RESPONSIBILITY SCHEDULE - TENANT SHELL

	EXISTING TO REMAIN	LANDLORD INSTALL	GO G.C. FURNISH	GO G.C. INSTALL	GROCERY OUTLET FURNISH	GROCERY OUTLET INSTALL	
GENERAL CONDITIONS							
PROGRESSIVE AND FINAL CLEAN UP			●	●			
SITEWORK AND DEMO							
DEMOLITION							REFER TO DEMO SHEETS
FIRE EXITING			●	●			PER PLANS
LANDSCAPING	●	●					PER PLANS
PARKING PAVING & IMPROVEMENTS	●	●					REFER TO SITE PLAN
PARKING STRIPING & SIGNAGE	●	●					REFER TO SITE PLAN
RECESSED TRUCK DOCK	***NOT APPLICABLE***						
TRASH ENCLOSURE	●	●					
BALE ENCLOSURE	●	●					
DURA RAMP			●	●			
CONCRETE							
FLOORING GRINDING			●	●			
METALS							
BOLLARDS			●	●			
CORNER GUARDS			●	●			
STEEL / METALS - MISCELLANEOUS			●	●			
WOODS AND PLASTICS							
WOOD FRAMED EQUIPMENT SUPPORTS			●	●			PER ROOF PLANS
THERMAL AND MOISTURE PROTECTION							
THERMAL INSULATION - ROOF	●	●					
DOORS AND WINDOWS							
DOORS & HARDWARE			●	●			REFER TO DOOR SCHEDULE
DOORS - AUTOMATIC ENTRY DOOR	●	●					REFER TO DOOR SCHEDULE
FINISHES							
REFRIGERATION COLUMNS			●	●			
SPECIALITIES							
CART CORRALS	●	●					
FIRE EXTINGUISHERS			●	●			
INTERIOR SIGNAGE					●	●	
PRODUCE MISTING SYSTEMS					●	●	G.C. FIELD COORD. W/ GOI
RACKING- LOZIER SHELVING					●	●	G.C. FIELD COORD. W/ GOI
SIGN STRIPS					●	●	
STORAGE SHELVES (MISC., MELAMINE)					●	●	
TOILET ACCESSORIES			●	●			
WINE RACKS AND/OR TABLES					●	●	
BLOCKING FOR EQUIPMENT			●	●			

	EXISTING TO REMAIN	LANDLORD INSTALL	GO G.C. FURNISH	GO G.C. INSTALL	GROCERY OUTLET FURNISH	GROCERY OUTLET INSTALL	
EQUIPMENT							
BALER					●	●	POWER BY G.C.
CHECKSTANDS					●	●	POWER BY G.C.
P.O.S. POWER POLES					●	●	SUPPORTS BY G.C.
EXTERIOR SIGNAGE - ON BUILDING					●	●	UNDER SEPARATE PERMIT
EXTERIOR SIGNAGE - ON MONUMENT					●	●	UNDER SEPARATE PERMIT
P.O.S. SYSTEM					●	●	
REFRIGERATION EQUIPMENT (CASES, ETC)					●	●	G.C. FIELD COORD. W/ GOI
REFRIG. EQUIPMENT FLOOR BUMPERS					●	●	G.C. FIELD COORD. W/ GOI
REFRIG. - WALK-IN COOLERS & FREEZER					●	●	G.C. FIELD COORD. W/ GOI
FURNISHINGS							
WINDOW COVERINGS / BLINDS			●	●			S.F. FILM (EX. GRAPHICS)
MECHANICAL							
COMPRESSORS AND CONDENSERS					●	●	POWER BY G.C.
HVAC- RTU'S					●	●	
HVAC- SPLIT SYSTEMS					●	●	
HVAC- EXTERIOR DUCTWORK					●	●	VENTS, ETC.
HVAC- INTERIOR DISTRIBUTION					●	●	
PLUMBING					●	●	PER GOI SPECIFICATIONS
FIRE SPRINKLER SYSTEM MODIFICATIONS					●	●	DESIGN / BUILD
ELECTRICAL							
SERVICE ENTRANCE EQUIPMENT	●	●					
COMMUNICATIONS (PHONE SYSTEM)					●	●	GOI APP. VENDOR
ELECTRICAL SERVICE					●	●	
ELECTRICAL DISTRIBUTION					●	●	
POWER WALL					●	●	
ENERGY MANAGEMENT SYSTEMS					●	●	REFER TO PLANS
FIRE ALARM SYSTEM - TENANT SPACE					●	●	
BURGLAR ALARM SYSTEM					●	●	
LIGHTING - SITE	●	●					
LIGHTING - INTERIOR					●	●	GOI APP. VENDOR
LIGHTING CONTROLS					●	●	GOI APP. VENDOR
SECURITY SYSTEM- CCTV					●	●	
CONDUITS FOR CCTV, F.A. & B.A.			●	●			
CONDUITS FOR PHONE			●	●			
CONDUITS FOR LOW VOLTAGE			●	●			
POWER FOR SIGNAGE			●	●			
POWER FOR REFRIGERATION EQUIPMENT			●	●			
POWER FOR WINDOW BLINDS			●	●			
POWER FOR ROLL-UP DOORS			●	●			
MISCELLANEOUS							
ADA COMPLIANCE (BUILDING / SITE)	●			●			
ARTWORK / BANNERS					●	●	
TRUCK DOCK ACCESSORIES / EQUIPMENT		***NOT APPLICABLE***					
LOCKERS IN BREAK RM.					●	●	

DEFERRED SUBMITTALS

THE FOLLOWING ITEMS ARE TO BE SUBMITTED TO THE BUILDING AND FIRE DEPARTMENTS FOR REVIEW AND APPROVAL. FRAMING INSPECTION WILL NOT BE PERFORMED UNTIL PERMITS FOR FIRE SPRINKLER AND FIRE ALARM HAVE BEEN APPROVED AND ISSUED. INSTALLATION TO BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS.

THE FOLLOWING SCOPE OF WORK WILL BE FILED UNDER SEPARATE PERMITS:

1. EXTERIOR SIGNAGE
2. FIRE SPRINKLER
3. FIRE ALARM

STORAGE OF CONST. MATERIALS

CONSTRUCTION RELATED MATERIALS, EQUIPMENT, ETC. MUST BE STORED ON SITE UNLESS PERMITTED IN ADVANCE BY THE A.H.J.

DESIGN-BUILD FIRE ALARM SYSTEM

T.I. CONTRACTOR SHALL FURNISH A DESIGN FOR, AND CONSTRUCT, ALL MODIFICATIONS AS NEEDED TO THE REMOTELY MONITORED FIRE ALARM SYSTEM AS REQUIRED BY THE LOCAL POLICE AND FIRE DEPARTMENT. T.I. CONTRACTOR SHALL PREPARE SHOP DRWINGS AND OBTAIN APPROVALS FROM THE LOCAL FIRE MARSHAL, GROCERY OUTLET, INSURANCE UNDERWRITERS, AND ANY OTHER AGENCIES PRIOR TO ANY INSTALLATION. T.I. CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE, OPERATIONAL SYSTEM AT OCCUPANCY OF PROJECT.

DESIGN-BUILD SPRINKLER SYSTEM

T.I. CONTRACTOR SHALL FURNISH A DESIGN FOR, AND CONSTRUCT, ALL MODIFICATIONS AS NEEDED FOR THE HYDRAULICALLY CALCULATED AUTOMATIC FIRE SPRINKLER SYSTEM. T.I. CONTRACTOR SHALL RETAIN A STATE LICENSED FIRE SPRINKLER CONTRACTOR TO PREPARE SHOP DRAWINGS AND OBTAIN APPROVALS FROM THE OWNER, INSURANCE UNDERWRITERS, LOCAL FIRE MARSHAL, AND OTHER AGENCIES PRIOR TO ANY INSTALLATION. CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE OPERATIONAL SYSTEM. SUPPLY AN APPROVED SET OF PLANS TO OWNER FOR APPROVAL PRIOR TO COMMENCING WORK. CONTRACTOR TO COORDINATE ALL WORK WITH THE LANDLORD'S FIRE SPRINKLER SCOPE OF WORK. CONTRACTOR TO VERIFY IF REQUIRED TO USE LANDLORD'S FIRE SPRINKLER CONTRACTOR. FIRE SPRINKLER CONTRACTOR TO SUBMIT COMPLETE FIRE SPRINKLER PLANS TO THE A.H.J.

SPECIAL INSPECTIONS

STRUCTURAL SPECIAL INSPECTION IS REQUIRED AS NOTED ON THE SPECIAL INSPECTION AND TESTING AGREEMENT. CONTRACTOR SHALL SCHEDULE & COORDINATE ACCORDINGLY WITH GOI-PROVIDED CONSULTANT.

HEALTH DEPARTMENT NOTES

THE FOLLOWING IS A GENERAL DESCRIPTION OF THE CORPORATE PRESCRIBED OPERATIONS OF THE PROPOSED STORE:

ANY/ ALL FOOD GOODS EITHER DELIVERED BY THE TENANT'S TRANSPORT (VENDORS). GOODS STORED WITHIN THE BACK OF HOUSE, GOODS STORED IN COOLER/ FREEZER BOXES, OR GOODS STOCKED IN SALES AREAS ARE **PRE-PACKAGED** AND REQUIRE NO DIRECT HANDLING FOR CONSUMER PREPARATIONS BY THE STORE STAFF. PRODUCE IS EITHER DISPLAYED IN ORIGINAL PACKAGING OR PLACED IN EUROTABLE BINS WITHIN THEIR OWN RINOS/ SKINS/ ETC. WITH NO DIRECT EXPOSURE OF EDIBLE CONTENTS TO ENVIROMENT. DELI, MEAT, AND DAIRY GOODS ARE SHIPPED, STOCKED, AND DISPLAYED/ SOLD IN ORIGINAL PACKAGING WITHIN TEMPERATURES AS PRESCRIBED BY SUPPLIERS/ GENERAL HEALTH STANDARDS.

APPLICABLE CODES

2019 OREGON STRUCTURAL SPECIALTY CODE (OSSC)
2021 OREGON ENERGY EFFICIENCY SPECIALTY CODE (OEESC)
2023 OREGON ELECTRICAL SPECIALTY CODE (OESC)
2022 OREGON MECHANICAL SPECIALTY CODE (OMSC)
2023 OREGON PLUMBING SPECIALTY CODE (OPSC)
2022 OREGON FIRE CODE
2017 ICC A117.1
2009 ANSI 117.1
2019 ASHRAE 90.1
SALEM, OR - CODE OF ORDINANCES (SALEM REVISED CODE)

PROJECT DATA

BUILDING CONSTRUCTION AND CLASSIFICATION:

ZONING:	*MU-III (MIXED USE-III)*
OCCUPANCY GROUP:	*M (RETAIL)*
SPRINKLERED:	*YES*
TYPE OF CONSTRUCTION:	*V-B*
BUILDING HEIGHT:	1 STORY, *+/- 20'-0"*
TOTAL GROSS AREA:	**17,366** SF

(REFER TO SHEET G1-01 FOR FURTHER AREA BREAKDOWN AND OCCUPANCY AND EXIT CALCULATIONS)

PROJECT DESCRIPTION

THE PROJECT SITE IS LOCATED AT **3975 COMMERCIAL ST SE - SALEM, OR 97302**.

THIS PROJECT IS A TENANT IMPROVEMENT WITHIN AN EXISTING BUILDING. THE USE WILL BE A RETAIL GROCERY MARKET.

EXTERIOR MODIFICATIONS (AS FURTHER DEFINED IN DRAWINGS & NOTES) INCLUDE:

- MODIFICATION TO FRONT ENTRY CANOPY
- NEW CURB RAMP AT FRONT ENTRY SIDEWALK
- REMOVING & INFILLING EXISTING WINDOWS & DOORS
- PAINTING EXISTING EXTERIOR WALLS
- NEW MECHANICAL ROOFTOP UNITS
- NEW ROOF ACCESS HATCH WITH INTERIOR ROOF LADDER
- NEW STEEL CANOPY AT REAR LOADING AREA

INTERIOR MODIFICATIONS (AS FURTHER DEFINED IN DRAWINGS & NOTES) INCLUDE:

- INTERIOR PARTITION WALLS, FINISHES, PAINTING, AND TRIMS
- INTERIOR DOORS, FRAMES, AND HARDWARE WITH NECESSARY SIGNAGE
- OFFICES AND BREAK ROOM CASEWORK
- ACCESSIBLE PUBLIC / STAFF RESTROOM FACILITIES WITH ALL REQUIRED RESTROOM ACCESSORIES / PLUMBING FIXTURES & DRINKING FOUNTAIN
- COMPLETE MECHANICAL HVAC SYSTEM AS FULLY DETAILED ON THE M-SHEETS
- COMPLETE SANITARY WASTE & VENT, DOMESTIC WATER SUPPLY AND GAS PLUMBING SYSTEMS AS FULLY DETAILED ON THE P-SHEETS
- COMPLETE INTERIOR LIGHTING, EMERGENCY LIGHTING AND NECESSARY DIMMING / OCCUPANCY CONTROLS AS FULLY DETAILED ON THE E-SHEETS
- CONDUITS, SUB-PANELS AND ELECTRICAL AMENITIES FOR COMPLETE POWER & DATA TO ALL FIXTURES AND EQUIPMENT AS FULLY DETAILED ON THE E-SHEETS
- COMPLETE REFRIGERATION SYSTEM INCLUDING REACH-IN FROZEN FOOD CASES, REFRIGERATED CASES, COOLER & FREEZER WALK-IN BOXES, CONDENSER RACK & ROOFTOP CONDENSING UNIT AS FULLY DETAILED ON THE R-SHEETS
- RETAIL SHELVING AND DISPLAY FIXTURES AS SHOWN ON THE A8-01 FIXTURE PLAN.

SYMBOLS LEGEND

ROOM TAG
Room name — ROOM NAME
101 — ROOM NUMBER

SECTION HEAD
1 / A101 — SIM — DETAIL NUMBER / SHEET NUMBER

1 WINDOW TYPE

CALLOUT HEAD
1 / A101 — SIM — DETAIL NUMBER / SHEET NUMBER

101 DOOR TAG

ELEVATION TAG
1 Ref / A101 / 1 Ref — DETAIL NUMBER / SHEET NUMBER

0 GRID HEAD

RROO EQUIPMENT TAG

LEVEL/ ELEVATION HEAD
Name — REFERENCE
Elevation — HEIGHT/ ELEVATION

1 PARTITION TAG

1 REVISION TAG

1 KEYNOTE

℄ CENTERLINE

GROCERY OUTLET bargain market℠

STORE NUMBER: 3551
SALEM, OR

3975 COMMERCIAL ST SE
SALEM, OR 97302

THESE PLANS SHALL BE USED IN CONJUNCTION WITH THE GROCERY OUTLET TYPICAL STORE SPECIFICATIONS DATED AUGUST 2023.

ABBREVIATIONS LIST

&	AND
A.B.	ANCHOR BOLT
A.C.	ASPHALT CONCRETE
A/C	AIR CONDITIONING
ACOUST.	ACCOUSTICAL
ADJ.	ADJUSTABLE
AGGR.	AGGREGATE
A.H.J.	AUTHORITY HAVING JURISDICTION
ALUM.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECT(URAL)
BD.	BOARD
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
B.M.	BENCH MARK
B.O.H.	BACK OF HOUSE
BTTM.	BOTTOM
B.U.R.	BUILT UP ROOFING
C.C.	CASEWORK CONTRACTOR
CEM.	CEMENT
C.J.	CONSTRUCTION JOINT
CLG.	CEILING
CLR.	CLEAR
CNTR.	COUNTER
C.O.	CLEAN OUT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CTSK.	COUNTERSUNK
DBL.	DOUBLE
D.F.	DRINKING FOUNTAIN
DEPT.	DEPARTMENT
DTL.	DETAIL
D.I.	DROP INLET
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DN.	DOWN
DR.	DOOR
D.S.	DOWN SPOUT
DWG.	DRAWING(S)
(E)	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQ.	EQUAL
EQUIP.	EQUIPMENT
E.W.	EACH WAY
EXP.	EXPANSION
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.F.	FINISH FACE
F.H.W.S.	FLAT HEAD WOOD SCREW
FIN.	FINISH
FLR.	FLOOR
FLS'G	FLASHING
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.M.	FACE OF MASONRY
F.O.S.	FACE OF STUDS
F.O.W.	FACE OF WALL
F.P.	FIREPROOF
F.R.P.	FIBER REINFORCED PANEL
FT.	FOOT OR FEET
FTG.	FOOTING
F.V.	FIELD VERIFY
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
G.I.	GALVANIZED IRON
GND.	GROUND
GYP. BD.	GYPSUM WALLBOARD
GLU-LAM.	GLUED LAMINATE
H.B.	HOSE BIBB
H.C.	HOLLOW CORE
HDBD.	HARDBOARD
HDWD.	HARDWOOD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORZ.	HORIZONTAL
I.D.	INSIDE DIAMETER
I.E.	INVERT ELEVATION
I.S.A.	INTERNATIONAL SYMBOL OF ACCESSIBILITY
INSUL.	INSULATION
INT.	INTERIOR
J.B.	JUNCTION BOX
J.H.	JOIST HANGER
LAM.	LAMINATE
LAV.	LAVATORY
MAX.	MAXIMUM
MECH.	MECHANICAL
MEMB.	MEMBRANE
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MRGB.	MOISTURE RESISTANT GYPSUM BOARD
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.H.	OVERHEAD OR OVERHAND
OPNG.	OPENING
OPP.	OPPOSITE
O/	OVER
P.LAM.	PLASTICE LAMINATE
PLYWD.	PLYWOOD
P.M.	PRESSED METAL
P.M.F.	PRESSED METAL FRAME
PNL.	PANEL
P.O.C.	POINT OF CONNECTION
PR.	PAIR
PROP.	PROPERTY
P.S.F.	POUNDS PER SQUARE FOOT
P.S.I.	POUNDS PER SQUARE INCH
P.T.	PRESSURE TREATED
P.T.D.	PAPER TOWEL DISPENSER
Q.T.	QUARRY TILE
RAD.	RADIUS
R.D.	ROOF DRAIN
REBAR.	REINFORCING BAR
REF.	REFERENCE
REINF.	REINFORCED
REG.	REGULAR
RESIL.	RESILIENT
REQ'D.	REQUIRED
RF.	ROUGH
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S.D.	STORM DRAIN
S.C.	SOLID CORE
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SHTG.	SHEATHING
SIM.	SIMILAR
S.M.	SHEET METAL
S.M.S.	SHEET METAL SCREW
SPEC'S	SPECIFICATIONS
SQ.	SQUARE
S.STL.	STAINLESS STEEL
STD.	STANDARD
STL.	STEEL
STRUCT.	STRUCTURAL
S.S.	SANITARY SEWER
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
T&G	TONGUE AND GROOVE
TEL.	TELEPHONE
TEMP.	TEMPERATURE
THRESH.	THRESHOLD
T.O.C.	TOP OF CONCRETE
T.O.F.	TOP OF FRAMING
T.O.P.	TOP OF PAVEMENT
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
T.P.D.	TOILET PAPER DISPENSER
T.S.	STRUCTURAL TUBE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
U.O.N.	UNLESS OTHERWISE NOTED
UNF.	UNFINISHED
V.C.F.	VINYL COATED FABRIC
V.C.T.	VINYL COMPOSITION TILE
VERT.	VERTICAL
V.T.B.	VINYL TRACK BOARD
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W.H.	WATER HEATER
W.M.	WATERPROOFING MEMBRANE
W/O	WITHOUT
W.P.	WATERPROOF
W.R.	WATER RESISTANT
WT.	WEIGHT
W.W.F.	WELDED WIRE FABRIC

VICINITY MAP

NOT TO SCALE — NORTH

PROJECT DIRECTORY

OWNER
WYANT SOUTHGATE, LLC
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MECH, PLUMB, ELEC, REFRIG. ENGINEER
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5343 N. 16TH STREET, SUITE 460
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(602) 336-5251
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INDEX OF DRAWINGS

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A6-01	SCHEDULES	●
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Newport Beach, CA 92614
t: 949 296 0450

PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT — DOUGLAS S. COUPER — 4447 — NEWPORT BEACH, CA — STATE OF OREGON — 2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
COVER SHEET

SHEET NUMBER
G0-01

Last Modified:2/22/2024 - 3:01:24 PM Drawing Name:C:\Users\hinov\Documents\Salem, OR - Arch - R22_hinov2d849.rvt

GENERAL SITE NOTES:

1. ALL MATERIALS AND WORK SHALL CONFORM TO THE LATEST EDITION OF THE STATE AND LOCAL BUILDING CODES, ORDINANCES, AND REGULATIONS AND OTHER GOVERNING LOCAL AGENCIES AS REQUIRED. ONE (1) COPY OF THESE CODES AND REGULATIONS SHALL BE MADE AVAILABLE AT THE CONTRACTORS FIELD OFFICE DURING CONSTRUCTION.
2. WHERE NOTED ON THE DRAWINGS, CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE JOB SITE AND REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR INTERPRETATION AND/OR CORRECTIONS PRIOR TO INSTALLATION. COST OF CORRECTING WORK BASED ON MISINTERPRETATION BY CONTRACTOR OR UNREPORTED DIMENSIONAL DISCREPANCIES SHALL BE BORNE BY THE CONTRACTOR. 'CLEAR' SHALL BE MAINTAINED AND SHALL ALLOW FOR THICKNESS OF ALL FINISHES INCLUDING CARPET, PAD, CERAMIC TILE, V.C.T., ETC.
3. UNLESS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS AS BEING NOT IN CONTRACT (N.I.C.) OR EXISTING (E) ALL OTHER ITEMS, MATERIALS AND INSTALLATION ARE TO BE NEW AND ARE PART OF THE CONTRACT, AS DEFINED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORIES, COMPONENTS, AND ASSEMBLIES REQUIRED FOR THE WORK DEPICTED OR SPECIFIED.
4. CONTRACTOR IS RESPONSIBLE FOR ALL WORK REGARDLESS OF THE LOCATION OF THE INFORMATION ON THE DOCUMENTS.
5. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL HOURS; AND THAT THE CONTRACTOR SHALL DEFEND: INDEMNIFY AND HOLD THE OWNER AND THE ARCHITECT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
6. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATION AMONG ALL THE VARIOUS SUBCONTRACTORS.
7. GENERAL CONTRACTOR SHALL COORDINATE ALL UNDERGROUND ITEMS WITH THE PLUMBING, ELECTRICAL, AND OR REFRIGERATION DRAWINGS, ETC. AS REQUIRED.
8. VERIFY LOCATIONS OF ALL CEILING ACCESS PANELS WITH MECHANICAL, PLUMBING, AND ELECTRICAL SECTIONS. ACCESS PANELS SHALL BE LOCATED, PER CODE AND FURNISHED AND INSTALLED IN WALLS OR CEILINGS WITH MATCHING RATINGS. FINISH AND LOCATION SHALL BE APPROVED BY THE DEVELOPER PRIOR TO FABRICATION AND INSTALLATION.
9. CONTRACTOR SHALL VERIFY DIMENSIONS OF ALL EQUIPMENT PADS AND BASES WITH EQUIPMENT MANUFACTURERS AND SHALL VERIFY ALL SIZES AND LOCATION OF DUCT OPENINGS ON ROOF AND INTERIOR SHAFTS.
10. GENERAL CONTRACTOR SHALL NOTIFY ALL APPLICABLE LOCAL GOVERNING AUTHORITIES AND UTILITIES PRIOR TO COVERING UP ANY WORK REQUIRING INSPECTION.
11. ALL COSTS FOR INSPECTIONS, TESTS, AND BUILDING PERMITS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS.
12. THE CONTRACTOR TO INCLUDE COST FOR ALL REQUIRED SITE STAKING.
13. CONTRACTOR SHALL PROVIDE PEDESTRIAN PROTECTION AS PER LOCAL JURISDICTION.
14. SEPARATE PERMITS MAY BE REQUIRED FOR PEDESTRIAN PROTECTION, DEMOLITION, PLUMBING, ELECTRICAL, MECHANICAL WORK, AND AS REQUIRED BY THE LOCAL COVERING AGENCIES.
15. THE GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE PROJECT SHALL BE NOTIFIED BY THE CONTRACTOR AND OWNER THAT GRADING IS TO COMMENCE AND MAKE ALL NECESSARY ARRANGEMENTS FOR FIELD INSPECTION.
16. SIGN CONTRACTOR SHALL ACQUIRE SEPARATE BUILDING DEPARTMENT PERMITS FOR INSTALLATION OF ALL EXTERIOR BUILDING SIGNS AS REQUIRED BY LOCAL ORDINANCES.
17. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT UTILITIES OR STRUCTURES SHOWN AND ANY OTHER UTILITIES OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNERS OF THE UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. GC SHALL BE LIABLE FOR DAMAGES/REPAIRS.
18. THE CONTRACTOR SHALL LOCATE ALL UTILITY CONNECTIONS WITHIN 5'-0" OF THE BUILDING AND PROTECT UNTIL ALL CONNECTIONS AND TESTING ARE COMPLETED. CONTRACTOR SHALL TAG ALL CONNECTIONS WHERE FINISH SURFACES ARE PERMANENT. (I.E. CONCRETE, A.C., PAVING ETC.)
19. ALL WORK SHALL COMPLY WITH ALL APPLICABLE REGULATIONS OF THE STATE AND THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION.
20. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS FOR CONSTRUCTION WATER. DUST SHALL BE CONTROLLED BY WATERING AS REQUIRED.
21. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE ON THE DRAWINGS. DO NOT SCALE THE DRAWINGS.
22. NO FLOORS TO BE POURED UNTIL ALL ELECTRICAL AND MECHANICAL INSTALLATIONS HAVE BEEN APPROVED BY GOVERNING AGENCIES.
23. TROWEL SLAB FOR SMOOTH FINISH WITH NO TROWEL MARKS SHOWING WHEREVER CONCRETE FLOOR IS EXPOSED.
24. INTERIOR CONCRETE SLABS SHALL BE POURED LEVEL (UNLESS OTHERWISE INDICATED) 1/8" TOLERANCE ON A 10'-0" EDGE IN ANY GIVEN DIRECTION.
25. COVER ALL CONCRETE SLAB SURFACES WITH WET CURING BLANKETS BEFORE POURING ADJACENT CONCRETE SLABS OR ASPHALTIC CONCRETE PAVING. CONCRETE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR ANY SPLASHING OF FRESH CONCRETE.
26. ALL COMBUSTIBLES CONSISTING OF BOXES, SCRAP LUMBER, ETC., ON THE CONSTRUCTION SITE SHALL BE CLEANED UP AND DISPOSED OF IN AN APPROVED MANNER ON A DAILY BASIS.
27. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL BOLTS, NAILS, FRAMING CLIPS, WASHERS, PLATES, HANGERS, ETC., FOR A COMPLETE INSTALLATION WHETHER OR NOT SPECIFIED OR INDICATED ON THE PLANS.
28. CONTRACTOR TO VERIFY THAT ROOF ELEVATIONS SHOWN ON PLANS PROVIDE POSITIVE ROOF DRAINAGE AND THAT THEY CONFIRM TO MINIMUM DRAINAGE STANDARDS PRIOR TO ROOFING.
29. IF STORING, USING, OR HANDLING ANY AMOUNTS OF HAZARDOUS MATERIAL OR FLAMMABLE/COMBUSTIBLE LIQUIDS OR CHEMICALS, COMPLY WITH REQUIREMENTS SET FORTH IN HAZARDOUS MATERIALS ORDINANCE BY LOCAL JURISDICTION.
30. GENERAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL TRADE WORK TO THE ARCHITECT FOR REVIEW, AND ALSO FOR ITEMS CALLED OUT AS 'OR EQUAL', AND IN ACCORDANCE WITH THE SPECIFICATIONS.
31. THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF DRAWINGS AT THE JOB SITE FOR USE IN MAKING RECORD DRAWINGS. ANY REVISIONS SHALL BE NOTED THEREON AND SUBMITTED TO THE ARCHITECT AT THE COMPLETION OF THE JOB PER THE SPECIFICATIONS. PROVIDE A COPY FOR THE OWNER PER CONSTRUCTION DOCUMENTS.
32. THE CONTRACTOR SHALL INFORM THE FIRE DEPT. OF THE REQUIRED FINAL INSPECTION AND SCHEDULE SUCH INSPECTION.
33. THE ENTIRE WORK PROVIDED FOR HEREIN IS TO BE CONSTRUCTED AND FINISHED IN EVERY PART IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, TO THE FULL INTENT OF THE SAME. ANY WORK REQUIRED BY LAW, BUT WHICH MAY NOT BE SPECIFICALLY MENTIONED IN THESE PLANS, SHALL BE DONE BY CONTRACTOR IN ACCORDANCE WITH THE LAWS OF THE COUNTY, DISTRICT, OR STATE UNDER WHICH JURISDICTION MAY COME AND COST SHALL BE BORNE BY CONTRACTORS. ANY SUCH WORK SHALL BE DONE IN CONFORMANCE WITH THE PLAN; BOTH AS TO MANNER AND APPEARANCE. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LOCAL GOVERNING AGENCIES.
34. THE OWNER AND/OR ARCHITECT RESERVE THE RIGHT TO HAVE TESTS MADE WHEN DEEMED NECESSARY. SHOULD THE ARCHITECT ORDER SPECIAL TESTING OR INSPECTION OF A QUESTIONABLE PART OF THE WORK WHICH REVEALS DEFECTS NOT IN CONFORMITY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL PAY THE COST OF SUCH SPECIAL TESTING OR INSPECTIONS INCLUDING THE ARCHITECTS EXTRA SERVICES MADE NECESSARY THEREBY. OTHERWISE THE OWNER SHALL BEAR SUCH COST.
35. TESTS SHALL BE MADE IN ACCORDANCE WITH RECOGNIZED STANDARDS BY A COMPETENT, INDEPENDENT TESTING LABORATORY. ANY MATERIAL FOUND DEFECTIVE OR NOT IN CONFORMITY WITH SPECIFICATIONS STANDARDS SHALL BE PROMPTLY REPLACED OR REPAIRED AT THE EXPENSE OF THE CONTRACTOR. SAMPLES REQUIRED FOR TESTING WILL BE FURNISHED BY THE CONTRACTOR.
36. GENERAL CONTRACTOR SHALL SIGN AND SUBMIT TO THE DEPARTMENT OF BUILDING AND SAFETY A "CERTIFICATE OF COMPLIANCE" STATING THAT THE WORK HAS BEEN PERFORMED AND MATERIALS INSTALLED ACCORDING TO THE PLANS AND SPECIFICATIONS AFFECTING NON-RESIDENTIAL ENERGY.
37. CONTRACTOR TO PROVIDE PARKING SPACES ON SITE FOR BUILDING OFFICIALS, ARCHITECTS, ETC. THE VEHICULAR ACCESS MUST BE PROVIDED AND MAINTAINED SERVICEABLE THROUGHOUT CONSTRUCTION.
38. AFTER INSTALLING WALL, CEILING, OR FLOOR INSULATION, THE INSTALLER SHALL POST IN A CONSPICUOUS LOCATION IN THE BUILDING A CERTIFICATE SIGNED BY THE INSTALLER STATING THAT THE INSTALLATION CONFORMS WITH THE PLANS AND REQUIREMENTS OF THE PROJECT SPECIFICATIONS. THE CERTIFICATE SHALL ALSO STATE THE MANUFACTURER'S NAME AND MATERIAL IDENTIFICATION AND THE INSTALLED R-VALUE.
39. CONTRACTOR SHALL PROVIDE ACCESS PANELS AS REQUIRED BY PLUMBING, AIR CONDITIONING, AND OTHER INSTALLERS AS REQUIRED BY CODE.
40. ANY DAMAGE BY G.C. OR SUBCONTRACTOR TO EXISTING ASPHALTIC PAVEMENT, EXISTING LANDSCAPING, OR ADJACENT TENANT'S BUILDINGS SHALL BE REPAIRED BY G.C. AT NO COST TO DEVELOPER OR TENANT.
41. CONTRACTOR TO INSPECT & VERIFY CONDITIONS OF SITE PRIOR TO CONSTRUCTION & NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS & SCOPE OF WORK DESCRIBED IN THESE PLANS & SPECIFICATIONS.
42. IN THE EVENT OF DISCREPANCIES BETWEEN ANY DRAWINGS AND/OR SPECIFICATIONS, THE COSTLIER OR MORE RESTRICTIVE CONDITIONS SHALL BE DEEMED THE CONTRACT REQUIREMENT, UNLESS OTHERWISE STATED IN WRITING, FROM THE DEVELOPER.
43. ALL SAW CUTTING AND CORING LOCATIONS SHALL BE REVIEWED IN THE FIELD BY THE OWNER'S REPRESENTATIVE AND STRUCTURAL ENGINEER PRIOR TO CUTTING/CORING. NO OVER-CUTTING IS TO BE ACCEPTED BY OWNER. ANY OVERCUTS TO BE REPAIRED / RE-POURED BY GC AT THE COST OF THE GC.
44. CONTRACTOR TO BE RESPONSIBLE FOR LOSS OR DAMAGE OF ITEMS NOTED ON PLANS, WHETHER IN CONTRACT OR NOT IN CONTRACT, ONCE DELIVERED TO SITE.
45. IF GRADING OR OTHER CONSTRUCTION OPERATIONS UNEARTH ARCHAEOLOGICAL OR HISTORIC ARTIFACTS OR RESOURCES, CONSTRUCTION ACTIVITIES SHALL CEASE UNTIL A QUALIFIED HISTORICAL ARCHAEOLOGIST HAS EVALUATED THE MATERIALS SO THAT THEY MAY BE RECORDED. DISPOSITION OF ARTIFACTS SHALL COMPLY WITH STATE AND FEDERAL LAWS.

FIRE DEPARTMENT NOTES:

1. ALL CONSTRUCTION SHALL COMPLY WITH THE FIRE CODE AND ALL ADOPTED REFERENCE STANDARDS.
2. HAZARDOUS MATERIALS TO BE STORED AND/OR USED WITHIN THE BUILDING SHALL COMPLY WITH QUANTITIES LISTED IN THE BUILDING AND/OR GREEN CODE
3. FIRE SPRINKLER SYSTEM WORK SHALL BE PERFORMED UNDER SEPARATE PERMIT. FIRE SPRINKLER SUBCONTRACTOR SHALL BECOME FAMILIAR WITH DESIGN CRITERIA PRIOR TO COMMENCING DESIGN WORK. SUBMIT PLANS FOR APPROVAL TO THE ARCHITECT AND THE AUTHORITY HAVING JURISDICTION PRIOR TO INSTALLATION.
4. NO FIRE ALARM, FIRE SPRINKLER, OR FIRE DAMPER WORK SHALL BE CONCEALED WITHOUT THE APPROVAL OF BOTH THE BUILDING AND FIRE INSPECTORS.
5. FIRE HYDRANTS SHALL BE TESTED AND APPROVED AND FIRE ACCESS ROADS MADE SERVICEABLE PRIOR TO DELIVERY OF COMBUSTIBLE MATERIALS ON SITE. ALL CONSTRUCTION WORK IS SUBJECT TO A STOP WORK ORDER IF ACCESS ROADS BECOME IMPASSABLE OR FIRE HYDRANTS INOPERABLE.
6. G.C. SHALL MAINTAIN ALL EXITS, EXIT LIGHTING, FIRE PROTECTION DEVICES, AND ALARMS IN ACCORDANCE WITH ALL APPLICABLE CODES AND ORDINANCES FOR THE ENTIRE DURATION OF THE WORK.
7. STORAGE, DISPENSING, OR USE OF ANY FLAMMABLE OR COMBUSTIBLE LIQUIDS, FLAMMABLE GASES, OR HAZARDOUS CHEMICALS SHALL COMPLY WITH THE FIRE CODE REQUIREMENTS.
8. STREET ADDRESS NUMBERS AND/OR SUITE NUMBERS ARE TO BE POSTED IN A LOCATION VISIBLE FROM THE STREET. NUMBERS SHALL BE A MINIMUM OF 6" IN HEIGHT. NUMBERS SHALL BE OF A HIGHLY CONTRASTING COLOR COMPARED TO THE BACKGROUND OF WHICH THEY ARE APPLIED. NUMBERS PLACED ON GLASS SHALL HAVE A CONTRASTING COLOR APPLIED TO THE GLASS.
9. A KNOX KEY BOX SHALL BE INSTALLED WITHIN 20 FEET OF THE MAIN ENTRANCE AT A HEIGHT NO GREATER THAN 7 FEET FROM THE MAIN FLOOR. KEY BOX LOCATIONS AND TYPE ARE TO BE APPROVED BY THE FIRE MARSHAL'S OFFICE
10. THE MAXIMUM FLAME SPREAD CLASS OF FINISH MATERIALS USED ON THE INTERIOR WALLS AND CEILINGS SHALL NOT EXCEED CLASS B FOR EXITWAYS AND CLASS C FOR ROOMS OR AREAS PER THE BUILDING CODE.
11. WHERE FIXTURES ARE SIX FEET OR HIGHER, ADDITIONAL ILLUMINATED EXIT SIGNS ARE REQUIRED TO BE PROVIDED, SHOWING THE EXIT PATHWAY, PER THE BUILDING CODE SECTION. THE NUMBER AND LOCATION TO BE DETERMINED BY THE FIRE INSPECTOR.
12. THE WATER FLOW SWITCH FOR THE AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE MONITORED BY A U.L. LISTED CENTRAL, REMOTE, OR PROPRIETARY MONITORING STATION.
13. TAMPER SWITCHES SHALL BE PLACED ON ALL VALVES CONTROLLING THE WATER SUPPLY TO THE AUTOMATIC FIRE SPRINKLER SYSTEM. VALVES CONTROLLING WATER SUPPLY SHALL INCLUDE: P.I.V., O.S. & Y., AND ON THE DOUBLE DETECTOR CHECK. VALVES ON THE SPRINKLER RISER OR ANY OTHER VALVE CONTROLLING THE WATER SUPPLY.
14. ALL FIRE-RATED ASSEMBLIES SHALL BE DETERMINED, AND SHALL BE LABELED AND INSPECTED, IN ACCORDANCE WITH THE BUILDING CODE.
15. FIRE DAMPERS OR FIRE DOORS SHALL BE PROVIDED WHERE AIR DUCTS OR OPENINGS PENETRATE FIRE RATED SURFACES.
16. APPLICABLE CODES AND FIRE DEPARTMENT FIELD INSPECTOR SHALL DICTATE SIZE, TYPE, QUALITY, AND LOCATIONS OF TEMPORARY EXTINGUISHERS.
17. PROVIDE PERMANENT PORTABLE FIRE EXTINGUISHERS PER NFPA-10, WITH A MINIMUM RATING OF 2A:10B:C. TRAVEL DISTANCE TO A FIRE EXTINGUISHER SHALL NOT EXCEED 75 FEET. EXTINGUISHERS SHALL BE MOUNTED ON A WALL (COLUMN) WITH AN APPROPRIATE BRACKET OR IN A CABINET NO MORE THAN 4 FEET ABOVE FINISH FLOOR. EXTINGUISHERS SHALL BE COMMERCIAL GRADE, CURRENTLY TAGGED (OR HAVE A MANUFACTURER DATE CLEARLY MARKED) ON THE EXTINGUISHER. SEE PLAN FOR LOCATIONS - VERIFY WITH THE FIRE MARSHAL PRIOR TO OCCUPANCY.

DOOR NOTES:

1. ALL HARDWARE SHALL MEET THE REQUIREMENTS OF THE BUILDING CODE.
2. A SIGN THAT READS 'THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED' WITH MINIMUM ONE (1) INCH HIGH LETTERS SHALL BE PROVIDED ADJACENT TO OR DIRECTLY ABOVE THE EXIT DOOR (FRONT ENTRANCE).
3. ALL HARDWARE SHALL BE THE LEVER TYPE WHERE REQUIRED BY THE BUILDING AND ACCESSIBILITY CODE MOUNTED BETWEEN +34" & +44" A.F.F.
4. LATCHING & LOCKING DOORS THAT ARE HAND ACTIVATED & IN THE PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE ACTION LEVER TYPE HARDWARE OR BY PANIC BARS OR PUSH/PULL BARS OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.
5. PROVIDE CYLINDER GUARDS ON ALL MORTISE OR RIM TYPE CYLINDER LOCKS ON EXTERIOR SIDE OF DOOR WHENEVER CYLINDER PROJECTS BEYOND THE FACE OF DOOR OR IS OTHERWISE ACCESSIBLE TO CRIPPLING TOOLS.
6. ALL PIN-TYPE HINGES WHICH ARE ACCESSIBLE FROM THE EXTERIOR WHEN THE DOOR IS CLOSED SHALL HAVE NON-REMOVABLE HINGE PINS. IN ADDITION THEY SHALL HAVE A MIN. 1/4" DIAMETER STEEL JAMB STUD WITH 1/4" MIN. PROJECTIONS UNLESS THE HINGES ARE SHAPED TO PREVENT REMOVAL OF THE DOOR IF THE HINGE PINS ARE REMOVED.
7. CLEARANCE FOR GUIDE RAILS SHALL BE AS FOLLOWS:
   - 6 INCHES MAX BETWEEN RAILS & LEADING EDGE OF DOOR @ THE CLOSEST POINT IN ITS ARC OF TRAVEL
   - 6 INCHES MAX BETWEEN RAILS & THE DOOR IN AN OPEN POSITION.
   - 2 INCHES MIN BETWEEN RAIL @ HINGE SIDE & DOOR IN AN OPEN POSITION.
   - 2 INCHES MAX BETWEEN FREESTANDING RAILS & JAMB OR OTHER ADJACENT SURFACE.
8. POWER OPERATED DOORS MUST CONFORM TO THE BUILDING CODE.
9. NO THUMB LATCHES OR KEYED CYLINDER DEAD BOLTS ALLOWED ON ANY DOORS UNLESS OPERATED BY A SINGLE ACTION WITH A LEVER.
10. MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS & SURFACE BOLTS ARE PROHIBITED AT ANY EXIT OR P.O.T. LOCATION.
11. EXIT DOORS SHALL BE OPERABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY, SPECIAL KNOWLEDGE, OR EFFORT AND OPEN IN THE DIRECTION OF EGRESS.
12. AUTOMATIC SLIDING DOORS ARE TO BE CONSTRUCTED PER ICBO, FIRE DEPARTMENT AND BUILDING CODE STANDARD REQUIREMENTS FOR DOOR BREAK AWAY HARDWARE (REFER TO SPECIFICATIONS). PROVIDE SIGN ON EACH LEAF: "IN AN EMERGENCY, PUSH TO OPEN".
13. ALL FIRE RATED DOORS & ALL EXTERIOR SWINGING DOORS SHALL HAVE CLOSERS.
14. FIRE RATED DOORS SHALL BE A LABELED RATED ASSEMBLY W/ SMOKE GASKETS & BE SELF-CLOSING.
15. CORRIDOR & PASSAGE WAYS ARE 44" CLEAR WIDTH MIN. DOOR SWINGS INTO EXIT CORRIDORS SHALL NOT REDUCE THE REQUIRED WIDTH BY MORE THAN HALF.
16. WEATHER STRIP ALL EXTERIOR DOORS WITH GASKET-TYPE WEATHER STRIPPING.
17. GLASS DOOR, ADJACENT PANELS, AND ALL GLAZED OPENINGS WITHIN 18" OF THE ADJACENT FLOOR SHALL BE OF GLASS APPROVED FOR IMPACT HAZARD.
18. GLASS DOORS, ADJACENT PANELS, & ALL GLAZED OPENINGS WITH 24" OF ANY DOORS SHALL BE OF GLASS APPROVED FOR IMPACT HAZARD.
19. REFER TO MECHANICAL PLANS FOR ANY UNDERCUTS REQUIRED ON DOORS.
20. A LEVEL FLOOR OR LANDING NOT MORE THAN 1/4" BELOW THE THRESHOLD SHALL BE PROVIDED ON BOTH SIDES OF EXIT DOORS.
21. PROVIDE NOT MORE THAN 1/4" GAP UNDER ALL INTERIOR EXIT DOORS (TYPICAL).
22. THE LOWER 10" OF ANY DOORS SHALL HAVE SMOOTH FLUSH DURABLE SURFACE.

EXITING NOTES:

1. 'EXIT' SIGNS SHALL BE IN BLOCK LETTERS, A MINIMUM OF SIX (6) INCHES HIGH WITH A STROKE OF NOT LESS THAN 3/4 INCH. LUMINANCE ON FACE OF SIGN SHALL BE MINIMUM OF 5 FT CANDLES PER THE BUILDING CODE
2. 'EXIT' SIGNS SHALL BE ELECTRICALLY ILLUMINATED AND ENERGIZED FROM SEPARATE CIRCUITS AS SHOWN ON ELECTRICAL PLAN(S). ONE OF THE ABOVE CIRCUITS SHALL BE PART OF THE EMERGENCY LIGHTING SYSTEM.
3. PROVIDE TACTILE EXIT SIGN AT ALL GRADE LEVEL EXIT DOORS PER THE BUILDING CODE.
4. PER THE BUILDING CODE MEANS OF EGRESS ARE NOT PROHIBITED THROUGH STOCKROOMS IN GROUP 'M' OCCUPANCIES WHEN ALL OF THE FOLLOWING ARE MET:
   - THE STOCK IS OF THE SAME HAZARD CLASSIFICATION AS THAT FOUND IN THE MAIN RETAIL AREA.
   - NOT MORE THAN 50% IF EXIT ACCESS IS THROUGH THE STOCKROOM.
   - THE STOCKROOM IS NOT SUBJECT TO LOCKING FROM THE EGRESS SIDE.
   - THERE IS A DEMARCATED, MINIMUM 44-INCH-WIDE AISLE DEFINED BY FULL OR PARTIAL HEIGHT WALLS OR SIMILAR CONSTRUCTION THAT WILL MAINTAIN THE REQUIRED WIDTH AND LEAD DIRECTLY FROM THE RETAIL AREA TO THE EXIT WITHOUT OBSTRUCTIONS.

MISCELLANEOUS:

1. WHERE GAS SERVICE IS BEING PROVIDED, CONTRACTOR TO PROVIDE AN OUTSIDE GAS SHUTOFF VALUE CONSPICUOUSLY MARKED.
2. PROVIDE GALVANIC PROTECTION BETWEEN DISSIMILAR MATERIALS, WHERE REQUIRED.
3. PROVIDE METAL TRIM OR CASING AT ALL EDGES OF EXTERIOR CEMENT PLASTER AND DRYWALL SURFACES WHERE IT TERMINATES OR MEETS ANY OTHER MATERIAL, UNLESS NOTES OTHERWISE.
4. PROVIDE METAL CORNER BEADS AT ALL OUTSIDE CORNERS OF EXTERIOR CEMENT PLASTER AND DRYWALL SURFACES, UNLESS NOTES OTHERWISE.
5. CONTRACTOR TO PROVIDE 3X FIRE TREATED WOOD BLOCKING OR METAL STUD BACKING BEHIND ALL TOILET ROOM ACCESSORIES, GRAB BARS HANDRAILS, WOOD TRIM AND WALL MOUNTED FIXTURES.
6. UNLESS OTHERWISE NOTES, ALL EXTERIOR AND INTERIOR EXPOSED METAL TRIM, RAILINGS, MOLDING, FRAMES, CASTING, ETC., SHALL BE PRIMED AND PAINTED.
7. KEEP ALL PIPING AS CLOSE TO WALLS/ROOF AS POSSIBLE.
8. ALL DIMENSIONS ARE TO THE FACE OF STUD AND OR MASONRY UNLESS NOTED OTHERWISE.
9. ALL PENETRATIONS THROUGH ANY SURFACE SHALL BE THOROUGHLY SEALED WITH APPROPRIATE SEALANT MATERIAL OR FIRE CAULKING.
10. ALL TOILET ROOMS SHALL BE VENTILATED BY MECHANICAL MEANS, SEE APPLICABLE DRAWINGS.
11. THE GENERAL CONTRACTOR SHALL PROVIDE AND INSTALL ADDRESS NUMBERS PER CITY REQUIREMENTS AT TRANSOMS OR STOREFRONT ENTRANCE DOORS.
12. ALL EXPOSED ELECTRICAL EQUIPMENT SHALL BE PAINTED TO MATCH ADJACENT SURFACES.
13. CONTRACTOR TO MAKE ARRANGEMENTS WITH THE OWNER FOR CONSTRUCTION STAGING AND OBTAIN ALL NECESSARY CITY APPROVALS.
14. OCCUPANT LOAD SIGN REQUIRED IN ROOMS WITH OCCUPANT LOADS OF MORE THAN 50 PERSONS.
15. OBTAIN TENANTS LATEST CRITERIA DRAWINGS AND/OR TENANTS CONTRACTOR DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING, MECHANICAL, AND ELECTRICAL ROUGH-IN, STUB-UPS, ETC., THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM TENANT'S REPRESENTATIVE PRIOR TO POURING CONCRETE FLOOR SLAB TO POURING CONCRETE FLOOR SLAB OR APPLYING FINISHES ON WALL.

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PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4647
NEWPORT
BEACH, CA
STATE OF OREGON
2/20/2024

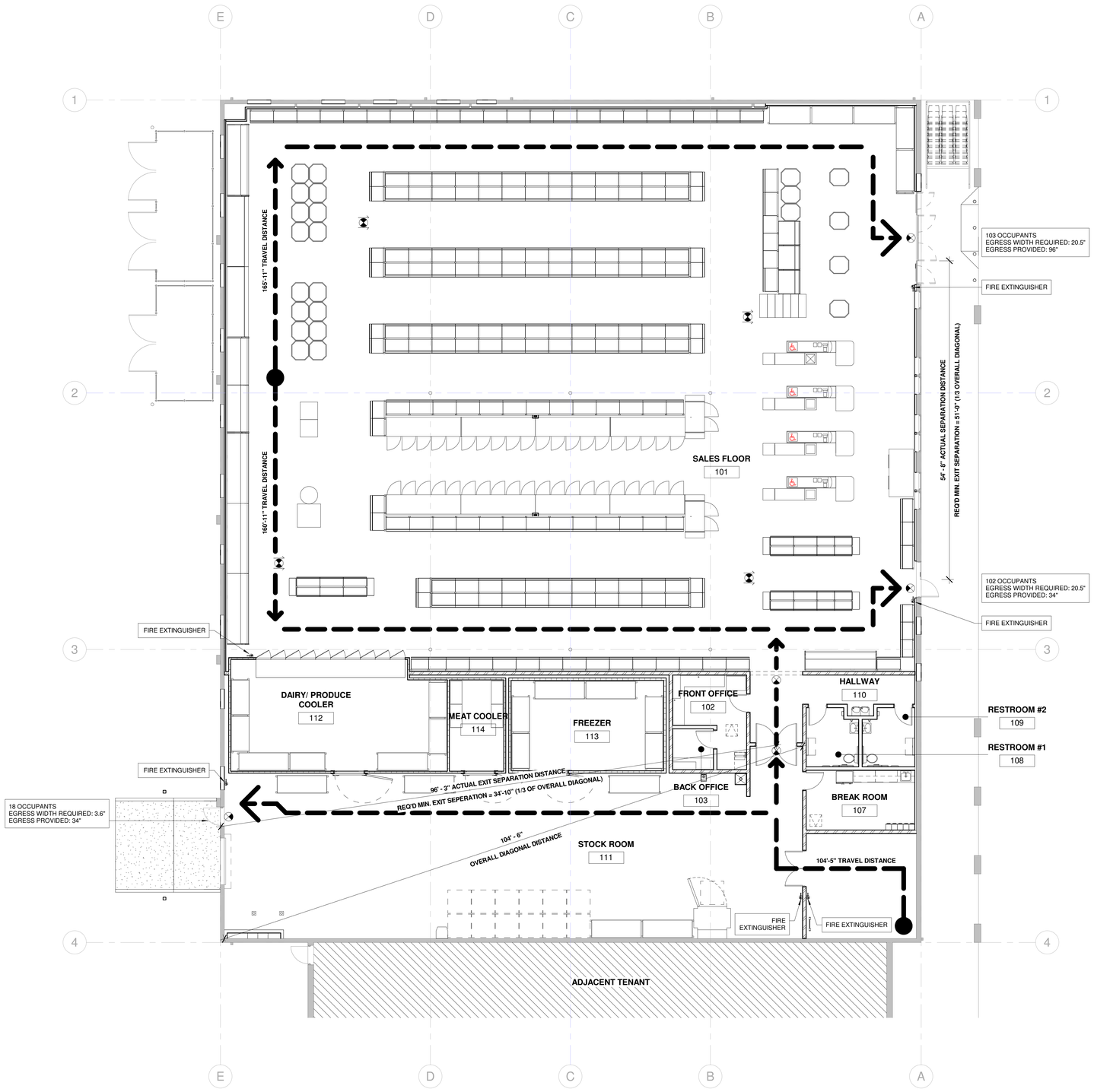
PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
G0-02



1 EGRESS PLAN
1/8" = 1'-0"

NORTH

EGRESS PLAN LEGEND

= EGRESS PATH

= HATCH INDICATES AREA NOT IN SCOPE

= FIRE EXTINGUISHER LOCATION WITH REQUIRED SIGNAGE

ALL CHECKSTANDS IN PROJECT ARE HANDICAP ACCESSIBLE, TYP.

OCCUPANT LOAD ANALYSIS

FUNCTION OF SPACE	OCCUPANT LOAD FACTOR (TABLE 1004.5)	FLOOR AREA (SF)	NO. OF OCCUPANTS
MERCANTILE	60 GROSS	12,262	205
STORAGE/STOCK/SHIPPING	300 GROSS	5,104	18
TOTAL AREA		17,366	223

EGRESS WIDTH CALCS

NO. OF OCCUPANTS:	223
WIDTH PER OCCUPANT:	0.2 (1005.3.2)
EGRESS WIDTH REQUIRED:	44.6"
EGRESS WIDTH PROVIDED:	164"

EXIT AND EXIT ACCESS DOORWAYS

ROOM/SPACE	NO. OF EXIT REQUIRED	NO. EXITS PROVIDED
SALES FLOOR	2 (1006.2.1)	2
STOCK ROOM/RECEIVING AREA	2 (1006.2.1)	2
ALL OTHER SPACES	1 (TABLE 1006.2.1)	1

MAXIMUM TRAVEL DISTANCE

250' - WITH SPRINKLER SYSTEM (TABLE 1017.2)

PLUMBING FIXTURE CALCULATIONS

MERCANTILE (TABLE 2902.1)	WATER CLOSETS (1 PER 500 OCC.)		LAVATORIES (1 PER 750 OCC.)		DRINKING FOUNTAINS (1 PER 1000 OCC.)	SERVICE SINK
OCC. / GENDER - 284/2 = 142	MALE	FEMALE	MALE	FEMALE		
REQUIRED FIXTURES	1	1	1	1	1	1
PROVIDED FIXTURES	1	1	1	1	1	1

EXIT SIGNS

TOTAL QUANTITY OF EXIT SIGNS: 9 - CONFIRM QUANTITY WITH ELECTRICAL SHEETS

SINGLE-SIDED EXIT SIGN

DOUBLE-SIDED EXIT SIGN

FIRE EXTINGUISHERS

TOTAL QUANTITY OF FIRE EXTINGUISHERS: 6

NOTE: ALL FIRE EXTINGUISHERS TO BE CLASS ABC, UL RATED 2A-10B:C, 5 LBS

G.C. TO FIELD VERIFY ALL FIRE EXTINGUISHER LOCATIONS WITH LOCAL FIRE MARSHAL

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DRAWN BY
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GROCERY OUTLET
3975 COMMERCIAL ST SE
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PROJECT NUMBER
20230973.0

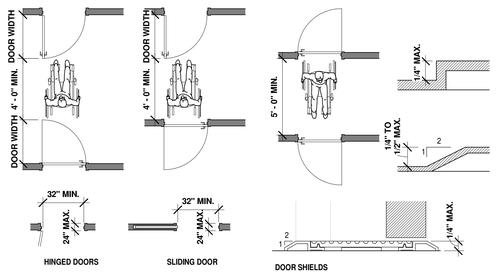
SHEET TITLE
CODE & EGRESS INFORMATION

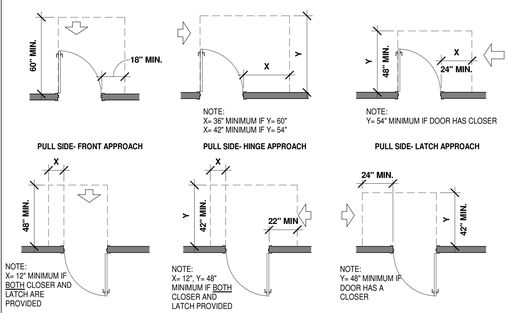
SHEET NUMBER
G1-01

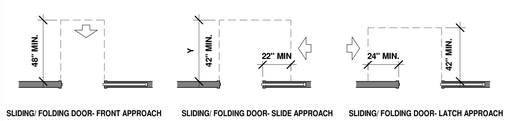
Last Modified: 2/21/2024 10:13:45 PM Drawing Name: C:\Users\ihinov\Documents\Salem OR - Arch - R22_ihinov2084B.rvt

ACCESSIBLE DOOR NOTES

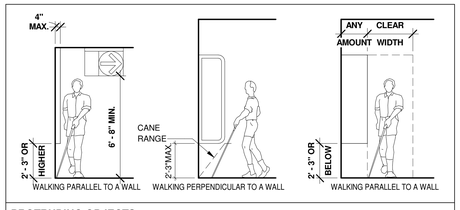
1. THRESHOLDS SHALL BE NO HIGHER THAN 1/2" ABOVE THE FLOOR WITH ONE VERTICAL EDGE NO MORE THAN 1/4". BEVELED WITH A SLOPE NO GREATER THAN 1 IN 2.
2. ACCESSIBLE DOORS MUST BE MINIMUM 3-0"W X 6'-8"H, MODIFY EXISTING OPENINGS IF REQUIRED.
3. PROVIDE 18" CLEAR SPACE AT STRIKE/PULL SIDE ON INTERIOR DOORS, AND 12" CLEAR WIDTH SHALL BE NO LESS THAN 32 INCHES WHEN LEAF IS IN A 90 DEGREE POSITION.
4. ALL ACCESSIBLE ENTRANCES SHALL BE IDENTIFIED WITH AT LEAST ONE STANDARD SIGN AND WITH ADDITIONAL DIRECTIONAL SIGNS VISIBLE FROM APPROACHING PEDESTRIAN WAYS.
5. PROVIDE A 6" BY 6" INTERNATIONAL SYMBOL OF ACCESSIBILITY AT ALL PRIMARY BUILDING ENTRANCES.
6. ALL ENTRANCES & ALL EXTERIOR GROUND FLOOR EXIT DOORS TO BUILDINGS & FACILITIES SHALL BE MADE ACCESSIBLE TO PERSONS WITH DISABILITIES.
7. MAX. EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS FOR EXTERIOR DOORS & 8 POUNDS FOR INTERIOR DOORS. SUCH PULL OR PUSH EFFORT BEINGS APPLIED AT RIGHT ANGLES TO HINGED DOORS & AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. COMPENSATING DEVICES OR AUTOMATIC DOOR OPERATORS MAY BE UTILIZED TO MEET THE ABOVE STANDARDS. WHEN FIRE DOORS ARE REQUIRED, THE MAX. EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO THE MAX. ALLOWABLE BY THE APPROPRIATE ADMINISTRATIVE AUTHORITY - NOT TO EXCEED 18 POUNDS.



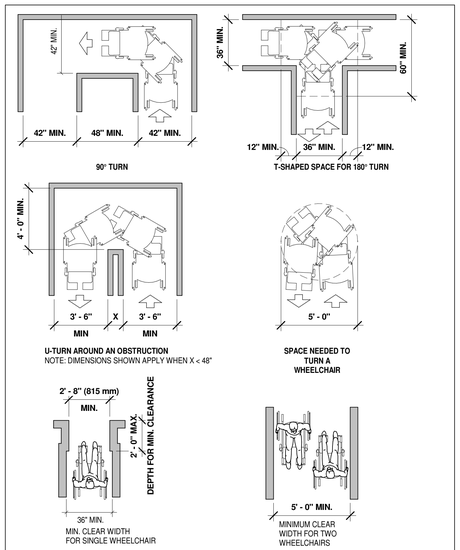




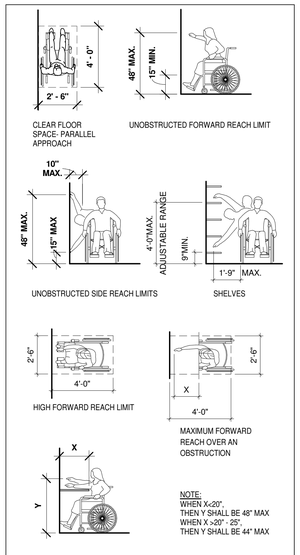
ACCESSIBLE DOOR REQUIREMENTS



PROTRUDING OBJECTS



PATH OF TRAVEL



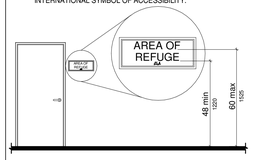
ACCESSIBLE REACH

4.30 SIGNAGE

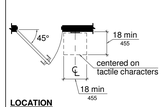
4.30.2 CHARACTER PROPORTION.
LETTERS AND NUMBERS ON SIGNS SHALL HAVE A WIDTH-TO-HEIGHT RATIO BETWEEN 3:5 AND 1:1, AND A STROKE-WIDTH-TO-HEIGHT RATIO BETWEEN 1:5 AND 1:10, UTILIZING AN UPPER-CASE "X" FOR MEASUREMENT.

4.30.4 RAISED AND BRAILLED CHARACTERS, AND PICTORIAL SYMBOL SIGNS (PICTOGRAMS).
LETTERS AND NUMERALS SHALL BE RAISED 1/32" (0.8 MM) MINIMUM. UPPERCASE, SANS SERIF, OR SIMPLE SANS SERIF TYPE SHALL BE ACCOMPANIED WITH GRADE 2 BRAILLE. RAISED CHARACTERS SHALL BE AT LEAST 5/8" (16MM) HIGH, BUT NO HIGHER THAN A NOMINAL 2" (51MM).

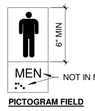
4.30.7 SYMBOLS OF ACCESSIBILITY.
FACILITIES AND ELEMENTS TO BE INDENTIFIED AS ACCESSSIBLE BY 4.1, SHALL USE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY.



HEIGHT ABOVE FINISH FLOOR OR GROUND



LOCATION



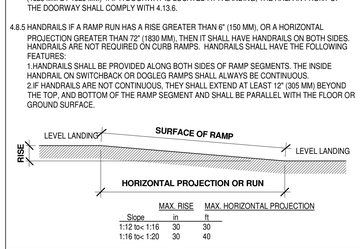
PICTOGRAM FIELD

SIGN REQUIREMENTS

4.8 RAMPS

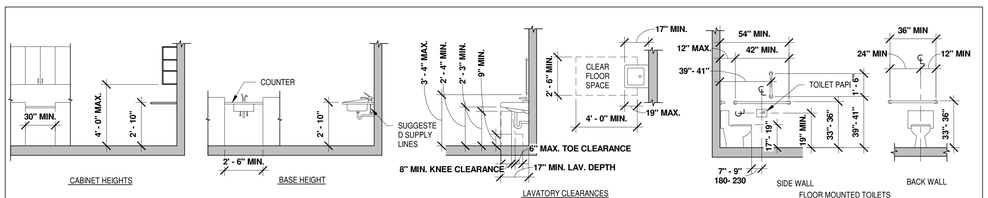
4.8.4 LANDINGS: RAMPS SHALL HAVE LEVEL LANDING AT THE BOTTOM AND TOP OF EACH RAMP, AND EACH RUN. LANDINGS SHALL HAVE THE FOLLOWING FEATURES:
1.THE LANDING SHALL BE AT LEAST AS WIDE AS THE RAMP RUN LEADING TO IT.
2.THE LANDING LENGTH SHALL BE A MINIMUM OF 60" (1525 MM) CLEAR.
3.IF RAMPS CHANGE DIRECTION AT LANDINGS, THE MINIMUM LANDING SIZE SHALL BE 60" BY 60" (1525 MM BY 1525 MM) 4. IF A DOORWAY IS LOCATED AT A LANDING, THE AREA IN FRONT OF THE DOORWAY SHALL COMPLY WITH 4.13.6.

4.8.5 HANDRAILS IF A RAMP RUN HAS A RISE GREATER THAN 6" (150 MM), OR A HORIZONTAL PROJECTION GREATER THAN 72" (1830 MM), THEN IT SHALL HAVE HANDRAILS ON BOTH SIDES. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. HANDRAILS SHALL HAVE THE FOLLOWING FEATURES:
1.HANDRAILS SHALL BE PROVIDED ALONG BOTH SIDES OF RAMP SEGMENTS. THE INSIDE HANDRAIL ON SWITCHBACK OR DOGLEG RAMPS SHALL ALWAYS BE CONTINUOUS.
2.IF HANDRAILS ARE NOT CONTINUOUS, THEY SHALL EXTEND AT LEAST 12" (305 MM) BEYOND THE TOP, AND BOTTOM OF THE RAMP SEGMENT AND SHALL BE PARALLEL WITH THE FLOOR OR GROUND SURFACE.

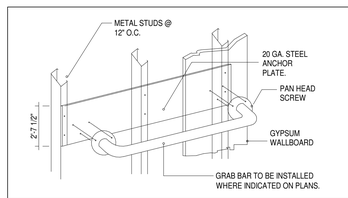


Slope	MAX. RISE in	MAX. HORIZONTAL PROJECTION ft
1:12 to< 1:16	30	30
1:16 to< 1:20	30	40

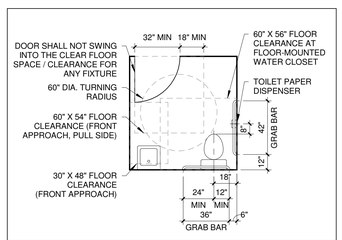
RAMP REQUIREMENTS



ACCESSIBILITY CLEARANCE

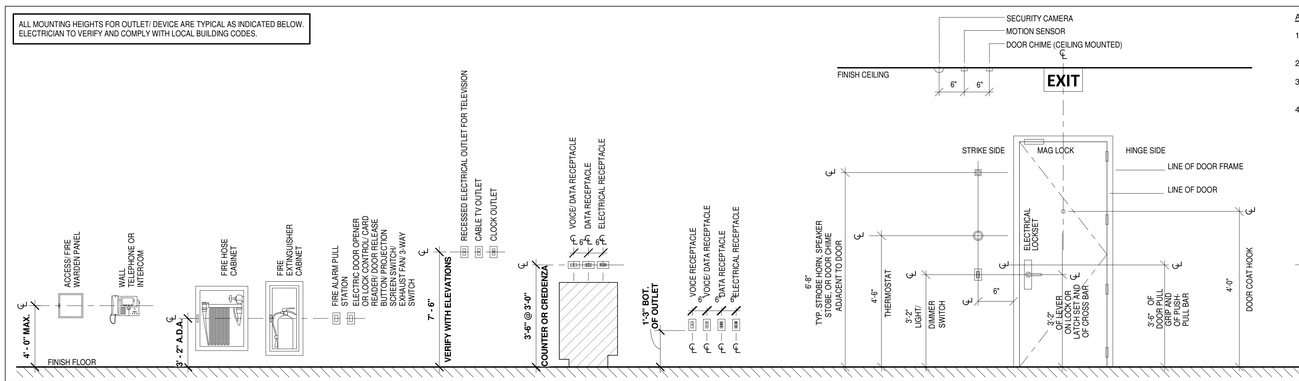


GRAB BAR REINFORCEMENT DETAIL



ACCESSIBLE SINGLE-USER RESTROOM

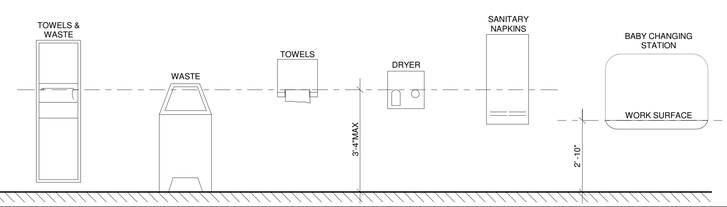
ALL MOUNTING HEIGHTS FOR OUTLET/ DEVICE ARE TYPICAL AS INDICATED BELOW. ELECTRICIAN TO VERIFY AND COMPLY WITH LOCAL BUILDING CODES.



TYPICAL OUTLET/DEVICE MOUNTING HEIGHTS

ACCESSORY NOTES

1. WHERE TOWEL OR SANITARY NAPKIN DISPENSERS, WASTE RECEPTACLES, OR OTHER ACCESSORIES ARE PROVIDED IN TOILET FACILITIES, AT LEAST ONE OF EACH TYPE SHALL BE LOCATED ON AN ACCESSIBLE ROUTE. ALL OPERABLE PARTS, INCLUDING COIN SLOTS, SHALL BE 40" MAXIMUM ABOVE THE FINISH FLOOR.
2. MINIMUM 30" x 48" CLEAR FLOOR OR GROUND SPACE IS PROVIDED TO ALLOW FORWARD OR PARALLEL APPROACH TO ACCESSORIES.
3. ONE FULL UNOBSTRUCTED SIDE OF THE CLEAR FLOOR OR GROUND SPACE ADJOINS OR OVERLAPS AN ACCESSIBLE ROUTE OR ADJOINS ANOTHER WHEELCHAIR CLEAR FLOOR SPACE.
4. CONTROLS AND OPERATING MECHANISMS ARE OPERATE THE ONE HAND AND DO NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WEST.



TYPICAL RESTROOM ACCESSORY MOUNTING HEIGHTS

GF
www.greenbergfarrow.com
4695 MacArthur Court
Suite 1450
Newport Beach, CA 92614
t: 949 296 0450

PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT · STATE OF OREGON · DOUGLAS S. COUPER 4947 NEWPORT OREGON 2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
ACCESSIBILITY INFORMATION

SHEET NUMBER
G5-01

Last Modified: 2/22/2024, 3:03:07 PM Drawing Name: C:\Users\Ihinov\Documents\Salem_OR_-_Arch_-_R22_Ihinov2.rvt

STRUCTURAL NOTES
GROCERY OUTLET TENANT IMPROVEMENTS - SALEM, OR
VLMK JOB #20230678

DIVISION 1 - GENERAL

A. GENERAL

1. THESE DRAWINGS HAVE BEEN PREPARED SOLELY FOR USE IN THE CONSTRUCTION OF:
   A. GROCERY OUTLET TENANT IMPROVEMENTS
   B. 3975 COMMERCIAL ST SE SALEM, OR 97302
   C. POSSESSION OF THESE DRAWINGS DOES NOT GRANT A LICENSE TO CONSTRUCT OR FABRICATE THE WHOLE, OR PARTS OF THIS PROJECT IN OTHER LOCATIONS.

2. THESE NOTES SET MINIMUM STANDARDS FOR CONSTRUCTION. THE DRAWINGS GOVERN OVER THE GENERAL NOTES TO THE EXTENT SHOWN.

3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON DRAWINGS AND IN FIELD. COORDINATE LOCATIONS OF OPENINGS THROUGH FLOORS, ROOFS AND WALLS WITH ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS. NOTIFY VLMK ENGINEERING + DESIGN (VLMK) OF ANY DISCREPANCIES OR IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN OR NOTED.

4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL TEMPORARY BRACING, SHORING, ANCHORS, ETC., INCLUDING, BUT NOT LIMITED TO, WALL AND ROOF BRACING, LIFTING AND HANDLING INSERTS AND DEVICES, TRENCH SHORING, FORMS, ETC.

5. CONTRACTOR SHALL CONSIDER CONSTRUCTION LOADS WHENEVER SUCH LOADS ARE IN EXCESS OF NORMAL DESIGN LOADS. PARTICULAR ATTENTION SHOULD BE GIVEN TO CRANES, FORKLIFTS, WORKMAN, WHEEL LOADS, STORAGE OF MATERIALS, ETC. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL SHORING, BRACING, CRIBBING, ETC. REQUIRED TO SUPPORT CONSTRUCTION LOADS.

6. INSPECTION AND/OR JOB SUPERVISION IS NOT PROVIDED BY VLMK.

7. WHERE REFERENCE IS MADE TO ASTM, AISC, ACI, ASCE OR OTHER STANDARDS, THE LATEST ISSUE SHALL APPLY.

8. ALL WORK SHALL BE IN STRICT COMPLIANCE WITH:
   A. 2021 INTERNATIONAL BUILDING CODE (IBC) AS AMENDED BY THE STATE OF OREGON (2022 OREGON STRUCTURAL SPECIALTY CODE)
   B. ALL OTHER STATE AND LOCAL BUILDING REQUIREMENTS THAT APPLY.

9. DESIGN CRITERIA:
   a. ROOF SNOW LOAD (PER IBC 1603.1.3)

FLAT-ROOF SNOW LOAD	(Pf)	25 PSF
SNOW DRIFT SURCHARGE AND WIDTH	(Pd, W)	SEE DWGS
SNOW EXPOSURE FACTOR	(Ce)	1.0
SNOW LOAD IMPORTANCE FACTOR	(Is)	1.0
THERMAL FACTOR	(Ct)	1.0

   b. WIND LOAD (PER IBC 1603.1.4)

ULTIMATE DESIGN WIND SPEED	(Vult)	96 MPH
NOMINAL DESIGN WIND SPEED	(Vasd)	74 MPH
RISK CATEGORY		II
WIND EXPOSURE		C
INTERNAL PRESSURE COEFFICIENT	(GCpi)	±0.18

   c. EARTHQUAKE DESIGN DATA (PER IBC 1603.1.5)

SEISMIC IMPORTANCE FACTOR	(Ie)	1.0
RISK CATEGORY		II
MAPPED SPECTRAL RESPONSE ACCELERATIONS	Ss = 0.824	S1 = 0.416
SITE CLASS		D (DEFAULT)
DESIGN SPECTRAL RESPONSE COEFFICIENTS	Sds = 0.643	Sd1 = 0.522
SEISMIC DESIGN CATEGORY		D

10. MECHANICAL EQUIPMENT, MECHANICAL AND SPRINKLER PIPING LARGER THAN 2 INCHES IN DIAMETER OR ANY OTHER ITEMS PRODUCING A HANGER OR SUPPORT LOAD OF OVER 50 POUNDS SHALL BE HUNG BY A SYSTEM APPROVED BY VLMK. ANY HANGER OR SUPPORT PRODUCING A LOAD OVER 200 POUNDS SHALL HAVE ADDITIONAL FRAMING INSTALLED TO TRANSFER THESE LOADS TO THE MAIN STRUCTURAL BEAMS OR WALL UNLESS OTHERWISE APPROVED.

11. WHERE REQUIRED, SEISMIC BRACING FOR MECHANICAL AND ELECTRICAL EQUIPMENT, SPRINKLER PIPING OR OTHER NON-STRUCTURAL COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH CHAPTER 13 OF ASCE 7. STRUCTURAL CALCULATIONS AND DETAILS STAMPED BY A LICENSED ENGINEER SHALL BE SUBMITTED TO VLMK FOR REVIEW.

12. PROVIDE SHOP DRAWINGS FOR ALL STRUCTURAL PRODUCTS DELIVERED TO THE PROJECT. VLMK WILL REVIEW AND MARK-UP ELECTRONIC SUBMITTALS IN PDF FORMAT OR A MAXIMUM OF THREE HARD COPIES OF SUBMITTALS. THE CONTRACTOR WILL BE RESPONSIBLE FOR DUPLICATING MARK-UPS IF ADDITIONAL COPIES ARE REQUIRED. SUBMITTALS WILL BE REVIEWED AND RETURNED TO THE GENERAL CONTRACTOR WITHIN TWO WEEKS. ALL SUBMITTALS SHALL BE REVIEWED AND STAMPED BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ENGINEER. UNLESS OTHERWISE INDICATED, SHOP DRAWINGS SHALL BE PROVIDED ON THE FOLLOWING:
    a. STRUCTURAL STEEL AND MISCELLANEOUS STEEL.
    b. CONCRETE MIX DESIGNS.
    c. ALL REINFORCING STEEL.
    d. STRUCTURAL MASONRY MATERIALS.

DIVISION 2 - SITE WORK

A. GENERAL

1. REMOVE ALL ORGANIC MATERIAL AND TOPSOIL FROM AREAS UNDER THE BUILDING OR UNDER PAVED AREAS.

2. FILL MATERIAL TO CONSIST OF A GRANULAR MATERIAL OR CONDITIONED SITE MATERIAL. PLACE FILL IN LIFTS NOT TO EXCEED 8 INCHES AND COMPACT TO 95% STANDARD ASTM D-1557 UNDER FOOTINGS, UNDER PAVED AREAS AND UNDER FLOOR SLABS.

3. BASE MATERIAL IMMEDIATELY UNDER SLAB TO BE 4 INCH LAYER OF COMPACTED CRUSHED ROCK WITH LESS THAN 5% PASSING THE #200 SIEVE.

4. DESIGN SOIL PRESSURE: 1,500 PSF (PER IBC TABLE 1806.2)

5. RETAINING WALL DESIGN IS BASED ON THE FOLLOWING:
   A. EQUIVALENT FLUID PRESSURE = 35 PCF (UNRESTRAINED WALLS)
      = 55 PCF (RESTRAINED WALLS)
   B. PASSIVE BEARING PRESSURE = 150 PSF/FT
   C. COEFFICIENT OF SLIDING FRICTION = 0.25

6. ALL FOOTINGS TO BEAR A MINIMUM 18 INCHES BELOW FINAL GRADE ON FIRM, UNDISTURBED SOIL OR APPROVED COMPACTED FILL. NOTIFY VLMK BEFORE PROCEEDING IF ANY UNUSUAL CONDITIONS ARE ENCOUNTERED IN THE FOOTING EXCAVATIONS.

7. DO NOT EXCAVATE CLOSER THAN 2:1 SLOPE BELOW FOOTING EXCAVATIONS.

8. CLEAN ALL FOOTING EXCAVATIONS OF LOOSE MATERIAL.

9. EXCAVATIONS MAY BE MADE UNDER CONTINUOUS FOOTINGS FOR PIPES. BACKFILL TO BE APPROVED BY A GEOTECHNICAL ENGINEER.

DIVISION 3 - CONCRETE AND REINFORCING

A. CONCRETE MIX/MATERIAL

1. STRENGTH: AVERAGE 28 DAY CONCRETE STRENGTH DETERMINED BY JOB CAST LAB CURED CYLINDER TO BE AS INDICATED BELOW PLUS INCREASE DEPENDING ON THE PLANT'S STANDARD DEVIATION AS SPECIFIED IN ACI 318. PROVIDE MIX DESIGNS TO THE ENGINEER FOR ALL CONCRETE TO BE USED. CLEARLY LABEL ALL MIX DESIGNS FOR PROPOSED AREA OF USE.

2. MINIMUM MIX REQUIREMENTS:

LOCATION	MIN. COMP. STRENGTH	SLUMP (a)	MIN. CEMENT CONTENT	ADMIXTURES
FOOTINGS AND STEMWALLS	3,000 PSI	0"-5"	470 LB	NONE
INTERIOR SLAB ON GRADE	3,500 PSI	2"-4"	517 LB	(b), (d)
INTERIOR SLAB ON GRADE	3,500 PSI	4"-6"	517 LB	(b), (d)
EXTERIOR SLAB ON GRADE	3,000 PSI	2"-4"	517 LB	(b), (c)
(ALTERNATE FOR PUMPABLE MIX)				
MISCELLANEOUS	3,000 PSI	0"-5"	470 LB	(b)

(a) - SLUMP EXCEEDING SPECIFIED LIMITS SHALL NOT BE INCORPORATED IN THE PROJECT EXCEPT BY WRITTEN APPROVAL FROM ENGINEER.
(b) - WRA = WATER REDUCING AGENT. REQUIRED FOR PUMPABLE HIGHER SLUMP MIX.
(c) - UP TO 1 1/2 PERCENT CALCIUM CHLORIDE ALLOWED DURING COLD WEATHER.
(d) - POZZUTEC 20 REQUIRED FOR CONCRETE PLACED BELOW 40 DEGREES FAHRENHEIT.

3. USE TYPE I CEMENT, PER ASTM C-150 UNLESS OTHERWISE APPROVED.

4. AGGREGATES PER ASTM C33. USE 3/4 INCH MINUS UNLESS OTHERWISE NOTED OR APPROVED.

5. WATER REDUCING AGENT (WRA) SHALL BE POLYHEED 900 OR DURACEM 55 (MINIMUM 6 OZ. PER 100 POUNDS CEMENT). COMPLY WITH ASTM C-494.

6. ACCELERATORS: POZZUTEC 20+ NON-CHLORIDE FOR COMPONENTS EXPOSED TO WEATHER IN THE COMPLETED STRUCTURE (WALLS, EXTERIOR PAVING, ETC.), CALCIUM CHLORIDE IN THE INTERIOR SLABS ON GRADE. QUANTITY (DOSAGE) TO BE DETERMINED BY CONTRACTOR AND APPROVAL OBTAINED FROM ENGINEER BEFORE USE OF ACCELERATORS.

7. PLACE AND CURE ALL CONCRETE PER ACI CODES AND STANDARDS.

8. PROVIDE CONTROL JOINTS IN ALL INTERIOR SLABS ON GRADE AT 25'-0" ON CENTER EACH WAY MAXIMUM UNLESS OTHERWISE SHOWN ON PLANS.

9. SLEEVES, PIPES OR CONDUITS OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED.

B. REINFORCING

1. ALL REINFORCING TO BE ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED.

2. FABRICATE AND INSTALL REINFORCING STEEL ACCORDING TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES - ACI STANDARD 315.

3. SPLICES IN FOOTING REINFORCING SHALL BE LAPPED 40 BAR DIAMETERS (2'-0" MINIMUM) AND SHALL BE STAGGERED AT LEAST 4 FEET AT ALTERNATE BARS.

4. EXTEND REINFORCING TO WITHIN 1 INCH OF SLAB EDGES.

DIVISION 4 - MASONRY

A. CONCRETE MASONRY

1. DESIGN f'm = 2000 PSI AT 28 DAYS.

2. ALL CONCRETE MASONRY UNITS TO BE MEDIUM WEIGHT UNITS PER ASTM C90.

3. NET AREA COMPRESSIVE STRENGTH (NACS) OF THE CONCRETE MASONRY UNITS SHALL COMPLY WITH TMS 602. SEE UNIT STRENGTH METHOD TABLE BELOW.

4. MORTAR TO BE TYPE S (1800 PSI) USING THE 'PROPERTY METHOD' PER ASTM C270.

5. GROUT TO HAVE A MINIMUM 28 DAY STRENGTH OF 1.25 TIMES THE DESIGN f'm BUT NOT LESS THAN 2000 PSI. SEE UNIT STRENGTH METHOD TABLE BELOW.

6. ALL GROUT MIX DESIGNS TO UTILIZE A FLUIDIFIER ADMIXTURE, INTRUSION AID BY SPECRETE-IP OR APPROVED EQUAL. DOSAGE TO BE PER MANUFACTURERS RECOMMENDATION.

7. COMPLIANCE WITH f'm SHALL UTILIZE EITHER THE "UNIT STRENGTH METHOD" OR THE "PRISM TESTING METHOD" FROM TMS 602.

8. FOR THE UNIT STRENGTH METHOD:

DESIGN f'm	NACS	GROUT STRENGTH
2000 PSI	2000 PSI	2500 PSI

9. ALL WORK SHALL CONFORM TO SECTION 2103 THROUGH SECTION 2108 OF THE INTERNATIONAL BUILDING CODE.

10. ELECTRICAL BOXES, CONDUIT AND PLUMBING SHALL NOT BE PLACED IN ANY CELL THAT CONTAINS REINFORCING.

11. FOR GROUT LIFT HEIGHTS EXCEEDING 4'-0", PROVIDE BAR POSITIONERS FOR ALL VERTICAL WALL REINFORCING.

DIVISION 5 - METAL

A. GENERAL

1. ALL STRUCTURAL MEMBERS TO BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC STANDARDS.

B. MATERIALS

1. ALL STEEL PLATE, ANGLES, CHANNELS, ETC. TO BE ASTM A36 TYPICAL UNLESS OTHERWISE NOTED.

2. STRUCTURAL TUBING TO BE ASTM A500 GRADE C (Fy = 50 KSI RECTANGULAR, Fy = 46 KSI ROUND).

3. UNLESS OTHERWISE NOTED, BOLTS TO BE A325N FOR STEEL TO STEEL CONNECTIONS.

4. ANCHOR BOLTS AND WOOD CONNECTIONS TO BE A307. PROVIDE STANDARD PLATE WASHERS UNDER ALL BOLT HEADS AND NUTS IN CONTACT WITH WOOD.

5. LAG BOLTS IN WOOD TO BE SAE J429 GRADE 1 WITH MINIMUM DIMENSIONS MEETING ANSI/ASME B.18.2.1.

6. LIGHT GAUGE STEEL 16 GAUGE AND HEAVIER SHALL BE FORMED FROM STEEL OF ASTM A1003 ST50H WITH (Fy = 50 KSI). LIGHT GAUGE STEEL 18 GAUGE AND LIGHTER SHALL BE FORMED FROM ASTM A1003 ST33H WITH (Fy = 33 KSI). DETAIL AND FABRICATE LIGHT GAUGE STEEL PER AISI STANDARDS.

7. UNISTRUT FRAMING TO BE 12 GAUGE AND CONFORM TO ASTM 1653 UNLESS OTHERWISE NOTED.

8. UNISTRUT NUTS AND BOLTS TO BE 1/2" DIA AND CONFORM TO ASTM A576 GRADE 1015 MODIFIED AND A1011 SS GRADE 45.

C. POST-INSTALLED ANCHOR BOLTS:

1. UNLESS A SPECIFIC ANCHOR PRODUCT IS NOTED IN THE DRAWINGS, POST-INSTALLED ANCHORS MAY USE ONE OF THE ANCHORS LISTED BELOW FOR THE REQUIRED TYPE AND BASE MATERIAL. OTHER ANCHORS ARE ACCEPTABLE ONLY WITH PRIOR WRITTEN APPROVAL OF THE ENGINEER.

2. INSTALL ALL ANCHORS PER MANUFACTURER'S INSTRUCTIONS AND PRODUCT EVALUATION REPORTS.

3. EMBEDMENT SPECIFIED ON DRAWINGS FOR ADHESIVE ANCHORS ARE ‘EFFECTIVE’ EMBEDMENT. ‘NOMINAL’ EMBEDMENT IS SPECIFIED FOR EXPANSION AND SCREW ANCHORS, UNLESS OTHERWISE NOTED. REFERENCE MANUFACTURER LITERATURE FOR MEASURING TOTAL EMBEDMENT AND HOLE DEPTH REQUIREMENTS.

4. NOTE THAT ADHESIVE ANCHOR INSTALLATION TEMPERATURES AND CURE TIMES VARY BY PRODUCT. CONSULT MANUFACTURER LITERATURE FOR SPECIFIC REQUIREMENTS.

5. ALL EXPANSION AND SCREW ANCHORS SPECIFIED AT EXTERIOR LOCATIONS OR EXPOSED TO THE ELEMENTS SHALL BE THE STAINLESS STEEL VERSION PER EACH APPROVED MANUFACTURER. EPOXY ANCHORS SPECIFIED AT EXTERIOR LOCATIONS OR EXPOSED TO THE ELEMENTS SHALL USE STAINLESS STEEL OR HOT DIPPED GALVANIZED THREADED ROD.

6. SPECIAL INSPECTION OF ANCHOR INSTALLATION IS REQUIRED UNLESS SPECIFICALLY NOTED OTHERWISE IN DRAWINGS. SEE SPECIAL INSPECTION AND MATERIALS TESTING PROGRAM AND NOTES.

7. NO STEEL REINFORCEMENT SHALL BE CUT TO INSTALL ANCHORS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

8. ADHESIVE ANCHORS:

BASE MATERIAL	PRODUCT	REPORT#
CONCRETE	SIMPSON SET-XP EPOXY ADHESIVE ANCHOR	ICC ESR-2508
CONCRETE	SIMPSON AT-XP ADHESIVE ANCHOR	APMO ER-263
CONCRETE	HILTI HIT-HY 200 ADHESIVE ANCHOR	ICC ESR-3187
MASONRY	SIMPSON SET-XP EPOXY ADHESIVE ANCHOR	IAPMO ER-265
MASONRY	SIMPSON AT-XP ADHESIVE ANCHOR	IAPMO ER-281
MASONRY	HILTI HIT-HY 270 ADHESIVE ANCHOR	ICC ESR-4143

9. EXPANSION ANCHORS:

BASE MATERIAL	PRODUCT	REPORT#
CONCRETE	SIMPSON STRONG-BOLT 2 WEDGE ANCHOR	ICC ESR-3037
CONCRETE	HILTI KWIK BOLT TZ2 ANCHOR	ICC ESR-1917

10. SCREW ANCHORS:

BASE MATERIAL	PRODUCT	REPORT#
CONCRETE	SIMPSON TITEN HD SCREW ANCHOR	ICC ESR-2713
CONCRETE	HILTI KWIK HUS-EZ SCREW ANCHOR	ICC ESR-3027

D. WELDING

1. ALL WELDS TO BE MADE BY CERTIFIED WELDERS TO AWS STANDARDS WITH E70XX ELECTRODES. CONTRACTOR SHALL PAY SPECIAL ATTENTION TO THE MEANS AND METHODS OF CONSTRUCTION THEY ANTICIPATE EMPLOYING ON THE PROJECT. SOME WELDS SHOWN AS SHOP WELDS MAY NEED TO BE FIELD WELDS TO AID ERECTION.

E. STEEL ROOF DECK

1. STEEL ROOF DECK TO BE VERCO OR PRIOR APPROVED EQUAL. DECK PROPERTIES AND CAPACITIES SHALL BE VERIFIED BY A CURRENT ICC REPORT.

2. DECK ENDS TO BE LAPPED A MINIMUM OF 2”.

3. DEPTH, GAUGE AND ATTACHMENT TO BE AS SHOWN ON DRAWINGS.

4. DECK AND ALL ACCESSORIES SHALL CONFORM TO ASTM A653 - SS DESIGNATION, GRADE 33.

5. DECK AND ALL ACCESSORIES SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A924, CLASS G60. PROVIDE G90 WHERE PERMANENTLY EXPOSED TO WEATHER. REPAIR DAMAGED COATINGS WITH ZINC-RICH PRIMER AS NECESSARY AFTER ERECTION.

6. THE METAL DECK SUPPLIER SHALL PROVIDE ALL MISCELLANEOUS LIGHT GAUGE METAL NECESSARY TO COMPLETE THE WORK.

7. WELDED OR MECHANICAL DECK CONNECTIONS SHALL BE PROVIDED AT ALL SUPPORTS AND SIDELAPS AS INDICATED ON THE PLANS. DECK FASTENERS TO BE LOCATED A MINIMUM OF 1” CLEAR FROM EDGE OF EACH LAYER OF DECK BEING FASTENED.

8. ALL WELDING TO BE IN CONFORMANCE WITH AWS D1.3. WELDERS SHALL BE AWS CERTIFIED FOR LIGHT GAUGE STEEL WELDING.

9. INSTALLATION OF POWDER-ACTUATED AND SCREW FASTENERS SHALL BE IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS AND PERFORMED BY QUALIFIED INSTALLERS.

10. DECK IS TO BEAR A MINIMUM OF 2 INCHES AT ALL SUPPORTING MEMBERS.

11. THE METAL DECK SUPPLIER SHALL PROVIDE FILLER SHEETS FOR ATTACHMENT AT PARALLEL EDGES AND SUPPORTS AS REQUIRED. INDICATE FILLER PIECE SIZES, LOCATIONS AND ATTACHMENTS ON SHOP DRAWINGS SHEET LAYOUT.

12. HANGERS SUPPORTED BY STEEL DECKING SHALL NOT CARRY LOADS GREATER THAN 120 POUNDS EVERY 25 SQUARE FEET. HANGERS SUPPORTING HIGHER LOADS MAY BE PERMITTED WITH PRIOR APPROVAL FROM THE ENGINEER.

F. COLD-FORMED STEEL STRUCTURAL FRAMING

1. THE FOLLOWING NOTES APPLY TO THE METAL STUD FRAMING SHOWN IN THE STRUCTURAL DRAWINGS ONLY. SEE ARCHITECTURAL DRAWINGS FOR ALL NON-LOAD BEARING INTERIOR METAL STUD FRAMING NOT SHOWN IN THE STRUCTURAL DRAWINGS.

2. FRAMING MEMBERS SHALL BE AS SPECIFIED BY THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) ICC REPORT (ESR-3064P) AND OF THE SIZE, GAUGE AND SPACING AS SHOWN ON THE DRAWINGS.

3. 18 GAUGE AND LIGHTER STEEL SHALL BE FORMED FROM ASTM A1003 ST33H (Fy = 33 KSI). 16 GAUGE AND HEAVIER STEEL SHALL BE FORMED FROM ASTM A1003 ST50H (Fy = 50 KSI). FABRICATE LIGHT GAUGE STEEL PER AISI STANDARDS.

4. FRAMING SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A653, G60 MINIMUM.

5. INSTALL FRAMING IN ACCORDANCE WITH ASTM C1007.

6. SPLICES IN FRAMING MEMBERS NOT SPECIFICALLY DETAILED IN THE DRAWINGS ARE NOT ALLOWED WITH THE EXCEPTION OF TOP AND BOTTOM WALL TRACKS. REFER TO DETAILS FOR SPLICE REQUIREMENTS OF WALL TRACKS.

7. ALL FIELD CUTTING OF FRAMING SHALL BE DONE BY SAWING, SHEARING, OR PLASMA CUTTING.

8. WALL STUDS SHALL HAVE SQUARE END CUTS AND BE SEATED TIGHT AGAINST TOP AND BOTTOM TRACKS WITH A MAXIMUM GAP TOLERANCE OF 1/16" BETWEEN STUD AND TRACK.

9. UNLESS OTHERWISE NOTED, TRACK FRAMING SHALL MATCH STUD/JOIST SIZE AND GAUGE. ATTACH TO STUD AND JOIST FRAMING WITH (1) SCREW AT EACH FLANGE.

10. NOTCHING OR COPING OF FRAMING (INCLUDING WIDENING OF PRE-PUNCHED HOLES) IS NOT ALLOWED UNLESS OTHERWISE NOTED IN DRAWINGS OR APPROVED BY THE ENGINEER OF RECORD.

11. OPENINGS IN STUD WEBS, OTHER THAN PRE-PUNCHED HOLES BY THE MANUFACTURER, ARE NOT ALLOWED UNLESS OTHERWISE NOTED IN DRAWINGS. PRE-PUNCHED HOLES SHOULD BE LOCATED AWAY FROM CONNECTIONS.

12. DOUBLE-FLAT STRAP BRACING OR CHANNEL BRIDGING SHALL BE INSTALLED PER THE DRAWINGS. INSTALL PRIOR TO LOADING STUDS AND WITH WALL ADEQUATELY BRACED. CONTRACTOR TO ENSURE PRE-PUNCHED HOLE ALIGNMENT IF CHANNEL BRIDGING IS TO BE USED.

13. CONNECTIONS:
    a. UNLESS OTHERWISE NOTED IN DRAWINGS, USE #12 SCREWS (16 GAUGE AND HEAVIER), #10 SCREWS (18 AND 20 GAUGE) AND #8 SCREWS (22 GAUGE) TO CONNECT COLD-FORMED STEEL FRAMING. SCREWS TO BE SELF TAPPING AND DRILLING FROM ONE OF THE FOLLOWING:

STEEL STUD FASTENERS	REPORT#
HILTI KWIK-PRO SELF-DRILLING SCREWS	ICC ESR-2196
ITW BUILDEX TEKS SELF-DRILLING SCREWS	ICC ESR-1976

    b. PLACE SCREWS WITH MINIMUM SPACING AND EDGE DISTANCE OF 3 SCREW DIAMETERS, UNLESS OTHERWISE NOTED ON DRAWINGS. PROVIDE MINIMUM LENGTH FOR SCREW TO PENETRATE BEYOND FASTENED MEMBERS BY AT LEAST TWO FULL DIAMETER THREADS.
    c. BOLTS TO BE PLACED IN PRE-DRILLED HOLES IN COMPLIANCE WITH AISI NORTH AMERICAN SPECIFICATION, SECTION E3A. STANDARD HOLE SIZES SHOULD NOT EXCEED THE BOLT DIAMETER + 1/32" FOR BOLTS LESS THAN 1/2" DIAMETER, OR BOLT DIAMETER + 1/16" FOR BOLTS 1/2" DIAMETER AND GREATER. OVERSIZED OR SLOTTED HOLES SHOULD NOT BE USED UNLESS SPECIFICALLY NOTED ON DRAWINGS.
    d. POWER ACTUATED FASTENERS (PAFs) TO BE USED TO CONNECT COLD FORMED STEEL FRAMING TO CONCRETE OR STEEL TO BE ONE OF THE FOLLOWING:

POWER ACTUATED FASTENER (PAF)	REPORT#
HILTI X-U UNIVERSAL KNURLED SHANK FASTENERS (0.157" DIA)	ICC ESR-2269
DEWALT / POWERS 0.300 HEAD DRIVE PINS (0.145" DIA)	ICC ESR-2024

    e. WHEN CONNECTING TO STEEL, PAFs SHALL HAVE A MINIMUM EDGE DISTANCE OF 1/2" AND A MINIMUM SPACING OF 1" O.C. LENGTH OF PAF SHALL BE SUCH THAT THE POINT PENETRATES THROUGH THE STEEL BASE MATERIAL WHEN CONNECTING TO STEEL LESS THAN 3/4" THICK. LENGTH OF PAF SHALL PROVIDE 1/2" MINIMUM POINT PENETRATION WHEN CONNECTING TO STEEL 3/4" THICK OR GREATER.
    f. WHEN CONNECTING TO CONCRETE, PAFs SHALL HAVE A MINIMUM EDGE DISTANCE OF 3" AND A MINIMUM SPACING OF 4" O.C. USE 1" EMBEDMENT UNLESS OTHERWISE NOTED. DO NOT INSTALL UNTIL THE CONCRETE HAS REACHED ITS DESIGNATED STRENGTH.

G. HOT-DIP GALVANIZING

1. HOT-DIP GALVANIZING SHALL BE PROVIDED WHERE INDICATED IN THE DRAWINGS IN ACCORDANCE WITH THE FOLLOWING:
   a. GALVANIZE STEEL MEMBERS, FABRICATIONS, AND ASSEMBLIES AFTER FABRICATION BY THE HOT DIP PROCESS IN ACCORDANCE WITH ASTM A123.
   b. GALVANIZE BOLTS, NUTS, WASHERS AND IRON AND STEEL HARDWARE COMPONENTS IN ACCORDANCE WITH ASTM A153.
   c. SAFEGUARD PRODUCTS AGAINST STEEL EMBRITTLEMENT IN CONFORMANCE WITH ASTM A143.
   d. GALVANIZE REINFORCING STEEL IN ACCORDANCE WITH ASTM A767.
   e. WHERE GALVANIZED STEEL WILL HAVE ADDITIONAL COATINGS, PREPARE SURFACE FOR PAINTING IN ACCORDANCE WITH ASTM D6386 OR POWDER COATING IN ACCORDANCE WITH ASTM D7803.
   f. REPAIR AREAS DAMAGED BY WELDING, FLAME CUTTING OR DURING HANDLING, TRANSPORT OR ERECTION BY ONE OF THE APPROVED METHODS IN ACCORDANCE WITH ASTM A780 WHENEVER DAMAGE EXCEED 3/16 INCH IN WIDTH. MINIMUM THICKNESS REQUIREMENTS FOR THE REPAIR ARE DESCRIBED IN ASTM A123.
   g. AIR HOLES REQUIRED BY THE GALVANIZING PROCESS ARE TO BE INDICATED ON THE SHOP DRAWINGS AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION AND GALVANIZING. WHERE AIR HOLES ARE EXPOSED TO WEATHER OR VIEW, THEY ARE TO BE FILLED AND GROUND SMOOTH FOLLOWING THE GALVANIZING PROCESS FOR WATER-TIGHTNESS AND VISUAL APPEARANCE.

DIVISION 6 - WOOD

A. ROUGH CARPENTRY

1. LUMBER SPECIES AND GRADES TO BE AS FOLLOWS UNLESS OTHERWISE SHOWN ON DRAWINGS:

JOISTS, BEAMS & STRINGERS:	DOUGLAS FIR #2
6 INCH NOMINAL AND GREATER:	DOUGLAS FIR #1
BUCKS, BLOCKING, BRIDGING AND MISCELLANEOUS:	DOUGLAS FIR OR HEM FIR #3
SILLS, LEDGERS, STRIPPING, ETC. IN CONTACT WITH CONCRETE, AND WOOD CURBS:	PRESSURE TREATED HEM FIR #2
PLATES AND HEADERS:	KILN DRIED DOUGLAS FIR #2

   GLULAM BEAMS:
   - Fb = 2,400 PSI, E = 1,800,000 PSI PER ANSI A190.1 SPECIFICATION.
   - SIMPLE SPANS COMBINATION: 24F-V4
   - CANTILEVER SPANS COMBINATION: 24F-V8
   - SUBMIT CERTIFICATE OF CONFORMANCE INDICATING MEMBERS MEET THE REQUIREMENTS OF ANSI A190.1

2. PROVIDE FIRE BLOCKING AS REQUIRED AND BLOCKING FOR ALL SPECIFIED WALL-MOUNTED ITEMS INCLUDING CABINETS, DOORSTOPS, ETC.

3. CONNECTORS:
   a. TIE STRAPS, FRAMING ANCHORS, HANGERS, STIRRUPS, COLUMN CAPS, COLUMN BASES, ETC., TO BE SIMPSON AS DETAILED, OR AS APPROVED.
   b. FULLY FASTEN ACCORDING TO MANUFACTURER'S SCHEDULE USING LARGEST SIZE SHOWN.
   c. ALL BEAMS AND JOISTS NOT BEARING ON ANOTHER MEMBER TO CONNECT WITH 'U' TYPE HANGERS UNLESS OTHERWISE NOTED ON DRAWINGS.
   d. NAILING: ALL NAILS SPECIFIED IN THE DRAWINGS TO BE "COMMON" NAILS UNLESS OTHERWISE NOTED. ALL NAILING SHALL COMPLY WITH IBC FASTENING SCHEDULE PER CHAPTER 23. OBTAIN ENGINEERS APPROVAL OF ALL PROPRIETARY NAILING SYSTEMS.
   e. NAILS AT ROOF, FLOOR, AND WALL DIAPHRAGMS TO BE DRIVEN SO THAT THEIR HEAD OR CROWN IS FLUSH WITH THE SURFACE OF THE SHEATHING. CHECK AND RESINK IF NEEDED, IMMEDIATELY BEFORE ROOFING.
   f. BOLTS - SEE DIVISION 5, METAL.
   g. CORROSION PROTECTION:
      1. CONFIRM REQUIRED CORROSION PROTECTION FOR HARDWARE AND FASTENERS WITH SPECIFIC RECOMMENDATIONS FROM PRESSURE TREATING MANUFACTURER OR HANGER MANUFACTURER (USE MOST CONSERVATIVE) FOR SPECIFIC WOOD TREATMENTS USED.
      2. MINIMUM CORROSION PROTECTION ON METAL CONNECTORS EXPOSED TO THE ENVIRONMENT OR PRESSURE TREATED LUMBER TO BE PER ASTM A653 CLASS 185 (SIMPSON ZMAX) OR ASTM A123.
      3. FASTENERS FOR PRESSURE TREATED LUMBER MUST BE MINIMUM HOT-DIP GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER.
      4. HOT-DIP GALVANIZED HARDWARE AND FASTENERS MUST COMPLY WITH ASTM A153, STAINLESS STEEL FASTENERS TO BE TYPE 304 OR TYPE 316.
      5. HARDWARE AND FASTENERS USED TOGETHER MUST BE THE SAME TYPE (E.G. HOT-DIP GALVANIZED NAILS WITH HOT-DIP GALVANIZED HANGERS).

4. DELIVERY AND STORAGE: ALL LUMBER AND SHEATHING DELIVERED TO THE SITE, SHALL BE STACKED OR STORED OFF THE GROUND AND PROPERLY PROTECTED AGAINST WEATHER.

5. CUTTING AND NOTCHING OF JOISTS NOT ALLOWED. A 1 INCH DIAMETER HOLE MAY BE DRILLED IN THE CENTER 1/3 OF THE MEMBER DEPTH. ALL OTHER HOLES TO BE APPROVED BY ENGINEER.

CODE REQUIRED SPECIAL INSPECTION AND MATERIALS TESTING PROGRAM

SOILS AND FOUNDATION SUBGRADE:	COMMENTS	DURATION	INSPECTION AGENCY
FOOTING EXCAVATION AND COMPACTION		P	TESTING LAB
CONCRETE:			
VERIFY USE OF ENGINEER APPROVED CONCRETE MIX DESIGNS		P	TESTING LAB
FOOTING FORMWORK AND REINFORCING PLACEMENT		P	TESTING LAB
PLACING OF REINFORCING FOR SLAB-ON-GRADE		P	TESTING LAB
PLACING OF CONCRETE FOR REINFORCED SLAB-ON-GRADE	SEE NOTE 6, ITEM A	C	TESTING LAB
POST-INSTALLED ADHESIVE ANCHORS, RODS AND DOWELS IN CONCRETE, PLACED HORIZONTALLY OR UPWARDLY INCLINED	PER ICC EVALUATION REPORT SEE NOTE 6, ITEM B	C	TESTING LAB
POST-INSTALLED ADHESIVE ANCHORS, RODS AND DOWELS IN CONCRETE, PLACED DOWNWARDLY INCLINED	PER ICC EVALUATION REPORT SEE NOTE 6, ITEM B	P	TESTING LAB
POST-INSTALLED EXPANSION/WEDGE ANCHORS IN CONCRETE	PER ICC EVALUATION REPORT SEE NOTE 6, ITEM B	P	TESTING LAB
POST-INSTALLED SCREW ANCHORS IN CONCRETE	PER ICC EVALUATION REPORT SEE NOTE 6, ITEM B	P	TESTING LAB
STRUCTURAL WELDING AND HIGH STRENGTH BOLTING:			
MATERIAL VERIFICATION OF STRUCTURAL STEEL, DECKING NUTS AND WASHERS, ANCHOR RODS, AND WELD FILLER MATERIALS		P	TESTING LAB
SINGLE PASS FILLET WELDS 5/16" AND SMALLER		P	TESTING LAB
STRUCTURAL MASONRY:			
VERIFY USE OF ENGINEER APPROVED SUBMITTAL SHOWING COMPLIANCE OF (fm) PRIOR TO CONSTRUCTION	UNIT STRENGTH OR PRISM TEST METHOD	P	TESTING LAB
PRISM PREPARATION AND TEST SPECIMENS	SEE NOTE 6, ITEM C	C	TESTING LAB
PREPARATIONS OF SITE-PREPARED MORTAR AND MORTAR JOINT CONSTRUCTION		P	TESTING LAB
PLACEMENT OF MASONRY UNITS AND STRUCTURAL ELEMENTS		P	TESTING LAB
PLACEMENT OF REINFORCING STEEL	SEE NOTE 6, ITEM C	P	TESTING LAB
GROUTING PROCESS AND GROUT SPACE PRIOR TO/AND DURING GROUTING OPERATIONS		C	TESTING LAB
POST-INSTALLED ADHESIVE ANCHORS, RODS AND DOWELS IN MASONRY	PER ICC EVALUATION REPORT SEE NOTE 6, ITEM B	P	TESTING LAB
APPROVED FABRICATORS:			
CERTIFICATE OF COMPLIANCE MUST BE SUBMITTED TO THE ARCHITECT OR ENGINEER OF RECORD FOR ALL OFF-SITE FABRICATION SUCH AS STRUCTURAL STEEL, GLU-LAMS		P	TESTING LAB

SPECIAL INSPECTION PROGRAM NOTES:

1. DURATION REFERS TO TIME AND FREQUENCY OF INSPECTION FOR THE PORTIONS OF WORK INDICATED.
   C = CONTINUOUS INSPECTION IN WHICH THE SPECIAL INSPECTOR IS ON SITE AT ALL TIMES, OBSERVING THE WORK REQUIRING SPECIAL INSPECTION.
   P = PERIODIC INSPECTION IN WHICH THE SPECIAL INSPECTOR IS ON SITE AT TIME INTERVALS NECESSARY TO CONFIRM THAT THE WORK REQUIRING SPECIAL INSPECTION IS IN CONFORMANCE WITH APPROVED PERMIT DRAWINGS AND SPECIFICATIONS.

2. THE INSPECTION AGENCIES ARE AS FOLLOWS:
   TESTING LAB: TO BE DETERMINED
   TESTING LAB SHALL PERFORM INSPECTIONS OF ALL PORTIONS OF WORK DESIGNATED IN THE PROGRAM. THE SELECTED INSPECTION AGENCY SHALL BE AN ACCREDITED, APPROVED SPECIAL INSPECTION AGENCY EMPLOYED BY THE OWNER OR OWNER'S AGENT, NOT THE CONTRACTOR OR SUB CONTRACTOR, PER I.B.C. SECTION 1704.1. THE SPECIAL INSPECTORS DUTIES REGARDING THE PORTIONS OF WORK ARE DESCRIBED IN CHAPTER 17 OF THE I.B.C.. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE BUILDING OFFICIAL, FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.

3. PRIOR TO THE BEGINNING OF CONSTRUCTION, THE ARCHITECT (OR ENGINEER) SHALL CALL A PRE-CONSTRUCTION MEETING WITH THE ARCHITECT, ENGINEER, BUILDING OFFICIAL, CONTRACTOR, AND SPECIAL INSPECTORS TO REVIEW THE SPECIAL INSPECTION REQUIREMENTS. THE STRUCTURAL OBSERVATION REQUIREMENTS SHALL ALSO BE DISCUSSED DURING THIS MEETING.

4. DUTIES OF THE SPECIAL INSPECTOR TO INCLUDE, BUT ARE NOT LIMITED TO:
   A. ACKNOWLEDGE THE SPECIAL INSPECTION PROGRAM AND THE SPECIAL INSPECTION AND TESTING AGREEMENT, PROVIDED BY THE LOCAL JURISDICTION.
   B. THE SPECIAL INSPECTOR SHALL OBSERVE THE WORK FOR CONFORMANCE WITH THE APPROVED PERMIT DRAWINGS AND SPECIFICATIONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION, THEN, IF UNCORRECTED, TO THE ENGINEER AND TO THE BUILDING OFFICIAL.
   C. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ARCHITECT, ENGINEER, CONTRACTOR, AND (OTHER DESIGNATED PARTIES), IN A TIMELY MANNER, AS ESTABLISHED AT THE PRE-CONSTRUCTION MEETING.
   D. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED, AND WHETHER THE WORK IS IN GENERAL CONFORMANCE WITH THE APPROVED PERMIT DRAWINGS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE INTERNATIONAL BUILDING CODE.

5. DUTIES OF THE CONTRACTOR INCLUDE, BUT ARE NOT LIMITED TO:
   A. NOTIFY THE SPECIAL INSPECTOR THAT THE WORK IS READY FOR INSPECTION AT LEAST 24 HOURS BEFORE SUCH INSPECTION.
   B. ALL WORK REQUIRING SPECIAL INSPECTION SHALL REMAIN ACCESSIBLE AND EXPOSED UNTIL IT HAS BEEN OBSERVED AND INDICATED TO BE IN CONFORMANCE BY THE SPECIAL INSPECTOR AND APPROVED BY THE BUILDING OFFICIAL.
   C. PROVIDE THE SPECIAL INSPECTOR WITH ACCESS TO APPROVED PERMIT DRAWINGS AND SPECIFICATIONS AT THE JOB SITE.
   D. MAINTAIN AT THE JOB SITE, COPIES OF ALL REPORTS SUBMITTED BY THE SPECIAL INSPECTOR.

6. IN ADDITION TO THE INSPECTION AND TESTING REQUIREMENTS INDICATED IN THE I.B.C., THE FOLLOWING SHALL ALSO APPLY:
   A. CONCRETE INSPECTION AND TESTING REQUIREMENTS ARE AS FOLLOWS:
      1. CONTINUOUS OBSERVATION OF SLAB ON GRADE CONCRETE PLACEMENT IS REQUIRED.
      2. OBTAIN (4) TEST CYLINDERS FOR EACH 100 CUBIC YARDS PLACED (OR PORTION THEREOF IF LESS THAN 100 CUBIC YARDS ARE PLACED). BREAK (1) CYLINDER AT 7 DAYS AND (2) CYLINDERS AT 28 DAYS. (IF THE FIRST 28 DAY CYLINDER BREAK IS LESS THAN REQUIRED STRENGTH, HOLD (2) CYLINDERS FOR 56 DAY BREAK) HOLD 4TH CYLINDER FOR 56 DAY BREAK. BREAK 4TH CYLINDER ONLY IF REQUIRED STRENGTH IS NOT MET WITH (2) CYLINDERS AT 28 DAYS
      3. VERIFY THAT THE APPROVED MIX DESIGNS ARE BEING DELIVERED TO THE SITE. BATCH TICKETS SHOULD BE CHECKED FOR ALL TRUCKS ENTERING THE SITE.
   B. POST INSTALLED ANCHORS IN CONCRETE AND MASONRY SHALL BE INSPECTED AS FOLLOWS:
      1. PROVIDE 'CONTINUOUS' OR 'PERIODIC' INSPECTION AS INDICATED IN THE SPECIAL INSPECTION TABLE (THIS SHEET). INSPECTIONS ARE TO BE IN ACCORDANCE WITH THE MANUFACTURER'S CURRENT PRODUCT EVALUATION REPORT AND INSTALLATION INSTRUCTIONS.
      2. A COPY OF THE EVALUATION REPORT AND INSTALLATION INSTRUCTIONS ARE TO BE MAINTAINED ON THE JOB SITE. ICC EVALUATION REPORTS ARE AVAILABLE ONLINE AT WWW.ICC-ES.ORG, AND IAPMO EVALUATIONS REPORTS ARE AVAILABLE AT WWW.IAPMOES.ORG.
      3. WHERE PERIODIC INSPECTION IS ALLOWED:
         - THE SPECIAL INSPECTOR MUST BE ON SITE INITIALLY DURING ANCHOR INSTALLATION TO VERIFY MATERIALS AND PROCEDURES AS REQUIRED BY THE EVALUATION REPORT.
         - SUBSEQUENT INSTALLATIONS OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL ARE PERMITTED TO BE PERIODICALLY INSPECTED.
         - A NEW INITIAL INSPECTION SHALL BE MADE FOR ANY CHANGE IN PERSONNEL PERFORMING THE ANCHOR INSTALLATION OR CHANGE IN THE ANCHOR PRODUCT BEING INSTALLED.
         - FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD, THE SPECIAL INSPECTOR MUST MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION. IF DISCREPANCIES ARE NOTED, CONTINUOUS INSPECTION SHOULD BE PROVIDED FOR ALL SUBSEQUENT ANCHORS.
      4. ADHESIVE ANCHORS IN CONCRETE SHALL ADDITIONALLY CONFORM TO THE FOLLOWING
         - CONCRETE IS TO HAVE A MINIMUM AGE OF 21 DAYS AT THE TIME OF ANCHOR INSTALLATION.
         - CONTINUOUS INSPECTION IS REQUIRED FOR ALL ADHESIVE ANCHORS INSTALLED IN A HORIZONTAL TO VERTICAL OVERHEAD ORIENTATION.
         - INSTALLATION OF ADHESIVE ANCHORS IN A HORIZONTAL TO VERTICAL OVERHEAD ORIENTATION ARE TO BE DONE BY A CERTIFIED ADHESIVE ANCHOR INSTALLER (AAI) AS CERTIFIED THROUGH ACI AND IN ACCORDANCE WITH ACI 318-11, SECTION D.9.2.2. (NOT REQUIRED IN OREGON).
         - ADHESIVE ANCHORS INSTALLED IN A HORIZONTAL TO VERTICAL OVERHEAD ORIENTATION ARE TO UTILIZE A PISTON PLUG OR RETAINING CAP IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
   C. MASONRY INSPECTION AND TESTING REQUIREMENTS ARE AS FOLLOWS:
      1. PREPARE AND TEST MASONRY PRISMS FOR EACH 5,000 SQUARE FEET OF WALL DURING CONSTRUCTION IN ACCORDANCE WITH ASTM C1314 AS FOLLOWS:
         - SOLID GROUTED WALLS: (3) GROUTED PRISMS.
         - PARTIALLY GROUTED WALLS: (3) GROUTED PRISMS AND (3) UNGROUTED PRISMS.
      2. PREPARE AND TEST (3) GROUTED PRISMS FOR EACH 5,000 SQUARE FEET OF WALL DURING CONSTRUCTION IN ACCORDANCE WITH ASTM C1019.
      3. GROUT LIFT HEIGHT SHOULD NOT EXCEED 5'-4" UNLESS THE FOLLOWING CONDITIONS ARE MET.
         - CONTRACTOR HAS OBTAINED APPROVAL FROM THE LOCAL BUILDING OFFICIAL.
         - COMPLY WITH TMS602 SPECIFICATION FOR MASONRY STRUCTURES, ARTICLE 3.5D.
         - PROVIDE INSPECTION OF REBAR PLACEMENT AT EACH BOND BEAM COURSE, AND USE BAR POSITIONERS AT 4'-0" O.C. MAXIMUM.
         - PROVIDE CLEANOUTS AT THE BOTTOM OF EACH VERTICALLY REINFORCED CELL.
         - GROUT LIFT HEIGHT SHALL NOT EXCEED 9'-4".

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/15/2024	PERMIT

PROFESSIONAL SEAL

75466PE
JUSTIN JAMES ELLIOTT
JUNE 18, 2014
Justin Elliott
EXP. 12/31/2025

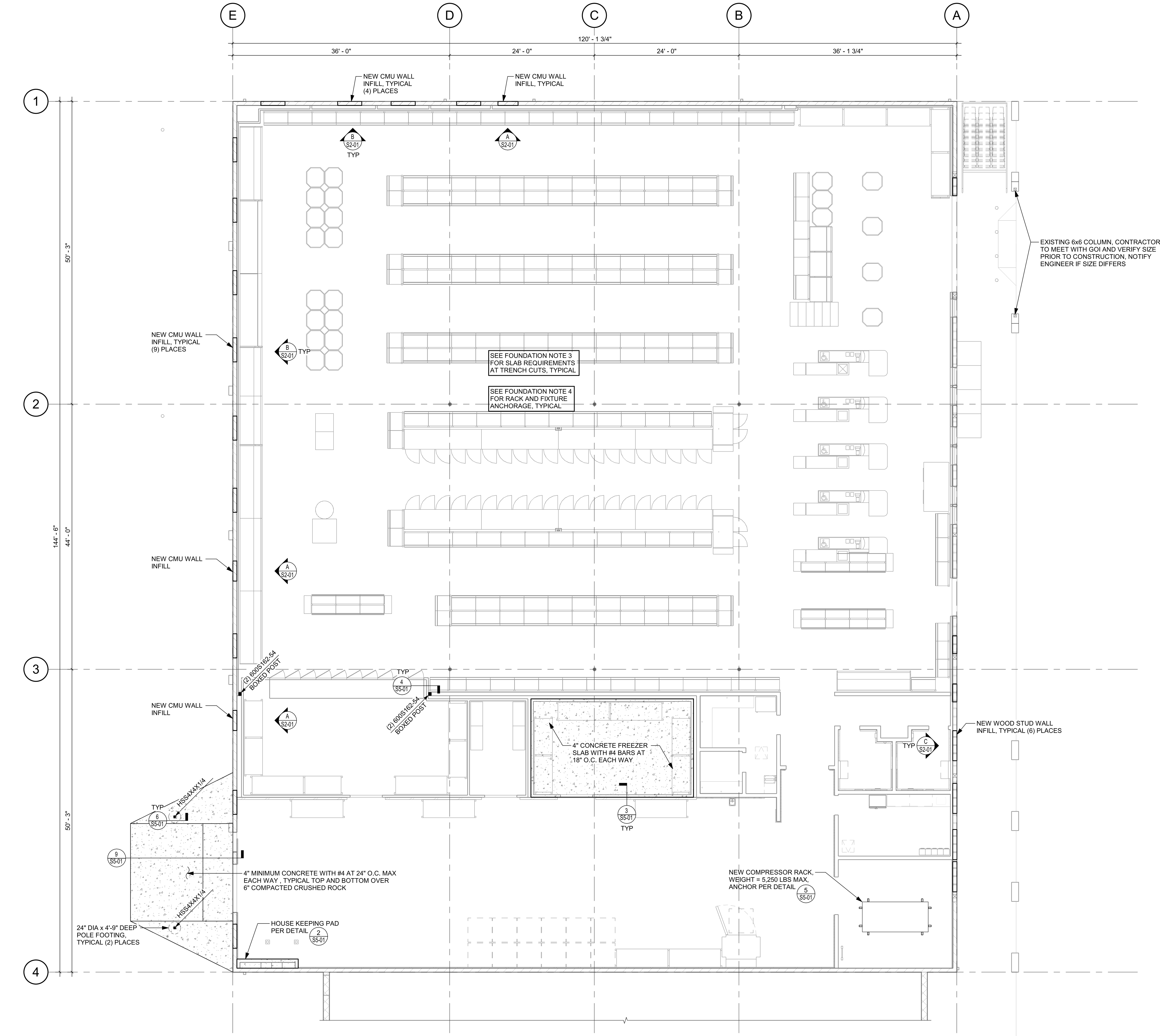
PROFESSIONAL IN CHARGE
JJE
PROJECT MANAGER
ERO
QUALITY CONTROL
ERO
DRAWN BY
JAU/BMW

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230678

SHEET TITLE
STRUCTURAL NOTES AND SPECIAL INSPECTIONS

SHEET NUMBER
S0-01



A S1-01 FOUNDATION PLAN

1/8" = 1'-0"

FOUNDATION LEGEND:

- (E) 8" CMU WALL
- (N) 8" SOLID GROUTED CMU WALL
- (E) WOOD STUD WALL
- (N) WOOD STUD WALL AT 16" O.C.
- NON-STRUCTURAL WALL
- (N) COLUMN PER PLAN
- (E) COLUMN
- (E) WOOD POST
- (N) CONCRETE FOOTING PER PLAN

FOUNDATION NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO VERIFY EXISTING FRAMING WITH CONDITIONS SHOWN OR NOTED PRIOR TO BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. REPLACEMENT SLABS TO MATCH EXISTING SLAB THICKNESS (4" MINIMUM) WITH #4 BARS AT 18" O.C. EACH WAY, TYPICAL UNLESS OTHERWISE NOTED ON PLAN. DOWEL NEW SLABS INTO EXISTING PER DETAIL 1/S5-01.

   PROVIDE CONTROL JOINTS IN REPLACEMENT SLAB PER DETAIL 1/S5-01. ALIGN NEW CONTROL JOINTS WITH EXISTING.
4. SEE ARCHITECTURAL DRAWINGS FOR LOCATION OF PALLET SHELVING, GONDOLA SHELVING, WALL SHELVING, AND REFRIGERATED CASES. PROVIDE ANCHORAGE PER DETAILS 1/S6-01, 2/S6-01, 3/S6-01, AND 4/S6-01, RESPECTIVELY

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STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 75466PE OREGON JUNE 18, 2014 JUSTIN JAMES ELLIOTT

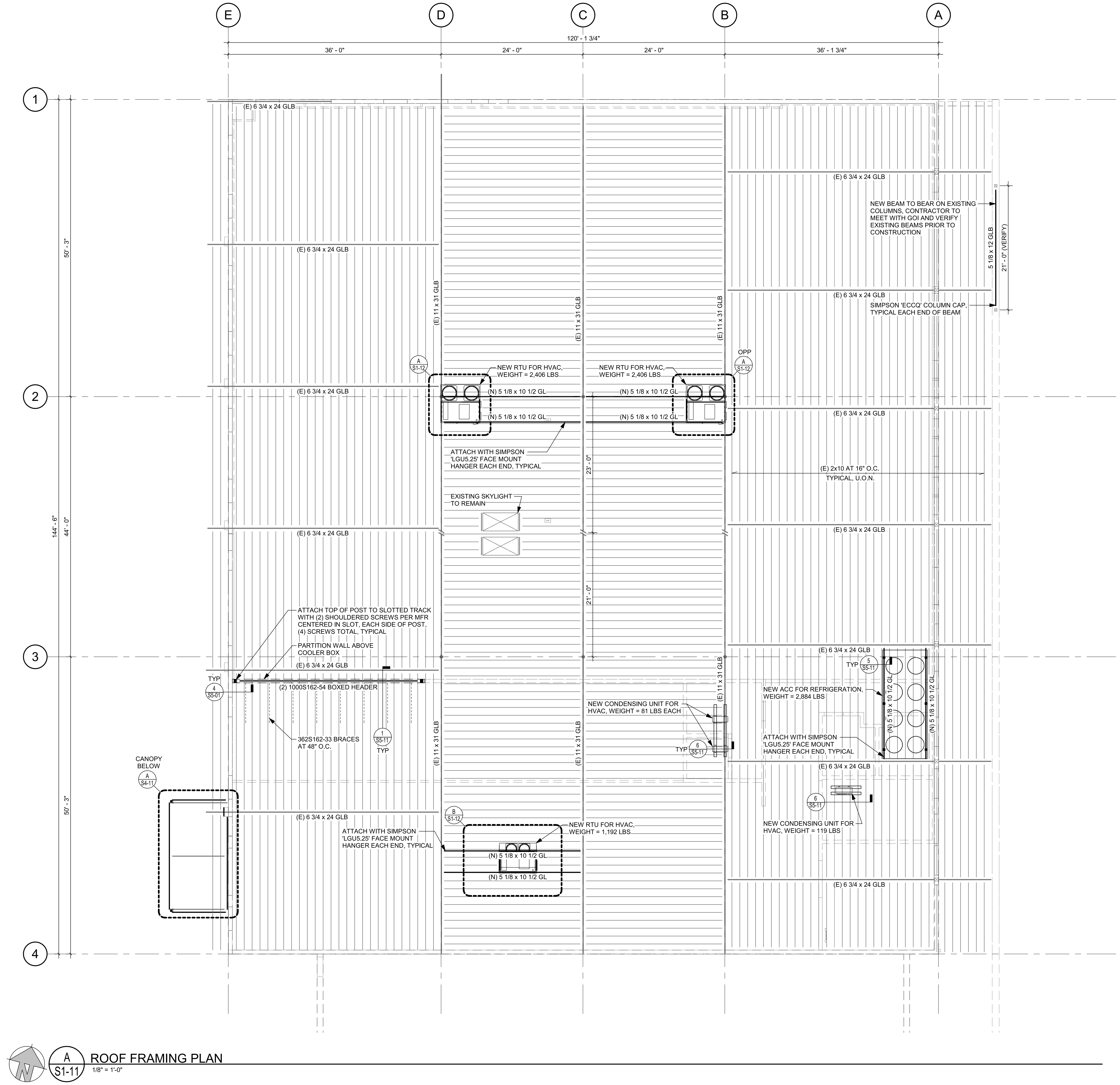
EXP. 12/31/2025

PROFESSIONAL IN CHARGE
JJE
PROJECT MANAGER
ERO
QUALITY CONTROL
ERO
DRAWN BY
JAU/BMW

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230678
SHEET TITLE
FOUNDATION PLAN

SHEET NUMBER
S1-01



A S1-11 ROOF FRAMING PLAN
1/8" = 1'-0"

ROOF FRAMING LEGEND:

- (E) 8" CMU WALL
- (N) 8" SOLID GROUTED CMU WALL
- (E) CFS STUD WALL
- (N) CFS 600S162-43 STUDS AT 16" O.C.
- NON-STRUCTURAL WALL
- (N) COLUMN PER FOUNDATION PLAN
- (E) TS OR PIPE COLUMN
- STRUCTURAL WALL BELOW
- NON-STRUCTURAL WALL BELOW

ROOF FRAMING NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO VERIFY EXISTING FRAMING WITH CONDITIONS SHOWN OR NOTED PRIOR TO BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. CONTRACTOR TO RELOCATE EXISTING FIRE SPRINKLER LINES, ELECTRICAL LINES, ETC. AS REQUIRED FOR INSTALLATION OF NEW STRUCTURAL BEAMS AND JOISTS.
4. CONTRACTOR TO VERIFY ALL MECHANICAL UNIT SIZES, LOCATIONS, AND WEIGHTS.
5. PROVIDE CRICKET ON HIGH SIDE FOR PROPER DRAINAGE AROUND MECHANICAL UNITS AND SLEEPERS. SEE ARCHITECTURAL DRAWINGS FOR WATERPROOFING REQUIREMENTS.
6. FOR NEW OPENINGS LESS THAN 24" x 24", PROVIDE 4x6 HEADER FRAMING AROUND PERIMETER WITH SIMPSON 'HU46TF' HANGER EACH END.

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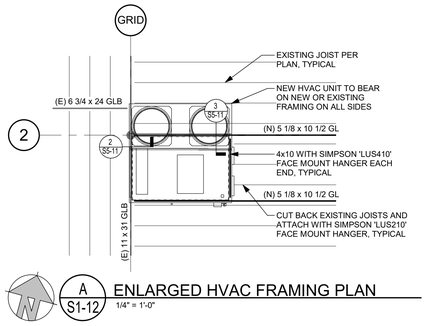
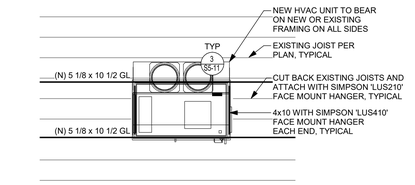
SHEET TITLE
ROOF FRAMING PLAN

SHEET NUMBER
S1-11



A S1-12 ENLARGED HVAC FRAMING PLAN

1/4" = 1'-0"



B S1-12 ENLARGED HVAC FRAMING PLAN

1/4" = 1'-0"

HVAC FRAMING NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO VERIFY EXISTING FRAMING WITH CONDITIONS SHOWN OR NOTED PRIOR TO BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. CONTRACTOR TO VERIFY ALL MECHANICAL UNIT SIZES, LOCATIONS, AND WEIGHTS.
4. PROVIDE CRICKET ON HIGH SIDE FOR PROPER DRAINAGE AROUND MECHANICAL UNITS AND SLEEPERS. SEE ARCHITECTURAL DRAWINGS FOR WATERPROOFING REQUIREMENTS.
5. VERIFY EXISTING MECHANICAL UNITS ARE NOT LOCATED IN THE SAME FRAMING BAY OR IMMEDIATELY ADJACENT BAYS AS THE NEW UNIT, EXCEPT AS SPECIFICALLY NOTED ON THE PLAN.

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PROJECT NUMBER
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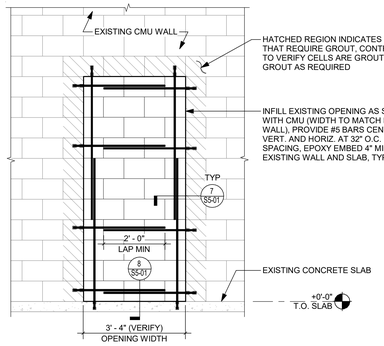
SHEET TITLE

ENLARGED FRAMING PLANS

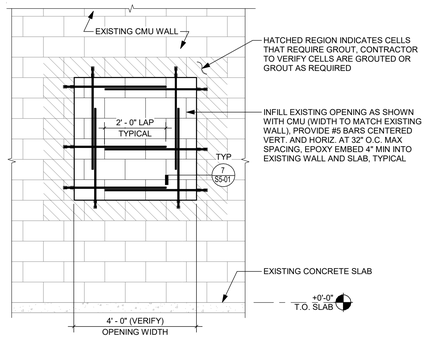
SHEET NUMBER

S1-12



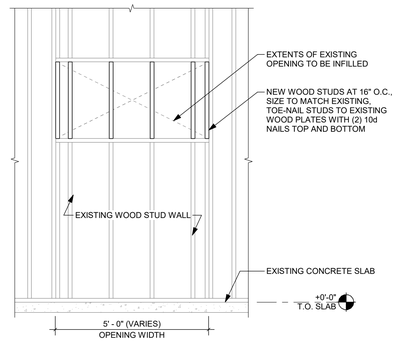
A S2-01 CMU WALL INFILL ELEVATION

1/2" = 1'-0"



B S2-01 CMU WALL INFILL ELEVATION

1/2" = 1'-0"



C S2-01 WOOD WALL INFILL ELEVATION

1/2" = 1'-0"

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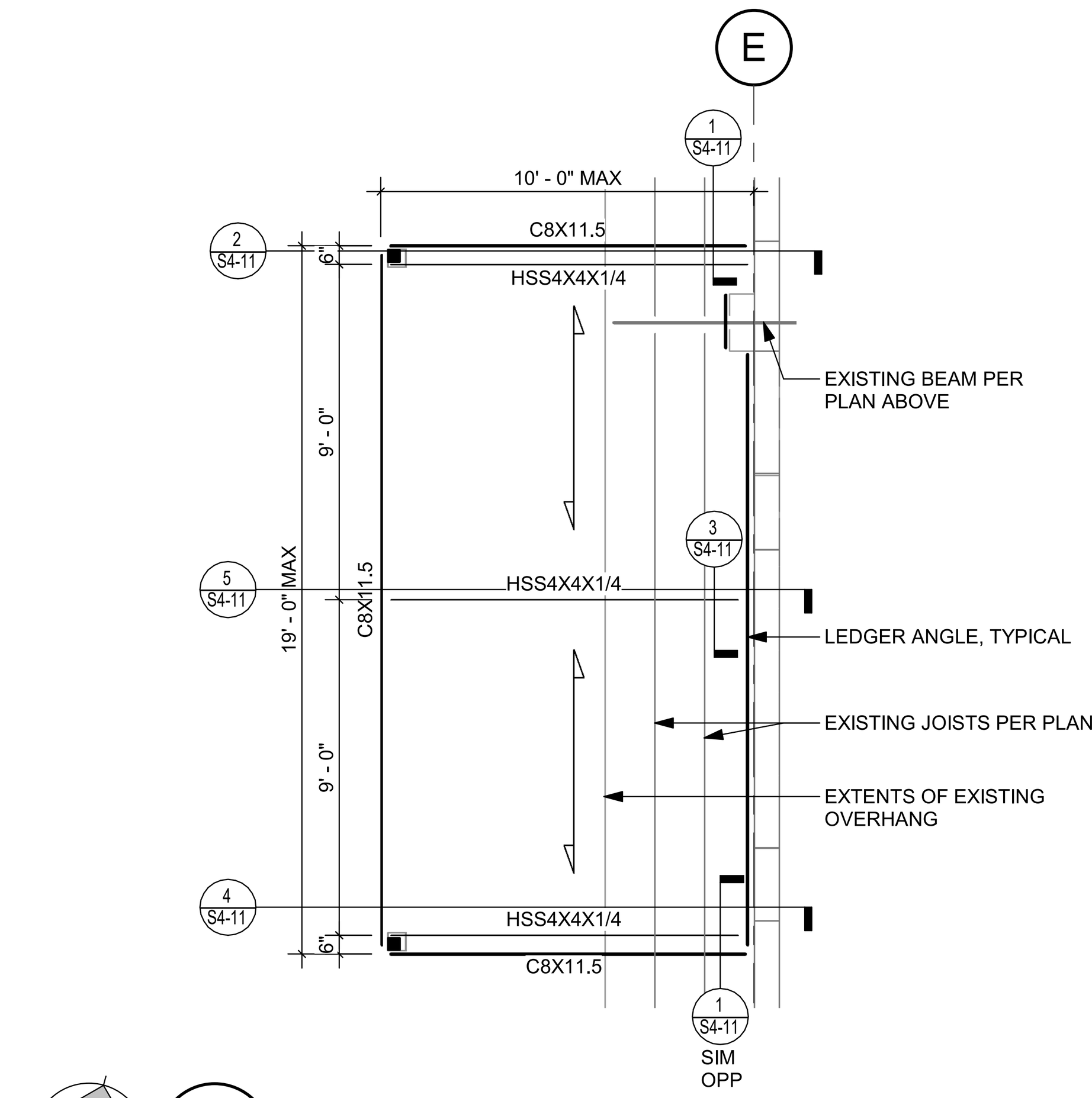
SHEET TITLE

STRUCTURAL ELEVATIONS

SHEET NUMBER

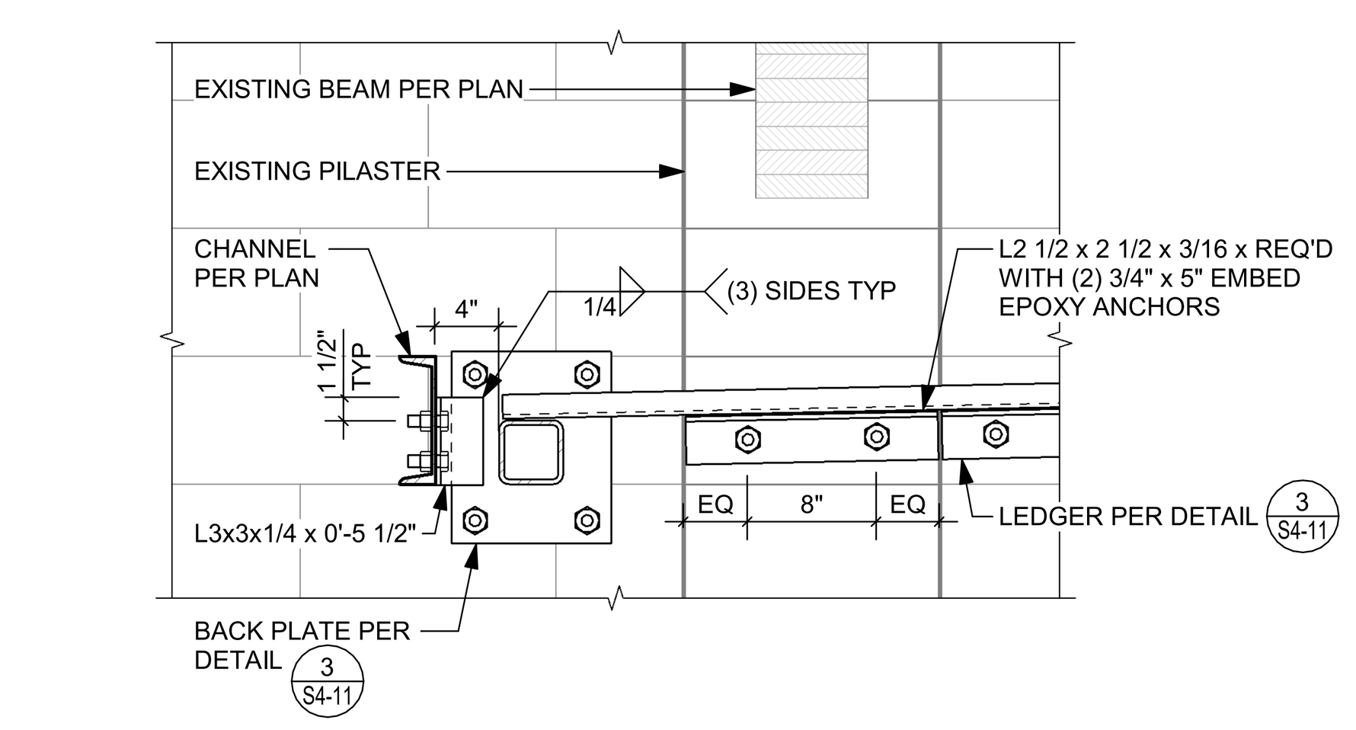
S2-01



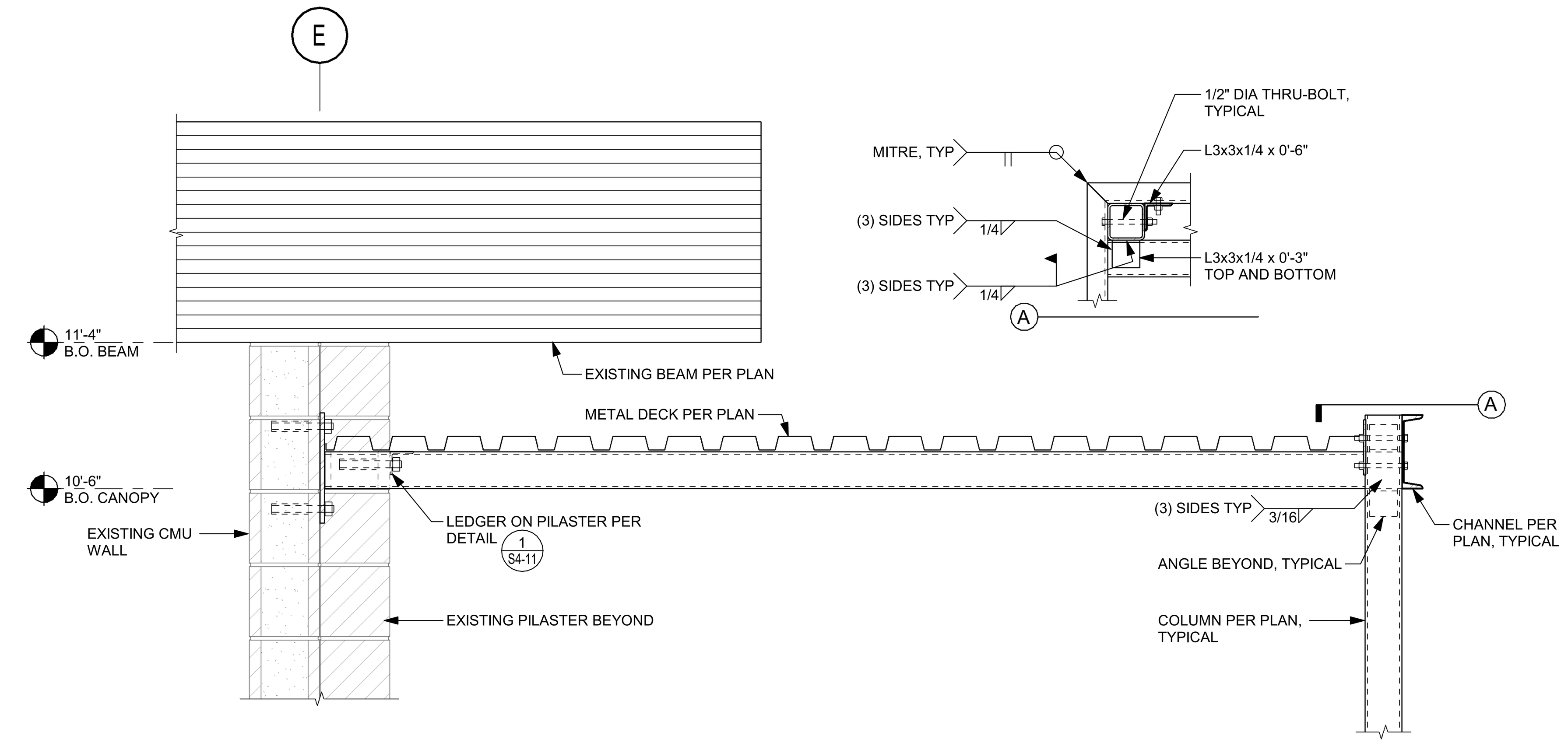
A S4-11 ENLARGED CANOPY FRAMING PLAN
1/4" = 1'-0"

CANOPY FRAMING NOTES:

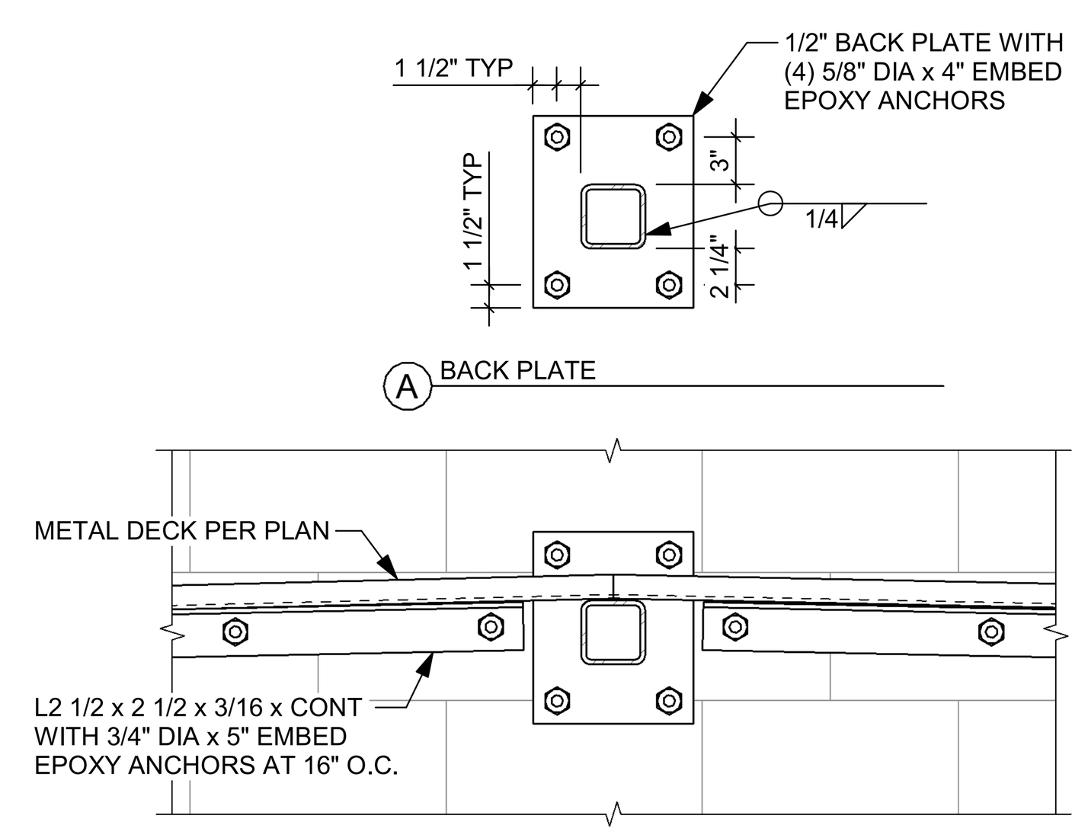
1. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS.
2. CONTRACTOR TO VERIFY EXISTING FRAMING WITH CONDITIONS SHOWN OR NOTED PRIOR TO BEGINNING WORK. NOTIFY ENGINEER IF DISCREPANCIES OCCUR.
3. CANOPY DESIGN CRITERIA:
   DEAD LOAD = 15 PSF
   SNOW LOAD = 25 PSF
   DEFLECTION = SMALLER OF LL/360, TL/240
4. SPAN OF METAL ROOF DECK - USE 20 GAGE GALVANIZED, 1 1/2" TYPE 'B' DECKING, SCREW EACH DECK PIECE TO SUPPORTS WITH #12 SELF-TAPPING SCREWS AT EACH LOW FLUTE AND BUTTON PUNCH SIDELAPS AT 24" O.C.
5. PRE-FABRICATE CANOPY IN THE SHOP IN LARGEST POSSIBLE SECTIONS.
6. MITRE ALL CORNER JOINTS AND BUTT WELD ALL AROUND.
7. ALL EXPOSED STEEL CANOPY FRAMING MEMBERS TO BE SHOP PRIMED AND PAINTED PER ARCHITECTURAL DRAWINGS. COORDINATE WITH ARCHITECT FOR OTHER FINISH REQUIREMENTS.



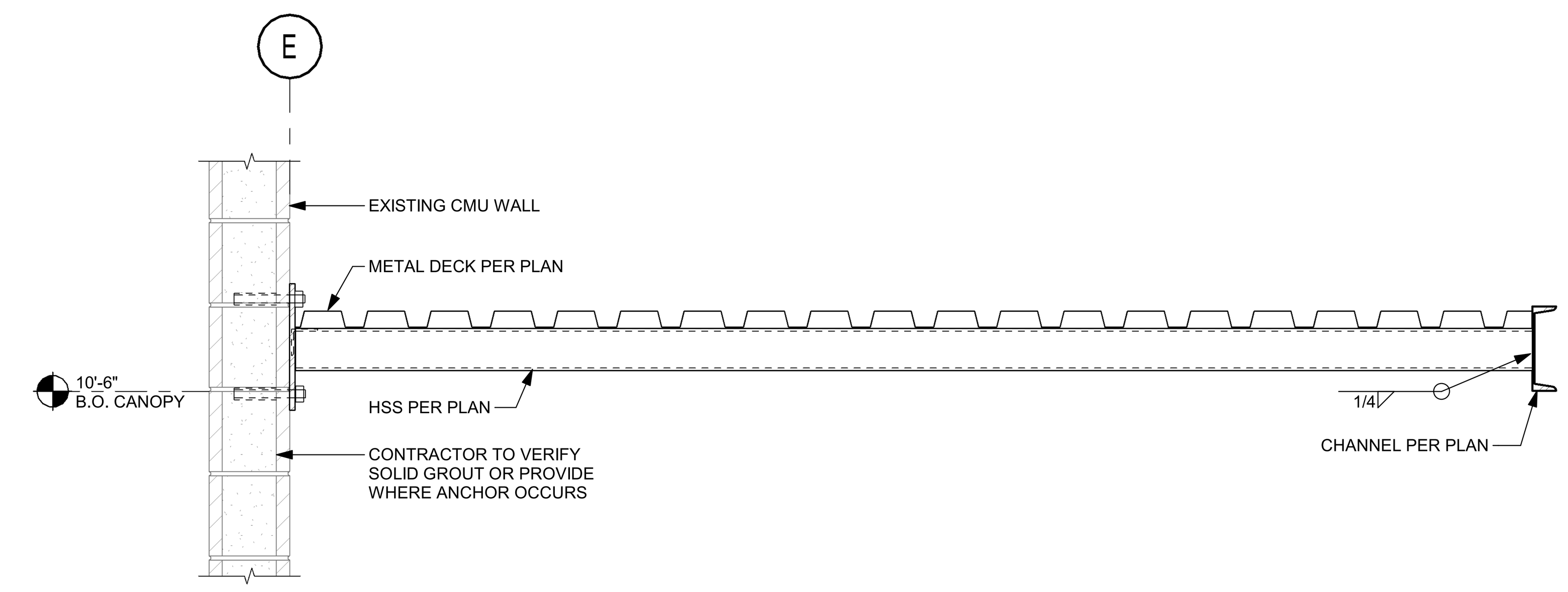
1 S4-11 CANOPY SECTION
1" = 1'-0"



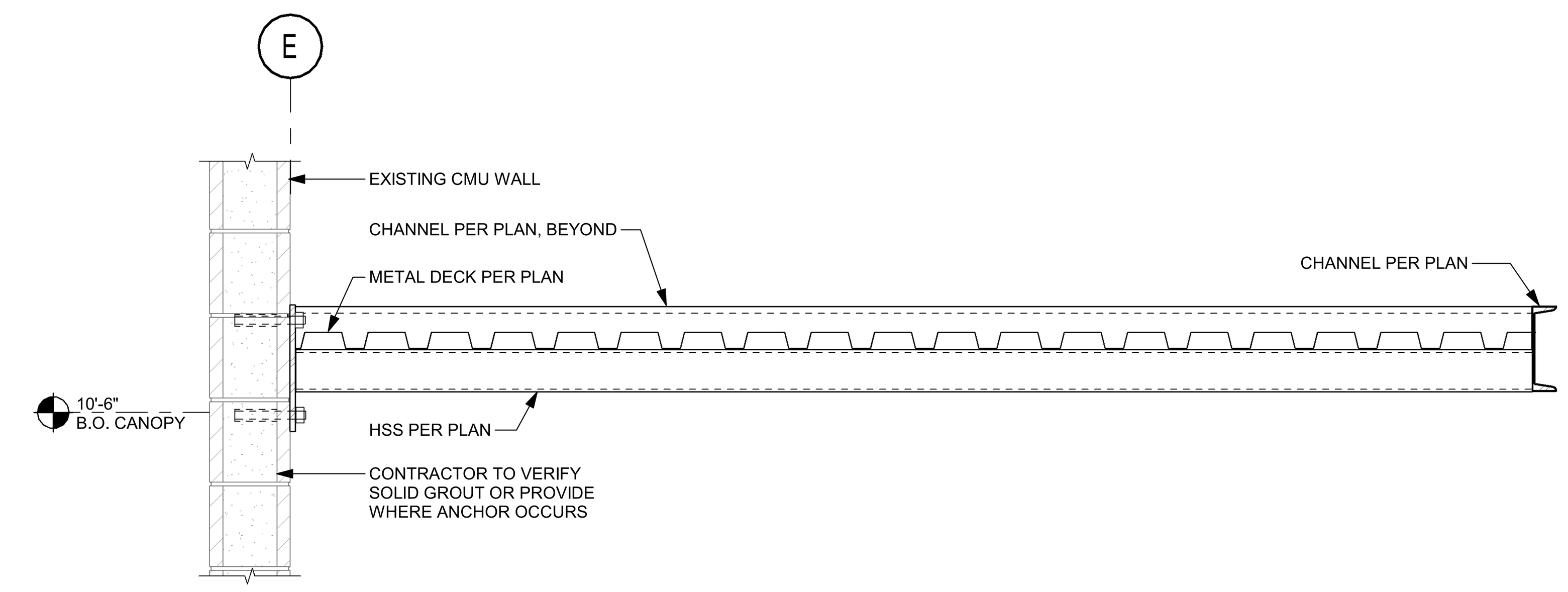
2 S4-11 CANOPY SECTION
1" = 1'-0"



3 S4-11 CANOPY SECTION
1" = 1'-0"



4 S4-11 CANOPY SECTION
1" = 1'-0"



5 S4-11 CANOPY SECTION
1" = 1'-0"

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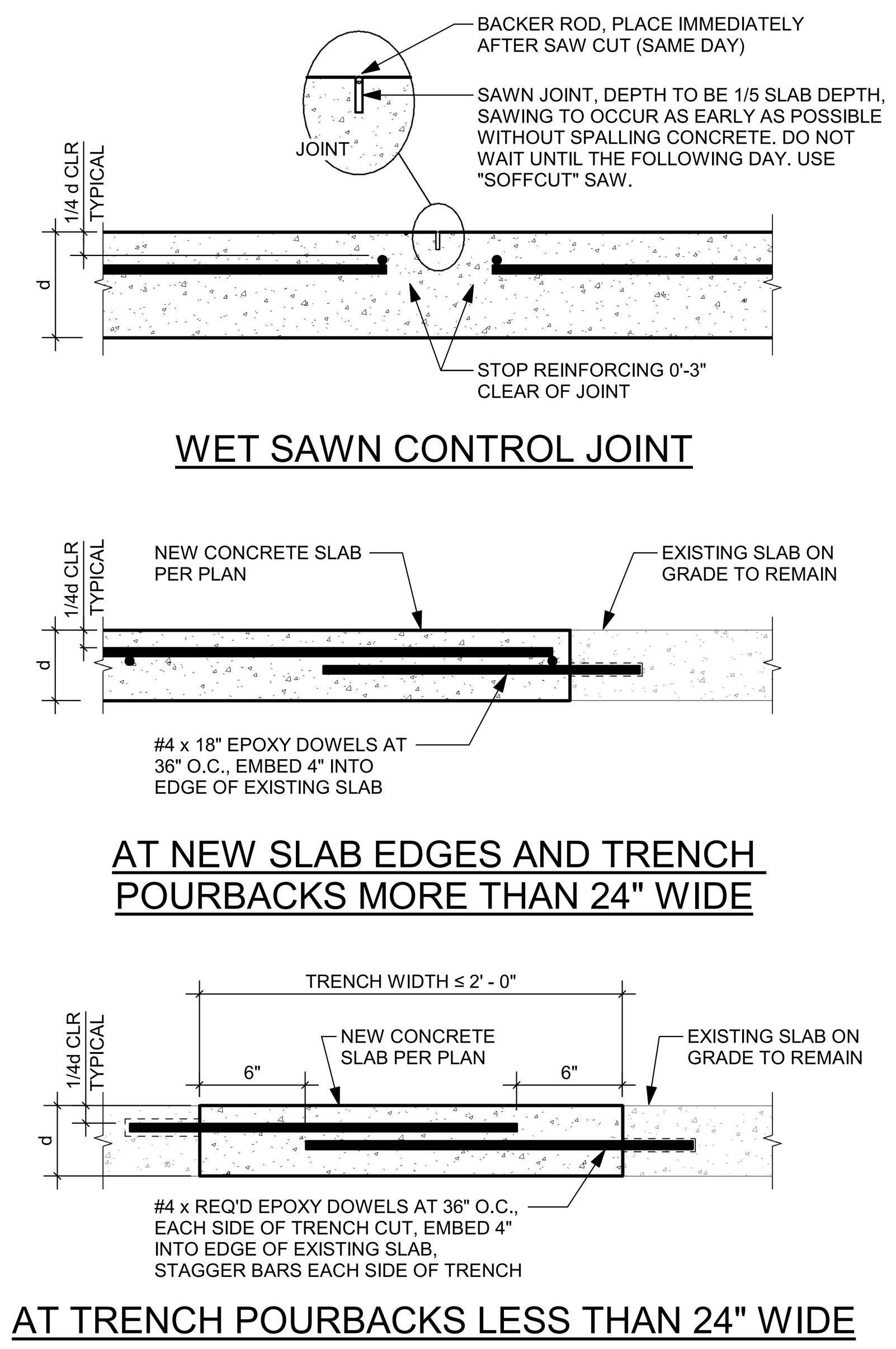
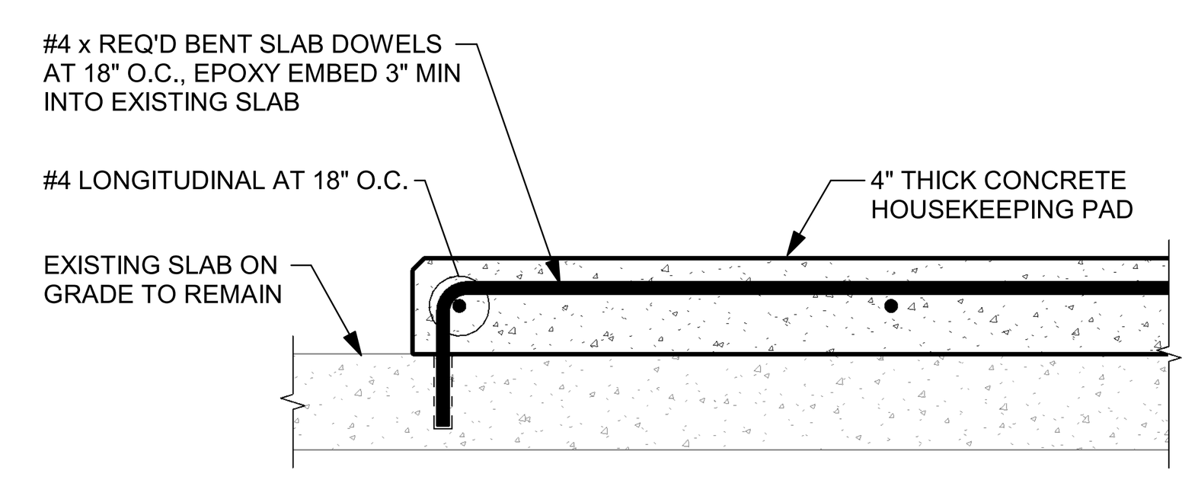
SHEET TITLE
CANOPY FRAMING PLANS & DETAILS

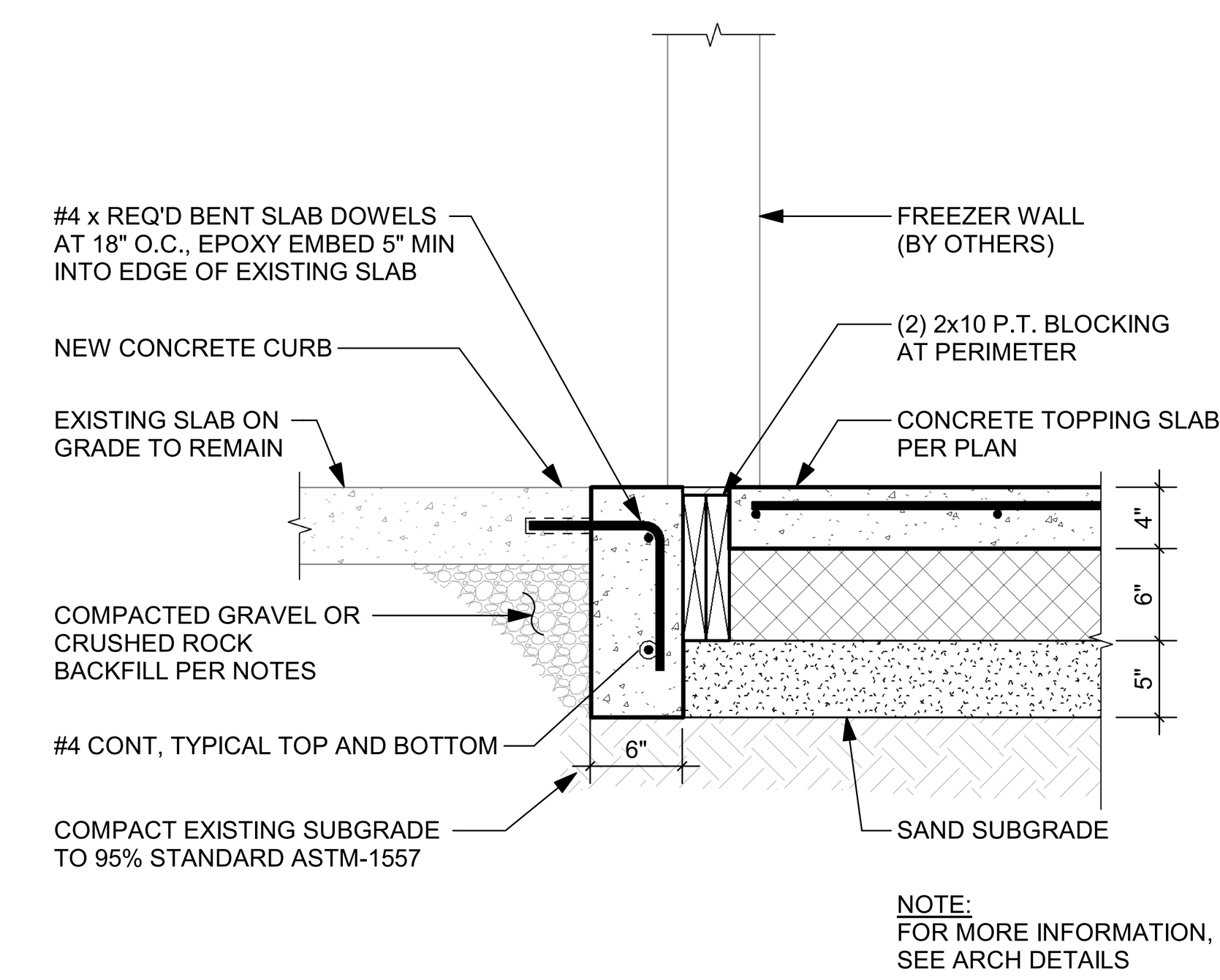
SHEET NUMBER
S4-11



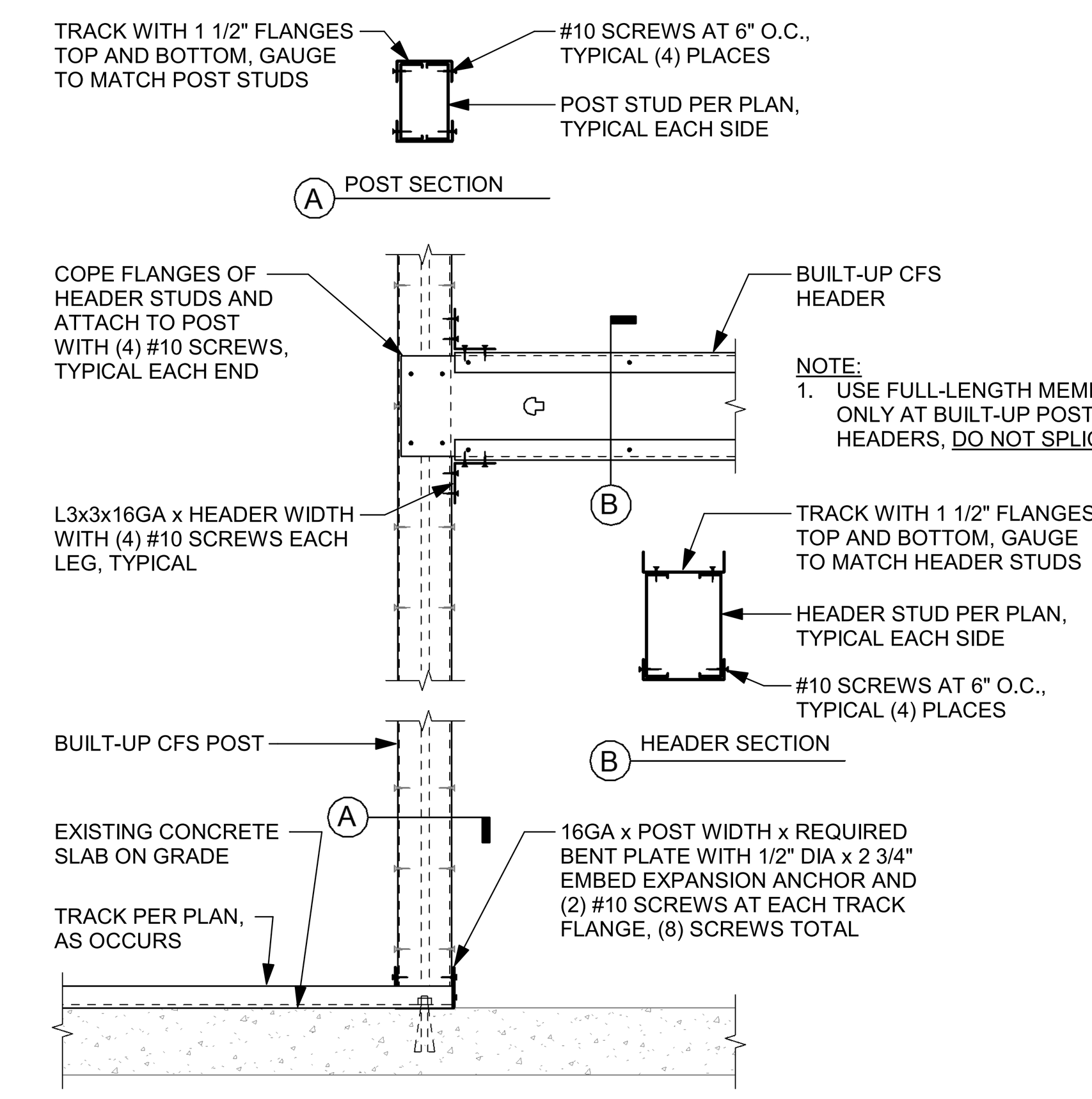
1 S5-01 SLAB REPLACEMENT DETAILS
1 1/2" = 1'-0"



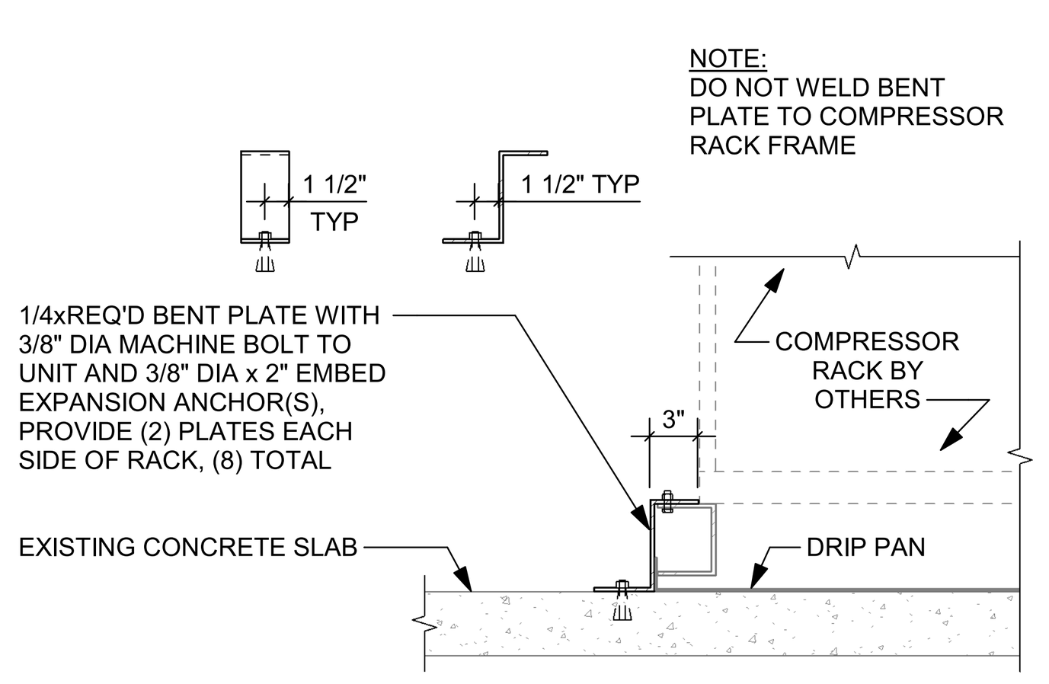
2 S5-01 HOUSEKEEPING PAD DETAIL
1 1/2" = 1'-0"



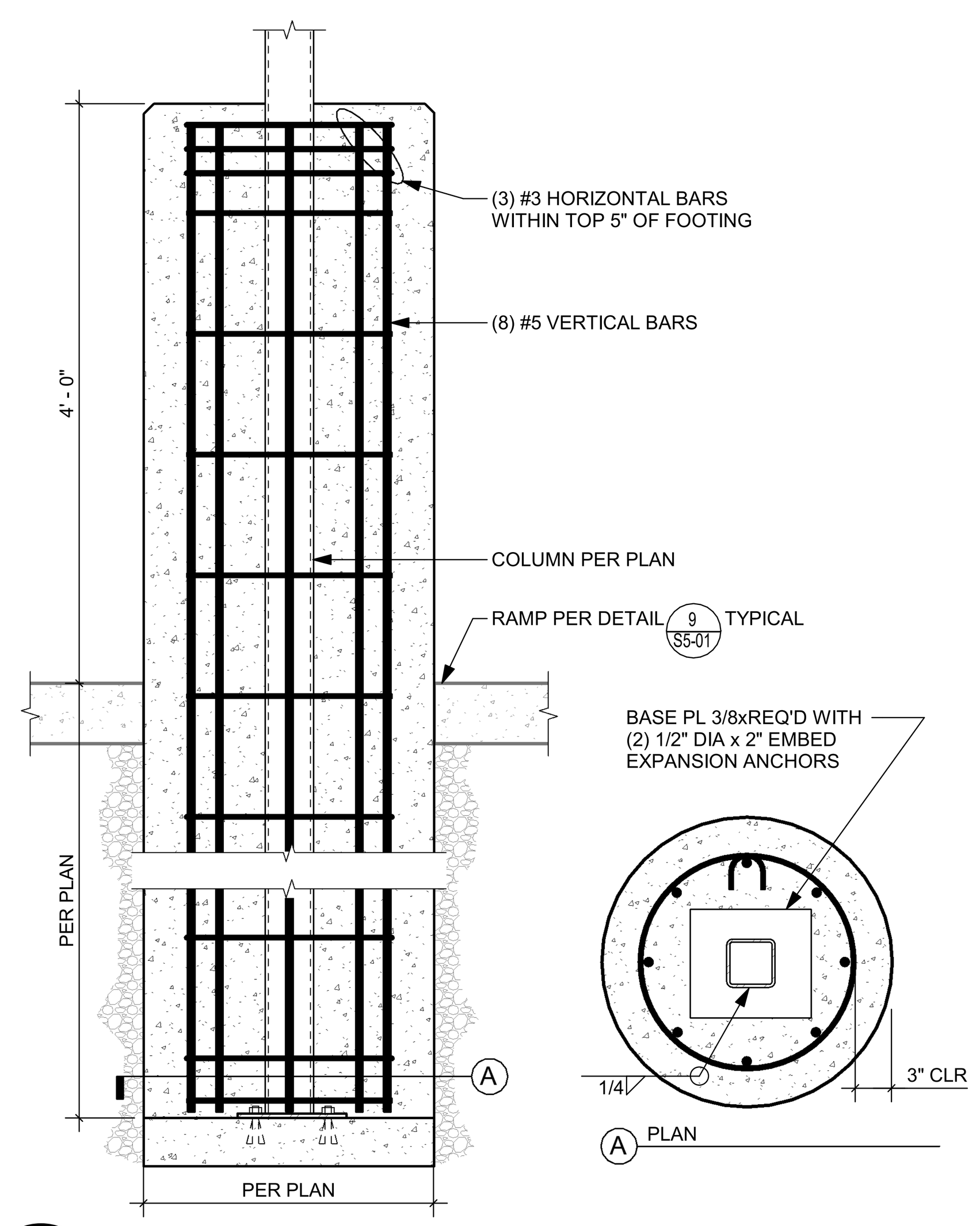
3 S5-01 FREEZER SLAB DETAIL
1" = 1'-0"



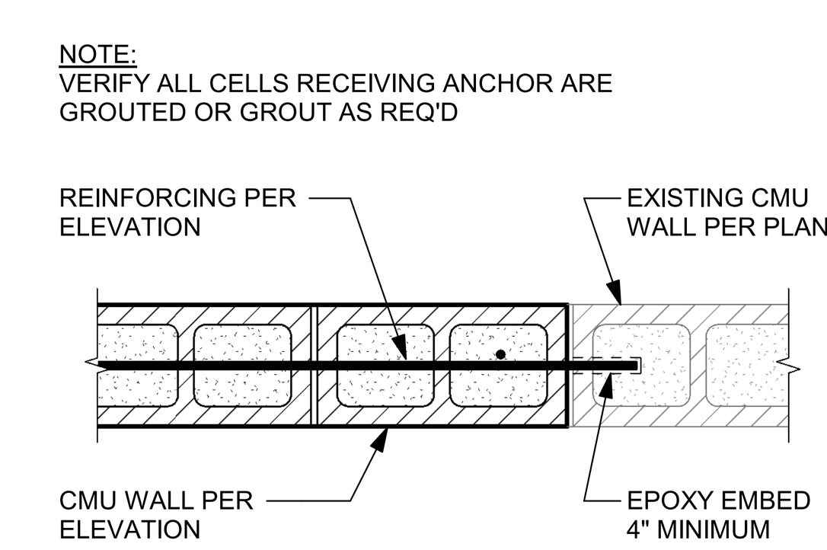
4 S5-01 FRAMING DETAIL
1" = 1'-0"



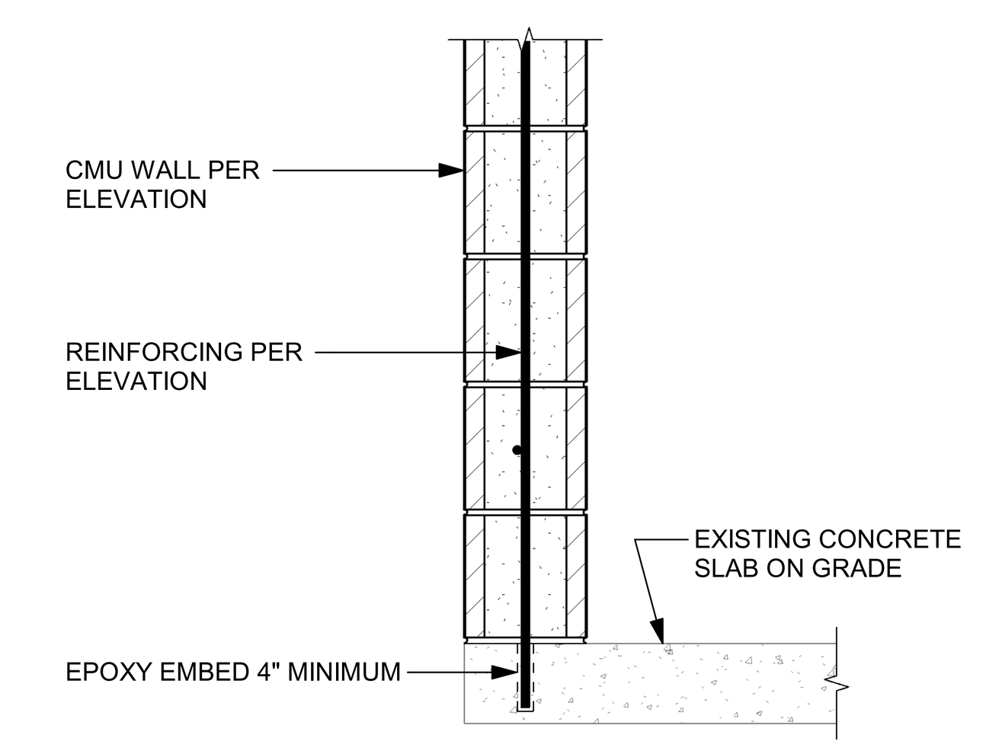
5 S5-01 COMP. RACK ANCHORAGE DETAIL
1" = 1'-0"



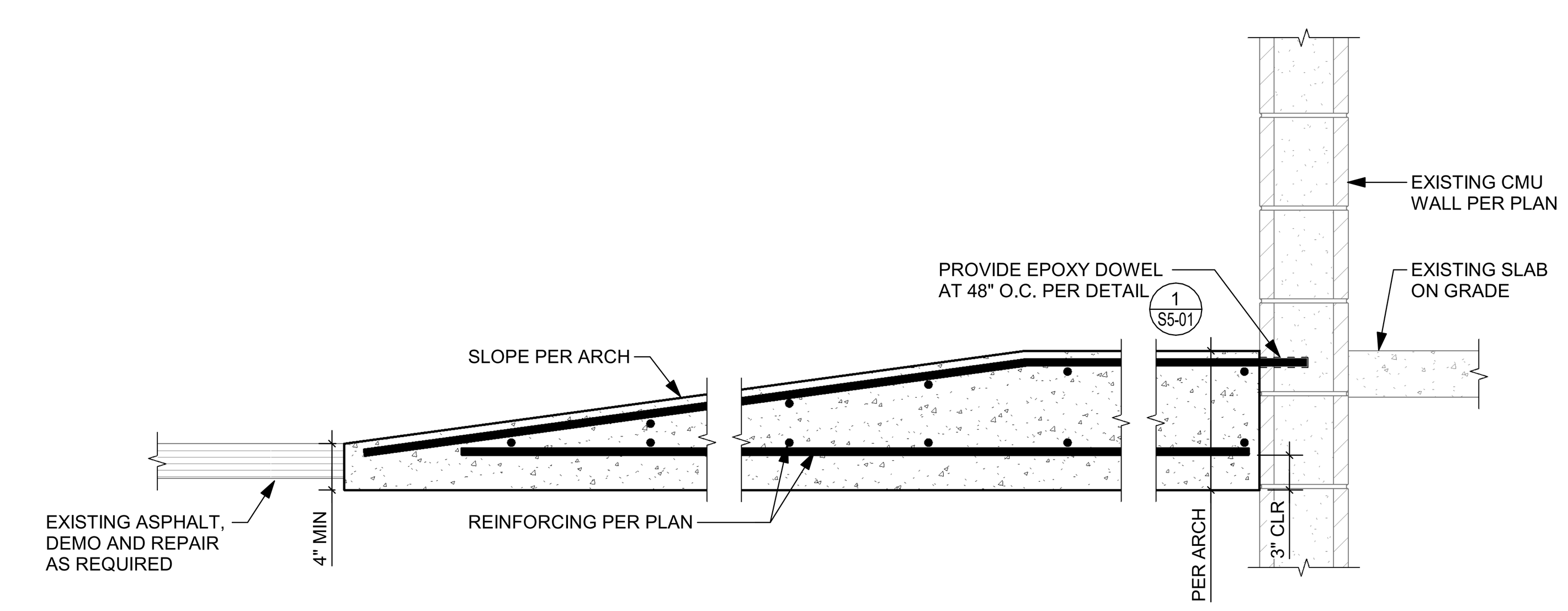
6 S5-01 CANOPY FOUNDATION DETAIL
1" = 1'-0"



7 S5-01 CMU WALL INFILL DETAIL
1" = 1'-0"



8 S5-01 CMU WALL INFILL DETAIL
1" = 1'-0"



9 S5-01 SITE DETAIL
1" = 1'-0"

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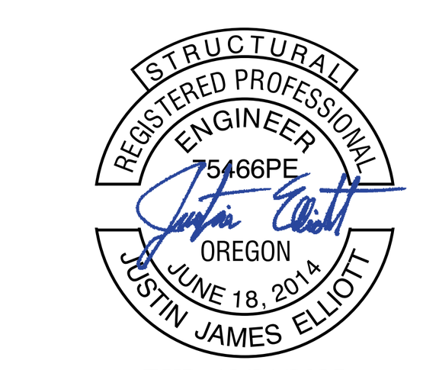

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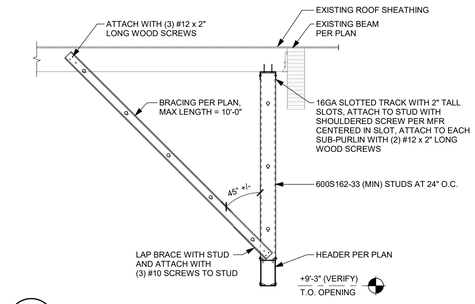
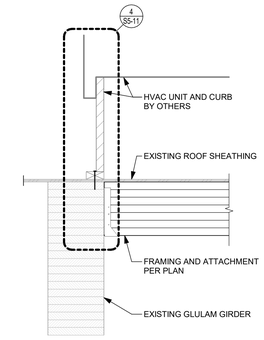
20230678
SHEET TITLE
FOUNDATION & CMU WALL DETAILS

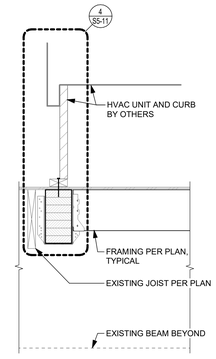
SHEET NUMBER
S5-01



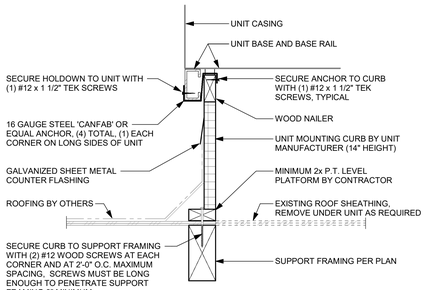
1 S5-11 PARTITION WALL DETAIL
1/2" = 1'-0"



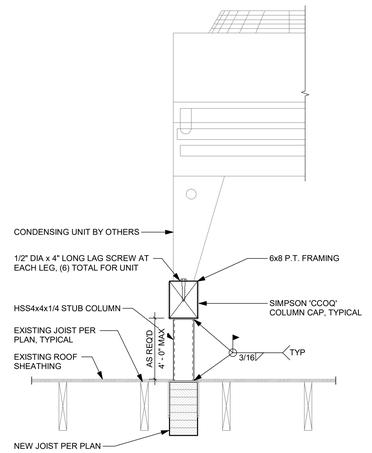
2 S5-11 HVAC SUPPORT DETAIL
1" = 1'-0"



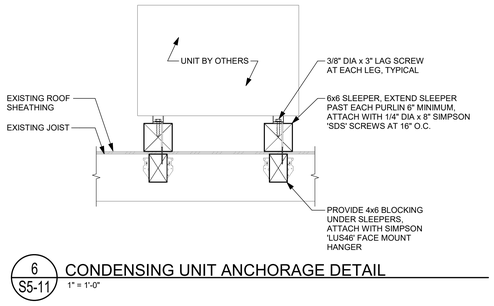
3 S5-11 HVAC SUPPORT DETAIL
1" = 1'-0"



4 S5-11 HVAC CURB DETAIL
1 1/2" = 1'-0"



5 S5-11 ACC SUPPORT DETAIL
1" = 1'-0"



6 S5-11 CONDENSING UNIT ANCHORAGE DETAIL
1" = 1'-0"

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ROOF FRAMING DETAILS

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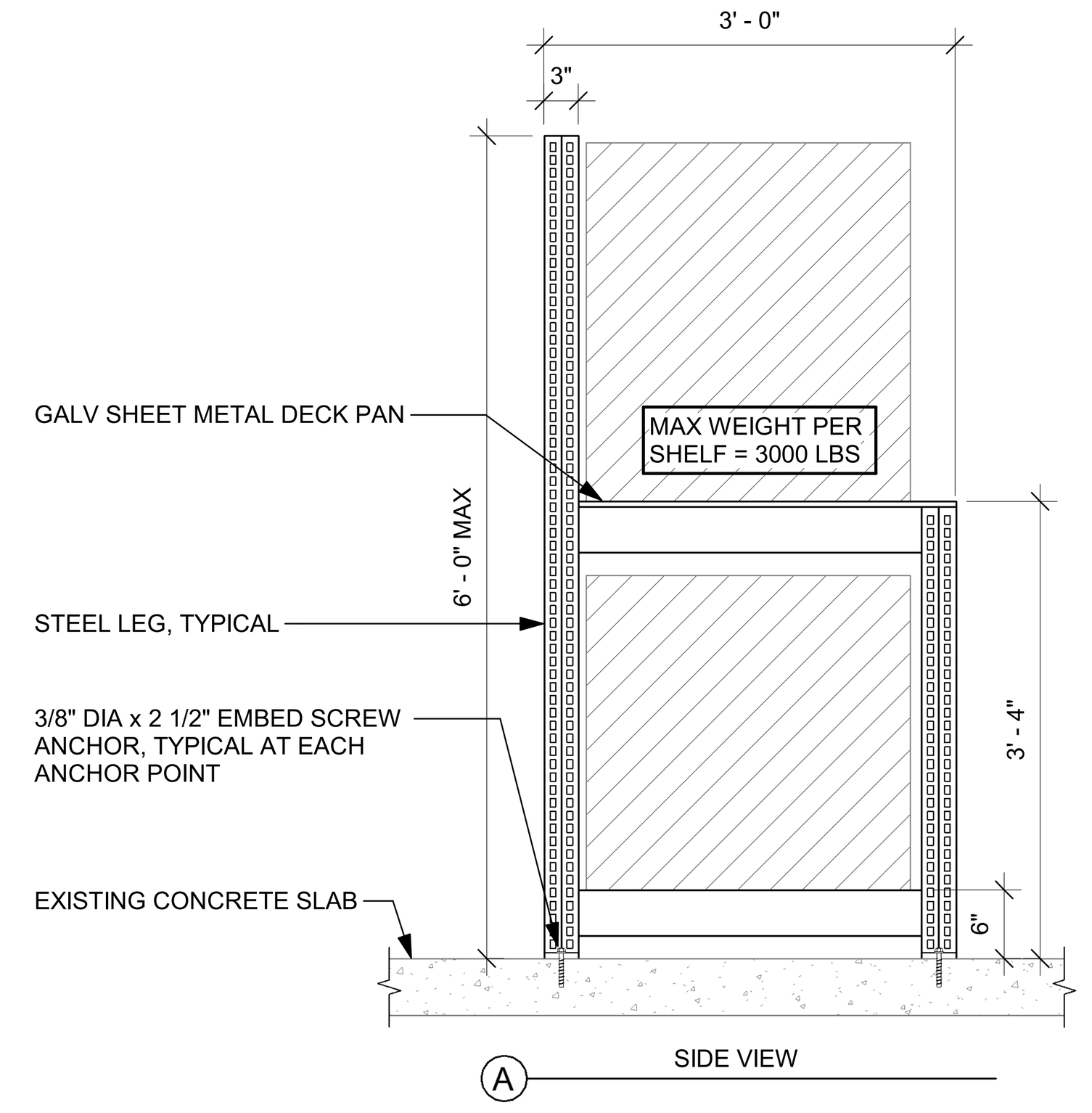
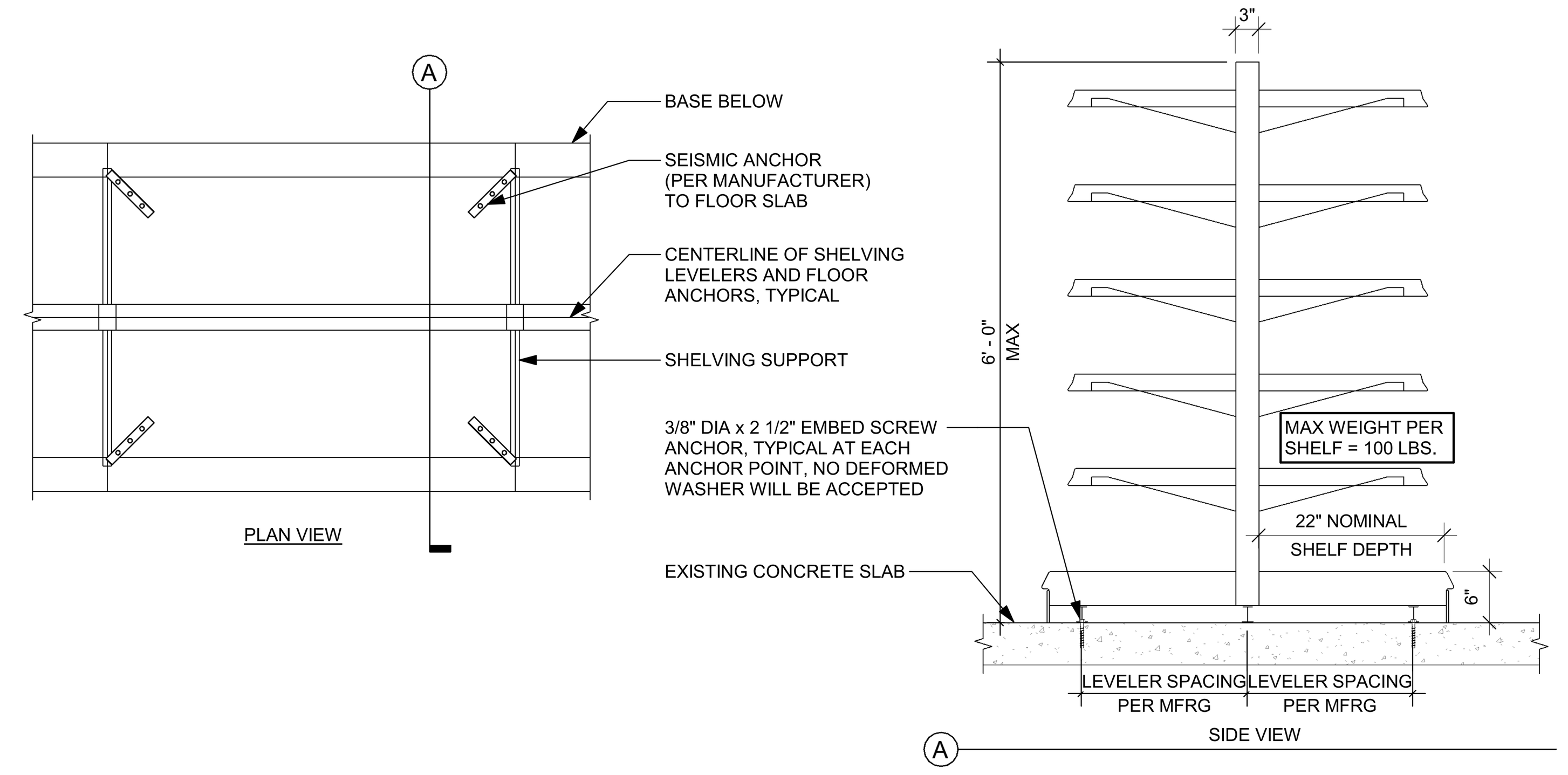
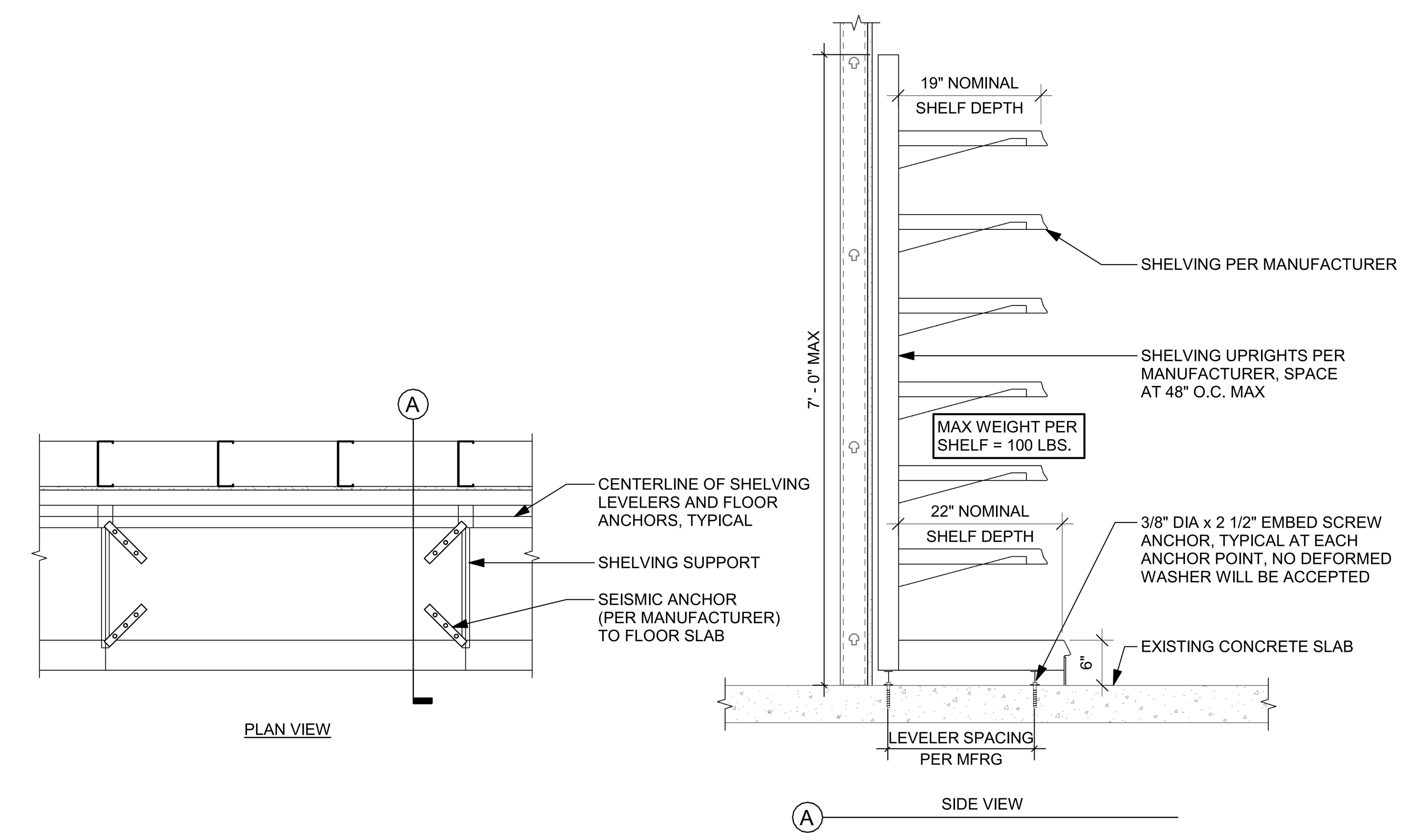


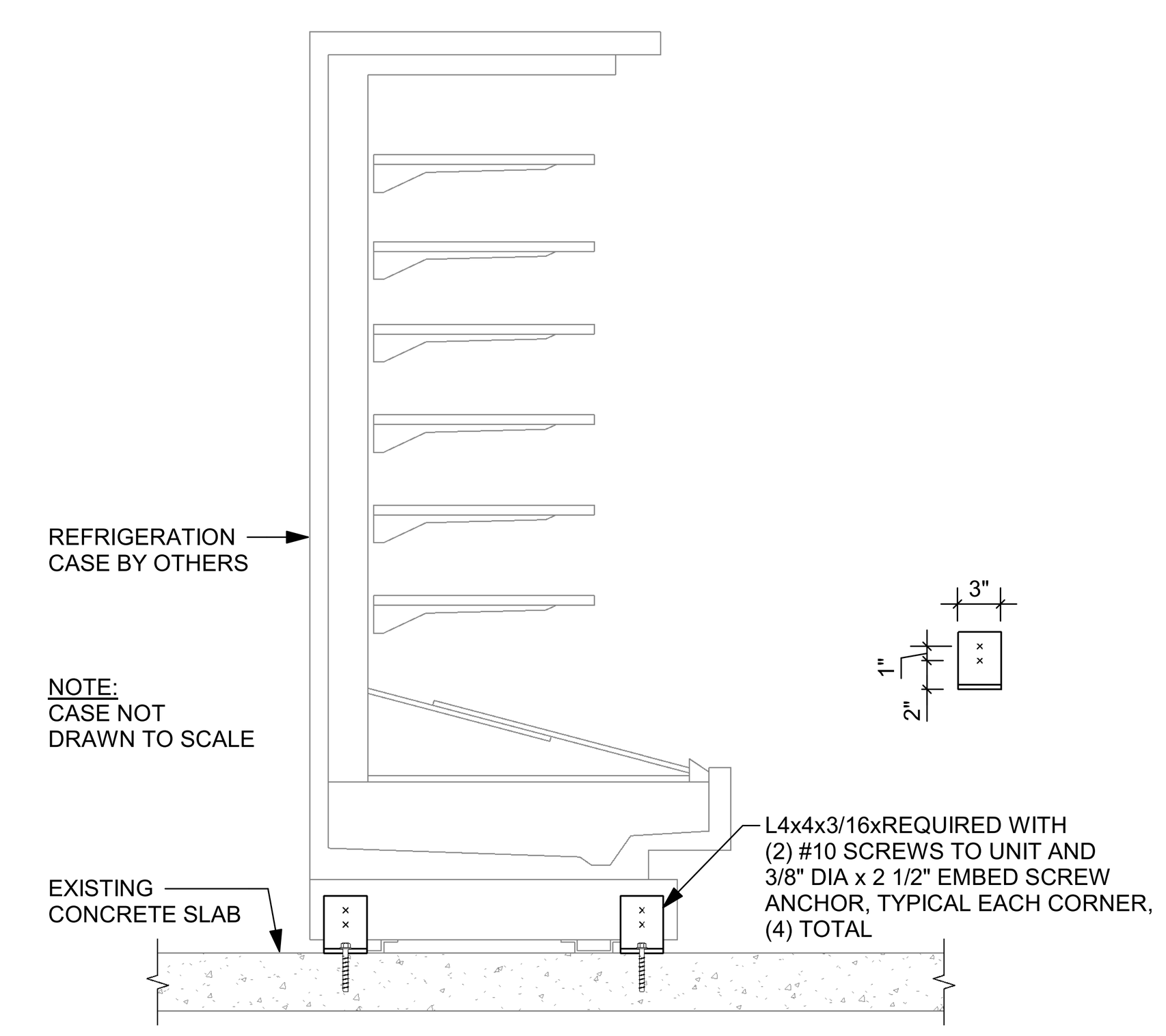
1 S6-01 PALLET SHELVING DETAIL
3/4" = 1'-0"



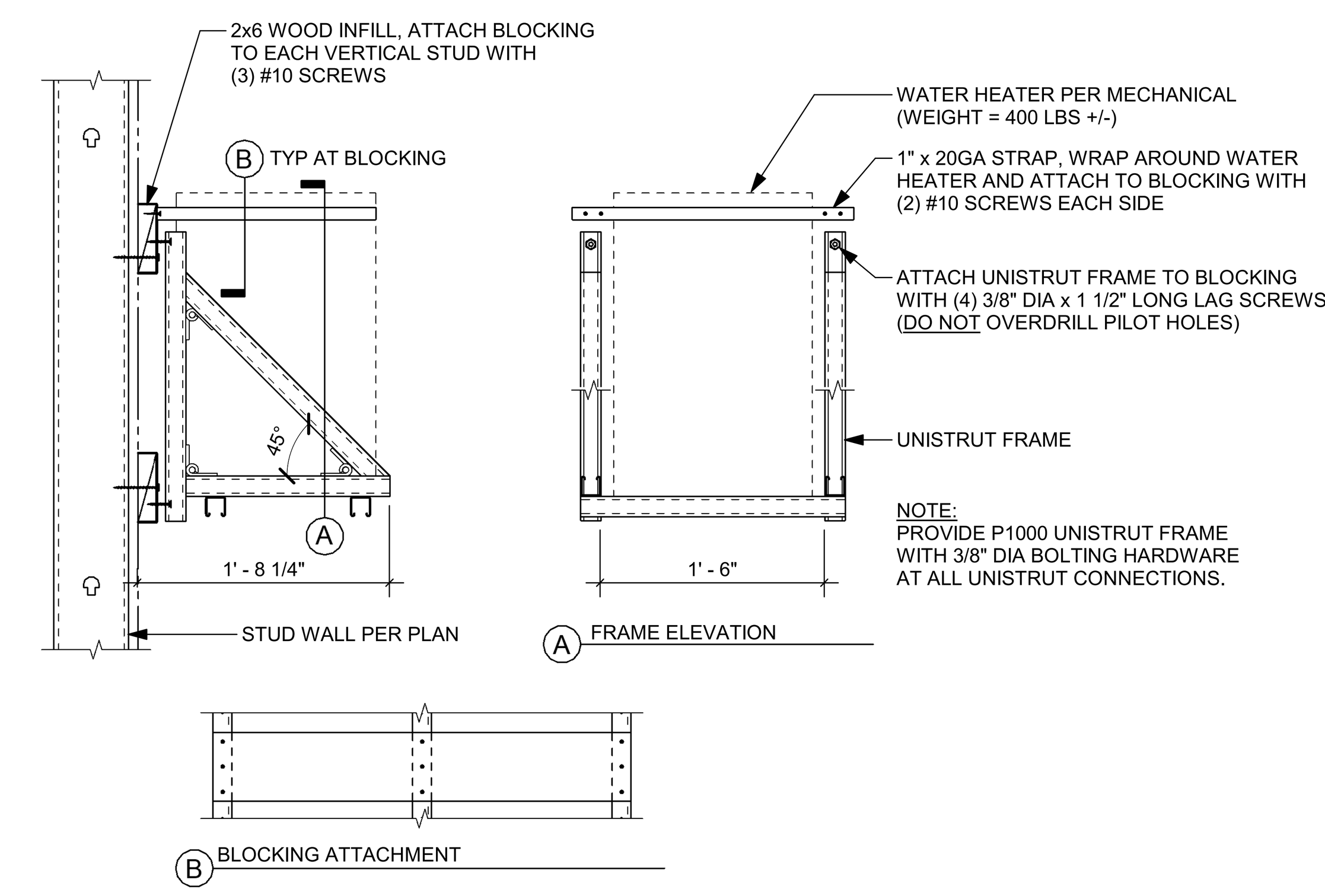
2 S6-01 GONDOLA SHELVING ANCHORAGE DETAIL
3/4" = 1'-0"



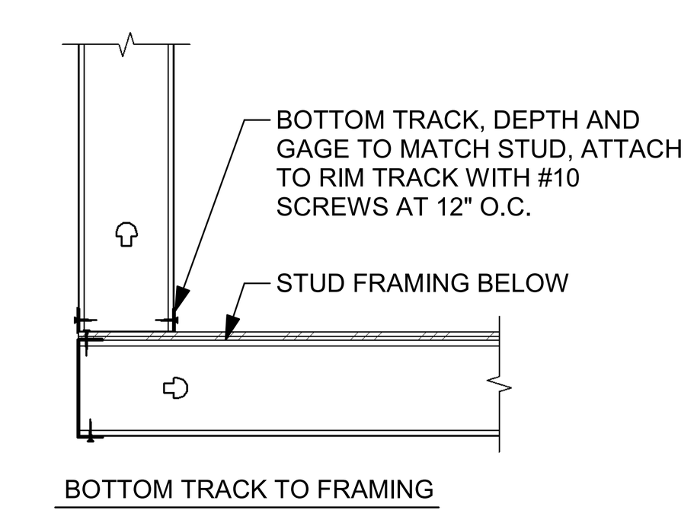
3 S6-01 WALL SHELVING ANCHORAGE DETAIL
3/4" = 1'-0"

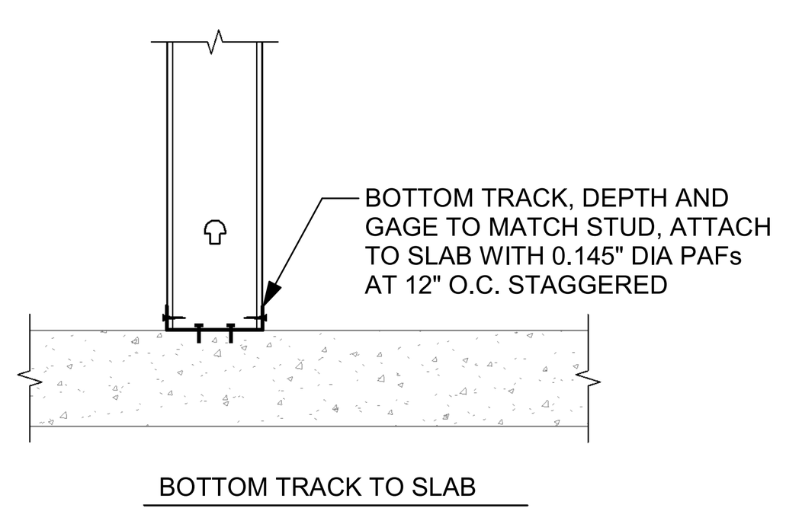


4 S6-01 REFRIGERATION CASE ANCHORAGE DETAIL
1" = 1'-0"



5 S6-01 WATER HEATER DETAIL
1" = 1'-0"

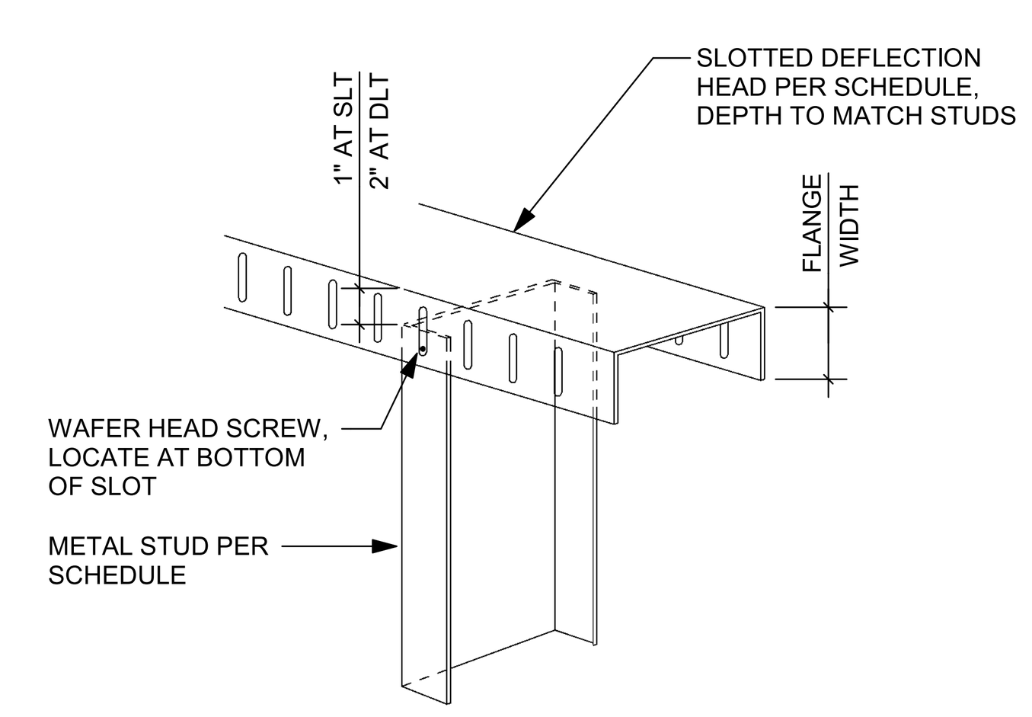


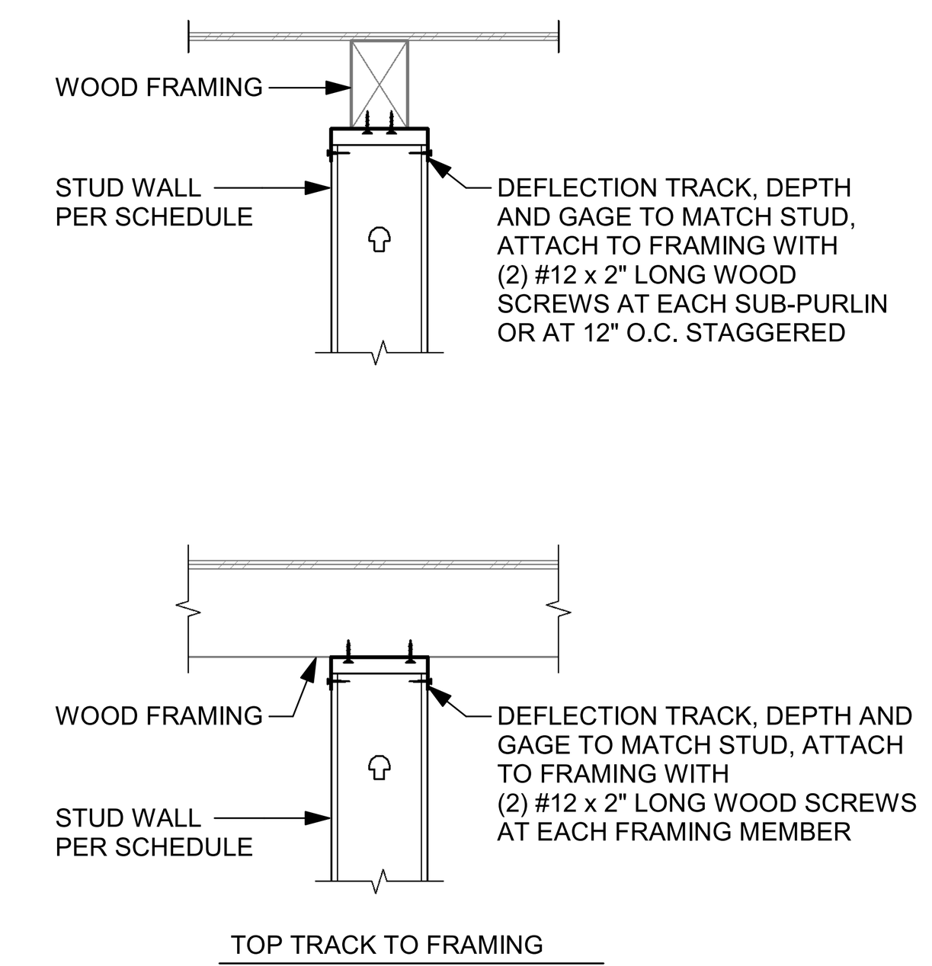


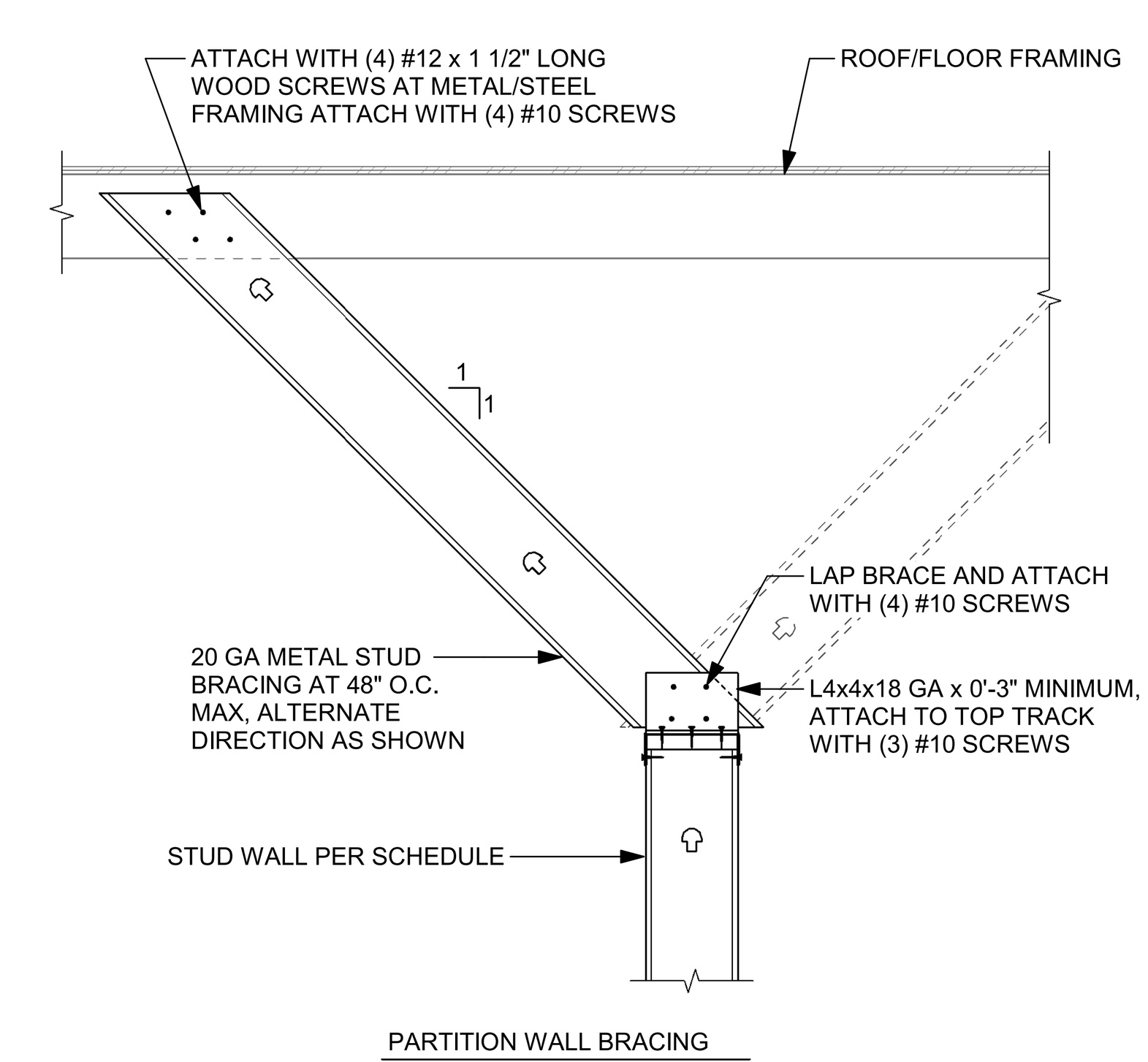
DEFLECTION HEAD SCHEDULE

WALL LOCATION	FLANGE WIDTH
WAREHOUSE ROOF ABOVE	3.0" (DLT)
MEZZANINE FLOOR ABOVE	2.5" (SLT)
OFFICE FLOOR ABOVE	2.5" (SLT)

STUD HEIGHT 'H'	GAUGE
0' < H ≤ 14'	33mils (20ga)
14' < H ≤ 20'	43mils (18ga)
20' < H ≤ 30'	54mils (16ga)
30' < H ≤ 45'	68mils (14ga)







6 S6-01 PARTITION WALL DETAILS
1" = 1'-0"

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PROJECT TEAM

VLMK
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3933 S Kelly Avenue
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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/15/2024	PERMIT

PROFESSIONAL SEAL

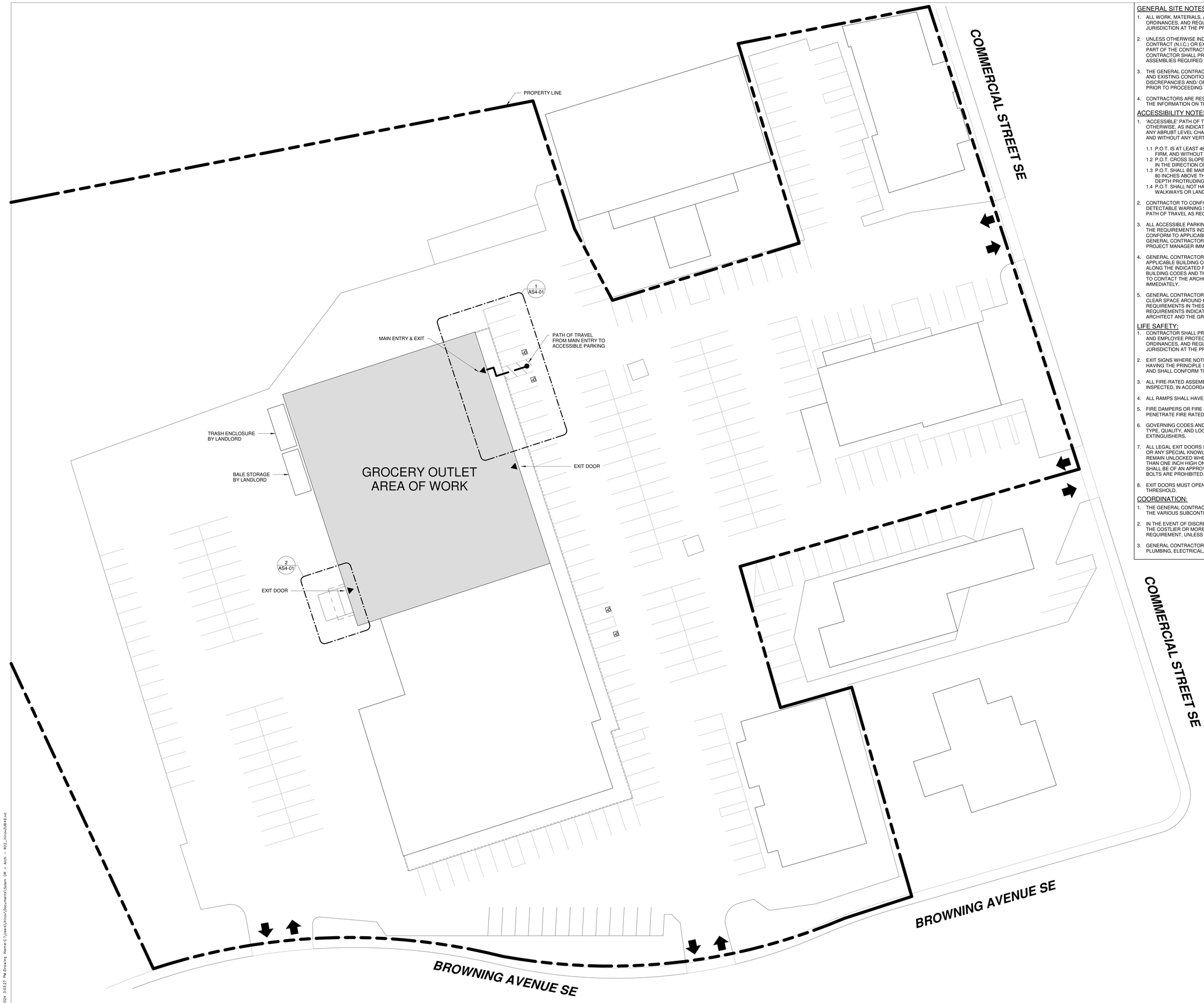
STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 75406PE OREGON JUNE 18, 2014 JUSTIN JAMES ELLIOTT
EXP. 12/31/2025

PROFESSIONAL IN CHARGE
JJE
PROJECT MANAGER
ERO
QUALITY CONTROL
ERO
DRAWN BY
JAU/BMW

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230678
SHEET TITLE
MISCELLANEOUS TENANT DETAILS

SHEET NUMBER
S6-01



1 SITE PLAN
3/64" = 1'-0"

NORTH

GENERAL SITE NOTES:

1. ALL WORK, MATERIALS, AND METHODS SHALL BE IN CONFORMANCE WITH THE CODES, ORDINANCES, AND REGULATIONS OF ALL GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
2. UNLESS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS AS BEING NOT IN CONTRACT (N.I.C.) OR EXISTING, ALL OTHER ITEMSM ATERIALS, AND INSTALLATION ARE PART OF THE CONTRACT, AS DEFINED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL ACCESSORIES, COMPONENTS, AND ASSEMBLIES REQUIRED FOR THE WORK DEPICTED OR SPECIFIED.
3. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND EXISTING CONDITIONS THEREON BEFORE COMMENCING WORK. REPORT ANY DISCREPANCIES AND/ OR POTENTIAL PROBLEMS TO THE PROPERTY REPRESENTATIVE PRIOR TO PROCEEDING WITH AFFECTED WORK.
4. CONTRACTORS ARE RESPONSIBLE FOR ALL WORK REGARDLESS OF THE LOCATION OF THE INFORMATION ON THE DOCUMENTS.

ACCESSIBILITY NOTES:

1. "ACCESSIBLE' PATH OF TRAVEL (P.O.T.): HAS A 1:20 MAXIMUM SLOPE (UNLESS NOTED OTHERWISE, AS INDICATED ON THE PLANS) AND IS A BARRIER FREE ROUTE WITHOUT ANY ABRUBT LEVEL CHANGES EXCEEDING 1/2 INCH (AT A 1:2 MAXIMUM BEVELED SLOPE) AND WITHOUT ANY VERTICAL CHANGES EXCEEDING 1/4 INCHES.
   - 1.1 P.O.T. IS AT LEAST 48 INCHES WIDE AND SURFACES ARE SLIP RESISTANT, STABLE, FIRM, AND WITHOUT SHARP OR ROUGH EDGES.
   - 1.2 P.O.T. CROSS SLOPE SHALL NOT EXCEED 2% AND SHALL BE LESS THAN A 5% SLOPE IN THE DIRECTION OF TRAVEL (UNLESS OTHERWISE INDICATED).
   - 1.3 P.O.T. SHALL BE MAINTAINED FREE OF OVERHEAD OBSTRUCTIONS NO LESS THAN 80 INCHES ABOVE THE PATH AND FREE OF ANY OBJECT GREATER THAN 4 INCHES IN DEPTH PROTRUDING FROM A WALL ABOVE 27 INCHES AND BELOW 80 INCHES.
   - 1.4 P.O.T. SHALL NOT HAVE MORE THAN A 4 INCH DROP-OFF AT EDGES OF ACCESSIBLE WALKWAYS OR LANDINGS TO ADJACENT GRADES.
2. CONTRACTOR TO CONFIRM ALL INDICATED PATH OF TRAVEL SLOPES AND INSTALL DETECTABLE WARNING SURFACES AT TRANSITION BETWEEN RAMP AND VEHICULAR PATH OF TRAVEL AS REQUIRED BY DETAIL.
3. ALL ACCESSIBLE PARKING STALLS AND ACCESSIBLE LOADING ZONES TO CONFORM TO THE REQUIREMENTS INDICATED ON THESE DRAWINGS. IF ANY STALL DOES NOT CONFORM TO APPLICABLE BUILDING CODES AND THE REQUIREMENTS INDICATED, THE GENERAL CONTRACTOR IS TO CONTACT THE ARCHITECT AND THE GROCERY OUTLET PROJECT MANAGER IMMEDIATELY.
4. GENERAL CONTRACTOR IS TO CONFIRM ALL EXISTING CURB RAMPS CONFORM TO APPLICABLE BUILDING CODES AND REQUIREMENTS IN THESE DRAWINGS. IF ANY RAMP ALONG THE INDICATED PATHS OF TRAVEL DOES NOT CONFORM TO APPLICABLE BUILDING CODES AND THE REQUIREMENTS INDICATED, THE GENERAL CONTRACTOR IS TO CONTACT THE ARCHITECT AND THE GROCERY OUTLET PROJECT MANAGER IMMEDIATELY.
5. GENERAL CONTRACTOR IS TO CONFIRM ALL EMERGENCY EGRESS DOORS AND THE CLEAR SPACE AROUND EMERGENCY EGRESS DOORS CONFORM TO THE REQUIREMENTS IN THESE DRAWINGS. IF ANY DOOR DOES NOT CONFORM TO THE REQUIREMENTS INDICATED, THE GENERAL CONTRACTOR IS TO CONTACT THE ARCHITECT AND THE GROCERY OUTLET PROJECT MANAGER IMMEDIATELY.

LIFE SAFETY:

1. CONTRACTOR SHALL PROVIDE, AND IS SOLELY RESPONSIBLE AND LIABLE FOR, PUBLIC AND EMPLOYEE PROTECTION AS NECESSARY AND AS REQUIRED BY THE CODES, ORDINANCES, AND REGULATIONS OF GOVERNMENTAL AGENCIES HAVING JURISDICTION AT THE PROJECT LOCATION.
2. EXIT SIGNS WHERE NOTED OR REQUIRED SHALL BE WORDED "EXIT" IN LETTERS HAVING THE PRINCIPLE STROKE OF NOT LESS THAN 3/4" WIDE AND AT LEAST 6" HIGH AND SHALL CONFORM TO CODES AND/ OR APPLICABLE REGULATIONS.
3. ALL FIRE-RATED ASSEMBLIES SHALL BE DETERMINED, AND SHALL BE LABELED AND INSPECTED, IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE.
4. ALL RAMPS SHALL HAVE A HEAVY BROOM FINISH. SEE SITE PLAN DETAILS.
5. FIRE DAMPERS OR FIRE DOORS SHALL BE PROVIDED WHERE AIR DUCTS OR OPENINGS PENETRATE FIRE RATED SURFACES.
6. GOVERNING CODES AND FIRE DEPARTMENT FIELD INSPECTOR SHALL DICTATE SIZE, TYPE, QUALITY, AND LOCATIONS OF BOTH TEMPORARY AND PERMANENT EXTINGUISHERS.
7. ALL LEGAL EXIT DOORS SHALL BE OPENABLE FROM INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGEOR EFFORT AND SHALL BE LABELED "THIS DOOR TO REMAIN UNLOCKED WHENEVER THE BUILDING IS OCCUPIED" IN LETTERS NOT LESS THAN ONE INCH HIGH ON A CONTRASTING BACKGROUND. SPECIAL LOCKING DEVICES SHALL BE OF AN APPROVED TYPE, MANUALLY OPERATED. FLUSH BOLTS OR SURFACE BOLTS ARE PROHIBITED.
8. EXIT DOORS MUST OPEN OVER A LANDING NOT MORE THAN 1/2" BELOW THE THRESHOLD.

COORDINATION:

1. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR COORDINATION AMONG ALL THE VARIOUS SUBCONTRACTORS.
2. IN THE EVENT OF DISCREPANCIES BETWEEN ANY DRAWINGS AND/OR SPECIFICATIONS, THE COSTLIER OR MORE RESTRICTIVE CONDITIONS SHALL BE DEEMED THE CONTRACT REQUIREMENT, UNLESS OTHERWISE STATED IN WRITING, FROM THE DEVELOPER.
3. GENERAL CONTRACTOR SHALL COORDINATE ALL UNDERGROUND ITEMS WITH THE PLUMBING, ELECTRICAL, AND/ OR REFRIGERATION DRAWINGS, ETC AS REQUIRED.

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PROJECT TEAM

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02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4447
NEWPORT BEACH, CA
STATE OF OREGON
2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

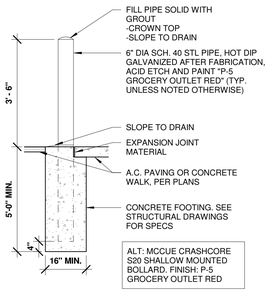
GROCERY OUTLET

3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

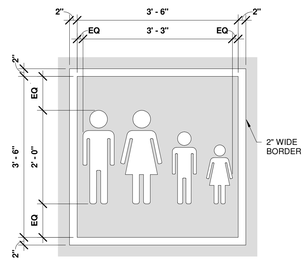
SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
AS1-01



ALT:- MCCUE CRASHCORE 320 SHALLOW MOUNTED BOLLARD. FINISH: P-5 GROCERY OUTLET RED

5 BOLLARD DETAIL
1/2" = 1'-0"

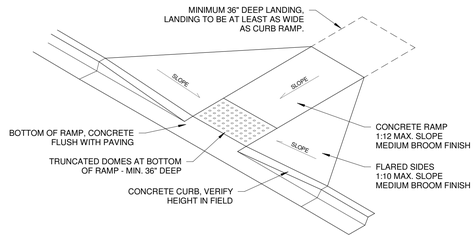


WHITE PAINT ON ASPHALT OR CONCRETE PAVING

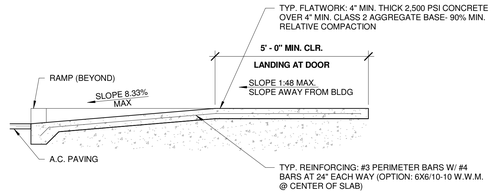
REFER TO SITE PLAN FOR LOCATION

6 FAMILY PARKING STENCIL
3/4" = 1'-0"

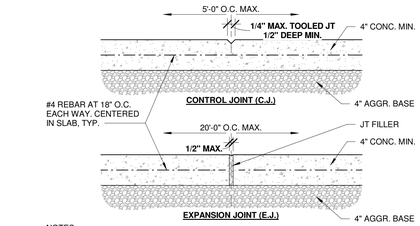
NOTES
1. CURB RAMP, DETECTABLE WARNINGS AND COLORS/FINISHES SHALL BE INSTALLED PER LOCAL ACCESSIBILITY CODES & STANDARDS
2. SURFACES SHALL BE STABLE, FIRM AND SLIP-RESISTANT



7 CURB RAMP DETAIL
1/4" = 1'-0"

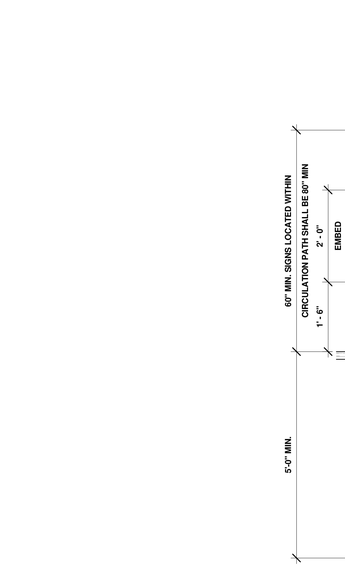


8 PEDESTRIAN CURB CUT SECTION
1/2" = 1'-0"



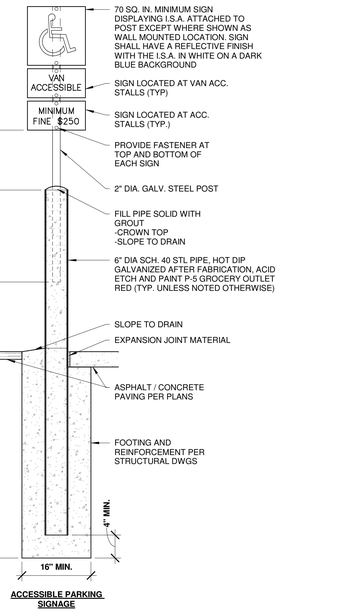
NOTES:
1. MEDIUM BROOM FINISH UNLESS NOTED OR INDICATED OTHERWISE.
2. MAXIMUM 1:20 (5%) SLOPE IN LONGITUDINAL DORECTION.
3. MAXIMUM 1/4" PER 12" (2%) SLOPE IN TRANSVERSE DIRECTION.
4. MAXIMUM 1/4" PER 12" (2%) SLOPE FOR 5'-0" & 2'-0" BEYOND THE STRIKE SIDE AT ALL BUILDING ENTRANCE DOORS.
5. SPACING OF JOINTS AS NOTED ABOVE, G.C. TO SUBMIT SPACING PLAN SHOWING ALL LOCATIONS PRIOR TO INSTALLATION.
6. SET ALL CONCRETE WORK ON MINIMUM 4" AGGREGATE BASE.

9 CONCRETE PAVING
1 1/2" = 1'-0"

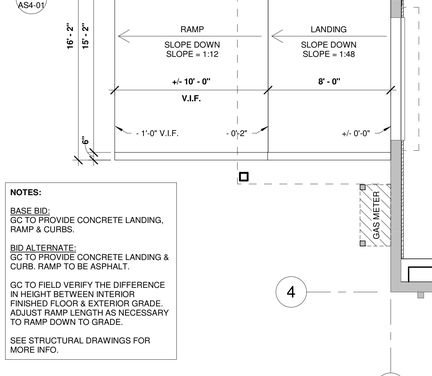


NOTE: POST IN A CONSPICUOUS PLACE TO AN OFF-STREET PARKING LOT OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH DESIGNATED STALL.

10 TOW AWAY SIGNAGE
3/4" = 1'-0"

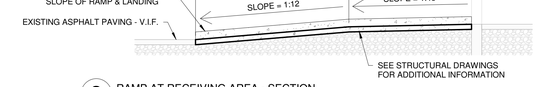


11 ACCESSIBLE PARKING SYMBOL
3/4" = 1'-0"



NOTES:
1. DETECTABLE WARNING SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, EITHER LIGHT ON DARK OR DARK ON LIGHT.
2. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
3. DETECTABLE WARNINGS SHALL EXTEND FULL WIDTH OF CURB RAMPS AND ANY ACCESSIBLE PATH THAT CROSSES VEHICULAR PATH NOT SEPARATED BY ANOTHER ELEMENT.
4. WARNING SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND ON CANE CONTACT.
5. DETECTABLE WARNING, AT THE OPTION OF THE CONTRACTOR, SHALL BE CONSTRUCTED BY CAST IN PLACE OR STAMPED METHOD, OR CONSIST OF A PREFABRICATED SURFACE.

12 TRUNCATED DOMES
3/4" = 1'-0"



3 RAMP AT RECEIVING AREA - SECTION
1/4" = 1'-0"

ACCESSIBLE PARKING SIGNAGE

4 SIGN POST DETAIL
3/4" = 1'-0"

NOTES:

BASE BID:
GC TO PROVIDE CONCRETE LANDING, RAMP & CURBS.

BID ALTERNATE:
GC TO PROVIDE CONCRETE LANDING & CURB. RAMP TO BE ASPHALT.

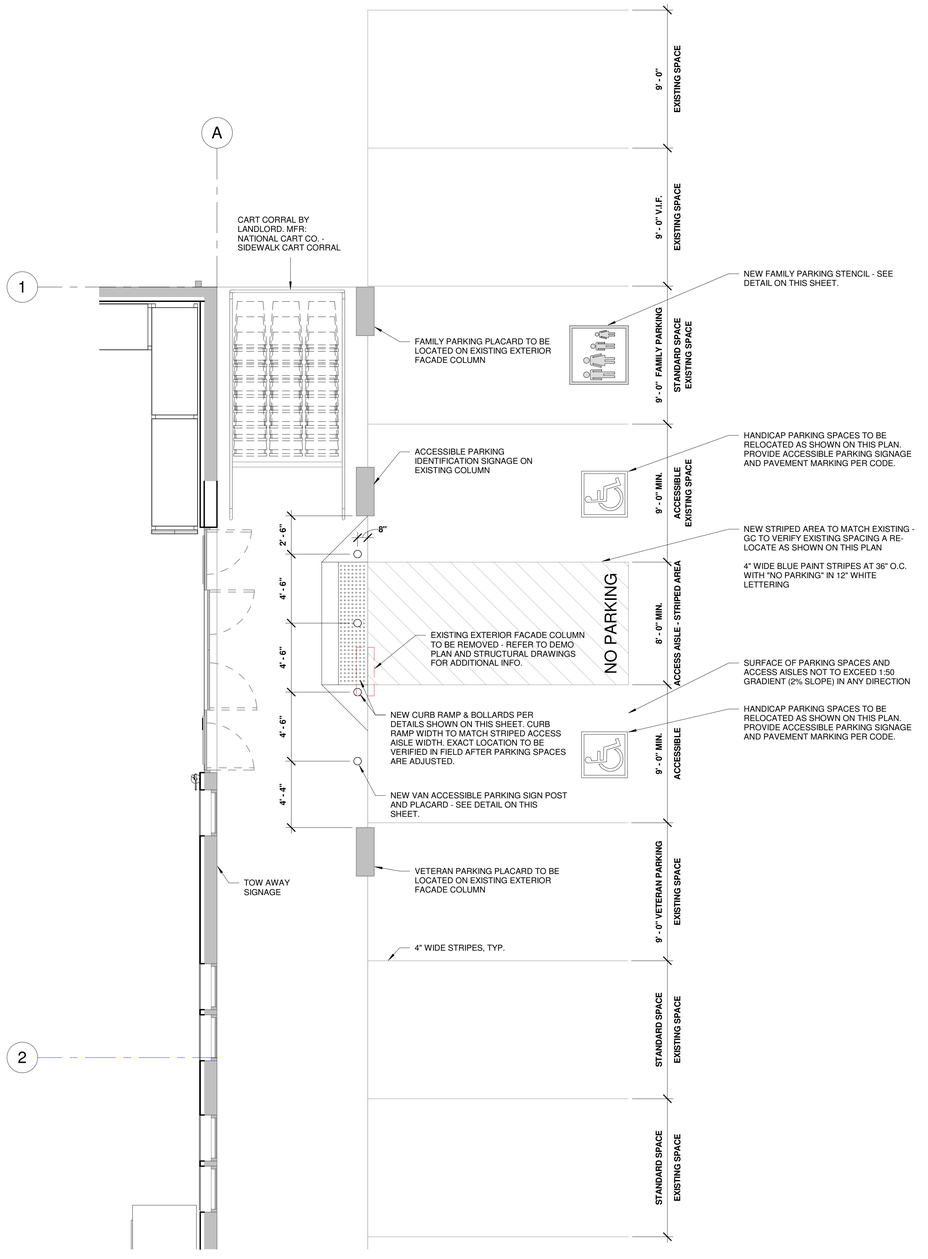
GC TO FIELD VERIFY THE DIFFERENCE IN HEIGHT BETWEEN INTERIOR FINISHED FLOOR & EXTERIOR GRADE. ADJUST RAMP LENGTH AS NECESSARY TO RAMP DOWN TO GRADE.

SEE STRUCTURAL DRAWINGS FOR MORE INFO.

4

E

2 RAMP AT RECEIVING AREA
1/4" = 1'-0"



1 ENLARGED SITE PLAN
1/4" = 1'-0"

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PROJECT TEAM

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PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4447
NEWPORT BEACH, CA
STATE OF OREGON
2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

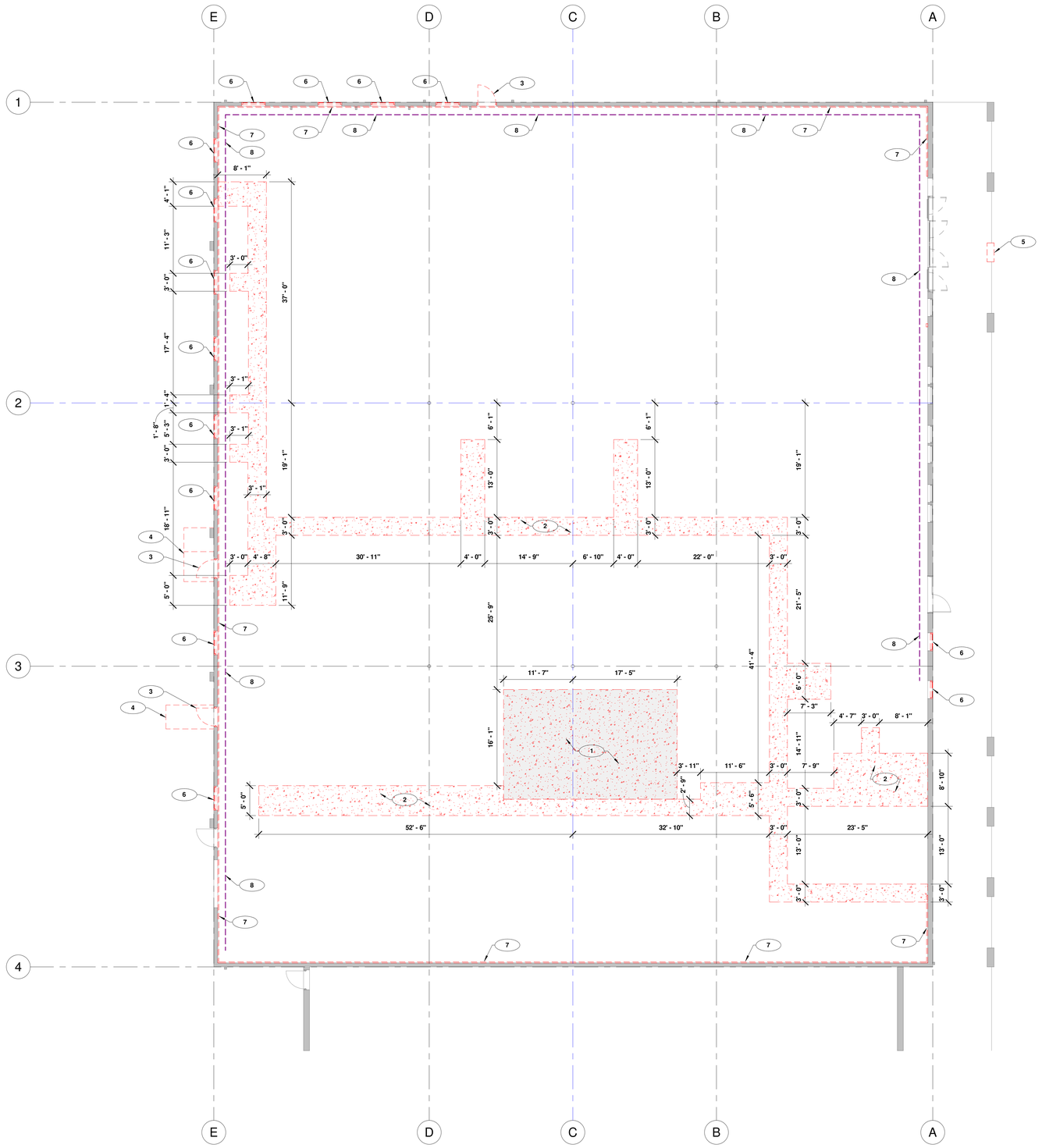
PROJECT NUMBER
20230973.0

SHEET TITLE

ENLARGED SITE PLANS

SHEET NUMBER

AS4-01



1 DEMOLITION PLAN
1/8" = 1'-0"

DEMOLITION PLAN GENERAL NOTES

1. CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND DIMENSIONS. NOTIFY ARCHITECT OF ALL DISCREPANCIES BEFORE PROCEEDING WITH WORK.
2. CONTRACTOR TO PREVENT MOVEMENT OR SETTLEMENT OF STRUCTURE(S). PROVIDE BRACING OR SHORING AND BE RESPONSIBLE FOR SAFETY AND SUPPORT OF STRUCTURE(S). ASSUME LIABILITY FOR SUCH MOVEMENT, SETTLEMENT, DAMAGE, AND OR INJURY.
3. CEASE OPERATIONS AND NOTIFY THE OWNER IMMEDIATELY IF SAFETY OF STRUCTURE APPEARS TO BE ENDANGERED. TAKE PRECAUTIONS TO PROPERLY SUPPORT STRUCTURE. DO NOT RESUME OPERATIONS UNTIL SAFETY IS RESTORED.
4. PROVIDE AND MAINTAIN BARRICADES, LIGHTING AND GUARD RAILS AS REQUIRED BY APPLICABLE REGULATORY ADVISORY TO PROTECT OCCUPANTS OF BUILDING, WORKERS, AND PEDESTRIANS.
5. CERTAIN EXISTING ITEMS MAY BE REMOVED FOR FUTURE RE-INSTALLATION. GC TO COORDINATE CAREFUL REMOVAL AND STORAGE OF THESE ITEMS FOR RE-INSTALLATION DURING CONSTRUCTION.
6. DEMOLISH IN AN ORDERLY AND CAREFUL MANNER AS REQUIRED TO ACCOMMODATE NEW WORK, INCLUDING THAT REQUIRED FOR CONNECTION TO THE EXISTING BUILDING. PROTECT EXISTING FOUNDATIONS AND SUPPORTING STRUCTURAL MEMBERS. PHASE DEMOLITION IN ACCORDANCE WITH CONSTRUCTION SCHEDULE.
7. PERFORM DEMOLITION IN ACCORDANCE WITH APPLICABLE AUTHORITIES HAVING JURISDICTION.
8. REPAIR ALL DEMOLITION PERFORMED IN EXCESS OF THAT REQUIRED, AT NO COST TO THE OWNER.
9. BURNING OF MATERIALS ON SITE IS NOT PERMITTED.
10. ALL EXISTING WORK NOT IN THIS SCOPE OF WORK SHALL BE MAINTAINED IN IT'S ORIGINAL CONDITION. PROTECT WORK FROM DAMAGE RESULTING FROM THIS WORK.
11. CONTRACTOR SHALL, IN THE WORK OF ALL TRADES, PERFORM ANY AND ALL CUTTING, PATCHING, RESTORING, REPAIRING AND THE LIKE NECESSARY TO COMPLETE THE WORK AND RESTORE ANY DAMAGED SURFACES RESULTING FROM THE WORK TO THEIR ORIGINAL CONDITION. ALL ROOF PATCHING SHALL RETURN AREA TO 'LIKE NEW' CONDITION.
12. REFER TO ALL DISCIPLINE SHEETS FOR UNDER GROUND FEEDS REQUIRING SLAB CUTTING & CORING DURING THE DEMOLITION PHASE WHICH MAY NOT BE SHOWN ON THE DEMO DRAWINGS.
13. PROTECT FIRE ALARM LIFE SAFETY SYSTEM & WIRING DEVICES, ETC. DURING DEMOLITION AND NEW CONSTRUCTION.
14. PROVIDE TEMPORARY STRUCTURE AND SECURE INFILL AT OPENINGS IN EXTERIOR WALLS.
15. ALL MEANS OF EGRESS MUST REMAIN CLEAR AND THE FIRE DETECTION SYSTEMS MUST REMAIN OPERATIONAL DURING DEMOLITION WORK.
16. COORDINATE DEMOLITION WITH PROPOSED CONSTRUCTION. INCLUDE ALL ITEMS AS REQUIRED FOR COMPLETION OF THE PROPOSED PROJECT.
17. CONTRACTOR SHALL LEGALLY DISPOSE OF ALL DEMOLITION DEBRIS/MATERIALS.
18. REFER TO PLUMBING, HVAC & ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES. COORDINATE PATCHING OF WALL, CEILING & FLOOR SURFACES WITH DEMOLITION OF OTHER TRADES.
19. PROVIDE WEATHER PROTECTION AS REQUIRED DURING ALL DEMOLITION.
20. REMOVE EXISTING CONCRETE SLAB AS REQUIRED BY PLUMBING AND ELECTRICAL DRAWINGS.
21. GENERAL CONTRACTOR SHALL HIRE A SPECIALTY CONTRACTOR EXPERIENCED IN DEMOLITION AND SHORING DESIGN FOR DESIGN AND INSTALLATION OF THE SHORING. SHORING DRAWINGS SHALL BE SIGNED AND SEALED BY A LICENSED STRUCTURAL ENGINEER AND BE SUBMITTED TO THE ARCHITECT PRIOR TO COMMENCING ANY DEMOLITION ACTIVITIES.
22. GENERAL CONTRACTOR IS RESPONSIBLE FOR SECURING THE BUILDING ONCE ANY OPENINGS ARE MADE.

DEMOLITION PLAN LEGEND

	EXISTING ELEMENT TO REMAIN
	EXISTING ELEMENT TO BE REMOVED
	HATCH INDICATES AREA OF CONCRETE SLAB TO BE REMOVED
X	KEY NOTE MARKER- REFER TO KEY

KEYNOTES - DEMOLITION PLAN

MARK	NOTE
1	REMOVE EXISTING SLAB, THIS AREA, FOR NEW INSULATED FREEZER SLAB. REFER TO STRUCTURAL DRAWINGS FOR INFORMATION.
2	REMOVE EXISTING SLAB AS REQUIRED FOR NEW PLUMBING WORK. REFER TO FLOOR PLANS AND PLUMBING DRAWINGS FOR LOCATIONS AND EXTENTS.
3	EXISTING DOOR TO BE REMOVED AND INFILLED. EXTERIOR FINISH TO MATCH ADJACENT SURFACE.
4	EXISTING CONCRETE LANDING/RAMP TO BE REMOVED - INFILL WITH ASPHALT TO MATCH EXISTING ADJACENT SURFACE.
5	EXISTING EXTERIOR FACADE COLUMN TO BE REMOVED - REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFO. PATCH AND REPAIR EXISTING ENTRY CANOPY AND RE-FINISH TO MATCH ADJACENT SURFACE. GC TO MEET ON SITE WITH GOI CPM PRIOR TO CONSTRUCTION AND VERIFY EXISTING CONDITIONS. SEE STRUCTURAL DRAWINGS FOR ASSUMED EXISTING STRUCTURAL MEMBER SIZES TO BE VERIFIED.
6	EXISTING WINDOW TO BE REMOVED AND EXTERIOR WALL TO BE INFILLED. REFER TO STRUCTURAL SHEETS FOR INFILL DETAIL. EXTERIOR SURFACE TO BE RE-FINISHED TO MATCH ADJACENT SURFACE.
7	EXISTING FURRING WALLS TO BE REMOVED AS SHOWN.
8	EXISTING SPRINKLER LINES TO BE RAISED TO BOTTOM OF EXISTING STRUCTURE TO PROVIDE ADDITIONAL CLEARANCE FOR NEW OVERHEAD DOOR OPENING & TO ACCOMODATE INTERIOR SIGNAGE ON THE SALES FLOOR. GC TO COORDINATE WITH GOI CPM. DASHED PURPLE LINES REPRESENT EXTENT OF SPRINKLER LINES TO BE HEIGHTENED. SPRINKLER DRAWINGS SHALL BE SUBMITTED AS DEFERRED SUBMITTAL BY GC AS NOTED ON SHEET G0-01.

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PROJECT TEAM

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REGISTERED ARCHITECT
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DRAWN BY
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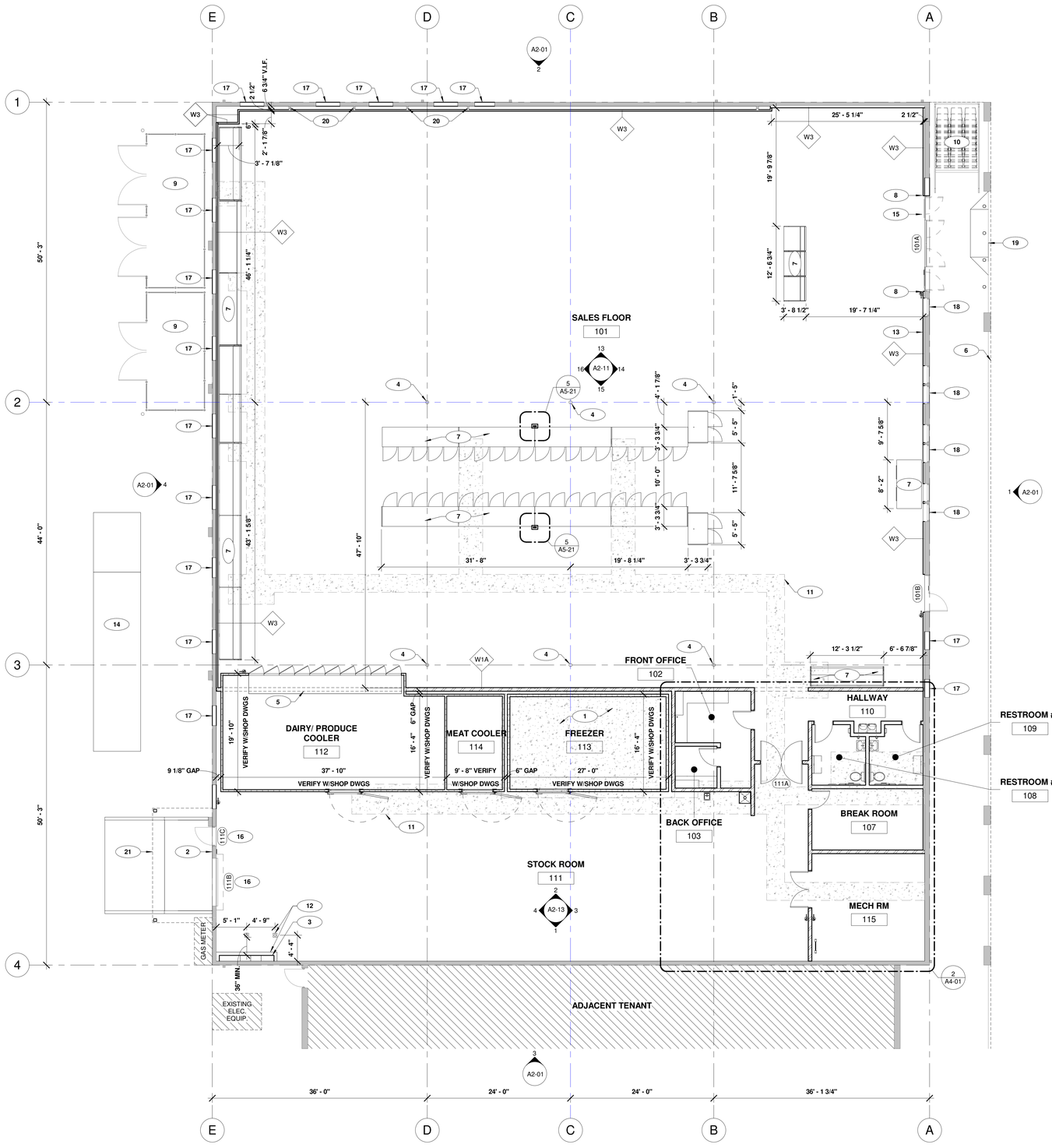
PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
DEMOLITION PLAN

SHEET NUMBER
AD1-01



1 OVERALL WALL DIMENSIONING PLAN
1/8" = 1'-0"

GENERAL NOTES

1. CHECKSTAND AND REFRIGERATION CASES SHOWN IN THIS PLAN FOR OVERALL COORDINATION & VERIFICATIONS - ALSO SEE FIXTURE LAYOUT DIMENSIONS ON SHEET A8-01.
2. G.C. IS RESPONSIBLE TO PROVIDE CLIMATE AND SOUND INSULATION AT INTERIOR DEMISING AND PARTITION WALLS AS NOTED ON WALL LEGEND/TYPES.
3. G.C. MAY EITHER LEAVE UNDERSIDE OF ROOF STRUCTURE EXPOSED AND UNPAINTED BY PROVIDING "CLEAN" AND QUALITY" CRAFTSMANSHIP ACCEPTABLE TO THE TENANT REPRESENTATIVE - OR THEY WILL BE REQUIRED TO PAINT EXPOSED FRAMING AS WELL AS PROVIDE VINYL FACED SCRIM SHEET AT UNDERSIDE OF ROOF PLYWOOD AT ALL SALES AREAS.
4. DIMENSIONS TAKEN TO EXTERIOR WALLS ARE TO FACE OF PLYWOOD AND/OR FACE OF MASONRY AS APPLIES (U.N.O). ALL NEW INTERIOR FRAMING DIMENSIONS ARE TO FACE OF WALL STUDS (U.N.O).
5. G.C. TO PROVIDE INTERNATIONAL SYMBOL ACCESSIBILITY (ISA) DECAL AT MAIN ENTRANCE DOORS (UNDER SHELL WORK).
6. G.C. TO PROVIDE TACTILE EXIT SIGNS AT ALL GRADE LEVEL EXIT DOORS. SIGN TO READ "EXIT" - SEE DETAILS
7. G.C. TO PROVIDE FIRE DEPARTMENT KEY KNOX BOX. G.C. SHALL COORDINATE EXACT LOCATION AND MOUNTING HEIGHT WITH LOCAL FIRE MARSHAL.
8. G.C. TO HOLD ALL UTILITY LINES TIGHT TO ROOF FRAMING OR PERIMETER WALLS. GOI WILL NOT ALLOW UNDERSLAB CONDUITS UNLESS PRIOR WRITTEN APPROVAL.
9. G.C. SHALL SEAL ALL WALL & FLOOR PENETRATIONS AT EXTERIOR WALLS SO THAT THEY ARE VERMIN-FREE. THIS INCLUDES DOORS AND DOCK APPARATUS SO THAT VERMIN CANNOT ENTER BUILDING WHEN COMPLETELY CLOSED DOWN.
10. IT IS THE DESIGN INTENTION AND PREFERENCE TO EXPOSE WHERE PRACTICAL ANY LOW VOLTAGE + POWER CONDUITS + LIGHTING CONDUITS + GAS & WATER PIPING + SPRINKLING SYSTEM + REFRIGERATION LINE-SETS + CONDENSATE EVAC PIPING + SECURITY IN THE SALES AREAS AND BACK-OF-HOUSE FOR MAINTENANCE ACCESS AND POSSIBLE FUTURE REMODELING.
11. EXTERIOR BUILDING LIGHTING IS UNDER SHELL WORK AND SHALL BE PROVIDED AS FURTHER DEFINED IN THE VENDOR LIGHTING SHEETS AS WELL AS ELECTRICAL DRAWINGS.
12. G.C. SHALL PROVIDE ALL EMERGENCY/EXIT LIGHTING.
13. ILLUMINATED BUILDING IDENTIFICATION (ADDRESS) TO BE PROVIDED UNDER SHELL WORK PER LOCATION(S) SHOWN ON EXTERIOR ELEVATIONS. MUST BE SPECIFICALLY REVIEWED AND APPROVED WITH PLANNING / BUILDING / FIRE DEPARTMENT FOR FINAL LOCATION AND/OR TYPE DURING PROJECT SUBMITTALS.
14. IN ADDITION TO THE EXTERIOR BOLLARDS SHOWN ON THESE PLANS, G.C. TO ORDER AN ADDITIONAL FOUR (4) BOLLARDS FOR POTENTIAL FUTURE USE.
15. GC TO FIELD VERIFY TOP OF WALL CONDITION FOR ALL EXISTING WALLS AT SALES FLOOR. IF EXISTING WALLBOARD DOES NOT RUN TO BOTTOM OF ROOF DECK, GC TO EXTEND WALLBOARD, TAPE AND FINISH.

WALL LEGEND

SEE SHEET A5-02 FOR WALL TYPES AND INSULATION/FINISHES

- = EXISTING WALLS TO REMAIN
- = LOAD-BEARING / SHEAR WALLS (REFER TO STRUCTURAL SHEETS)
- = FULL HEIGHT PARTITIONS (TO BOTTOM OF ROOF DECK)
- = PARTITIONS (TO BOTTOM OF CEILING)
- = COOLER WALLS (BY MANUF.)

KEYNOTES - FLOOR PLAN

MARK	NOTE
1	INSULATED CONCRETE SLAB - SEE S-SHEETS
2	DOORBELL WITH EXTERIOR PUSH BUTTON. PUSH BUTTON TO BE MOUNTED AT 40" A.F.F. TO TOP OF BUTTON. REFER TO ELECTRICAL SHEETS FOR FURTHER INFORMATION & SPECIFICATION.
3	ELECTRICAL EQUIPMENT - SEE E-SHEETS
4	STRUCTURAL COLUMN - G.C. TO PROVIDE 48"H STAINLESS STEEL WRAP (AC2) AT BASE WHEN EXPOSED IN SALES AREA. REFER TO FINISH SCHEDULE ON A6-01 FOR SPECIFICATIONS.
5	SOFFIT ABOVE DAIRY/PRODUCE COOLER, REFER TO DETAIL ON SHEET A5-02 AND STRUCTURAL SHEETS FOR MORE INFO.
6	LINE INDICATES EXISTING CANOPY ABOVE
7	SEE A8-01 FOR ADDITIONAL INFORMATION ON ALL FIXTURES
8	STAINLESS STEEL CORNER GUARD (AC1) REFER TO FINISH SCHEDULE KEY ON A6-01 FOR SPECIFICATIONS
9	TRASH AND BALE ENCLOSURES BY LANDLORD.
10	CART CORRAL BY LANDLORD.
11	LIGHT GREY CONCRETE HATCH INDICATES PORTION OF NEW CONCRETE SLAB. REFER TO DEMO PLAN FOR MORE INFO.
12	G.C. TO PROVIDE 4" CONCRETE HOUSEKEEPING PAD UNDERNEATH ELECTRICAL EQUIPMENT. SEE STRUCTURAL SHEETS FOR CONCRETE PAD DETAIL. PAD TO EXTEND 6" PAST FOOTPRINT OF FLOOR-MOUNTED EQUIPMENT. G.C. TO COORDINATE EXACT DIMENSIONS OF CONCRETE PAD WITH ELECTRICAL SHEETS & MFR. CUTSHEETS. PROVIDE BOLLARDS (AC4) TO PROTECT ELECTRICAL EQUIPMENT.
13	WALL-MOUNTED CART BUMPERS (AC3) ALONG THIS WALL. REFER TO INTERIOR ELEVATIONS FOR LENGTH AND A6-01 FOR SPECIFICATION.
14	MOVABLE RAMP FOR TRUCK DELIVERIES. SPECIFICATION: DURA RAMP MOBILE. GC TO VERIFY EXACT MODEL NUMBER WITH GOI PM PRIOR TO PURCHASING.
15	ENTRY DOOR BY LANDLORD.
16	<varies>
17	EXISTING OPENING TO BE INFILLED PER STRUCTURAL DRAWINGS. EXTERIOR FINISH TO MATCH ADJACENT SURFACES.
18	EXISTING WINDOWS TO REMAIN.
19	NEW CURB RAMP AND BOLLARDS - SEE SHEET AS4-01 FOR ENLARGED SITE PLAN AND DETAILS.
20	EXISTING WOOD COLUMNS ALONG EXTERIOR WALL TO REMAIN - NEW FURRING WALL TO BE BUILT IN FRONT OF COLUMNS.
21	LINE INDICATES NEW CANOPY ABOVE.

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PROJECT TEAM

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PROFESSIONAL SEAL

REGISTERED ARCHITECT · STATE OF OREGON · DOUGLAS S. COUPER 4447 NEWPORT BEACH, CA 2/20/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

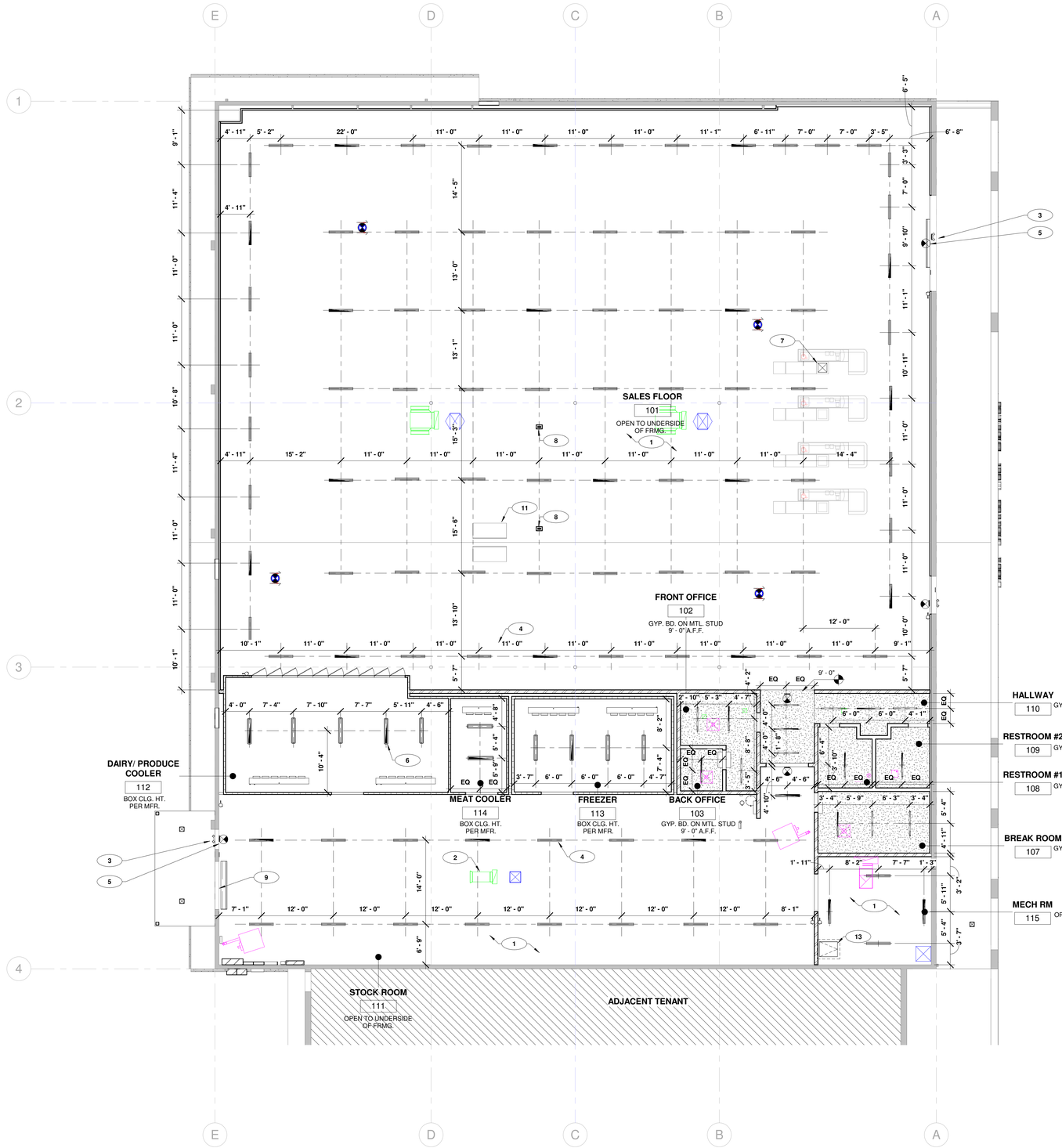
PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
FLOOR PLAN

SHEET NUMBER
A1-01



1 REFLECTED CEILING PLAN
1/8" = 1'-0"

REFLECTED CEILING PLAN GENERAL NOTES

1. G.C. WITH FIRE MARSHAL'S DIRECTION WILL DETERMINE WHETHER ANY ADDITIONAL LIGHTED EMERGENCY EXIT SIGNAGE IS NEEDED. G.C. TO INSTALL EXTRA IF REQUIRED.
2. G.C. WITH FIRE MARSHAL'S DIRECTION WILL DETERMINE WHETHER ANY ADDITIONAL EMERGENCY BATTERY BACK-UP LIGHTING IS NEEDED. G.C. TO INSTALL EXTRA IF REUIRED.
3. SEE ELETRICAL DRAWINGS FOR LOCATIONS OF POWER DROP CORDS
4. G.C. TO PROVIDE BLANK PLATES AT ALL JUNCTION BOXES (NOT USED FOR NEW LIGHTING DROPS - SEE E-SHEETS)
5. G.C. SHALL COORDINATE AND FIELD VERIFY THAT THE PLACEMENT OF HVAC DUCTING DOES NOT CONFLICT WITH LIGHTING SUPPORTS & BRACING, AS WELL AS CHECKSTAND DROPS, PRIOR TO INSTALLATION
6. G.C. TO PROVIDE ROOF INSULATION AS REQUIRED.

REFLECTED CEILING PLAN LEGEND

	8' SUSPENDED LIGHT FITURE - LED LAMPS (SALES) - SEE E-SHEETS
	8' SUSPENDED LIGHT FITURE - LED LAMPS W/ EMERGENCY DRIVER (SALES) - SEE E-SHEETS
	8' SUSPENDED LIGHT FITURE - LED LAMPS (B.O.H.) - SEE E-SHEETS
	8' SUSPENDED LIGHT FITURE - LED LAMPS W/ EMERGENCY DRIVER (B.O.H.) - SEE E-SHEETS
	COOLER / FREEZER LIGHTING - LED LAMPS, VAPOR TIGHT - SEE E-SHEETS
	CANOPY LIGHTING - LED LAMPS, VAPOR TIGHT - SEE E-SHEETS
	EMERGENCY LIGHT - SEE E-SHEETS
	PAINTED GYP. BD. CEILING ON 6" X 20 GA. MTL STUDS AT 16" O.C.

KEYNOTES - REFLECTED CEILING PLAN

MARK	NOTE
1	EXPOSED ROOF FRAMING - DO NOT PAINT
2	EXPOSED MECHANICAL DUCTWORK - SEE M-SHEETS
3	EMERGENCY LIGHT FIXTURE - SEE E-SHEETS
4	LIGHTING FIXTURE PER LEGEND - SEE E-SHEETS
5	ILLUMINATED EXIT SIGN - SEE E-SHEETS
6	LIGHT IN HOLDING BOX - SEE E-SHEETS
7	P.O.S. POLE - SEE E-SHEETS
8	FALSE COLUMN FOR REFRIGERATION LINES, REFER TO DETAIL ON SHEET A5-02.
9	OVERHEAD COILING DOOR. REFER TO DETAILS ON SHEET A5-01.
11	EXISTING SKYLIGHTS TO REMAIN.
13	ROOF LADDER & HATCH - SEE DETAILS ON A5-11 FOR MORE INFORMATION. SEE SHEET A4-01 FOR LADDER LOCATION.

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PROJECT NAME
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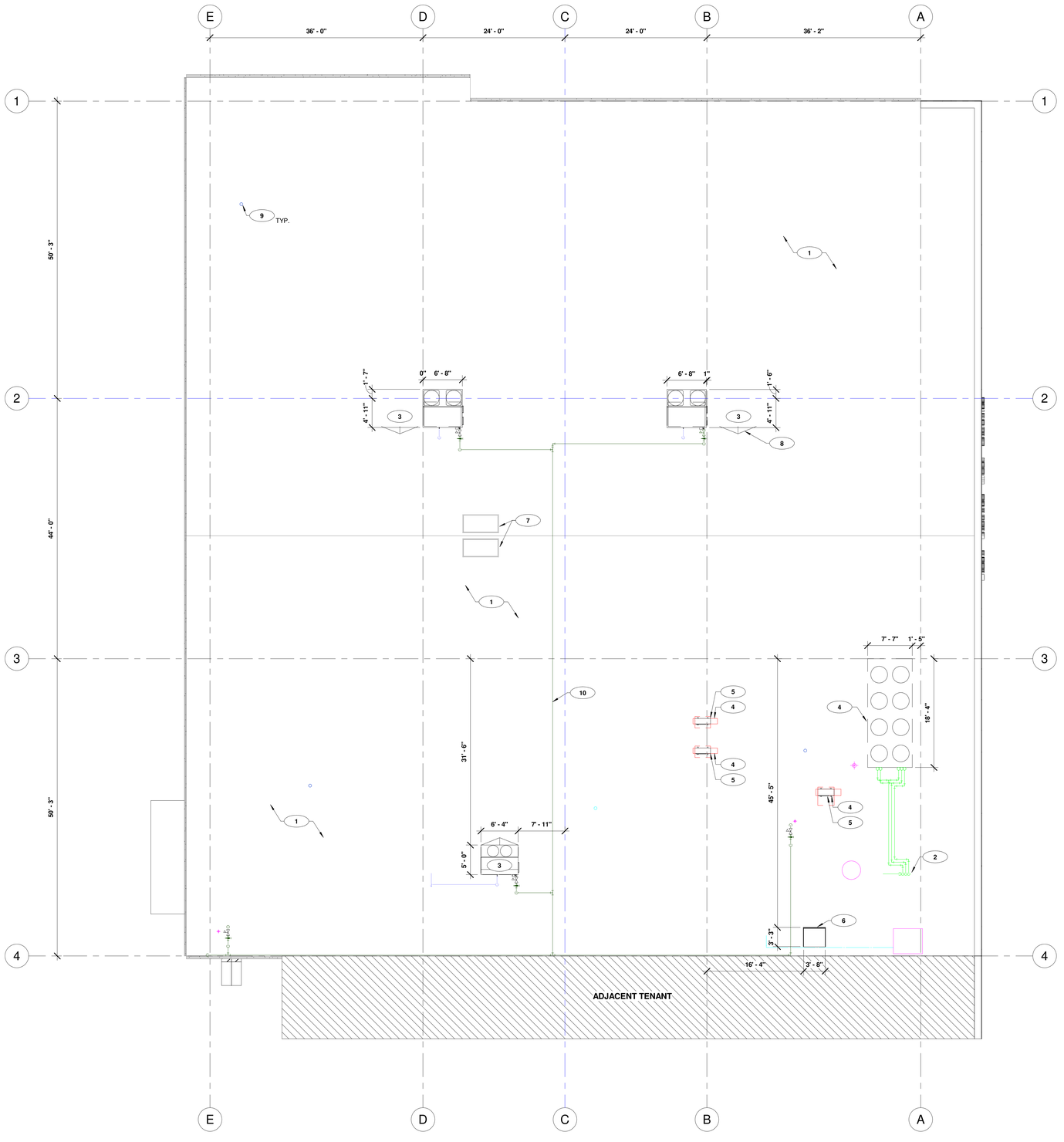
PROJECT NUMBER
20230973.0

SHEET TITLE
REFLECTED CEILING PLAN

SHEET NUMBER
A1-21



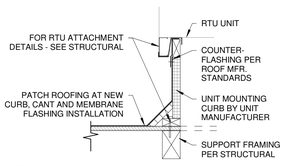
1 ROOF PLAN
1/8" = 1'-0"

GENERAL NOTES

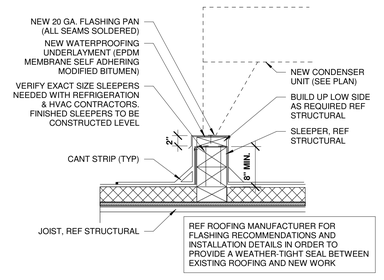
1. THE CONTRACTOR SHALL VERIFY LOCATION & SIZE OF ALL ROOF OPENINGS AND EQUIPMENT PLATFORMS REQUIRED - SEE COORDINATION NOTES BELOW.
2. CONTRACTOR SHALL REFER TO PLUMBING, MECHANICAL AND REFRIGERATION DRAWINGS FOR ALL VENTS AND PIPES THROUGH ROOF (WHICH MAY NOT NECESSARILY BE SHOWN ON THIS ROOF PLAN)
3. ANY/ALL OPENINGS AT ROOF LARGER THAN 8"X8" SHALL BE PROTECTED WITH BURGLAR BARS PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. THE SPACING OF BARS SHALL NOT EXCEED 5" O.C.
4. ALL PENETRATIONS THROUGH ROOFING SHALL BE WEATHERTIGHT. CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW WITH ROOFING INSTALLER AND ROOFING MANUFACTURER PRIOR TO ANY REQUIRED OVERCUTS OR LAPS REQUIRED TO PROVIDE WEATHERTIGHT AND WARRANTED SYSTEM. PROVIDE STANDARD ROOFING MANUFACTURER BOOTS AND FLASHING FOR PENETRATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A CERTIFICATE STATING THE ANY/ALL ROOF INSTALLATION HAS BEEN APPLIED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
6. ALL NEW ROOFING MATERIAL MUST COMPLY WITH ENERGY CODE.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SUBMITTALS & SHOP DRAWINGS AND ALL NECESSARY COORDINATION WITH THE ROOFING CONTRACTOR FOR THE FINAL PLACEMENT & SIZES OF THE ROOF CONDENSER PLATFORMS, REFRIGERATION PIPING PENETRATION/CURBS, ROOF MOUNTED CURBS FOR MECHANICAL (HVAC) EQUIPMENT, PLUMBING PIPING & STACK PENETRATIONS, PIPING SUPPORTS, EXHAUST/MAKE-UP AIR VENTS, ETC.
8. SAID COORDINATION SHALL BE PREFORMED PRIOR TO ANY INSTALLATION OF REQUIRED BLOCKING BELOW ROOF SHEATHING AS WELL AS ALL ROOF INSULATION & MEMBRANE COMPONENTS TO BE INSTALLED BY THE CONTRACTOR'S ROOFING SUB. CONTRACTOR SHALL PROVIDE AND INSTALL ALL NECESSARY ATTACHMENTS, PENETRATION SEALANTS, ETC. AS NEEDED FOR COMPLETION OF WORK.
9. THE CONTRACTOR IS TO PROVIDE MEMBRANE FLASHING & COUNTERFLASHING FOR ALL MECHANICAL EQUIPMENT CURBS & VENTS.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR THE G.I. CAPS AND ATTACHMENTS AT ALL PLATFORMS AND EQUIPMENT CURBS AS SHOWN IN DETAILS.

KEYNOTES - ROOF PLAN

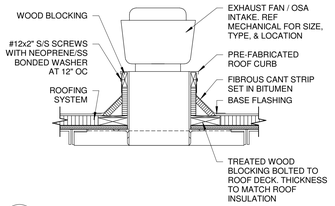
MARK	NOTE
1	EXISTING ROOFING TO REMAIN. G.C. TO PROVIDE MEMBRANE, FLASHING & COUNTERFLASHING FOR ALL NEW ROOF PENETRATIONS INCLUDING MECHANICAL EQUIPMENT CURBS & VENTS
2	PENETRATION FOR REFRIGERATION LINES, WITH WEATHER CAP - PER R-SHEETS
3	AIR HANDLING UNIT - SEE M-SHEETS
4	HVAC CONDENSING UNIT SET ON CURB. SEE M-SHEETS
5	LEVEL CURB W/ DX PIPE THROUGH ROOF - SEE - M-SHEETS
6	ROOF HATCH PER SPECIFICATIONS; REFER TO DETAIL ON SHEET A5-11.
7	EXISTING SKYLIGHTS TO REMAIN.
8	ROOF CRICKET IF REQUIRED - REFER TO ROOF PLAN FOR DIRECTION OF SLOPE. MIN. 1/4" PER FOOT SLOPE. GC TO VERIFY SLOPING OF ROOF STRUCTURE WITH STRUCTURAL FRAMING PLAN AND PROVIDE CRICKETS WITH BUILT-UP INSULATION AS REQUIRED.
9	PLUMBING VENT THRU ROOF - SEE PLUMBING SHEET FOR ADDITIONAL INFO.
10	GAS PIPING, REFER TO MECHANICAL SHEETS FOR MORE INFO.



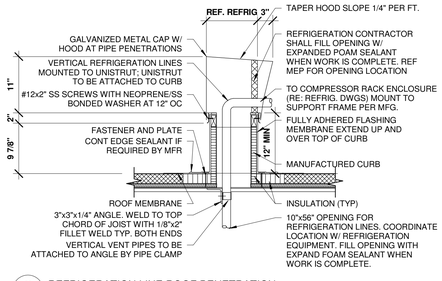
5 RTU CURB
1" = 1'-0"

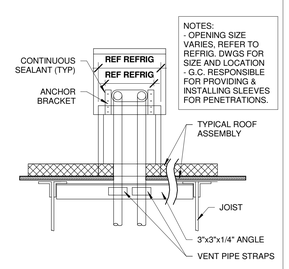


4 CONDENSER UNIT FLASHING
1" = 1'-0"



3 EXHAUST / OSA CURB
1" = 1'-0"





2 REFRIGERATION LINE ROOF PENETRATION
1" = 1'-0"

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DOUGLAS S. COUPER
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2/19/2024

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J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

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SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
ROOF PLAN

SHEET NUMBER
A1-31

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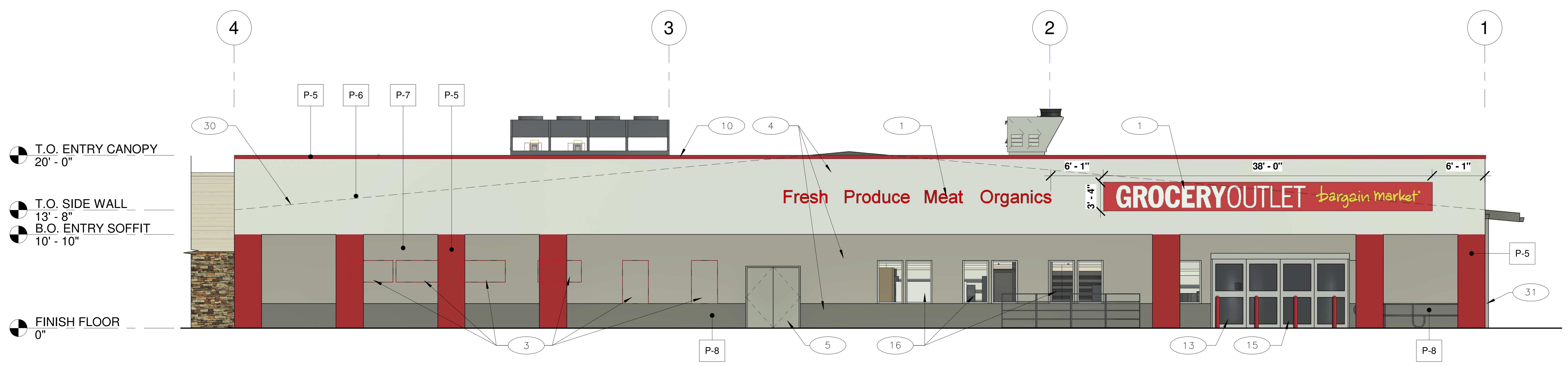
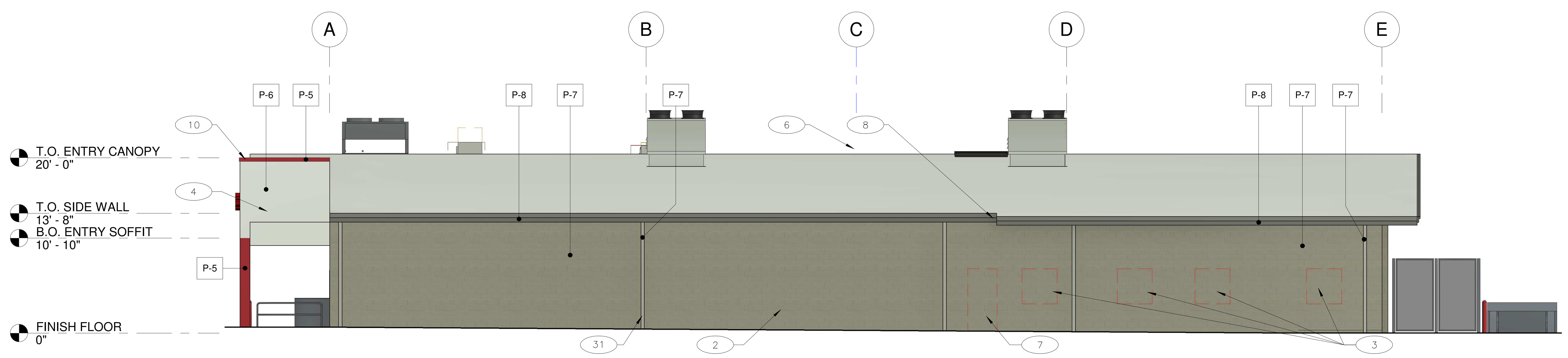
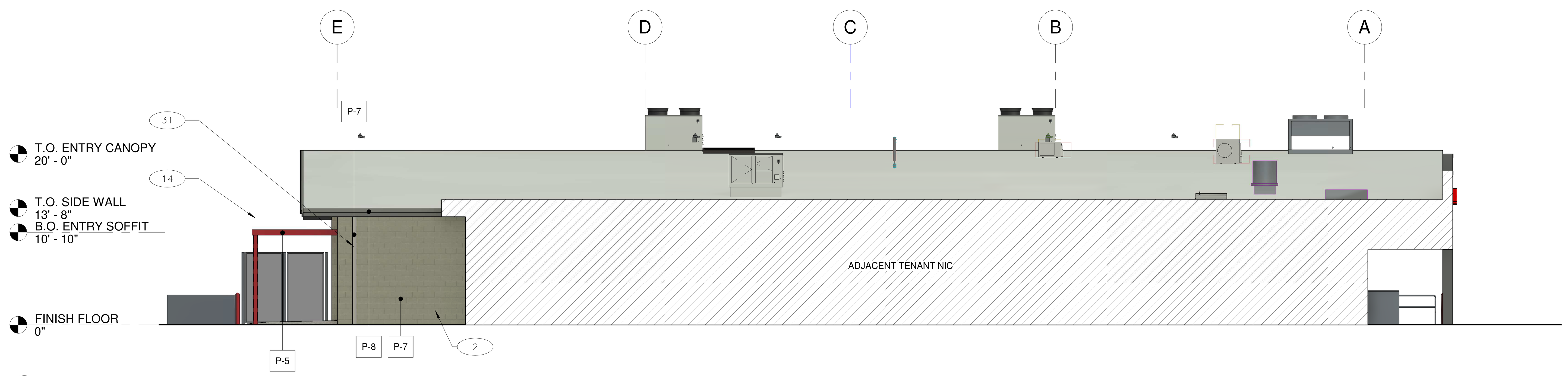


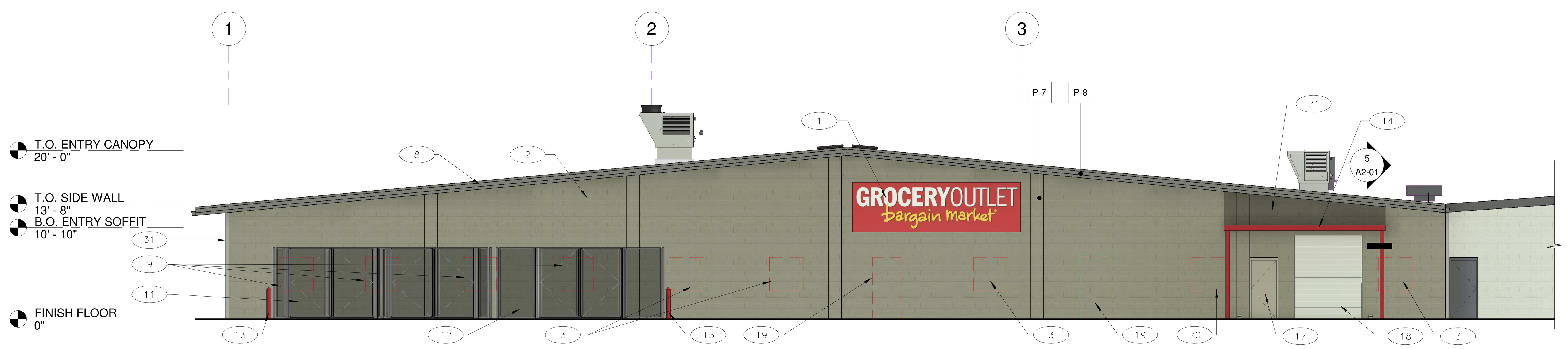
1 EAST ELEVATION - FRONT
1/8" = 1'-0"



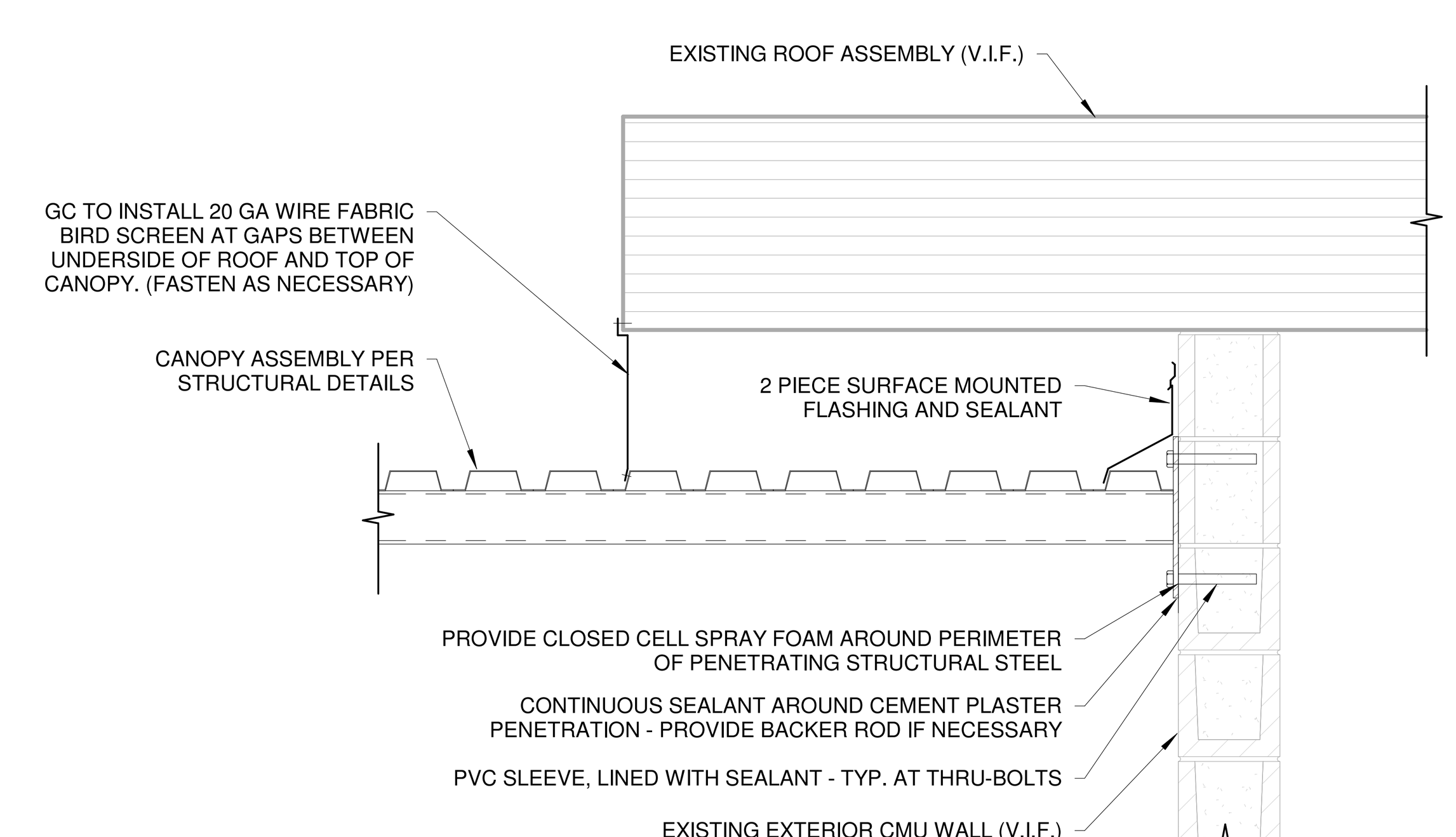
2 NORTH ELEVATION
1/8" = 1'-0"



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



4 WEST ELEVATION - REAR
1/8" = 1'-0"



5 CANOPY DETAIL
1" = 1'-0"

GENERAL NOTES

1. CEMENT PLASTER FINISH TO BE LIGHT TEXTURE.
2. ROOF MOUNTED EQUIPMENT SHALL BE SCREENED PER LOCAL JURISDICTION REQUIREMENTS ON A SITE-BY-SITE BASIS.

EXTERIOR PAINT SCHEDULE

MARK	PAINT NAME
P-5	MFR: SHERWIN WILLIAMS, COLOR: "GROCERY OUTLET RED"
P-6	MFR: SHERWIN WILLIAMS, COLOR: "GROCERY OUTLET SHORELINE"
P-7	MFR: SHERWIN WILLIAMS, COLOR: "GROCERY OUTLET GRAY"
P-8	MFR: SHERWIN WILLIAMS, COLOR: "GROCERY OUTLET CHARCOAL"

KEYNOTES - EXTERIOR ELEVATIONS

MARK	NOTE
1	TENANT SIGNAGE - UNDER SEPARATE PERMIT - PROVIDED BY GOI
2	EXISTING CMU - SEAL AND PAINT PER SCHEDULE
3	EXISTING WINDOWS TO BE REMOVED AND INFILLED TO MATCH ADJACENT SURFACE
4	EXISTING STUCCO - PAINT PER SCHEDULE
5	EXISTING 6'W ENTRY DOOR REMAIN. LEFT DOOR LEAF TO BE WELDED IN PLACE BY LANDLORD. LANDLORD TO PROVIDE NEW PANIC DEVICE & GOI ALARM.
6	EXISTING ROOFING TO REMAIN
7	EXISTING DOOR TO BE REMOVED AND INFILLED TO MATCH ADJACENT SURFACE
8	EXISTING GUTTERS & FASCIA TO BE PAINTED.
9	LANDLORD TO REMOVE EXISTING WINDOW. INFILL TO MATCH ADJACENT SURFACE
10	EXISTING PARAPET CAPS - PAINT PER SCHEDULE
11	LANDLORD TO PROVIDE NEW TRASH ENCLOSURE PER GOI PROTOTYPICAL STANDARDS (26'W X 10'D)
12	LANDLORD TO PROVIDE NEW BALE STORAGE ENCLOSURE PER GOI PROTOTYPICAL STANDARDS (20'W X 10'D)
13	CONCRETE FILLED PIPE BOLLARD - PER DETAIL ON AS4-01
14	STRUCTURAL CANOPY SUPPORT BY COLUMNS. PAINT P-5. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
15	LANDLORD TO PROVIDE NEW ENTRY DOOR PER GOI PROTOTYPICAL STANDARDS (16'W WITH 8'H DOORS)
16	EXISTING WINDOWS TO REMAIN
17	HOLLOW METAL DOOR AND FRAME - PAINT PER SCHEDULE
18	ROLL-UP DELIVERY DOOR - PAINT PER SCHEDULE
19	EXISTING EXIT DOOR & RAMP TO BE REMOVED AND INFILLED TO MATCH ADJACENT SURFACE
20	LANDLORD TO REMOVE EXISTING WINDOW. INFILL TO MATCH ADJACENT SURFACE
21	GC TO INSTALL 20 GA WIRE FABRIC BIRD SCREEN AT GAP BETWEEN UNDERSIDE OF ROOF AND TOP OF NEW CANOPY (FASTEN WITH SCREWS AS NECESSARY).
30	DASHED LINE INDICATES ROOF LINE
31	EXISTING DOWNSPOUT - PAINT TO MATCH ADJACENT SURFACE.

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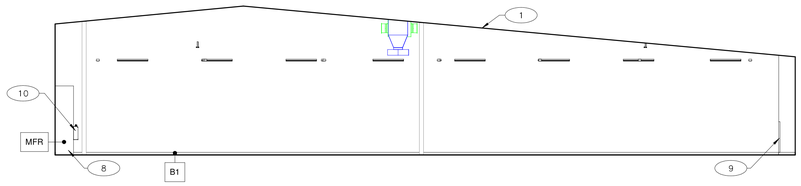
PROJECT NUMBER
20230973.0

SHEET TITLE

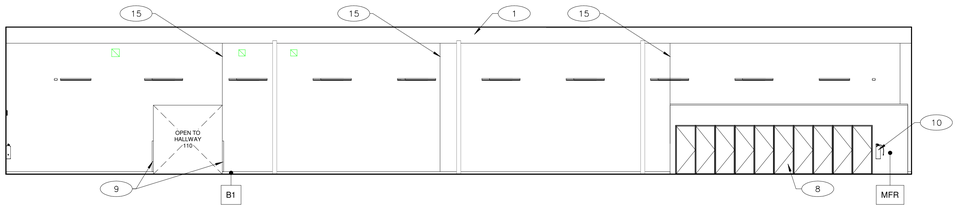
EXTERIOR ELEVATIONS

SHEET NUMBER

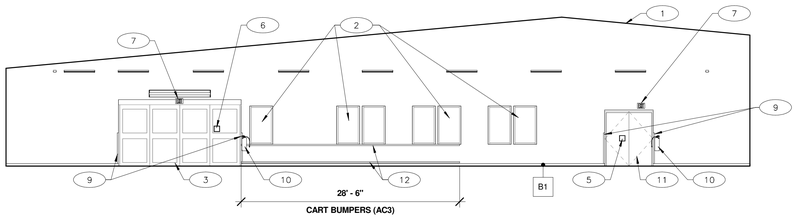
A2-01



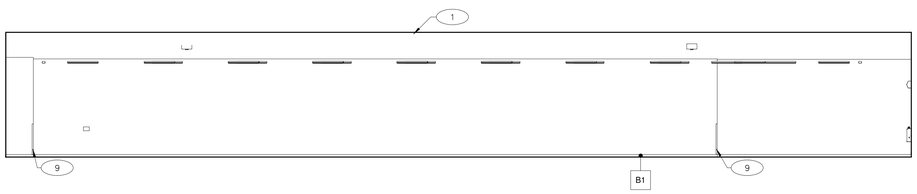
16 REAR WALL SALES AREA
1/8" = 1'-0"



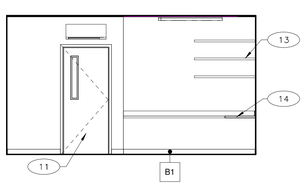
15 LEFT SIDE WALL SALES AREA
1/8" = 1'-0"



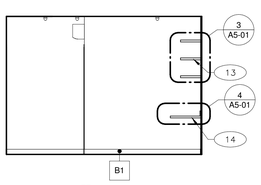
14 FRONT WALL SALES AREA
1/8" = 1'-0"



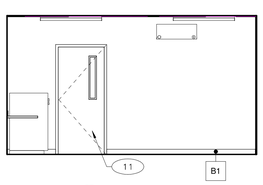
13 RIGHT SIDE WALL SALES AREA
1/8" = 1'-0"



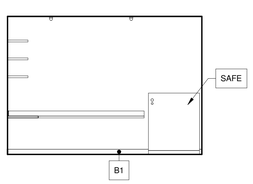
8 FRONT OFFICE
1/4" = 1'-0"



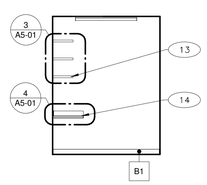
7 FRONT OFFICE
1/4" = 1'-0"



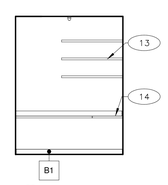
6 FRONT OFFICE
1/4" = 1'-0"



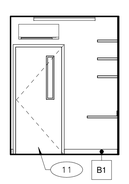
5 FRONT OFFICE
1/4" = 1'-0"



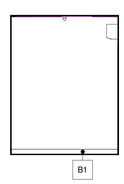
4 BACK OFFICE
1/4" = 1'-0"



3 BACK OFFICE
1/4" = 1'-0"



2 BACK OFFICE
1/4" = 1'-0"



1 BACK OFFICE
1/4" = 1'-0"

GENERAL NOTES

1. SEE ROOM FINISH SCHEDULE ON SHEET A6-01 FOR ALL FLOOR, WALL & CEILING MATERIALS NOT NOTED ON ELEVATIONS.
2. SEE FINISH SCHEDULE ON A6-01 FOR ALL FINISH MATERIALS.

WALL MATERIAL

MARK	DESCRIPTION
MFR	PRE-FINISHED COOLER/FREEZER BOX PANELS (PER MFR.)
FRP	FIBER REINFORCED PANELS - HT. PER INT. ELEVS.
PLY	1/2" CDX PLYWD.

KEYNOTES - SALES & OFFICES ELEVATIONS

MARK	NOTE
1	EXPOSED ROOF STRUCTURE - SEE FINISH SCHEDULE ON SHEET A6-01.
2	STOREFRONT WINDOWS
3	AUTOMATED SLIDING ENTRANCE DOOR PACKAGE WITH BREAK AWAY EMERGENCY EGRESS
5	TACTILE EXIT SIGNAGE
6	ACCESSIBLE BUILDING ENTRANCE SIGN (AT EXTERIOR)
7	ILLUMINATED EXIT SIGN - SEE ELECTRICAL SHEETS
8	DAIRY COOLER BOX PER SHOP DRAWINGS
9	48"H STAINLESS STEEL CORNER GUARD AT R.R. CORRIDOR - SEE FINISH SCHEDULE ON A6-01 FOR SPEC.
10	SURFACE MOUNTED FIRE EXTINGUISHER - REFER TO CODE DATA SHEET FOR ADDITIONAL INFORMATION
11	DOOR. SEE DOOR SCHEDULE
12	CART BUMPERS AT FRONT WALL. REFER TO FINISH SCHEDULE FOR CART BUMPER SPECIFICATION.
13	(3) ROWS OF 4'-0" X16" DP. LAMINATE SHELVING W/ 1" X 2" FRONT LEDGE. PROVIDE ADJUSTABLE WALL BRACKETS AND CHANNELS WITH BLOCKING AS REQUIRED. - SHELVING TO BE 1/2" PLYWOOD WITH MELAMINE FINISH ALL SIDES. CONFIRM EXACT LOCATION OF SHELVING WITH GROCERY OUTLET CONSTRUCTION MANAGER.
14	+ 30" HIGH PLASTIC LAMINATE COUNTERTOP (FINISHED ALL EDGES EXCEPT AGAINST WALL) WITH PERMANENT HEAVY DUTY METAL BRACES (WHERE SHOWN). PROVIDE BLOCKING AND SCRIBE NAILER AS REQUIRED. CONFIRM ALL COUNTER / SUPPORT LOCATIONS WITH G.O. CONSTRUCTION MANGER
15	GYPSUM BOARD CONTROL JOINT. LOCATE AT TRAFFIC DOORS, WHERE CURTAIN WALL MEETS ROOM SEPARATION WALL AT DAIRY COOLER, AND TO ACCOMMODATE GRAPHIC. 30'-0" O.C. MAX. G.C. TO COORDINATE WITH GOI PM AND GRAPHICS VENDOR.

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PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT · STATE OF OREGON · DOUGLAS S. COUPER 4647 NEWPORT BEACH, CA 2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

INTERIOR ELEVATIONS - SALE FLOOR & OFFICES

SHEET NUMBER

A2-11

GENERAL NOTES

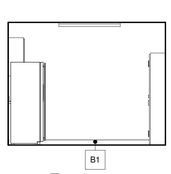
1. SEE ROOM FINISH SCHEDULE ON SHEET A6-01 FOR ALL FLOOR, WALL & CEILING MATERIALS NOT NOTED ON ELEVATIONS.
2. SEE FINISH SCHEDULE ON A6-01 FOR ALL FINISH MATERIALS.

WALL MATERIAL

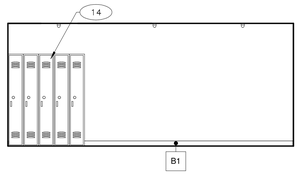
MARK	DESCRIPTION
MFR	PRE-FINISHED COOLER/FREEZER BOX PANELS (PER MFR.)
FRP	FIBER REINFORCED PANELS - HT. PER INT. ELEVS.
PLY	1/2" CDX PLYWD.

KEYNOTES - SUPPORT AREAS

MARK	NOTE
1	REFRIGERATION COMPRESSOR RACK - SEE REFRIGERATION
2	ROOF ACCESS LADDER. COORDINATE LOCATION WITH ROOF JOIST SPACING.
3	TRAFFICE IMPACT DOORS - SEE DOOR SCHEDULE
8	G.C. TO PROVIDE (2) 4'x8' PLYWOOD SHEETS FOR MOUNTING OF REFERENCE DATA DRAWINGS - PER G.O.I. P.M.
9	SURFACE MOUNTED FIRE EXTINGUISHER - REFER TO CODE DATA SHEET FOR ADDITIONAL INFORMATION
10	DOOR. SEE DOOR SCHEDULE
14	LOCKERS BY G.O.I.
15	REFRIGERATOR BY G.O.I., G.C. TO PROVIDE POWER
16	36"L GRAB BAR, SEE R.R. ACCESSORIES SCHEDULE ON A4-01 FOR MORE INFO.
17	42"L GRAB BAR, SEE R.R. ACCESSORIES SCHEDULE ON A4-01 FOR MORE INFO.
18	18"L GRAB BAR, SEE R.R. ACCESSORIES SCHEDULE ON A4-01 FOR MORE INFO.
19	ACCESSIBLE WATER CLOSET. SEE PLUMBING
20	ACCESSIBLE LAVATORY. SEE PLUMBING
21	PROVIDE THERMAL SHIELD (OR EQUAL) AT ALL EXPOSED WATER LINES & DRAIN PIPES UNDER LAVATORIES
22	SURFACE MOUNTED SEAT COVER DISPENSER. BOBRICK B-221 OR EQUAL
23	SURFACE MOUNTED TOILET PAPER DISPENSER. BOBRICK B-3888 OR EQUAL
24	SURFACE MOUNTED SOAP DISPENSER (MANUAL). BOBRICK B-2111 OR EQUAL
25	24" X 36" MIRROR W/ FRAME
26	DYSON AIRBLADE V, MODEL AB12 HAND DRYER. SEE ELECTRICAL
27	ACCESSIBLE HI-LO DRINKING FOUNTAIN. SEE PLUMBING
28	SANITARY NAPKIN DISPOSAL. BOBRICK B-254 OR EQUAL
29	BABY CHANGING STATION - SEE A4-01 FOR RR ACCESSORIES SCHEDULE



20 BREAK ROOM
1/4" = 1'-0"



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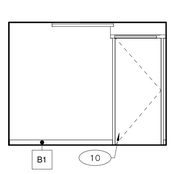
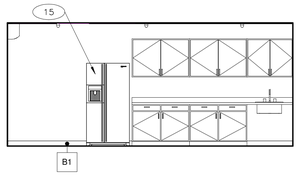
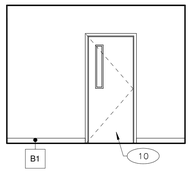
1/4" = 1'-0"



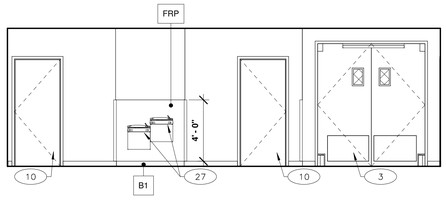
18 BREAK ROOM
1/4" = 1'-0"



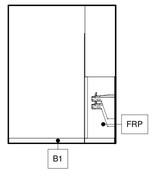
17 BREAK ROOM
1/4" = 1'-0"



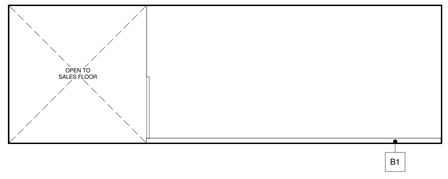
16 HALLWAY
1/4" = 1'-0"



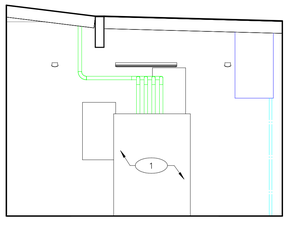
15 HALLWAY
1/4" = 1'-0"



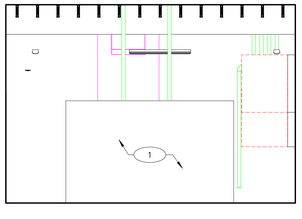
14 HALLWAY
1/4" = 1'-0"



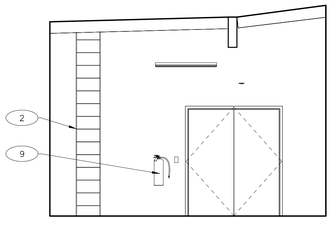
13 HALLWAY
1/4" = 1'-0"



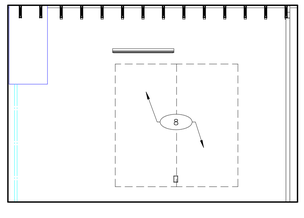
23 MECH ROOM
1/4" = 1'-0"



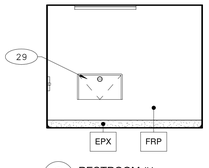
24 MECH ROOM
1/4" = 1'-0"



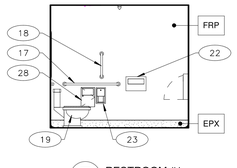
10 MECH ROOM
1/4" = 1'-0"



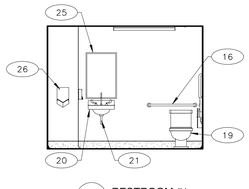
9 MECH ROOM
1/4" = 1'-0"



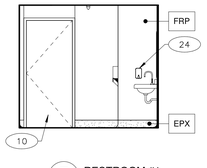
8 RESTROOM #1
1/4" = 1'-0"



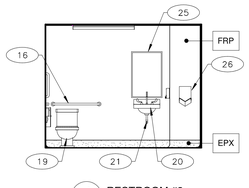
7 RESTROOM #1
1/4" = 1'-0"



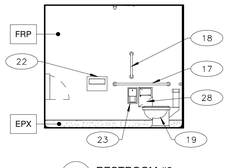
6 RESTROOM #1
1/4" = 1'-0"



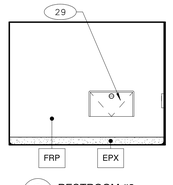
5 RESTROOM #1
1/4" = 1'-0"



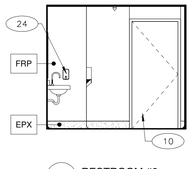
4 RESTROOM #2
1/4" = 1'-0"



3 RESTROOM #2
1/4" = 1'-0"



2 RESTROOM #2
1/4" = 1'-0"



1 RESTROOM #2
1/4" = 1'-0"

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PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4447
NEWPORT
BEACH, CA
STATE OF OREGON
2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET

3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE

INTERIOR ELEVATION - SUPPORT AREAS

SHEET NUMBER

A2-12

GENERAL NOTES

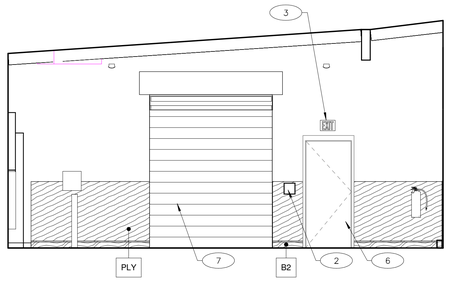
1. SEE ROOM FINISH SCHEDULE ON SHEET A6-01 FOR ALL FLOOR, WALL & CEILING MATERIALS NOT NOTED ON ELEVATIONS.
2. SEE FINISH SCHEDULE ON A6-01 FOR ALL FINISH MATERIALS.

WALL MATERIAL

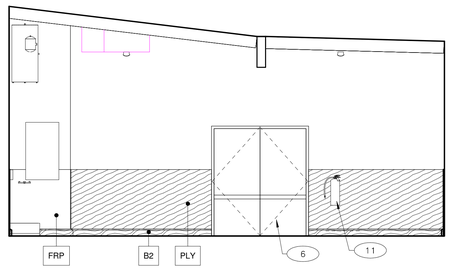
MARK	DESCRIPTION
MFR	PRE-FINISHED COOLER/FREEZER BOX PANELS (PER MFR.)
FRP	FIBER REINFORCED PANELS - HT. PER INT. ELEVS.
PLY	1/2" CDX PLYWD.

KEYNOTES - STOCK AREA

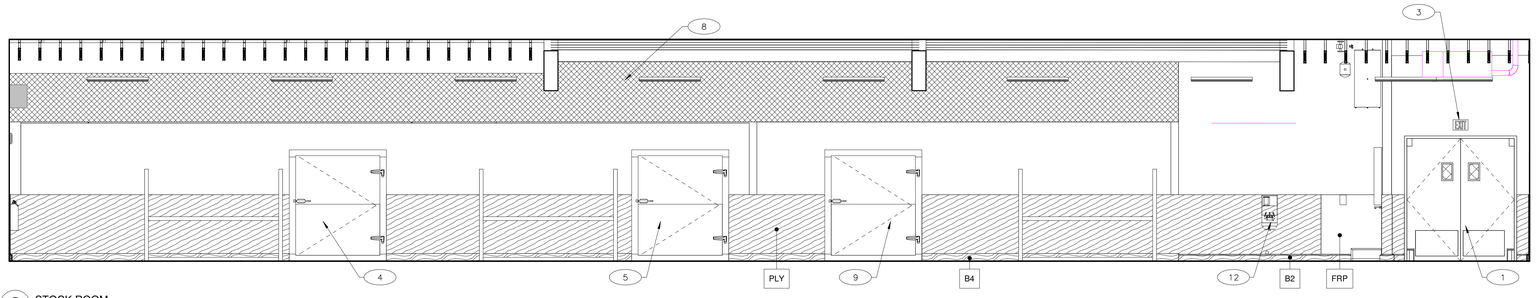
MARK	NOTE
1	TRAFFIC IMPACT DOORS - SEE DOOR SCHEDULE
2	TACTILE EXIT SIGNAGE
3	ILLUMINATED EXIT SIGN - SEE ELECTRICAL SHEETS
4	DAIRY COOLER BOX PER SHOP DRAWINGS
5	MEAT COOLER BOX PER SHOP DRAWINGS
6	DOOR. SEE DOOR SCHEDULE
7	ROLL-UP DOOR - SEE SCHEDULE
8	PROVIDE METAL STUDS ABOVE DAIRY AND MEAT COOLERS WITH WWF SCREENING
9	FREEZER WALK-IN BOX PER SHOP DRAWINGS
11	SURFACE MOUNTED FIRE EXTINGUISHER - REFER TO CODE DATA SHEET FOR ADDITIONAL INFORMATION
12	EMERGENCY EYEWASH -REFER TO PLUMBING SHEETS FOR MORE INFO.
13	ELECTRICAL EQUIPMENT - REFER TO ELECTRICAL SHEETS FOR MORE INFO.
14	BALER (FOR CARDBOARD)
15	BALER DISCONNECT
16	FORKLIFT CHARGER - REFER TO ELECTRICAL SHEETS FOR MORE INFO.



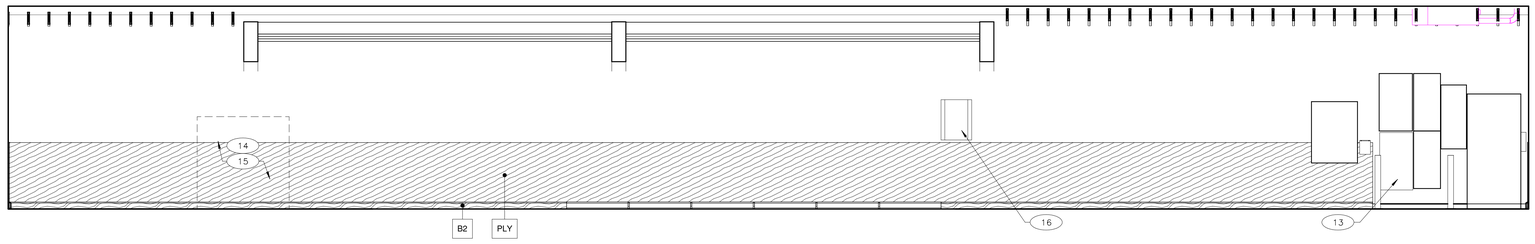
4 STOCK ROOM
1/4" = 1'-0"



3 STOCK ROOM
1/4" = 1'-0"



2 STOCK ROOM
1/4" = 1'-0"



1 STOCK ROOM
1/4" = 1'-0"

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PROJECT TEAM

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DOUGLAS S. COUPER
4447
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D. COUPER
PROJECT MANAGER
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QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

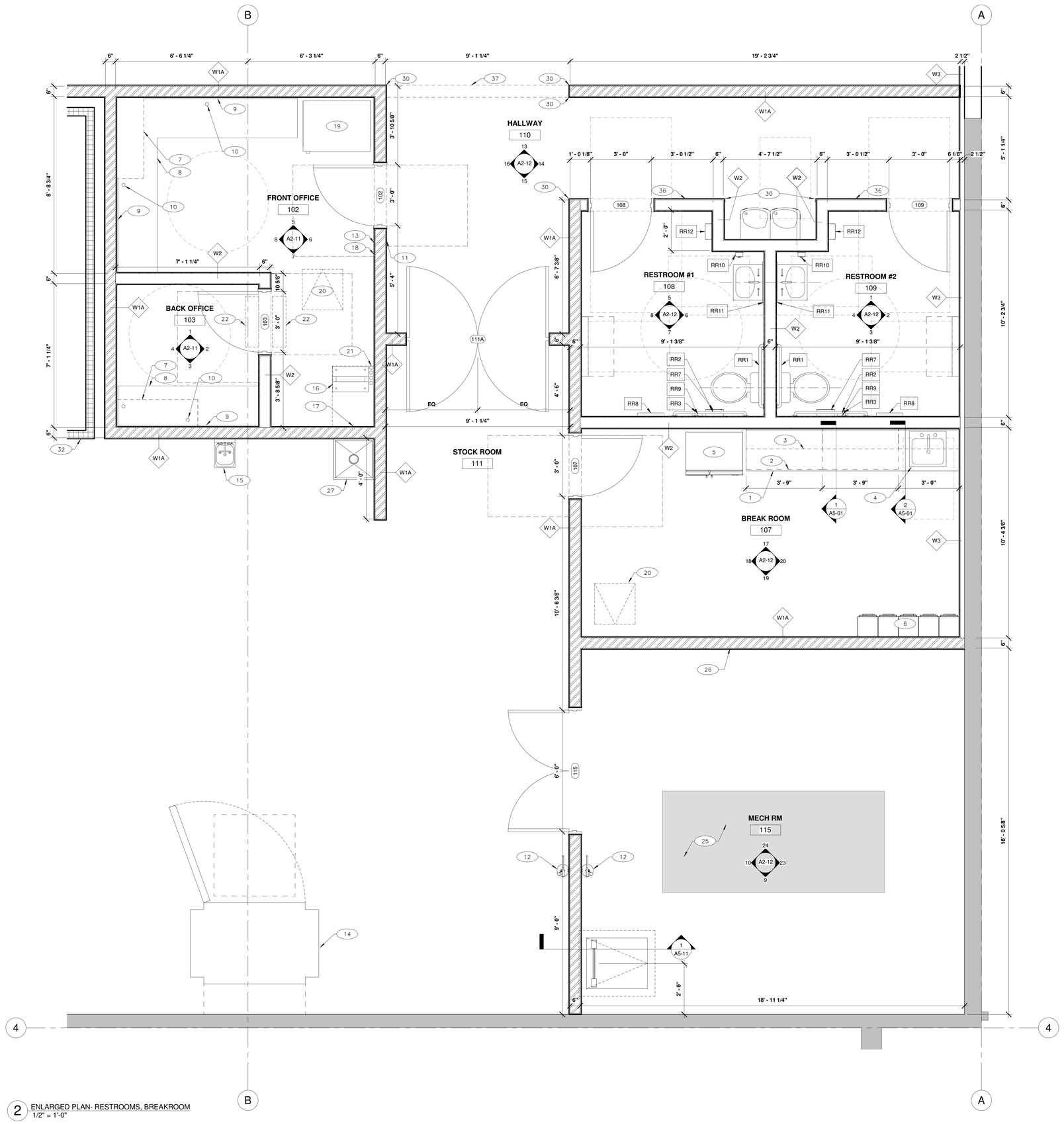
PROJECT NUMBER
20230973.0

SHEET TITLE

INTERIOR ELEVATIONS - STOCK AREA

SHEET NUMBER

A2-13



2 ENLARGED PLAN- RESTROOMS, BREAKROOM
1/2" = 1'-0"

WALL LEGEND

SEE SHEET A5-02 FOR WALL TYPES AND INSULATION/FINISHES

= EXISTING WALLS TO REMAIN
= LOAD-BEARING / SHEAR WALLS (REFER TO STRUCTURAL SHEETS)
= FULL HEIGHT PARTITIONS (TO BOTTOM OF ROOF DECK)
= PARTITIONS (TO BOTTOM OF CEILING)
= COOLER WALLS (BY MANUF.)

GENERAL NOTES

GENERAL OFFICE NOTES:

1. G.C. TO COORDINATE AND VERIFY LOCATIONS OF ALL OFFICE EQUIPMENT WITH GROCERY OUTLET PROJECT MANAGER PRIOR TO INSTALLATION.
2. ALL DEVICE PLUGS AND CONVENIENCE OUTLETS SHALL BE AT ACCESSIBLE HEIGHTS.
3. ALL J-BOXES/ JACKS TO BE LOCATED UNDER THE COUNTERS UNLESS NOTED OTHERWISE.
4. REFER TO ACCESSIBILITY SHEET G5-01 FOR MOUNTING HEIGHTS AND REQUIRED FLOOR CLEARANCES
5. PROVIDE 3/4" PLYWOOD ABOVE CEILING FRAMING AT OFFICES, 1'-0" AWAY FROM WALLS.

GENERAL RESTROOM NOTES:

1. REFER TO ACCESSIBILITY SHEET G5-01 FOR MOUNTING HEIGHTS, LOCATIONS AND REQUIRED FLOOR CLEARANCES OF FIXTURES AND ACCESSORIES.
2. REFER TO SHEET G5-01 FOR MOUNTING HEIGHTS AND REQUIRED ACCESSIBILITY CLEARANCE INFORMATION.
3. SEE FULL RESTROOM ACCESSORIES SCHEDULE ON SHEET A6-01. ALL FIXTURES AND ACCESSORIES CAN BE SUBSTITUTED WITH AN APPROVED EQUAL.

GENERAL BREAKROOM NOTES:

1. REFER TO ACCESSIBILITY SHEET G5-01 FOR MOUNTING HEIGHTS AND REQUIRED FLOOR CLEARANCES.
2. WHERE EMPLOYEE LOCKERS ARE PROVIDED AT LEAST 5%, BUT NOT LESS THAN (1), SHALL COMPLY WITH APPLICABLE ACCESSIBILITY REQUIREMENTS FOR CLEAR FLOOR SPACE, REACH RANGE, AND OPERABLE PARTS.

RR ACCESSORIES SCHEDULE (ABBREVIATED)

MARK	DESCRIPTION
RR1	GRAB BAR- 36"
RR2	GRAB BAR- 42"
RR3	GRAB BAR- 18"
RR4	WATER CLOSET- FLOOR MOUNT
RR5	LAVATORY- WALL HUNG
RR6	BABY CHANGING STATION
RR7	SANITARY NAPKIN DISPOSAL
RR8	SEAT COVER DISPENSER
RR9	TOILET TISSUE DISPENSER
RR10	SOAP DISPENSER
RR11	MIRROR
RR12	HAND DRYER
RR14	DRINKING FOUNTAIN- BI-LEVEL

KEYNOTES - ENLARGED PLANS

MARK	NOTE
1	P.LAM. COUNTERTOP W/ 4" INTEGRAL BACK SPLASH
2	P.LAM. FACED BASE CABINETS - DRAWERS/HINGED FACINGS AS SHOWN
3	P.LAM. FACED UPPER CABINETS W/ ADJUSTABLE SHELVES
4	SINGLE BASIN SINK W/ FAUCET. REFER TO PLUMBING DRAWINGS
5	REFRIGERATOR BY G.O.I.
6	LOCKERS BY G.O.I.
7	(3) ROWS OF 4'-0" X16" DP. LAMINATE SHELVING. PROVIDE ADJUSTABLE WALL BRACKETS AND CHANNELS
8	+ 30" HIGH PLASTIC LAMINATE COUNTERTOP WITH PERMANENT HEAVY DUTY METAL BRACES
9	DEDICATED 20 AMP CIRUIT PLUG STRIP WITH SIMPLEX PLUGS @ 12" O.C. MOUNT 12" ABOVE COUNTERTOP.
10	COUNTERTOP GROMMET - 2" DIA. PLASTIC GROMMET, WHITE FINISH. LOCATE GROMMET HOLES AT CENTER OF EACH LENGTH OF COUNTERTOP. VERIFY LOCATIONS WITH G.O.I. P.M.
11	ROOM IDENTIFICATION SIGNAGE PER ACCESSIBILITY SIGNAGE REQUIREMENTS
12	SURFACE MOUNTED FIRE EXTINGUISHER - REFER TO CODE DATA SHEET FOR ADDITIONAL INFORMATION
13	REFRIGERATION CONTROL PANEL. REFER TO 'R' SHEETS
14	BALER - REFER TO E SHEETS FOR ELECTRICAL REQUIREMENTS
15	EYE WASH STATION - SEE PLUMBING SHEETS FOR MORE INFO.
16	DATA RACK AND SERVER, BY G.O.I.
17	LOCATE (2) OUTLETS, 2'-6" FROM END WALL, (1) AT 16" A.F.F. AND (1) AT 48" A.F.F.
18	OUTLET FOR TIME CLOCK. REFER TO ELECTRICAL DRAWINGS.
19	SAFE.
20	24" X 24" CEILING ACCESS PANEL ABOVE
21	(4) CONDUITS, 26" FROM BACK WALL TO FRONT OF DATA RACK ABOVE CEILING TO +7'-2" A.F.F. (1) VOICE, (1) DATA, (1) CAMERA, (1) SPEAKER
22	SPLIT SYSTEM FAN COIL ABOVE DOOR. REFER TO MECHANICAL DRAWINGS
25	REFRIGERATION COMPRESSOR RACK W/ DRIP PAN. REFER TO 'R' SHEETS FOR INFORMATION. REFER TO STRUCTURAAL DRAWINGS FOR ATTACHMENT TO FLOOR DECK.
26	G.C. TO PROVIDE (2) 4'x8' PLYWOOD SHEETS FOR MOUNTING OF REFERENCE DATA DRAWINGS. LOCATE PER G.O.I. P.M.
27	MOP SINK - SEE PLUMBING SHEETS FOR MORE INFO.
30	STAINLESS STEEL CORNER GUARD (CG1) - REFER TO FINISH SCHEDULE ON A6-01 FOR SPECIFICATION.
32	COOLER/FREEZER WALLS.
36	ROOM IDENTIFICATION SIGNAGE PER ACCESSIBILITY SIGNAGE REQUIREMENTS
37	LINE INDICATES SOFFIT ABOVE

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PROJECT TEAM

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02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT · DOUGLAS S. COUPER · 4947 · NEWPORT BEACH, CA · 2/20/2024 · STATE OF OREGON

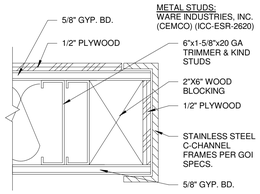
PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALEK
QUALITY CONTROL
J. MALEK
DRAWN BY
I. HINOV

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

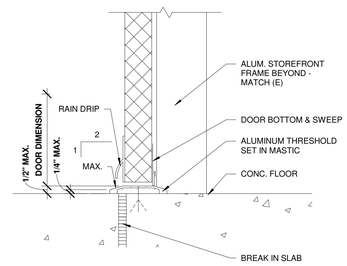
PROJECT NUMBER
20230973.0

SHEET TITLE
ENLARGED PLANS

SHEET NUMBER
A4-01



22 DETAIL- TRAFFIC (IMPACT) DOOR JAMB
3" = 1'-0"



12 DETAIL- METAL DOOR THRESHOLD
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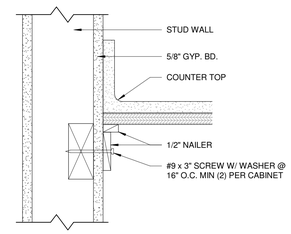
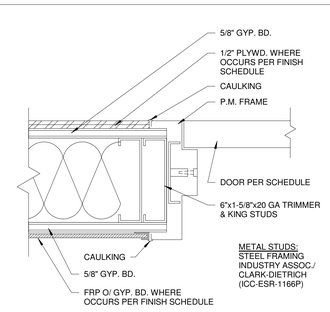


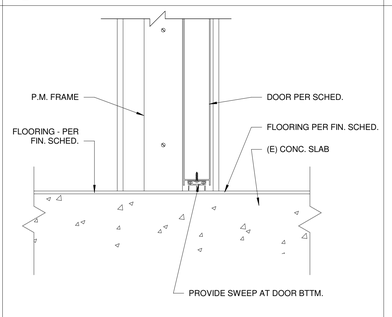
7 DETAIL- CABINET ANCHORAGE @ COUNTER
3" = 1'-0"

GENERAL NOTES

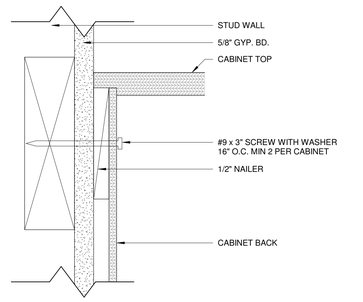
1. SEE INTERIOR FINISHES FOR ADDITIONAL INFORMATION



16 DETAIL- INTERIOR DOOR JAMB (HEAD SIM.)
3" = 1'-0"

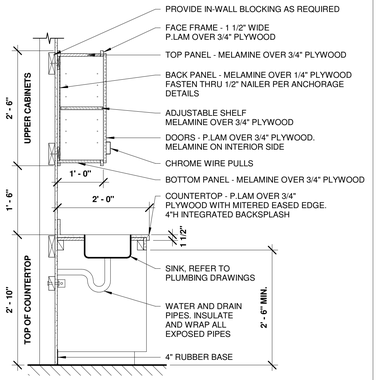


11 DETAIL- INTERIOR DOOR BOTTOM
3" = 1'-0"

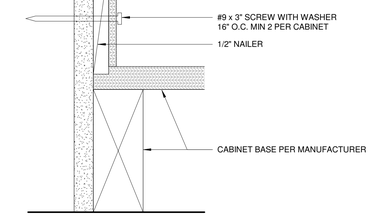


6 DETAIL- CABINET ANCHORAGE AT TOP
6" = 1'-0"

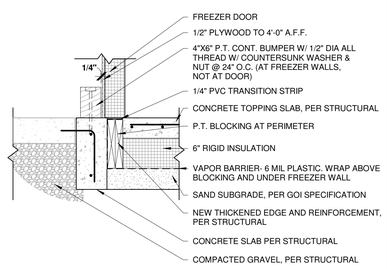
NOTES
- COUNTERTOP DEPTH & BASE / UPPER CABINET SIZES TO BE STANDARD SIZES, U.N.O. - REFER TO ENLARGED PLAN FOR LENGTHS OF CABINETS.
- REFER TO FINISH SCHEDULE ON A6-01 FOR PLASTIC LAMINATE SPECIFICATION.
- MELAMINE TO BE USED FOR ALL INTERIOR CABINERY SURFACES AND WHERE NOTED ON THE DETAIL BELOW - COLOR TO BE WHITE



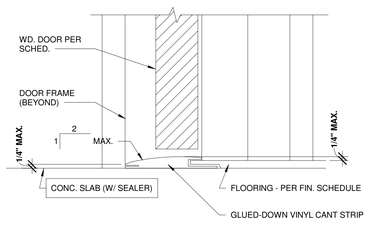
2 SECTION- CASEWORK @ SINK
3/4" = 1'-0"



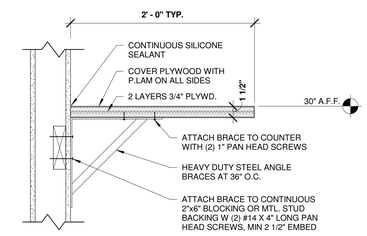
5 DETAIL- CABINET ANCHORAGE AT BOTTOM
6" = 1'-0"



24 FREEZER SLAB DETAIL
1" = 1'-0"

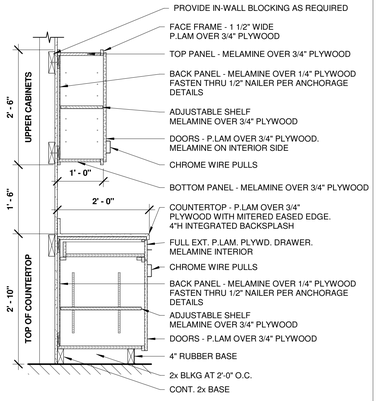


9 DETAIL- TYPICAL FLOOR TRANSITION
3" = 1'-0"

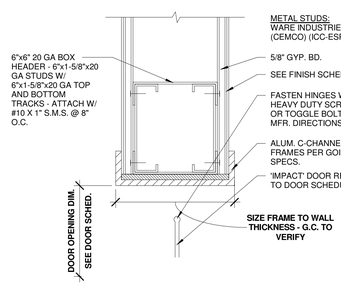


4 DETAIL- OFFICE COUNTER
1 1/2" = 1'-0"

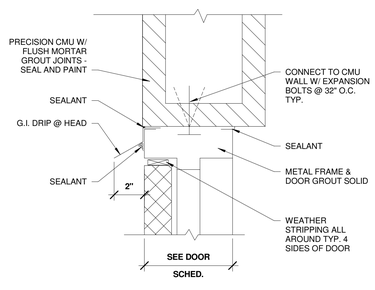
NOTES
- COUNTERTOP DEPTH & BASE / UPPER CABINET SIZES TO BE STANDARD SIZES, U.N.O. - REFER TO ENLARGED PLAN FOR LENGTHS OF CABINETS.
- REFER TO FINISH SCHEDULE ON A6-01 FOR PLASTIC LAMINATE SPECIFICATION.
- MELAMINE TO BE USED FOR ALL INTERIOR CABINERY SURFACES AND WHERE NOTED ON THE DETAIL BELOW - COLOR TO BE WHITE



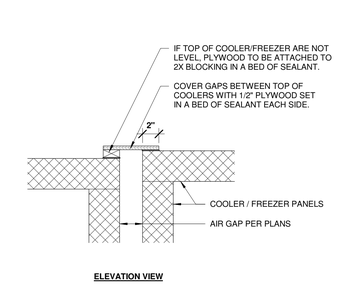
1 SECTION- CASEWORK @ COUNTER
3/4" = 1'-0"



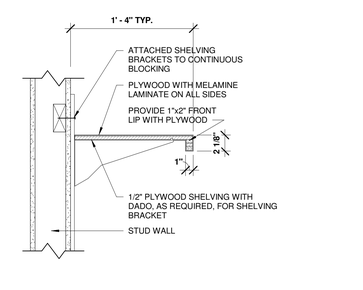
23 DETAIL- TRAFFIC (IMPACT) DOOR HEAD
3" = 1'-0"



18 DETAIL- METAL DOOR HEAD (JAMB SIM.)
3" = 1'-0"



8 DETAIL- COOLER GAP AT TOP
1 1/2" = 1'-0"



3 DETAIL- ADJUSTABLE SHELVES
1 1/2" = 1'-0"

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I. HINOV

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3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
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SHEET TITLE

HEAD/JAMB AND CASEWORK DETAILS

SHEET NUMBER

A5-01

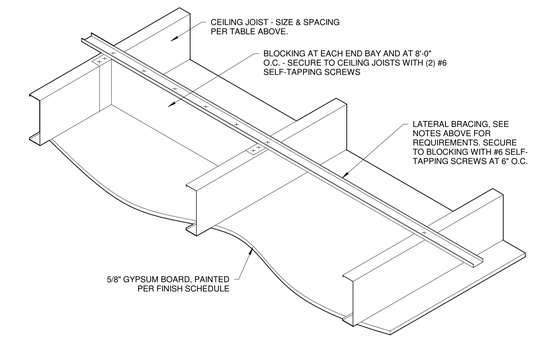
Last Modified:2/20/2024, 5:48:57 PM Drawing Name:C:\Users\hinov\Documents\Salem_OR_-_Arch_-_R22_hinov2k8k9.rvt

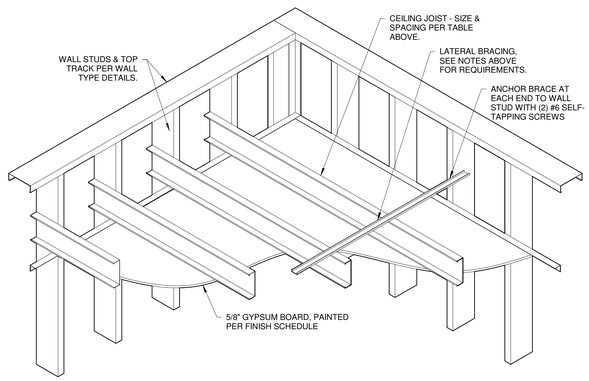
CEILING JOIST SIZE TABLE

CEILING JOIST SIZE & SPACING		MAX. ALLOWABLE JOIST SPAN
600S125-33 AT 24" O.C.		8'-1"
600S137-33 AT 24" O.C.		9'-2"
600S162-33 AT 24" O.C.		10'-5"
600S162-43 AT 24" O.C.		11'-2"
600S162-43 AT 16" O.C.		12'-5"
600S162-43 AT 12" O.C.		13'-5"
600S137-33 AT 16" O.C.		14'-6"
600S137-43 AT 16" O.C.	WITH	15'-9"
600S162-33 AT 16" O.C.	MID-SPAN	16'-8"
600S162-43 AT 16" O.C.	BRACING	17'-11"
600S162-43 AT 12" O.C.		19'-4"

GENERAL NOTES - CEILING JOISTS

1. THIS TABLE IS FOR INTERIOR CEILINGS ONLY (L/240 WITH 10 PSF MAXIMUM VERTICAL LOADING). BRITTLE FINISHES. CEILINGS ARE NOT INTENDED TO BE OCCUPIED OR LOADED FROM THE TOP SIDE. SEE STRUCTURAL FOR PLATFORM OR MEZZANINE JOISTS.
2. JOIST SIZED PER CURRENT AISI SSMA SPECIFICATIONS. Fy = 33 KSI FOR 18 GAGE AND LIGHTER (Fy = 50 KSI OPTIONAL).
3. WEB STIFFENERS ARE NOT REQUIRED AT JOIST ENDS. WEB PUNCHOUTS SHALL NOT OCCUR WITHING 12" OF BEARING. MINIMUM BEARING WIDTH OF 1" IS REQUIRED.
4. SINGLE LAYER OF 5/8" GYPSUM BOARD SHALL BE INSTALLED WITH LONG DIRECTION PERPENDICULAR TO FRAMING ON BOTTOM SIDE OF JOISTS USING MINIMUM NO.6 TYPE 'S' DRYWALL SCREWS SPACED AT A MAXIMUM OF 12" O.C.
5. WHERE REQUIRED, PROVIDE MID-SPAN LATERAL BRACING PER DETAILS SHOWN BELOW. BRACING TO CONSIST OF 18 GAGE COLD-ROLLED CHANNEL (CRC) OR 2 1/2" X 18 GAGE MINIMUM COLD-FORMED STEEL TRACK.





14 TYPICAL GYP. BD. CEILING ASSEMBLY
1" = 1'-0"

GENERAL NOTES - WALL TYPES

1. REFER TO WALL LEGEND AND WALL TYPES FOR STUD SIZING INFORMATION.
2. METAL STUDS TO CONFORM TO THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) ICC REPORT (ESR-3064P).
3. REFER TO SHEET A5-02 FOR PARTITION DETAILS.
4. PROVIDE BLOCKING FOR ALL CASEWORK, FIXTURES, AND ACCESSORIES PER MANUFACTURER'S SPECIFICATIONS.
5. SEE ROOM FINISH SCHEDULE FOR PAINTING REQUIREMENTS.
6. PROVIDE WATER RESISTANT GYPSUM BOARD AT ALL 'WET' AREAS (RESTROOMS, DRINKING FOUNTAIN, ETC.)
7. EXTEND METAL STUD FRAMING TO B.O. CEILING JOISTS OR ROOF DECK. REFER TO DETAIL 4/A5-02 FOR INFORMATION.
8. EXTEND SHEATHING TO B.O. HARD CEILING.
9. GYP. BD. TO BE TAPED AND SANDED TO A SMOOTH FINISH.
10. GYP. BD. CONTROL JOINTS TO BE ADDED AT TRAFFIC DOORS, WHERE CURTAIN WALL MEETS ROOM SEPARATION WALL AT DAIRY COOLER, AND TO ACCOMODATE GRAPHIC. 30'-0" O.C. MAX. GC TO COORDINATE WITH GO PM AND GRAPHICS VENDOR.

METAL FLOOR AND CEILING RUNNERS

METAL FLOOR AND CEILING RUNNERS (BOTTOM AND TOP TRACKS)

1. DRYWALL TRACK: FORMED FROM COLD FORMED STEEL, GA. TO MATCH WALL STUDS (20 U.S. STD GA. MINIMUM). WIDTH TO SUIT SHAPED METAL STUDS. 1 1/4" FLANGES MINIMUM TYPICAL FOR BOTTOM AND TOP RUNNERS (TRACKS).
2. DEFLECTION TRACK OR HEAD OF WALL CONNECTIONS AT RATED PARTITIONS SHALL CONFIRM TO UL #2079 FOR CYCLE MOVEMENT. PROVIDE POSITIVE MECHANICAL CONNECTION OF FRAMING TO STRUCTURE, ALLOWING FOR VERTICAL MOVEMENT WITHIN CONNECTIONS. MINIMUM OF 0.0312 (20 GA.) COLD FORMED STEEL. SEE STRUCTURAL DRAWINGS FOR DEFLECTION TRACK SIZE AND ATTACHMENT TO STRUCTURE.
   A. PRODUCT: CLARKFIETRICH| [BLAZEFRAME DSL] [MAXTRAK] SLOTTED DEFLECTION TRACK AS MANUFACTURERED BY THE STEEL NETWORK, VERTICLIP OR VERTITRACK OR EQUAL MADE BY METAL-LITE INC.
   B. FIRETRAK (INCLUDING STUD CLIPS) BY FIRETRAK CORP. OR EQUAL MADE BY METAL-LITE INC.

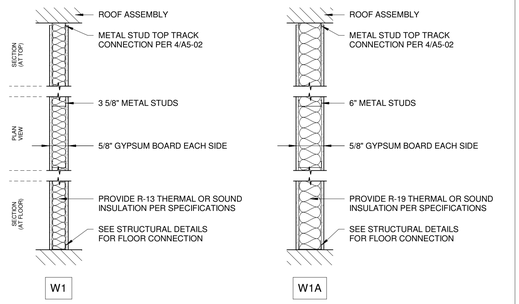
STUD SIZE TABLE

STUD SIZE & SPACING	MAX HEIGHT
250S125-33 (20 GA) AT 24" O.C.	10'-6"
350S125-27 (22 GA) AT 24" O.C.	12'-9"
362S125-33 (20 GA) AT 24" O.C.	14'-0"
400S125-33 (20 GA) AT 24" O.C.	15'-1"
400S162-33 (20 GA) AT 24" O.C.	16'-7"
400S162-43 (18 GA) AT 24" O.C.	18'-0"
600S137-33 (20 GA) AT 24" O.C.	21'-9"
600S137-43 (18 GA) AT 24" O.C.	23'-9"
600S162-33 (20 GA) AT 16" O.C.	26'-0"
600S162-43 (18 GA) AT 16" O.C.	28'-4"
600S162-54 (16 GA) AT 16" O.C.	30'-5"
800S137-43 (18 GA) AT 16" O.C.	34'-4"
800S162-54 (16 GA) AT 16" O.C.	38'-4"
800S162-54 (16 GA) AT 12" O.C.	42'-3"

NOTES:

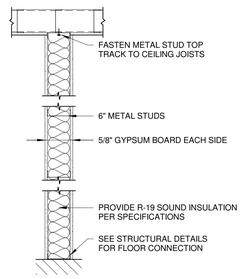
1. THIS TABLE IS FOR INTERIOR NON-BEARING WALLS ONLY (L/240 WITH 5 PSF LATERAL), BRITTLE FINISHES. SEE STRUCTURAL FOR BEARING AND/OR SHEAR WALLS.
2. STUDS SIZED PER CURRENT AISI SSMA SPECIFICATIONS. Fy = 33 KSI FOR 18 GAGE AND LIGHTER (Fy = 50 KSI OPTIONAL) AND Fy = 50 KSI FOR 16 GAGE AND HEAVIER.
3. WEB STIFFENERS NOT REQUIRED TOP AND BOTTOM. WEB PUNCHOUTS SHALL NOT OCCUR WITHIN 12" OF BEARING.
4. SINGLE LAYER OF 5/8" GYPSUM BOARD SHALL BE INSTALLED IN THE VERTICAL ORIENTATION TO BOTH SIDES OF WALL OVER FULL-HEIGHT USING MINIMUM NO. 6 TYPE 'S' DRYWALL SCREWS SPACED AT A MAXIMUM OF 12" O.C.

WALL TYPES

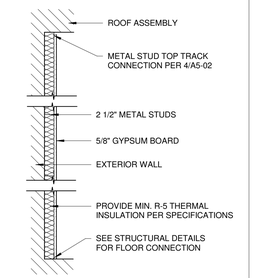


W1

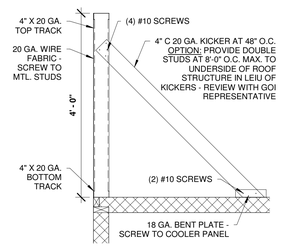
W1A



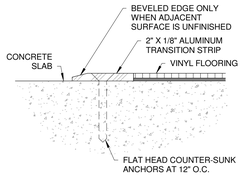
W2



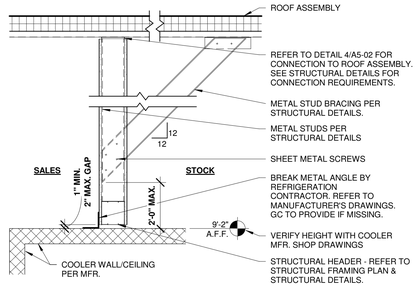
W3



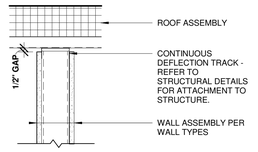
12 GUARDRAIL AT COOLER / FREEZER BOXES
3/4" = 1'-0"



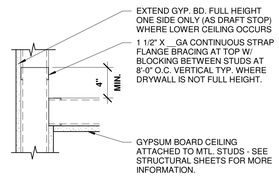
11 DETAIL - VINYL FLOORING TRANSITION
6" = 1'-0"



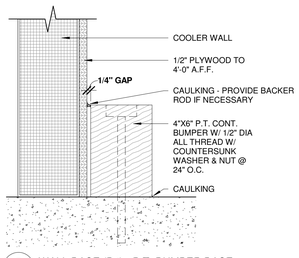
10 SECTION - PARTITION WALL AT DAIRY CASE
3/4" = 1'-0"



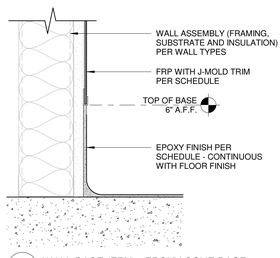
4 TOP TRACK CONNECTION
1 1/2" = 1'-0"



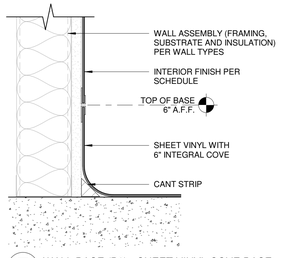
3 PARTITION DETAIL AT CEILING
1 1/2" = 1'-0"



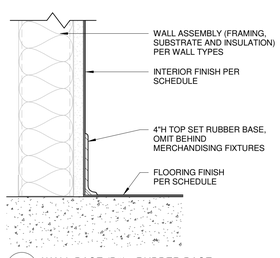
9 WALL BASE (B4) - P.T. BUMPER BASE
3" = 1'-0"



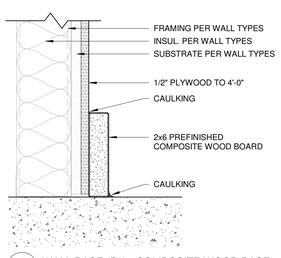
8 WALL BASE (EPX) - EPOXY COVE BASE
3" = 1'-0"



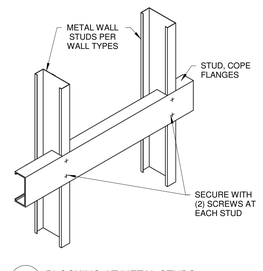
7 WALL BASE (B3) - SHEET VINYL COVE BASE
3" = 1'-0"



6 WALL BASE (B1) - RUBBER BASE
3" = 1'-0"



5 WALL BASE (B2) - COMPOSITE WOOD BASE
3" = 1'-0"



2 BLOCKING AT METAL STUDS
12" = 1'-0"

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J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET

3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

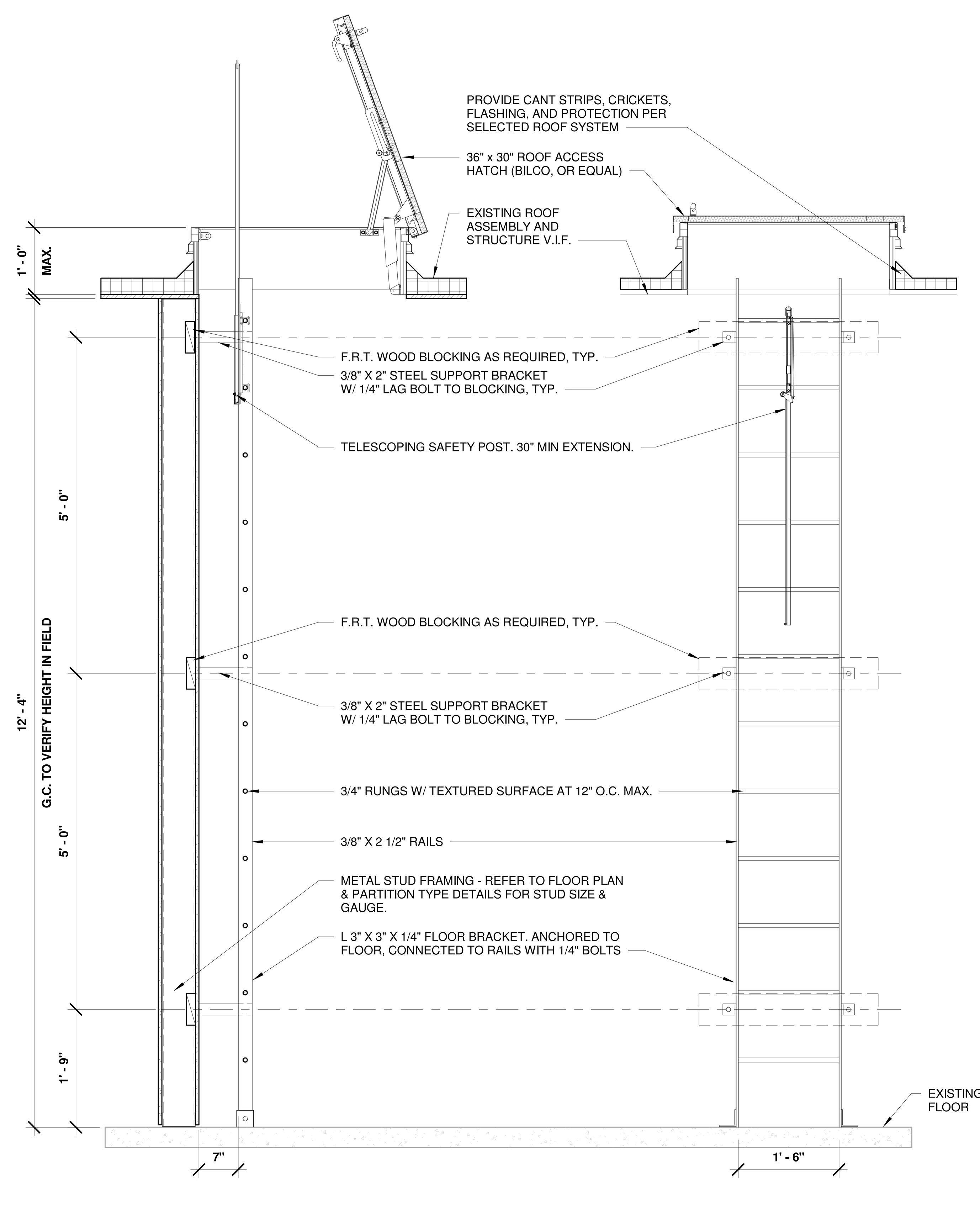
PARTITION TYPES, INFORMATION, AND DETAILS

SHEET NUMBER

A5-02

NOTES:

1. REFER TO STRUCTURAL DRAWINGS FOR SIZE AND ADDITIONAL INFORMATION ABOUT ALL FRAMING MEMBERS
2. LADDER SHALL MEET ALL OSHA STANDARDS AND REQUIREMENTS
3. LADDER TO BE SHOP PRIMED AND (2) FIELD COATS ENAMEL (SAFETY YELLOW)



1 DETAIL- ROOF ACCESS LADDER & HATCH
3/4" = 1'-0"

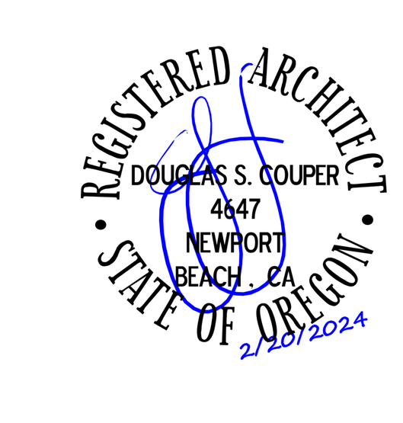
www.greenbergfarrow.com
4695 MacArthur Court
Suite 1450
Newport Beach, CA 92614
t: 949 296 0450

PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

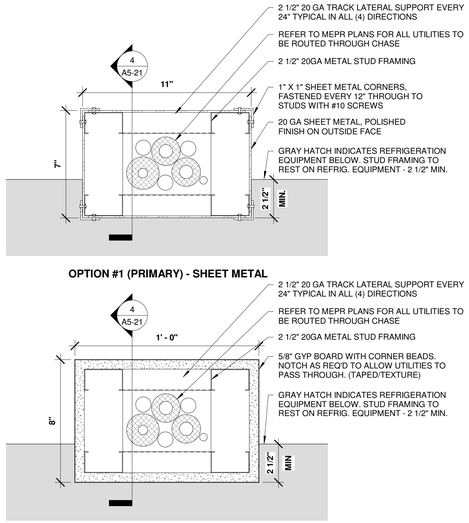


PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

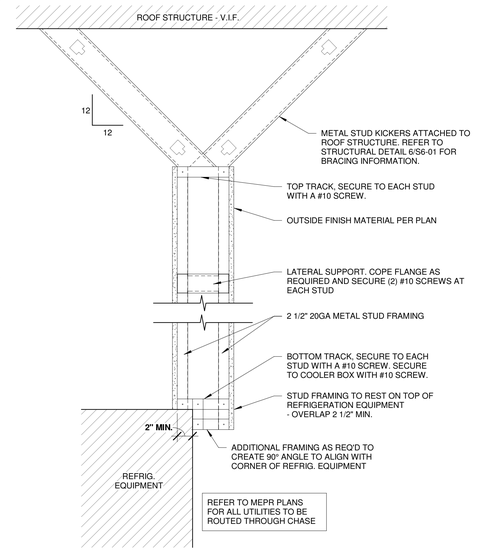
PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
PLATFORM DETAILS

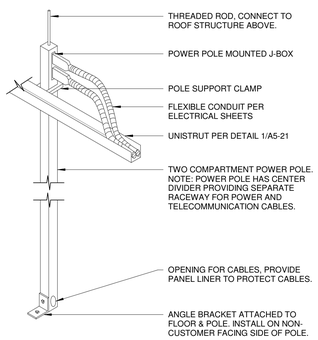
SHEET NUMBER
A5-11



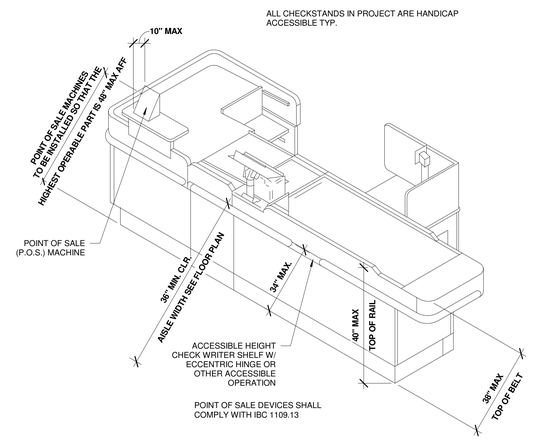
5 SUSPENDED REFRIGERATION CHASE PLAN
3" = 1'-0"



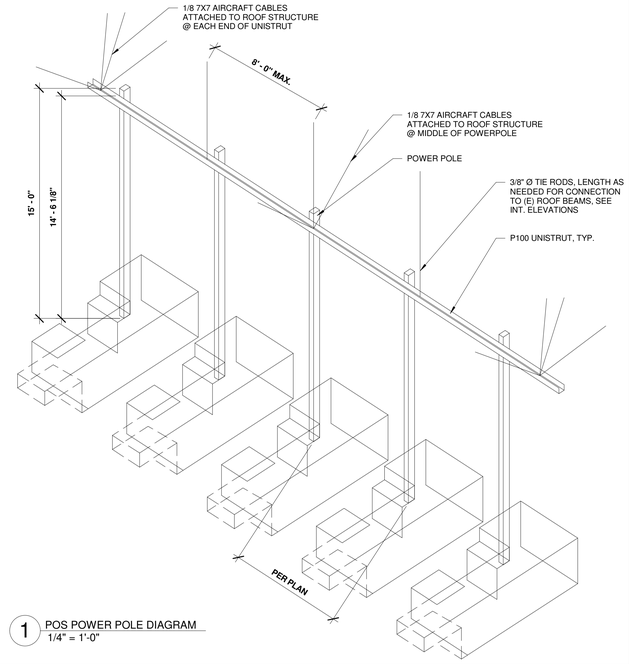
4 SUSPENDED REFRIGERATION CHASE ELEVATION
1 1/2" = 1'-0"



3 ENLARGED POS POWER POLE DETAIL
1/4" = 1'-0"



2 ACCESSIBLE CHECKSTAND
1/2" = 1'-0"



1 POS POWER POLE DIAGRAM
1/4" = 1'-0"

www.greenbergfarrow.com
4695 MacArthur Court
Suite 1450
Newport Beach, CA 92614
t: 949 296 0450

PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4647
NEWPORT BEACH, CA
STATE OF OREGON
2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
P.O.S. & REFRIG. CHASE DETAILS

SHEET NUMBER
A5-21

ROOM FINISH SCHEDULE

ROOM NO.	ROOM NAME	FLOOR FINISH	WALL								CEILING			REMARKS
			NORTH		SOUTH		EAST		WEST					
			BASE	WALL	BASE	WALL	BASE	WALL	BASE	WALL	MATERIAL	FINISH	HEIGHT	
101	SALES FLOOR	PC	B1	P1 (ES)	B1	P1 (ES)	B1	P1 (ES)	B1	P2 (ES)	-	-	-	1, 2, 3, 4, 10, 15
102	FRONT OFFICE	PC	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	GYP	P4 (SG)	9'-0"	2, 15
103	BACK OFFICE	PC	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	GYP	P4 (SG)	9'-0"	2, 15
104	DAIRY/PRODUCE COOLER	SC2	MF	MF	MF	MF	MF	MF	MF	MF	-	MF	-	5, 6, 12, 15
105	MEAT COOLER	SC2	MF	MF	MF	MF	MF	MF	MF	MF	-	MF	-	5, 6, 12, 15
106	FREEZER	SC2	MF	MF	MF	MF	MF	MF	MF	MF	-	MF	-	5, 6, 12, 15
107	BREAK ROOM	SC1	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	GYP	P4 (SG)	8'-0"	6, 10, 15
108	RESTROOM #1	EPX	EPX	FRP	EPX	FRP	EPX	FRP	EPX	FRP	GYP	P4 (SG)	8'-0"	7, 8, 14, 15
109	RESTROOM #2	EPX	EPX	FRP	EPX	FRP	EPX	FRP	EPX	FRP	GYP	P4 (SG)	8'-0"	7, 8, 14, 15
110	HALLWAY	PC	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	B1	P1 (SG)	GYP	P4 (SG)	9'-0"	11, 15
111	STOCK ROOM	SC1	B2	UNFINISHED	B2	UNFINISHED	B2	UNFINISHED	B2	UNFINISHED	-	-	-	5, 6, 13, 15
115	MECH RM.	SC1	-	UNFINISHED	-	UNFINISHED	-	UNFINISHED	-	UNFINISHED	-	-	-	5, 6, 13, 15

GENERAL FINISH NOTES

1. SALES FLOOR WALL PAINT TO BE SHERWIN WILLIAMS CASHMERE INTERIOR ACRYLIC LATEX WITH AN EGGSHELL FINISH.
2. GRIND SALES AND OFFICE FLOORS TO A HIGH GLOSS SHINE (60 - 70 ON GLOSS METER), REF SPECIFICATIONS FOR FINISH.
3. FALSE COLUMNS COVER REFRIGERATION LINES TO REACH-IN CASES TO BE P1 "NATURAL LINEN", EGGSHELL FINISH.
4. STEEL SUPPORT COLUMNS ON SALES FLOOR TO BE P1 "NATURAL LINEN", SEMI-GLOSS.
5. EXTERIOR OF WALK-IN BOXES AND ANY GYP. BD. WALLS IN THE STOCK ROOM SHALL RECEIVE 1/2" PLYWOOD WAINSCOT CONTINUOUS TO 4'-0" A.F.F.
6. EXTERIOR OF WALK-IN BOXES TO HAVE BA BASE HELD 1/4" AWAY FROM PLYWOOD WAINSCOT AND BOLTED DOWN TO THE SLAB. REFER TO DETAIL 24/A5-01 FOR FREEZER, DETAIL 9/A5-02 FOR COOLERS.
7. USE WATER RESISTANT GYPSUM BOARD AT WALLS.
8. USE WATER RESISTANT GYPSUM BOARD AT CEILING.
9. SALES FLOOR CEILING STRUCTURE TO REMAIN EXPOSED. EXPOSED ROOF INSULATION TO RECEIVE WHITE SCRIM. PROVIDE AMERICOVER DURA-SKRIM 6WW, OR SIMILAR.
10. NO FINISH REQUIRED BENEATH REFRIGERATION EQUIPMENT.
11. PROVIDE F.R.P. TO 4'-0" A.F.F. AT DRINKING FOUNTAIN ALCOVE.
12. COOLERS / FREEZER ARE INSTALLED WITH MFR-PROVIDED COVED BASE. GC TO PROVIDE SEALANT AT JUNCTION OF COVED BASE AND SEALED CONCRETE FLOOR SLAB.
13. PROVIDE 5'-0" X 5'-0" EPOXY FLOOR FINISH, EPOXY BASE, AND F.R.P. TO 4'-0" AT MOP SINK.
14. G.C. TO BID AN ALTERNATE PRICE ESTIMATE FOR SHEET VINYL FLOORING/BASE IN LIEU OF EPOXY IN THE RESTROOMS.
15. DEVICE/COVER PLATES COLORS TO BE:
    A. BLACK WHEN LOCATED IN THE TOEKICKS OF EQUIPMENT
    B. GREEN WHEN USED AT OCCUPANCY SENSORS
    C. WHITE AT ALL OTHER LOCATIONS U.N.O.

RESTROOM FIXTURES & ACCESSORIES

MARK	DESCRIPTION	MANUF.	MODEL	COMMENTS
RR1	GRAB BAR- 36"	Bobrick	B-6806x36	1 1/2" DIA. X 36" LONG. X 18. GA. S.STL. GRAB BAR
RR2	GRAB BAR- 42"	Bobrick	B-6806x42	1 1/2" DIA. X 42" LONG. X 18. GA. S.STL. GRAB BAR
RR3	GRAB BAR- 18"	Bobrick	B-6806x18	1 1/2" DIA. X 18" LONG. X 18. GA. S.STL. GRAB BAR
RR4	WATER CLOSET- FLOOR MOUNT	---	---	REFER TO PLUMBING DRAWINGS FOR INFORMATION.
RR5	LAVATORY- WALL HUNG	---	---	REFER TO PLUMBING DRAWINGS FOR INFORMATION.
RR6	BABY CHANGING STATION	Koala Kare	KB300	COLOR: WHITE GRANITE 05
RR7	SANITARY NAPKIN DISPOSAL	Bobrick	B-254	
RR8	SEAT COVER DISPENSER	Bobrick	B-221	
RR9	TOILET TISSUE DISPENSER	Bobrick	B-3888 OR EQUAL	
RR10	SOAP DISPENSER	Bobrick	B-2111	
RR11	MIRROR	Bobrick	B-290 2436	
RR12	HAND DRYER	Dyson	Airblade V AB12 White	
RR14	DRINKING FOUNTAIN- BI-LEVEL	Oasis International	PG8ACSL	

ASSET PROTECTION SCHEDULE

TAG	DESCRIPTION	FINISH	SPECIFICATION
AC1	CORNER GUARD	SATIN FINISH	MANUFACTURER: JTC METALS SPEC: 18 GA SS CORNER GUARD W/ #4 FINISH 48" L, 2" LEGS, 3/8" WINGLETS, MOUNTING HOLES G.C. TO INSTALL WITH SELF-TAPPING SCREWS AND CLEAR SILICONE W/ SILICONE TOPPED EDGES
AC2	STAINLESS STEEL COLUMN WRAP	SATIN FINISH	MFR: STAINLESS ARCHITECTURAL SUPPLY OR SIM. 48"H, 20 GA 304 STAINLESS STEEL, #4 FINISH ALIGN JOINTS AWAY FROM CUSTOMER-FACING SIDE. PROVIDE CLEAR SILICONE AT JOINT EDGE & TOP OF WRAP. VERIFY COLUMN SIZES IN FIELD.
AC3	CART BUMPER	101 GRAY	2" POLYCARBONATE RECTANGULAR BUMPER MFR: McCUE SPEC: EDGE BUMPER MOUNT TWO (2) BUMPERS AT 5" A.F.F. & 2'-8" A.F.F. PER INTERIOR ELEVATIONS
AC4	STANDARD INTERIOR SAFETY BOLLARD	SAFETY YELLOW	POST GUARD: 4" X 42" BOLT DOWN BOLLARD MODEL # BDB 4-42 OR EQUAL. RECESS BASE PLATE AS REQUIRED.
AC5	EXTERIOR LOW-IMPACT BOLLARD	COLOR TO MATCH: P-5 "GROCERY OUTLET RED"	POST GUARD: 6" X 42" BOLT DOWN BOLLARD MODEL # BDB 6-42 OR EQUAL. RECESS BASE PLATE AS REQUIRED.
AC6	CART STOP	101 GRAY	MFR: McCUE SPEC: CARTSTOP RE
AC7	STEEL DOWNSPOUT PROTECTOR	PAINT TO MATCH P-5 "GROCERY OUTLET RED"	48" LENGTH, 1/4" STEEL G.C. TO VERIFY DOWNSPOUT SIZE PRIOR TO ORDERING
AC8	OVERHEAD DOOR TRACK GUARDS	SAFETY YELLOW	36"H, 1/4" STEEL FACTORY POWDERCOAT FINISH

MATERIAL KEY

MARK	DESCRIPTION	MARK	DESCRIPTION
MF	MANUFACTURER'S FINISH	(ES)	EGGSHELL FINISH
(SG)	SEMI-GLOSS FINISH		

INTERIOR FINISH SCHEDULE

MARK	MATERIAL	COLOR	DESCRIPTION
B1	BASE	BLACK	6" RUBBER BASE (REFER TO DETAIL 6/A5-02)
B2	COMP. WOOD BASE	PEBBLE GRAY	TREX COMPOSITE WOOD BOARD 2 X 6 SQUARE EDGE (REFER TO DETAIL 5/A5-02)
B3	SHEET VINYL COVE	MATCH SVF COLOR	(REFER TO DETAIL 7/A5-02)
B4	WOOD BUMPER	-	4" X 6" PRESSURE TREATED CONT. BUMPER. REFER TO DETAIL 24/A5-01 FOR FREEZER, DETAIL 8/A5-02 FOR COOLERS.
EPX	EPOXY	GRAY	OPTION #1: MFR: TERA LITE, SPEC: TERA-GEM III IFS OPTION #2 (ALTERNATE MFR): SILIKAL AMERICAS REFER TO DETAIL 8/A5-02 FOR BASE DETAIL
FRP	FIBERGLASS REINFORCED PANELS	COLOR: WHITE FINISH: PEBBLE	MARLITE STANDARD FRP, SPEC: P 100 WHITE
P1	PAINT	NATURAL LINEN	SHERWIN WILLIAMS #9109- CASHMERE @ SALES ONLY
P2	PAINT	HEART THROB	SHERWIN WILLIAMS #6866- CASHMERE
P3	PAINT	COCOA WHIP	SHERWIN WILLIAMS #9084- CASHMERE
P4	PAINT	GROCERY OUTLET WHITE	SHERWIN WILLIAMS- CUSTOM COLOR
PC	POLISHED CONCRETE		PER G.O.I SPECIFICATIONS - BY GOI'S VENDOR
PLAM	PLAM	DOVER WHITE	FORMICA #7197-58
SC1	CLEAR CONCRETE SEALER		CLEAR; PENETRATING; GREASE, OIL, AND ACID RESISTANT. SEALED CONCRETE (2 COATS) PER GOI SPECS.
SC2	CONCRETE WATER-PROOFER/ SEALER		MANUFACTURER: GHOSTSHIELD PRODUCT: SILOXA-TEK 8510 INSTALL PER MANUF. RECOMMENDATIONS
SVF	SHEET VINYL FLOORING	ALUMINUM (#18022)	MFR: MANNINGTON, SPEC: TERRENE
PLY	PLYWOOD		1/2" PLYWOOD

EXTERIOR FINISH SCHEDULE

MARK	MATERIAL	MFR.	SPECIFICATION
P-5	EXTERIOR PAINT	SHERWIN WILLIAMS	COLOR: "GROCERY OUTLET RED"
P-6	EXTERIOR PAINT	SHERWIN WILLIAMS	COLOR: "GROCERY OUTLET SHORELINE"
P-7	EXTERIOR PAINT	SHERWIN WILLIAMS	COLOR: "GROCERY OUTLET GRAY"
P-8	EXTERIOR PAINT	SHERWIN WILLIAMS	COLOR: "GROCERY OUTLET CHARCOAL"

FOR SHERWIN WILLIAMS PAINTS USE NATIONAL PARENT #GD34 PRC TO PRICE THE PRODUCTS

SHERWIN WILLIAMS CONTACT
JEREL BROWN - NATIONAL ACCOUNT EXECUTIVE
PHONE: (445) 776-5280
EMAIL: JEREL.BROWN@SHERWIN.COM

HARDWARE GROUPS

	SPEC	FINISH	MFR
GROUP A: (ENTRY DOORS)			
2	SFIC MORTISE CYLINDER	737P 43	US32D	SARGENT
BALANCE OF HARDWARE BY DOOR MANUFACTURER			
GROUP B: (EXIT DOOR)			
3	HINGE, FULL MORTISE	TA2314 NRP	US32D	MCKINNEY
1	RIM EXIT DEVICE (EO)	TB 5CH 8810 EO	US32D	SARGENT
1	SFIC MORTISE CYLINDER	737P 43 (ALARM)	US32D	SARGENT
1	SURFACE CLOSER (STOP)	CPS7500	689	NORTON
1	THRESHOLD	253x3AFG		PEMKO
1	SWEEP	XCL-111 OR XCL-151	ALUM.	XCLUDER
1	GASKETING (HEAD)	2893AV		PEMKO
2	GASKETING (JAMBS)	2903AV		PEMKO
1	RAIN GUARD	346C		PEMKO
1	EXIT ALARM	EAX-500	BLACK	DETEX CORP.
1	190° DOOR VIEWER	622	US32D	ROCKWOOD

NOTES: DOOR IS NORMALLY CLOSED AND LOCKED WITH NO EXTERIOR ACCESS.
ALARMED EGRESS AT ALL TIMES.
AUTHORIZED EGRESS BY DISABLING EXIT ALARM WITH AUTHORIZED KEY IN CYLINDER.

GROUP C (FRONT OFFICE, BREAK ROOM)			
3	HINGE, FULL MORTISE	TA2714	US26D	MCKINNEY
1	STOREROOM LOCK	70 10XG04 LL	US26D	SARGENT
1	PERMANENT KEYED CORE	7P-7300B GMK	US15	SARGENT
1	SURFACE CLOSER	7500689		NORTON
1	WALL STOP	409	US32D	ROCKWOOD
1	GASKETING	S88D		PEMKO
GROUP D (BACK OFFICE):			
3	HINGE, FULL MORTISE	TA2714	US26D	MCKINNEY
1	STOREROOM LOCK	70 10XG04 LL	US26D	SARGENT
1	PERMANENT KEYED CORE	7P-7300B GMK	US15	SARGENT
1	WALL STOP	409	US32D	ROCKWOOD
1	GASKETING	S88D		PEMKO
GROUP E: (RESTROOMS)			
3	HINGE, FULL MORTISE, HVY WT	T4A3786	US26D	MCKINNEY
1	INDICATOR PRIVACY LOCK	V21 8266 LNL	US26D	SARGENT
1	SURFACE CLOSER	7500	689	NORTON
2	KICK PLATE	K1050 10" CSK BEV	US32D	ROCKWOOD
1	WALL STOP	409	US32D	ROCKWOOD
3	SILENCER	608-RKW		ROCKWOOD
GROUP F: (MECHANICAL ROOM - DOUBLE LEAF)			
6	HINGE, FULL MORTISE SET	TA3786	US26D	MCKINNEY
2	MANUAL FLUSH BOLT	555	US26D	ROCKWOOD
1	DUST PROOF STRIKE	570	US26D	ROCKWOOD
1	STOREROOM LOCK	70 10XG04 LL	US26D	SARGENT
1	PERMANENT KEYED CORE	7P-7300B GMK	US15	SARGENT
1	SURFACE CLOSER	7500	689	NORTON
2	KICK PLATE	K1050 10" CSK BEV	US32D	ROCKWOOD
2	WALL STOP	409	US32D	ROCKWOOD
1	GASKETING	S88D		PEMKO
1	OVERLAPPING ASTRAGAL	357SP x S88D	ALUM.	PEMKO
1	ASTRAGAL	357C	ALUM.	PEMKO
2	LOUVERED DOOR VENTS (REFER TO MECHANICAL PLANS IF REQUIRED)			

DOOR SCHEDULE

MARK	FROM ROOM	DOOR TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICK.	HARD WARE	MATERIAL DOOR	MATERIAL FRAME	FINISH DOOR	FINISH FRAME	GLAZING	DETAILS HEAD	DETAILS JAMB	DETAILS SILL	FIRE RATING	COMMENTS
Existing																
101B	SALES FLOOR	D	6' - 0"	7' - 0"	1 3/4"	B	HM	HM	PT	PT		---	---	---	---	
Landlord Work																
101A	SALES FLOOR	A	16' - 0"	8' - 8"	1 1/2"	A	AL	AL	FF	FF	1" TEMP.	---	---	---	---	
111B	STOCK ROOM	M	8' - 0"	10' - 0"	3"	MFR.	MFR.	MFR.	PT	PT	---	---	---	---	---	
111C	STOCK ROOM	C	3' - 0"	7' - 0"	1 3/4"	B			PT	PT		---	---	---	---	
New Construction																
102	FRONT OFFICE	H	3' - 0"	7' - 0"	1 3/4"	C	HM	HM	PT	PT	1/4" TEMP.	16/A5-01	16/A5-01	11/A5-01	---	
103	BACK OFFICE	H	3' - 0"	7' - 0"	1 3/4"	D	HM	HM	PT	PT	1/4" TEMP.	16/A5-01	16/A5-01	11/A5-01	---	
107	BREAK ROOM	E	3' - 0"	7' - 0"	1 3/4"	C	HM	HM	PT	PT	---	16/A5-01	16/A5-01	11/A5-01	---	
108	RESTROOM #1	F	3' - 0"	7' - 0"	1 3/4"	E	HM	HM	PT	PT	---	16/A5-01	16/A5-01	11/A5-01	---	
109	RESTROOM #2	F	3' - 0"	7' - 0"	1 3/4"	E	HM	HM	PT	PT	---	16/A5-01	16/A5-01	11/A5-01	---	
111A	STOCK ROOM	J	7' - 0"	8' - 0"		MFR.	POLY	HM	MFR.	MFR.	---	23/A5-01	22/A5-01	---	---	
115	MECH RM	D	6' - 0"	7' - 0"	1 3/4"	F	HM	HM	PT	PT	---	16/A5-01	16/A5-01	11/A5-01	---	

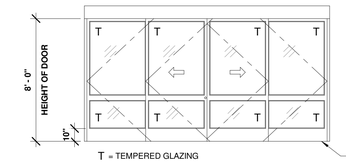
DOOR SCHEDULE ABBREVIATIONS

SC: SOLID CORE WOOD VENEER (MINERAL CORE WHERE RATED)
HM: HOLLOW CORE- METAL (GAUGE PER SCHEDULE)
PM: PRESSED METAL FRAME- METAL (GAUGE PER SCHEDULE)
SS: STAINLESS STEEL (GAUGE PER MANUFACTURER)
PVC: POLYVINYL CHLORIDE (GAUGE PER MANUFACTURER)
MFR: MANUFACTURER
FF: FACTORY FINISH
PT: FIELD PAINTED OVER FACTORY PRIMER
TEMP: TEMPERED (GLAZING)
(E): EXISTING TO REMAIN
U.S.: UNDER SHELL SCOPE OF WORK

DOOR & HARDWARE NOTES

1. PROVIDE COMPLETE. CODE CONFORMING FINISH HARDWARE SCHEDULE AND INSTALLATION AS REQUIRED FOR A FULLY OPERATIONAL FACILITY, INCLUDING WORK REQUIRED FOR PROPER COMPLETION OF PROJECT, THOUGH NOT DEFINITELY SPECIFIED HEREIN.
2. TEMPLATES: FURNISH TEMPLATE OF PHYSICAL HARDWARE ITEMS TO DOOR AND FRAME MANUFACTURED AS REQUIRED TO ENSURE PROPER PREPARATION FOR HARDWARE.
3. HARDWARE SECURELY ANCHORED WITH APPROPRIATE FASTENING DEVICES. FINISH EXPOSED FASTENERS TO MATCH HARDWARE.
   A. KEYING: COORDINATE WITH TENANT REGARDING KEY AND PIN FOR LOCKSETS AT DOORS. LOCKS ARE TO BE GUARD MASTER KEYED, MASTER KEYED, AND KEYED ALIKE IN DIFFERENT SETS. PROVIDE ONE SET OR CONSTRUCTION CORE AND TWO CONSTRUCTION CONTROL KEYS.
   B. COORDINATE TEMPLATES AND REINFORCING WITH DOOR AND FRAME MANUFACTURER.
4. COORDINATE ALL HARDWARE REQUIREMENTS W/ ANY SECURITY DEVICES INDICATED. COORDINATE INSTALLATION FOR PROPER OPERATION, INTERFACE, AND CONNECTION WITH ANY SECURITY DEVICES AND/ OR SECURITY SYSTEM.
5. ALL ELECTRONICALLY CONTROLLED HARDWARE SHALL BE "FAIL-SAFE" TYPE. PREP DOORS WITH ELECTRICAL LOCKSET AS REQUIRED. ASSEMBLY RATING SHALL BE MAINTAINED.
6. THE ONLY EXTERIOR DOOR IN THIS PROJECT WITH SECURITY KEYED ENTRY IS THE AUTOMATIC SLIDER - TO BE LOCKED ONLY WHEN BUILDING IS NOT OCCUPIED
7. PAINT COLORS FOR ALL PAINTED INTERIOR & EXTERIOR DOORS SHALL MATCH ADJACENT SURFACE U.N.O..
8. ALL NEW AND EXISTING DOORS TO RECEIVE NEW HARDWARE PER SCHEDULE ABOVE.

DOOR TYPES



A. MFR: ASSA ABLOY

B. PRODUCT: BESAM SL 500 OVERHEAD CONCEAL FULL BREAK OUT NARROW STYLE BI-PART SLIDING DOOR SYSTEM - FULL BREAKAWAY

C. COLOR: CLEAR ANODIZED FINISH

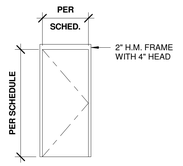
D. OPTIONS: AUTOMATIC OPERATOR

CONTACT: ASSA ABLOY - NATIONAL ACCOUNTS (866) 640-9667, National.Accounts2@assaabloy.com
Ross Merkling, Key Account Business Mgr., (704) 221-2068 ross.merkling@assaabloy.com

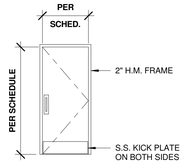
DOORS SHALL NOT OPEN TO BACK CHECK FASTER THAN 3 SECONDS AND NOT REQUIRE MORE THAN 15 LBS. FORCE TO STOP DOOR MOVEMENT

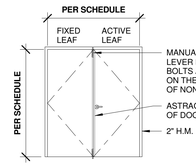
AUTOMATED SLIDING DOORS & SIDE PANELS SHALL HAVE BREAKAWAY FEATURE - WITH A MAX. BREAKAWAY FORCE OF 50 LBS.

A AUTOMATED STOREFRONT ENTRANCE DOORS — SHALL COMPLY W/ BHMA A156.10

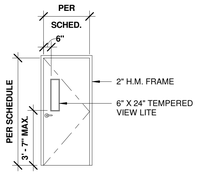


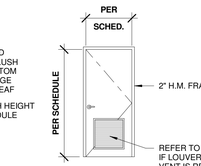
C HOLLOW METAL EXIT DOOR
SINGLE LEAF



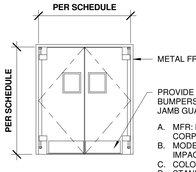


D HOLLOW METAL INTERIOR DOOR
DOUBLE LEAF





E HOLLOW METAL DOOR - BREAK ROOM
SINGLE LEAF

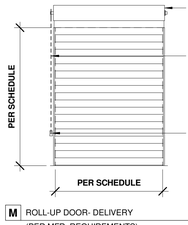


A. MFR: ELIASON CORPORATION
B. MODEL: HCP-10 ABS IMPACT TRAFFIC DOOR
C. COLOR: BLACK
D. STANDARD OPTIONS + 24"H BLACK TEAR DROP BUMPER

F HOLLOW METAL DOOR- RESTROOM
SINGLE LEAF

H HOLLOW METAL DOOR W/ LITE- OFFICE
SINGLE LEAF

J IMPACT DOOR
DOUBLE LEAF



A. MFR: OVERHEAD DOOR CORPORATION
B. MODEL: 625 STORMTITE - INSULATED HEAVY-DUTY ROLLING SERVICE DOOR
C. COLOR: GRAY
D. STANDARD OPTIONS

M ROLL-UP DOOR- DELIVERY
(PER MFR. REQUIREMENTS)

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4695 MacArthur Court
Suite 1450
Newport Beach, CA 92614
t: 949 296 0450

PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

REGISTERED ARCHITECT
DOUGLAS S. COUPER
4647
NEWPORT BEACH, CA
STATE OF OREGON
2/19/2024

PROFESSIONAL IN CHARGE
D. COUPER
PROJECT MANAGER
J. MALLEK
QUALITY CONTROL
J. MALLEK
DRAWN BY
I. HINOV

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
SCHEDULES

SHEET NUMBER
A6-01

MERCHANDISING CREEP

CONSTITUTES PORTABLE AND ORGANIZED MERCHANDISING DISPLAYS AT THE EXTERIOR FRONTAGE OF THE STORE. THESE DISPLAYS ARE DISCRETIONAL AS TO EXACT AMOUNT AND PLACEMENT DUE TO SEASONAL FACTORS AS CHOSEN BY STORE OPERATOR. THESE DISPLAYS ARE EITHER 3'X3'X±30"H PREMANUFACTURED WOOD VENEERED BINS WITH CASTERS OR ±4'X4' PALLET BOXES WITH AESTHETIC GRAPHIC SURROUNDS. THESE EXTEIOR DISPLAYS ARE ONLY PRESENT DURING STORE OPERATION HOURS AND ARE RELOCATED INTO STORE ENTRY EVERY END OF DAY AS OCCURS. THE LOCATIONS SHOWN ON THIS PLAN ARE THE TYPICAL INTENDED EXTENT FOR THIS STORE'S SPEIFIC FRONTAGE CONDITIONS. AT NO TIME ARE DISPLAYS TO RESTRICT WALKWAY PATHS OR EMERGENCY EGRESS REQUIREMENTS.

RACKING CLARIFICATION

1. PALLET RACKING IN COOLER BOXES, FREEZER BOXES & BACK OF HOUSE DOES NOT REQUIRE LEG ANCHORS.
2. PALLET RACKING (MERCHANDISERS) WITH UPPERMOST PRODUCT DECK LOWER THAN +48" A.F.F. DOES NOT REQUIRE LEG ANCHORS

DISCLAIMER
NUMBERS SHOWN AS AN EXAMPLE, REFER TO PLAN FOR ACCURATE SIZES.

ALL DIMENSIONS ARE MEASURED IN INCHES

GONDOLA SHELVING SIZES

24 - 48 - 84
DEPTH (BASE DECK) - LENGTH - HEIGHT

STEEL SHELVING SIZES

36 - 84 - 42 - 2-TIER - WIRE
DEPTH - LENGTH - HEIGHT - # OF SHELVING TIERS - WIRE MESH DECKS

WALL LEGEND

SEE SHEET A5-02 FOR WALL TYPES AND INSULATION/FINISHES

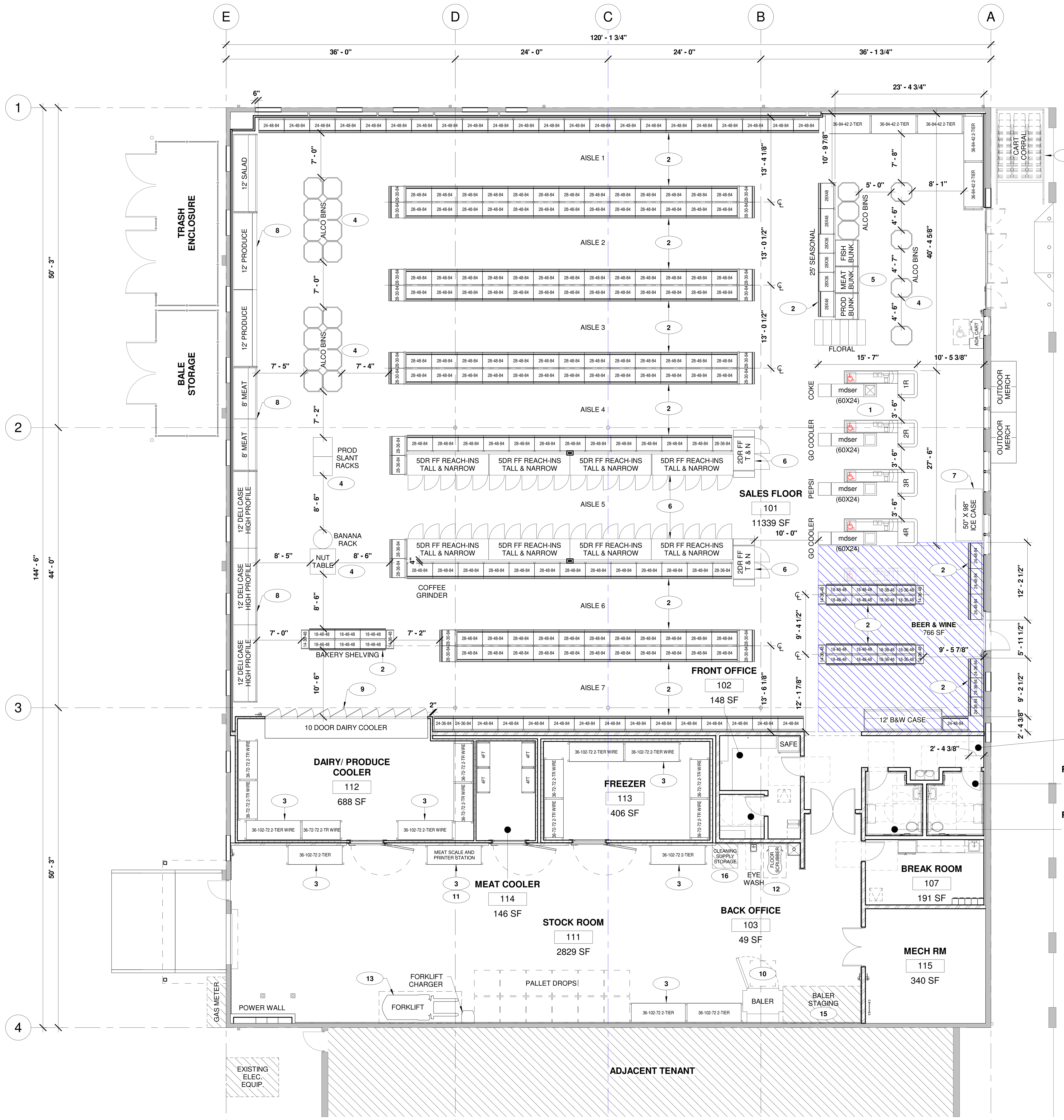
- = EXISTING WALLS TO REMAIN
- = LOAD-BEARING / SHEAR WALLS (REFER TO STRUCTURAL SHEETS)
- = FULL HEIGHT PARTITIONS (TO BOTTOM OF ROOF DECK)
- = PARTITIONS (TO BOTTOM OF CEILING)
- = COOLER WALLS (BY MANUF.)

FIXTURE PLAN LEGEND

- FIRE EXTINGUISHER LOCATION WITH REQUIRED SIGNAGE - G.C. TO FIELD VERIFY WITH LOCAL FIRE MARSHAL
- ALL CHECKSTANDS IN PROJECT ARE HANDICAP ACCESSIBLE, TYP.

KEYNOTES - FIXTURE PLAN

MARK	NOTE
1	CHECKSTAND, MERCHANDISER & SELF-CONTAINED DRINK CASES (PROVIDED BY GOI). SEE DETAIL 1/A5-21 & ELECTRICAL SHEETS FOR POINT-OF-SALES (P.O.S.) POWER POLE DROPS FOR CHECKSTANDS AND SELF-CONTAINED DRINK CASES. G.C. & E.C. TO COORDINATE EXACT LOCATIONS WITH INSTALLER AT SITE.
2	LOZIER / GONDOLA SHELVING (PROVIDED BY GOI) - SEE DETAILS ON A5-21 & STRUCTURAL DWGS
3	STEEL PALLET RACK SHELVING (PROVIDED BY GOI) - SEE DETAILS ON A5-21 & STRUCTURAL DWGS
4	MOVABLE DISPLAY UNIT (PROVIDED BY GOI) - AS LABELED
5	SELF-CONTAINED BUNKER OR CASE (BY GOI PER R-SHEETS)
6	FROZEN FOOD STANDING REACH-IN CASE (BY GOI PER R-SHEETS)
7	ICE VENDING CASE (NOT AN ICE MAKER) (BY GOI PER R-SHEETS)
8	REFRIGERATED SHELVED MERCHANDISE UNIT (BY GOI PER R-SHEETS)
9	CURBED DAIRY FRONTAGE WITH PRODUCT RACKS (PER BOX MANUF.)
10	BALER FOR CARDBOARD (SEE E-SHEETS FOR SERVICE REQUIREMENTS)
11	FRAMED SHELF FOR SCALE STATION - PER GOI (SEE E-SHEETS)
12	FLOOR SCRUBBER (SEE E-SHEETS FOR ELECTRICAL REQUIREMENTS)
13	FORKLIFT & CHARGER - PER GOI STANDARDS (SEE E-SHEETS)
14	CART CORRAL - PER GOI STANDARDS
15	BALER STAGING AREA
16	CLEANING SUPPLY STORAGE



1 A8-01 FIXTURE PLAN
1/8" = 1'-0"

NORTH

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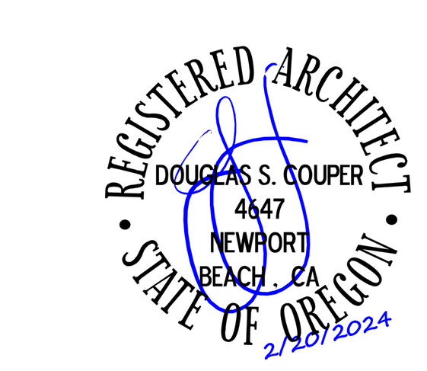

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3975 COMMERCIAL ST SE
SALEM, OR 97302

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FIXTURE PLAN

SHEET NUMBER
A8-01

ENERGY COMPLIANCE NOTES

1. SET POINT OVERLAP RESTRICTION - WHERE USED TO CONTROL BOTH HEATING AND COOLING, ZONE THERMOSTATIC CONTROLS PROVIDED A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5 DEG. F WITHIN WHICH THE SUPPLY OF HEATING AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM. EMS CONTRACTOR TO INCORPORATE THIS INTO THE CONTROLLER.

2. OPTIMUM START CONTROLS - EMS CONTRACTOR TO PROGRAM THE CONTROLLER SO THAT EACH HVAC SYSTEM HAS CONTROLS THAT VARY THE START-UP TIME OF SYSTEM TO JUST MEET THE TEMPERATURE SETPOINT AT TIME OF OCCUPANCY.

3. OFF-HOUR CONTROLS - EMS SYSTEM HAS THE CAPABILITY TO PROVIDE THERMOSTATIC SETBACK CONTROLS.

4. SHUTOFF DAMPER CONTROL - MECHANICAL CONTRACTOR TO PROVIDE CLASS 1 MOTORIZED DAMPER.

5. ALL LOW PRESSURE DUCTWORK AND DUCT SYSTEMS - MECHANICAL CONTRACTOR SHALL ENSURE THAT ALL LONGITUDINAL, TRANSVERSE, AND OTHER DUCT JOINTS OF ALL KINDS, SEAMS, AND CONNECTIONS OF LOW-PRESSURE SUPPLY AND RETURN DUCTS ARE SECURELY FASTENED AND SEALED WITH WELDS, GASKET, MASTICS (ADHESIVES), MASTS-PLUS-EMBEDED-FABRIC SYSTEMS OR TAPES INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS TO A SMACNA CLASS B STANDARD PER TABLE 1-2 OR BETTER. CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING ALL COSTS ASSOCIATED WITH THESE SEALING REQUIREMENTS IN BASE BID.

   AIR LEAKAGE TESTINGS - ALL DUCT WORK SYSTEMS ON THE PROJECT INCLUDING SUPPLY, RETURN AND EXHAUST, AND VENTILATION SYSTEMS SHALL BE TESTED. LEAKAGE SHALL NOT EXCEED 5% OF THE RATED AIR FLOW RATE (CFM) AT THE RATED DUCT SYSTEM PRESSURE. ALL AIR LEAKS FOUND SHALL BE CORRECTED SO THAT DUCT LEAKAGE FALLS BELOW THE ACCEPTABLE MARGIN STATED HERE. CONTRACTORS SHALL BE RESPONSIBLE FOR INCLUDING ALL COSTS ASSOCIATED WITH TESTING AND REMEDIATING LEAKS IN BASE BID.

   SHEET METAL GAUGES, TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND INTERMEDIATE REINFORCING MUST BE IN CONFORMANCE WITH SMACNA STANDARDS AS FOLLOWS:

   1. LOW PRESSURE DUCTS PER SMACNA TABLE 1-2 - 2" W.G.
   2. MEDIUM PRESSURE DUCTS PER SMACNA TABLE 1-2 - 4" W.G.
   3. HIGH PRESSURE DUCTS PER SMACNA TABLE 1-2 - 6" W.G.

6. HUMIDITY CONTROL - M.C./AC MANUFACTURER TO SET THE AC UNIT IN PREVENTING THE USE OF FOSSIL FUEL OR ELECTRICITY TO REDUCE RELATIVE HUMIDITY BELOW 55 PERCENT.

7. HUMIDITY CONTROL - M.C./AC MANUFACTURER TO SET THE AC UNIT IN MAINTAINING A DEADBAND OF AT LEAST 10% RELATIVE HUMIDITY WHERE NO ACTIVE DEHUMIDIFICATION TAKES PLACE.

CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEER WITH SUBMITTAL PACKAGES FOR REVIEW FOR ALL EQUIPMENT SPECIFIED ON THESE DRAWINGS. CONTRACTOR IS ONLY PERMITTED TO PURCHASE SPECIFIED EQUIPMENT FOLLOWING RECEIPT OF REVIEWED SUBMITTALS IN COMPLIANCE WITH ALL OF ENGINEER'S COMMENTS. IF CONTRACTOR PURCHASES ANY SPECIFIED EQUIPMENT WITHOUT SUBMITTING A SUBMITTAL AND RECEIVING ENGINEER COMMENTS, THEN CONTRACTOR IS TAKING SOLE RESPONSIBILITY FOR THE ACCURACY OF PURCHASED EQUIPMENT AND IS SOLELY RESPONSIBLE FOR REPLACING SAID EQUIPMENT IF IMPROPERLY FURNISHED.

CONTRACTOR SHALL REVIEW MEP REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT WITH EQUIPMENT MANUFACTURER PRIOR TO BID. CONTRACTOR SHALL INFORM ENGINEER OF ANY DESCREPANCIES BETWEEN MANUFACTURER DATA AND WHAT IS SHOWN ON PLAN PRIOR TO BID. SHOULD OWNER FURNISHED EQUIPMENT DIFFER FROM WHAT IS SHOWN ON PLAN AND CONTRACTOR NOT INFORM ENGINEER PRIOR TO BID, THEN NO CHANGE ORDERS WILL BE ACCEPTED OR APPROVED TO ACCOUNT FOR THE DIFFERENCE BETWEEN ACTUAL OWNER FURNISHED EQUIPMENT AND WHAT IS SHOWN ON PLAN.

HVAC SHEET INDEX

MECHANICAL INSULATION

1. ALL INSULATION MUST BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
2. APPLY INSULATION AFTER ALL TESTING HAS BEEN COMPLETED AND APPROVED.
3. ALL INSULATION PROVIDED FOR THE PROJECT MUST MEET A MAXIMUM FLAME SPREAD RATING OF 25 AND SMOKE DEVELOPED OF 50 OR LESS, AS TESTED IN ACCORDANCE WITH ASTM, NFPA & U.L. GUIDELINES.
4. ALL INSULATION FOR EQUIPMENT AND PIPING WITH A SURFACE TEMPERATURE BELOW 65 DEGREES F, SHALL CONTAIN A COMPLETE VAPOR BARRIER SEAL.
5. PIPING INSULATION
   A. PROVIDE VAPOR COVER FOR ALL EXPOSED PIPING.
   B. PROVIDE WEATHER PROOF JACKET FOR ALL OUTDOOR PIPING.

SEISMIC CONTROLS FOR MEPP SYSTEMS

Seismic Protection Criteria:
Risk/Occupancy Category: II
Site Soil Category: Contractor's Seismic Engineer to Determine.
Seismic Design Category: Contractor's Seismic Engineer to Determine.
Component Importance Factor: Determined from ASCE 7, most recent version.

The Contractor shall be responsible for determining the requirements for seismic bracing of mechanical, electrical, and plumbing systems. Seismic protection criteria used to determine seismic bracing requirements of all mechanical, electrical, and plumbing systems shall be determined by the applicable code adopted in the project jurisdiction. Where not already determined within the contract documents, the Contractor shall be responsible for contracting a licensed professional engineer to establish building site class, seismic design category, seismic zone, or any other criteria necessary to determine the requirements for seismic bracing on mechanical, electrical, and/or plumbing systems.

Seismic bracing of fire protection systems shall be installed in strict accordance with the provisions of NFPA 13 (2010 or later edition).

The Contractor shall determine the type and location of seismic bracing required for the mechanical, electrical, and plumbing elements shown on the drawings based on the established seismic criteria, the size and weight of the supported element, and the distance from structure of the supported element.

The Contractor shall submit the following shop drawing information to the AHJ and the Engineer for review and approval:
1. Seismic analysis listing all applicable seismic design criteria.
2. Descriptive catalog data of seismic bracing materials.
3. Shop drawings showing bracing type and location.
4. Installation details of all bracing used.
5. Calculations showing that the seismic restraints meet the seismic requirements.

Shop drawings and calculations shall be signed and sealed by a registered professional engineer, licensed in the state of the project and employed by the manufacturer of the seismic bracing products. Calculations shall include dead loads, static seismic loads, and capacity of materials utilized for connections.

Seismic bracing, restraints, isolators, and isolation materials shall be of the same manufacturer and shall be certified by the manufacturer. Approved manufacturers are: Amber/Booth Company, Inc., B-Line/Tolco, ISAT, Kinetics Noise Control, Inc., Loos & Company, Inc., Mason Industries, Inc., Uni-strut, or Vibro-Acoustics. Each device shall have a pre-approval number from California OSHPD or other recognized government agency showing maximum restraint ratings.

Seismic bracing measures to be applied to mechanical, electrical, and plumbing equipment/systems shall be installed in strict accordance with all applicable local, state, and/or federal codes as well as manufacturer's requirements. The most stringent criteria shall apply. All anchor connections to structure for support of mechanical and electrical equipment, regardless of the need for seismic restraints, shall be shown on shop drawings.

BUILDING GENERAL NOTES

1. ALL CUTTING, CURBING, PATCHING, PAINTING, EQUIPMENT PLATFORMS, AND STRUCTURAL SUPPORTS, PLATFORMS OR CATWALKS BY GENERAL CONTRACTOR.
2. ALL CONSTRUCTION TO CONFORM WITH LOCAL BUILDING CODES.
3. THERMOSTATS TO BE MOUNTED AT 48" (MAXIMUM) FROM FINISHED FLOOR PER 2021 IBC ON WALL OR COLUMN UNLESS OTHERWISE NOTED.
4. ALL CONCRETE CUTTING, REMOVAL AND PATCHING BY GENERAL CONTRACTOR.
5. ALL TRENCHING, BACKFILL AND COMPACTION TO BE BY GENERAL CONTRACTOR.
6. ACCESS DOORS, OTHER THAN IN DUCT WORK, TO BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR.
7. PERMANENT ACCESS TO EQUIPMENT ON PLATFORM OR ROOF TO BE PROVIDED BY GENERAL CONTRACTOR.
8. ATTIC VENTILATION PROVIDED BY OTHERS.
9. COUNTER FLASHING AND SEALING FURNISHED AND INSTALLED OTHERS.
10. CURBED OPENINGS, LEVELING CURBS AND STRUCTURAL SUPPORT REQUIRED FOR ROOF EQUIPMENT, SUSPENDED EQUIPMENT, DUCT AND PIPING, SHALL BE FURNISHED AND INSTALLED BY THE GENERAL CONTRACTOR.
11. ROOF JACKS FOR VENT TERMINATIONS, FOR THIS SECTION ONLY, TO BE FURNISHED AND INSTALLED BY THE HVAC CONTRACTOR.
12. DUCT ENCLOSURES OR DUCT SHAFTS BY GENERAL CONTRACTOR.
13. ONE-HOUR SHAFTS AND FIRE RATED ACCESS DOORS FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
14. AIR CONDITIONING REFRIGERATION SERVICE PORTS LOCATED OUTDOORS SHALL BE FITTED WITH LOCKING-TYPE TAMPER RESISTANT CAP OR SHALL BE PROTECED FROM UNAUTHORIZED ACCESS BY A MEAN ACCEPTABLE TO THE BUILDING DEPARTMENT PER IMC SECTION 1101.10.

MECHANICAL BUILDING NOTES

1. THE HVAC CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, EQUIPMENT AND ALL CONTRACTUAL EXPENSES REQUIRED FOR THE COMPLETE INSTALLATION OF THE MECHANICAL SYSTEM TO THE SATISFACTION OF THE OWNER, ARCHITECT AND MECHANICAL ENGINEER.
2. THE INSTALLATION SHALL COMPLY WITH AND BE IN ACCORDANCE WITH ALL LEGALLY CONSTITUTED AUTHORITIES AND CODES HAVING JURISDICTION, AND ALSO ALL OWNERS REQUIREMENTS.
3. THE HVAC CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, LICENSES AND INSPECTIONS REQUIRED TO COMPLETE THIS JOB.
4. THE HVAC CONTRACTOR SHALL GUARANTEE ALL EQUIPMENT, APPARATUS, ACCESSORIES HE FURNISHES FOR A PERIOD OF ONE YEAR.
5. COORDINATE THE SIZE, LOCATION AND SERVICE REQUIREMENTS OF ALL MECHANICAL EQUIPMENT AND DUCTWORK WITH ALL TRADES PRIOR TO THE START OF CONSTRUCTION. REPORT IN WRITING ALL UNRESOLVED CONFLICTS TO THE GENERAL CONTRACTOR AND COPIES SENT TO THE ENGINEER.
6. COORDINATE THE LOCATION OF ALL CEILING DIFFUSERS, REGISTERS, ETC. WITH THE ARCHITECTURAL REFLECTED CEILING PLAN, AND BUILDING SPRINKLER PLAN
7. SEE STRUCTURAL DRAWINGS FOR EXACT LOCATION OF ROOF OPENINGS AND LOCATION OF EQUIPMENT ON ROOF.
8. THE WIRING DIAGRAMS SHOWN HERE ARE FOR THE PURPOSE OF INDICATING THE FUNCTIONAL OPERATION OF THE MECHANICAL EQUIPMENT ONLY. ALL FIELD WIRING, ELECTRICAL, OPERATING AND SAFETY DEVICES SHALL CONFORM TO THE ELECTRICAL ENGINEERS PLANS AND SPECIFICATIONS WITHOUT EXCEPTION.
9. ALL STEEL DUCT SHALL BE NEW GALVANIZED SHEET STEEL, AS INDICATED ON PLANS DUCT GAUGES, CONSTRUCTION, SUPPORT AND INSTALLATION SHALL BE ACCORDANCE WITH THE APPLICABLE MECHANICAL CODE AND SMACNA.
10. FLEXIBLE DUCT SHALL CONFORM TO THE REQUIREMENTS OF THE APPLICABLE MECHANICAL CODES.
11. ALL TRANSVERSE JOINTS IN THE SUPPLY AIR DUCT SHALL BE SEALED AIR TIGHT. USE AN APPROVED DUCT SEALER.
12. FLEXIBLE CONNECTIONS SHALL BE PROVIDED FOR ALL DUCTWORK ATTACHED TO AIR MOVING EQUIPMENT MOUNTED ON OR SUSPENDED FROM VIBRATION ISOLATORS. FLEXIBLE CONNECTIONS SHALL BE APPROVED AND CONFORM TO THE REQUIREMENTS OF THE APPLICABLE CODES.
13. PROVIDE ALL FIRE AND SMOKE DAMPERS AS REQUIRED BY LEGALLY CONSTITUTED AUTHORITIES AND CODES HAVING JURISDICTION.
14. GAS BURNING APPLIANCES SHALL BE INSTALLED IN ACCORDANCE WITH A.G.A. APPROVAL CONDITIONS, MANUFACTURERS INSTALLATION REQUIREMENTS, AND LOCAL AGENCIES HAVING JURISDICTION.
15. ALL DRAINS SHALL DRAIN TO UPC APPROVED RECEPTACLES, FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR.
16. ALL WATER PIPING AND FINAL CONNECTIONS FURNISHED AND INSTALLED BY PLUMBING CONTRACTOR.
17. ALL EQUIPMENT DESIGNED TO BE FIXED IN POSITION SHALL BE SECURELY FASTENED IN PLACE PER APPLICABLE CODES.
18. ALL LINE AND LOW VOLTAGE WIRING PLUS FINAL CONNECTIONS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
19. DISCONNECTS, TOGGLE SWITCHES, CONDUITS, TRANSFORMERS AND TIME CLOCKS FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.
20. THE ELECTRICAL & MECHANICAL CONTRACTOR SHALL REVIEW THE ELECTRICAL PLANS AND DIAGRAMS PRIOR TO STARTING WORK AND CONTACT THE AIR CONDITIONING INSTALLING CONTRACTOR IF CLARIFICATION IS NEEDED TO COMPLETE WIRING. THE ELECTRICAL & MECHANICAL CONTRACTOR, IN THE PRESENCE OF THE HVAC CONTRACTOR, SHALL PERFORM A SATISFACTORY OPERATIONAL CONTROL SEQUENCE BY RINGING OUT ALL CIRCUITS AND CORRECTING ANY WIRING ERRORS.
21. THE ELECTRICAL CONTRACTOR IS NOT TO START THE EQUIPMENT UNLESS IN THE PRESENCE OF THE HVAC CONTRACTOR.

TESTING AND ADJUSTING

1. THE HVAC CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, EQUIPMENT AND ALL CONTRACTUAL EXPENSES REQUIRED FOR THE COMPLETE TESTING AND ADJUSTING THE ENTIRE HVAC SYSTEMS & CONTROL AND THE WORK SHALL BE IN COMPLIANCE WITH THE FOLLOWING RULES AND REGULATIONS.
   1.1. PERFORM TESTING AND ADJUSTING PROCEDURES IN ACCORDANCE WITH INDUSTRY BEST PRACTICES AND APPLICABLE STANDARDS ON EACH SYSTEM.
   1.2. IN ADDITION TO TESTING AND ADJUSTING, THE SYSTEMSYSTEMS SHALL BE AIR BALANCED IN ACCORDANCE WITH THE PROCEDURES DEFINED BY THE TESTING ADJUSTING AND BALANCING BUREAU NATIONAL STANDARDS: THE NATIONAL ENVIRONMENTAL BALANCING BUREAU PROCEDURAL STANDARDS: OR ASSOCIATED AIR BALANCE COUNCIL NATIONAL STANDARDS.
   1.3. AFTER COMPLETION OF TESTING, ADJUSTING, AND BALANCING, PROVIDE A FINAL REPORT OF TESTING SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR PERFORMING THESE SERVICES.
   1.4. PROVIDE BUILDING OWNER OR REPRESENTATIVE WITH DETAILED OPERATING AND MAINTENANCE INSTRUCTIONS AND COPIES OF GUARRANTIES/WARRANTIES FOR EACH SYSTEM. O & M INSTRUCTIONS SHALL BE CONSISTENT WITH OSHA REQUIREMENTS IN CCR, TITLE 8, SECTION 5142, AND OTHER RELATED REGULATIONS.
   1.5. INCLUDE A COPY OF ALL INSPECTION VERIFICATIONS AND REPORTS REQUIRED BY THE ENFORCING AGENCY.
2. THE HVAC SYSTEMS INCLUDE BUT NOT LIMITED TO THE FOLLOWING:
   2.1. AIR HANDLERS & PACKAGE A/C UNITS.
   2.2. AIR DIFFUSERS, REGISTERS, AND GRILLES.
   2.3. EXHAUST/TRANSFER FANS.
   2.4. SPLIT DX A/C UNITS.
   2.5. FRESH AIR INTAKE AND EXHAUST VENTS/LOUVERS.
   2.6. AN AIR BALANCE TEST WILL BE REQUIRED TO VERIFY THE PROPER AMOUNT OF OUTSIDE AIR TO COMPLY WITH APPLICABLE CODE VENTILATION REQUIREMENTS, BEFORE THE FINAL APPROVAL OF THIS PROJECT.
3. THE HVAC CONTRACTOR SHALL WORK IN CONJUNCTION WITH AND INTERFACE WITH THE EMS CONTRACTOR IN GETTING THE A/C SYSTEMS' CONTROL, DEMAND VENTILATION CONTROL, TO A FUNCTIONAL STAGE AND MEET THE DESIGN INTENT.

COVER DUCT OPENINGS DURING CONSTRUCTION

1. THE HVAC CONTRACTOR SHALL COVER DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION, OR DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT. ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEETMETAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST OR DEBRIS WHICH MAY COLLECT IN THE SYSTEM.

TEMPORARY VENTILATION

1. THIS HVAC SYSTEM WILL BE USED DURING CONSTRUCTION TO PROVIDE TEMPORARY VENTILATION. THE RETURN AIR FILTERS WITH MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13, BASED ON ASHRAE 52.2-1999, OR AN AVERAGE EFFICIENCY OF 30 PERCENT BASED ON ASHRAE 52.1-1992. CONTRACTOR TO REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.

INTENDED OPERATION OF DEMAND VENTILATION SYSTEM

1. AVERAGE THE CO2 CONCENTRATION OF THE TWO (2) CO2 SENSORS LOCATED ON THE SALES FLOOR. IF THE AVERAGED CO2 CONCENTRATION IS GREATER THAN 600 PPM PLUS THE OA CO2 CONCENTRATION, OPEN OA DAMPER TO ACHIEVE THE MENTIONED CO2 CONCENTRATION.
2. AS THE AVERAGED CO2 CONCENTRATION IS REDUCED TO LESS THAN 600 PPM PLUS OA CO2 CONCENTRATION, CLOSE THE MODULATED OA DAMPER PROPORTIONALLY.
3. DEMAND VENTILATION OPERATION IS ONLY APPLIED WHEN THE AC UNITS ARE IN EITHER HEATING OR COOLING MODE.

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PROJECT TEAM

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2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
ORIGINAL SIGNED
OREGON
NOVEMBER 09, 2011
SEAN O. EISLER

02/19/2024

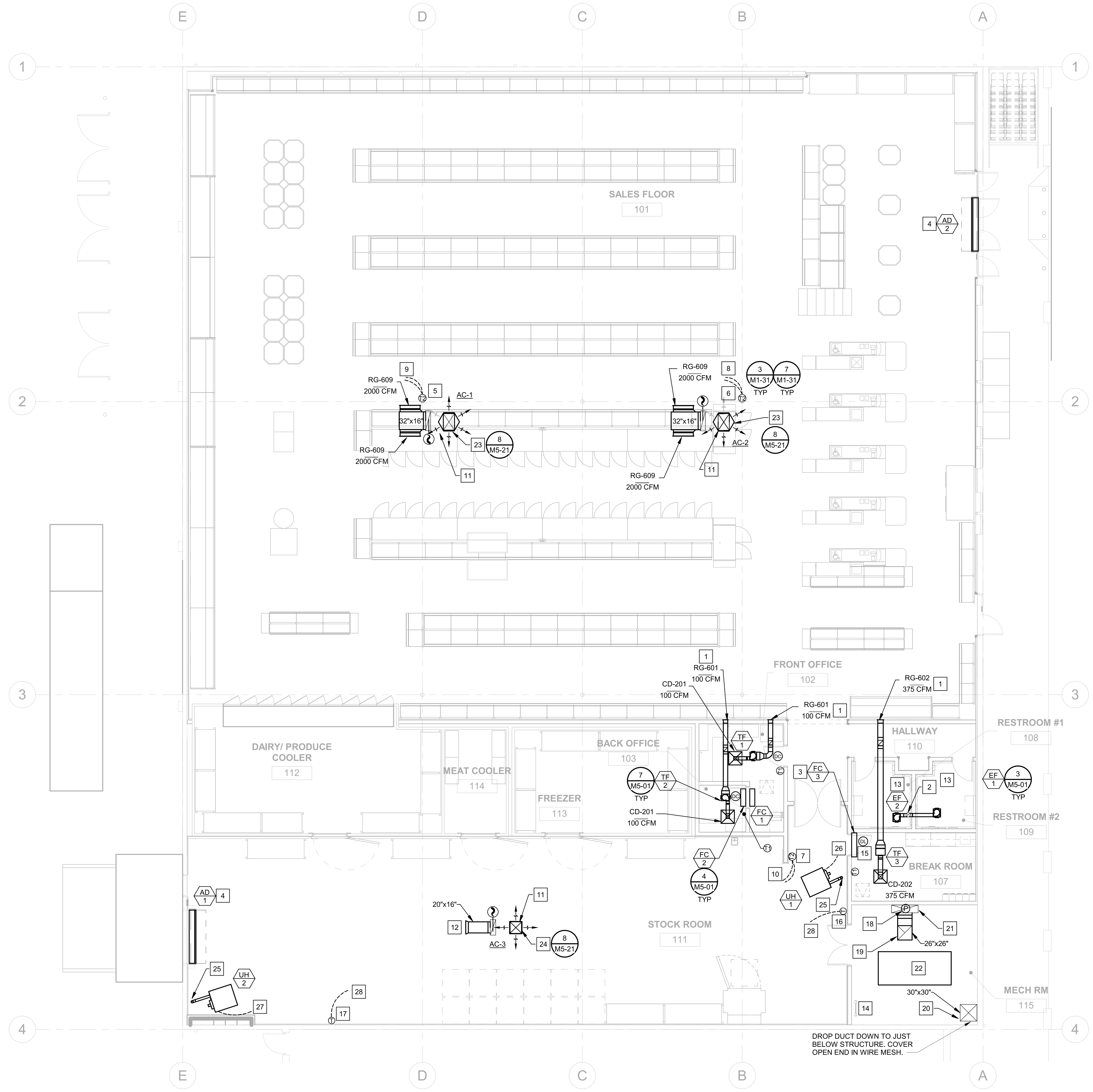
PROFESSIONAL IN CHARGE
RH
PROJECT MANAGER
CK
QUALITY CONTROL
SW
DRAWN BY
SDH

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
GENERAL NOTES AND SPECIFICATIONS

SHEET NUMBER
M0-01



1 M1-01 HVAC FLOOR PLAN - SALES FLOOR
SCALE: 1/8" = 1'-0"

HVAC FLOOR PLAN SHEET NOTES

1. LOCATE HIGH ON WALL. COORDINATE GRILLE WITH STORE DECOR. CONTRACTOR SHALL VERIFY GRILLE LOCATION IN FIELD WITH GROCERY OUTLET REPRESENTATIVE PRIOR TO INSTALLATION. CONFIRM FINAL LOCATION IS ACCEPTABLE WITH ENGINEER IF DIFFERENT THAN SHOWN ON PLAN (TYP)
2. 6"Ø EXH DUCT TO 8"Ø U.T.R. TO VENT CAP
3. P.C. TO DRAIN CONDENSATE TO AN APPROVED PLUMBING RECEPTOR. REFER TO PLUMBING PLANS (TYP FC-1, FC-2, & FC-3)
4. DOOR SWITCH SUPPLIED AND INSTALLED BY E.C.
5. AC-1 SENSOR AT +6'-0" A.F.F.
6. AC-2 SENSOR AT +6'-0" A.F.F.
7. AC-3 SENSOR AT +6'-0" A.F.F.
8. (1) 2C & (1) 6C 18GA AWG TO AC-1 CONTROL PANEL ON ROOF
9. (1) 2C & (1) 6C 18GA AWG TO AC-2 CONTROL PANEL ON ROOF
10. (1) 2C & (1) 6C 18GA AWG TO AC-3 CONTROL PANEL ON ROOF
11. SUPPLY AND RETURN AIR PLENUMS CONNECT TO RTU (TYP 3 PLCS)
12. PROVIDE WIRE MESH SCREEN OVER BELLMOUTH RETURN DUCT OPENING
13. PROVIDE AN ACCESS PANEL FOR EXHAUST/TRANSFER FAN. COORDINATE FINAL LOCATION IN FIELD WITH A.O.R & E.O.R PRIOR TO INSTALLATION.
14. ROOF ACCESS LADDER
15. PROVIDE 24" x 24" DOOR LOUVER WITH A FREE AREA THAT PERFORMS TO A MAX .06 PRESSURE DROP. MANUFACTURER TO BE ANEMOSTAT AND MODEL TO BE AFDL OR EQUAL.SEE ARCH DOOR SCHEDULE FOR ADDITIONAL INFORMATION.
16. PROVIDE WALL MOUNTED TEMPERATURE SENSOR ASSOCIATED WITH UH-1
17. PROVIDE WALL MOUNTED TEMPERATURE SENSOR ASSOCIATED WITH UH-2
18. VENTILATION PROOF POINT TERMINATES AT BOARD IN RACK PANEL, REFER TO R SHEETS.
19. UP THRU ROOF TO EF-3
20. UP THRU ROOF TO GIV-1
21. 14"x48" EXH RISER TO TERMINATE AT 12" A.F.F. WITH 1" MESH SCREEN AT INLET SEE DETAIL ON SHEET 5/M5.1
22. REFRIGERANT MONITORING SYSTEM AND ALARMS BY THE REFRIGERANT CONTRACTOR. REFER TO R8-01 FOR REFRIGERANT MONITORING, ALARM AND EMERGENCY SHUT DOWN SWITCH INFORMATION
23. MECHANICAL CONTRACTOR SHALL PROVIDE NEW AES SUPPLY AIR DROP BOX, MODEL ADB-6-10. CONNECT TO SUPPLY DUCT DROPPED DOWN FROM RTU. MOUNT DROP BOX AS HIGH AS POSSIBLE
24. MECHANICAL CONTRACTOR SHALL PROVIDE NEW AES SUPPLY AIR DROP BOX, MODEL ADB-1-5-4. CONNECT TO SUPPLY DUCT DROPPED DOWN FROM RTU. MOUNT BOTTOM OF DROP BOX JUST ABOVE LIGHTING.
25. 4" OVAL TYPE "B" FLUE U.T.R.
26. 2C 18GA AWG TO RACK PANEL (RO POINT FOR UH-1)
27. 2C 18GA AWG TO RACK PANEL (RO POINT FOR UH-2)
28. 2C 18GA AWG TO RACK PANEL (DOCK TEMP SENSOR)

GENERAL LEGEND

ITEM # - EQUIPMENT ITEM NUMBER
REFER TO HVAC EQUIPMENT SCHEDULE SHEET

M-# - INSTALLATION DETAIL REFERENCE NUMBER

EQUIPMENT STATUS [REMODELS ONLY]
[E] - EXISTING
[M] - MODIFIED
[N] - NEW
[R] - RELOCATED
[U] - USED

RESPONSIBILITY
G.C. - GENERAL CONTRACTOR
M.C. - HVAC CONTRACTOR
P.C. - PLUMBING CONTRACTOR
R.C. - REFRIGERATION CONTRACTOR
E.C. - ELECTRICAL CONTRACTOR
E.M.C. - ENERGY MANAGEMENT CONTRACTOR

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. REFER TO HVAC ENERGY MANAGEMENT AND INSTALLATION DETAIL SHEETS FOR EQUIPMENT WIRING DIAGRAMS.
3. REFER TO HVAC EQUIPMENT AND INSTALLATION DETAIL SHEETS FOR EQUIPMENT DIMENSIONS AND SERVICE LOCATIONS.

NOTES:

1. BOTTOM OF DIFFUSERS MOUNTED AT OR ABOVE LEVEL OF LIGHTS, TYPICALLY 14'-0" A.F.F.
2. BALANCING DAMPERS SHALL BE INSTALLED AT THE COLLAR OF DUCT MOUNTED DIFFUSERS.
3. ALL SUPPLY AND RETURN DUCTS INSTALLED IN AN INDIRECTLY CONDITIONED SPACE TO BE INSULATED TO R-4.2 MIN.
4. ALL SUPPLY AND RETURN DUCTS INSTALLED IN AN UNCONDITIONED SPACE TO BE INSULATED TO R-8 MIN.
5. ALL SUPPLY AND RETURN DUCTS INSTALLED IN THE CONDITIONED SPACE DO NOT REQUIRE INSULATION. INSULATE ROOF-TOP UNIT SUPPLY DUCTING INDOORS AT ROOF ENTRY POINT WITH R-4.2 MIN. FOR 2 FEET MIN.
6. DIFFUSERS SHALL BE 4-WAY U.N.O

HVAC ANNOTATIONS

ABBR.	DESCRIPTION	ABBR.	DESCRIPTION
S.A.	SUPPLY AIR	F.P.S.	FEET PER SECOND
R.A.	RETURN AIR	S.F.	SQUARE FOOT
E.A.	EXHAUST AIR	E.S.P.	EXTERNAL STATIC PRESS.
O.S.A.	OUTSIDE AIR	M.V.D.	MANUAL VOLUME DAMPER
T.A.	TRANSFER AIR	A.F.F.	ABOVE FINISHED FLOOR
EXH	EXHAUST	P.O.C.	POINT OF CONNECTION
DN	DOWN	P.O.D.	POINT OF DISCONNECTION
U.T.R.	UP THRU ROOF	N.I.C.	NOT IN CONTRACT
D.T.R.	DOWN THRU ROOF	S.S.	STAINLESS STEEL
C.F.M.	CUBIC FEET PER MINUTE	W/	WITH
M.V.D.	MANUAL VOLUME DAMPER	A.O.R.	ARCHITECT OF RECORD
E.O.R.	ENGINEER OF RECORD	U.N.O.	UNLESS NOTED OTHERWISE

HVAC SYMBOLS LEGEND

SYMBOL	ABBR.	DESCRIPTION
		RETURN ARROW
		DUCT STRIP-HEAT
		VOLUME DAMPER
		BALANCING DAMPER
BD	BD	BACK DRAFT DAMPER
ZD	ZD	ZONE DAMPER, CLOSE ON HEAT
FD	FD	FIRE DAMPER
FS	FS	FIRE / SMOKE DAMPER
SD	SD	DUCT SMOKE DETECTOR
DC	DC	DOOR UNDER CUT
DL	DL	DOOR LOUVER
J	J	ELECTRICAL JUNCTION BOX
T	T	SPACE TEMPERATURE SENSOR 2C 18AWG SHIELDED CABLE IN CONDUIT TO CONTROL PANEL BY E.C.
T_1	T1	PROGRAMMABLE T-STAT W/ NIGHT SET BACK
T_2	T2	RELATIVE HUMIDITY, C02 AND TEMPERATURE COMBO SENSOR

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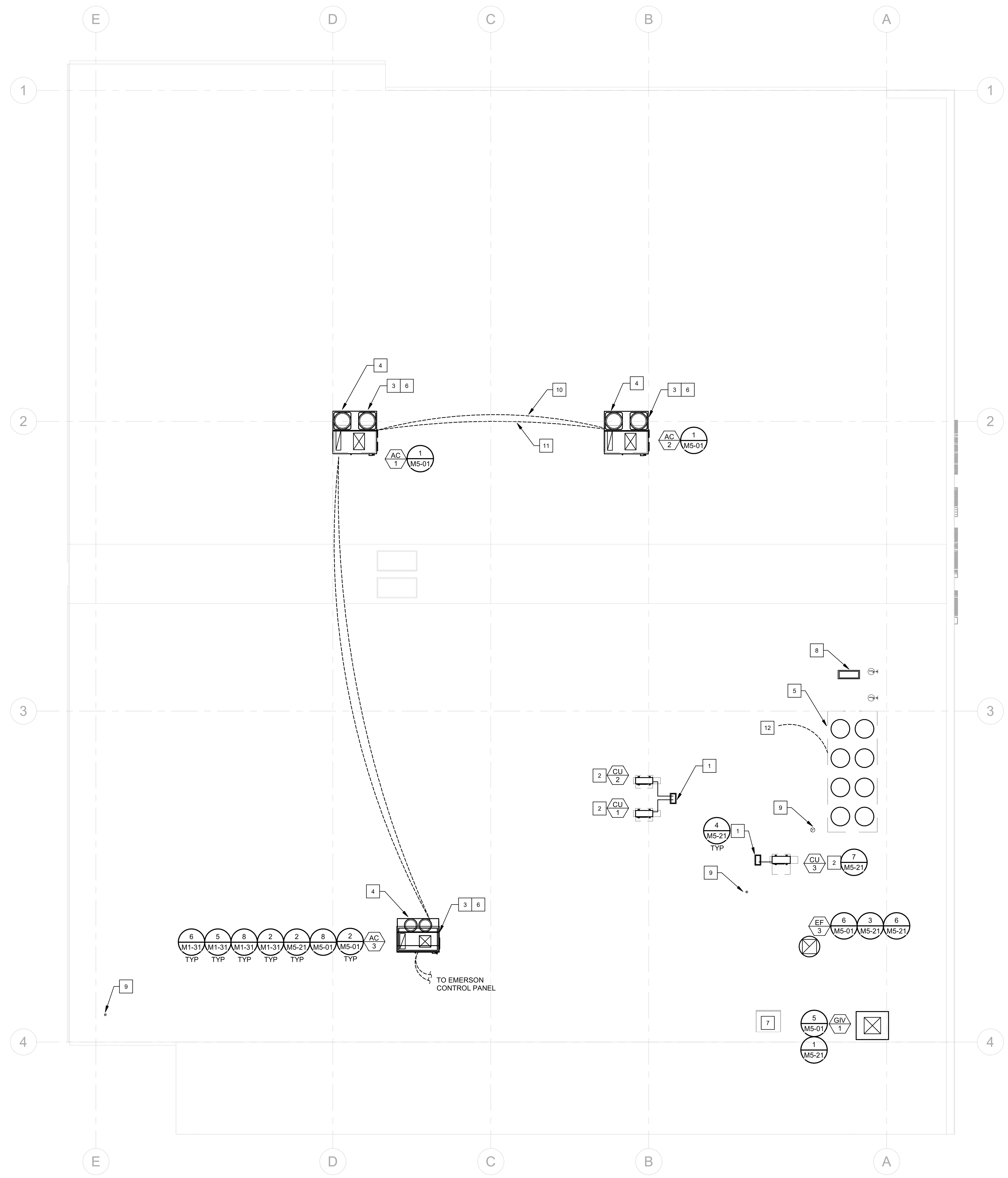
SEAN O. EISLER



HVAC ROOF PLAN

1 M1-21 SCALE: 1/8" = 1'-0"

NORTH

HVAC ROOF PLAN SHEET NOTES

1. G.C. TO PROVIDE WEATHER TIGHT ROOF OPENING FOR CONDENSING UNIT LINES 12" X 4" ID. COORDINATE SIZE AND LOCATION WITH M.C.
2. G.C. TO PROVIDE LEVEL PRESSURE TREATED SLEEPERS TO ACCOMMODATE HVAC CONDENSING UNIT. G.C. TO VERIFY LOCATION (TYP)
3. G.C. TO PROVIDE ROOF OPENINGS FOR DUCTWORK CONNECTED AT BOTTOM OF UNIT REFER TO STRUCTURAL PLANS FOR FRAMING DETAILS (TYP)
4. G.C. TO PROVIDE LEVEL SURFACE TO ACCEPT FACTORY CURB G.C. TO VERIFY LOCATION REFER TO STRUCTURAL PLANS (TYP 2 PLCS)
5. CONDENSER. REFER TO REFRIG PLANS
6. P.C. TO RUN CONDENSATE TO APPROVED PLUMBING RECEPTOR REFER TO PLUMBING PLANS (TYP 2 PLCS)
7. ROOF HATCH
8. ROOF OPENING FOR CONDENSER LINES REFER TO REFRIG PLANS
9. VENT CAP LOCATE MINIMUM 10'-0" FROM ALL FRESH AIR INTAKES
10. 2 18GA SMOKE DETECTOR INTERLOCK WIRING (TYP)
11. 2-COND 18GA COMM. CABLE (TYP)
12. 2-COND 18GA COMM. CABLE TO EMERSON CONTROL PANEL

ROOF LEGEND

- TYPICAL ROOF OPENING
- ROOF MOUNTED EXHAUST FAN LOCATION
- GAS SUPPLY W/ SHUTOFF VALVE LOCATED NEXT TO UNIT, BY P.C. REFER TO PLUMBING PLANS

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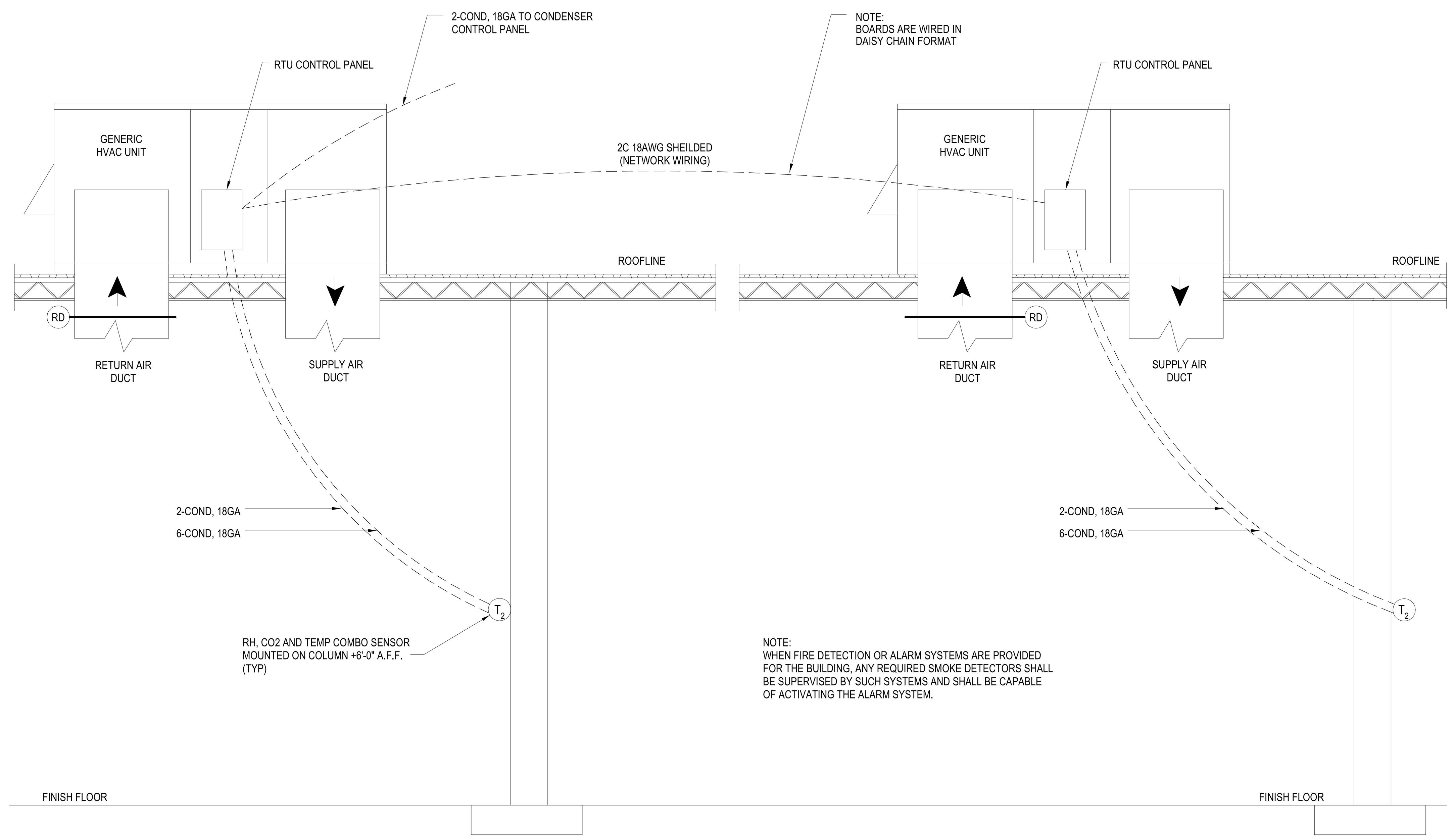
SALEM, OR 97302

PROJECT NUMBER 20230973.0

SHEET TITLE
HVAC ROOF PLAN

SHEET NUMBER
M1-21

SEAN O. EISLER



2 M1-31 HVAC RTU ENERGY MANAGEMENT DETAIL

EMS INSTALLATION NOTES

1) THE ELECTRICAL CONTRACTOR IS TO REVIEW THESE PLANS AND DIAGRAMS PRIOR TO STARTING WORK AND IS TO CONTACT HVAC AND REFRIGERATION CONTRACTOR IF CLARIFICATION IS NEEDED. UPON COMPLETION OF THE HVAC RELATED ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR, IN THE PRESENCE OF THE HVAC AND REFRIGERATION CONTRACTOR, IS TO PERFORM A COMPLETE TESTING OF ALL CIRCUITS AND MAKE ANY CORRECTIONS NECESSARY. THE ELECTRICAL CONTRACTOR IS NOT TO START ANY HVAC RELATED EQUIPMENT WITHOUT THE AUTHORIZATION OF HVAC CONTRACTOR.

2) ALL WIRING, CONDUIT, COMPONENTS, AND HIGH VOLTAGE CONNECTIONS ARE TO BE MADE BY THE ELECTRICAL CONTRACTOR. ALL WIRING IS TO BE COPPER. NO ALUMINUM WIRING IS TO BE PERMITTED. ALL WORK IS TO MEET APPLICABLE CODES. REFRIGERATION CONTRACTOR IS TO MAKE ALL LOW VOLTAGE WIRING CONNECTIONS TO CPC PANELS AND SENSORS. ELECTRICAL CONTRACTOR IS TO PULL ALL LOW VOLTAGE WIRING.

3) ALL LOW VOLTAGE WIRING IS TO BE MINIMUM 18 GAUGE SHIELDED CABLE RUN IN SEPARATE CONDUIT FROM ANY OTHER HIGH VOLTAGE SOURCE.

4) IN ALL INSTANCES THE ELECTRICAL CONTRACTOR IS TO CLEARLY TAG ALL CABLES AT EACH END FOR TERMINATION IDENTIFICATION. THE FOLLOWING INFORMATION IS TO APPEAR ON EACH TAG:

(A) POINT NAME
(B) ORIGINATION

5) THE ELECTRICAL CONTRACTOR IS TO TAG ALL HIGH VOLTAGE WIRES SIMILAR TO ABOVE.

6) THE ELECTRICAL CONTRACTOR IS TO PROVIDE CABLE OF SUFFICIENT LENGTH TO EASILY COMPLETE ALL TERMINATIONS. THE ELECTRICAL CONTRACTOR IS TO NEATLY COIL AND SECURE ALL CABLES AT THE CONDUIT ENDS.

7) SPLICES IN THE EMS CABLE ARE NOT PERMITTED OTHER THAN WHERE CONNECTING TO SENSORS.

8) ALL HIGH VOLTAGE WIRING TO BE TERMINATED BY THE ELECTRICAL CONTRACTOR.

9) ALL CPC SENSORS, BOARDS AND TRANSFORMERS ARE TO BE SUPPLIED BY THE REFRIGERATION EQUIPMENT SUPPLIER. R.C. TO PROVIDE BOARD ENCLOSURE AS REQUIRED. CONNECTION OF THE SENSOR WIRES TO THE CABLE SHALL BE JOINED BY SOLDER JOINT, OR 3M UY CONNECTOR DO NOT USE WIRE NUTS FOR JOINTS/SPLICES.

10) ALL ENERGY MANAGEMENT WIRING MUST BE DONE IN CONJUNCTION WITH OTHER ELECTRICAL WORK AND MUST BE COMPLETED PRIOR TO THE HVAC EQUIPMENT START-UP. THE ELECTRICAL CONTRACTOR IS TO COORDINATE WORK WITH THE HVAC & REFRIGERATION CONTRACTOR FIELD REPRESENTATIVES AS NECESSARY.

11) THE CABLE SHIELD GETS TERMINATED AT ONE END ONLY - CPC BOARD END. THE SHIELD DOES NOT GET TERMINATED AT THE SENSOR END. SHIELD TO BE CUT BACK AND TAPED TO CABLE AT THE SENSOR END.

12) NETWORK WIRING TO BE IN DAISY CHAIN FORMAT.

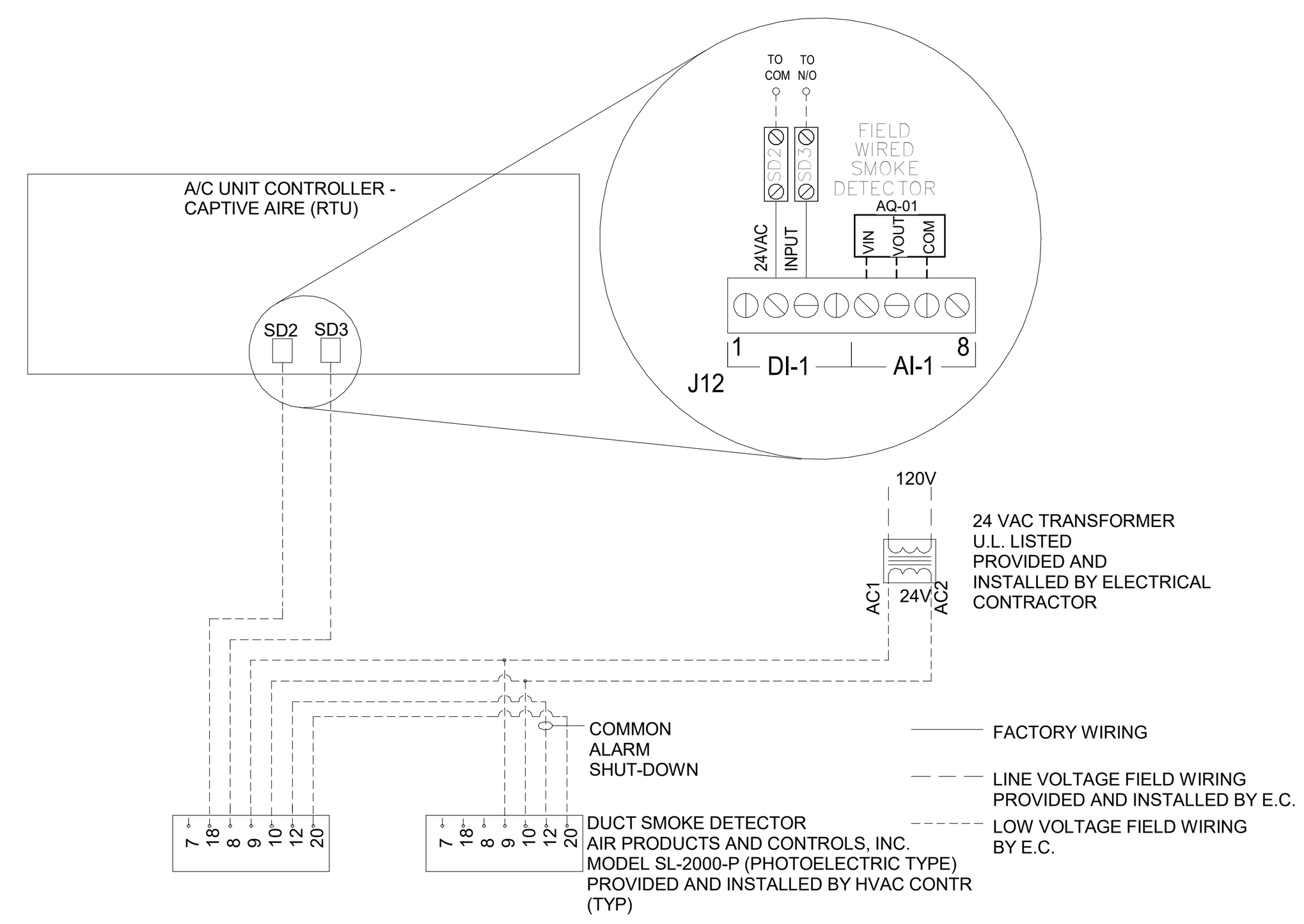
WIRING LEGEND

- FACTORY WIRING
- FIELD INSTALLED WIRING

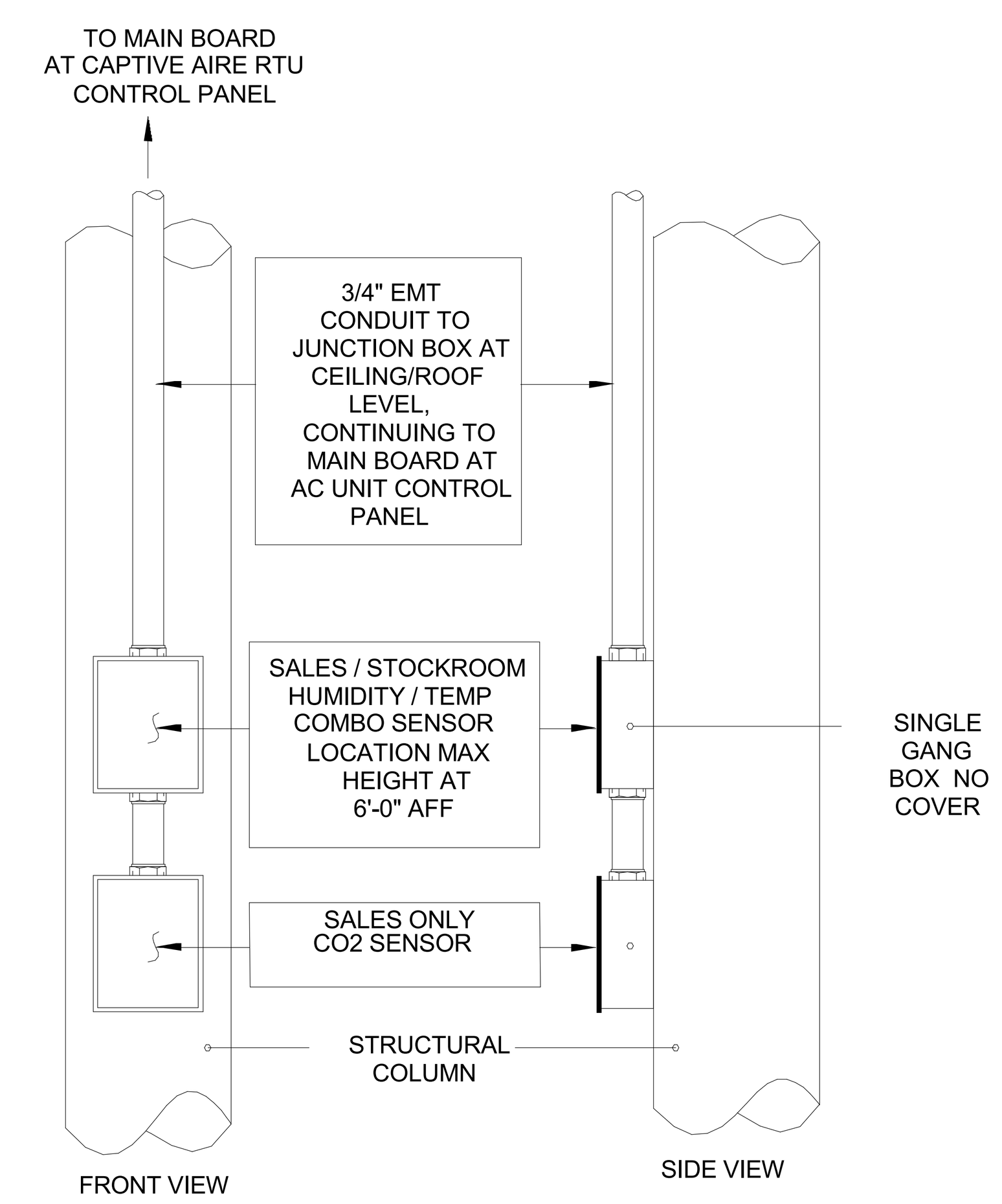
LEGEND

- SA - SUPPLY AIR TEMP SENSOR
- RA - RETURN AIR TEMP SENSOR
- T_2 - RELATIVE HUMIDITY, CO2 AND TEMP COMBO SENSOR
- SD - SMOKE DETECTOR
- OA - OUTSIDE AIR TEMP SENSOR
- T - SPACE TEMP SENSOR

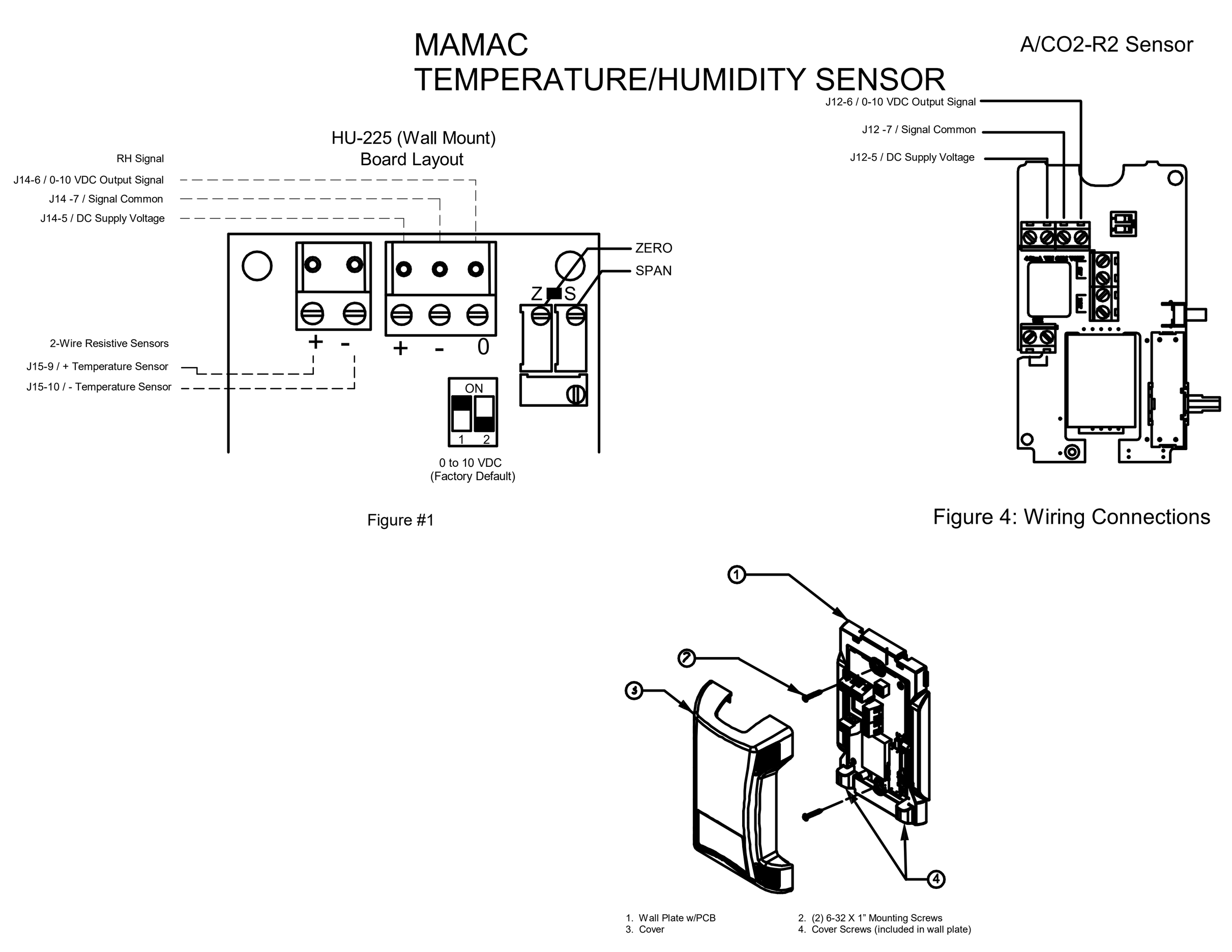
1 M1-31 NOTES AND LEGEND



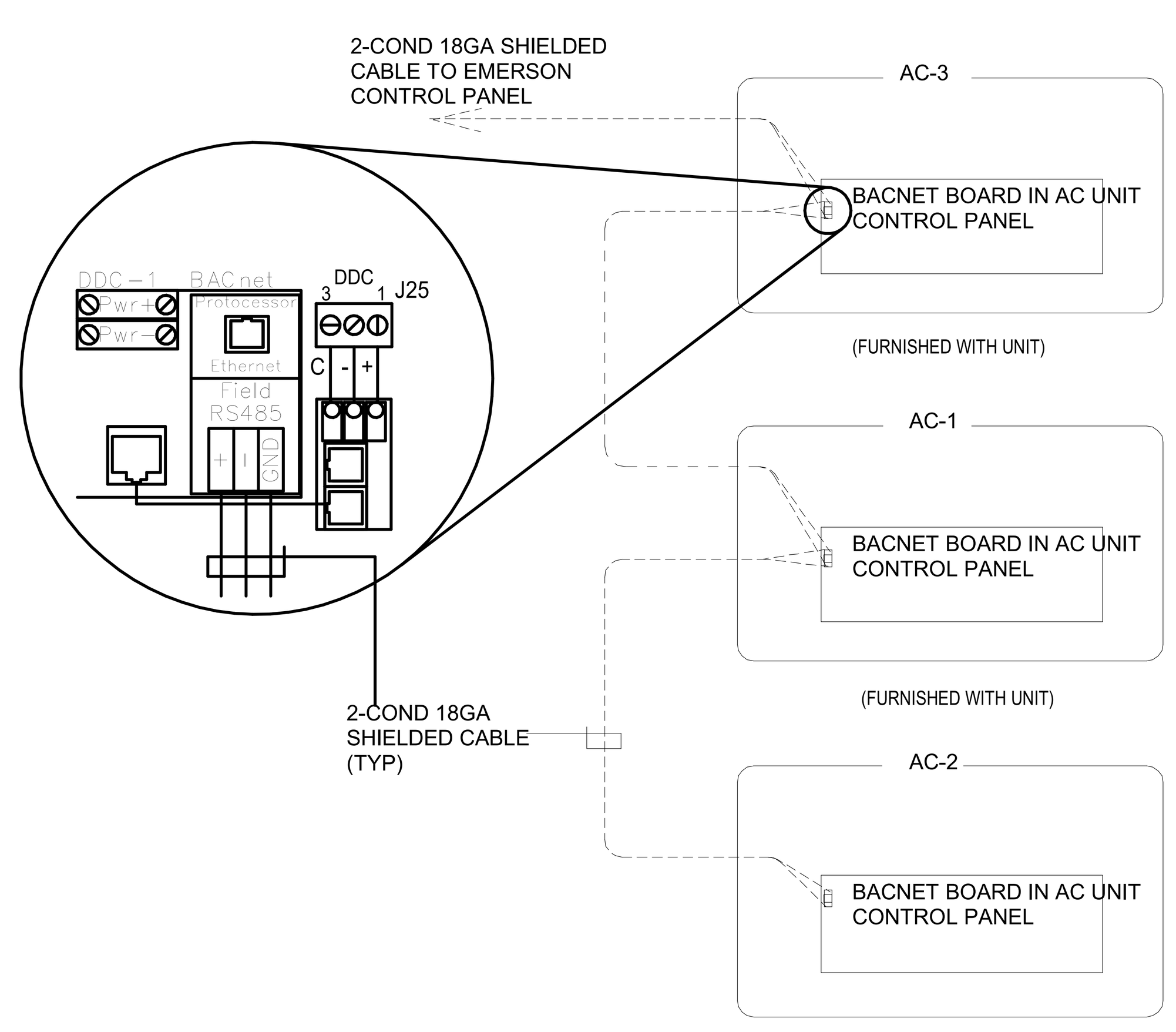
8 M1-31 A/C UNIT SMOKE DETECTOR GLOBAL SHUT DOWN WIRING DIAGRAM



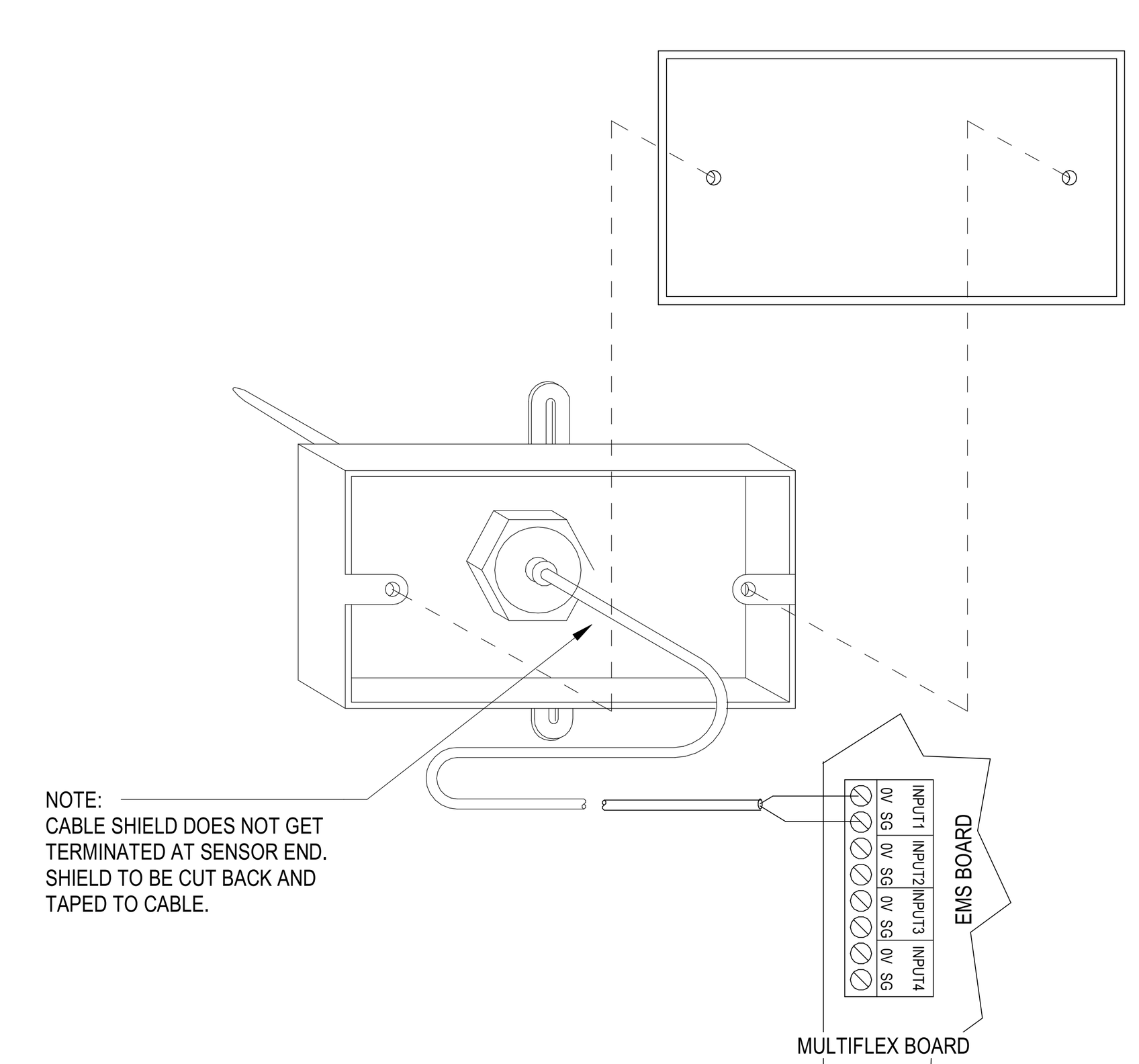
3 M1-31 TEMP / HUMIDITY/ C02 SENSOR MOUNTING DETAIL



7 M1-31 WALL MOUNT HUMIDITY/CO2/TEMP COMBO SENSOR W / DISPLAY (TELAIRE MODE)



6 M1-31 RTU NETWORKING DAISY CHAIN WIRING



5 M1-31 HVAC SUPPLY AIR TEMP SENSOR

SEAN O. EISLER

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SALEM, OR 97302

PROJECT NUMBER
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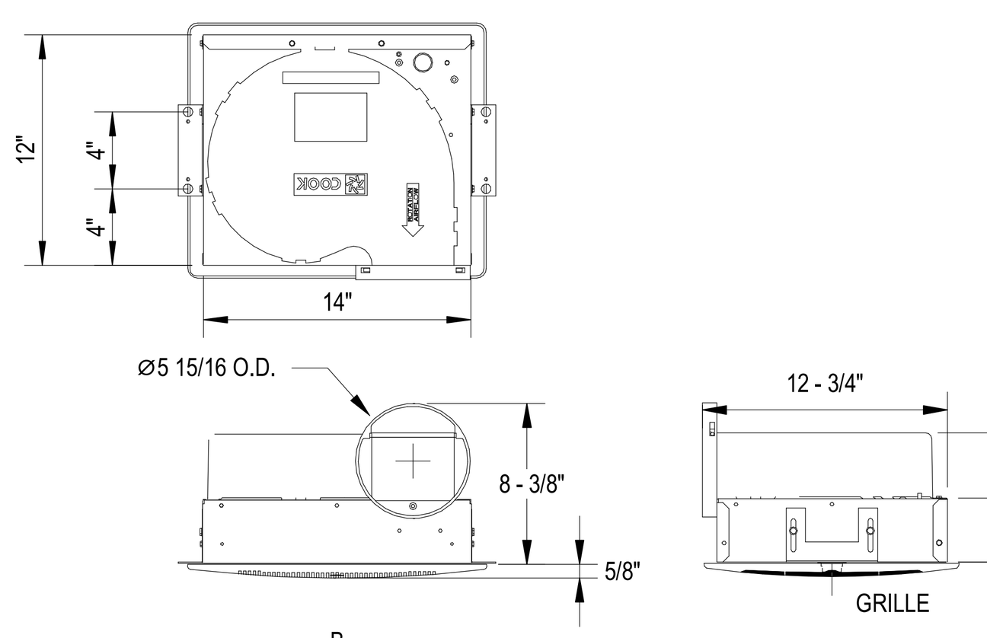
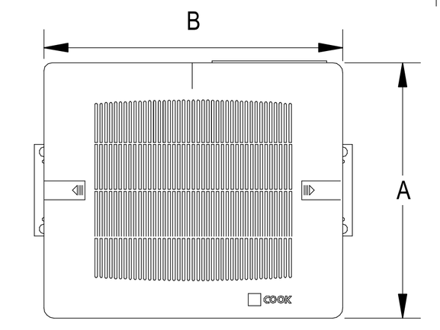
SHEET TITLE
HVAC ENERGY MGMT AND WIRING DIAGRAMS

SHEET NUMBER
M1-31





DIMENSIONS (INCHES)

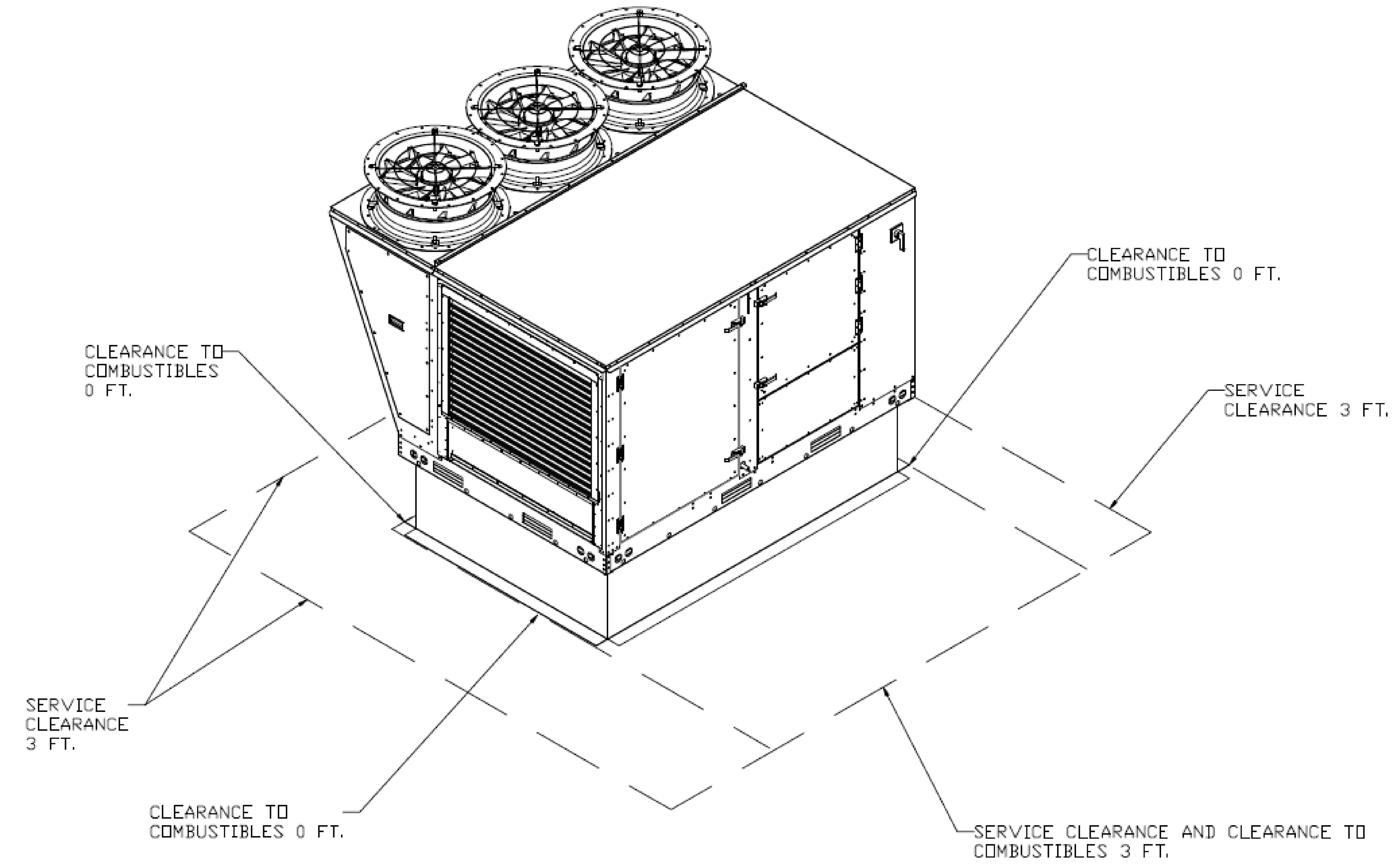
GRILLE MATERIAL	A	B
PLASTIC	13-1/4	15-1/2
STEEL	13-1/2	
ALUMINUM	13-3/4	

WEIGHTS (POUNDS)

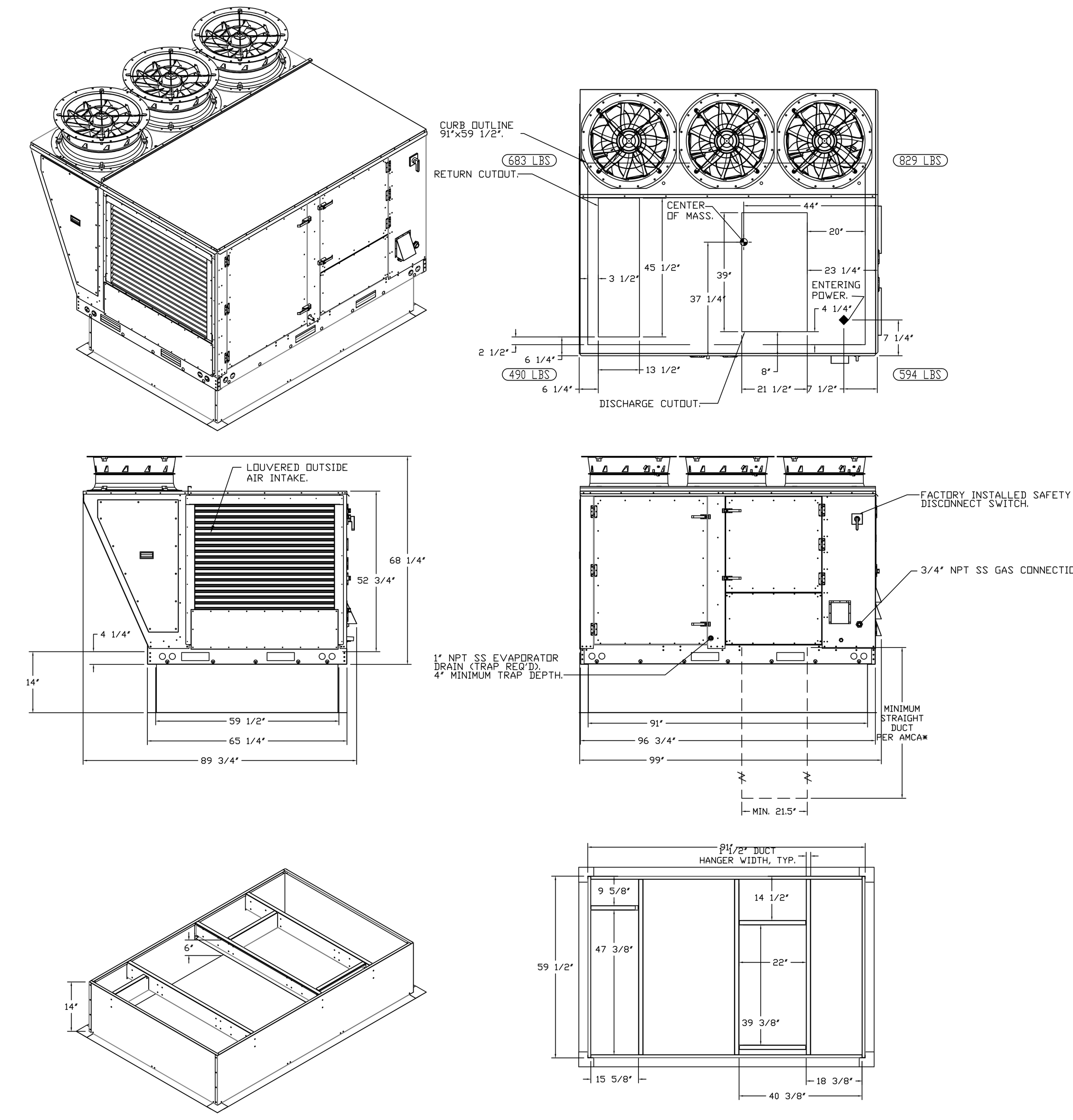
SIZE	SHIPPING WEIGHT
126-128	13
146-168	15
186-188	16

WEIGHTS ARE IN POUNDS.

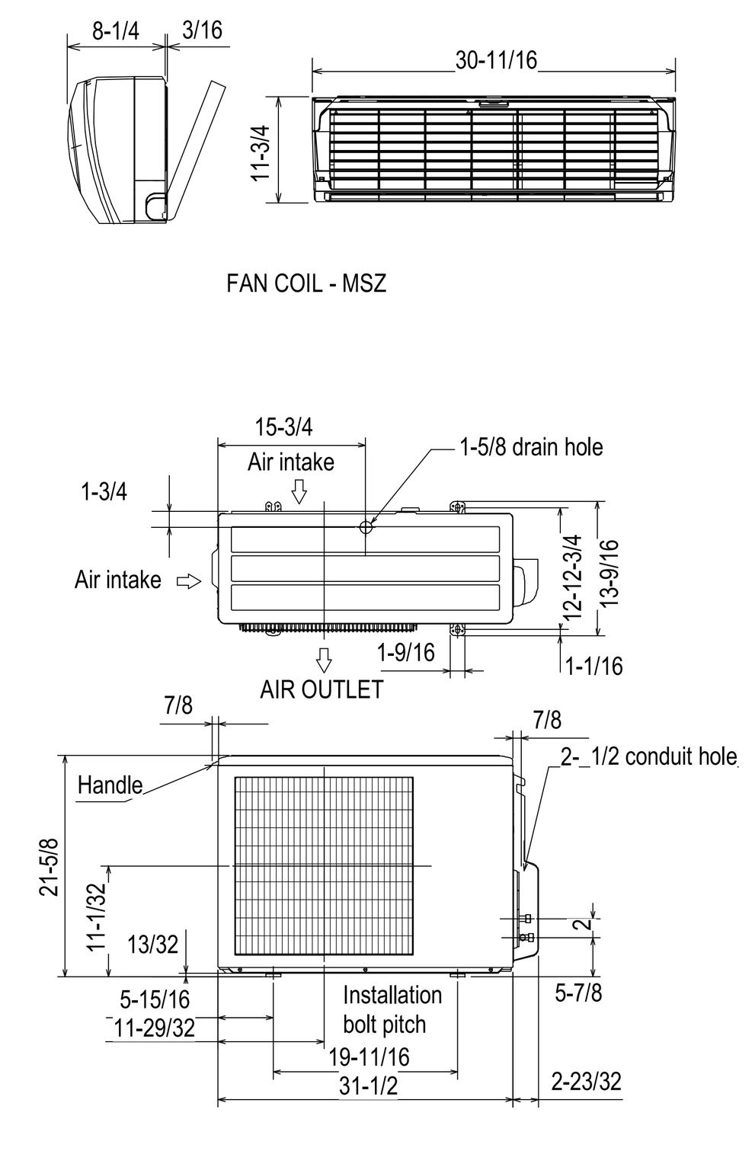
3 / M5-01 CEILING EXHAUST (COOK GC)
NOT TO SCALE



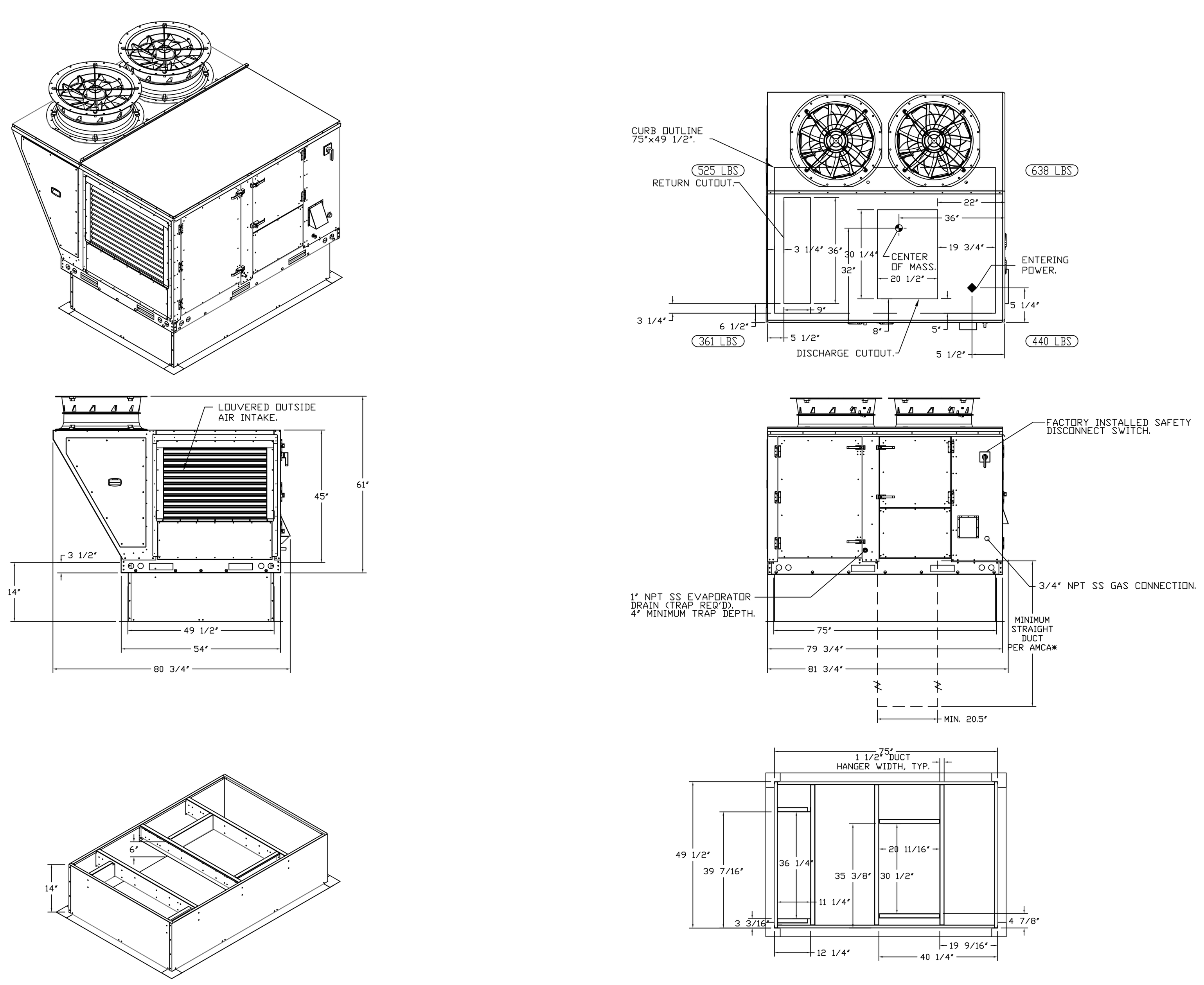
2 / M5-01 PACKAGED AC UNIT SERVICE CLEARANCES
NOT TO SCALE



1 / M5-01 PACKAGED ROOFTOP AC UNIT AND CURB
NOT TO SCALE

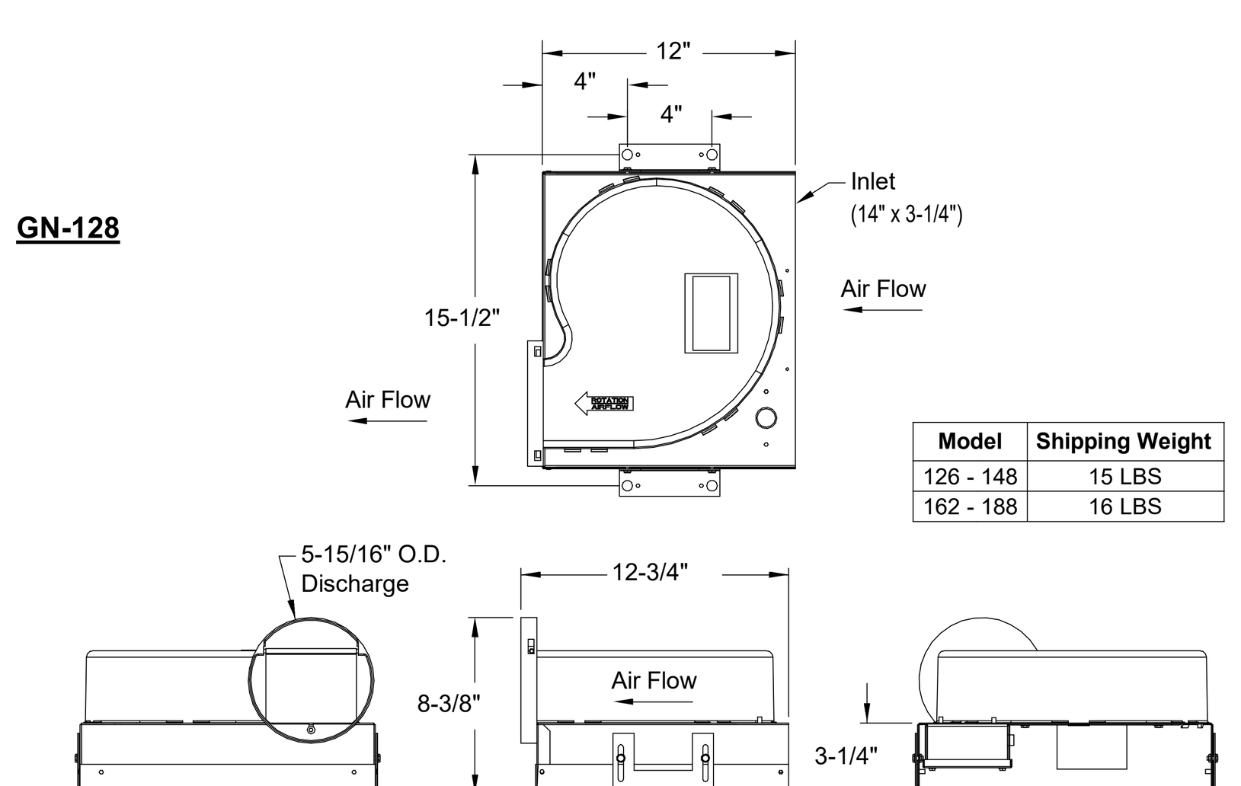


4 / M5-01 OFFICE SPLIT SYSTEM (MITSUBISHI MUZ/MSZ-GL09NA)
NOT TO SCALE



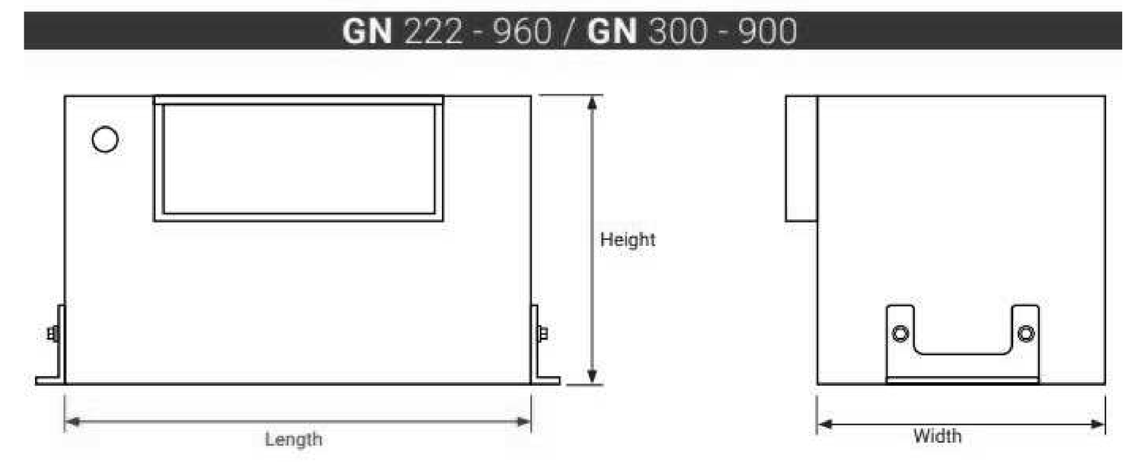
8 / M5-01 PACKAGED ROOFTOP AC UNIT AND CURB

GN-128



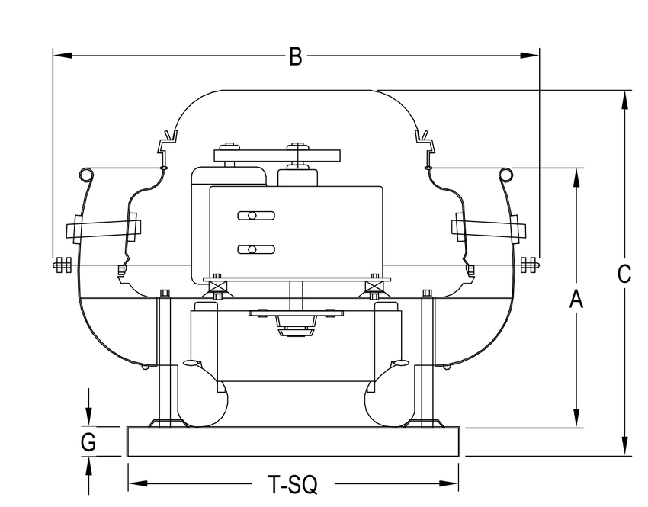
Model	Shipping Weight
126 - 148	15 LBS
162 - 188	16 LBS

GN 222 - 960 / **GN** 300 - 900



Unit Size	222 - 242	322 - 342	422 - 740	GNVF 700	822 - 862	920 - 960
Height	9 3/4	10 3/4	11 7/8	11 7/8	14 11/16	14 11/16
Length	12 3/8	12 3/8	17*	21	27	31
Width	9 3/4	10 3/4	11 7/8	11 7/8	14 11/16	14 11/16

7 / M5-01 INLINE TRANSFER FAN (COOK GN)
NOT TO SCALE

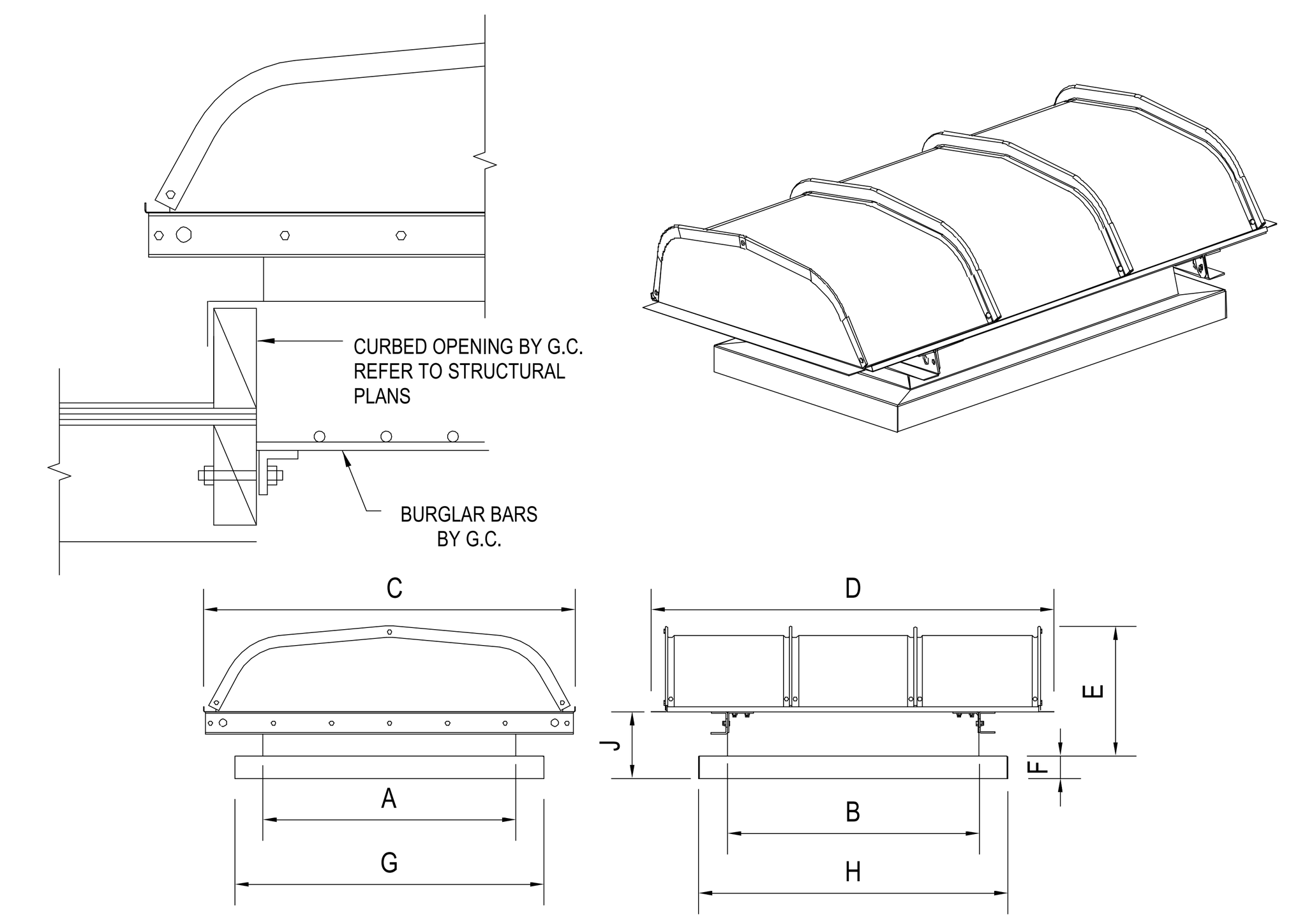


PROVIDE BACKDRAFT DAMPER AT DISCHARGE INLET

Dimensions are in inches

MODEL	A	B	C	G	T Sq.	Roof Opening Square
195	24 13/16	39 7/16	36 3/8	3	30	25 1/2

6 / M5-01 ROOF EXHAUST FAN
NOT TO SCALE



Dimensions are in inches

MODEL	A	B	C	D	E	F	G	H	J
3030 GI	30	30	59	51	21.51	2	35.5	35.5	9

5 / M5-01 FRESH AIR INTAKE / RELIEF HOOD (COOK)
NOT TO SCALE

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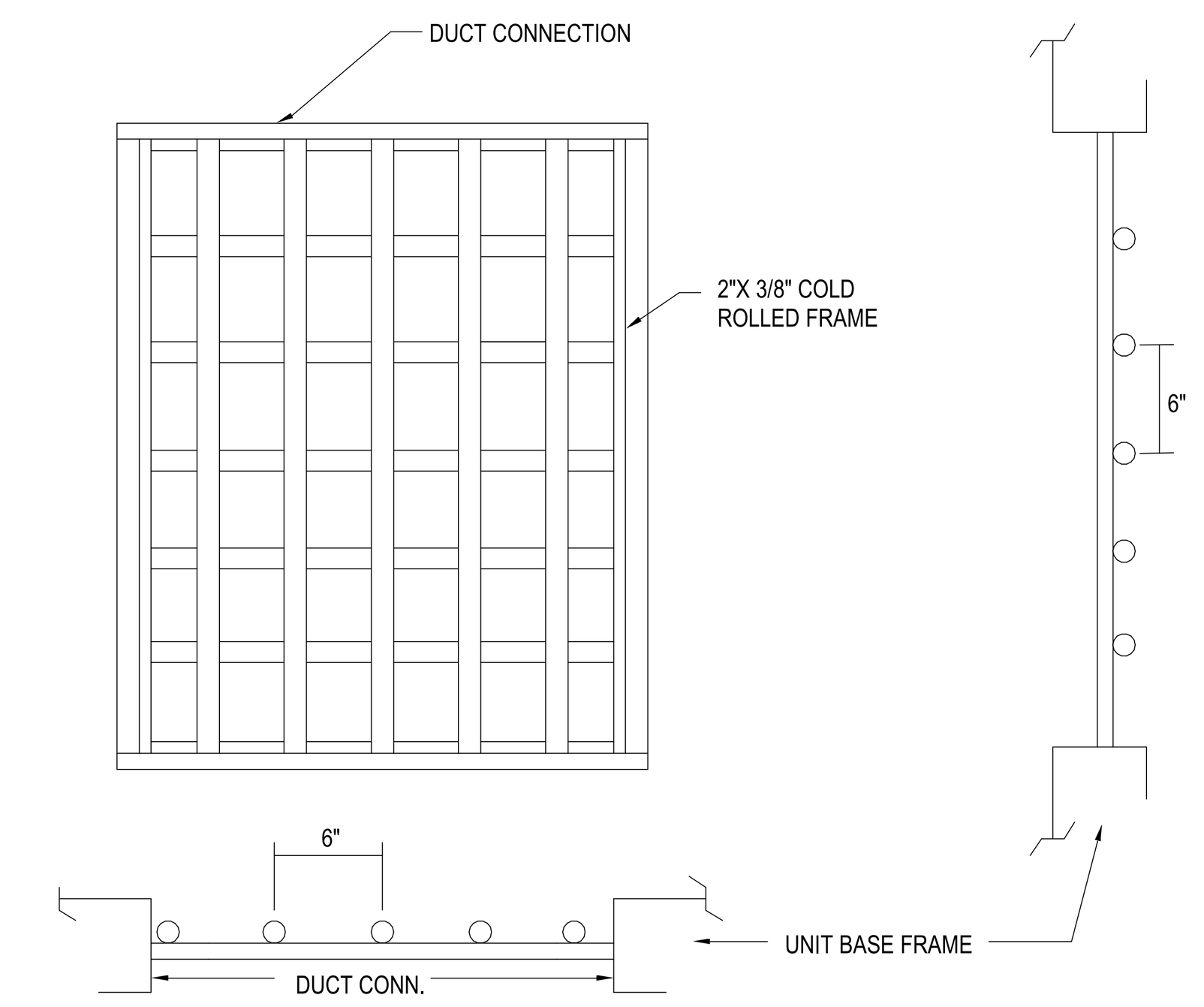
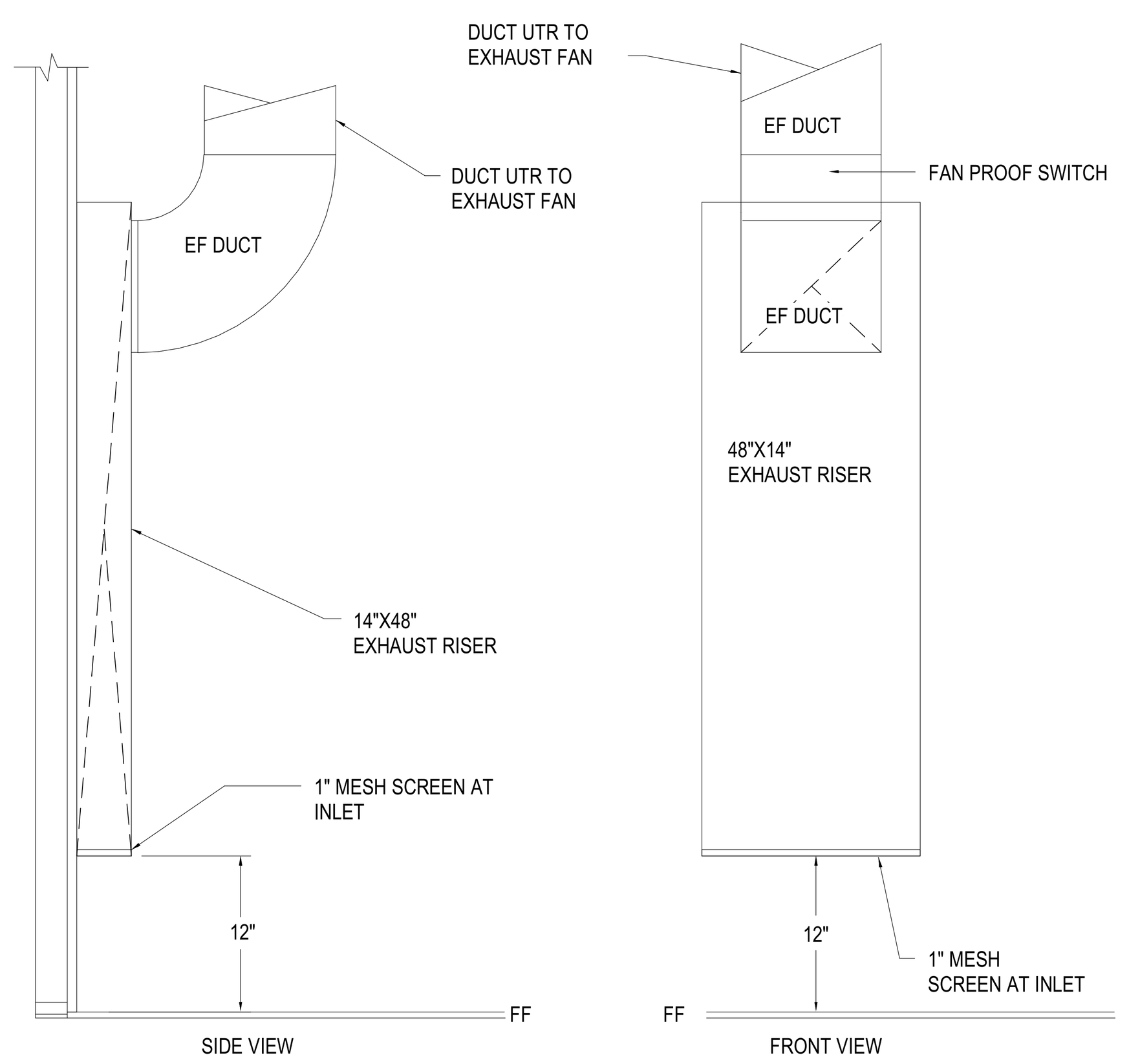
SHEET NUMBER
M5-01

SECURITY BARS SHALL BE 1/2" REBAR, 6" O.C. EACH WAY, WELDED TO 2"X 3/8" COLD ROLLED STEEL FRAME. FRAME SHALL BE SECURED TO CURBED OPENING WITH VANDAL PROOF 1/2" DIA. LAG BOLTS BY G.C.

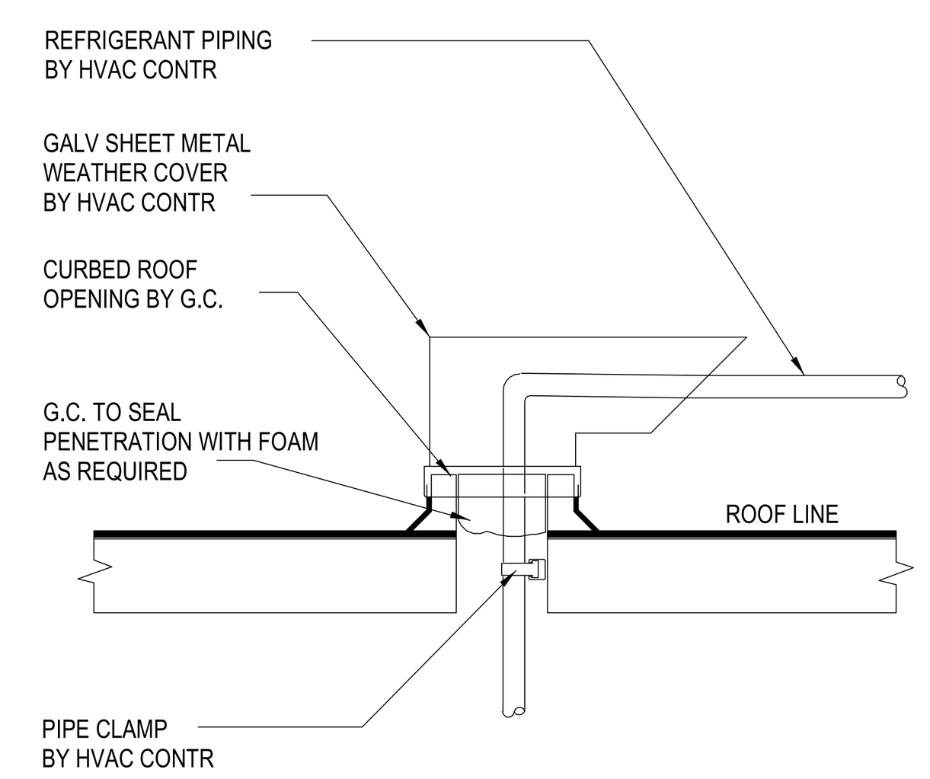
NOTE:
SECURITY BARS ARE REQUIRED IN ALL DUCTS OVER 12"X12"



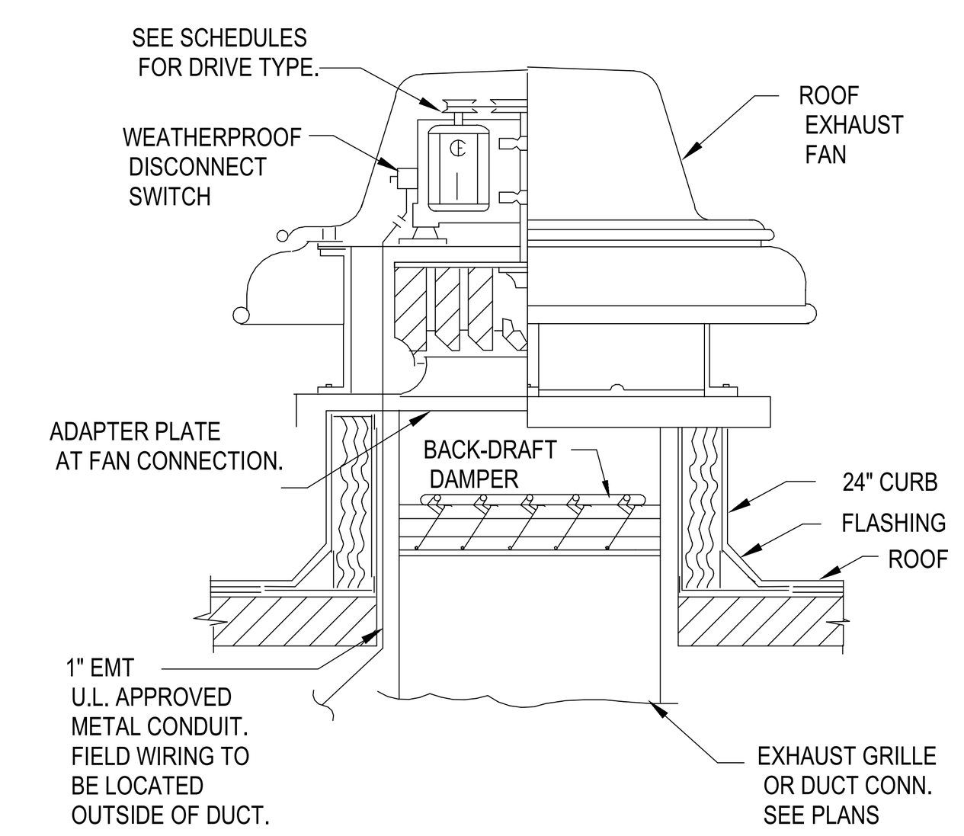
1 M5-21 SECURITY BAR ASSEMBLY
NOT TO SCALE



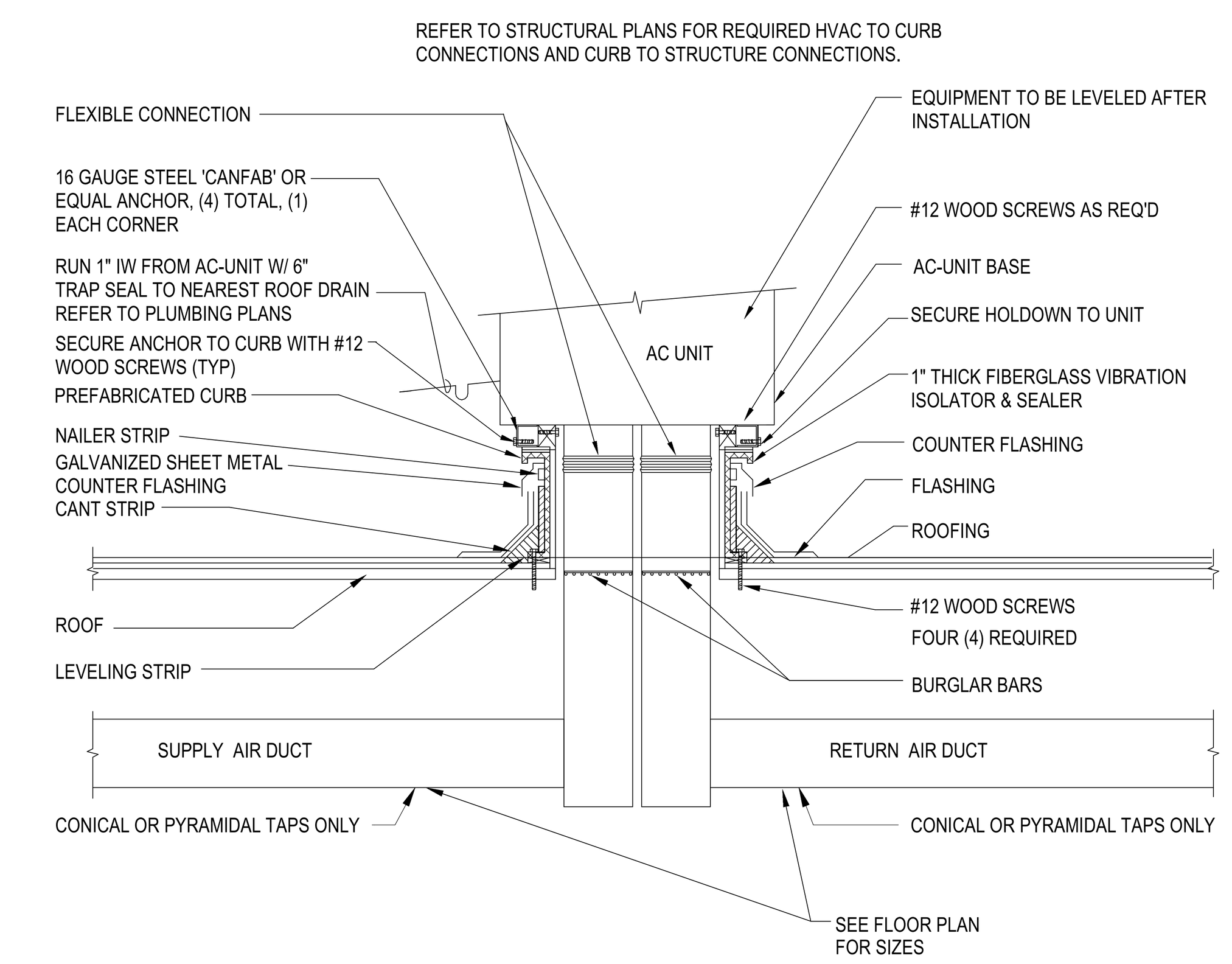
5 M5-21 MECH ROOM EXHAUST DUCT DETAIL
NOT TO SCALE



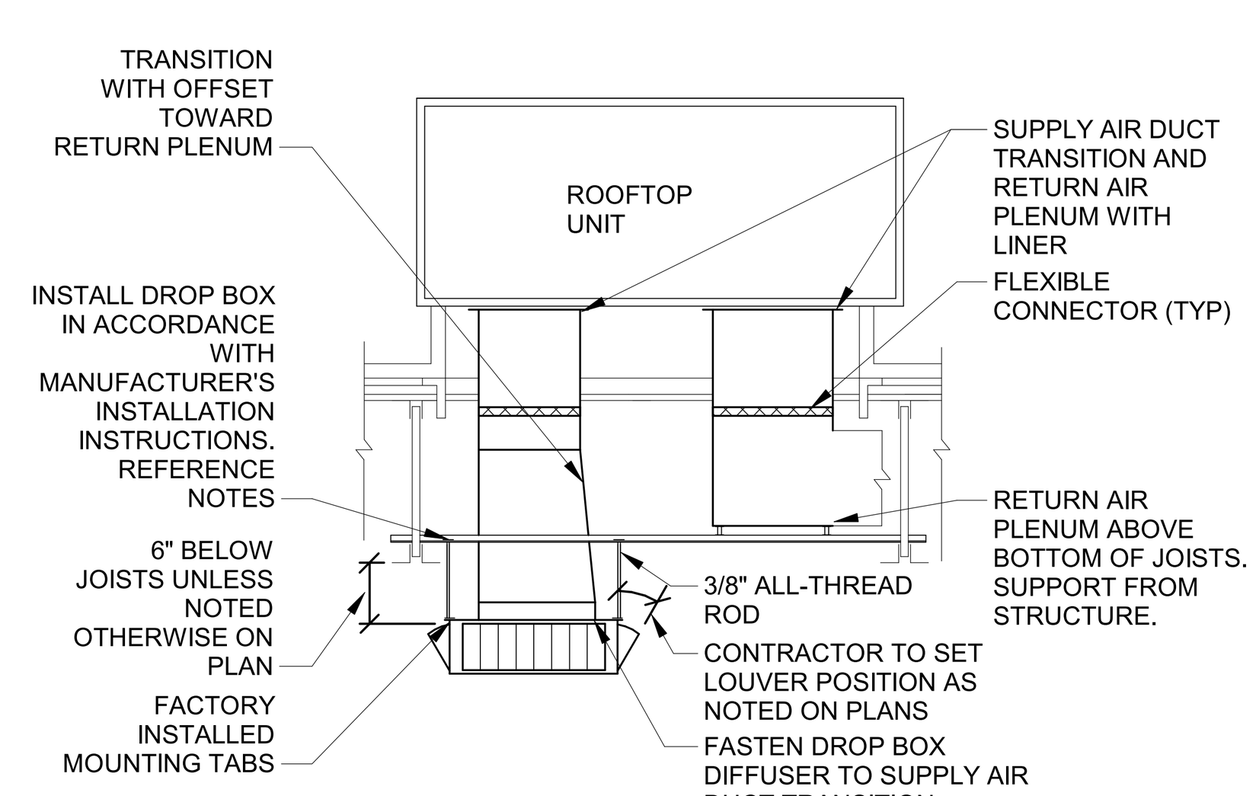
4 M5-21 SPLIT SYSTEM PIPE CHASE HOOD
NOT TO SCALE



3 M5-21 ROOF EXHAUST FAN DETAIL
NOT TO SCALE

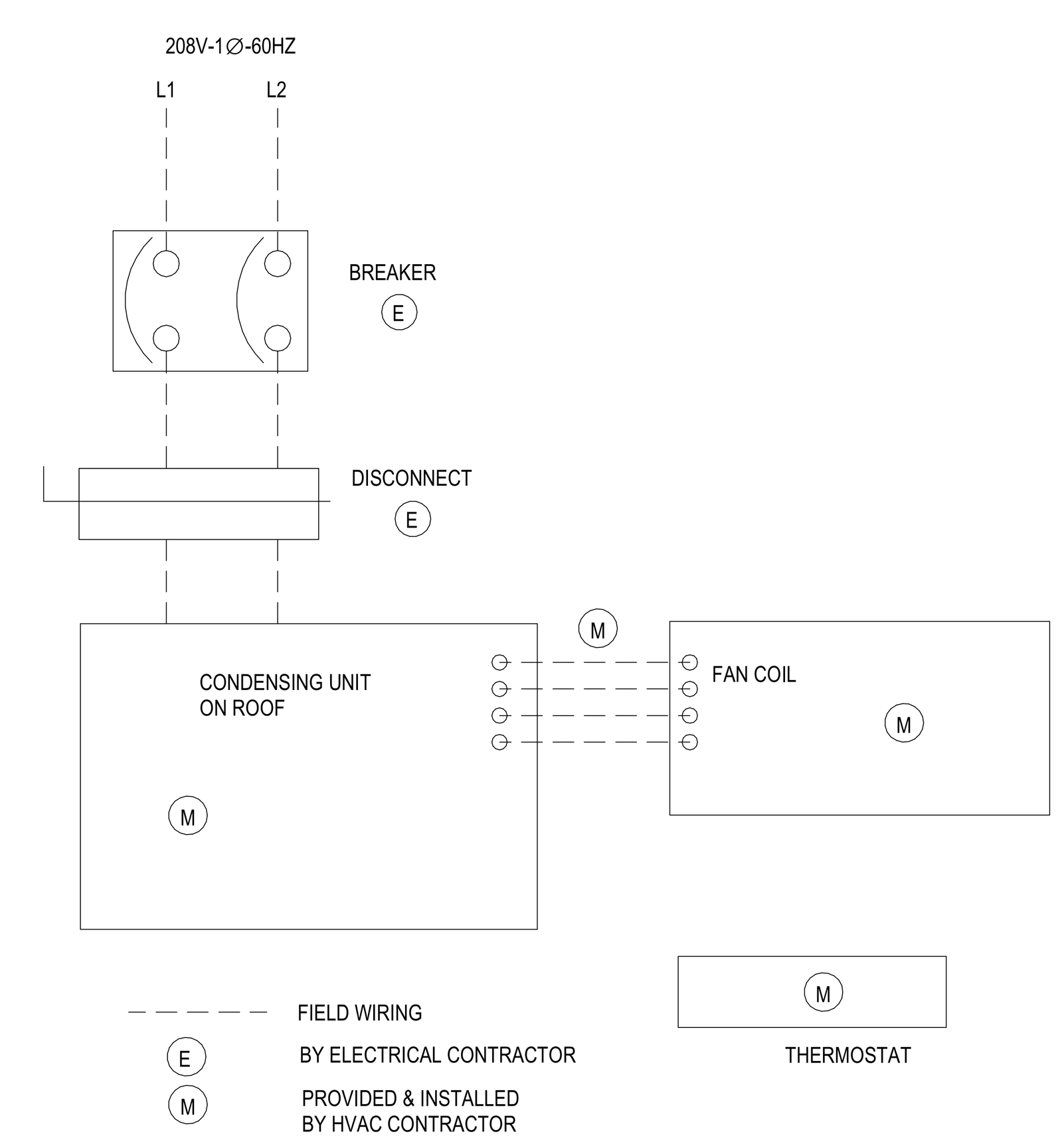


2 M5-21 ROOF-TOP A/C UNIT MOUNTING AND DUCT PENETRATION
NOT TO SCALE

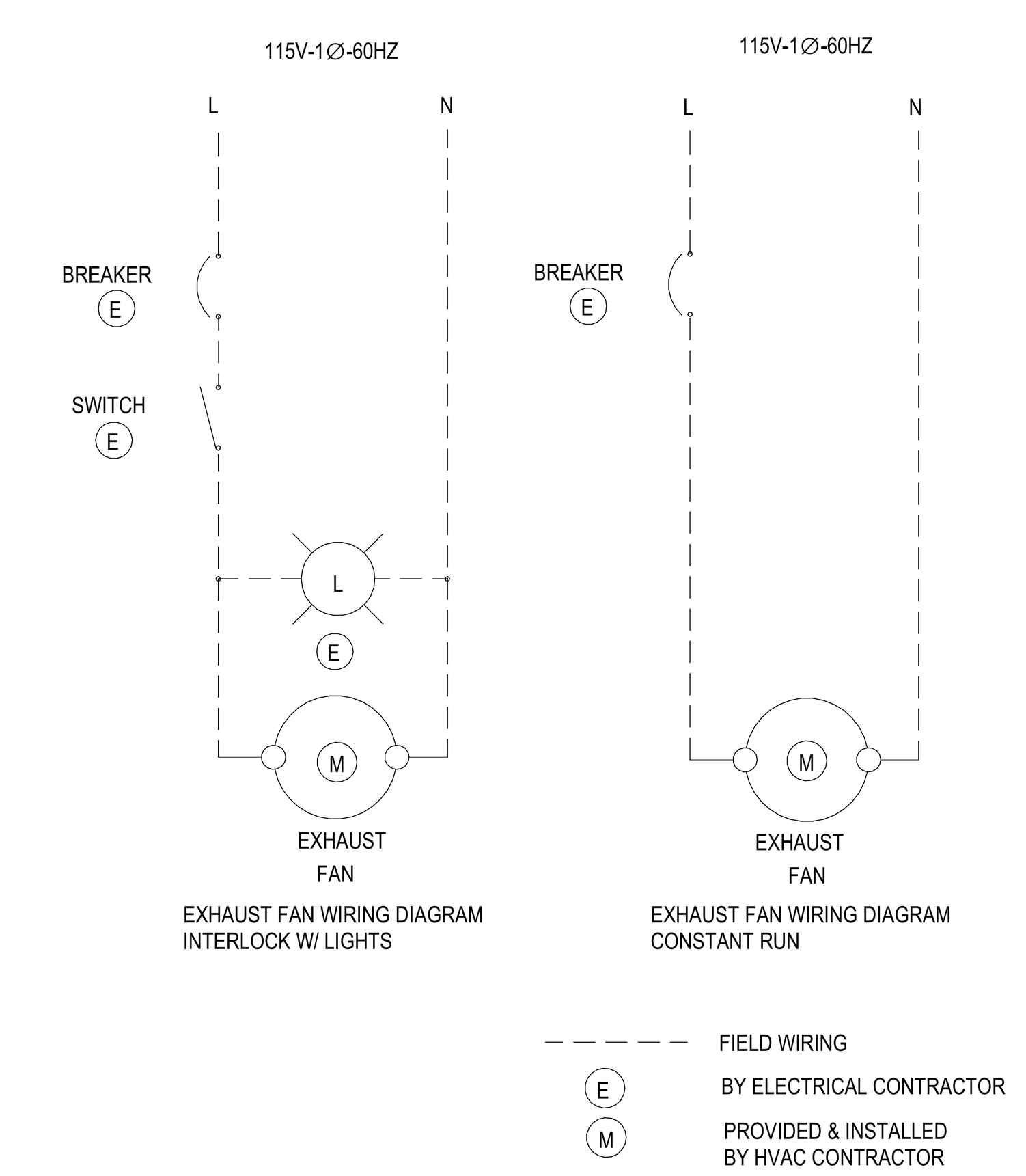


NOTES:
1. PROVIDE SUPPORT MATERIAL (ANGLES, UNISTRUT, BOLTS, NUTS, WASHERS AND PRE-CUT ALL-THREAD) FOR INSTALLATION.
2. INSTALL DROP BOX SUPPORTS PARALLEL TO MOUNTING TABS ON DROP BOX.
3. SUPPORTS SHALL SPAN BETWEEN ADJACENT JOISTS. PROVIDE ADDITIONAL SUPPORT MATERIAL AS REQUIRED IF OBSTRUCTIONS PREVENT INSTALLATION SHOWN.

8 M5-21 DROP BOX DIFFUSER



7 M5-21 SPLIT SYSTEM WIRING DIAGRAM



6 M5-21 EXHAUST FAN / INTAKE FAN WIRING DIAGRAM

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Suite 100
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PROJECT TEAM

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
NOVEMBER 09, 2017
SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
RH
PROJECT MANAGER
CK
QUALITY CONTROL
SW
DRAWN BY
SDH

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
HVAC INSTALLATION AND ELECTRICAL DETAILS

SHEET NUMBER
M5-21

CITY	SALEM
STATE	OR
ELEVATION (FT)	205
CLIMATE ZONE	4C

OUTDOOR CONDITIONS	COOLING & HEATING		
SEASON	CONDITION	DB (°F)	MCWB (°F)
SUMMER	0.4%	92.6	66.8
WINTER	99.6%	24.7	-

INDOOR CONDITIONS	OCCUPIED SET POINTS			UNOCCUPIED SET POINTS		
SPACE	COOLING DB (°F)	HEATING DB (°F)	RH (%)	COOLING DB (°F)	HEATING DB (°F)	RH (%)
SALES FLOOR	75	70	45	75	65	45
OFFICES	75	70	45	80	65	45
BREAK ROOM	75	70	45	80	65	45
STOCK ROOM	80	65	45	85	60	45

EXHAUST AIR	OREGON MECHANICAL CODE §403				
SPACE	UNIT EXHAUST RATE (CFM/UNIT)	UNITS	EXHAUST RATE REQUIRED (CFM)	EXHAUST RATE PROVIDED (CFM)	UNIT PROVIDING EXHAUST AIR
RESTROOM #1	75	1	75	75	EF-1
RESTROOM #2	75	1	75	75	EF-2

CODES AND REGULATIONS
2023 OREGON MECHANICAL CODE
ALL WORK SHALL BE IN COMPLIANCE WITH ABOVE CODES AND LOCAL AMENDMENTS.

VENTILATION AIR	OREGON MECHANICAL CODE										DESIGN RESULTS			
SPACE	OCCUPANCY CATEGORY	ZONE GROSS FLOOR AREA (SQFT)	ZONE NET FLOOR AREA, Az (SQFT)	PEOPLE OUTDOOR AIR RATE, Rp (CFM/OCC)	AREA OUTDOOR AIR RATE, Ra (CFM/SQFT)	DEFAULT OCCUPANT DENSITY (OCC/1,000...	ZONE POPULATION, Pz (OCC)	ZONE AIRFLOW, Vbz (CFM)	ZONE AIR DISTRIBUTION EFF'NESS, Ez	ZONE OUTDOOR AIRFLOW, Voz (CFM)	ZONE OUTDOOR AIRFLOW REQUIRED, Voz (CFM)	ZONE OUTDOOR AIRFLOW PROVIDED (CFM)	ZONE PRIMARY AIRFLOW PROVIDED, Vpz (CFM)	ZONE PRIMARY OUTDOOR AIR FRACTION, Zpz
SALES FLOOR	SUPERMARKET	11437	11439	7.5	0.06	8	91	1372	0.8	1500	1500	1600	8000	0.20
FRONT OFFICE	OFFICE	110	110	5.0	0.06	5	1	9	0.8	13	13	SALES XFR	75	0.17
BACK OFFICE	OFFICE	89	89	5.0	0.06	5	1	10	0.8	12	12	SALES XFR	120	0.10
BREAK ROOM	CONFERENCE...	196	196	5.0	0.06	50	4	25	0.8	40	40	SALES XFR	275	0.15
STOCK ROOM	STORAGE	2886	2886	0.0	0.06	0	0	173	0.8	217	217	250	2000	0.13

EQUIPMENT SCHEDULE

TAG	DESCRIPTION	AREA SERVED	MFGR	MODEL	PROVIDED BY / INSTALLED BY	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP (In WG)	AHRI RATING (MBH)	COOLING CAPACITY (MBH) SENSIBLE	LATENT	TOTAL	HEATING CAPACITY (MBH) TYPE	INPUT	OUTPUT	MODE	ENTERING AIR (F) DB	WB	LEAVING AIR (F) DB	WB	DP	ELECTRICAL VOLTAGE	PHASE	HP	MCA	MOCP	EFFICIENCY	EST. OP. WEIGHT (LBS)	REMARKS
AC-1	PACKAGED AC UNIT	SALES	CAPTVIEAIRE	CASRTU2-I.200-24-12.5	HVAC CONTR	4000	800	0.50 in-wg	240	89.8	17.6	107.4	NAT. GAS	160.7	130.2	COOL / HEAT	78.5	62.2	69.6	58.8	51.6	208	3	5 SA FAN	68.8	80	21.3 IEER	2406	1,5-6,8-19
AC-2	PACKAGED AC UNIT	SALES	CAPTVIEAIRE	CASRTU2-I.200-24-12.5	HVAC CONTR	4000	800	0.50 in-wg	240	89.8	17.6	107.4	NAT. GAS	160.7	130.2	COOL / HEAT	78.5	62.2	69.6	58.8	51.6	208	3	5 SA FAN	68.8	80	21.3 IEER	2406	1,5-6,8-19
AC-3	PACKAGED AC UNIT	STOCK ROOM	CAPTVIEAIRE	CASRTU1-I.75-15-5T	HVAC CONTR	2000	250	1.00 in-wg	240	36.2	1.1	37.3	NAT. GAS	61.9	50.2	COOL / HEAT	77.7	63.7	57.2	56.0	55.2	208	3	2 SA FAN	29	35	17.9 IEER	1192	1,5-6-19
CU-1	CONDENSING UNIT	OFFICES	MITSUBISHI	MUZ-GL09NA-U8	HVAC CONTR					8.1	0.9	9.0	HEAT PUMP		10.9							208	1		9.0	15	24.6 SEER / 12.8 HSPF	81	1-2, 19
CU-2	CONDENSING UNIT	OFFICES	MITSUBISHI	MUZ-GL09NA-U8	HVAC CONTR					8.1	0.9	9.0	HEAT PUMP		10.9							208	1		9.0	15	24.6 SEER / 12.8 HSPF	81	1-2, 19
CU-3	CONDENSING UNIT	BREAK ROOM	MITSUBISHI	MUZ-GL24NA-U1	HVAC CONTR					20.2	2.2	22.4	HEAT PUMP		27.6							208	1		17.1	20	20.5 SEER / 10.0 HSPF	119	1-2, 19
FC-1	FAN COIL	OFFICES	MITSUBISHI	MSZ-GL09NA-U1	HVAC CONTR	90	TRANSFER AIR FROM SALES									COOL / HEAT	75.0 / 70.0		58.0 / 95.0			208	1	0.2 SA FAN	1.0			22	1-4
FC-2	FAN COIL	OFFICES	MITSUBISHI	MSZ-GL09NA-U1	HVAC CONTR	90	TRANSFER AIR FROM SALES									COOL / HEAT	75.0 / 70.0		58.0 / 95.0			208	1	0.2 SA FAN	1.0			22	1-4
FC-3	FAN COIL	BREAK ROOM	MITSUBISHI	MSZ-GL24NA-U1	HVAC CONTR	740	TRANSFER AIR FROM SALES									COOL / HEAT	75.0 / 70.0		58.0 / 95.0			208	1	0.2 SA FAN	1.0			37	1-4

EQUIPMENT SCHEDULE REMARKS
1. R-410A.
2. FUSED DISCONNECTS BY E.C.
3. WIRELESS PROGRAMMABLE CONTROLLER.
4. PROVIDE WITH FACTORY DRAIN PAN AND CONDENSATE PUMP KIT WHEN INSTALLED INDOORS.
5. FACTORY INSTALLED NON-FUSED DISCONNECT BY A/C UNIT MANUFACTURER.
6. MANUFACTURER PROVIDED A/C UNIT CONTROLLER SHALL BE FACTORY PROGRAMMED TO BE COMPATIBLE WITH EMERSON CPC MULTIFLEX BOARD CONTROL SIGNALS.
7. ECONOMIZER WITH FACTORY INSTALLED FAULT DETECTION & DIAGNOSTICS SYSTEM.
8. 120V CONVENIENCE OUTLET BY E.C.
9. FACTORY PROVIDED PREMIUM EFFICIENCY SUPPLY AIR BLOWER MOTOR AND VARIABLE SPEED CONTROLS.
10. FILTER TYPE MERV 13.
11. PROVIDE WITH DOWNWARD SUPPLY AND RETURN AIR OPENINGS.
12. PROVIDE WITH CONDENSATE OVERFLOW SWITCH.
13. PROVIDE WITH ROOF CURB.
14. PROVIDE WITH SEISMIC RESTRAINTS TO ATTACH TO ROOF CURB.
15. AIRFLOW SMOKE DETECTOR (ADDRESSABLE TYPE) AND INTERLOCKING WIRING BY HVAC CONTRACTOR.
16. NATURAL GAS HEATING.
17. DEHUMIDIFICATION HOT GAS REHEAT.
18. MOTORIZED OUTSIDE AIR DAMPERS.
19. PROVIDE SEISMIC RESTRAINTS IN ACCORDANCE WITH ARTICLE "SEISMIC CONTROLS FOR MEPF SYSTEMS" ON SHEET M0-01.

FAN SCHEDULE

TAG	DESCRIPTION	AREA SERVED	MANUFACTURER	MODEL	PROVIDED AND INSTALLED BY	SUPPLY AIR (CFM)	ESP (In WG)	MOUNT TYPE	ELECTRICAL VOLTAGE	PHASE	HP	FLA	WEIGHT (LBS)	CONTROL	REMARKS
EF 1	EXHAUST FAN	RESTROOMS	COOK	GC-128	HVAC CONTR	75	0.13 in-wg	CEILING	120	1	28W	.25	11	ON WITH LIGHTS	3-4
EF 2	EXHAUST FAN	RESTROOMS	COOK	GC-128	HVAC CONTR	75	0.13 in-wg	CEILING	120	1	28W	.25	11	ON WITH LIGHTS	3-4
EF 3	EXHAUST FAN	MECH ROOM	COOK	ACRUB-195	HVAC CONTR	4500	0.50 in-wg	ROOFTOP	208	3	1.5	6.6	119	CPC	1-8
TF 1	TRANSFER FAN	OFFICES	COOK	GN-146	HVAC CONTR	100	0.25 in-wg	INLINE	120	1	35W	.25	12	ON WITH LIGHTS	4
TF 2	TRANSFER FAN	OFFICES	COOK	GN-146	HVAC CONTR	100	0.25 in-wg	INLINE	120	1	35W	.25	12	ON WITH LIGHTS	4
TF 3	TRANSFER FAN	BREAK ROOM	COOK	GN-542	HVAC CONTR	375	0.25 in-wg	INLINE	120	1	127w	1.2	26	ON WITH LIGHTS	4

FAN SCHEDULE REMARKS
1. PROVIDE WITH FACTORY UNVENTED CURB.
2. G.C. TO PROVIDE LEVEL CURB TO RECEIVE FACTORY CURB.
3. PROVIDE WITH BIRDSCREEN.
4. PROVIDE WITH BACKDRAFT DAMPER.
5. FUSED DISCONNECT BY E.C.
6. BURGLAR BARS BY G.C.
7. PROVIDE POWER FROM REFRIG COMPRESSOR RACK PANEL
8. PROVIDE WITH TWO SPEED FAN CONTROLLER

DIFFUSERS, GRILLES AND REGISTERS SCHEDULE

ITEM NUMBER	DESCRIPTION	MFGR.	MODEL	PROVIDED AND INSTALLED BY	FLOW RANGE MIN	MAX	MOUNT TYPE	LISTED / NOM DUCT SIZE (IN)	REMARKS
CD-201	SUPPLY DIFFUSER MODULAR CORE	TITUS	MCD	HVAC CONTR	0 CFM	275 CFM	CEILING/DUCT	6X6	1-3
CD-202	SUPPLY DIFFUSER MODULAR CORE	TITUS	MCD	HVAC CONTR	222 CFM	400 CFM	CEILING/DUCT	8X8	1-3
RG-601	RETURN GRILLE SLOTTED FACE	TITUS	350FL	HVAC CONTR	0 CFM	296 CFM	WALL	8X8	1-3
RG-602	RETURN GRILLE SLOTTED FACE	TITUS	350FL	HVAC CONTR	295 CFM	472 CFM	WALL	10X10	1-3
RG-609	RETURN GRILLE SLOTTED FACE	TITUS	350FL	HVAC CONTR	1875 CFM	2405 CFM	DUCT	36X14	1-3

DIFFUSERS, GRILLES AND REGISTERS SCHEDULE REMARKS
1. DIFFUSER FRAME SHALL BE COMPATIBLE WITH CEILING TYPE.
2. FINISH SHALL BE BAKED ENAMEL TO MATCH ADJACENT SURFACES. COORDINATE WITH ARCHITECT FOR FINAL COLOR.
3. DESIGN INTENT IS NC <= 30. CONSULT WITH ENGINEERING PRIOR TO INSTALLATION OF ANY SELECTIONS WITH NC > 30.

AIR DOOR SCHEDULE

TAG	DESCRIPTION	MFGR. (OR EQUAL)	MODEL (OR EQUAL)	PROVIDED AND INSTALLED BY	SUPPLY AIR	ELECTRICAL VOLTAGE	PHASE	HP / MTR	# OF MTRS	TOTAL HP	FLA	WEIGHT (LBS)	REMARKS
AD-1	AIR DOOR	MARS	STD2-96-2UD-OB	HVAC CONTR	2884 CFM	120 V	1	0.5 hp	2	1 hp	5 A	135.00 lbf	1-3
AD-2	AIR DOOR	MARS	STD2-96-2UD-OB	HVAC CONTR	2884 CFM	120 V	1	0.5 hp	2	1 hp	5 A	135.00 lbf	1-3

AIR DOOR SCHEDULE REMARKS
1. PROVIDE W/ FACTORY MOUNTING BRACKETS FOR OVER DOOR INSTALLATION.
2. PROVIDE W/ FACTORY MOUNTED CONTROL PANEL.
3. E.C. TO PROVIDE AND INSTALL MAGNETIC DOOR SWITCH TO SWITCH ON FAN WHEN DOOR IS OPEN.

HEATER SCHEDULE

TAG	DESCRIPTION	AREA SERVED	MANUFACTURER	MODEL	PROVIDED AND INSTALLED BY	TYPE	INPUT (MBH)	OUTPUT (MBH)	SUPPLY AIR (CFM)	THROW (FT)	ELECTRICAL VOLTAGE	PHASE	HP	FLA	MOCP	WEIGHT (LBS)	REMARKS
UH 1	UNIT HEATER	STOCK	REZNOR	UDX45	HVAC CONTR	NAT. GAS	45	37.35	629	75	120	1	0.06	2.4	15	62	1-4
UH 2	UNIT HEATER	STOCK	REZNOR	UDX45	HVAC CONTR	NAT. GAS	45	37.35	629	75	120	1	0.06	2.4	15	62	1-4

HEATER SCHEDULE REMARKS
1. INSTALL PER MANUFACTURER RECOMMENDATIONS.
2. ASSEMBLED AND MOUNTED IN FIELD.
3. EC TO VERIFY ALL EQUIPMENT AND WIRE UNIT.
4. EMS CONTRACTOR TO PROVIDE TEMPERATURE SENSOR WIRED BACK TO RACK PANEL.

ROOF HOOD SCHEDULE

MARK	DESCRIPTION	AREA SERVED	MANUFACTURER	MODEL	SIZE	PROVIDED AND INSTALLED BY	CFM	STATIC PRESSURE (in-wg)	THROAT VEL (FPM)	MOUNT TYPE	WEIGHT (LBS)	NOTES
GIV 1	FRESH AIR INTAKE	MECH ROOM	COOK	GI 30X30	30"x30"	HVAC CONTR	4500	0.2	720	ROOF	175	1-7

INTAKE AND RELIEF SCHEDULE REMARKS
1. HOOD SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE ALUMINUM BOLTED TO A MINIMUM 8 GAUGE ALUMINUM SUPPORT STRUCTURE.
2. LIFTING LUGS SHALL BE PROVIDED TO HELP PREVENT DAMAGE FROM IMPROPER LIFTING.
3. BIRDSCREEN CONSTRUCTED OF 1/2" GALVANIZED MESH SHALL BE MOUNTED IN THE HOOD.
4. UNIT SHALL BE OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS.
5. NAMEPLATE SHALL INDICATE DESIGN CFM AND STATIC PRESSURE.
6. BURGLAR BARS BY G.C.
7. PROVIDE WITH BACKDRAFT DAMPER.

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30 Executive Park
Suite 100
Irvine, CA 92614
t: 949 296 0450

PROJECT TEAM
HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
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WWW.HENDERSONENGINEERS.COM
2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL
EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
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SEAN O. EISLER
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PROFESSIONAL IN CHARGE
RH
PROJECT MANAGER
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QUALITY CONTROL
SW
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PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
HVAC SCHEDULES AND CALCULATIONS

SHEET NUMBER
M6-01

SEAN O. EISLER

COMcheck Software Version COMcheckWeb

Mechanical Compliance Certificate

Project Information

Energy Code:	90.1 (2019) Standard
Project Title:	GO - South Salem
Location:	Salem, Oregon
Climate Zone:	4c
Project Type:	Alteration

Construction Site:	Owner/Agent:	Designer/Contractor:
3975 Commercial St SE Salem, Oregon 97302	Grocery Outlet	Henderson Engineers

Mechanical Systems List

Quantity	System Type & Description
2	AC-1/2 Heating: 2 each - Central Furnace, Gas, Capacity = 160 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et (or 80% AFUE) Cooling: 2 each - Single Package DX Unit, Capacity = 150 kBtu/h, Air-Cooled Condenser, No Economizer, Economizer exception: Open Case Refrigeration Proposed Efficiency = 12.00 EER, Required Efficiency = 10.80 EER Proposed Part Load Efficiency = 21.30 IEER, Required Part Load Efficiency = 14.00 IEER Fan System: AC-1/2 | Sales -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 1 Supply, Constant Volume, 4000 CFM, 5.0 motor nameplate hp, 1.00 fan energy index SYSTEM VERIFICATION REQUIRED.
1	AC-3 Heating: 1 each - Central Furnace, Gas, Capacity = 62 kBtu/h Proposed Efficiency = 80.00% Et, Required Efficiency: 80.00 % Et (or 80% AFUE) Cooling: 1 each - Single Package DX Unit, Capacity = 60 kBtu/h, Air-Cooled Condenser, Air Economizer Proposed Efficiency = 17.90 SEER2, Required Efficiency = 13.40 SEER2 Proposed Part Load Efficiency = 21.30 , Required Part Load Efficiency = 0.00 Fan System: AC-3 -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 2 Supply, Constant Volume, 2000 CFM, 2.0 motor nameplate hp, 1.00 fan energy index SYSTEM VERIFICATION REQUIRED.

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical alteration project 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 (2019) Standard requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Sarah Hogan - Mechanical Designer	[signature]	2/9/2024
Name - Title	Signature	Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 90.1 (2019) Standard

Requirements: 100.0% were addressed directly in the COM*check* 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, 6.4.4.2.1, 6.7.2 [PR2][1]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
4.2.2, 8.4.1.1, 8.4.1.2, 8.7 [PR6][2]	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%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
4.2.5.2 [PR5][1]	Commissioning shall be performed as stated in Sections 5.9.2, 6.9.2, 7.9.2, 8.9.2, 9.9.2, 10.9.2, 11.2(d), and G1.2.1(c). Commissioning must utilize ASHRAE/IES Standard 202 or other generally accepted engineering standards acceptable to the building official. FPT and verification requirements for commissioning are as stated in Section 4.2.5.1. Commissioning shall document compliance of the building systems, controls, and building envelope with required provisions of this standard. Commissioning requirements shall be incorporated into the construction documents.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
6.4.3.7 [FO9][3]	Freeze protection and snow/ice melting system sensors for future connection to controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

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

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][2]	HVAC equipment efficiency verified. Non-NAECA HVAC equipment labeled as meeting 90.1.	Efficiency:____	Efficiency:____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*
6.4.3.4.1 [ME3][3]	Stair and elevator shaft vents have motorized dampers that automatically close.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.4.3.4.2, 6.4.3.4.3 [ME4][2]	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.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.4.5 [ME39][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.4.3.4.4 [ME5][3]	Ventilation fans >0.75 hp have automatic controls to shut off fan when not required.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** HVAC systems intended to operate continuously.
6.4.3.8 [ME6][1]	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.3.2.1 [ME40][2]	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 supply fan airflow as a function of load and comply with operational requirements.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. *See the Mechanical Systems list for values.*
6.4.4.1.1 [ME7][3]	Insulation exposed to weather protected from damage. Insulation outside of the conditioned space and associated with cooling systems is vapor retardant.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.4.1.2 [ME8][2]	HVAC ducts and plenums insulated per Table 6.8.2. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.4.1.3 [ME9][2]	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	____ in.	____ in.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

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

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.4.4.1.4 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.1 [ME10][2]	Ducts and plenums having pressure class ratings are Seal Class A construction.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.8.1-15, 6.8.1-16 [ME110][2]	Electrically operated DX-DOAS units meet requirements per Tables 6.8.1-15 or 6.8.1-16.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.4.4.2.2 [ME11][3]	Ductwork operating >3 in. water column requires air leakage testing.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.2.3 [ME19][3]	Dehumidification controls provided to prevent reheating, recooling, mixing of hot and cold airstreams or concurrent heating and cooling of the same airstream.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.2.4.1 [ME68][3]	Humidifiers with airstream mounted preheating jackets have preheat auto-shutoff value set to activate when humidification is not required.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.2.4.2 [ME69][3]	Humidification system dispersion tube hot surfaces in the airstreams of ducts or air-handling units insulated >= R-0.5.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.2.5 [ME70][3]	Preheat coils controlled to stop heat output whenever mechanical cooling, including economizer operation, is active.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.2.6 [ME106][3]	Units that provide ventilation air to multiple zones and operate in conjunction with zone heating and cooling systems are prevented from using heating or heat recovery to warm supply air above 60°F when representative building loads or outdoor air temperature indicate that most zones demand cooling.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.3.6 [ME72][2]	Motors for fans >= 1/12 hp and < 1 hp are electronically-commutated motors or have a minimum motor efficiency of 70%. These motors are also speed adjustable for either balancing or remote control.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

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

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.3.4 [ME108][2]	Parallel-flow fan-powered VAV air terminals have automatic controls to a) turn off the terminal fan except when space heating is required or if required for ventilation; b) turn on the terminal fan as the first stage of heating before the heating coil is activated; and c) during heating for warmup or setback temperature control, either operate the terminal fan and heating coil without primary air or reverse the terminal damper logic and provide heating from the central air handler through primary air.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.3.7 [ME109][2]	Required minimum outdoor air rate is the larger of minimum outdoor air rate or minimum exhaust air rate required by Standard 62.1, Standard 170, or applicable codes or accreditation standards. Outdoor air ventilation systems shall comply with one of the following: a) design minimum system outdoor air provided < 135% of the required minimum outdoor air rate, b) dampers, ductwork, and controls allow the system to supply <= the required minimum outdoor air rate with a single set-point adjustment., or c) system includes exhaust air energy recovery complying with Section 6.5.6.1.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.3.3 [ME42][3]	Multiple zone VAV systems with DDC of individual zone boxes have static pressure setpoint reset controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. *See the Mechanical Systems list for values.*
6.5.4.2 [ME25][3]	HVAC pumping systems with >= 3 control values designed for variable fluid flow (see section details).			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.7.1 [ME100][2]	Conditioned supply air to space with mechanical exhaust <= the greater of criteria of supply flow, required ventilation rate, exhaust flow minu the available transffer air (see section details).			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.5.7.2.1 [ME32][2]	Kitchen hoods >5,000 cfm have make up air >=50% of exhaust air volume.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.7.2.4 [ME49][3]	Approved field test used to evaluate design air flow rates and demonstrate proper capture and containment of kitchen exhaust systems.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

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

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EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
NOVEMBER 09, 2017
SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
RH

PROJECT MANAGER
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QUALITY CONTROL
SW

DRAWN BY
SDH

PROJECT NAME

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SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

ENERGY COMPLIANCE FORMS

SHEET NUMBER

M7-01

SEAN O. EISLER

Section # & Req.ID	Mechanical Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
6.5.8.1 [ME34][2]	Unenclosed spaces that are heated use only radiant heat.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.9 [ME35][1]	Hot gas bypass limited to: <=240 kBtu/h - 15% >240 kBtu/h - 10%			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.9 [ME63][2]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
6.5.10 [ME73][3]	Doors separating conditioned space from the outdoors have controls that disable/reset heating and cooling system when open.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10][2]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
8.4.3 [EL11][2]	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
10.4.1 [EL9][2]	Electric motors meet requirements where applicable.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
6.4.3.1.2 [FI3][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.2 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.3.1 [FI21][3]	HVAC systems equipped with at least one automatic shutdown control.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.3.2 [FI22][3]	Setback controls allow automatic restart and temporary operation as required for maintenance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.12 [FI200][3]	Air economizer has a fault detection and diagnostics (FDD) system (see details for configuration and operational requirements).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.4.3.6 [FI6][3]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.1 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.2 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
6.7.2.3 [FI9][1]	An air and/or hydronic system balancing report is provided for HVAC systems serving zones >5,000 ft2 of conditioned area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
10.4.3 [FI24][2]	Elevators are designed with the proper lighting, ventilation power, and standby mode.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

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ENERGY COMPLIANCE FORMS

SHEET NUMBER
M7-02

SEAN O. EISLER

SEISMIC RESTRAINTS GUIDELINES FOR PIPING

1. ALL SEISMIC RESTRAINTS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S SEISMIC RESTRAINT GUIDELINES MANUAL AND ALL CERTIFIED SUBMITTAL DATA.
2. TRANSVERSE BRACE SPACING SHALL NOT EXCEED 50 FEET UP TO 0.25g, 40 FEET UP TO 1.0g, AND 20 FEET UP TO 2.0g FOR STEEL AND COPPER PIPE WITH WELDED OR BRAZED CONNECTIONS. LONGITUDINAL SPACING SHALL NOT EXCEED 80 FEET UP TO 1.0g, AND 40 FEET UP TO 2.0g FOR STEEL AND COPPER PIPE WITH WELDED OR BRAZED CONNECTIONS.
3. STEEL AND COPPER PIPE WITH SCREWED CONNECTIONS BRACE SPACING SHALL NOT EXCEED 1/2 THE SPACING LISTED IN NOTE 2 GUIDELINES. FOR PVC, PVDF, FRP, AND OTHER SPECIALTY PIPING, BRACE SPACINGS SHALL NOT EXCEED 1/2 THE SPACINGS LISTED IN NOTE 2. ALL PIPE MUST BE CONSIDERED FULL OF WATER WHEN DETERMINING SEISMIC BRACE REQUIREMENTS UNLESS SPECIFICALLY ENGINEERED OTHERWISE.
4. TRANSVERSE RESTRAINT FOR ONE PIPE SECTION MAY ALSO ACT AS A LONGITUDINAL RESTRAINT FOR A PIPE SECTION OF THE SAME SIZE CONNECTED PERPENDICULAR TO IT IF THE RESTRAINT IS INSTALLED WITHIN 24-INCHES OF THE ELBOW OR TEE OR COMBINED STRESSES ARE WITHIN ALLOWABLE LIMITS AT LONGER DISTANCES.
5. HOLD DOWN CLAMPS MUST BE USED TO ATTACH PIPE TO ALL TRAPEZE MEMBERS BEFORE APPLYING RESTRAINTS.
6. BRANCH LINES MAY NOT BE USED TO RESTRAINT MAIN LINES.
7. PROVIDE REINFORCED CLEVIS BOLTS WHEN REQUIRED.
8. PIPING CROSSING BUILDING SEISMIC OR EXPANSION JOINTS, PASSING FROM BUILDING TO BUILDING, OR SUPPORTED FROM DIFFERENT PORTIONS OF THE BUILDING SHALL BE INSTALLED TO ALLOW DIFFERENTIAL SUPPORT DISPLACEMENTS WITHOUT DAMAGING THE PIPE, EQUIPMENT CONNECTIONS, OR SUPPORT CONNECTIONS. PIPE OFFSETS, LOOPS, ANCHORS, AND GUIDES SHALL BE INSTALLED AS REQUIRED TO PROVIDE SPECIFIED MOTION CAPABILITY AND LIMIT MOTION OF ADJACENT PIPING.
9. PROVIDE APPROPRIATELY SIZED OPENINGS IN WALLS, FLOORS, AND CEILINGS FOR ANTICIPATED SEISMIC MOVEMENT. PROVIDE FIRE SEAL SYSTEMS IN FIRE-RATED WALLS.
10. GAS PIPING LESS THAN 1" I.D. NEED NOT BE BRACED.
11. WHERE RIGIDLY SUPPORTED PIPES ARE CONNECTED TO EQUIPMENT WITH VIBRATION ISOLATION, THOSE CONNECTIONS MUST BE CAPABLE OF ACCOMMODATING SEISMIC DISPLACEMENTS. CONVERSELY, WHEN SMALLER UNSUPPORTED PIPES ARE CONNECTED TO RIGIDLY SUPPORTED EQUIPMENT, (i.e., COILS, etc.); THOSE JOINTS MUST BE CAPABLE OF ACCOMMODATING MOVEMENT OF THE PIPES.
12. RIGID PIPING SYSTEMS MAY NOT BE BRACED TO DISSIMILAR PARTS OF THE BUILDING OR TO DISSIMILAR BUILDING SYSTEMS WHICH MAY RESPOND DIFFERENTLY DURING AN EARTHQUAKE. DO NOT BRACE A SYSTEM TO TWO INDEPENDENT STRUCTURES SUCH AS CEILING AND WALL.
13. SEISMICALLY RESTRAIN ALL FUEL OIL PIPING, GAS PIPING, MEDICAL GAS PIPING, AND COMPRESSED AIR PIPING FOR FUEL OIL AND ALL GAS PIPING THAT IS 1" I.D. OR LARGER. TRANSVERSE RESTRAINTS MUST BE AT 20' MAXIMUM AND LONGITUDINAL RESTRAINTS AT 40' MAXIMUM SPACING.
14. PIPING LOCATED IN BOILER ROOMS, MECHANICAL EQUIPMENT ROOMS, AND REFRIGERATION EQUIPMENT ROOMS THAT IS 1-1/4" I.D. AND LARGER MUST BE SEISMICALLY RESTRAINED.
15. ALL OTHER PIPING 2-1/2" DIAMETER AND LARGER MUST BE SEISMICALLY RESTRAINED.
16. SEISMIC RESTRAINTS MAY NOT BE USED FOR ALL PIPING SUSPENDED BY INDIVIDUAL HANGERS 12" OR LESS AS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE SUPPORT WHERE THE HANGER IS ATTACHED. HOWEVER, IF THE 12" LIMIT IS EXCEEDED BY ANY HANGER IN THE RUN, SEISMIC BRACING IS REQUIRED FOR THE RUN.
17. THE 12" EXEMPTION APPLIES FOR TRAPEZE SUPPORTED SYSTEMS IF THE TOP OF EACH ITEM SUPPORTED BY THE TRAPEZE QUALIFIES.
18. WHERE THERMAL EXPANSION IS A CONSIDERATION, GUIDES AND ANCHORS MAY BE USED AS TRANSVERSE AND LONGITUDINAL RESTRAINTS PROVIDED THEY HAVE A CAPACITY EQUAL TO OR GREATER THAN THE RESTRAINT LOADS IN ADDITION TO THE LOADS INDUCED BY EXPANSION OR CONTRACTION.
19. STEEL STRUTS SHALL BE 1-5/8" WIDE IN VARYING HEIGHTS AND MIG-WELDED COMBINATIONS AS REQUIRED TO MEET LOAD CAPACITIES AND DESIGNS INDICATED. A MATERIAL HEAT CODE, PART NUMBER, AND MANUFACTURER'S NAME SHALL BE STAMPED ON ALL STRUT AND FITTINGS TO MAINTAIN TRACTABILITY TO MATERIAL TEST REPORTS.
20. SEISMIC RETRAINTS FOR PIPING SYSTEMS SHALL WITHSTAND A LATERAL FORCE EQUAL TO 50% OF THE WEIGHT OF THE PIPING SYSTEM AND ITS CONTENTS. SEISMIC BRACING SHALL CONFORM TO THE CURRENT ADOPTED EDITION OF THE NEW JERSEY BUILDING CODE AND THE ADMINISTRATIVE CODE, AND SHALL BE INSTALLED IN ACCORDANCE WITH SMACNA GUIDELINES FOR SEISMIC RESTRAINT, LATEST EDITION.
21. SPECIAL PIPE HANGER AND SUPPORT PROVISIONS REQUIRED FOR CONTROL OF PIPE EXPANSION, VIBRATION, AND SOUND TRANSMISSION IN CERTAIN PIPING SHALL BE DONE IN ACCORDANCE WITH GOOD SOUND ATTENUATION PRACTICE.
22. SUPPORT CHANNELS, FRAMES, BRACKETS, AND LEGS OF SPECIAL SUPPORTS SHALL BE OF UNISTRUT, SUPERSTRUT, OR ACCEPTED EQUAL, WITH CHANNELS, ATTACHING CLIPS, PIPE CLAMPS, AND OTHER REQUIRED ACCESSORIES.
23. PLASTIC PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH CODE REQUIREMENTS (REVIEW WITH JURISDICTION). SHIMS SHALL BE PROVIDED TO PREVENT PIPE SAG BETWEEN FITTINGS.
24. SPACING OF TRAPEZE HANGERS SHALL BE DETERMINED BY THE SMALLEST PIPE ON THE TRAPEZE. SIZES OF RODS FOR TRAPEZES SHALL BE GOVERNED BY THE LARGEST PIPE ON THE TRAPEZE.
25. TRAPEZE HANGERS SHALL NOT BE LIGHTER THAN 16 GAUGE AND, WHEN EXPOSED TO WEATHER, NOT LIGHTER THAN 12 GAUGE. PIPING THAT RUNS IN PARTITIONS AND IS NOT SUPPORTED FROM CEILING OR FLOOR SHALL BE SECURELY AND INDEPENDENTLY FASTENED TO THE PARTITION MEMBERS WITH CLAMPS OR BRACKETS.
26. LATERAL MOTION OF PIPING WILL NOT CAUSE DAMAGING IMPACT WITH SURROUNDING SYSTEMS (e.g. OTHER PIPE, DUCT, EQUIPMENT, SPRINKLER HEADS, etc.) OR CAUSE LOSS OF SYSTEM VERTICAL SUPPORT.
27. VERTICAL SUPPORT CONNECTIONS CANNOT DEVELOP MOMENTS (e.g. SWIVEL JOINTS, EYE BOLTS, VIBRATION ISOLATION HANGERS, etc.).
28. VERTICAL CAST IRON RISERS ATTACHED WITH SHIELD AND CLAMP ASSEMBLIES MUST BE STIFFENED AT THE CONNECTION POINTS OF ANY UNSUPPORTED SECTION OF PIPE.
29. VERTICAL RISERS IN AN OPEN SHAFT MUST BE ATTACHED TO THE SUPPORTS WITH CONNECTIONS SIZED TO ACCEPT THE HORIZONTAL SEISMIC LOADS.
30. WHERE EARTHQUAKE LOADS ARE APPLICABLE IN ACCORDANCE WITH THE BUILDING CODE, PLUMBING PIPING SUPPORTS SHALL BE DESIGNED AND INSTALLED FOR THE SEISMIC FORCES IN ACCORDANCE WITH THE BUILDING CODE.
31. HANGERS, ANCHORS AND SUPPORTS SHALL SUPPORT THE PIPING AND THE CONTENTS OF THE PIPING. HANGERS AND STRAPPING MATERIAL SHALL BE OF APPROVED MATERIAL THAT WILL NOT PROMOTE GALVANIC ACTION. HANGERS AND ANCHORS SHALL BE ATTACHED TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER.
32. RIGID SUPPORT SWAY BRACING SHALL BE PROVIDED AT CHANGES IN DIRECTION GREATER THAN 45 DEGREES FOR PIPE SIZES 4 INCHES AND LARGER.
33. ANCHORAGE SHALL BE PROVIDED TO RESTRAIN DRAINAGE PIPING FROM AXIAL MOVEMENT.
34. FOR PIPE SIZES GREATER THAN 4 INCHES, RESTRAINTS SHALL BE PROVIDED FOR DRAIN PIPES AT ALL CHANGES IN DIRECTION AND AT ALL CHANGES IN DIAMETER GREATER THAN 2 PIPE SIZES.

WRITTEN APPROVAL OF THE OWNER.

GENERAL NOTES

1. PLUMBING CONTRACT DRAWINGS ARE IN PART DIAGRAMMATIC, COVERING THE SCOPE OF WORK AND GENERAL ARRANGEMENT OF THE EQUIPMENT, PIPING, ETC., AND THE APPROXIMATE SIZE OF EQUIPMENT AND MATERIALS. THE CONTRACTOR SHALL FOLLOW THESE DRAWINGS IN LAYING OUT THE PLUMBING WORK. PLUMBING CONTRACTOR SHALL CONSULT GENERAL, SPRINKLER, HEATING/VENTILATING / AIR CONDITIONING CONTRACT AND ELECTRICAL DRAWINGS TO FAMILIARIZE HIMSELF WITH THAT WORK AND TO VERIFY THE SPACES IN WHICH THE PLUMBING WORK WILL BE INSTALLED.
2. DUE TO THE NATURE AND SCALE OF THE DRAWINGS, CERTAIN BASIC PLUMBING ITEMS SUCH AS UNIONS, FITTINGS, ELBOWS, ETC., MAY NOT BE SHOWN. WHERE SUCH ITEMS ARE REQUIRED BY OTHER SECTIONS OF THE SPECIFICATIONS, OR WHERE THEY ARE REQUIRED BY THE NATURE OF THE WORK OR BY CODES AND REGULATIONS, THEY SHALL BE FURNISHED AND INSTALLED AT NO ADDITIONAL COST TO THE OWNER. THE DRAWINGS INDICATE GENERAL LOCATIONS OF PIPING, EQUIPMENT, DUCTWORK, AND SIMILAR. THE EXACT LOCATION TO BE DETERMINED BY THE CONTRACTOR TO BEST FIT THE LAYOUT OF THE JOB.
3. ALL EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT, WATER, AND CHEMICAL OR MECHANICAL INJURY OR THEFT. PLUMBING FIXTURES SHALL BE COVERED WITH HEAVY PAPER COVERINGS AFTER INSTALLATION AND SHALL BE THOROUGHLY CLEANED AFTER COMPLETION OF THE PROJECT.
4. ALL MATERIALS SUCH AS VALVES, FITTINGS, EQUIPMENT, PUMPS, COILS, ETC., SHALL BE PROPERLY PROTECTED, AND ALL PIPING OPENINGS SHALL BE TEMPORARILY CLOSED BY THE CONTRACTOR FOR THE WORK UNDER HIS CHARGE, ON A DAILY BASIS, AT THE END OF EACH WORKING DAY, SO AS TO PREVENT OBSTRUCTION AND DAMAGE. THE ABOVE REQUIREMENTS ARE MANDATORY.
5. THE CONTRACTOR SHALL SEE THAT ALL MATERIALS, INSTALLATION AND WORKMANSHIP IS PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF ALL APPLICABLE CODES, LAWS, OR ORDINANCES OF THE STATE OF NEW JERSEY, BURLINGTON COUNTY, LOCAL CODES, AND CITY OF DELRAN LAWS OR ORDINANCES, INCLUDING STATE OR LOCAL BOARD OF HEALTH, FEDERAL AND STATE ENVIRONMENTAL PROTECTION REGULATIONS, STATE ENERGY CODES AND UTILITY REGULATORY AGENCIES.
6. ALL WORK SHALL BE FURTHER PERFORMED IN ACCORDANCE WITH THE NATIONAL BOARD OF FIRE UNDERWRITERS, THE PLUMBING AND BUILDING CODES, NATIONAL ELECTRICAL CODE, THE OCCUPATIONAL SAFETY AND HEALTH ACT, THE AMERICAN GAS ASSOCIATION, AND ALL SUCH OTHER SPECIFIC CODES AS MAY BE REFERRED TO IN THE INDIVIDUAL SECTIONS OF THE SPECIFICATIONS.
7. PIPE SIZE SHOWN ON THE DRAWINGS ARE THE MINIMUM SIZES ALLOWED REGARDLESS OF THE CODE MINIMUM, EXCEPT WHEN THE CODE MINIMUM SIZE IS LARGER THAN THAT SHOWN.
8. THE CONTRACTOR SHALL MAINTAIN A CURRENT SET OF CONTRACT PRINTS ON THE CONSTRUCTION SITE AT ALL TIMES, ON WHICH HE SHALL ACCURATELY RECORD THE ACTUAL INSTALLATION OF ALL PLUMBING WORK. AS WORK PROGRESS, MARK CHANGES MADE WHETHER RESULTING FROM JOB CONDITIONS, ADDENDA, FORMAL CHANGE ORDERS OR OTHER INSTRUCTIONS ISSUED BY THE ENGINEER.
9. THE PLUMBING CONTRACTOR SHALL INDICATE PROGRESS BY COLORING IN VARIOUS PIPES, FIXTURES, AND ASSOCIATED APPURTENANCES EXACTLY AS THEY ARE ERECTED AND INSTALLED.
10. MARK ALL PIPE SIZES AND LOCATIONS DURING CONSTRUCTION. ALSO, MARK LOCATIONS OF ALL VALVES AND VARIOUS EQUIPMENT, APPARATUS, AND ASSOCIATED APPURTENANCES AS ERECTED WEEKLY DURING CONSTRUCTION.
11. AT THE COMPLETION OF THE JOB THESE PRINTS, INCORPORATING CHANGES, ADDENDA AND ADDED DATA NOTED ON MARKED-UP PRINTS, INCLUDING DIMENSIONED LOCATIONS OF UNDERGROUND PIPING BEYOND LIMITS OF BUILDING, SHALL BE SUBMITTED TO THE TO THE ENGINEER FOR FINAL REVIEW AND COMMENT. THE PRINTS WILL BE RETURNED WITH APPROPRIATE COMMENTS AND RECOMMENDATIONS. THESE CORRECTED PRINTS TOGETHER WITH CORRELATED PRINTS INDICATING ALL THE REVISIONS, ADDITIONS AND DELETIONS OF WORK, SHALL FORM THE BASIS FOR PREPARING A SET OF RECORD DRAWINGS.
12. WHERE PIPING AND OTHER PLUMBING APPURTENANCES PASS THROUGH FIRE PARTITIONS, FIRE WALLS, OR FLOORS. INSTALL A FIRE-STOP THAT PROVIDES AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FIRE, SMOKE AND GASES. FIRE-STOP MATERIAL SHALL BE UL APPROVED, PACKED TIGHT AND COMPLETELY FILL CLEARANCES BETWEEN RACEWAYS AND OPENINGS. FLOOR, EXTERIOR WALL, AND ROOF SEALS SHALL ALSO BE MADE WATERTIGHT AS APPROVED BY THE ADMINISTRATIVE AUTHORITY.
13. ARRANGE AND INSTALL PIPING APPROXIMATELY AS INDICATED, STRAIT, PLUMB AND AS DIRECT AS POSSIBLE. FORM RIGHT ANGLES OR PARALLEL LINES WITH BUILDING WALLS. KEEP PIPES CLOSE TO WALLS, PARTITIONS AND CEILINGS, OFFSETTING ONLY WHERE NECESSARY TO FOLLOW WALLS AND AVOID INTERFERENCE WITH OTHER MECHANICAL ITEMS. LOCATE GROUPS OF PIPES PARALLEL TO EACH OTHER; SPACE THEM AT A DISTANCE TO PERMIT ACCESS FOR SERVICING VALVES.
14. PIPING SHALL BE PITCHED TO POINTS OF DRAINAGE WITH CONSTANT UNIFORM SLOPE.
15. INSTALL HORIZONTAL PIPING AS HIGH AS POSSIBLE WITHOUT SAGS OR HUMPS.
16. GRADE DRAINAGE AT UNIFORM SLOPE OF NOT LESS THAN 1/4" PER FOOT TOWARD THE POINT OF DISPOSAL. WHEN APPROVED BY ADMINISTRATIVE AUTHORITY, PIPE SIZE 4" AND LARGER MAY HAVE A SLOPE OF NOT LESS THAN 1/8" PER FOOT.
17. WHERE CHANGE IN PIPE SIZES OCCUR, USE ONLY REDUCING FITTINGS.
18. FOR DRAINAGE PIPING CHANGES IN DIRECTION, USE LONG SWEEP WHERE POSSIBLE, OTHERWISE, SHORT SWEEP 1/4 BENDS, OR COMBINATIONS WYE AND 1/8 BENDS; USE SANITARY TEE BRANCHES ONLY FOR HORIZONTAL BRANCHES DISCHARGING TO STACKS.
19. INSTALL SECTIONALIZING VALVES AND ON EACH BRANCH LINE TO MULTI-FIXTURE GROUPS. LOCATE VALVES IN A READILY ACCESSIBLE LOCATION. DO NOT CONCEAL. DO NOT LOCATE VALVE SYSTEMS BELOW HORIZONTAL UNLESS INDICATED ON PLANS. LOCATE ANGLE STOP VALVES BELOW THE SINK OR WATER CLOSET.
20. WATER SUPPLY TO ALL FIXTURES AND CONTAINERS SHALL BE SO INSTALLED AS TO PREVENT POSSIBLE BACK SIPHONAGE OF POLLUTED WATER. ALL SUPPLIES SHALL BE EITHER ABOVE THE FLOOD RIM OF THE FIXTURE OR SEPARATED FROM THE DRAINAGE END BY MEANS OF AN APPROVED VACUUM BREAKERS.
21. PROVIDE PIPING AND FIXTURE TRAPS. CONNECT TO FIXTURES AND OTHER EQUIPMENT INDICATED OR SPECIFIED AS REQUIRING SOIL, WASTE DRAIN AND VENT FACILITIES.
22. LAY ALL PIPING TRUE TO LINE AND GRADE, FIT ENDS TOGETHER, MATCH SO THAT SEWER OR DRAIN WILL HAVE SMOOTH AND UNIFORM INSERT. FOLLOW LOCATIONS AND ELEVATIONS AT SITE. AS THE PIPE LAYING PROGRESSES, CLEAR PIPE INTERIOR OF CEMENT, DIRT, AND OTHER FOREIGN MATERIALS. DURING WORK STOPPAGE PERIODS, PROVIDE EFFECTIVE PLUGS OR COVERS FOR OPEN ENDS OF PIPE AND DRAINS.
23. PROVIDE CLEANOUTS WHERE INDICATED AND AT INTERVALS OF 100' OR AS REQUIRED BY LOCAL PLUMBING CODE AND WHERE REQUIRED AT CHANGES OF DIRECTIONS OF SOIL AND WASTE STACKS. INSTALL CLEANOUTS SO AS TO BE ACCESSIBLE FOR EASY REMOVAL AND TO PROVIDE CLEARANCE FOR RODDING. CLEANOUTS SHALL BE THE SAME SIZE AS PIPE SERVED EXCEPT THAT NO CLEANOUT BE LARGE THAN FOUR INCHES.
24. EXTEND VENT PIPES 12 INCHES ABOVE ROOF AND 10' MINIMUM AWAY FROM ANY FRESH AIR INTAKES.
25. SANITARY VENT PIPING SHALL BE GRADED SO THAT THE AIRFLOW TO THE OUTSIDE WILL BE CONTINUOUSLY UPWARD AND SO THAT NO LOW POINTS WILL BE DRAINED.
26. MAKE TIGHT CONNECTION BETWEEN WATER CLOSET FLANGES AND EARTHENWARE FIXTURE BY MEANS OF APPROVED MOLDED WAX RING OR SETTING COMPOUND AND BOLTING.
27. VENTS: PROVIDE FLASHING FOR STACKS PASSING THROUGH ROOF. MAKE WATER-TIGHT AT ROOF WITH 4 LB. SHEET LEAD; EXTEND INTO ROOFING FELTS AT LEAST 24" FROM PIPES. EXTEND LEAD COLLAR UP AROUND OUTSIDE AND TURN DOWN INSIDE VENTS AT THE TOP. LOCATE VENT THROUGH ROOF 10' MINIMUM AWAY FROM ANY FRESH AIR INTAKE.
28. ALL PLUMBING FIXTURES AND PIPING IS TO BE LISTED BY AN APPROVED LISTING AND TESTING AGENCY AND PROPERLY LABELED.
29. COORDINATE ALL LOCATIONS, SIZES, AND ELEVATIONS OF ALL SLEEVES THROUGH WALLS, BEAMS, SLABS AND FOOTING WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS. ALL PIPES SLEEVING THROUGH FOOTINGS SHALL HAVE A SLEEVE DIAMETER OF TWO PIPE SIZES OVER THE PIPE PASSING THROUGH THE FOOTING. NO PIPE TO BE PLACED THROUGH FOOTING UNLESS APPROVED BY THE STRUCTURAL ENGINEER.
30. ALL PIPES SHALL BE PROTECTED AT THE POINT THEY CROSS BUILDING EXPANSION JOINT, EITHER WITH AN EXPANSION FITTINGS OR IN ANOTHER MANNER ACCEPTABLE TO THE ENGINEER.
31. PIPE MUST NOT BE IN SOLID CONTACT WITH THE BUILDING STRUCTURE. ISOLATORS CONSISTING OF RESILIENT PIPE SLEEVE ELEMENTS SHOULD BE USED IN CONJUNCTION WITH OR INTEGRAL TO PIPE CLAMPS OR HANGER WHEN SECURING PIPES TO THE STRUCTURE.
32. PLUMBING CONTRACTOR SHALL CONNECT ALL GAS PIPING TO ALL GAS RELATED UNITS PER PLAN WITH LISTED AND APPROVED GAS SHUT-OFF VALVE, SEDIMENT TRAP, AND UNION.
33. FAUCET CONTROLS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 POUNDS.
34. PENETRATION OF FLOOR/CEILING ASSEMBLIES AND ASSEMBLIES REQUIRED TO HAVE A FIRE-RESISTANCE RATING SHALL BE PROTECTED IN ACCORDANCE WITH THE BUILDING CODE.
35. WHERE WATER PRESSURE WITHIN A BUILDING EXCEEDS 80 PSI, ANN APPROVED WATER-PRESSURE REDUCING VALVE CONFORMING TO ASSE 1003 WITH STRAINER SHALL BE INSTALLED TO REDUCE THE PRESSURE IN THE BUILDING WATER DISTRIBUTION PIPING TO 80 PSI STATIC OR LESS.
36. DISINFECTION OF POTABLE WATER SYSTEM SHALL COMPLY WITH THE LOCAL AND THE LATEST NEW JERSEY PLUMBING CODE.
37. PROPER ACCESS MUST BE PROVIDED FOR THE TESTING AND MAINTENANCE OF THE BACKFLOW PREVENTER. IF THE BACKFLOW PREVENTER IS INSTALLED MORE THAN 5'-0" ABOVE THE FLOOR, SPECIAL PROVISIONS MUST BE MADE.
38. PLASTIC PIPES ARE NOT PERMITTED TO BE INSTALLED WITHIN THE AIR PLENUM SPACE.
39. ALL PIPING SHALL MAINTAIN AT LEAST 5'-0" CLEARANCE IN THE FRONT OF THE HVAC SUPPLY AND RETURN OPENINGS.
40. CONTRACTOR IS REQUIRED TO SCOPE THE EXISTING SANITARY SEWER LINE PRIOR OF WORK. IF REQUIRED, CONTRACTOR SHALL PERFORM RODDING TO GUARANTEE FREE FLOWING OF THE EXISTING WASTE LINE AND NOTIFY THE ENGINEER IF THE EXISTING INVERT ELEVATION TIE-IN POINT IS NOT ADEQUATE TO MEET THE INVERT ELEVATION INDICATED ON THE PLANS.
41. PLUMBING CONTRACTOR TO PROVIDE AND INSTALL A PRESSURE REDUCING VALVE AT THE MAIN DOMESTIC COLD WATER SERVICE LINE IF A PRESSURE REDUCING VALVE IS NOT ALREADY INSTALLED. A PRESSURE REDUCING VALVE IS NOT REQUIRED IF THE INCOMING DOMESTIC WATER PRESSURE IS LESS THAN 90 PSIG.

CODE COMPLIANCE IS MANDATORY. NOTHING IN THESE DRAWINGS AND SPECIFICATIONS PERMITS WORK NOT CONFORMING TO THESE CODES. WHERE WORK IS SHOWN TO EXCEED MINIMUM CODE REQUIREMENTS, COMPLY WITH DRAWINGS AND SPECIFICATIONS. ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST RULES, CODES AND REGULATIONS.

PLUMBING SHEET INDEX

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
NOVEMBER 09, 2017
SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
CT
PROJECT MANAGER
CK
QUALITY CONTROL
CT
DRAWN BY
AH

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
GENERAL NOTES

SHEET NUMBER
P0-01

SEAN O. EISLER

Last Modified: 2/16/2024 2:28:07 PM Drawing Name: C:\Revit\Projects\2350003933 GO Salem OR MEP V22_alex.hartg7b8t_20240216132037.rvt

SPECIFICATIONS

SECTION 15400 - PLUMBING

1.00 - GENERAL

1.01 DESCRIPTION OF WORK

FURNISH ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED FOR AND/OR REASONABLY INCIDENTAL TO THE COMPLETION OF THE FOLLOWING WORK.

A. SANITARY WASTE AND VENT PIPING SYSTEM INCLUDING CONNECTIONS TO BUILDING SEWER AS SHOWN.

B. DOMESTIC HOT AND COLD WATER SYSTEMS INCLUDING WATER HEATER, AND RELATED ACCESSORIES AND CONTROLS. CONNECTION TO BUILDING WATER AS SHOWN.

C. PLUMBING FIXTURES, TRIM AND ACCESSORIES INCLUDING INSTALLATION AND SUPPORT.

D. FLASHING AND SEALING OF ROOF AND EXTERIOR WALL PENETRATIONS FOR WATER TIGHTNESS.

E. CAULKING AND SEALING OF FLOOR AND WALL PENETRATIONS AND FORMED SHAFT PENETRATIONS.

F. BACKING FOR SECURING FIXTURES, TRIM AND PIPING.

G. ACCESS DOORS WHERE SHOWN OR REQUIRED BY CODE.

H. HANGERS, SUPPORTS, AND GUIDES.

I. CLEANUP OF DEBRIS AND FINAL CLEANUP OF DRAINS, FIXTURES AND EQUIPMENT.

J. RECORD DRAWINGS AND OPERATING MANUALS.

K. LICENSE, PERMITS AND ASSOCIATED FEES.

L. CUTTING, DRILLING AND PATCHING FOR ALL SURFACES IN RELATION TO PLUMBING WORK.

M. CONDENSATE DRAINS FROM HVAC EQUIPMENT, AND GAS PIPING.

N. WATER HEATERS, EXPANSION TANKS, AND RECIRCULATION PUMPS.

O. HEAT TRACE.

1.02 RELATED WORK INCLUDED UNDER OTHER SECTIONS

A. HVAC AND ELECTRICAL WORK. 15500 AND 16000

B. FIRE PROTECTION WORK 153000 (IF APPLICABLE)

1.03 EXAMINATION OF SITE

A. VISIT SITE BEFORE SUBMITTING BID AND CHECK LOCATION OF ALL EXISTING CONDITIONS WHICH WILL AFFECT THIS WORK, VERIFY DIMENSIONS AND LOCATIONS SHOWN ON DRAWINGS AND COVER ALL COSTS. CONTRACTOR SHALL ASSUME REASONABLE VARIATIONS OR MINOR OMISSIONS AND SHALL COMPLETE PROPOSED WORK WITHOUT ADDITIONAL COST. FAILURE TO VISIT SITE WILL NOT LESSEN RESPONSIBILITY OR ENTITLE ADDITIONAL COMPENSATION FOR WORK NOT INCLUDED IN PROPOSAL.

B. VISIT SITE OF THE WORK, COMPARE IT WITH THE DRAWINGS AND SPECIFICATIONS AS TO THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED, ASCERTAIN AND CHECK ALL CONDITIONS AND ELEVATIONS AND TAKE ALL MEASUREMENTS WHICH MAY AFFECT THE WORK. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE FOR ANY EXTRA EXPENSE OR CLAIMS DUE TO FAILURE OR NEGLECT UNDER THIS REQUIREMENT TO MAKE SUCH EXAMINATION, INCLUDING EXAMINATION OF RESTRICTED WORKING CONDITIONS OR SUCH OTHER DIFFICULTIES VISUALLY OBSERVED DURING SITE VISIT. CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS WHICH WILL EXIST IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION AS INDICATED ON THE PLANS, SPECIFICATIONS, AND REQUIRED BY THE CODE.

1.04 DRAWINGS

THE ACCOMPANYING DRAWINGS SHALL BE CONSIDERED PART OF THESE SPECIFICATIONS. WORK AND MATERIALS SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS AND VICE VERSA SHALL BE EXECUTED AS IF SPECIFICALLY MENTIONED OR SHOWN IN BOTH. THE DRAWINGS SHALL BE CONSIDERED AS SCHEMATIC IN NATURE AND MINOR MODIFICATIONS OF THE WORK TO COMPLY WITH THE STRUCTURE AS FOUND SHALL BE MADE.

1.05 RULES AND REGULATIONS

A. ALL WORK AND MATERIAL SHALL BE IN FULL ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE STATE FIRE MARSHAL AND OTHER APPLICABLE STATE AND LOCAL RULES AND REGULATIONS. NOTHING IN THESE DRAWINGS OR SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

B. FURNISH WITHOUT ANY EXTRA CHARGE ANY ADDITIONAL MATERIAL AND LABOR WHEN REQUIRED TO COMPLY WITH THESE LAWS, ORDINANCES AND CODES REGARDLESS OF WHETHER SHOWN OR MENTIONED IN THESE SPECIFICATIONS OF DRAWINGS.

C. ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH THE LANDLORD'S MECH/ELECT. DESIGN CRITERIA. ALL CONTRACTORS SHALL OBTAIN A COPY FROM THE LANDLORD'S TENANT COORDINATOR OR MALL OPERATIONS MANAGER AND BECOME FAMILIAR WITH THE REQUIREMENTS CONTAINED WITHIN PRIOR TO BIDDING THE JOB. WHERE LANDLORD'S REQUIREMENTS CONFLICT WITH CODES OR ORDINANCES THE STRICTEST INTERPRETATION SHALL APPLY.

1.06 SUBMITTALS

A. SUBMIT FOR REVIEW TO THE OWNER A COMPLETE AND ALL-INCLUSIVE LIST OF EQUIPMENT AND MATERIALS PROPOSED FOR USE (6 COPIES), ACCOMPANIED BY MANUFACTURER'S DATA SHEETS. DATA SHALL BE FORWARDED IN A SINGLE PACKAGE WRITTEN 15 DAYS AFTER AWARD OF CONTRACT. SUBMIT SIX BLACKLINE PRINTS AND ONE REPRODUCIBLE SHOP DRAWING SHOWING PROPOSED PLUMBING INSTALLATION. INCLUDE SIZES, LOCATIONS AND OTHER REQUIRED INFORMATION TO COORDINATE INSTALLATION WITH OTHER TRADES.

B. WITHIN 5 DAYS AFTER AWARD OF CONTRACT, SUBMIT 6 COPIES OF A LETTER STATING ANY MATERIALS THAT CONTRACTOR WISHES TO SUBSTITUTE, TO THE OWNER FOR APPROVAL. INCLUDE SUCH INFORMATION AS MANUFACTURER'S NAME, TYPE OF MATERIAL, CERTIFIED RATINGS, OVERALL APPEARANCE, AND NECESSARY INFORMATION TO EXPLAIN FUNCTION AND OPERATION OF MATERIAL. ALL PROPOSED SUBSTITUTIONS SHALL BE EQUAL IN QUALITY, DESIGN, UTILITY AND APPEARANCE TO MATERIAL, EQUIPMENT OR METHOD SPECIFIED.

C. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEER WITH SUBMITTAL PACKAGES FOR REVIEW FOR ALL EQUIPMENT SPECIFIED ON THESE DRAWINGS. CONTRACTOR IS ONLY PERMITTED TO PURCHASE SPECIFIED EQUIPMENT FOLLOWING RECEIPT OF REVIEWED SUBMITTALS IN COMPLIANCE WITH ALL OF ENGINEER’S COMMENTS. IF CONTRACTOR PURCHASES ANY SPECIFIED EQUIPMENT WITHOUT SUBMITTING A SUBMITTAL AND RECEIVING ENGINEER COMMENTS, THEN CONTRACTOR IS TAKING SOLE RESPONSIBILITY FOR THE ACCURACY OF PURCHASED EQUIPMENT AND IS SOLELY RESPONSIBLE FOR REPLACING SAID EQUIPMENT IF IMPROPERLY FURNISHED.

1.07 AS-BUILT DRAWINGS

A SET OF PLUMBING PLANS WILL BE FURNISHED TO THE CONTRACTOR ON WHICH HE SHALL INDICATE THE INSTALLATION "AS-BUILT" AS THE WORK PROGRESSES. UPON COMPLETION OF THE WORK, A SET OR REPRODUCIBLE DRAWINGS SHALL BE OBTAINED FROM THE OWNER AT COST, AND ALL CHANGES AS NOTED ON THE RECORD SET OF PRINTS SHALL BE INCORPORATED THEREON. THIS SET OF REPRODUCIBLE, ALONG WITH ONE SET OF BLUEPRINTS, SHALL BE DELIVERED TO THE OWNER UPON COMPLETION AND BEFORE FINAL ACCEPTANCE OF THE PROJECT.

1.08 GUARANTEE

THE CONTRACTOR SHALL LEAVE THE ENTIRE INSTALLATION IN COMPLETE WORKING ORDER FREE FROM ANY DEFECTIVE MATERIAL, WORKMANSHIP OR FINISH. HE SHALL GUARANTEE TO REPAIR OR REPLACE, WITHOUT CHARGE, DEFECTS DUE TO FAULTY WORKMANSHIP OR MATERIAL FOR A PERIOD OF ONE YEAR FROM THE DATE OF FILING OF THE NOTICE OF COMPLETION.

1.09 OPERATION MANUALS AND OWNER INSTRUCTIONS

A. PROVIDE COMPLETE OPERATION AND MAINTENANCE MANUALS COVERING ALL PLUMBING SYSTEMS AND EQUIPMENT THAT HAVE BEEN INSTALLED. THREE (3) COPIES OF THE MANUAL SHALL BE BOUND IN HARDBACK BINDERS.

B. PROVIDE INSTRUCTIONS TO OWNER AS TO OPERATION OF ALL EQUIPMENT. INSTRUCTION PERIOD TO COMMENCE FOR MINIMUM OF (2) HOURS AND SHALL BE SCHEDULED AT OWNER'S CONVENIENCE.

1.10 CUTTING AND PATCHING

A. THE CONTRACTOR SHALL DO ALL CUTTING, DRILLING AND PATCHING WHICH MAY BE REQUIRED FOR THE INSTALLATION OF THE WORK UNDER THIS SECTION OF THE SPECIFICATIONS.

B. PATCHING SHALL BE OF THE SAME WORKMANSHIP, MATERIAL, AND FINISH AND SHALL MATCH ACCURATELY ALL SURROUNDING CONSTRUCTION IN A MANNER SATISFACTORY TO THE OWNER. NO CUTTING OF THE STRUCTURE SHALL BE PERMITTED WITHOUT

2.00 - MATERIALS - PIPING

BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH THE LOCAL AUTHORITY HAVING JURISDICTION. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.

A. INTERIOR UNDERGROUND STORM, SANITARY AND WASTE PIPING: SERVICE WEIGHT BELL AND SPIGOT CAST IRON OR NO-HUB C.I. PIPE AND FITTINGS, COMPLYING WITH CISPI STANDARDS, OR ABS DWV SCH40 IF ALLOWED BY THE LOCAL AUTHORITY HAVING JURISDICTION.

B. INTERIOR DOMESTIC WATER PIPING ABOVE GROUND: 3" AND SMALLER - TYPE L HARD TEMPERED COPPER WITH SOLDER END FITTINGS. 95-5 TIN AND ANTIMONY SOLDER JOINTING (LEAD-FREE).

C. CONDENSATE DRAIN PIPING: COPPER WATER TUBE ASTM B88, TYPE "M", SOLDER WITH 95-5 SOLDER, LEAD-FREE TYPE.

D. GAS PIPING: GALVANIZED STEEL, SCH 40 AND FITTINGS FOR OUTDOOR. BLACK STEEL, SCH 40 AND FITTINGS FOR INDOOR ABOVE GROUND. 3'' AND SMALLER STEEL PIPES SHALL BE THREADED, 4'' AND LARGER STEEL PIPES ARE TO BE WELDED. USE APPROVED POLYETHYLENE YELLOW PIPING (PE) FOR ALL OUTDOOR UNDERGROUND PIPING WITH 14 GAGE TRACER WIRE AND SHALL NOT COME IN CONTACT WITH PE PIPING. PE PIPE MUST BE JOINED BY HEAT FUSION METHOD OF CONNECTING PIPE AND FITTINGS OR APPROVED MECHANICAL FITTINGS.

2.01 PIPE FLASHINGS

4 LBS. LEAD WITH COUNTERFLASHING RING BY GLENCO, STONEMAN ENGINEERING OR APPROVED EQUAL.

2.02 VALVES

A. GATE VALVES: RED & WHITE 204 OR EQUAL, 3'' AND SMALLER.

B. CHECK VALVES: RED & WHITE 238 OR EQUAL, 3'' AND SMALLER.

C. BALL VALVES: NIBCO 580-70 OR EQUAL, 2'' AND SMALLER.

2.03 PLUMBING FIXTURES AND TRIM

PLUMBING FIXTURES TO BE FURNISHED AND INSTALLED UNDER THIS CONTRACT. SEE PLUMBING FIXTURE SCHEDULE.

2.04 PIPE HANGERS AND SUPPORTS

A. SUPERSTRUT, GRINNELL, OR APPROVED EQUAL.

B. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.

C. PIPE HANGERS SHALL HAVE NON-METALLIC FELT OR ELASTOMERIC LINER OR WRAP APPLIED TO THE PIPE FOR ELECTROLYTIC PROTECTION WHERE HANGERS AND SUPPORTS ARE USED TO SUPPORT COPPER TUBING OR PIPE. THE LINER OR WRAP SHALL BE DESIGNED TO ALLOW EXPANSION OR CONTRACTION OF THE PIPING.

2.05 PIPE SLEEVES

SHALL BE PROVIDED TO PROTECT ALL PIPING THROUGH CONCRETE AND MASONRY WALLS. ANNULAR SPACES BETWEEN SLEEVES AND PIPES SHALL BE FILLED OR CAULKED IN AN APPROVED MANNER. ANNULAR SPACES BETWEEN SLEEVES AND PIPES IN FIRE-RESISTANCE-RATED ASSEMBLIES SHALL BE FILLED OR TIGHTLY CAULKED IN ACCORDANCE WITH THE BUILDING CODE. ALL UNDERSLAB CAST IRON PIPING SHALL BE COVERED WITH POLYETHYLENE SLEEVE (POLYWRAP) AND CONTRACTOR MUST FOLLOW MANUFACTURER'S MANUAL FOR PROPER INSTALLATION.

2.06 TEMPERATURE AND PRESSURE RELIEF VALVE

TEMPERATURE & PRESSURE RELIEF VALVE SHALL DISCHARGE FULL LINE SIZE TO AN APPROVED WASTE RECEPTOR THROUGH AN AIR GAP AS INDICATED ON PLANS OR 6'' MINIMUM, 24'' MAXIMUM.

2.07 SCALD GUARD PROTECTION

PROVIDE ASSE 1070 THERMOSTATIC MIXING VALVE.

2.08 DOMESTIC PIPING INSULATION

A. PROVIDE AND INSTALL "INSULATION PROTECTION SHIELD" FOR PIPING WITH FOAM OR FIBERGLASS INSULATION.

B. INSULATE ALL RAINWATER PIPING WITH 1'' THICK FIBERGLASS INSULATION BELOW THE DECK UP TO 25 FEET OF HORIZONTAL RUN.

C. INSULATE ALL HORIZONTAL WASTE PIPING (HUNG) WITH 1-1/2" THICK FIBERGLASS INSULATION ABOVE NOISE SENSITIVE AREAS ONLY. INSULATE ALL EXPOSED WATER PIPING AT THE TRASH ENCLOSURE.

D. INSULATE ALL DOMESTIC WATER PIPING OUTSIDE THE BUILDING OR ON ROOF WITH 1-1/2'' THICK ARMSTRONG ARMAFLEX OR APPROVED EQUAL, AND SECTIONS BUTTED FIRMLY TOGETHER.

E. INSULATE ALL CONDENSATE DRAIN PIPING WITH 1/2'' THICK ARMSTRONG ARMAFLEX OR EQUAL, AND SECTIONS BUTTED FIRMLY TOGETHER.

F. INSULATE ALL HOT WATER PIPING AND HOT WATER RETURN PIPING. THE INSULATION FOR HOT WATER AND RETURN PIPING SHALL HAVE A MINIMUM WALL THICKNESS OF NOT LESS THAN 1" FOR A PIPE UP TO 1" DIAMETER, 1.25" FOR 1-1/4" PIPE, 1.5" FOR 1-1/2" PIPE, 2" FOR 2" PIPE OR MORE IN DIAMETER.

G. PROVIDE AND INSTALL SCALD GUARD PROTECTION/INSULATION UNDER SINKS WITH EXPOSED P-TRAPS AND HOT WATER SUPPLIES.

H. ALL OUTDOOR INSULATION SHALL BE PROTECTED WITH ALUMINUM JACKET.

2.09 CLEANOUT

A. ACCESSIBLE CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH WASTE STACK AND RAINWATER LEADERS. ADDITIONAL CLEANOUT SHALL BE PROVIDED IN A DRAINAGE LINE FOR EACH HORIZONTAL CHANGE OF DIRECTION EXCEEDING 135 DEGREES. CLEANOUT MUST BE PROVIDED ON A HORIZONTAL DRAIN LINE EXCEEDING 5FT OR MORE IN LENGTH SERVING SINKS OR URINALS. AN APPROVED TYPE OF 2-WAY CLEANOUT FITTING SHALL BE INSTALLED OUTSIDE OF A BUILDING AT THE LOWER END OF A BUILDING DRAIN AND EXTENDED TO GRADE.

2.10 WATER HEATER

A. PROVIDE ANCHORS AND STRAPS TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION.

B. STRAPPING SHALL BE LOCATED UPPER 1/3 AND LOWER 1/3 OF ITS VERTICAL DIMENSIONS. STRAPS SHALL BE A MINIMUM 2"X16 GAGE PROPERLY SECURED TO WALL STUDS. ELEVATE WATER HEATER AT LEAST 4" MINIMUM ABOVE THE FINISHED FLOOR WITH AN APPROVED BASE. PROVIDE A 22 GAGE WATER TIGHT DRAIN PAN, CORROSION RESISTANT, AT THE BOTTOM OF THE WATER HEATER. DRAIN PAN SHALL HAVE A 3/4" DRAIN LINE TO BE DISCHARGED INTO AN APPROVED RECEPTOR BY MEANS OF AN AIR GAP. A PROPERLY SIZED THERMAL EXPANSION TANK SHALL BE PROVIDED AT THE WATER HEATER. HOT WATER SUPPLY FOR THE LAVATORIES AND HAND SINKS NEEDS TO BE PROVIDED AT A TEMPEARTURE RANGE BETWEEN 90°F AND 110°F.

C. WATER HEATER SHALL BE BY A.O. SMITH, BOCK, BRADFORD-WHITE, HUBBEL, LOCHINVAR, STATE, HTP, RHEEM OR RUUD WITH CAPACITY AS SCHEDULED ON THE DRAWINGS. UNIT SHALL BE ELECTRIC GLASS-LINED TANK TYPE COMPLETE WITH STEEL JACKET, FIBERGLASS INSULATION, MAGNESIUM ANODE, INTEGRAL THERMOSTATS AND CONTROLS, AND TEMPERATURE & PRESSURE RELIEF VALVE. WATER HEATER SHALL BE UL LISTED AND MEET ASHRAE 90.1B STANDARDS FOR THERMAL EFFICIENCY AND STANDBY HEAT LOSS.

2.11 EXPANSION TANK

A. EXPANSION TANK SHALL BE AMTROL “THERM-X-TROL” AS SCHEDULED ON THE DRAWINGS OR EQUAL BY ARMSTRONG, BELL & GOSSETT, PROFLO, TACO, OR WATTS. UNIT SHALL BE CONSTRUCTED OF WELDED CARBON STEEL LISTED FOR 150 PSIG WORKING PRESSURE, WITH A FDA APPROVED BUTYL RUBBER DIAPHRAGM, TAPS FOR PRESSURE GAGE, AIR CHARGING FITTING, AND DRAIN FITTING. SUPPORT AS DETAILED ON THE DRAWINGS. CHARGE TANK WITH AIR PRESSURE EQUAL TO THE STATIC WATER PRESSURE.

2.12 RECIRCULATION PUMP

A. RECIRCULATION PUMP SHALL BE BY B&G AS SCHEDULED ON THE DRAWINGS, OR EQUAL BY ARMSTRONG, GRUNDFOS OR TACO, OF ALL BRONZE CONSTRUCTION WITH AQUASTAT AND/OR TIMER.

2.13 HEAT TRACE

A. PROVIDE HEAT TRACE SYSTEM AS INDICATED ON THE DRAWINGS MANUFACTURED BY RAYCHEM, CHROMALOX, NEXTRON, NELSON OR APPROVED EQUAL.

B. HEAT TRACE CABLES: PAIR OF PARALLEL NO. 16 AWG TINNED-COPPER BUS WIRES EMBEDDED IN CROSS LINKED CONDUCTOR POLYMER CORE, WHICH VARIES POWER OUTPUT IN RESPONSE TO TEMPERATURE ALONG ITS LENGTH; LINE VOLTAGE AS INDICATED ON THE DRAWINGS. PROVIDE OUTER JACKET MATERIAL AS INDICATED ON THE DRAWINGS. CABLE SHALL BE CAPABLE OF CROSS OVER ITSELF WITHOUT OVERHEATING. CABLE SHALL CAPABLE OF A HEAT OUTPUT OF 90 PERCENT OF RATING OVER A TEMPERATURE RANGE OF 40 F TO 150 F PIPE TEMPERATURE. PROVIDE FIELD-APPLIED POWER CONNECTION KITS, END SEAL KITS AND ANY TEE KITS AS REQUIRED.

C. HEAT TRACE CONTROL PANEL: FOR “ON-OFF” CONTROL OF HEAT TAPE CIRCUIT WITH NEMA 4X FIBERGLASS REINFORCED PLASTIC ENCLOSURE FOR OUTDOOR INSTALLATION WITH HINGED ACCESS DOOR WITH WINDOW AND FURNISHED WITH THE FOLLOWING: MICROPROCESSOR BASED CONTROLLER WITH LED DISPLAY WITH KEYPAD INTERFACE AND NON-VOLATILE MEMORY. GROUND FAULT CIRCUIT PROTECTION CAPABLE OF CHECKING HEATING CABLE CIRCUIT FAULTS. LED INDICATOR LIGHTS: CURRENT MODE, HEATER ON, ALARM CONDITIONS AND RECEIVE / TRANSMIT DATA. ALARM CONDITIONS: RTD FAILURE, HIGH/LOW TEMPERATURE, HIGH/LOW CURRENT, HI/LOW RESISTANCE AND HIGH/LOW VOLTAGE, GROUND FAULT ALARM, TRIP, LOSS OF PROGRAMMED VALUES AND ELECTROMECHANICAL RELAY FAILURE. ALARM CONTACTS: ONE SINGLE POLE SINGLE THROW RATED AT 0.75 AMP 120 TO 277 VOLT RELAY AND ONE DRY PILOT DUTY ONLY RELAY RATED AT 48 VAC / DC 50 MILIAMPS, 10 VA MAXIMUM RESISTIVE SWITCHING. POWER STRIP FOR CONNECTING 277 VOLT SINGLE PHASE AT 30 AMPS MAXIMUM. TEMPERATURE CONTROL SENSORS: TOTAL OF TWO THREE WIRE 100 OHM RTD’S WITH 10 FOOT LONG STAINLESS STEEL SHEATH, AMBIENT TEMPERATURE RANGE OF –76 F TO 1058 F WITH AN ACCURACY OF PLUS/MINUS 3 F AND A REPEATABILITY OF PLUS/MINUS 3 F.

D. THERMOSTATS: AS SCHEDULED ON THE DRAWINGS AND OF THE SAME MANUFACTURER AS THE HEAT TRACE CABLE.

2.14 TRENCHING

A. ALL TRENCHES DEEPER THAN THE FOOTING OF ANY BUILDING OR STRUCTURE AND PARALLELING THE SAME SHALL BE AT LEAST 45 DEGREES THEREFROM.

3.00 - INSTALLATION AND EXECUTION

3.01 GENERAL

A. CAST-IRON HUBLESS WITH STAINLESS STEEL SHIELDED COUPLING SHALL BE SUPPORTED HORIZONTALLY AT EVERY OTHER JOINT, UNLESS OVER 4 FEET, THEN SUPPORT EACH JOINT ADJACENT TO JOINT, NOT TO EXCEED 18", BRACE AT NOT MORE THAN 40FT INTERVALS, SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION. HANGERS SHALL NOT BE PLACED ON THE COUPLING. SUPPORT VERTICAL PIPES AT THE BASE AND EACH FLOOR NOT TO EXCEED 15FT. HANGERS AND SUPPORTS FOR ALL PIPING SHALL COMPLY WITH THE IPC 2018.

3.02 SPECIAL REQUIREMENTS, RESPONSIBILITIES AND TESTING

A. INSTALL PIPING GENERALLY LEVEL, FREE OF TRAPS AND UNNECESSARY BENDS, TO CONFORM WITH BUILDING REQUIREMENTS. PIPE TO BE FREE OF DEFECTS, AND INSTALLED TO AVOID ANY POSSIBLE GALVANIC ACTION BY ISOLATING DISSIMILAR METALS.

B. TEST AND RECORD AVAILABLE DOMESTIC WATER PRESSURE IN STATIC AND DYNAMIC CONDITIONS FOR DYNAMIC TESTING RECORD PRESSURE AND FLOW RATE IN GALLONS PER MINUTE. TRANSMIT THIS INFORMATION TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.

C. PROVIDE ALL TESTS SPECIFIED HEREINAFTER AND AS OTHERWISE REQUIRED. PROVIDE ALL TEST EQUIPMENT, INCLUDING TEST PUMPS, GAUGES, INSTRUMENTS AND OTHER EQUIPMENT REQUIRED. PRESSURE GAUGES USED SHALL BE GRADUATED IN INCREMENTS NOT GREATER THAN 5 POUNDS PER SQUARE INCH.. NO PLUMBING OR DRAINAGE SYSTEM OR PART THEREOF SHALL BE COVERED, CONCEALED, OR PUT INTO USE UNLESS IT HAS BEEN SPECIFIED. CONDUCT ALL TESTS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, AND OBTAIN THE NECESSARY JURISDICTIONAL AUTHORITY INSPECTIONS.

D. APPLY A WATER TEST TO THE WASTE, AND VENT SYSTEMS WHETHER IN ITS ENTIRETY OR IN SECTIONS; IF APPLIED TO THE ENTIRE SYSTEM, TIGHTLY CLOSE ALL OPENINGS IN THE PIPING EXCEPT THE HIGHEST OPENING, AND FILL THE SYSTEM WITH WATER TO THE POINT OF OVERFLOW. IF THE SYSTEM IS TESTED IN SECTIONS, TIGHTLY PLUG EACH OPENING EXCEPT FOR THE HIGHEST OPENING OF THE SECTION UNDER TEST, AND FILL EACH SECTION WITH WATER, BUT TEST WITH NO LESS THAN A 10' HEAD OF WATER. IN TESTING SUCCESSIVE SECTIONS, TEST AT LEAST THE UPPER 10' OF THE NEXT PRECEDING SECTION SO THAT NO JOINT OR PIPE IN THE BUILDING (EXCEPT THE UPPERMOST 10' OF THE SYSTEM) SHALL HAVE BEEN SUBMITTED TO A TEST OF LESS THAN A 10' HEAD OF WATER. KEEP WATER IN THE SYSTEM OR IN THE PORTION UNDER TEST FOR AT LEAST 24 HOURS BEFORE INSPECTION STARTS, WITH THE SYSTEM TIGHT AT ALL POINTS.

E. DOMESTIC WATER SYSTEM SHALL BE TESTED AND PROVED TIGHT UNDER A PRESSURE OF NOT LESS THAN 120 PSI. PIPING MUST STAND THE TEST FOR A PERIOD OF 24 HOURS WITHOUT LEAKING.

F. CHLORINATION OF THE DOMESTIC COLD AND HOT WATER PIPING SYSTEMS IN ACCORDANCE WITH STANDARD TESTING PROCEDURES AND LOCAL HEALTH DEPARTMENT REQUIREMENTS. TESTING BY A FIRM SUCH AS BENNET-MARINE OR EQUAL. SUBMIT CERTIFICATE OF SATISFACTORY TEST RESULTS.

G. UPON COMPLETION OF TESTING, CERTIFY TO THE ARCHITECT, IN WRITING THAT THE SPECIFIED TESTS HAVE BEEN PERFORMED AND THAT THE INSTALLATION COMPLIES WITH THE SPECIFIED REQUIREMENTS.

H. GAS PIPING SYSTEM SHALL BE TESTED WITH 10 PSIG AIR FOR EIGHT HOURS.

3.03 PIPING INSTALLATION

A. MAKE CHANGES IN SIZE OF PIPE WITH REDUCING FITTINGS; BUSHINGS WILL NOT BE PERMITTED EXCEPT FOR BELL SHAPED COPPER BUSHINGS.

B. INSTALL DIELECTRIC INSULATING UNIONS IN WATER PIPING BETWEEN COPPER PIPING AND FERROUS PIPING OR EQUIPMENT - EPCO, OR EQUAL.

C. INSTALL EXPOSED POLISHED CHROME CONNECTIONS FROM FIXTURES OR EQUIPMENT WITH SPECIAL CARE. SHOW NO TOOL MARKS OR THREADS AT FITTINGS.

D. CAP OPENINGS IN PIPING DURING CONSTRUCTION.

E. PROVIDE 85% RED BRASS PIPE IPS, IN CONNECTION TO FAUCETS, FLUSH VALVES, HOSE BIBBS OR SIMILAR ITEMS REQUIRING RIGID PIPING. EXTEND BRASS PIPE FROM FIXTURE TO POINT WHERE PIPING CAN BE SECURELY FASTENED TO BUILDING CONSTRUCTION. ALL EXPOSED PIPING AND STOP VALVES IN CONNECTION TO FIXTURES SHALL BE CHROME PLATED BRASS.

F. INSTALL UNIONS ADJACENT TO VALVES AND WHERE NECESSARY TO FACILITATE DISASSEMBLY OF PIPING.

G. ESCUTCHEONS: FIT EXPOSED PIPES PASSING THROUGH FLOORS, WALLS OR CEILINGS WITH ESCUTCHEONS. MANUFACTURE SPECIAL SIZES OF ESCUTCHEONS FROM STEEL AND PRIME COAT SAME. CUT IN ROUND, RECTANGULAR OR SQUARE SPACE TO PROVIDE A CLEAN APPEARANCE ACCEPTABLE TO THE ARCHITECT.

H. SUPPORT PIPING INDEPENDENTLY OF EQUIPMENT TO WHICH IT IS CONNECTED.

I. MAKE COPPER SOLDER JOINTS WITH 95/5 SOLDER, OR SILFOS: CLEAN SURFACES TO BE JOINED FREE OF OIL, GREASE, RUST OR OXIDES AND APPLY FLUX TO EACH JOINT BEFORE HEATING ASSEMBLY.

J. ROUGH-IN AND MAKE FINAL CONNECTIONS TO ALL OTHER EQUIPMENT FURNISHED UNDER OTHER DIVISIONS, REQUIRING PLUMBING CONNECTIONS.

K. ALL PIPING BE VIBRATION ISOLATED FROM THE STRUCTURE.

3.04 SUBSTITUTIONS

A. ONE OR MORE MAKES OF MATERIALS AND METHODS MAY HAVE BEEN SPECIFIED TO ESTABLISH THE STANDARD OF QUALITY, WORKMANSHIP, FINISH AND DESIGN REQUIRED, BUT OTHER MATERIALS OR METHODS EQUAL OR BETTER IN QUALITY, WORKMANSHIP, FINISH, DESIGN, AND GUARANTEED PERFORMANCE, MAY BE SUBMITTED FOR REVIEW AND APPROVAL AS SUBSTITUTION. ALL SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY ARCHITECT, ENGINEER, AND OWNER.

B. SUBSTITUTIONS SHALL BE REQUESTED IN A WRITTEN FORM AND SHALL BE ACCOMPANIED WITH A SIGNED STATEMENT THAT PROPOSED SUBSTITUTION IS EQUAL, OR BETTER THAN SPECIFIED. ADDITIONAL DOCUMENTATION TO SUBSTANTIATED PROPOSED SUBSTITUTION MAY BE REQUIRED BY OWNER, ARCHITECT, AND ENGINEER. CONTRACTOR SHALL SUBMIT AS DIRECTED.

C. CONTRACTOR SHALL ACCOMPANY REQUEST FOR SUBSTITUTION LETTER WITH A COMPLETED CSI SUBSTITUTION FORM INCLUDE THE COMPARISON FOR FOLLOWING:
1. PERFORMANCE DATA
2. DIMENSIONS
3. COST AND DELIVERY SCHEDULE
4. LISTED AND APPROVED

D. A WRITTEN SIGNED STATEMENT FROM THE GENERAL CONTRACTOR SHALL ACCOMPANY SUBSTITUTION REQUEST FORM ASSURING THAT:

1. DIMENSIONS HAS BEEN VERIFIED WITH THE PROJECT CONDITIONS AND HAS COORDINATED WITH OTHER TRADES. SUBSTITUTION DOES NOT AFFECT DIMENSIONS SHOWN ON DRAWINGS.

2. HE SHALL PAY AND BURDEN THE COST FOR CHANGES TO THE PROJECT INCLUDING REDESIGN, REENGINEERING AND REVIEW OF SUBSTITUTION. ONLY ONE ENGINEERING REVIEW TIME IS ALLOWED FOR EACH PRODUCT SUBSTITUTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REVIEW TIME AND SHALL PAY ARCHITECT AND ENGINEER'S TIME AT THEIR PROFESSIONAL RATE SCHEDULE.

3. HE HAS CONFIRMED THAT THE PROPOSED SUBSTITUTION WILL HAVE NO ADVERSE AFFECT ON OTHER TRADES, THE CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.

4. HE HAS CONFIRMED THAT MAINTENANCE AND SERVICE PARTS WILL BE LOCALLY AVAILABLE FOR THE PROPOSED SUBSTITUTION.

E. COST SAVINGS RESULTING FROM SUBSTITUTION SHALL BE RETURNED TO THE CONTRACT OR THE OWNER IF THE SUBSTITUTION IS PERMITTED.

F. NO WORK INVOLVING MATERIALS SUBMITTED FOR SUBSTITUTION SHALL PROCEED UNTIL WRITTEN ACCEPTANCE IS RECEIVED FROM THE OWNER. THE OWNER IS THE FINAL JUDGE OF ACCEPTABILITY OF PREFERRED SUBSTITUTIONS.

3.05 COORDINATION

A. COORDINATE WORK WITH OTHER TRADES TO AVOID CONFLICT AND TO PROVIDE CORRECT ROUGH-IN AND CONNECTION FOR EQUIPMENT FURNISHED UNDER OTHER TRADES THAT REQUIRE PLUMBING CONNECTIONS. INFORM CONTRACTORS OF OTHER TRADES OF THE REQUIRED ACCESS TO AND CLEARANCES AROUND EQUIPMENT TO MAINTAIN SERVICE ABILITY AND CODE COMPLIANCE.

B. VERIFY EQUIPMENT DIMENSIONS AND REQUIREMENTS WITH PROVISIONS SPECIFIED UNDER THIS SECTION. CHECK ACTUAL JOB CONDITIONS BEFORE FABRICATING WORK. REPORT NECESSARY CHANGES IN TIME TO PREVENT NEEDLESS WORK. CHANGES OR ADDITIONS, SUBJECT TO ADDITIONAL COMPENSATION, WHICH ARE MADE WITHOUT WRITTEN AUTHORIZATION AND AN AGREED PRICE, SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.

3.06 MARKING AND IDENTIFICATION

A. ALL DOMESTIC COLD WATER, HOT WATER, SANITARY SEWER, SANITARY VENT, CONDENSATE DRAIN, AND NATURAL GAS PIPING SHALL HAVE VISIBLE PERMANENT LABELS AT EVERY 20 FEET, THE DIRECTION OF NORMAL FLOW SHALL BE CLEARLY SHOWN, AT LEAST ONCE PER ROOM, AND SHALL BE VISIBLE FROM THE LOOR LEVEL. THE MINIMUM SIZE OF THE LETTERS SHOWN ON TABLE 6-1 BELOW. VALVES SHALL BE LABELED WITH STENCILED OR STAMPED METAL TAGS BEARING THE NAME OF THE SYSTEM THEY CARRY.

TABLE 6-1

PIPE SIZE (INCHES)	SIZE OF LETTER (INCHES)
1/2 - 1 1/4	1/2
1 1/2 - 2	3/4
2 1/2 - 6	1 1/4
8 - 10	2 1/2

END OF SECTION 15400 - PLUMBING

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DIGITALLY SIGNED
SEAN O. EISLER
02/19/2024

PROFESSIONAL IN CHARGE
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PROJECT MANAGER
CK
QUALITY CONTROL
CT
DRAWN BY
AH

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
PLUMBING SPECIFICATIONS

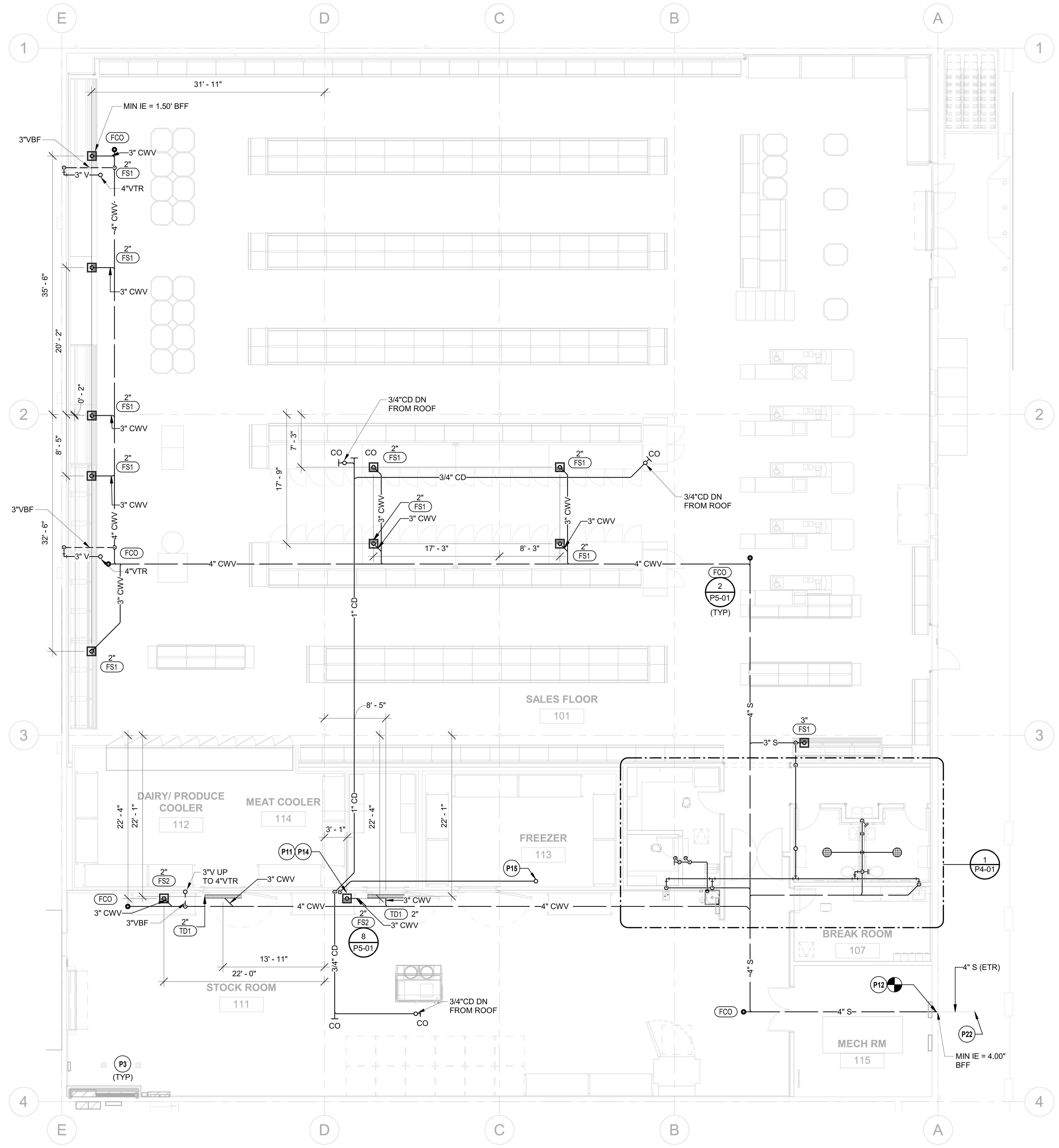
SHEET NUMBER
P0-02

SEAN O. EISLER

Last Modified: 2/16/2024 2:28:13 PM Drawing Name: C:\Revit\Projects\2350003933 GO Salem OR MEP V22_alex.hartg7b8t_20240216132037.rvt

PLUMBING PLAN NOTES:

- P3 DO NOT INSTALL PLUMBING PIPING OVER ELECTRICAL PANELS OR EQUIPMENT. MAINTAIN CLEARANCE PER NEC REQUIREMENTS.
- P11 ROUTE CONDENSATE DOWN, INSTALL P-TRAP AT BASE OF CONDENSATE PIPING DROP, AND DISCHARGE INTO FLOOR SINK WITH AIR GAP.
- P12 CONNECT NEW SANITARY PIPING INTO THE EXISTING SANITARY SYSTEM. FIELD VERIFY THAT THE EXISTING SANITARY SYSTEM'S LOCATION, SIZE, INVERT, AND DIRECTION OF FLOW ARE COMPATIBLE WITH MEETING THE NEW SANITARY PIPE CONNECTION AND REQUIREMENTS. NOTIFY THE ARCHITECT IF CONFLICTS ARE FOUND BETWEEN THE NEW DESIGN AND THE EXISTING SANITARY SYSTEM.
- P14 COORDINATE CONDENSATE PIPING DOWN IN WALL , INSTALL P-TRAP AT BASE OF CONDENSATE PIPING DROP, AND DISCHARGE INTO FLOOR SINK WITH AIR GAP. REFER TO REFRIGERATION PLANS FOR ALL EVAPORATOR COIL COOLER/FREEZER CONDENSATE PIPING.
- P15 PROVIDE 1/4" DRAIN LINE FROM NON-FREEZE ROOF HYDRANT TO NEAREST FLOOR SINK BELOW AND DISCHARGE WITH AIR CAP. INSTALL ROOF HYDRANT PER DETAILS & MANUFACTURER RECOMMENDATIONS.
- P22 REFER TO CIVIL FOR CONTINUATION.



1 PLUMBING WASTE AND VENT FLOOR PLAN
1/8" = 1'-0"

NORTH

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AH

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PROJECT NUMBER
20230973.0

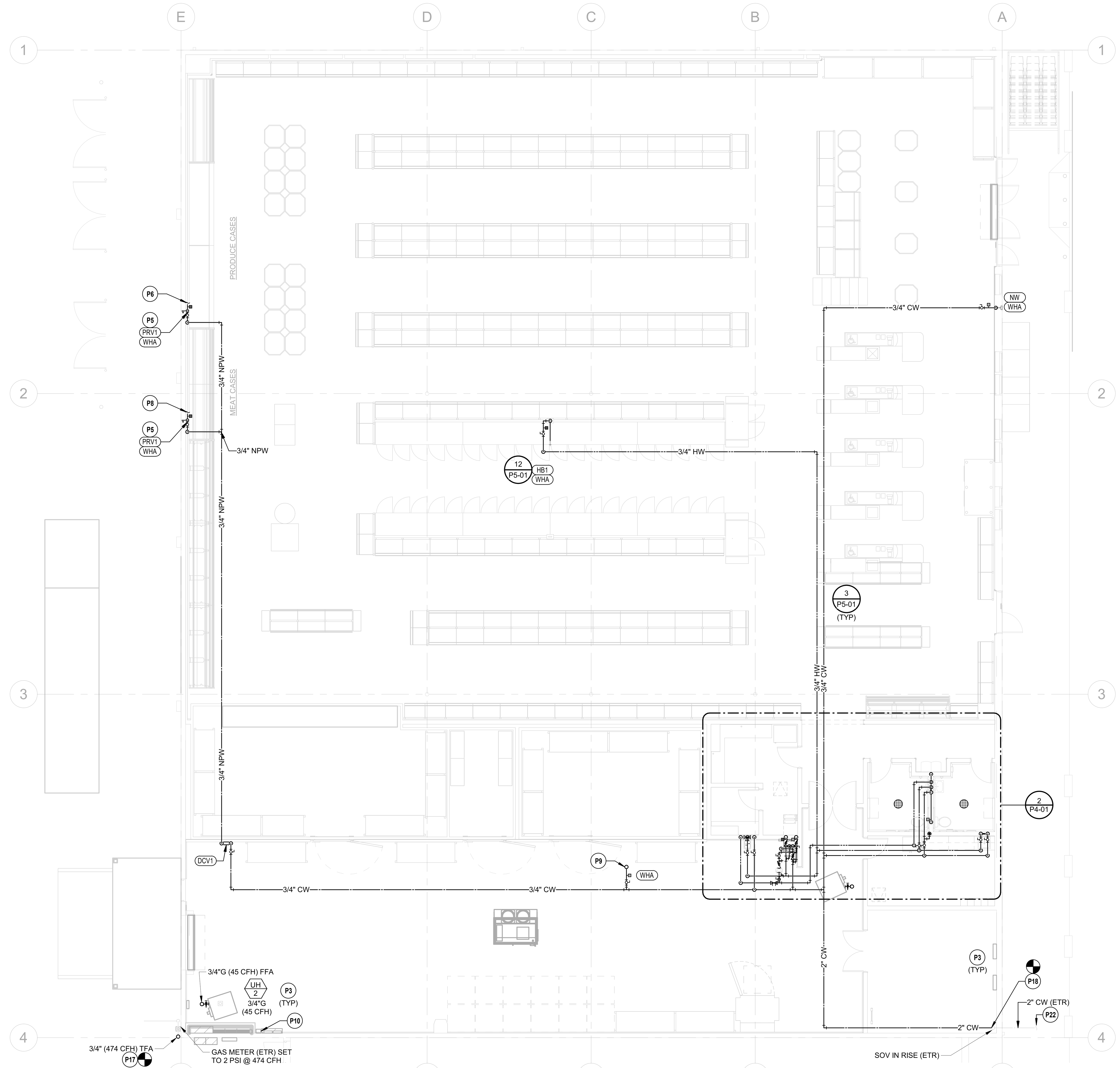
SHEET TITLE

PLUMBING WASTE AND VENT FLOOR PLAN

SHEET NUMBER

P1-01

SEAN O. EISLER



1 PLUMBING WATER FLOOR PLAN
1/8" = 1'-0"
NORTH

PLUMBING PLAN NOTES:

- P3 DO NOT INSTALL PLUMBING PIPING OVER ELECTRICAL PANELS OR EQUIPMENT. MAINTAIN CLEARANCE PER NEC REQUIREMENTS.
- P5 DROP 3/4" CW DOWN WALL TO SHUT-OFF VALVE, PRESSURE REDUCING VALVE, AND WHA FOR WATER LINES FOR PRODUCE CASE. THE MAIN SHUT-OFF VALVE SHALL BE LOCATED ON THE WALL AT 6'-6" ABOVE THE FINISH FLOOR. PROVIDE REGULATING VALVE ASSEMBLY IF WATER PRESSURE EXCEEDS 20 P.S.I.G.
- P6 ALL WORK BEYOND THIS POINT IS TO BE DONE BY THE REFRIGERATION CONTRACTOR OR CASE MANUFACTURER. COORDINATE WITH REFRIGERATION CONTRACTOR FOR EXACT CONNECTION POINT AND CONNECTION TYPE TO PRODUCE MISTING SYSTEM CONNECTION.
- P8 ALL WORK BEYOND THIS POINT IS TO BE DONE BY THE REFRIGERATION CONTRACTOR OR CASE MANUFACTURER. COORDINATE WITH REFRIGERATION CONTRACTOR FOR EXACT CONNECTION POINT AND CONNECTION TYPE TO MEAT CASE HOSE CONNECTION.
- P9 3/4" CW UP TO ROOF HYDRANT WITH BUILT IN VACUUM BREAKER. MOUNT HEAT TRACE WIRE CONNECTION KIT TO CW SUPPLY BELOW ROOF. CONNECT HEAT TRACE WIRE FROM ABOVE ROOF TO KIT. REFER TO HEAT TRACE WIRE SCHEDULE FOR CONNECTION KIT MAKE & MODEL. E.C. TO PROVIDE POWER SUPPLY.
- P10 HEAT TRACE EC-TS CONTROLLER LOCATION PROVIDED BY PLUMBING CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
- P17 CONNECT NEW GAS PIPING TO EXISTING GAS PIPING IN THIS VICINITY. FIELD VERIFY THE EXACT LOCATION AND SIZE OF PIPING PRIOR TO START OF INSTALLATION.
- P18 CONNECT NEW WATER PIPING INTO THE EXISTING WATER SYSTEM. FIELD VERIFY THAT THE EXISTING WATER SYSTEM'S LOCATION, SIZE, AND DIRECTION OF FLOW ARE COMPATIBLE WITH MEETING THE NEW WATER PIPE CONNECTION AND REQUIREMENTS. NOTIFY THE ARCHITECT IF CONFLICTS ARE FOUND BETWEEN THE NEW DESIGN AND THE EXISTING WATER SYSTEM.
- P22 REFER TO CIVIL FOR CONTINUATION.

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PROJECT NUMBER
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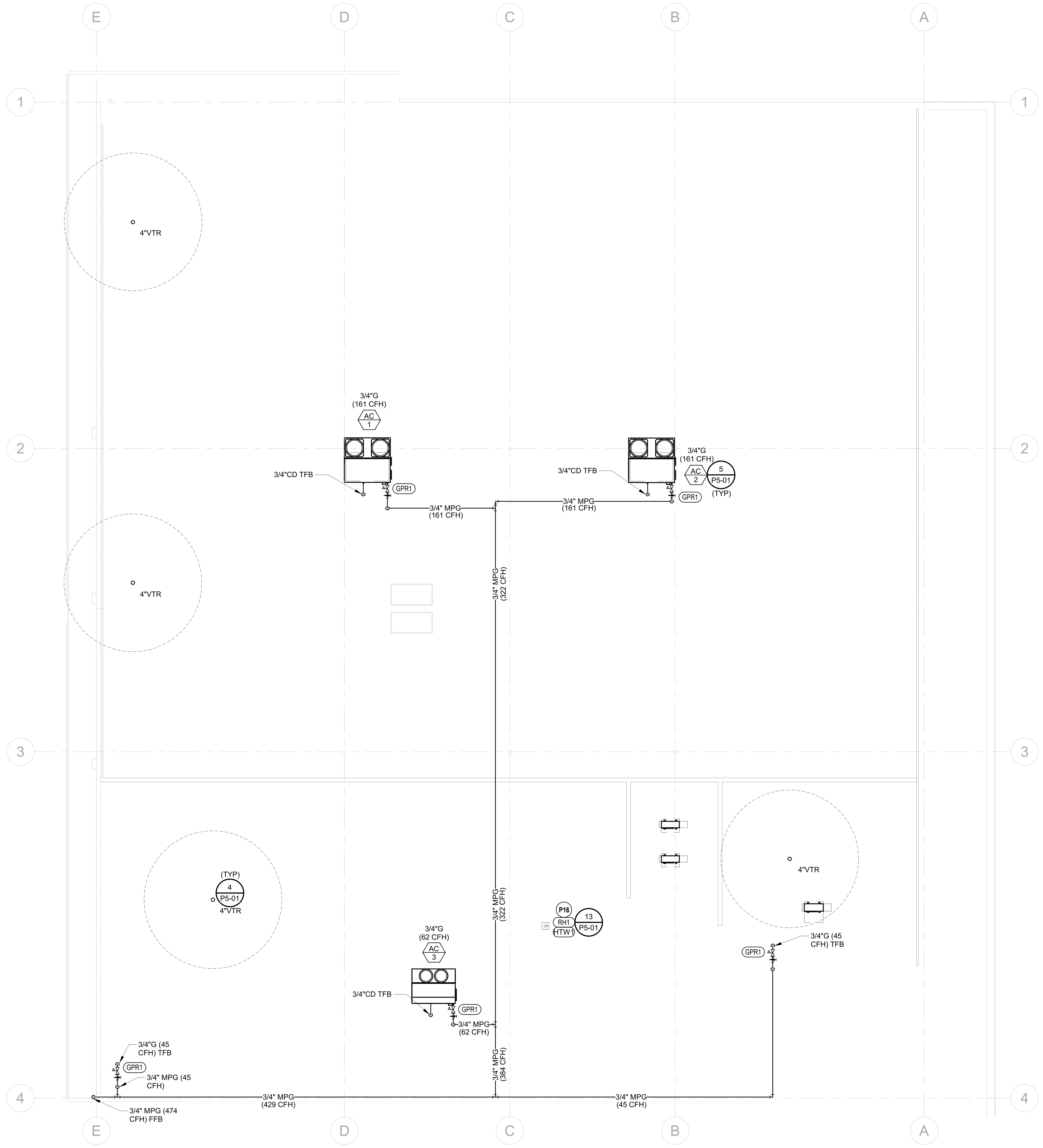
SHEET TITLE
PLUMBING WATER FLOOR PLAN

SHEET NUMBER
P1-02

SEAN O. EISLER

PLUMBING PLAN NOTES:

P16 LINE EXTERIOR EXPOSED PIPING AND ROOF HYDRANT SUPPORT WITH HEAT TRACE WIRE (HTW1), PER SCHEDULE. WRAP PIPING AND SUPPORT WITH MIN. 1" THICK INSULATION.



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

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SHEET TITLE

PLUMBING ROOF PLAN

SHEET NUMBER

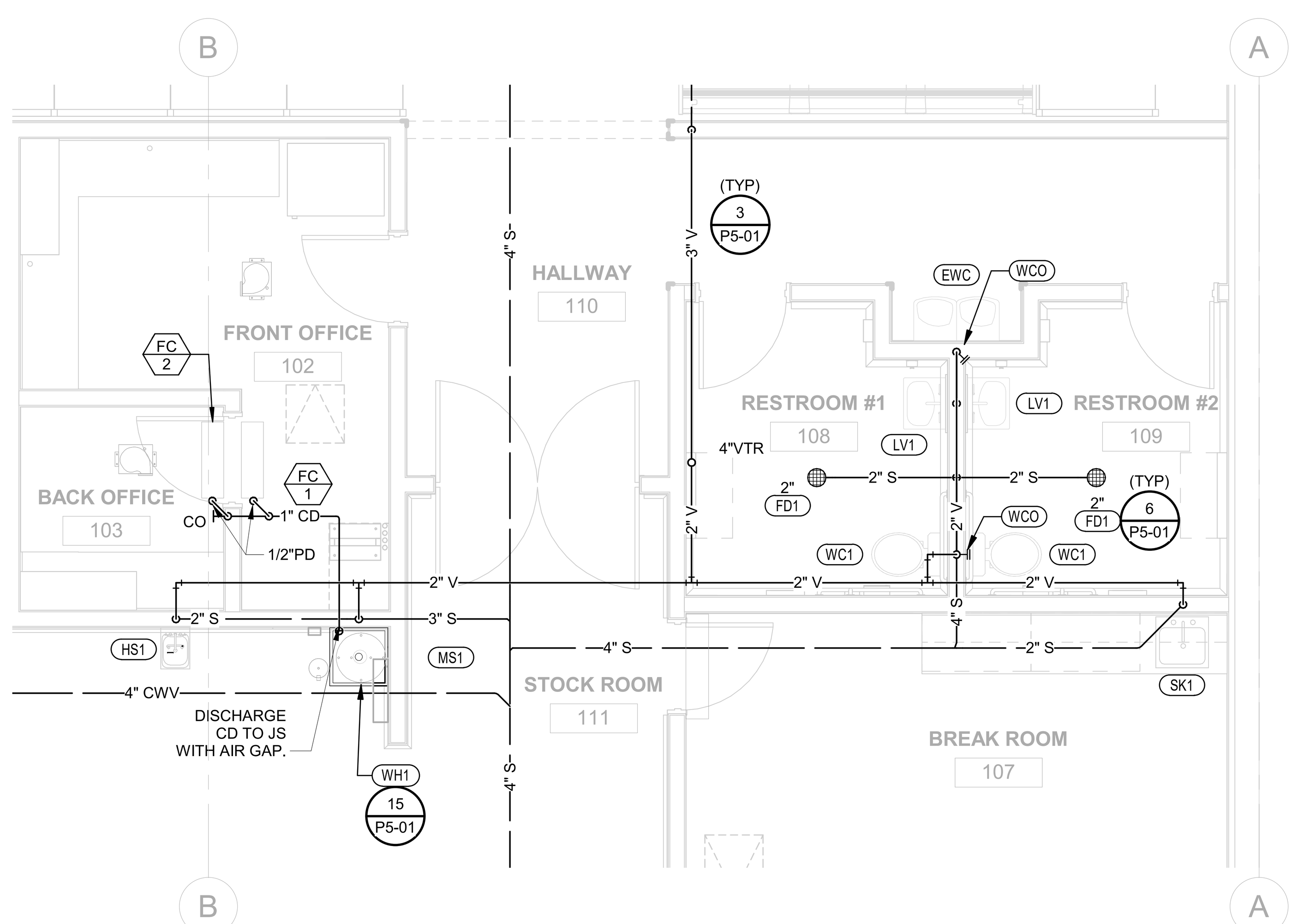
P1-03

SEAN O. EISLER

PLUMBING PLAN NOTES:

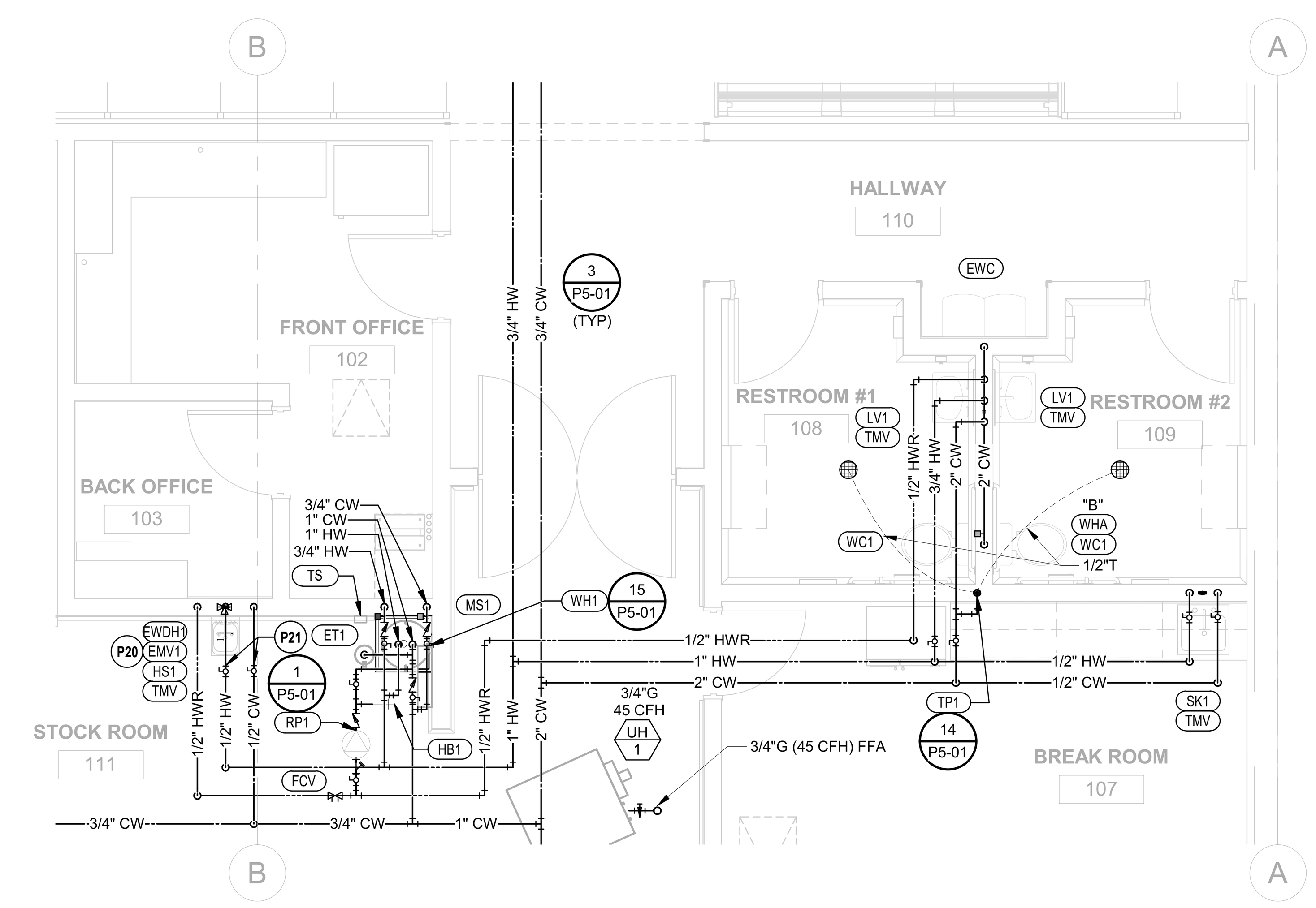
P20 INSTALL EMERGENCY MIXING VALVE BELOW HAND SINK AND EYEWASH/DRENCH HOSE ABOVE HAND SINK. PROVIDE ½" TEMPERED WATER LINE WITHIN WALL FROM EMERGENCY MIXING VALVE TO EYEWASH/ DRENCH HOSE.

P21 PROVIDE LOCKING BALL VALVE IN COMPLIANCE WITH ANSI Z358.1.



1 ENLARGED PLUMBING WASTE AND VENT FLOOR PLAN - RESTROOMS
1/4" = 1'-0"

NORTH



2 ENLARGED PLUMBING DOMESTIC WATER FLOOR PLAN - RESTROOMS
1/4" = 1'-0"

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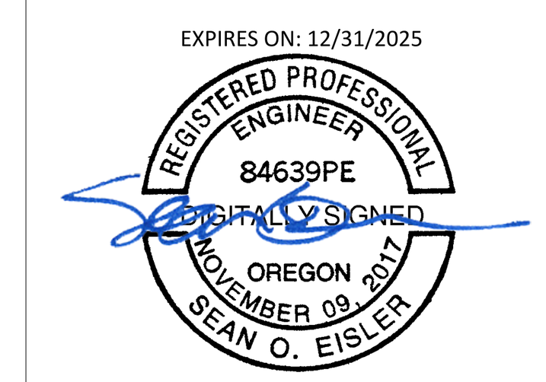

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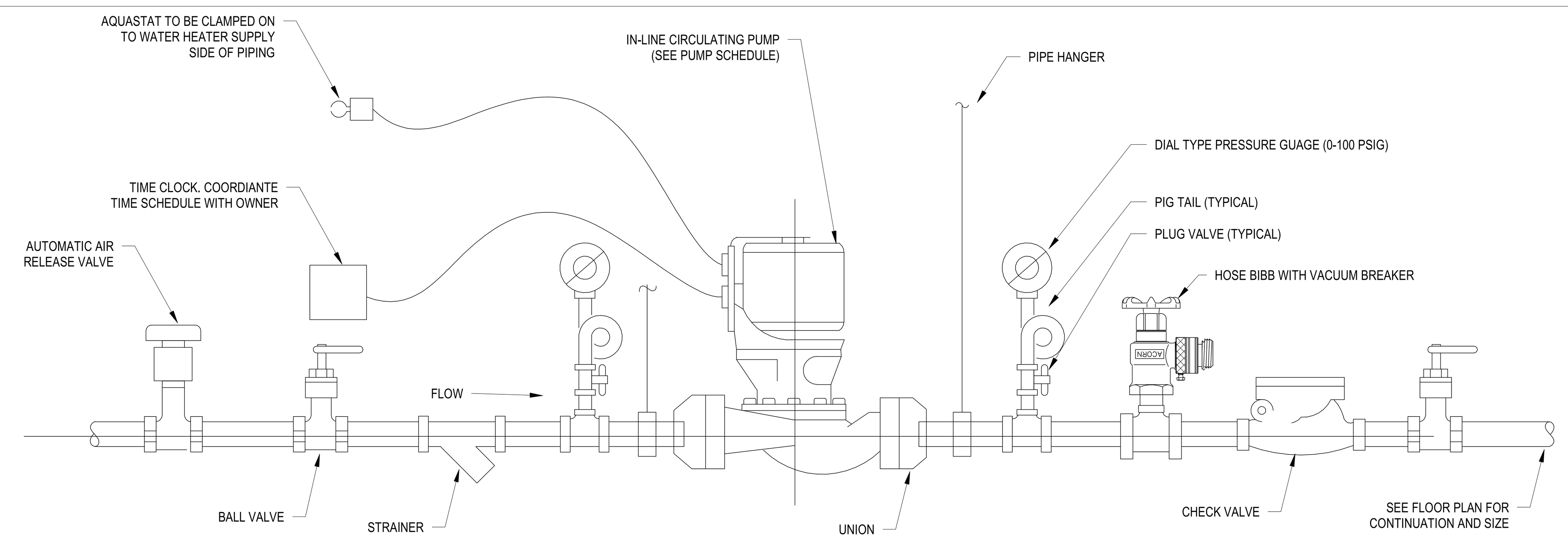
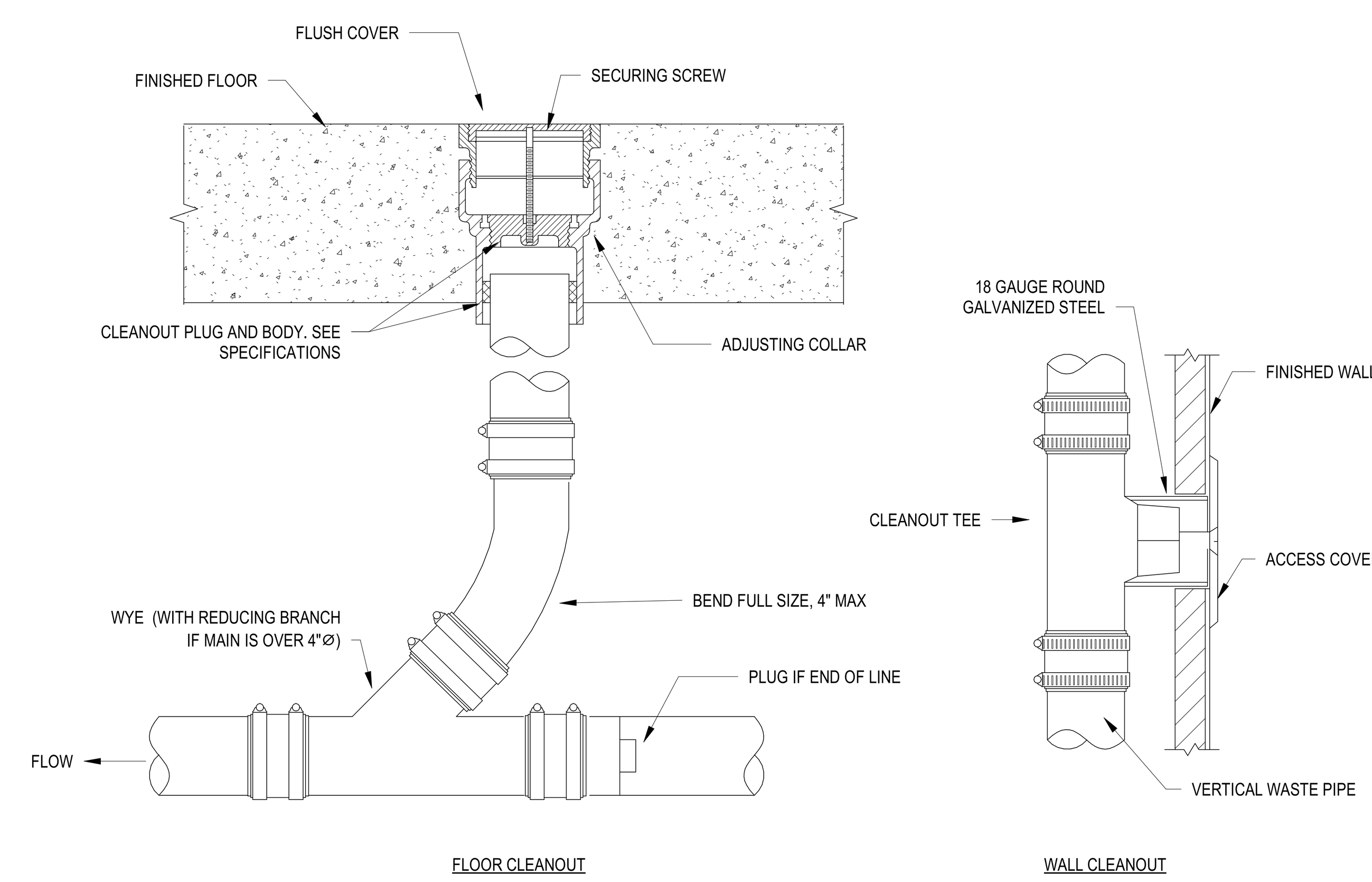
SHEET TITLE
PLUMBING ENLARGED PLANS

SHEET NUMBER
P4-01

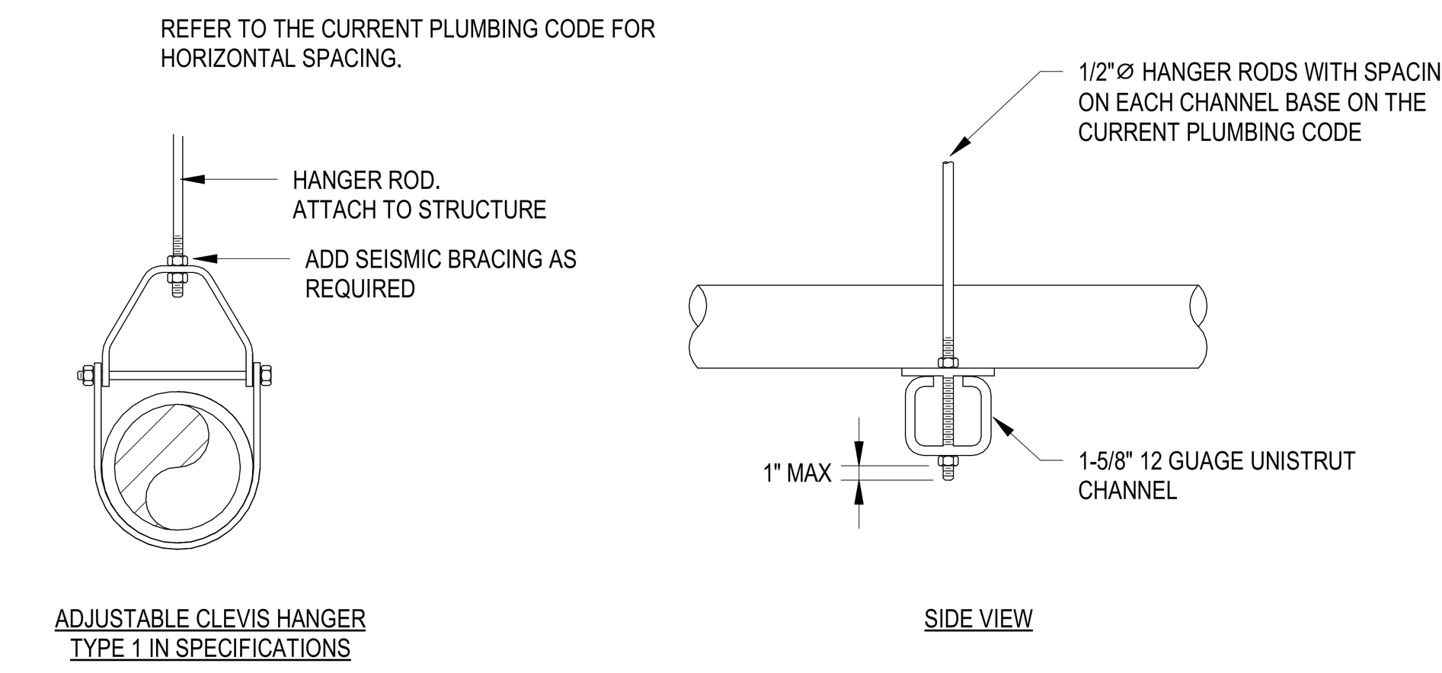
SEAN O. EISLER



1 HOT WATER RECIRCULATING PUMP DETAIL
NTS



2 CLEANOUT DETAILS
NTS



3 PIPE HANGER DETAIL
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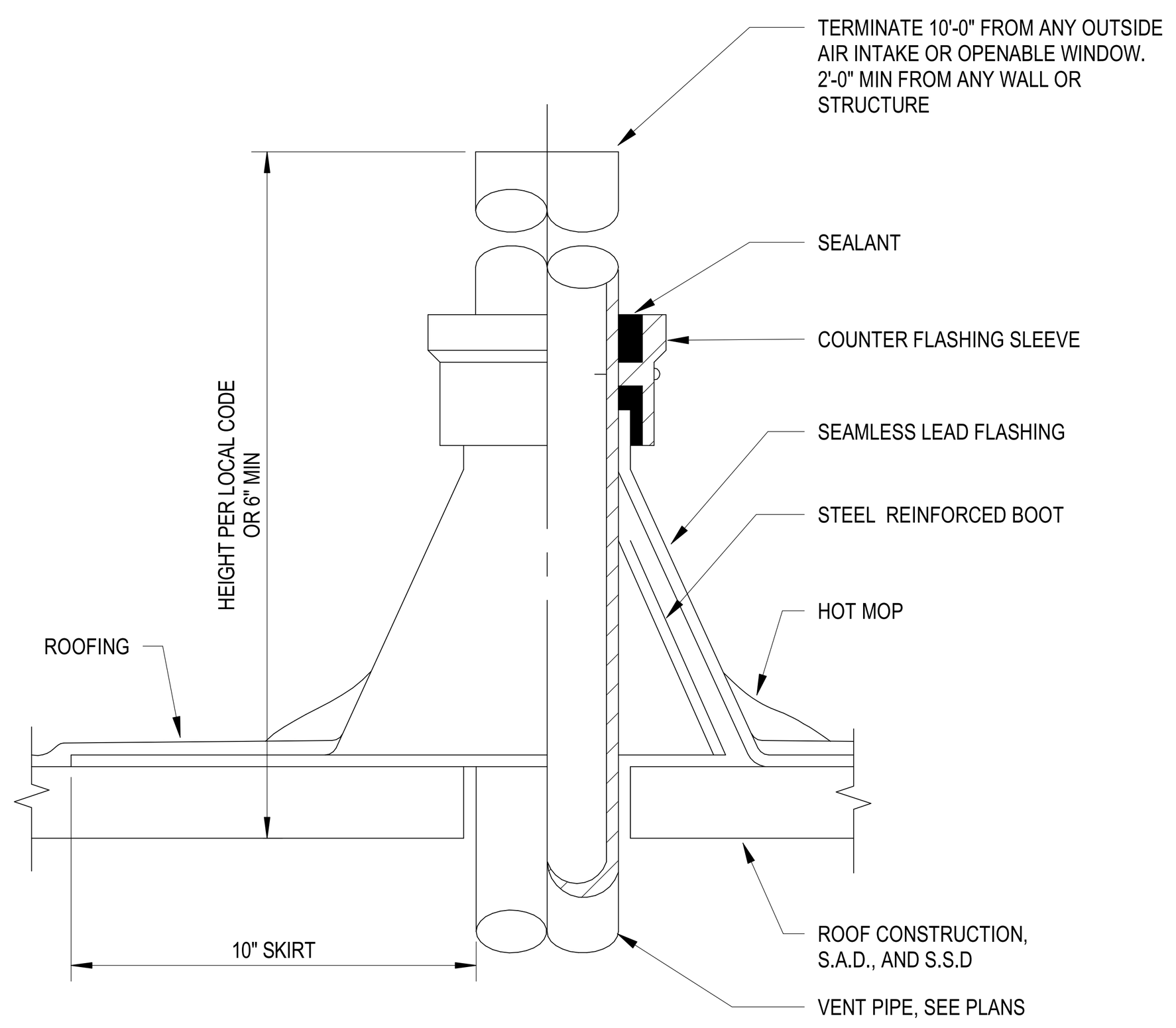
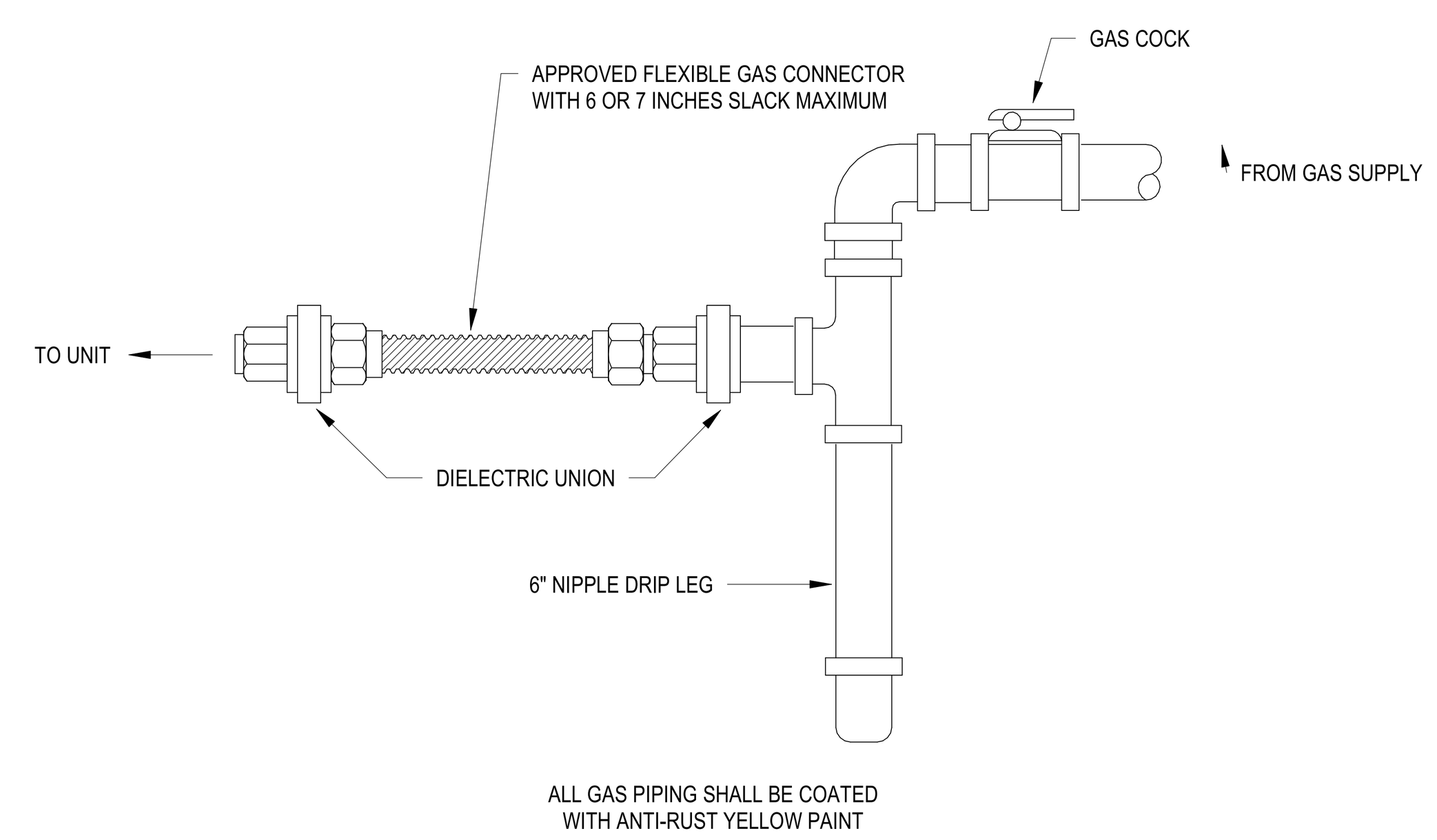


4 VENT THRU ROOF DETAIL
NTS



5 GAS PIPING CONNECTION DETAIL
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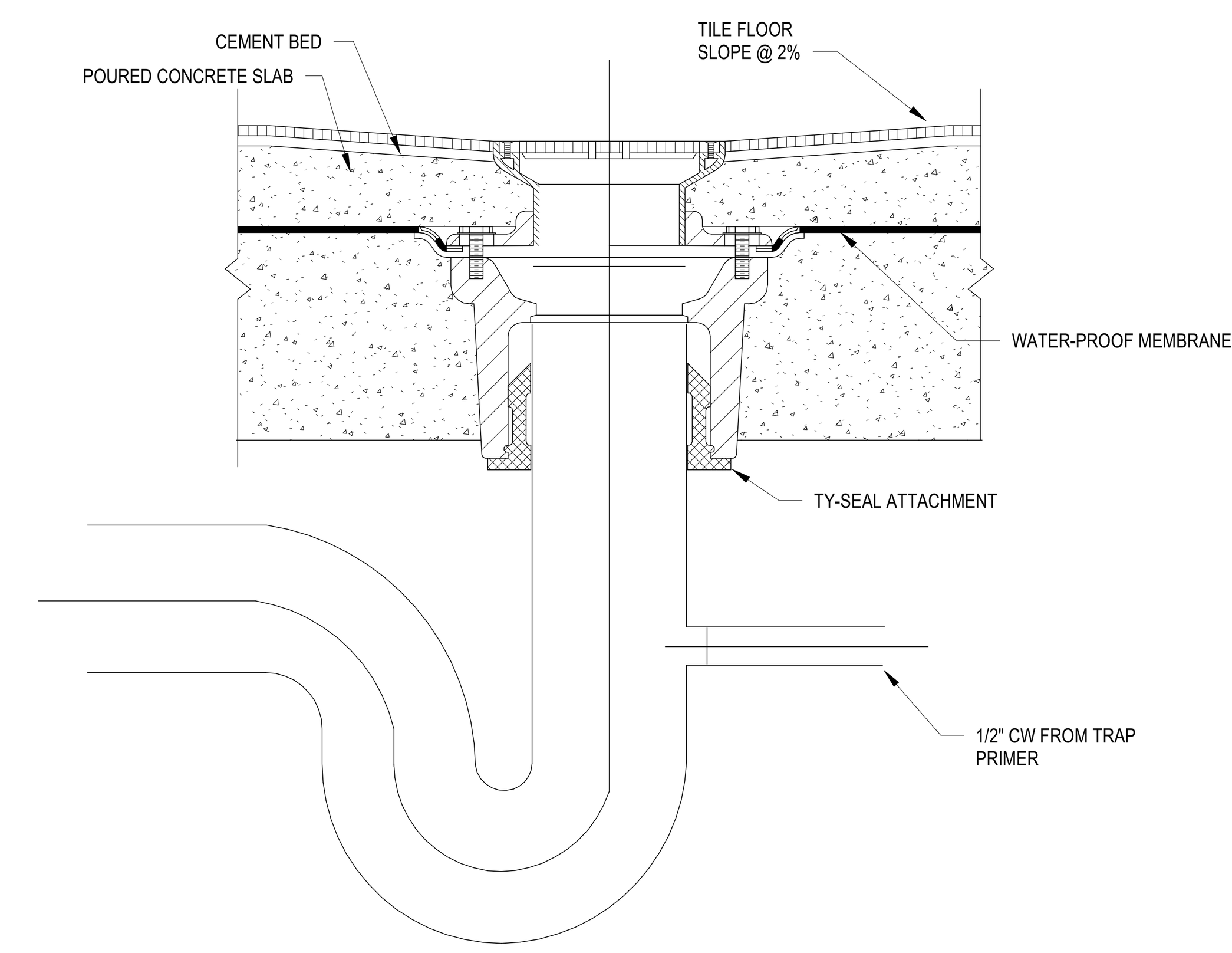

6 FLOOR DRAIN DETAIL
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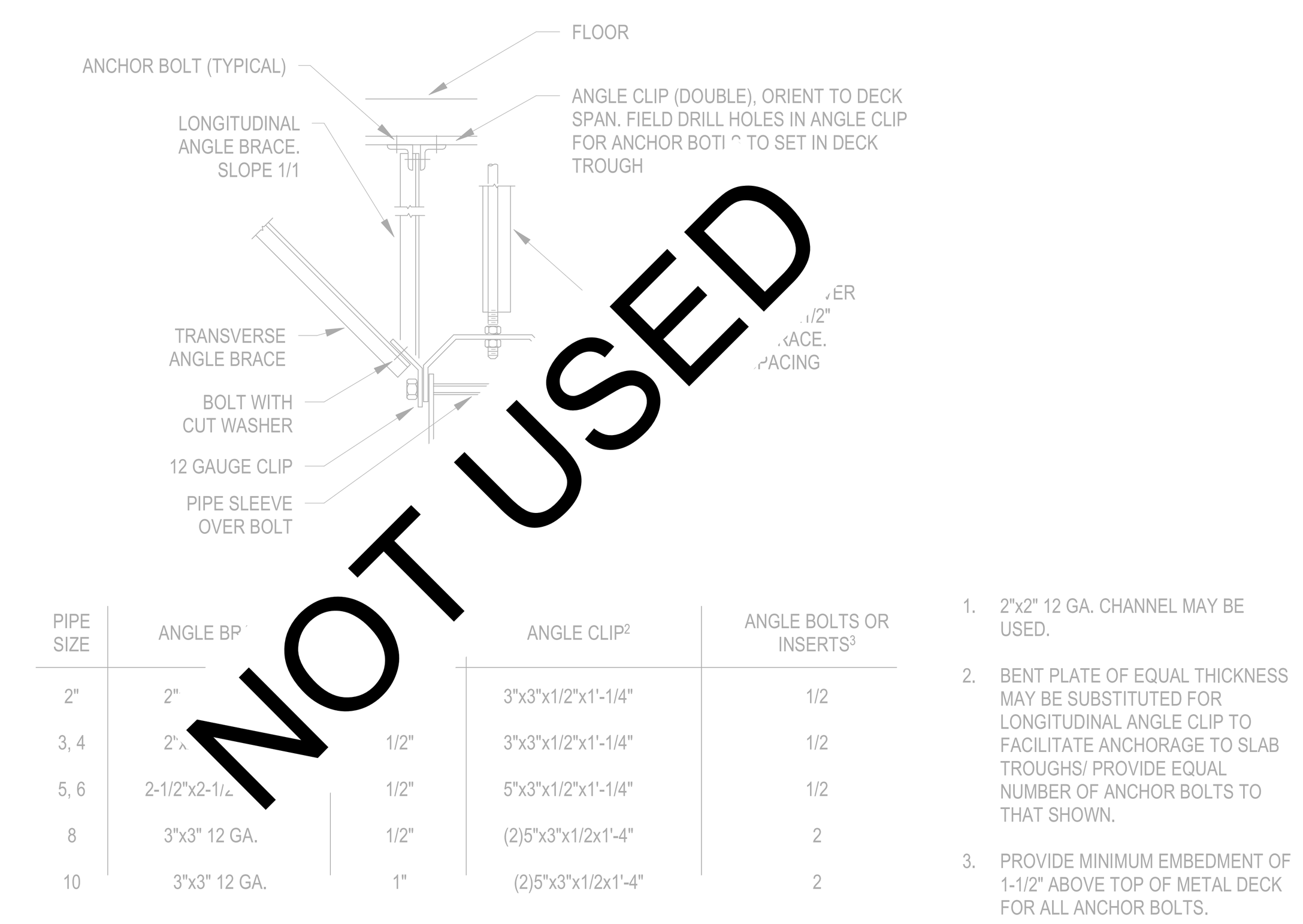

7 PIPE SUPPORT DETAIL
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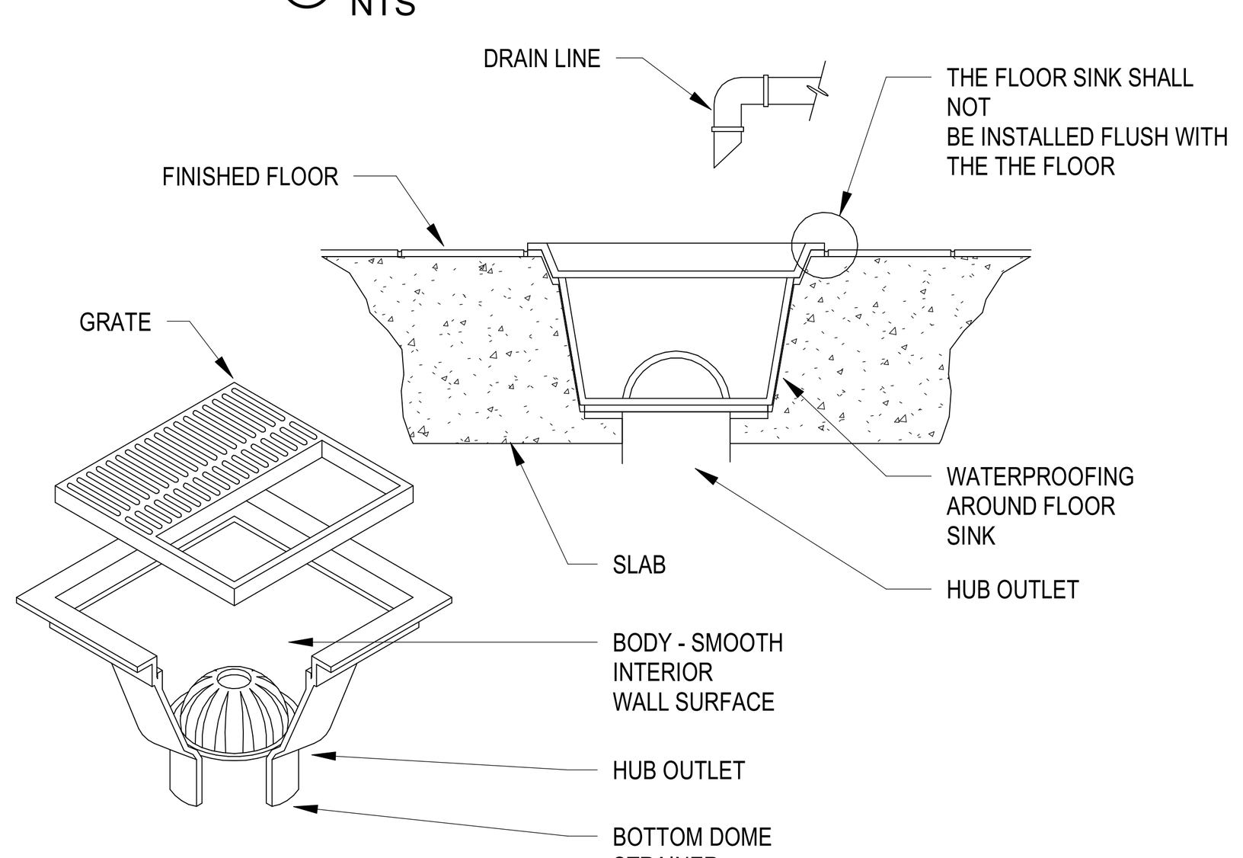

8 FLOOR SINK DETAIL
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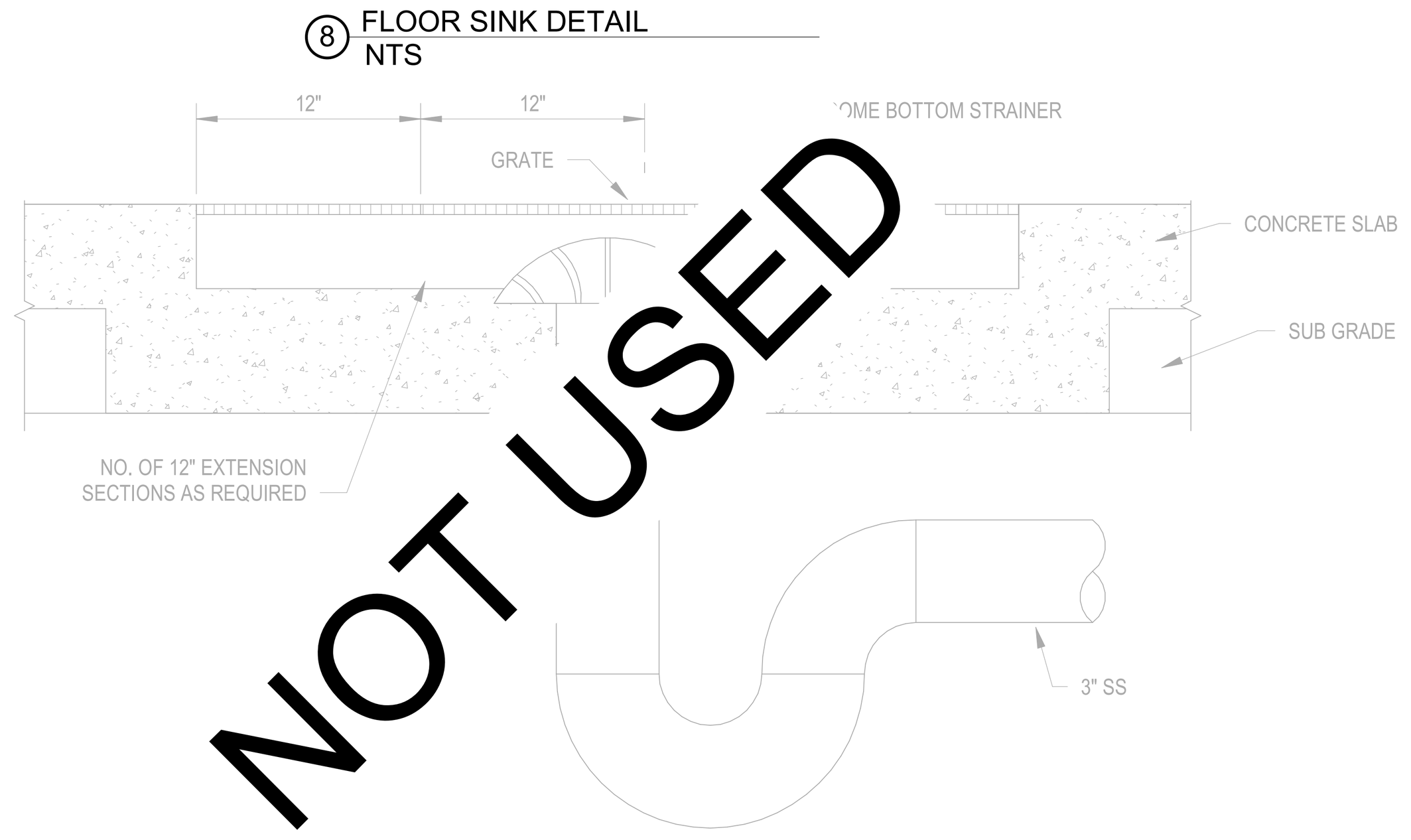

9 TRENCH DRAIN DETAIL
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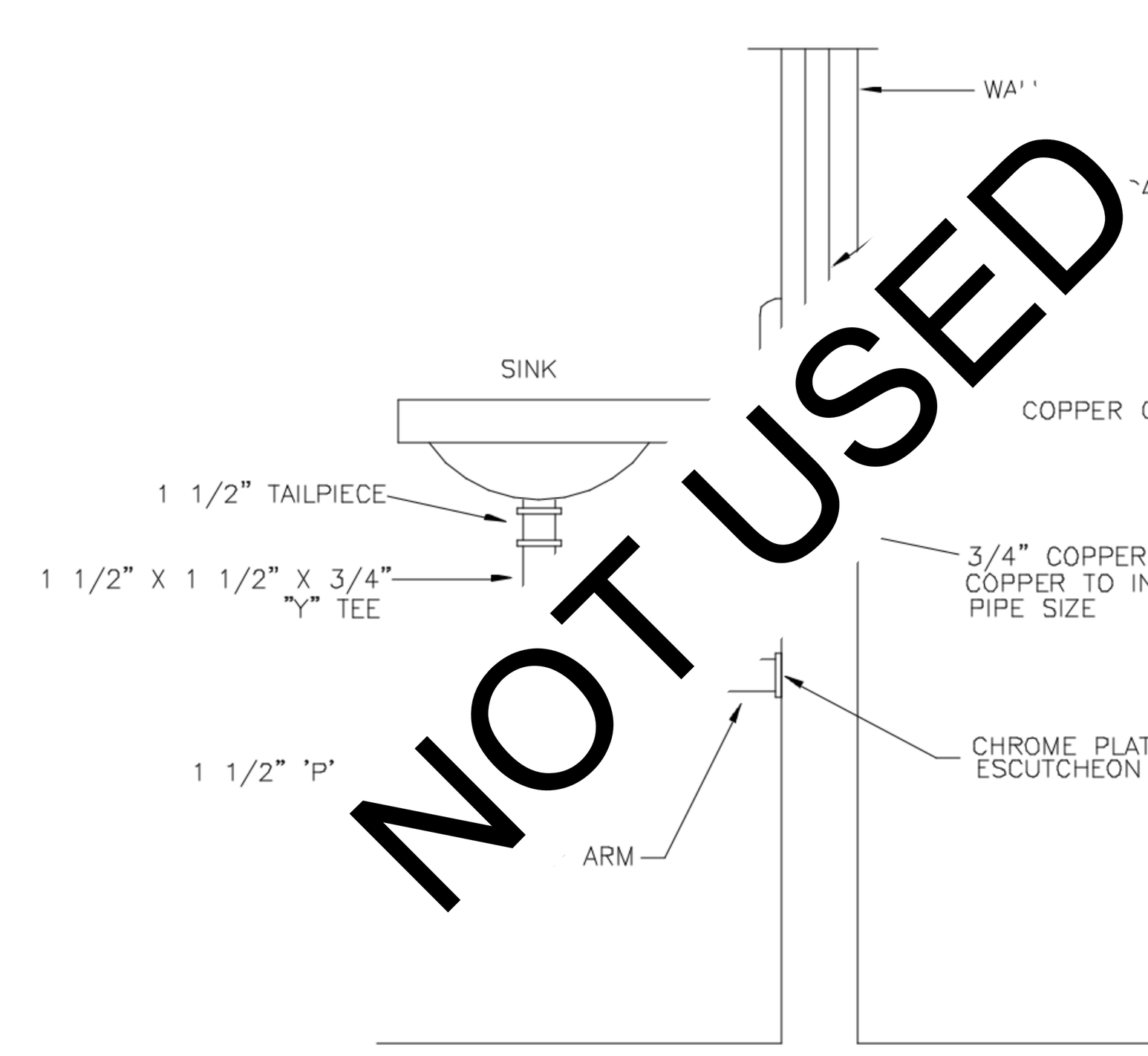

10 CONDENSATE DRAIN CONNECTION TO SINK TAILPIECE DETAIL
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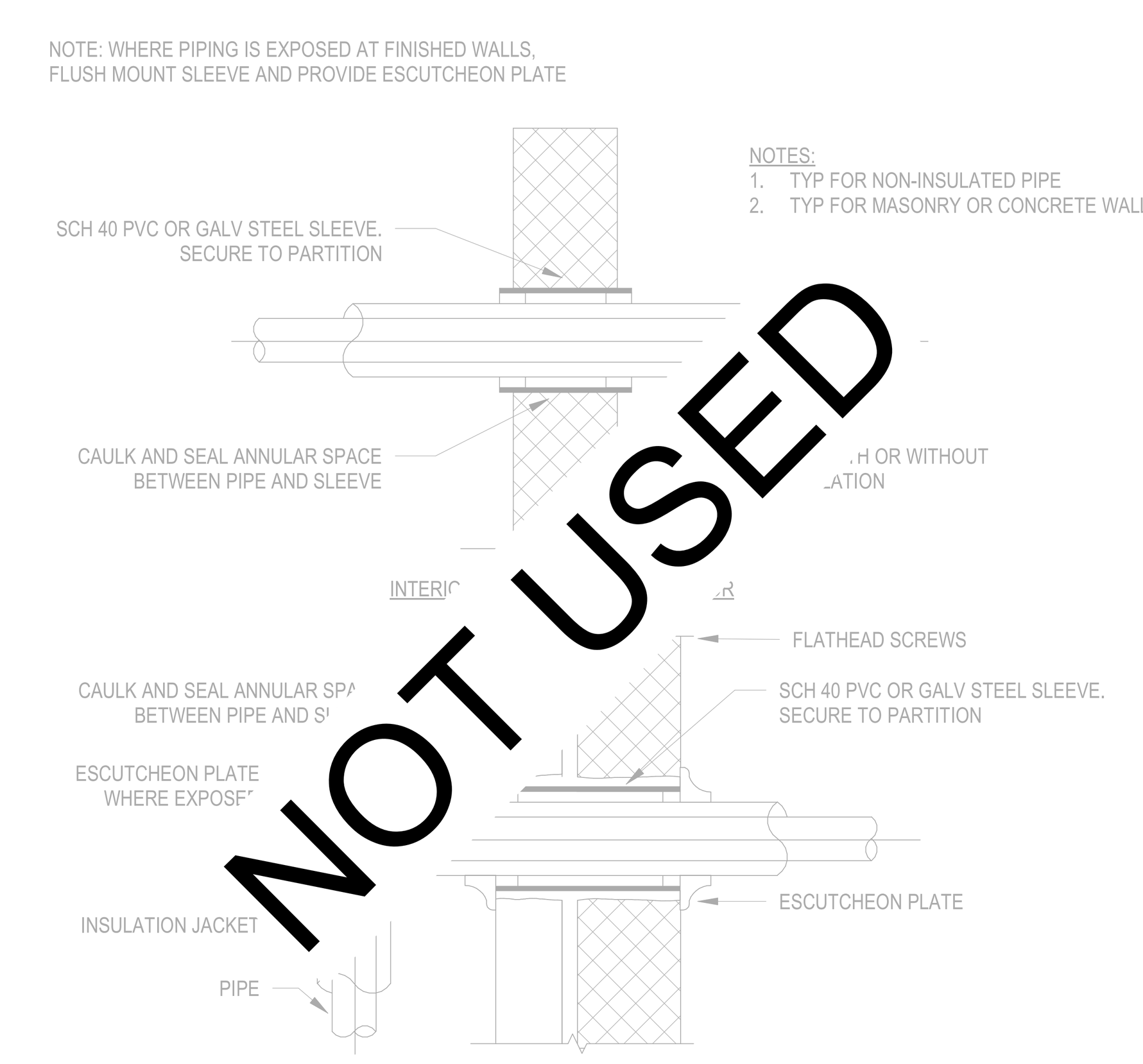

11 PIPE PENETRATION THRU WALL DETAIL
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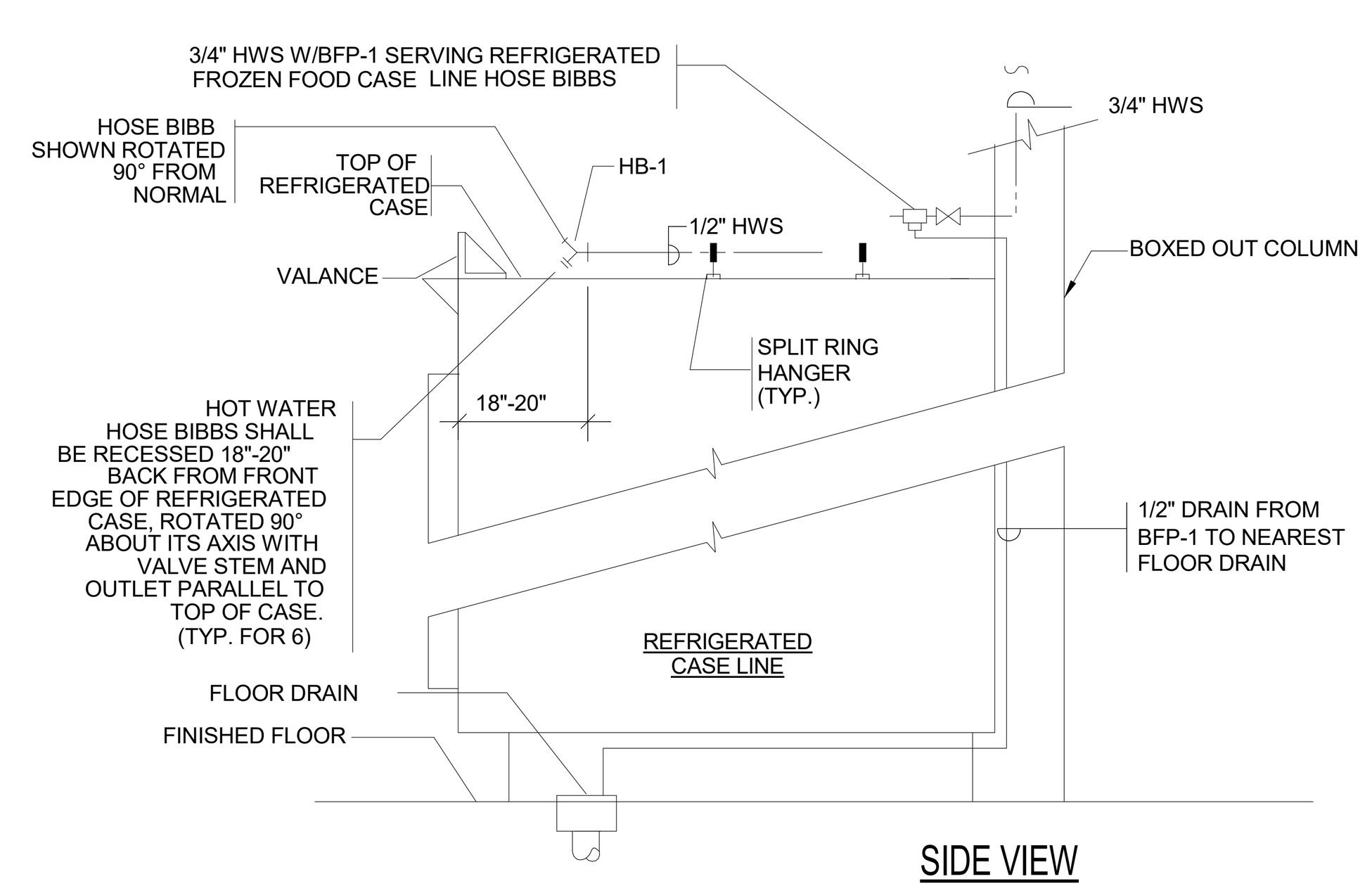

12 HOT WATER HOSE BIBB DETAIL
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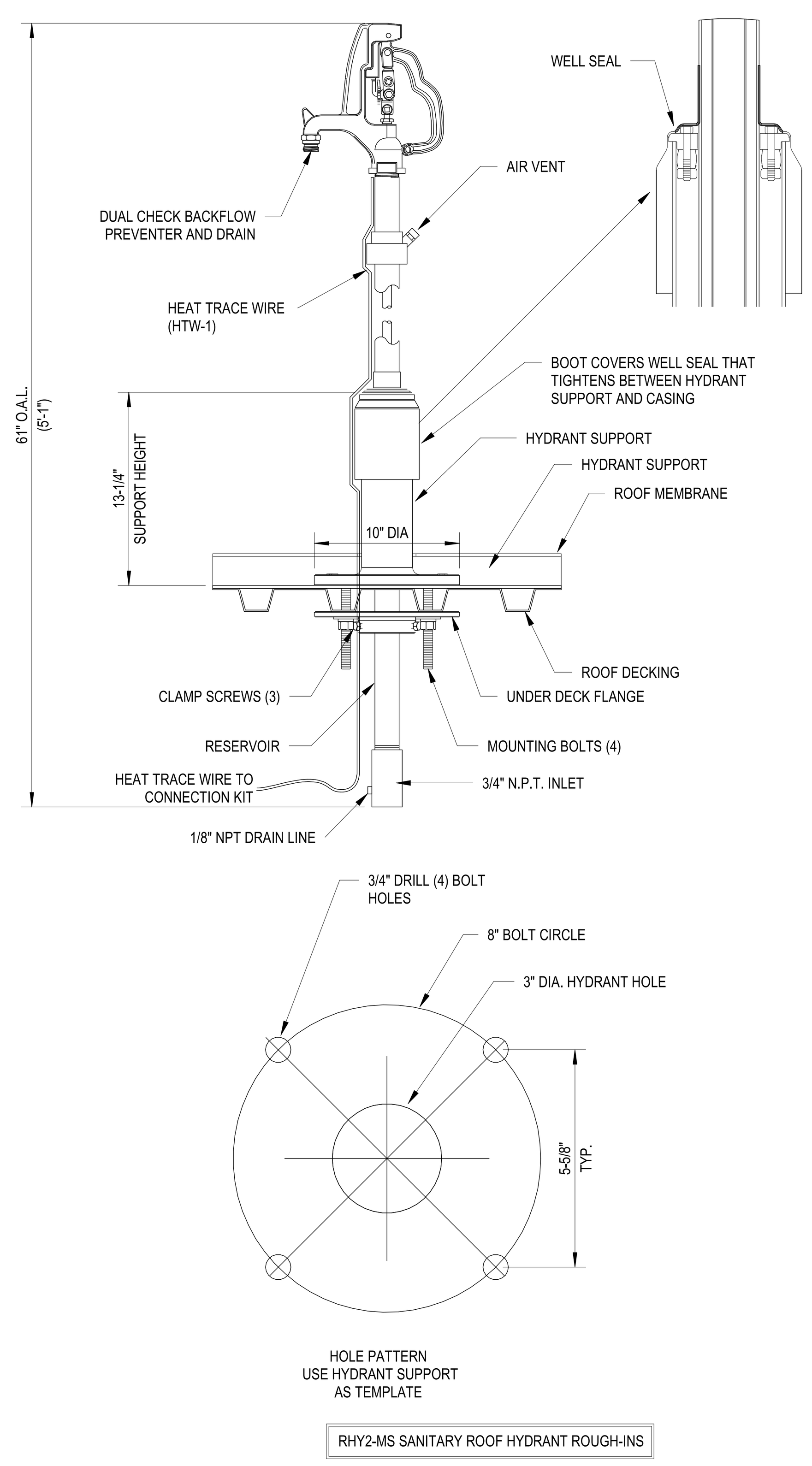
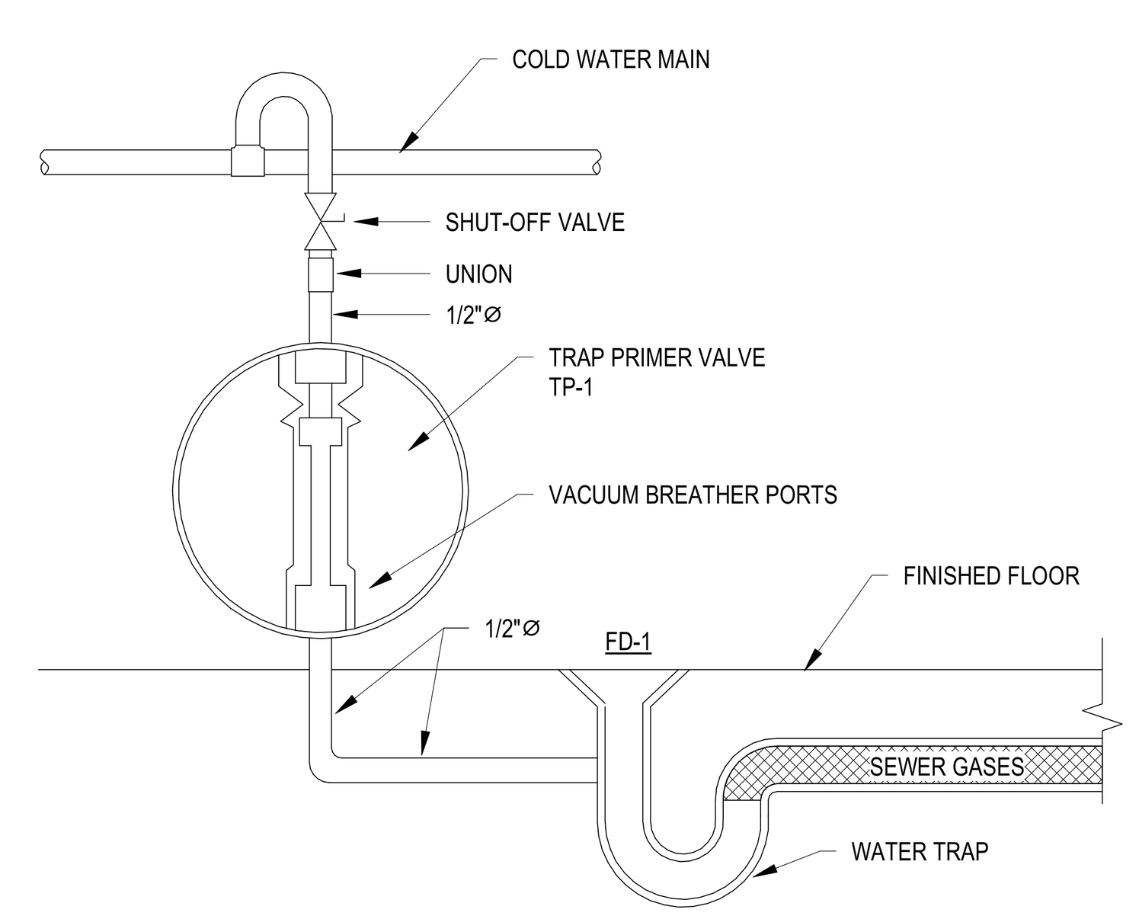
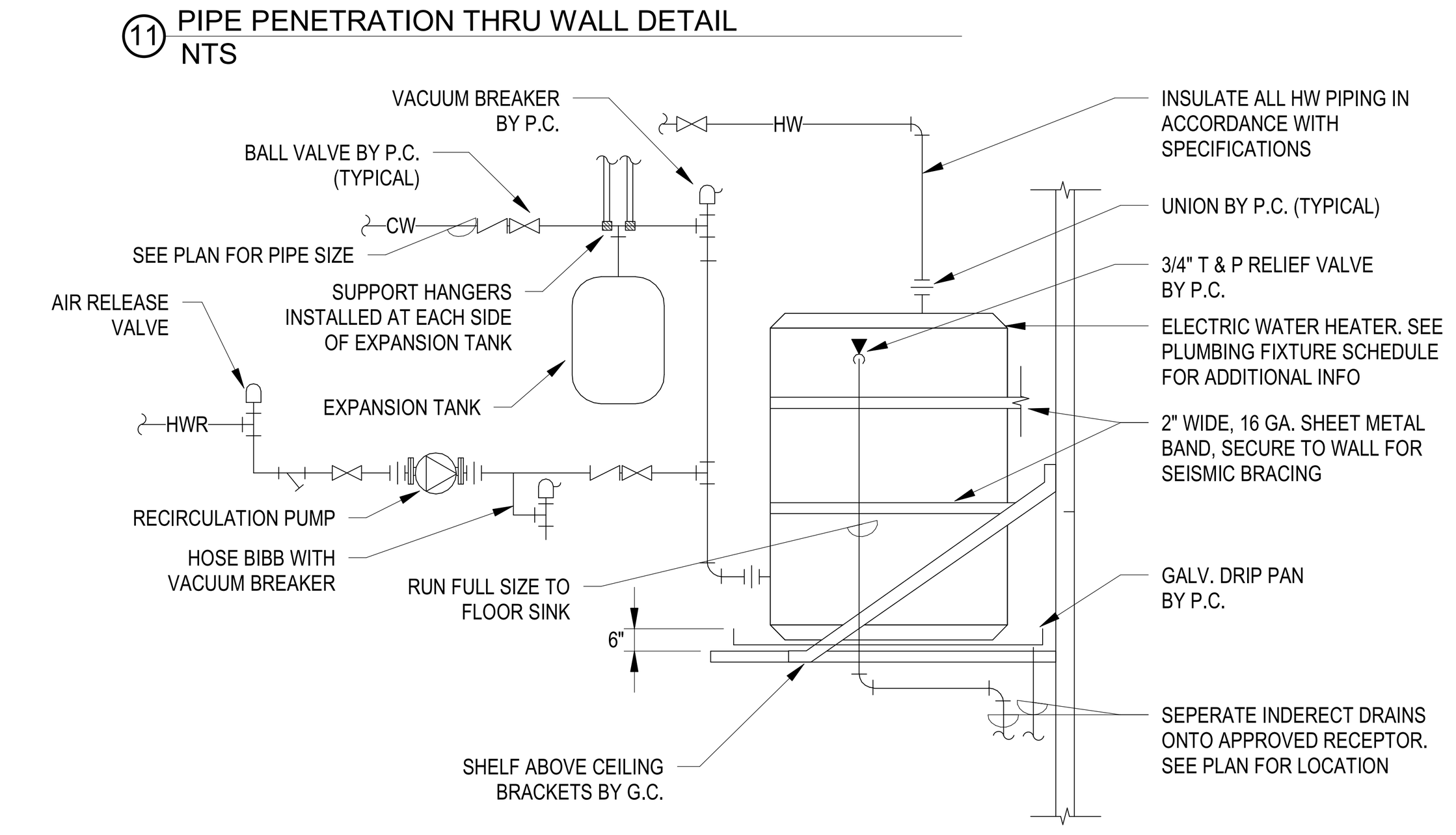


NOTES:
1. PIPING AND ROOF HYDRANT EXPOSED TO EXTERIOR SHALL BE WRAPPED IN MIN. 1" THICK INSULATION.

13 HOSE BIBB ON ROOF DETAIL
NTS



14 TRAP PRIMER DETAIL
NTS



NOTES
1. DRAIN PAN: MIN 1-1/2" DEEP, MIN THICKNESS 24 GAUGE AND SUFFICIENT SIZE AND SHAPE TO RECEIVE ALL DRIPPING WATER.

15 ELECTRIC WATER HEATER DETAIL
NTS

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
NOVEMBER 09, 2017
SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
C. ROMERO
DRAWN BY
C. ROMERO

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
PLUMBING DETAILS

SHEET NUMBER
P5-01

SEAN O. EISLER

TOTAL CONNECTED NATURAL GAS LOAD

MECHANICAL EQUIPMENT

EQUIPMENT DESIGNATION	QUANTITY	DESCRIPTION	CFH (EACH)	CFH (TOTAL)
AC 1	1	ROOF TOP UNIT	161	161
AC 2	1	ROOF TOP UNIT	161	161
AC 3	1	ROOF TOP UNIT	62	62
UH 1	1	UNIT HEATER	45	45
UH 2	1	UNIT HEATER	45	45
			TOTAL =	474
			TOTAL CONNECTED LOAD =	474

NATURAL GAS SYSTEM OPERATING PRESSURE:	2 PSI
NATURAL GAS SYSTEM SIZED WITH TOTAL DEVELOPED LENGTH FROM GAS METER TO MOST REMOTE PIECE OF EQUIPMENT:	250 FEET
SYSTEM DESIGN PRESSURE DROP:	1 PSI

HEAT TRACE WIRE SCHEDULE

EQUIPMENT I.D.	MANUFACTURER & MODEL	WATTS/FT	CIRCUIT LENGTH	START-UP TEMP	ELECTRICAL DATA			REMARKS
					VOLTAGE	PHASE	CB	
HTW1	nVENT RAYCHEM 5XLE1-CR	5	10 FT	40°F	120	1	15A	A, B, C

PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
WATER CLOSET (FLUSH VALVE)	1-1/4"	--	4"	2"
URINAL	1"	--	2"	2"
LAVATORY/ HAND SINK	1/2"	1/2"	2"	2"
DRINKING FOUNTAIN	1/2"	--	2"	2"
JANITOR'S SINK	3/4"	3/4"	3"	2"
WASHFOUNTAIN	1"	1"	2"	2"
FLOOR DRAIN	--	--	2"	2"
SINK	1/2"	1/2"	2"	2"

NOTE: PIPE SIZES SHOWN ARE MINIMUM.

PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE	BRANCH SIZES (MIN.) CW	HW	WASTE	VENT	MANUFACTURER	MODEL NUMBER	DESCRIPTION
DCV1	DOUBLE CHECK VALVE	3/4"	N/A	N/A	N/A	WATTS	LF719QT	MEETING ASSE 1015, LEAD FREE CAST BRONZE BODY, SCREW DRIVER SLOTTED TEST COCKS, QUARTER TURN BALL VALVES.
EMV1	EMERGENCY MIXING VALVE	1/2"	1/2"	N/A	N/A	POWERS	ES150AFN000	HYDROGUARD XP BRONZE BODY WITH ROUGH BRONZE FINISH, MEETING ASSE 1071, CORROSION RESISTANT INTERNAL PARTS, CHECK STOPS WITH REMOVABLE STRAINERS, DUAL INTERNAL COLD WATER BYPASS, PARAFFIN FILLED TEMPERATURE ELEMENT, VANDAL RESISTANT LOCKING MECHANISM TO SECURE TEMPERATURE SETTING, DIAL THERMOMETER ON OUTLET, CAPABLE OF 3.6 GPM WITH A 5 PSI DIFFERENTIAL AND A MINIMUM FLOW RATE OF 1.0 GPM. SET TEMPERATURE TO 80F.
EWC	ELECTRIC WATER COOLER	1/2"	N/A	2"	1-1/2"	OASIS	PG8EBFSL	WALL-MOUNTED, BARRIER FREE, DUAL-LEVEL, FRONT AND SIDE PUSH ACTIVATOR BARS, BOTTLE FILLING STATION, 8.0 GPH, 50°F. TAILPIECE, STOP VALVES, ESCUTCHEONS, SUITABLE CARRIER WITH STANCHIONS TO FLOOR. ELECTRICAL REQUIREMENTS: 120-VOLT, 3.7 FULL LOAD AMPS.
EWDH1	EYEWASH/DRENCH HOSE	NA	1/2"	N/A	N/A	GUARDIAN EQUIPMENT	G5026	WALL MOUNTED EYEWASH/DRENCH HOSE MEETING ANSI Z358.1-2014.WALL MOUNTED EYEWASH/DRENCH HOSE MEETING ANSI Z358.1-2014.
FCO	FLOOR CLEANOUT	N/A	N/A	SEE PLAN	N/A	ZURN	ZN1400	NO HUB, CAST IRON BODY, ABS PLUG, AND ADJUSTABLE, SECURED, NICKEL BRONZE, TOP. SCORIATED TOP FOR EXPOSED, FLUSH WITH FINISHED FLOOR.
FCV	FLOW CONTROL VALVE	N/A	3/4"	N/A	N/A	BELL & GOSSETT	CB-3/4 LF	LEAD FREE BRASS BODY AND BRASS BALL, CALIBRATED BALANCE VALVE, DIFFERENTIAL PRESSURE READOUT PORTS, DRAIN PORT, MEMORY STOP, NPT CONNECTION AND NAMEPLATE. SET FLOW RATE PER PLANS.
FD1	GENERAL FLOOR DRAIN	N/A	N/A	SEE PLAN	N/A	ZURN	Z415B	NEO-LOC, CAST IRON BODY AND CLAMPING COLLAR, ADJUSTABLE 6" ROUND NICKEL BRONZE STRAINER, AND TRAP PRIMER CONNECTION.
FS1	FLOOR SINK	N/A	N/A	SEE PLAN	N/A	ZURN	FD2375-NH-H-Y	CAST IRON BODY FLOOR SINK IN ACCORDANCE WITH ASME A112.6.7 WITH 1/2 GRATE, DOME STRAINER, AND SEDIMENT BUCKET. FLOOR SINK TO BE INSTALLED FLUSH WITH FLOOR.
FS2	FLOOR SINK	N/A	N/A	SEE PLAN	N/A	ZURN	FD2375-NH-F-Y	CAST IRON BODY FLOOR SINK IN ACCORDANCE WITH ASME A112.6.7 WITH FULL GRATE, ABS DOME STRAINER, AND SEDIMENT BUCKET. FLOOR SINK TO BE INSTALLED FLUSH WITH FLOOR.
HB1	HOSE BIBB	N/A	3/4"	N/A	N/A	WOODFORD	24P-3/4"	HOSE BIBB: WOODFORD # 24P-3/4", POLISHED CHROME PLATED BRASS 3/4" FEMALE INLET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE, AND ASSE 1011 INTEGRAL VACUUM BREAKER.
HS1	HAND SINK	1/2"	1/2"	1-1/2"	2"	KROWNE	HW-9L	9" X 9" SINGLE BOWL, STAINLESS STEEL. EQUIPPED WITH 0.5 GPM FAUCET.
LV1	LAVATORY (ADA)	1/2"	1/2"	2"	1-1/2"	AMERICAN STANDARD	LUCERNE 0356.421	WALL-HUNG, WHITE VITREOUS CHINA, SINGLE CENTER, WITH SELF METERING TOTO TEL105#CP, 0.5 GPM FAUCET, SELF-GENERATION HYDROPOWERED ECOPOWER SYSTEM, MAX 20 SECONDS CONTINUOUS FLOW.
MS1	MOP SINK	3/4"	3/4"	3"	2"	FLORESTONE	MSB-24-24	FLOOR MOUNT, 24" X 24" X 10" DEEP WITH WALLMOUNT MR-371 FAUCET, 8" CENTERS, 2 HANDLES, INTEGRAL STOPS, VACUUM BREAKER, HOSE-END SPOUT, WALL BRACE.
NW	NON-FREEZE WALL HYDRANT	3/4"	N/A	N/A	N/A	WOODFORD	RB65-P1	SATIN NICKEL PLATED BRASS 1" MALE INLET BY 3/4" FEMALE INLET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE, HYDRANT LENGTH AS REQUIRED FOR INSTALLED WALL THICKNESS, ADJUSTABLE WALL CLAMP, CHROME BOX AND INTEGRAL ASSE 1011 VACUUM BREAKER.
PRV1	PRESSURE REDUCING VALVE	SEE PLAN	N/A	N/A	N/A	WATTS	LFU5B-LP-GG-Z3	LEAD FREE BRONZE BODY WITH INTEGRAL STRAINER WITH STAINLESS STEEL SCREEN, STAINLESS STEEL SEAT, SEALED SPRING CAGE, INTEGRAL THERMAL BYPASS, 160F MAXIMUM OPERATING TEMPERATURE, 160 LB. PRESSURE GAUGE AND TAPPING, 3/4" INLET AND OUTLET, 10-35 PSI REDUCED PRESSURE RANGE. SET OUTLET PRESSURE TO 20 PSI.
RH1	NON-FREEZE ROOF HYDRANT	3/4"	N/A	N/A	N/A	WOODFORD	RHY2-1-MS	FREEZELESS ROOF HYDRANT, WITH BACKFLOW PREVENTER. PROVIDE WITH 1/4" DRAIN LINE. ROUTE TO NEAREST FLOOR SINK, DRAIN VIA AIR GAP.
SK1	COUNTERTOP SINK (ADA)	1/2"	1/2"	2"	1-1/2"	LUSTERTONE	LRAD 2222	22" X 22" SINGLE BOWL, STAINLESS STEEL, SELF-RIMMING WITH LKS35 STRAINER. PROVIDE WITH KOHLER K-72218 TOUCHLESS PULL-DOWN KITCHEN SINK FAUCET, 1.5 GPM, 120VAC.
TD1	TRENCH DRAIN (INTERIOR)	N/A	N/A	SEE PLAN	2"	ZURN	Z886-HDG	6" WIDE POLYETHYLENE BODY DRAIN SYSTEM WITH INTERLOCKING CHANNELS AND DUCTILE IRON HEAVY DUTY FRAME AND GRATE AND TOP CLASS "E", BOTTOM OUTLET. INSTALL 8" BEYOND JAMB OF DOOR.
TMV	THERMOSTATIC MIXING VALVE	SEE PLAN	SEE PLAN	N/A	N/A	POWERS	LFG480-00	LEAD FREE SOLID CAST BRASS BODY, THERMOSTATIC WAX ELEMENT, CORROSION RESISTANT INTERNAL PARTS, AND INTEGRAL CHECKS. MIN. FLOW RATE OF 0.25GPM. SET TO 100°F FOR LAVATORIES AND 120°F FOR HAND SINKS AND SNK. ASSE 1070 COMPLIANT
TP1	TRAP PRIMER	1/2"	N/A	N/A	N/A	PRECISION PLUMBING PRODUCTS	PR-500	CORROSION RESISTANT BRASS BODY, "O" RING SEALS, AND INTEGRAL VACUUM BREAKER. INSTALL MIN. 12" ABOVE FINISHED FLOOR. PROVIDE DU-U FITTING FOR MULTIPLE DRAIN CONNECTIONS.
WC1	WATER CLOSET (ADA)	1-1/4"	N/A	4"	2"	SLOAN	ST-2029	FLOOR MOUNTED BOWL, WHITE VITREOUS CHINA, 1.28 GPF, WITH BEMIS OPEN FRONT WHITE SEAT LESS COVER. PROVIDE WITH SLOAN SOLIS 8111-1.28-OR FLUSHOMETER, SOLAR-POWERED FLUSH VALVE
WCO	WALL CLEANOUT	N/A	N/A	SEE PLAN	N/A	ZURN	Z1446	NO HUB CAST IRON CLEANOUT TEE, COUNTER SUNK PLUG, SS ROUND COVER AND SCREW, AND IRON FLUG WITH GASKET SEAL.
WHA	WATER HAMMER ARRESTOR	SEE PLAN	N/A	N/A	N/A	MIFAB	MWH-A	HARD DRAWN COPPER BODY WITH WROUGHT COPPER FITTINGS, PISTON TYPE WITH LUBRICATED EPDM "O" RING SEALS, MEETING ASSE 1010 OR PDI WH-201. PROVIDE SIZE "A" UNLESS OTHERWISE NOTED.

PLUMBING PIPE MATERIAL SCHEDULE

SERVICES		CAST IRON NO-HUB	PVC SCH 40*	GALV. STEEL SCH 40	BLACK STEEL SCH 40	TYPE M COPPER*	TYPE L COPPER	TYPE K COPPER	REMARKS
COLD WATER/NON-POTABLE WATER	ABOVE GROUND						•		
	BELOW GROUND							•	
HOT WATER	ABOVE GROUND						•		
	BELOW GROUND							•	
WASTE	ABOVE GROUND	•	•						
	BELOW GROUND		•						
VENT	ABOVE GROUND	•	•						
	BELOW GROUND	•	•						
INDIRECT WASTE	INDOOR						•		
	OUTDOOR						•		
STORM DRAIN	ABOVE GROUND	•	•						
	BELOW GROUND	•	•						
NATURAL GAS	INDOOR				•				PAINTED WITH RUST INHIBITING PAINT
	OUTDOOR			•					

REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION. ABS DWV IS ACCEPTABLE IF ALLOWED BY THE AUTHORITY HAVING JURISDICTION.
CONTRACTOR TO PROVIDE BID ALTERNATE AND APPROVAL LETTER TO OWNER FOR CONSIDERATION.

PIPING INSULATION SCHEDULE

PIPE SIZE (INCHES)	INSULATION THICKNESS (INCHES)
<1	1"
1-1-1/2	1-1/2"
1/1/2-4	1-1/2"
4-<8	1-1/2"
8 & LARGER	1-1/2"

MINIMUM CONDENSATE PIPE SIZE

EQUIPIMENT CAPACITY (TON)	DCD PIPE DIAMETER
UP TO 20	3/4"
21-40	1"
41-90	1-1/4"
91-125	1-1/2"

PLUMBING SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.02

ANNOTATION

- PLUMBING PLAN NOTE CALLOUT
- PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- SECTION CUT DESIGNATION
- DEDICATED EQUIPMENT ACCESS TILE
- ACCESS PANEL

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING — NEW — DEMOLISH — FUTURE

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CP	CONDENSATE PUMP
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU	COPPER
DI	DUCTILE IRON
DN	DOWN
DFU	DRAINAGE FIXTURE UNIT
DS	DOWNSPOUT
(E)	EXISTING
EMS	ENERGY MANAGEMENT SYSTEM
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FF	FINISHED FLOOR
FL	FLOW LINE
FLA	FULL LOAD AMPS
FLR	FLOOR
GPM	GALLONS PER MINUTE
HD	HEAD, HUB DRAIN
HZ	HERTZ
IE	INVERT ELEVATION
IN WC	INCHES OF WATER COLUMN
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
KW	KILOWATT
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MH	MANHOLE
MIN	MINIMUM
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NIC	NOT IN CONTRACT
ORD	OVERFLOW ROOF DRAIN
PDI	PLUMBING DRAINAGE INSTITUTE
PH/Ø	PHASE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SF	SQUARE FEET
SP	SUMP
SS	STAINLESS STEEL SANITARY SEWER, SOIL STACK
TDH	TOTAL DYNAMIC HEAD
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VCP	VITRIFIED CLAY PIPE
VFD	VARIABLE FREQUENCY DRIVE
VS	VENT STACK
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNIT
WVS	WASTE VENT STACK

PIPING SYMBOLS/LINETYPES

- FLOOR SINK (FS), SIZE & TYPE
- FLOOR DRAIN (FD), SIZE & TYPE
- ROOF DRAIN (RD), SIZE & TYPE
- BALL VALVE
- CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- WATER METER
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- THERMOSTATIC MIXING VALVE
- PA — PIPE ANCHOR
- EXPANSION JOINT
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- UNION
- FLANGE CONNECTION
- HOSE BIBB (HB)
- NON-FREEZING WALL HYDRANT (NW)
- MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF VALVE
- PRESSURE / VACUUM SWITCH
- CLEANOUT
- CAP
- WALL CLEANOUT (WCO)
- FLOOR CLEANOUT (FCO)
- EXTERIOR CLEANOUT (ECO)
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT OFF VALVE (SOV)
- "A" — WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
- RECIRCULATION PUMP
- P-TRAP
- CW — DOMESTIC COLD WATER (CW)
- HW — DOMESTIC HOT WATER (HW)
- HWR — DOMESTIC HOT WATER RECIRC. (HWR)
- S — SOIL PIPING - ABOVE FLOOR (S)
- S — SOIL PIPING - BELOW FLOOR (S)
- ID — INDIRECT DRAIN (ID)
- CD — CONDENSATE DRAIN (CD)
- PD — CONDENSATE PUMP DISCHARGE (PD)
- V — VENT PIPING (V)
- VAC — VACUUM PIPING (VAC)
- EXISTING PIPING TO REMAIN
- EXISTING PIPING TO BE DEMOLISHED

RECIRCULATION PUMP SCHEDULE

MARK	MANUFACTURER	MODEL	GPM	HEAD (FT.)	ELECTRICAL DATA VOLTS	PH	HP	NOTES
RP1	BELL & GOSSET	NBF-10S/LW	1.3	12.1	120	1	1/40	A, B, C, D

NOTES:

A. ALL LEAD FREE CAST BRONZE BOOSTER.
B. PROVIDE WITH STRAINER UPSTREAM OF PUMP.
C. PROVIDE ADJUSTABLE, SURFACE MOUNTED AQUASTAT - HONEYWELL L6006C.
D. SET AQUASTA TO SHUT OFF RECIRCULATION PUMP AT WATER HEATER SET POINT AND ON AT 10F BELOW SET POINT.

PLUMBING EXPANSION TANK SCHEDULE

MARK	MANUFACTURER	MODEL	TANK SIZE (GALLONS)	MIN. ACCEPTANCE VOLUME (GALLONS)	NOTES
ET1	AMTROL	ST-5	2	0.9	A

NOTES:

A. CHARGE TANK WITH AIR TO IDENTICAL PRESSURE AS STATIC DOMESTIC WATER PRESSURE.

ELECTRIC STORAGE WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL#	TANK SIZE (GALLONS)	ELECTRICAL DATA VOLTS	PHASE	KW	RECOVERY (GPH)	NOTES
WH1	A.O. SMITH	#DEL-30	30	208	1	6	33	A, B, C, D, E

NOTES:

A. 45°F TEMPERATURE RISE WITH 120°F OPERATING TEMPERATURE.
B. DUAL ELEMENT WIRED FOR NON-SIMULTANEOUS OPERATION.
C. FURNISH WITH SURFACE MOUNT THERMOSTAT.
D. "LOW BOY" DESIGN.
E. FULL LINE SIZE T&P RELIEF DISCHARGE TO MOP SINK WITH AIR GAP.

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PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025

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CT
PROJECT MANAGER
CK
QUALITY CONTROL
CT
DRAWN BY
AH

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE SALEM, OR 97302

PROJECT NUMBER
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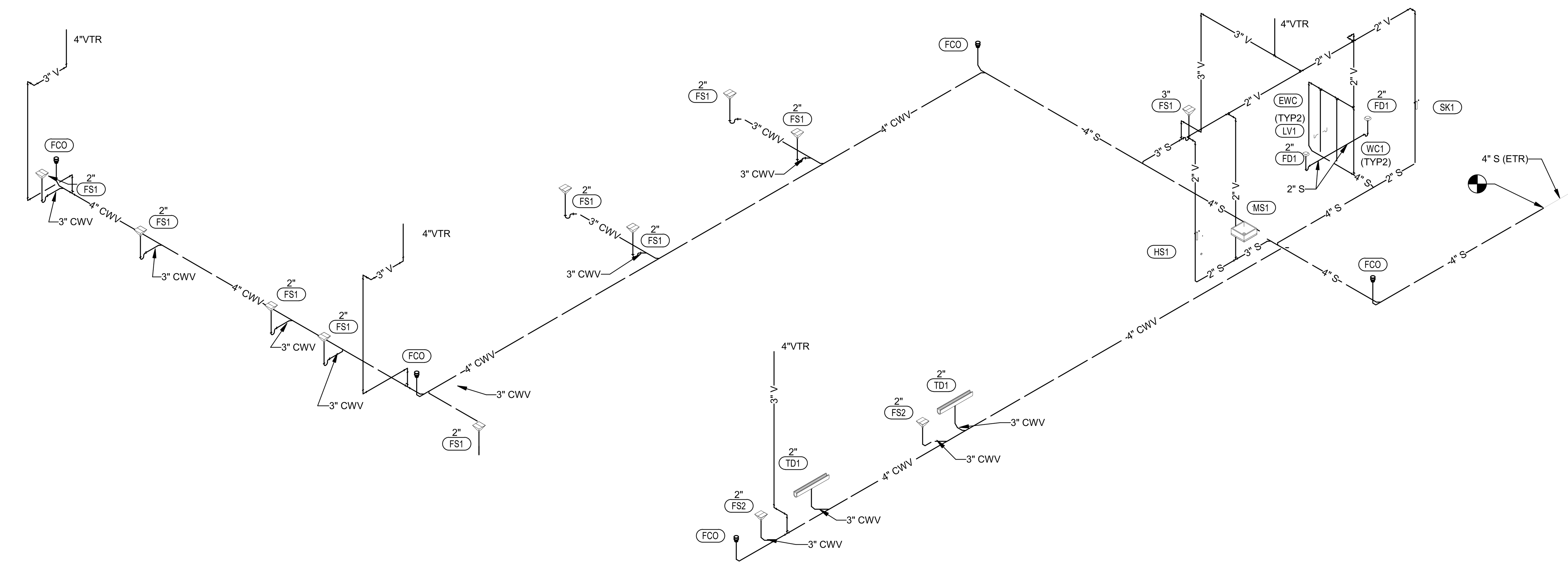
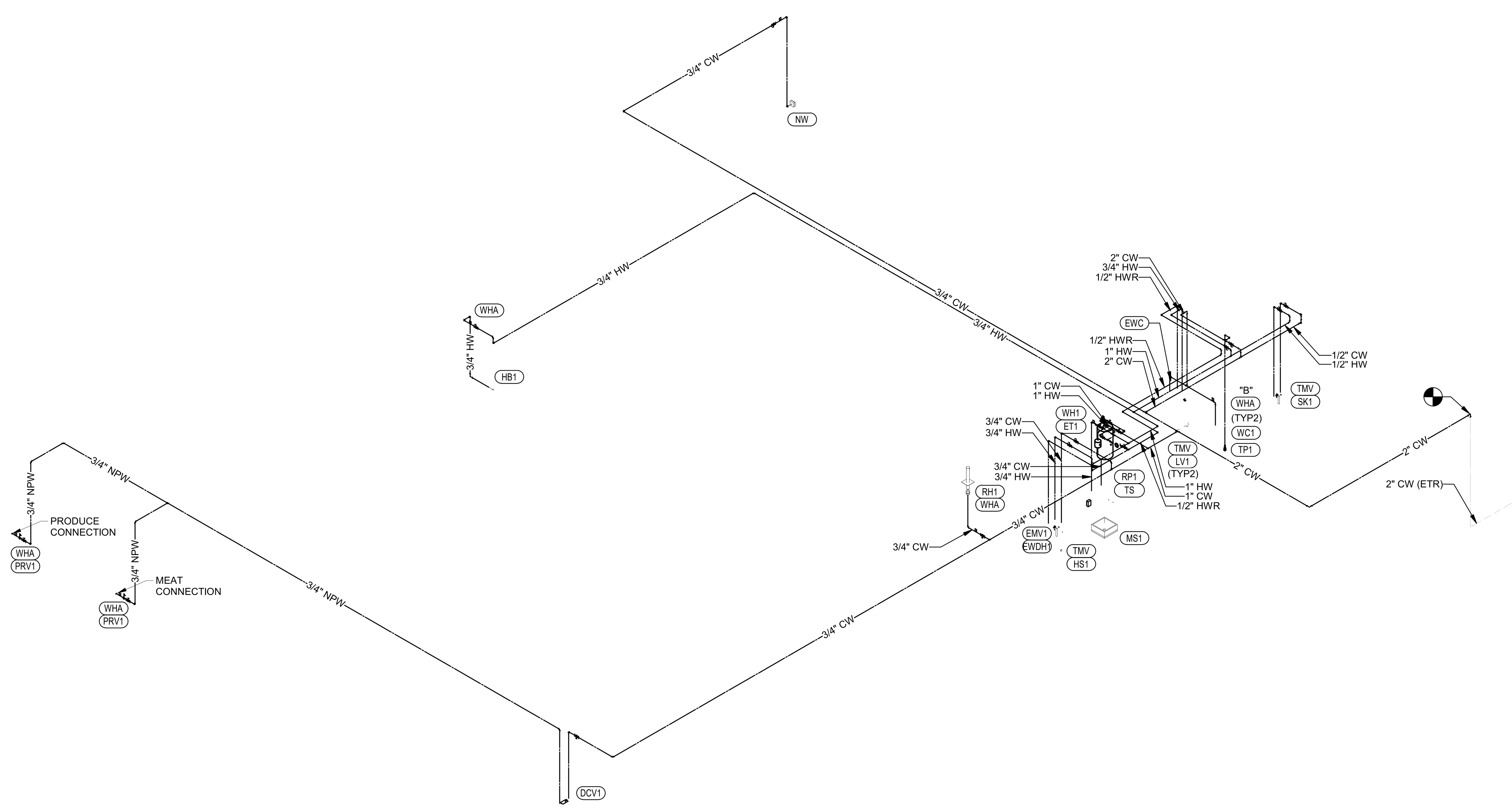
SHEET TITLE
FIXTURE SCHEDULE AND CALCULATIONS

SHEET NUMBER
P6-01

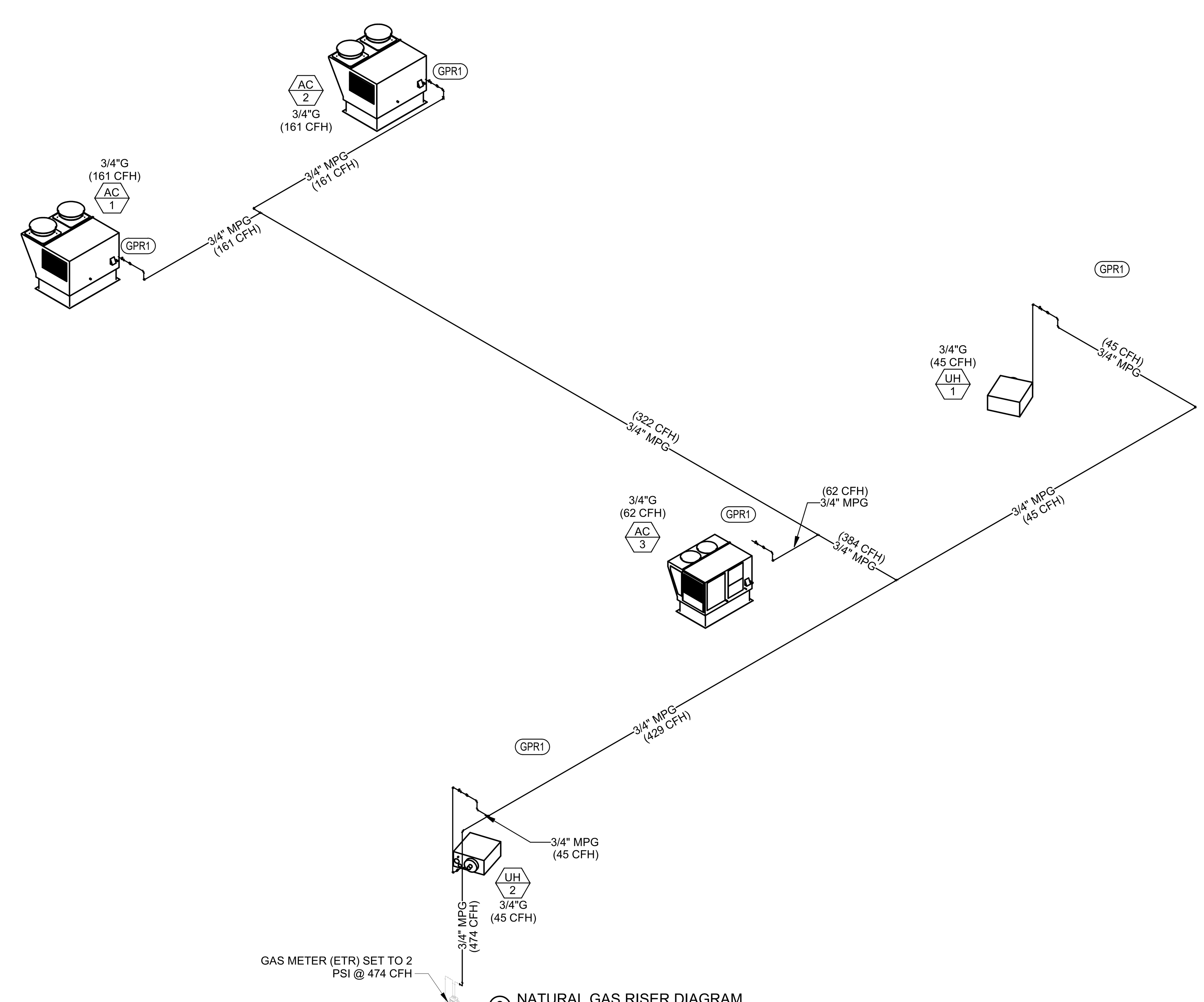
SEAN O. EISLER



1 WASTE AND VENT RISER DIAGRAM



2 DOMESTIC WATER RISER DIAGRAM



3 NATURAL GAS RISER DIAGRAM

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PLUMBING RISER DIAGRAMS

SHEET NUMBER

P9-01

SEAN O. EISLER

ELECTRICAL ABBREVIATIONS

1PH	SINGLE-PHASE
1P	SINGLE POLE
3PH	THREE-PHASE
4W	FOUR-WIRE
A/E	ARCHITECT/ENGINEER
AC	ALTERNATING CURRENT OR ARMORED CABLE
AF	AMPERE FRAME OR AMP FUSE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CAPACITY
ALT	ALTERNATE
AMP	AMPERE
ASC	AMPS SHORT CIRCUIT
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
BFF	BELOW FINISH FLOOR
BLDG	BUILDING
BRKR	BREAKER
C	CONDUIT
CCTV	CLOSED CIRCUIT TELEVISION
cd	CANDELA
CD	CONSTRUCTION DOCUMENTS
CKT	CIRCUIT
CLD	CURRENT LIMITING DEVICE
CLG	CEILING
COAX	COAX CABLE
COMM	COMMUNICATION
CONTR	CONTRACTOR
CL	CASE LIGHTING
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DISC	DISCONNECT
DS	DISCONNECT SWITCH
DWG	DRAWING
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EX OR (E)	EXISTING
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FM	FACTORY MOUNTED
FMC	FLEXIBLE METALLIC CONDUIT
FLUOR	FLUORESCENT
FT	FEET OR FOOT
FU SW	FUSED SWITCH
G OR GND	GROUND
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HT	HEIGHT
HZ	HERTZ
IESNA	ILLUMINATION ENGINEERING SOCIETY OF NORTH AMERICA
IMC	INTERMEDIATE METAL CONDUIT
IWH	INSTANTANEOUS WATER HEATER
J-BOX	JUNCTION BOX
kV	KILOVOLT
kVA	KILOVOLT AMPERE
kW	KILOWATT
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET (FOOT)
LTG	LIGHTING
LTG PNL	LIGHTING PANEL
LV	LOW VOLTAGE
MAX	MAXIMUM
MC	METAL-CLAD
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MIN	MINIMUM
MOCP	MAXIMUM OVERCURRENT PROTECTION
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
NA	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT OR N	NEUTRAL
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
OC	ON CENTER
P	POLE
PEND	PENDANT
PF	POWER FACTOR
PH	PHASE
PNL	PANEL
PROVIDE	FURNISH & INSTALL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE (PLASTIC)
PWR	POWER
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL
RM	ROOM
RMS	ROOT MEAN SQUARE
REQD	REQUIRED
SD	SMOKE DETECTOR
SF	SQUARE FOOT (FEET)
SPEC	SPECIFICATION
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TC	TIME CLOCK
TEL	TELEPHONE
TR	TAMPER-RESISTANT
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UC	UNDER COUNTER
V	VOLT
VA	VOLT AMPERE
VFD	VARIABLE FREQUENCY DRIVE
VOLT	VOLTAGE
W	WATT
WH	WATER HEATER
WP	WEATHERPROOF (NEMA 3R WHILE IN USE)
USE	UNDERGROUND SERVICE ENTRANCE
XFR	TRANSFER
XFMR	TRANSFORMER

ABBREVIATIONS LIST SHOWN IS FOR GENERAL REFERENCE ONLY. THE PRESENCE OF AN ABBREVIATION DOES NOT IMPLY ITS USE ON THIS PROJECT. REFER TO THE DRAWINGS FOR SPECIFIC ABBREVIATIONS USED.

ELECTRICAL GENERAL NOTES

1. ALL WIRE TO BE THHN/THWN COPPER, STRANDED EXCEPT WHERE NOTED OTHERWISE.
2. ALL DEVICES AND EQUIPMENT INSTALLED OUTDOORS OR EXPOSED TO THE WEATHER SHALL BE OF WEATHERPROOF CONSTRUCTION.
3. ALL DEVICES SHALL BE SPECIFICATION GRADE. ALL SINGLE AND GANGED PLATES SHALL BE THERMOPLASTIC AND SHALL MATCH THE DEVICE IN COLOR. COORDINATE DEVICE COLOR WITH THE ARCHITECT PRIOR TO INSTALLATION. GANG DEVICES AT GROUP LOCATIONS UNDER A SINGLE COVER PLATE.
4. THE ELECTRICAL PLANS ARE SCHEMATIC IN NATURE AND ARE NOT INTENDED TO SHOW ALL OF THE ARCHITECTURAL DETAIL OR SPECIFICS OF ELECTRICAL CONSTRUCTION. TAKE ALL DIMENSIONS FROM THE ARCHITECTURAL DRAWINGS.
5. NOTE: PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
   A. ELECTRICAL CODE: 2023 NATIONAL ELECTRICAL CODE
   B. BUILDING CODE: 2023 OREGON BUILDING SPECIALTY CODE
   C. ENERGY CODE: 2023 OREGON ENERGY EFFICIENCY CODE
6. ALL CONNECTIONS TO MECHANICAL EQUIPMENT SHALL BE MADE WITH A MINIMUM OF 24" OF WEATHERPROOF FLEXIBLE CONDUIT TO PREVENT SOUND AND VIBRATION TRANSMISSION TO THE STRUCTURE.
7. COORDINATE ALL MOTOR OVERLOADS AND/OR FUSES FURNISHED BY THIS CONTRACT WITH THE ACTUAL EQUIPMENT INSTALLED. SIZE OVERLOADS BASED ON MOTOR NAMEPLATE FULL LOAD CURRENT AND SERVICE FACTOR. FUSES FOR MOTOR AND TRANSFORMER CIRCUITS SHALL BE DUAL ELEMENT. FUSES FOR OTHER "NON-INRUSH" LOADS SHALL BE FAST ACTING. ALL FUSES SHALL BE CURRENT LIMITING CLASS RK5 OR CLASS L UNLESS OTHERWISE NOTED.
8. GROUNDING CONDUCTORS ARE GENERALLY NOT SHOWN. GROUND AND BOND ALL EQUIPMENT, RACEWAYS, MOTORS, PANELBOARDS AND SWITCHBOARDS, ETC. IN ACCORDANCE WITH NEC ARTICLE 250.
9. BONDING OF ALL INTERIOR METAL PIPING SHALL BE IN ACCORDANCE WITH NEC ARTICLE 250-90 AS FOLLOWS:
   a. ALL INTERIOR METAL WATER PIPING SHALL BE BONDED TO ONE OR MORE GROUNDING ELECTRODES USED. THE BONDING JUMPING SHALL BE SIZED IN ACCORDANCE WITH TABLE 250-66.
   b. INTERIOR METAL PIPING THAT MAY BECOME ENERGIZED (i.e. GAS PIPING, ETC.), SHALL BE BONDED TO ONE OR MORE GROUNDING ELECTRODES USED. THE BONDING JUMPER SHALL BE SIZED IN ACCORDANCE WITH TABLE 250-122, USING THE RATING OF THE CIRCUIT THAT MAY ENERGIZE THE PIPING.
10. INSTALL ALL WALL MOUNTED POWER, TELEPHONE AND DATA OUTLETS AT +18" A.F.F. UNLESS OTHERWISE NOTED. INSTALL ALL LIGHTING CONTROL SWITCHES, FIRE ALARM PULLSTATIONS, FIREMANS TELEPHONE JACKS, AND WALL TELEPHONE JACKS TO TOP OF BOX, UNLESS OTHERWISE NOTED. ALL HEIGHT MEASUREMENTS SHALL BE TO THE CENTERLINE OF THE DEVICE.
11. CONDUCTOR PENETRATION OF FIRE RATED PORTIONS OF A STRUCTURE SHALL BE EFFECTIVELY SEALED AND SLEEVED WITH STEEL FLEX 3 FEET EACH SIDE OF THE PENETRATION, OR OTHER APPLIED METHODS.
12. INSTALLATION INSTRUCTIONS FOR ALL LISTED EQUIPMENT SHALL BE MADE AVAILABLE TO THE BUILDING INSPECTOR AT THE TIME OF INSPECTION.
13. ALL LIGHT SWITCHES NOT WITHIN SIGHT OF LUMINAIRES SHALL BE EQUIPPED WITH A PILOT LIGHT.
14. WIRES FOR MECHANICAL CONTROLS AND FIRE ALARM SHALL BE IN CONDUITS WHERE REQUIRED BY CODES.
15. WIRES SHALL BE IN CONDUITS WHERE THERE IS EXPOSURE TO THE ELEMENTS OR POTENTIAL DAMAGE (FOR EXAMPLE, IN WAREHOUSE UNDER 10'-0").
16. A WORKING SPACE OF NOT LESS THAN 30 INCHES IN WIDTH, 36 INCHES IN DEPTH AND 78 INCHES IN HEIGHT SHALL BE PROVIDED IN FRONT OF ELECTRICAL SERVICE EQUIPMENT. NO STORAGE OF ANY MATERIALS SHALL BE LOCATED WITHIN THE DESIGNATED WORKING SPACE.
17. MULTIWIRE BRANCH CIRCUITS ARE NOT ALLOWED, UNLESS NOTED OTHERWISE. WHERE ALLOWED, PROVIDE MEANS THAT WILL SIMULTANEOUSLY DISCONNECT ALL UNDERGROUNDED CONDUCTORS AT THE POINT WHERE THE BRANCH CIRCUIT ORIGINATES.
18. ELECTRICAL CONTRACTOR SHALL FULLY REVIEW REFRIGERATION DRAWINGS AND SHALL INCLUDE IN BID ALL WORK THAT IS TO BE COMPLETED BY ELECTRICAL CONTRACTOR, INCLUDING ALL SWITCHES, CONDUITS, BELDEN CABLES, CONTROL WIRES, POWER WIRES ETC, AS CALLED OUT ON REFRIGERATION DRAWINGS FOR A COMPLETE AND OPERABLE REFRIGERATION SYSTEM. NO CHANGE ORDER SHALL BE ALLOWED.
19. COMMISSIONING AND OVERSEEING THE INSTALLATION OF ELECTRICAL SYSTEMS SHALL BE PERFORMED BY OTHERS.
20. NEC 110.2 APPROVAL:ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
21. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5%.
22. CONTRACTOR SHALL REVIEW MEP REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT WITH EQUIPMENT MANUFACTURER PRIOR TO BID. CONTRACTOR SHALL INFORM ENGINEER OF ANY DISCREPANCIES BETWEEN MANUFACTURER DATA AND WHAT IS SHOWN ON PLAN PRIOR TO BID. SHOULD OWNER URNISHED EQUIPMENT DIFFER FROM WHAT IS SHOWN ON PLAN AND CONTRACTOR NOT INFORM ENGINEER PRIOR TO BID, THEN NO CHANGE ORDERS WILL BE ACCEPTED OR APPROVED TO ACCOUNT FOR DIFFERENCES BETWEEN ACTUAL OWNER FURNISHED EQUIPMENT AND WHAT IS SHOWN ON PLAN.
23. NO ELECTRICAL PANELS ARE PERMITTED WITHIN TENANT DEMISING WALLS.
24. ALL RECEPTACLES AND APPLIANCES SHALL BE GFCI PROTECTED IN LOCATIONS REQUIRED BY CODE; THIS INCLUDES BATHROOMS, KITCHENS/FOOD PREP AREAS, EXTERIOR LOCATIONS AND RECEPTACLES WITHIN 6 FEET OF A SINK. GFCI DEVICES SHALL BE READILY ACCESSIBLE AND SHALL NOT BE LOCATED BEHIND OBSTACLES. LABEL WIRING DEVICES PROTECTED BY AN UPSTREAM GFCI DEVICE.

ELECTRICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V4.00

STANDARD MOUNTING HEIGHTS

AUDIBLE APPLIANCE (CENTERLINE)	84"
ALARM (TOP OF DEVICE)	46"
ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"
CONTROLS (TOP OF DEVICE)	46"
DATA WALL OUTLET	SAME AS ADJACENT DEVICE, UNO
EXIT SIGN (WALL MOUNTED)	92"
FIRE ALARM ANNUNCIATOR PANEL (TOP OF DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (TOP OF DISPLAY)	60"
INTERCOM (TOP OF DEVICE)	46"
PULL STATION (HANDLE)	46"
RECEPTACLE	16"
RECEPTACLE (ABOVE COUNTER)	+6" ABOVE BACKSPLASH/COUNTER, 40" MAX
RECEPTACLE (CLOCK) (CENTERLINE)	84"
RECEPTACLE (EQUIPMENT ROOMS) (TOP OF DEVICE)	46"
RECEPTACLE (EXTERIOR)	24"
RECEPTACLE (GARAGES)	24"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS) (TOP OF DEVICE)	46"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCH (TOP OF DEVICE)	46"
STARTER (TOP OF DEVICE)	46"
SWITCH (TOP OF DEVICE)	46"
TELEPHONE WALL OUTLET (TOP OF DEVICE)	46"
TELECOMMUNICATIONS BACKBOARD	6"
TELEVISION OUTLET	REFER TO DRAWINGS
VISIBLE APPLIANCE (CENTERLINE)	84"

INSTALL DEVICES/OUTLET BOXES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG TO BOTTOM, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING
DEMOLISH
NEW
FUTURE
ARTICLE 700 OR LIFE SAFETY*
ARTICLE 701 OR CRITICAL / EQUIPMENT BRANCH*
ARTICLE 702 OR OPTIONAL*

* APPLIES TO COLOR PLOTS ONLY

BRANCH CIRCUIT CONDUCTOR TABLE

WHERE TICK MARKS ARE NOT SHOWN, THE FOLLOWING SHALL GOVERN:

# OF POLES	HOT (PHASE)*	NEUTRAL (GROUNDED)**	GROUNDING***
1P	(1)	(1) UNO	(1)
2P	(2)	(1) UNO	(1)
3P	(3)	(1) UNO	(1)

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT (SWITCHED, UNSWITCHED/EM, ETC.) AS INDICATED THROUGHOUT CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

** REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL (GROUNDED) CONDUCTORS. DO NOT CIRCUIT AS A MULTI-WIRE BRANCH CIRCUIT, UNO.

*** PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE INDICATED.

REFER TO SPECIFICATIONS, PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR ADDITIONAL CIRCUITING REQUIREMENTS.

HATCHING LEGEND

ENLARGED PLAN

NOT IN SCOPE (NIS)

CIRCUITING & WIRING

7 5 3 OR P1-3,5,7 [R#] P1 — HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.
INDICATES RELAY NUMBER
CIRCUIT CONTINUATION OR PARTIAL CIRCUIT
CONDUIT CONCEALED
EM — CONDUIT CONCEALED (EMERGENCY)
CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION
EXPOSED CONDUIT
EM — EXPOSED CONDUIT (EMERGENCY)
FLEXIBLE CONDUIT
LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)
CONDUIT TURNING DOWN
CONDUIT TURNING UP
CONNECTION POINT OR EQUIPMENT TERMINATION
EQUIPMENT TERMINATION

ELECTRICAL ONE-LINE & RISER DIAGRAM

##A 3P — SWITCH (RATING AND POLES AS INDICATED)
##A 3P ##AT #### — DRAWOUT CIRCUIT BREAKER (RATINGS, POLES, TRIP SIZE AND BREAKER TYPE AS INDICATED)
##AS 3P ##AF #### — FUSED SWITCH (RATING, POLES, FUSE SIZE AND TYPE AS INDICATED)
##AS 3P ##AF #### NEMA# NEMA# — COMBINATION FUSED SWITCH/STARTER (RATING, POLES, FUSE SIZE, FUSE TYPE, NEMA STARTER SIZE, NEMA ENCLOSURE TYPE AS INDICATED)
##A 3P ##AT #### — CIRCUIT BREAKER (RATING, POLES, TRIP SIZE AND BREAKER TYPE AS INDICATED)
##A 3P ##AT #### NEMA# NEMA# — COMBINATION CIRCUIT BREAKER/STARTER (RATING, POLES, TRIP SIZE, BREAKER TYPE, NEMA STARTER SIZE, NEMA ENCLOSURE TYPE AS INDICATED)
PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
TX# — TRANSFORMER (TYPE AND RATINGS AS INDICATED)
TX# — SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
ATS# ##A — TRANSFER SWITCH (RATINGS AS INDICATED)
ATS = AUTOMATIC TRANSFER SWITCH
MTS = MANUAL TRANSFER SWITCH
NTS = NON-AUTOMATIC TRANSFER SWITCH
ATS# (W/BYPASS) ##A — TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
##KW GENERATOR 480Y/277V, 3Ø, 4W ##A, 3P M/G — GENERATOR (RATINGS AS INDICATED)
INDICATES CONNECTION TO GROUNDING ELECTRODE SYSTEM IF GENERATOR IS CONNECTED AS A SEPARATELY DERIVED SOURCE
MDP SWITCHBOARD ELEC ROOM ### AMPS 480Y/277V 3Ø 4W — SWITCHGEAR, SWITCHBOARD AND/OR DISTRIBUTION PANELBOARD (TYPE, RATING, DEVICES AND ACCESSORIES AS INDICATED)

AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
AM	AMMETER (RANGE AS SPECIFIED OR REQUIRED)
VM	VOLTMETER (RANGE AS SPECIFIED OR REQUIRED)
DIGITAL VM AM	COMBINATION DIGITAL VOLT METER/AMMETER
UTILITY METER M	UTILITY METER (AS REQUIRED BY UTILITY)
WH D 15	WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
	CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
	POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
###	CIRCUIT/EQUIPMENT IDENTIFICATION (REFER TO SCHEDULE)
ERMS	ENERGY-REDUCING MAINTENANCE SWITCH
GFR	GROUND FAULT RELAY
PFR	PHASE FAILURE RELAY
PRM	PHASE ROTATION MONITOR
R	RELAY
KK#	KIRK-KEY INTERLOCK (# INDICATES KEY PAIR)
ST	SHUNT TRIP
SPD	SURGE-PROTECTIVE DEVICE
VFD	VARIABLE FREQUENCY DEVICE
	GROUND CONNECTION
	GROUND CONNECTION WITH TEST WELL
	GROUND ROD
	LIGHTNING ARRESTER
	CAPACITOR
	CONTACT (OPEN OR CLOSED)
	HEATER
HP	MOTOR
##	BLOCK LOAD KW OR KVA
×F# ×FP#	FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET
	CONNECT TO EXISTING

COMMISSIONING/FUNCITONAL TESTING

CONTRACTOR'S BID SHALL INCLUDE PROVISIONS TO PROVIDE ALL SERVICES RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING INCLUDING A COMMISSIONING PLAN, FUNCTIONAL TESTING, AND RELATED DOCUMENTATION, REPORTS AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY. REFER TO THE LATEST ADOPTED EDITION OF THE APPLICABLE ENERGY CODE FOR MORE INFORMATION. CONTRACTOR SHALL COMPLETE ALL RELATED COMMISSIONING REQUIREMENTS PRIOR TO FINAL INSPECTIONS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CODE AND MANUFACTURER'S INSTRUCTIONS.

ELECTRICAL SYMBOL LIST

LIGHTING FIXTURES. REFER TO FIXTURE SCHEDULE ON ELECTRICAL LIGHTING PLAN FOR MORE INFORMATION.

SHADED REGION INDICATES EMERGENCY LIGHTING WITH BATTERY BACKUP

ILLUMINATED EXIT SIGN - CEILING/WALL (SHADED QUADRANT INDICATES FACE(S). PROVIDE DIRECTIONAL ARROWS WHERE INDICATED.

POLE MOUNTED LUMINAIRE

WALL MOUNT JUNCTION BOX - 18" AFF UNO OR CABINET MOUNT JUNCTION BOX

CEILING MOUNT JUNCTION BOX
- A = VIDEO DISTRIBUTION SYSTEM
- CRT = NETWORK SYSTEM
- E = ELECTRONIC POINT OF SALE (EPOS) SYSTEM
- F = FIRE ALARM SYSTEM
- P = PAGING SYSTEM
- S = SECURITY SYSTEM
- T = LOW VOLTAGE THERMOSTAT - 96" AFF UNO
- V1 = SINGLE 'F' CONNECTOR VIDEO DIST.COVERPLATE
- V2 = DUPLEX 'F' CONNECTOR VIDEO DIST. COVERPLATE
- OS = OCCUPANCY MOTION SENSOR SWITCH
- H = DOOR HOLDER
- PS = PHOTO SENSOR
- FSD = FIRE SMOKE DAMPER

SIMPLEX CONVENIENCE RECEPTACLE 20A, 125V, HUBBELL #5361.

DUPLEX CONVENIENCE RECEPTACLE 20A, 125V, HUBBELL #5362-I SHADED. OUTLETS ARE GFI TYPE

C — CONTROLLED RECEPTACLE

T — TWIST LOCK RECEPTACLE, SHADED OUTLETS ARE GFI TYPE

QUAD RECEPTACLE, SHADED OUTLETS ARE GFI TYPE

ISOLATED GROUND QUAD RECEPTACLE, SHADED OUTLETS ARE GFI TYPE
ISOLATED GROUND DUPLEX RECEPTACLE, SHADED OUTLETS ARE GFI TYPE
ALL ISOLATED GROUND RECEPTACLES ARE TO BE PROVIDED WITH AN INSULATED, ISOLATED GROUND CONDUCTOR FROM RECEPTACLE TO THE ISOLATED GROUND BUS IN THE PANEL.

SPECIAL PURPOSE RECEPTACLE - VOLTAGE AND AMPS AS REQUIRED BY EQUIPMENT AND INDICATED IN PANEL SCHEDULE. E.C. SHALL MATCH CORD AND PLUG.

J — PLUGSTRIP

C — CLOCK HANGER RECEPTACLE - 84" AFF UNO

POWER POLE

$ — SINGLE-POLE SINGLE-THROW SWITCH - 44" AFF UNO
- M MOTOR-RATED SWITCH
- HOA HAND-OFF-AUTO SWITCH
- SC SPEED CONTROL
- MSS MOTOR STARTER SWITCH
- OS OCCUPANCY (MOTION) SENSOR SWITCH
- D DIMMER SWITCH (WATTAGE AS NOTED.)

$2 — TWO-POLE SINGLE-THROW SWITCH - 44" AFF UNO
$3 — THREE-WAY SWITCH - 44" AFF UNO
$4 — FOUR-WAY SWITCH - 44" AFF UNO
$P — SWITCH AND PILOT LIGHT - 44" AFF UNO
NOTE: PILOT LIGHT IS ON WHEN SWITCH IS ON
$K — KEY-OPERATED SWITCH - 44" AFF UNO

TELEPHONE OUTLET - 18" AFF UNO WITH 3/4" EMPTY CONDUIT TO ABOVE SUSPENDED CEILING OR TO JOIST SPACE IN UNFINISHED SPACES.

TELEPHONE & DATA OUTLET - 18" UNO WITH 3/4" EMPTY CONDUIT TO ABOVE SUSPENDED CEILING OR TO JOIST SPACE IN UNFINISHED SPACES.

DATA OUTLET - 18" UNO WITH 3/4" EMPTY CONDUIT TO ABOVE SUSPENDED CEILING OR TO JOIST SPACE IN UNFINISHED SPACES.

NOTE: DIMENSIONS ARE TO CENTERLINE OF DEVICE OR BOX UNO.

CONTROL PANEL

PANELBOARD

T — TRANSFORMER

F — WATERFLOW SWITCH

T — TAMPER VALVE SWITCH

H — DOOR HOLDER

DB — DOOR BELL - 90" AFF UNO

BUZZER - 90" AFF UNO

SPEAKER - CEILING FLUSH MOUNT

MAGNETIC MOTOR STARTER

NON-FUSED SAFETY SWITCH (SWITCH FRAME RATING AS INDICATED ON PLAN)

FUSED SAFETY SWITCH (SWITCH FRAME RATING AS INDICATED ON PLAN). COORDINATE FUSE SIZE WITH MECHANICAL EQUIPMENT SCHEDULES

COMBINATION STARTER/SAFETY SWITCH

PUSH BUTTON STATION

T — LINE VOLTAGE THERMOSTAT - 48" AFF UNO

AH — ALARM LIGHT AND HORN

RS — R-NET SENSOR, 48" AFF UNO

OS — CEILING MOUNTED OCCUPANCY SENSOR

LIGHTING DIMMING MODULE HOME RUN

IPC — PHOTOCELL (IPC = INDOOR, PC = OUTDOOR)

\# — KEY NOTE

XX # — EQUIPMENT TAG (UPPER CODE - EQUIPMENT ID, LOWER CODE- EQUIPMENT NUMBER)

PANEL CKT # — BRANCH CIRCUIT HOME RUN TO PANELBOARD (UPPER CODE - PANEL ID, LOWER NUMERALS IDENTIFY CIRCUIT NUMBERS)

P1/35 2#10 & #10G — DEVICE WITH PANEL/CIRCUIT INDICATOR AND SPECIAL WIRING REQUIREMENTS NOTED

G — EQUIPMENT GROUND

GROUND CONNECTION AS NOTED

LOW VOLTAGE CABLE

EXISTING TO REMAIN

EXISTING TO BE DEMOLISHED

NEW DEVICE

TRANSFORMER

MOTOR

PNL X — ELECTRICAL PANEL

CIRCUIT BREAKER

FUSE

M — UTILITY SERVICE METER & CURRENT TRANSFORMER

SYMBOL LIST SHOWN IS FOR GENERAL REFERENCE ONLY. THE PRESENCE OF A SYMBOL DOES NOT IMPLY ITS USE ON THIS PROJECT. REFER TO THE DRAWINGS FOR SPECIFIC SYMBOLS USED.

ELECTRICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
E0-01	ELECTRICAL OVERVIEW SHEET
E0-02	ELECTRICAL SPECIFICATIONS
E1-11	LIGHTING PLAN
E1-12	INTERIOR EMERG. LIGHTING PHOTOMETRIC PLAN
E1-13	EXTERIOR LTG. PHOTOMETRIC PLAN
E1-21	POWER PLAN
E1-31	REFRIGERATION POWER PLAN
E1-51	ROOF POWER PLAN
E4-01	ELECTRICAL ENLARGED PLANS
E5-01	ELECTRICAL DETAILS
E5-02	ELECTRICAL DETAILS II
E6-01	ELECTRICAL SINGLE LINE DIAGRAM
E6-02	ELECTRICAL PANEL SCHEDULES
E7-01	COMPLIANCE FORMS

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER 96696PE DIGITALLY SIGNED OREGON NOV 10, 2020 MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE CO
PROJECT MANAGER JR
QUALITY CONTROL DWC
DRAWN BY MZ

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER 20230973.0

SHEET TITLE
ELECTRICAL OVERVIEW SHEET

SHEET NUMBER
E0-01

MICHAEL T. DERMYER

PART 1 - GENERAL

1.01 SCOPE OF WORK

FURNISH AND INSTALL ALL MATERIALS AND EQUIPMENT AND PROVIDE ALL LABOR, TOOLS, TRANSPORTATION, SUPERINTENDENCE AND SERVICESREQUIRED AND NECESSARY TO COMPLETE THE WORK SHOWN ON THE DRAWINGS AND/OR SPECIFIED HEREIN. ALSO INCLUDE ALL OTHER WORK AND MISCELLANEOUS ITEMS, NOT SPECIFICALLY MENTIONED, BUT REASONABLY INFERRED FOR A COMPLETE INSTALLATION INCLUDING ALL ACCESSORIES AND APPURTENANCES REQUIRED FOR TESTING THE SYSTEM. IT IS THE INTENT OF THE DRAWINGS AND SPECIFICATIONS THAT ALL SYSTEMS BE COMPLETE, AND READY FOR OPERATION.

1.02 REGULATORY REQUIREMENT

A. CODE COMPLIANCE IS MANDATORY. NOTHING IN THESE DRAWINGS AND SPECIFICATIONS PERMITS WORK NOT CONFORMING TO THESE CODES. WHERE WORK IS SHOWN TO EXCEED MINIMUM CODE REQUIREMENTS, COMPLY WITH DRAWINGS AND SPECIFICATIONS. ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST RULES, CODES AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
1. OCCUPATIONAL SAFETY AND HEALTH ACT STANDARDS (OSHA).
2. NFPA #70: NATIONAL ELECTRIC CODE (NEC).
3. NFPA #101: LIFE SAFETY CODE.
4. STATE FIRE MARSHAL
5. LOCAL UTILITY COMPANIES

B. LANDLORD REQUIREMENTS

1.03 LICENSE, FEES, AND PERMITS

ELECTRICAL CONTRACTOR SHALL PAY FOR ALL LICENSES, PERMITS AND INSPECTION FEES REQUIRED BY THE AUTHORITY HAVING JURISDICTION AND SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS.

1.04 SAFETY AND INDEMNITY

THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. NO ACT, SERVICE, DRAWING REVIEW OR CONSTRUCTION REVIEW BY THE OWNER, THE ENGINEERS OR THEIR CONSULTANTS, IS INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON, OR NEAR THE CONSTRUCTION SITE.

1.05 DRAWINGS AND SPECIFICATIONS

A. ALL DRAWINGS AND ALL DIVISIONS OF THESE SPECIFICATIONS SHALL BE CONSIDERED AS A WHOLE AND WORK OF THIS DIVISION SHOWN ANYWHERE THEREIN SHALL BE FURNISHED UNDER THIS DIVISION. DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF EQUIPMENT AND WIRING. MOST DIRECT ROUTING OF CONDUITS AND WIRING IS NOT ASSURED. EXACT REQUIREMENTS SHALL BE GOVERNED BY CONDITIONS OF THE JOB. CONSULT ALL OTHER DRAWINGS IN PREPARATION OF THE BID. EXTRA LENGTHS OF WIRING OR ADDITION OF PULL OR JUNCTION BOXES, ETC., NECESSITATE BY SUCH CONDITIONS SHALL BE INCLUDED IN THE BID.

1.06 CONDITIONS AT SITE

A. VISIT SITE OF THE WORK, COMPARE IT WITH THE DRAWINGS AND SPECIFICATIONS AS TO THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED, ASCERTAIN AND CHECK ALL CONDITIONS AND ELEVATIONS AND TAKE ALL MEASUREMENTS WHICH MAY AFFECT THE WORK. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE FOR ANY EXTRA EXPENSE OR CLAIMS DUE TO FAILURE OR NEGLECT UNDER THIS REQUIREMENT TO MAKE SUCH EXAMINATION, INCLUDING EXAMINATION OF RESTRICTED WORKING CONDITIONS OR SUCH OTHER DIFFICULTIES VISUALLY OBSERVED DURING SITE VISIT. CONTRACTOR IS RESPONSIBLE FOR BECOMING COMPLETELY FAMILIAR WITH THE ARCHITECTURAL AND STRUCTURAL CONDITIONS AND LIMITATIONS WHICH WILL EXIST IN THE BUILDING AND TO PROVIDE ALL LABOR, TOOLS AND MATERIALS REQUIRED TO PRODUCE A COMPLETELY CONCEALED INSTALLATION AS INDICATED ON THE PLANS, SPECIFICATIONS, AND REQUIRED BY THE CODE.

1.07 WORKMANSHIP AND CONTRACTOR'S QUALIFICATIONS

A. ONLY QUALITY WORKMANSHIP WILL BE ACCEPTED. HAPHAZARD OR POOR INSTALLATION WILL BE CAUSE FOR REJECTION OF WORK.

1.08 SUBMITTALS

A. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEER WITH SUBMITTAL PACKAGES FOR REVIEW FOR ALL EQUIPMENT SPECIFIED ON THESE DRAWINGS. CONTRACTOR IS ONLY PERMITTED TO PURCHASE SPECIFIED EQUIPMENT FOLLOWING RECEIPT OF REVIEWED SUBMITTALS IN COMPLIANCE WITH ALL OF ENGINEER'S COMMENTS. IF CONTRACTOR PURCHASES ANY SPECIFIED EQUIPMENT WITHOUT SUBMITTING A SUBMITTAL AND RECEIVING ENGINEER COMMENTS, THEN CONTRACTOR IS TAKING SOLE RESPONSIBILITY FOR THE ACCURACY OF PURCHASED EQUIPMENT AND IS SOLELY RESPONSIBLE FOR REPLACING SAID EQUIPMENT IF IMPROPERLY FURNISHED.

B. SUBMITTALS, UNLESS OTHERWISE NOTED, SHALL BE A SINGLE PACKAGE OF SIX (6) COPIES SUBMITTED TO OWNER FOR REVIEW. WORK SHALL NOT COMMENCE UNLESS SUBMITTALS HAVE BEEN APPROVED.

C. SUBMIT CUTSHEETS, MATERIAL DATA, AND SHOP DRAWINGS, AS NOTED BELOW. FOR REVIEW WITHIN FIFTEEN (15) DAYS AFTER AWARD OF CONTRACT. SUBMITTALS REQUIRED AS FOLLOWS:
1. BASIC ELECTRICAL MATERIALS INCLUDING BUT IS NOT LIMITED TO:
    a. WIRING DEVICES - RECEPTACLES, SWITCHES, FACEPLATES
    b. WIRES, CONNECTORS, TAPES, SPLICES, TERMINATIONS, AND ACCESSORIES
    c. RACEWAYS AND ACCESSORIES
    d. DEVICE IDENTIFICATION
2. ELECTRICAL EQUIPMENT
    a. POWER DISTRIBUTION EQUIPMENT - PANELBOARDS, SWITCHBOARDS, SWITCHGEAR, DISCONNECT SWITCHES, CIRCUIT BREAKERS, TRANSFORMERS, GENERATORS, INVERTERS, UPS, POWER DISTRIBUTION UNITS, ETC. B.) SERVICE ENTRANCE EQUIPMENT - BUS DUCT, TERMINATION CANS, METERED SWITCHBOARDS, ETC.
3. LIGHTING
    a. LIGHT FIXTURES AND SUPPORT DEVICES
    b. LAMPS AND BALLASTS - INCLUDE BALLASTS CERTIFICATION. BALLAST SHALL HAVE LOCAL DISCONNECTS.
    c. POLES
    d. CONTROLS - OCCUPANCY SENSORS, PHOTOCELL, LIGHTING CONTACTORS, LIGHTING CONTROL PANELS, DIMMERS, ETC.
    e. FIXTURE AND ASSEMBLY WATTAGES
    f. FOR PROJECTS THAT ARE SUBJECT TO CALIFORNIA ENERGY CODES, PROVIDE SUBMITTALS CONFIRMING THAT PRODUCTS SUBMITTED MEET THE REQUIRED MANDATORY MEASURES AS WELL AS MEETS MAXIMUM STATED ENERGY CONSUMPTIONS.

D. SUBMIT COMPLETE TEST REPORTS AND ANALYSIS FOR REVIEW WITHIN FIFTEEN (15) DAYS AFTER TESTING.

E. FOR LEED PROJECTS, SUBMIT LEED COMPLIANCE FORMS AT VARIOUS STAGES OF THE PROJECTS, OR AS REQUESTED.

F. SUBMIT ENERGY COMPLIANCE FORMS AT VARIOUS STAGES OF THE PROJECTS, OR AS REQUESTED.

G. SUBMIT VERIFIED PUNCHLIST TWO (2) WEEKS AFTER ISSUANCE DATE. INDICATE PUNCHLIST ITEMS THAT HAVE BEEN COMPLETED BY CONTRACTOR. INCLUDE DATE FOR REPUNCH.

1.09 SUBSTITUTIONS

A. ONE OR MORE MAKES OF MATERIALS OR METHODS MAY HAVE BEEN SPECIFIED TO ESTABLISH THE STANDARD OF QUALITY, WORKMANSHIP, FINISH, AND DESIGN REQUIRED, BUT OTHER MATERIALS OR METHODS EQUAL OR BETTER IN QUALITY, WORKMANSHIP, FINISH, DESIGN, AND GUARANTEED PERFORMANCE, MAY BE SUBMITTED FOR REVIEW AND APPROVAL AS SUBSTITUTION. ALL SUBSTITUTIONS ARE SUBJECT TO REVIEW AND APPROVAL BY ARCHITECT, ENGINEER, AND OWNER.

B. SUBSTITUTIONS SHALL BE REQUESTED IN A WRITTEN FORM AND SHALL BE ACCOMPANIED WITH A SIGNED STATEMENT THAT PROPOSED SUBSTITUTION IS EQUAL, OR BETTER THAN SPECIFIED. ADDITIONAL DOCUMENTATION TO SUBSTANTIATED PROPOSED SUBSTITUTION MAY BE REQUIRED BY OWNER, ARCHITECT, AND ENGINEER. CONTRACTOR SHALL SUBMIT AS DIRECTED.

C. CONTRACTOR SHALL ACCOMPANY REQUEST FOR SUBSTITUTION LETTER WITH A COMPLETED CSI SUBSTITUTION FORM INCLUDE THE COMPARISON FOR FOLLOWING:
1. ELECTRICAL RATING
2. FINISHES
3. SPARE PARTS
4. PERFORMANCE DATA
5. COSTS AND SCHEDULE

D. A WRITTEN SIGNED STATEMENT FROM THE GENERAL CONTRACTOR SHALL ACCOMPANY SUBSTITUTION REQUEST FORM ASSURING THAT:
1. HE HAS VERIFIED DIMENSIONS WITH PROJECT CONDITIONS AND HAS COORDINATED WITH OTHER TRADES. SUBSTITUTION DOES NOT AFFECTvDIMENSIONS SHOWN ON DRAWINGS.
2. HE SHALL PAY AND BURDEN THE COSTS FOR CHANGES TO THE PROJECT INCLUDING RE-DESIGN, RE-ENGINEERING AND REVIEW OF SUBSTITUTION. ONLY ONE (1) ENGINEERING REVIEW TIME IS ALLOWED FOR EACH PRODUCT SUBSTITUTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL REVIEW TIME AND SHALL PAY ARCHITECT AND ENGINEER'S TIME AT THEIR PROFESSIONAL RATE SCHEDULE.
3. HE HAS CONFIRMED THAT THE PROPOSED SUBSTITUTION WILL HAVE NO ADVERSE AFFECT ON OTHER TRADES, THE CONSTRUCTION SCHEDULE, OR SPECIFIED WARRANTY REQUIREMENTS.
4. HE HAS CONFIRMED THAT MAINTENANCE AND SERVICE PARTS WILL BE LOCALLY AVAILABLE FOR THE PROPOSED SUBSTITUTION.

E. COST SAVINGS RESULTING FROM SUBSTITUTION SHALL BE RETURNED TO THE CONTRACT OR THE OWNER IF THE SUBSTITUTION IS PERMITTED.

F. NO WORK INVOLVING MATERIALS SUBMITTED FOR SUBSTITUTION SHALL PROCEED UNTIL WRITTEN ACCEPTANCE IS RECEIVED FROM THE OWNER. THE OWNER IS THE FINAL JUDGE OF ACCEPTABILITY OF PREFERRED SUBSTITUTIONS.

1.10 COORDINATION

A. COORDINATE WORK WITH OTHER TRADES TO AVOID CONFLICT AND TO PROVIDE CORRECT ROUGH-IN AND CONNECTION FOR EQUIPMENT FURNISHED UNDER OTHER TRADES THAT REQUIRE ELECTRICAL CONNECTIONS. INFORM CONTRACTORS OF OTHER TRADES OF THE REQUIRED ACCESS TO AND CLEARANCES AROUND ELECTRICAL EQUIPMENT TO MAINTAIN SERVICE ABILITY AND CODE COMPLIANCE.
VERIFY EQUIPMENT DIMENSIONS AND REQUIREMENTS WITH PROVISIONS SPECIFIED UNDER THIS SECTION. CHECK ACTUAL JOB CONDITIONS BEFORE FABRICATING WORK. REPORT NECESSARY CHANGES IN TIME TO PREVENT NEEDLESS WORK. CHANGES OR ADDITIONS, SUBJECT TO ADDITIONAL COMPENSATION, WHICH ARE MADE WITHOUT WRITTEN AUTHORIZATION AND AN AGREED PRICE, SHALL BE AT THE CONTRACTOR'S RISK AND EXPENSE.

1.11 CUTTING AND PATCHING

A. ALL CUTTING AND PATCHING REQUIRED FOR WORK OF THIS DIVISION IS INCLUDED HEREIN. COORDINATION WITH GENERAL CONTRACTOR AND OTHER TRADES IS IMPERATIVE. CONTRACTOR SHALL BEAR THE RESPONSIBILITY FOR AND THE ADDED EXPENSE OF ADJUSTING FOR IMPROPER HOLES, SUPPORTS, ETC.

1.12 ACCEPTANCE AND DEMONSTRATION

A. UPON COMPLETION OF THE WORK, AT A TIME TO BE DESIGNATED BY THE OWNER, THE CONTRACTOR SHALL DEMONSTRATE FOR THE OWNER THE OPERATION OF THE ELECTRICAL INSTALLATION, INCLUDING ANY AND ALL SPECIAL ITEMS INSTALLED BY HIM OR INSTALLED UNDER HIS SUPERVISION.

B. PROPERLY SET LIGHTING CONTROL PANELS, AUTOMATIC TIME SWITCHES, ETC. TO PERFORM SWITCHING OPERATIONS IN ACCORDANCE WITH SCHEDULES PROVIDED BY THE OWNER'S REPRESENTATIVE, AND DEMONSTRATE (USING THE MANUFACTURER'S OPERATING INSTRUCTIONS) HOW TO OVERRIDE CONTROLS AND/OR TEST TIME SWITCHES PROGRAMMING.

C. CONTRACTOR'S BID SHALL INCLUDE PROVISIONS TO PROVIDE ALL SERVICES RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING INCLUDING A COMMISSIONING PLAN, FUNCTIONAL PERFORMANCE AND ACCEPTANCE TESTING, AND RELATED DOCUMENTATION, REPORTS AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY AND CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (CLCATT), AS REQUIRED. REFER TO THE LATEST ADOPTED EDITION OF THE CALIFORNIA TITLE 24 PART 6 AND PART 11 FOR MORE INFORMATION. CONTRACTOR SHALL COMPLETE ALL RELATED COMMISSIONING REQUIREMENTS PRIOR TO FINAL INSPECTIONS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CODE AND MANUFACTURER'S INSTRUCTIONS.

D. CONTRACTOR'S BID SHALL INCLUDE PROVISIONS TO PROVIDE ALL SERVICES RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING INCLUDING A COMMISSIONING PLAN, FUNCTIONAL TESTING, AND RELATED DOCUMENTATION, REPORTS AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY REGISTERED DESIGN PROFESSIONAL OR APPROVED AGENCY. REFER TO THE LATEST ADOPTED EDITION OF THE APPLICABLE ENERGY CODE FOR MORE INFORMATION. CONTRACTOR SHALL COMPLETE ALL RELATED COMMISSIONING REQUIREMENTS PRIOR TO FINAL INSPECTIONS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS, CODE AND MANUFACTURER'S INSTRUCTIONS.

1.13 RECORD DRAWINGS AND EQUIPMENT DATA

A. MAINTAIN ONE SET OF CLEAN WORKING DRAWINGS AT THE JOB SITE AND ENTER DAILY SUCH "AS-BUILT" INFORMATION AS FEEDER AND SERVICE ROUTES, PULL BOX LOCATIONS AND CHANGES IN LAYOUT OR ARRANGEMENT WHICH OCCUR DURING CONSTRUCTION. DELIVER COMPLETED "RED LINE AS-BUILTS" DRAWINGS TO THE OWNER.

B. SUBMIT TO THE OWNER'S REPRESENTATIVE A SET OF "AS BUILT" DRAWINGS IN VELLUM AND CAD FILE. AS BUILT COMMENTS SHALL BE WRITTEN IN A LEGIBLE MANNER IN THE SAME STYLE AS THE CONTRACT DOCUMENTS. ALSO SUBMIT THREE COPIES OF DATA SHEETS OR OTHER CURRENT MANUFACTURERS' PUBLICATIONS FOR EACH ITEM OF ELECTRICAL EQUIPMENT FURNISHED FOR THE PROJECT INCLUDING AT LEAST THESE DATA:
1. TECHNICAL DESCRIPTION AND REPLACEABLE PARTS LIST.
2. PHYSICAL DESCRIPTION AND INSTALLATION INSTRUCTIONS.
3. USER'S MANUAL AND OPERATING INSTRUCTIONS.
4. MANUFACTURER'S WARRANTY.

1.14 CLEAN-UP

RID THE PREMISES OF SCRAP MATERIALS, TRASH AND DEBRIS BOTH DURING CONSTRUCTION AND AT COMPLETION OF THE PROJECT. LEAVE THE BUILDING AND SURROUNDING AREA IN A CLEAN AND ORDERLY CONDITION.

1.15 GUARANTEE

A. GUARANTEE THE INSTALLATION FREE FROM DEFECTS OF WORKMANSHIP AND MATERIALS FOR A PERIOD OF ONE YEAR AFTER DATE OF CERTIFICATION OF FINAL PAYMENT AND PROMPTLY REMEDY ANY DEFECTS DEVELOPING DURING THIS PERIOD, WITHOUT CHARGE.

1.16 TEMPORARY SERVICES

A. PROVIDE ADEQUATE AND SAFE TEMPORARY ELECTRICAL POWER AND LIGHTING THROUGHOUT THE CONSTRUCTION AND FINISHING OF THE PREMISES. IN ADDITION TO SPECIAL OR UNUSUAL REQUIREMENTS, PROVIDE AT LEAST THESE ITEMS:
1. THREE (3) 20-AMP CIRCUITS FOR CONSTRUCTION POWER TOOLS. PROVIDE GFI TEMPORARY CIRCUITS WITH COVERPLATES TO MEET OSHA REQUIREMENTS.
2. THREE OR MORE LIGHT STRINGS SUSPENDED APPROXIMATELY ONE FOOT BELOW THE HEIGHT OF FINISH CEILING WITH LAMPS SPACED NOT MORE THAN TWELVE FEET ON CENTERS. STRINGS SHALL BE RUN THE LENGTH OF THE STORE SPACE PARALLEL TO THE DEMISING WALLS, WITH ONE STRING WITHIN EIGHT FEET OF EACH WALL AND ONE (OR MORE) INTERMEDIATE STRING(S) ARRANGED TO LIMIT THE SPACING BETWEEN ROWS TO SIXTEEN FEET OR LESS.
3. FLOOD LIGHTING AND TASK LIGHTING FOR PAINTING AND OTHER FINISH WORK.

B. WHERE SCOPE INCLUDES THE REMOVAL OF EXTERIOR LIGHTING, CONTRACTOR SHALL PROVIDE TEMPORARY EXTERIOR LIGHTING UNTIL THE NEW EXTERIOR LIGHTING HAS BEEN ACCEPTED BY THE OWNER. TEMPORARY EXTERIOR LIGHTING SHALL COMPLY WITH IESNA STANDARDS FOR SECURITY LIGHTING.

C. WHERE SCOPE INCLUDES THE DISABLING OF A FIRE ALARM SYSTEM, CONTRACTOR SHALL PROVIDE A FIRE WATCH. FIRE WATCH SHALL COMPLY WITH NFPA AND LOCAL FIRE MARSHAL REQUIREMENTS.

D. WHEN PERMANENT ELECTRICAL SERVICE IS OPERABLE, DISCONNECT AND REMOVE FROM THE PREMISES THE MATERIALS AND EQUIPMENT USED FOR TEMPORARY POWER AND LIGHTING. RESTORE MODIFICATIONS AND REPAIR DAMAGE CAUSED BY THE INSTALLATION, USE OR REMOVAL OF TEMPORARY SERVICE PROVISIONS.

END OF SECTION.

PART 2 - PRODUCTS

2.01 MATERIAL APPROVAL

A. ALL MATERIALS MUST BE NEW AND BEAR UNDERWRITER'S LABORATORIES LABEL. MATERIALS THAT ARE NOT COVERED BY UL TESTING STANDARDS SHALL BE TESTED AND APPROVED BY AN INDEPENDENT TESTING LABORATORY OR A GOVERNMENTAL AGENCY. MATERIAL NOT IN ACCORDANCE WITH THESE SPECIFICATIONS MAY BE REJECTED EITHER BEFORE OR AFTER INSTALLATION.

FOR LEED QUALIFIED BUILDINGS, PRODUCTS SHALL BE MANUFACTURED WITHIN 100 MILES OF PROJECT SITE.

2.02 BASIC ELECTRICAL MATERIALS

A. CONDUITS AND RACEWAYS
1. RIGID STEEL: HOT-DIPPED GALVANIZED.
2. INTERMEDIATE METAL CONDUIT (IMC): HOT-DIPPED GALVANIZED.
3. ELECTRICAL METALLIC TUBING (EMT): ELECTRO-GALVANIZED.
4. RIGID NON METALLIC CONDUIT (PVC SCHEDULE 40)
5. WIREWAY: CODE GAUGE STEEL, WITH KNOCKOUTS AND HINGED COVER, CORROSION RESISTANT GRAY BAKED ENAMEL FINISH.
6. PROVIDE FITTINGS AND ACCESSORIES APPROVED FOR THE PURPOSE EQUAL IN ALL RESPECTS TO THE CONDUIT OR RACEWAY. EMT CONNECTORS AND COUPLINGS SHALL BE STEEL SETSCREW TYPE INDOORS AND STEEL COMPRESSION TYPE IN WET LOCATIONS AND OUTDOORS.

B. WIRES AND CABLES
1. FOR POWER AND LIGHTING SYSTEM 600V OR LESS:
    a. CONDUCTOR:
        - MINIMUM SIZE #12 AWG.
        - #12 AND #10 AWG SOLID COPPER
        - #8 AWG AND LARGER SHALL BE STRANDED COPPER.
    b. INSULATION TYPE:
        - #12 TO #1 AWG: THWN FOR WET OR UNDERGROUND AND THHN FOR DRY LOCATIONS.
        - #1/0 THROUGH #4/0 AWG: XHHW (55 MILS).
        - #250 MCM AND LARGER: XHHW (65 MILS).
        - GROUNDING WIRE: TW.
    c. METAL CLAD (MC) CABLES:
        - CONDUCTORS ARE MADE FROM CLASS B COPPER. SIZES 14AWG, 12 AWG AND 10 AWG MAY BE EITHER SOLID OR STRANDED, 8AWG AND LARGER ARE STRANDED. THE CONDUCTORS ARE CONSTRUCTED WITH THHN/THWN OR XHHW-2 INSULATION RATED FOR 90OC DRY OR WET AT 600 VOLTS MAX. A COPPER GROUNDING CONDUCTOR IS CABLED WITH THE PHASE CONDUCTORS. THE GROUND CONDUCTOR HAS A GREEN INSULATION. AN INTERLOCKED ALUMINUM ARMOR IS HELICALLY FORMED AROUND THE CONDUCTOR. ASSEMBLY AND IS 45% LIGHTER THAN STEEL MC CABLE.
2. FOR SIGNAL AND COMMUNICATIONS CIRCUIT:
    a. SPECIAL CABLES SHALL BE AS SPECIFIED ON DRAWINGS.
    b. CONDUCTORS FOR GENERAL USE SHALL BE STRANDED COPPER CONDUCTOR, #16 AWG MINIMUM, WITH THWN INSULATION FOR UNDERGROUND OR WET LOCATIONS AND THHN INSULATION FOR DRY LOCATIONS.
3. ACCEPTABLE PRODUCTS: GENERAL ELECTRIC, ANACONDA, OKONITE, PARANITE OR TRIANGLE PRODUCTS CONFORMING OR EXCEEDING APPLICABLE IPCEA STANDARDS.

C. OUTLET BOXES, JUNCTION AND PULLBOXES
1. OUTLET BOXES: 4" SQUARE X 1-1/2" DEEP (OR LARGER) GALVANIZED SHEET STEEL KO-TYPE WITH PLASTER RING AND COVER FOR GENERAL INTERIOR USE AND CAST METAL TYPE FS OR FD WITH MATCHING SCREW COVERS FOR EXTERIOR AND EXPOSED INTERIOR LOCATIONS (GASKETED IN DAMP OR WET LOCATIONS).
2. JUNCTION BOXES (FLOOR BOX NOT INCLUDED) SHALL BE SAME AS OUTLET BOXES UP TO 42 CU. IN. AND CODE-GAUGE STEEL IN LARGER SIZES WITH SURFACE OR FLUSH-TYPE SCREW-MOUNTED TRIMCOVERS, BOTH BOXES AND COVERS INHIBITOR-PRIMED AND PAINTED INSIDE OUT.
3. PULL BOXES SHALL BE SAME AS JUNCTION BOXES UNLESS INDICATED OTHERWISE ON THE DRAWINGS, WITH COVERS.
4. TELEPHONE OUTLET BOXES SHALL BE THE TYPE AND SIZE REQUIRED BY THE SERVING TELEPHONE COMPANY BUT NOT SMALLER THAN 4-11/16" SQUARE X 2-1/8" DEEP WITH SINGLE-GANG RING AND SIERRA #S-754N SPLIT PLATE BUSHING.
5. UNDERGROUND AND SITE JUNCTION BOXES, HANDHOLES, AND MANHOLES SHALL BE MADE UP OF PRECAST CONCRETE WITH TRAFFIC RATED STEEL COVERS. EXTENSIONS SHALL BE PROVIDED AS NECESSARY TO MAIN REQUIRED COVERAGE FOR DUCT BANKS. B.) PROVIDE 10" X 17' (MIN) FOR PULLBOXES, 36" X 60" (MIN) FOR HANDHOLES, AND 6'X8'X6' (MIN) MANHOLES.

D. WIRING DEVICES AND PLATES
1. WIRING DEVICES AND PLATES SHALL BE LISTED FOR SPECIFIC USE.
2. ALL POWER RECEPTACLES AND SWITCHES FOR GENERAL PURPOSE CIRCUITS SHALL BE NEMA SPECIFICATION GRADE, RATED AS FOLLOWS:
    a. GENERAL PURPOSE RECEPTACLES: NEMA 5-15R OR 5-20R
    b. LAB BENCH RECEPTACLES: NEMA 5-20R
    c. DEDICATED RECEPTACLES: NEMA 5-20R
3. SWITCHES: TWENTY (20) AMPERE.
    a. IN MECHANICAL AND ELECTRICAL EQUIPMENT ROOMS, ILLUMINATED LIGHT SWITCHES SHALL BE PROVIDED.
4. ALL GENERAL PURPOSE TWENTY (20) A, 125/250 V RECEPTACLES AND 120/277 V SWITCHES SHALL CONFORM TO NEMA WD-1 SPECIFICATIONS.
5. UNLESS OTHERWISE INDICATED, WIRING DEVICES AND COVER PLATES SHALL BE FURNISHED AND INSTALLED IN COLOR TO MATCH FINISH SURFACE WHERE IT IS LOCATED ON, I.E., DARK BROWN, BEIGE, WHITE OR STAINLESS STEEL.
    a. OUTLETS SERVED FROM AN EMERGENCY POWER SYSTEM SHALL BE RED.
    b. OUTLETS SERVED FROM THE NORMAL POWER SYSTEM SHALL BE IVORY OR WHITE, TO MATCH ADJACENT FINISH.
    c. OUTLETS SERVED FROM AN ISOLATED GROUND SHALL BE ORANGE WITH ISOLATED GROUND (TRIANGULAR) MARKING.

E. CONDUIT HANGERS
FOR INDIVIDUAL CONDUIT RUNS NOT DIRECTLY FASTENED TO THE STRUCTURE, USE ROD HANGERS MANUFACTURED BY CADDY, UNISTRUT OR POWERSTRUT. FOR MULTIPLE CONDUIT RUNS, USE UNISTRUT OR POWERSTRUT TRAPEZE TYPE CONDUIT SUPPORT DESIGNED FOR MAXIMUM DEFLECTION NOT GREATER THAN 1/8".

2.03 PANELBOARDS

A. UNLESS OTHERWISE NOTED ACCEPTABLE MANUFACTURERS ARE CUTLER HAMMER, SQUARE D, SIEMENS, GENERAL ELECTRIC, OR APPROVED EQUAL. ELECTRICAL EQUIPMENT ARE BASED ON THE FOLLOWING:
1. LIGHTING AND APPLIANCE PANELBOARDS - SQUARE D NF AND NQOD
2. POWER PANELBOARDS - SQUARE D, I LINE
    a. CONSTRUCTION: CABINETS SHALL BE OF CODE GAUGE, GALVANIZED STEEL, SURFACE OR FLUSH MOUNTED AS INDICATED. DOORS SHALL BE OF COLD-ROLLED STEEL WITH CONCEALED HINGES AND FLUSH CATCH AND LOCK. ALL PANELS SHALL BE KEYED ALIKE. PANELS LOCATED ADJACENT TO EACH OTHER SHALL HAVE IDENTICALLY SIZED ENCLOSURE AND TRIMS. MINIMUM PANEL WIDTH SHALL BE 20". FINISH EXPOSED PART WITH ONE COAT OF PRIMER AND ONE COAT OF LIGHT GREY ENAMEL SUITABLE FOR OVER PAINTING IN FIELD IF DESIRED.
    b. BUS BARS: PROVIDE GROUND BLOCK WITH FULL COMPLEMENT OF TERMINALS IN ADDITION TO INSULATED NEUTRAL BUS. FUTURE BREAKER SPACES SHALL HAVE COMPLETE PROVISION INCLUDING BUSSES AND CONNECTING HARDWARE.
    c. CIRCUIT BREAKERS: SHALL BE QUICK-MAKE, QUICK-BREAK, MOLDED CASE TYPE:
        - 120/240 VOLT PANELS: SHALL BE SQUARE D TYPE "QOB" LINE, BOLT-ON TYPE, WITH MINIMUM SYMMETRICAL INTERRUPTING CAPACITY AS SHOWN.
        - PROVIDE MULTI-POLE UNITS WITH COMMON TRIP ELEMENT. iii.CIRCUIT BREAKERS USED ON "ON-OFF" CONTROL OF FLUORESCENT LIGHTING (PANELBOARD SWITCHING) SHALL BE UNDERWRITERS' LABORATORIES LISTED AND MARKED "SWD" TO INDICATE THEIR SUITABILITY.

B. IDENTIFICATION: PROVIDE SCREWED-ON (NO ADHESIVES) BAKELITE OR PHOTO-ETCHED METALLIC NAMEPLATE IDENTIFICATION ON OUTSIDE OF EACH PANEL SHOWING PANEL DESIGNATION, VOLTAGE AND PHASE IN MINIMUM 1/8" HIGH LETTERS. EACH PANEL SHALL CONTAIN A METAL-FRAMED CIRCUIT DIRECTORY INSIDE COVER, WITH PLASTIC PROTECTOR. COMPLETE SHOP DRAWINGS ARE REQUIRED. DIMENSIONS SHALL MATCH FLOOR PLANS AND ELEVATIONS.

2.04 LOAD CENTERS

A. LOAD CENTERS TO BE FURNISHED AND INSTALLED AT LOCATIONS AS SHOWN ON THE DRAWINGS. LOAD CENTERS SHALL BE OF THE TYPE APPROVED,INDICATED, AND SPECIFIED HEREIN.

B. ENCLOSURE SHALL BE FABRICATED OF COLD ROLLED STEEL FOR NEMA 1 AND GALVANNEALED STEEL OR EQUIVALENT RUST-RESISTANT STEEL FOR NEMA 3R. INDOOR TYPE L ENCLOSURES SHALL HAVE A FLUSH FRONT, WITH FINISH TO BE AS SELECTED BY ARCHITECT. WHEN USED, OUTDOOR TYPE 3R ENCLOSURES SHALL HAVE A HASP TO SECURE THE COVER. A DIRECTORY LABEL SHALL BE PROVIDED WITH CIRCUITS IDENTIFIED AS INDICATED ON THE SCHEDULE

C. BUS BAR CONNECTIONS TO THE BRANCH CIRCUIT BREAKERS SHALL BE THE DISTRIBUTED PHASE TYPE AND SHALL ACCEPT PLUG-ON CIRCUIT BREAKERS. 300-400 A LOAD CENTERS SHALL ACCEPT A 150 A MAXIMUM BOLT-ON BREAKER IN ADDITION TO PLUG-ON TYPES. C. SHORT CIRCUIT CURRENT RATINGS AMPERE RMS SYMMETRICAL SHORT CIRCUIT RATINGS SHALL BE COORDINATED WITH LOCAL UTILITY.

D. CIRCUIT BREAKERS SHALL BE SQUARE D TYPE QO (PLUG-ON) THERMAL MAGNETIC TRIP OR APPROVED EQUAL, WITH AN INTEGRAL CROSSBAR TO ENSURE SIMULTANEOUS OPENING OF ALL POLES IN MULTI-POLE CIRCUIT BREAKERS. CIRCUIT BREAKERS SHALL HAVE AN OVERCENTER, TRIPFREE, TOGGLE-TYPE OPERATING MECHANISM WITH QUICK-MAKE, QUICK-BREAK ACTION AND POSITIVE HANDLE INDICATION. HANDLES SHALL HAVE ON, OFF, AND "TRIPPED" POSITIONS. IN ADDITION, TRIP INDICATION SHALL INCLUDE A VISI-TRIP INDICATOR APPEARING IN THE WINDOW OF THE CIRCUIT BREAKER CASE (THROUGH 125 AMPERES). CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARD 489 WITH CURRENT RATINGS AS NOTED ON THE PLANS. INTERRUPTING RATINGS SHALL BE SELECTED TO PROVIDE THE REQUIRED LOAD CENTER SHORT CIRCUIT CURRENT RATING. SINGLE-POLE, 15 AND 20 AMPERE CIRCUIT BREAKERS INTENDED TO SWITCH FLUORESCENT LIGHTING LOADS ON A REGULAR BASIS SHALL HAVE THE SWD MARKING. TWO- AND THREE-POLE CIRCUIT BREAKERS 15-60 AMPERES INTENDED FOR USE WITH AIR CONDITIONING, HEATING, AND REFRIGERATION EQUIPMENT HAVING MOTOR GROUP COMBINATIONS AND MARKED AS SUCH SHALL HAVE THE HACR MARKING. MANUFACTURERS: PANELBOARDS SHALL BE GENERAL ELECTRIC TYPE "AQ" OR TYPE "AE" OR EQUIVALENT PRODUCTS OF WESTINGHOUSE, SQUARE-D OR SIEMENS-ITE.

2.05 SERVICE ENTRANCE EQUIPMENT

A. SERVICE ENTRANCE EQUIPMENT ARE SUBJECT TO THE REQUIREMENTS OF THE UTILITY COMPANIES PROVIDING SERVICES TO PROJECT SITE. EQUIPMENT SHOWN ON THE CONSTRUCTION DOCUMENTS IS A GENERAL GUIDELINE AND SHALL BE ADJUSTED TO MEET SPECIFIC UTILITIES REQUIREMENTS.

B. ENCLOSURES, PULL SECTIONS, AND TERMINATIONS SHALL BE TOTALLY ENCLOSED, DEAD FRONT, FREE-STANDING, FRONT AND REAR ALIGNED. ACCESSIBILITY SHALL BE FROM THE FRONT. THE EQUIPMENT SHALL BE NEMA TYPE 1 OR NEMA TYPE 3R NON-WALK-IN RAINPROOF. THE FRAMEWORK SHALL BE STEEL, SECURED TOGETHER TO SUPPORT ALL COVER PLATES, BUSSING, AND COMPONENT DEVICES DURING SHIPMENT AND INSTALLATION. ALL COVERS SHALL HAVE UTILITY SEALING PROVISIONS WHERE REQUIRED BY THE UTILITY.

C. THE ENTIRE SERVICE ENTRANCE EQUIPMENT SHALL BE SUITABLE FOR OPERATION AT THE SPECIFIED AVAILABLE FAULT CURRENT. THE EQUIPMENT SHALL BE LABELED TO INDICATE THE MAXIMUM AVAILABLE FAULT CURRENT RATING, TAKING INTO ACCOUNT THE STRUCTURE, BUSSING, MAIN DISCONNECTS, AND TENANT MAIN DISCONNECTS.

D. THE METERING EQUIPMENT THROUGH BUS SHALL BE TIN-PLATED ALUMINUM. THE BUSSING SHALL BE OF SUFFICIENT CROSS-SECTIONAL AREA TO MEET UL STANDARD 891 FOR TEMPERATURE RISE. THE THROUGH BUS SHALL EXTEND THE FULL LENGTH OF THE EQUIPMENT AND BE 100% RATED THROUGHOUT THE LINE-UP. TAPERED BUS IS NOT ACCEPTABLE. THERE SHALL BE PROVISIONS FOR FUTURE SPLICING OF ADDITIONAL SECTIONS FROM EITHER END. THE NEUTRAL BUS SHALL ALSO BE 100% RATED. THE GROUND BUS SHALL BE SIZED PER UL STANDARD 891, AND OF THE SAME MATERIAL AS THE THROUGH BUS. BUS CONNECTIONS SHALL BE BOLTED WITH GRADE 5 BOLTS AND CONICAL SPRING WASHERS.

E. UTILITY COMPARTMENTS SHALL BE ARRANGED IN HOT SEQUENCE. THE METERING COMPARTMENTS SHALL BE BARRIERED AND COVERS SHALL HAVE SEALING PROVISIONS. THE METERING COMPARTMENTS SHALL MEET EUSERC STANDARDS, OR THE APPLICABLE UTILITIES STANDARDS.

F. THE MAIN DISCONNECT SHALL BE CIRCUIT BREAKER. EQUIPMENT GROUND FAULT SHALL BE PROVIDED WHEN REQUIRED PER THE NATIONAL ELECTRICAL CODE (NEC), OR WHEN REQUESTED BY THE CUSTOMER.

G. METER SOCKETS SHALL BE RING TYPE METER SOCKETS SHALL BE RATED AS NOTED IN THE DRAWINGS. THE METER SOCKET SHALL HAVE PROVISIONS FOR A EUSERC APPROVED TEST BLOCK. THE METER SOCKET SHALL PLUG ON TO A VERTICAL BUS ASSEMBLY ON THE LINE SIDE AND BE CABLED FROM THE LOAD SIDE OF THE METER SOCKET TO THE LINE SIDE OF THE TENANT MAIN DISCONNECT.

H. BRANCH DEVICES - CIRCUIT BREAKERS SHALL BE COMMON TRIP FOR SIMULTANEOUS OPENING OF ALL POLES. BREAKERS SHALL HAVE AN OVER-CENTER, TRIP-FREE, TOGGLE-TYPE OPERATING MECHANISM WITH QUICK-MAKE, QUICK-BREAK ACTION AND POSITIVE HANDLE INDICATION. CIRCUIT BREAKERS SHALL BE UL LISTED IN ACCORDANCE WITH UL STANDARD 489 AND SHALL BE RATED FOR THE MAXIMUM VOLTAGE SPECIFIED AND WITH CONTINUOUS CURRENT RATINGS AS NOTED ON THE PLANS. THE CIRCUIT BREAKERS SHALL BE CURRENT LIMITING. COMMERCIAL MULTI-METERING SHALL BE TOTALLY ENCLOSED, DEAD FRONT, FREE-STANDING, FRONT AND REAR ALIGNED. ACCESSIBILITY SHALL BE FROM THE FRONT. THE EQUIPMENT SHALL BE NEMA TYPE 1 OR NEMA TYPE 3R NON-WALK-IN RAINPROOF.

2.06 INDIVIDUALLY MOUNTED MOTOR CONTROLLERS

A. FOR POLYPHASE MOTORS: MAGNETIC STARTER OR COMBINATION MOTOR CIRCUIT PROTECTOR AND MAGNETIC STARTER, WITH 3-LEG OVERLOAD PROTECTION. PROVIDE TWO INTERLOCK CONTACTS OF THE INTERCHANGEABLE OPEN-CLOSE TYPE. PROVIDE HAND-OFF-AUTOMATIC SELECTOR SWITCH, MOTOR RUNNING PILOT LIGHT AND RESET BUTTON IN COVER. CIRCUITS 300V AND OVER SHALL BE PROVIDED WITH 120V CONTROL TRANSFORMERS.

B. STARTERS FOR FRACTIONAL HORSEPOWER 120V MOTORS SHALL BE MANUAL TYPE UNLESS SHOWN OTHERWISE, EQUIPPED WITH BUILT-IN OVERLOAD PROTECTION. ACCEPTABLE MANUFACTURERS: GENERAL ELECTRIC, SIEMENS, SQUARE D, WESTINGHOUSE, AND ALLEN BRADLEY.

2.07 DISCONNECT SWITCHES

A. SAFETY SWITCHES: HEAVY DUTY TYPE, 480 OR 240V, HORSEPOWER RATED FOR MOTORS, FUSED OR NON-FUSED AS REQUIRED.

B. PROVIDE FUSE AS SHOWN IN CONSTRUCTION DOCUMENTS. MOUNT IN ENCLOSURE WITH NEMA RATING AS REQUIRED FOR THE SPECIFIC APPLICATION. MANUFACTURERS: GENERAL ELECTRIC, SQUARE D OR WESTINGHOUSE.

2.08 LOW VOLTAGE DRY TYPE DISTRIBUTION TRANSFORMERS

A. TRANSFORMER 15KVA UP TO 500 KVA SHALL BE TP-1. TRANSFORMER COILS SHALL BE OF THE CONTINUOUS WOUND CONSTRUCTION. CORE AND COIL SHALL BE OF COPPER. THE COMPLETED CORE AND COIL SHALL BE BOLTED TO THE BASE OF THE ENCLOSURE BUT ISOLATED BY MEANS OF RUBBER VIBRATION-ABSORBING MOUNTS. THERE SHALL BE NO METAL-TO-METAL CONTACT BETWEEN THE CORE AND COIL AND THE ENCLOSURE EXCEPT FOR A FLEXIBLE SAFETY GROUND STRAP. SOUND ISOLATION SYSTEMS REQUIRING THE COMPLETE REMOVAL OF ALL FASTENING DEVICES WILL NOT BE ACCEPTABLE. THE CORE OF THE TRANSFORMER SHALL BE VISIBLY GROUNDED TO THE ENCLOSURE BY MEANS OF A FLEXIBLE GROUNDING CONDUCTOR SIZED IN ACCORDANCE WITH APPLICABLE UL AND NEC STANDARDS.

B. THE TRANSFORMER ENCLOSURES SHALL BE VENTILATED AND BE FABRICATED OF HEAVY GAUGE, SHEET STEEL CONSTRUCTION
SOUND LEVELS SHALL BE WARRANTED BY THE MANUFACTURER NOT TO EXCEED THE FOLLOWING -15 TO 50KVA - 45DB; 51 TO 150KVA - 50DB; 151 T 300KVA - 55DB.

2.09 INTERGRATED POWER CENTERS

A. INTEGRATED POWER CENTER (IPC(2)) SHALL BE COMPRISED OF COMBINATION OF POWER PANEL, LIGHTING AND APPLIANCE PANELS, LIGHTING CONTROLS, DRY TYPE TRANSFORMERS, METERING, AND THIRD PARTY AUTOMATION. EACH COMPONENT OF INTEGRATED POWER CENTER IS SUBJECT TO OTHER PARTS OF THESE SPECIFICATIONS. AS A WHOLE, THE CONSTRUCTION OF THE IPC SHALL BE SUITABLE AND CERTIFIED FOR SPECIFIC USE AND MEETS APPLICABLE LOCAL CODES SEISMIC GUIDELINES.

END OF SECTION.

PART 3 - EXECUTION

3.01 GENERAL

A. ELECTRIC SYSTEM LAYOUTS INDICATED ON THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL BE FOLLOWED AS CLOSELY AS ACTUAL CONSTRUCTION AND WORK OF OTHER TRADES WILL PERMIT. GOVERN EXACT ROUTING OF CABLE AND WIRING AND THE LOCATIONS OF OUTLETS BY THE STRUCTURE AND EQUIPMENT SERVED. TAKE ALL DIMENSIONS FROM ARCHITECTURAL DRAWINGS.

B. CONSULT ALL OTHER DRAWINGS, VERIFY SCALES AND REPORT ANY DIMENSIONAL DISCREPANCIES OR OTHER CONFLICTS WITH OWNER BEFORE SUBMITTING BID.

C. ALL HOME RUNS TO PANELBOARDS ARE INDICATED AS STARTING FROM THE OUTLET NEAREST THE PANEL AND CONTINUING IN THE GENERAL DIRECTION OF THAT PANEL. CONTINUE SUCH CIRCUITS TO THE PANEL AS THOUGH THE ROUTES WERE COMPLETELY INDICATED. TERMINATE HOMERUNS OF SIGNAL, ALARM, AND COMMUNICATION SYSTEMS IN A SIMILAR MANNER.

D. AVOID CUTTING AND BORING HOLES THROUGH STRUCTURE OR STRUCTURAL MEMBERS WHEREVER POSSIBLE. OBTAIN PRIOR APPROVAL OF OWNER AND CONFORM TO ALL STRUCTURAL REQUIREMENTS WHEN CUTTING OR BORING THE STRUCTURE IS NECESSARY AND PERMITTED.

E. FURNISH AND INSTALL ALL NECESSARY HARDWARE, HANGERS, BLOCKING, BRACKETS, BRACING, RUNNERS, ETC. REQUIRED FOR EQUIPMENT SPECIFIED UNDER THIS SECTION. INSTALLATION SHALL MEET SEISMIC 4 REQUIREMENTS.

F. PROVIDE NECESSARY BACKING REQUIRED TO INSURE RIGID MOUNTING OF OUTLET BOXES.

G. ELECTRICAL INSTALLATION IN PUBLIC LOCATIONS SHALL BE ACCESSIBLE AND INSTALLATION SHALL COMPLY WITH AMERICAN DISABILITIES ACT (ADA) REQUIREMENTS. ELECTRICAL INSTALLATION SHALL COMPLY WITH APPLICABLE CODES AS LISTED IN CONSTRUCTION DOCUMENTS.

3.02 WIRING METHODS

A. IN CONCEALED SPACES WHERE THE USE OF "ROMEX" AND "BX" WIRING IS PERMITTED BY ALL APPLICABLE CODES AND REGULATIONS, PROVIDE FACTORY-FABRICATED, PRE-ASSEMBLED UL LABELED TYPE "NMC" AND TYPE "AC" CABLES AS PREFERRED WIRING METHOD FOR BRANCH CIRCUITS. A GROUNDING CONDUCTOR SHALL BE PROVIDED IN EACH CABLE.

B. WHEN CONDITIONS DETERMINED IN "A" ABOVE ARE NOT MET, INSTALL ALL WIRING IN RACEWAY, OR USE MC CABLE WHERE APPROVED BY ALL APPLICABLE CODES AND REGULATIONS. CONDUIT SHALL BE RIGID STEEL, IMC OR EMT AS FOLLOWS:
1. ABOVE GROUND: USE RIGID STEEL, IMC OR EMT.
2. WET LOCATIONS: RIGID STEEL OR IMC ONLY.
3. LOCATIONS SUBJECT TO MECHANICAL INJURY: RIGID STEEL OR IMC ONLY.
4. DRY LOCATIONS AND NOT SUBJECT TO MECHANICAL INJURY: EMT, IMC OR RIGID STEEL CONDUIT.
5. UNDERGROUND: USE RIGID STEEL AT LAST TRANSITION TO ABOVE GROUND.

C. USE FLEXIBLE CONDUITS OR MC CABLE IN THE FOLLOWING APPLICATIONS:
1. FINAL CONNECTIONS TO MOTOR.
2. FINAL CONNECTIONS INTO AND OUT OF THE TRANSFORMER.
3. FINAL CONNECTIONS TO VIBRATING EQUIPMENT.
4. INTER-CONNECTIONS BETWEEN ALL LIGHT FIXTURES (NOT TO INCLUDE HOMERUN FROM FIXTURE OR DEVICE TO PANELBOARD, WHICH MUST BE RIGID).
5. FINAL CONNECTIONS WHERE RIGID CONDUIT IS NOT PRACTICAL.
6. IN WALLS (FOR LIGHT SWITCHES AND 120V POWER RECEPTACLES AND HVAC CONTROL EQUIPMENT).

D. FLEXIBLE METALLIC CONDUIT OR MC CABLE MUST BE THE SAME SIZE AS THE RIGID CONDUIT TO WHICH IT IS CONNECTED.

E. THE CONNECTION TO OUTDOOR EQUIPMENT MUST BE WEATHERPROOF, I.E. LIQUIDTIGHT OR SEALTIGHT.

F. MINIMUM SIZE OF CONDUIT SHALL BE 1/2" FOR INDIVIDUAL LIGHTING FIXTURE CONNECTIONS OR TO INDIVIDUAL LIGHT SWITCHES IF APPROVED BY ALL APPLICABLE CODES. MINIMUM SIZE FOR ALL OTHER LOCATIONS SHALL BE 3/4". IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE A 3/4" MINIMUM, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL IN/UNDER FLOOR CONDUITS SHALL BE 3/4" MINIMUM SIZE.

G. USE OF RIGID NON METALLIC CONDUIT IS LIMITED TO OUTDOOR, UNDERGROUND UP TO THE LAST PULLBOX PRIOR TO ENTERING OR TRANSITIONING TO ABOVE GROUND. TRANSITION SHALL BE TAPED WRAPPED RIGID STEEL CONDUIT.

3.03 INSTALLATION OF CONDUITS

A. GENERAL:
1. RUN ALL CONDUITS CONCEALED UNLESS OTHERWISE NOTED OR SHOWN. RUN ALL CONDUIT PARALLEL TO OR AT RIGHT ANGLES TO CENTER LINES OF COLUMNS AND BEAMS. CONDUITS ABOVE CEILINGS SHALL NOT OBSTRUCT REMOVAL OF CEILING TILES, LIGHTING FIXTURES, AIR DIFFUSERS, ETC. CONDUITS SHALL NOT CROSS ANY DUCT SHAFT OR AREA DESIGNATED AS FUTURE DUCT SHAFT HORIZONTALLY. CONDUIT RISERS WHEN ALLOWED IN DUCT SHAFT MUST BE COORDINATED WITH MECHANICAL WORK TO AVOID ANY CONFLICT.

B. CONDUIT SUPPORTS:
1. SUPPORT CONDUITS WITH UNDERWRITER'S LABORATORIES LISTED STEEL CONDUIT SUPPORTS AT INTERVALS REQUIRED BY THE NATIONAL ELECTRIC CODE. WIRES OR SHEET METAL STRIPS ARE NOT ACCEPTABLE FOR CONDUIT SUPPORT. USE CONDUIT HANGERS FOR ALL CONDUITS NOT DIRECTLY FASTENED TO STRUCTURE AND FOR ALL MULTIPLE CONDUIT RUNS. DO NOT ATTACH ANY CONDUIT TO MECHANICAL DUCTS OR PIPES.
2. INDIVIDUAL CONDUITS 1/2" AND 3/4" SIZE FOR LIGHTING MAY BE SUPPORTED FROM CEILING SUPPORT WIRES WITH CADDY CLIPS ONLY IF ACCEPTABLE TO LOCAL CODE. ONLY ONE CONDUIT IS PERMITTED TO BE ATTACHED TO ANY CEILING SUPPORT WIRE. HANG SUCH CONDUIT SO AS NOT TO AFFECT LEVEL OF CEILING.
3. AVOID ATTACHING CONDUIT TO FAN PLENUMS. WHEN IT IS NECESSARY TO SUPPORT CONDUIT FROM FAN PLENUM, PROVIDE A LENGTH OF FLEXIBLE CONDUIT BETWEEN PORTION ATTACHED FAN PLENUM AND PORTION ATTACHED TO THE BUILDING TO MINIMIZE TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE.

C. CONDUIT PENETRATION:
1. PENETRATING FIRE RATED FLOOR OR WALL: INSTALL CONDUIT IN CONDUIT SLEEVE OR FRAMED OPENING. SEAL PENETRATION WITH FIRE RETARDANT SEALANT TO MATCH CONSTRUCTION FIRE RATING.
2. PENETRATING ROOF OR EXTERIOR WALL: AVOID PENETRATING ROOF OR EXTERIOR WALL WHERE POSSIBLE. WHERE PENETRATIONS ARE NECESSARY, BUILDING WEATHERPROOF INTEGRITY MUST BE PRESERVED.
3. PENETRATING SOUND INSULATED OR AIR PLENUM WALL: INSTALL CONDUIT IN CONDUIT SLEEVE AND SEAL PENETRATION AS DETAILED ON THE DRAWINGS.
4. PENETRATING NON-FIRE RATED DRY WALL: CONDUIT SLEEVES ARE NOT REQUIRED. PENETRATIONS MUST BE SEALED WITH PLASTER PRIOR TO PAINTING. PENETRATIONS MADE AFTER WALL FINISH IS APPLIED MUST BE AS SMALL AS POSSIBLE AND PROVIDED WITH ESCUTCHEONS, ONE ON EACH SIDE OF WALL.
5. PENETRATING SUSPENDED CEILING: CUT HOLE AS SMALL AS POSSIBLE TO PERMIT CONDUIT PENETRATION. PROVIDE ESCUTCHEON FOR EACH CONDUIT BELOW CEILING.

3.04 CONNECTIONS TO EQUIPMENT

A. GENERAL
1. FURNISH AND INSTALL REQUIRED POWER SUPPLY CONDUIT AND WIRING TO ALL EQUIPMENT IDENTIFIED IN THE CONSTRUCTION DOCUMENTS.
2. FURNISH AND INSTALL A DISCONNECT SWITCH IMMEDIATELY AHEAD OF AND ADJACENT TO EACH MAGNETIC MOTOR STARTER OR APPLIANCE UNLESS THE MOTOR APPLIANCE IS LOCATED ADJACENT AND WITHIN SIGHT OF THE SERVING PANELBOARD, CIRCUIT BREAKER OR SWITCH. VERIFY ALL EQUIPMENT NAMEPLATE CURRENT RATINGS PRIOR TO INSTALLATION.
3. INSTALL ALL ROUGH-IN WORK FOR EQUIPMENT FROM APPROVED SHOP DRAWINGS TO SUIT THE SPECIFIC REQUIREMENTS OF THE EQUIPMENT.
4. FURNISH AND INSTALL MANUAL THERMAL PROTECTION FOR ALL MOTORS NOT INTEGRALLY EQUIPPED WITH THERMAL PROTECTION.
5. FURNISH 120 VOLT POWER TO EACH CONTROL PANEL AND TIME SWITCH REQUIRING A SOURCE OF POWER TO OPERATE.

3.05 INSTALLATION OF WIRES

A. PULL NO WIRE INTO ANY PORTION OF THE CONDUIT SYSTEM UNTIL ALL CONSTRUCTION WORK WHICH MIGHT DAMAGE THE WIRE HAS BEEN COMPLETED.

B. INSTALL ALL WIRE CONTINUOUS FROM OUTLET TO OUTLET OR TERMINAL TO TERMINAL. SPLICES IN CABLES WHEN REQUIRED SHALL BE MADE IN HANDHOLES, PULL BOXES OR JUNCTION BOXES. MAKE BRANCH CIRCUIT SPLICES IN OUTLET BOXES WITH 8" OF CORRECTLY COLOR-CODED TAILS LEFT IN THE BOX.

C. SPLICES IN WIRES AND CABLES SHALL BE MADE UTILIZING MATERIALS AND METHODS DESCRIBED HEREIN BEFORE.

D. MAKE ALL GROUND, NEUTRAL AND LINE CONNECTIONS TO RECEPTACLE AND WIRING DEVICE TERMINALS AS RECOMMENDED BY MANUFACTURE. PROVIDE GROUND JUMPER FROM OUTLET BOX TO GROUND TERMINAL OF DEVICES WHEN THE DEVICE IS NOT APPROVED FOR GROUNDING THROUGH THE MOUNTING SCREWS.

E. PROVIDE BRADY WIRE MARKERS WHERE NUMBER OF CONDUCTORS IN A BOX EXCEEDS FOUR.

3.06 WIRE COLOR CODE:

A. COLOR CODING SHALL BE CONTINUOUS FOR WIRE #12 THROUGH #10 AWG. PHASE CONDUCTORS #8 AND LARGER AND CONDUCTORS OF ANY SIZE IN

B. CABLE ASSEMBLIES MAY HAVE COLORED PHASING TAPE AT TERMINATIONS. WHERE MORE THAN ONE NOMINAL VOLTAGE SYSTEM EXISTS IN A BUILDING, EACH UNGROUNDED SYSTEM CONDUCTOR SHALL BE IDENTIFIED BY PHASE AND SYSTEM. THE MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD. THE PHASE COLOR CODING OF THE INSULATION OF CONDUCTORS SHALL BE:

1. VOLTAGE 120/208V

a.	PHASE A	BLACK
b.	PHASE B	RED
c.	PHASE C	BLUE
d.	NEUTRAL	WHITE
e.	GROUND	GREEN
f.	ISOLATED GROUND	GREEN WITH ORANGE STRIPE

2. VOLTAGE 277/480V

a.	PHASE A	BROWN
b.	PHASE B	ORANGE
c.	PHASE C	YELLOW
d.	NEUTRAL	GRAY
e.	GROUND	GREEN
f.	ISOLATED GROUND	GREEN WITH ORANGE STRIPE

3.07 IDENTIFICATION

A. PROVIDE NAMEPLATES FOR ALL ELECTRICAL EQUIPMENT AND ALL SIMILAR EQUIPMENT AND DEVICES. NAMEPLATES SHALL BE SCREWED (NO ADHESIVES) ENGRAVED BAKELITE OR PHOTO-ETCHED METALLIC NAMEPLATE IDENTIFICATION SHOWING PANEL DESIGNATION, VOLTAGE AND PHASE IN MINIMUM 1/4" HIGH LETTERS.

B. PROVIDE DEMO LABELS ON ALL LIGHTING SWITCHES AND CONVENIENCE AND SPECIAL PURPOSE RECEPTACLES TO SHOW PANEL AND CIRCUIT NUMBER TO WHICH THE DEVICE IS CONNECTED.

C. EACH PANELBOARD SHALL CONTAIN A METAL-FRAMED CIRCUIT DIRECTORY INSIDE COVER, WITH PLASTIC PROTECTOR.

D. PANELBOARD SCHEDULE: AFTER COMPLETION OF WORK, PROVIDE ELECTRONIC UPDATED PANELBOARD SCHEDULES FOR ALL PANELBOARDS. USE EXCEL FORMAT.

3.08 GROUNDING

A. ELECTRICAL SERVICE AND SEPARATELY DERIVED ALTERNATING CURRENT SYSTEM SHALL BE GROUNDED IN ACCORDANCE WITH NEC 2017, ARTICLE 250.

B. GROUND NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT ENCLOSURES, FRAMES, CONDUCTOR RACEWAYS OR CABLE TRAYS TO PROVIDE A LOW IMPEDANCE PATH FOR LINE-TO-GROUND FAULT CURRENT AND TO BAND ALL NON-CURRENT CARRYING METAL PARTS TOGETHER. PROVIDE GROUND CONDUCTOR IN EACH RACEWAY SYSTEM IN ADDITION TO CONDUCTORS SHOWN. EQUIPMENT GROUND CONDUCTOR SHALL BE ELECTRICALLY AND MECHANICALLY CONTINUOUS FROM THE ELECTRICAL CIRCUIT SOURCE TO THE EQUIPMENT TO BE GROUNDED. SIZE GROUND CONDUCTORS PER NECUNLESS LARGER CONDUCTORS ARE SHOWN ON DRAWINGS.

C. GROUNDING CONDUCTORS SHALL BE IDENTIFIED WITH GREEN INSULATION. WHERE GREEN INSULATION IS NOT AVAILABLE ON LARGER SIZES, BLACK INSULATION SHALL BE USED AND SUITABLY IDENTIFIED WITH GREEN TAPE AT EACH JUNCTION BOX OR DEVICE ENCLOSURE.

3.09 REMODELING WORK

A. EXISTING ELECTRICAL WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO OPERATING CONDITION. WHERE CONSTRUCTION CHANGES REQUIRE, OUTLETS AND CONDUIT RUNS SHALL BE RELOCATED. EXTEND CONDUITS AND PULL IN NEW WIRING OR INSTALL JUNCTION BOXES AND SPLICE IN NEW WIRING.

B. OUTLETS FROM WHICH FIXTURES, SWITCHES, RECEPTACLES, AND/OR OTHER ELECTRICAL DEVICES ARE MOVED AND WHICH ARE NOT REPLACED OR REUSED SHALL BE REMOVED, WHERE OUTLETS BOXES, ETC., ARE COMPLETELY REMOVED, THE CONTRACTOR SHALL CUT OFF CONDUITS AND REMOVE WIRING.

C. WHERE CONDUITS EXTENDING THROUGH FLOORS ARE TO BE ABANDONED, THE CONTRACTOR SHALL CUT AND CAP OR PLUG CONDUIT, AND THE CONDUIT SHALL NOT PROTRUDE ABOVE THE FLOOR.

D. WHERE EXISTING CONDUIT IS TO BE ABANDONED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED, IN A CRAWL SPACE OR IN ACCESSIBLE CEILING. WHERE IT IS IMPOSSIBLE TO REMOVE THE CONDUIT, IT SHALL BE CUT OFF AND CAPPED OR PLUGGED.

E. REMOVE ALL EXISTING WIRING NOT REUSED OR REQUIRED TO MAINTAIN CONTINUITY TO CIRCUITS TO REMAIN.

F. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIRS DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.

G. FIRESTOP ALL PENETRATIONS.

H. MAINTAIN CIRCUIT CONTINUITY TO AREAS OUTSIDE OF THIS WORK. PROVIDE NEW CONDUIT AND CONDUCTORS AS REQUIRED TO MAINTAIN CONTINUITY AND MAINTAIN AREA AS EXISTING.

3.10 ELECTRICAL ACCEPTANCE TESTING

A. PERFORM PHYSICAL AND VISUAL INSPECTION OF ELECTRICAL INSTALLATION. ENSURE THAT ALL WIRES HAVE BEEN TERMINATED, CONNECTIONS TIGHTENED, AND OPENINGS ARE PROTECTED.

B. PERFORM PHASE ROTATION, CONTINUITY TEST, AND PHASE BALANCE
1. VOLTAGE READINGS SHALL BE TAKEN AT VARIOUS TEST POINTS, OR AT THE DISCRETION OF THE AHJ.
2. VOLTAGE, PHASE, AND AMP READINGS SHALL BE TAKEN ON ALL THREE PHASES UNDER LOAD CONDITIONS.
3. VERIFY THAT MOTORS ARE ROTATING IN THE CORRECT DIRECTION. VERIFY THAT EACH PHASE LOAD IS WITHIN 20% OF EACH OTHER. ADJUST AS NECESSARY.

C. INSULATION TEST
1. PERFORM MEGGER AND RECORD INSULATION RESISTANCE, 1000 VOLT MEGGER FOR ONE MINUTE. MAKE TESTS WITH CIRCUITS ISOLATED FROM SOURCE AND LOAD. A.) 600V CONDUCTORS SIZE #4/0 AND LARGER B.) MCC, SWITCHGEAR, SWITCHBOARD, AND PANELBOARD BUSS BARS C.) MOTOR AND TRANSFORMER WINDINGS

D. TESTING SHALL BE PER NEMA ACCEPTANCE STANDARDS.

E. SUBMIT TEST RESULTS TO ENGINEER. EQUIPMENT THAT HAVE FAILED TESTS SHALL BE REPLACED WITHIN 2 WEEKS AND PRIOR TO PROJECT COMPLETION.

END OF SECTION.

PART 4 - POWERWALL

4.01 GENERAL REQUIREMENTS:

A. GENERAL REQUIREMENTS INCLUDE THOSE SPECIFIED BY MANUFACTURER AND AS SPECIFIED HEREIN. THE WORK INCLUDES THE PROVISION OF NEW POWERWALLS FOR INDOOR USE AND SERVICE ENTRANCE SECTION (SES) FOR OUTDOOR USE, IF NEEDED.

4.02 DELIVERY, STORAGE, AND HANDLING

A. DELIVER, STORE, PROTECT, AND HANDLE PRODUCTS IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDED PRACTICES AS OUTLINED IN APPLICABLE INSTALLATION AND MAINTENANCE MANUALS.

B. EACH POWERWALL SECTION SHALL BE DELIVERED IN INDIVIDUAL SHIPPING SPLITS FOR EASE OF HANDLING. THEY SHALL BE INDIVIDUALLY WRAPPED FOR PROTECTION AND MOUNTED ON SHIPPING SKIDS.

C. INSPECT AND REPORT CONCEALED DAMAGE TO SHIPPING AGENT WITHIN THEIR REQUIRED TIME PERIOD. STORE IN A CLEAN, DRY SPACE. MAINTAIN FACTORY PROTECTION AND/OR PROVIDE AN ADDITIONAL HEAVY CANVAS OR HEAVY PLASTIC COVER TO PROTECT STRUCTURE FROM DIRT, WATER, CONSTRUCTION DEBRIS, AND TRAFFIC. WHERE APPLICABLE, PROVIDE ADEQUATE HEATING WITHIN ENCLOSURES TO PREVENT CONDENSATION.

D. HANDLE IN ACCORDANCE WITH NEMA PB 2.1 AND MANUFACTURER'S WRITTEN INSTRUCTIONS. LIFT ONLY BY LIFTING MEANS PROVIDED FOR THIS EXPRESS PURPOSE. HANDLE CAREFULLY TO AVOID DAMAGE TO POWERWALL'S INTERNAL COMPONENTS, ENCLOSURE, AND FINISH.

4.03 MAINTENANCE MATERIALS

A. PROVIDE A SET OF INSTALLATION AND MAINTENANCE INSTRUCTIONS WITH EACH POWERWALL. INSTRUCTIONS ARE TO BE EASILY IDENTIFIED AND AFFIXED WITHIN THE INCOMING, OR MAIN SECTION OF THE LINE-UP.

4.04 WARRANTY

A. MANUFACTURER SHALL WARRANT ALL EQUIPMENT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF ENERGIZATION OR EIGHTEEN MONTHS FROM THE DATE OF SHIPMENT, WHICHEVER COMES FIRST.

4.05 PRODUCTS

A. NAMEPLATES:
1. PROVIDE LAMINATED PLASTIC NAMEPLATES FOR EACH DEVICE TO IDENTIFY ITS FUNCTION, AND WHERE APPLICABLE, ITS POSITION.
2. EACH NAMEPLATE WILL BE LAMINATED PLASTIC: 1/8 INCH THICK MELAMINE BLACK PLASTIC WITH WHITE CORE. EACH LABEL SHALL HAVE A MATTE FINISH AND SQUARE CUT CORNERS. ACCURATELY ALIGN LETTERING AND ENGRAVE INTO THE WHITE CORE. THESE NAMEPLATES SHALL BE A MINIMUM OF 1 INCH BY 2½ INCHES WITH ¼ INCH HIGH (MINIMUM) LETTERING.

B. POWERWALLS:
1. THE ONLY ACCEPTABLE MANUFACTURER OF PANELBOARDS AND MAIN DISTRIBUTION PANELS CONTAINED IN THE ELECTRICAL POWERWALL AND SES (IF REQUIRED) IS ABB/GENERAL ELECTRIC CO. "RELIAGEAR NEXT" FOR SES, MDP AND GE A-SERIES TYPE AE OR AQ FOR PANEL BOARDS.
2. THE POWERWALL SHALL CONSIST OF REQUIRED MDP, TRANSFORMER, PANELBOARDS AND THE LIGHTING CONTACTORS. THE MDP SECTION SHALL BE GE "RELIAGEAR NEXT" FEEDING A GROUP MOUNTED DISTRIBUTION SECTION. THE MDP SECTION SHALL BE FRONT ACCESSIBLE. EACH SECTION SHALL CONTAIN GROUNDING LUGS PER SERVICE REQUIREMENTS. THE PANEL SECTIONS SHALL INCLUDE PRE-WIRED DISTRIBUTION PANELBOARDS. TRANSFORMER SHALL BE FACTORY PREWIRED ON BOTH PRIMARY AND SECONDARY. LIGHTING CONTACTORS (ABB TYPE A16) PREWIRED TO APPROPRIATE CIRCUIT BREAKER. THE POWERWALL MANUFACTURER SHALL BE RESPONSIBLE FOR INTEGRATING AND PRE-WIRING LIGHTING CONTROLS.
    a. STANDARDS:
        - THE POWERWALL SHALL BE DESIGNED, BUILT AND TESTED IN ACCORDANCE WITH NEMA PB-2 AND UNDERWRITERS LABORATORIES UL 891 AND THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALL SECTIONS AND DEVICES SHALL BE UL 891 LISTED AND LABELED.
    b. STRUCTURE:
        - THE POWERWALL DIMENSIONS BE A COMPLETE SELF-SUPPORTING STRUCTURE WITH 90 INCH HIGH VERTICAL SECTIONS BOLTED TOGETHER TO FORM THE REQUIRED ARRANGEMENT, SEE ATTACHED DRAWING. ALL SECTIONS SHALL BE REAR ALIGNED AND MAY BE ROLLED, MOVED, OR LIFTED INTO THE INSTALLATION POSITION AND BOLTED DIRECTLY TO THE FLOOR WITHOUT THE ADDITION OF FLOOR SILLS. ALL SECTIONS SHALL CONTAIN APPROPRIATE PLATES FOR LIFTING. THE STRUCTURE FRAME SHALL BE 12 GAUGE GALVANIZED PER UL891. THIS ENCLOSURE SHALL HAVE A FRONT ACCESSIBLE "LIFT-OFF" HINGED GALVANIZED DOOR. DISTRIBUTION PANELBOARDS SHALL BE INDIVIDUALLY ACCESSIBLE BY "LIFT-OFF" HINGED DOORS WITH HANDLES. THE CONTRACTOR SHALL FURNISH AND COMPLETELY INSTALL THE POWERWALL AS SHOWN ON THE DRAWINGS AND DESCRIBED IN THESE SPECIFICATIONS.
        - BUS BARS SHALL BE COPPER HAVING A CROSS-SECTION CURRENT DENSITY NOT EXCEEDING 1000 AMPERES PER SQUARE INCH OR ALUMINUM HAVING A CROSS-SECTION DENSITY NOT EXCEEDING 750 AMPERES PER SQUARE INCH. THEY SHALL BE MOUNTED ON SUPPORTS OF HIGH IMPACT NON-TRACKING INSULATING MATERIAL, AND SHALL BE BRACED TO WITHSTAND THE MECHANICAL FORCE EXERTED DURING SHORT CIRCUIT CONDITIONS. SHORT CIRCUIT BRACING SHALL BE 65,000 AMPERES RMS SYMMETRICAL MINIMUM. A GROUND BUS IS SECURED TO EACH VERTICAL SECTION. A-B-C TYPE BUS ARRANGEMENT (LEFT-TO-RIGHT, TOP-TO-BOTTOM, FRONT-TO-REAR) SHALL BE USED THROUGHOUT TO ASSURE CONVENIENT AND SAFE TESTING AND MAINTENANCE.
        - ALL LUGS SHALL BE UL LISTED FOR USE WITH COPPER OR ALUMINUM CABLE WITH AMPACITY BASED ON 75 DEGREE C CONDUCTOR TEMPERATURE RATINGS. POWERWALL CURRENT RATINGS INCLUDING DEVICES SHALL BE BASED ON OPERATION IN A 25 DEGREE C ROOM AMBIENT, PER UL 891.

4.06 OUTDOOR UTILITY SES SERVICE ENTRANCE (IF REQUIRED)

A. THE ONLY ACCEPTABLE MANUFACTURER OF THE SES IS GENERAL ELECTRIC CO. "RELIAGEAR NEXT".

B. SHORT CIRCUIT CURRENT RATING:SES SHALL BE FULLY RATED AT A SHORT CIRCUIT RATING OF 65KAIC.

C. THE MAIN CIRCUIT BREAKER SHALL BE 80% RATED CURRENT AND BRACED FOR 65,000 AIC UNLESS OTHERWISE NOTED. THE UTILITY REQUIREMENTS WILL BE AS PER PRINTS.

D. STANDARDS
1. THE SES SHALL BE DESIGNED, BUILT AND TESTED IN ACCORDANCE WITH NEMA PB-2 AND UNDERWRITERS LABORATORIES UL 891 AND THE LATEST REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE. ALL SECTIONS AND DEVICES SHALL BE UL 891 LISTED AND LABELED. THIS UNIT WILL BE NEMA 3

E. STRUCTURE
1. BUS BARS SHALL BE TIN PLATED ALUMINUM HAVING A CROSS-SECTION CURRENT DENSITY NOT EXCEEDING 750 AMPERES PER SQUARE INCH. THEY SHALL BE MOUNTED ON SUPPORTS OF HIGH IMPACT NON-TRACKING INSULATING MATERIAL, AND SHALL BE BRACED TO WITHSTAND THE MECHANICAL FORCE EXERTED DURING SHORT CIRCUIT CONDITIONS. SHORT CIRCUIT BRACING SHALL BE 65,000 AMPERES RMS SYMMETRICAL.
2. A GROUND BUS IS SECURED TO EACH VERTICAL SECTION.
3. A-B-C TYPE BUS ARRANGEMENT (LEFT-TO-RIGHT, TOP-TO-BOTTOM, FRONT-TO-REAR) SHALL BE USED THROUGHOUT TO ASSURE CONVENIENT AND SAFE TESTING AND MAINTENANCE. ALL LUGS SHALL BE UL LISTED FOR USE WITH COPPER OR ALUMINUM CABLE WITH AMPACITY BASED ON 75 DEGREE C CONDUCTOR TEMPERATURE RATINGS.

4.07 EXECUTIONS

A. INSPECTION:
1. EXAMINE AREA TO RECEIVE SWITCHBOARD TO PROVIDE ADEQUATE CLEARANCE FOR POWERWALL INSTALLATION.
2. CHECK THAT CONCRETE PADS ARE LEVEL, AND FREE FROM IRREGULARITIES.
3. THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND MANUFACTURER IN WRITING AS TO ANY DEFICIENCIES FOUND AND SHALL WAIT FOR SAID DEFICIENCIES TO BE CORRECTED. THE ELECTRICAL CONTRACTOR SHALL NOTE ON THE BILL OF LADIN (RECEIVING DOCUMENT) ANY SHORTAGES AND/OR DAMAGED MATERIAL SIGNED BY THE DRIVER TO BE USED IN CONJUNCTION WITH CLAIM FILING. THE COMMENCING OF WORK IN ANY AREA INDICATES ACCEPTANCE OF EXISTING CONDITIONS AND ANY FUTURE DEFICIENCIES FOUND ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

B. INSTALLATION:
1. INSTALL POWERWALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, NEC, AND LOCAL CODES.

C. FIELD QUALITY CONTROL:
1. INSPECT COMPLETED INSTALLATION FOR PHYSICAL DAMAGE, PROPER ALIGNMENT, ANCHORAGE, AND GROUNDING.
2. MEASURE, USING A MEGGER, THE INSULATION RESISTANCE OF EACH BUS SECTION PHASE TO PHASE, AND PHASE TO GROUND FOR ONE MINUTE EACH AT MINIMUM TEST VOLTAGE OF 1,000 VOLTS DC. MINIMUM ACCEPTABLE VALUE FOR INSULATION RESISTANCE IS 1 MEGOHM. CAUTION, DO NOT APPLY TEST VOLTAGE TO ELECTRONIC DEVICES.
3. CHECK TIGHTNESS OF ACCESSIBLE BOLTED BUS JOINTS USING CALIBRATED TORQUE WRENCH PER MANUFACTURER'S RECOMMENDED TORQUE VALUES.

NOTE: REFER TO MANUFACTURER'S LITERATURE FOR SPECIFIC TESTING PROCEDURES.

END OF SECTION.

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
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PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
96696PE
DIGITALLY SIGNED
OREGON
NOV 10, 2020
MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
MZ

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

ELECTRICAL SPECIFICATIONS

SHEET NUMBER

E0-02

MICHAEL T. DERMYER

Last Modified: 2/19/2024 9:36:21 AM Drawing Name: C:\Revit\Projects\2350003933 GO Salem OR MEP V22_hanna.lalonde_20240219093312.rvt

LIGHTING FIXTURE SCHEDULE NOTES:
1. CES SHALL PROVIDE 2 PAIR OF 10' AIRCRAFT CABLES (TAMLITE# HB-2PK-10FT).

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:
1. FIXTURE AND LAMPS ARE FURNISHED BY GROCERY OUTLET. INSTALLED BY ELECTRICAL CONTRACTOR.
2. FOR OWNER FURNISHED LIGHT FIXTURES: CONTRACTOR SHALL DESIGNATE A PRIMARY POINT OF CONTACT WITH THE OWNER'S LIGHT FIXTURE SUPPLIER TO COORDINATE AND FACILITATE THE RECEIPT, HANDLING AND REPLACEMENT OF LIGHT FIXTURES AND RELATED PARTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, INSPECTING, STORING AND INSTALLING ALL LIGHT FIXTURES AND RELATED PARTS. THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE LIGHT FIXTURE SUPPLIER OF ANY INCORRECT, DAMAGED OR MISSING LIGHT FIXTURES AND RELATED PARTS WITHIN 48 HOURS OF ON-SITE RECEIPT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THAT THE PROPER LIGHT FIXTURES ARE FURNISHED IN ACCORDANCE WITH THE LIGHT FIXTURE SCHEDULE AND THE APPROVED LIGHTING SUBMITTALS PRIOR TO INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL COSTS INCURRED DUE TO REPLACEMENT/REPAIR OF LIGHT FIXTURES AND RELATED PARTS AFTER ON-SITE RECEIPT. CONTRACTOR SHALL NOTIFY THE OWNER'S LIGHT FIXTURE SUPPLIER OF ANY MISSING LIGHT FIXTURES AND RELATED PARTS REQUIRED FOR PROJECT COMPLETION.

FIXTURE PURCHASE NOTE:
ALL LIGHT FIXTURES, INTERIOR AND EXTERIOR, AND RELATED COMPONENTS SHALL BE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL ORDER LIGHT FIXTURES THROUGH OWNER APPROVED LIGHTING VENDOR. CONTACT CES/CNS FOR SHIPPING INFORMATION.

CES/CNS PRIMARY CONTACT:
NANCY RAMDON-CONNOLLY
P: (415) 307-8579
EMAIL: GROCERYOUTLET@CESACCOUNTS.COM

LIGHTING FIXTURE SCHEDULE - INTERIOR

TYPE	COUNT	FIXTURE TYPE	MANUFACTURER	CATALOG NUMBER	VOLTS	WATTS	MOUNTING	NOTE
A-1	61	4' HIGHBAY, 15,000 LUMENS, TWO DRIVER, 80CRI, 4000K, FROSTED LENS, 112W	TAMLITE	IBLED-4-4-150D2-L8-40-LF1	120 V	112	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
A-2	17	4' HIGHBAY, 15,000 LUMENS, TWO DRIVER, 80CRI, 4000K, FROSTED LENS, 112W, EM 2000 LUMEN BACKUP	TAMLITE	IBLED-4-4-150D2-L8-40-LF1-EM	120 V	112	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
B-1	13	4' HIGHBAY, 15,000 LUMENS, TWO DRIVER, 80CRI, 4000K, FROSTED LENS, 112W	TAMLITE	IBLED-4-4-150D2-L8-40-LF1	120 V	112	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
B-2	4	4' HIGHBAY, 15,000 LUMENS, TWO DRIVER, 80CRI, 4000K, FROSTED LENS, 112W, EM 2000 LUMEN BACKUP	TAMLITE	IBLED-4-4-150D2-L8-40-LF1-EM	120 V	112	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
C-1	8	4' NARROW STRIP, 4,000LM, 4K, OPAQUE LENS	TAMLITE	SLNLED-4-40D1-01-L8-40	120 V	34	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
C-2	7	4' NARROW STRIP, 4,000LM, 4K, OPAQUE LENS, INTGRATED EMERGENCY BATTERY-2000LM BACK UP	TAMLITE	SLNLED-4-40D1-01-L8-40-EM	120 V	34	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
CY	3	LED SURFACE MOUNTED CANOPY, 3750LM, 70CRI, 4000K,	ORACLE	OVR-101-LED-4000L-DIM10-MVOLT-40K-BZ	120 V	27	<varies>	<varies >
D-1	2	4' HIGHBAY, 10,000 LUMENS, ONE DRIVER, 80CRI, 4000K, FROSTED LENS, 81W	TAMLITE	IBLED-4-2-100D1-L8-40-LF1	120 V	81	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
D-2	2	4' HIGHBAY, 10,000 LUMENS, ONE DRIVER, 80CRI, 4000K, FROSTED LENS, 81W, EM 2000 LUMEN BACKUP	TAMLITE	IBLED-4-2-100D1-L8-40-LF1-EM	120 V	81	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
V-1	7	4' VAPORTIGHT, 8000LM, ONE DRIVER, CLEAR RIBBED LENS, 85CRI, 4K, FREEZERS OPERATE AT -12°F	TAMLITE	CTNLED-4-80-D1-LCR1-L8-40	120 V	34	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	1
V-2	4	4' VAPORTIGHT, 8000LM, ONE DRIVER, CLEAR RIBBED LENS, 85CRI, 4K, EM 2000 LUMEN BACKUP, FREEZERS OPERATE AT -12°F	TAMLITE	CTNLED-4-80D1-LCR1-L8-40-EM	120 V	34	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI.	
X1	5	DIE-CAST EM, 1 FACE, WHITE W/ GREEN LETTERS & BATTERY BACKUP	TAMLITE	EXD3GWWEM	120 V	4	REFER TO LIGHTING PLAN FOR MOUNTING HEIGHT. VERIFY WITH GOI. PROVIDE FACES AND CHEVRONS AS SHOWN ON THE DRAWINGS	
XE	3	TWIN HEAD EMERGENCY LIGHT FIXTURE WITH 90 MIN BATTERY BACKUP	TAMLITE	ESR-LED-WP	120 V	3	SURFACE MOUNTED ON BUILDING EXTERIOR. ELEVATION AS NOTED ON PLAN.	

LIGHTING GENERAL NOTES

1. ALL SWITCHES, SENSORS, AND ADDITIONAL LIGHTING CONTROLS DEVICES ARE PROVIDED AND INSTALLED BY E.C. UNLESS OTHERWISE NOTED.
2. INSTALLATION OF CONDUITS AND WIRES SHALL BE CONCEALED ABOVE THE CEILING AND BEHIND WALLS. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FOR EXPOSED LOCATIONS PRIOR TO ROUGH IN. USE WIREMOLD IN EXPOSED AREAS.
3. ALL EXIT AND EMERGENCY LIGHTS TO BE CONNECTED AHEAD OF ALL LIGHT SWITCHES AND CONTROLS.
4. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHT AND EXACT LOCATION OF LIGHT FIXTURES.
5. E.C. SHALL REFER TO REFRIGERATION DRAWINGS FOR LIGHTING AND EMS CONTROL INFORMATION AND REQUIREMENTS.
6. EXIT SIGNS SHALL BE INTERNALLY OR EXTERNALLY ILLUMINATED AT ALL TIMES. EXTERNALLY ILLUMINATED EXIT SIGNS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM (BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR) THAT WILL ILLUMINATE THE EXIT SIGNS FOR A DURATION OF NOT LESS THAN 90 MIN IN CASE OF PRIMARY POWER LOSS.
7. WALL MOUNTED EXITS SIGNS SHALL BE MOUNTED 12" ABOVE DOOR FRAME AND CENTERED ABOVE DOOR OPENING, UNLESS NOTED OTHERWISE. CEILING/PENDANT MOUNTED EXIT SIGNS SHALL BE SUSPENDED TO 12'-0" AFF IN CUSTOMER AREAS OPEN TO STRUCTURE, AT BOTTOM OF BAR JOISTS IN BACKROOM AREAS AND ON FINISHED CEILING WHERE APPLICABLE, UNLESS NOTED OTHERWISE. EXIT SIGNS SHALL BE READILY VISIBLE FROM DIRECTION OF EGRESS TRAVEL. COORDINATE FINAL EXIT SIGN LOCATIONS WITH AHJ AND OWNER.
8. SUSPEND BACK OF HOUSE, RECEIVING AND STOCKROOM AREA LIGHT FIXTURES AS HIGH AS PRACTICABLE IN ORDER TO AVOID DAMAGE DURING STOCKING, UNLESS NOTED OTHERWISE. SUSPEND JUST BELOW REFRIGERATION PIPING, DUCTWORK AND SIMILAR OBSTRUCTIONS WHERE NECESSARY TO AVOID SHADOWS. COORDINATE REQUIREMENTS WITH OWNER AND OTHER DISCIPLINES PRIOR TO INSTALLATION.
9. PROVIDE ALL NECESSARY LOW VOLTAGE CONTROL WIRING, BOXES, AND CONDUIT FROM CONTROL DEVICES TO LIGHT FIXTURES AS REQUIRED FOR PROPER OPERATION. (LOW VOLTAGE WIRING MAY NOT BE SHOWN ON PLAN FOR CLARITY). COORDINATE REQUIREMENTS WITH LIGHT FIXTURE AND CONTROL MANUFACTURER PRIOR TO INSTALLATION.

HEI DISCLAIMER NOTE:

THE LOCATION AND SELECTION OF THE LIGHT FIXTURES WERE MADE BY OTHERS AND ARE OUTSIDE OF THE SCOPE OF WORK OF HENDERSON ENGINEERS, UNLESS NOTED OTHERWISE. HENDERSON ENGINEER'S SCOPE OF SERVICES IS LIMITED TO PROVIDING LIGHTING POWER CIRCUIT AND CONTROL DESIGN AND CODE COMPLIANCE CALCULATIONS. THE USE OF THE SEAL AND SIGNATURE ON THIS SHEET APPLIES TO HENDERSON ENGINEER'S SCOPE OF SERVICES ONLY.

ELECTRICAL PLAN NOTES:

E001 INDOOR PHOTOCELL STEM MOUNTED WITH JUNCTION BOX BELOW LIGHT FIXTURES, POINTING DOWN. PHOTOCELLS PROVIDED BY REFRIGERATION OEM, INSTALLED BY RC, WIRED BY EC. EC TO PROVIDE 3C-18 AWG FROM LIGHTING CONTROL PANEL TO EACH DEVICE. FINAL TERMINATIONS BY RC. VERIFY LOCATION WITH RC.

E003 CEILING MOUNTED OCCUPANCY SENSOR WITH POWER PACK IN FREEZER/COOLER, PROVIDED, INSTALLED AND WIRED BY EC. WET, REFRIGERATION LISTED, BY WATTSTOPPER CB-100 OR EQUAL. SEE REFRIGERATION DRAWINGS FOR FREEZER/COOLER BOX LIGHTING INFORMATION.

E004 WALL SWITCH OCCUPANCY SENSOR (VACANCY TYPE FOR OFFICES <250 SQ FT.) WITH ON/OFF AND DIMMING, DUAL TECHNOLOGY, PROVIDED, INSTALLED AND WIRED BY EC. DEVICE MODEL BY SENSOR SWITCH NWSX-PDT-LV-DX OR EQUAL. SENSOR SHALL BE CONNECTED VIA CAT-5 WITH POWER PACKS FEEDING LIGHT FIXTURES (NPP16-D OR EQUAL) AND FANS/CONTROLLED OUTLETS (NPP16-PLT24 OR EQUAL). ALL SWITCHES, POWER PACKS AND WIRING BY EC. VERIFY FINAL LOCATION PRIOR TO ROUGH-IN.

E007 DIMMING CONTROL WIRING HOMERUN TO DIMMING MODULES. SEE LIGHTING CONTROL DETAILS ON E5 SERIES SHEETS FOR COMPLETE LIGHTING CONTROL DETAILS AND REQUIREMENTS.

E008 SALES FLOOR AND STOCK ROOM LOCAL MANUAL DIMMING OVERRIDE PANEL PROVIDED BY REFRIGERATION MANUFACTURER, INSTALLED BY RC, WIRED BY EC. PROVIDE 2C-18 AWG SHIELDED CABLE IN CONDUIT TO LIGHTING CONTROL PANEL AT POWERWALL. VERIFY FINAL LOCATION IN THE FIELD.

E009 120-MINUTE OVERRIDE AS REQUIRED BY ENERGY CODE, LOCATED IN THE EMS PANEL, FACTORY WIRED BY EMS PANEL OEM. COORDINATE WORK AND REQUIREMENTS WITH REFRIGERATION CONTRACTOR AND GOI PROJECT MANAGER.

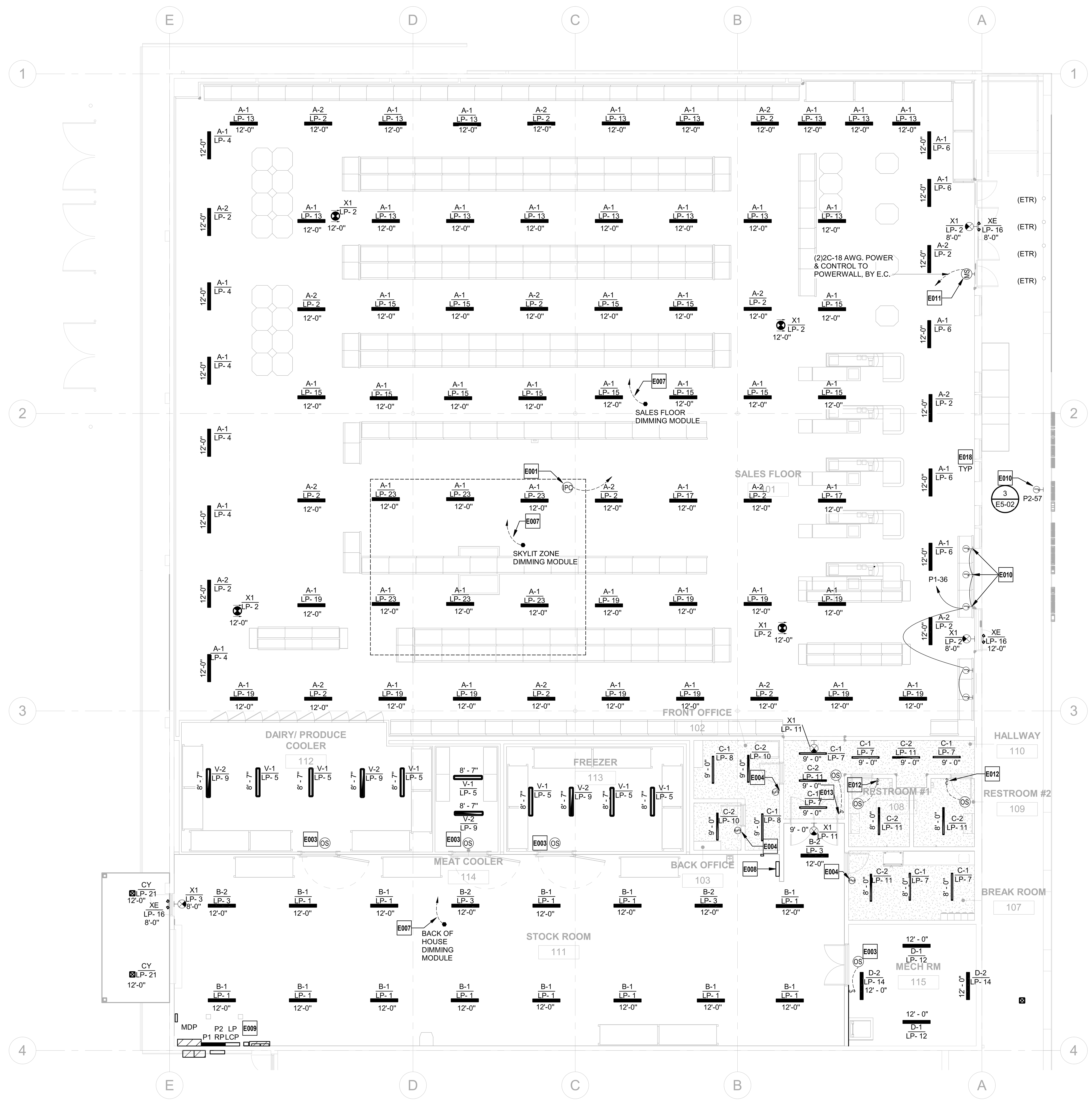
E010 POWER FOR STORE SIGNS PROVIDED BY E.C. PROVIDE JUNCTION BOX AT EACH SIGN LOCATION FOR CONNECTION TO POWER SUPPLY DISCONNECT. POWER SUPPLY AND DISCONNECT PROVIDED BY VENDOR. COORDINATE EXACT LOCATION WITH ARCHITECT AND SIGN VENDOR PRIOR TO INSTALLATION.

E011 120-MINUTE HOUSEKEEPING OVERRIDE MOTION SENSOR PROVIDED BY REFRIGERATION OEM, INSTALLED BY RC. EC TO PROVIDE PROVIDE (2)2C-18 AWG CABLE TO EACH DEVICE FROM THE EMS PANEL. FINAL TERMINATIONS BY RC. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH RC.

E012 PROVIDE A TOGGLE SWITCH FOR LIGHTING CONTROL, INTERLOCKED WITH CEILING MOUNTED EXHAUST FAN. EXHAUST FAN CONTROLLED BY SAME OCCUPANCY SENSOR/SWITCH AS ROOM LIGHT. SENSORS, SWITCHES AND POWER PACKS PROVIDED, INSTALLED AND WIRED BY EC. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH MC.

E013 PROVIDE LOW-VOLTAGE WALL POD, SINGLE CHANNEL WITH ON/OFF AND DIMMING CONTROL, BY SENSOR SWITCH NPODM DX OR EQUAL. SENSORS, SWITCHES AND POWER PACKS PROVIDED, INSTALLED AND WIRED BY EC. VERIFY FINAL LOCATION PRIOR TO ROUGH-IN. SEE LIGHTING CONTROL DETAILS ON E5 SERIES SHEETS.

E018 AUTOMATIC DAYLIGHT CONTROL NOT REQUIRED FOR DAYLIGHT AREAS AT FRONT OF STORE PER 2019 ASHRAE 90.1 9.4.1(F) BECAUSE THE WATTAGE IN THE AREA IS LESS THAN 150W.



1 E1-11 LIGHTING PLAN
SCALE: 1/8" = 1'-0"

NORTH

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EXPIRES ON: 12/31/2025

02/20/2024

PROFESSIONAL IN CHARGE
CO
PROJECT MANAGER
JR
QUALITY CONTROL
DWC
DRAWN BY
MZ

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

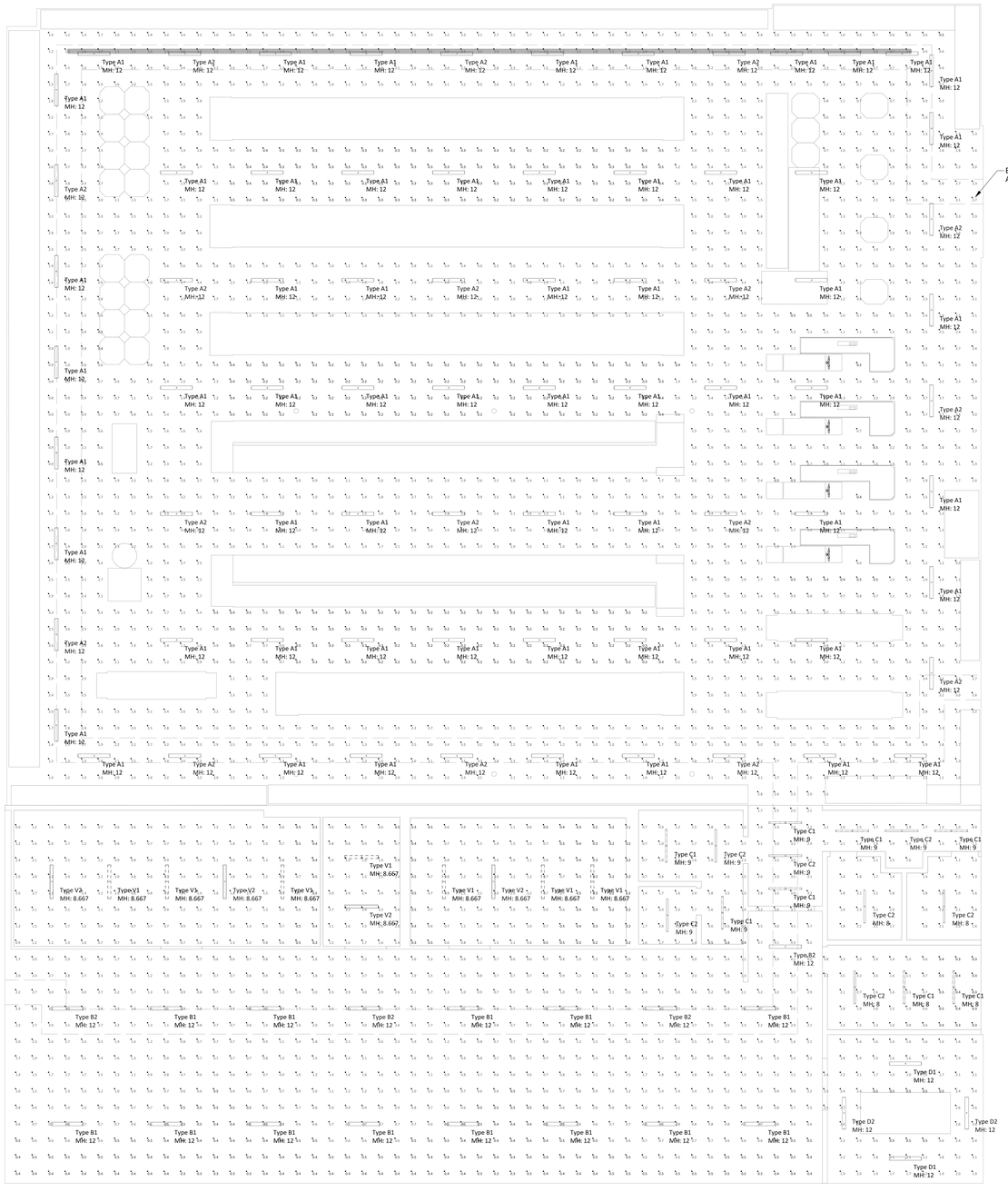
PROJECT NUMBER
20230973.0
SHEET TITLE
LIGHTING PLAN

SHEET NUMBER
E1-11

MICHAEL T. DERMYER

LIGHTING GENERAL NOTES:

1. THE EMERGENCY LIGHTING SYSTEM HAS BEEN DESIGNED TO PROVIDE AN INITIAL FLOOR ILLUMINANCE LEVEL OF 1 FC AVERAGE, 0.1 FC MINIMUM AND NO MORE THAN A 40:1 MAX/MIN RATIO ALONG THE EMERGENCY EGRESS PATHS. WHERE APPLICABLE, ADJUST AIMING OF EMERGENCY LIGHTS AS REQUIRED TO PROVIDE PROPER ILLUMINATION AT FLOOR AVOIDING OBSTACLES AND SHADOWS AFTER STORE SET-UP IS COMPLETE.



STATISTICAL SUMMARY

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Path of Egress	Illuminance	Fc	2.16	4.3	0.6	3.60	7.17

1 E1-12 INTERIOR EMERGENCY LIGHTING PHOTOMETRIC PLAN
SCALE: NOT TO SCALE

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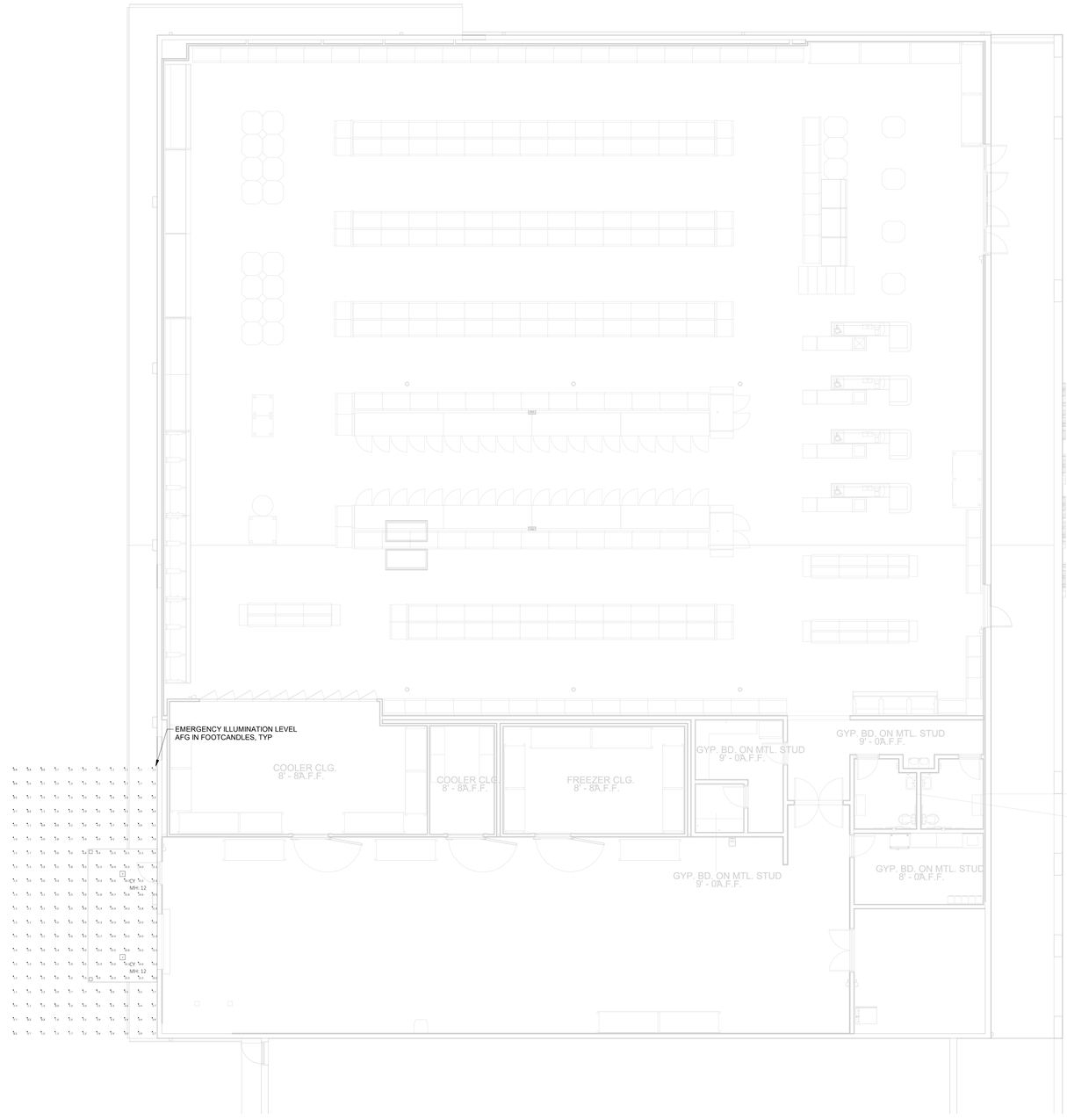
PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
INTERIOR EMERG. LIGHTING PHOTOMETRIC PLAN
SHEET NUMBER
E1-12



STATISTICAL SUMMARY

LPD Area Summary			
Label	Area	Total Watts	LPD
GO South Salem Exterior	19123	53.0346	0.003

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Loading Dock Canopy	Illuminance	Fc	13.10	16.8	9.4	1.39	1.79

1 EXTERIOR LIGHTING PHOTOMETRIC PLAN
NOT TO SCALE

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CO
PROJECT MANAGER
JR
QUALITY CONTROL
DWC
DRAWN BY
MZ

PROJECT NAME

GROCERY OUTLET

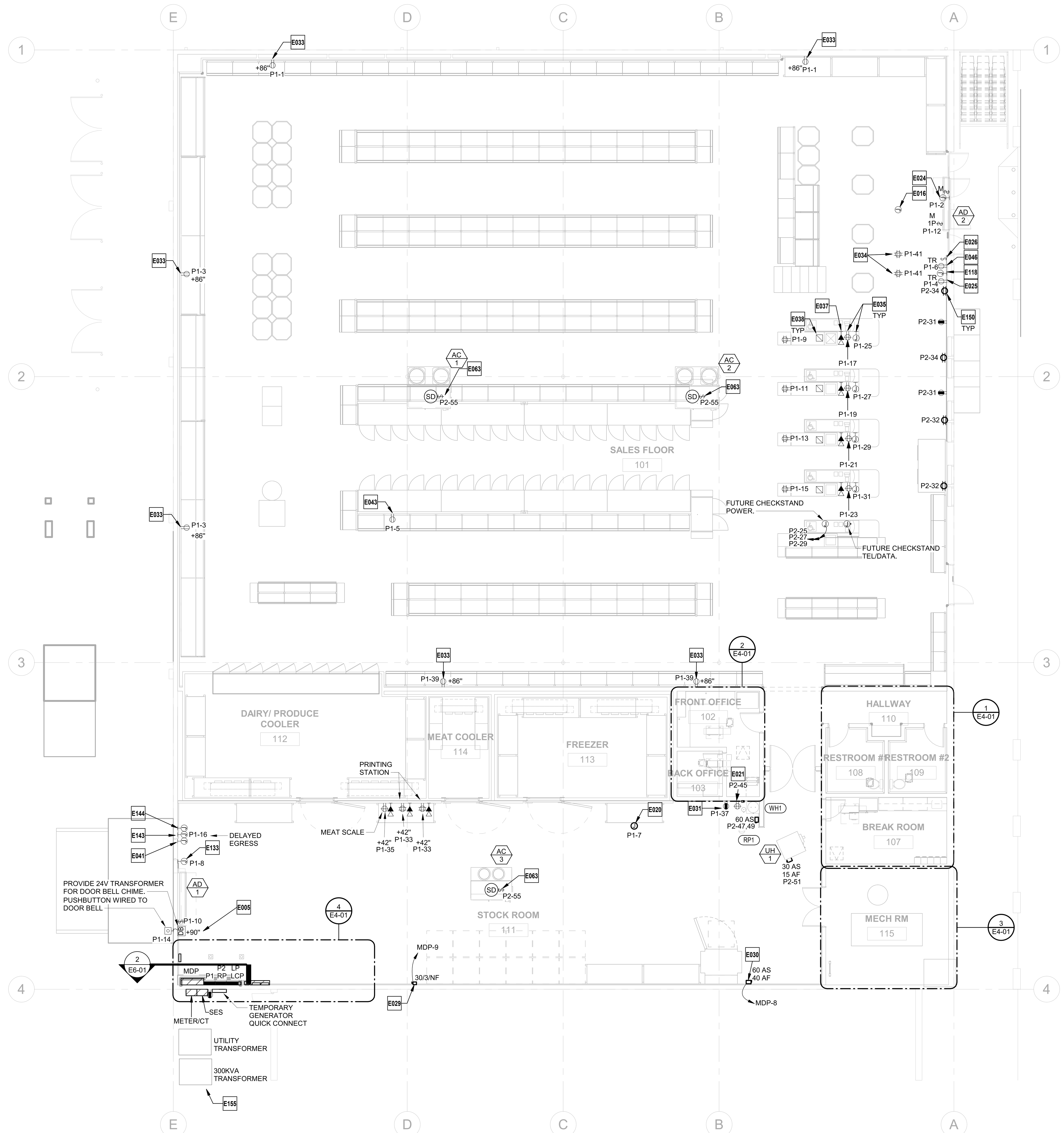
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0
SHEET TITLE
EXTERIOR LTG. PHOTOMETRIC PLAN
SHEET NUMBER
E1-13

ELECTRICAL CONTRACTOR SHALL FULLY REVIEW REFRIGERATION AND HVAC DRAWINGS AND SHALL INCLUDE IN BID ALL WORK THAT IS TO BE COMPLETED BY ELECTRICAL CONTRACTOR, INCLUDING ALL SWITCHES, CONDUITS, BELDEN CABLES, CONTROL WIRES, POWER WIRES ETC, AS CALLED OUT ON REFRIGERATION AND HVAC DRAWINGS FOR A COMPLETE AND OPERABLE REFRIGERATION SYSTEM. NO CHANGE ORDER SHALL BE ALLOWED.

POWER GENERAL NOTES

1. INSTALLATION OF CONDUITS AND WIRES SHALL BE CONCEALED ABOVE THE CEILING AND BEHIND WALLS. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FOR EXPOSED LOCATIONS PRIOR TO ROUGH IN. USE WIREMOLD IN EXPOSED AREAS.
2. PROVIDE APPROVED HANDLE TIE FOR ALL MULTIWIRE BRANCH CIRCUITS AS REQUIRED PER NEC ART. 210.4(B).
3. THE BOTTOM OF THE RECEPTACLE OUTLET BOXES SHALL NOT BE LESS THAN FIFTEEN INCHES ABOVE FINISHED FLOOR AND THE TOP OF THE OUTLET BOXES FOR CONTROLS AND SWITCHES SHALL NOT BE MORE THAN FORTY-EIGHT INCHES ABOVE THE FINISHED FLOOR.
4. REFER TO ARCHITECTURAL PLANS FOR POWER POLE CABLE ROUTING TO ELECTRICAL PANEL AND SERVER.
5. DEVICES AND EQUIPMENT DESIGNATED WITH "(E)" ARE FROM SHELL DRAWINGS. REFER TO SHELL DRAWINGS FOR MORE INFORMATION.
6. G.C. TO COORDINATE AND VERIFY LOCATIONS OF ALL OFFICES EQUIPMENT WITH GROCERY OUTLET PROJECT MANAGER PRIOR TO INSTALLATION.
7. REFER TO ROOM FINISH SCHEDULE FOR FINISHES AT WALLS, FLOORS AND CEILINGS.
8. ALL DEVICE PLUGS AND CONVENIENCE OUTLETS SHALL BE AT ACCESSIBLE HEIGHTS.
9. MINIMUM CONDUIT SIZE TO BE 3/4" UNLESS NOTED OTHERWISE. PROVIDE CHAFING PROTECTION AT ALL EXPOSED CONDUIT ENDS WITHOUT J-BOXES AND ALSO PROVIDE PULL-STRINGS FOR ALL J-BOXES. ALL J-BOXES/ JACKS TO BE LOCATED UNDER THE COUNTERS UNLESS NOTED OTHERWISE.
10. 24"X24" PANEL CEILING ACCESS WITH PLYWOOD BETWEEN OFFICES TO ALLOW PERSON TO WALK/CRAWL BETWEEN OFFICES.
11. IF A SOLID WALL (IE CONCRETE MASONRY OCCURS BETWEEN THE CHECK STANDS AND OFFICES, CONTRACTOR TO PROVIDE AN OPENING AS REQUIRED FOR WIRING / CABLING ACCESS.
12. G.C. TO PROVIDE VIEW LITES IN BOTH OFFICE DOORS. SEE DOOR SCHEDULE ON ARCHITECTURAL PLANS.
13. CONTRACTOR TO SEAL ALL CONDUITS AND PENETRATIONS AT COOLER BOXES AND EQUIPMENT ROOM.



1 E1-21 POWER PLAN
SCALE: 1/8" = 1'-0"

NORTH

ELECTRICAL PLAN NOTES:

E005 PROVIDE POWER PACKS TO FEED LIGHT FIXTURES BY SENSOR SWITCH nPP16-D OR EQUAL AND FANS/CONTROL OUTLETS BY SENSOR SWITCH nPP16-PLT24 OR EQUAL.

E016 E.C. TO PROVIDE 1/2"C FROM SALES FLOOR TO VESTIBULE TO THE CEILING ON EACH SIDE. PROVIDE PATH TO EXTERIOR FRONT DOORS (FOR ALARM WIRING TO THE FACTORY INSTALLED/BUILT-IN DOOR CONTACTS) TO THE CEILING.

E020 CEILING MOUNTED JUNCTION BOX FOR HEAT TRACE CONNECTION. PROVIDE 2C-12 AWG FROM ETCS CONTROLLER TO EACH HEAT TRACE LOCATION. REFER TO PLUMBING PLANS FOR MORE DETAILS.

E021 120V 20A CIRCUIT FOR RECIRCULATION PUMP. VERIFY LOCATION PRIOR TO INSTALLATION.

E024 PROVIDE NEW CIRCUITRY AND SWITCH TO EXISTING AUTO DOOR. NOTIFY OWNER IF EXISTING DOOR IS NOT IN PROPER WORKING ORDER.

E025 RECEPTACLE FOR STORE OPEN SIGN. VERIFY MOUNTING HEIGHT AND LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN.

E026 NEW INDOOR JUNCTION BOX WITH TOGGLE SWITCH FOR CONNECTION OF SIGNAGE. E.C. TO VERIFY FUNCTIONALITY CONNECTIONS AND EXACT LOCATION. REFER TO PANEL SCHEDULE FOR CIRCUIT NUMBER INFO.

E029 PROVIDE A DISCONNECT SWITCH FOR CONNECTION OF FORKLIFT CHARGER. VERIFY OUTLET VOLTAGE AMPERAGE REQUIREMENTS AND LOCATION WITH STORE OWNER PRIOR TO ROUGH-IN. EQUIPMENT BY OWNER. DISCONNECT CONDUIT WIRING AND CONNECTION BY E.C.

E030 PROVIDE A DISCONNECT SWITCH FOR CONNECTION OF BALER. VERIFY RECEPTACLE VOLTAGE AMPERAGE REQUIREMENTS AND LOCATION WITH STORE OWNER PRIOR TO ROUGH-IN. EQUIPMENT BY OWNER. DISCONNECT CONDUIT WIRING AND CONNECTION BY E.C.

E031 20A 120V RECEPTACLE FOR CONNECTION OF FLOOR SCRUBBER WITH BUILT-IN DISCONNECT SWITCH. VERIFY OUTLET VOLTAGE AMPERAGE REQUIREMENTS AND LOCATION WITH STORE OWNER PRIOR TO ROUGH-IN. EQUIPMENT BY OWNER. CONDUIT WIRING AND CONNECTION BY E.C.

E033 CONVENIENCE WALL MOUNT OUTLET WITH METAL COVER PLATE. MOUNT J-BOX AT +86" & PROVIDE FLEX CONDUIT WITH WALL MOUNTED CLAMPS TO RECEPTACLE IN RACK TOE-KICK. VERIFY FINAL INSTALLATION LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN.

E034 RECEPTACLE IN CEILING FOR SECURITY AND PUBLIC VIEWING MONITORS. COORDINATE LOCATIONS WITH CCTV VENDOR PRIOR TO ROUGH-IN.

E035 PROVIDE ISOLATED GROUND RECEPTACLE WITH ADDITIONAL ISOLATED GROUND WIRE FOR CHECK STAND EQUIPMENT POWER. PROVIDE SEPARATE CIRCUIT AND JUNCTION BOX FOR CHECK STAND BELT POWER.

E037 PROVIDE POWER AND DATA OUTLETS CONNECTIONS AND POWER POLE PER GOI CHECK STAND REQUIREMENTS.

E038 POWER AND DATA WIRING ROUTED SEPARATELY THROUGH TWO-COMPARTMENT POWER POLE AT EACH CHECK STAND. COORDINATE EXACT POWER POLE LOCATION AND REQUIREMENTS WITH GOI PROJECT MANAGER AND FIXTURE INSTALLER.

E041 PROVIDE 1-GANG JUNCTION BOX 2" FROM TOP DOOR LATCH SIDE (OPPOSITE OF DOOR HINGE) WITH 1/2"C ROUTED ABOVE CEILING ON ALL EXTERIOR MAN DOORS. E.C. SHALL CONFIRM EXACT LOCATIONS OF EMERGENCY EXIT DOORS AND ALARM SYSTEM CONTROL PANEL WITH GOI CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

E043 COFFEE GRINDER RECEPTACLE. COORDINATE FINAL LOCATION WITH MERCHANDISING SET CREW AND GO PROJECT MANAGER PRIOR TO ROUGH-IN.

E046 RECEPTACLE FOR SMART CART CHARGER. VERIFY MOUNTING HEIGHT AND LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN.

E063 ROOFTOP UNIT DUCT SMOKE DETECTOR PROVIDED BY MECHANICAL CONTRACTOR, WIRING BY EC. COORDINATE EXACT LOCATION WITH MECHANICAL CONTRACTOR. REFER TO MECHANICAL PLANS FOR MORE INFORMATION.

E118 E.C. TO PROVIDE 1/2"C WITH 1-GANG BACK BOX TO THE CEILING (SEPARATE FROM ANNUNCIATOR) FOR KEYPAD LOCATED AT THE FRONT DOOR. COORDINATE WITH GO PROJECT MANAGER FOR THE EXACT LOCATION.

E133 E.C. TO PROVIDE 1/2"C TO 1-GANG J-BOX 6" AFF (OPPOSITE SIDE OF COMMON FORKLIFT PATH) TO CEILING ON ALL ROLL-UP DOORS. E.C. SHALL CONFIRM EXACT LOCATIONS OF ROLL-UP DOORS AND ALARM SYSTEM CONTROL PANEL WITH GO CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

E143 DELAYED EGRESS CONTROL BOX POWER SUPPLY AND ALL REQUIRED CONNECTIONS TO THE DELAYED EGRESS DOOR SHALL BE PROVIDED AND INSTALLED BY SPECIALTY INSTALLER.

E144 E.C. TO PROVIDE (3)1/2"C FOR FA POWER SUPPLY & POWER TRANSFER WIRING FROM DELAYED EGRESS CONTROL BOX, LOCATED 2" FROM TOP DOOR LATCH SIDE TO THE CEILING ON ALL EXTERIOR MAN DOORS. E.C. SHALL CONFIRM EXACT LOCATIONS OF EMERGENCY EXIT DOORS WITH GO CONSTRUCTION MANAGER PRIOR TO INSTALLATION. REFER TO THE INSTALLATION MANUAL FOR THE EXACT CONNECTIONS AND REQUIREMENTS.

E150 PROVIDE SHOW WINDOW RECEPTACLE WITHIN 18" OF TOP OF WINDOW FOR EACH 12 LINEAR FEET OF WINDOW IN ACCORDANCE WITH NEC 210.62. MOUNT RECEPTACLE ON WALL OR CEILING AS APPLICABLE. COORDINATE LOCATION WITH OTHER TRADES PRIOR TO ROUGH-IN.

E155 COORDINATE FINAL LOCATION OF NEW GO TRANSFORMER WITH LANDLORD, UTILITIES, AND OTHER TRADES. PROVIDE 4" CONCRETE HOUSEKEEPING PAD AND PROTECTIVE BOLLARDS AS NEEDED.

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PROFESSIONAL SEAL
EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER 96696PE DIGITALLY SIGNED OREGON NOV 10, 2020 MICHAEL T. DERMYER
02/19/2024

PROFESSIONAL IN CHARGE
CO
PROJECT MANAGER
JR
QUALITY CONTROL
DWC
DRAWN BY
MZ

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

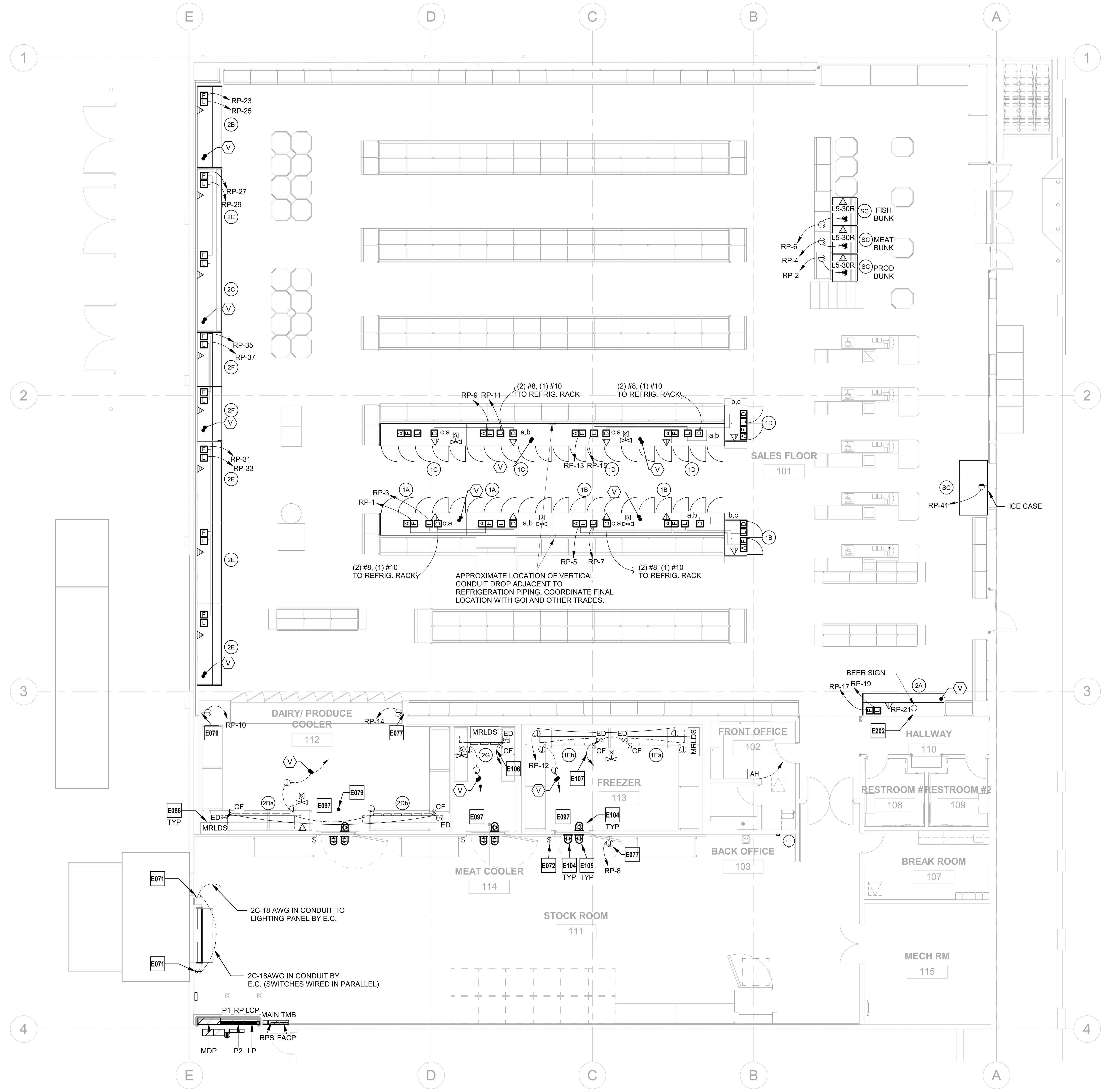
SHEET TITLE
POWER PLAN

SHEET NUMBER
E1-21

MICHAEL T. DERMYER

REFRIGERATION GENERAL NOTES

1. INSTALLATION OF CONDUITS AND WIRES SHALL BE CONCEALED ABOVE THE CEILING, BEHIND WALLS, AND SHALL NOT BE UNDER THE SLAB. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FOR EXPOSED LOCATIONS PRIOR TO ROUGH IN. USE WIREMOLD IN EXPOSED AREAS.
2. THE BOTTOM OF THE RECEPTACLE OUTLET BOXES SHALL NOT BE LESS THAN FIFTEEN INCHES ABOVE FINISHED FLOOR AND THE TOP OF THE OUTLET BOXES FOR CONTROLS AND SWITCHES SHALL NOT BE MORE THAN FORTY-EIGHT INCHES ABOVE THE FINISHED FLOOR.



1 E1-31 REFRIGERATION POWER PLAN
SCALE: 1/8" = 1'-0"

NORTH

SYMBOL LEGEND

- (#) • REFRIGERATION SYSTEM NUMBER
- ⟨C⟩ • CONTROL WIRING TO THE RACK CONTROL PANEL FROM EITHER CASES OR COILS. ALL WIRING IS TO BE PER THE DEFROST WIRING SCHEMES ON REFRIGERATION SHEETS. PULL 14 AWG CONTROL WIRES FOR EACH INSTANCE OF THIS NOTE BEING SHOWN. PROVIDED AND INSTALLED BY E.C.
- ⟨V⟩ • LOW VOLTAGE CONTROL WIRING TO THE ESR BOARD IN THE RACK CONTROL PANEL FROM EITHER CASES OR COILS. E.C. TO SUPPLY AND INSTALL 4C-14 AWG CONTROL WIRES AND CONDUIT.
- ▲ • FIXTURE TEMPERATURE SENSOR, RUN ENERGY MANAGEMENT CABLE IN SEPARATE CONDUIT (FOR LOW VOLTAGE TEMPERATURE SENSOR) FROM EACH SENSOR TO RACK PANEL, PROVIDED, INSTALLED BY E.C. CABLE TYPE 2C-18 AWG SHIELDED CABLE. SEE INSTALLATION DETAIL & COORDINATE W/R.C. FOR EXACT LOCATION.
- S • SOLENOID VALVE, PROVIDED BY RACK MANUFACTURER, INSTALLED BY R.C., WIRED BY E.C.
- V • EEPR VALVE, PROVIDED BY RACK MANUFACTURER, INSTALLED BY R.C., WIRED BY E.C.
- (PC) • PHOTOCELL ON THE ROOF (FACING NORTH) WITH 3C-18 AWG SHIELDED CABLE & CONDUIT TO RACK PANEL BY E.C.
- (IPC) • INDOOR PHOTOCELL, MOUNTED BY R.C., SUPPORT ROD BY G.C., WIRED BY E.C.
- (RH) • OUTSIDE HUMIDITY SENSOR, 3C-18 AWG SHIELDED CABLE TO CONDENSER PANEL BY E.C.
- $ • COOLER/FREEZER DOOR SWITCH. PROVIDED BY RACK MANUFACTURER, INSTALLED BY R.C., WIRED BY E.C. (SWITCH CLOSED WHEN DOOR IS CLOSED)
- ● • ELECTRICAL CONDUIT STUB-UP LOCATION, PROVIDED, INSTALLED AND WIRED BY E.C.
- MRLDS • MODULAR LEAK DETECTION SENSOR. INSTALLED BY R.C., WIRED BY E.C.
- CC • REFRIGERATION CASE CONTROLLER
- D • REFRIGERATED CASE DEFROST POWER CONNECTION
- F-A • REFRIGERATED CASE FANS/ANTI-SWEAT POWER CONNECTION
- F • REFRIGERATED CASE FANS POWER CONNECTION
- L • REFRIGERATED CASE LIGHTING POWER CONNECTION
- $ CF • COIL FAN DISONNECT
- $ ED • ELECTRIC DEFROST DISCONNECT

ELECTRICAL PLAN NOTES:

E071 ROLL UP DOOR SWITCH. USE BELDEN 8761 CABLE TO LIGHTING PANEL. DOOR SWITCH CLOSED WHEN DOOR CLOSED. PROVIDED AND INSTALLED BY R.C., WIRED BY E.C.

E072 FREEZER/COOLER DOOR SWITCH FURNISHED AND INSTALLED BY R.C. WIRED BY E.C. BELDEN 8761 CABLE TO REFRIGERATION RACK. REFER TO REFRIGERATION DRAWINGS FOR WIRING REQUIREMENTS AND PROVIDE ALL WORK FOR A COMPLETE AND OPERABLE SYSTEM.

E076 PROVIDE A J-BOX FOR CONNECTION OF REFRIGERATION BOX DOORS LIGHTS. LIGHTS PROVIDED BY DOOR MANUFACTURER. REFER TO REFRIGERATION SHEETS FOR MORE INFORMATION.

E077 POWER FOR FREEZER/COOLER DOOR HEATER. REFER TO REFRIGERATION DRAWINGS FOR MORE INFORMATION. PROVIDE ALL CONNECTIONS AS REQUIRED.

E079 1/2"C FROM INSIDE THE DAIRY COOLER (CENTERED OVER DOOR AND 1" BACK) TO STRUCTURE ABOVE, WITH A 90 DEGREE SWEEP AT TOP, TERMINATING AT NEAREST STRUCTURAL MEMBER. SECURE CONDUIT AT BOTH ENDS. THIS MUST BE SEPARATE FROM ANY HIGH VOLTAGE CONDUIT.

E086 MODULAR REFRIGERANT LEAK DETECTION SENSOR (MRLDS) FOR COOLERS/FREEZERS. MOUNT BETWEEN 12"-18" AFF. FIELD VERIFY LOCATION. E.C. TO PROVIDE 2 SETS OF WIRES (2-CONDUCTOR, 18 AWG SHIELDED AND 2-CONDUCTOR, AWG, NON SHIELDED) FROM REFRIGERATION RACK PANEL TO MRLDS LEAK SENSOR AT WALK-IN BOXES.

E097 E.C TO COORDINATE WORK WITH REFRIGERATION CONTRACTOR WHILE INSTALLING NEW ELECTRICAL EQUIPMENT PRIOR TO CONSTRUCTION TO AVOID CONDUIT/REFRIGERATION LINE CONFLICT. KEEP REQUIRED CLEARANCES.

E104 PROVIDE 2C-18 AWG TO BOARD IN RACK PANEL FOR REFRIGERANT LEAK ALARM (BLUE). REFER TO REFRIGERATION SHEETS FOR MORE INFORMATION.

E105 PROVIDE 2C-18 AWG TO BOARD IN RACK PANEL FOR DOOR OPEN ALARM (AMBER). REFER TO REFRIGERATION SHEETS FOR MORE INFORMATION.

E106 E.C. SHALL PROVIDE 2#12+1#12G IN 3/4"C FOR 208V/1PH DEFROST POWER AND PULL 2#12+1#12G IN 3/4"C FOR 208V/1PH FOR COIL FAN TO RACK DEFROST PANEL IN EQUIPMENT PLATFORM. REFER TO REFRIGERATION DRAWINGS TO VERIFY ALL POWER AND CONTROL REQUIREMENTS AND PROVIDE ALL REQUIRED WORK FOR A COMPLETE AND OPERATIONAL SYSTEM.

E107 E.C. SHALL PROVIDE 3#8+1#10G IN 1"C FOR 208V/3PH DEFROST POWER AND PROVIDE 2#12+1#12G IN 3/4"C FOR 208V/1PH COIL FAN POWER TO RACK PANEL IN EQUIPMENT PLATFORM. REFER TO REFRIGERATION DRAWINGS TO VERIFY ALL POWER AND CONTROL REQUIREMENTS AND PROVIDE ALL REQUIRED WORK FOR A COMPLETE AND OPERATIONAL SYSTEM.

E202 PROVIDE AN OUTLET FOR LIGHTED CANOPY SIGN ON TOP OF CASE, WIRE TO CASE LIGHT CIRCUIT FOR CONTROL. COORDINATE FINAL LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN.

REFRIGERATION ELECTRICAL GENERAL NOTES:

1. COORDINATE ALL REFRIGERATION ELECTRICAL WORK WITH REFRIGERATION CONTRACTOR/VENDOR PRIOR TO INSTALLATION AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY; THIS INCLUDES, CONFIRMATION OF REFRIGERATION SYSTEM NUMBERS, CASE MODEL NUMBERS, CONDUIT STUB-UP AND TERMINATION LOCATIONS.
2. PROVIDE ALL CHANNEL-STRUT, (UNI-STRUT), SUPPORTS FOR OVERHEAD REFRIGERATION PIPING AS REQUIRED BY REFRIGERATION CONTRACTOR. COORDINATE FINAL QUANTITIES, LOCATIONS AND REQUIREMENTS WITH REFRIGERATION CONTRACTOR.
3. PROVIDE CONDUITS, WIRING DEVICES AND RELATED 120V CIRCUITRY FOR THE REFRIGERATION LEAK DETECTION SYSTEM. COORDINATE REQUIREMENTS WITH THE SYSTEM INSTALLER/VENDOR.
4. PROVIDE CONNECTION OF ALL CASE FANS, ANTI-SWEAT HEATERS, CASE LIGHTING, ELECTRIC DEFROST AND LINE VOLTAGE CONTROL WIRING TO ALL CASES ON SYSTEM AS REQUIRED AND DIRECTED BY REFRIGERATION CONTRACTOR. ROUTE REFRIGERATED CASE/COIL FANS (CF), LIGHTS (L), ANTI-SWEAT (AS) AND ELECTRIC DEFROST (ED) CIRCUITS TO THEIR RESPECTIVE PANELBOARD OR REFRIGERATION UNIT BUSSBAR/TERMINATION CABINET. ALL CIRCUIT BREAKERS SERVING REFRIGERATED CASES/COILS SHALL BE EQUIPPED WITH A LOCK-OFF DEVICE OR LOCAL DISCONNECT(S) FOR MAINTENANCE PURPOSES. PROVIDE DEDICATED NEUTRAL FOR EACH CIRCUIT AS INDICATED TO INSURE PROPER OPERATION OF APPLIANCE. NO MULTIWIRE BRANCH CIRCUITS ALLOWED, UNLESS NOTED OTHERWISE. REFER TO REFRIGERATION VENDOR BUSSBAR AND REFRIGERATION SCHEDULES AND LEGENDS FOR ADDITIONAL INFORMATION.
5. FOR EACH EVAPORATOR COIL, PROVIDE WEATHERPROOF CEILING MOUNTED JUNCTION BOX AND NEMA 4 MANUAL SWITCH(ES) FOR CONNECTION OF EVAPORATOR COIL FANS (CF) AND/OR ELECTRIC DEFROST (ED). PROVIDE CONDUIT AND WIRING BETWEEN JUNCTION BOX, SWITCH(ES) AND COIL FOR PROPER OPERATION. LOCATE SWITCH(ES) TO THE SIDE OF THE COIL SUCH THAT THEY ARE NOT IN FRONT OF THE DISCHARGE FAN. REFER TO THE EVAPORATOR COIL CONNECTION DETAIL FOR MORE INFORMATION.
6. LINE VOLTAGE CIRCUITRY SHALL NOT BE ROUTED IN THE SAME RACEWAY AS LOW VOLTAGE CONTROL OR COMMUNICATION WIRING. PROVIDE RACEWAY, BARRIER OR DIVIDER PER CODE.
7. INSTALLATION OF CONDUITS AND WIRES SHALL BE CONCEALED ABOVE THE CEILING, BEHIND WALLS, AND SHALL NOT BE UNDER THE SLAB. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FOR EXPOSED LOCATIONS PRIOR TO ROUGH IN. USE WIREMOLD IN EXPOSED AREAS.
8. THE BOTTOM OF THE RECEPTACLE OUTLET BOXES SHALL NOT BE LESS THAN FIFTEEN INCHES ABOVE FINISHED FLOOR AND THE TOP OF THE OUTLET BOXES FOR CONTROLS AND SWITCHES SHALL NOT BE MORE THAN FORTY-EIGHT INCHES ABOVE THE FINISHED FLOOR.

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
96696PE
DIGITALLY SIGNED
OREGON
NOV 10, 2020
MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
MZ

PROJECT NAME

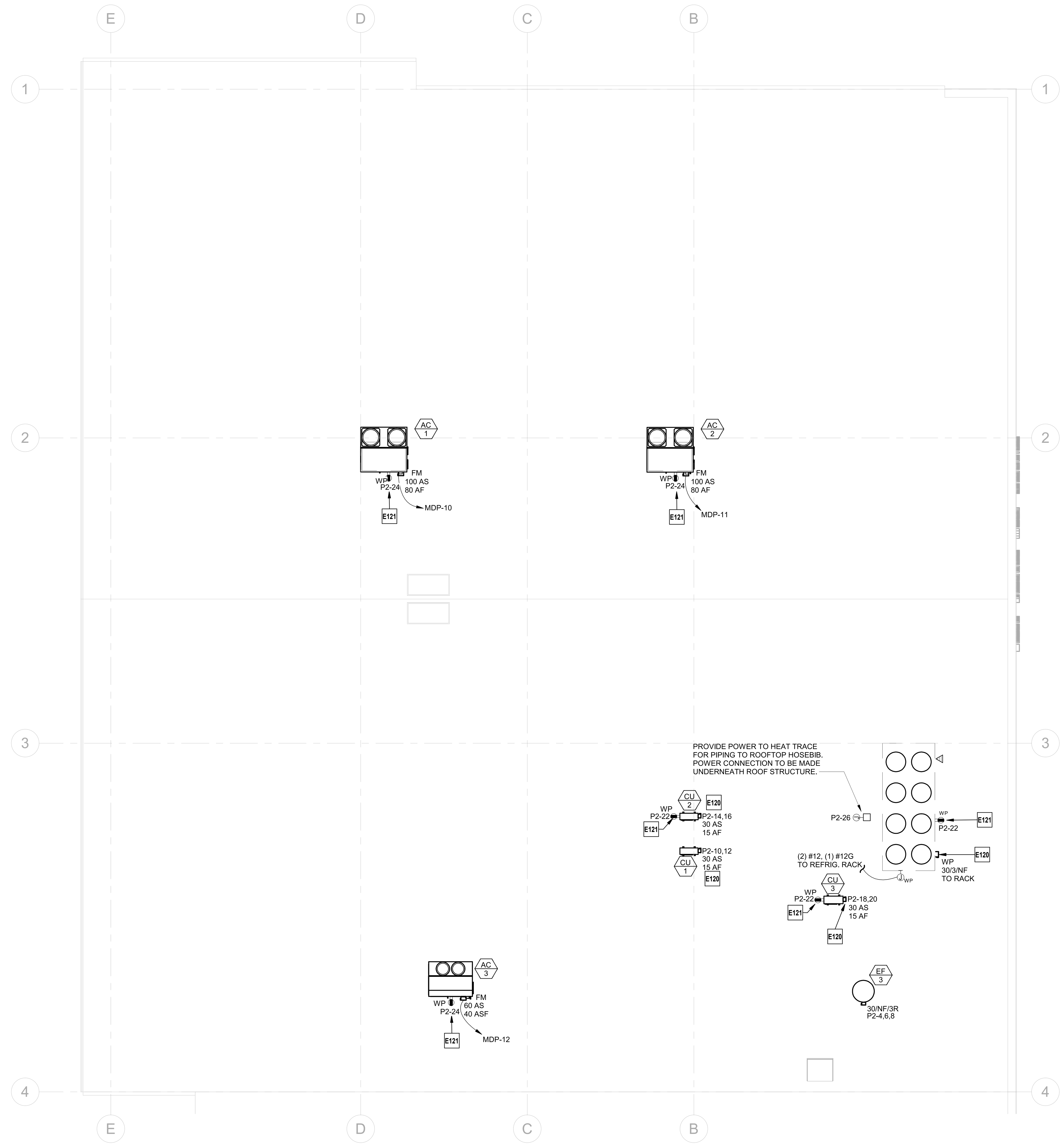
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
REFRIGERATION POWER PLAN

SHEET NUMBER
E1-31

MICHAEL T. DERMYER



2 E1-51 ROOF POWER PLAN
SCALE: 1/8" = 1'-0"

NORTH

GENERAL NOTES

1. ALL EXPOSED OUTDOOR CONDUITS SHALL BE PROVIDED WITH RIGID GALVANIZED STEEL CONDUIT. PROVIDE THE REQUIRED PULL BOXES AS NECESSARY TO FACILITATE THE ELECTRICAL INSTALLATION.
2. ALL CONDUCTORS TO BE COPPER, TYPE THWN/THHN INSULATION RATED FOR 75°C. WATERPROOFING AND FIRE STOP SHALL BE USED ON ALL PENETRATIONS THROUGH FIRE RATED WALLS.
3. CONTRACTOR TO PROVIDE ALL NECESSARY CONDUIT AND WIRING FOR CONTROL OF ALL HVAC & REFRIGERATION EQUIPMENT. COORDINATE ALL CONTROL WIRING WITH MECHANICAL & REFRIGERATION CONTRACTORS.

ELECTRICAL PLAN NOTES:

E120 E.C. TO PROVIDE UNIT MOUNTED FUSED WEATHERPROOF DISCONNECT SWITCH. COORDINATE FUSE SIZES WITH LISTED MOCP PROVIDED BY EQUIPMENT MANUFACTURER. REFER TO MECHANICAL SCHEDULES FOR MORE INFORMATION. VERIFY LOCATION.

E121 20A 120V GFCI RECEPTACLE IN WEATHERPROOF ENCLOSURE. OUTLET BOX HOOD SHALL BE LISTED AND IDENTIFIED AS "EXTRA-DUTY" PER NEC 406.9(B)(1).

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PROJECT NUMBER
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SHEET TITLE
ROOF POWER PLAN

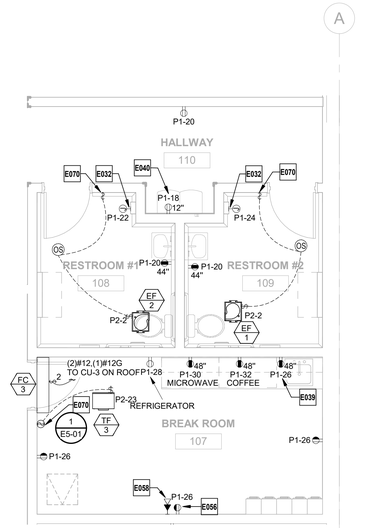
SHEET NUMBER
E1-51

MICHAEL T. DERMYER

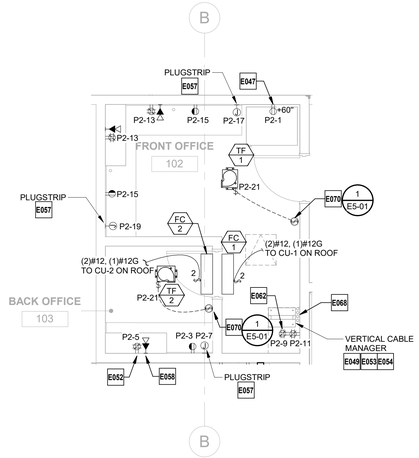
ELECTRICAL CONTRACTOR SHALL FULLY REVIEW REFRIGERATION AND HVAC DRAWINGS AND SHALL INCLUDE IN BID ALL WORK THAT IS TO BE COMPLETED BY ELECTRICAL CONTRACTOR, INCLUDING ALL SWITCHES, CONDUITS, BELDEN CABLES, CONTROL WIRES, POWER WIRES ETC, AS CALLED OUT ON REFRIGERATION AND HVAC DRAWINGS FOR A COMPLETE AND OPERABLE REFRIGERATION SYSTEM. NO CHANGE ORDER SHALL BE ALLOWED.

POWER GENERAL NOTES

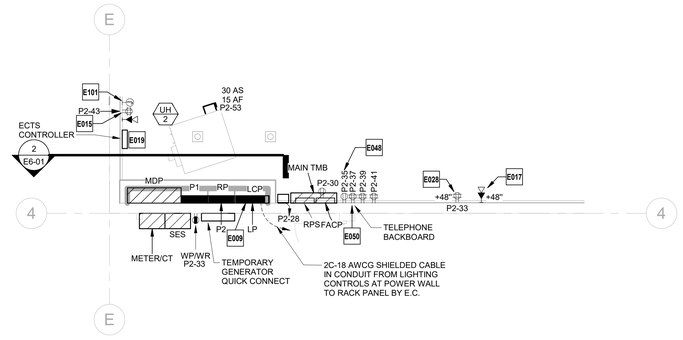
1. INSTALLATION OF CONDUITS AND WIRES SHALL BE CONCEALED ABOVE THE CEILING AND BEHIND WALLS. WHERE NOT POSSIBLE, CONTRACTOR SHALL OBTAIN APPROVAL FOR EXPOSED LOCATIONS PRIOR TO ROUGH IN. USE WIREMOLD IN EXPOSED AREAS.
2. PROVIDE APPROVED HANDLE TIE FOR ALL MULTIWIRE BRANCH CIRCUITS AS REQUIRED PER NEC ART. 210.4(B).
3. THE BOTTOM OF THE RECEPTACLE OUTLET BOXES SHALL NOT BE LESS THAN FIFTEEN INCHES ABOVE FINISHED FLOOR AND THE TOP OF THE OUTLET BOXES FOR CONTROLS AND SWITCHES SHALL NOT BE MORE THAN FORTY-EIGHT INCHES ABOVE THE FINISHED FLOOR.
4. PLEASE REFER TO ARCHITECTURAL PLANS FOR POWER POLE CABLE ROUTING TO ELECTRICAL PANEL AND SERVER.
5. DEVICES AND EQUIPMENT DESIGNATED WITH "(E)" ARE FROM SHELL DRAWINGS. REFER TO SHELL DRAWINGS FOR MORE INFORMATION.
6. G.C. TO COORDINATE AND VERIFY LOCATIONS OF ALL OFFICES EQUIPMENT WITH GROCERY OUTLET PROJECT MANAGER PRIOR TO INSTALLATION.
7. REFER TO ROOM FINISH SCHEDULE FOR FINISHES AT WALLS, FLOORS AND CEILINGS.
8. ALL DEVICE PLUGS AND CONVENIENCE OUTLETS SHALL BE AT ACCESSIBLE HEIGHTS.
9. ALL CONDUIT TO BE 3/4" UNLESS NOTED OTHERWISE. PROVIDE CHAFING PROTECTION AT ALL EXPOSED CONDUIT ENDS WITHOUT J-BOXES AND ALSO PROVIDE PULL-STRINGS FOR ALL J-BOXES 5. ALL J-BOXES/ JACKS TO BE LOCATED UNDER THE COUNTERS UNLESS NOTED OTHERWISE.
10. 24"X24" PANEL CEILING ACCESS WITH PLYWOOD BETWEEN OFFICES TO ALLOW PERSON TO WALK/CRAWL BETWEEN OFFICES.
11. IF A SOLID WALL (IE CONCRETE MASONRY OCCURS BETWEEN THE CHECK STANDS AND OFFICES, CONTRACTOR TO PROVIDE AN OPENING AS REQUIRED FOR WIRING / CABLING ACCESS.
12. G.C. TO PROVIDE VIEW LITES IN BOTH OFFICE DOORS. SEE DOOR SCHEDULE ON ARCHITECTURAL PLANS.
13. CONTRACTOR TO SEAL ALL CONDUITS AND PENETRATIONS AT COOLER BOXES AND EQUIPMENT ROOM.



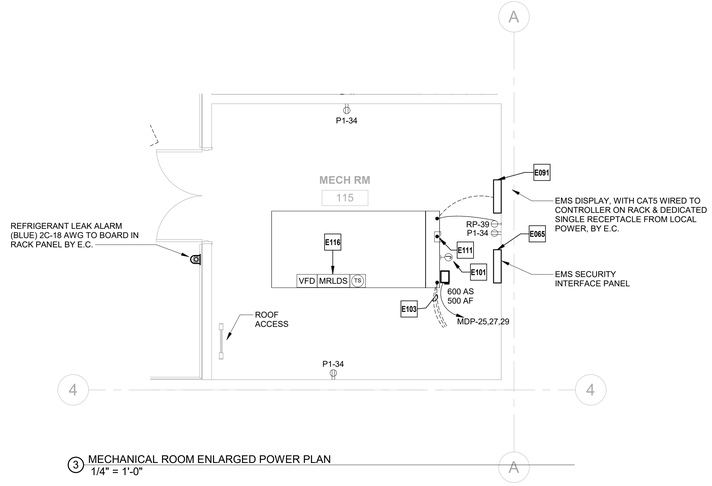
1 RESTROOMS & BREAK ROOM ENLARGED POWER PLAN
1/4" = 1'-0"



2 FRONT & BACK OFFICE ENLARGED POWER PLAN
1/4" = 1'-0"



4 ENLARGED ELECTRICAL POWERWALL
1/4" = 1'-0"



3 MECHANICAL ROOM ENLARGED POWER PLAN
1/4" = 1'-0"

ELECTRICAL PLAN NOTES:

E009 120-MINUTE OVERRIDE AS REQUIRED BY ENERGY CODE, LOCATED IN THE EMS PANEL, FACTORY WIRED BY EMS PANEL OEM. COORDINATE WORK AND REQUIREMENTS WITH REFRIGERATION CONTRACTOR AND GOI PROJECT MANAGER.

E015 PROVIDE POWER AND DATA FOR THE DEMAND RESPONSE. DEMAND RESPONSE SHALL BE A CERTIFIED OPENADR 2.0A OR OPENADR 2.0B VIRTUAL END NODE. DEMAND RESPONSE SHALL BE CONNECTED TO THE LIGHTING CONTROL PANEL TO REDUCE LIGHTING POWER IN RESPONSE TO A DEMAND RESPONSE SIGNAL.

E017 1" EMT FROM PHONE RACK TO THE PHONE OUTLET. TERMINATE WITH J-BOX @ 44" AFF". STUB CONDUIT TO ABOVE CEILING.

E019 E.C. TO INSTALL RESISTOR TEMPERATURE DEVICE(RTD) ASSOCIATED WITH ECTS CONTROLLER TO ROOF EXTERIOR. MOUNT RTD PER MANUFACTURER'S RECOMMENDATIONS. CONFIRM FINAL LOCATION OF ECTS CONTROLLER FOR HEAT TRACE WITH GO REPRESENTATIVE PRIOR TO FINAL INSTALLATION.

E028 RECEPTACLES MOUNTED AT +4'-0" AFF. SURFACE MOUNT WITH ALL METAL J-BOX AND COVER PLATE, TYPICAL.

E032 PROVIDE A J-BOX FOR CONNECTION OF POWER HAND DRYER. SEE ARCH. SHEETS FOR ADA MOUNTING INFO.

E039 120V 20A CIRCUIT FOR SINK FAUCET. VERIFY LOCATION PRIOR TO INSTALLATION.

E040 20A, 120V, 1P RECEPTACLE FOR DRINKING FOUNTAIN. CIRCUIT BREAKER AT INDICATED PANEL TO BE GFCI TYPE.

E047 PROVIDE DEDICATED DUPLEX OUTLET ABOVE OFFICE HARD LID. VERIFY LOCATION AND REQUIREMENTS WITH GOI PROJECT MANAGER.

E048 PROVIDE RECEPTACLE FOR TELEPHONE SWITCHING CPU. VERIFY LOCATION AND REQUIREMENTS WITH GOI PROJECT MANAGER.

E049 LOW VOLTAGE CONTRACTOR IS REQUIRED TO EXTEND TELEPHONE AND FIBER FROM PROPERTY DEMARK LOCATION TO I.T. RACK AREA AS REQUIRED. E.C. SHALL COORDINATE WITH GOI I.T. REP FOR EXACT REQUIREMENTS AND RESPONSIBILITIES.

E050 4'X8'X3/4" THICK FIRE RESISTIVE PLYWOOD WITH CODE APPROVED GROUNDING MEANS FOR TELEPHONE. VERIFY LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN. EXTEND TELEPHONE SERVICE CONDUIT STUB TO BACKBOARD.

E052 PROVIDE ISOLATED GROUND QUADRAPLEX RECEPTACLE WITH ADDITIONAL ISOLATED GROUND WIRE FOR OFFICE EQUIPMENT POWER. COORDINATE FINAL LOCATIONS WITH QUALITY SOLUTIONS.

E053 FOUR (4) 2" CONDUITS 2'-6" FROM WALL TO FRONT OF DATA RACK ABOVE CEILING TO 7'-2" AFF (1ST AT 25", 2ND AT 28", 3RD AT 31" AND 4TH AT 34") INCLUDING CHAFFING PROTECTION INTO WIRE MOLDING TO ALLOW CONDUITS DIRECTLY INTO WIRE MANAGEMENT. ONE (1) VOICE. ONE (1) DATA. ONE (1) CAMERA AND ONE (1) SPEAKER. (2) 2" CONDUITS TOWARDS CHECK STANDS AND (2) 2" CONDUITS TOWARDS BOH.

E054 PROVIDE #6 GROUND FOR DATA RACK TO NEAREST GROUNDING ELEMENT OF BUILDING STRUCTURE.

E056 PROVIDE DUPLEX CONTROLLED RECEPTACLE. IT IS TO BE CONNECTED VIA WALL SWITCH OCCUPANCY SENSOR, DUAL TECHNOLOGY SET UP TO "MANUAL ON" MODE. BY SENSOR SWITCH NWSX-DT-LV OR EQUAL AND POWER PACK, BY SENSOR SWITCH NPP16-PLT24 OR EQUAL. REFER TO LIGHTING PLAN. CONTROLLED RECEPTACLES SHALL BE CLEARLY MARKED TO DIFFERENTIATE THEM FROM NON-CONTROLLED RECEPTACLES.

E057 PROVIDE HARDWIRED PLUG STRIP WITH SIMPLEX PLUGS EVERY 12" ON CENTER, MOUNT 6" ABOVE EACH COUNTERTOP. VERIFY COLOR REQUIREMENTS WITH ARCHITECT AND GOI CONSTRUCTION MANAGER.

E058 1" EMT FROM DATA RACK TO EACH PHONE/DATA LOCATION. ONE UNDER CENTER OF EACH COUNTER. TERMINATE WITH J-BOX @ 18" AFF., STUB CONDUIT TO ABOVE CEILING.

E062 TWO (2) QUAD OUTLETS AT THE BACK OF DATA RACK 12" FROM END WALL: ONE (1) AT +16" AFF AND ONE (1) AT +48" AFF. VERIFY EXACT LOCATION WITH SECURITY VENDOR PRIOR TO ROUGH-IN.

E065 EMS SECURITY INTERFACE PANEL WIRED BY E.C.

E068 PROVIDE (1) 2" CONDUIT WITH PULLSTRING FOR ROOF ANTENNA. COORDINATE FINAL LOCATION WITH GOI PROJECT MANAGER PRIOR TO ROUGH-IN.

E070 EXHAUST FANS & TRANSFER FANS SHALL BE CONTROLLED VIA LOCAL FAN RATED LIGHT SWITCH/OCCUPANCY SENSOR. REFER TO LIGHTING PLANS FOR MORE INFORMATION.

E091 120V DEDICATED SINGLE RECEPTACLE WIRED FROM RACK WHICH WILL SERVE AS THE POWER FOR THE EMS DISPLAY. REFER TO REFRIGERATION DRAWINGS FOR ADDITIONAL REQUIREMENTS.

E101 PROVIDE A J-BOX FOR DEDICATED RACK 208V CONTROL POWER. VERIFY EXACT LOCATION AND COORDINATE WORK WITH R.C. REFER TO REFRIGERATION DRAWINGS FOR MORE INFORMATION.

E103 E.C. TO RUN THREE (3) POWER WIRES TWO (2) CONTROL WIRES AND TWO (2) DISC. AUX WIRES FROM COMPRESSOR RACK POWER PANEL UP TO CONDENSER PANEL ON ROOF IN SEPARATE CONDUITS.

E111 STORE POWER MONITORING METER PRE-MOUNTED ON RACK E.C. TO WIRE AND INSTALL CT CLAMPS (SUPPLIED BY RACK MANUFACTURER) TO MAIN STORE DISTRIBUTION POWER.

E116 MODULAR REFRIGERANT LEAK DETECTION SENSOR (MRLDS), PRE-MOUNTED ON RACK. FIELD VERIFY LOCATION.

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PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
96696PE
DIGITALLY SIGNED
OREGON
NOV. 9, 2020
MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO
PROJECT MANAGER
JR
QUALITY CONTROL
DWC
DRAWN BY
MZ

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

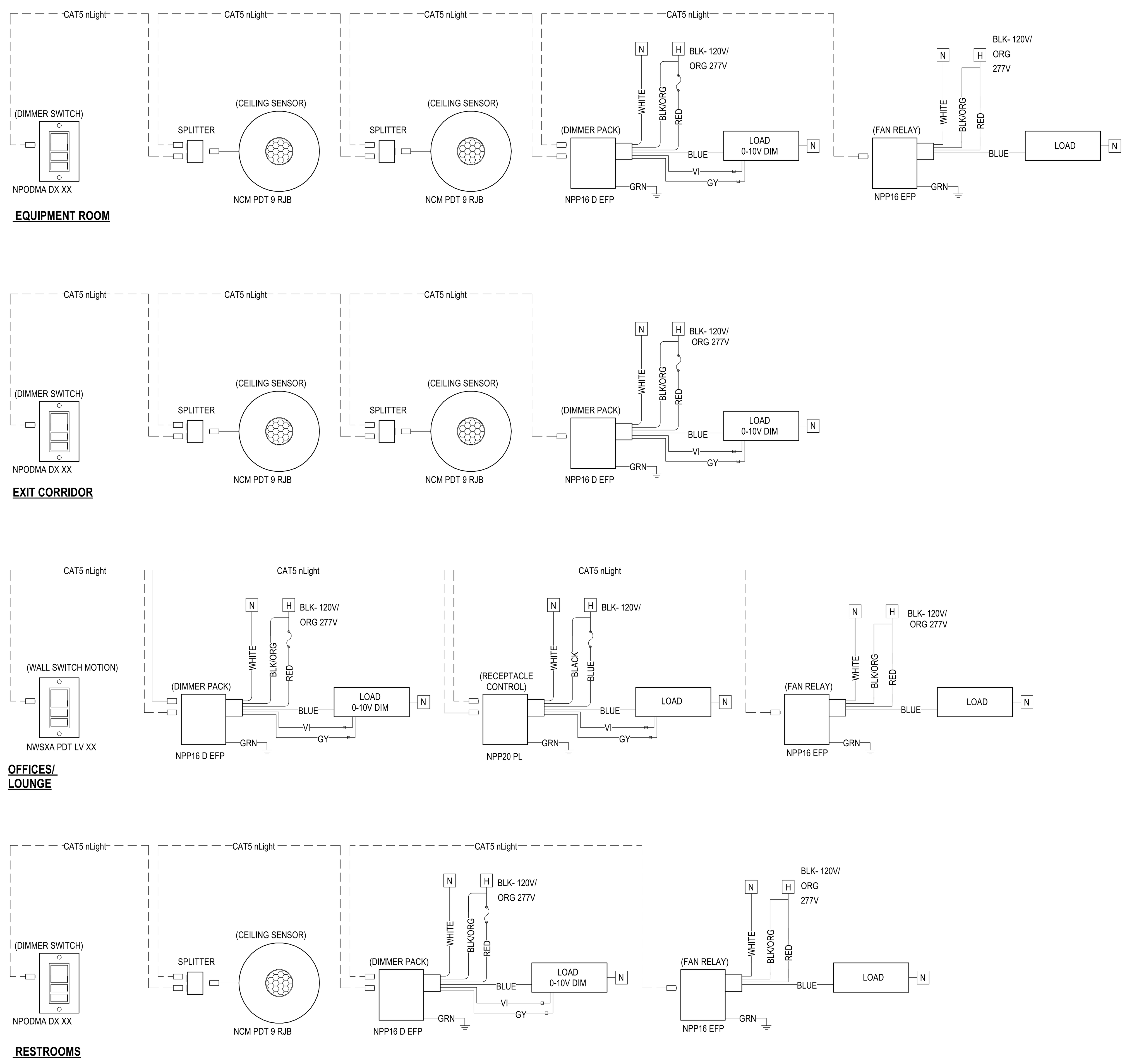
PROJECT NUMBER
20230973.0

SHEET TITLE

ELECTRICAL ENLARGED PLANS

SHEET NUMBER

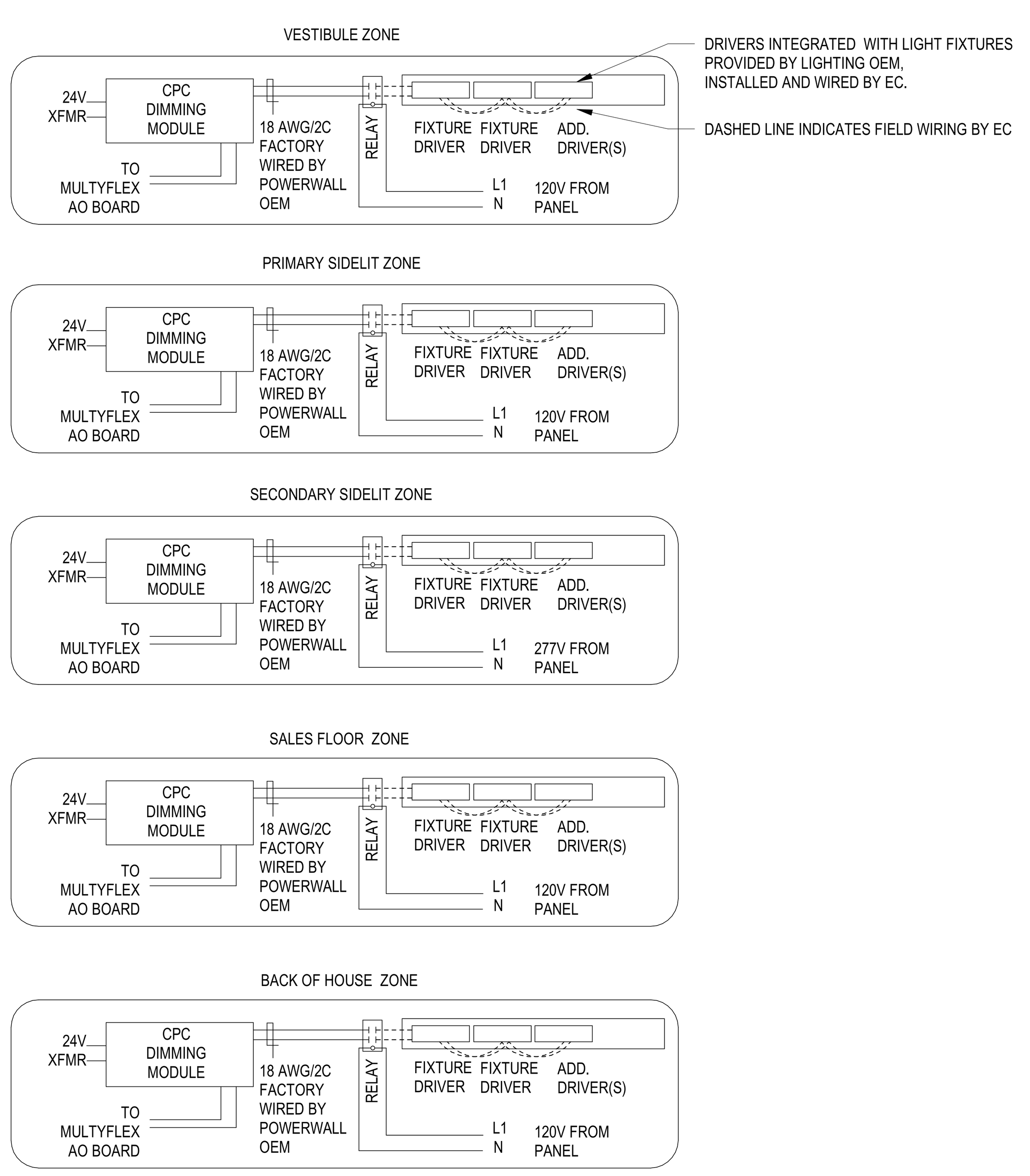
E4-01



NOTES:

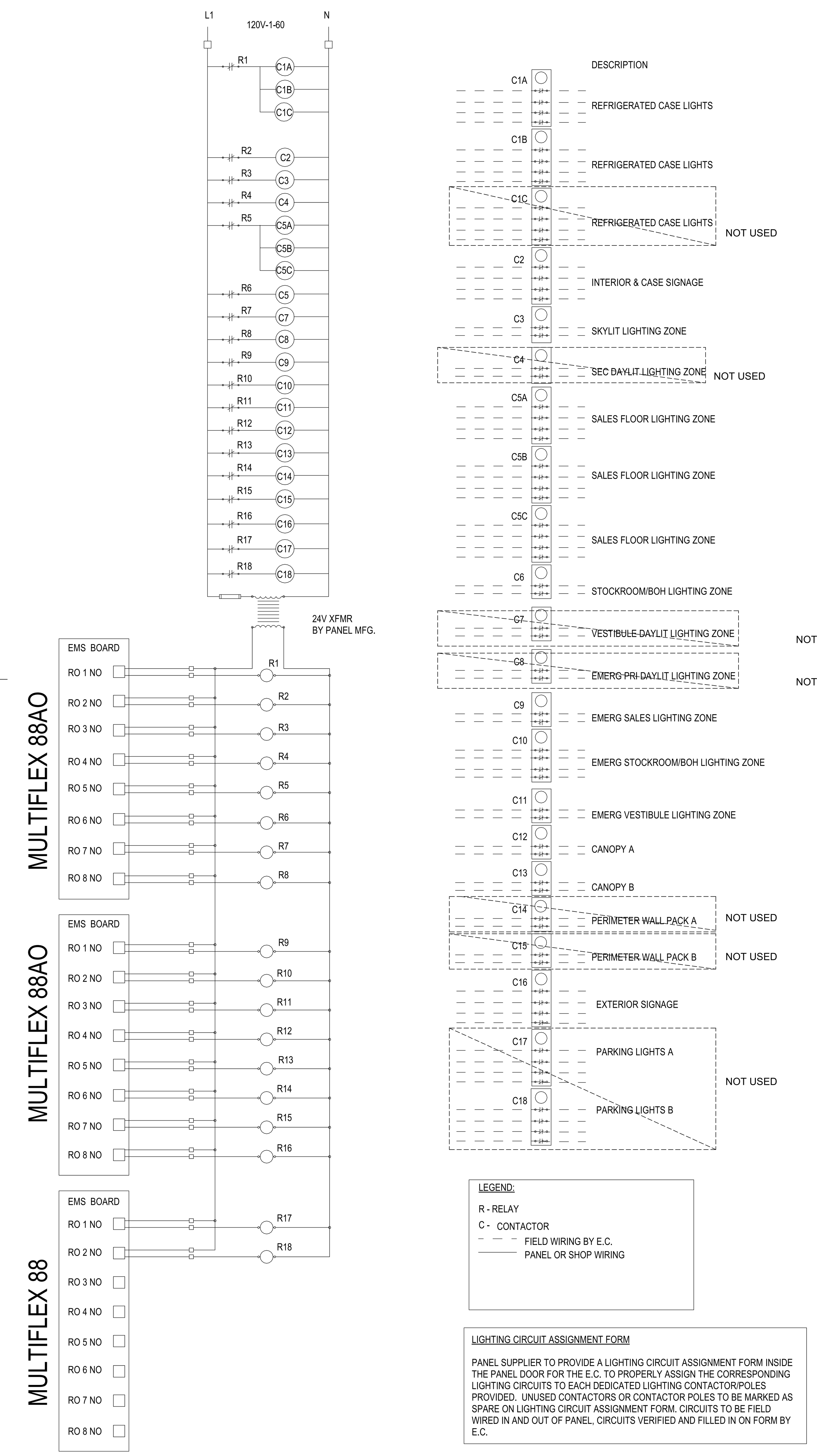
1. ALL DEVICES, SENSORS AND POWER PACKS SHOWN ABOVE ARE PROVIDED, INSTALLED AND WIRED BY ELECTRICAL CONTRACTOR.

1 E5-01 LIGHTING CONTROL DIAGRAMS



NOTE:
REFER TO LIGHTING PLAN FOR EXACT FIXTURE AMOUNT AND LOCATION

2 E5-01 DIMMING MODULE CONTROL ZONES



LEGEND:

R - RELAY
C - CONTACTOR
— — — FIELD WIRING BY E.C.
——— PANEL OR SHOP WIRING

LIGHTING CIRCUIT ASSIGNMENT FORM

PANEL SUPPLIER TO PROVIDE A LIGHTING CIRCUIT ASSIGNMENT FORM INSIDE THE PANEL DOOR FOR THE E.C. TO PROPERLY ASSIGN THE CORRESPONDING LIGHTING CIRCUITS TO EACH DEDICATED LIGHTING CONTACTOR/POLES PROVIDED. UNUSED CONTACTORS OR CONTACTOR POLES TO BE MARKED AS SPARE ON LIGHTING CIRCUIT ASSIGNMENT FORM. CIRCUITS TO BE FIELD WIRED IN AND OUT OF PANEL, CIRCUITS VERIFIED AND FILLED IN ON FORM BY E.C.

3 E5-01 LIGHTING CONTACTOR WIRING DIAGRAM

LIGHTING CONTROL SEQUENCE OF OPERATIONS

HOURS OF OPERATION

GENERAL NOTE: CONFIRM ALL TIMECLOCK SCHEDULES AND SENSOR TIME DELAYS WITH OWNER PRIOR TO FINAL PROGRAMMING.

OCCUPIED HOURS: CONFIRM WITH OWNER
BUSINESS HOURS: CONFIRM WITH OWNER

A. GENERAL REQUIREMENTS
   a. EMERGENCY LIGHTING: EMERGENCY EGRESS LIGHTING IS POWERED FROM EMERGENCY BATTERY BALLASTS AND DRIVERS INTEGRAL TO FIXTURES DESIGNATED AS EMERGENCY. UPON LOSS OF POWER, ALL LIGHTS DESIGNATED AS EMERGENCY SHALL TURN ON AT FULL EMERGENCY BATTERY BACK-UP OUTPUT.

B. SALES AND CUSTOMER-ACCESSIBLE AREAS
   a. TIMECLOCK: SPACE IS NETWORKED TO A CENTRAL TIMECLOCK.
   b. DAYLIGHTING: GENERAL LIGHTING WITHIN THE DAYLIGHT ZONE SHALL BE CONTINUOUSLY DIMMED AUTOMATICALLY. SETPOINT: THE LOWEST LIGHT LEVEL PERMITTED SHALL BE MEASURED AT THE TASK PLANE WITH ONLY ELECTRIC LIGHT CONTRIBUTIONS. FIXTURES SHALL NOT DIM BELOW 20% AS DETERMINED BY THE OWNER.
   c. MANUAL CONTROL: OCCUPANT CAN MANUALLY CONTROL LIGHTS VIA REMOTELY-LOCATED SWITCH(ES). SWITCH(ES) CAN ALSO OVERRIDE TIMECLOCK SETTING FOR 2 HOURS MAXIMUM.
   d. OCCUPANCY: LIGHTS SHALL OPERATE AS INDICATED BELOW:
      - GENERAL LIGHTING SHALL AUTOMATICALLY TURN ON TO 50% DURING OCCUPIED HOURS, AND THE OCCUPANT MAY MANUALLY ADJUST THE DIMMING LEVEL VIA SWITCH.
      - SHOW WINDOW CONTROLLED LOADS SHALL OPERATE AUTOMATICALLY ON AN INDEPENDENT TIME SCHEDULE. CONFIRM TIMES WITH OWNER AND LANDLORD.
      - ALL DISPLAY, MILLWORK/CASE, AND DECORATIVE LIGHTING ZONES SHALL OPERATE AUTOMATICALLY DURING BUSINESS HOURS.
      - INTERIOR SIGNAGE ZONE(S) SHALL OPERATE AUTOMATICALLY ON AN INDEPENDENT TIME SCHEDULE. CONFIRM TIMES WITH OWNER AND LANDLORD.
      - EXTERIOR SIGNAGE ZONE(S) SHALL OPERATE ASTRONOMICALLY (DUSK TO DAWN).
      - ALL OTHER ZONES SCHEDULED BY THE TIMECLOCK SHALL OPERATE AUTOMATICALLY DURING OCCUPIED HOURS.
   e. VACANCY: LIGHTS SHALL TURN OFF AUTOMATICALLY BASED ON TIMECLOCK SCHEDULE. REFER TO OCCUPANCY SECTION ABOVE FOR OPERATION SCHEDULE. LIGHTS SHALL FLICKER-WARN 5 MINUTES PRIOR TO TURNING OFF.
   f. THIRD PARTY INTERFACE:
      - FIRE ALARM SYSTEM: CONTACT-CLOSURE TYPE INTERFACE. WHEN ALARM SIGNAL IS RECEIVED, ALL CONNECTED LIGHTS SHALL TURN ON. WHEN ALARM SIGNAL IS REMOVED, LIGHTS SHALL STAY ON UNTIL NEXT TIMECLOCK EVENT OR UNTIL OCCUPANT MANUALLY OPERATES SWITCH.

C. BACK OF HOUSE SPACES
   a. TIMECLOCK: SPACE IS NETWORKED TO A CENTRAL TIMECLOCK BUT IS CONTROLLED LOCALLY.
   b. MANUAL CONTROL: OCCUPANT CAN MANUALLY TURN LIGHTS ON/OFF AND ADJUST DIMMING LEVEL VIA LOCAL SWITCH(ES).
   c. OCCUPANCY: LIGHTS SHALL AUTOMATICALLY TURN ON TO 50%. OCCUPANT CAN THEN MANUALLY OPERATE LOCAL SWITCH TO ADJUST DIMMING LEVEL OF FIXTURES. CONTROLLED RECEPTACLES SHALL AUTOMATICALLY TURN ON.
   d. VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LOADS SHALL TURN OFF.
   e. THIRD PARTY INTERFACE:
      - FIRE ALARM SYSTEM: CONTACT-CLOSURE TYPE INTERFACE. WHEN ALARM SIGNAL IS RECEIVED, ALL CONNECTED LIGHTS SHALL TURN ON. WHEN ALARM SIGNAL IS REMOVED, LIGHTS SHALL STAY ON UNTIL NEXT TIMECLOCK EVENT OR UNTIL OCCUPANT MANUALLY OPERATES SWITCH.

D. RESTROOMS, HALLWAYS
   a. TIMECLOCK: SPACE IS STAND-ALONE (NOT NETWORKED).
   b. MANUAL CONTROL: OCCUPANT CAN MANUALLY CONTROL LIGHTS VIA LOCAL SWITCH.
   c. OCCUPANCY: ALL CONTROLLED LOADS SHALL AUTOMATICALLY TURN ON.
   d. VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LOADS SHALL TURN OFF.

E. OFFICES
   a. TIMECLOCK: SPACE IS STAND-ALONE (NOT NETWORKED).
   b. MANUAL CONTROL: OCCUPANT CAN MANUALLY CONTROL LIGHTS AND ADJUST DIMMING LEVEL VIA LOCAL SWITCH(ES).
   c. OCCUPANCY: ALL CONTROLLED LOADS SHALL AUTOMATICALLY TURN ON.
   d. VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LOADS SHALL TURN OFF.

F. COOLERS/FREEZERS
   a. TIMECLOCK: SPACE IS STAND-ALONE (NOT NETWORKED).
   b. MANUAL CONTROL: OCCUPANT CAN MANUALLY CONTROL LIGHTS VIA LOCAL SWITCH(ES).
   c. OCCUPANCY: OCCUPANT MUST MANUALLY TURN ON LIGHTS.
   d. VACANCY: AFTER 20 MINUTES, ALL CONTROLLED LOADS SHALL TURN OFF.

G. ELECTRICAL / EQUIPMENT ROOMS
   a. TIMECLOCK: SPACE IS STAND-ALONE (NOT NETWORKED).
   b. MANUAL CONTROL: OCCUPANT CAN MANUALLY CONTROL LIGHTS VIA LOCAL SWITCH.

H. EXTERIOR
   a. TIMECLOCK: SPACE IS NETWORKED TO A CENTRAL TIMECLOCK.
   b. EXTERIOR SIGNAGE ZONE(S) SHALL OPERATE ASTRONOMICALLY(DUSK TO CLOSE).
   c. EXTERIOR BUILDING MOUNTED SECURITY LIGHTING SHALL OPERATE ASTRONOMICALLY(DUSK TO CLOSE).
   d. EXTERIOR BUILDING MOUNTED GENERAL LIGHTING SHALL OPERATE ASTRONOMICALLY(DUSK TO CLOSE).

LIGHTING - CONTACTOR SCHEDULE

# POLES	CIRCUIT NAME	Circuit Number	CONTACTOR DESCRIPTION
C1A			
1	SYS 1C LTS	11	CASE LIGHTS
1	SYS 1D LTS	15	CASE LIGHTS
1	SYS 1A LTS	3	CASE LIGHTS
3			
C1B			
1	SYS 2A LTS	19	CASE LIGHTS
1	SYS 2B LTS	25	CASE LIGHTS
1	SYS 2C LTS	29	CASE LIGHTS
1	SYS 2F LTS	37	CASE LIGHTS
1	SYS 2E LTS	33	CASE LIGHTS
5			
C2			
1	BEER SIGN	21	BEER SIGN
1			
C3			
1	LTG - SALES FLOOR SKYLIT DAYLIT	23	SKYLIGHT ZONE
1			
C5A			
1	LTG -SALES FLOOR AISLE 1/2	13	SALES FLOOR
1	LTG -SALES FLOOR AISLE 3/4	15	SALES FLOOR
2			
C5B			
1	LTG -SALES FLOOR AISLE 5	17	SALES FLOOR
1	LTG -SALES FLOOR AISLE 6/7	19	SALES FLOOR
2			
C5C			
1	LTG - SALES FLOOR REAR	4	SALES FLOOR
1	LTG - SALES FLOOR FRONT	6	SALES FLOOR
2			
C6			
1	LTG - STOCK ROOM 111	1	STOCK ROOM/BOH
1			
C9			
1	EM LTG -SALES FLOOR	2	EMERG SALES
1			
C10			
1	EMG LTG - STOCK ROOM 111	3	EMERG STOCKROOM/BOH
1			
C12			
1	EXTERIOR CANOPY LTG	21	EXTERIOR CANOPY
1			
C16			
1	STOREFRONT SIGNAGE	57	EXTERIOR SIGNAGE
1			

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

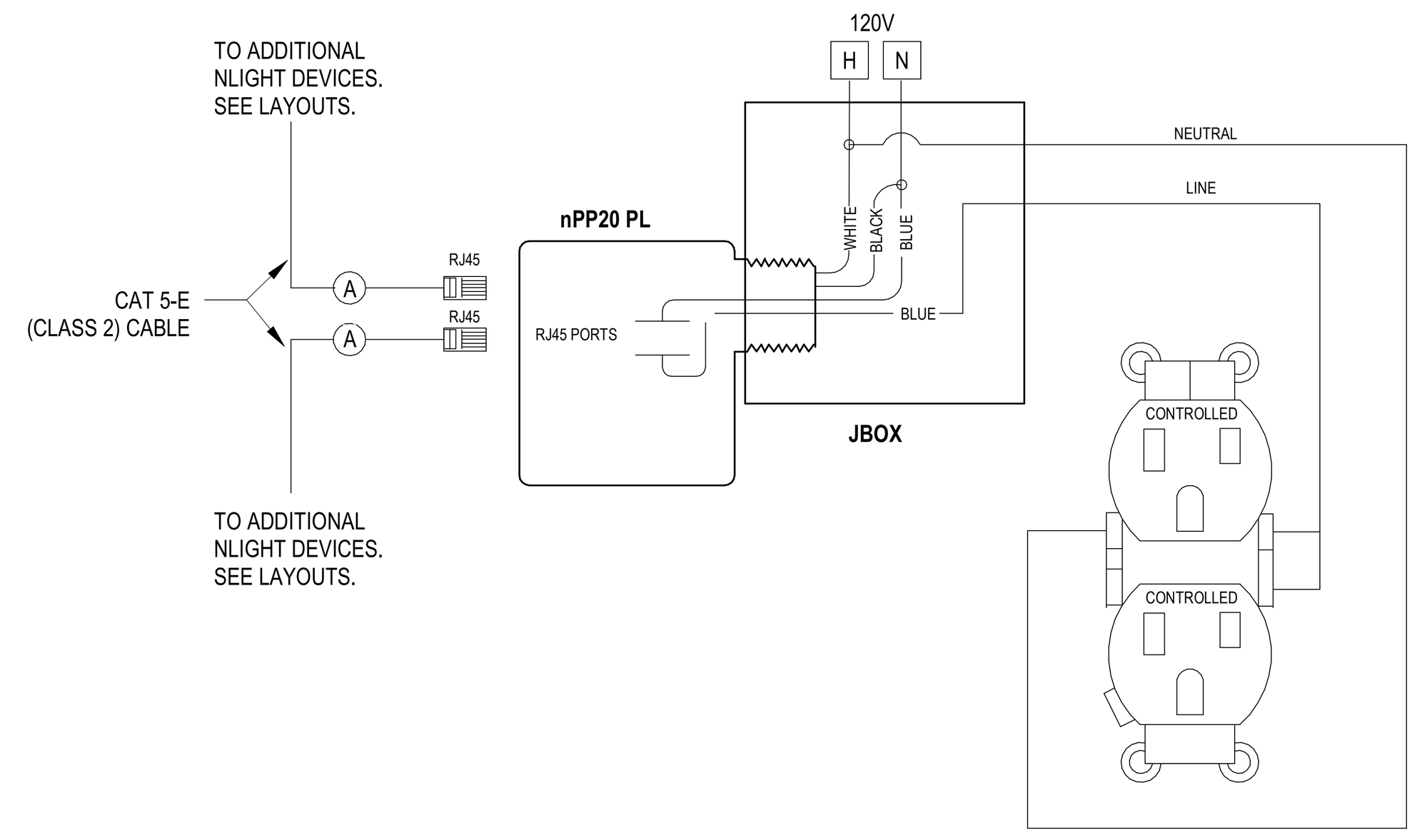
PROFESSIONAL SEAL
EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
96696PE
DIGITALLY SIGNED
OREGON
NOV. 10, 2020
MICHAEL T. DERMYER
02/19/2024
PROFESSIONAL IN CHARGE
CO
PROJECT MANAGER
JR
QUALITY CONTROL
DWC
DRAWN BY
MZ

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

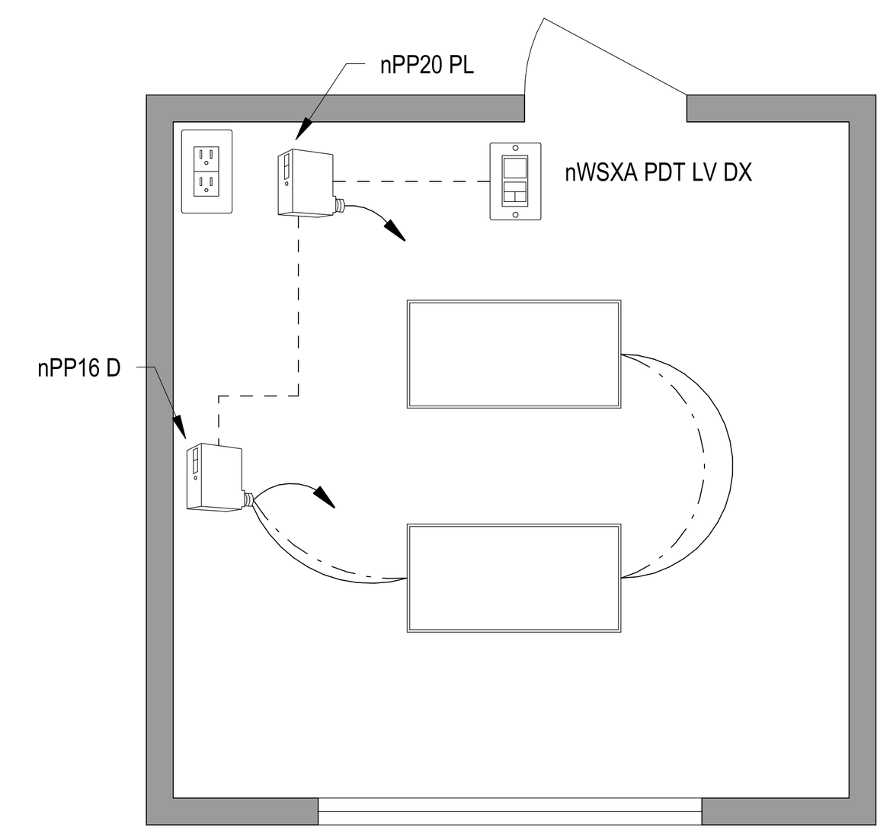
PROJECT NUMBER
20230973.0

SHEET TITLE
ELECTRICAL DETAILS

SHEET NUMBER
E5-01



1
E5-02
TYPICAL CONTROLLED RECEPTACLES DETAIL
SCALE: NOT TO SCALE



SEQUENCE OF OPERATION:

LIGHTS
- ALL LIGHTS ARE DIMMABLE
- FIXTURES ARE CONTROLLED BASED ON POWER PACK LINE VOLTAGE AND 0-10V WIRING
- MAXIMUM LEVEL CAN BE TASK TUNED TO ANY PERCENTAGE VIA PROGRAMMING

OCCUPANCY
- LIGHTS MUST BE TURNED ON MANUALLY (OR OPTIONALLY CAN BE CONFIGURED TO COME ON AUTOMATICALLY TO 50%-70%)
- PLUG LOAD TURNS ON AUTOMATICALLY
- LIGHTS AUTOMATICALLY TURN OFF WHEN ROOM BECOMES VACANT

DAYLIGHT
- NOT REQUIRED IF ROOM HAS <24FT OF GLAZING OR <120W, IN THE SKYLIT AND THE SIDELIT DAYLIT ZONE

MANUAL
- ON/OFF & RAISE/LOWER CONTROL OF LIGHTS

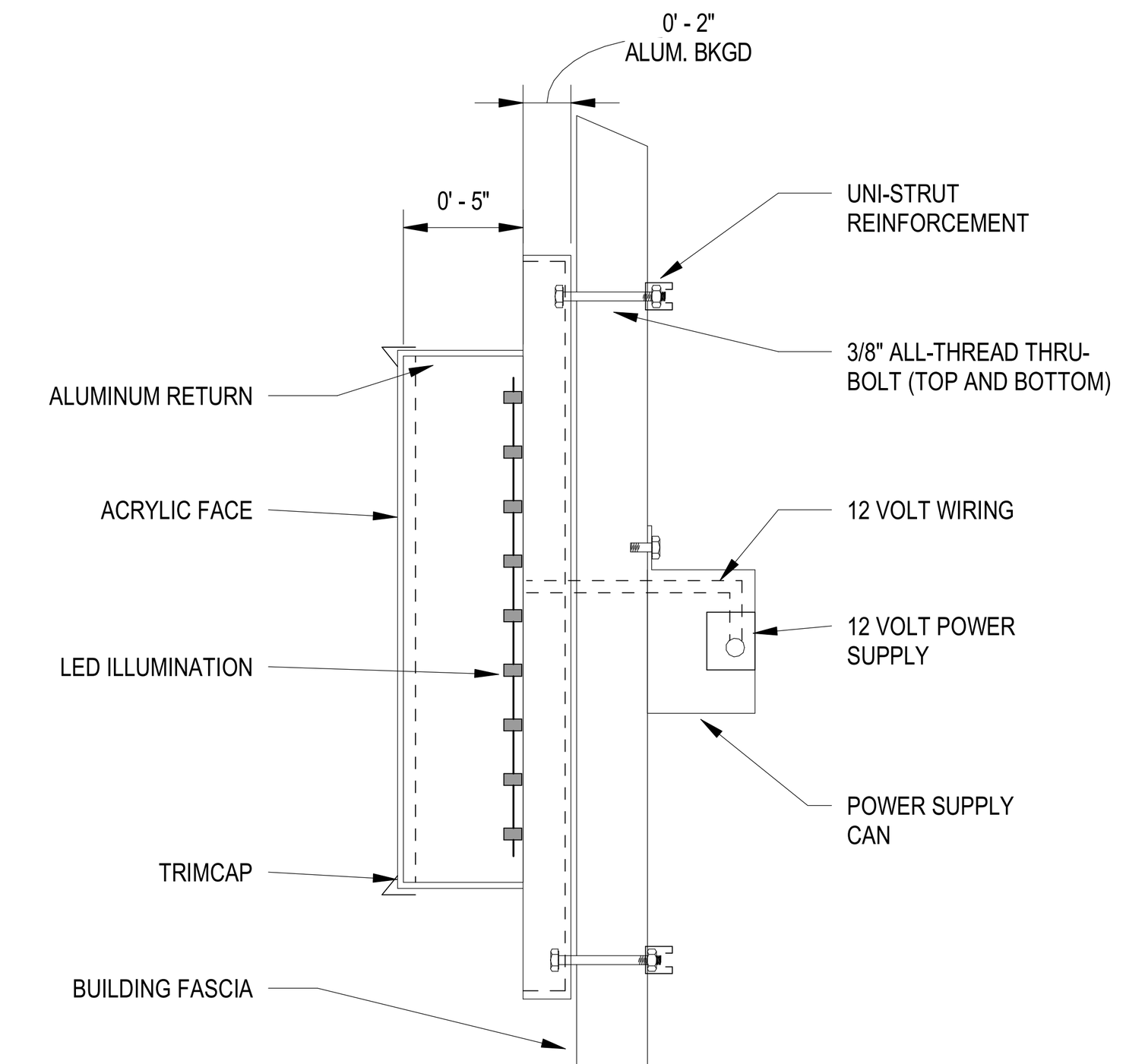
ADDITIONAL OPTIONS:
- ROOM CAN BE CONNECTED TO NLIGHT BACKBONE TO ENABLE NETWORK CONTROL, TIME SCHEDULES AND AUTOMATED DEMAND RESPONSE (OPENADR 2.0A)
- HVAC CONTROL AVAILABLE THROUGH SYSTEM-WIDE BACNET® INTERFACE OPTION ON THE ECLYPSE CONTROLLER OR THROUGH OCCUPANCY SENSOR AUXILIARY RELAY (AR) CONTACT OPTION
- WIRELESS FIXTURE EMBEDDED CONTROL AND OCCUPANCY/DAYLIGHTING SENSOR OPTIONS AVAILABLE, PLEASE SEE THE FIXTURE SPECIFICATION SHEET

DIAGRAM LEGEND	
– – – – –	CAT-5e CABLE
— · — · —	0-10V DC WIRES
———	LINE VOLTAGE WIRES
⌒➘	LINE POWER

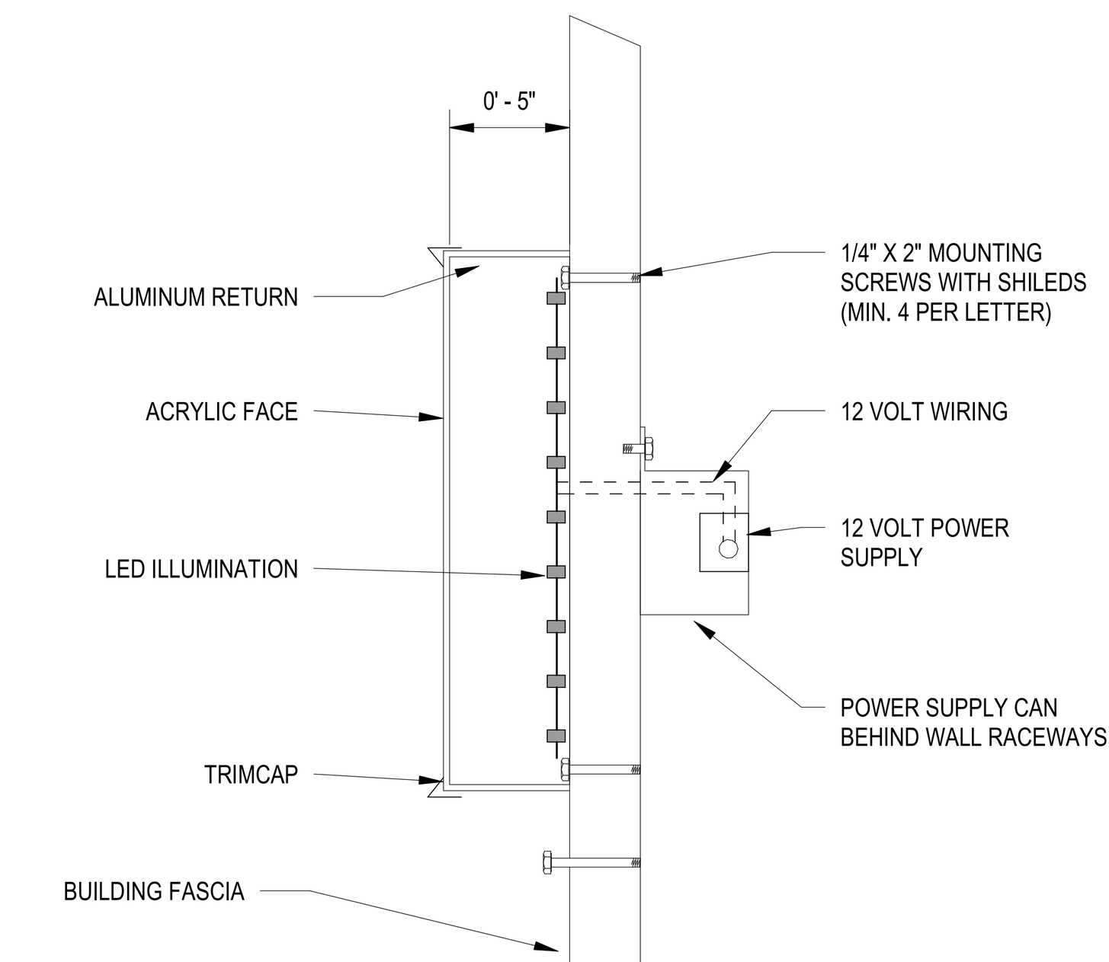
BILL OF MATERIAL

QTY	PRODUCT #	DESCRIPTION
1	nPP16 D EFP	RELAY MODULE WITH 0-10V DIMMING OUTPUT
1	nPP20 PL	PLUG LOAD RELAY PACK
1	nWSXA PDT LV DX	WALL SWITCH OCCUPANCY SWITCH WITH ON/OFF & RAISE/LOWER

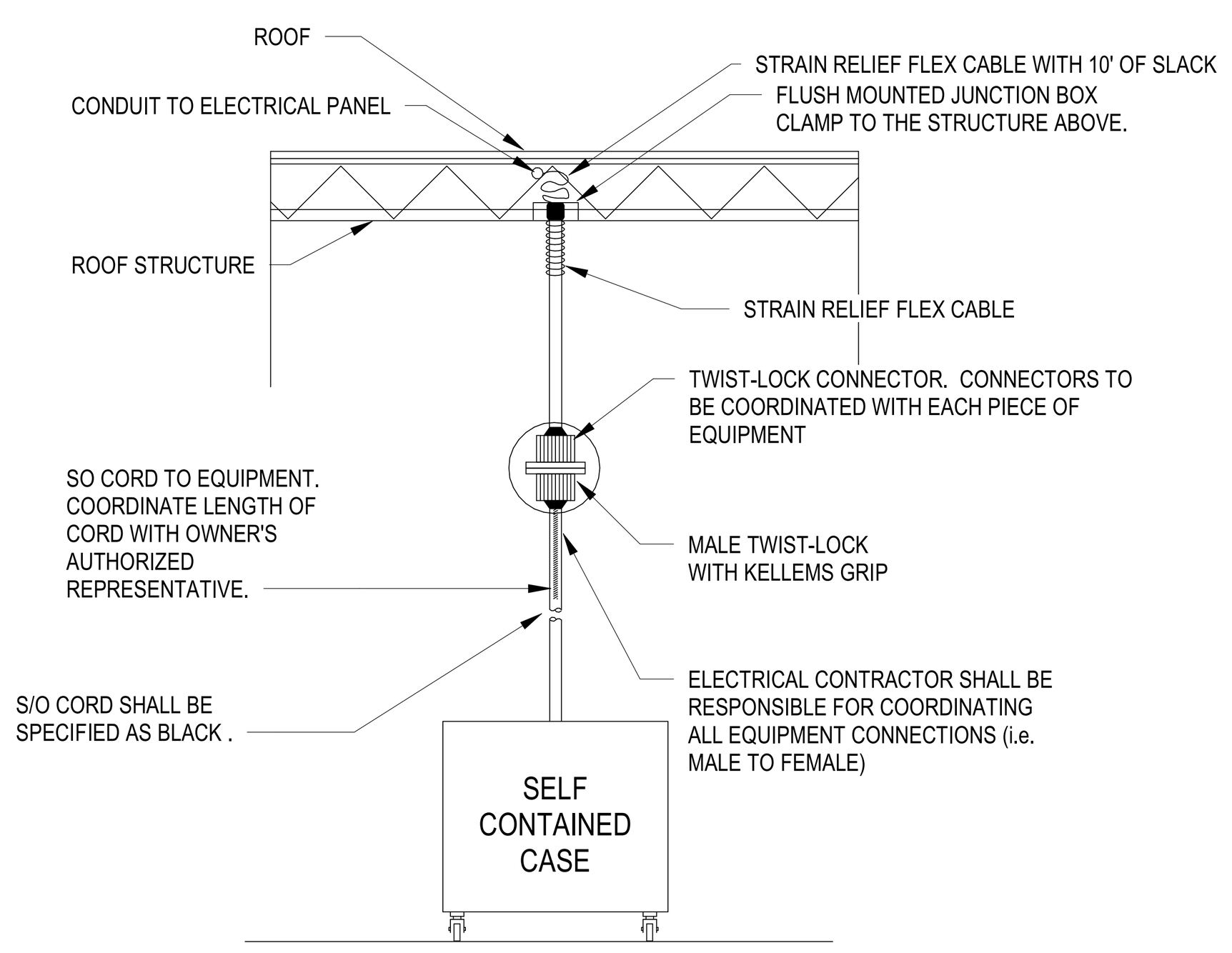
2
E5-02
TYPICAL CONTROL RECEPTACLES WITH LIGHT SWITCH DETAIL
SCALE: NOT TO SCALE



3
E5-02
STOREFRONT TENANT SIGN DETAIL
SCALE: NOT TO SCALE

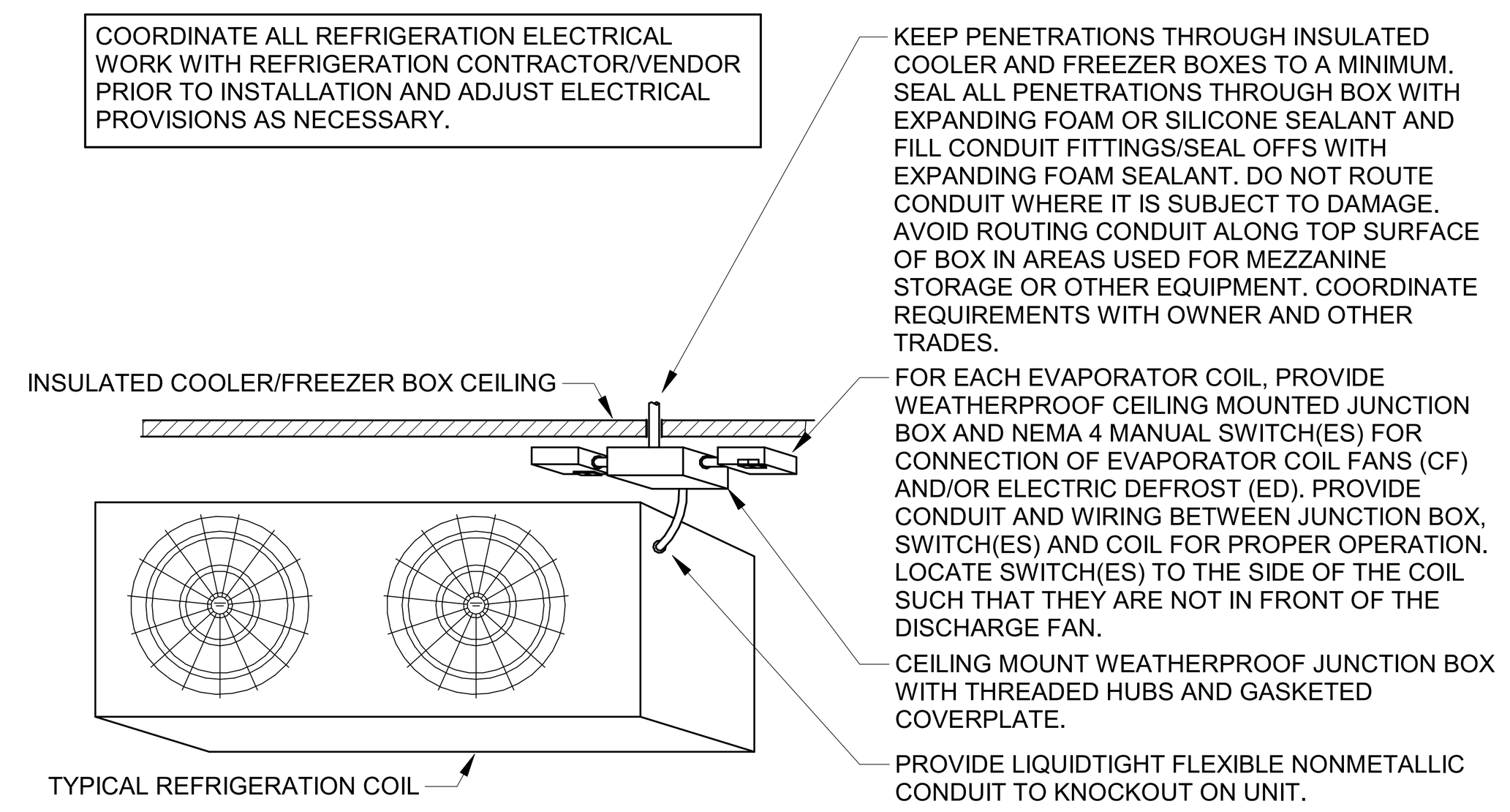


4
E5-02
STORE DEPARTMENT SIGN DETAIL
SCALE: NOT TO SCALE

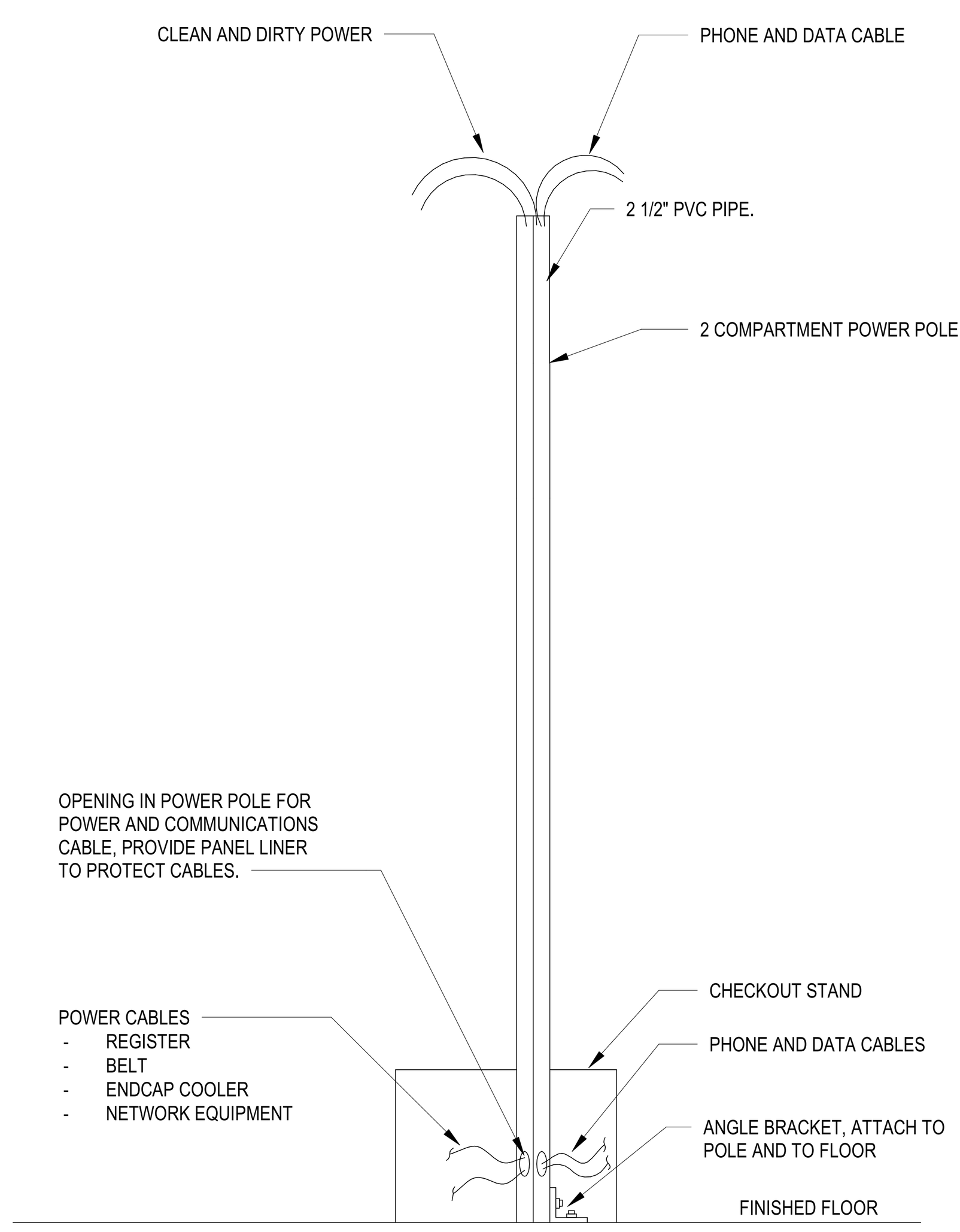


5
E5-02
DROP CORD DETAIL
NOT TO SCALE

COORDINATE ALL REFRIGERATION ELECTRICAL WORK WITH REFRIGERATION CONTRACTOR/VENDOR PRIOR TO INSTALLATION AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY.



6
E5-02
EVAPORATOR COIL ELECTRICAL DETAIL
NOT TO SCALE



7
E5-02
POWER POLE DETAIL
NOT TO SCALE

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CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
MZ

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

ELECTRICAL DETAILS II

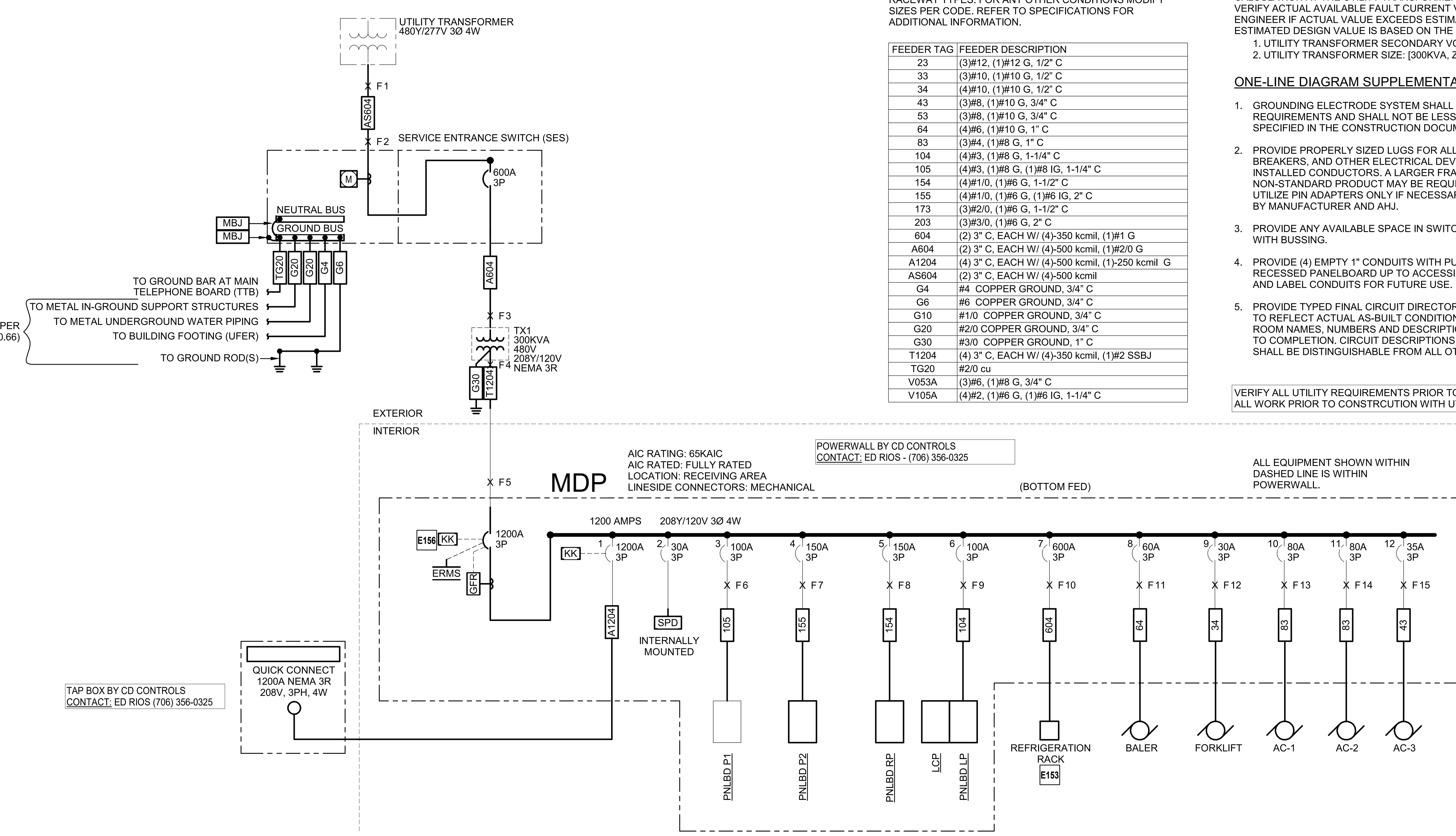
SHEET NUMBER

E5-02

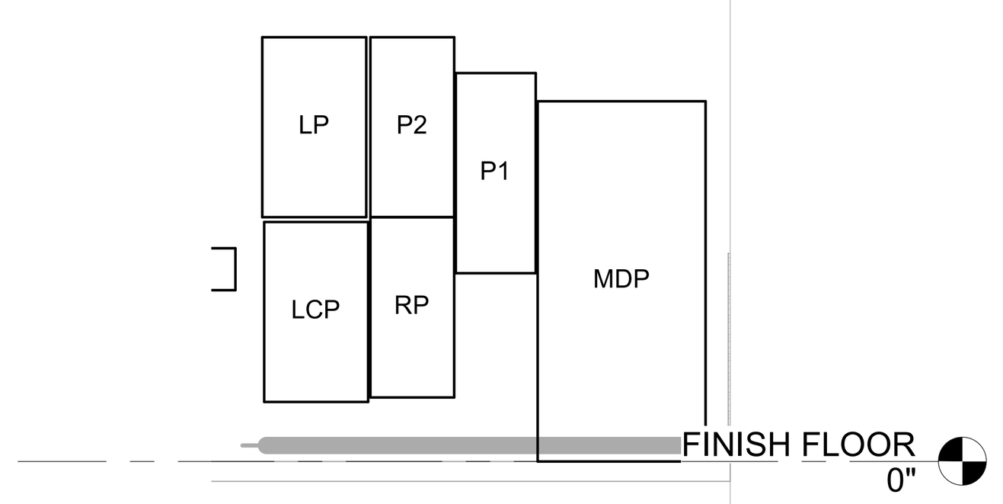
MICHAEL T. DERMYER

LOAD SUMMARY: MDP

PANEL VOLTAGE: 208Y/120 V			
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	7519 VA	100%	7519 VA
HEATING (H)	0 VA	0%	0 VA
LIGHTING (L)	15488 VA	125%	19360 VA
RECEPTACLES (R)	29260 VA	67%	19630 VA
MOTORS (M)	26921 VA	100%	26921 VA
SUPPLEMENTAL HEAT (U)	6350 VA	100%	6350 VA
MISC EQUIP (Z)	145282 VA	100%	145282 VA
REFRIGERATION (F)	14258 VA	100%	14258 VA
SIGNAGE (S)	4800 VA	125%	6000 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	11000 VA	125%	13750 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA
TOTAL LOAD	260878	VA	259070
TOTAL AMPACITY	724	AMPS	719
PANEL AMPACITY		AMPS	1200
SPARE CAPACITY		AMPS	481



1 ELECTRICAL SINGLE-LINE DIAGRAM
NTS



2 POWERWALL ELEVATION
1/4" = 1'-0"

FEEDER SCHEDULE:

SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNO. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNO. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

FEEDER TAG	FEEDER DESCRIPTION
23	(3)#12, (1)#12 G, 1/2" C
33	(3)#10, (1)#10 G, 1/2" C
34	(4)#10, (1)#10 G, 1/2" C
43	(3)#8, (1)#10 G, 3/4" C
53	(3)#8, (1)#10 G, 3/4" C
64	(4)#6, (1)#10 G, 1" C
83	(3)#4, (1)#8 G, 1" C
104	(4)#3, (1)#8 G, 1-1/4" C
105	(4)#3, (1)#8 G, (1)#8 IG, 1-1/4" C
154	(4)#1/0, (1)#6 G, 1-1/2" C
155	(4)#1/0, (1)#6 G, (1)#6 IG, 2" C
173	(3)#2/0, (1)#6 G, 1-1/2" C
203	(3)#3/0, (1)#6 G, 2" C
604	(2) 3" C, EACH W/ (4)-350 kcmil, (1)#1 G
A604	(2) 3" C, EACH W/ (4)-500 kcmil, (1)#2/0 G
A1204	(4) 3" C, EACH W/ (4)-500 kcmil, (1)-250 kcmil G
AS604	(2) 3" C, EACH W/ (4)-500 kcmil
G4	#4 COPPER GROUND, 3/4" C
G6	#6 COPPER GROUND, 3/4" C
G10	#1/0 COPPER GROUND, 3/4" C
G20	#2/0 COPPER GROUND, 3/4" C
G30	#3/0 COPPER GROUND, 1" C
T1204	(4) 3" C, EACH W/ (4)-350 kcmil, (1)#2 SSBJ
TG20	#2/0 cu
V053A	(3)#6, (1)#8 G, 3/4" C
V105A	(4)#2, (1)#6 G, (1)#6 IG, 1-1/4" C

FAULT CURRENT GENERAL NOTE (ESTIMATED VALUE):

MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY/POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF [12,028A] IS BASED ON AN INFINITE BUS CALCULATION AT THE UTILITY TRANSFORMER. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE. ESTIMATED DESIGN VALUE IS BASED ON THE FOLLOWING:

1. UTILITY TRANSFORMER SECONDARY VOLTAGE: [208Y/120V, 3∅, 4W]
2. UTILITY TRANSFORMER SIZE: [300KVA, Z=3.0%]

ONE-LINE DIAGRAM SUPPLEMENTAL SPECIFICATIONS:

1. GROUNDING ELECTRODE SYSTEM SHALL BE PER LOCAL REQUIREMENTS AND SHALL NOT BE LESS STRINGENT THAN THAT SPECIFIED IN THE CONSTRUCTION DOCUMENTS.
2. PROVIDE PROPERLY SIZED LUGS FOR ALL EQUIPMENT, CIRCUIT BREAKERS, AND OTHER ELECTRICAL DEVICES TO ACCOMMODATE INSTALLED CONDUCTORS. A LARGER FRAME, OVERSIZED LUGS OR NON-STANDARD PRODUCT MAY BE REQUIRED IN SOME INSTANCES. UTILIZE PIN ADAPTERS ONLY IF NECESSARY AND ONLY AS ALLOWED BY MANUFACTURER AND AHJ.
3. PROVIDE ANY AVAILABLE SPACE IN SWITCHBOARDS/PANELBOARDS WITH BUSSING.
4. PROVIDE (4) EMPTY 1" CONDUITS WITH PULL STRINGS FROM EACH RECESSED PANELBOARD UP TO ACCESSIBLE CEILING SPACE. CAP AND LABEL CONDUITS FOR FUTURE USE.
5. PROVIDE TYPED FINAL CIRCUIT DIRECTORY FOR ALL PANELBOARDS TO REFLECT ACTUAL AS-BUILT CONDITIONS. COORDINATE FINAL ROOM NAMES, NUMBERS AND DESCRIPTIONS WITH OWNER PRIOR TO COMPLETION. CIRCUIT DESCRIPTIONS SHALL BE PER CODE AND SHALL BE DISTINGUISHABLE FROM ALL OTHERS.

VERIFY ALL UTILITY REQUIREMENTS PRIOR TO BID AND COORDINATE ALL WORK PRIOR TO CONSTRCUTION WITH UTILITY PLANNER.

GENERAL NOTES

1. ALL ELECTRICAL EQUIPMENTS AND FEEDERS ARE NEW UNLESS OTHERWISE NOTED. TORQUE ALL TERMINATIONS PER MANUFACTURER RECOMMENDATION. ALL EQUIPMENT SHOWN IS THAT OF EATON BRAND, OTHER MANUFACTURER IS ACCEPTABLE -SUBJECT TO ENGINEER'S APPROVAL.
2. CONTRACTOR TO COORDINATE THE AVAILABLE SHORT CIRCUIT CURRENT WITH THE UTILITY COMPANY AND MAKE ADJUSTMENTS AS REQUIRED. MAIN SWITCHBOARD SHALL BE FULLY RATED.
3. ALL GROUNDING ELECTRODES AS DESCRIBED IN NEC 250.52 THAT ARE PRESENT AT THE BUILDING OR STRUCTURE SERVED SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM. PROVIDE BONDING TO THE UNDERGROUND METAL WATER PIPE, ALL METAL PIPING SYSTEM AND STRUCTURAL METAL (IF AVAILABLE) TO THE GROUNDING ELECTRODE SYSTEM USING #3/0 CU.
4. THE CALCULATED AVAILABLE FAULT CURRENT THAT COULD BE PROVIDED TO THE SERVICE EQUIPMENT SHALL BE FIELD MARKED AS REQUIRED BY NEC 110.24(A). INCLUDE THE DATE THE FAULT CURRENT CALCULATION WAS PERFORMED, AND THE MAXIMUM AVAILABLE FAULT CURRENT.
5. THE INFORMATION SHOWN IN THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS SCHEDULE IS SHOWN FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW; THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
6. REFER TO THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS TABLE ON THIS SHEET. AVAILABLE FAULT CURRENT INFORMATION IS LISTED UNDER THE "FAULT CURRENT" COLUMN. VOLTAGE DROP VALUES ARE LISTED UNDER THE "CUMULATIVE VOLTAGE DROP" COLUMN. THE AIC/SCCR RATING OF THE EQUIPMENT SHALL NOT BE LESS THAN THE AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT. ALL SERIES RATED EQUIPMENT SHALL BE PROPERLY LISTED AND LABELED PER CODE.
7. CIRCUIT BREAKERS RATED 1200A OR HIGHER SHALL HAVE APPROPRIATE DOCUMENTATION AND METHOD TO REDUCE CLEARING TIME IN ORDER TO REDUCE ARC FLASH ENERGY PER CODE. PROVIDE ELECTRONIC TRIP UNIT WITH INSTANTANEOUS TRIP AND ENERGY-REDUCING MAINTENANCE SWITCH WITH LOCAL STATUS INDICATOR FOR COMPLIANCE, UNLESS NOTED OTHERWISE. PROVIDE PROVISIONS TO INTERFACE WITH OWNER ALARM/MONITORING SYSTEM TO INDICATE STATUS.
8. FUSES RATED 1200A OR HIGHER SHALL HAVE APPROPRIATE DOCUMENTATION AND METHOD TO REDUCE CLEARING TIME IN ORDER TO REDUCE ARC FLASH ENERGY PER CODE. FUSES SHALL HAVE A CLEARING TIME OF .07 SECONDS OR LESS AT THE AVAILABLE ARCING CURRENT, OR ONE OF THE ALTERNATIVE, CODE ALLOWED MEANS SHALL BE PROVIDED TO REDUCE THE AVAILABLE ARCING CURRENT. REFER TO THE ONE-LINE DIAGRAM AND SPECIFICATIONS FOR MORE INFORMATION.
9. FEEDER SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
10. BRANCH CIRCUIT SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 60 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATION(S).
12. ALL EQUIPMENT IS NEW, UNLESS OTHERWISE NOTED AS EXISTING, "(E)"
13. ALL DEVICES ARE 3 POLE UNLESS OTHERWISE NOTED.
14. ONLY U.L. LISTED EQUIPMENT SHALL BE USED.
15. RATING OF ALL OVERCURRENT PROTECTION DEVICES, SWITCHES AND MAGNETIC STARTERS TO BE VERIFIED WITH NAMEPLATE RATING OF ASSOCIATED UNIT AND TO BE REVISED AS REQUIRED.
16. ALL INTERIOR POWER WIRE,LUGS AND TERMINATIONS ARE TO BE 75 DEGREES RATED
17. COORDINATE ALL FUSE SIZES WITH RATED MOCP AS SPECIFIED BY MANUFACTURER FOR ALL MECHANICAL EQUIPMENT. REFER TO MECHANICAL EQUIPMENT SCHEDULES.
18. ANY POTENTIAL SITE LIGHTING CIRCUITS TO BE CIRCUITED THROUGH PANEL "LP", CONTROLLED VIA LIGHTING CONTROL PANEL "LCP" AT THE POWERWALL.

ELECTRICAL PLAN NOTES:

E153 THE ELECTRICAL INFORMATION SHOWN FOR THIS EQUIPMENT IS PRELIMINARY AND SUBJECT TO CHANGE. COORDINATE ELECTRICAL PROVISIONS WITH EQUIPMENT SUPPLIER AND OTHER TRADES PRIOR TO INSTALLATION AND ADJUST ELECTRICAL PROVISIONS AS NECESSARY.

E156 PORTABLE GENERATOR QUICK CONNECT BREAKER SHALL BE PROPERLY INTERLOCKED WITH THE MAIN SERVICE ENTRANCE BREAKER TO PREVENT SIMULTANEOUS OPERATION FROM TWO POWER SOURCES. COORDINATE REQUIREMENTS WITH THE ELECTRIC UTILITY, OWNER AND AHJ. LABEL PHASING ON THE KIRK KEY SECONDARY TERMINAL LUGS. PROVIDE PERMANENT PLACARDS ON EQUIPMENT WITH INSTRUCTIONS ON SYSTEM OPERATION READING AS FOLLOWS: FOR 1200A MAIN BREAKER KIRK KEY: "TO SWITCH FROM NORMAL UTILITY POWER TO GENERATOR - LOCK OPEN 1200A MAIN BREAKER AND REMOVE KEY. INSERT KEY INTO 1200A GENERATOR BREAKER, TURN AND LOCK TO CLOSED POSITION". FOR 1200A TEMPORARY GENERATOR BREAKER KIRK KEY: " TO SWITCH FROM GENERATOR TO NORMAL UTILITY POWER - LOCK OPEN 1200A GENERATOR BREAKER AND REMOVE KEY. INSERT KEY INTO 1200A MAIN BREAKER, TURN AND LOCK TO CLOSED POSITION".

Short-Circuit and Voltage Drop Calculations

Version 2.12

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance

The following calculations are based on the "Point-by-Point" method where:

ISC (2) = ISC(1) x M(1)   M= 1/(1+f)

ISC (1) = short circuit current at fault point 1

ISC (2) = short circuit current at fault point 2

Feeder: $f\ (3Ø) = \frac{1.732 \times L \times Isc}{C \times E}$

Feeder: $f\ (1Ø) = \frac{2 \times L \times Isc}{C \times E}$

XFMR: $f\ (3Ø) = \frac{IP(sca) \times Vp \times 1.73 \times \%Z}{100{,}000 \times KVA}$

XFMR: $f\ (1Ø) = \frac{IP(sca) \times Vp \times \%Z}{100{,}000 \times KVA}$

$IS(sca) = \frac{Vp \times M \times IP(sca)}{Vs}$

VOLTAGE DROP (3Ø):

%VD = ((R x cos(arccos(pf)) + X x sin (arccos(pf))) x L/# x I x 1.73) / E

VOLTAGE DROP (1Ø):

%VD = ((R x cos(arccos(pf)) + X x sin(arccos(pf))) x 2 x L/# x I) / E

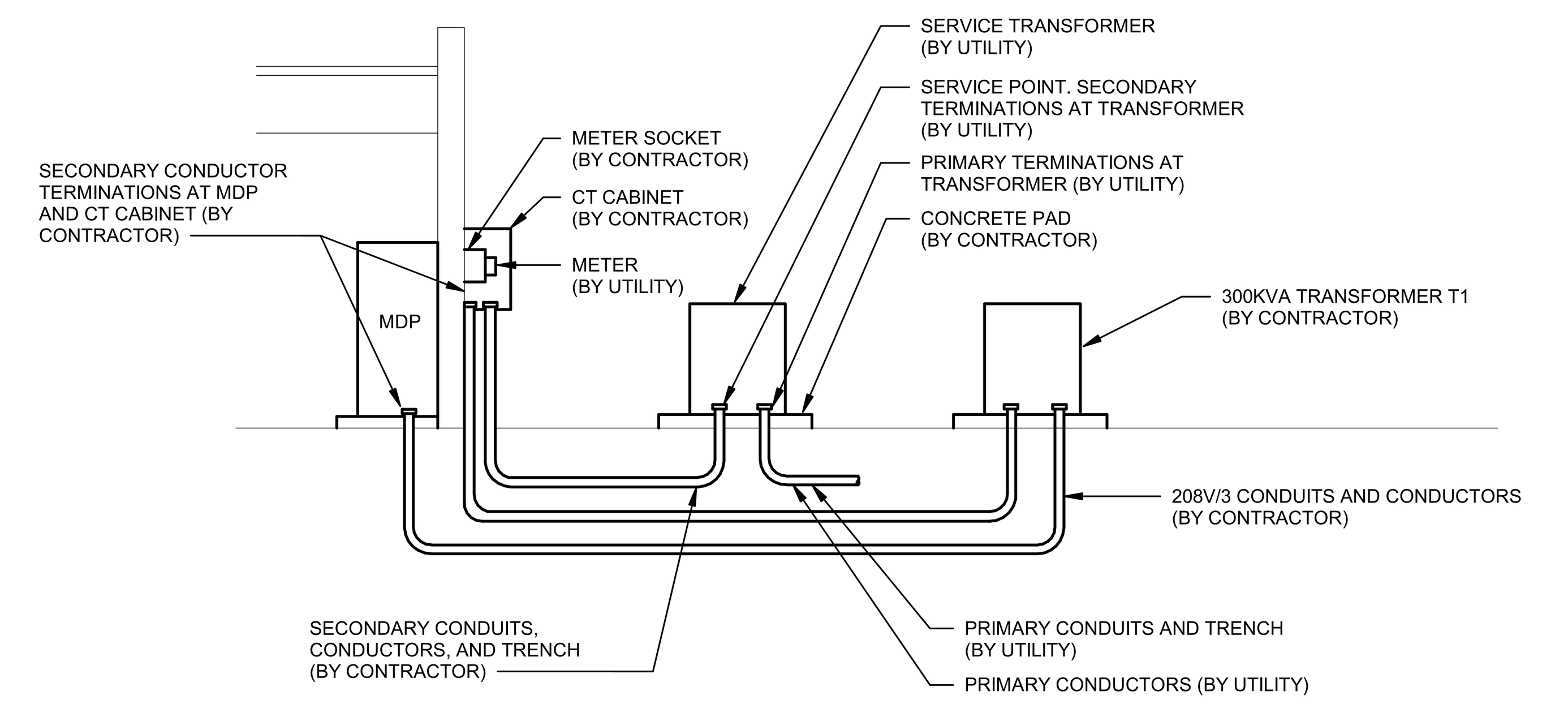
E = Line to line volts
IP = Primary short circuit current
Vp = Primary voltage
IS= Secondary short circuit current
Vs= Secondary voltage
L = Length of circuit
C = "C" Factor from Bussman table where "C" = 1 / impedance per linear foot

%VD CUM = Cumulative Voltage Drop from Fault Point 1 to Fault Point #
R = resistance in ohms per LF
X = reactances in ohms per LF

Feeder Types: NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer

Fault Point (F#)	Bus/Feeder Description	Source (Fault Point)	Phase	Source Isc (amps)	Feeder: Conduit Type/ TX	Feeder: Material	Feeder: Quantity of Parallel Sets and Bus/ Phase & Neutral Size	Conductor 'C' Value	Busway 'C' Value	L-L Voltage (E)	Circuit Length (L)	Load Power Factor (pf)	Circuit Load (Amperage)
1	Utility Service Point			12,028	at the secondary of the utility transformer								
	Motor Contribution			240	The connected full load motor amps (includes compressors) on the system								
2	SES	1	3	13,468	NM	AL	2 Set(s) of 500 kcmil	21391	--	480	5	0.9	312
3	TO XFMR T1 PRIMARY	2	3	13,392	NM	AL	2 Set(s) of 500 kcmil	21391	--	480	5	0.9	312
4	XFMR T1 SECONDARY	3	3	13,317	TX					208			
5	MDP	4	3	7,534	M	CU	4 Set(s) of 350 kcmil	19704	--	208	10	0.9	720
6	P1	5	3	7,474	M	CU	1 Set(s) of 3 AWG	4774	--	208	85	0.9	75
7	P2	5	3	7,474	M	CU	1 Set(s) of 1/0 AWG	8925	--	208	5	0.9	104
8	RP	5	3	7,474	M	CU	1 Set(s) of 1/0 AWG	8925	--	208	5	0.9	60
9	LP	5	3	7,474	M	CU	1 Set(s) of 3 AWG	4774	--	208	5	0.9	33
10	REFRIGERATION RACK	5	3	7,474	M	CU	2 Set(s) of 350 kcmil	19704	--	208	5	0.9	480
11	BALER	5	3	7,474	M	CU	1 Set(s) of 6 AWG	2425	--	208	90	0.9	60
12	FORKLIFT	5	3	7,474	M	CU	1 Set(s) of 10 AWG	981	--	208	25	0.9	30
13	AC-1	5	3	7,474	M	CU	1 Set(s) of 4 AWG	3806	--	208	92	0.9	69
14	AC-2	5	3	7,474	M	CU	1 Set(s) of 4 AWG	3806	--	208	130	0.9	69
15	AC-3	5	3	7,474	M	CU	1 Set(s) of 8 AWG	1557	--	208	50	0.9	29

Fault Point (F#)	Conductor: Resistance (R)	Conductor: Reactance (X)	Conductor: Arccos (pf) (Radians)	Transformer: Type	Transformer: Degree Rise	Transformer: kVA	Transformer: New Xfmr Z	Transformer: Existing Xfmr Z	Transformer: Secondary Voltage	Transformer: Tap Setting	f	M	Fault Current (amps)	Voltage Drop (%VD)	Cumulative Voltage Drop (%VD)	Fault Point (F#)
1										Source Isc + 6X Motor Contribution =			13,468			1
2	0.000043	0.000039	0.451027								0.006	0.99	13,392	-0.02%	-0.02%	2
3	0.000043	0.000039	0.451027								0.006	0.99	13,317	-0.02%	-0.03%	3
4				DOE	115	300	4.8		208		0.768	0.57	7,534		-0.03%	4
5	0.000039	0.000050	0.451027								0.008	0.99	7,474	-0.09%	-0.12%	5
6	0.000250	0.000059	0.451027								1.108	0.47	3,545	-1.33%	-1.45%	6
7	0.000120	0.000055	0.451027								0.035	0.97	7,223	-0.06%	-0.17%	7
8	0.000120	0.000055	0.451027								0.035	0.97	7,223	-0.03%	-0.15%	8
9	0.000250	0.000059	0.451027								0.065	0.94	7,017	-0.03%	-0.15%	9
10	0.000039	0.000050	0.451027								0.008	0.99	7,416	-0.06%	-0.17%	10
11	0.000490	0.000064	0.451027								2.310	0.30	2,258	-2.11%	-2.23%	11
12	0.001200	0.000063	0.451027								1.586	0.39	2,890	-0.69%	-0.81%	12
13	0.000310	0.000060	0.451027								1.504	0.40	2,984	-1.61%	-1.73%	13
14	0.000310	0.000060	0.451027								2.126	0.32	2,391	-2.28%	-2.40%	14
15	0.000780	0.000065	0.451027								1.999	0.33	2,493	-0.88%	-1.00%	15



3 UTILITY COORDINATION DETAIL
NTS

www.greenbergfarrow.com
30 Executive Park
Suite 100
Irvine, CA 92614
t: 949 296 0450

PROJECT TEAM
HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM
2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025

REGISTERED PROFESSIONAL ENGINEER 96696PE DIGITALLY SIGNED OREGON NOV 10, 2020 MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
MZ

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
ELECTRICAL SINGLE LINE DIAGRAM

SHEET NUMBER
E6-01

MICHAEL T. DERMYER

PANELBOARD: LP

BUS AMPS: 100A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: MDP

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM
AIC RATED: SERIES RATED W/ UPSTREAM OCPD
BREAKER AIC: 14,000
SERVES: LIGHTING
MOUNTING: SURFACE
LOCATION: STOCK ROOM 111

EQUIPMENT GROUND BUS

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	LTG - STOCK ROOM 111	L	VD,C6	10	20	1	1456 1905			1	20	8	VD,C9	L	EM LTG -SALES FLOOR	2
3	EMG LTG - STOCK ROOM 111	L	C10	12	20	1		451 672		1	20	12	C5C	L	LTG - SALES FLOOR REAR	4
5	LTG - FREEZER/COOLERS	L		12	20	1			238 560	1	20	10	VD,C5C	L	LTG - SALES FLOOR FRONT	6
7	LTG - HLWY,RR,BRKRM	L		12	20	1	204 68			1	20	12		L	LTG - OFFICES	8
9	EM LTG - FREEZER/COOLERS	L		12	20	1		136 66		1	20	12		L	EM LTG - OFFICES	10
11	EM LTG - HLWY,RR,BRKRM	L		12	20	1			171 162	1	20	12		L	LTG - MECH RM 115	12
13	LTG -SALES FLOOR AISLE 1/2	L	VD,C5A	8	20	1	1792 162			1	20	12		L	EM LTG - MECH RM 115	14
15	LTG -SALES FLOOR AISLE 3/4	L	VD,C5A	8	20	1		1456 9		1	20	12		L	EM LTG - FRONT EXTERIOR	16
17	LTG -SALES FLOOR AISLE 5	L	C5B	12	20	1			336 0	1					EQUIPPED SPACE	18
19	LTG -SALES FLOOR AISLE 6/7	L	VD,C5B	8	20	1	1344 0			1					EQUIPPED SPACE	20
21	EXTERIOR CANOPY LTG	L	C12	12	20	1		54 0		1					EQUIPPED SPACE	22
23	LTG - SALES FLOOR SKYLIT DAYLIT	L	C3	12	20	1			672 0	1					EQUIPPED SPACE	24
25	SPARE				20	1	0 0			1					EQUIPPED SPACE	26
27	SPARE				20	1		0 0		1					EQUIPPED SPACE	28
29	SPARE				20	1			0 0	1					EQUIPPED SPACE	30
31	SPARE				20	1	0 0			1					EQUIPPED SPACE	32
33	SPARE				20	1		0 0		1					EQUIPPED SPACE	34
35	SPARE				20	1			0 0	1					EQUIPPED SPACE	36
37	SPARE				20	1	0 0			1					EQUIPPED SPACE	38
39	SPARE				20	1		0 0		1					EQUIPPED SPACE	40
41	SPARE				20	1			0 0	1					EQUIPPED SPACE	42
			TOTAL LOAD (VA):				6931 VA	2844 VA	2139 VA							
			TOTAL AMPS:				59 A	25 A	18 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	11899 VA	125%	14874 VA
RECEPTACLES (R)	0 VA	0%	0 VA
MOTORS (M)	0 VA	100%	0 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	0 VA	100%	0 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGNAGE (S)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	0 VA	125%	0 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	11899 VA
TOTAL NEC LOAD	14874 VA
TOTAL CONNECTED CURRENT	33 A
TOTAL NEC DEMAND CURRENT	41 A

PANELBOARD: P1

BUS AMPS: 100A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: MDP

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM
AIC RATED: SERIES RATED W/ UPSTREAM OCPD
BREAKER AIC: 14,000
SERVES: OFFICE POWER
MOUNTING: SURFACE
LOCATION: STOCK ROOM 111

EQUIPMENT GROUND BUS
ISOLATED GROUND BUS

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	SALES FLOOR RCPTS 1	R		12	20	1	360 1200			1	20	12		M	ENTRY AUTO DOOR 1	2
3	SALES FLOOR RCPTS 2	R		12	20	1		360 500		1	20	12		S	SIGNAGE DISPLAY	4
5	SALES COFFEE GRINDER	R		12	20	1			1000 500	1	20	12		R	ADA CART CHARGER	6
7	HEAT TRACE CONNECTION	Z		12	20	1	0 1200			1	20	12		R	ROLL UP DOOR STOCK ROOM 111	8
9	CHECKSTAND MERCH 1	R		12	20	1		400 1300		1	20	12		M	AD-1	10
11	CHECKSTAND MERCH 2	R		12	20	1			400 1300	1	20	12		M	AD-2	12
13	CHECKSTAND MERCH 3	R		12	20	1	400 100			1	20	12	LCK	Z	DOORBELL STOCK ROOM 111	14
15	CHECKSTAND MERCH 4	R		12	20	1		400 100		1	20	12		Z	DELAYED EGRESS BOH	16
17	CHECKSTAND REG 1	R	IG	12	20	1			400 500	1	20	12		Z	WATER FOUNTAIN - HALLWAY 110	18
19	CHECKSTAND REG 2	R	IG	12	20	1	400 540			1	20	12		R	RESTROOMS/HALLWAY RCPTS	20
21	CHECKSTAND REG 3	R	IG	12	20	1		400 1000		1	20	12	LCK	M	RESTROOM #1 HAND DRYER	22
23	CHECKSTAND REG 4	R	IG	12	20	1			400 1000	1	20	12	LCK	M	RESTROOM #2 HAND DRYER	24
25	CHECKSTAND BELT 1	M		12	20	1	750 720			1	20	12		R	RCPT - BREAK ROOM 107	26
27	CHECKSTAND BELT 2	M		12	20	1		750 1000		1	20	12		R	FRIDGE - BREAK ROOM 107	28
29	CHECKSTAND BELT 3	M		12	20	1			750 1500	1	20	12		R	MICROWAVE - BREAK ROOM 107	30
31	CHECKSTAND BELT 4	M		12	20	1	750 1500			1	20	12		R	COFFEE MACHINE - BREAK ROOM 107	32
33	PRINTING STATION	R		12	20	1		720 540		1	20	12		R	MECH RM CONV. RCPT	34
35	MEAT SCALE	R	IG	12	20	1			400 1500	1	20	12		S	DEPARTMENT ENTRY SIGN	36
37	FLOOR SCRUBBER	R		12	20	1	1500 0			1	20				SPARE	38
39	SALES FLOOR RCPTS 3	R		12	20	1		360 0		1	20				SPARE	40
41	SALES SECURITY CAMERAS	R		12	20	1			720 0	1	20				SPARE	42
			TOTAL LOAD (VA):				9420 VA	7830 VA	10370 VA							
			TOTAL AMPS:				81 A	65 A	88 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	0 VA	125%	0 VA
RECEPTACLES (R)	15580 VA	82%	12790 VA
MOTORS (M)	7500 VA	100%	7500 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	700 VA	100%	700 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGNAGE (S)	2000 VA	125%	2500 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	1300 VA	125%	1625 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	27080 VA
TOTAL NEC LOAD	25115 VA
TOTAL CONNECTED CURRENT	75 A
TOTAL NEC DEMAND CURRENT	70 A

PANELBOARD: P2

BUS AMPS: 150A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: MDP

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM
AIC RATED: SERIES RATED W/ UPSTREAM OCPD
BREAKER AIC: 14,000
SERVES: GENERAL POWER
MOUNTING: SURFACE
LOCATION: STOCK ROOM 111

EQUIPMENT GROUND BUS
ISOLATED GROUND BUS

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	FRONT OFFICE102 GO SAFE	R	LO	12	20	1	180 200			1	20	12		M	EF-1/EF-2	2
3	BACK OFFICE 103 CNTRL RCPT	R		12	20	1		180 348								4
5	BACK OFFICE 103 RCPT	R	IG	12	20	1			360 348	3	20	12		M	EF-3	6
7	BACK OFFICE PLUGSTRIP	R		12	20	1	1500 348									8
9	IT RACK RCPT 1	R	IG	12	20	1		1000 1619		2	15	10		C	CU-1	10
11	IT RACK RCPT 2	R	IG	12	20	1			1000 1619							12
13	FRONT OFFICE 102 RCPT	R	IG	12	20	1	720 1619			2	15	10		C	CU-2	14
15	FRONT OFFICE 102 CNTRL RCPT	R		12	20	1		360 1619								16
17	FRONT OFFICE 12 PLUGSTRIP	R		12	20	1			1500 521	2	15	10		C	CU-3	18
19	FRONT OFFICE 12 PLUGSTRIP	R		12	20	1	1500 521									20
21	TF-1/TF-2	M		12	20	1		200 540		1	20	12		R	ROOF RCPTS ON CU UNITS	22
23	TF-3	M		12	20	1			100 540	1	20	12			ROOF RCPTS ON AC UNITS	24
25	FUTURE CHECKSTAND REG	R		12	20	1	400 50			1	20	12	GFEP	U	HOSEBIB HEAT TRACE	26
27	FUTURE CHECKSTAND BELT	M		12	20	1		750 180		1	20	12		Z	CONTROL PANEL - C910	28
29	FUTURE CHECKSTAND MERCH	R		12	20	1			360 360	1	20	12	FA	R	FACP	30
31	CONVENIENCE RCPTS	R		12	20	1	360 1000			1	20	12		S	SHOW WINDOW RCPTS S	32
33	STOCK RM RCPTS	R		12	20	1		540 1000		1	20	12		S	SHOW WINDOW RCPTS N	34
35	TELE. SWITCHING CPU	R		12	20	1			360 0	1	20				SPARE	36
37	VIDEO MGMT SYS. UPS	R		12	20	1	360 0			1	20				SPARE	38
39	TELE BACKBOARD	R		12	20	1		360 0		1	20				SPARE	40
41	VIDEO MGMT SYS. RCPT	R		12	20	1			360 0	1	20				SPARE	42
43	DEMAND RESPONSE - BOH	R		12	20	1	360 0			1	20				SPARE	44
45	RECIRC. PUMP	U		12	20	1		1500 0		1	20				SPARE	46
47	WH-1 STOCKROOM 111	M		8	40	2			3000 0	1	20				SPARE	48
49							3000 0			1	20				SPARE	50
51	UH-1	U		10	15	1		1800 0		1	20				SPARE	52
53	UH-2	U		10	15	1			1800 0	1	20				SPARE	54
55	DUCT DETECTORS	Z M		12	20	1	1500 0			1	20				SPARE	56
57	STOREFRONT SIGNAGE	S	C16	12	20	1		300 0		1	20				SPARE	58
59	SPARE				20	1			0 0	1	20				SPARE	60
			TOTAL LOAD (VA):				13618 VA	12296 VA	12228 VA							
			TOTAL AMPS:				114 A	103 A	102 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	7519 VA	100%	7519 VA
HEATING (H)	0 VA	0%	0 VA
LIGHTING (L)	0 VA	125%	0 VA
RECEPTACLES (R)	12480 VA	90%	11240 VA
MOTORS (M)	2293 VA	100%	2293 VA
SUPPLEMENTAL HEAT (U)	5150 VA	100%	5150 VA
MISC EQUIP (Z)	1680 VA	100%	1680 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGNAGE (S)	2300 VA	125%	2875 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	6000 VA	125%	7500 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	37422 VA
TOTAL NEC LOAD	38257 VA
TOTAL CONNECTED CURRENT	104 A
TOTAL NEC DEMAND CURRENT	106 A

PANELBOARD: RP

BUS AMPS: 150A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: MDP

FAULT CURRENT: REFER TO ONE-LINE DIAGRAM
AIC RATED: SERIES RATED W/ UPSTREAM OCPD
BREAKER AIC: 14,000
SERVES: REFRIG. CASES
MOUNTING: SURFACE
LOCATION: STOCK ROOM 111

EQUIPMENT GROUND BUS

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	SYS 1A FANS/AS HTRS	F	LCK	12	20	1	1632 1380			1	20	12		F	SC CASE 1 - PRODUCE BUNK	2
3	SYS 1A LTS	L	LCK,C1A	12	20	1		245 1380		1	20	12		F	SC CASE 2 - MEAT BUNK	4
5	SYS 1B FANS/AS HTRS	F	LCK	12	20	1			2004 1380	1	20	12		F	SC CASE 3 - FISH BUNK	6
7	SYS 1B LTS	L	LCK,C1A	12	20	1	240 1200			1	20	12	GFEP,LCK	U	FREEZER DOOR HEAT	8
9	SYS 1C FANS/AS HTRS	F	LCK	12	20	1		1658 828		1	20	12	LCK	L	FREEZER DOOR LIGHTS	10
11	SYS 1C LTS	L	LCK,C1A	12	20	1			240 500	1	20	12	GFEP	L	DRAIN LINE HEAT	12
13	SYS 1D FANS/AS HTRS	F	LCK	12	20	1	1920 828			1	20	12	GFEP,LCK	M	DAIRY CLR DOOR HEAT	14
15	SYS 1D LTS	L	LCK,C1A	12	20	1		240 0		1	20				SPARE	16
17	SYS 2A FANS	F	LCK	12	20	1			100 0	1	20				SPARE	18
19	SYS 2A LTS	L	LCK,C1B	12	20	1	288 0			1	20				SPARE	20
21	BEER SIGN	S	C2	12	20	1		500 0		1	20				SPARE	22
23	SYS 2B FANS	F	LCK	12	20	1			168 0	1	20				SPARE	24
25	SYS 2B LTS	L	LCK,C1B	12	20	1	252 0			1	20				SPARE	26
27	SYS 2C FANS	F	LCK	12	20	1		168 0		1	20				SPARE	28
29	SYS 2C LTS	L	LCK,C1B	12	20	1			252 0	1	20				SPARE	30
31	SYS 2E FANS	F	LCK	12	20	1	168 0			1	20				SPARE	32
33	SYS 2E LTS	L	LCK,C1B	12	20	1		252 0		1	20				SPARE	34
35	SYS 2F FANS	F	LCK	12	20	1			500 0	1	20				SPARE	36
37	SYS 2F LTS	L	LCK,C1B	12	20	1	252 0			1	20				SPARE	38
39	RCPT - EMS DISPLAY	R		12	20	1		1200 0		1	20				SPARE	40
41	SYS SC - ICE CASE SALES	F		12	20	1			1800 0	1	20				SPARE	42
			TOTAL LOAD (VA):				8160 VA	6471 VA	6944 VA							
			TOTAL AMPS:				69 A	54 A	58 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	3589 VA	125%	4486 VA
RECEPTACLES (R)	1200 VA	100%	1200 VA
MOTORS (M)	0 VA	100%	0 VA
SUPPLEMENTAL HEAT (U)	1200 VA	100%	1200 VA
MISC EQUIP (Z)	0 VA	100%	0 VA
REFRIGERATION (F)	14258 VA	100%	14258 VA
SIGNAGE (S)	500 VA	125%	625 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	828 VA	125%	1035 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	21575 VA
TOTAL NEC LOAD	22804 VA
TOTAL CONNECTED CURRENT	60 A
TOTAL NEC DEMAND CURRENT	63 A

PANELBOARD LEGEND

ABBREVIATIONS V1.01

AF	ARC FAULT CIRCUIT INTERRUPTER.
C#	CIRCUIT VIA CONTACTOR #.
CL	CIRCUIT VIA CURRENT LIMITING DEVICE.
D	DISCONNECT CIRCUITRY FOR REMOVED LOAD, UPDATE CIRCUIT DIRECTORY TO SPARE AND TURN OFF.
EM	EMERGENCY LIGHTING HANDLE-ON CLAMP.
EX	EXISTING.
F	FUTURE LOAD; NOTE AS SPARE AND TURN OFF.
FA	RED/HANDLE-ON CLAMP
GF	GROUND-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER (5 mA).
GFEP	GROUND FAULT EQUIPMENT PROTECTION BREAKER (30 mA).
HT	PROVIDE HANDLE-TIE FOR MULTI-WIRE BRANCH CIRCUIT PER CODE.
IG	ISOLATED GROUND CIRCUIT.
L#	LIGHTING CONTROL SCHEME NUMBER.
LCK	HANDLE PADLOCKABLE-OFF DEVICE.
LO	HANDLE-ON CLAMP.
N	PROVIDE NEW CIRCUIT BREAKER.
OL	REFER TO ELECTRICAL ONE-LINE/RISER DIAGRAM.
PS	POWER-SWITCHING CIRCUIT BREAKER.
PSE	EMERGENCY POWER-SWITCHING CIRCUIT BREAKER.
R	REUSE EXISTING CIRCUIT BREAKER FOR NEW/REVISED LOAD.
RP	CIRCUIT VIA RELAY PANEL.
ST	SHUNT TRIP CIRCUIT BREAKER.
V	VERIFY EXISTING LOAD AND UPDATE DIRECTORY, IF UNUSED, NOTE AS SPARE AND TURN OFF.
VD	BRANCH CIRCUITRY HAS BEEN UPSIZED TO REDUCE VOLTAGE DROP. ADJUST GROUND WIRE SIZE PER CODE. PROVIDE LUG ADAPTORS IF REQUIRED.
Z	CORRECT/REPAIR EXISTING HAZARD TO MAKE CODE COMPLIANT INSTALLATION.

NOT ALL ABBREVIATIONS ARE USED.

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
96696PE
DIGITALLY SIGNED
OREGON
NOV 10, 2025
MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
HL

PROJECT NAME

GROCERY OUTLET

3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

ELECTRICAL PANEL SCHEDULES

SHEET NUMBER

E6-02

COMcheck Software Version COMcheckWeb
Interior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2019) Standard
Project Title: GO SOUTH SALEM NS
Project Type: Alteration

Construction Site: 3975 Commercial St SE, Salem, Oregon 97302
Owner/Agent: Grocery Outlet
Designer/Contractor: Henderson Engineers

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Grocery Outlet (Retail)	16504	0.84	13863
		Total Allowed Watts =	13863

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
Grocery Outlet (Retail, 16504 sq.ft.)				
LED: A-1: 4' HIGHBAY: Other:	1	60	112	6720
LED: A-2: 4' HIGHBAY EM: Other:	1	17	112	1904
LED: B-1: 4' HIGHBAY: Other:	1	15	112	1680
LED: B-2: 4' HIGHBAY EM: Other:	1	5	112	560
LED: C-1: 4' NARROW STRIP: Other:	1	8	34	272
LED: C-2: 4' NARROW STRIP EM: Other:	1	7	34	238
LED: D-1: 4' HIGHBAY: Other:	1	4	81	324
LED: D-2: 4' HIGHBAY EM: Other:	1	4	81	324
LED: V-1: 4' VAPORTIGHT: Other:	1	7	34	238
LED: V-2: 4' VAPORTIGHT: Other:	1	4	34	136
			Total Proposed Watts =	12396

Interior Lighting PASSES

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting alteration project 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 (2019) Standard requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Hanna La Londe - Electrical Engineer | Signature | 2/8/24
Name - Title | Signature | Date

COMcheck Software Version COMcheckWeb
Exterior Lighting Compliance Certificate

Project Information

Energy Code: 90.1 (2019) Standard
Project Title: GO SOUTH SALEM NS
Project Type: Alteration
Exterior Lighting Zone: 2 (Neighborhood business district (LZ2))

Construction Site: 3975 Commercial St SE, Salem, Oregon 97302
Owner/Agent: Grocery Outlet
Designer/Contractor: Henderson Engineers

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Loading Dock (Loading dock)	400 ft2	0.35	Yes	140
			Total Tradable Watts (a) =	140
			Total Allowed Watts =	140
			Total Allowed Supplemental Watts (b) =	400

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 400 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 Fixture	D Fixture Watt.	E (C X D)
Loading Dock (Loading dock, 400 ft2): Tradable Wattage				
LED: CY: CANOPY DOWNLIGHT: Other:	1	2	27	54
			Total Tradable Proposed Watts =	54

Exterior Lighting PASSES

Exterior Lighting Compliance Statement

Compliance Statement: The proposed exterior lighting alteration project 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 (2019) Standard requirements in COM*check* Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Hanna La Londe - Electrical Engineer | Signature | 2/8/24
Name - Title | Signature | Date

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 90.1 (2019) Standard

Requirements: 100.0% were addressed directly in the COM*check* 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, 8.4.1.1, 8.4.1.2, 8.7 [PR6][2]	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%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
4.2.2, 9.4.3, 9.7 [PR4][1]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.7 [PR8][1]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02

Additional Comments/Assumptions:

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

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
8.4.2 [EL10][2]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
8.4.3 [EL11][2]	New buildings have electrical energy use measurement devices installed. Where tenant spaces exist, each tenant is monitored separately. In buildings with a digital control system the energy use is transmitted to to control system and displayed graphically.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
9.4.1.1 [EL1][2]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.4.1.1 [EL2][2]	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.4.1.1f [EL13][1]	Daylight areas under skylights and roof monitors that have more than 150 W combined input power for general lighting are controlled by photocontrols.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.4.1.4 [EL3][2]	Automatic lighting controls for exterior lighting installed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.4.1.3 [EL4][1]	Separate lighting control devices for specific uses installed per approved lighting plans.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. **Location on plans/spec:** E1-11, E5-01, E3-02
9.6.2 [EL8][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
8.7.1 [FI16][3]	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
8.7.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
9.2.2.3 [FI18][1]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Interior Lighting fixture schedule for values.*
9.4.2 [FI19][1]	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.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*
9.4.4 [FI20][1]	At least 75% of all permanently installed lighting fixtures in dwelling units have >= 55 lm/W efficacy or a >= 45 lm/W total luminaire efficacy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

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

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
96696PE
DIGITALLY SIGNED
OREGON
NOV 10, 2020
MICHAEL T. DERMYER

02/19/2024

PROFESSIONAL IN CHARGE
CO

PROJECT MANAGER
JR

QUALITY CONTROL
DWC

DRAWN BY
MZ

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE

COMPLIANCE FORMS

SHEET NUMBER

E7-01

MICHAEL T. DERMYER

REFRIGERANT PLACARDS (IF APPLICABLE)

EMERGENCY PLACARDS TO BE LOCATED AT MONITORED AREAS

- PROVIDE HAZARD SIGN.
- "EMERGENCY CONTACT" SIGN
- "ACCESS TO REFRIGERATION EQUIPMENT LIMITED TO AUTHORIZED PERSONNEL ONLY"
- (5/8" TEXT) BLACK TEXT ON WHITE BACKGROUND.
- "ALARM SIGNAL INDICATES REFRIGERANT LEAK DETECTED. EVACUATE MONITORED AREA IMMEDIATELY AND NOTIFY STORE MANAGER" WHITE TEXT ON BLUE BACKGROUND

NOTE: REFRIGERANT-VAPOR DETECTION AND ALARM SYSTEM LOCATIONS OTHER THAN THE EQUIPMENT AREA SHALL AUTOMATICALLY STOP THE FLOW OF REFRIGERANT IN ALL SUPPLY LINES LEAVING THE COMPRESSOR RACK WHENEVER THE REFRIGERANT VAPOR CONCENTRATION IS AT OR ABOVE THE 50% OF THE "IDLH" OR 25% OF THE "LFL" LEVEL.

NOTE: THE REFRIGERANT-VAPOR DETECTION SYSTEM'S ALARM SHALL BE ACTIVATED WITHIN THE SPACE WHENEVER THE REFRIGERANT VAPOR "OEL" LEVEL IS EXCEEDED.

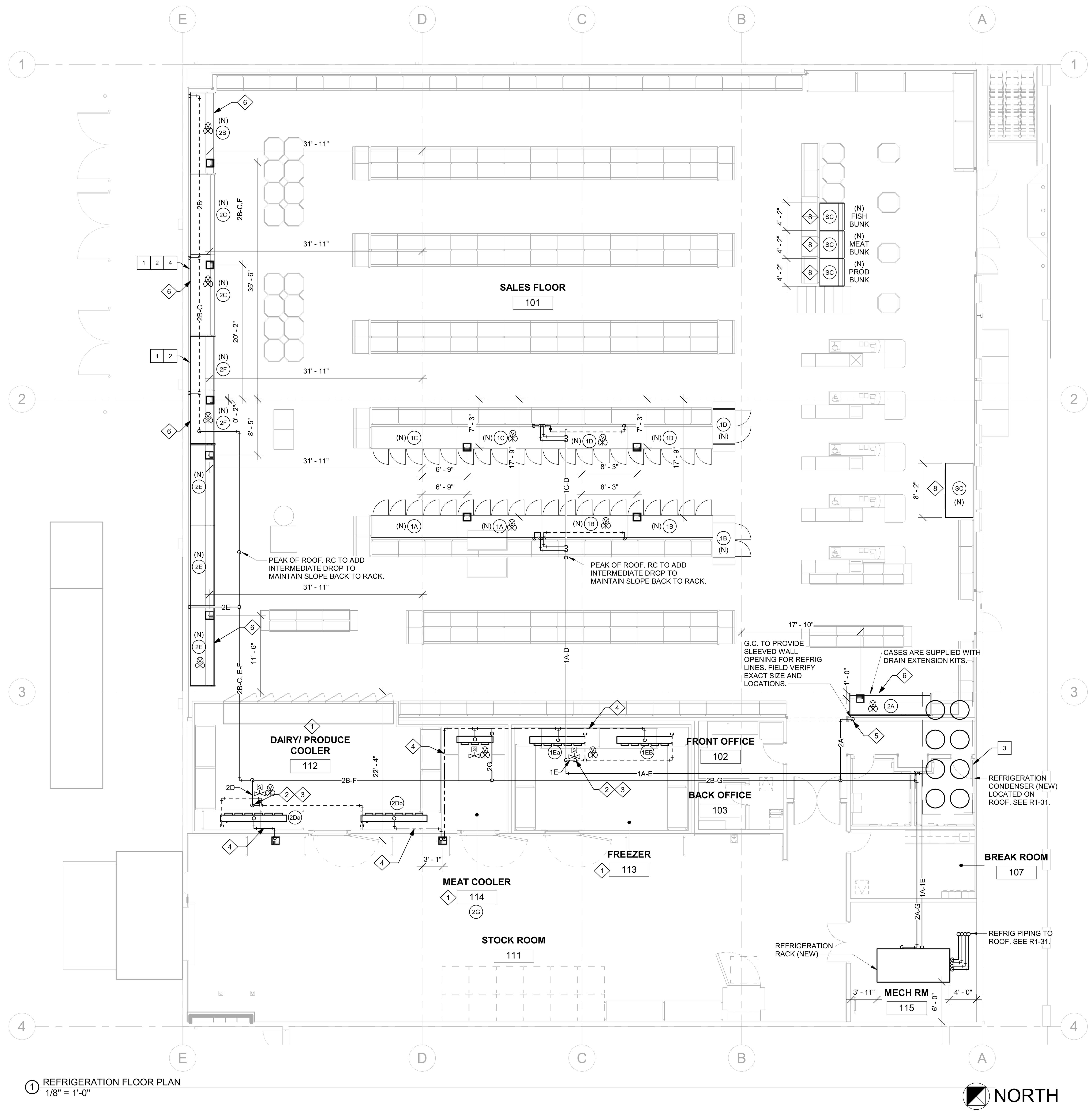
NOTE: REFRIGERANT CONTAINING PARTS OF A SYSTEM THAT IS FIELD-ERECTED SHALL BE TESTED AND PROVED TIGHT AFTER COMPLETE INSTALLATION AND BEFORE OPERATION.

STROBE/HORN SIGNALING DEVICE SPECS.
HORN AND STROBE UNIT UL 1638 LISTED.
15 DB HIGHER THAN AMBIENT NOISE LEVEL
@ 101.0 (IW/IM)

CASE LABELING

R.C. TO P-TOUCH LABEL EACH CASE AND IDENTIFY BOTH THE CASE NUMBER & SYSTEM IN THE LOWER LEFT CORNER ON THE FACE OF THE UNIT, IN A CONTINUOUS SEQUENCE FROM LEFT TO RIGHT

DIMENSIONING NOTE: CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN FIELD AND IN COORDINATION WITH ALL MANUFACTURER CUT SHEETS AND SUBMITTALS PRIOR TO ROUGH-IN. RFIs SHALL BE ISSUED IF ANY DISCREPANCIES ARE FOUND. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN DIMENSIONS AND THE FIELD CONDITION OR MANUFACTURER DATA THAT ARE NOT RAISED PRIOR TO CONSTRUCTION, CONTRACTOR IS PROCEEDING AT ITS OWN RISK AND SHALL BE RESPONSIBLE FOR THE COST OF ANY CHANGES.



1 REFRIGERATION FLOOR PLAN
1/8" = 1'-0"

NORTH

GENERAL NOTES

1. DO NOT SCALE DRAWINGS.
2. ALL SERVICE LOCATION DIMENSIONS TAKEN FROM INSIDE FACE OF BLOCK WALL (NEW STORE), OR INSIDE FACE OF FINISH WALL (REMODEL) AND CENTERLINE OF COLUMNS TO CENTER OF ALL UNDERGROUND SERVICES.
3. REFER TO REFRIGERATION INSTALLATION DETAILS SHEET FOR INSTALLATION PROCEDURES AND REQUIREMENTS.
4. REFER TO REFRIGERATION EQUIPMENT DETAILS SHEET FOR FIXTURE DIMENSIONS AND SERVICE LOCATIONS.
5. ALL CASE CLOSE OFFS BY R.C., UNLESS OTHERWISE SPECIFIED.
6. ALARM CONTRACTOR TO MAKE FINAL CONNECTIONS FROM CONTROL PANEL
7. THE TIE IN FROM THE CONTROL PANEL TO THE ALARM PANEL SHALL BE INCLUDED ON THE FIRE ALARM PLANS. IF NOT THE FIRE ALARM CONTRACTOR SHALL SUBMIT PLANS TO FIRE PLAN CHECK FOR THE ADDITIONAL RELAYS OR MODULES TO SATISFY THIS REQUIREMENT.
8. A REFRIGERANT DETECTION AND ALARM SYSTEM IS REQUIRED.
9. A 6" MINIMUM CLEARANCE IS REQUIRED BETWEEN WALK-IN WALLS AND ADJACENT STRUCTURES.
10. GENERAL CONTRACTOR TO PROVIDE FALSE COLUMN FOR REFRIGERATION AND ELECTRICAL SERVICE WHEN APPLICABLE.
11. WIRE MESH (HARDWARE CLOTH) FROM TOP OF WALK-IN BOXES BY G.C.
12. 2" SPACERS REQUIRED AT DAIRY COOLER REACH-IN DOORS.
13. WALK-IN BOX DOOR ALARM STROBE IS MOUNTED ABOVE THE DOOR ON THE SIDE THAT OPENS, 8'-4" A.F.F. PLACARD LOCATED TO THE LEFT OR RIGHT OF LIGHT.
14. WALK-IN BOX LEAK ALARM STROBE/SIREN AND WARNING PLACARDS TO BE CENTERED ABOVE DOOR. IF NO DOOR, MOUNT NEXT TO ALARM LIGHT(S) OR LOCATION DIRECTED BY LOCAL JURISDICTION.
15. MRLDS IN WALK-IN BOX TO BE LOCATED 12"-18" A.F.F.
16. CODE COMPLIANCE IS MANDATORY. NOTHING IN THESE DRAWINGS PERMITS WORK NOT CONFORMING TO THESE CODES. WHERE WORK IS SHOWN TO EXCEED MINIMUM CODE REQUIREMENTS, COMPLY WITH DRAWINGS. ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST RULES, CODES, AND REGULATIONS.
17. ALL CASE AND WALK-IN BOX CLOSE OFF BY G.C.
18. SEE REFRIGERATION SCHEDULE FOR EVAPORATOR TYPES, SIZES, CAPACITIES, CONTROL METHOD, PIPE SIZES ETC.
19. COORDINATE WALL AND/OR ROOF PENETRATIONS AND OPENINGS WITH ARCHITECTURAL AND STRUCTURAL.
20. SLOPE REFRIGERANT LINES BACK TO COMPRESSORS AT 1" PER 20 OF RUN. LOCATE HIGHEST POINT OF REFRIGERATION LINES JUST BELOW BOTTOM CHORD OF JOIST OR BEAM. COORDINATE ELEVATION TO AVOID CONFLICTS WITH DUCTWORK, LIGHTING, SKYLIGHTS, ETC.
21. SUPPORT HORIZONTAL RUNS OF REFRIGERANT LINES ON 1-5/8" x 1-5/8" UNISTRUT CHANNELS ON MAXIMUM OF 6 FOOT CENTERS.
22. AT ALL POINTS WHERE SUCTION LINES RISE, PROVIDE SUCTION LINE TRAP AT THE BASE OF THE RISER.
23. FOR RISERS OVER 16'-0" INSTALL AN INTERMEDIATE SUCTION TRAP OUT OF CUSTOMER VIEW NEAR MIDPOINT OF RISER.
24. PROVIDE AIRTIGHT SEAL AROUND ALL PIPING AND BOLT PENETRATIONS THROUGH COOLER/FREEZER BOX WALLS OR CEILINGS.

PIPING LEGEND

- OVERHEAD REFRIGERANT PIPING
- PIPING ON TOP OF WALK-IN OR CASE
- CONDENSATE DRAIN PIPING
- [S] LIQUID LINE SOLENOID VALVE
- CONNECT TO EXISTING
- EEPR VALVE, PROVIDED BY RACK MANUFACTURER, INSTALLED BY R.C., WIRED BY E.C.

REFRIGERATION KEYED NOTES

1. NEW WALK-IN COMPLEX.
2. INSTALL PIPING ON TOP OF INSULATED PANEL.
3. INSTALL LIQUID LINE SOLENOID AND FULL PORT ISOLATION BALL VALVES IN ACCESSIBLE LOCATION ON TOP OF WALK-IN BOX.
4. PROVIDE CONDENSATE DRAIN LINES. ROUTE DRAIN LINES TO DRAIN EXERIOR TO WALK-IN. SEE PLUMBING SHEETS FOR MORE DETAIL.
5. ROUTE REFRIGERATION PIPING DOWN IN WALL SPACE. CONNECT TO SALES FLOOR CASES.
6. INSTALL EPR VALVES AT CASE.
7. NOT USED.
8. INSTALL NEW S.C. CASE.

PLUMBING LEGEND AND KEYNOTES

NOTE: FOR CASES - (3) DRAIN LINES PER FLOOR SINK, MAXIMUM LINE RUN OF 15' EACH.
FOR FREEZER COILS - USE SHORTEST POSSIBLE LINE RUN.
FOR NEW STORES - G.C. TO PROVIDE 24" X 24" BLOCKOUTS, FOR FLOOR SINKS.

- 12"x12" FLOOR SINK(S), 1/2 EXPOSED WITH 1/2 GRATE COVER. P.C. TO PROVIDE AND SET FLUSH WITH FINISH FLOOR.

- 12"X12" FLOOR SINK(S), WITH FULL GRATE COVER. P.C. TO PROVIDE AND SET FLUSH WITH FINISH FLOOR.

1 - P.C. TO PROVIDE AND INSTALL 1/2" COLD WATER SUPPLY STUB-UP WITH SHUT-OFF VALVE, HAMMER ARRESTOR, AND ALL NECESSARY TUBING, ETC., FROM STUB-UP TO HOSE REELS/HOSE DISCONNECTS FOR PRODUCE AND MEAT CASES.

2 - P.C. TO PROVIDE AND INSTALL MAIN SHUT-OFF VALVE FOR WATER LINES UNDER PRODUCE AND MEAT CASES. MAIN SHUT-OFF VALVE SHALL BE LOCATED AT PRODUCE PREP AREA ON WALL AT 6'-6" ABOVE FINISH FLOOR. P.C. TO ALSO PROVIDE A REGULATING VALVE ASSEMBLY IF WATER PRESSURE EXCEEDS 20 P.S.I.G.

3 - P.C. TO PROVIDE AND INSTALL WATER SUPPLY AND HOSE BIB WITHIN 10' OF CONDENSER. (VERIFY LOCATION WITH R.C.)

4 - R.C. TO INSTALL CUSTOMER SUPPLIED PRODUCE MISTING SYSTEM. TUBING SHALL BE FASTENED TIGHT TO HELP PREVENT MOVEMENT OF TUBING. MOUNT SPRAY BAR ON THE OUTSIDE OF THE AIR CURTAIN AND CLAMP EVERY 12 INCHES.

GENERAL LEGEND

- (#) - REMOTE CASE SYSTEM NUMBER
- (SC) - SELF-CONTAINED CASE
- (#) - REFRIGERATED CASE
- MODEL # - EVAPORATOR COIL (CEILING MOUNTED) (SEE FIXTURE STATUS BELOW)
- F - G.C. TO PROVIDE AND INSTALL FURRING WHERE REQUIRED, AND CUT/FRAME ALL OPENINGS IN WALLS AND FLOORS AS SPECIFIED BY REFRIGERATION CONTRACTOR.

REFRIGERATION SHEET INDEX

RESPONSIBILITY

- G.C. - GENERAL CONTRACTOR
- P.C. - PLUMBING CONTRACTOR
- R.C. - REFRIGERATION CONTRACTOR
- R.E.C. - REFRIGERATION ELECTRICAL CONTRACTOR
- E.C. - ELECTRICAL CONTRACTOR
- E.M.C. - ENERGY MANAGEMENT CONTRACTOR
- R.M. - RACK MANUFACTURER

FIXTURE STATUS (REMODELS ONLY)

- E) - EXISTING
- M) - MODIFIED
- N) - NEW
- R) - RELOCATED
- S) - SURPLUS
- U) - USED

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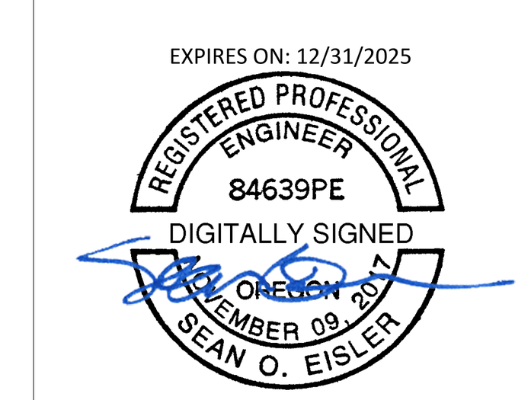


02/21/2024

PROFESSIONAL IN CHARGE
CT
PROJECT MANAGER
CK
QUALITY CONTROL
CM
DRAWN BY
JR

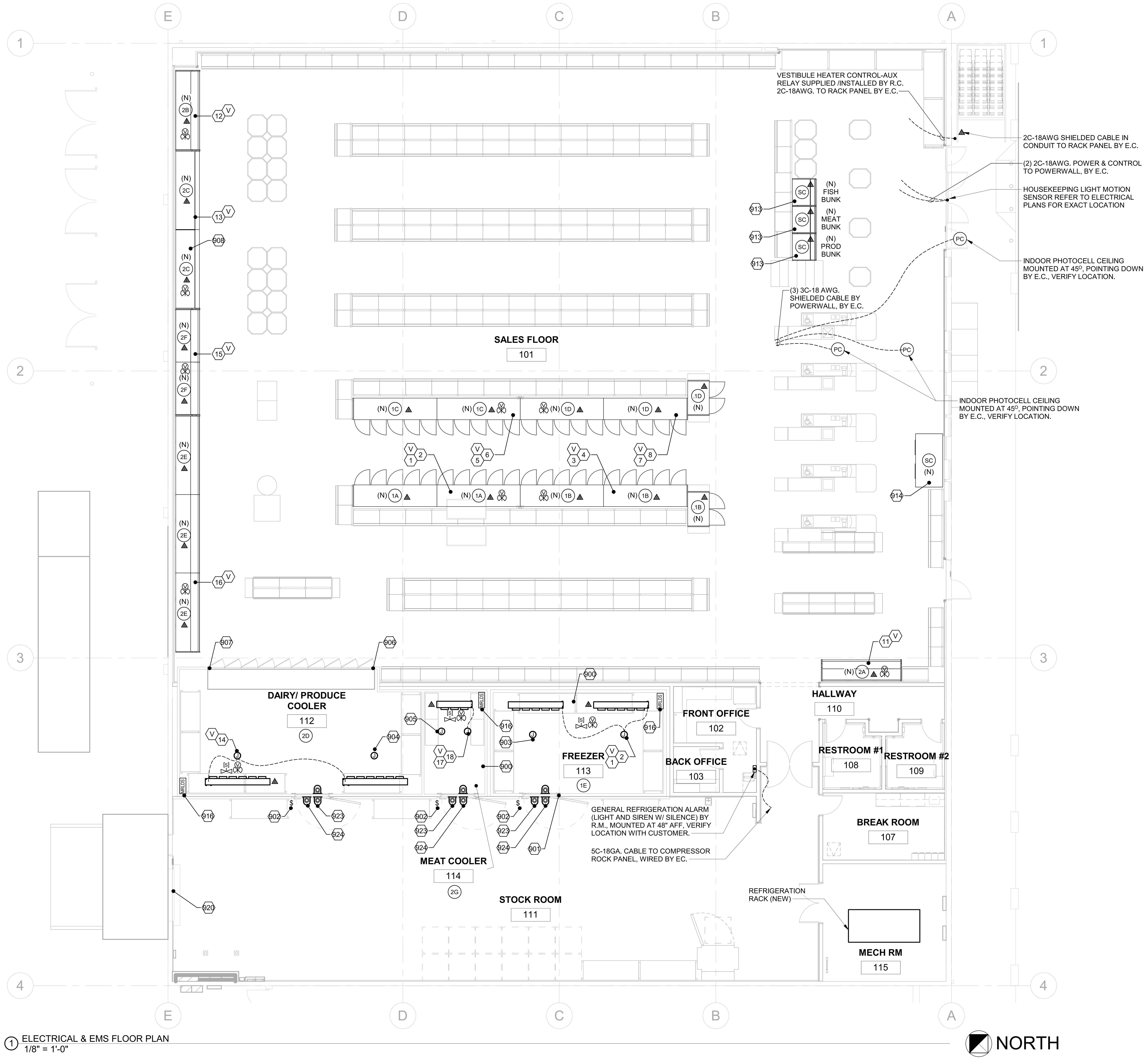
PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
REFRIGERATION FLOOR PLAN

SHEET NUMBER
R1-01

SEAN O. EISLER



1 ELECTRICAL & EMS FLOOR PLAN
1/8" = 1'-0"

REFRIGERATION EMS LEGEND:

- FIXTURE TEMPERATURE SENSOR
- (SC) SELF-CONTAINED CASE IDENTIFICATION

ELECTRICAL LEGEND

- ● - ELECTRICAL CONDUIT STUB-UP LOCATION, PROVIDED, INSTALLED AND WIRED BY E.C.
- (J) - J-BOX, PROVIDED, INSTALLED AND WIRED BY E.C.
- $ - DOOR SWITCH, PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C. (SWITCH CLOSED WHEN DOOR IS CLOSED)
- # - ELECTRICAL CALLOUT ITEM NUMBER. (SEE ELECTRICAL REQUIREMENTS SCHEDULE SHEET)
- C - CONTROL WIRES REQUIRED TO THIS LOCATION, PROVIDED, INSTALLED BY E.C. (SEE ELECTRICAL REQUIREMENTS SCHEDULE SHEET)
- V - LOW VOLTAGE CONTROL WIRES REQUIRED TO THIS LOCATION, PROVIDED, INSTALLED BY E.C. (SEE ELECTRICAL REQUIREMENTS SCHEDULE SHEET)
- (T) - T-STAT, PROVIDED, INSTALLED BY R.C.
- ▲ - FIXTURE TEMPERATURE SENSOR - RUN ENERGY MANAGEMENT CABLE IN SEPARATE CONDUIT (FOR LOW VOLTAGE TEMPERATURE SENSOR) FROM EACH SENSOR TO RACK PANEL. PROVIDED, INSTALLED BY E.C. CABLE TYPE 2C-18 AWG SHIELDED CABLE. SEE INSTALLATION DETAIL & COORDINATE W/R.C. FOR EXACT LOCATION.
- (PC) - PHOTOCELL ON THE ROOF (FACING NORTH) PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- (IPC) - INDOOR PHOTOCELL - PROVIDED BY R.M., MOUNTED BY R.C., SUPPORT ROD BY G.C., WIRED BY E.C.
- (RH) - OUTSIDE HUMIDITY SENSOR - PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- S - SOLENOID VALVE, PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- V - EEPR VALVE, PROVIDED BY R.M., INSTALLED BY R.C. WIRED BY E.C.
- VFD - VARIABLE FREQUENCY DRIVE PRE-MOUNTED ON RACK.
- TS - TEMPERATURE SENSOR PRE MOUNTED ON RACK
- MRLDS - MODULAR REFRIGERANT LEAK DETECTION SENSOR - SUPPLIED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- LEAK DETECTION/AUDIBLE/VISUAL SIGNAL SIREN/STROBE - SUPPLIED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- BREAK GLASS SWITCH (IF APPLICABLE) - PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C.
- (R)(G) - EMERGENCY VENTILATION INDICATOR LAMPS (IF APPLICABLE) - PROVIDED BY R.M., INSTALLED BY R.C., WIRED BY E.C.

NOTE: E.C. TO REFER TO INSTALLATION DETAILS SHEET AND OR COORDINATE WITH R.C. TO VERIFY EXACT LOCATION & PROCEDURES.

GENERAL LEGEND

- (#) - SYSTEM NUMBER
- _) (#) - REFRIGERATED CASE (SEE FIXTURE STATUS BELOW)
- E) (#) - EXISTING REFRIGERATED CASE TO REMAIN (REMODELS ONLY)
- MODEL # - EVAPORATOR COIL (CEILING MOUNTED) (SEE FIXTURE STATUS BELOW)
- F - G.C. TO PROVIDE AND INSTALL FURRING WHERE REQUIRED, AND CUT/FRAME ALL OPENINGS IN WALLS AND FLOORS AS SPECIFIED BY REFRIGERATION CONTRACTOR.

RESPONSIBILITY

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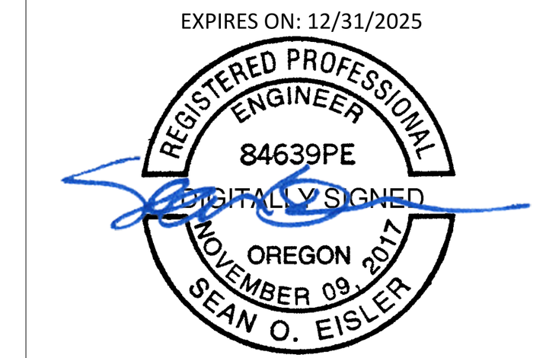

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JR

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3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
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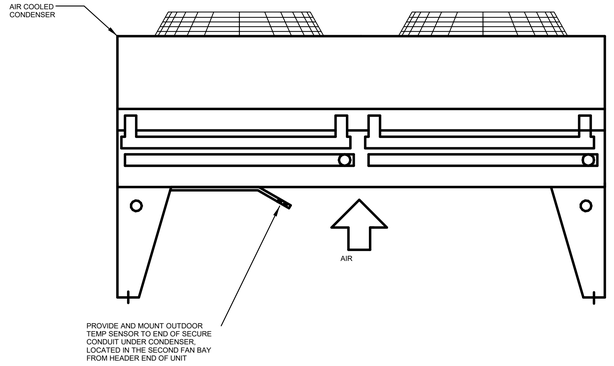
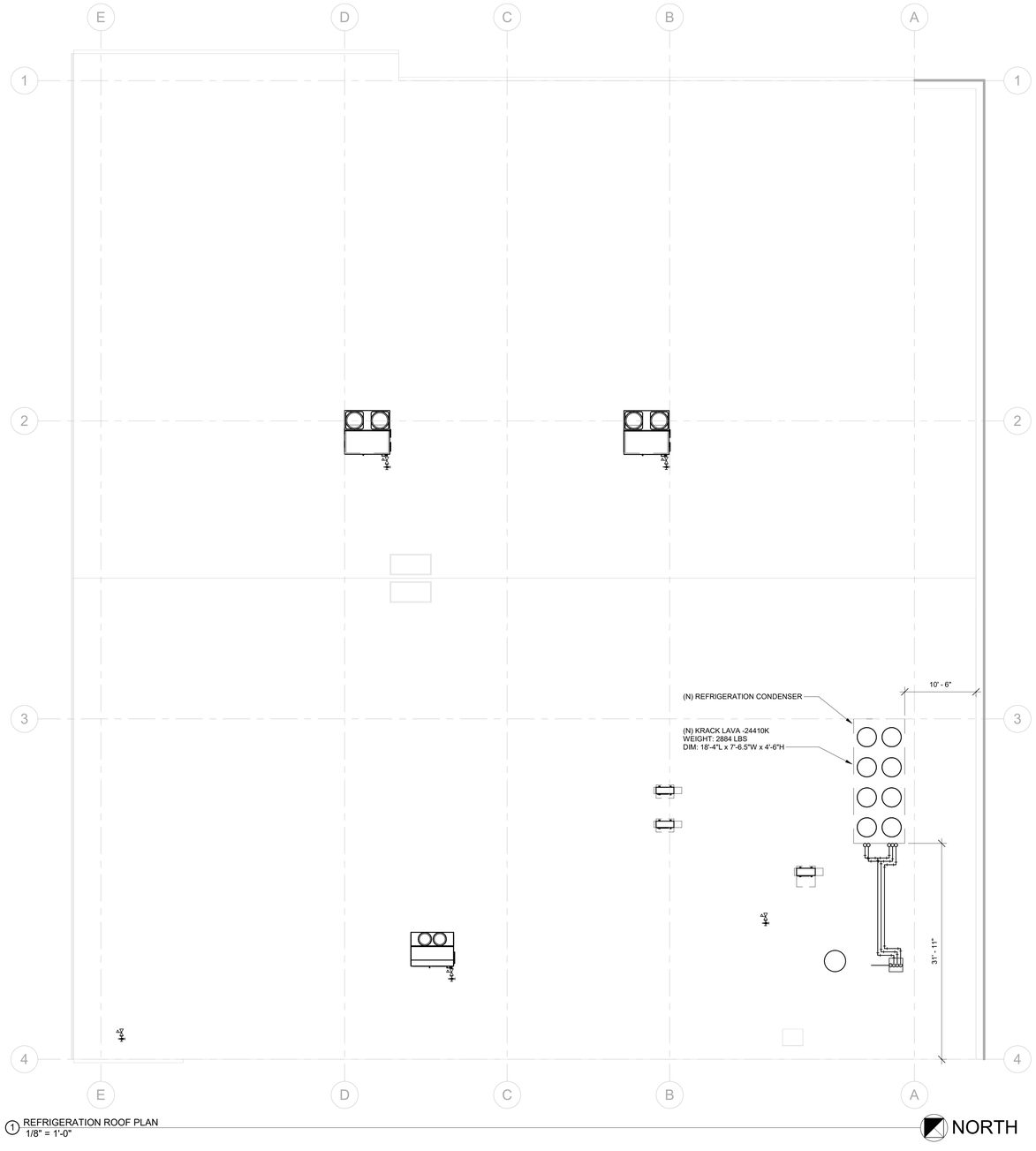
SHEET TITLE
REFRIGERATION EMS PLAN

SHEET NUMBER
R1-21

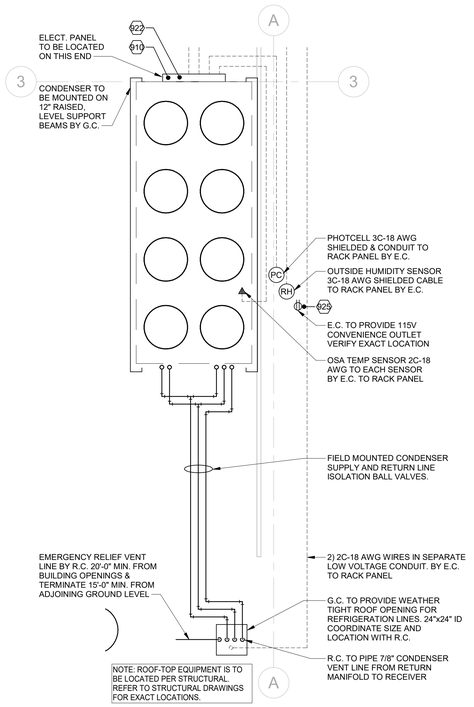
SEAN O. EISLER



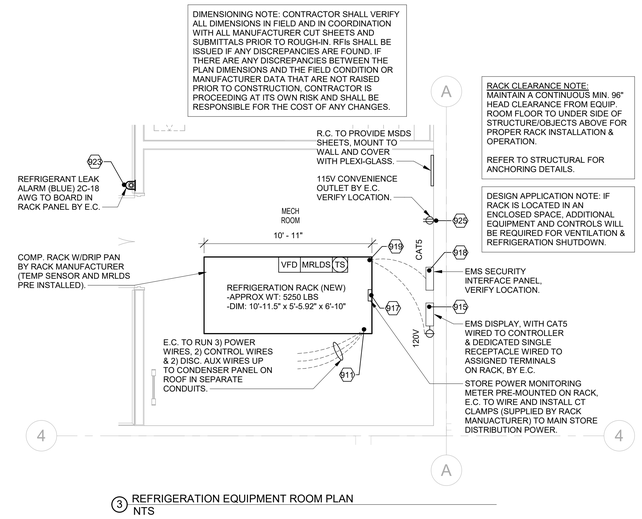
4 R_VFD WIRING
NTS



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



2 REFRIGERATION PARTIAL ROOF PLAN
1/4" = 1'-0"



3 REFRIGERATION EQUIPMENT ROOM PLAN
NTS

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OREGON
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PROJECT NUMBER
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SHEET TITLE

REFRIGERATION ROOF AND EQUIPMENT ROOM PLANS

SHEET NUMBER

R1-31

Last Modified:2/19/2024 10:58:22 Drawing Name:C:\Revit\Projects\23500003933 GO Salem OR MEP V22_jasonestes_20240219061545.rvt
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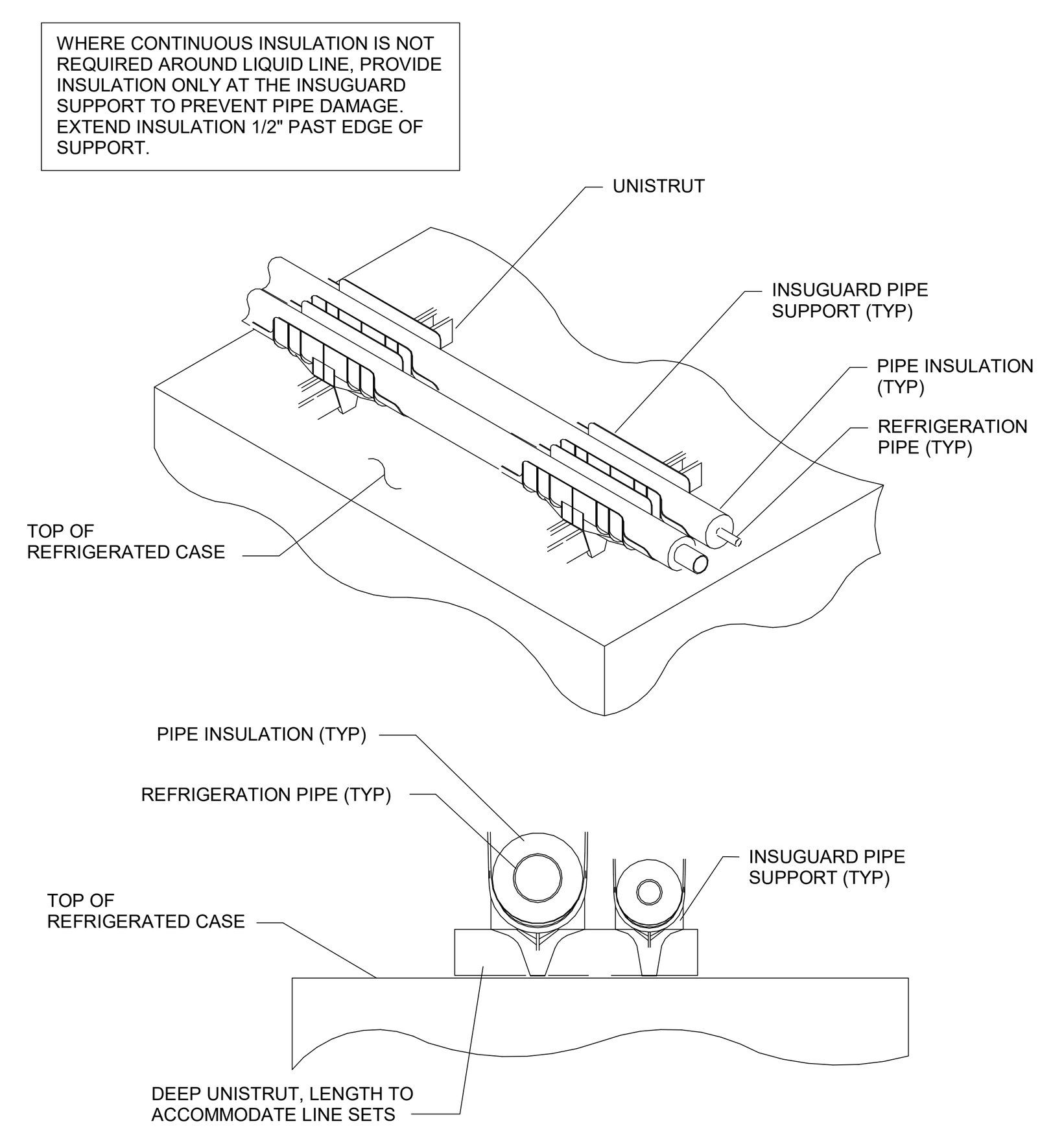
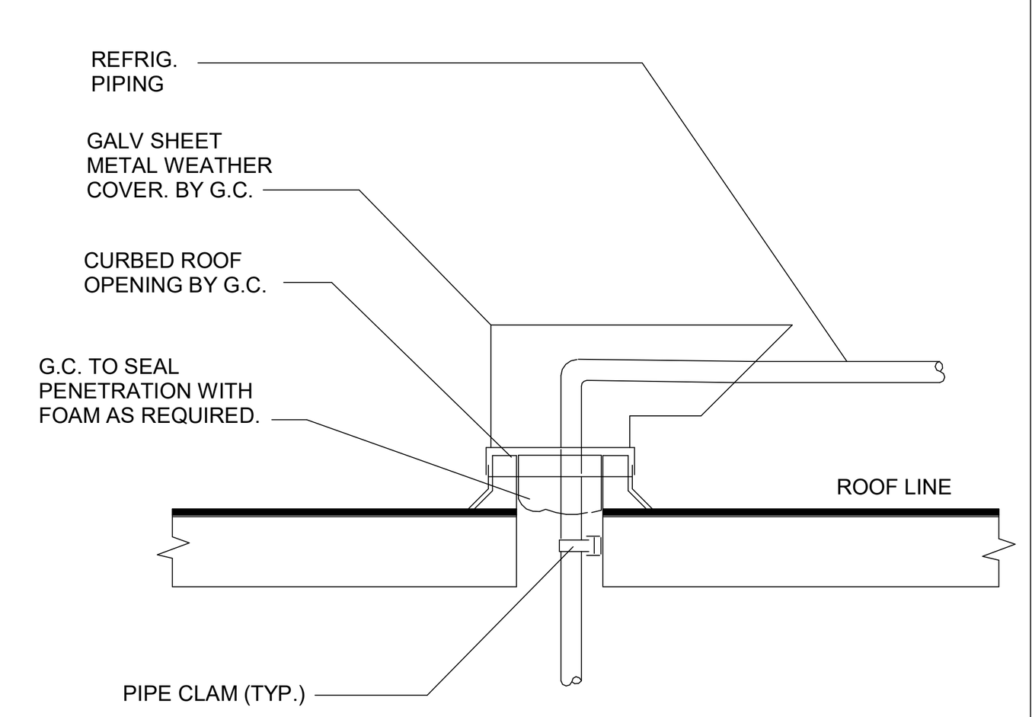
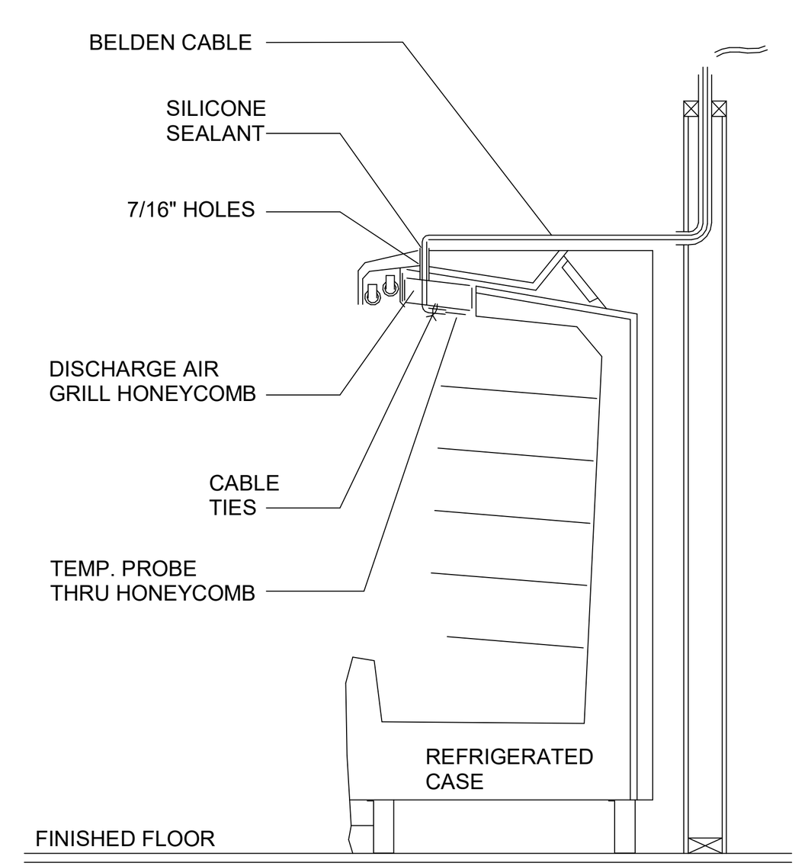


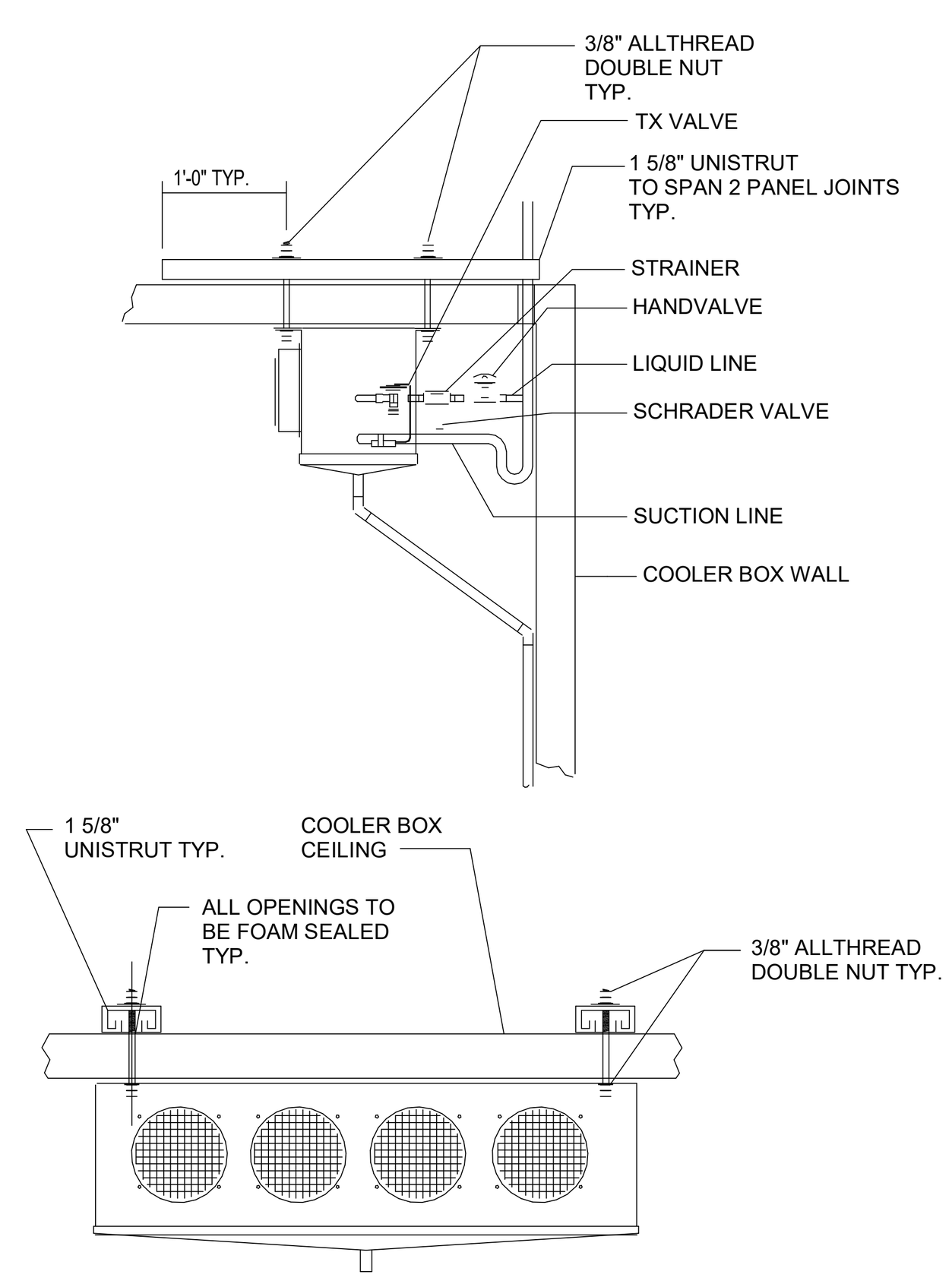
1 TOP OF CASE PIPING SUPPORT DETAIL



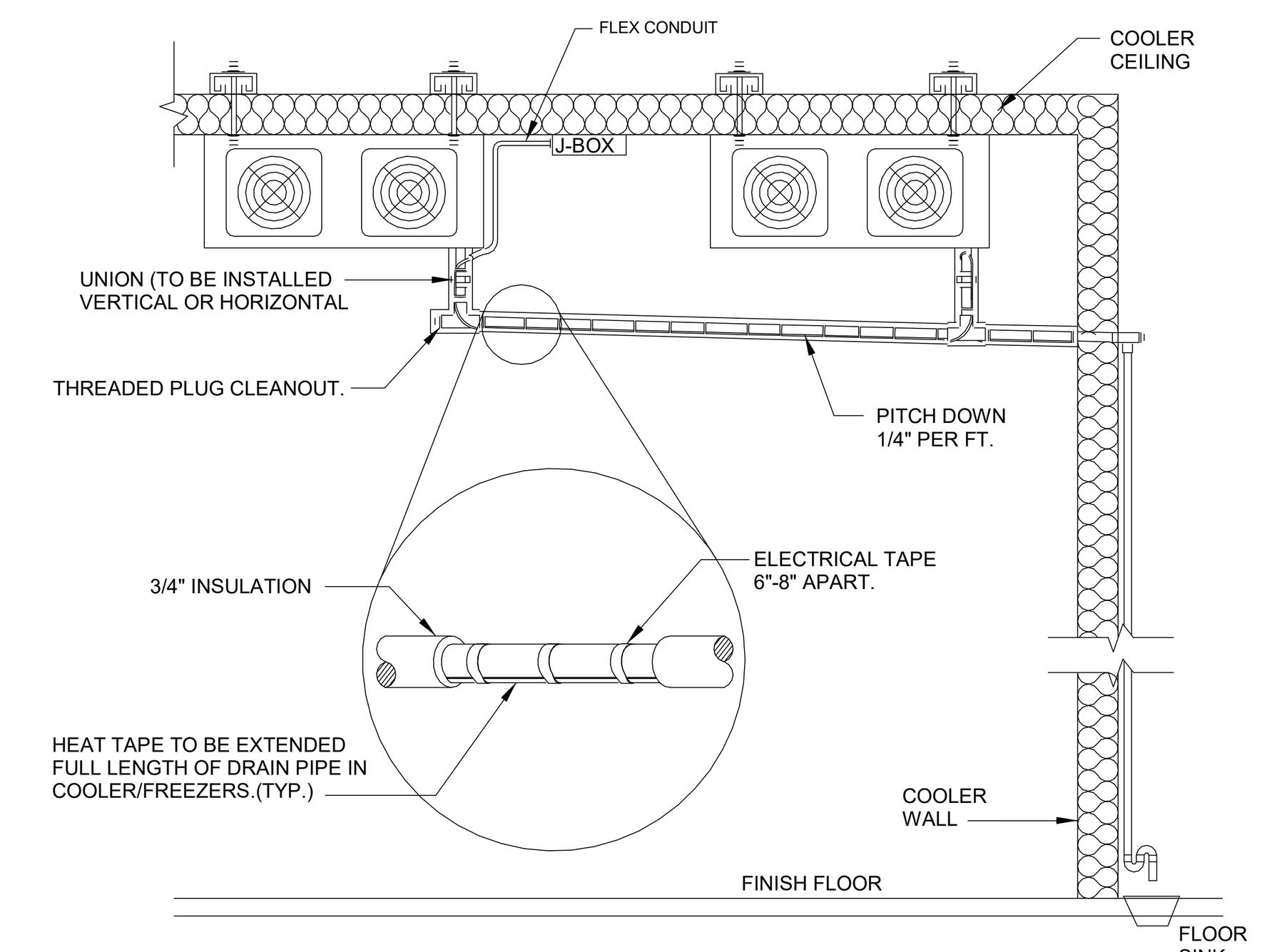
2 WEATHER CAP FOR REFRIG. LINES



3 CASE PROBE LOCATION DETAIL



4 EVAP COIL INSTALLATION DETAIL

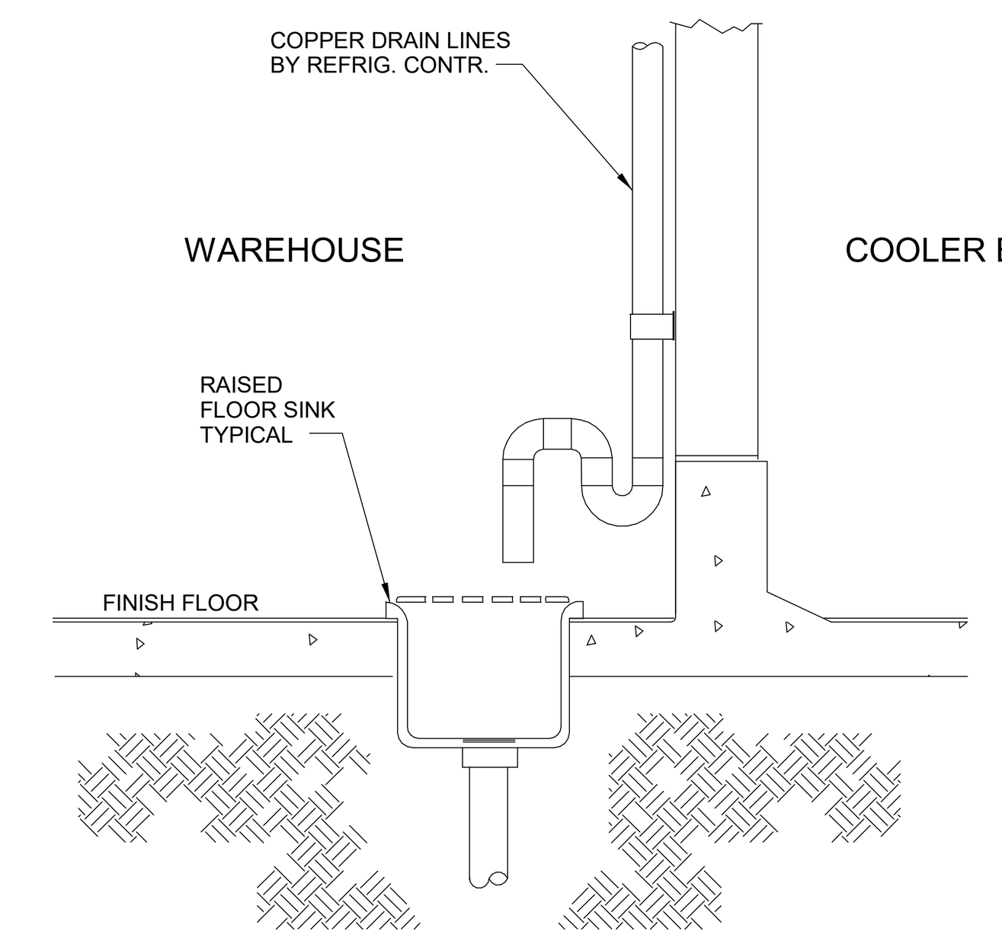


FREEZER/COOLER COIL HEAT TAPE & DRAIN INSTALLATION DETAIL

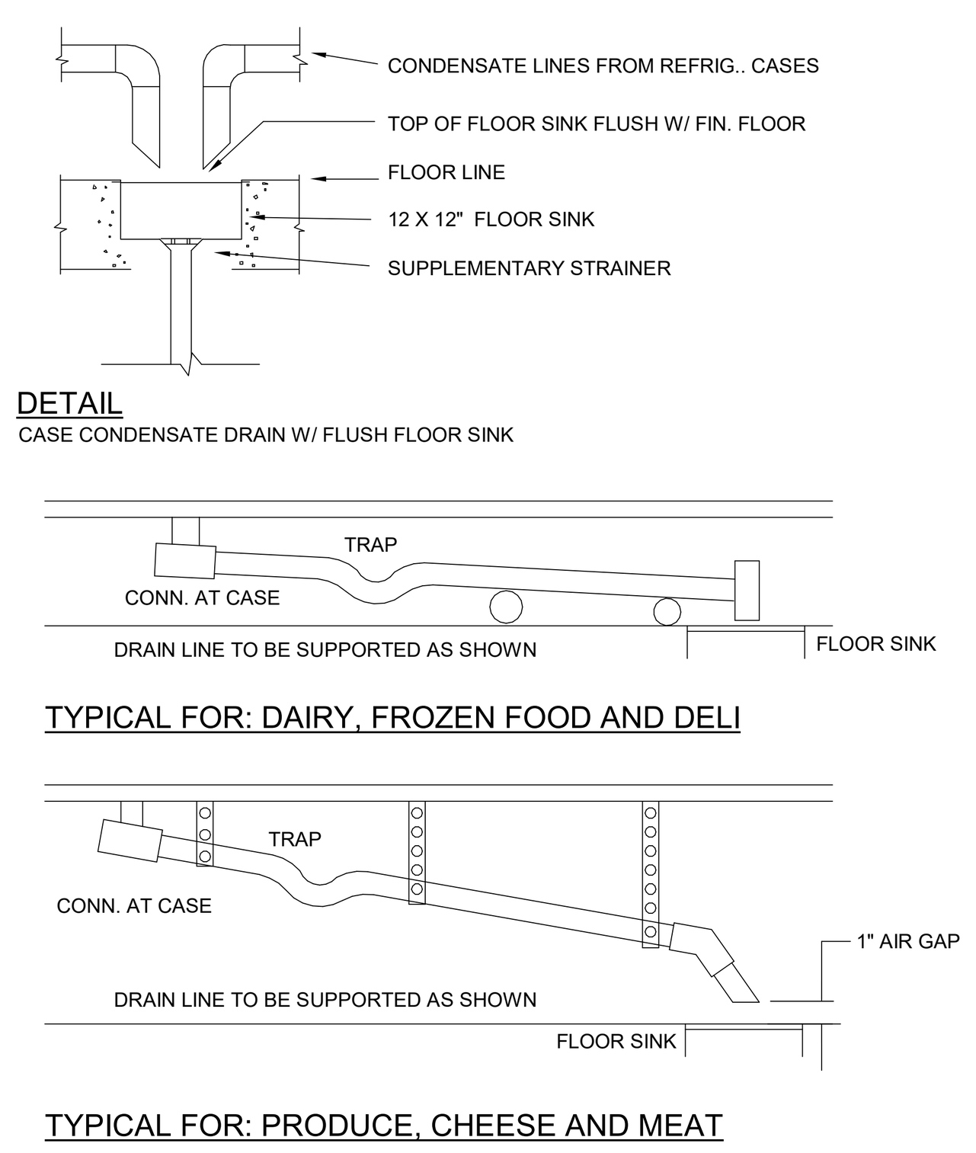
NOTES:

1. HEAT TAPE, SELF LIMITING TYPE FOR FREEZE PROTECTION, 4 WATT/FT, 120V.
2. INSULATION TO BE SUPPLIED AND INSTALLED BY REFRIGERATION CONTRACTOR.
3. USE IN ALL FREEZERS AND MEAT COOLERS.
4. HEAT TAPE SUPPLIED & INSTALLED BY REFRIGERATION CONTRACTOR.
5. FINAL ELECTRICAL CONNECTION BY THE ELECTRICAL CONTRACTOR.
6. REFRIGERATION CONTRACTOR SHALL SEAL ALL PENETRATIONS.

5 HEAT TAPE INSTALLATION DETAIL



6 TYPICAL FLOOR SINK INSTALLATION



7 CASE DRAIN CONNECTION DETAILS

8 NOT USED

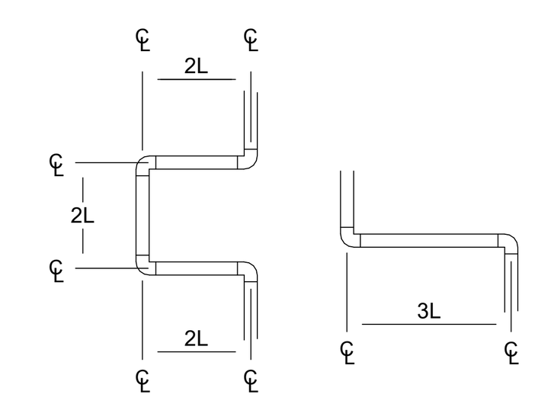
9 NOT USED

DL VALUES >>	EXPANSION LOOP (L)-INCH				LINE SIZE O.D.
	0.5	1.0	1.5	2.0	
	10	15	19	22	7/8"
	11	16	20	24	1 1/8"
	11	17	21	26	1 3/8"
	12	18	23	28	1 5/8"
	14	20	25	31	1 1/8"
	16	22	27	32	2 5/8"
	18	24	30	34	3 1/8"
	20	28	34	39	4 1/8"

LOW TEMP DL = 0.0169 X LINE RUN
MED TEMP DL = 0.0112 X LINE RUN

THESE LENGTHS AND GREATER REQUIRE EXPANSION LOOPS:

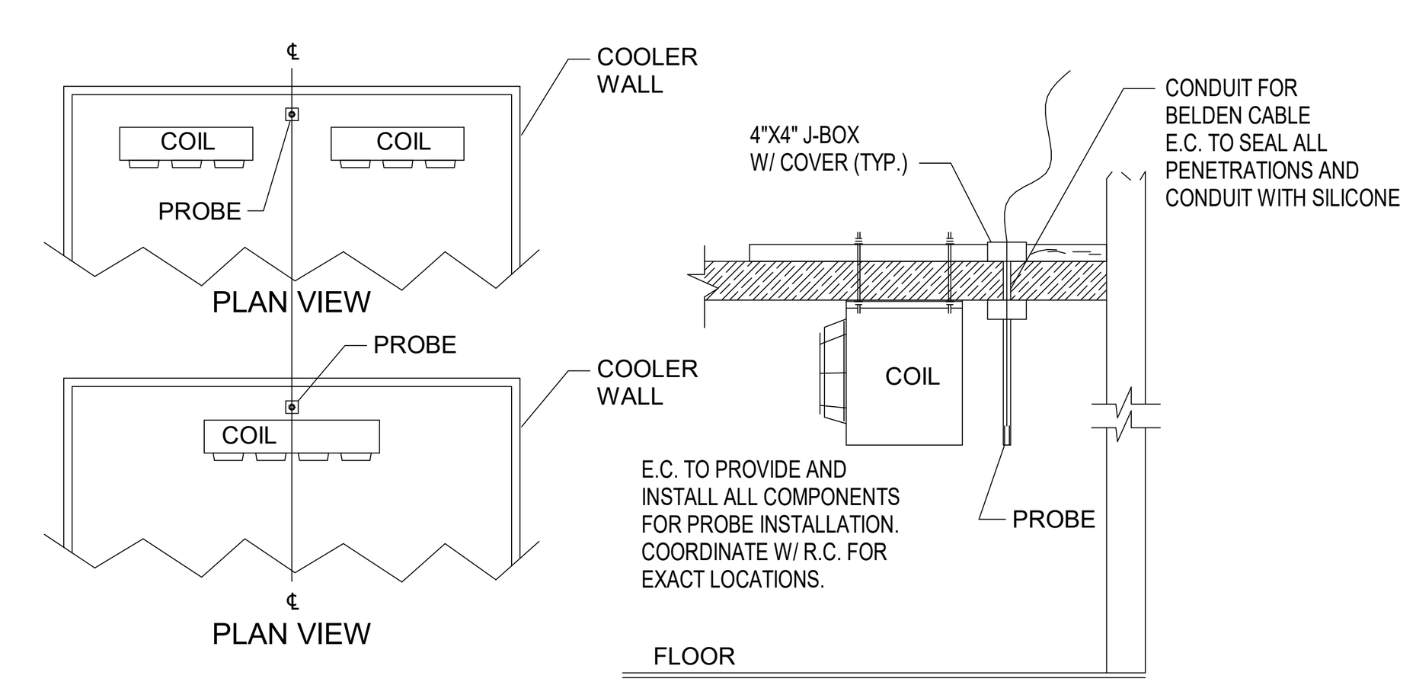
- 75FT. O.C. FOR OVERHEAD
- 60FT. O.C. FOR UNDERGROUND



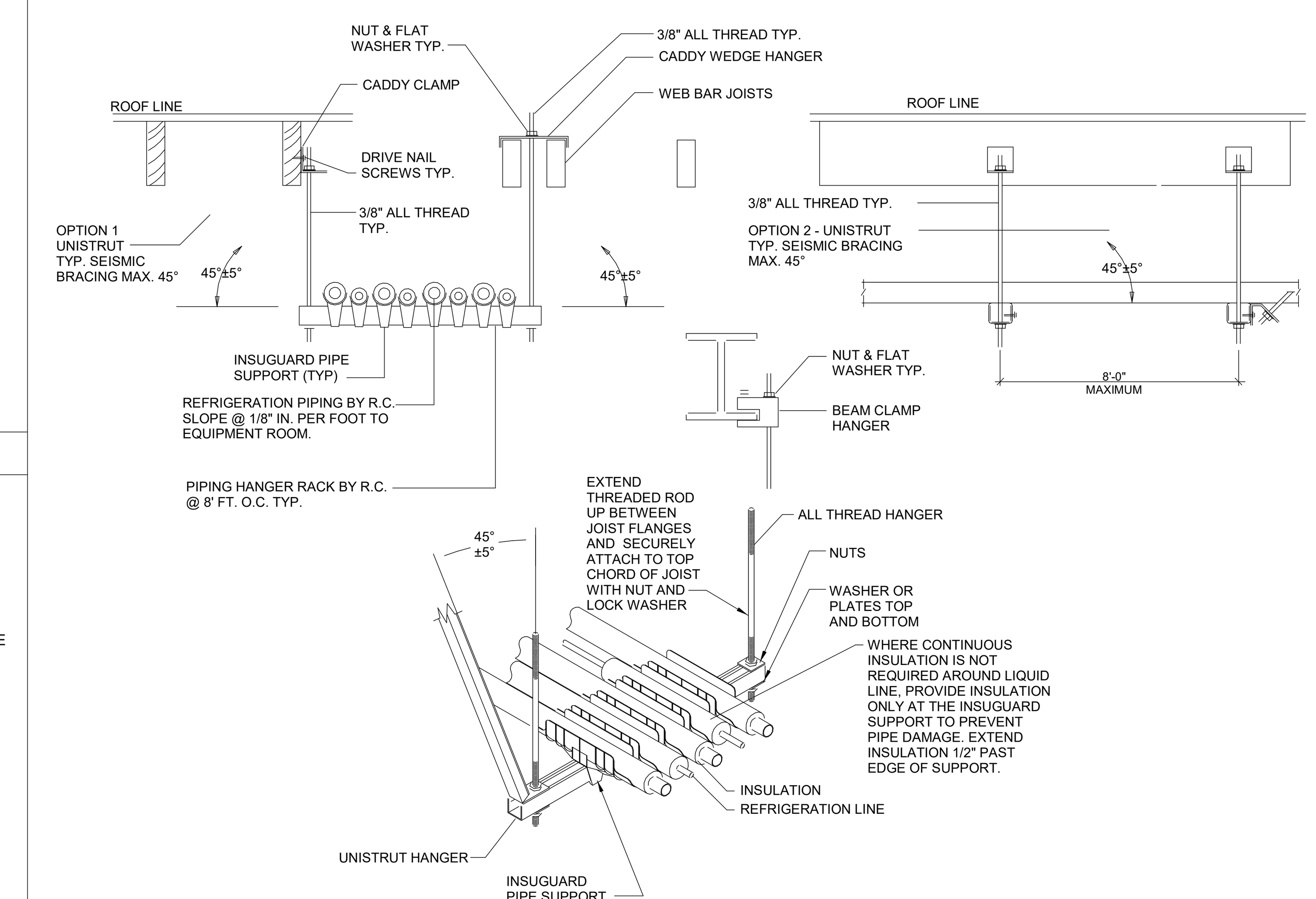
NOTES:

1. DETERMINE DL USING FORMULAS BELOW (NOTE COEFFICIENT OF EXPANSION FOR COPPER IS 0.0125 IN/(100FT°F)
2. FIND DL IN THE TABLE (ROUNDING UP) AND READ DOWN COLUMN UNTIL YOU REACH THE LINE SIZE TO DETERMINE L.

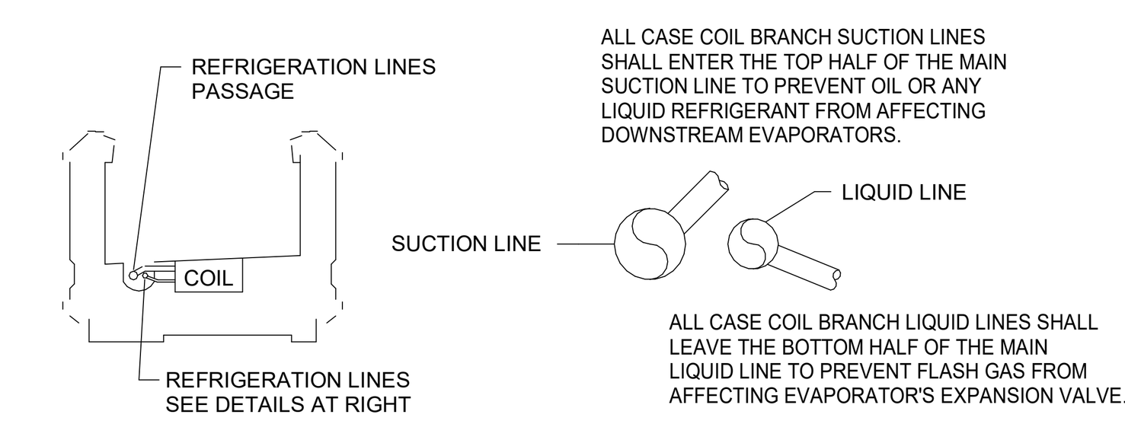
10 EXPANSION LOOP/OFFSET DETAIL



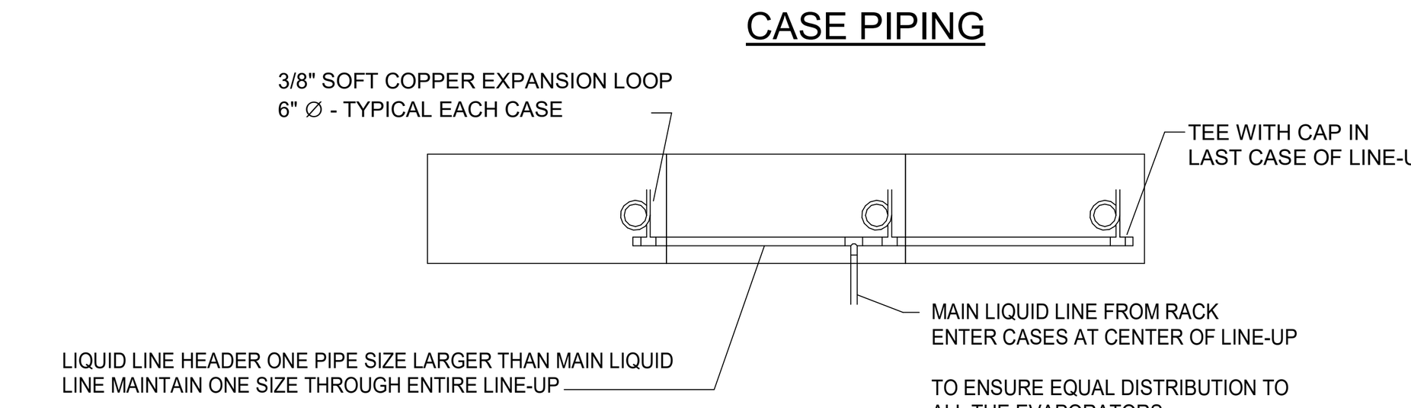
11 FRZR/CLR PROBE LOCATION DETAIL



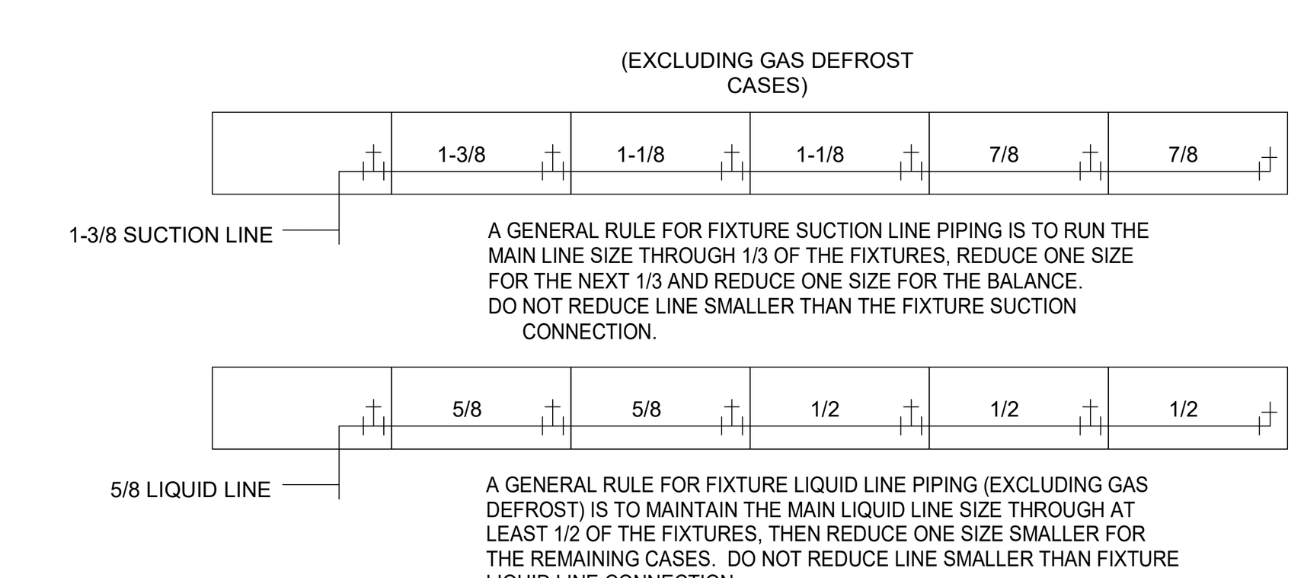
12 TYPICAL HANGER INSTALLATION & PIPE SUPPORT DETAIL W/SEISMIC RESTRAINTS



CASE PIPING



LIQUID LINE CASE PIPING FOR HOT GAS DEFROST



A GENERAL RULE FOR FIXTURE SUCTION LINE PIPING IS TO RUN THE MAIN LINE SIZE THROUGH 1/3 OF THE FIXTURES. REDUCE ONE SIZE FOR THE NEXT 1/3 AND REDUCE ONE SIZE FOR THE BALANCE. DO NOT REDUCE LINE SMALLER THAN THE FIXTURE SUCTION CONNECTION.

A GENERAL RULE FOR FIXTURE LIQUID LINE PIPING (EXCLUDING GAS DEFROST) IS TO MAINTAIN THE MAIN LIQUID LINE SIZE THROUGH AT LEAST 1/2 OF THE FIXTURES, THEN REDUCE ONE SIZE SMALLER FOR THE REMAINING CASES. DO NOT REDUCE LINE SMALLER THAN FIXTURE LIQUID LINE CONNECTION.

CASE PIPING LINE SIZING EXAMPLES

13 NOT USED

14

15

16 REFRIGERATION CASE PIPING DETAILS

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PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025

REGISTERED PROFESSIONAL ENGINEER 84639PE OREGON NOVEMBER 09, 2011 SEAN O. EISLER DIGITALLY SIGNED

02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

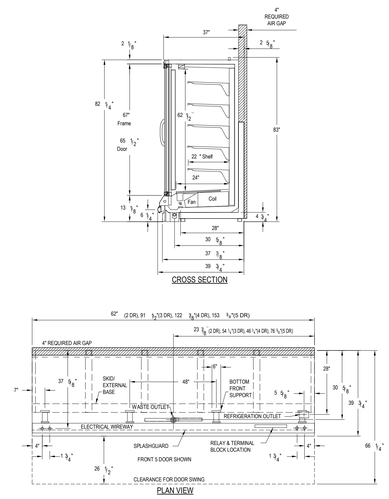
SHEET TITLE

REFRIGERATION INSTALLATION DETAILS

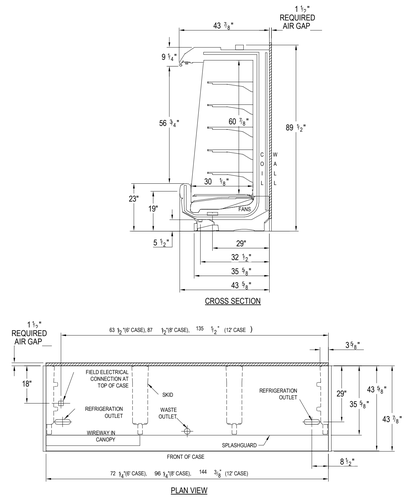
SHEET NUMBER

R5-01

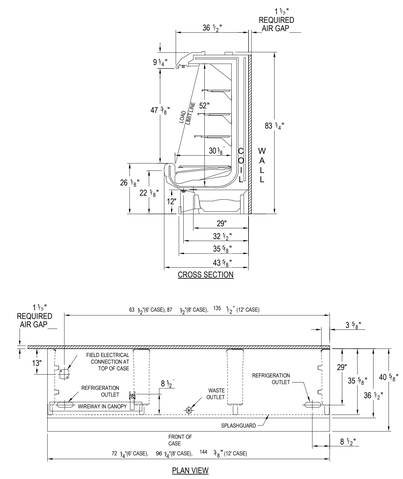
SEAN O. EISLER



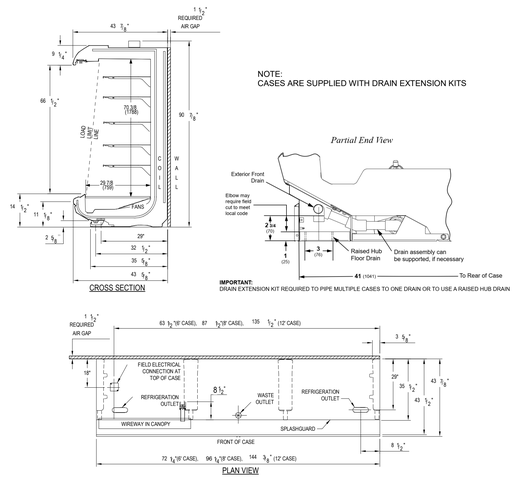
1 R5-21 HUSSMANN (RLN) - REACH IN DOOR
NOT TO SCALE



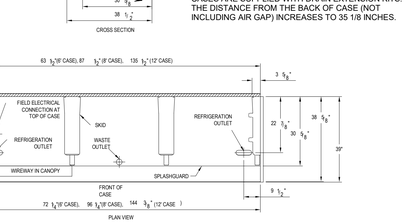
2 R5-21 HUSSMANN (IC6SM) - MD MEAT/SALAD
NOT TO SCALE



3 R5-21 HUSSMANN (IP4SL) - MD PRODUCE
NOT TO SCALE



4 R5-21 HUSSMANN (ID6SU) - MD DAIRY/DELI
NOT TO SCALE



5 R5-21 HUSSMANN ID6NU MD BEER
NOT TO SCALE

NOTE: LEAVE 6" CLEAR SPACE, BEHIND ALL UPRIGHT CASE VALANCES FOR INSTALLATION OF ELECTRIC SIGNAGE. REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION

CASE VALANCES FURNISHED BY OEM, INSTALLED BY R.C..

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30 Executive Park
Suite 100
Irvine, CA 92614
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PROJECT TEAM

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 **FAX** 913.742.5001
WWW.HENDERSONENGINEERS.COM
2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER
84639PE
DIGITALLY SIGNED
OREGON
NOVEMBER 09, 2011
SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

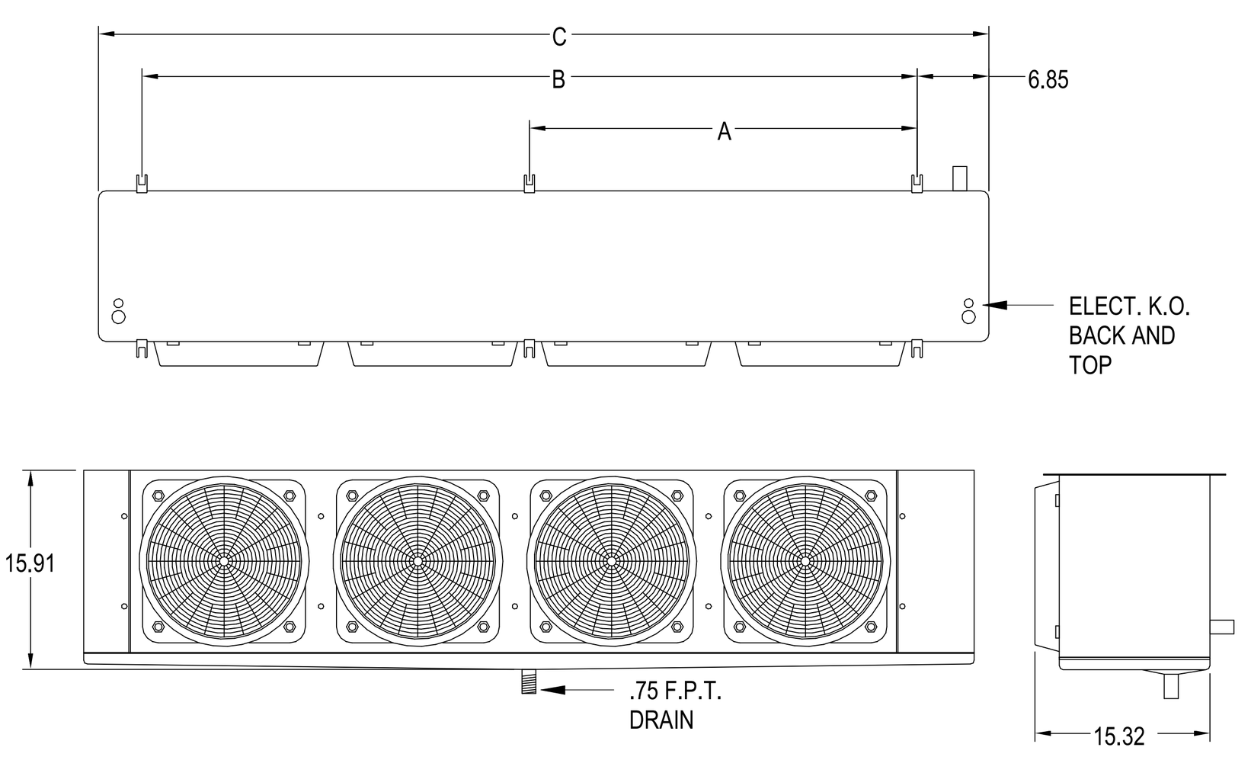
SHEET TITLE

REFRIGERATED CASE DETAILS

SHEET NUMBER

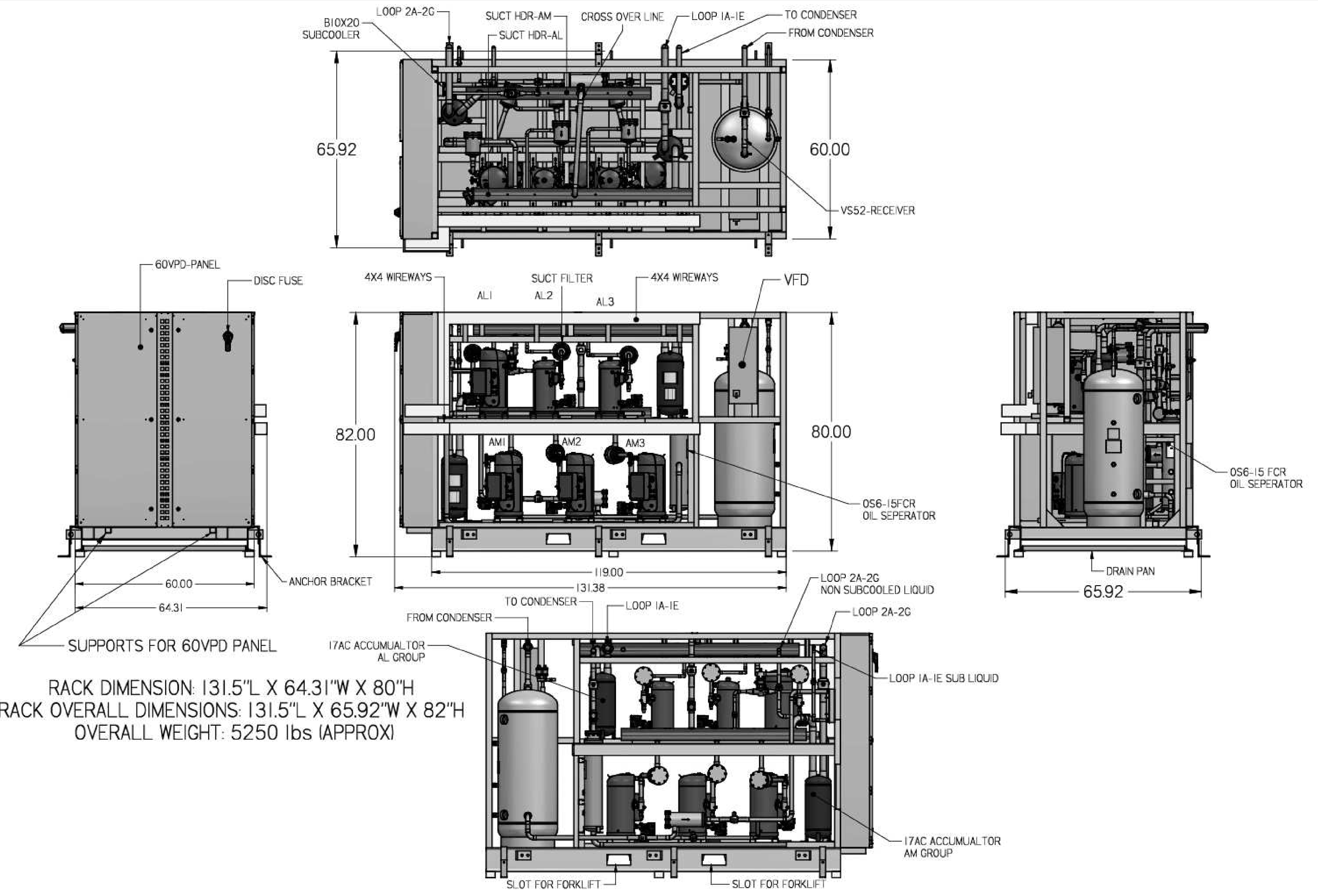
R5-21

SEAN O. EISLER
Last Modified 2/19/2024 10:58:34 AM Drawing Name: C:\Revit\Projects\2350003933 GO Salem OR MEP V22_jasonestus_20240219001545.rvt

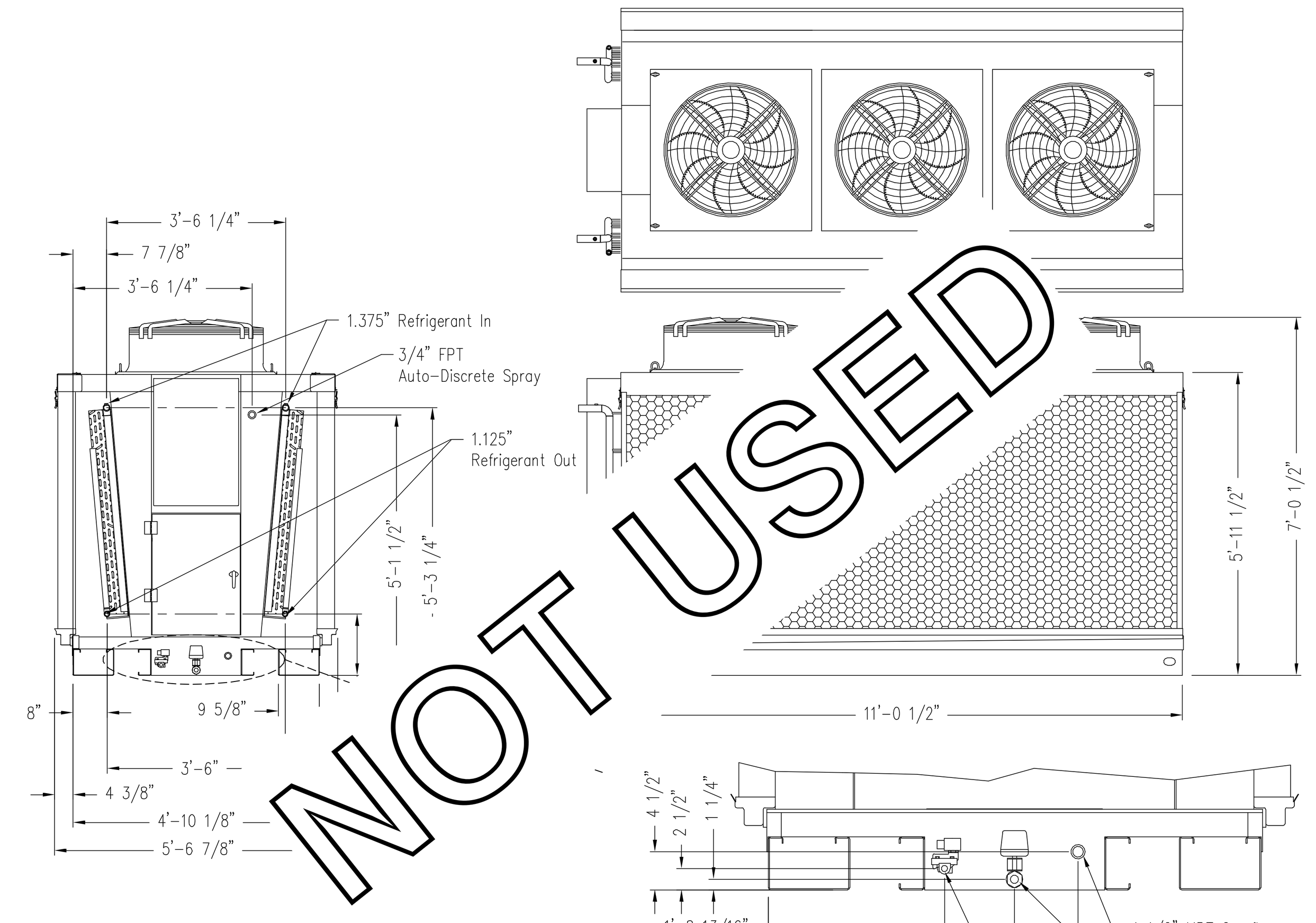


COIL MODEL	CFM	NUM. FANS	APPROXIMATE PHYSICAL DIMENSIONS (IN)			CONNECTIONS			APPROX. NET WEIGHT
KR			A	B	C	INLET ODF	SUCT. ID	DRAIN MPT	
KRD66A-340	5070	6	54	108	119.13	1/2	1 3/8	3/4	265
KRD36E-135	2535	3	-	54.00	65.13	1/2	7/8	3/4	140
KRD54E-185	4375	5	54	90	101.13	1/2	1 1/8	3/4	200

1 / R5-31 LOW PROFILE UNIT COOLER (KRACK)
NOT TO SCALE

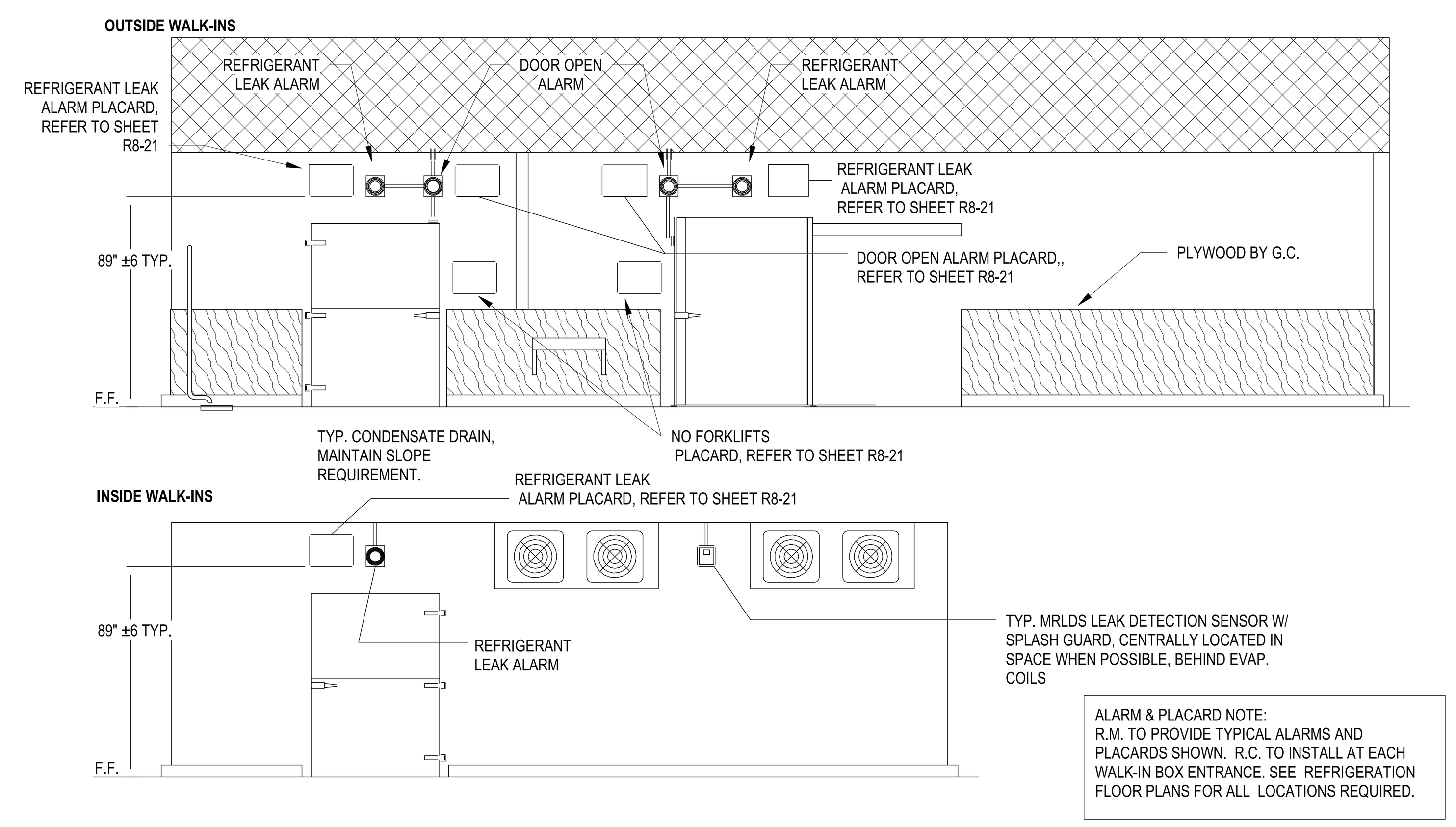


2 / R5-31 COMPRESSOR RACK
NOT TO SCALE

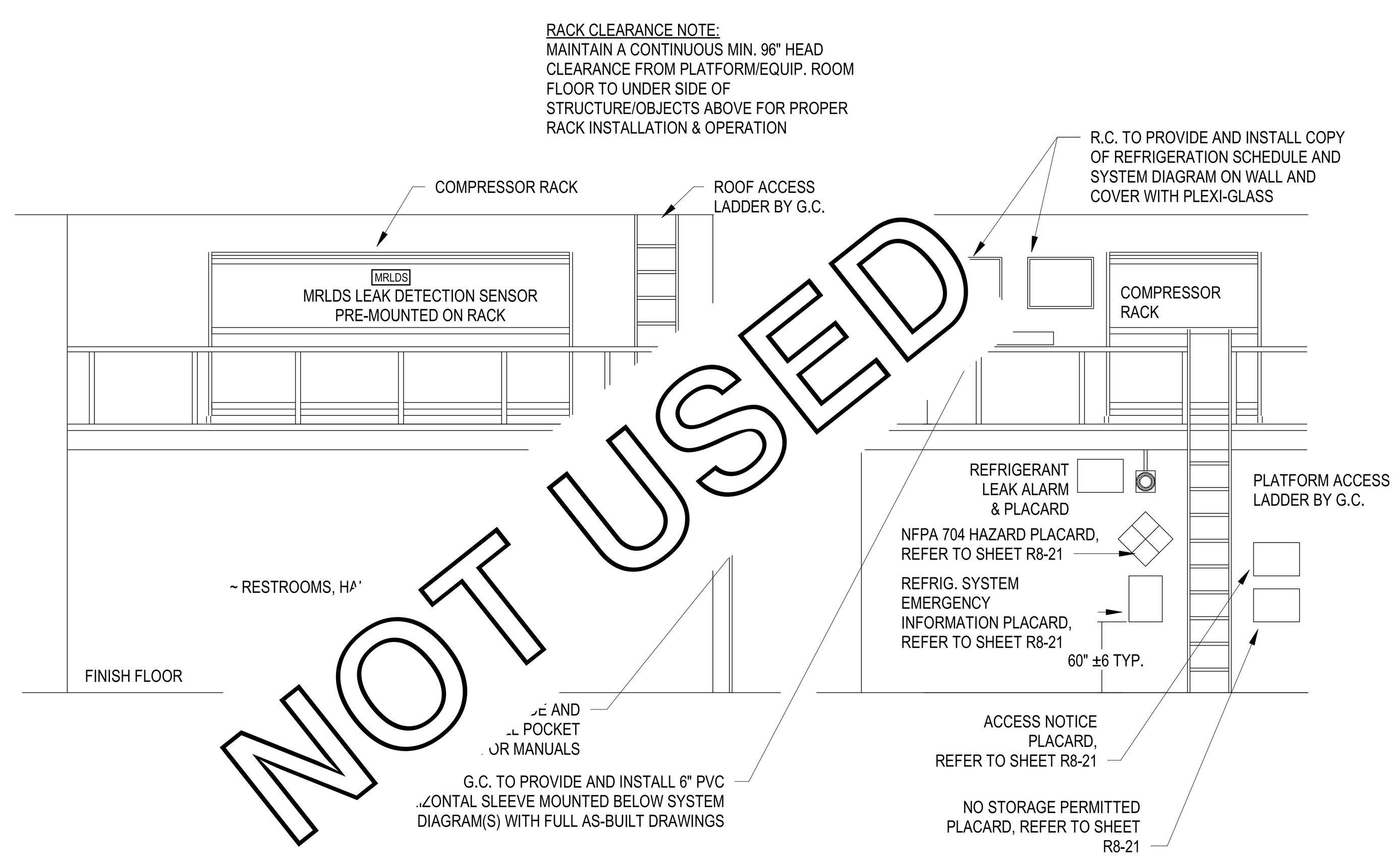


Model Number	Shipping Weight	Operating Weight
TSDC-TF-085-9.6	3145	3455

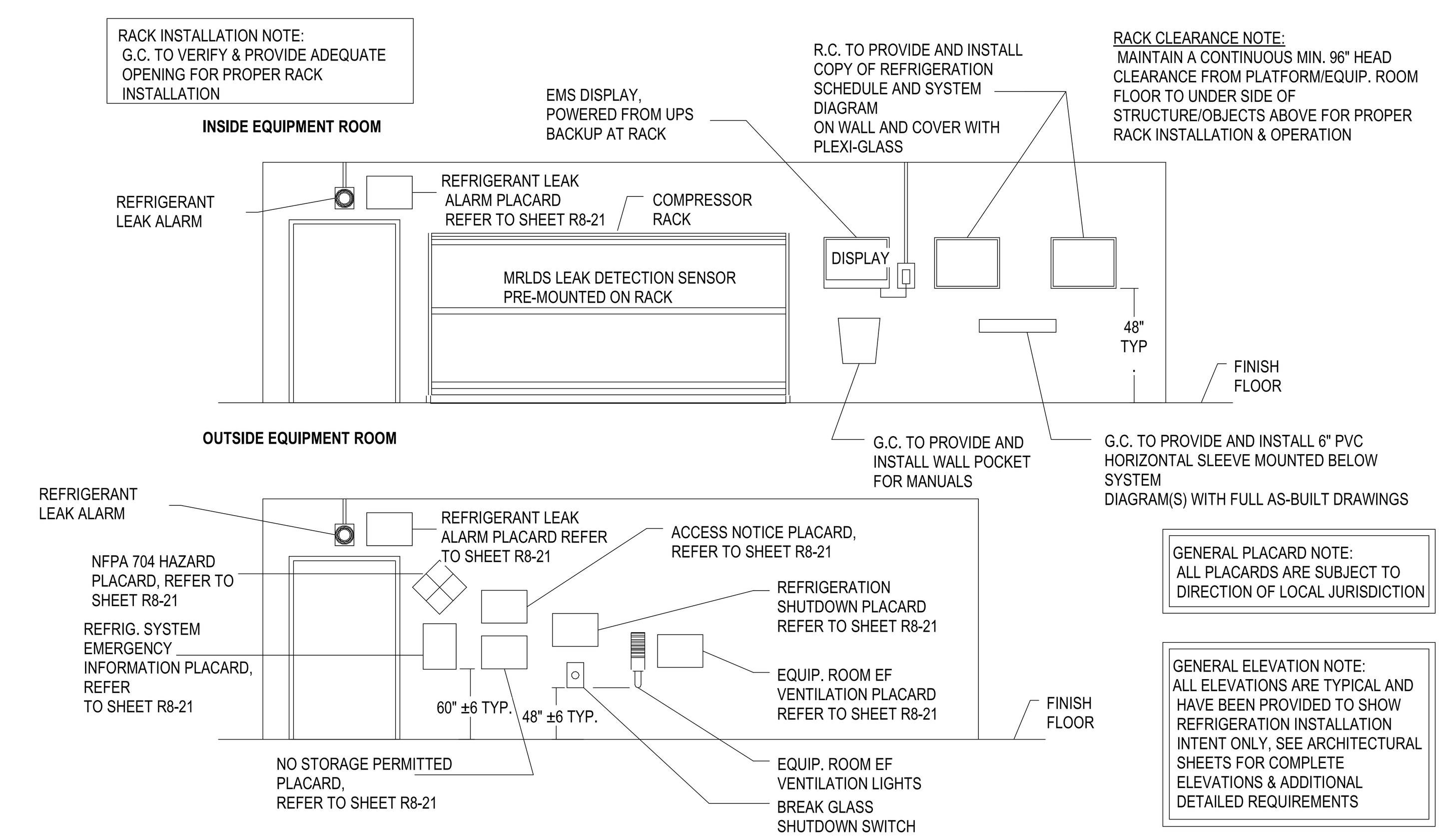
3 / R5-31 CONDENSER (BAC TSDC-TF-085-9.6)
NOT TO SCALE



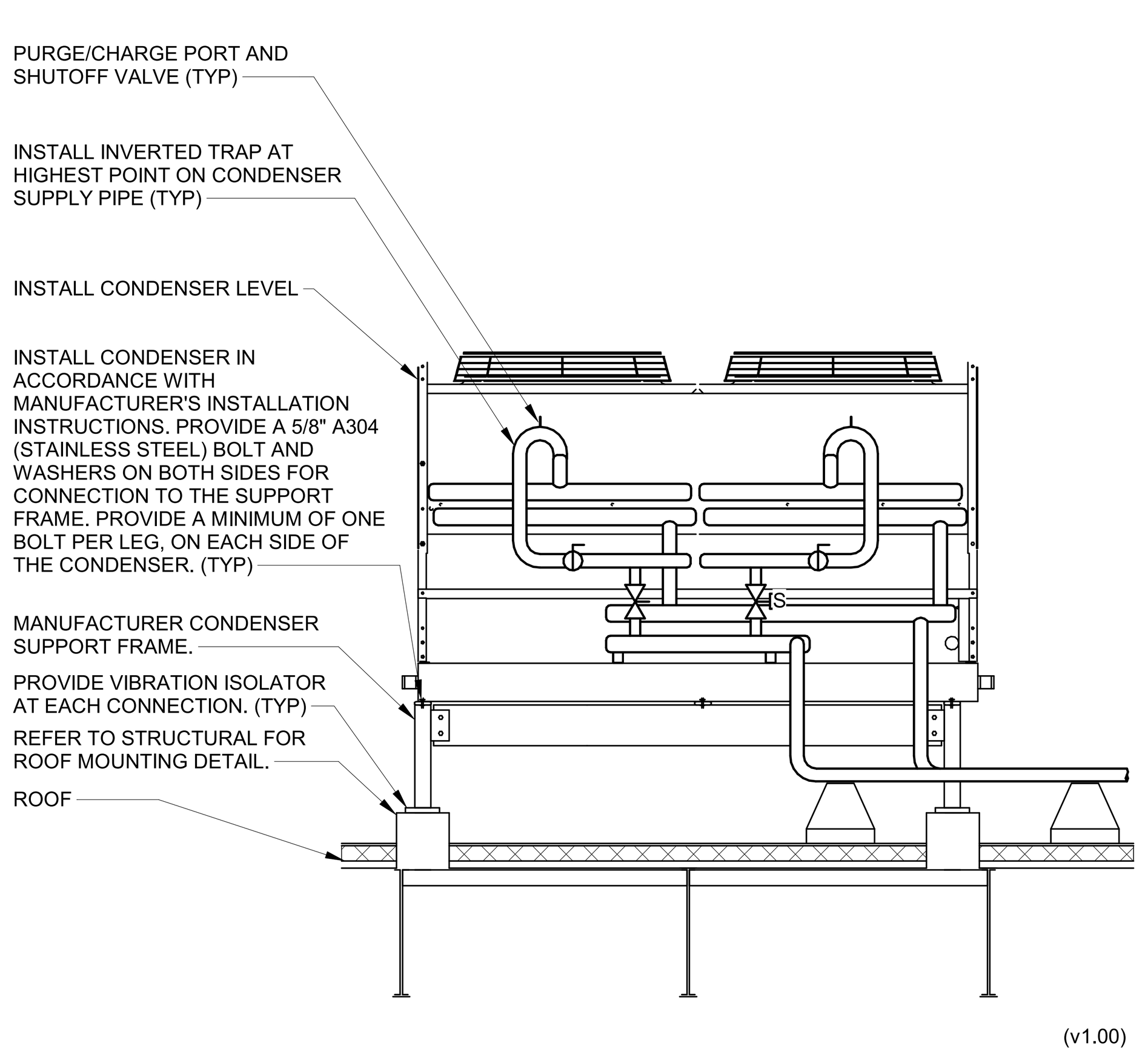
4 / R5-31 TYPICAL WALK-IN BOX ELEVATIONS
NOT TO SCALE



5 / R5-31 TYPICAL EQUIPMENT PLATFORM ELEVATIONS
NOT TO SCALE



6 / R5-31 TYPICAL EQUIPMENT ROOM ELEVATIONS (IF APPLICABLE)
NOT TO SCALE



7 / R5-31 ROOF MOUNTED CONDENSER
SCALE: NTS

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PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
REFRIGERATION EQUIPMENT & TYP. ELEVATION DETAILS

SHEET NUMBER
R5-31

SEAN O. EISLER

PROJECT NAME: GROCERY OUTLET ##
Address: 3975 COMMERCIAL ST SE
City, State: SALEM, OR 97302
Date:
Revision-1:
Revision-2:
Revision-3:
As-Built:

DESIGN CONDITIONS

INDOOR		OUTDOOR	
DRY BULB O F	75	DRY BULB O F	98.9
WET BULB O F	64	WET BULB O F	71.6
R.H. %	55	ELEVATION FT	781

ELEC. SERV.

MAIN		DEFROST		CONTROL	
208	V	208	V	208	V
3	PH	3	PH	1	PH
60	HZ	60	HZ	60	HZ

CONDENSER SELECTION

	COND-1	COND-2	COND-3	COND-4	
MFGR:	KRACK				
MODEL:	LAVA-24410K				
CFM:	66,512				
NO OF CKTS:	68 (2X34)				
FAN (HP):	2X4 @ 1HP				
WEIGHT (LB):	2,884				

EQUIPMENT ROOM VENTILATION

CFM REQUIRED	FAN CFM
FRESH AIR INTAKE	SP(INCH)
EXHAUST FAN MAKE	VOLTAGE
MODEL NO.	PH
FURN BY	HP
	FLA

HEAT RECLAIM

HOT WATER TANK	HEAT RECL' COIL
MAKE	AIR HANDLER
MODEL NO	NO OF CKTS
CONNECTED TO	CONNECTED TO
FURN BY	FURN BY

ABBREVIATION

E: ELECTRIC DEFROST
S: SUCTION STOP SOLENOID,
TO: TIME OFF DEFROST
L: LIQUID LINE SOLENOID
G: GRAVITY DEFROST
(R) - RELOCATED
KG: KOOL GAS DEFROST
(U) - USED
HG: HOT GAS DEFROST
(N)- NEW
LPRV: LIQ PRESS REG VALVE
(E) - EXISTING
EPR: EVAP PRESS REGULATOR

SHEET NO.
RS
SHEET 1
OF 1

DISCHARGE GROUP NO.	RACK NO.	SYSTEM NO.	DESCRIPTION	LINE-UP FEET/DOOR	4 Ft / 2DR / CLR	6ft / 3DR / W	8Ft / 4DR / L	12Ft / 5DR / H	CASE /COIL QTY	QTY WALK-IN DOORS	STATUS	MODEL NUMBER	CASE MANUF / COIL MANUF	LOAD PER FT or DR. (BTUH/FT or DR)	EVAP (°F)	DISCH AIR OR BOX TEMP. (°F)	CONDENSING (°F)	REFRIGERANT	TOTAL (MBH)	COMP. NO.	MODEL NUMBER	RLA	HP	CAPACITY (MBH)	EFFECTIVE CAP (MBH)	SUBCOOLED CAP (MBH)	RETURN GAS TEMP (°F)	MASS FLOW (LB/HR)
FIXTURE OR COOLER				CASE QTY/CLR SIZE											REFRIG. DESIGN					COMPRESSOR								
		1A	RI ICE CREAM	10				2	2		N	RLN	HUSSMANN	1065	-19	-12			10.7									
		1B	RI ICE CREAM	12	1			2	3		N	RLN	HUSSMANN	1065	-19	-12			12.8									
		1C	RI ICE CREAM	10				2	2		N	RLN	HUSSMANN	1065	-19	-12			10.7									
		1D	RI ICE CREAM	12	1			2	3		N	RLN	HUSSMANN	1065	-19	-12			12.8									
		1E	GROCERY FREEZER			27	17	9	2		N	KRD54E-185GDAA	KRACK		-21	-12			25.5									
		1	COMMON												-24 SST		109	R448A	72.4			85.7	25.0			88.5 18.2%		1121
		1-1																		1-1	ZFD41K5E DIGITAL	42.1	13.0			44.5	65	563
		1-2																		1-2	ZF18K4E	21.8	6.0			22.0	65	279
		1-3																		1-3	ZF18K4E	21.8	6.0			22.0	65	279
		2A	MD BEER	12				1	1		N	ID6NU	HUSSMANN	1389	27	32			16.7									
		2B	MD SALAD	12				1	1		N	IC6SM	HUSSMANN	1247	28	34			15.0									
		2C	MD PRODUCE	24				2	2		N	IP4SL	HUSSMANN	1065	29	35			25.6									
		2D	DAIRY/PROD COOLER W/ 10 RI DOORS			20	37	9	2		N	KRD66A-340GDB	KRACK		25	34			45.0									
		2E	MD DAIR/DELI	36				3	3		N	ID6SU	HUSSMANN	1545	28	33			55.6									
		2F	MD MEAT	16			2		2		N	IC6SM	HUSSMANN	1402	25	33			22.4									
		2G	MEAT COOLER			16	10	9	1		N	KRD36E-135GDAA	KRACK		21	30			13.0									
		2H	LT SUBCOOLING												30	40			26.7									
		2	COMMON												19 SST		109	R448A	220.0			144.6		263.0 16%				4317
		2-1																		2-1	ZBD114K5E	58.6	15.0	114.0			65	1867
		2-2																		2-2	ZB76K5E	43.0	10.0	74.5			65	1225
		2-3																		2-3	ZB76K5E	43.0	10.0	74.5			65	1225
		1,2	COMMON DISCHARGE																		COND-1	FLA 38.4	MCA 41.4	MOPD 42.6		88.5		

SYSTEM NO.	COND CAP CORR. FACTOR	COMP. (KW)	TOTAL G.H.R. (MBH)	CORR. CAP. PER CCT (MBH/CCT)	CIRCUITS REQUIRED	CIRCUITS USED	BALANCE TD	LINE ROUTE	TOTAL LINEAR FEET	EQUIVALENT LENGTH	SUCTION HORIZ.	SUCTION RISER	LIQUID	DISCHARGE	COND'R DRAIN	HEAT RECL'M SUP/RET	SYSTEM NO.	TYPE	NO. OF DEFROST	DURATION	DEFROST CLOCK & LOCATION	E.P.R. @ 208V AT CASE	SOLENOID @208V S & L	T-STAT	EMS TEMPERATURE SENSOR	TXV
	CONDENSER							REFRIG. LINE SIZES									DEFROST					FIELD INSTALL ACCESS. (OR AT CASE)				
1A								OH	SEE PIPING SCHEDULE								1A	EL	1	45	2)RO 1) DI	CDST-7 EPR			2	WITH CASES
1B								OH									1B	EL	1	45	2)RO 1) DI	CDST-9 EPR			3	WITH CASES
1C								OH									1C	EL	1	45	2)RO 1) DI	CDST-7 EPR			2	WITH CASES
1D								OH									1D	EL	1	45	2)RO 1) DI	CDST-9 EPR			3	WITH CASES
1E								OH									1E	EL	4	46	2) RO	CDST-17 EPR			1	WITH COILS
1		17.8	139.1	9.1																						
1-1		7.8	66.0																							
1-2		5.0	36.6																							
1-3		5.0	36.6																							
2A								OH	SEE PIPING SCHEDULE								2A	OT	6	20	1) RO	CDST-7 EPR			1	WITH CASES
2B								OH									2B	OT	6	20	1) RO	CDST-4 EPR			1	WITH CASES
2C								OH									2C	OT	6	20	1) RO	CDST-4 EPR			2	WITH CASES
2D								OH									2D	OT	3	45	1) RO	CDST-7 EPR			1	WITH COILS
2E								OH									2E	OT	6	20	1) RO	CDST-7 EPR			3	WITH CASES
2F								OH									2F	OT	6	20	1) RO	CDST-7 EPR			2	WITH CASES
2G								OH									2G	E	4	46	2) RO	CDST-7 EPR			1	WITH COILS
2H																										
2		32.5	404.9	9.1																						
2-1		14.0	174.8																							
2-2		9.3	115.1																							
2-3		9.3	115.1																							
1,2			544	619.5			8.8	OH	60					2 1/8 HDR 1 3/8	1 3/8 7/8 VENT											

SYSTEM NO.	E.P.R. @ 208V AT MANIFOLD	SOLENOID @208V S & L	TXV	SOLENOID HOT GAS @ 208 V	SHUT - OFF VALVE SUCT.	SHUT - OFF VALVE LIQ.	SHUT - OFF VALVE HOT GAS	HOTGAS / DISCHARGE CHECK V. / BALL V.	MUFFLER	OIL FLOAT	OIL SEP.	OIL RES.	OIL RES. CHECK VALVE	SUCTION FILTER	LIQ. DRIER	SIGHT GLASS	LPRV	SUB COOLER	RECEIVER	HEAT RECL'M VALVE	SYSTEM NOTES
	FACTORY INSTALLED ACCESSORIES (OR AT RACK)																				
1A																					
1B																					1
1C																					
1D																					
1E		E6S140																			
1														WITH RACK				WITH RACK			
1-1										WITH RACK											
1-2										WITH RACK											
1-3										WITH RACK											
2A																					
2B																					
2C																					
2D		E9S240																			
2E																					2
2F																					
2G		E9S240																			
2H	PORT-5	L E5S130 W/ MKC-1	SSER-B																		3
2														WITH RACK				WITH RACK			4
2-1										WITH RACK											5
2-2										WITH RACK											6
2-3										WITH RACK											7
																					8
1,2											WITH RACK	WITH RACK	WITH RACK		WITH RACK	WITH RACK			WITH RACK		

No...

1 CONDENSER FED FROM RACK CONTROL PANEL
1) SITE SUPERVISOR CONTROLLER, 1) MRLDS W/ POWER SUPPLY ON RACK, 1) 7/8" VENT BALL VALVE AT RECEIVER, ANALOG LIQUID LEVEL PROBE
TO BE FIELD INSTALLED: ISOLATION VALVES AT CONDENSER SUPPLY, RETURN AND VENT LINES, LLSV, EPR'S, SUCTION AND LIQ. BALL VALVES

2 CASES WILL NEED DRAIN EXTENSION KIT IF THAT CASE DOES NOT HAVE IT'S OWN FLOOR SINK. THIS MOVES THE FLOOR SINK OUT TO 41" FROM BACK OF CAE

3 EEV CONTROLLED VIA ESR BOARD. SUPPLED BY RACK MANUFACTURER.

4 ITEMS BELOW: FIELD PARTS AND SHIPPED BY RACK MANUFACTURER, INSTALLED BY R.D., WIRED BY E.C. MANAGERS OFFICE ALARM PANEL.

5 EMS SECURITY PANEL, EMS DISPLAY AND MOUNTING KIT, HVAC XFRMRS, BOARDS, COMBO SENSORS, PRESS DIFF SWITCH, PROBES, ETC…

6 MISC OUTDOOR SENSORS - PHOTOCELL, TEMP HUMIDITY / MISC INDOOR SENSORS - ROLL UP DOOR SWITCHES, PHOTO CELLS, MOTION SENSOR, UNIT HEATER PROBES

7 WALK-IN: DOOR SWITCHES, ALARM/SIREN/STROBES, LEAK DETECT SENSORS, ETC. / RACK ANCHORING KIT / ROPE CURRENT TRANSDUCER

8 MISC SAFETY SIGNS

PIPING SCHEDULE SYSTEM RACK

PIPE DESIGNATION	HORIZONTAL SUCTION	VERTICAL SUCTION RISER AS REQUIRED	LIQUID	ESTIMATED TOTAL LENGTH^^ (FT.)
1A-E	2 5/8	1 3/8 & 1 5/8	7/8	15
1E	1 5/8	1 3/8 ^	1/2	25
1Ea	1 3/8	1 1/8 ^	1/2	5
1Eb	1 3/8	1 1/8 ^	1/2	12
1A-D	2 1/8	1 5/8 ^	5/8	70
1A-B	1 5/8	7/8 & 1 1/8	1/2	22
1A	1 3/8	7/8	1/2	19
1B	1 3/8	7/8	1/2	19
1C-D	1 5/8	7/8 & 1 1/8	1/2	22
1C	1 3/8	7/8	1/2	19
1D	1 3/8	7/8	1/2	19
2A-G	2 5/8	1 5/8 & 2 1/8	1 1/8	19
2A	1 1/8	7/8	1/2	68
2B-G	2 5/8	2 1/8 ^	1 1/8	75
2D	1 5/8	1 1/8	5/8	14
2Da	1 1/8	7/8 ^	1/2	5
2Db	1 1/8	7/8 ^	1/2	20
2B-C,E-G	2 5/8	2 1/8 ^	1 1/8	31
2G	7/8	7/8	1/2	14
2B-C,E-F	2 1/8	2 1/8 ^	7/8	18
2E	1 5/8	1 1/8	5/8	26
2B-C,F	1 5/8	1 3/8 ^	7/8	8
2F	1 1/8	7/8	1/2	26
2B-C	1 5/8	1 1/8 ^	5/8	26
2B	7/8	5/8	1/2	29
2C	1 1/8	7/8	1/2	56

^ RISER SIZE IS SHOWN EVEN WHERE A RISER IS NOT EXPECTED. THIS IS FOR REFERENCE ONLY AND TO BE USED IN THE EVENT THAT A PIPING CONFLICT CAUSES THE NEED FOR A RISER. IF RISER LENGTH EXCEEDS 4 FEET, IT MUST BE APPROVED BY ENGINEER OF RECORD.

^^ESTIMATED TOTAL LENGTH INCLUDES HORIZONTAL AND VERTICAL PIPE SECTIONS. THIS IS ONLY AN ESTIMATE AND ACTUAL LENGTH WILL VARY.

Updated: 2/19/2024

ASHRAE STANDARD 34-2019 TABLE 4-2

"Data and Safety Classifications for Refrigerants Blends"

	Low Temp	Medium Temp
Liquid density (lbs/ft^3)	74.2	63.1
Suction density (lbs/ft^3)	0.41	1.1
Discharge density (lbs/ft^3)	4.3	4.23

R-448A Safety Group A1
Class A: Refrigerants that have an occupational limit of (OEL) 890 ppm or greater.
Class 1: No flame propagation in air at 140°F and 14.7 psia

	Lbs
Refrig Receiver	103
Subtotal Circuits	143.2
Condenser	145
REFRIGERATION	391.2
TOTAL	391.2

MINIMUM PIPE INSULATION THICKNESS

	HVAC			MEDIUM TEMP			LOW TEMP		
	<1	1 TO 1 1/2	1 1/2 TO 4	<1	1 TO 1 1/2	1 1/2 TO 4	<1	1 TO 1 1/2	1 1/2 TO 4
LIQUID	N/A	N/A	N/A	1/2	1/2	1	1/2	1/2	1
SUCTION	1/2	1/2	1	1	1 1/2	1 1/2	1	1 1/2	1 1/2
H.R. SUPPLY	1	1	1 1/2	N/A	N/A	N/A	N/A	N/A	N/A

* HEAT RECLAIM RETURN DOES NOT NEED INSULATION

- ALL OUTDOOR REFRIGERATION PIPING INSULATION SHALL BE JACKETED. JACKETING SHALL BE SMOOTH, 0.016 THICK WITH POLYFILM MOISTURE BARRIER. FASTENING DEVICES, BANDING, SEALS AND OTHER ACCESSORIES SHALL BE THOSE PROVIDED BY THE MANUFACTURER FOR USE WITH THEIR PRODUCT.

CONTRACTOR SHALL REVIEW MEPR REQUIREMENTS OF ALL OWNER FURNISHED EQUIPMENT WITH EQUIPMENT MANUFACTURER PRIOR TO BID. CONTRACTOR SHALL INFORM ENGINEER OF ANY DISCREPANCIES BETWEEN MANUFACTURER DATA AND WHAT IS SHOWN ON PLAN PRIOR TO BID. SHOULD OWNER FURNISHED EQUIPMENT DIFFER FROM WHAT IS SHOWN ON PLAN AND CONTRACTOR NOT INFORM ENGINEER PRIOR TO BID, THEN NO CHANGE ORDERS WILL BE ACCEPTED TO ACCOUNT FOR DIFFERENCES BETWEEN ACTUAL OWNER FURNISHED EQUIPMENT AND WHAT IS SHOWN ON PLAN.

NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ENGINEER WITH SUBMITTAL PACKAGES FOR REVIEW FOR ALL EQUIPMENT SPECIFIED ON THESE DRAWINGS. CONTRACTOR IS ONLY PERMITTED TO PURCHASE SPECIFIED EQUIPMENT FOLLOWING RECEIPT OF REVIEWED SUBMITTALS IN COMPLIANCE WITH ALL OF ENGINEER'S COMMENTS. IF CONTRACTOR PURCHASES ANY SPECIFIED EQUIPMENT WITHOUT SUBMITTING A SUBMITTAL AND RECEIVING ENGINEER COMMENTS, THEN CONTRACTOR IS TAKING SOLE RESPONSIBILITY FOR THE ACCURACY OF PURCHASED EQUIPMENT AND IS SOLELY RESPONSIBLE FOR REPLACING SAID EQUIPMENT IF IMPROPERLY FURNISHED.

SEAN O. EISLER
Last Modified: 2/19/2024 10:58:43 Drawing Name: C:\Revit\Projects\2350003933 GO Salem OR MEP V22_jsanchez_20240219061345.rvt

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
84639PE
SEAN O. EISLER
02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
REFRIGERATION SCHEDULE

SHEET NUMBER
R6-01

SYSTEMS		CASES					208V DEFROST HEATERS										
								DEFROST HEATERS						OUTLETS		
#	DESCRIPTION	LENGTH	MANUFACTURER	MODEL	QTY	LIN. FT.	ITEM #	AMPS /CASE	L1	L2	L3	CIRCUIT QTY	BREAKER SIZE	TYPE	LOC.	NOTES
1A	RI ICE CREAM	10 DRS	HUSSMANN	RL	2	5 DR	1	16.8	33.6	16.8	16.8	1	40A	CONDUIT	@ TOP OF CASE	2,11
1B	RI ICE CREAM	12 DRS	HUSSMANN	RL	1 2	2 DR 5 DR	3	6.7 16.8	33.6	23.5	23.5	1	40A	CONDUIT	@ TOP OF CASE	2,11
1C	RI ICE CREAM	10 DRS	HUSSMANN	RL	2	5 DR	5	16.8	33.6	16.8	16.8	1	40A	CONDUIT	@ TOP OF CASE	2,11
1D	RI ICE CREAM	12 DRS	HUSSMANN	RL	1 2	2 DR 5 DR	7	6.7 16.8	33.6	23.5	23.5	1	40A	CONDUIT	@ TOP OF CASE	2,11
1E	GROCERY FREEZER															
2A	MD BEER	12'	HUSSMANN	ID6NU	2	12'										
2B	MD SALAD	12'	HUSSMANN	IC6SM	1	12'										
2C	MD PRODUCE	24'	HUSSMANN	IP4SL	2	12'										
2D	DAIRY COOLER W/ R.I. DOORS															
2E	MD DAIRY/DELI	36'	HUSSMANN	ID6SU	3	12'										
2F	MD MEAT	16'	HUSSMANN	IC6SM	2	8'										
2G	MEAT COOLER															

#	115V CASE FANS, WARMERS, & LIGHTS									
		ECM FANS		ANTI SWEAT		LED LIGHTS		OUTLETS		
	ITEM #	CASE AMPS	TOTAL AMPS	CASE AMPS	TOTAL AMPS	CASE AMPS	TOTAL AMPS	TYPE	LOC.	NOTES
1A	2 V	8.6	17.2	ON FAN CIRCUIT	ON FAN CIRCUIT	0.8	1.6	CONDUIT	@ TOP OF CASE	1,5,7,9
1B	4 V	3.1 8.6	20.3	ON FAN CIRCUIT	ON FAN CIRCUIT	0.4 0.8	2	CONDUIT	@ TOP OF CASE	1,5,7,9
1C	6 V	8.6	17.2	ON FAN CIRCUIT	ON FAN CIRCUIT	0.8	1.6	CONDUIT	@ TOP OF CASE	1,5,7,9
1D	8 V	3.1 8.6	20.3	ON FAN CIRCUIT	ON FAN CIRCUIT	0.4 0.8	2	CONDUIT	@ TOP OF CASE	1,5,7,9
1E										
2A	11 V	1.4	2.8	--	--	2.1	4.3	CONDUIT	@ TOP OF CASE	1,5,9
2B	12 V	1.4	1.4	--	--	1.9	1.9	CONDUIT	@ TOP OF CASE	1,5,9
2C	13 V	1.4	2.8	--	--	2.1	4.3	CONDUIT	@ TOP OF CASE	1,5,9
2D										
2E	15 V	0.8	2.3	--	--	2.4	7.2	CONDUIT	@ TOP OF CASE	1,5,9
2F	16 V	1	2	--	--	1.4	2.9	CONDUIT	@ TOP OF CASE	1,5,9
2G										

#	COIL FAN MOTORS											
									OUTLETS		
	ITEM #	MANUFACTURER	MODEL	QTY	# MTRS PER COIL	AMPS PER COIL	TOTAL AMPS	VOLTS	θ	TYPE	LOCATION	NOTES
1A												
1B												
1C												
1D												
1E	9 V	KRACK	KRD54E-185GDAA	2	5	3.0	6	208	1	J-BOX	STUB-OUT OF CEILING	3,5,8
2A												
2B												
2C												
2D	14 V	KRACK	KRD54A-290GDB	2	5	4.5	9	115	1	J-BOX	STUB-OUT OF CEILING	5,8
2E												
2F												
2G	17 V	KRACK	KRD36E-135GDAA	1	3	1.8	1.8	208	1	J-BOX	STUB-OUT OF CEILING	5,8

#	208V COIL HEATERS											WIRING SCHEME (SEE WIRING DIAG. BELOW)
		DEFROST						OUTLETS				
	ITEM #	AMPS /COILS	L1	L2	L3	CIRCUIT QTY	BREAKER SIZE	TYPE	LOC.	NOTES		
1A												1B
1B												1B
1C												1B
1D												1B
1E	10	21.7	22	34.8	22	1	40A	J-BOX	STUB-OUT OF CEILING	2,11		1C
2A												3B
2B												3B
2C												3B
2D												3A
2E												3B
2F												3B
2G	18	13	0	13	13	1	20A	J-BOX	STUB-OUT OF CEILING	2,11		1D

MISCELLANEOUS EQUIPMENT REQUIREMENTS

ITEM #	DESCRIPTION	VOLTS	θ	HP	AMPS	OUTLETS		COMMENTS	NOTES
						TYPE	LOCATION		
900	DRAIN LINE HEATER	115	1	4 WATTS / FT	2	OUTLET	@ BOX	REFER TO FLOOR PLAN FOR LOCATION.	9
901	DOOR HEATER	115	1		10	OUTLET	@ BOX	REFER TO FLOOR PLAN FOR LOCATION.	9
902	DOOR SWITCH	12					@ BOX	CABLE TO REFRIG. RACK, DOOR SWITCH CLOSED WHEN DOOR CLOSED. PROVIDED BY RACK MFG, INSTALLED BY R.C., WIRED BY E.C.	9
903	GROCERY FREEZER LIGHTS	115	1	200 W	2	CONDUIT	@ BOX	LIGHT FIXTURES BY BOX MFG, LAMPS BY E.C. VERIFY LOCATION.	9
904	DAIRY COOLER BOX LIGHTS	115	1	200 W	2	CONDUIT	@ BOX	LIGHT FIXTURES BY BOX MFG, LAMPS BY E.C. VERIFY LOCATION.	9
905	MEAT COOLER LIGHTS	115	1	200 W	2	CONDUIT	@ BOX	LIGHT FIXTURES BY BOX MFG, LAMPS BY E.C. VERIFY LOCATION.	9
906	DAIRY COOLER RI DOOR HEATERS	115	1		17.76	CONDUIT	@ BOX	REFER TO FLOOR PLAN FOR LOCATION.	9
907	DAIRY COOLER RI DOOR LIGHTS	115	1		6.9	CONDUIT	@ BOX	LIGHT FIXTURES BY BOX MFG, LAMPS BY E.C. VERIFY LOCATION.	9
908	PRODUCE MISTER	115	1		1	CONDUIT	@ BOX	REFER TO FLOOR PLAN FOR LOCATION.	9
910	AIR COOLED CONDENSER	208	3		25.9	CONDUIT	ON ROOF	POWERED FROM RACK PANEL. REFER TO FLOOR PLAN & VERIFY LOCATIONS. SEPARATE CONDUIT.	9
911	REFRIGERATION RACK COMPRESSOR POWER PANEL	208	3		RLA = -- A MCA = 416 A MOPD = 500 A	CONDUIT	EQUIP. AREA	REFER TO FLOOR PLAN FOR LOCATION.	6, 9
913	SELF-CONTAINED HUSSMANN Q3-SSM	115	1		RLA = 10.5	NEMA L5-30 PLUG	SALES FLOOR		9
914	SELF-CONTAINED ICE MERCHANDISER	115	1		15		SALES FLOOR		9
915	EMS DISPLAY	115	1				EQUIP. AREA	CAT5 WIRED TO CONTROLLER BY E.C. DEDICATED 120V RECEPTACLE WIRED TO ASSIGNED TERMINALS AT RACK CONTROL PANEL BY E.C.	9
916	MRLDS	24	1				RACK, FREEZER, COOLER	VERIFY LOCATION.	9, 10
917	STORE ENERGY METER	460	3			CONDUIT	ON RACK	WIRED TO MAIN DIST. POWER BY E.C.	9
918	EMS SECURITY INTERFACE PANEL					CONDUIT	NEAR RACK	PROVIDED BY RACK MFG, INSTALLED BY R.C., WIRED BY E.C. & SECURITY CO. (V.L.)	9
919	REFRIGERATION RACK CONTROL POWER	208	1		10A CIRCUIT	CONDUIT		REFER TO FLOOR PLAN FOR LOCATION.	6, 9
920	ROLL-UP DOOR SWITCH	12					RECEIVING	CABLE TO LIGHTING PANEL, DOOR SWITCH CLOSED WHEN DOOR CLOSED. PROVIDED BY RACK MFG, INSTALLED BY R.C., WIRED BY E.C.	9
922	CONDENSER CONTROL POWER	208	1		10A CIRCUIT	CONDUIT	ON ROOF	E.C. TO RUN CONTROL WIRES IN SEPARATE CONDUIT FROM RACK CONTROL PANEL TO THE REFRIGERATION CONDENSER CONTROL PANEL. 2C-18 AWG SHIELDED CABEL DAISY CHAINED TO REFRIG RACK PANEL.	6, 9
923	STROBE BLUE LIGHT/HORN	24 VAC					IN/OUT OF WI BOX, EQUIP AREA	REFRIGERATION LEAK ALARM. 2C-18 AWG TO RACK BY E.C.	9
924	STROBE AMBER LIGHT/HORN	24 VAC					OUTSIDE OF WI BOX	DOOR OPEN ALARM TO RACK BY E.C.	9
925	CONVENIENCE OUTLET	115	1		15A CIRCUIT	CONDUIT		REFER TO FLOOR PLAN FOR LOCATION.	9
928	REFRIGERATION RACK DEFROST POWER AND CONTROL	208	3		FLA = 56 A MCA = 66 A MOPD = 80 A	CONDUIT	EQUIP. AREA	PROVIDED BY RACK MFG, INSTALLED BY R.C., WIRED BY E.C. 2C-18 AWG SHIELDED CABLE DAISY CHAINED TO REFRIG RACK PANEL.	6,9
929	MANUAL DIMMING OVERRIDE PANEL	115	1				NEXT TO DBL. DOOR TO SALES FLOOR	REFER TO FLOOR PLAN FOR LOCATION.	9

1 ELECTRICAL REQUIREMENTS SCHEDULE

SHEET KEYNOTES

1 SOLENOID VALVES PROVIDED BY RACK MFG. AND INSTALLED BY R.C. THE E.C. TO WIRE ALL SOLENOIDS AS PER THE DEFROST WIRING SCHEMES ON THIS SHEET.

2 THE E.C. IS TO PROVIDE ALL DEFROST WIRING TO THE RACK CONTROL PANEL, AS PER THE DEFROST WIRING SCHEMES ON THIS SHEET.

3 THE E.C. IS TO WIRE THE DEFROST LIMIT AND FAN DELAY CONTROL THRU A J-BOX AT THE EVAPORATOR COILS, TO THE COMPRESSOR CONTROL PANEL. ALL WIRING IS TO BE AS PER THE DEFROST WIRING SCHEMES ON THIS SHEET.

4 DENOTES CONTROL WIRING TO THE RACK CONTROL PANEL FROM EITHER CASES OR COILS AS REQUIRED. ALL WIRING IS TO BE PER THE DEFROST WIRING SCHEMES ON THIS SHEET. PULL 14 AWG. CONTROL WIRES FOR EACH INSTANCE OF THIS NOTE BEING SHOWN.

V 5 DENOTES LOW VOLTAGE CONTROL WIRING TO THE ESR BOARD IN THE RACK CONTROL PANEL FROM EITHER CASES OR COILS AS REQUIRED. E.C. TO SUPPLY AND INSTALL 4C-14 AWG CONTROL WIRES IN CONDUIT.

6 ALL CONTROL PANELS ARE TO BE INTERNALLY FACTORY PRE-WIRED AND PROVIDED BY THE RACK MFG. THE ELECTRICAL CONTRACTOR IS TO PROVIDE ALL EXTERNAL WIRING TO AND FROM THE PANELS, AS PER THE PANEL WIRING DIAGRAMS ON THIS SHEET.

7 THE ELECTRICAL CONTRACTOR IS TO USE FLEX CONDUIT FROM CROWN END CASES TO THE ADJACENT CASES IF AN ELECTRICAL RACEWAY IS NOT PROVIDED IN THE CROWN CASE.

8 THE ELECTRICAL CONTRACTOR IS TO WIRE ALL EVAPORATOR FAN COILS AS PER THE COIL MANUFACTURERS INSTALLATION MANUALS. THE ELECTRICAL CONTRACTOR IS TO PROVIDE DISCONNECTS AT EACH COIL.

9 THE ELECTRICAL CONTRACTOR IS TO WIRE ALL EQUIPMENT PROVIDED BY THE FIXTURE CONTRACTOR, OWNER, OR TENANT.

10 E.C. TO SUPPLY 2 SETS OF WIRES (2-CONDUCTOR, 18 AWG SHIELDED AND 2-CONDUCTOR, AWG, NON SHIELDED) FROM REFRIGERATION RACK PANEL TO MRLDS LEAK SENSOR AT WALK-IN BOXES.

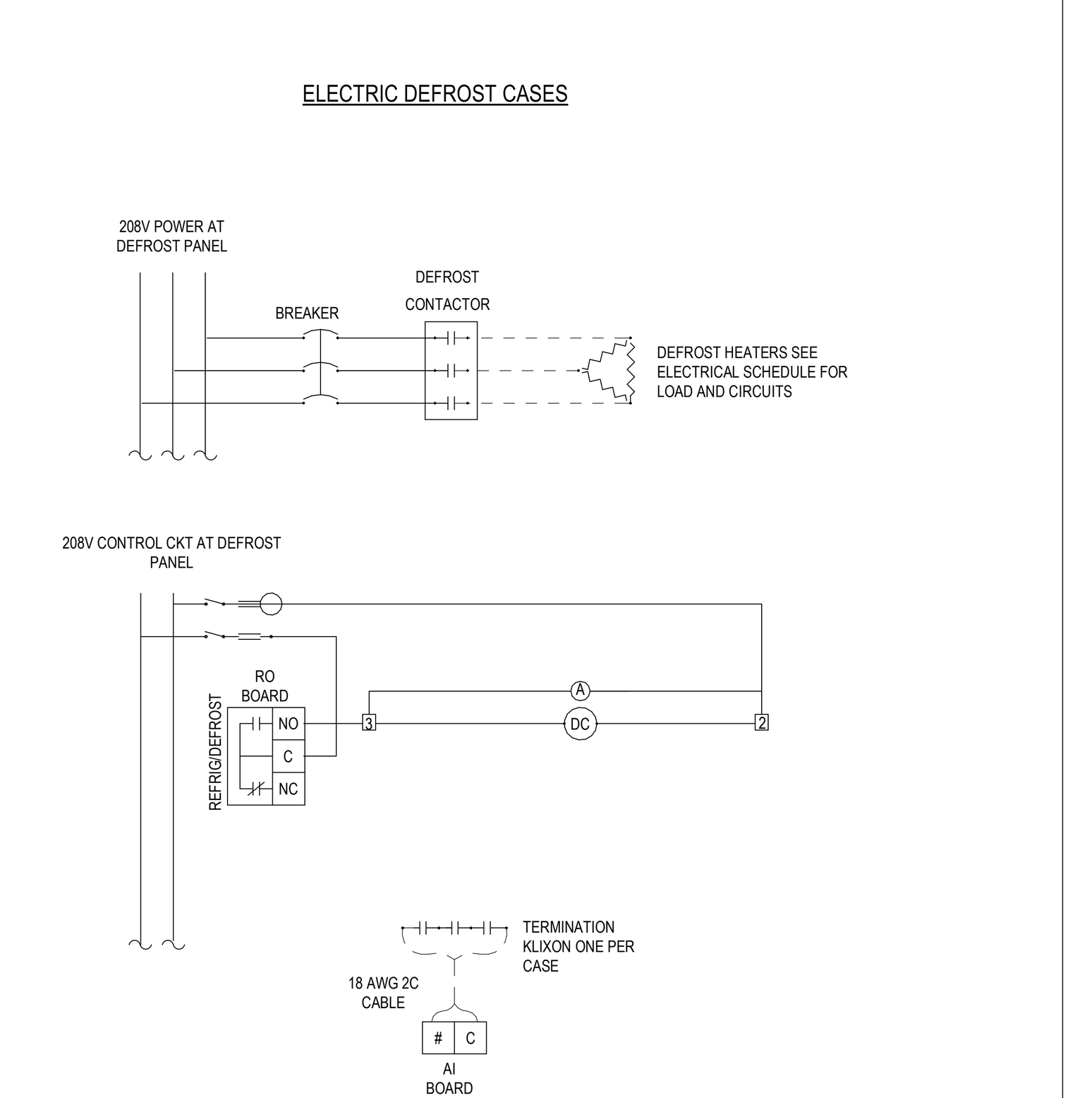
11 THE DEFROST CIRCUIT BREAKER SIZES LISTED ARE REPRESENTATIVE OF THE DEFROST LOADS. IT IS THE RACK MFG RESPONSIBILITY TO ENSURE ALL ELECTRICAL COMPONENTS COMPLY WITH ALL APPLICABLE CODES AND UL REQUIREMENTS. THE ENGINEER OF RECORD BARES NO RESPONSIBILITY FOR THE DEFROST BREAKER SIZES LISTED ON THIS SHEET.

ELECTRICAL GENERAL NOTES

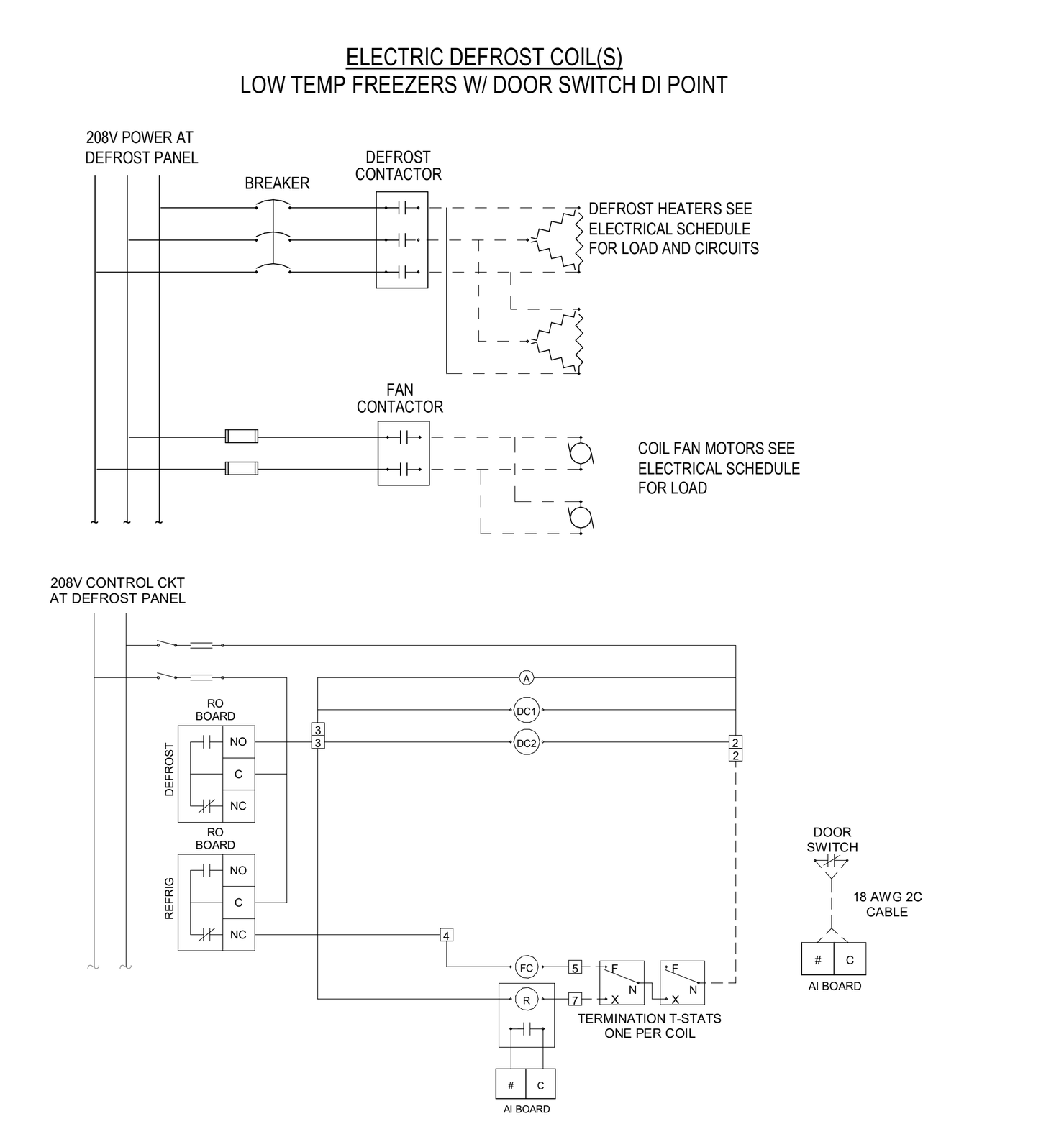
1 VENTILATION PROOF - SUPPLIED BY R.M., INSTALLED BY R.C., WIRED BY E.C. (2-CONDUCTOR, 18 AWG NON SHIELDED) FROM REFRIGERATION RACK PANEL

WIRING LEGEND

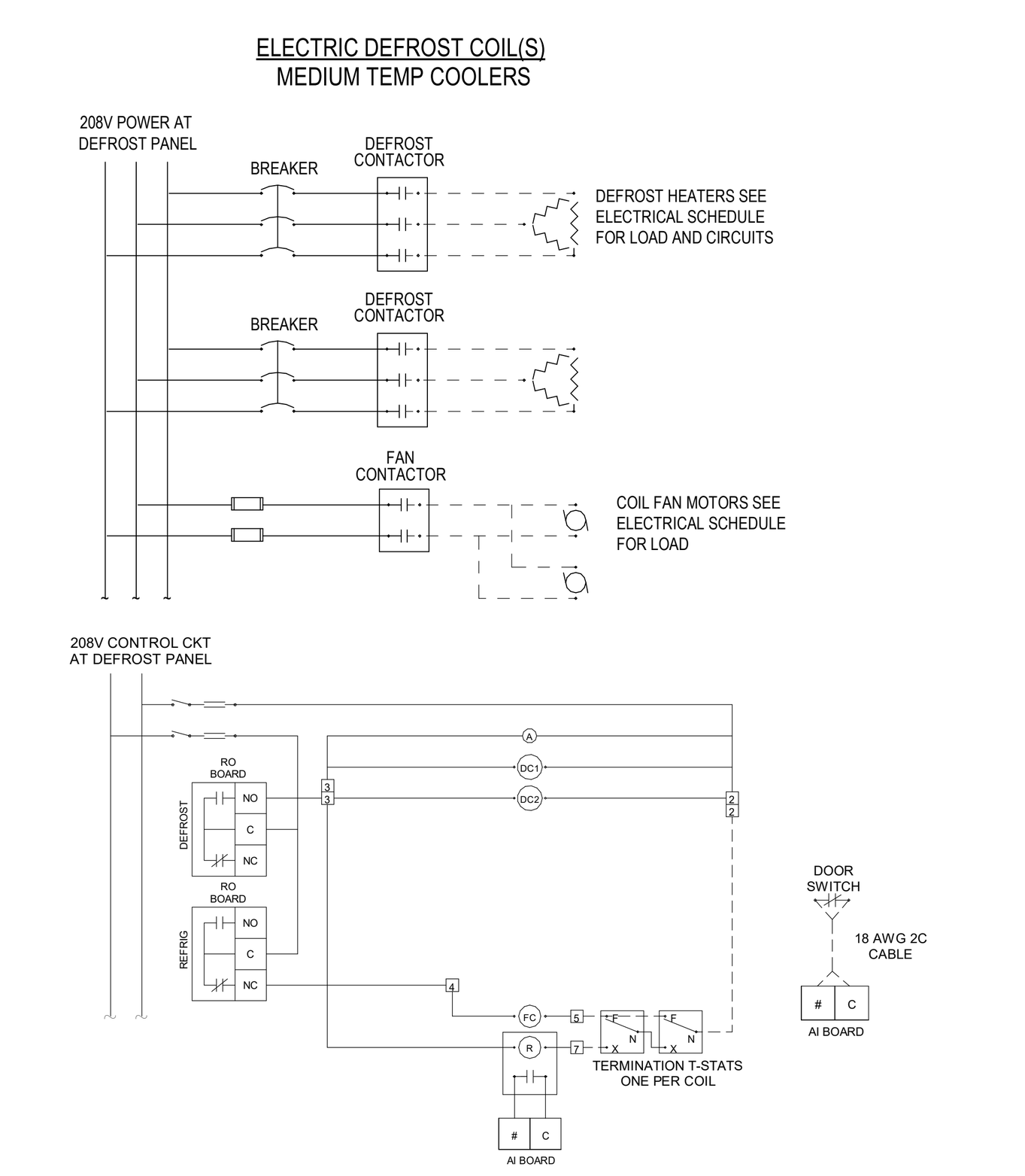
AI	COMPUTER ANALOG INPUT
BCF	BODY COOLING FAN
C	CONTACTOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CSR	CURRENT SENSING RELAY
DI	COMPUTER DIGITAL INPUT
EPR	EVAPORATOR PRESSURE REGULATOR
FC	FAN CONTACTOR
FM	FAN MOTOR
FR	FAILURE RELAY
LS	LIQUID SOLENOID
LIS	LIQUID INJECTION SOLENOID
M	COMPRESSOR CONTACTOR
OL	OVERLOAD RELAY
ORH	OIL RESERVOIR HEATER
R	RELAY
RO	COMPUTER RELAY OUTPUT
SS	SUCTION SOLENOID
SSTD	SOLID STATE TIME DELAY
TD	TIME DELAY RELAY
UL	COMPRESSOR UNLOADER
WRS	WATER HEAT RECLAIM SOLENOID
(R)	RED LIGHT
(G)	GREEN LIGHT
(A)	AMBER LIGHT
solid line	PREWIRED PANEL WIRING
dashed line	FIELD WIRING
dash-dot line	FACTORY WIRING



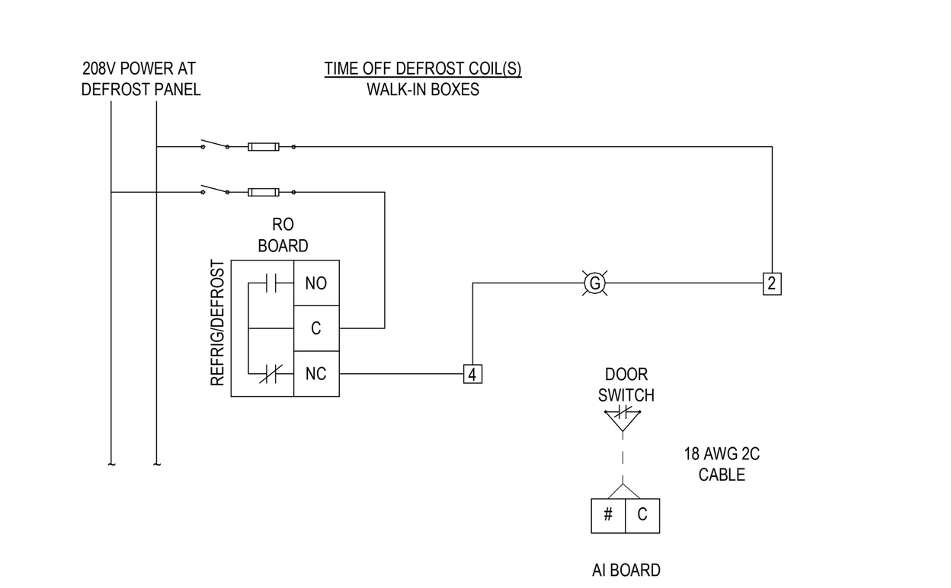
2 R6-21 SCHEME 1B



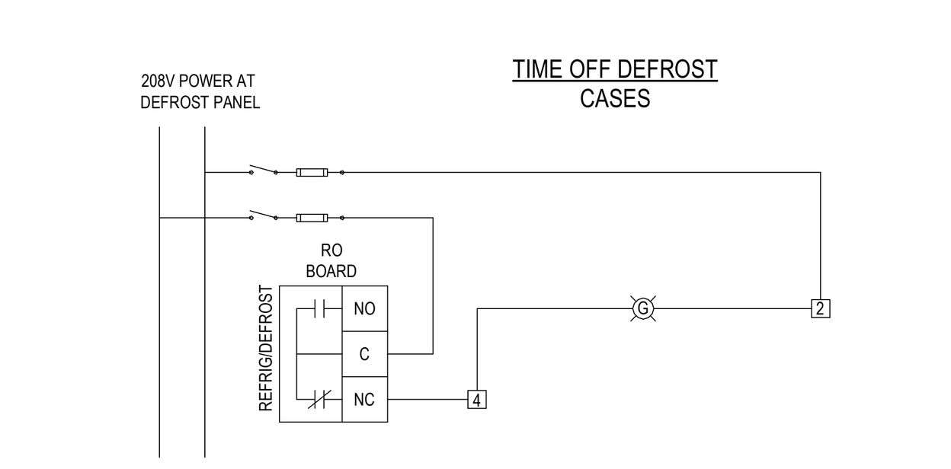
3 R6-21 SCHEME 1C



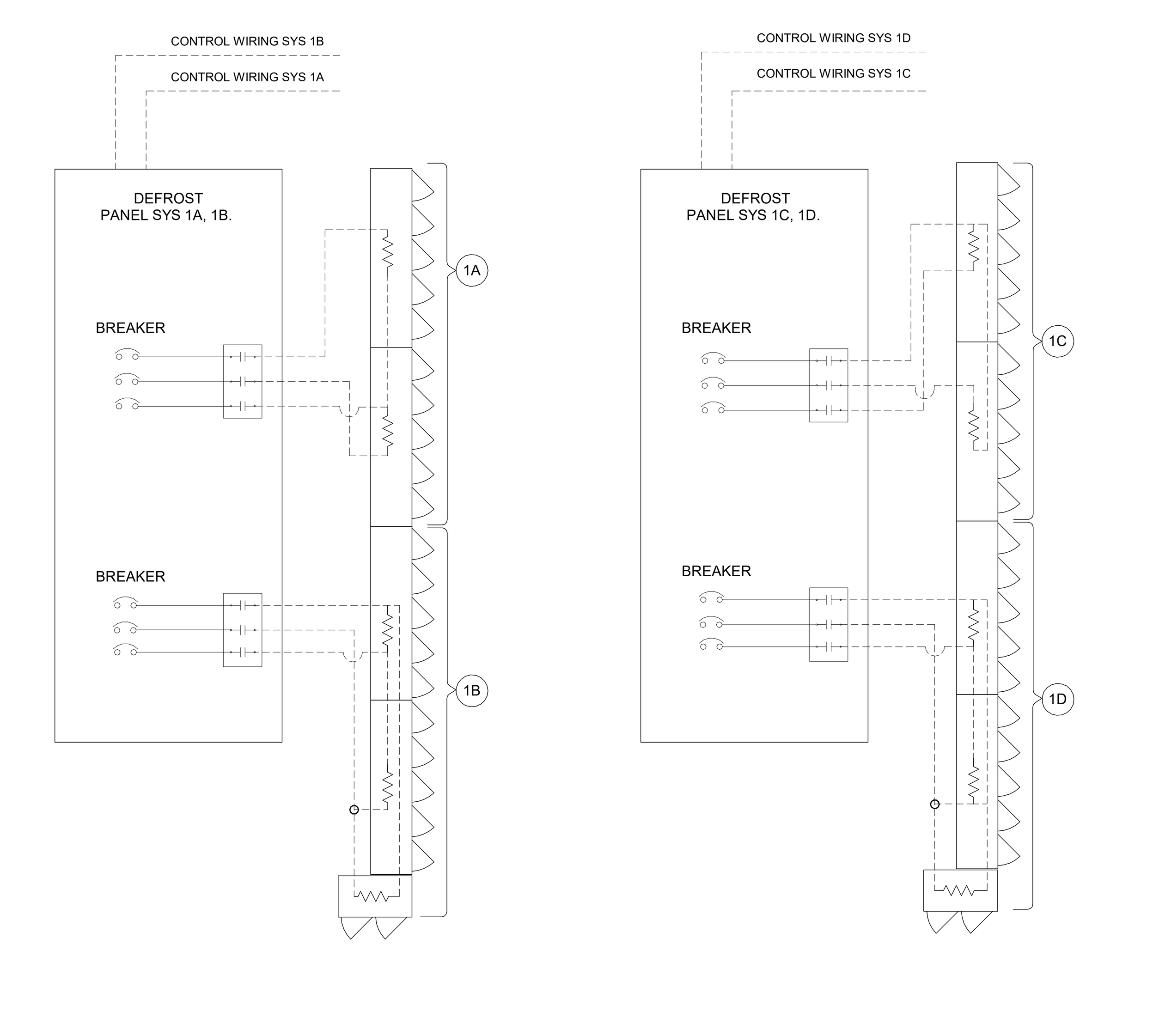
4 R6-21 SCHEME 1D



5 R6-21 SCHEME 3A



6 R6-21 SCHEME 3B



NOTES:

1.- DIAGRAM PROVIDES AN OVERVIEW OF DEFROST WIRING, REFER TO SCHEMES AND ELECTRICAL SCHEDULE FOR DETAILS.

2.- DEFROST WIRES TO BE SIZED PER NEC CONSIDERING TOTAL RUN LENGTH, TEMPERATURE, ETC.

LEGEND

solid line	PREWIRED DEFROST PANEL WIRING
dashed line	FIELD WIRING

7 R6-21 LOW TEMP DEFROST WIRING DIAGRAM

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ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025

REGISTERED PROFESSIONAL ENGINEER 84639PE DIGITALLY SIGNED OREGON NOVEMBER 09, 2017 SEAN O. EISLER

02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME

GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

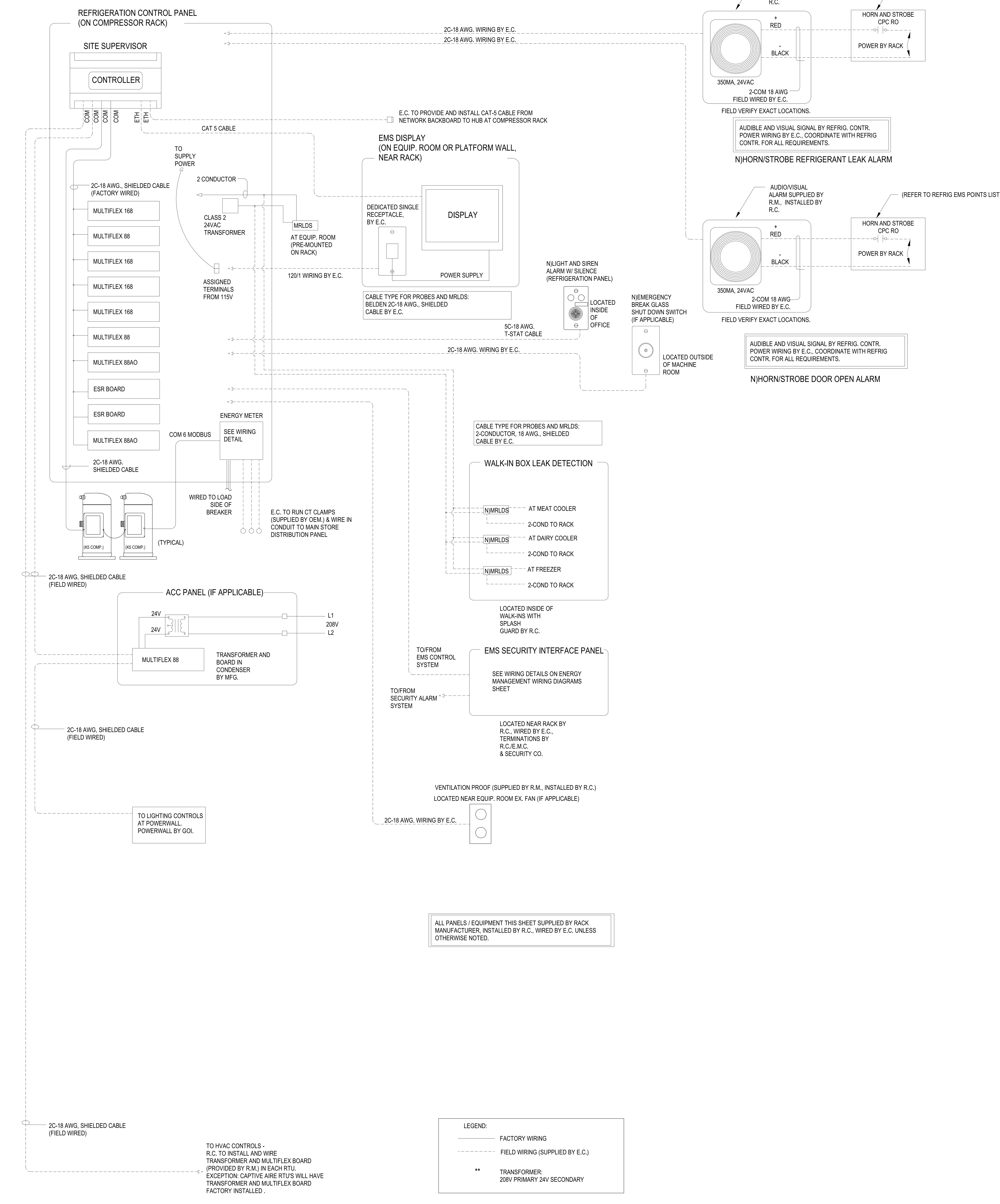
SHEET TITLE

ELECTRICAL SCHEDULE & DEFROST SCHEMES

SHEET NUMBER

R6-21

SEAN O. EISLER



1 TYPICAL EMS BOARD LAYOUT

RACK	BOARD	POINT	DESCRIPTION	WIRING	S1/S2	AI/DI TYPE	RELAY	FAILESAFE
MULTIFLEX 168 BOARD	1	AI/DI 1	1 SUCTION PRESSURE	PANEL	UP	0-200#	---	---
		AI/DI 2	2 SUCTION PRESSURE	PANEL	UP	0-200#	---	---
		AI/DI 3	1&2 DISCHARGE PRESSURE	PANEL	UP	0-500#	---	---
		AI/DI 4	1 SUCTION TEMP	PANEL	UP	TEMP	---	---
		AI/DI 5	2 SUCTION TEMP	PANEL	UP	TEMP	---	---
		AI/DI 6	---	---	---	---	---	---
		AI/DI 7	1&2 DROP LEG PRESSURE	PANEL	UP	0-500#	---	---
		AI/DI 8	1&2 DROP LEG TEMP	PANEL	UP	TEMP	---	---
		AI/DI 9	1&2 LIQUID LEVEL	PANEL	UP	ANALOG	---	---
		AI/DI 10	---	---	---	---	---	---
		AI/DI 11	---	---	---	---	---	---
		AI/DI 12	PHASE LOSS	PANEL	UP	DIGITAL	---	---
		AI/DI 13	GEN ALARM HORN SILENCE	FIELD	UP	DIGITAL	---	---
		AI/DI 14	---	---	---	---	---	---
		AI/DI 15	MR FAN PROOF	FIELD	UP	DIGITAL	---	---
		AI/DI 16	DOCK TEMP	FIELD	UP	TEMP	---	---
	1	RO 1	---	---	---	---	---	---
		RO 2	1-2 COMP	PANEL	---	---	N/C	UP
		RO 3	1-3 COMP	PANEL	---	---	N/C	UP
		RO 4	---	---	---	---	---	---
		RO 5	2-2 COMP	PANEL	---	---	N/C	UP
		RO 6	2-3 COMP	PANEL	---	---	N/C	UP
		RO 7	MOTOR ROOM EXHAUST (IF EQUIPPED)	PANEL	---	---	N/O	DOWN
		RO 8	MR EXHAUST FAN LIGHT (IF EQUIPPED)	FIELD	---	---	N/O	DOWN
MULTIFLEX 88 BOARD	2	AI/DI 1	1E GROCERY FRZR TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 2	2G MEAT COOLER TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 3	DOCK TEMP #2	FIELD	UP	TEMP	---	---
		AI/DI 4	1-2 COMP PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 5	1-3 COMP PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 6	2-2 COMP PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 7	2-3 COMP PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 8	TEMP AT RACK	PANEL	---	TEMP	---	---
	2	RO 1	DOCK HEAT #2	FIELD	---	---	N/O	DOWN
		RO 2	---	---	---	---	---	---
		RO 3	---	---	---	---	---	---
		RO 4	---		---	---		
		RO 5	---		---	---		
		RO 6	---		---	---		
		RO 7	---		---	---		
		RO 8	---		---	---		
MULTIFLEX 168 BOARD	3	AI/DI 1	1A RI ICE CREAM TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 2	1B RI ICE CREAM TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 3	1C RI ICE CREAM TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 4	1D RI ICE CREAM TERM	FIELD	UP	DIGITAL	---	---
		AI/DI 5	1E GROCERY FREEZER DR SW	FIELD	UP	DIGITAL	---	---
		AI/DI 6	2D DAIRY COOLER DR SW	FIELD	UP	DIGITAL	---	---
		AI/DI 7	2G MEAT COOLER DR SW	FIELD	UP	DIGITAL	---	---
		AI/DI 8	1A-1 RIIC/COFF	FIELD	UP	TEMP	---	---
		AI/DI 9	1A-2 RIIC/COFF	FIELD	UP	TEMP	---	---
		AI/DI 10	---	---	---	---	---	---
		AI/DI 11	---	---	---	---	---	---
		AI/DI 12	---	---	---	---	---	---
		AI/DI 13	1B-1 RIIC/COFF	FIELD	UP	TEMP	---	---
		AI/DI 14	1B-2 RIIC/COFF	FIELD	UP	TEMP	---	---
		AI/DI 15	---	---	---	---	---	---
		AI/DI 16	---	---	---	---	---	---
	3	RO 1	1A REFRIGERATION	FIELD	---	---	N/C	UP
		RO 2	1A DEFROST	PANEL	---	---	N/O	DOWN
		RO 3	1B REFRIGERATION	FIELD	---	---	N/C	UP
		RO 4	1B DEFROST	PANEL	---	---	N/O	DOWN
		RO 5	1C REFRIGERATION	FIELD	---	---	N/C	UP
		RO 6	1C DEFFROST	PANEL	---	---	N/O	DOWN
		RO 7	1D REFRIGERATION	FIELD	---	---	N/C	UP
		RO 8	1D DEFROST	PANEL	---	---	N/O	DOWN
MULTIFLEX 168 BOARD	4	AI/DI 1	---	---	---	---	---	---
		AI/DI 2	1C-1 COFF/ RIIC TEMP	FIELD	UP	TEMP	---	---
		AI/DI 3	1C-2 COFF/RIIC TEMP	FIELD	UP	TEMP	---	---
		AI/DI 4	---	---	---	---	---	---
		AI/DI 5	---	---	---	---	---	---
		AI/DI 6	---	---	---	---	---	---
		AI/DI 7	1D-1 COFF/RIIC TEMP	FIELD	UP	TEMP	---	---
		AI/DI 8	1D-2 COFF/RIIC TEMP	FIELD	UP	TEMP	---	---
		AI/DI 9	---	---	---	---	---	---
		AI/DI 10	---	---	---	---	---	---
		AI/DI 11	---	---	---	---	---	---
		AI/DI 12	1E GROCERY FREEZER TEMP	FIELD	UP	TEMP	---	---
		AI/DI 13	---	---	---	---	---	---
		AI/DI 14	---	---	---	---	---	---
		AI/DI 15	2C-1 PRODUCE TEMP	FIELD	UP	TEMP	---	---
		AI/DI 16	2C-2 PRODUCE TEMP	FIELD	UP	TEMP	---	---
	4	RO 1	1E REFRIGERATION/LIQ SHUTDOWN	FIELD	---	---	N/C	UP
		RO 2	1E DEFROST	PANEL	---	---	N/O	DOWN
		RO 3	2A REFRIGERATION	FIELD	---	---	N/C	UP
		RO 4	2B REFRIGERATION	FIELD	---	---	N/C	UP
		RO 5	2C REFRIGERATION	FIELD	---	---	N/C	UP
		RO 6	2D REFRIGERATION/LIQ SHUTDOWN	FIELD	---	---	N/C	UP
		RO 7	2E REFRIGERATION	FIELD	---	---	N/C	UP
		RO 8	2F REFRIGERATION	FIELD	---	---	N/C	UP
MULTIFLEX 168 BOARD	5	AI/DI 1	2D DAIRY COOLER TEMP	FIELD	UP	TEMP	---	---
		AI/DI 2	2E-1 DELI TEMP	FIELD	UP	TEMP	---	---
		AI/DI 3	2E-2 DELI TEMP	FIELD	UP	TEMP	---	---
		AI/DI 4	2E-3 DELI TEMP	FIELD	UP	TEMP	---	---
		AI/DI 5	---	---	---	---	---	---
		AI/DI 6	DUAL TEMP SELF CONTAINED TEMP	FIELD	UP	TEMP	---	---
		AI/DI 7	2F-1 MD MEAT TEMP	FIELD	UP	TEMP	---	---
		AI/DI 8	2F-2 MD MEAT TEMP	FIELD	UP	TEMP	---	---
		AI/DI 9	2G MEAT COOLER TEMP	FIELD	UP	TEMP	---	---
		AI/DI 10	SPOT MEAT TEMP	FIELD	UP	TEMP	---	---
		AI/DI 11	SPOT PRODUCE TEMP	FIELD	UP	TEMP	---	---
		AI/DI 12	SPOT FISH TEMP	FIELD	UP	TEMP	---	---
		AI/DI 13	MRLDS COMPRESSOR RACK	PANEL	DOWN	LEAK	---	---
		AI/DI 14	1E MRLDS GROCERY FREEZER	FIELD	DOWN	LEAK	---	---
		AI/DI 15	2D MRLDS DAIRY COOLER	FIELD	DOWN	LEAK	---	---
		AI/DI 16	2G MRLDS MEAT COOLER	FIELD	DOWN	LEAK	---	---
	5	RO 1	---	---	---	---	---	---
		RO 2	2G REFRIGERATION/LIQ SHUTDOWN	FIELD	---	---	N/C	UP
		RO 3	2G DEFROST	PANEL	---	---	N/O	DOWN
		RO 4	---	---	---	---	---	---
		RO 5	---	---	---	---	---	---
		RO 6	REF ALARM TO BLDG SECURITY(IF EQUIPPED)	FIELD	---	---	N/O	UP
		RO 7	SYS ALARM LIGHT	FIELD	---	---	N/C	UP
		RO 8	SYS ALARM SIREN	FIELD	---	---	N/C	UP
MULTIFLEX 88 BOARD	6	AI/DI 1	1 OIL FAIL	PANEL	UP	DIGITAL	---	---
		AI/DI 2	2 OIL FAIL	PANEL	UP	DIGITAL	---	---
		AI/DI 3	1&2 OIL SEP DIFF ALARM (PDI)	PANEL	UP	DIGITAL	---	---
		AI/DI 4	SUBCOOLER SUCTION PRESSURE	PANEL	UP	0-200#	---	---
		AI/DI 5	SUBCOOLER SUCTION TEMP	PANEL	UP	TEMP	---	---
		AI/DI 6	SUBCOOLED LIQUID TEMP	PANEL	UP	TEMP	---	---
		AI/DI 7	---	---	---	---	---	---
		AI/DI 8	---	---	---	---	---	---
	6	RO 1	SUBCOOLER LIQUID SOLENOID	PANEL	---	---	N/O	DOWN
		RO 2	---	---	---	---	---	---
		RO 3	---	---	---	---	---	---
		RO 4	---	---	---	---	---	---
		RO 5	1E LEAK ALARM SIREN/STROBE	FIELD	---	---	N/O	DOWN
		RO 6	2D LEAK ALARM SIREN/STROBE	FIELD	---	---	N/O	DOWN
		RO 7	2G LEAK ALARM SIREN/STROBE	FIELD	---	---	N/O	DOWN
		RO 8	RACK LEAK ALARM	FIELD	---	---	N/O	DOWN
MULTIFLEX 88AO BOARD	7	AI/DI 1	ACC VFD FAULT	PANEL	UP	DIGITAL	---	---
		AI/DI 2	ACC VFD RUN PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 3	ACC FANS BYPASS PROOF	PANEL	UP	DIGITAL	---	---
		AI/DI 4	BUILDING ALARM INPUT	FIELD	UP	DIGITAL	---	---
		AI/DI 5	BREAKGLASS	FIELD	UP	DIGITAL	---	---
		AI/DI 6	2D MRLDS DAIRY COOLER	FIELD	DOWN	LEAK	---	---
		AI/DI 7	2D DAIRY COOLER DR SW	FIELD	UP	DIGITAL	---	---
		AI/DI 8	---	---	---	---	---	---
	7	RO 1	ACC FANS VFD RUN	PANEL	---	---	N/O	UP
		RO 2	ACC FANS VSD BYPASS	PANEL	---	---	N/C	DOWN
		RO 3	ACC FANS VSD BYPASS	PANEL	---	---	N/O	UP
		RO 4	1E GROCERY FREEZER DR ALARM	FIELD	---	---	N/O	DOWN
		RO 5	2D DAIRY COOLER DR ALARM	FIELD	---	---	N/O	DOWN
		RO 6	2G MEAT COOLER DR ALARM	FIELD	---	---	N/O	DOWN
		RO 7	DOCK HEAT	FIELD	---	---	N/O	DOWN
		RO 8	OUT TO FIRE LEAK DETECTION	FIELD	---	---	N/O	UP
	1	AO-1	ACC CONDENSER FANS VFD	PANEL	0-10 VDC	---	---	---
		AO-2	---	---	---	---	---	---
		AO-3	---	---	---	---	---	---
		AO-4	---	---	---	---	---	---
MULTIFLEX ESR	1	VALVE 1	1A EEPR	FIELD	---	---	---	---
		VALVE 2	1B EEPR	FIELD	---	---	---	---
		VALVE 3	1C EEPR	FIELD	---	---	---	---
		VALVE 4	1D EEPR	FIELD	---	---	---	---
		VALVE 5	1E EEPR	FIELD	---	---	---	---
		VALVE 6	2A EEPR	FIELD	---	---	---	---
		VALVE 7	2B EEPR	FIELD	---	---	---	---
		VALVE 8	2C EEPR	FIELD	---	---	---	---
MULTIFLEX ESR	2	VALVE 1	2D EEPR	FIELD	---	---	---	---
		VALVE 2	2E EEPR	FIELD	---	---	---	---
		VALVE 3	2F EEPR	FIELD	---	---	---	---
		VALVE 4	2G EEPR	FIELD	---	---	---	---
		VALVE 5	--	FIELD	---	---	---	---
		VALVE 6	---	---	---	---	---	---
		VALVE 7	SUBCOOLER EEV	PANEL	---	---	---	---
		VALVE 8	LOAD SHIFT EEV	PANEL	---	---	---	---

BOARD MOUNTED IN CONDENSER

COND	BOARD	POINT	DESCRIPTION	WIRING	S1/S2	AI/DI TYPE	RELAY	FAILESAFE
MULTIFLEX 88 BOARD	8	AI/DI 1	OUSTIDE TEMP	FIELD	UP	TEMP	---	---
		AI/DI 2	OUTSIDE HUMIDITY	FIELD	DOWN	HUMIDITY	---	---
		AI/DI 3	OUTSIDE PHOTOCELL	FIELD	DOWN	LIGHT LEVEL	---	---
		AI/DI 4	---	---	---	---	---	---
		AI/DI 5	---	---	---	---	---	---
		AI/DI 6	---	---	---	---	---	---
		AI/DI 7	---	---	---	---	---	---
		AI/DI 8	---	---	---	---	---	---
	8	RO 1	ACC COND FAN GRP 1	PANEL	---	---	N/C	UP
		RO 2	ACC COND FAN GRP 2	PANEL	---	---	N/C	UP
		RO 3	ACC COND FAN GRP 3	PANEL	---	---	N/C	UP
		RO 4	ACC COND FAN GRP 4	PANEL	---	---	N/C	UP
		RO 5	---	---	---	---	---	---
		RO 6	---	---	---	---	---	---
		RO 7	SPLIT FAN RELAY	FIELD	---	---	N/O	DOWN
		RO 8	SPLIT VALVE	FIELD	---	---	N/O	DOWN

PWR WALL	BOARD	POINT	DESCRIPTION	WIRING	S1/S2	AI/DI TYPE	RELAY	FAILESAFE
MULTIFLEX 88AO BOARD	10	AI/DI 1	MOTION SENSOR LIGHT OVERRIDE	FIELD	UP	DIGITAL	---	---
		AI/DI 2	INDOOR PHOTOCELL VESTIBULE	FIELD	DOWN	LIGHT LEVEL	---	---
		AI/DI 3	INDOOR PHOTOCELL PRIMARY	FIELD	DOWN	LIGHT LEVEL	---	---
		AI/DI 4	INDOOR PHOTOCELL SECONDARY	FIELD	DOWN	LIGHT LEVEL	---	---
		AI/DI 5	DEMAND INPUT	FIELD	UP	DIGITAL	---	---
		AI/DI 6	ROLL-UP DOOR	FIELD	UP	DIGITAL	---	---
		AI/DI 7	---	---	---	---	---	---
		AI/DI 8	LIGHTING PANEL TEMP	PANEL	UP	TEMP	---	---
	10	RO 1	CASE LIGHTS	PANEL	---	---	N/O	DOWN
		RO 2	STORE OPEN SIGN	PANEL	---	---	N/O	DOWN
		RO 3	ZONE 1 PRIMARY LIGHTS	PANEL	---	---	N/O	DOWN
		RO 4	ZONE 2 SECONDARY LIGHTS	PANEL	---	---	N/O	DOWN
		RO 5	ZONE 3 SALES LIGHTS	PANEL	---	---	N/O	DOWN
		RO 6	ZONE 4 BOH LIGHTS	PANEL	---	---	N/O	DOWN
		RO 7	ZONE 5 VESTIBULE LIGHTS	PANEL	---	---	N/O	DOWN
		RO 8	ZONE 5 EMERG/HK VESTIBULE LIGHTS	PANEL	---	---	N/O	DOWN
	3	AO-1	ZONE 1 PRIMARY/EMERG OUTPUT	PANEL	0-10 VDC	---	---	---
		AO-2	ZONE 2 SECONDARY/EMERG OUTPUT	PANEL	0-10 VDC	---	---	---
		AO-3	ZONE 3 SALES/EMERG OUTPUT	PANEL	0-10 VDC	---	---	---
		AO-4	ZONE 4 BOH/EMERG OUTPUT	PANEL	0-10 VDC	---	---	---
MULTIFLEX 88AO BOARD	11	AI/DI 1	---	---	---	---	---	---
		AI/DI 2	---	---	---	---	---	---
		AI/DI 3	---	---	---	---	---	---
		AI/DI 4	---	---	---	---	---	---
		AI/DI 5	---	---	---	---	---	---
		AI/DI 6	---	---	---	---	---	---
		AI/DI 7	---	---	---	---	---	---
		AI/DI 8	---	---	---	---	---	---
	11	RO 1	ZONE 1/2 EMERG/HK DAY/ SEC LIGHTS	PANEL	---	---	N/O	DOWN
		RO 2	ZONE 3 EMERG/HK SALES LIGHTS	PANEL	---	---	N/O	DOWN
		RO 3	ZONE 4 EMERG/HK BOH LIGHTS	PANEL	---	---	N/O	DOWN
		RO 4	CANOPY A LIGHTS	PANEL	---	---	N/O	DOWN
		RO 5	CANOPY B LIGHTS	PANEL	---	---	N/O	DOWN
		RO 6	WALL PACK A LIGHTS	PANEL	---	---	N/O	DOWN
		RO 7	WALL PACK B LIGHTS	PANEL	---	---	N/O	DOWN
		RO 8	BUILDING SIGN LIGHTS	PANEL	---	---	N/O	DOWN
	3	AO-1	ZONE 5 VESTIBULE/EMERG OUTPUT	PANEL	0-10 VDC	---	---	---
		AO-2	---	---	---	---	---	---
		AO-3	---	---	---	---	---	---
		AO-4	---	---	---	---	---	---
MULTIFLEX 88 BOARD	12	AI/DI 1	---	---	---	---	---	---
		AI/DI 2	---	---	---	---	---	---
		AI/DI 3	---	---	---	---	---	---
		AI/DI 4	---	---	---	---	---	---
		AI/DI 5	---	---	---	---	---	---
		AI/DI 6	---	---	---	---	---	---
		AI/DI 7	---	---	---	---	---	---
		AI/DI 8	---	---	---	---	---	---
	12	RO 1	PARKING A LIGHTS (IF EQUIPPED)	PANEL	---	---	N/O	DOWN
		RO 2	PARKING B LIGHTS (IF EQUIPPED)	PANEL	---	---	N/O	DOWN
		RO 3	---	---	---	---	---	---
		RO 4	---		---	---		
		RO 5	---		---	---		
		RO 6	---		---	---		
		RO 7	---		---	---		
		RO 8	---		---	---		

2 EMS BOARD POINTS

GF
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30 Executive Park
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Irvine, CA 92614
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WWW.HENDERSONENGINEERS.COM
2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL

EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER 84639PE OREGON NOVEMBER 09, 2011 SEAN O. EISLER
DIGITALLY SIGNED
02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST

PROJECT NAME
GROCERY OUTLET
3975 COMMERCIAL ST SE
SALEM, OR 97302

PROJECT NUMBER
20230973.0

SHEET TITLE
ENERGY MANAGEMENT LAYOUT & POINTS

SHEET NUMBER
R8-01

SEAN O. EISLER

LOCATED AT POWERWALL

NOTE:
REFER TO ELECTRICAL SHEETS FOR MORE INFORMATION

1 DIMMING MODULE CONTROL ZONES

LOCATED AT POWERWALL

NOTE:
REFER TO ELECTRICAL SHEETS FOR MORE INFORMATION

2 CASE LIGHTING CONTROL WIRING DIAGRAM

1) THE ELECTRICAL CONTRACTOR IS TO REVIEW THESE PLANS AND DIAGRAMS PRIOR TO STARTING WORK AND IS TO CONTACT THE REFRIG. CONTRACTOR IF CLARIFICATION IS NEEDED. UPON COMPLETION OF THE REFRIGERATION RELATED ELECTRICAL WORK, THE ELECTRICAL CONTRACTOR, IN THE PRESENCE OF THE REFRIG. CONTRACTOR, IS TO PERFORM A COMPLETE TESTING OF ALL CIRCUITS AND MAKE ANY CORRECTIONS NECESSARY. THE ELECTRICAL CONTRACTOR IS NOT TO START ANY REFRIGERATION RELATED EQUIPMENT WITHOUT THE AUTHORIZATION OF R.C.

2) ALL WIRING (HIGH AND LOW VOLTAGE), CONDUIT, COMPONENTS, AND HIGH VOLTAGE CONNECTIONS ARE TO BE MADE BY THE ELECTRICAL CONTRACTOR. ALL WIRING IS TO BE COPPER. NO ALUMINUM WIRING IS TO BE PERMITTED. ALL WORK IS TO MEET APPLICABLE CODES. R.C. IS TO MAKE ALL LOW VOLTAGE WIRING CONNECTIONS TO CPC PANELS. ELECTRICAL CONTR IS TO PULL AND TERMINATE ALL LOW VOLTAGE WIRING CONNECTIONS AT PROBES OR OTHER DEVICES AT THE FIXTURES.

3) ALL LOW VOLTAGE WIRING IS TO BE 18 GAUGE SHIELDED CABLE RUN IN SEPARATE CONDUIT FROM ANY OTHER HIGH VOLTAGE SOURCE.

4) IN ALL INSTANCES THE ELECTRICAL CONTRACTOR IS TO CLEARLY TAG ALL CABLES AT EACH END FOR TERMINATION IDENTIFICATION. THE FOLLOWING INFORMATION IS TO APPEAR ON EACH TAG.
(A) POINT NAME
(B) ORIGINATION

5) THE ELECTRICAL CONTRACTOR IS TO TAG ALL HIGH VOLTAGE WIRES SIMILAR TO ABOVE.

6) THE ELECTRICAL CONTRACTOR IS TO PROVIDE CABLE OF SUFFICIENT LENGTH TO EASILY COMPLETE ALL TERMINATIONS. THE ELECTRICAL CONTRACTOR IS TO NEATLY COIL AND SECURE ALL CABLES AT THE CONDUIT ENDS.

7) SPLICES IN THE EMS CABLE ARE NOT PERMITTED OTHER THAN WHERE CONNECTING TO SENSORS.

8) ALL HIGH VOLTAGE WIRING TO THE RACK PANELS AND OUTBOARD CONTROLLED DEVICES IS TO BE TERMINATED BY THE ELECTRICAL CONTRACTOR.

9) ALL PROBES AND SENSORS ARE TO BE SUPPLIED BY THE R.M. & INSTALLED BY R.C. CONNECTION OF THE SENSOR PROBE WIRES TO THE CABLE SHALL BE JOINED BY SOLDER JOINT, OR 3M UY CONNECTOR DO NOT USE WIRE NUTS FOR JOINTS/SPLICES.

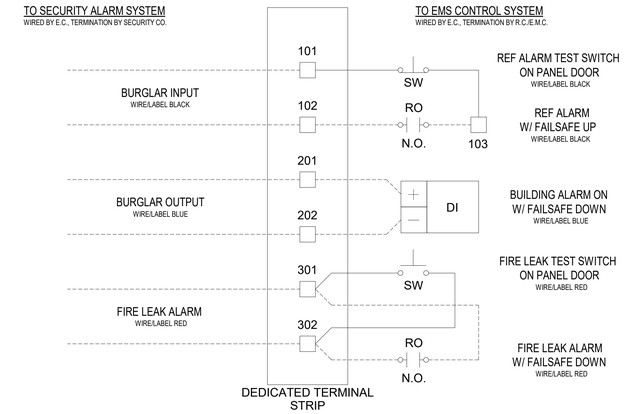
10) CONDUIT STUB-UP LOCATIONS ARE TO MATCH CRITICAL CENTER LINE DIMENSIONS OF OTHER HIGH VOLTAGE UNDERFLOOR CONDUIT STUBS AS SHOWN ON SHEET R-1

11) PERIMETER FIXTURE PROBE WIRING IS INTENDED TO BE OVERHEAD. DUE TO LOCATION OF PROBES AT THE TOP OF CASES THE ELECTRICAL CONTRACTOR, AT HIS OWN DISCRETION, MAY RUN WIRING UNDERGROUND PROVIDED IT IS IN A SEPARATE CONDUIT FROM HIGH VOLTAGE WIRING AND THE WIRING LENGTH IS SUFFICIENT TO REACH PROBES AT THE TOP OF THE CASES.

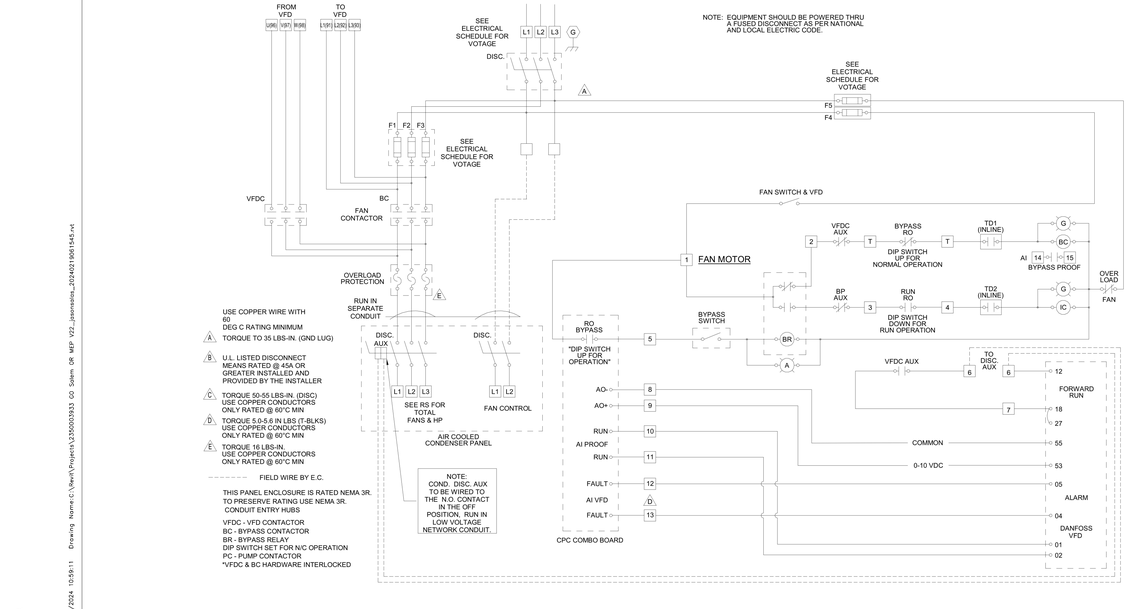
12) ALL ENERGY MANAGEMENT WIRING MUST BE DONE IN CONJUNCTION WITH OTHER ELECTRICAL WORK AND MUST BE COMPLETED PRIOR TO THE REFRIGERATION EQUIPMENT START-UP. THE ELECTRICAL CONTRACTOR IS TO COORDINATE WORK WITH THE R.C. FIELD REPRESENTATIVE AS NECESSARY.

13) STORE ENERGY METER CONNECTED TO 3 PHASE POWER IN REF CONTROL PANEL, E.C. TO WIRE AND INSTALL CT CLAMPS (SUPPLIED BY R.M.) TO MAIN STORE DISTRIBUTION POWER.

6 EMS INSTALLATION NOTES

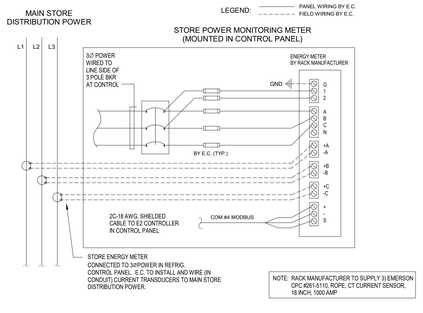


7 EMS SECURITY INTERFACE PANEL WIRING

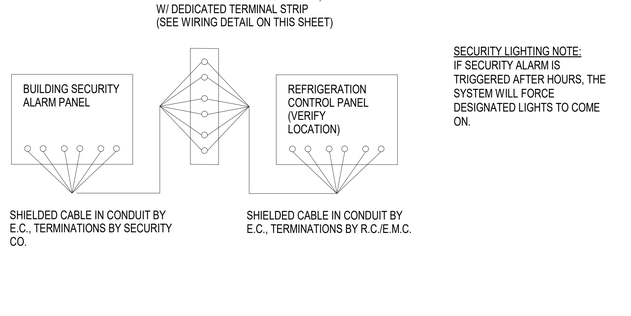


3 AIR COOLED CONDENSER VFD BYPASS WIRING (@ RACK)

4 NOT USED



5 STORE POWER MONITORING PANEL (WIRING)



8 WIRING OF BLDG SECURITY ALARM TO CPC SYSTEM

www.greenbergfarrow.com
30 Executive Park
Suite 100
Irvine, CA 92614
t: 949 296 0450

PROJECT TEAM

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20230973.0

SHEET TITLE

ENERGY MANAGEMENT & WIRING DIAGRAMS

SHEET NUMBER

R8-02

Last Modified: 2/19/2024 10:59:11 AM Drawing Name: C:\Revit Projects\2350003933_GO Salem, OR MEP_V22_jasonesta_20240219061545.rvt
SEAN O. EISLER

FOR REFRIGERATION
EQUIPMENT PLATFORM

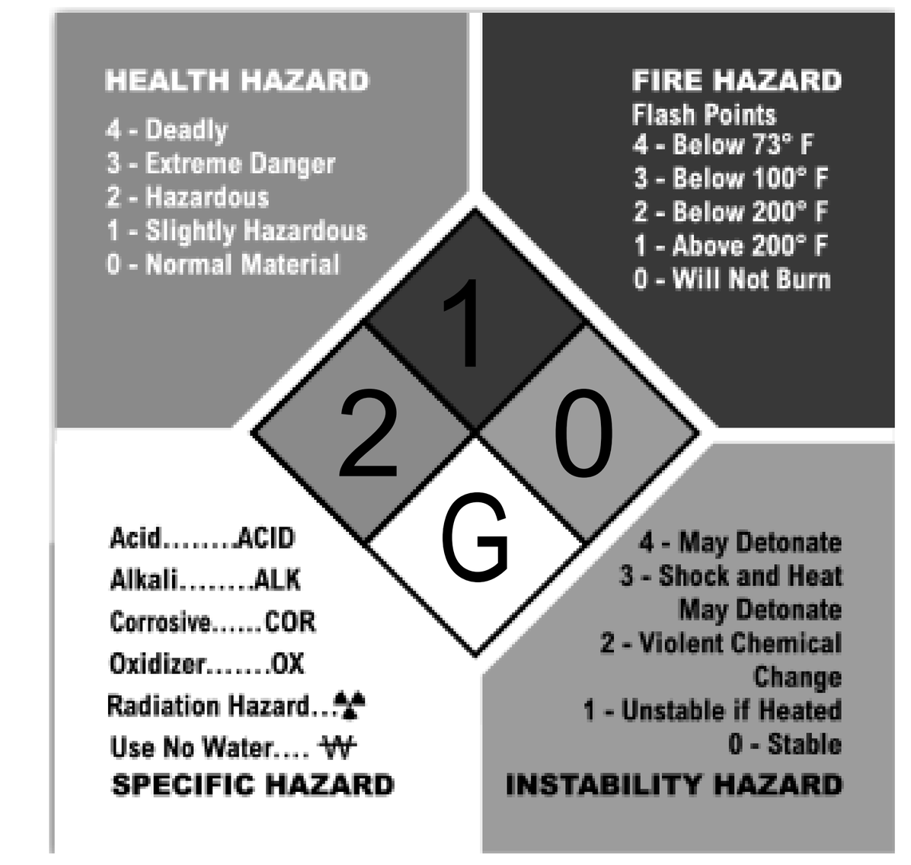
FOR REFRIGERATION
EQUIPMENT ROOM (IF APPLICABLE)

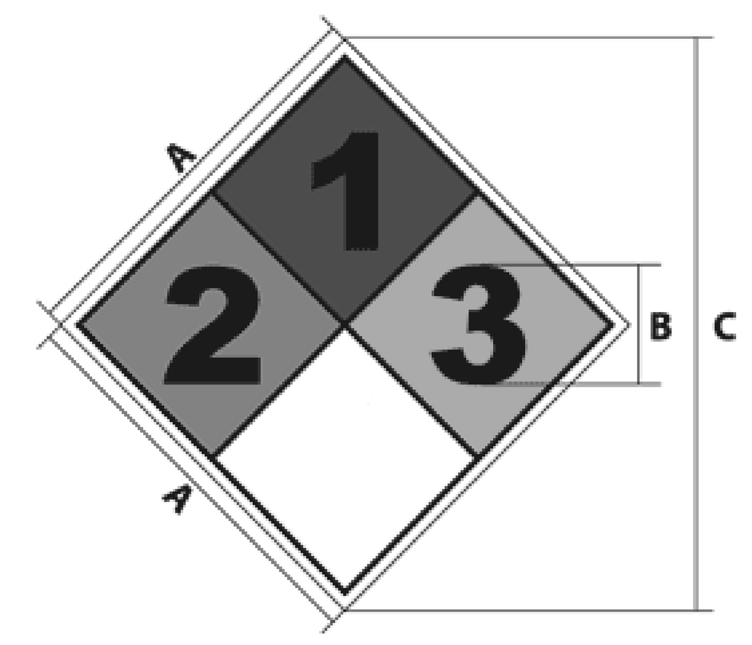
PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE WHITE ON RED, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE OF REFRIG. EQUIPMENT ROOM ENTRY DOOR (IF APPLICABLE),
OR VISIBLE LOCATION LEADING TO REFRIG. EQUIPMENT PLATFORM
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATION

1 REFRIGERATION SYSTEM EMERGENCY INFORMATION PLACARD

NFPA 704 PLACARD
SYMBOL DEPLACARDATION
& DIMENSIONAL
REQUIREMENTS FOR R-448A

PLACARD SPECIFICATION: PER NFPA
MOUNT OUTSIDE REFRIG. EQUIPMENT ROOM ENTRY DOOR (IF APPLICABLE), OR VISIBLE LOCATION LEADING TO REFRIG. EQUIPMENT PLATFORM
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATION





A Diamond Size:	B Character Height:	C Diamond Height	Legible Viewing Distance:
3 x 3"	1"	4.25"	1 to 40 ft.
6 x 6"	2"	8.50"	41 to 85 ft.
9 x 9"	3"	12.75"	86 to 135 ft.
11 x 11"	4"	15.50"	136 to 150 ft.
15 x 15"	6"	21.25"	151 to 200 ft.
20 x 20"	8"	28.25"	201 to 300 ft.
24 x 24"	10"	34.00"	301 to 400 ft.

2 NFPA 704 HAZARD PLACARD

**NOTICE:
ACCESS TO
REFRIGERATION
EQUIPMENT LIMITED
TO AUTHORIZED
PERSONNEL ONLY**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE BLACK ON WHITE, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE OF REFRIG. EQUIPMENT ROOM ENTRY DOOR (IF APPLICABLE),
OR VISIBLE LOCATION LEADING TO REFRIG. EQUIPMENT PLATFORM
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATIONS

3 ACCESS NOTICE PLACARD

**NO STORAGE
PERMITTED
INSIDE THIS
LOCATION**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE WHITE ON RED, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE OF REFRIG. EQUIPMENT ROOM ENTRY DOOR (IF APPLICABLE), OR
VISIBLE LOCATION LEADING TO REFRIG. EQUIPMENT PLATFORM
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATIONS

4 NO STORAGE PERMITTED PLACARD

**IF DOOR IS LEFT OPEN
ALARM WILL SIGNAL**

**PLEASE MAKE SURE TO
KEEP THIS DOOR CLOSED
AT ALL TIMES**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE BLACK ON YELLOW, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE WALK IN BOXES, ADJACENT TO AMBER STROBE/HORN
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATIONS

5 DOOR OPEN ALARM PLACARD

**ALARM SIGNAL INDICATES
REFRIGERANT LEAK
DETECTED. EVACUATE
MONITORED AREA
IMMEDIATELY AND NOTIFY
STORE MANAGER**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE WHITE ON BLUE, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE/INSIDE WALK-IN BOXES AND REFRIG. EQUIPMENT ROOM (IF APPLICABLE) OR VISIBLE
LOCATION LEADING TO REFRIG. EQUIPMENT PLATFORM, ADJACENT TO BLUE STROBE/HORN
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATIONS

6 REFRIGERANT LEAK ALARM PLACARD

**REFRIGERATION
COMPRESSOR
RACK EMERGENCY
SHUTDOWN**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE WHITE ON RED, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT ADJACENT TO BREAK GLASS SHUTDOWN SWITCH (IF APPLICABLE)
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATION

7 REFRIGERATION SHUTDOWN PLACARD (IF APPLICABLE)

**EQUIPMENT ROOM
EXHAUST FAN
VENTILATION INDICATOR
LIGHTS**

**GREEN: FAN OPERATING
RED: FAN NOT OPERATING**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE BLACK ON WHITE, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT ADJACENT TO REFRIG. EQUIPMENT ROOM VENTILATION LIGHTS (IF APPLICABLE)
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATION

8 EQUIP. ROOM EF VENTILATION PLACARD (IF APPLICABLE)

9 NOT USED

**NO FORKLIFTS
PERMITTED
INSIDE THIS
LOCATION**

PLACARD SPECIFICATION:
BLOCK LETTERING WITH STROKE WHITE ON RED, OF DURABLE CONSTRUCTION
8" X 11" OVERALL SIZE
MOUNT OUTSIDE WALK-IN BOXES, ADJACENT TO ALL ENTRANCES
REFER TO SHEET R7 FOR TYPICAL MOUNTING LOCATION

10 NO FORKLIFTS PLACARD

www.greenbergfarrow.com
30 Executive Park
Suite 100
Irvine, CA 92614
t: 949 296 0450

PROJECT TEAM
HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM
2350003933

ISSUE/REVISION RECORD

DATE	DESCRIPTION
02/19/2024	PERMIT SET

PROFESSIONAL SEAL
EXPIRES ON: 12/31/2025
REGISTERED PROFESSIONAL ENGINEER 84639PE DIGITALLY SIGNED OREGON NOVEMBER 09, 2017 SEAN O. EISLER
02/19/2024

PROFESSIONAL IN CHARGE
R. NOROUZI
PROJECT MANAGER
G. HARRIS
QUALITY CONTROL
J. VANNAN
DRAWN BY
L. WEST
PROJECT NAME
GROCERY OUTLET
**3975 COMMERCIAL ST SE
SALEM, OR 97302**

PROJECT NUMBER
20230973.0
SHEET TITLE
REFRIGERATION PLACARDS

SHEET NUMBER
R8-21

SEAN O. EISLER