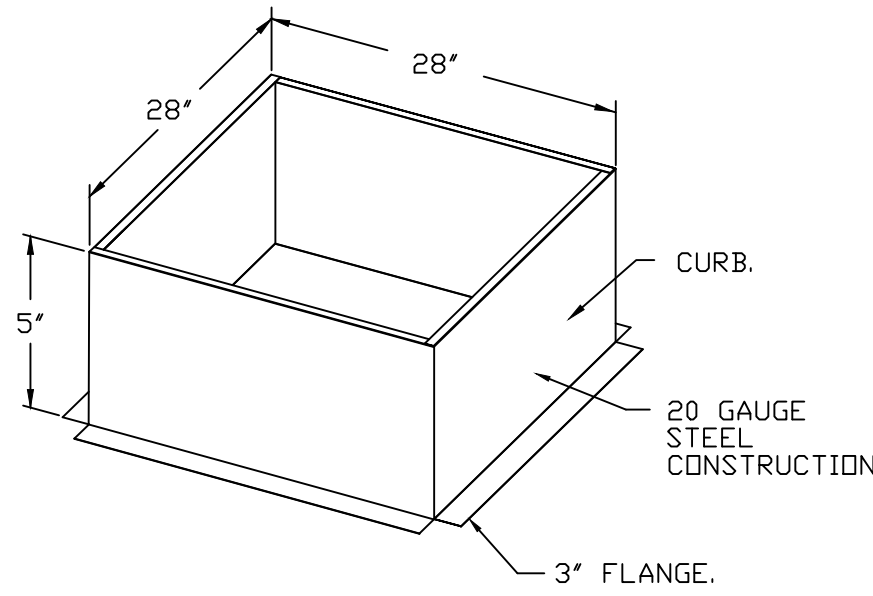
OPTIONS:

- UTILITY SET GREASE CUP.
- RE18 - DISCHARGE EXTENSION ASSEMBLY WITH HARDWARE.
- 2 YEAR PARTS WARRANTY.

AIR BALANCE SCHEDULE

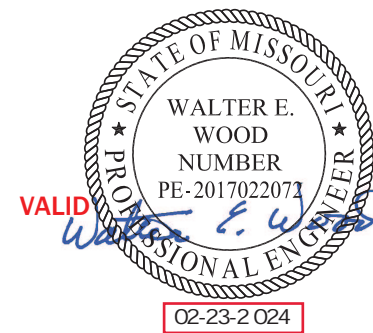
	EXHAUST	SUPPLY
EXHAUST HOOD	2152 CFM	
DOAS		2550 CFM
BATHROOM	160 CFM	
OVERALL BALANCE		238 CFM

CURB #1 CRB28X5E



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3/4" = 1'-0"

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2

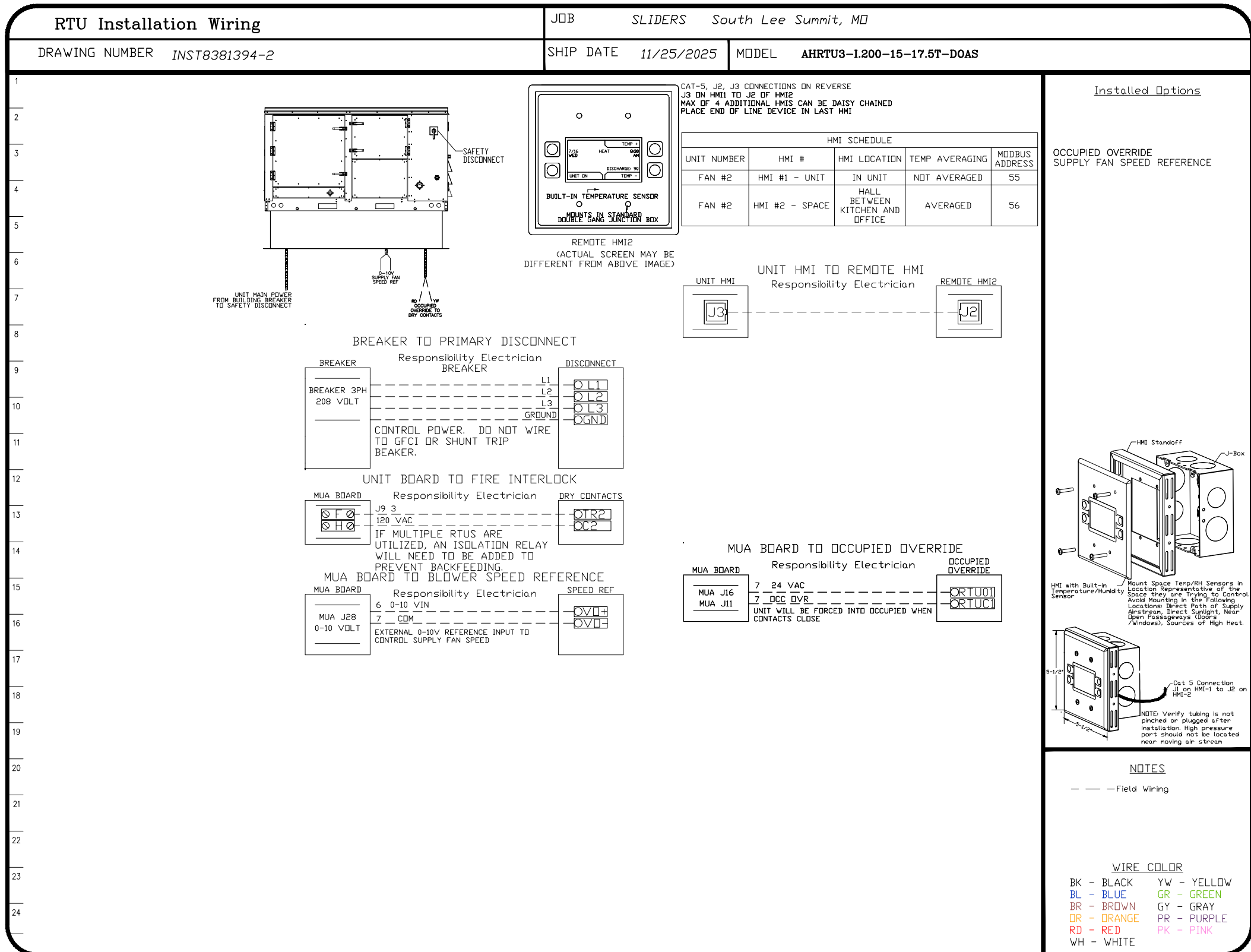
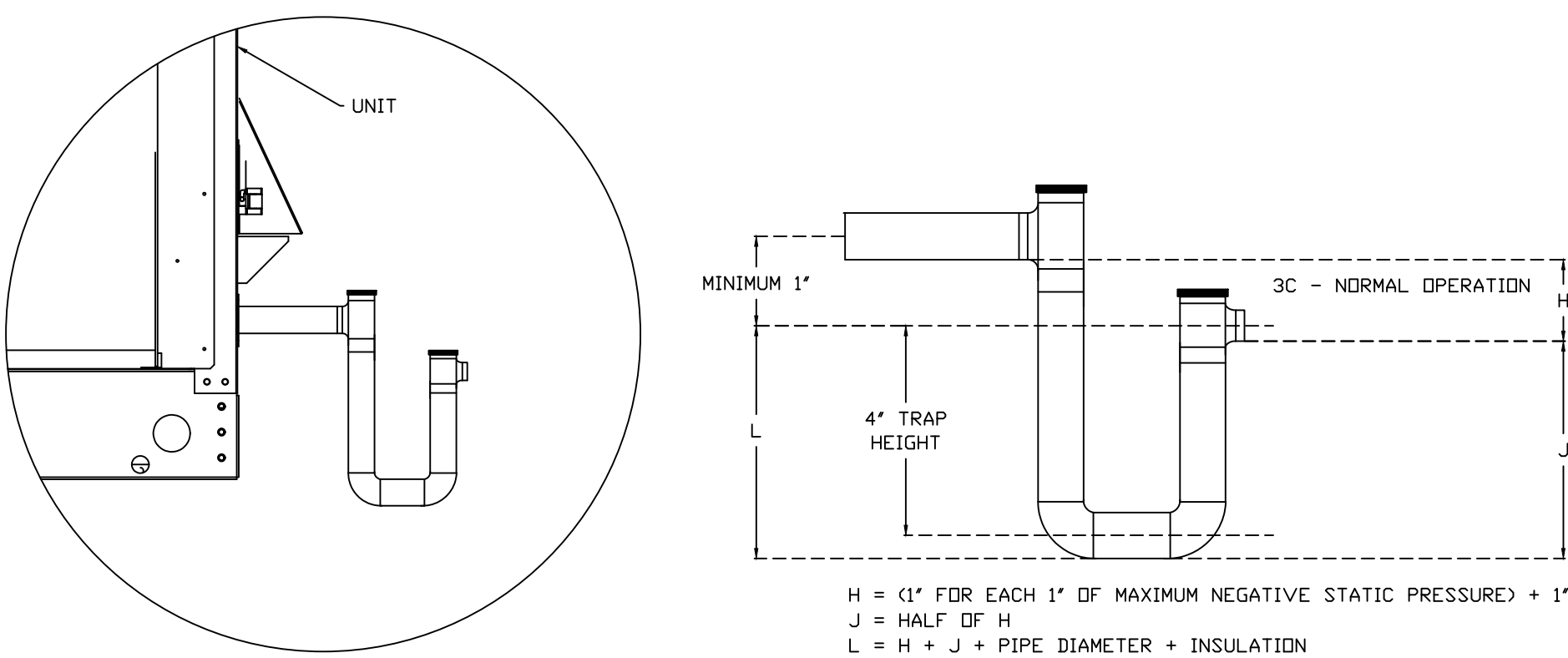


## FAN OPTIONS

FAN UNIT NO	TAG	QTY	DESCRIPTION
1		1	UTILITY SET GREASE CUP
		1	RE18 - DISCHARGE EXTENSION ASSEMBLY WITH HARDWARE
		1	2 YEAR PARTS WARRANTY
2		1	INLET PRESSURE GAUGE, 0-35"
		1	MANIFOLD PRESSURE GAUGE, 0 TO 10" WC, 1 FURNACE
		1	COOLING OVERRIDE
		1	RTU BLOWER DOOR SWITCH
		1	RTU3 DOWN DISCHARGE
		1	2" MERV 13 FILTERS FOR RTU3 (QTY. 4)
		1	2" MERV 8 FILTERS FOR RTU3 (QTY. 4)
		1	OVERHEAT STAT
		1	TOTAL CFM MONITORING
		1	SPECIAL DRIFICES FOR IF HEATERS ABOVE 2,000"
		1	RTU FIXED 100% OA INTAKE CONTROL
		1	OCCUPIED SCHEDULING
		1	INTAKE FIRESTAT SET TO 135°F
		1	FREEZESTAT
		1	DISCHARGE FIRESTAT SET TO 240°F
		1	CASLINK BUILDING MONITORING SYSTEM - INTERNET OR CELLULAR CONNECTION REQUIRED
		1	120V FIRE INPUT
		1	RTU3 HAIL GUARD
		1	RTU3 NO RETURN - 100% OA
		1	2" METAL MESH FILTERS FOR RTU3 OUTDOOR INTAKE
		1	BLOWER STOP DELAY, ALLOWS RESIDUAL HEAT TO BE TRANSFERRED INTO THE SUPPLY AIR AFTER HEATING HAS STOPPED. FACTORY SET AT: 90 SECS FOR IBT, 30 SECS FOR DF
		1	VAV PACKAGE W/ 0-10VDC INPUT CONTROL (571 VFD INCLUDED)
		1	VFD FACTORY MOUNTED AND WIRED IN RTU COMMERCIAL CONTROL VESTIBULE
		1	SINGLE POINT ELECTRICAL CONNECTION FOR RTU, 750VA TRANSFORMER USED. IF A NON-DCV PREWIRE CONTROLS THIS UNIT, THE #2B, #47, "MA", OR "EC" PREWIRE OPTION MUST BE SELECTED. DOES NOT PROVIDE SUPPLY STARTER IN PREWIRE
		1	17.5 TON MODULATING COOLING OPTION, 208/230V, R454B REFRIGERANT, VARIABLE SPEED COMPRESSOR, ECM CONDENSING FANS
		1	LOW AMBIENT COOLING OPERATION - DOWN TO 0°F AMBIENT
		1	R454B LEAK DETECTOR OPTION FOR RTUS
		1	17.5 TON MODULATING REHEAT OPTION - SPACE DEWPOINT CONTROL - R454B
		1	5 YEAR ENTIRE UNIT PARTS WARRANTY, 10 YEAR ENTIRE UNIT PARTS WARRANTY WITH REMOTE MONITORING AND CAPTIVEAIRE SERVICE CONTRACT, 25 YEAR STAINLESS STEEL FURNACE PARTS WARRANTY (SEE ADDITIONAL DETAILS)
		1	EXTERIOR GAS CONNECTION PROVIDED BY FACTORY WITH QUICK SEAL AND ANTI-ROTATION BRACKET

HMI SCHEDULE				
UNIT NUMBER	HMI #	HMI LOCATION	TEMP AVERAGING	MODBUS ADDRESS
FAN #2	HMI #1 - UNIT	IN UNIT	NOT AVERAGED	55
FAN #2	HMI #2 - SPACE	HALL BETWEEN KITCHEN AND OFFICE	AVERAGED	56

RTU CONDENSATE DRAIN TRAP DETAIL



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## DOAS/RTU FAN SCHEDULE - JOB#8381394

FAN INFORMATION										ELECTRICAL INFORMATION					COOLING INFORMATION							REHEAT INFORMATION				GAS HEAT INFORMATION				A&L MINIMUM ROOM VOLUME			NOTES						
FAN UNIT NO	TAG	QTY	DOAS/RTU MODEL #	MANUFACTURER	BLOWER	TOTAL CFM	MAX OUTSIDE AIR CFM	RETURN AIR CFM	WEIGHT (LBS)	ESP	HP	PHASE	VOLT	NCA	MDCP	OUTSIDE AIR DB	WB	LEAVING AIR DB	WB	DP	CAPACITY TOTAL	SENS.	IEER	ISMRE2	DISCHARGE DB	WB	CAPACITY DESIRED	MAX	MOISTURE REMOVAL RATE	GAS TYPE	INPUT BTUS	OUTPUT BTUS		TEMP RISE	REQUIRED INPUT GAS PRESSURE	ROOM AREA (FT2)	AIRFLOW (CFM)	HEIGHT (FT)	
2		1	AHRTU3-1200-15-17.5T-DOAS	ADVANCED HOOD	15P-3	2550	2550	0	2556	0.500	2.00	3	208	74.2A	80A		69.8°F	77.1°F	48.0°F	48.0°F	48.0°F	224.1 MBH	102.6 MBH	18.2	8.0	70.0°F	56.8°F	57.6 MBH	113.4 MBH	111.7 LBS/HR	NATURAL	183616	148729	55°F	7 IN. W.C. - 14 IN. W.C.	618.5	1031	7.2	1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18
NOTES:																																							
1. INVERTER SCROLL COMPRESSOR WITH INTEGRATED OIL SENSOR. DIGITAL OR STAGED SCROLL NOT AN APPROVED EQUAL																				18. SCCR RATING OF 10kAMP																			
2. DIRECT DRIVE PLENUM BLOWER. BELT DRIVEN BLOWERS ARE NOT ACCEPTABLE																																							
3. INTEGRATED MONITORING VIA CELLULAR CONNECTION BY MANUFACTURER																																							
4. REFRIGERATION PRESSURE MONITORING ON HIGH AND LOW PRESSURE SIDE OF SYSTEM INCLUDED THROUGH DIGITAL INTERFACE																																							
5. EC MOTOR CONDENSING FANS																																							
6. ELECTRONIC EXPANSION VALVE. TXV NOT ACCEPTABLE																																							
7. SUCTION LINE ACCUMULATOR																																							
8. FACTORY COMMISSIONING WITH 5 YEAR PARTS WARRANTY, 25 YEAR WARRANTY ON STAINLESS STEEL HEAT EXCHANGER																																							
9. AVERAGING INTAKE, EVAP AND DISCHARGE TEMPERATURE SENSORS (DISCHARGE SENSOR TO BE FACTORY MOUNTED WITHIN UNIT)																																							
10. 2" EXTERIOR DUAL-WALL CONSTRUCTION W/ R-13 INSULATION-MINIMUM 20GA EXTERIOR W/ 14GA BASE																																							
11. 81% EFFICIENT FURNACE, WITH MODULATING INDUCER TO MAINTAIN CONSTANT COMBUSTION EFFICIENCY ACROSS FIRING RANGE. 6:1 TURNDOWN WITH NG AND 5:1 TURNDOWN WITH LP																																							
12. SUPPLY CFM MONITORING INTEGRAL TO UNIT WITH CFM MEASUREMENT INCLUDED THROUGH DIGITAL INTERFACE																																							
13. FULLY MODULATING HOT GAS REHEAT																																							
14. 15 DEGREE LOW AMBIENT OPERATION																																							
15. HAIL GUARD FOR CONDENSING COIL																																							
16. DOWN DISCHARGE/NO RETURN																																							
17. MINIMUM ROOM AREA ASSUMED 7.2' SUPPLY DIFFUSER HEIGHT AND IS CALCULATED PER UL60335-2-40 4TH ED. VALUES BASED ON FACTORY CHARGE. ACTUAL SITE CHARGE MAY DIFFER.																																							

CAPTIVEAIR TO COMMISSION THE HVAC UNITS AND THEIR MECHANICAL SUB TO T&B.

CAPTIVEAIRE TO COMMISSION THE HVAC UNITS AND  
THEIR MECHANICAL SUB TO T&B.

REVISIONS

DESCRIPTION	DATE
Updated Captiveaire Sheets	12.11.25

Advanced Hoods Systems, LLC  
HOOD SYSTEMS  
Advanced Hoods Systems, LLC  
Ft. PHONE: 513.272.7977 EMAIL: jordan@advancedhoodsystems.com

SLIDERS

DATE: 2-23-2024

DWG.#:

DRAWN BY: WALTER E. WOOD

SCALE: 3/4" = 1'-0"

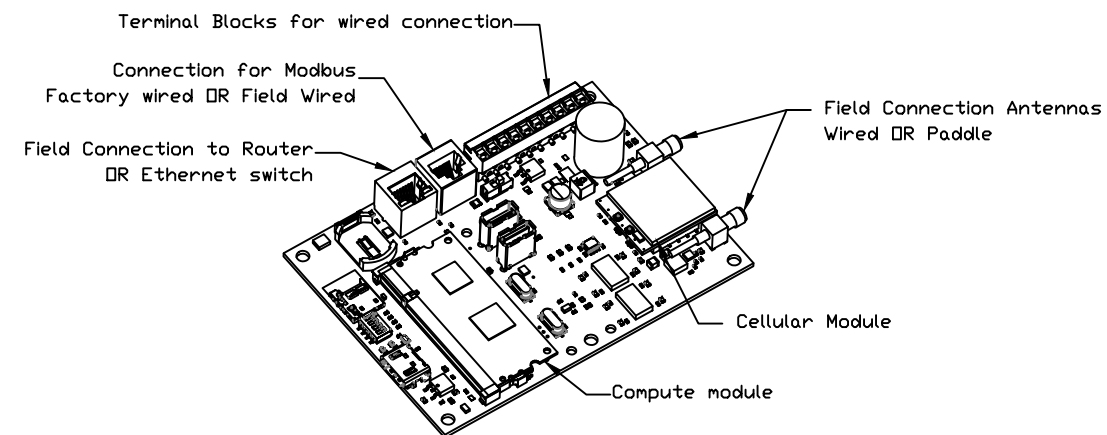
MASTER DRAWING

SHEET NO. 3



ELECTRICAL PACKAGE - JOB#8381394

NO	TAG	PACKAGE #	LOCATION	SWITCHES		OPTION	FANS CONTROLLED			
				LOCATION	QUANTITY		TYPE	Φ	HP	VOLT FLA
1		SC-31110MA	UTILITY CABINET RIGHT	UTILITY CABINET RIGHT	1 LIGHT	SMART CONTROLS THERMOSTATIC CONTROL W/ RELAY ON/OFF WITH SUPPLY	EXHAUST	3	2.000	208 5.9
				HOOD # 1	1 FAN		SUPPLY	3	2.000	208 6.1

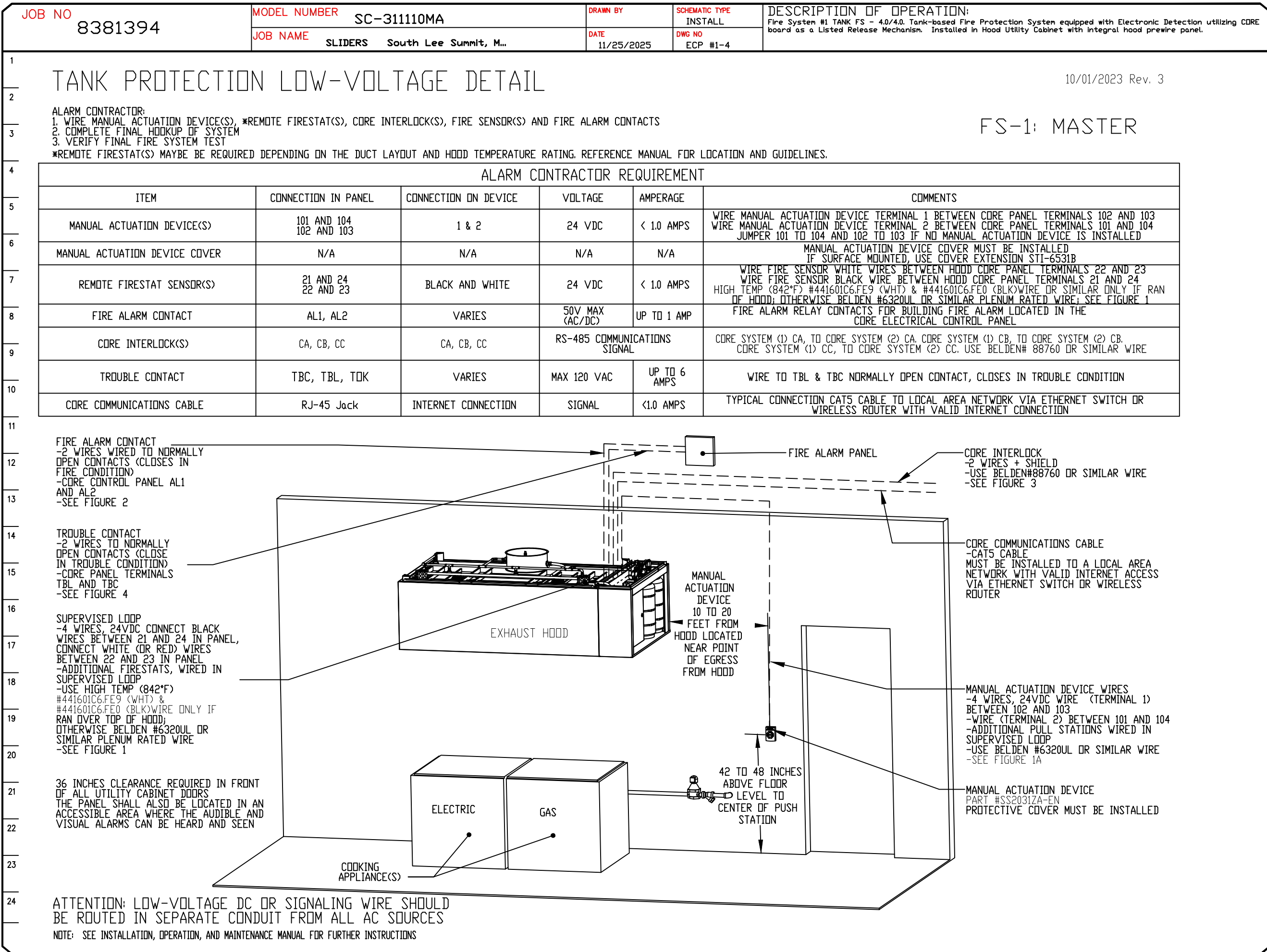
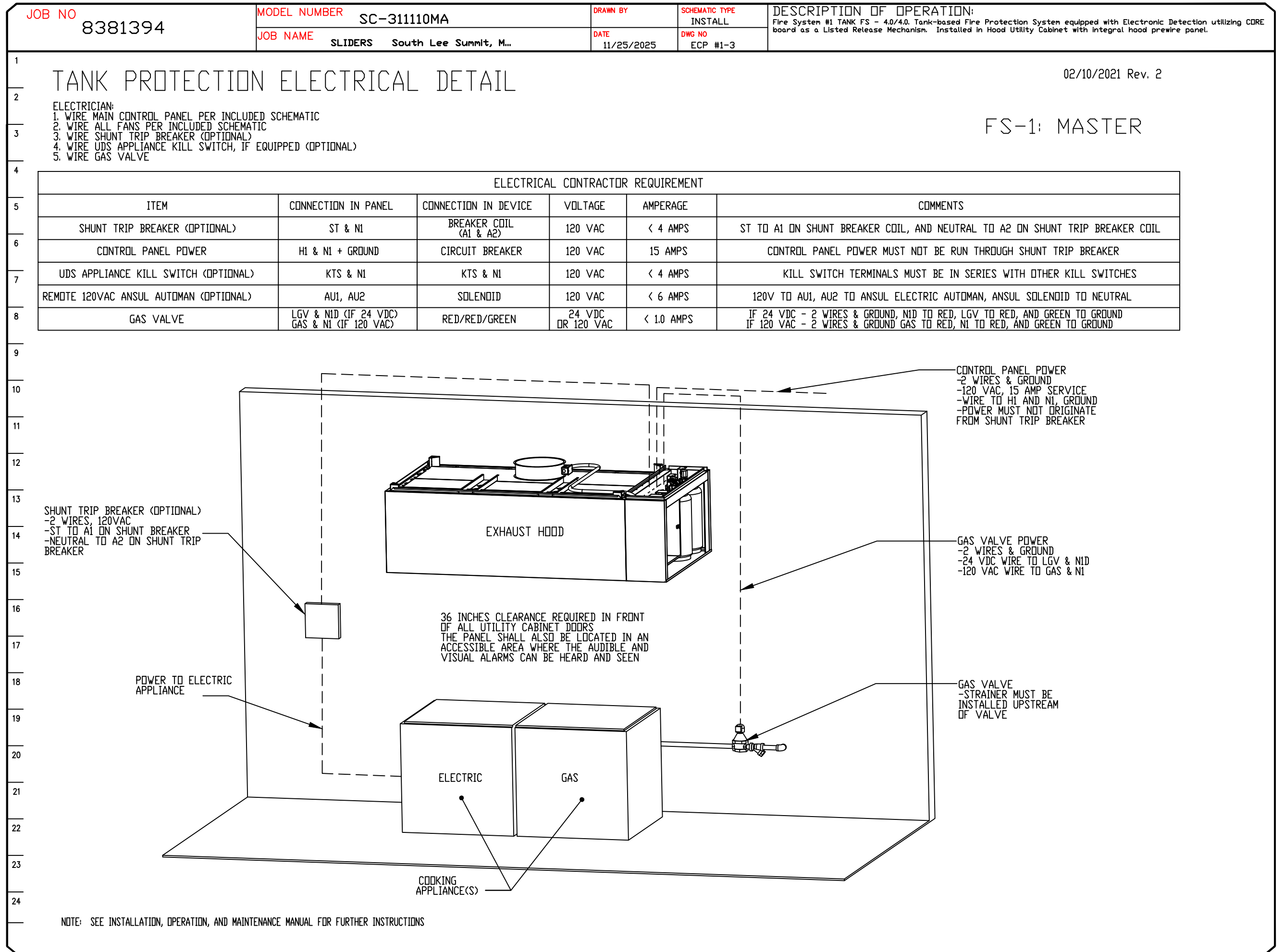
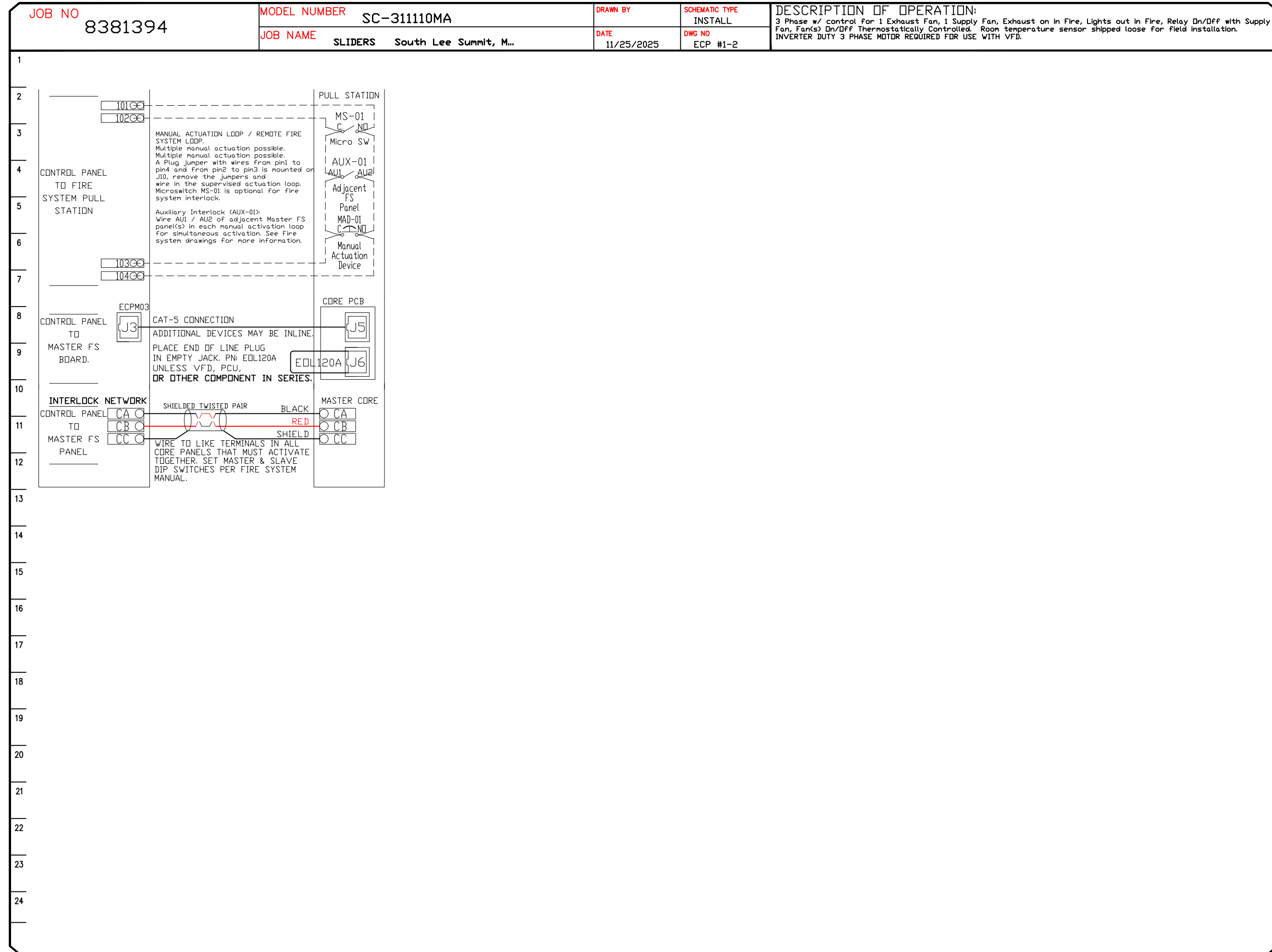
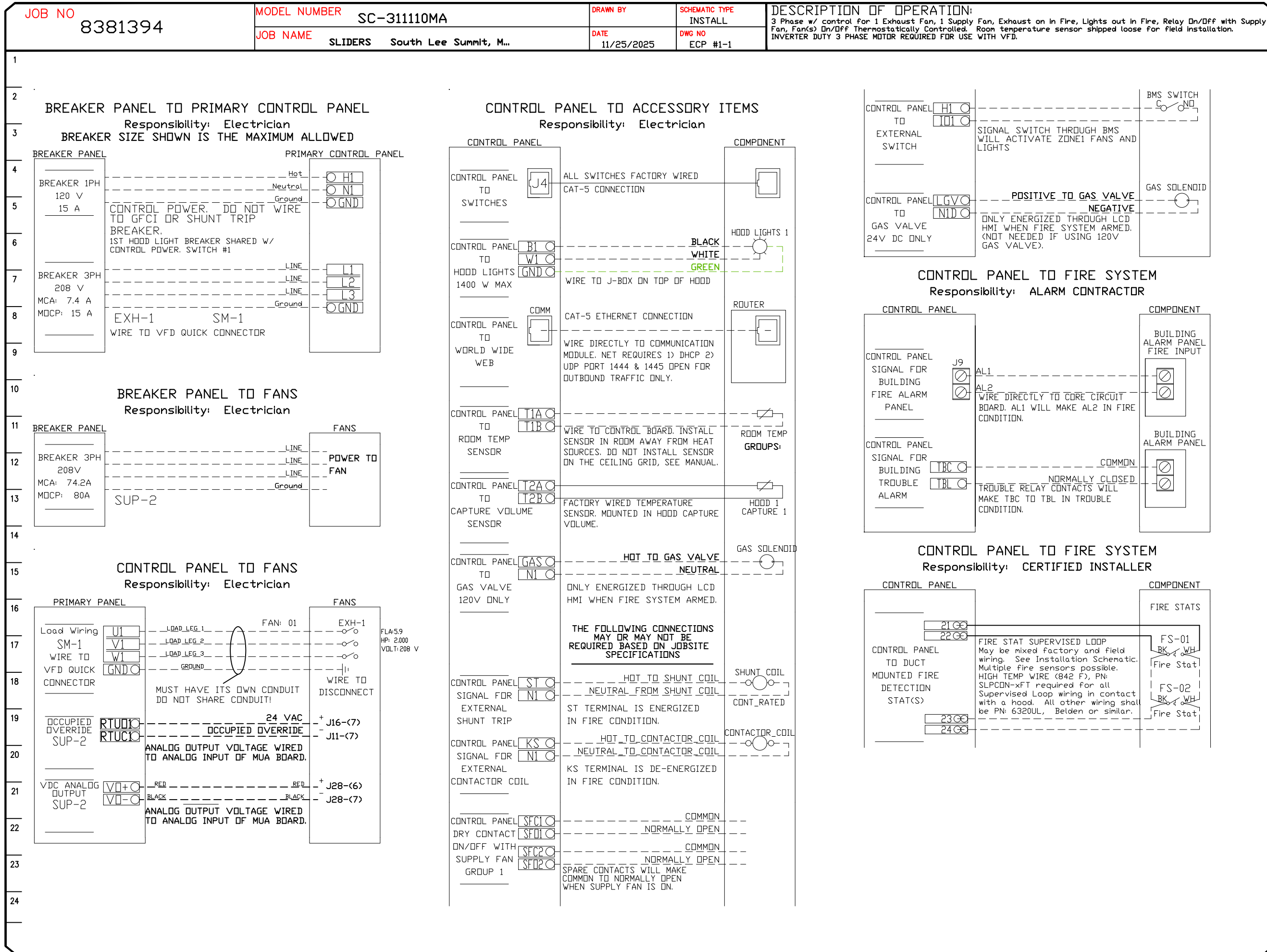


CASlink Monitor and Control

- Hood control panel to support communications to cloud-based Building Management System.  
- Hood Control Panel to allow cloud-based Building Management System to monitor real time parameters outlined as MONITOR in the points list.  
- Hood Control Panel to allow cloud-based Building Management System to control parameters outlined as CONTROL in the points list.  
- Hood Control Panel to allow cloud-based Building Management System to implement SYSTEM ECONOMIZER control strategies for fully integrated Building Management.

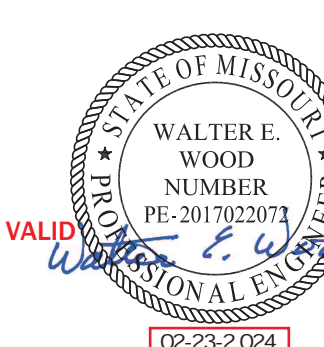
MONITORING AND CONTROL POINTS LIST

DCV Packages	Function	SC Packages	Function
Room Temperature	MONITOR	Room Temperature(s)	MONITOR
Duct Temperature(s)	MONITOR	Duct Temperature(s)	MONITOR
MUA Discharge Temperature	MONITOR	MUA Discharge Temperature	MONITOR
Kitchen RTU Discharge Temperature	MONITOR	Kitchen RTU Discharge Temperature	MONITOR
Fan Speed	MONITOR	Controller Faults	MONITOR
Fan Amperage	MONITOR	Fan Faults	MONITOR
Fan Power	MONITOR	Fan Status	MONITOR
VFD Faults	MONITOR	PCU Filter Clog Percentages	MONITOR
Controller Faults	MONITOR	Fire Condition	MONITOR
Fan Status	MONITOR	COBE Fire System	MONITOR
PCU Faults	MONITOR	Building Pressures	MONITOR
PCU Filter Clog Percentages	MONITOR	Fans Button(s)	MONITOR & CONTROL
Fire Condition	MONITOR	Lights Button(s)	MONITOR & CONTROL
COBE Fire System	MONITOR	Wash Button	MONITOR & CONTROL
Building Pressures	MONITOR		
Prep Time Button	MONITOR & CONTROL		
Fans Button	MONITOR & CONTROL		
Lights Button	MONITOR & CONTROL		
Wash Button	MONITOR & CONTROL		



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HOUSING



FOR QUESTIONS, CALL THE  
Advanced Hoods Systems, LLC  
REGION 140  
PHONE: 407-269-4813  
EMAIL: scott@advancedhoodsystems.com

REVISIONS

NO	DESCRIPTION	DATE
1	Updated Capabilities Sheet	12.11.25
2		
3		
4		

ADVANCED HOOD SYSTEMS

Advanced Hoods Systems, LLC

FL PHONE: FAX: 5182275972 EMAIL: juan@advancedhoodsystems.com

SLIDERS

DATE:

DWG.#:

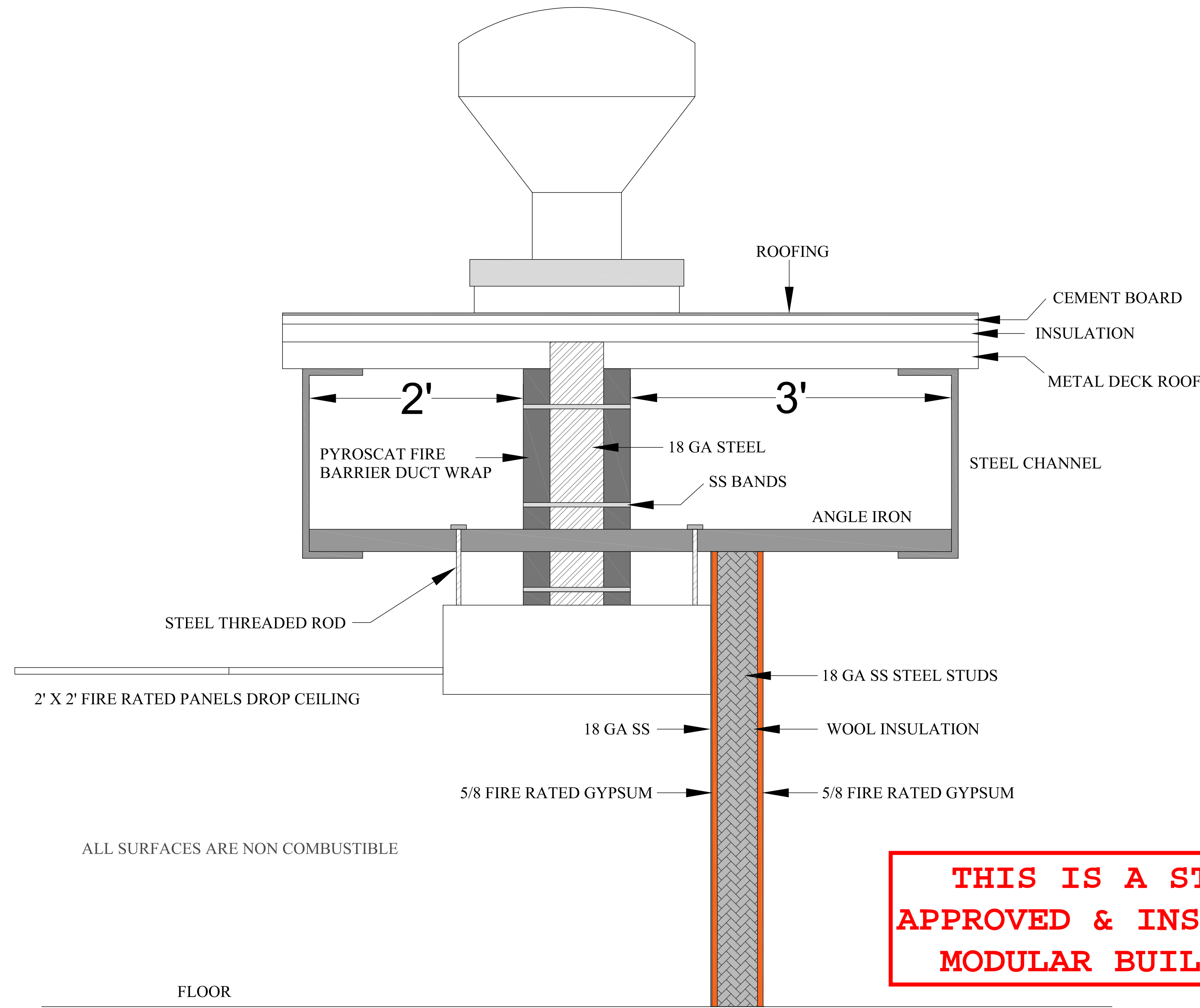
DRAWN BY:

SCALE:  
3/4" = 1'-0"

MASTER DRAWING

SHEET NO.  
4





FIREWALL CONSTRUCTED TO  
UL DESIGN NO. W440

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PYROSCAT DUCT WRAP IS A FLEXIBLE, LIGHTWEIGHT FIRE BARRIER SYSTEM DESIGNED TO PROVIDE ONE AND TWO HOUR RATED FIRE PROTECTION AND ZERO CLEARANCE TO COMBUSTIBLE PROTECTION IN GREASE AND AIR DUCT APPLICATION. PYROSCAT DUCT WRAP HAS BEEN TESTED AT UNDERWRITERS LABORATORIES® AND MEETS REQUIREMENTS OF UL UET CLASSIFICATION FOR GREASE DUCT ENCLOSURES AND ULC GREASE AND VENTILATION DUCT ISULATION UNDER FILES FRD-6 AND FRD-7. UL YYET CLASSIFICATION REQUIRES THAT THE SYSTEM MEET THE FOLLOWING:

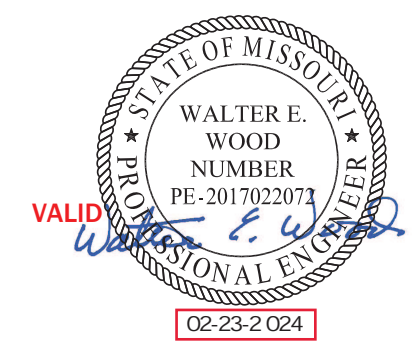
- EXTERNAL FULL SCALE FIRE TEST FOR 1 AND/OR 2 HR FIRE RESISTANCE DUCT ENCLOSURE AND THROUGH PENETRATION PER UL 263 (ASTM E-119) UL 1479 (ATM E-814) WITH HOSE STREAM.
- MINIMUM TEMPERATURE RISE STANDARDS DURING THE 2000° F ABNORMAL TEMPERATURE TEST PER "UL SUBJECT 1978 PROPOSED FIRST EDITION OF THE STANDARD FOR GREASE DUCTS".
- SURFACE BURNING CHARACTERISTICS PER UL 723 (ASTM E-84) WITH FSI NOT OVER 25 AND SDI NOT OVER 50.

NOMINAL THICKNESS: 1 1/2"  
NOMINAL DENSITY: 6LB/FT3

PYROSCAT DUCT WRAP IS CLASSIFIED IN TWO PRODUCT TYPES. PYROSCAT FP DUCT WRAP INCORPORATES FIRE PROTECTION GRADE CERAMIC FIBER BLANKET MANUFACTURED FROM INORGANIC OXIDES TO FORM A SUPER STRONG, FLEXIBLE, LIGHTWEIGHT PRODUCT THAT IS INHERENTLY FIRE RESISTANT. PYROSCAT CSM DUCT WRAP IS AN ALKALINE EARTH SILICATE(AES) PRODUCT MADE FROM CALCIA, SILICA, AND MAGNESIA RAW MATERIALS.

PYROSCAT DUCT WRAP MATERIALS ARE AVAILABLE IN THREE GRADES - F0 (UNFACED), F1 (FOIL FACING ONE SIDE), AND F2E (TOTALLY ENCAPSULATED). ALL PYROSCAT PRODUCTS ARE MANUFACTURED IN AN ISO 9002 CERTIFIED FACILITY TO CLOSE TOLERANCES PER UL® FOLLOW-UP PROCEDURES TO ENSURE THE HIGHEST QUALITY FINISHED PRODUCTS FOR FIRE CRITICAL APPLICATIONS. WHEN COMPARED TO OTHER WRAP SYSTEMS, PYROSCAT DUCT WRAP EXHIBITS GREATER PHYSICAL STRENGTH - PLUS IN THE CASE OF THE FOIL FACED GRADES (F1/F2E) THE ALUMINUM FOIL/SCRIM IS BONDED DIRECTLY TO THE FIBER BLANKET. THIS GIVES INSTALLERS A MORE RUGGED, EASIER TO HANDLE, AND FASTER TO INSTALL WRAP.

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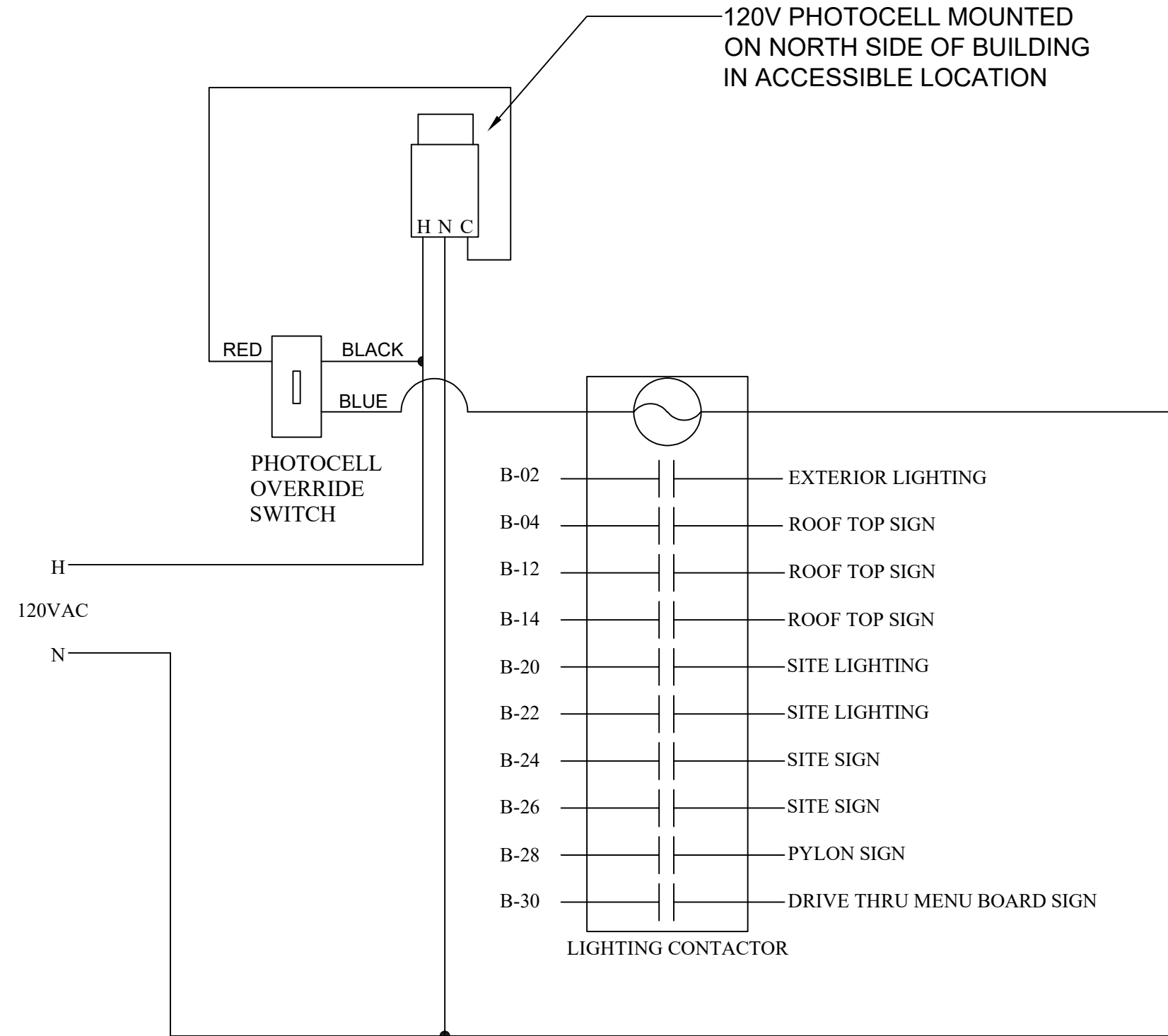


REVISION		UPLOAD		DATE	
REV.	DATE	DESCRIPTION			
LAST DESIGN BULLETIN					
DATE ISSUED:					
VALIANT EQUIPMENT, LLC 15 WEST TOWER CIRCLE, OAKLAND BEACH, FL 32174 CALL 407-468-6746					
DRAWN BY: CHECKED BY:					
Title: Perry, HWC & Ass. Inc. 1027 South Florida Ave. Clearwater, FL 34616 (717)-384-8151					
Project #					
DRAWING NUMBER: <b>FIRE WALL</b>					



LIGHT FIXTURE SCHEDULE					
FIXTURE ID	DESCRIPTION	LAMP TYPE	LAMP QTY	WATTS	ADDITIONAL INFORMATION
W1	EXTERIOR WALL PACK - RZ LIGHTING WP10-30L-D-30, 120V, 3000K	LED	4	30	
W2	EXTERIOR EMERGENCY BACKUP - RAB WPLED26V/E, 120V, 3000K	LED	3	26	
X1	EMERGENCY EXIT SIGN - HUBBELL CE SERIES, 120V	LED	1	-	
X2	EMERGENCY EXIT SIGN W/ EMERGENCY FLOOD LIGHT - HUBBELL CC SERIES, 120V	LED	1	-	
R1	INTERIOR 2' X 2' ADJUSTABLE PANEL LIGHT - RZ LIGHTING ILPNLDPHYZZWTCCT, 120V, 5000K	LED	12	40	
R2	INTERIOR 2' X 2' ADJUSTABLE EMERGENCY PANEL LIGHT - RZ LIGHTING ILPNLDPHYZZWTCCT, 120V, 5000K, POWER PACK FOR BACKUP	LED	7	40	

EXTERIOR LIGHTING  
CONTROL WIRING  
DIAGRAM



- GENERAL NOTES
- "EM" UNITS SHALL BE FOR OPERATION ON 120 VOLT SINGLE PHASE WITH NUMBER OF HEADS AS INDICATED ON THE PLAN. UNITS SHALL BE PLUG-IN TYPE WITH SEALED PURE LEAD BATTERIES. THE CHARGER SHALL BE COMPLETE AUTOMATIC, SOLID STATE TYPE CAPABLE OF FULLY RECHARGING DISCHARGED BATTERY IN 24 HRS. TRANSFER DEVICE SHALL AUTOMATICALLY SWITCH LOAD ON AT POWER FAILURE AND OFF ON RETURN OF NORMAL POWER. UNITS SHALL HAVE LOW VOLTAGE DISCONNECT FEATURE. CONNECT TO LOCAL LIGHTING CIRCUIT AHEAD OF ALL SWITCHING.
  - ALL CIRCUITS SHALL HAVE AN INDIVIDUAL NEUTRAL CONDUCTOR. NO SHARED NEUTRALS ARE PERMITTED.
  - UPON COMPLETION OF ALL WORK (INCLUDES WORK BY OTHERS). PROVIDE ALL STAINLESS STEEL COVER PLATES, INCLUDING BLANKS AND THOSE REQUIRED FOR DATA CABLES.

- LIGHTING PLAN CODED NOTES
- PROVIDE FINAL CONNECTION FOR CEILING MOUNTED EXHAUST FAN. FAN TO BE CONTROLLED BY ROOM LIGHT CONTROL.
  - SEE SITE PLAN FOR LOCATION AND QUANTITY OF SITE POLES. REFER TO DETAIL A/E1.1 FOR CONTROLS.
  - WIRE ALL EXIT LIGHTS AND EMERGENCY LIGHTS AHEAD OF LOCAL SWITCH AS SHOWN.
  - SITE ELECTRICAL CONTRACTOR TO CONNECT TO LINE VOLTAGE WHIP OF LED TRANSFORMER. LED FIXTURES, TRANSFORMERS AND ALL LOW VOLTAGE WIRING SHALL BE FURNISHED AND INSTALLED BY LED INSTALLER.
  - HOOD MOUNTED SWITCHES BY HOOD MANUFACTURE. ELECTRICAL CONTRACTOR SHALL INSTALL WIRING AS NECESSARY TO SWITCHES AND HOOD LIGHTING TO MAKE FULLY FUNCTIONAL.
  - SITE ELECTRICAL CONTRACTOR SHALL CENTER FIXTURE AND MOUNT IN WHITE TILE. COORDINATE LOCATION WITH OWNER PRIOR TO INSTALLATION. TYPICAL OF ALL 'W1' FIXTURES.
  - SITE ELECTRICAL CONTRACTOR SHALL WIRE EXTERIOR ILLUMINATED BUILDING MOUNTED SIGN.
  - SEE SITE PLAN FOR LOCATION AND QUANTITY OF SITE DIRECTIONAL SIGNS AND PYLON SIGNS. REFER TO DETAIL A/E1.1 FOR CONTROLS.
  - SEE SITE PLAN FOR LOCATION OF DRIVE THRU MENU BOARD AND SIGN. REFER TO DETAIL A/E.1 FOR CONTROLS.

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REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

**ALIAIT**  
**MODULAR**  
VALIANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP  
WALTER E. WOOD  
NUMBER  
PE-2017022072  
02-23-2024

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

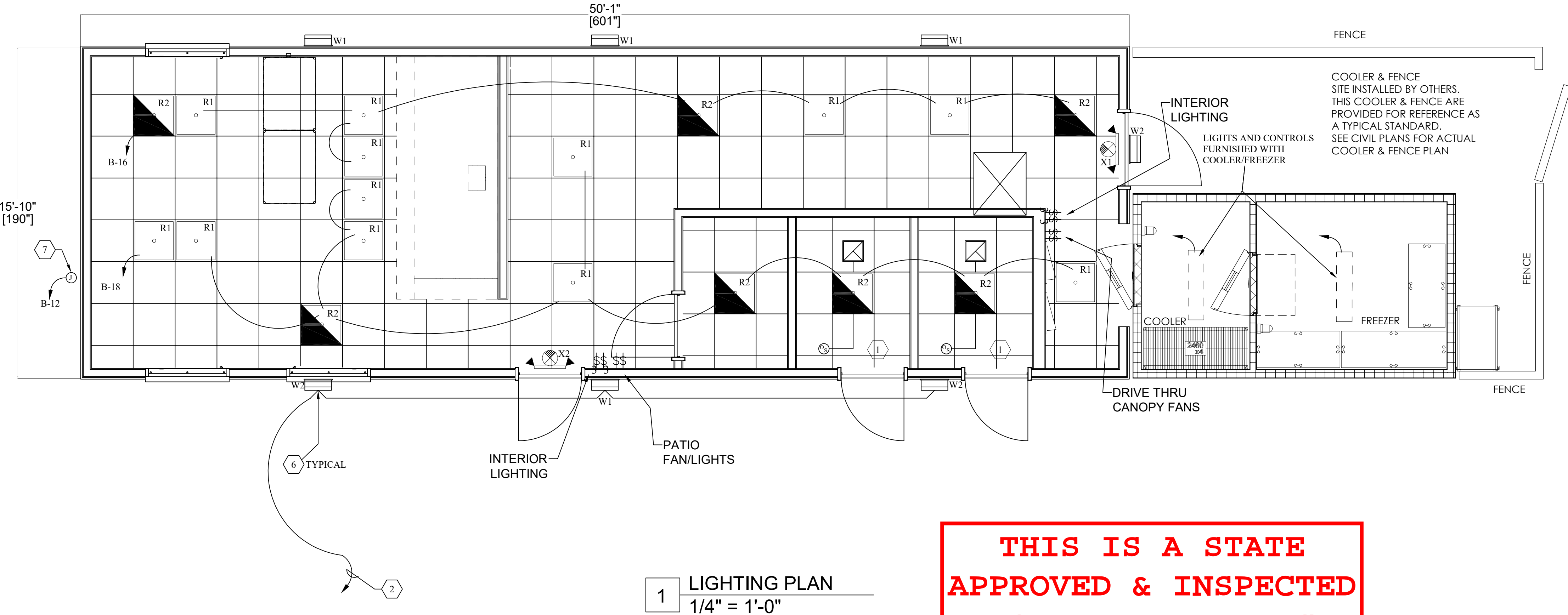
APPROVED  
02-23-2024  
WALTER E. WOOD  
REGISTERED PROFESSIONAL ENGINEER  
PE-2017022072

SHEET NAME

LIGHTING  
PLAN

SHEET NUMBER

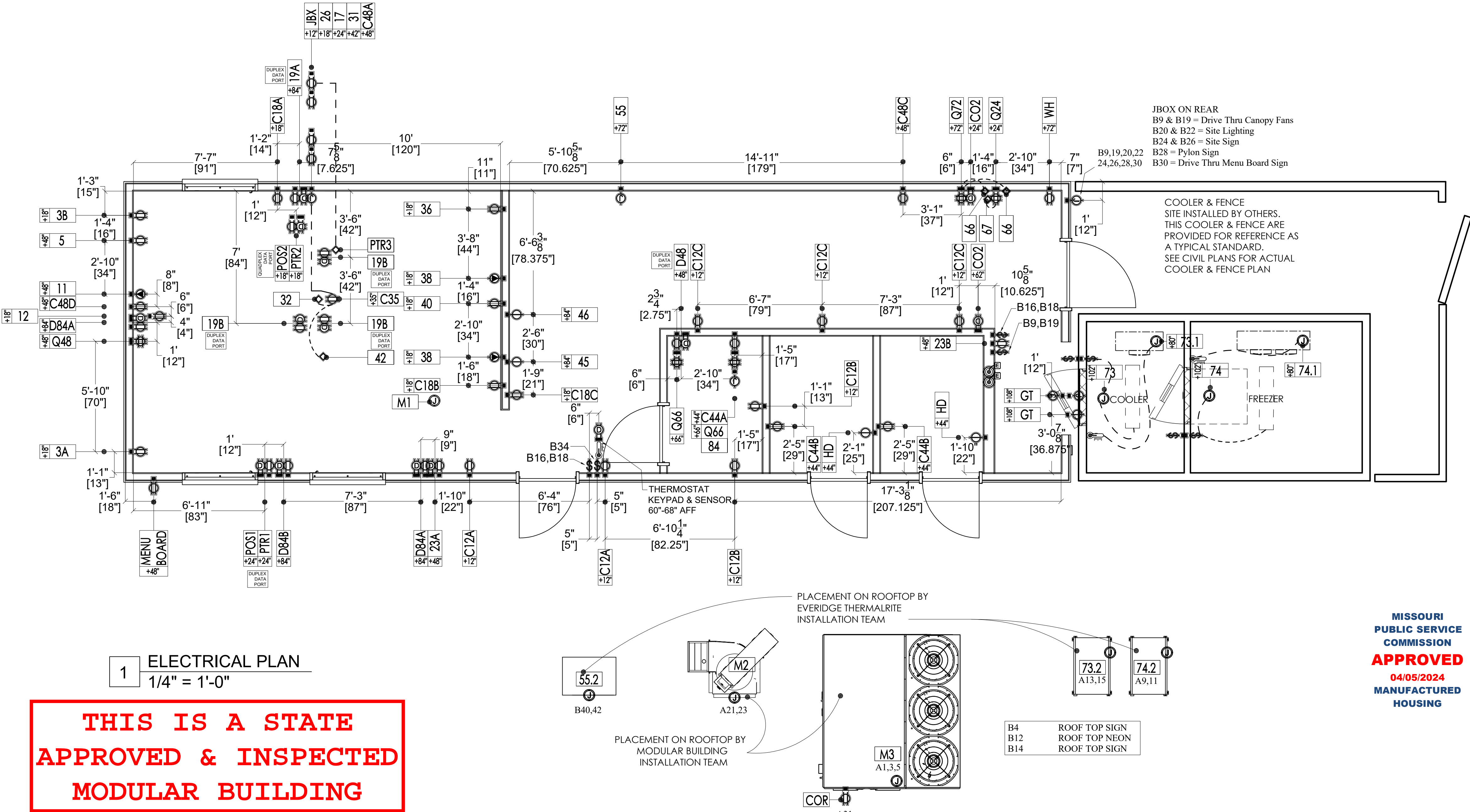
E1.1



ELECTRICAL SYMBOLS	
<b>NOTE:</b> ALL MOUNTING HEIGHTS SHALL BE AS INDICATED, UNLESS NOTED OTHERWISE. ALL MOUNTING HEIGHTS FOR KITCHEN EQUIPMENT SHALL BE AS INDICATED ON THE KITCHEN EQUIPMENT WIRING SCHEDULE, SHEET E3.	
	CEILING MOUNTED OCCUPANCY SEE DETAIL 3/E1.1. SENSOR: HUBBELL #ATP600C.
	WALL MOUNTED PUSH BUTTON @ 48"
	PHOTO/IONIZATION DETECTOR-DUCT MOUNTED
	REMOTE ANNUNCIATOR/TEST STATION @ 60"
	SINGLE PHASE MOTOR
	THREE PHASE MOTOR
	120 VOLT SIMPLEX RECEPTACLE @ 16"
	120 VOLT DUPLEX RECEPTACLE @ 16"
	120 VOLT DOUBLE DUPLEX (QUAD) RECEPTACLE @ 16"
	120 VOLT SIMPLEX CEILING MOUNTED RECEPTACLE
	120 VOLT DOUBLE DUPLEX CEILING MOUNTED RECEPTACLE
	DATA/TELEPHONE OUTLET BOX @ 16"
	DATA OUTLET BOX @ 16"
	TELEPHONE OUTLET BOX @ 16"
	208V OR 120/208V RECEPTACLE @ 16"
	JUNCTION OR PULL BOX
	EQUIPMENT DISCONNECT SWITCH @ 60"
	LIGHTING/POWER PANELBOARD TOP BREAKER @ 72"
	CEILING MOUNTED SURFACE/RECESSED LIGHTING FIXTURE.
	WALL MOUNTED EXTERIOR LIGHTING FIXTURE.
	CEILING MOUNTED RECESSED LIGHTING FIXTURE 2'X4'.
	CEILING MOUNTED RECESSED LIGHTING FIXTURE 2'X2'.
	CEILING MOUNTED SURFACE/RECESSED LIGHTING FIXTURE 1'X4'.
	CEILING MOUNTED SURFACE/RECESSED LIGHTING FIXTURE, TYPE AS INDICATED. EMERGENCY LIGHT.
	CEILING MOUNTED SURFACE/RECESSED LIGHTING FIXTURE, TYPE AS INDICATED. EMERGENCY LIGHT.
	CEILING MOUNTED SURFACE/RECESSED LIGHTING FIXTURE, TYPE AS INDICATED. EMERGENCY LIGHT.
	WALL/CEILING MOUNTED COMBINATION EMERGENCY LIGHTING / EXIT SIGN FIXTURE-BATTERY TYPE. SHADED QUADRANT INDICATES ILLUMINATED FACE. ARROW INDICATES "DIRECTIONAL ARROW" POSITION(S).
	REMOTE MOUNTED EMERGENCY LIGHTING FIXTURE.
	POLE MOUNTED LIGHTING FIXTURE
	WALL SWITCH, NUMBER INDICATES 2, 3, OR 4 POLE. LETTER INDICATES FIXTURE(S) TO BE CONTROLLED BY SWITCH @ 48"
	PP1-1,3,5 CIRCUIT RUN TO PANELBOARD DESIGNATION. INDICATES CIRCUIT NUMBERS. INDICATES PANEL DESIGNATION.
	CIRCUIT RUN TO PANELBOARD NUMBER OF ARROWS INDICATE QUANTITY OF CIRCUITS.
	CONDUIT RUNS ABOVE GRADE.
	CONDUIT RUN BELOW GRADE OR IN CONCRETE SLAB.
	CONDUIT RISE
	CONDUIT DROP
	UNSWITCHED LEG
	SWITCHED LEG



ELECTRICAL LEGEND		
Plan	Elevation	Description
		120V Dedicated; Single, Duplex & Quadplex Outlet
		120V Duplex Drop Cord
		120V Duplex & Quadplex Floor Outlet
		High Voltage Outlet 208-480V
		J-Box Fixture Mounted & Wall Mounted
		Data Point
		Duplex Data Point
		Quad Data Point
		Electrical Stub-Up
		Electrical Connection Point
		Fire Pull Station To Be Verified By Fire Inspector
		Light Switch
		Light Fixture
		Electrical Disconnect Point
		Thermostat
		Blower Fixture Mounted
		Alarm Connection Point
		Electrical Lines



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LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

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VALANT MODULAR, LLC

15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174

(386) 677-9316

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04/05/2024  
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HOUSING

ENGINEER  
STAMP

STATE OF MISSOURI

WALTER E. WOOD

NUMBER PE-2017022017

VALID EXPIRATION DATE 02-23-2024

Electrical Schedule												
Item Number	Circuit Number	Count	Equipment Description	Connection Description	FL Amp	Watts	HP	Volts	Phase	Conn Plug	Elec RI Height	Electrical Remarks
3A	A30	1	Soda Dispenser - Patio	Duplex Outlet	10.0 A			120 V	1	5-15P	18"	E.C. To Verify Loads w/ Vendor Supplied Equipment
3B	A36	1	Soda Dispenser - Drive Thru	Duplex Outlet	10.0 A			120 V	1	5-15P	18"	E.C. To Verify Loads w/ Vendor Supplied Equipment
5	B41	1	Tea Brewer	Duplex Outlet	14.0 A			120 V	1	5-15P	48"	By Owner-Verify w/ Owner
11	A2,A4	1	Shake Machine	High Voltage Outlet	12.0 A	2496 W	1/2	208 V	1	L6-15P	48"	Verify plug connection w/ Vendor
12	A39	1	Refrigerator, Undercounter	Duplex Outlet	3.0 A	345 W	1/5	115 V	1	5-15P	18"	
17	B17	1	Warmer	Duplex Outlet	8.3 A	1000 W		120 V	1	5-15P	24"	3+WIRE
19A	A35	1	Kitchen Display System - Drive Thru	Duplex Outlet & Data				120 V	1	5-20P	84"	By Owner - Verify w/ Owner, Data required
19B	B3	3	Kitchen Display System - Ceiling	Duplex Outlet & Data				120 V	1	5-20P		By Owner - Verify w/ Owner, Data required
23A	B35	1	Phone - Front	Duplex Outlet & Data				120 V	1	5-15P	48"	By Owner - Verify w/ Owner
23B	B25	1	Phone - Rear	Duplex Outlet				120V	1	5-15P	48"	By Owner - Verify w/ Owner
26	B31	1	Freezer, Worktop	Duplex Outlet	3.6 A	414 W	1/5	115 V	1	5-15P	18"	
31	B15	1	Hot Food Holding Station	Duplex Outlet	15.1 A	1820 W		120 V	1	5-20P	42"	
32	B23	1	Food Pan Warmer	Power Connection	4.2 A	500 W		120 V	1	5-15P		Plug into work table outlet
36	A8	1	Fryers	Duplex Outlet	6.0 A			120 V	1	5-15P	18"	
38	A38,A40,A42	1	2 Platen Electric Double-Sided Grill	High Voltage Outlet	48.0 A	16800 W		208 V	3	15-60P	18"	
38	A46,A48,A50	1	2 Platen Electric Double-Sided Grill	High Voltage Outlet	48.0 A	16800 W		208 V	3	15-60P	18"	
40	A16	1	Refrigerated Prep Table	Duplex Outlet	2.3 A	265 W	1/5	115 V	1	5-15P	18"	
42	B23	1	Toaster, Vertical	Power Connection	13.0 A	1500 W		120 V	1	5-15P		Plug into work table outlet
45	A43	1	Freezer, Reach-In	Dedicated Outlet	8.5 A	973 W		115 V	1	5-15P	84"	
46	A41	1	Refrigerator, Reach-In	Dedicated Outlet	5.0 A	575 W		115 V	1	5-15P	84"	
55	B36	1	Ice Cube Machine, Remote w/ 50' Line Set	JBox	2.9 A	334 W		115 V	1	Direct	72"	
55.2	B40,B42	1	Icemaker Condenser, Remote	JBox	15.0 A	3120 W		208 V	1	Direct		208-230V/60/1
66	A51	2	Soda Carbonator	Power Connection	7.0 A		1/3	120 V	1	5-20P		By Vendor - verify requirements
67	B13	2	BIB Rack	Power Connection				120 V	1	5-15P		By Vendor - Verify w/ Vendor
73	A37	1	Walk-In Cooler	JBox		61 W		120 V	1	Direct	102"	See Shop Drawings
73.1	A37	1	Evaporator Coil (Refrigerator), Walk-In	JBox	0.8 A	92 W		115 V	1	Direct	80"	See Shop Drawings
73.2	A13,A15	1	Cooler Condenser, Walk-In	JBox	5.9 A	1227 W		208 V	1	Direct		See Shop Drawings
74	A37	1	Walk-In Freezer	JBox		61 W		120 V	1	Direct	102"	See Shop Drawings
74.1	A17,A19	1	Evaporator Coil (Freezer)	JBox	10.8 A	2246 W		208 V	1	Direct	80"	See Shop Drawings
74.2	A9,A11	1	Freezer Condenser	JBox	12.4 A	2587 W		208 V	1	Direct		See Shop Drawings
84	-	1	Networking Box	JBox						Direct		Data, By Vendor - Verify w/ Vendor

Electrical Schedule												
Item Number	Circuit Number	Count	Equipment Description	Connection Description	FL Amp	Watts	HP	Volts	Phase	Conn Plug	Elec RI Height	Electrical Remarks
C12A	B21	2	Duplex Convenience Outlet - Front Door	Duplex Outlet				120 V	1	5-20R	12"	By EC
C12B	B1	2	Duplex Convenience Outlet - Office	Duplex Outlet				120 V	1	5-20R	12"	By EC
C12C	A45	3	Duplex Convenience Outlet - Rear	Duplex Outlet				120 V	1	5-20R	12"	By EC
C18A	B29	1	Duplex Convenience Outlet - Drive Thru	Duplex Outlet				120 V	1	5-20R	18"	By EC
C18B	A12	1	Duplex Convenience Outlet - Hood	Duplex Outlet				120 V	1	5-20R	18"	By EC
C18C	A33	1	Duplex Convenience Outlet - Rear Hood	Duplex Outlet				120 V	1	5-20R	18"	By EC
C35	-	1	Duplex Convenience Outlet - Work Table	Duplex Outlet				120 V	1	5-20R	35"	By EC
C44A	B1	1	Duplex Convenience Outlet - Office	Duplex Outlet				120 V	1	5-20R	44"	By EC
C44B	B37	2	Duplex Convenience Outlet - Bathrooms	Duplex Outlet				120 V	1	5-20R	44"	By EC
C48A	B33	1	Duplex Convenience Outlet - Drive Thru	Duplex Outlet				120 V	1	5-20R	48"	By EC
C48C	A47	1	Duplex Convenience Outlet - Rear	Duplex Outlet				120 V	1	5-20R	48"	By EC
C48D	A39	1	Duplex Convenience Outlet - Front	Duplex Outlet				120 V	1	5-20R	48"	By EC
CO2	-	2	Data Outlet - CO2 Sensor	Data						Data	24",62"	By EC
COR	A31	1	Duplex Convenience Outlet - Roof	Duplex Outlet				120 V	1	5-20R		By EC
D48	B1	1	Duplex Convenience Outlet & Data - Office	Duplex Outlet & Data				120 V	1	5-20R	48"	By EC
D84A	B27	2	Duplex Convenience Outlet & Data - Front & Patio	Duplex Outlet & Data				120 V	1	5-15P	84"	By EC
D84B	A35	1	Duplex Convenience Outlet & Data - Patio	Duplex Outlet & Data				120 V	1	5-15P	48"	By EC
GT	A6	2	Grease Tank - Used Cooking Oil	JBox				120 V	1	Direct	108"	By EC
HD	A27	2	Hand Dryer - Bathrooms	JBox				120 V	1	Direct	44"	By EC
JBX	-	1	Extended MC Cable JBox	JBox				120 V	1	Direct	12"	By EC
M1	A7	1	Hood System Controls	JBox				120 V	1	Direct		See Shop Drawings
M2	A21,A23,A25	1	Exhaust Fan - Hood	JBox	5.9 A	2126 W	2.00	208 V	3	Direct		See Shop Drawings
M3	A1,A3,A5	1	Dedicated Outside Air System RTU	JBox	76.4 A	27524 W	2.00	208 V	3	Direct		See Shop Drawings
POS1	B5	1	POS - Patio	Pwr & Data				120 V	1	5-15P	24"	By Owner - Verify w/ Owner, Data required
POS2	B5	1	POS - Drive Thru	Pwr & Duplex Data				120 V	1	5-15P	18"	By Owner - Verify w/ Owner, Data required
PTR1	B5	1	PTR - Patio	Pwr & Data				120 V	1	5-15P	24"	By Owner - Verify w/ Owner, Data required
PTR2	B5	1	PTR - Drive Thru	Pwr & Duplex Data				120 V	1	5-15P	18"	By Owner - Verify w/ Owner, Data required
PTR3	B33	1	PTR - Work Table	Pwr Connection & Data				120 V	1	5-15P		By Owner - Verify w/ Owner, Data required
Q24	-	1	QCO - BIB Rack	Quadplex Outlet				120 V	1	5-15P	24"	By EC
Q48	A29	1	QCO - Front	Quadplex Outlet				120 V	1	5-15P	48"	By EC
Q66	B7	2	QCO - Office	Quadplex Outlet				120 V	1	5-15P	66"	By EC
Q72	-	1	QCO - Soda Carbonator	Quadplex Outlet				120 V	1	5-15P	72"	By EC
WH	B11	1	Water Heater	Duplex Outlet	4.0 A	98 W		120 V	1	5-15P	72"	By Vendor - Verify w/ Vendor

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

APPROVED

2-23-2024

IWC

WALTER E. WOOD

REGISTERED PROFESSIONAL ENGINEER

SHEET NAME

ELECTRICAL  
POWER  
PLAN

SHEET NUMBER

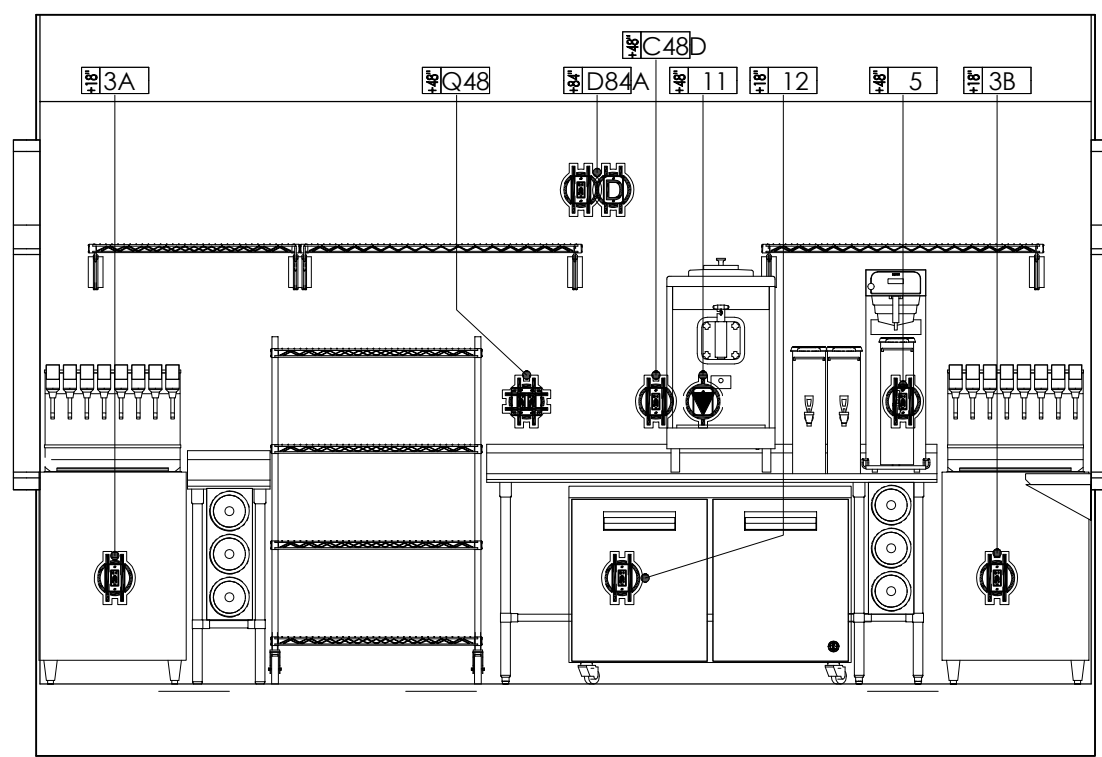
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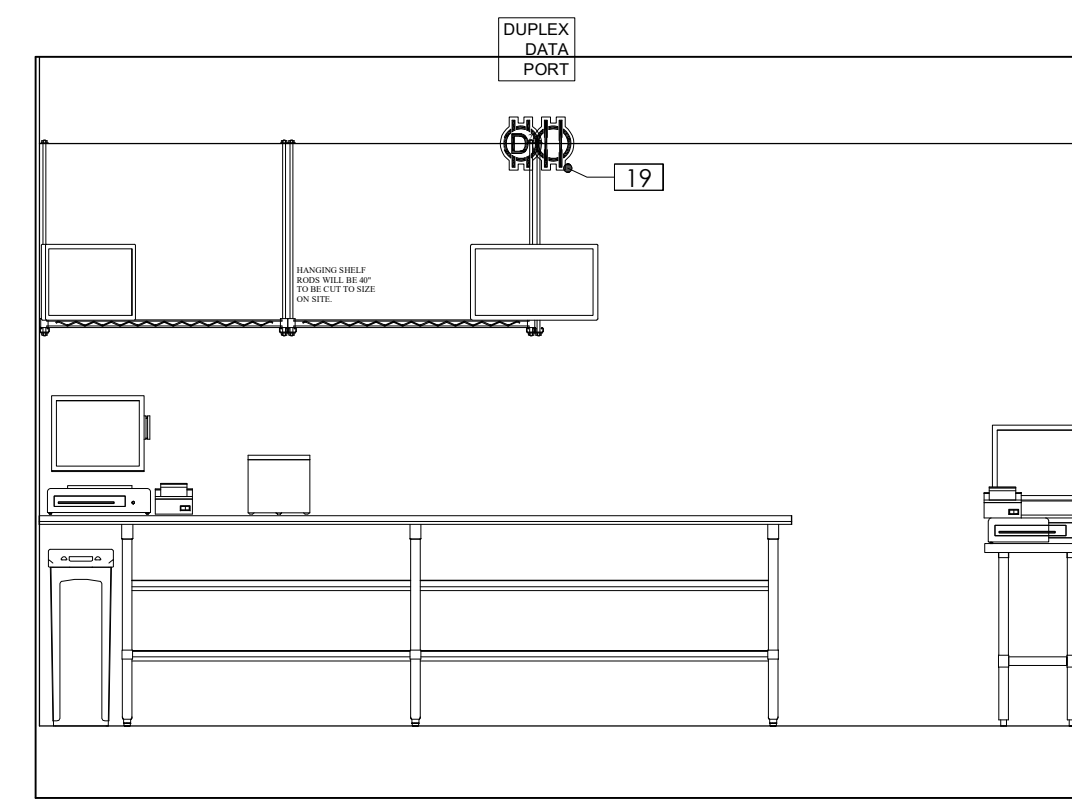
PANEL BOARD SCHEDULE																																	
PANEL: "A"				RATING: 600 AMP MCB W/ 200 AMP MLO SUB BREAKER										A.I.C.: 42KAIC				MOUNTING SURFACE															
LOCATION: REAR INTERIOR				SERVICE: 120/208V, 3ø, 4W				TYPE: SQ-D / LINE OR EQUAL				LUG LOCATION: TOP																					
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
200 AMP SUB PANEL				200	3	3/0	208		8854			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
						3/0			12760			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
									9932			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-						
CKT. NO.	EQUIPMENT #	DESCRIPTION			BKR AMP	POLE	WIRE NO.	VOLTS	KW	LEFT PHASE LOAD (VA)			CKT. NO.	CKT. NO.	RIGHT PHASE LOAD			KW	VOLTS	WIRE NO.	POLE	BKR AMP	DESCRIPTION			EQUIPMENT #	CKT. NO.						
1					80		4			A	B	C	1	2	A	B	C			12		20	(K) FROZEN BEVERAGE MACHINE			11	2						
3	M3	DOAS RTU (H)			80	3	4	208	27.5	9174	9174		3	4	1248	1248		2.5	208	12	2	20					4						
5					80		4						5	6				1800	1.8	120	12	1	20	(O) GREASE TANK			GT	6					
7	M1	HOOD SYSTEM CONTROLS (K)			15	1	12	120	1.4	1350			7	8	720			0.7	120	12	1	20	(K) FRYER			36	8						
9					20		12						9	10				-	-	-	-	-	SHUNT			-	10						
11	74.2	WALK-IN FREEZER CONDENSER (K)			20	2	12	208	2.6		1294		11	12				360	0.4	120	12	1	20	(R) DUPLEX CONVENIENCE OUTLET - HOOD			C18B	12					
13					20		12						13	14				-	-	-	-	-	SHUNT			-	14						
15	73.2	WALK-IN COOLER CONDENSER (K)			20	2	12	208	1.2	614	614		15	16				265	0.3	120	12	1	20	(K) PREP FRIDGE			40	16					
17					20		12						17	18				-	-	-	-	-	SHUNT			-	18						
19	74.1	EVAPORATOR COIL (FREEZER) (K)			20	2	12	208	2.2	1123	1123		19	20				-	-	-	-	-	SPARE			-	20						
21					15		12						21	22				-	-	-	-	-	SPARE			-	22						
23					15	3	12	208	2.1		709		23	24				-	-	-	-	-	SPARE			-	24						
25					15		12						25	26				-	-	-	-	-	SPARE			-	26						
27	HD	HAND DRIER - BATHROOM (O)			20	1	12	120	1.8		1800		27	28				-	-	-	-	-	SPARE			-	28						
29	Q48	QUAD CONVENIENCE OUTLET - FRONT (R)			20	1	12	120	0.7			720	29	30				1200	1.2	120	12	1	20	(K) SODA DISPENSER - PATIO			3A	30					
31	CDR	DUPLEX CONVENIENCE OUTLET - ROOF (R)			20	1	12	120	0.4	360			31	32				-	-	-	-	-	SPARE			-	32						
33	C18C	DUPLEX CONVENIENCE OUTLET - REAR HOOD (R)			20	1	12	120	0.4		360		33	34				-	-	-	-	-	SPARE			-	34						
35	19A, D84B	KDS - DRIVE THRU, DUPLEX CONVENIENCE OUTLET - PATIO (K)			20	1	12	120	0.5			540	35	36				1200	1.2	120	12	1	20	(K) SODA DISPENSER - DRIVE THRU			3B	36					
37	73, 74, 73.1	EVAPORATOR COIL (COOLER), WALK-IN (K)			20	1	12	120	0.2	214			37	38	5600					6		60					38						
39	12, C48D	UNDERCOUNTER FRIDGE, DUPLEX CONVENIENCE OUTLET (K)			20	1	12	120	0.7		705		39	40		5600			16.8	208	6	3	60	(K) CLAMSHELL GRILL			38	40					
41	46	REACH-IN FRIDGE (K)			20	1	12	120	0.6			575	41	42				5600		6		60					42						
43	45	REACH-IN FREEZER (K)			20	1	12	120	1.0	973			43	44				-	-	-	-	-	SHUNT			-	44						
45	C12C	DUPLEX CONVENIENCE OUTLET - REAR (R)			20	1	12	120	1.1	1080			45	46				5600		6		60					46						
47	C48C	DUPLEX CONVENIENCE OUTLET - REAR (R)			20	1	12	120	0.4			360	47	48				5600	16.8	208	6	3	60	(K) CLAMSHELL GRILL			38	48					
49	-	SPARE			20	1	-	120	-	-	-		49	50	5600					6		60					50						
51	Q72 (66)	SODA CARBONATOR (O)			20	1	12	120	1.6		1610		51	52				-	-	-	-	-	SHUNT			-	52						
53	-	SPARE			20	1	-	120	-	-	-		53	54				-	-	-	-	-	SPARE			-	54						
SUBTOTAL										23371	30106	24427										13168	12713	15760									
TOTAL - VA										36539	42819	40187																					
TOTAL - AMPS										304	357	335																					
TOTAL PANEL - VA										119545																							
TOTAL PANEL - AMPS										332																							

PANEL BOARD SCHEDULE																												
		PANEL: "B"				RATING: 200 AMP MLO										A.I.C.: 42KAIC				MOUNTING SURFACE								
CKT. NO.	EQUIPMENT #	DESCRIPTION	LOCATION: REAR INTERIOR		WIRE NO.	VOLTS	K/W	SERVICE: 120/208V, 3ø, 4W			CKT. NO.	CKT. NO.	TYPE: SQ-D / LINE OR EQUAL			VOLTS	LUG LOCATION: TOP		CKT. NO.	EQUIPMENT #	CKT. NO.							
			BKR AMP	POLE				A	B	C			A	B	C		K/W	WIRE NO.				POLE	BKR AMP					
1	C12B, C44A, D48	DUPLEX CONVENIENCE OUTLET - OFFICE (R)	20	1	12	120	1.4	1440			1	2	500			0.5	120	12	1	20			(L) EXTERIOR LIGHTING (C)		2			
3	19B	KDS - CEILING (K)	20	1	12	120	0.5		540		3	4		500		0.5	120	12	1	20			(L) ROOF TOP SIGN (C)		4			
5	PTR1, PTR2, POS1, POS2	POS - DRIVE THRU & PATIO, PTR - DRIVE THRU & PATIO (K)	20	1	12	120	0.7			720	5	6			-	-	120	-	1	20			SPARE	-	6			
7	Q6B	QUAD CONVENIENCE OUTLET - OFFICE (R)	20	1	12	120	1.4	1440			7	8	-			-	120	-	1	20			SPARE	-	8			
9	-	CANOPY FANS - DRIVE THRU (O)	20	1	12	120	1.8		1800		9	10		1440		1.4	120	12	1	20			(R) DUPLEX VP OUTLET - EXTERIOR		10			
11	WH	WATER HEATER (K)	20	1	12	120	0.1			98	11	12			500	0.5	120	12	1	20			(L) ROOF TOP SIGN (C)		12			
13	Q24 (67)	BIB (BAG-IN-BOX) RACK (K)	20	1	12	120	0.4	360			13	14	500			0.5	120	12	1	20			(L) ROOF TOP SIGN (C)		14			
15	31	HOT FOOD HOLDING STATION (K)	20	1	12	120	1.8		1820		15	16		500		0.5	120	12	1	20			(L) INTERIOR LIGHTING		16			
17	17	WARMER (K)	20	1	12	120	1.0			1000	17	18			500	0.5	120	12	1	20			(L) INTERIOR LIGHTING		18			
19	-	CANOPY FANS - DRIVE THRU (O)	20	1	12	120	1.8	1800			19	20	500			0.5	120	12	1	20			(L) SITE LIGHTING (C)		20			
21	C12A	CONVENIENCE OUTLET - FRONT DOOR (R)	20	1	12	120	0.7		720		21	22		500		0.5	120	12	1	20			(L) SITE LIGHTING (C)		22			
23	C35 (32 & 42)	FOOD PAN WARMER & VERTICAL TOASTER (K)	20	1	12	120	2.0			2000	23	24			500	0.5	120	12	1	20			(L) SITE SIGN (C)		24			
25	23B	PHONE - REAR (K)	20	1	12	120	0.2	180			25	26	500			0.5	120	12	1	20			(L) SITE SIGN (C)		26			
27	D84A	DUPLEX CONVENIENCE OUTLET - FRONT & PATIO (R)	20	1	12	120	0.7		720		27	28		500		0.5	120	12	1	20			(L) PYLON SIGN (C)		28			
29	C18A	DUPLEX CONVENIENCE OUTLET - DRIVE THRU (R)	20	1	12	120	0.4		360		29	30		500		0.5	120	12	1	20			(L) MENU BOARD (C)		30			
31	26	FREEZER, WORKTOP (K)	20	1	12	120	0.4	414			31	32	500			0.5	120	12	1	20			(L) PHOTO CELL FEED		32			
33	C48A	DUPLEX CONVENIENCE OUTLET - DRIVE THRU (R)	20	1	12	120	0.4		360		33	34		1800		1.8	120	12	1	20			(L) PATIO LIGHTS & FANS		34			
35	23A	PHONE - FRONT (K)	20	1	12	120	0.2		180		35	36			334	0.3	120	12	1	20			(K) ICE CUBE MACHINE	55	36			
37	C44B	DUPLEX CONVENIENCE OUTLET - BATHROOM (R)	20	1	12	120	0.7	720			37	38	-			-	120	-	1	20			SPARE	-	38			
39	-	SPARE	20	1	-	120	-		-		39	40		1560			12						(K) ICE MAKER CONDENSER	55.2	40			
41	5	TEABREWER (K)	20	1	12	120	1.7			1680	41	42				3.1	208	12		2				42				
SUBTOTAL								6354	5960	6038				2500	6800	3894												
PANEL B - VA								8854	12760	9932																		
PANEL B - AMPS								74	106	83																		
TOTAL PANEL B - VA								31546																				
TOTAL PANEL B - AMPS								88																				

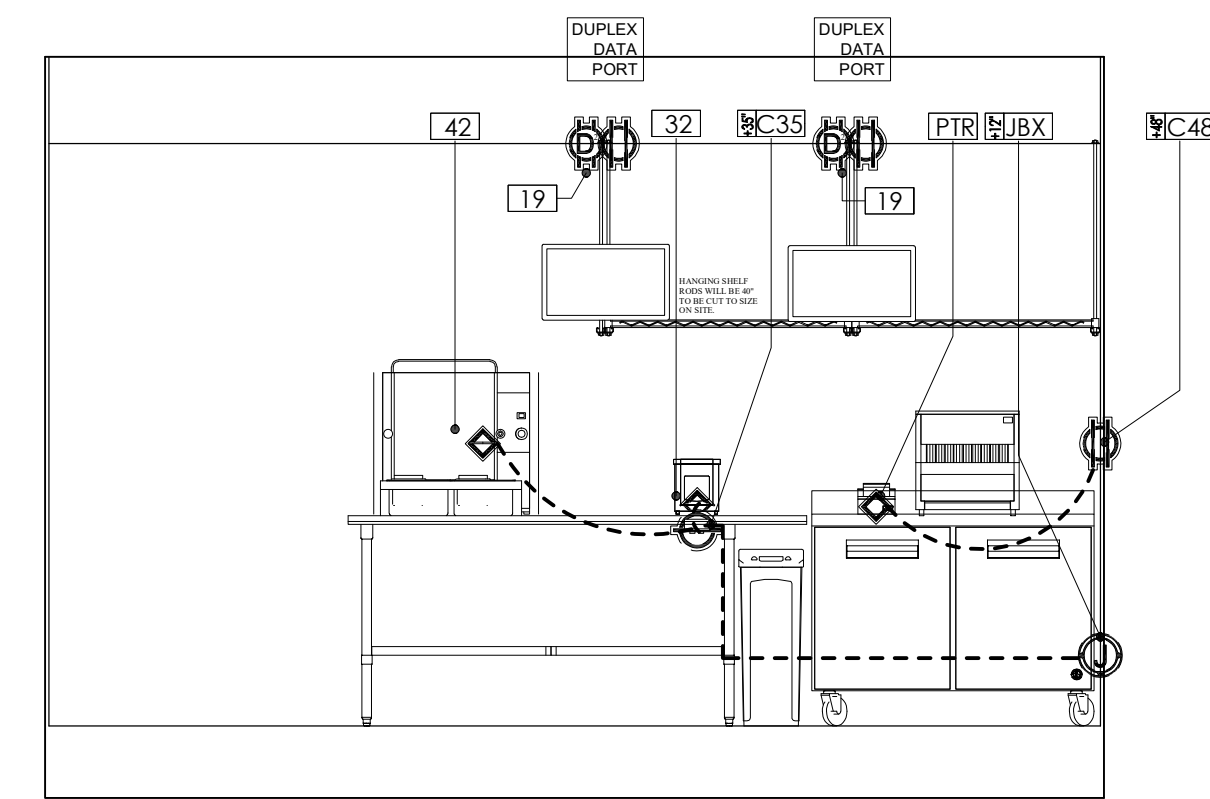




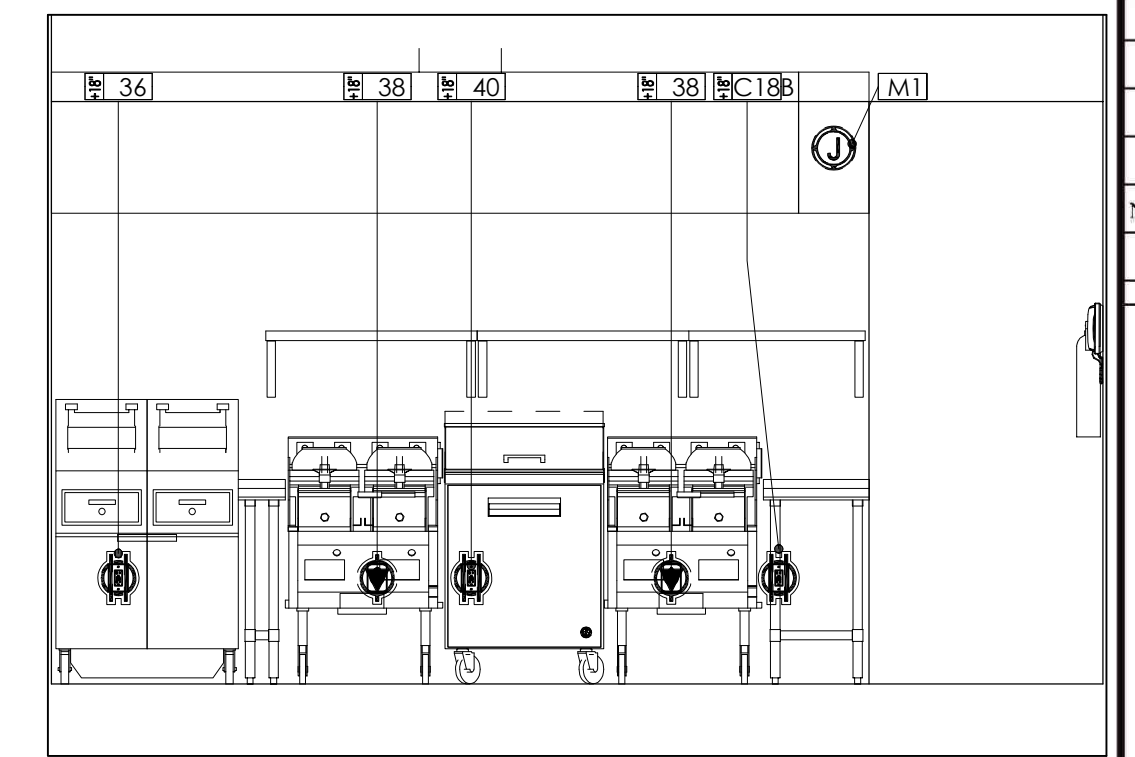
1 ELEVATION 1  
3/8" = 1'-0"



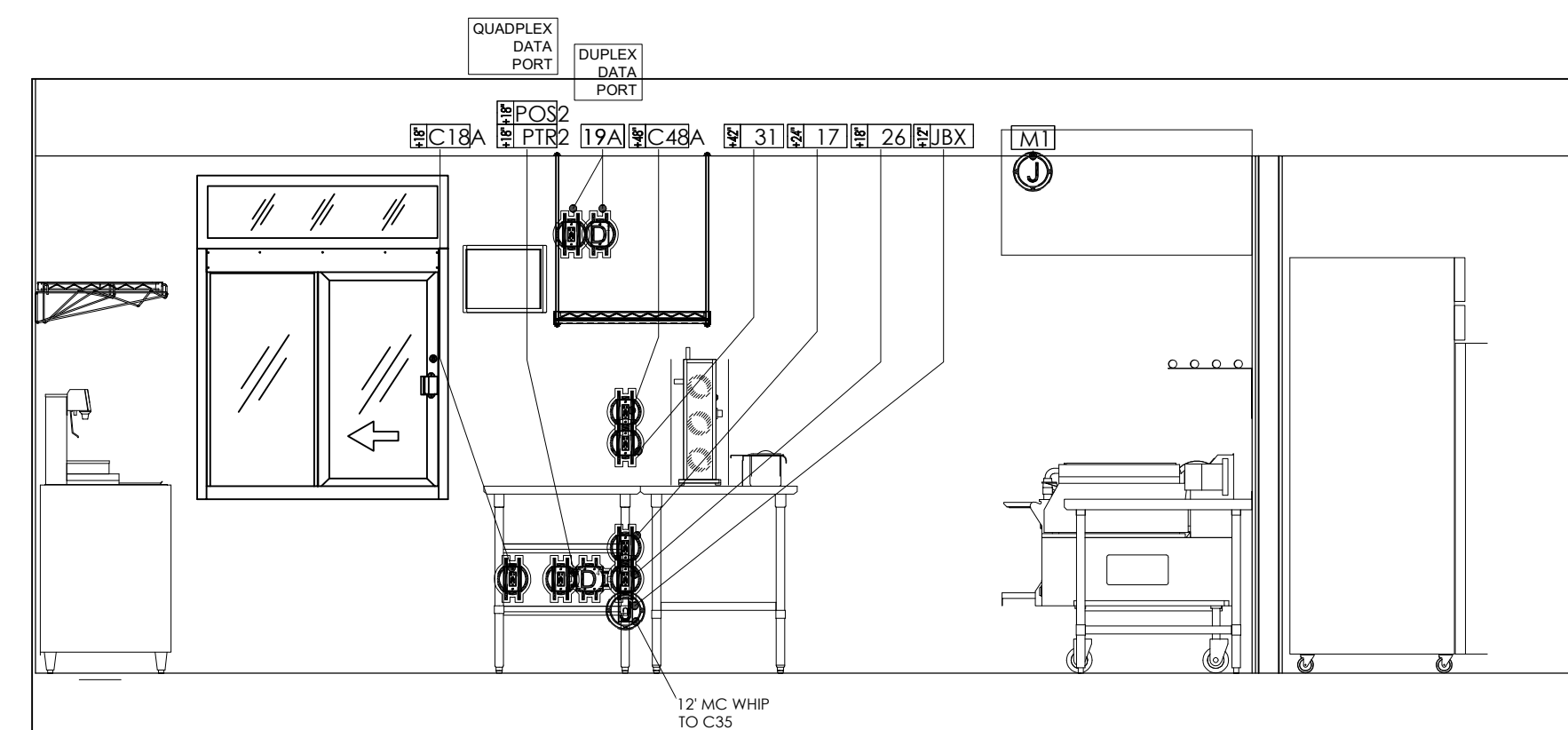
2 ELEVATION 2  
3/8" = 1'-0"



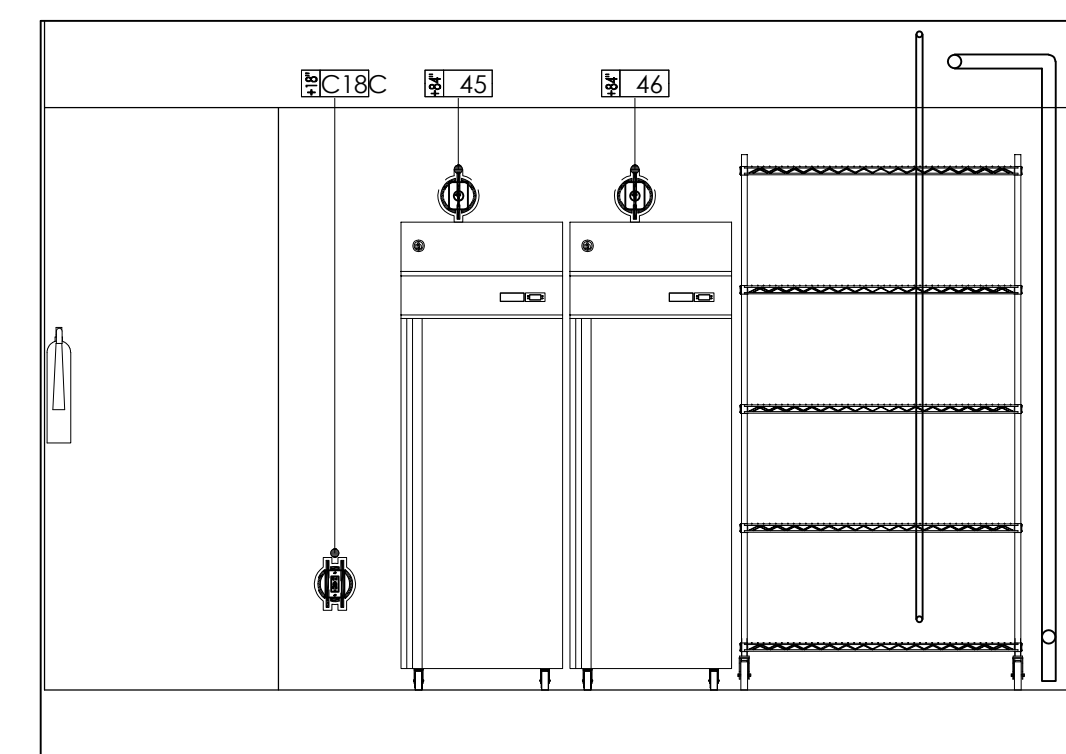
3 ELEVATION 3  
3/8" = 1'-0"



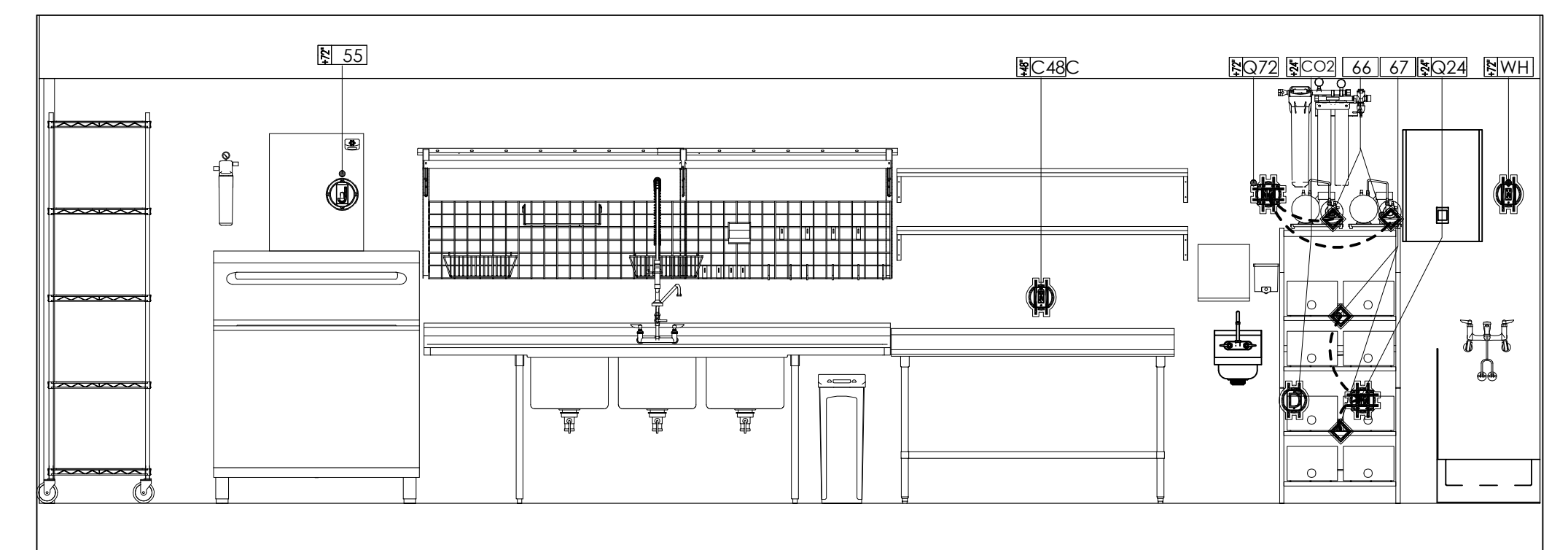
4 ELEVATION 4  
3/8" = 1'-0"




































5 ELEVATION 5  
3/8" = 1'-0"

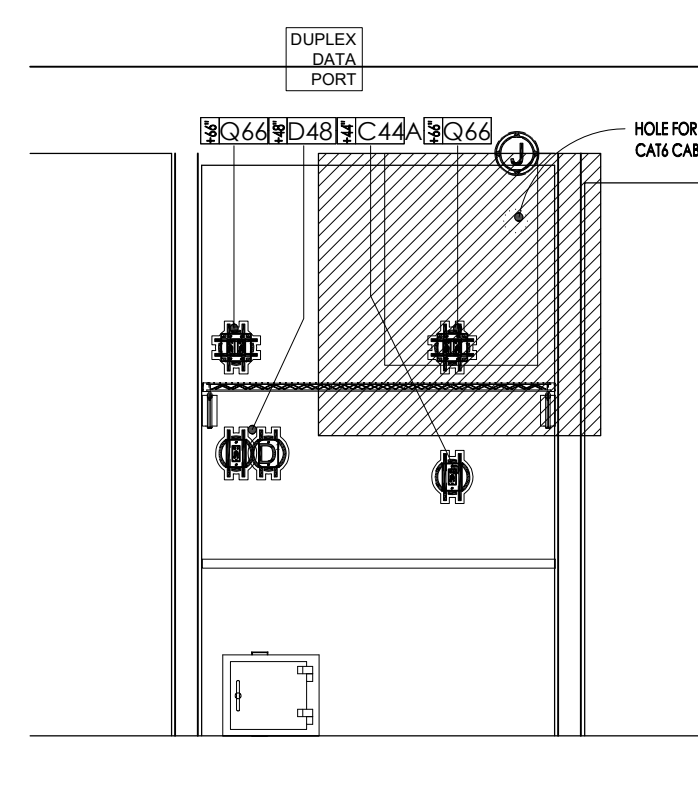


6 ELEVATION 6  
3/8" = 1'-0"

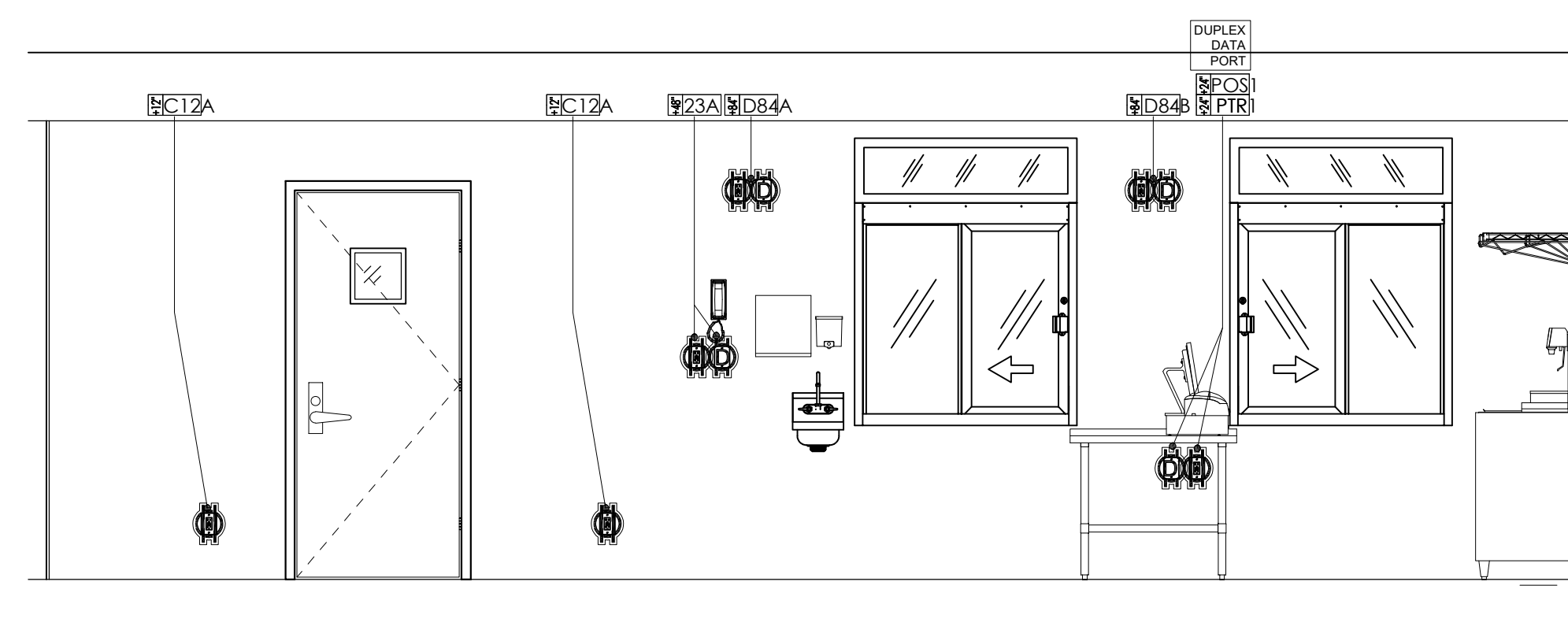


7 ELEVATION 7  
3/8" = 1'-0"

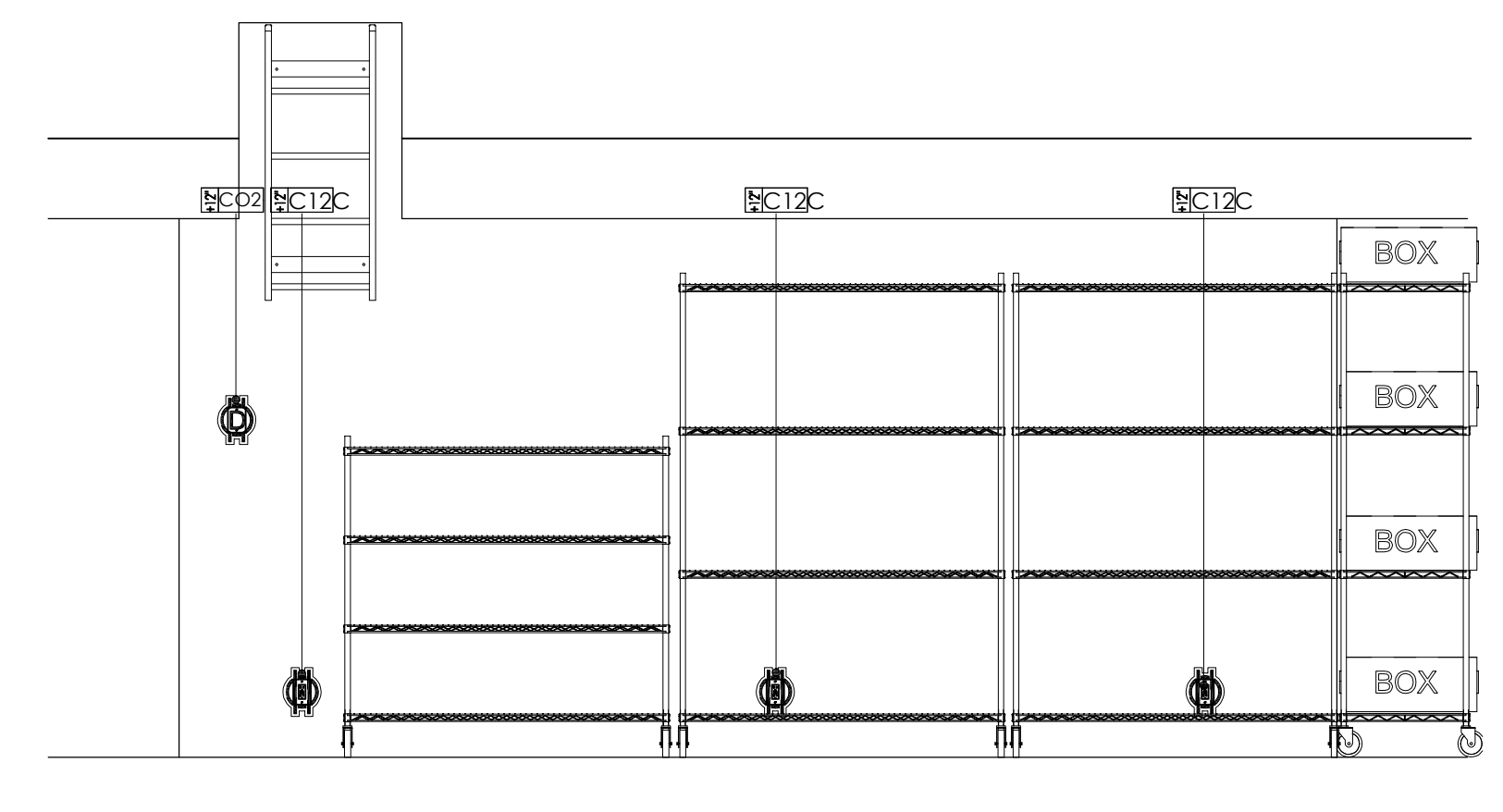
ELECTRICAL LEGEND		
Plan	Elevation	Description
		120V Dedicated Single Duplex & Quadplex Outlet
		120V Duplex Drop Cord
		120V Duplex & Quadplex Floor Outlet
		High Voltage Outlet 208-480V
		J-Box Fixture Mounted & Wall Mounted
		Data Point
		Duplex Data Point
		Quad Data Point
		Electrical Stub-Up
		Electrical Connection Point
		Fire Pull Station To Be Verified By Fire Inspector
		Light Switch
		Light Fixture
		Electrical Disconnect Point
		Thermostat
		Blower Fixture Mounted
		Alarm Connection Point
-----		Electrical Lines



8	ELEVATION 8 3/8" = 1'-0"
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9	ELEVATION 9 3/8" = 1'-0"
---	-----------------------------



10 ELEVATION 10  
3/8" = 1'-0"

**THIS IS A STATE  
APPROVED & INSPECTED  
MODULAR BUILDING**

**MISSOURI  
PUBLIC SERVICE  
COMMISSION**  
**APPROVED**  
**04/05/2024**  
**MANUFACTURED  
HOUSING**

DIVISION/ UPLOAD DATE		
SL. NO.	DATE	DESCRIPTION

LATEST DESIGN BULLETIN		
SL. NO.	DATE	DESCRIPTION

**MODULAR**  
VALIANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

Third Party: HWC & Asc. Inc  
1627 South Myrtle Ave.  
Clearwater, Fl. 34616  
(717)-584-8151



SHEET NAME

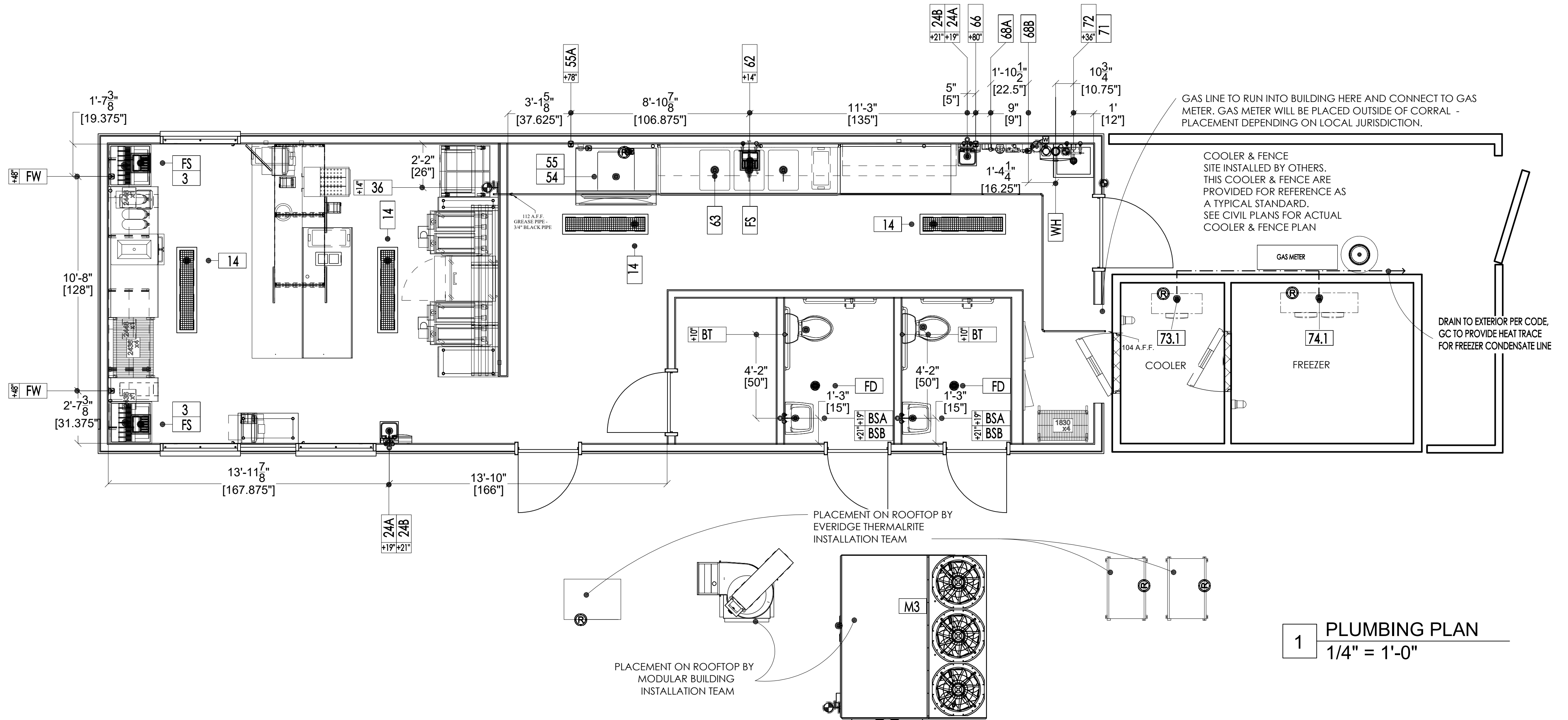
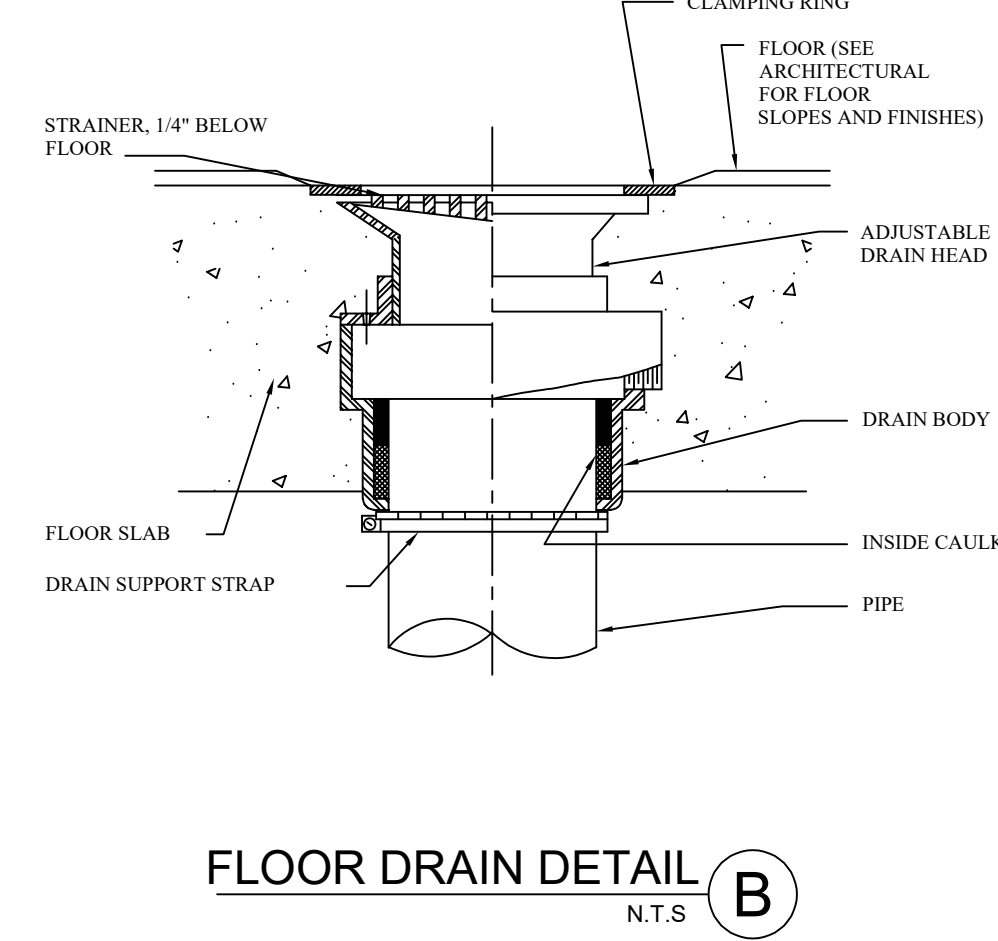
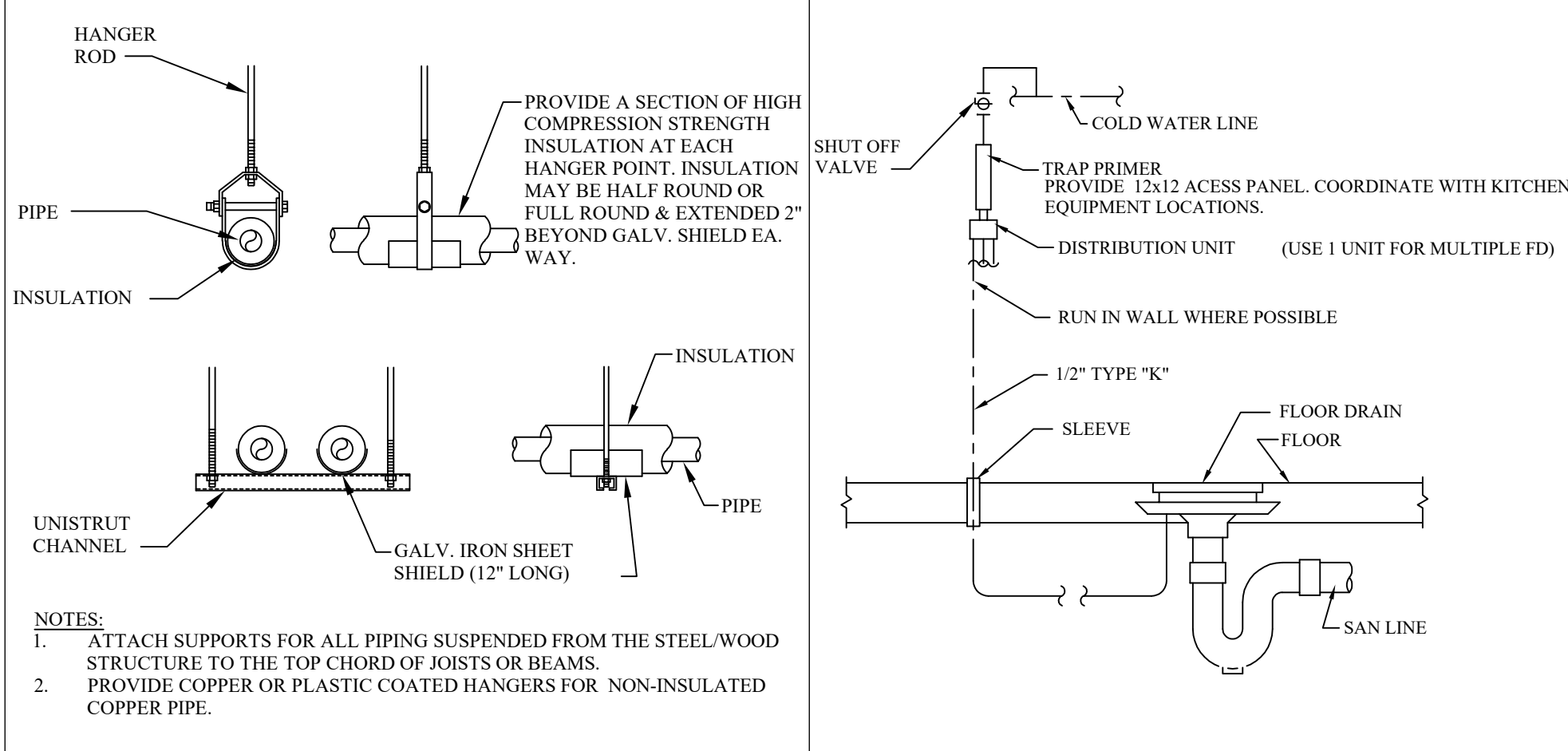
## ELECTRICAL ELEVATIONS

SHEET NUMBER

## E4.1



THIS IS A STATE  
APPROVED & INSPECTED  
MODULAR BUILDING



### PLUMBING LEGEND

Plan	Elevation	Description
		Hotwater Connection Point
		Coldwater Connection Point
		In Wall Direct Drain
		Hot&Cold Water w/Direct Drain
		Filtered Water Stub
		Water Stub-Up
		Plumbing Connection Point
		Gas Supply Line
		Gas Stub-Up
		Beverage Stub-Up
		Fixture Drain
		Water Lines
		Gas Lines
		Waste Lines
		Floor Drain Round & Square
		Funnel Floor Drain
		Floor Sink: 1/2 Grate, 3/4 Grate, Open Grate & Round

Plumbing Schedule																Item Number
Item Number	Count	Equipment Description	Connection Description	Cold Water Size	Cold Water RI	Hot Water Size	Hot Water RI	Filtered Water Size	Indirect Waste Size	Direct Waste Size	Direct Waste RI	Gas Size	Gas Input Btu/h	Gas RI	Plumbing Remarks	
3	2	Soda Dispenser	Fixture Drain Indirect						3/4"						Verify Requirements w/ Owner, By Vendor, Air-Gap To FS	3
14	4	Floor Trough Drain	Penetration Drain							3"	0"				Verify w/ Fabricator	14
24A	2	Hand Sink	Hot & Cold 4"	1/2"	19"	1/2"	19"									24A
24B	2	Hand Sink	Direct Drain						1 1/2"	21"						24B
36	1	Fryers	Gas Supply									1"	140000	1/4"	Air-Gap to FS	36
54	1	Ice Bin	Fixture Drain Indirect					1/2"	3/4"							54
55	1	Ice Cube Machine, Remote w/ 50' Line Set	Filtered Water													55
55	1	Ice Cube Machine, Remote w/ 50' Line Set	Fixture Drain Indirect						3/4"							55
55A	1	Filter System, Ice Maker	Cold Water Stub	3/8"	78"		3/8"								Filtered water to 55	55A
62	1	Pre-Rinse Faucet Assembly, With Add-On Faucet	Hot & Cold 8"	1/2"	14"	1/2"	14"									62
63	1	Three (3) Compartment Sink	Fixture Drain Indirect					1/4"		2"					Air-Gap To FS	63
66	1	Soda Carbonator	Filtered Water												By Vendor - verify requirements	66
68A	1	Water Filtration System	Cold Water Stub	3/4"											Filtered Water To 5 and 66	68A
68B	1	Water Filtration System	Filtered Water					3/4"							Filtered Water To 5 and 66	68B
71	1	Mop Sink	Penetration Drain							2"	0"					71
72	1	Service Faucet	Hot & Cold 8"	1/2"	36"	1/2"	36"									72
73.1	1	Evaporator Coil (Refrigerator)	Fixture Drain Indirect						3/4"						Air-Gap To FS, See Shop Drawings	73.1
74.1	1	Evaporator Coil (Freezer)	Fixture Drain Indirect						3/4"						Air-Gap To FS, See Shop Drawings	74.1
BSA	2	Bathroom Sink	Hot & Cold 4"	1/2"	19"	1/2"	19"			1 1/2"	21"					BSA
BSB	2	Bathroom Sink	Direct Drain													BSB
BT	2	Bathroom Toilet	Cold Water Stub	1/2"	10"											BT
BT	2	Bathroom Toilet	Penetration Drain							2"	0"					BT
FD	2	Floor Drain	Penetration Drain							3"	0"				Verify w/ Fabricator	FD
FS	3	Floor Sink	Penetration Drain							3"	0"				Verify w/ Fabricator	FS
FW	2	Filtered Water Stub-Out	Filtered Water Stub					1/4"							Filtered Water From 68, By Vendor - Verify w/ Vendor	FW
M3	1	Make Up Air Unit	Gas Connection Point									3/4"	150000		See Shop Drawings	M3
WH	1	Water Heater	Cold Water Stub	3/4"		3/4"						3/4"	200000		By Vendor-Verify w/ Vendor	WH

### GENERAL NOTES

1. PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO EXECUTE THE PLUMBING WORK INDICATED ON THE DRAWINGS, AND AS REQUIRED BY LOCAL CODES AND ORDINANCES.
2. PAY ALL FEES AND ARRANGE FOR EXECUTION OF ALL TAPS, METERS WITH REQUIRED ENCLOSURES (IF ANY), ETC. INHERENT TO THE INSTALLATION OF NEW PLUMBING SERVICE.
3. PLUMBING WORK FOR THIS CONTRACT SHALL INCLUDE ALL PIPING FOR DOMESTIC HOT AND COLD WATER LINES, VENT AND SANITARY LINES, HOOK-UP OF ALL FIXTURES SCHEDULED ON THE DRAWINGS, AND INSULATION OF DESIGNATED PIPING RUNS. WORK SHALL ALSO INCLUDE ALL GAS PIPING AND EQUIPMENT CONNECTIONS WHERE REQUIRED.
4. ALL ITEMS SUCH AS FITTINGS, ETC. NOT MENTIONED BUT UNDERSTOOD TO BE NECESSARY TO COMPLETE THE PLUMBING SYSTEM SHALL BE INCLUDED.
5. SOIL, WASTE, AND VENT PIPING TO BE OF MATERIAL APPROVED BY LOCAL CODES. PVC, DWV PIPING AND FITTINGS TO BE SCHEDULE 40 AS A MINIMUM.
6. PROVIDE CLEANOUTS FOR SOIL AND WASTE LINES AS SHOWN ON DRAWINGS, AND OF TYPE APPROVED BY LOCAL CODES.
7. ALL WATER SUPPLY PIPING SHALL BE PEX PIPING UNLESS PROHIBITED BY LOCAL CODES IN WHICH CASE COPPER TUBING SHALL BE USED. (AVOID FITTINGS BELOW SLAB WHENEVER POSSIBLE). PEX PIPING PASSING THROUGH CONCRETE SLABS SHALL BE SLEEVED WITH PVC BEND SUPPORT BY MANUFACTURER. PROVIDE UPONOR WIRBRO SERIES: A550050 FOR 1/2", PEX A5500750 FOR 3/4" PEX, A5501000 FOR 1" PEX. PROVIDE CORRUGATED PVC TUBING (1) PIPE DIAMETER LARGER THAN THE PEX TUBING FOR SIZES LARGER THAN 1" PEX.
8. PROVIDE FOR DRAINING WATER SYSTEM, AND CAP ALL STUBS UNTIL FINISH WORK IS INSTALLED. INSTALL DRAIN VALVE AT WATER METER WITH 3/4" HOSE THREAD AND VACUUM BREAKER.
9. PROVIDE STOPS ON WATER SUPPLIES TO EACH FIXTURE & EQUIPMENT.
10. GAS PIPING FOR HEATING SYSTEMS WITH GAS-FIRED EQUIPMENT SHALL BE INCLUDED IN THIS CONTRACT. GAS PIPING SHALL BE STANDARD WEIGHT, BLACK STEEL PIPE, SCHEDULE 40. PIPING EXPOSED TO ATMOSPHERE OR RUN BELOW GRADE SHALL HAVE POLYETHYLENE PLASTIC COATING. ALL GAS PIPING, FITTINGS AND INSTALLATION SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF UTILITY COMPANY AND ALL GOVERNING BODIES.
11. IMPORTANT - HOLD ALL COLD AND HOT WATER PIPING TO WARM SIDE OF INSULATION TO PREVENT FREEZING. INSULATION SHALL MEET FLAME SPREAD AND SMOKE DEVELOPED RATINGS REQUIRED BY LOCAL CODES.
12. PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED WHERE SHOWN ON THE DRAWINGS. ALL FIXTURE FITTINGS AND EXPOSED FIXTURE PIPING SHALL BE BRASS CHROMIUM PLATED. ALL TRAPS SHALL BE CAST BRASS. ALL FIXTURES SHALL BE EQUAL IN ALL RESPECTS TO FIXTURES SPECIFIED.
13. WATER METER TYPE IS TO BE PROVIDED AS REQUIRED BY LOCAL UTILITY COMPANY.
14. ROUGH-IN AND FINAL CONNECTIONS OF REQUIRED WASTE, VENT, AND WATER SUPPLY PIPING BY THIS CONTRACTOR. ALL SUPPLY PIPING SHALL BE VALVED.
15. COORDINATE ALL WORK WITH OTHER CONTRACTORS.
16. THIS CONTRACTOR SHALL GUARANTEE ALL WORK INSTALLED UNDER THE CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS, (USUAL WEAR IS EXPECTED), AND SHOULD ANY SUCH DEFECTS DEVELOP WITHIN A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE BUILDING BY THE OWNER, THIS CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTIVE ITEMS AND ALL DAMAGE RESULTING FROM FAILURE OF THESE ITEMS, AT NO EXPENSE WHATSOEVER TO THE OWNER.
17. BACKFLOW PREVENTER TO BE INSTALLED WHEN REQUIRED BY LOCAL CODE.
18. SEE PLUMBING SHEETS FOR KITCHEN EQUIPMENT SCHEDULE, FIXTURE SCHEDULE, DETAILS AND SANITARY ISOMETRIC.
19. THE DIRECTION OF THE SANITARY MAIN AND THE LOCATION OF THE GREASE INTERCEPTOR SHALL BE COORDINATED WITH CIVIL DWGS PRIOR TO ROUGH-IN.
20. COORDINATE LOCATION AND ROUGH-IN HEIGHT OF KITCHEN EQUIPMENT WITH OWNER AND MILLWORK PRIOR TO ROUGH-IN.
21. MAKE ALL CONNECTIONS TO KITCHEN AND MECHANICAL EQUIPMENT UNLESS OTHERWISE NOTED. USE MILL HARDWOOD 30035 BRAIDED FLEXIBLE HOSES FOR ALL COUNTERTOP EQUIPMENT.
22. PROVIDE SHOCK ABSORBERS AT THE END RUN OF ALL WATER PIPING. SIZE AS RECOMMENDED BY PLUMBING AND DRAINAGE INSTITUTE, AND AS RECOMMENDED BY THE MANUFACTURER.
23. ALL PIPING (GAS AND WATER) TO BE CONCEALED IN WALL SPACE WHEN POSSIBLE.
24. ALL SHUT-OFF VALVES TO BE 1/4 TURN SHUT-OFF VALVES.
25. ANY DAMAGES TO ANY EXISTING WALLS, FLOORS, FINISHES ETC. BY THIS CONTRACTOR ARE TO BE REPAIRED AT THIS CONTRACTOR'S EXPENSE.
26. ALL GENERAL USE FLOOR DRAINS NOT INSTALLED UNDER KITCHEN EQUIPMENT TO RECEIVE TRAP PRIMERS.
27. HOSE BIBBS HAVE BUILT IN VACUUM BREAKER
28. HOSE BIBBS AT THE PATIO & REAR OF THE BUILDING WILL HAVE HOT AND COLD WATER AVAILABLE.
29. PROVIDE TRAP PRIMER FOR FLOOR DRAINS. SEE DETAIL ON THIS SHEET FOR MORE INFORMATION.

### PLUMBING ABBREVIATIONS

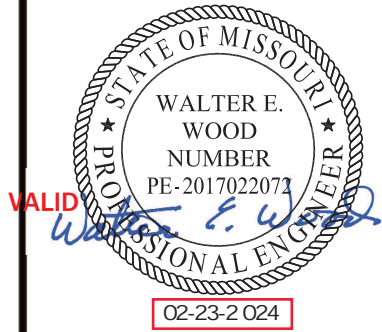
AB	ABOVE	GPM	GALLONS PER MINUTE
AFF	ABOVE FINISHED FLOOR	HB	HOSE BIBB
ARCH	ARCHITECT	HC	HEATING CONTRACTOR
BEL	BELOW	HP	HORSEPOWER
BLDG	BUILDING	IHW	HOT WATER
CLG	CEILING	IHW	HOT WATER RETURN
CO	CLEAN OUT	INV	INVERT
CONT	CONTINUATION	LAV	LAVATORY
CW	COLD WATER	MAX	MAXIMUM
CONTR	CONTRACTOR	MFR	MANUFACTURER
COORD	COORDINATE	MT	MOUNT
DISC	DISCONNECT	NTS	NOT TO SCALE
DN	DOWN	PC	PLUMBING CONTRACTOR
EA	EACH	PLBG	PLUMBING
EC	ELECTRICAL CONTRACTOR	RD	ROOF DRAIN
EX	EXISTING	RTU	ROOFTOP UNIT
EWC	ELECTRIC WATER COOLER	SAN	SANITARY
ECO	EXTERIOR CLEAN OUT	SS	SERVICE SINK
FCO	FLOOR CLEAN OUT	TYP	TYPICAL
FD	FLOOR DRAIN	TW	TEMPERED WATER
FIXT	FIXTURE	UR	URINAL
FLR	FLOOR	V	VENT
FURN	FURNISH	VTR	VENT THRU ROOF
FV	FLUSH VALVE	WC	WATER CLOSET
G	GAS	WCO	WALL CLEAN OUT
GAL	GALLON	WH	WATER HEATER
GC	GENERAL CONTRACTOR	W/	WITH
GPH	GALLONS PER HOUR		

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VALANT MODULAR, LLC  
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(386) 677-9316

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Clearwater, FL 34616  
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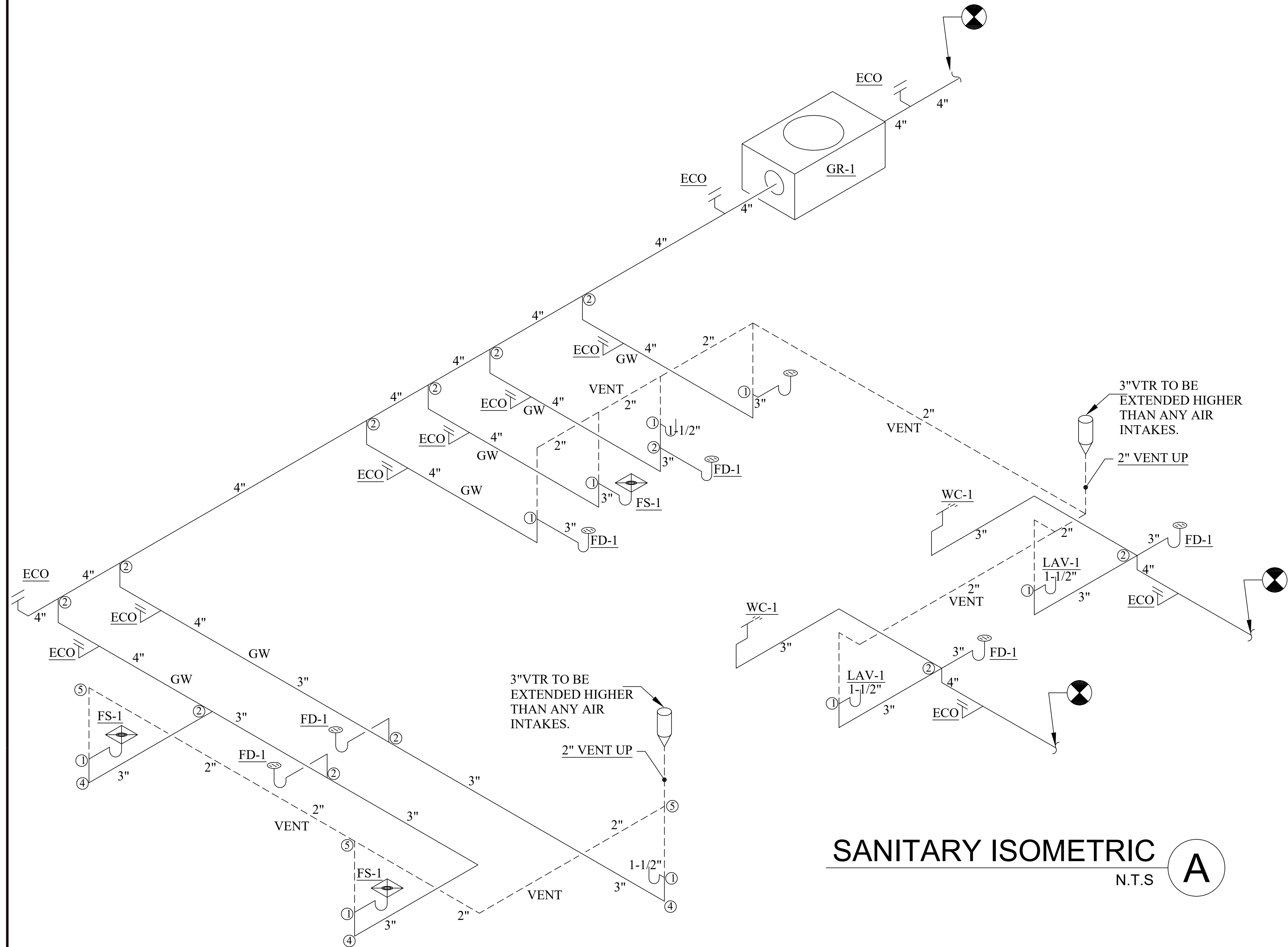
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PLUMBING  
PLAN

SHEET NUMBER

P1.1





# SANITARY ISOMETRIC N.T.S. A

- DWV PIPE FITTING LEGEND:
- ① SANITARY TEE
  - ② WYE
  - ③ SHORT SWEEP
  - ④ LONG SWEEP
  - ⑤ QUARTER BEND
  - ⑥ EIGHTH BEND

ALLOWABLE DISTANCE FROM FIXTURE TRAP TO VENT	
SIZE OF FIXTURE DRAIN - INCHES	MAXIMUM ALLOWABLE DISTANCE FROM TRAP TO VENT
1 1/4	2 FT 6 IN
1 1/2	3 FT 6 IN
2	4 FT
3	5 FT
4 AND LARGER	6 FT

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PLUMBING FIXTURE SCHEDULE								
MARK	DESCRIPTION	MFG & MDL #		HW	CW	SAN	VENT	NOTES
		FIXTURE OR EQUAL	ACCESSORY					
WC-1	WATER CLOSET (HC)	K-4199-0 BOWL K-4468-0 TANK	VITREOUS CHINA FREE STANDING PRESSURE ASSIST, ADA ELONGATED WATER CLOSET, FLANGE BOLTS, BOLT CAPS, FLOOR FLANGE & GASKET. (1.6/FLUSH).	-	1/2"	4"	1-1/2"	1
LAV-1	WALL HUNG LAV.	K-1728-0	DELTA AUTO FAUCET LESS POP-UP DRAIN, MODEL # 591LF-LGHGMHDF PROVIDE WITH TRUEBRO LAV-GUARD KIT	1/2"	1/2"	1-1/2"	1-1/2"	2,4,5
WCO	WALL CLEAN OUT		CAST IRON BODY WITH 6" DIA SS COVER	-	-	3"	-	3
FCO	FLOOR CLEAN OUT	SIOUX CHIEF 822-CF3PNR	PVC BODY WITH SCORIATED BRONZE COVER	-	-	3"	-	3
FD-1	FLOOR DRAIN	SIOUX CHIEF 822-F3PNR	PVC BODY WITH ROUND CAST IRON STRAINER	-	-	3"	-	3
FS-1	FLOOR SINK	SIOUX CHIEF 861-3P		-	-	3"	-	3
GR-1	GREASE INTERCEPTOR	750 GALLON	750 GALLON 48" X 96" GREASE INTERCEPTOR					
MV-1	MIXING VALVE	POWERS LFMM432 (ASSE 1017)	POWERS HYDROGUARD TEMPERING VALVE 3/4" IN 1" OUT	1/2"	1/2"			
WF-1	WATER FILTER	CUNO 260 NSF CERTIFIED	WATER FILTER MOUNTED ABOVE SINK	3/4"	3/4"			
WH-1	WATER HEATER	RINNAI CXP199IN	CONDENSING COMMERCIAL TANKLESS	3/4"	3/4"			

- NOTES:
1. PROVIDE: BRASS FLOOR FLANGE, BOLT CAPS, WAX RING, & CHROME SUPPLY STOP.
  2. PROVIDE: 2" STRAINER, 1-1/4" MCGUIRE CHROME P-TRAP & CHROME SUPPLY STOPS.
  3. COVER TO BE FLUSH WITH FLOOR/GRADE
  4. PROVIDE A WALL MOUNTED CONCEALED ARM CARRIER.
  5. PROVIDE WITH THERMAL MIXING VALVE BELOW FIXTURE. SET AT 105 DEGREES F.
  6. EXTEND RELIEF FROM BFP TO MOP SINK W/ PROPER AIR GAP.
  7. FAUCET TO BE PROVIDED W/ VACUUM BREAKER.
  8. GREASE TRAP PROVIDED FOR REFERENCE AS A TYPICAL STANDARD, VERIFY WITH CIVIL FOR SIZE.

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(386) 677-9316

ENGINEER  
STAMP  
STATE OF MISSOURI  
WALTER E. WOOD  
NUMBER  
PE-2017022072  
VALID  
02-23-2024

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

APPROVED  
2-23-2024  
HWC  
HARTMAN, CARTER & ASSOCIATES

SHEET NAME

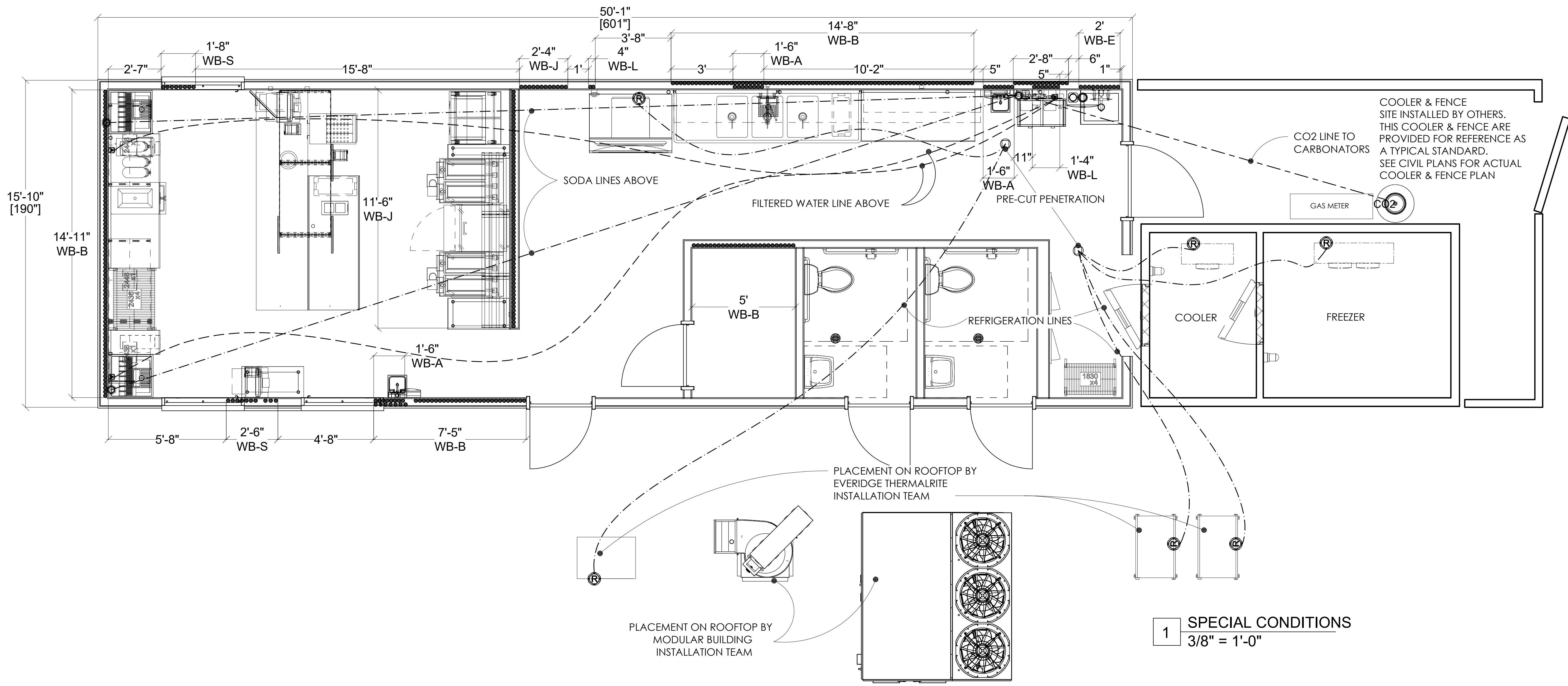
PLUMBING  
SCHEDULE

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ENGINEER  
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NUMBER  
PE-2017022072  
02-23-2024

(WB-A)  
Hand Sink Detail

Soap & Towel Dispensers

Backsplash Clips:  
Stainless Steel 14GA 3"x4" @  
Backsplash to Wall  
Backing with 2  
Screws Per Clip

Max Height 30"

30"

30"

(WB-B)  
Wall Shelf Detail

Second Shelf  
Option

Backsplash Clips:  
Stainless Steel 14GA  
3"x4" @ Backsplash  
to Wall Backing with  
2 Screws Per Clip

22"

48"

60"

36"

(WB-C)  
Pre-Rinse Detail

Backsplash Clips:  
Stainless Steel 14GA  
3"x4" @ Backsplash  
to Wall Backing with  
2 Screws Per Clip

26"

36"

(WB-E)  
Utility Faucet Detail

5'

3'

40"

30"

(WB-J)  
Ansul Case Detail

16"

Heights Vary  
Verify with Elevations

(WB-L)  
Water Filter Detail

72"

Typical Stub-Out Height

12"

66"

Verify Height with Elevation

(WB-S)  
Walk-Up Shelf Detail

10"

26"

SPECIAL CONDITIONS LEGEND	
Plan	Description
● ● ● ● ●	Wall Backing Support
— — — — —	Stainless Steel Wall Flashing
XXXXXXXXXX	Hood Hanger Support
▨ ▨ ▨ ▨ ▨	Floor Depression
-----	Above Floor Lines
- - - - -	Below Floor Lines
▩ ▩ ▩ ▩ ▩	Hood Ducts

ALL DETAILS ARE TYPICAL AND SHOULD BE VERIFIED WITH ARCHITECTURAL DRAWINGS.

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SPECIAL  
CONDITIONS

SHEET NUMBER  
P2.1B

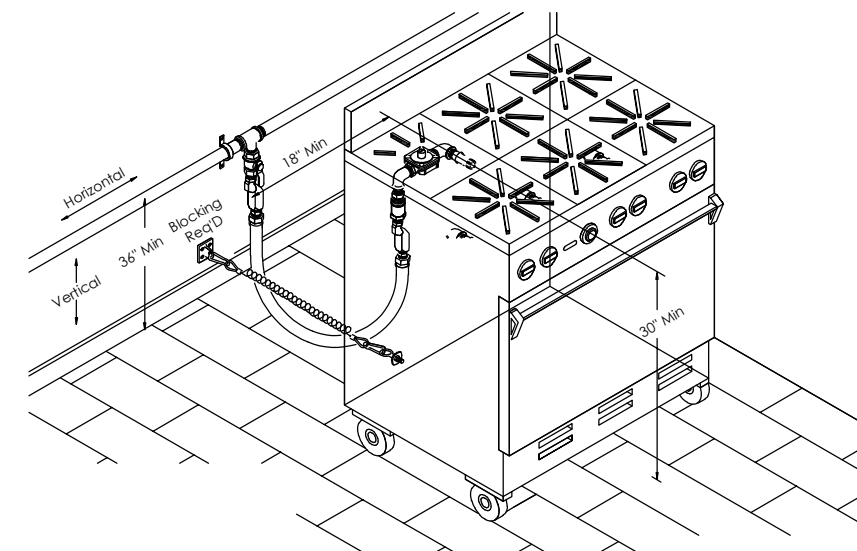


GAS CONNECTION DETAIL

THE INSTALLATION SHOWN ON THIS DRAWING IS FOR THE EZPRESS PURPOSE OF PROVIDING INSTALLATION GUIDELINES ONLY. THE FINAL INSTALLATION APPROVAL IS THE RESPONSIBILITY OF THE SYSTEM DESIGNER/INSTALLER

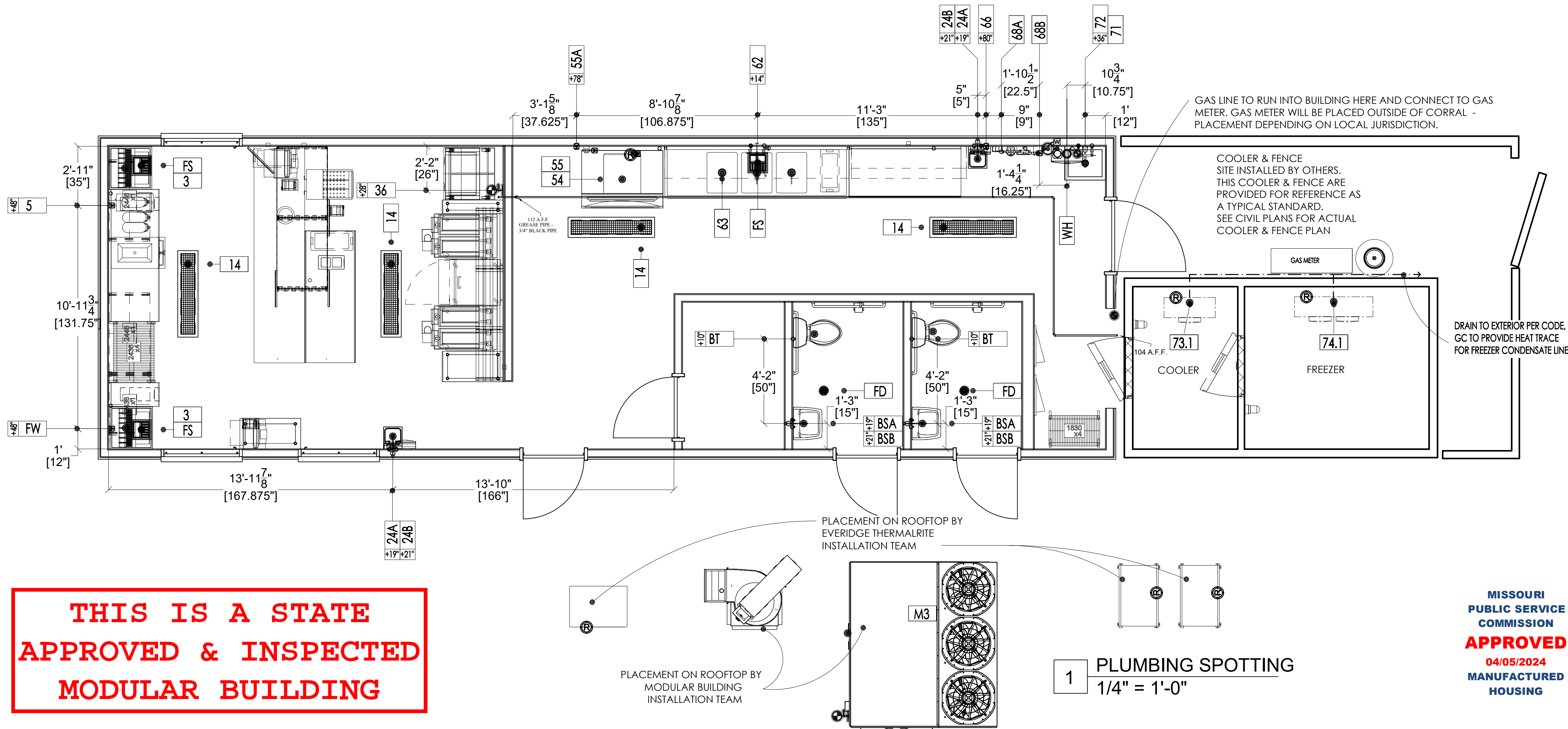
TYPICAL INSTALLATION FOR A CASTER MOUNTED RANGE (CAN BE USED TO SPECIFY CONNECTOR FOR A RANGE WITH ANY NUMBER OF BURNERS).

INSTALLER MUST VERIFY THE SIZE OF THE GAS CONNECTION TO MATCH EQUIPMENT SUPPLY INLET AND EQUIPMENT MANUFACTURER'S RECOMMENDED BTU'S FOR PEAK PERFORMANCE



PLUMBING LEGEND

Plan	Elevation	Description
		Hotwater Connection Point
		Coldwater Connection Point
		In Wall Direct Drain
		Hot&Cold Water w/Direct Drain
		Filtered Water Stub
		Water Stub-Up
		Plumbing Connection Point
		Gas Supply Line
		Gas Stub-Up
		Beverage Stub-Up
		Fixture Drain
		Water Lines
		Gas Lines
		Waste Lines
		Floor Drain Round & Square
		Funnel Floor Drain
		Floor Sink: 1/2 Grate, 3/4 Grate, Open Grate & Round



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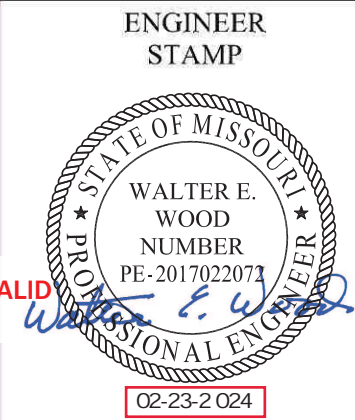
1 PLUMBING SPOTTING  
1/4" = 1'-0"

Plumbing Schedule

Item Number	Count	Equipment Description	Connection Description	Cold Water Size	Cold Water RI	Hot Water Size	Hot Water RI	Filtered Water Size	Indirect Waste Size	Direct Waste Size	Direct Waste RI	Gas Size	Gas Input Btu/h	Gas RI	Plumbing Remarks	Item Number
3	2	Soda Dispenser	Fixture Drain Indirect						3/4"						Verify Requirements w/ Owner, By Vendor, Air-Gap To FS	3
5	1	Tea Brewer	Filtered Water Stub					1/4"							Filtered Water From 68, By Vendor - Verify w/ Vendor	5
14	4	Floor Trough Drain	Penetration Drain							3"	0"				Verify w/ Fabricator	14
24A	2	Hand Sink	Hot & Cold 4"	1/2"	19"	1/2"	19"									24A
24B	2	Hand Sink	Direct Drain						1 1/2"	21"						24B
36	1	Fryers	Gas Supply									1"	140000	28"		36
54	1	Ice Bin	Fixture Drain Indirect						3/4"						Air-Gap to FS	54
55	1	Ice Cube Machine, Remote w/ 50' Line Set	Filtered Water					1/2"								55
55	1	Ice Cube Machine, Remote w/ 50' Line Set	Fixture Drain Indirect						3/4"							55
55A	1	Filter System, Ice Maker	Cold Water Stub	3/8"	78"			3/8"							Filtered water to 55	55A
62	1	Pre-Rinse Faucet Assembly, With Add-On Faucet	Hot & Cold 8"	1/2"	14"	1/2"	14"									62
63	1	Three (3) Compartment Sink	Fixture Drain Indirect						2"						Air-Gap To FS	63
66	1	Soda Carbonator	Filtered Water					1/4"							By Vendor - verify requirements	66
68A	1	Water Filtration System	Cold Water Stub	3/4"											Filtered Water To 5 and 66	68A
68B	1	Water Filtration System	Filtered Water					3/4"							Filtered Water To 5 and 66	68B
71	1	Mop Sink	Penetration Drain							2"	0"					71
72	1	Service Faucet	Hot & Cold 8"	1/2"	36"	1/2"	36"									72
73.1	1	Evaporator Coil (Refrigerator)	Fixture Drain Indirect						3/4"						Air-Gap To FS, See Shop Drawings	73.1
74.1	1	Evaporator Coil (Freezer)	Fixture Drain Indirect						3/4"						Air-Gap To FS, See Shop Drawings	74.1
BSA	2	Bathroom Sink	Hot & Cold 4"	1/2"	19"	1/2"	19"									BSA
BSB	2	Bathroom Sink	Direct Drain							1 1/2"	21"					BSB
BT	2	Bathroom Toilet	Cold Water Stub	1/2"	10"											BT
BT	2	Bathroom Toilet	Penetration Drain							2"	0"					BT
FD	2	Floor Drain	Penetration Drain							3"	0"				Verify w/ Fabricator	FD
FS	3	Floor Sink	Penetration Drain							3"	0"				Verify w/ Fabricator	FS
FW	1	Filtered Water Stub-Out	Filtered Water Stub					1/4"								FW
M3	1	Make Up Air Unit	Gas Connection Point									3/4"	150000		See Shop Drawings	M3
WH	1	Water Heater	Cold Water Stub	3/4"		3/4"						3/4"	200000		By Vendor-Verify w/ Vendor	WH

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**PLUMBING  
SPOTTING**  
SHEET NUMBER

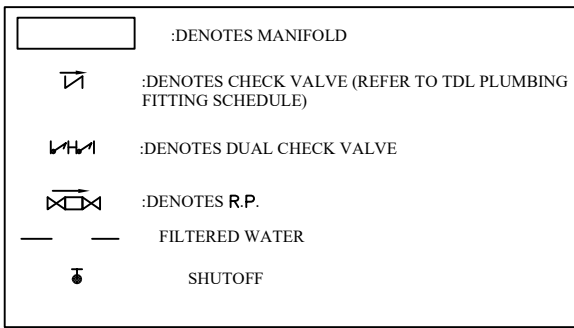
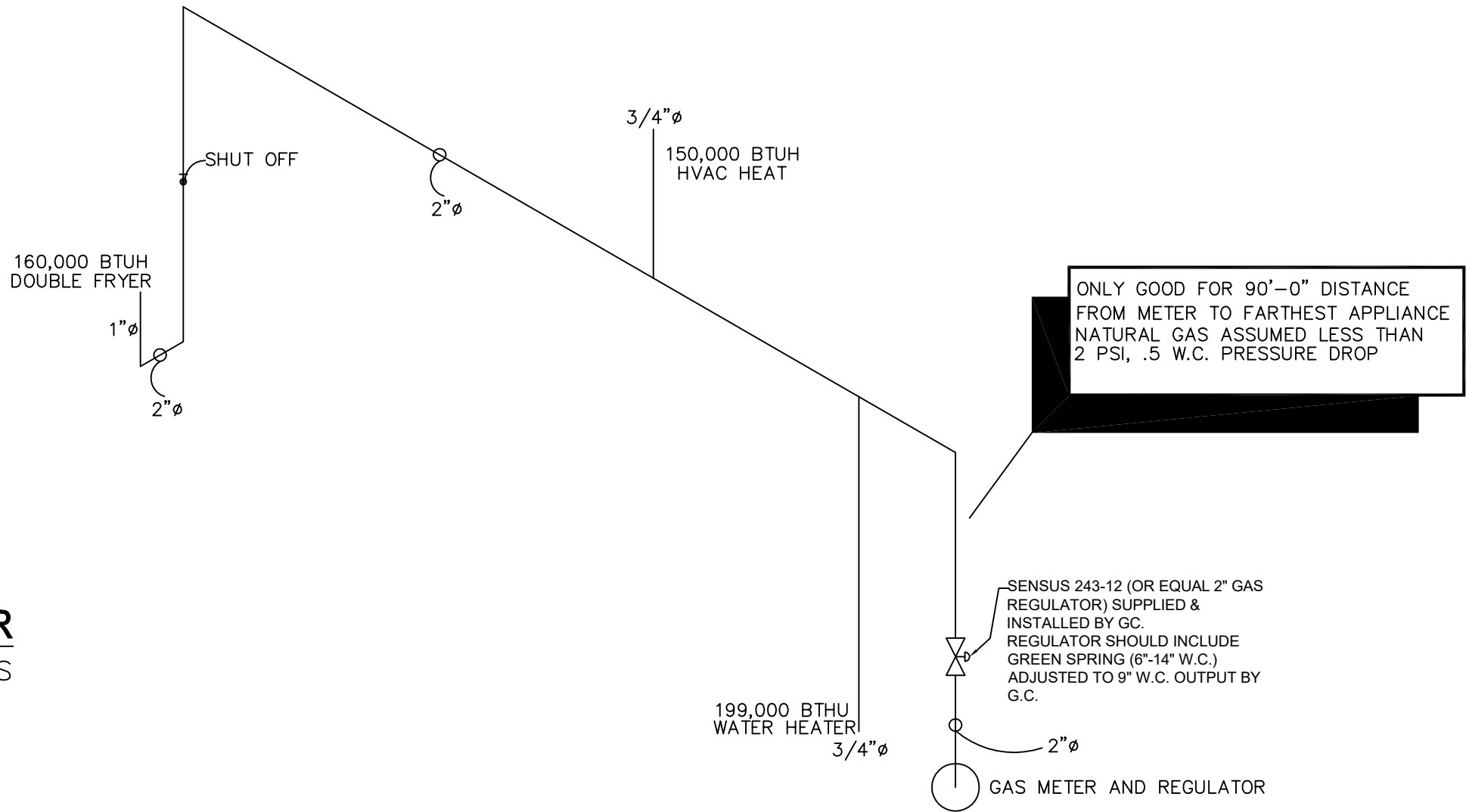
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Equipment	Model # equal)	(or	BTU/hr Input Rating	Natural Gas Pressure (W.C.)
Water Heater	CXP199IN		199000	5" - 10.5"
DOAS RTU Heater	AHRTU3-L150-15-20T		150000	7" - 14"
Fryer (Bank 1)	2VHG50F		80000	7" - 10" (No more than 14" supply)
Fryer (Bank 2)	2VHG50F		80000	7" - 10" (No more than 14" supply)
Totals			509,000 BTU/hr	7" - 14"

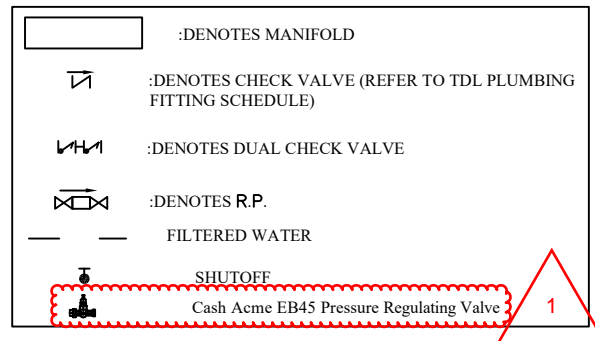
GAS LOADS	
HVAC HTR.	150 MBH
WTR. HTR.	199 MBH
FRYERS	160 MBH
TOTAL	509 MBH

## GAS RISER NTS



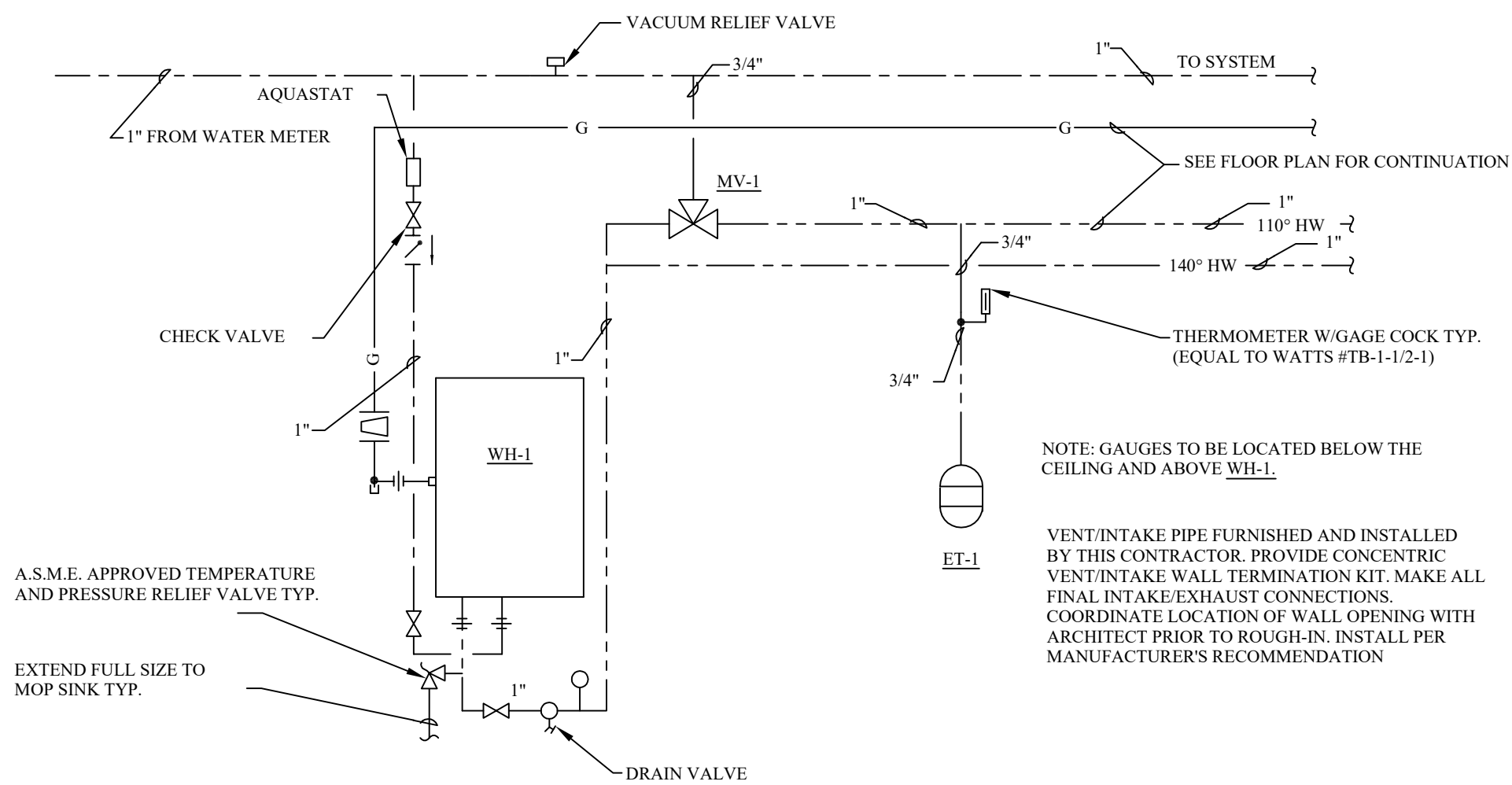
## PLUMBING RISER DETAIL - HOT WATER

NOTES:  
ALL PEX PIPING SHOWN TO BE INSTALLED ABOVE CEILING AS A HOME RUN WITH INDIVIDUAL LINES RUN TO EACH PIECE OF EQUIPMENT UNLESS SHOWN OTHERWISE. EQUIPMENT ON SAME MANIFOLD MAY BE INSTALLED IN A "DAISY CHAIN" FASHION IF WATER PRESSURE FLOW AND COST ARE NOT AFFECTED.



## PLUMBING RISER DETAIL - COLD

## WATER HEATER PACKAGE



## GAS-FIRED WATER HEATER DETAIL

DIRECT VENT INSTANTANEOUS WATER HEATER - COMBUSTION AIR TAKEN FROM OUTSIDE OF BUILDING. INSTALL LISTED VENTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. VENTS SHALL TERMINATE THROUGH WALL ADJACENT TO WATER HEATER. TERMINATION OF EXHAUST PIPE SHALL BE A MIN OF 12" ABOVE COMBUSTION AIR INLET.

PER FPC 403.1 MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES FOR RESTAURANTS:  
1 WATER CLOSET PER 75 MALES  
1 WATER CLOSET PER 75 FEMALES  
1 LAVATORY PER 200 MALES & FEMALES  
1 SERVICE SINK  
PER 410.4:  
WHERE WATER IS SERVED IN RESTAURANTS DRINKING FOUNTAINS SHALL NOT BE REQUIRED

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## NOTES

- SITE CONTRACTOR TO FURNISH AND INSTALL GAS METER AND REGULATOR PER LOCAL GAS COMPANY. COORDINATE WITH LOCAL GAS COMPANY FOR METER AND REGULATOR STANDARDS PRIOR TO ROUGH-IN.
- BUILDING MANUFACTURER TO FURNISH AND INSTALL A SEDIMENT TRAP AND SHUT-OFF VALVE AT EACH APPLIANCE. DRIPS SHALL BE PROVIDED WHERE CONDENSATE COULD COLLECT.
- NOT USED
- NOT USED
- SEE WATER HEATER DETAIL ON THIS SHEET FOR SIZES AND CONTINUATION OF WATER LINES.
- PROVIDE CUT TO LENGTH PEX PIPING SIZED PER EQUIPMENT CONNECTION SCHEDULE. EXTEND FILTERED COLD WATER PEX FROM MANIFOLD SHUT-OFF ABOVE CEILING TO EQUIPMENT'S CONNECTION. INSTALL CONNECTION ENDS ON PEX SIZE AND TYPE TO COORDINATE WITH EQUIPMENT CONNECTION. SEE PEX RISERS AND KITCHEN CONNECTION SCHEDULE FOR MORE INFORMATION FOR INSTALLATION DETAILS. COORDINATE WITH OWNERS REPRESENTATIVE & MILLWORK CONTRACTOR TO INSTALL CODE APPROVED DOUBLE CHECK VALVE ON ICE MAKER SUPPLY LINE.
- NOT USED
- PROVIDE CUT TO LENGTH PEX PIPING INSIDE WALL SIZED PER EQUIPMENT CONNECTION SCHEDULE. EXTEND COLD AND 140° HOT WATER PEX FROM MANIFOLD SHUT-OFF ABOVE 3 COMP SINK DOWN IN WALL TO EQUIPMENT'S CONNECTION. INSTALL CONNECTION ENDS ON PEX SIZE AND TYPE TO COORDINATE WITH EQUIPMENT CONNECTION. SEE PEX RISERS AND KITCHEN CONNECTION SCHEDULE FOR MORE INFORMATION AND INSTALLATION DETAILS. COORDINATE WITH OWNERS REPRESENTATIVE & EQUIPMENT SUPPLIER.
- PROVIDE CUT TO LENGTH PEX PIPING SIZED PER EQUIPMENT CONNECTION SCHEDULE. EXTEND COLD AND HOT WATER PEX FROM MANIFOLD SHUT-OFF ABOVE CEILING AT 3 COMP SINK TO EQUIPMENT'S CONNECTION. INSTALL CONNECTION ENDS ON PEX SIZE AND TYPE TO COORDINATE WITH EQUIPMENT CONNECTION. SEE PEX RISERS AND KITCHEN CONNECTION SCHEDULE FOR MORE INFORMATION AND INSTALLATION DETAILS. COORDINATE WITH OWNERS REPRESENTATIVE & EQUIPMENT SUPPLIER.
- SITE CONTRACTOR TO FURNISH AND INSTALL WATER METER.
- EXTEND 1/2" COLD WATER CUT TO LENGTH PEX LINE ABOVE CEILING FROM PEX MANIFOLD IN THE UTILITY ROOM DOWN TO APPROXIMATELY 30" AFF FOR THE WATER CLOSET TANK CONNECTION. SEE RISER DIAGRAMS FOR DETAILS AND ARCHITECTURAL SHEETS FOR MORE INFORMATION. COORDINATE EXACT LOCATION WITH THE MANUFACTURER'S EQUIPMENT PRIOR TO ROUGH-IN.
- EXTEND 3/4" COLD CPVC WATER LINE TO WATER FILTRATION SYSTEM ABOVE SINK. FURNISH AND INSTALL SHUT-OFF VALVES. INSTALL, HOOK UP AND COMMISSION WATER FILTRATION SYSTEM ITEM PER MANUFACTURER'S RECOMMENDATIONS.
- DROP 3/4" HOT AND COLD LINES TO WATER HEATER.
- FURNISH AND INSTALL CHECK VALVES IN THE COLD WATER SUPPLY TO PLUMBING FIXTURES. KITCHEN EQUIPMENT INDICATED. VALVES ARE TO BE LOCATED IN AN ACCESSIBLE LOCATION. GENERAL CONTRACTOR TO INSTALL VACUUM BREAKER AT CHEMICAL DISPENSING UNIT WHERE REQUIRED BY CODE.
- EXTEND 1/2" HOT AND COLD WATER LINES DOWN TO 30" AFF FOR THE MOP SINK FAUCET. MAKE ALL FINAL CONNECTIONS. COORDINATE EXACT LOCATION PRIOR TO ROUGH-IN.
- 2" GAS LINE TO RISE UP IN WALL TO ABOVE CEILING.
- DROP 2" GAS LINE DOWN TO WATER HEATER.
- NOT USED
- NOT USED
- GAS SUPPLY EMERGENCY SHUTOFF VALVE BY GENERAL CONTRACTOR. VALVE TO BE INSTALLED PER LOCAL CODE REQUIREMENTS.

## GENERAL NOTES

- PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO EXECUTE THE PLUMBING WORK INDICATED ON THE DRAWINGS, AND AS REQUIRED BY LOCAL CODES AND ORDINANCES.
- PAY ALL FEES AND ARRANGE FOR EXECUTION OF ALL TAPS, METERS WITH REQUIRED ENCLOSURES (IF ANY), ETC. INHERENT TO THE INSTALLATION OF NEW PLUMBING SERVICE.
- PLUMBING WORK FOR THIS CONTRACT SHALL INCLUDE ALL PIPING FOR DOMESTIC HOT AND COLD WATER LINES, VENT AND SANITARY LINES, HOOK-UP OF ALL FIXTURES SCHEDULED ON THE DRAWINGS, AND INSULATION OF DESIGNATED PIPING RUNS. WORK SHALL ALSO INCLUDE ALL GAS PIPING AND EQUIPMENT CONNECTIONS WHERE REQUIRED.
- ALL ITEMS SUCH AS FITTINGS, ETC. NOT MENTIONED BUT UNDERSTOOD TO BE NECESSARY TO COMPLETE THE PLUMBING SYSTEM SHALL BE INCLUDED.
- SOIL, WASTE, AND VENT PIPING TO BE OF MATERIAL APPROVED BY LOCAL CODES. PVC, DWV PIPING AND FITTINGS TO BE SCHEDULE 40 AS A MINIMUM.
- PROVIDE CLEANOUTS FOR SOIL AND WASTE LINES AS SHOWN ON DRAWINGS, AND OF TYPE APPROVED BY LOCAL CODES.
- WALL WATER SUPPLY PIPING BELOW GROUND SHALL BE PEX PIPING UNLESS PROHIBITED BY LOCAL CODES IN WHICH CASE COPPER TUBING SHALL BE USED (AVOID FITTINGS BELOW SLAB WHENEVER POSSIBLE). ALL WATER SUPPLY PIPING ABOVE GROUND SHALL BE CPVC TUBING U.N.O. PEX PIPING PASSING THROUGH CONCRETE SLABS SHALL BE SLEEVED WITH PVC BEND SUPPORT BY MANUFACTURER. PROVIDE UPONOR WIRSBO SERIES: A550050 FOR 1/2" PEX A5500750 FOR 3/4" PEX, A5501000 FOR 1" PEX. PROVIDE CORRUGATED PVC TUBING (1) PIPE DIAMETER LARGER THAN THE PEX TUBING FOR SIZES LARGER THAN 1" PEX.
- PROVIDE FOR DRAINING WATER SYSTEM, AND CAP ALL STUBS UNTIL FINISH WORK IS INSTALLED. INSTALL DRAIN VALVE AT WATER METER WITH 3/4" HOSE THREAD AND VACUUM BREAKER.
- PROVIDE STOPS ON WATER SUPPLIES TO EACH FIXTURE & EQUIPMENT.
- GAS PIPING FOR HEATING SYSTEMS WITH GAS-FIRED EQUIPMENT SHALL BE INCLUDED IN THIS CONTRACT. GAS PIPING SHALL BE STANDARD WRIGHT, BLACK STEEL PIPE, SCHEDULE 40. PIPING EXPOSED TO ATMOSPHERE OR RUN BELOW GRADE SHALL HAVE POLYETHYLENE PLASTIC COATING. ALL GAS PIPING, FITTINGS AND INSTALLATION SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF UTILITY COMPANY AND ALL GOVERNING BODIES.
- INSULATE ALL COLD AND HOT WATER PIPING WITH ARMSTRONG COMPANY ARMAFLEX 11" PIPE INSULATION. SEAL JOINTS WITH ARMSTRONG 520 ADHESIVE. IMPORTANT - HOLD ALL COLD AND HOT WATER PIPING TO WARM SIDE OF INSULATION TO PREVENT FREEZING. INSULATION SHALL MEET FLAME SPREAD AND SMOKE DEVELOPED RATINGS REQUIRED BY LOCAL CODES.
- PLUMBING FIXTURES SHALL BE FURNISHED AND INSTALLED WHERE SHOWN ON THE DRAWINGS. ALL FIXTURE FITTINGS AND EXPOSED FIXTURE PIPING SHALL BE BRASS CHROMIUM PLATED. ALL TRAPS SHALL BE CAST BRASS. ALL FIXTURES SHALL BE EQUAL IN ALL RESPECTS TO FIXTURES SPECIFIED.
- WATER METER TYPE IS TO BE PROVIDED AS REQUIRED BY LOCAL UTILITY COMPANY.
- ROUGH-IN AND FINAL CONNECTIONS OF REQUIRED WASTE, VENT, AND WATER SUPPLY PIPING BY THIS CONTRACTOR. ALL SUPPLY PIPING SHALL BE VALVED.
- HOSE BIBBS SHALL BE FREEZELESS AUTOMATIC DRAINING TYPE AS MANUFACTURED BY WOODFORD.
- COORDINATE ALL WORK WITH OTHER CONTRACTORS.
- THIS BUILDING MANUFACTURER SHALL GUARANTEE ALL WORK INSTALLED UNDER THE CONTRACT TO BE FREE FROM DEFECTIVE WORKMANSHIP AND MATERIALS, (USUAL WEAR IS EXPECTED), AND SHOULD ANY SUCH DEFECTS DEVELOP WITHIN A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE BUILDING BY THE OWNER, THIS CONTRACTOR SHALL REPAIR AND/OR REPLACE ANY DEFECTIVE ITEMS AND ALL DAMAGE RESULTING FROM FAILURE OF THESE ITEMS, AT NO EXPENSE WHATSOEVER TO THE OWNER.
- BACKFLOW PREVENTER TO BE INSTALLED WHEN REQUIRED BY LOCAL CODE.
- SEE PLUMBING SHEETS FOR KITCHEN EQUIPMENT SCHEDULE, FIXTURE SCHEDULE, DETAILS AND SANITARY ISOMETRIC.
- THE DIRECTION OF THE SANITARY MAIN AND THE LOCATION OF THE GREASE INTERCEPTOR SHALL BE COORDINATED WITH CIVIL DWGS PRIOR TO ROUGH-IN.
- PROVIDE A TRAP PRIMER ON ALL FLOOR DRAINS. LAYOUT TRAP PRIMER DISTRIBUTION TO CONNECT MULTIPLE FLOOR DRAINS TO ONE TRAP PRIMER.
- ALL COLD, HOT, AND FILTERED WATER LINES SHALL BE INSTALLED UNDER SLAB UNLESS NOTED OTHERWISE. COORDINATE WITH OTHER TRADES PRIOR TO ROUGH-IN OF PIPING TO PREVENT CONFLICT.
- COORDINATE LOCATION AND ROUGH-IN HEIGHT OF KITCHEN EQUIPMENT WITH OWNER AND MILLWORK PRIOR TO ROUGH-IN.
- MAKE ALL CONNECTIONS TO KITCHEN AND MECHANICAL EQUIPMENT UNLESS OTHERWISE NOTED. USE MILL HARDWOOD 30B35 BRAIDED FLEXIBLE HOSES FOR ALL COUNTERTOP EQUIPMENT.
- NOT USED
- ALL PIPING (GAS AND WATER) TO BE CONCEALED IN WALL SPACE WHEN POSSIBLE.
- ALL SHUT-OFF VALVES TO BE 1/4 TURN SHUT-OFF VALVES.
- THIS BUILDING MANUFACTURER TO INSTALL PEX MANIFOLDS UNDER COUNTER SPACE AND SHALL BE MOUNTED AT 12" A.F.F. UNLESS NOTED OTHERWISE. COORDINATE LOCATION WITH OWNER.
- ANY DAMAGES TO ANY EXISTING WALLS, FLOORS, FINISHES ETC. BY THIS CONTRACTOR ARE TO BE REPAIRED AT THIS CONTRACTOR'S EXPENSE.

REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
1	12.2.25	Added PRV
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

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MODULAR  
VALIANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP  
WALTER E. WOOD  
NUMBER  
PE-2017022072  
VALID  
02-23-2024

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

MISSOURI  
PUBLIC SERVICE  
COMMISSION  
APPROVED  
04/05/2024  
MANUFACTURED  
HOUSING

SHEET NAME  
PLUMBING  
WATER &  
GAS  
SHEET NUMBER

P3.1



REVISION/ UPLOAD DATE		
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NUM.	DATE	DESCRIPTION

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APPROVED • 02-23-2024 •

HWC

WALTER E. WOOD  
CARTER & ASSOCIATES

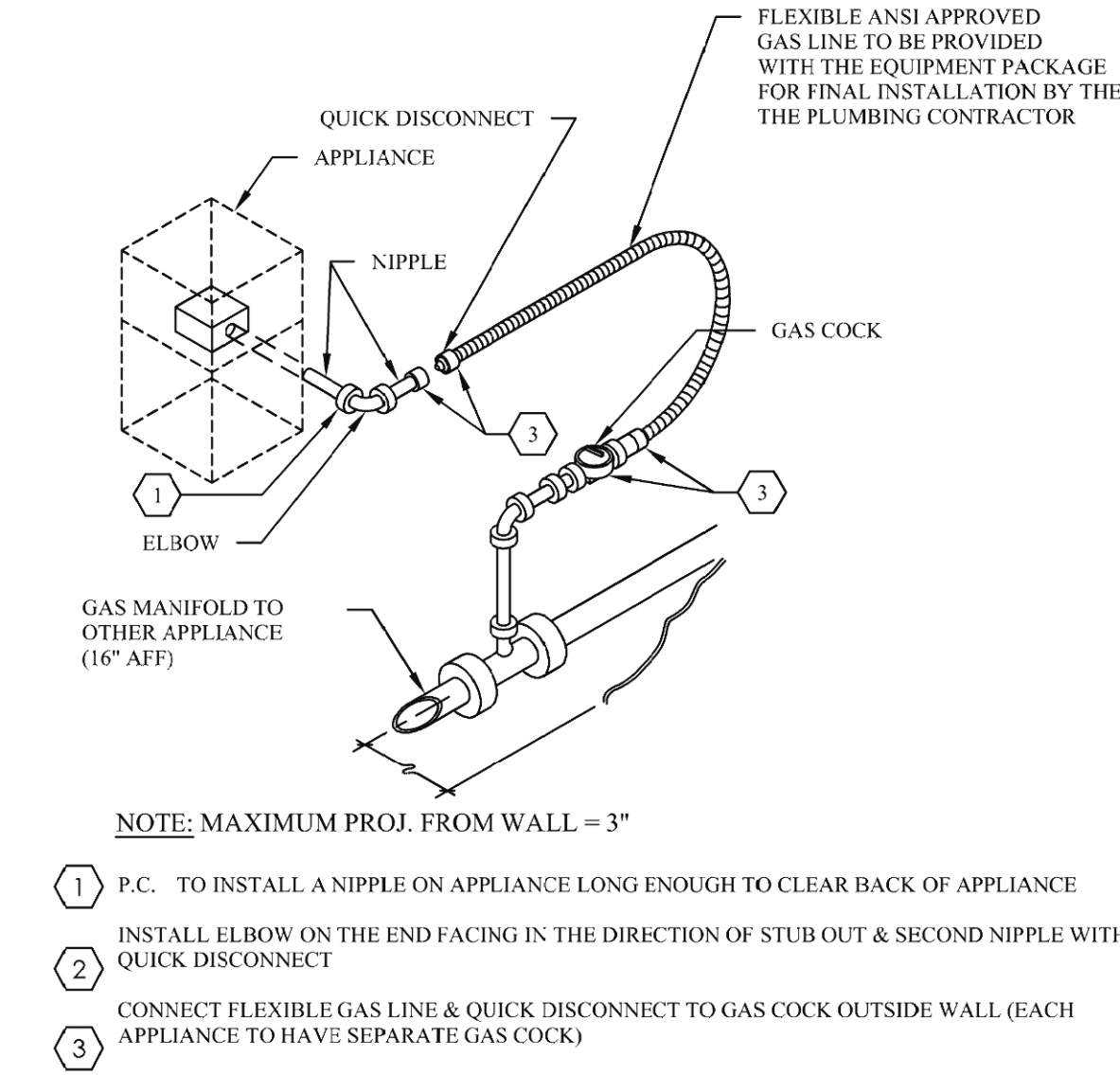
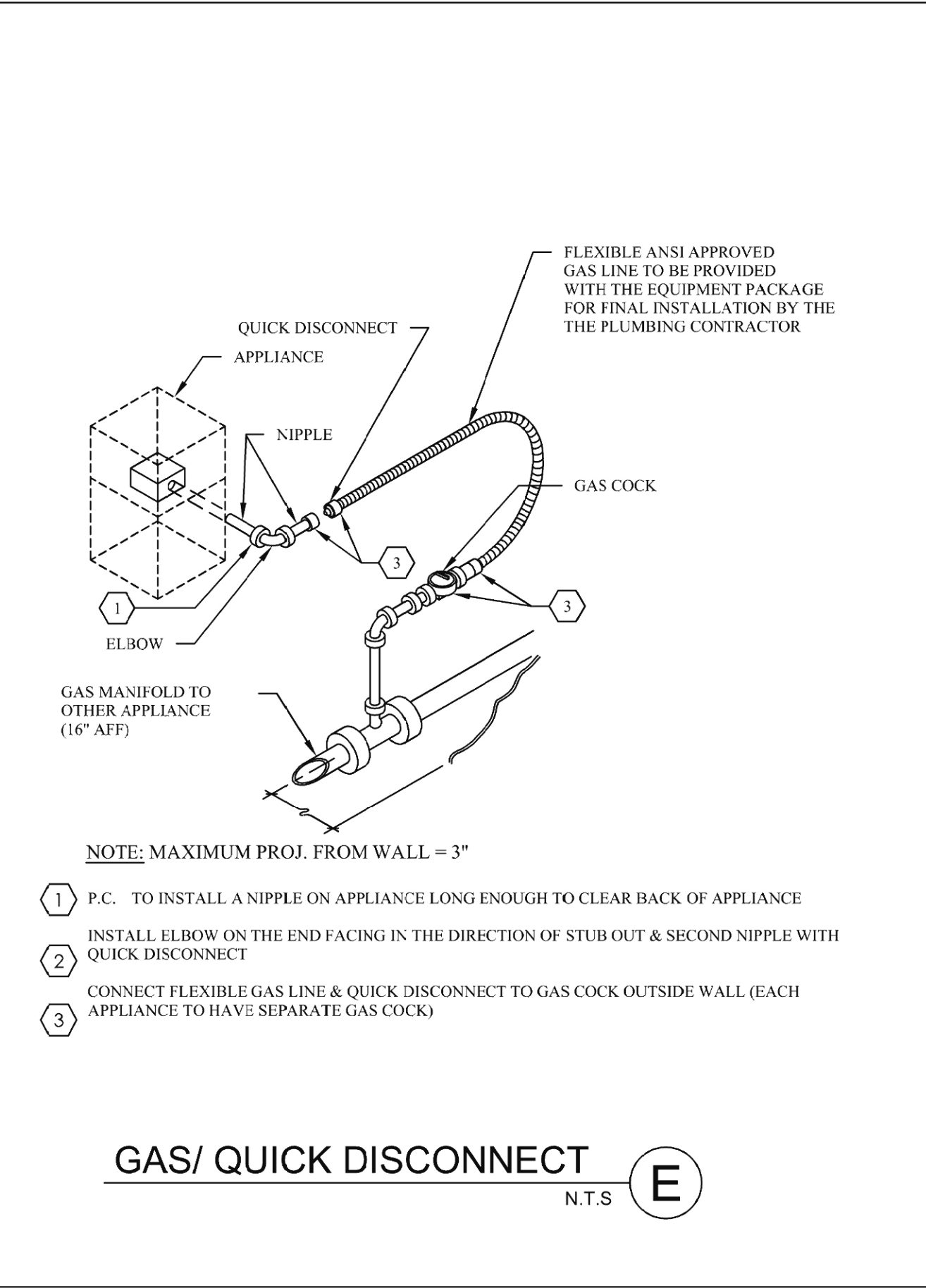
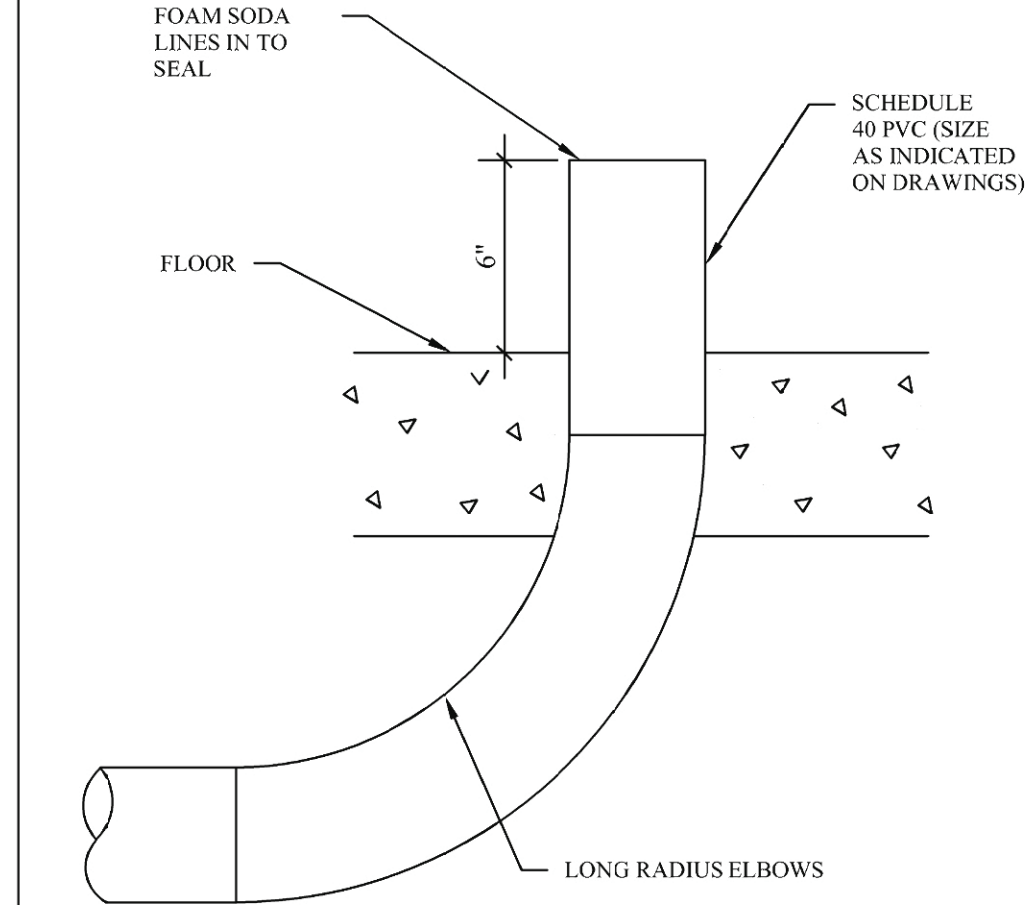
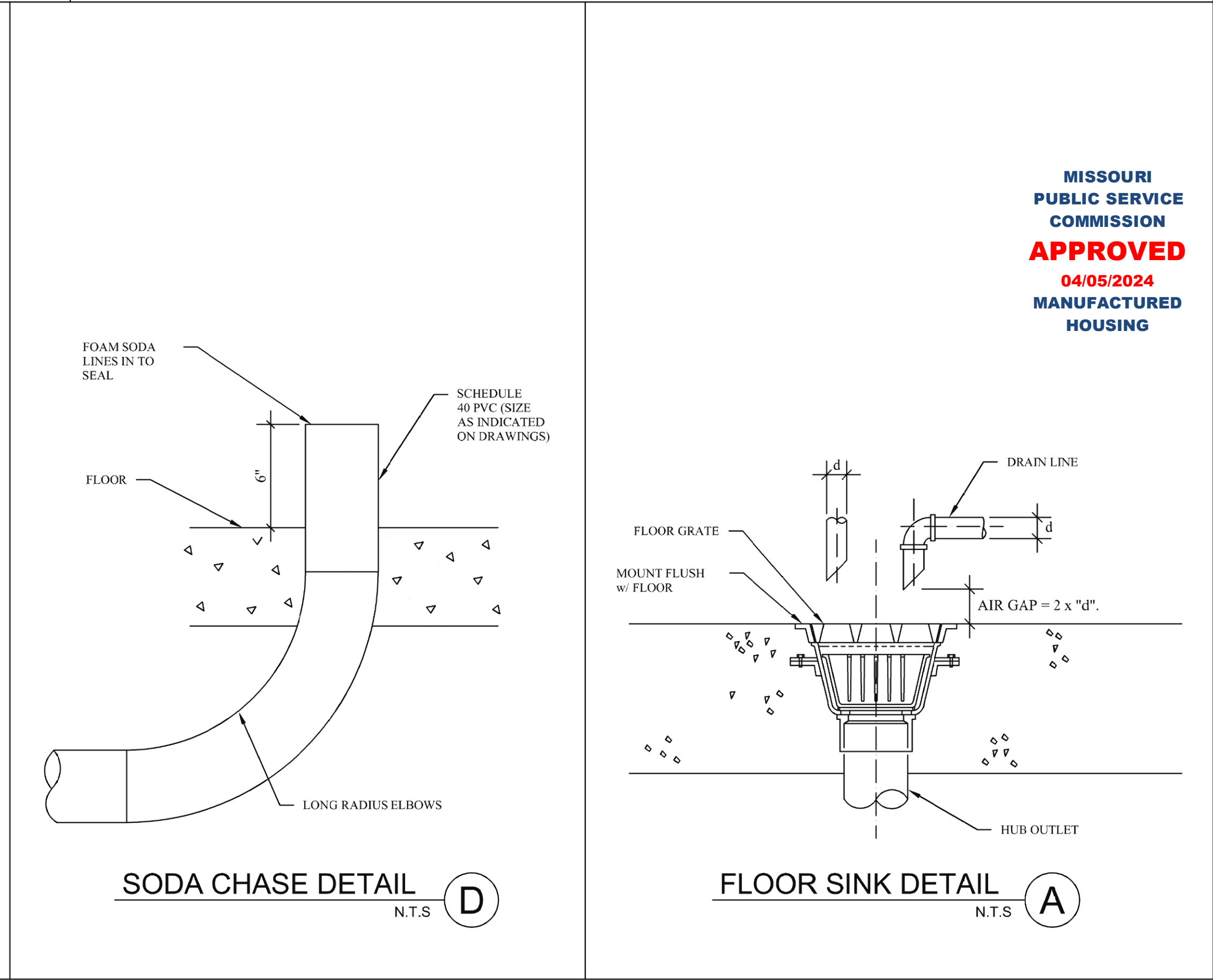
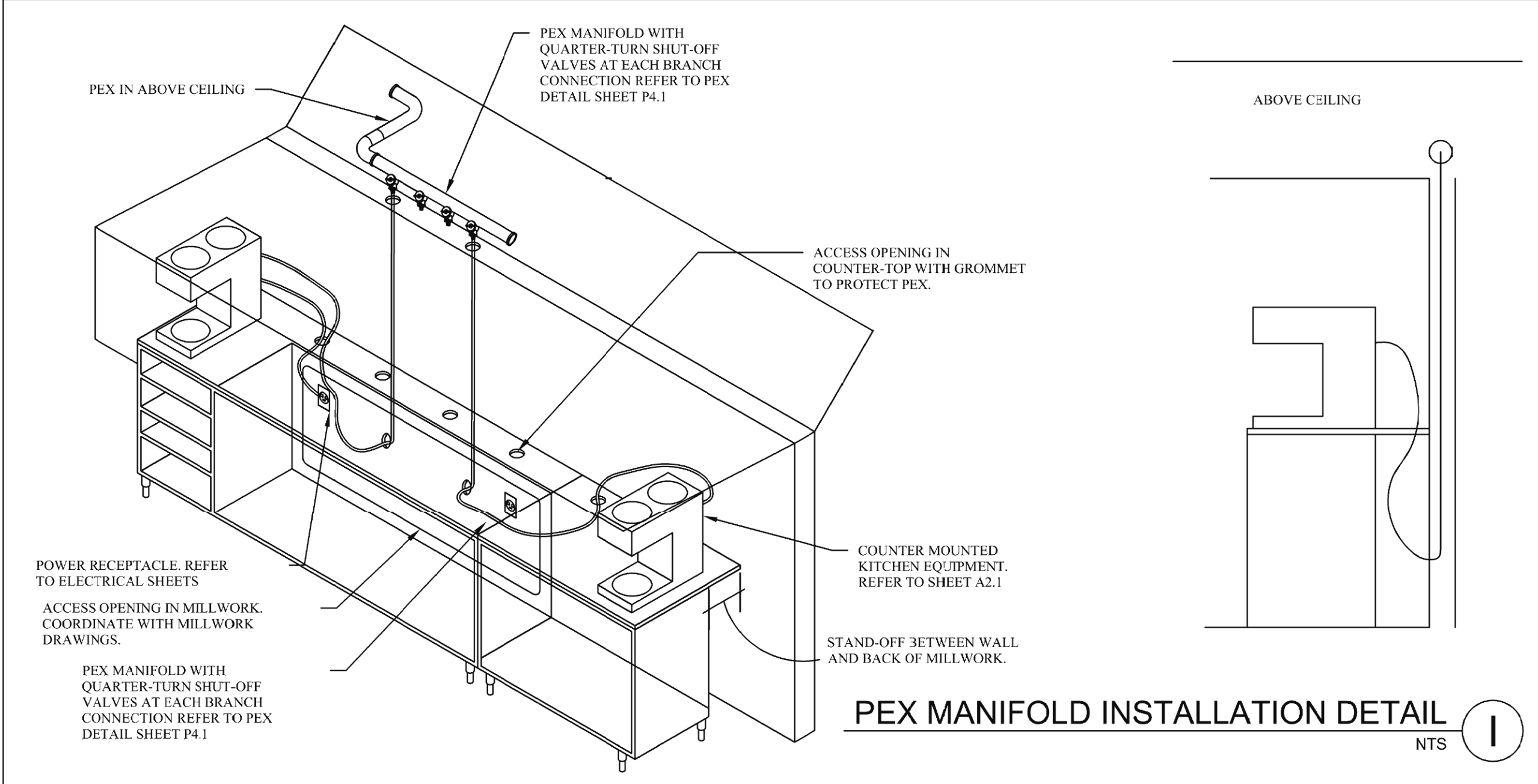
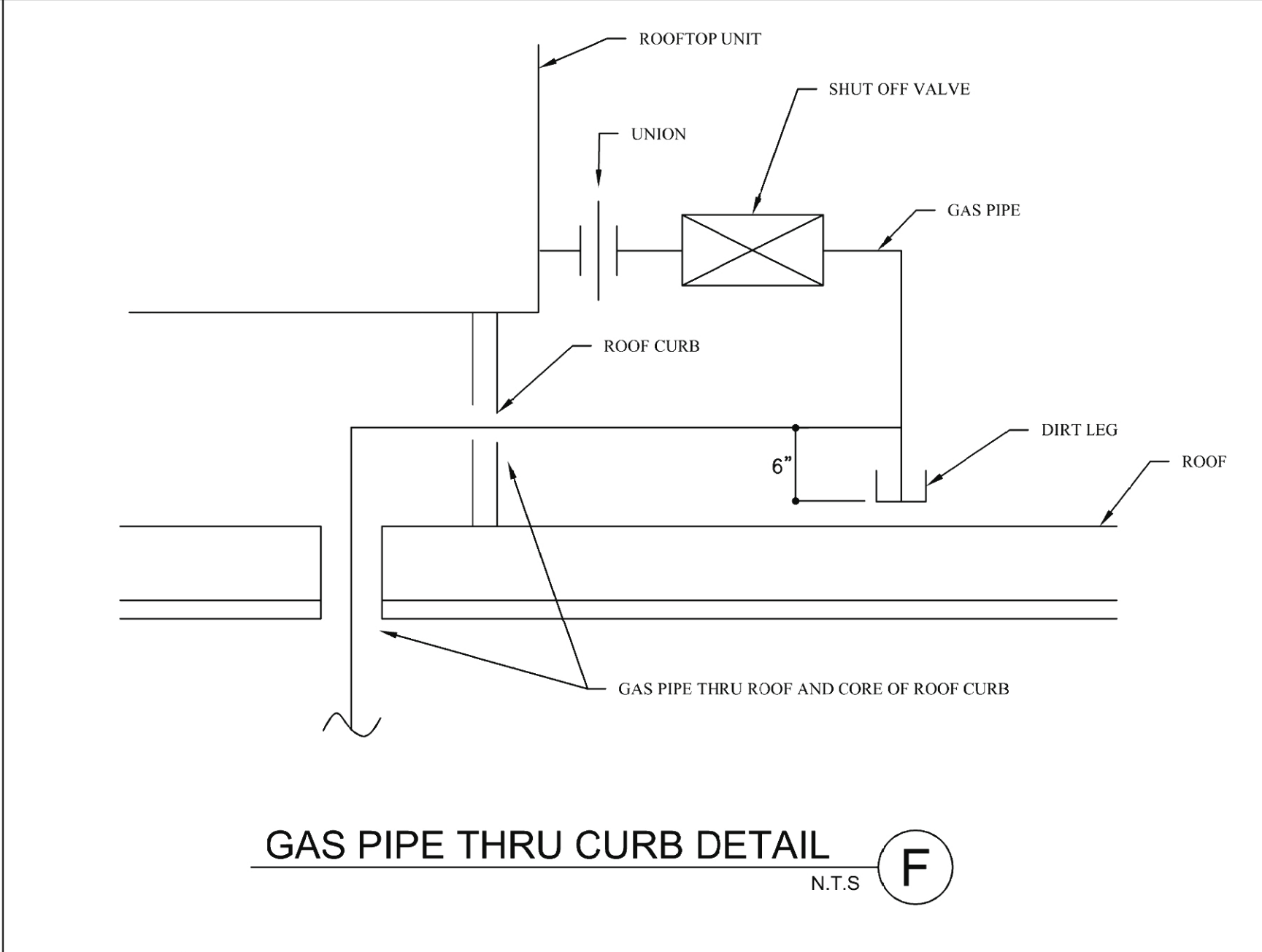
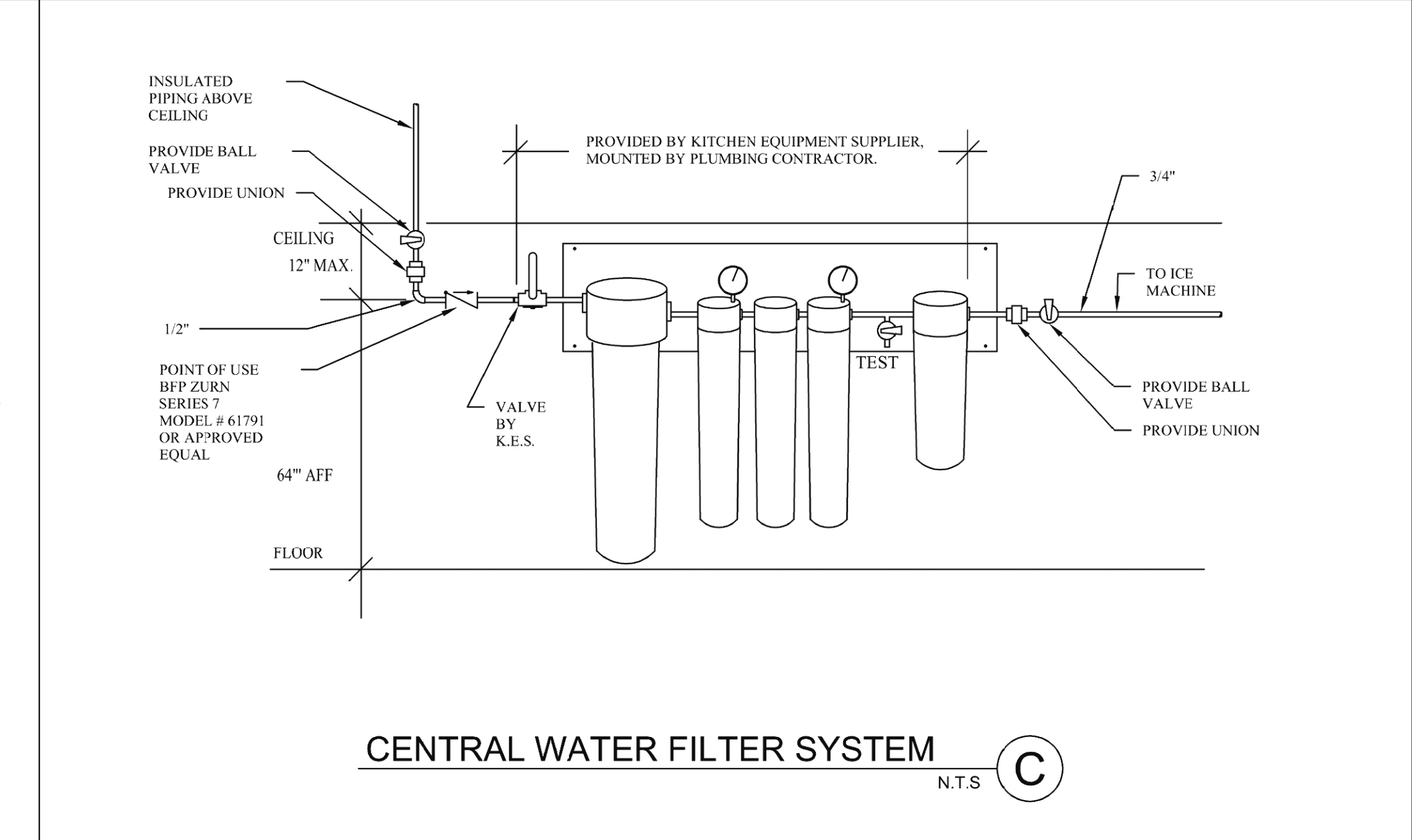
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PLUMBING  
DETAILS

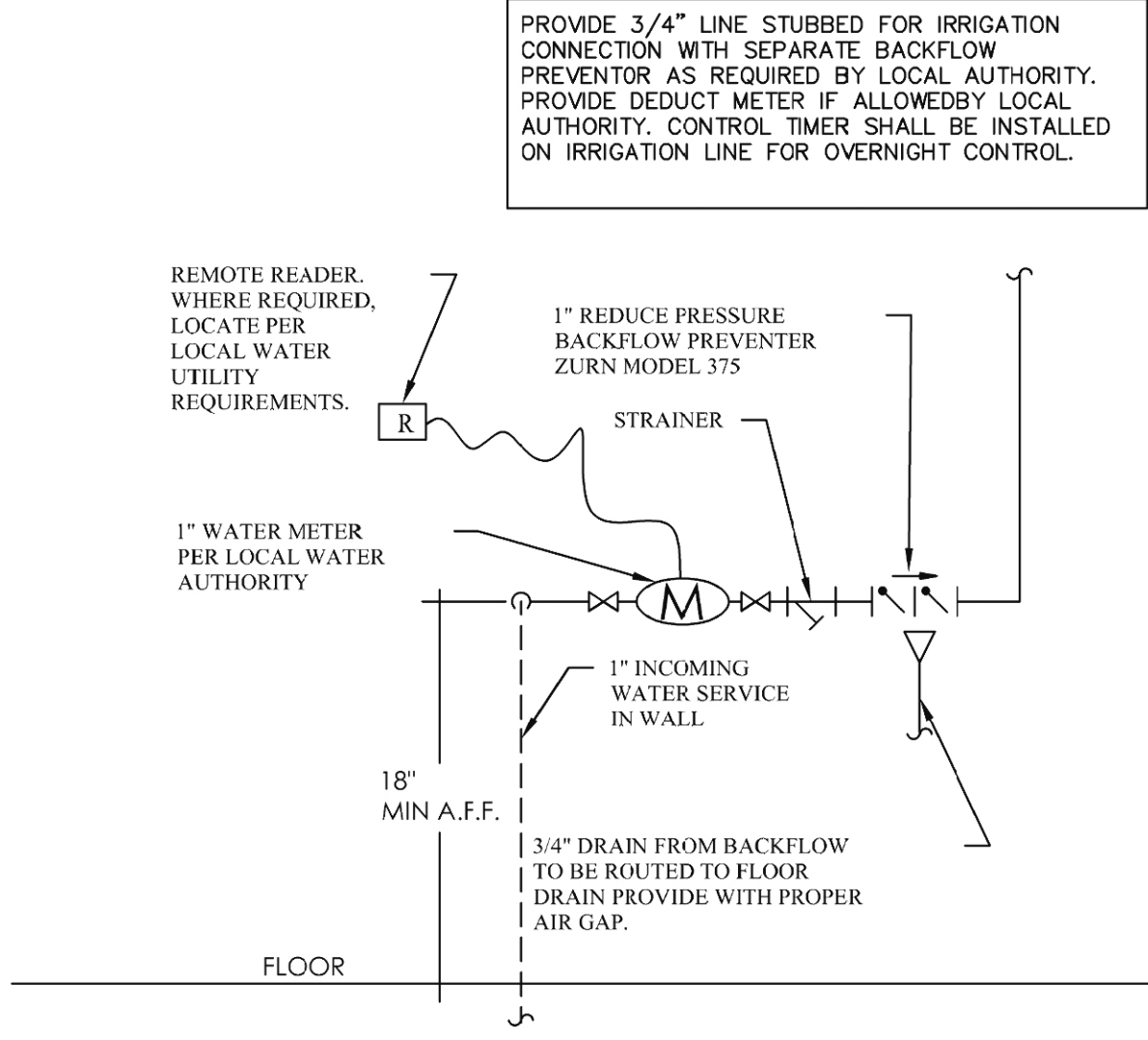
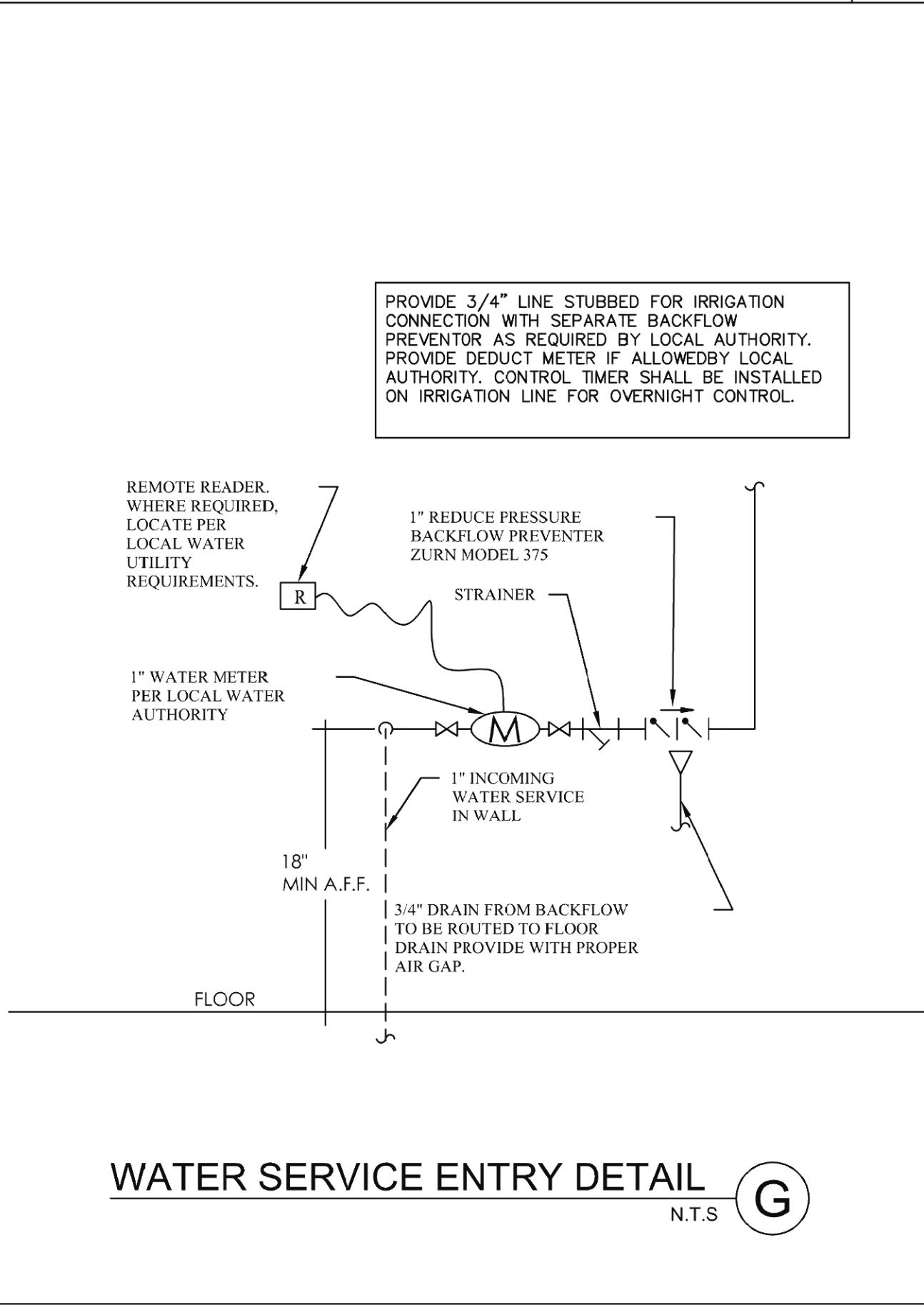
SHEET NUMBER

P4.1

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MODULAR BUILDING



1. P.C. TO INSTALL A NIPPLE ON APPLIANCE LONG ENOUGH TO CLEAR BACK OF APPLIANCE
2. INSTALL ELBOW ON THE END FACING IN THE DIRECTION OF STUB OUT & SECOND NIPPLE WITH QUICK DISCONNECT
3. CONNECT FLEXIBLE GAS LINE & QUICK DISCONNECT TO GAS COCK OUTSIDE WALL (EACH APPLIANCE TO HAVE SEPARATE GAS COCK)



1. P.C. TO INSTALL A NIPPLE ON APPLIANCE LONG ENOUGH TO CLEAR BACK OF APPLIANCE
2. INSTALL ELBOW ON THE END FACING IN THE DIRECTION OF STUB OUT & SECOND NIPPLE WITH QUICK DISCONNECT
3. CONNECT FLEXIBLE GAS LINE & QUICK DISCONNECT TO GAS COCK OUTSIDE WALL (EACH APPLIANCE TO HAVE SEPARATE GAS COCK)



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COOLER & FENCE  
SITE INSTALLED BY OTHERS.  
THIS COOLER & FENCE ARE  
PROVIDED FOR REFERENCE AS  
A TYPICAL STANDARD.  
SEE CIVIL PLANS FOR ACTUAL  
COOLER & FENCE PLAN

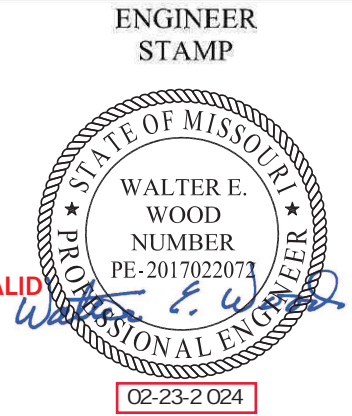
GAS METER

COOLER

FREEZER

1 PENETRATION SPOTTING  
3/8" = 1'-0"

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15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
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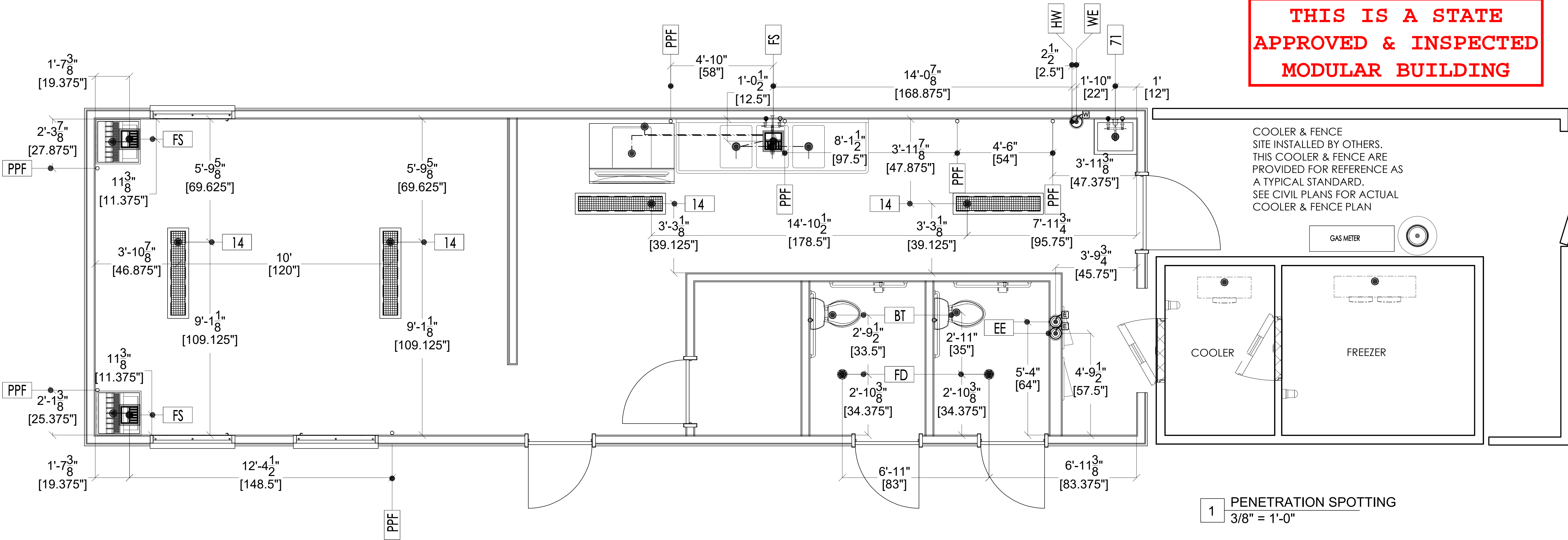


SHEET NAME

FLOOR  
PENETRATION

SHEET NUMBER

P5.1



Penetration Schedule					
Item Number	Count	Equipment Description	Description	Penetration Size	Penetration RI
14	4	Floor Trough Drain	47" x 8" Floor Trough	47.5" x 8.5"	-6"
71	1	Mop Sink	Penetration Drain	2"	0"
BT	2	Bathroom Toilet	Penetration Drain	2"	0"
EE	2	Electric Entrance	Penetration Entrance	4"	10"
FD	2	Floor Drain	Floor Drain	3"	-5"
FS	3	Floor Sink Half Grate	Floor Sink	3"	-8"
PPF	7	Pipe Penetration through Floor	Direct Drain	3"	6"
WE	1	Water Entrance	Penetration Entrance	1"	0"
HW	1	Hot Water Exit	Hot Water Penetration	.5"	0"

### PENETRATION LEGEND

Plan	Elevation	Description
		Electrical Stub-Up
		Gas Line Stub-Up
		Water Stub-Up
		Beverage Stub-Up
		In Wall Direct Drain
		Fixture Drain
		Floor Drain Round & Square
		Funnel Floor Drain
		Floor Sink; 1/2 Grate, 3/4 Grate, Open Grate & Round



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15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER  
STAMP

STATE OF MISSOURI

WALTER E. WOOD  
NUMBER  
PE-2017022073  
VALID  
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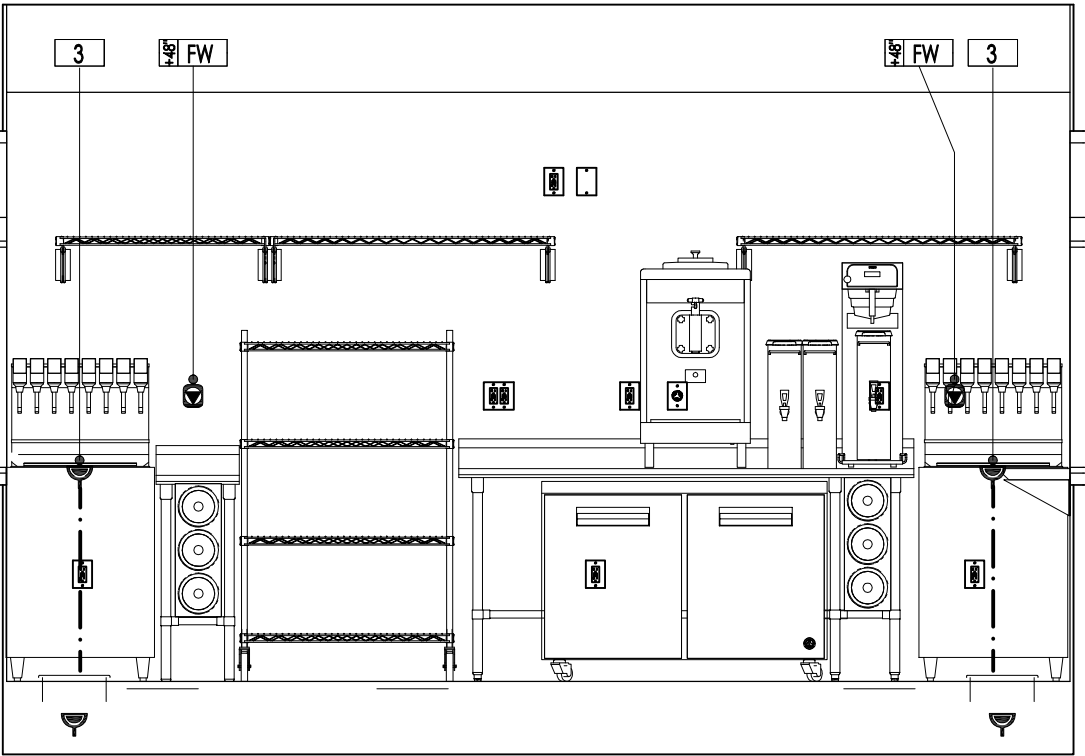
WGC

ENGINEER, CARTER & ASSOCIATES

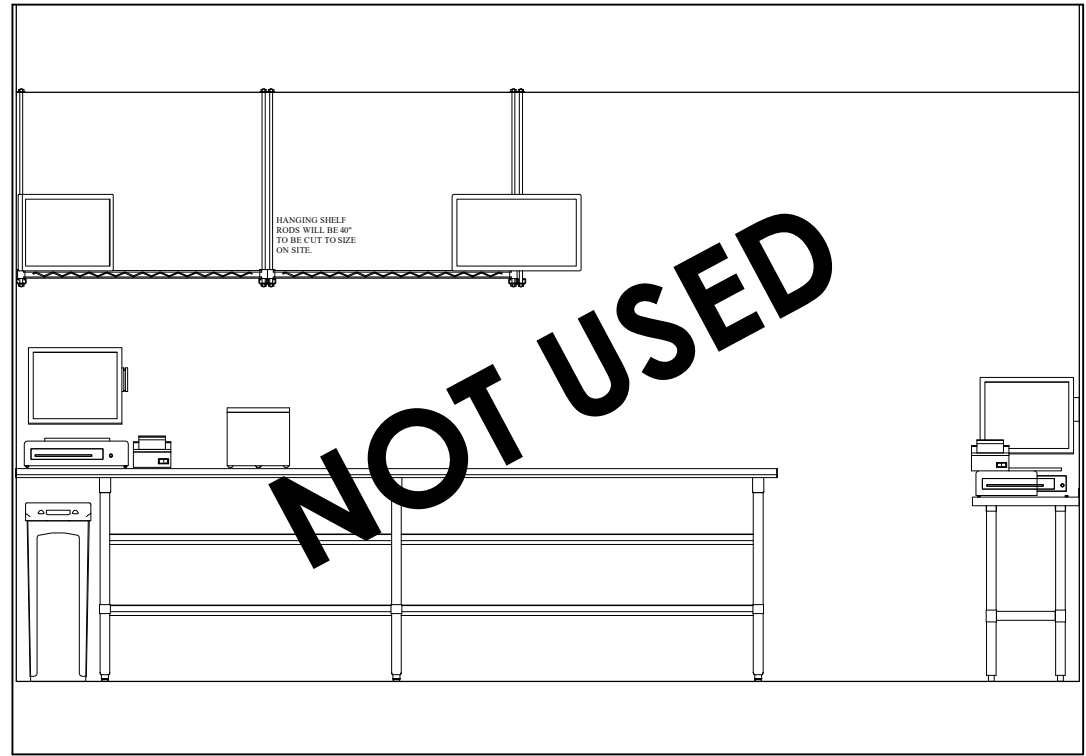
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PLUMBING  
ELEVATIONS

SHEET NUMBER

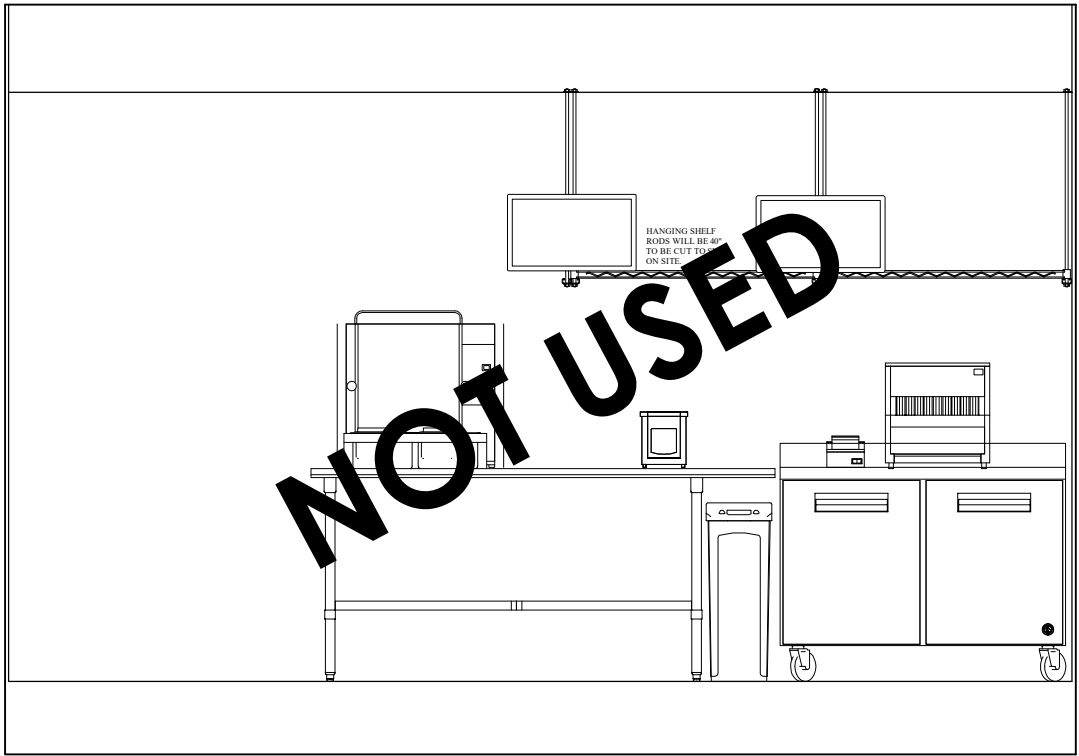
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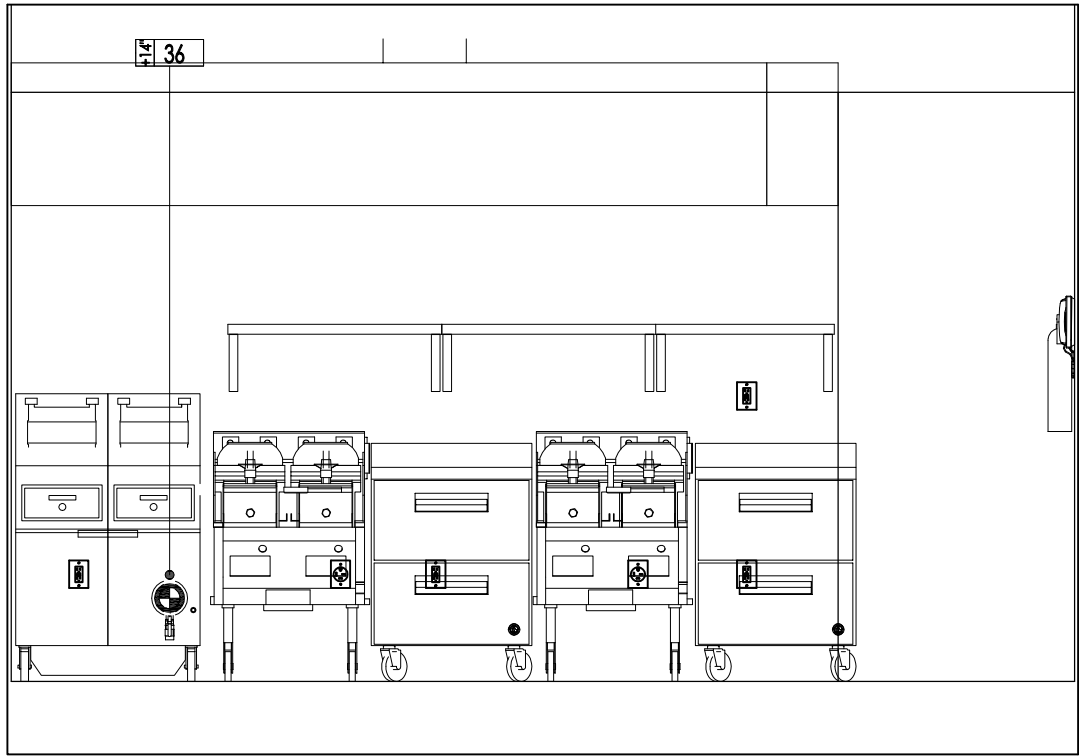
1 ELEVATION 1  
3/8" = 1'-0"



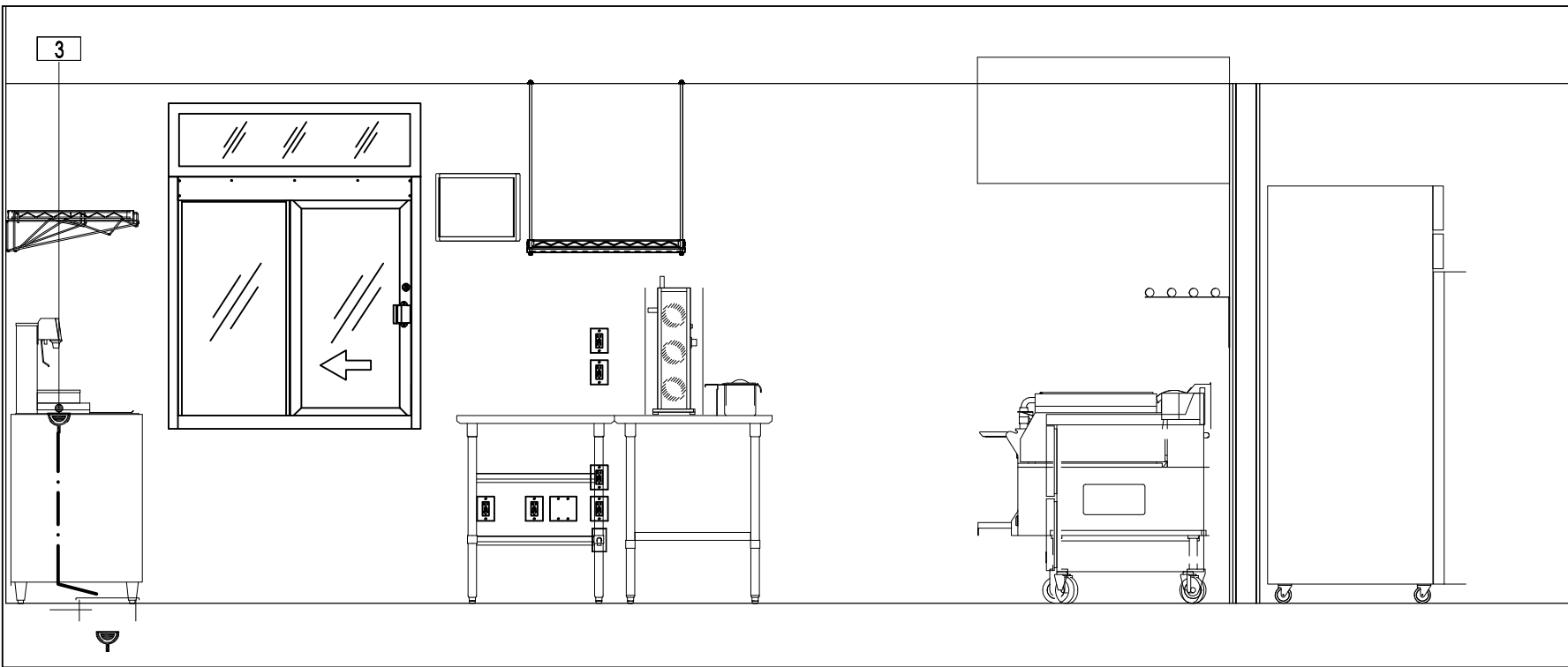
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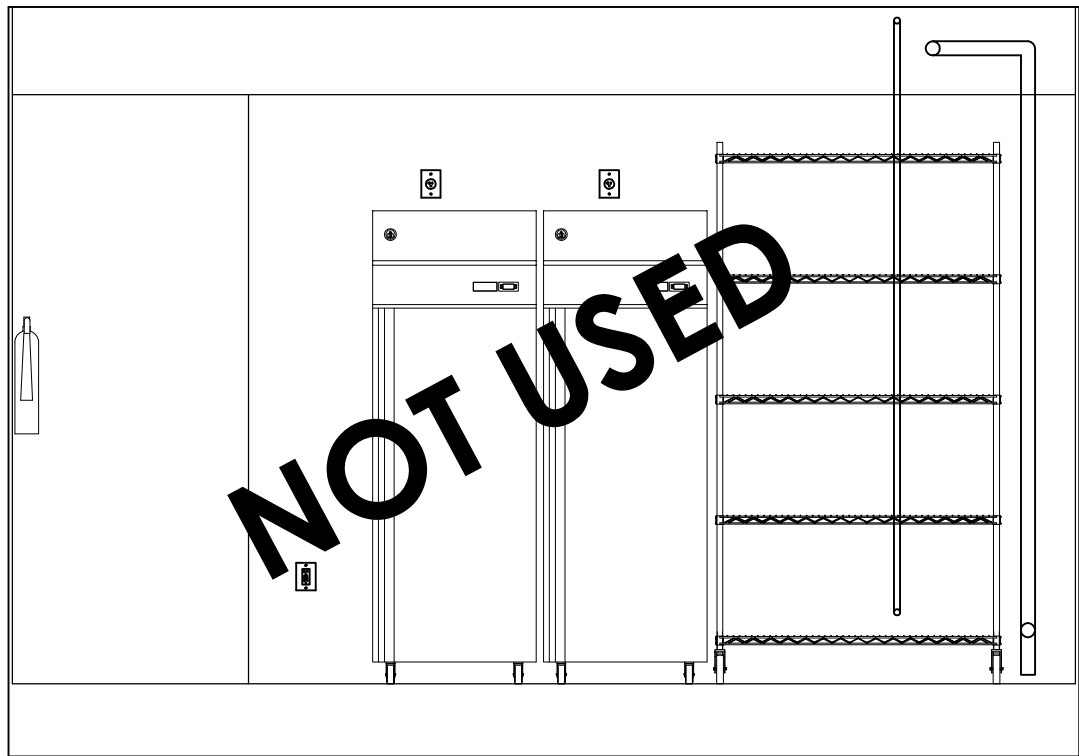
3 ELEVATION 3  
3/8" = 1'-0"



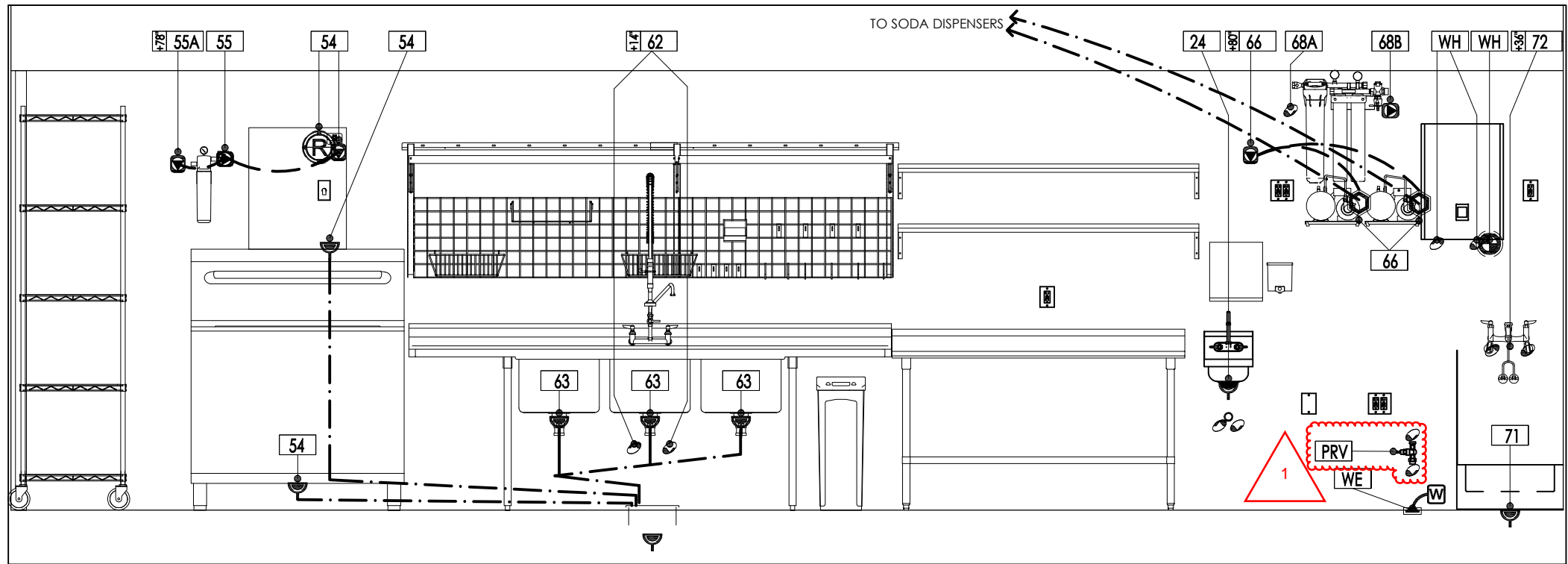
4 ELEVATION 4  
3/8" = 1'-0"



5 ELEVATION 5  
3/8" = 1'-0"



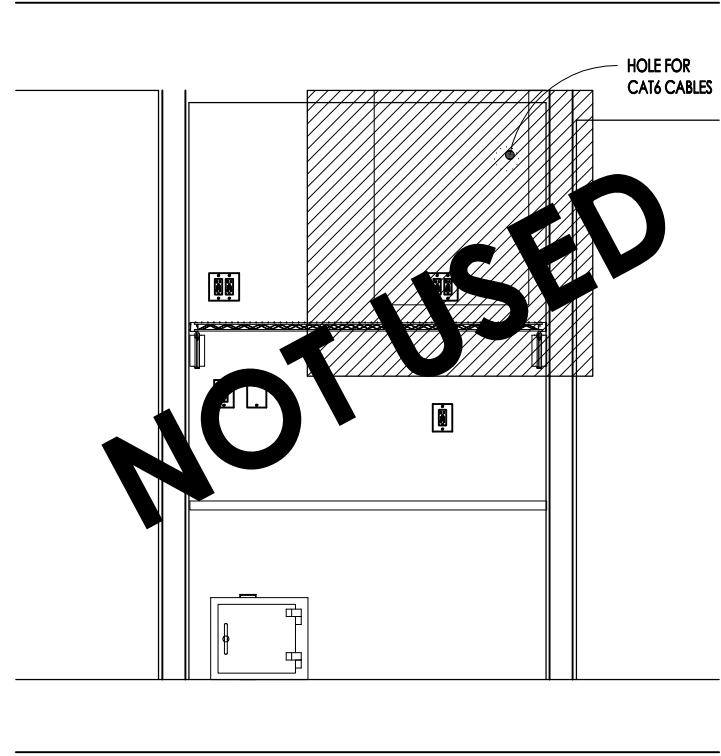
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3/8" = 1'-0"



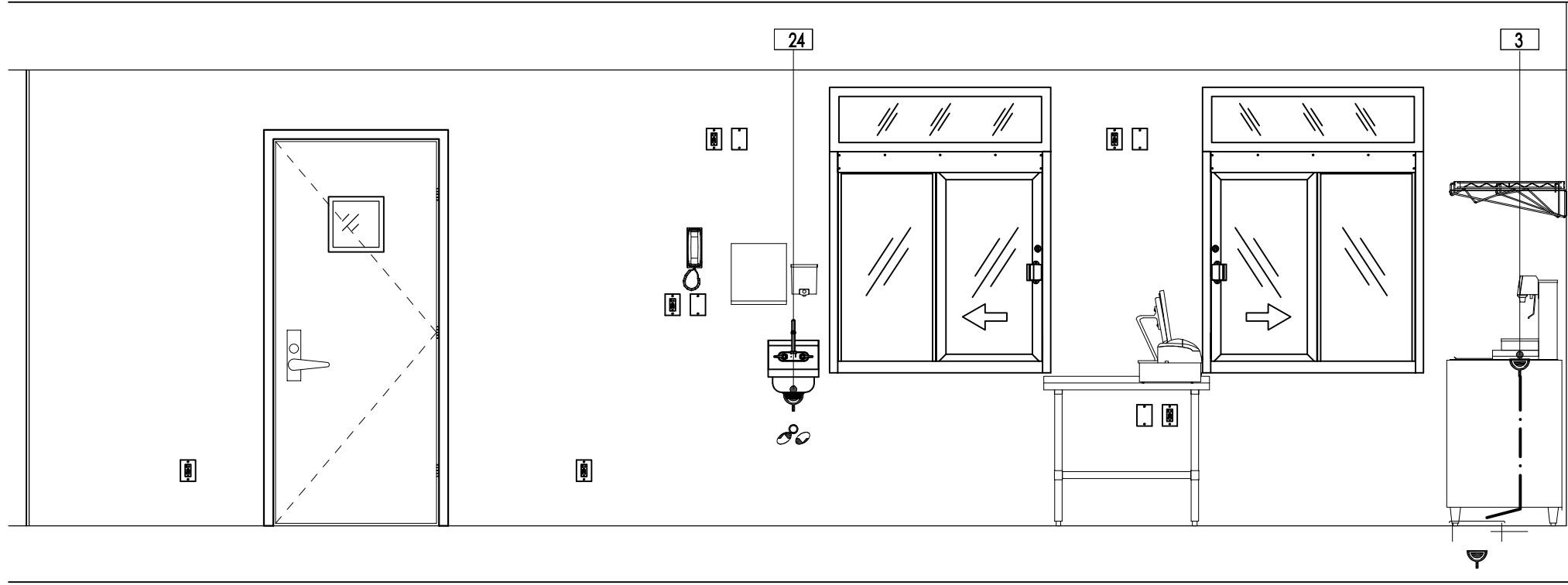
7 ELEVATION 7  
3/8" = 1'-0"

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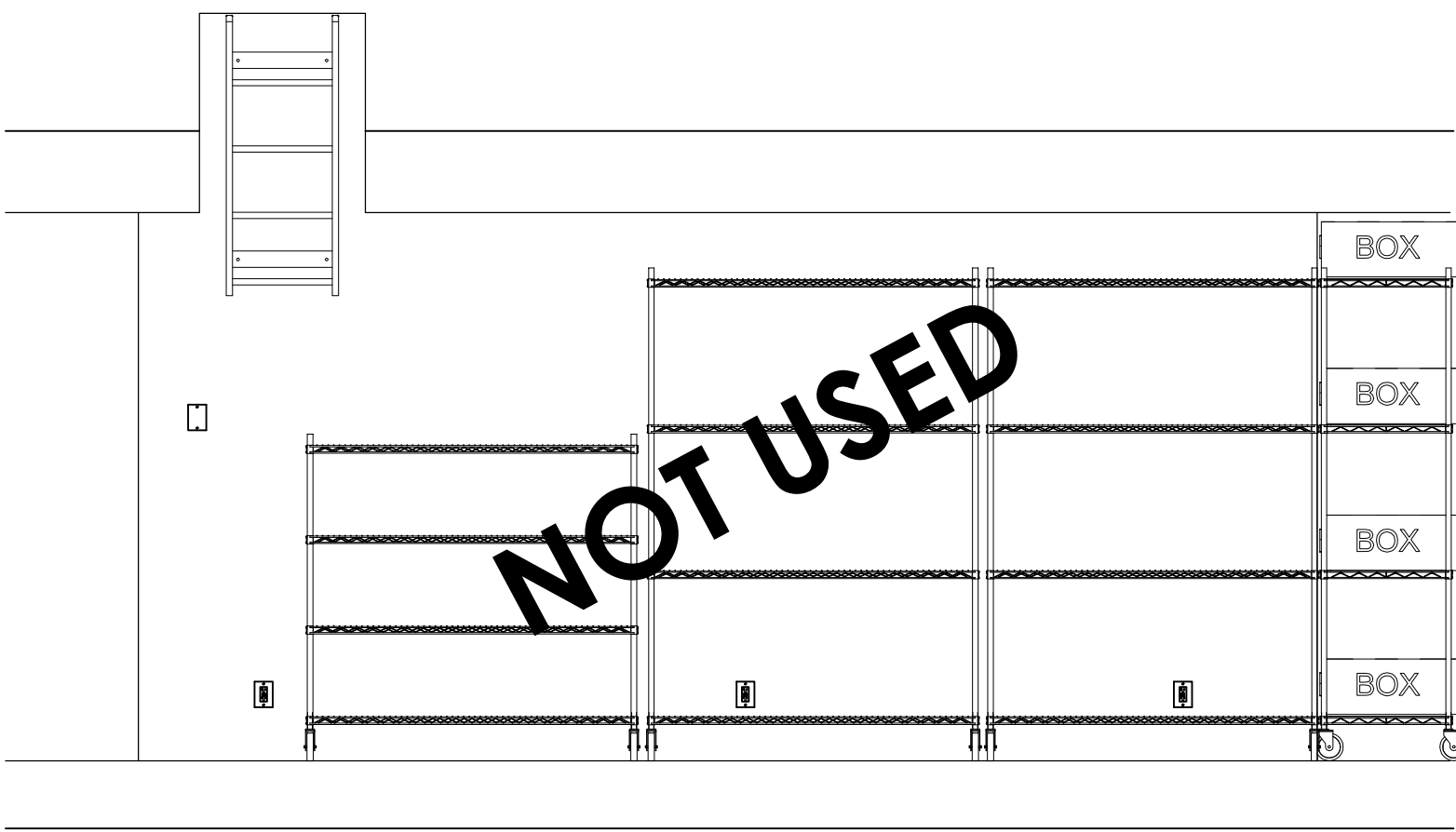
PLUMBING LEGEND		
Plan	Elevation	Description
●	○	Hotwater Connection Point
○	○	Coldwater Connection Point
○	○	In Wall Direct Drain
○	○	Hot&Cold Water w/Direct Drain
○	○	Filtered Water Stub
○	○	Water Stub-Up
○	○	Plumbing Connection Point
○	○	Gas Supply Line
○	○	Gas Stub-Up
○	○	Beverage Stub-Up
○	○	Fixture Drain
○	○	Water Lines
○	○	Gas Lines
○	○	Waste Lines
○	○	Floor Drain Round & Square
○	○	Funnel Floor Drain
○	○	Floor Sink: 1/2 Grate, 3/4 Grate, Open Grate & Round



8 ELEVATION 8  
3/8" = 1'-0"



9 ELEVATION 9  
3/8" = 1'-0"



10 ELEVATION 10  
3/8" = 1'-0"



[illegible]

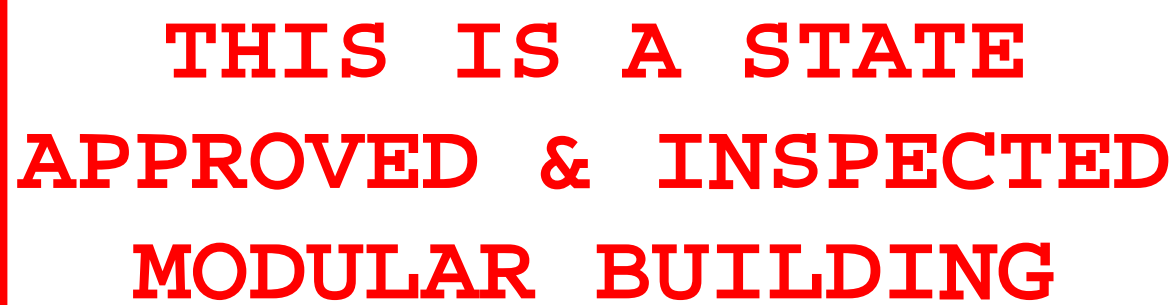
VALID

ENGINEER  
STAMP

STATE OF MISSOURI  
WALTER E. WOOD  
NUMBER  
PE-2017022072  
PROFESSIONAL ENGINEER

02-23-2 024

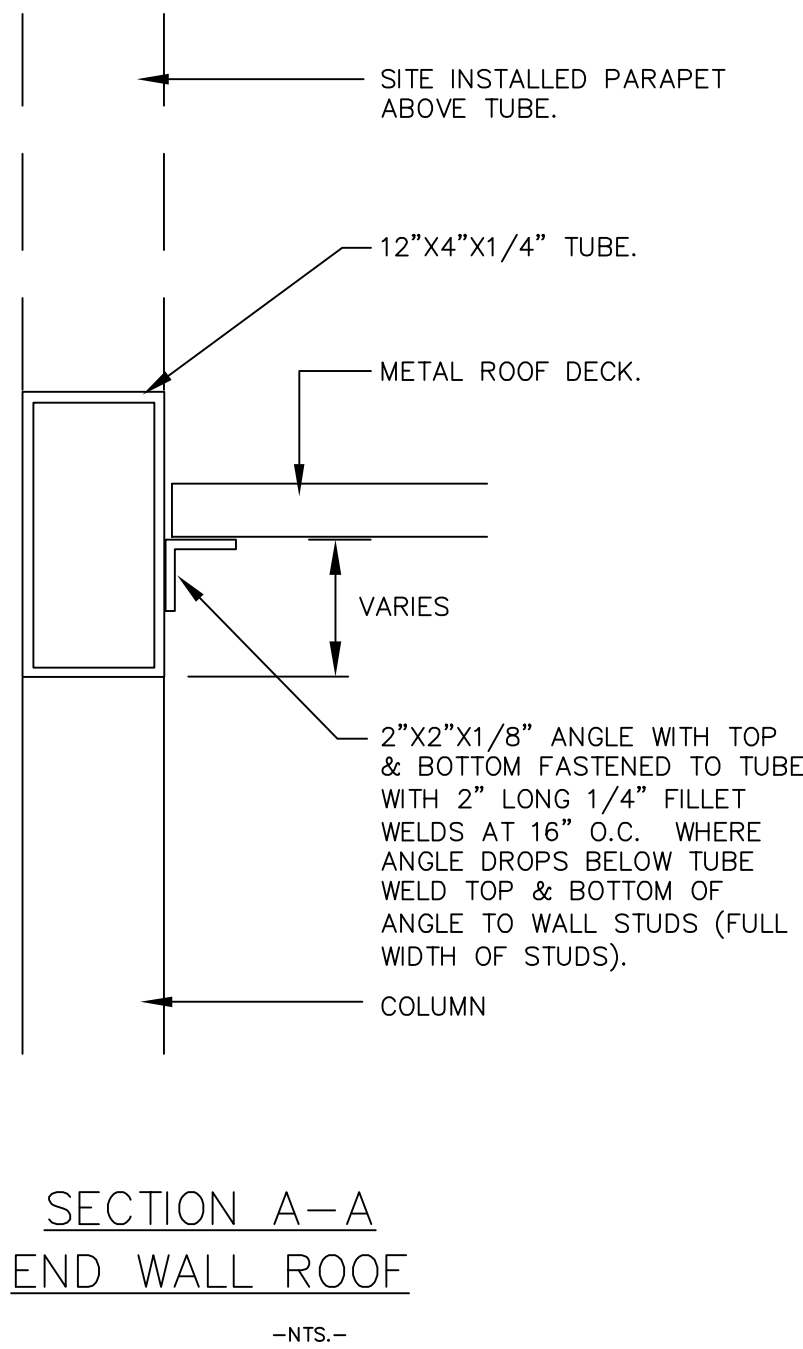
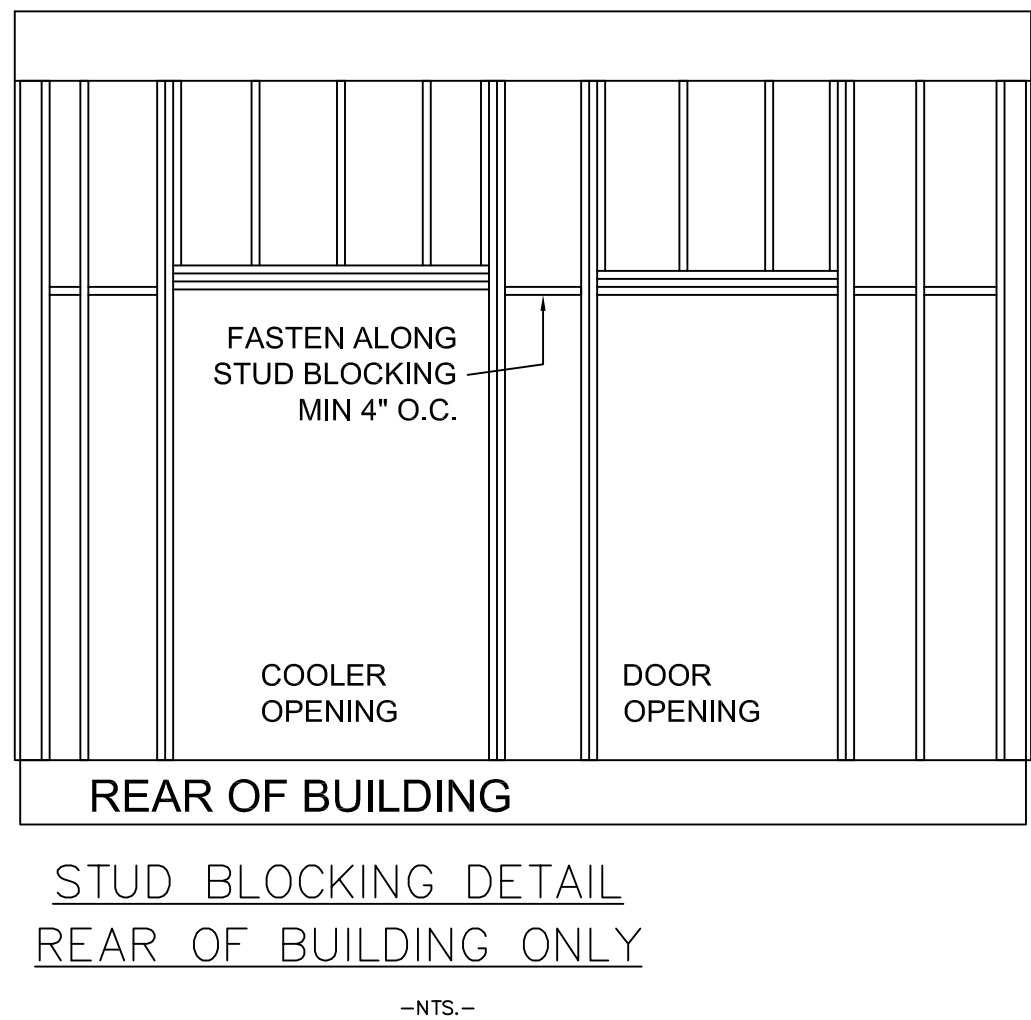
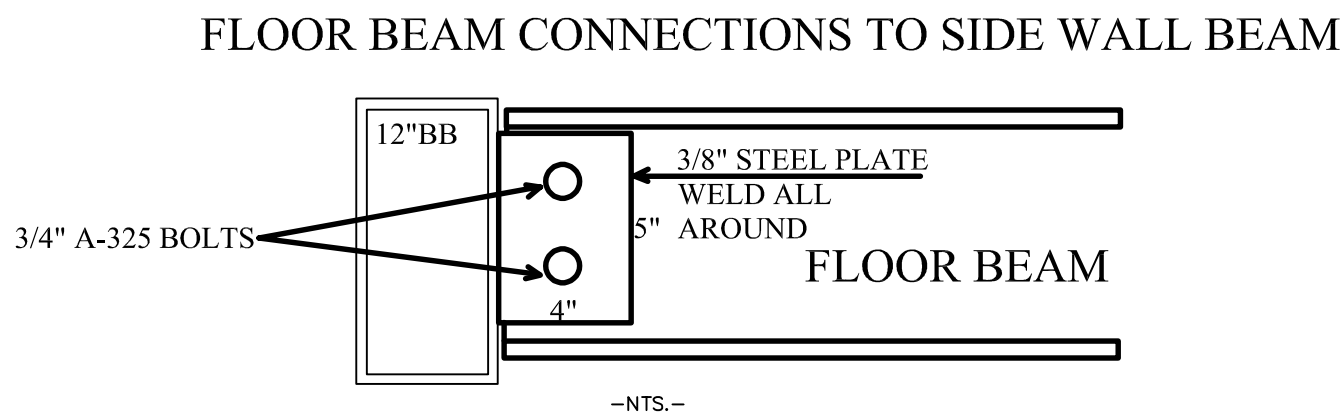
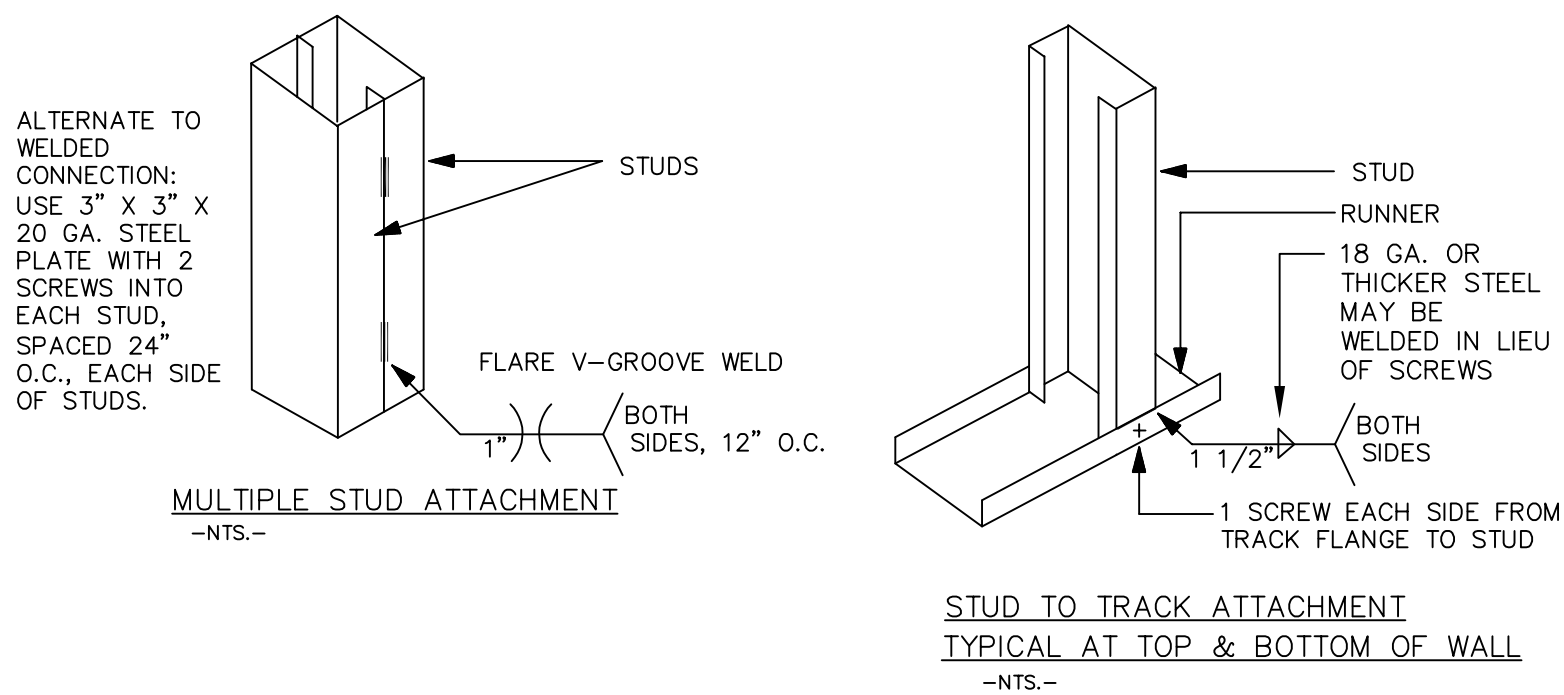
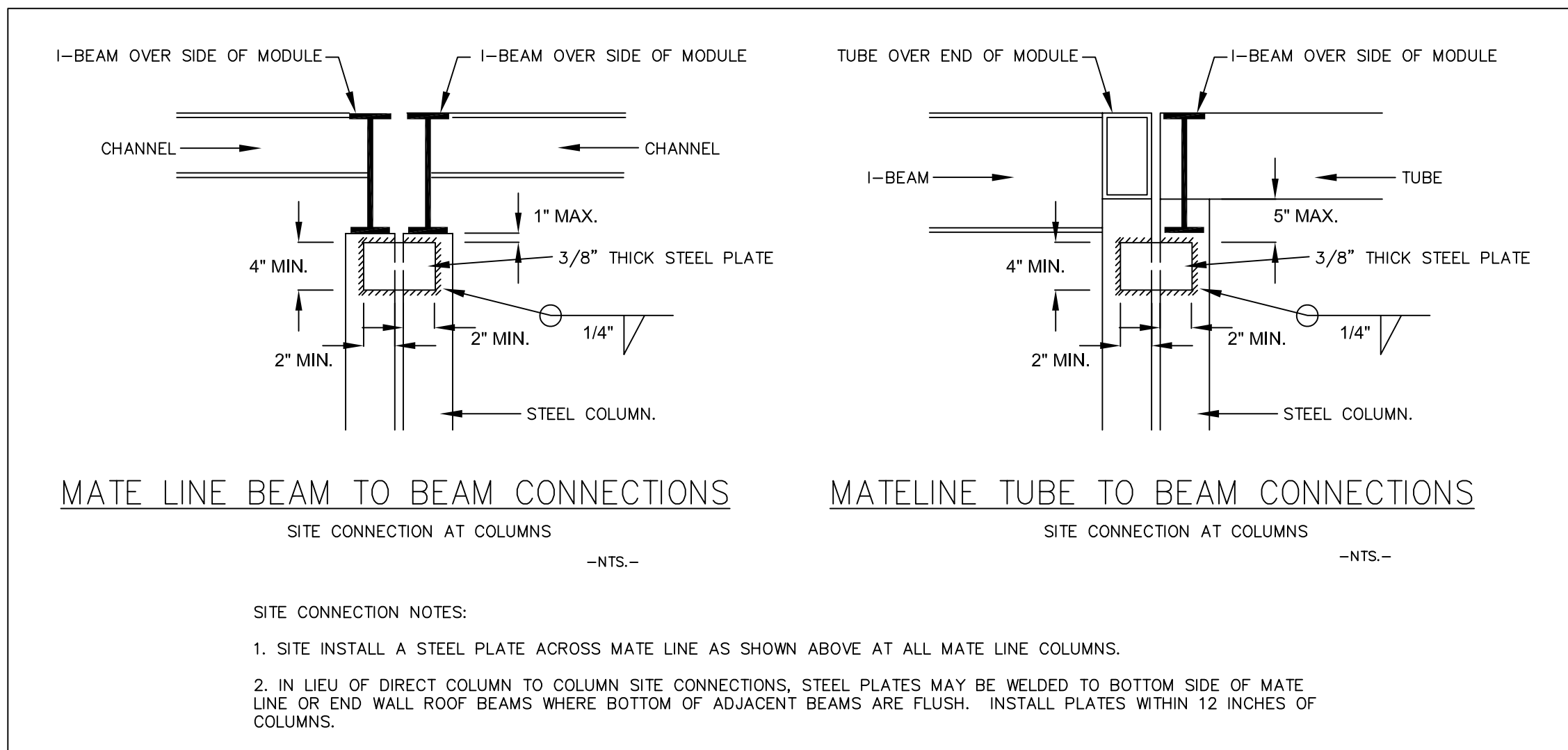
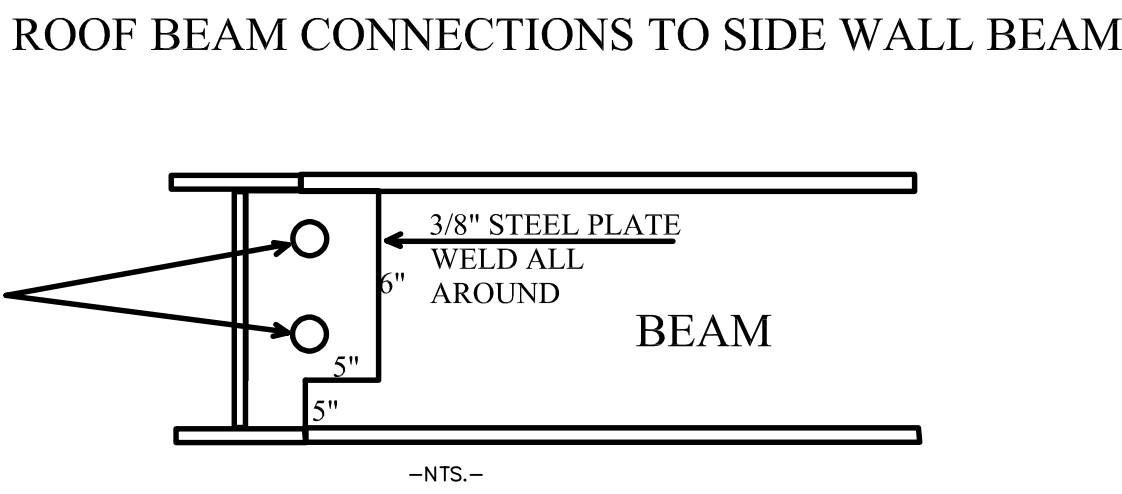
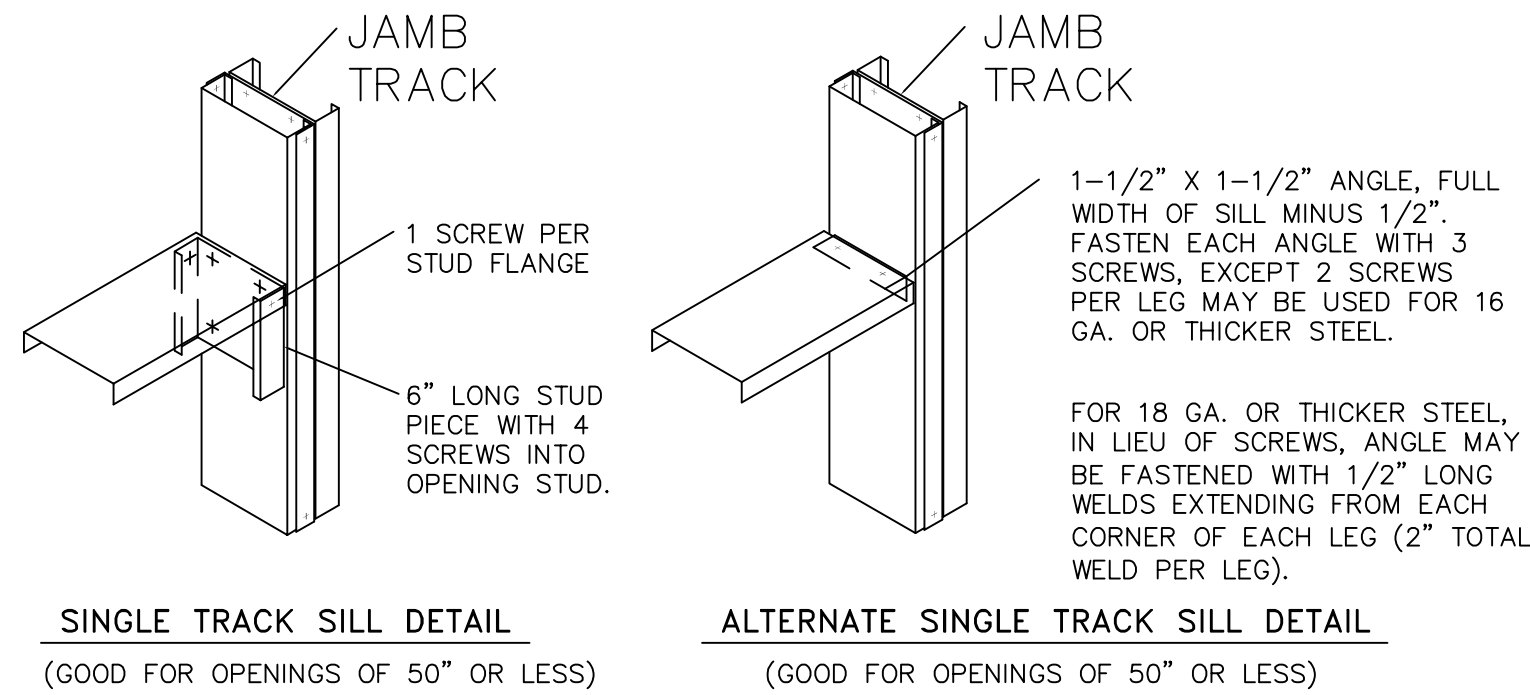
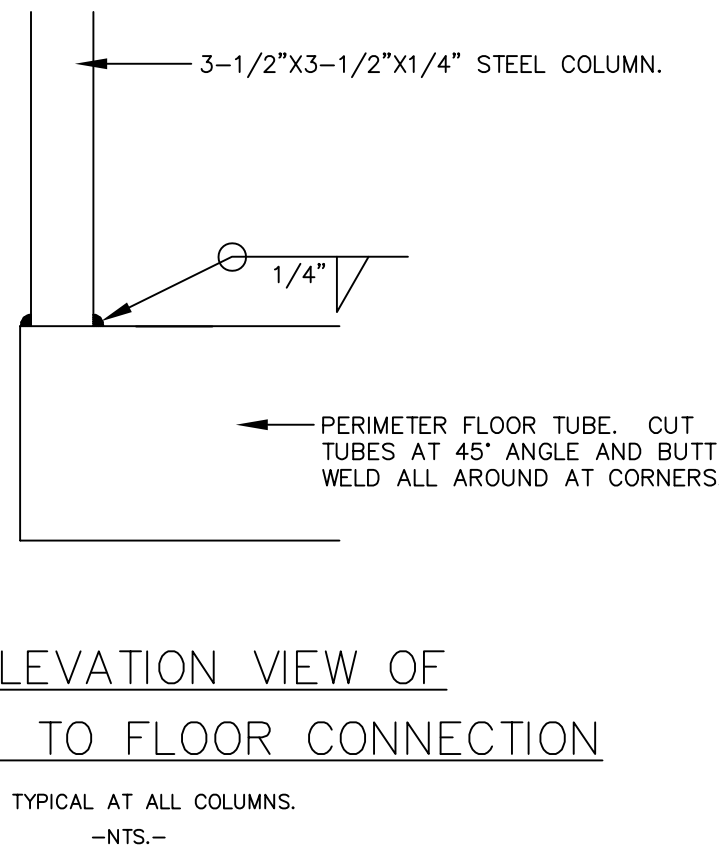
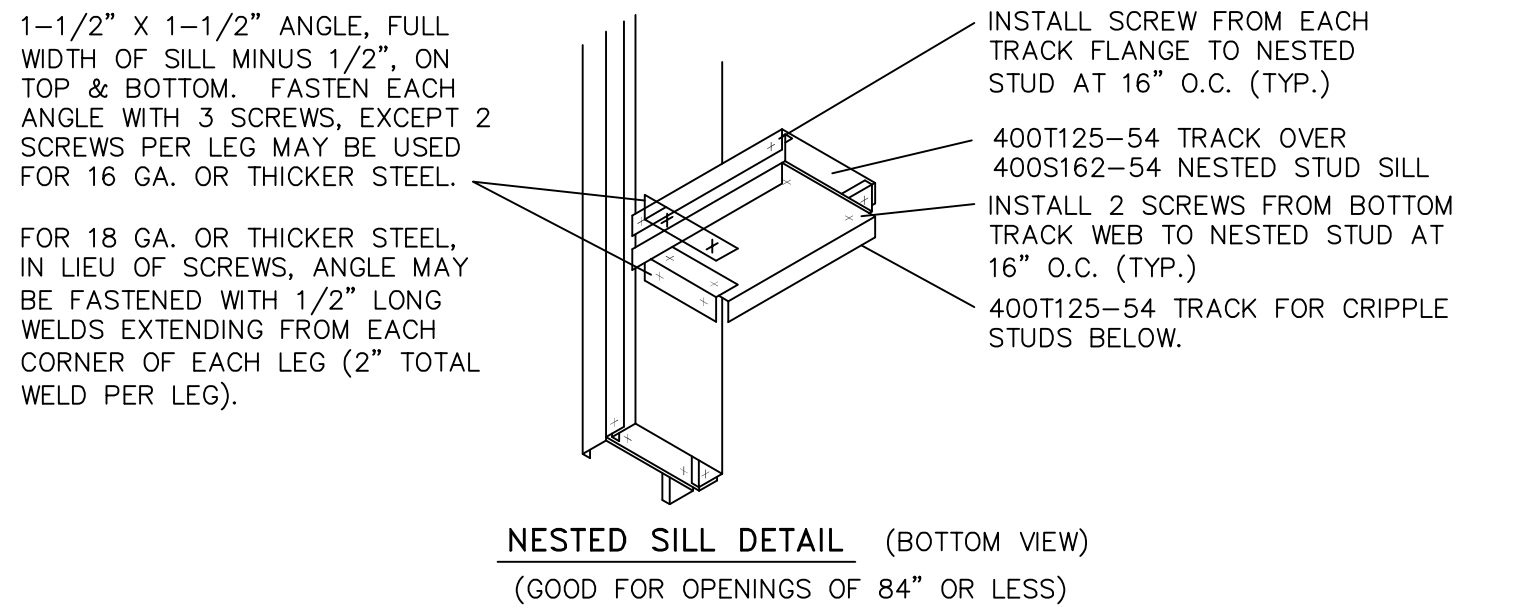
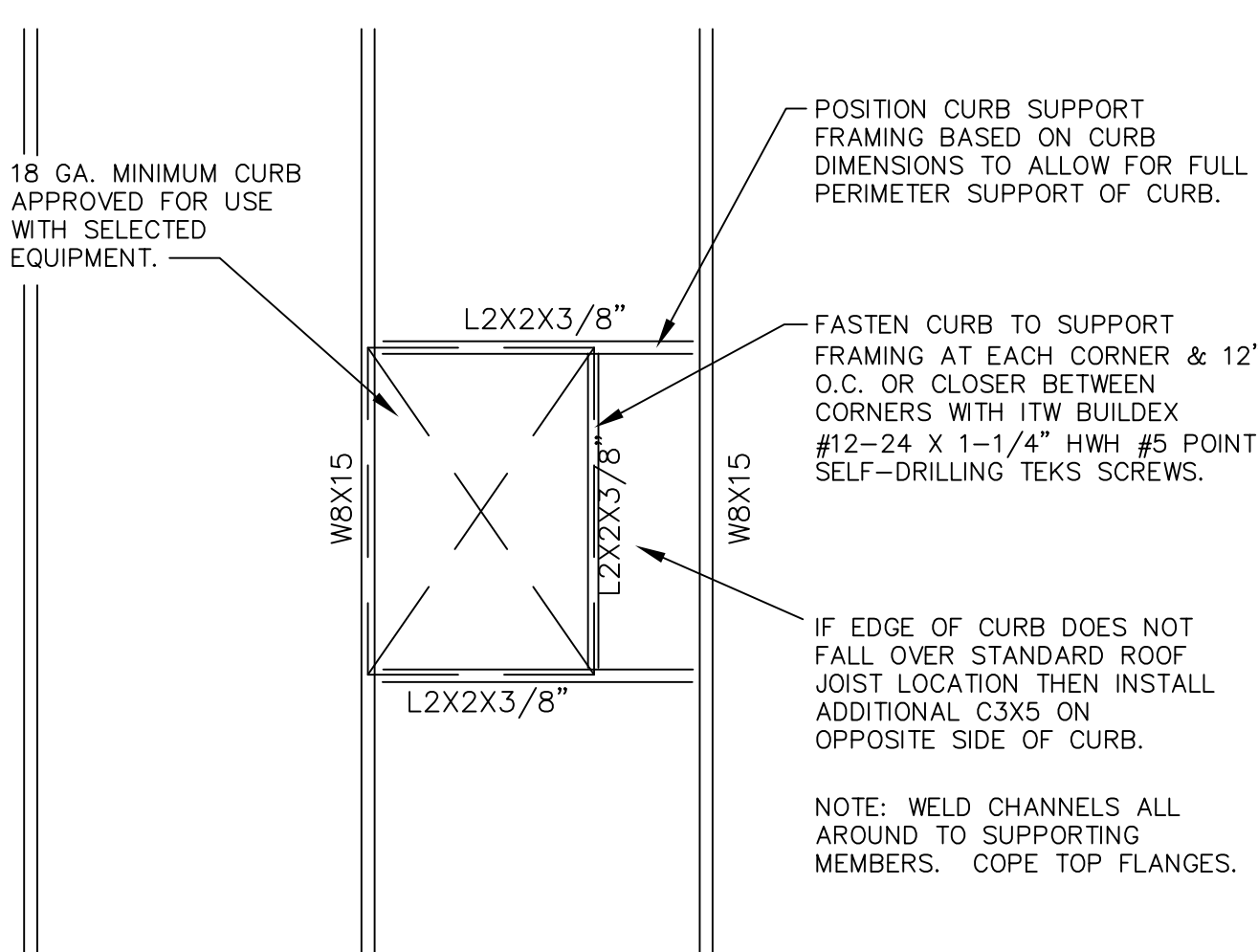
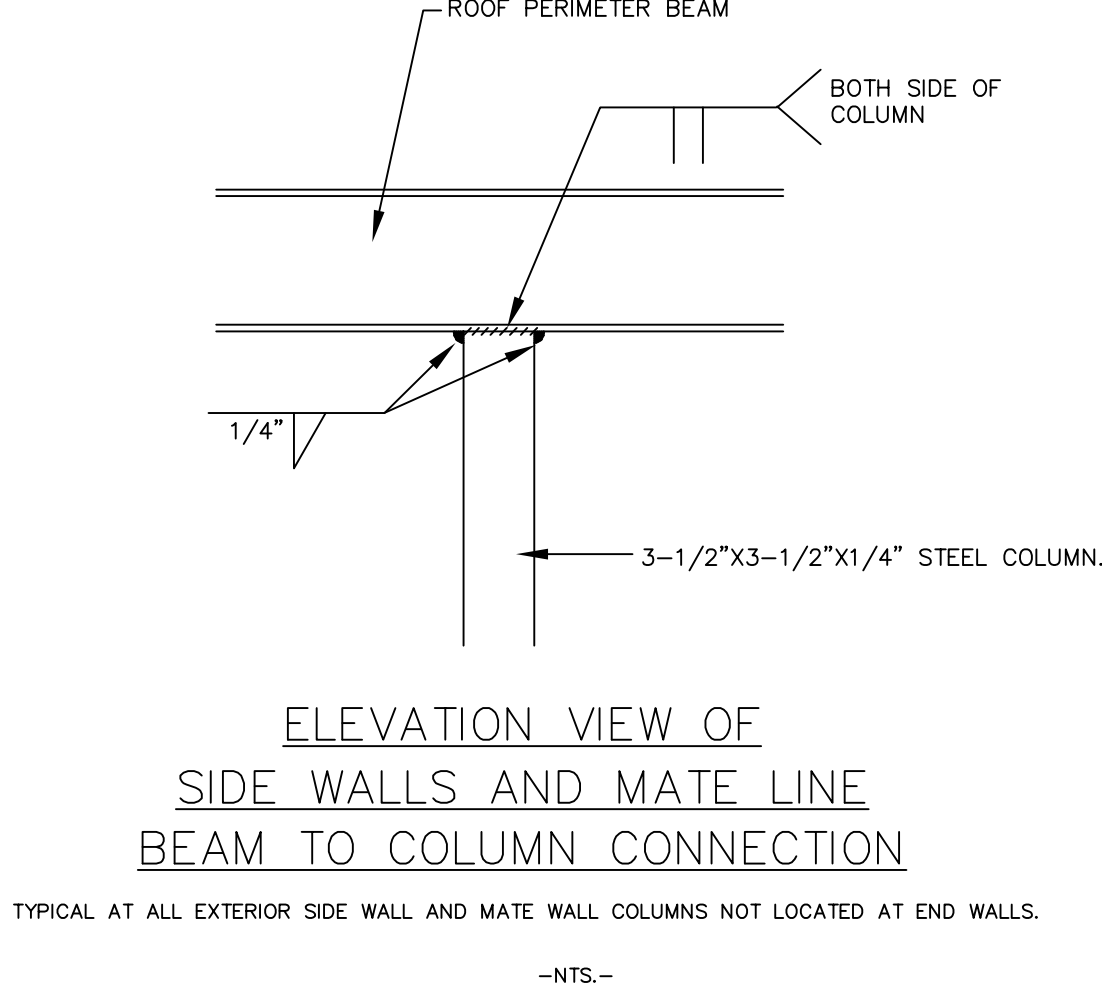
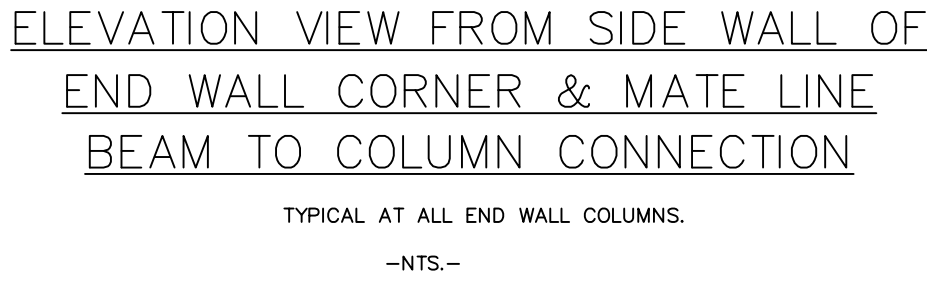
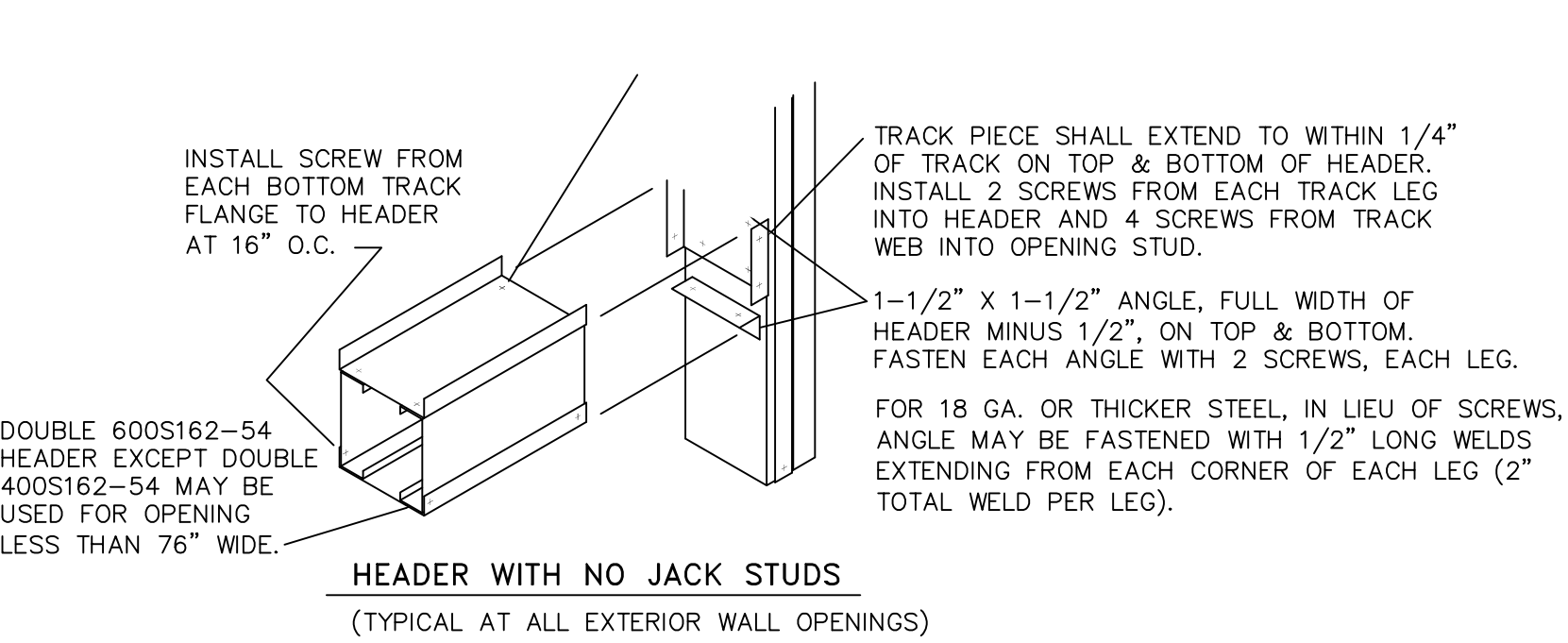
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**ALIAIT MODULAR**

VALIANT MODULAR, LLC

15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174

(386) 677-9316

ENGINEER STAMP

WALTER E. WOOD

NUMBER PE-2017022073

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04/05/2024

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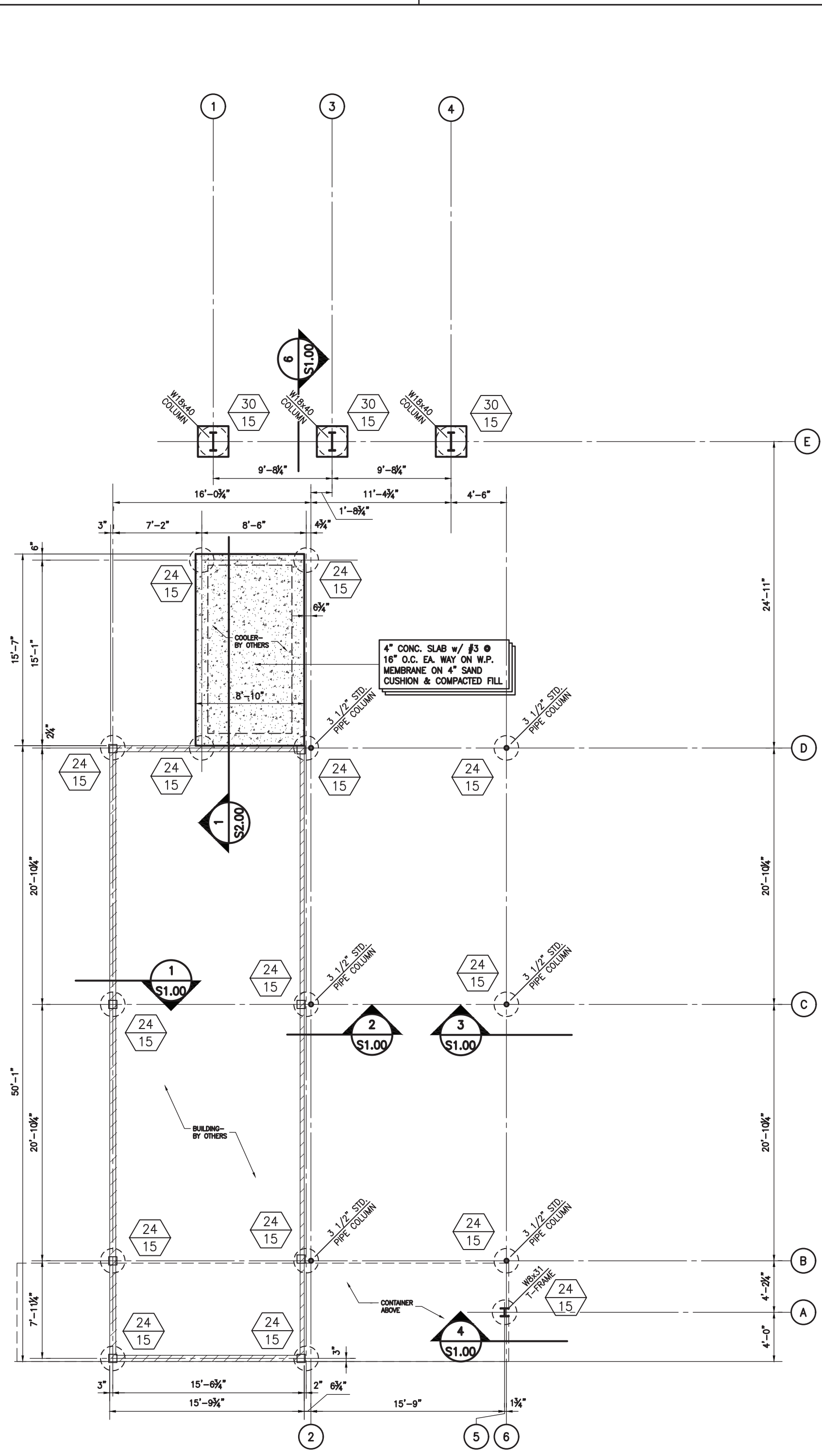
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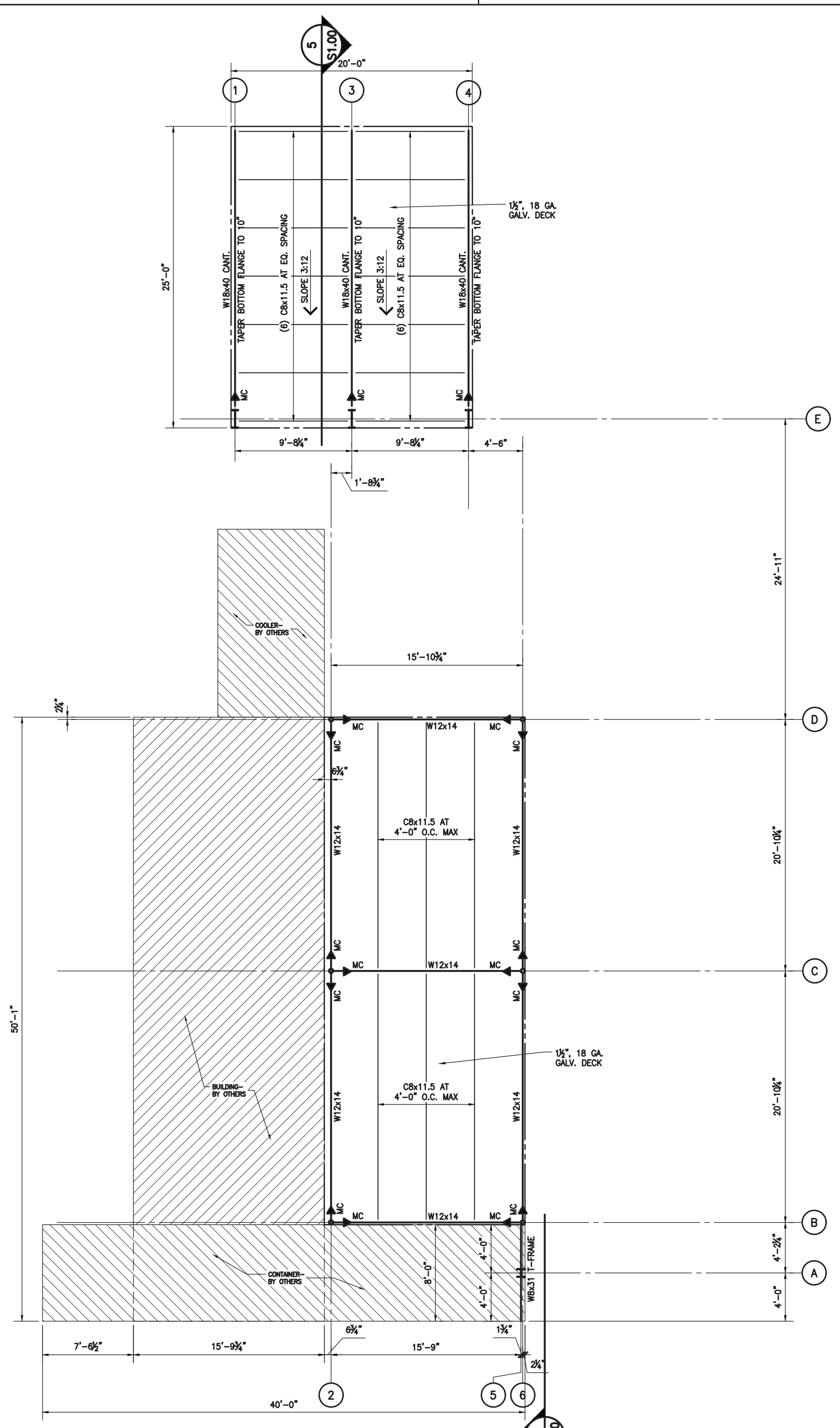
WALTER CARTER & ASSOCIATES

SHEET NAME
FRAMING DETAIL
SHEET NUMBER
S2.3

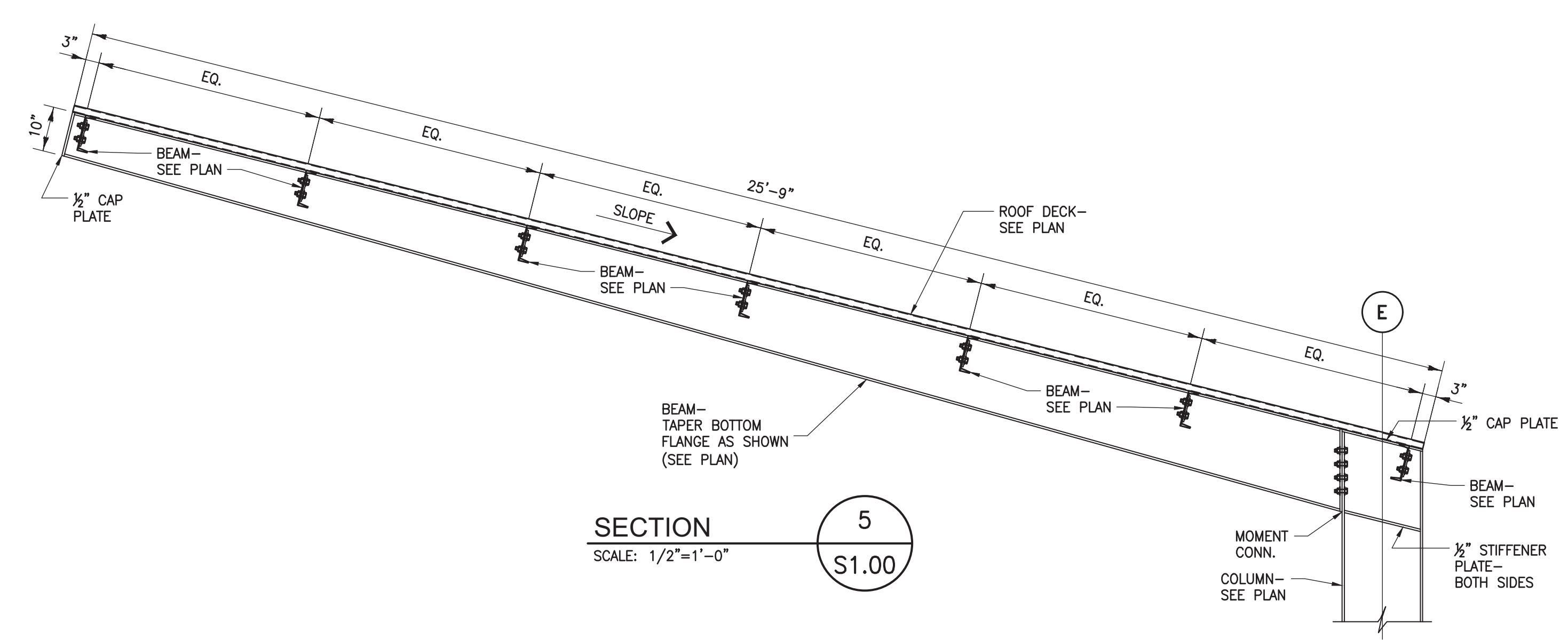




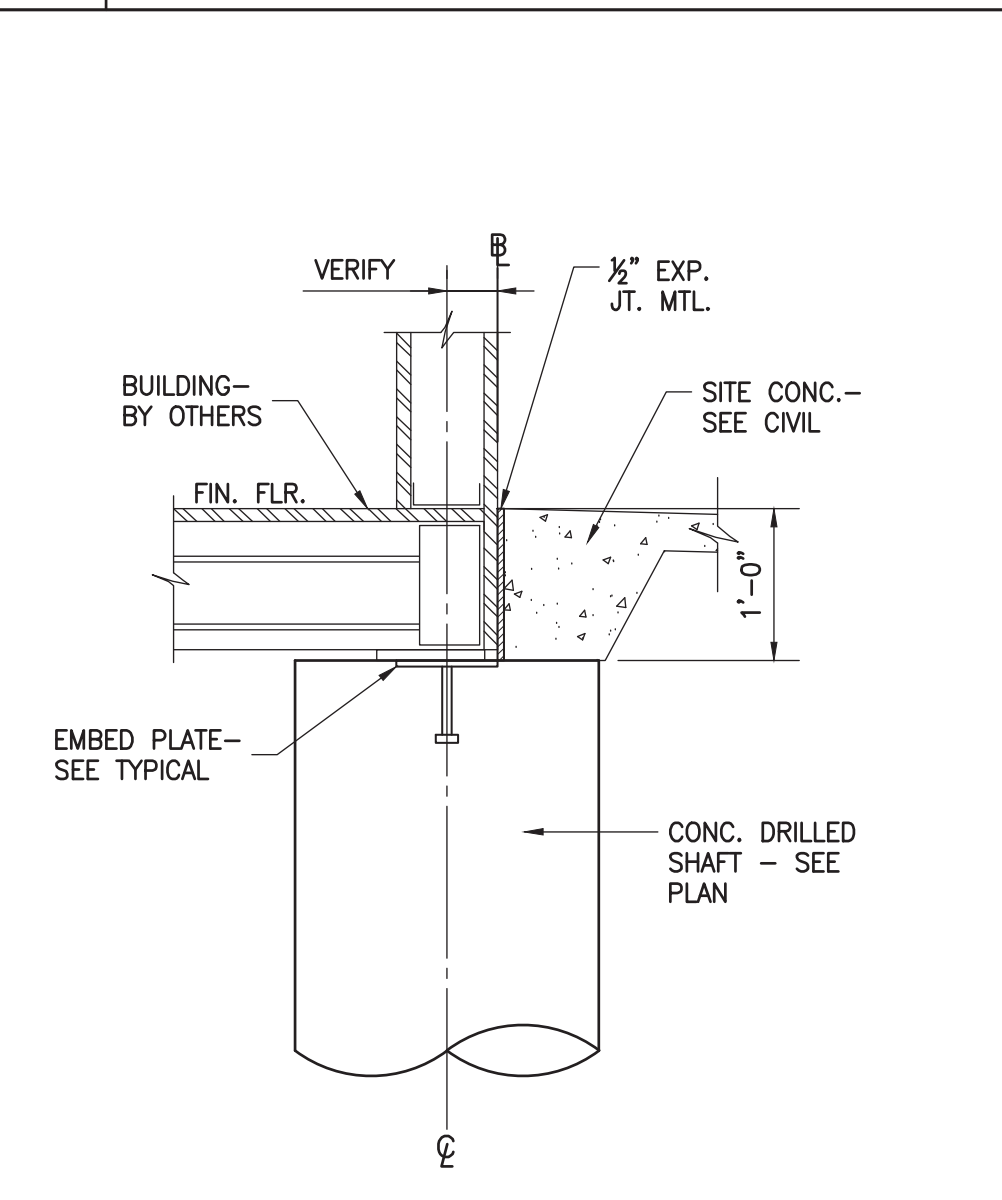
FOUNDATION PLAN  
SCALE: 1/8" = 1'-0"



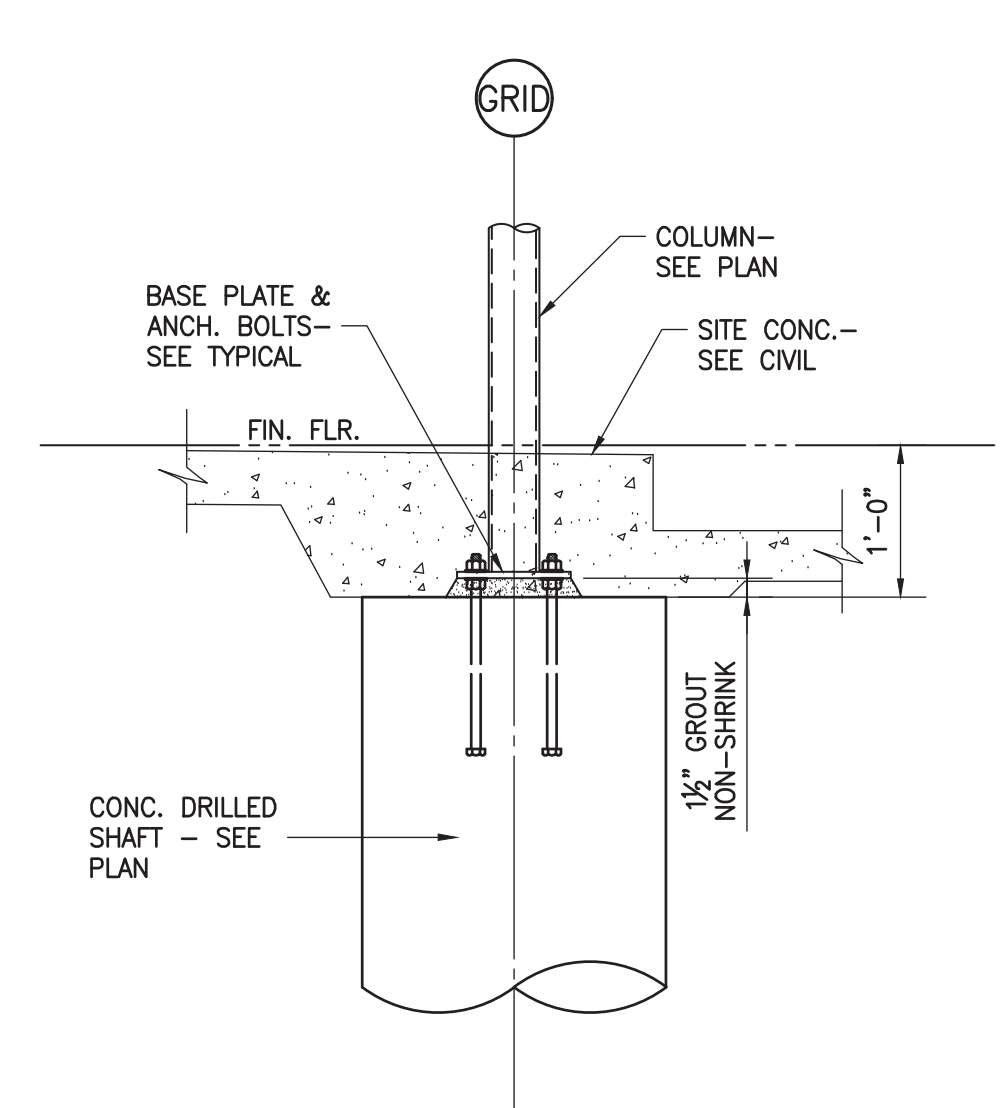
ROOF FRAMING PLAN  
SCALE: 1/8" = 1'-0"



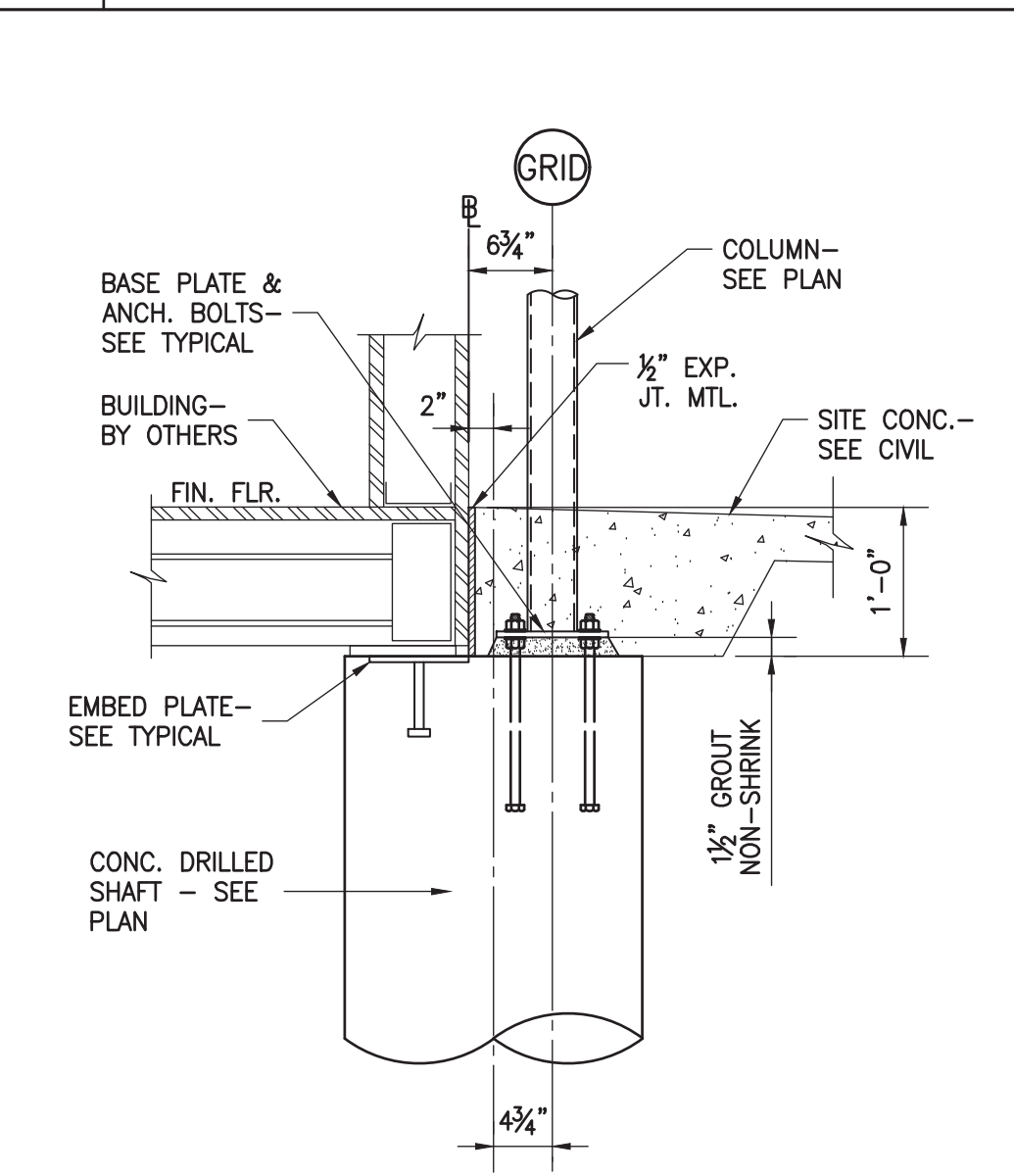
SECTION 5  
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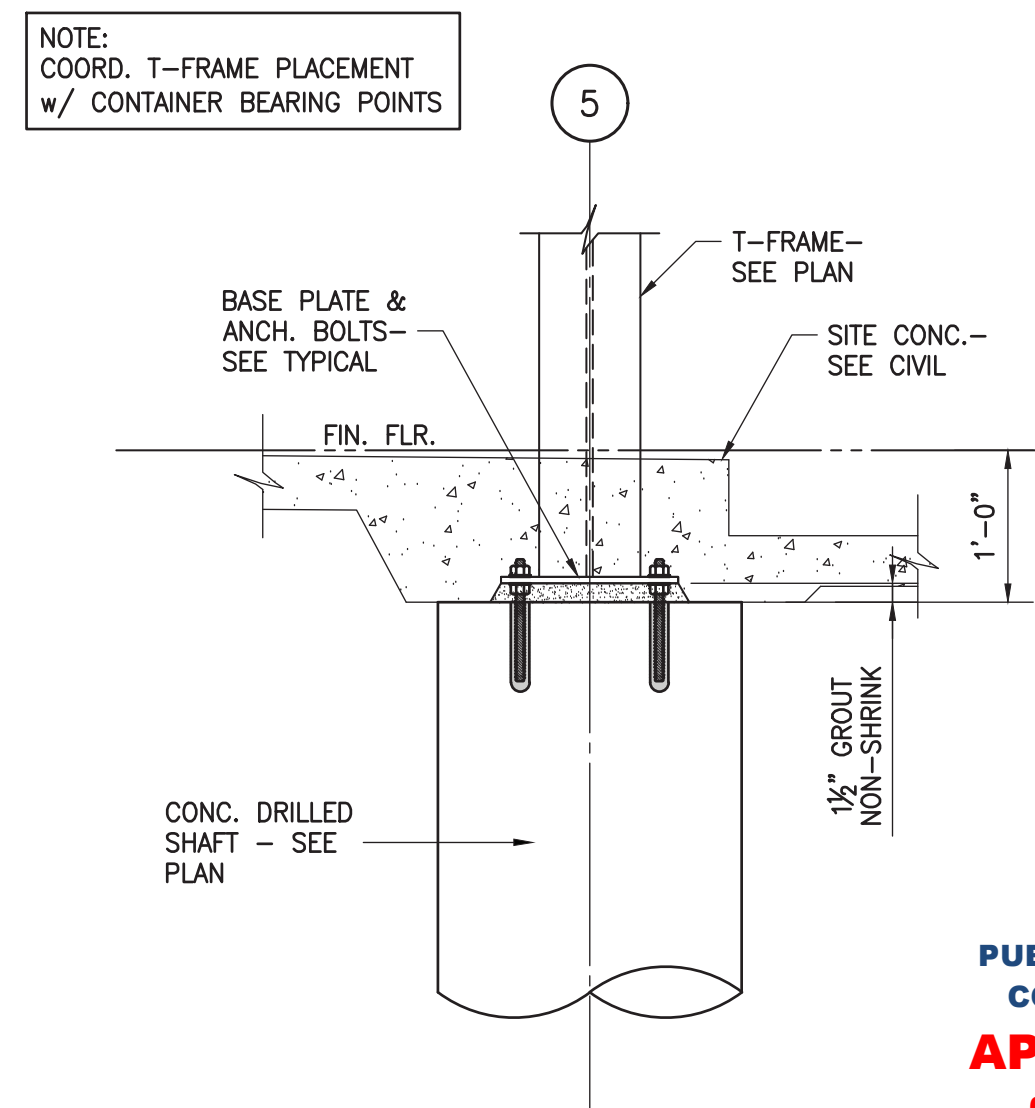
SECTION 1  
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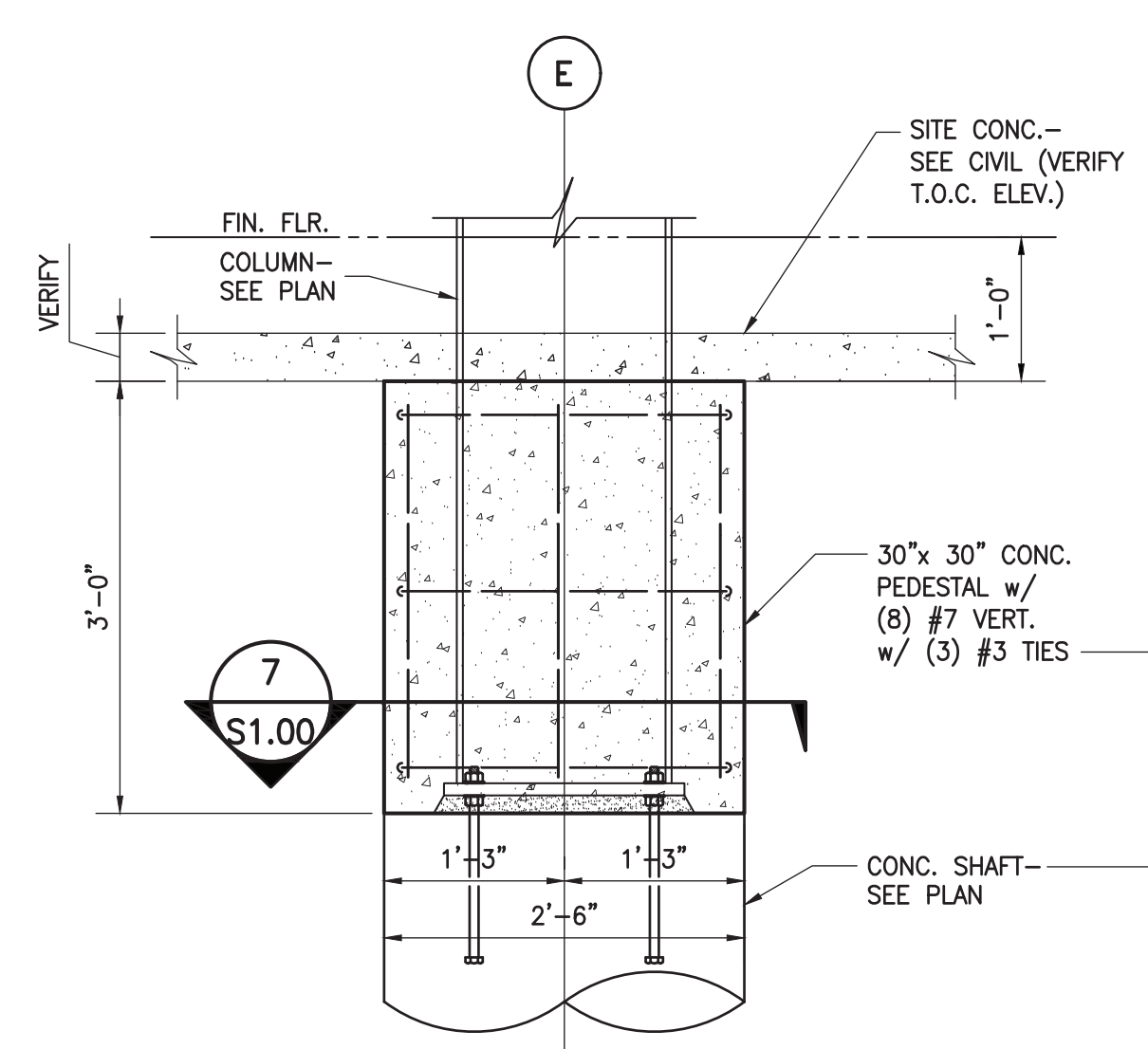
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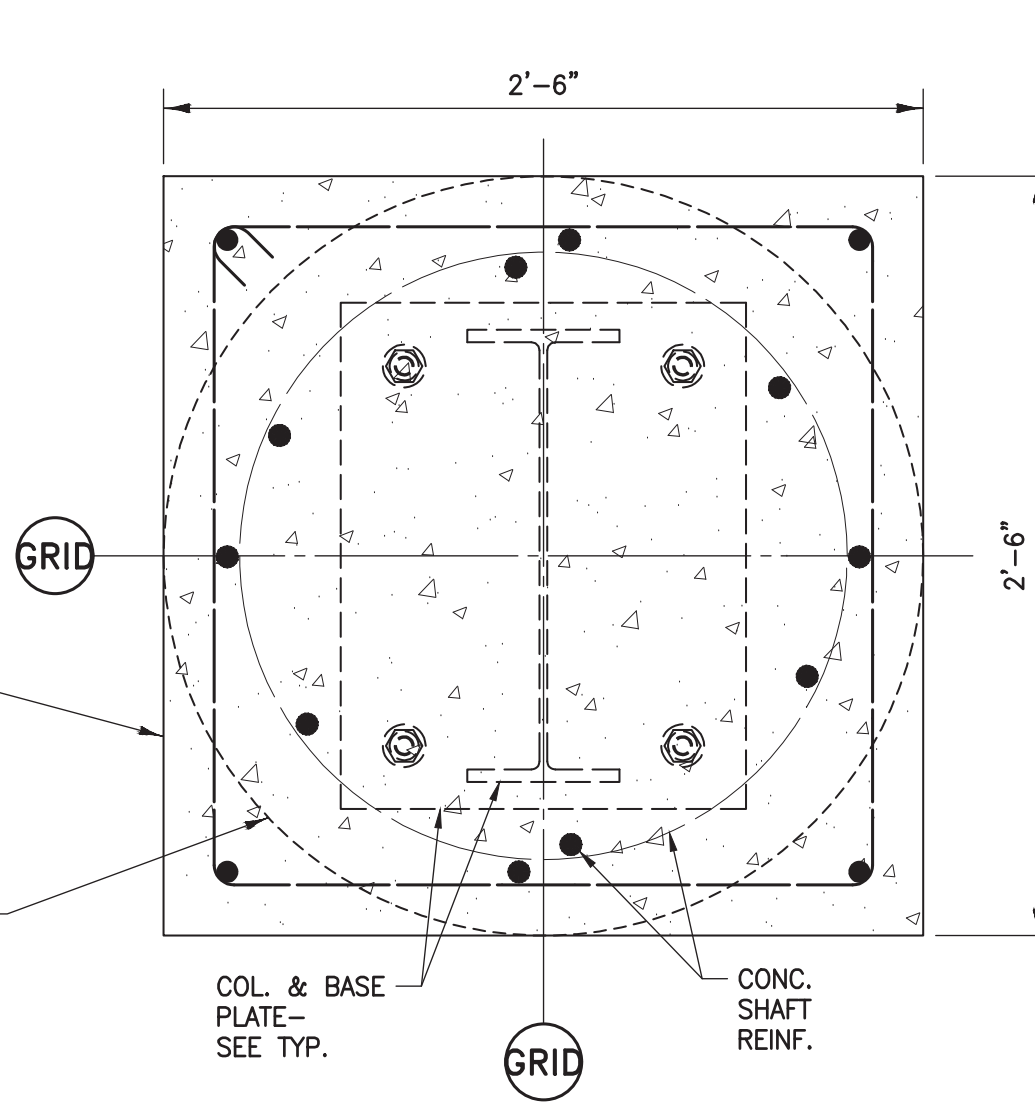
SECTION 2  
SCALE: 3/4" = 1'-0"



SECTION 4  
SCALE: 3/4" = 1'-0"



SECTION 7  
SCALE: 3/4" = 1'-0"



SECTION 6  
SCALE: 1-1/2" = 1'-0"

REVISION/ UPLOAD DATE		
REV.	DATE	DESCRIPTION
LAST DESIGN BULLETIN		
NUM.	DATE	DESCRIPTION

**ALANT MODULAR**  
VALANT MODULAR, LLC  
15 WEST TOWER CIRCLE, ORMOND BEACH, FL 32174  
(386) 677-9316

ENGINEER STAMP  
STATE OF MISSOURI  
WALTER E. WOOD  
NUMBER PE-2017022073  
EXPIRATION DATE 02-23-2024  
MISSOURI PUBLIC SERVICE COMMISSION  
**APPROVED**  
04/05/2024  
MANUFACTURED HOUSING

Third Party: HWC & Asc. Inc.  
1627 South Myrtle Ave.  
Clearwater, FL 34616  
(717)-584-8151

SHEET NAME  
**FOUNDATION**

SHEET NUMBER  
**F1.0**









## Envelope Compliance Certificate

## Project Information

Energy Code: 90.1 (2013) Standard  
Project Title: Slider Drive-Thru  
Location: Saint Louis, Missouri  
Climate Zone: 4a  
Project Type: New Construction  
Vertical Glazing /Wall Area: 2%  
Performance Sim. Specs: EnergyPlus 8.1.0.009 (EPW: USA\_MO\_StLouis-Lambert Intl.AP.724340\_TMY3.epw)

MISSOURI  
PUBLIC SERVICE  
COMMISSION

**APPROVED**

04/05/2024  
MANUFACTURED  
HOUSING

Construction Site:  
St Louis, MO

Owner/Agent

Designer/Contractor:  
Valiant Equipment, LLC  
15 West Tower Circle  
Ormond Beach, FL 32174  
386-677-9316

## Building Area

## Floor Area

1-Dining: Cafeteria/Fast Food : Nonresidential	952
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## Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor <sup>(a)</sup>
Floor 1: Concrete Floor (over unconditioned space), [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	800	---	30.0	0.030	0.057
Roof 1: Insulation Entirely Above Deck: Cool roof exempt, [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	800	---	23.6	0.041	0.032
<b>NORTH</b>					
Right Elevation Wall - Tile Finish: Steel-Framed, 16" o.c., [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	600	24.3	8.4	0.053	0.064
Door 101A: Insulated Metal, Swinging, [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	63	---	---	0.500	0.500
<b>EAST</b>					
Front Elevation Wall - Tile Finish: Steel-Framed, 16" o.c., [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	192	24.3	8.4	0.053	0.064
Front Service Window: Metal Frame:Operable, Perf. Specs.: Product ID bb, SHGC 0.27, PF 0.40, VT 0.62, [Bldg. Use 1 - Dining: Cafeteria/Fast Food] (b)	19	---	---	0.290	0.500
<b>SOUTH</b>					
Left Elevation Wall - Tile Finish: Steel-Framed, 16" o.c., [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	600	24.3	8.4	0.053	0.064
Drive Thru Window: Metal Frame:Operable, Perf. Specs.: Product ID aa, SHGC 0.27, PF 1.00, VT 0.62, [Bldg. Use 1 - Dining: Cafeteria/Fast Food] (b)	19	---	---	0.290	0.500
<b>WEST</b>					
Rear Elevation Wall - E.I.F.S. Finish: Steel-Framed, 16" o.c., [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	192	24.3	8.4	0.053	0.064



**Assembly**

Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U- Factor <sup>(a)</sup>
-------------------------------	-------------------	------------------	----------------------	------------------------------------

Door 101B: Insulated Metal, Swinging, [Bldg. Use 1 - Dining: Cafeteria/Fast Food]	22	---	---	0.500	0.500
---	----	-----	-----	-------	-------

- (a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.  
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

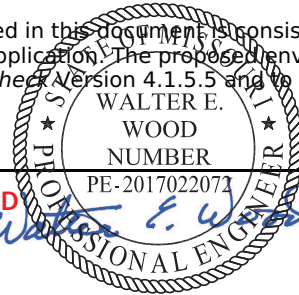
**Envelope PASSES: Design 2% better than code****Envelope Compliance Statement**

*Compliance Statement:* The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

VALID



02-23-2024

Date

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04/05/2024  
MANUFACTURED  
HOUSING







## Interior Lighting Compliance Certificate

## Project Information

Energy Code: 90.1 (2013) Standard  
Project Title: Slider Drive-Thru  
Project Type: New Construction

Construction Site:  
St Louis, MO

Owner/Agent

Designer/Contractor:  
Valiant Equipment, LLC  
15 West Tower Circle  
Ormond Beach, FL 32174  
386-677-9316

## Allowed Interior Lighting Power

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Dining: Cafeteria/Fast Food	952	0.90	857
Total Allowed Watts =			857

## Proposed Interior Lighting Power

A Fixture ID : Description /Lamp /Wattage Per Lamp /Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
1-Dining: Cafeteria/Fast Food				
LED 1: LED Other Fixture Unit 46W:	1	6	45	270
LED 2: LED Other Fixture Unit 46W:	1	3	39	117
LED 3: LED A Lamp 12W:	1	3	12	36
Total Proposed Watts =				423

Interior Lighting PASSES: Design 51% better than code

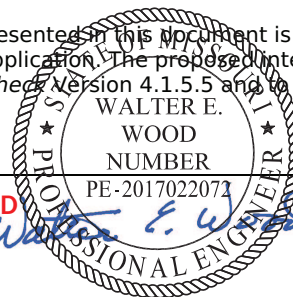
## Interior Lighting Compliance Statement

*Compliance Statement:* The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

Date



02-23-2024

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04/05/2024  
MANUFACTURED  
HOUSING







# Exterior Lighting Compliance Certificate

## Project Information

Energy Code: 90.1 (2013) Standard  
Project Title: Slider Drive-Thru  
Project Type: New Construction  
Exterior Lighting Zone: 2 (Neighborhood business district (LZ2))

Construction Site:  
St Louis, MO

Owner/Agent

Designer/Contractor:  
Valiant Equipment, LLC  
15 West Tower Circle  
Ormond Beach, FL 32174  
386-677-9316

## Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /Unit	D Tradable Wattage	E Allowed Watts (B X C)
Main entry	2 ft of door	20	Yes	40
Drive-up windows/doors	2 windows	400	No	800
Total Tradable Watts (a) =				40
Total Allowed Watts =				840
Total Allowed Supplemental Watts (b) =				600

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.

(b) A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

## Proposed Exterior Lighting Power

A Fixture ID : Description /Lamp /Wattage Per Lamp /Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
<u>Main entry (2 ft of door width): Tradable Wattage</u>				
LED 1: LED Linear 22W:	1	2	22	44
<u>Drive-up windows/doors (2 windows or doors): Non-tradable Wattage</u>				
LED 3: LED Other Fixture Unit 80W:	1	2	75	150
Total Tradable Proposed Watts =				44

**Exterior Lighting PASSES: Design 93% better than code**

## Exterior Lighting Compliance Statement

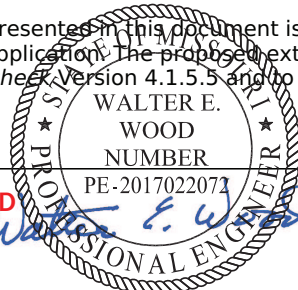
**Compliance Statement:** The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title



Signature

VALID



02-23-2024

Date

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04/05/2024  
MANUFACTURED  
HOUSING**





# Mechanical Compliance Certificate

## Project Information

Energy Code: 90.1 (2013) Standard  
Project Title: Slider Drive-Thru  
Location: Saint Louis, Missouri  
Climate Zone: 4a  
Project Type: New Construction

Construction Site:  
St Louis, MO

Owner/Agent

Designer/Contractor:  
Valiant Equipment, LLC  
15 West Tower Circle  
Ormond Beach, FL 32174  
386-677-9316

## Mechanical Systems List

### Quantity System Type & Description

- 1 HVAC System 1 (Single Zone):  
Heating: 1 each - Central Furnace, Electric, Capacity = 52 kBtu/h  
No minimum efficiency requirement applies  
Cooling: 1 each - Single Package DX Unit, Capacity = 78 kBtu/h, Air-Cooled Condenser, Air Economizer  
Proposed Efficiency = 11.20 EER, Required Efficiency: 11.20 EER + 12.9 IEER  
Fan System: None
- 1 Water Heater 3:  
Electric Instantaneous Water Heater, Capacity: 2 gallons  
No minimum efficiency requirement applies

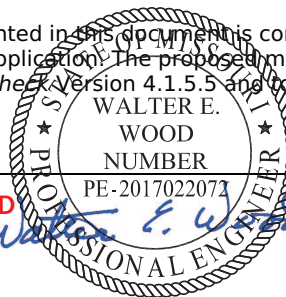
## Mechanical Compliance Statement

**Compliance Statement:** The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 90.1 (2013) Standard requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title

Signature

VALID



Date

02-23-2024

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# Inspection Checklist

Energy Code: 90.1 (2013) Standard

Requirements: 100.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
4.2.2, 5.4.3.1.1, 5.7 [PR1] <sup>1</sup>	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 6.4.4.2.1, 6.7.2 [PR2] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 7.7.1, 10.4.2 [PR3] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufacturer's sizing guide.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6] <sup>2</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical systems and equipment and document where exceptions are claimed. Feeder connectors sized in accordance with approved plans and branch circuits sized for maximum drop of 3%.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2, 9.4.3, 9.7 [PR4] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.  <b>MISSOURI PUBLIC SERVICE COMMISSION APPROVED 04/05/2024 MANUFACTURED HOUSING</b>

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
---	----------------------	---	------------------------	---	---------------------



Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
9.7 [PR8] <sup>1</sup>	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.4 [PR5] <sup>1</sup>	Detailed instructions for HVAC systems commissioning included on the plans or specifications for projects >=50,000 ft <sup>2</sup> .	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

**Additional Comments/Assumptions:**

MISSOURI  
PUBLIC SERVICE  
COMMISSION  
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04/05/2024  
MANUFACTURED  
HOUSING

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Footings / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [FO1] <sup>2</sup>	Installed below-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-_____	R-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
4.2.4 [FO3] <sup>2</sup>	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-_____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	R-_____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.3.5 [FO5] <sup>2</sup>	Slab edge insulation depth/length.	_____ ft	_____ ft	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.7 [FO6] <sup>1</sup>	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.3 [FO7] <sup>1</sup>	Insulation in contact with the ground has <=0.3% water absorption rate per ASTM C272.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.7 [FO9] <sup>3</sup>	Freeze protection and snow/ice melting system sensors for future connection to controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.1.5 [FO11] <sup>3</sup>	Bottom surface of floor structures incorporating radiant heating insulated to >=R-3.5.	R-_____	R-_____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.  See the Envelope Assemblies table for values.

**Additional Comments/Assumptions:**

MISSOURI  
 PUBLIC SERVICE  
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 04/05/2024  
 MANUFACTURED  
 HOUSING

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.4.3.2 [FR1] <sup>3</sup>	Factory-built and site-assembled fenestration and doors are labeled or certified as meeting air leakage requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.4.3a [FR8] <sup>1</sup>	Vertical fenestration U-Factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.3b [FR9] <sup>1</sup>	Skylight fenestration U-Factor.	U-____	U-____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.1 [FR10] <sup>1</sup>	Vertical fenestration SHGC value.	SHGC:____	SHGC:____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.4.4.2 [FR11] <sup>1</sup>	Skylight SHGC value.	SHGC:____	SHGC:____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.2.1, 5.8.2.3, 5.8.2.4, 5.8.2.5 [FR12] <sup>2</sup>	Fenestration products rated (U-factor, SHGC, and VT) in accordance with NFRC or energy code defaults are used.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.2.2 [FR13] <sup>1</sup>	Fenestration and door products are labeled, or a signed and dated certificate listing the U-factor, SHGC, VT, and air leakage rate has been provided by the manufacturer.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.6 [FR14] <sup>2</sup>	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.4.3.1 [FR15] <sup>1</sup>	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semiheated spaces in climate zones 1-6.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

**Additional Comments/Assumptions:**

**MISSOURI**  
**PUBLIC SERVICE**  
**COMMISSION**  
**APPROVED**  
**04/05/2024**  
**MANUFACTURED**  
**HOUSING**

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)
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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.1.4, 6.4.1.5 [ME1] <sup>2</sup>	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency: _____	Efficiency: _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Mechanical Systems list for values.
6.4.3.4.1 [ME3] <sup>3</sup>	Stair and elevator shaft vents have motorized dampers that automatically close.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.4.2, 6.4.3.4.3 [ME4] <sup>3</sup>	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.4.5 [ME39] <sup>3</sup>	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.4.4 [ME5] <sup>3</sup>	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.8 [ME6] <sup>1</sup>	Demand control ventilation provided for spaces >500 ft <sup>2</sup> and >25 people/1000 ft <sup>2</sup> occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.2.1 [ME40] <sup>2</sup>	DX cooling systems >= 75 kBtu/h (>= 65 kBtu/h effective 1/2016) and chilled-water and evaporative cooling fan motor hp >= ¼ designed to vary indoor fan airflow as a function of load and comply with operational requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.  See the Mechanical Systems list for values.
6.4.4.1.1 [ME7] <sup>3</sup>	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8] <sup>2</sup>	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R- _____	R- _____	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9] <sup>2</sup>	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	_____ in.	_____ in.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 [ME41] <sup>3</sup>	Thermally ineffective panel surfaces of sensible heating panels have insulation $\geq$ R-3.5.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.4.2.1 [ME10] <sup>2</sup>	Ducts and plenums sealed based on static pressure and location.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.4.2.2 [ME11] <sup>3</sup>	Ductwork operating $>3$ in. water column requires air leakage testing.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.3 [ME19] <sup>3</sup>	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.2.4.1 [ME68] <sup>3</sup>	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.4.2 [ME69] <sup>3</sup>	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated $\geq$ R-0.5.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.2.5 [ME70] <sup>3</sup>	Preheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.3.3 [ME42] <sup>3</sup>	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.  <i>See the Mechanical Systems list for values.</i>
6.5.4.2 [ME25] <sup>3</sup>	HVAC pumping systems $>10$ hp designed for variable fluid flow.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.6.1 [ME56] <sup>1</sup>	Exhaust air energy recovery on systems meeting Tables 6.5.6.1-1, and 6.5.6.1-2.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.7.1.1 [ME32] <sup>2</sup>	Kitchen hoods $>5,000$ cfm have make up air $\geq 50\%$ of exhaust air volume.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.5.7.1.5 [ME49] <sup>3</sup>	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.	<b>MISSOURI PUBLIC SERVICE COMMISSION APPROVED 04/05/2024</b>		<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.8.1 [ME34] <sup>2</sup>	Unenclosed spaces that are heated use only radiant heat.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.9 [ME35] <sup>1</sup>	Hot gas bypass limited to: <=240 kBtu/h - 15% >240 kBtu/h - 10%			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.2 [ME36] <sup>2</sup>	Service water heating equipment meets efficiency requirements.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	
6.4.3.9 [ME63] <sup>2</sup>	Heating for vestibules and air curtains include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating systems controlled by a thermostat in the vestibule with setpoint <= 60F.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.5.10 [ME73] <sup>3</sup>	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Building entrances have automatic closing devices.

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Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10] <sup>2</sup>	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Space type is not private office, open office, or computer classroom.
9.4.1.1 [EL1] <sup>2</sup>	Automatic control requirements prescribed in Table 9.6.1, for the appropriate space type, are installed. Mandatory lighting controls (labeled as 'REQ') and optional choice controls (labeled as 'ADD1' and 'ADD2') are implemented.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.1 [EL2] <sup>2</sup>	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.4.1.2 [EL11] <sup>2</sup>	Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
9.4.1.1f [EL13] <sup>1</sup>	Daylight areas under skylights and roof monitors that have more than 150 W combined input power for general lighting are controlled by photocontrols.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
9.4.1.4 [EL3] <sup>2</sup>	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Covered vehicle entrance/exit areas requiring lighting for safety, security and eye adaptation.
9.4.1.3 [EL4] <sup>1</sup>	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.6.2 [EL8] <sup>1</sup>	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
10.4.1 [EL9] <sup>2</sup>	Electric motors meet requirements where applicable.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
4.2.4 [IN2] <sup>1</sup>	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2, 5.8.1.3 [IN3] <sup>1</sup>	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the ceiling slope is <= 3:12.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN6] <sup>1</sup>	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN7] <sup>1</sup>	Above-grade wall insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.4 [IN8] <sup>2</sup>	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN9] <sup>2</sup>	Floor insulation installed per manufacturer's instructions.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.1 [IN10] <sup>2</sup>	Building envelope insulation is labeled with R-value or insulation certificate has been provided listing R-value and other relevant data.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.9 [IN18] <sup>2</sup>	Building envelope insulation extends over the full area of the component at the proposed rated R or U value.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [IN11] <sup>2</sup>	Eaves are baffled to deflect air to above the insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.5 [IN12] <sup>2</sup>	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditional space.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [IN13] <sup>2</sup>	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.7.1 [IN15] <sup>2</sup>	Attics and mechanical rooms have insulation protected where adjacent to attic or equipment access.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.2 [IN16] <sup>2</sup>	Foundation vents do not interfere with insulation.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.8 [IN17] <sup>3</sup>	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.			<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
5.4.3.3 [FI1] <sup>1</sup>	Weatherseals installed on all loading dock cargo doors in Climate Zones 4-8.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.4.3.1.2 [FI3] <sup>3</sup>	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.2 [FI20] <sup>3</sup>	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.1 [FI21] <sup>3</sup>	HVAC systems equipped with at least one automatic shutdown control.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.3.2 [FI22] <sup>3</sup>	Setback controls allow automatic restart and temporary operation as required for maintenance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.3.6 [FI6] <sup>3</sup>	When humidification and dehumidification are provided to a zone, simultaneous operation is prohibited. Humidity control prohibits the use of fossil fuel or electricity to produce RH > 30% in the warmest zone humidified and RH < 60% in the coldest zone dehumidified.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.1 [FI7] <sup>3</sup>	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.2 [FI8] <sup>3</sup>	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.7.2.3 [FI9] <sup>1</sup>	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft <sup>2</sup> of conditioned area.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
6.7.2.4 [FI10] <sup>1</sup>	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
7.4.4.3 [FI11] <sup>3</sup>	Public lavatory faucet water temperature <=110°F.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
8.7.1 [FI16] <sup>3</sup>	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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8.7.2 [FI17] <sup>3</sup>	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.2.2.3 [FI18] <sup>1</sup>	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
9.4.2 [FI19] <sup>1</sup>	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.
10.4.3 [FI24] <sup>2</sup>	Elevators are designed with the proper lighting, ventilation power, and standby mode.	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	<b>Exception:</b> Requirement does not apply.
7.4.3 [FI45] <sup>2</sup>	First 8 ft of outlet piping is insulated	<input type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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