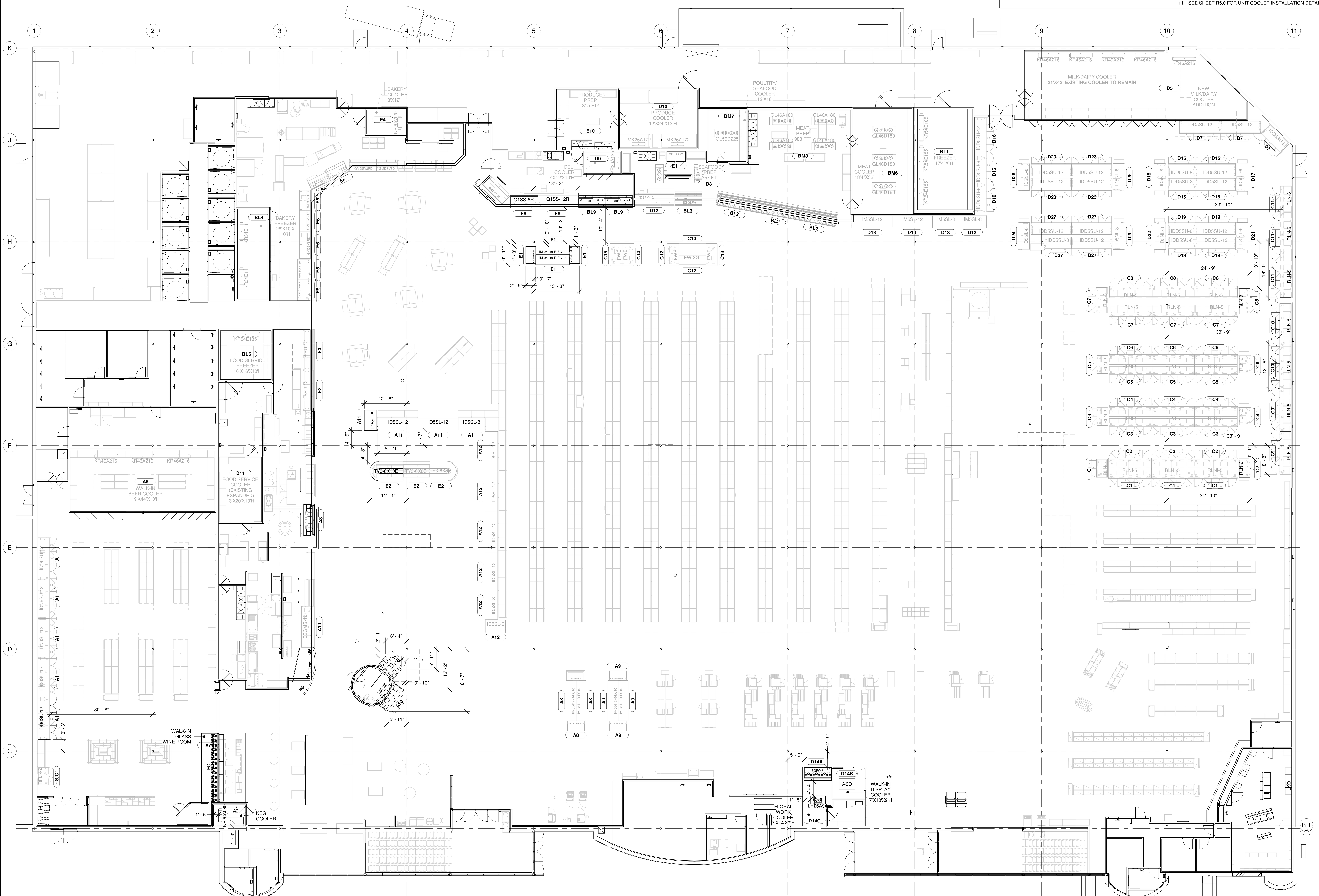
GENERAL NOTES

1. SEE PROJECT SPECIFIC EQUIPMENT SPECIFICATIONS BOOKLET PROVIDED BY HY-VEE FOR CASE DIMENSIONS, SIZES AND LOCATIONS OF REFRIGERATION STUBS, DEFROST DATA, AND WIRING DIAGRAMS.
2. REFRIGERATION CONTRACTOR RESPONSIBLE FOR SETTING ALL DIMENSIONED REFRIGERATED AND NON-REFRIGERATED CASES, SALAD BARS, HOT CASES, SELF-CONTAINED, ICE MACHINES, ETC.
3. WHEN CONFLICTS WITH UNDERGROUND STUB OCCURS, THE REFRIGERATION CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR.
4. CASE SUPPORTS SHALL NOT BE MODIFIED WITHOUT PRIOR APPROVAL.
5. REFRIGERATION CONTRACTOR SHALL INSTALL AND/OR RELOCATE AS REQUIRED TO FACILITATE CASE INSTALLATION.
6. FOLLOW ALL CASE MANUFACTURER JOINING INSTRUCTIONS.
7. CASES SHALL BE INSTALLED LEVEL, STRAIGHT AND TRUE UNLESS OTHERWISE INDICATED.
8. REFRIGERATION CONTRACTOR SHALL INSPECT CASES WHEN THEY ARRIVE, NOTE ANY DAMAGE WITH FREIGHT CARRIER AT THE END TIME OF DELIVERY AND NOTIFY THE GENERAL CONTRACTOR.
9. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING CASES FROM DELIVERY UNTIL OFFICIAL TURN OVER DATE.
10. REFRIGERATION CONTRACTOR TO SUPPLY AND INSTALL EQUIPMENT TAGS ON ALL PIECES OF REFRIGERATION INCLUDING CASES AND EVAPORATORS.
11. SEE SHEET R5.0 FOR UNIT COOLER INSTALLATION DETAILS.

REVISION
1 2020 PRODUCE CASE REV



REFRIGERATION CASE LOCATION FLOOR PLAN

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

SHANNAH EITTER NUMBER E2001000891 STATE OF MISSOURI PROFESSIONAL ENGINEER

Date: 2020.10.23 11:39:07 -05'00'

HUSSMANN®
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935
Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION CASE LOCATION PLAN

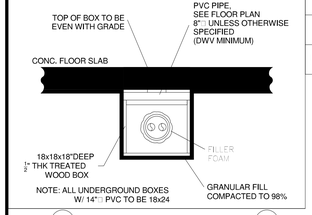
DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET:
R0

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DRIVEN DESIGN SERVICES
LEE'S SUMMIT, MISSOURI
08.20.2020

PVC TRENCH JUNCTION

SCALE: N.T.S.



NOTE: ALL UNDERGROUND BOXES W: 14" : PVC TO BE 18x24

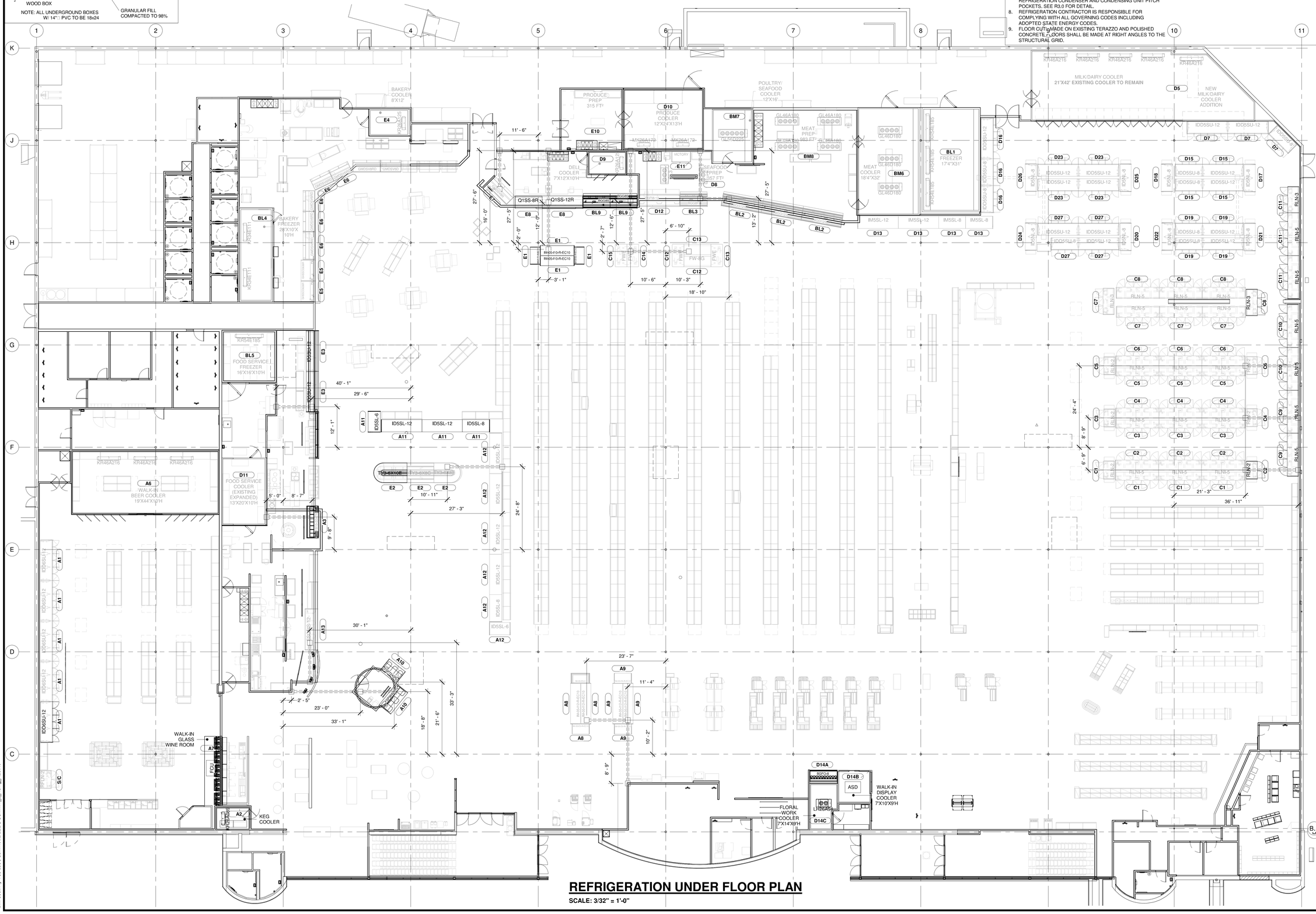
SYMBOLS LEGEND

A1	NEW REFRIGERATION SYSTEM NUMBERS
	REFRIGERATION PIT BOX
	REFRIGERATION LINES UNDERGROUND TRENCH BY DESIGNATED CONTRACTOR

GENERAL NOTES

1. SEE PROJECT SPECIFIC EQUIPMENT SPECIFICATIONS BOOKLET PROVIDED BY HY-VEE FOR CASE DIMENSIONS, SIZES AND LOCATIONS OF REFRIGERATION STUBS, DEFROST DATA, AND WIRING DIAGRAMS.
2. SEE PLUMBING DRAWINGS FOR LOCATION OF UNDERGROUND AND OVERHEAD PLUMBING PIPING AND FLOOR DRAINS.
3. TOP OF PVC PULL TUBES @ -14" AFF SEE SHEET METAL SHOP DRAWINGS FOR DETAILED LOCATION/ELEVATION DIMENSIONS.
4. SEE ARCHITECTURAL WALK-IN DRAWINGS FOR UNDER FLOOR INSTALLATION DETAILS BELOW FREEZERS.
5. REFRIGERATION CONTRACTOR TO READ ALL REFRIGERATION DRAWINGS INCLUDING REFRIGERATION ELECTRICAL SHEETS. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR ALL WORK CALLED OUT ON ALL REFRIGERATION RELATED DRAWINGS.
6. ALL RECEIVER PRESSURE RELIEF VALVE PIPING TO BE INSTALLED BY REFRIGERATION CONTRACTOR PER GOVERNING MECHANICAL CODES.
7. REFRIGERATION CONTRACTOR TO SUPPLY AND INSTALL ALL REFRIGERATION CONDENSER AND CONDENSING UNIT PITCH POCKETS, SEE R3.0 FOR DETAIL.
8. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH ALL GOVERNING CODES INCLUDING ADOPTED STATE ENERGY CODES.
9. FLOOR CUTS MADE ON EXISTING TERAZZO AND POLISHED CONCRETE FLOORS SHALL BE MADE AT RIGHT ANGLES TO THE STRUCTURAL GRID.
10. THE REFRIGERATION CONTRACTOR SHALL COORDINATE ALL UNDERGROUND STUB UP LOCATIONS WITH THE PLUMBING AND ELECTRICAL CONTRACTOR. POTENTIAL CONFLICTS SHALL BE RESOLVED PRIOR TO SLAB POUR.
11. ALL REFRIGERATED LIQUID LINES SHALL BE INSULATED WITH 1/2 ARMAFLEX INSULATION. SUCTION LINES CONNECTED TO LOW TEMPERATURE HEADERS SHALL BE INSULATED 1" ARMAFLEX MINIMUM. SUCTION LINES CONNECTED TO MEDIUM TEMPERATURE HEADERS SHALL BE INSULATED 1/2" ARMAFLEX MINIMUM. INSULATION ON ALL LINES 7/8" AND LARGER SHALL BE MITRED. DO NOT PULL INSULATION AROUND ELBOWS. ALL JOINTS SHALL BE GLUED.
12. REFRIGERATION UNDERGROUND PIT BOXES, PVC AND PIPING SUPPLIED BY REFRIGERATION CONTRACTOR.
13. PREMANUFACTURED PIT BOXES ARE ACCEPTABLE ON AN INDIVIDUAL BASIS. VERIFY MANUFACTURER AND TYPE PRIOR TO INSTALLATION.

REVISION		BY
1	2020 PRODUCE CASE REMODEL	08.20.2020



REFRIGERATION UNDER FLOOR PLAN

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

HUSSMANN
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5110 Fax

NOTICE OF NONRESPONSIBILITY

All plumbing and electrical and refrigeration drawings are furnished as a guide to assist the Architect and our Customer with store fixtures and its operating requirements only. Hussmann assumes no further responsibility. All specifications invoking refrigeration equipment and line sizing are subject to change without notice. The use of this drawing for structural or architectural purposes is not authorized. It is the responsibility of the Architect, Structural, Electrical and Mechanical Engineers to verify and coordinate accuracy of all dimensions and refrigeration line sizing with contractors at the job site and insure that installations conform to specifications and all applicable codes.

LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2925

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION UNDER FLOOR PLAN

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET:

R1.0

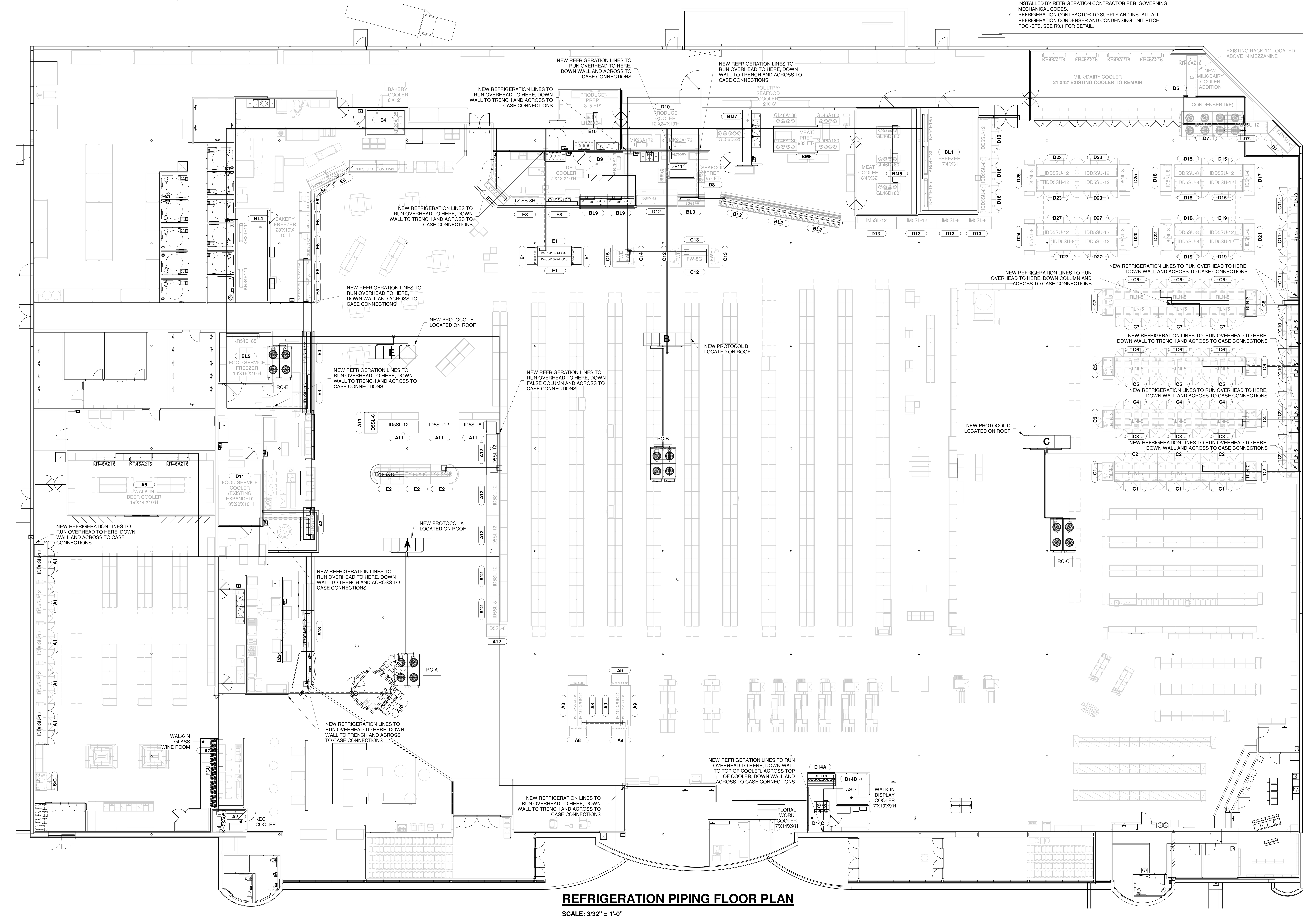
SYMBOLS LEGEND

Symbol	Description
(A1)	NEW REFRIGERATION SYSTEM NUMBERS
□	REFRIGERATION PIT BOX
- - - -	REFRIGERATION LINES UNDERGROUND TRENCH BY DESIGNATED CONTRACTOR
———	OVERHEAD PIPING
— — —	FLOOR OR CASE PIPING

GENERAL NOTES

1. SEE PROJECT SPECIFIC EQUIPMENT SPECIFICATIONS BOOKLET PROVIDED BY HY-VEE FOR CASE DIMENSIONS, SIZES AND LOCATIONS OF REFRIGERATION STUBS, DEFROST DATA, AND WIRING DIAGRAMS.
2. SEE PLUMBING DRAWINGS FOR LOCATION OF UNDERGROUND AND OVERHEAD PLUMBING PIPING AND FLOOR DRAINS.
3. TOP OF PVC PULL TUBES @ -14" AFF SEE SHEET METAL SHOP DRAWINGS FOR DETAILED LOCATION/ELEVATION DIMENSIONS.
4. SEE ARCHITECTURAL WALK-IN DRAWINGS FOR UNDER FLOOR INSTALLATION DETAILS BELOW FREEZERS.
5. REFRIGERATION CONTRACTOR TO READ ALL REFRIGERATION DRAWINGS INCLUDING REFRIGERATION ELECTRICAL SHEETS. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR ALL WORK CALLED OUT ON ALL REFRIGERATION RELATED DRAWINGS.
6. ALL RECEIVER PRESSURE RELIEF VALVE PIPING TO BE INSTALLED BY REFRIGERATION CONTRACTOR PER GOVERNING MECHANICAL CODES.
7. REFRIGERATION CONTRACTOR TO SUPPLY AND INSTALL ALL REFRIGERATION CONDENSER AND CONDENSING UNIT PITCH POCKETS. SEE R3.1 FOR DETAIL.
8. ALL REFRIGERATION PIPING INSTALLED ON THE TOPS OF CASES SHALL BE INSTALLED IN SUCH A MANNER AS TO KEEP IT FROM BEING SEEN FROM THE SALES FLOOR. SEE R5 SHEETS FOR TOP-PIPED DETAIL.
9. ALL PIPING HANGER WIDTHS TO BE NO GREATER THAN 48" IN OPEN CEILING APPLICATIONS. MULTIPLE HANGERS INSTALLED SIDE BY SIDE TO HAVE 12" SPACING MINIMUM BETWEEN THEM. SEE R5 SHEETS FOR HANGER DETAILS.
10. DO NOT RUN PIPING UNDER SKYLIGHTS OR THROUGH ARCHITECTURAL ELEMENTS INCLUDING MURALS OR DROPPED CEILINGS.
11. ALL PIPE INSULATION INSTALLED OVER SALES FLOOR SHALL BE WHITE JACKETED.

REVISION		
1	2020 PRODUCE CASE REMODEL	08.26.20



REFRIGERATION PIPING FLOOR PLAN

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
PROFESSIONAL ENGINEER

Date: 2020.10.23 11:40:20 -05'00'

HUSSMANN

Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

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LOCATION
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WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

HyVee EMPLOYEE OWNED

NORTH
PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION PIPING FLOOR PLAN

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET:
R2.0

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

SYMBOLS LEGEND

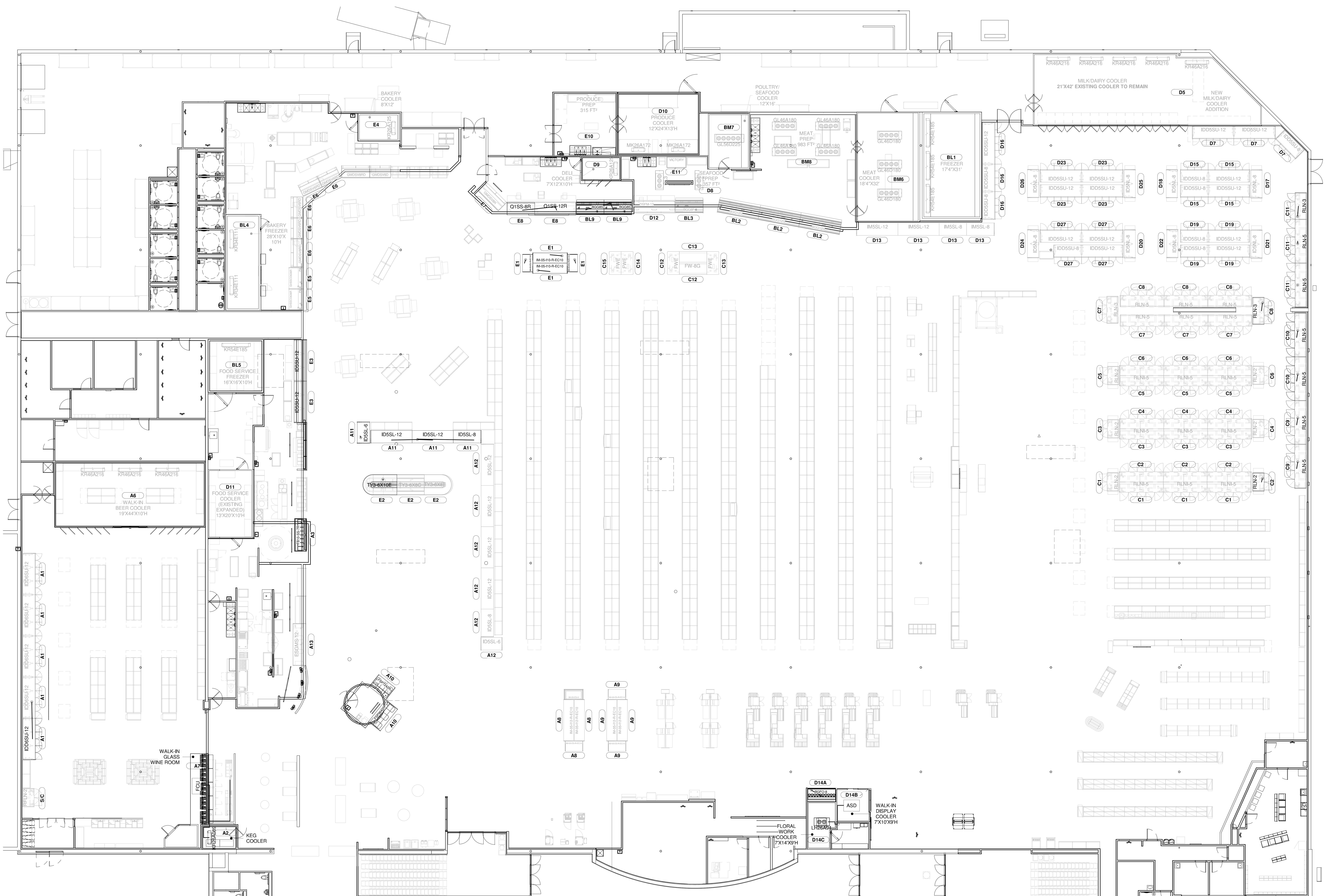
Symbol	Description
A1	NEW REFRIGERATION SYSTEM NUMBERS
	HUB DRAIN
	FLOOR SINK
	CONDENSATE PIPING

GENERAL NOTES

1. SEE R5.0 FOR UNIT COOLER INSTALLATION AND DRAIN DETAILS. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR CONDENSATE DRAIN INSTALLATION AND SHALL BE DULY LICENSED FOR SUCH INSTALLATION.
2. PROVIDE CONDENSATE DRAINS PIPING FROM CASE DRAIN TO INDICATED FLOOR SINK. SLOPE PIPING TO DRAIN, PROVIDE 90° ELBOW AT TERMINATION POINT AND PROVIDE AIR GAP AS REQUIRED BY REQUIRED BY CODE.
3. CASE CONDENSATE PIPING SHALL BE FULL SIZE SCHEDULE 40 PVC PIPING. CLEANOUTS SHALL BE INSTALLED WHERE PIPING IS INACCESSIBLE.
4. EVAPORATOR CONDENSATE PIPING SHALL BE FULL SIZE TYPE M COPPER. SEE R5.0 FOR DETAILS
5. CONDENSATE DRAINS OF DIFFERENT REFRIGERATION SYSTEMS SHALL NOT BE CONNECTED WITHOUT A TRAP SEPARATING THE TWO SYSTEMS.
6. DO NOT PUT TRAPS IN SERIES
7. ALL CONDENSATE PIPING SHALL BE TESTED FOR LEAKS PRIOR TO INSTALLING HEAT TAPE, INSULATION OR CASE TRIM.
8. CONDENSATE PIPING SHALL BE INCREASED BY ONE SIZE AT THE LOCATION WHERE THREE DRAINS ARE CONNECTED. CONDENSATE PIPING SHALL INCREASE TWO SIZES AT THE LOCATION WHERE SIX DRAINS ARE TIED TOGETHER.
9. MEAT PREP EVAPORATOR CONDENSATE DRAINS REQUIRED 3/4" ARMAFLEX INSULATION COVERED BY WHITE PVC JACKETING. ALL OTHER DRAINS TO BE COVERED WITH JACKETING AS REQUIRED BY CODE OR IF VISIBLE FROM SALES FLOOR.

	REVISION	DATE BY
1	2020 PRODUCE CASE REMODEL	08/2?/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/29/2020



REFRIGERATION CONDENSATE FLOOR PLAN

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
PROFESSIONAL ENGINEER

Date: 2020.10.23 11:40:47 -05'00'

HUSSMANN

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Chino, CA 91710
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Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION CONDENSATE PIPING FLOOR PLAN

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET: R2.1

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

HUSSMANN DATE: 8/25/2020

PROJECT: HY-VEE LEE'S SUMMIT #2

JOB #: 0

REFRIGERATION UNIT COOLER SCHEDULE (NOTE 1)

FOR UNIT COOLERS NOT ON PROTOCOLS

MARK	DESCRIPTION	KRACK MODEL	FAN ELECTRICAL REQUIREMENTS TOTAL (MCA) (NOTE 4)	ELECTRIC DEFROST ELECTRICAL REQUIREMENTS (MCA)
	PRODUCE COOLER	(2) MK26A172	18 AMP/115V/1PH	
	SEAFOOD PREP	(2) GL36A135	1.8 AMP/115V/1PH	
	DAIRY COOLER	(5) KR46A216	16 AMP/115V/1PH	
	FLORAL COOLER	LH26A94	1.8 AMP/115V/1PH	
	DELI COOLER	KR26A125	1.6 AMP/115V/1PH	

1. ALL UNIT COOLERS TO BE STANDARD TEXTURED ALUMINUM FINISH UNLESS NOTED OTHERWISE
2. NOT USED
3. PROVIDE UNIT COOLER WITH A WHITE FINISH
4. ELECTRICAL LOADS FED THROUGH STORE PANELS UNLESS NOTED OTHERWISE
5. ELECTRICAL LOAD FED THROUGH REMOTE DEFROST PANEL

HUSSMANN DATE: 10/22/2020

PROJECT: HY-VEE LEE'S SUMMIT #2

JOB #:

ROOF EQUIPMENT SCHEDULE

MARK	DESCRIPTION	HUSSMANN / MODEL	ELECTRICAL REQUIREMENTS (MCA)	ELECTRICAL REQUIREMENTS (MOPD)	UNIT WEIGHT (LBS)	DIMENSIONS	NOTES
RACKS A THROUGH C	EXISTING RACK	DELETE					
CONDENSERS A THROUGH C	EXISTING CONDENSER	DELETE					
ALL EXISTING CONDENSING UNITS	EXISTING CONDENSING UNIT	DELETE					
RACK D	EXISTING RACK	REUSE					
CONDENSERS D	EXISTING CONDENSER	REUSE					
PROTOCOL A	PROTOCOL A	OLP6FR	307 AMP/208V/3PH	350 AMP/208V/3PH	2,500	166"L x 46"W x 34"H	
PROTOCOL B	PROTOCOL B	OLP6FR	352 AMP/208V/3PH	400 AMP/208V/3PH	2,500	166"L x 46"W x 34"H	
PROTOCOL C	PROTOCOL C	OLP6FR	377 AMP/208V/3PH	400 AMP/208V/3PH	2,500	166"L x 46"W x 34"H	
REMOTE PANEL C	REMOTE PANEL FOR PROTOCOL C		135 AMP/208V/3PH	150 AMP/208V/3PH			
PROTOCOL E	PROTOCOL E	OLP6FR	189 AMP/208V/3PH	200 AMP/208V/3PH	2,500	166"L x 46"W x 34"H	
RC-A	PROTOCOL CONDENSER A	LAVF 22410	INCLUDED IN PROTOCOL		2,600	112"L x 90.5"W x 54"H	
RC-B	PROTOCOL CONDENSER B	LAVF 22410	INCLUDED IN PROTOCOL		2,600	112"L x 90.5"W x 54"H	
RC-C	PROTOCOL CONDENSER C	LAVF 22410	INCLUDED IN PROTOCOL		2,600	112"L x 90.5"W x 54"H	
RC-E	PROTOCOL CONDENSER E	LAVF 22310	INCLUDED IN PROTOCOL		2,600	112"L x 90.5"W x 54"H	
VFD-A	VFD FOR CONDENSER "A"						
VFD-B	VFD FOR CONDENSER "B"						
VFD-C	VFD FOR CONDENSER "C"						
VFD-E	VFD FOR CONDENSER "E"						

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/29/2020

REVISION		DATE BY
1	2020 PRODUCE CASE REMODEL	08/28/20

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
PROFESSIONAL ENGINEER
Date: 2020.10.23 11:41:05 -05'00'

HUSSMANN
Hussmann Corporation
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(909) 590-5113 Fax

LOCATION
LEE'S SUMMIT #2, MO

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5820 WESTOWN PARKWAY
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TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

HyVee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION SCHEDULES AND MACHINE ROOM LAYOUT

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

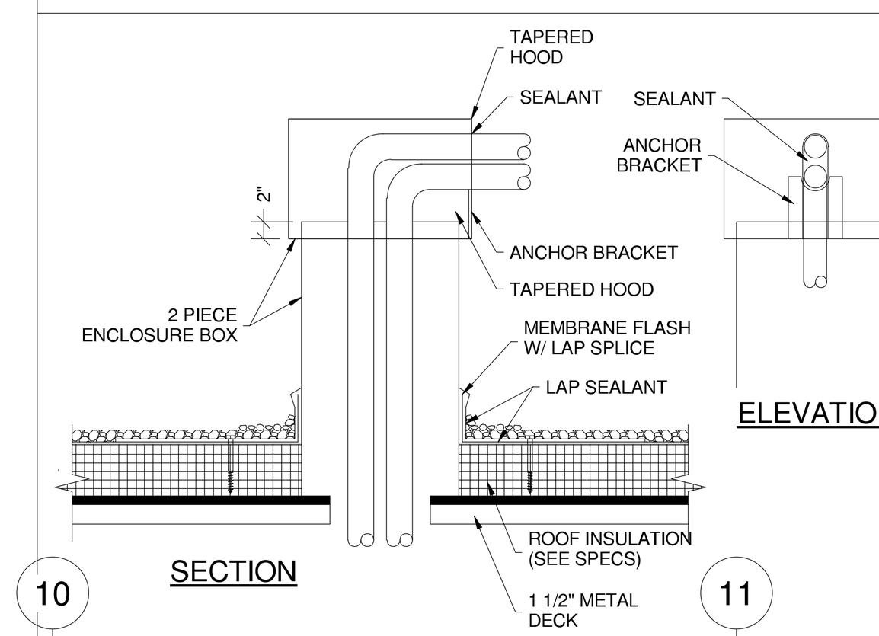
SHEET: R3.0

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

GENERAL NOTES

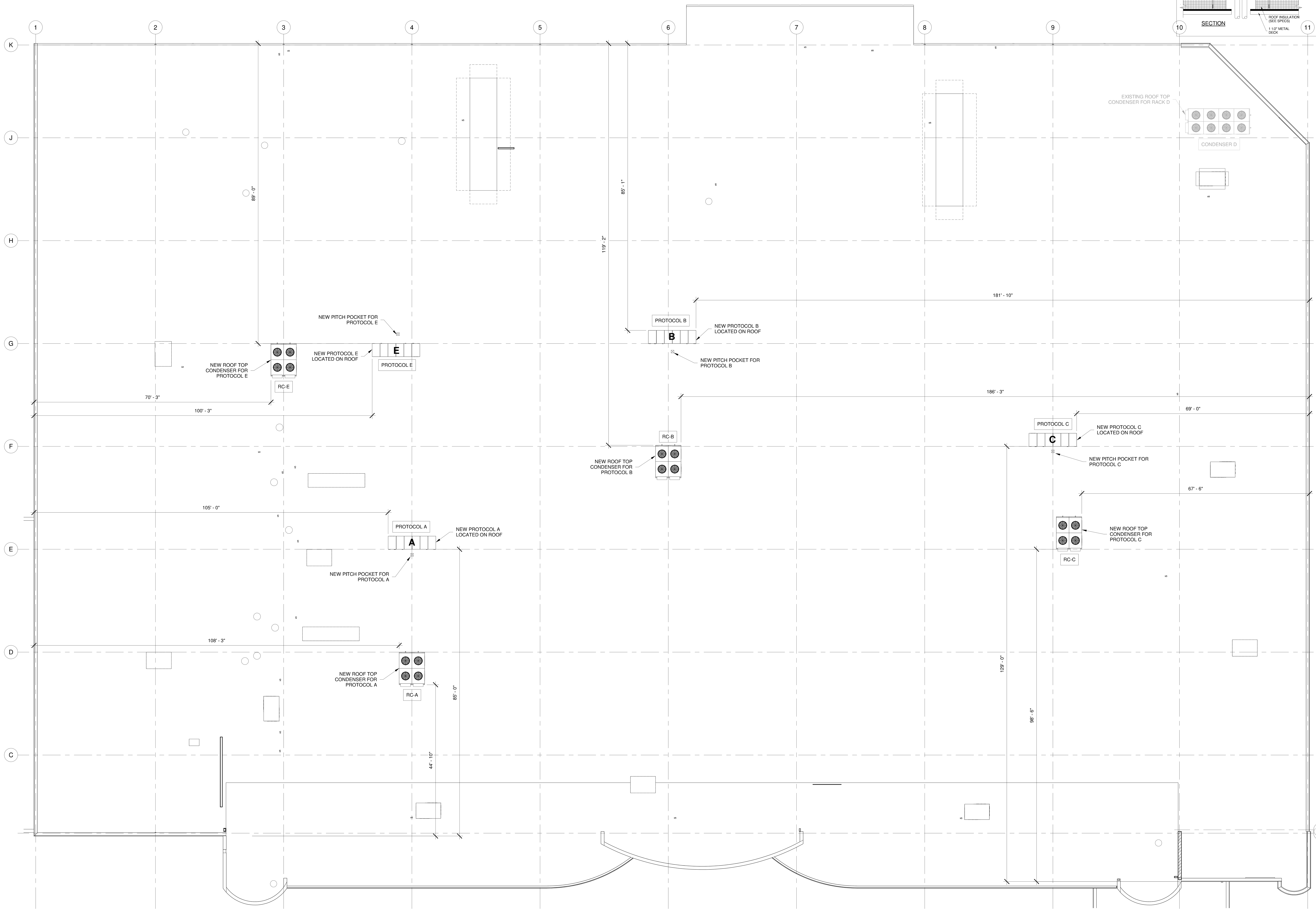
1. SIZE AND LOCATION OF ROOF TOP EQUIPMENT IS APPROXIMATE. IT IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR TO COORDINATE THE EXACT SIZE AND LOCATION OF EQUIPMENT CURBS AND ASSOCIATED ROOF PENETRATIONS WITH THE GENERAL CONTRACTOR.
2. SEE R5 SHEETS FOR ROOF CURB DETAILS.

PITCH POCKET DETAIL



	REVISION	DATE BY
1	2020 PRODUCE CASE REMODEL	08/28/20

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
12/29/2020



REFRIGERATION STRUCTURAL COORDINATION

SCALE: 3/32" = 1'-0"

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
REGISTERED PROFESSIONAL ENGINEER
Date: 2020.10.23 11:41:24 -05'00'

HUSSMANN®
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

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LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935
HyVee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION STRUCTURAL COORDINATION

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET: R3.1

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DRIVEN CONSTRUCTION SERVICES
LEE'S SUMMIT, MISSOURI
DATE: 08/26/2002

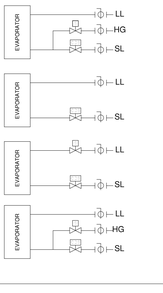
REVISION		BY
1	2020 PRODUCE CASE REMODEL	08/26/2002

GENERAL SHEET NOTES

- THESE REFRIGERATION SCHEMATICS ARE FURNISHED ONLY AS A GUIDE TO ASSIST THE CUSTOMER AND ITS ARCHITECT, INSTALLING CONTRACTOR AND MAINTENANCE CONTRACTOR WITH THE OPERATING REQUIREMENTS OF THE LISTED REFRIGERATION EQUIPMENT.
- IT IS THE RESPONSIBILITY OF THE CUSTOMER OR THEIR ARCHITECT TO VERIFY THE ACCURACY OF ALL DIMENSIONS COMPONENTS AND LINE SIZING WITH THE CONTRACTOR AT THE JOB SITE TO INSURE THAT ALL INSTALLATIONS CONFORM TO PROJECT SPECS AND APPLICABLE CODES.
- THESE SCHEMATICS SHOULD NOT BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
- FACTORY INSTALLED STUBS MAY DIFFER IN SIZE TO THOSE SHOWN ON SCHEMATICS. CONNECTIONS TO BE DETERMINED BY INSTALLER.

LINE SIZING VALVES KEY

NOTE: SEE LEGEND FOR VALVE TYPES & SIZES



NOTE:
1. ALL ISOLATION & CONTROL VALVES ARE SUPPLIED BY HUSSMANN & FIELD INSTALLED UNLESS OTHERWISE NOTED.
2. REFRIGERATION OIL WILL BE SHIPPED LOOSE WITH RACKS/PROTOCOL FOR FIELD INSTALLATION. QUANTITY IS FOR EQUIPMENT ONLY. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR OIL REQUIRED TO FILL TRAPS, COATS LINES, ETC.

ENGINEER SEAL

RACK D

STORE: HY-VEE #2
LOCATION: LEE'S SUMMIT, MO
QUOTE / JOB #: 95954

CUSTOMER	HY-VEE
CONTACT	
SALESPERSON	FRED COOK
ENGINEER	SHANNAH EITTER, P.E., LEED AP

GRP	SYS #	REFRIGERATOR/UNIT COOLER: SIZE	MODEL	DESCRIPTION	DIS AIR TMP	REQ'D CAP (MBH)	EVP TMP	DEF TYPE	DEF TER	INPUTS: DI	AI	BRANCH KITS: INSTALLED: VLV	SL	CS	LL	FIELD INSTALL: SL	LL	SBV	LBV	ELECTRIC DEFROST 208V: KIT	KIT	(REMOTE): KIT	KIT	KIT
												CDS												
	1	SPARE						KG	TIME		1	4	20CD	9	BD	145	1/2	1 1/8	7/8					
	2	SPARE						KG	TIME		1	9	20CD	9	BD	166	1/2	1 1/8						
	3	SPARE						KG	TIME		1	9	20CD	9	BD	196	1/2	1 1/8						
	4	SPARE						KG	TIME			SOV	16EB	9	BD									
DL							-23																	
	5	22x66x10+17 DRS	(5)KR46A216	DAIRY COOLER	36	90,86	26	OT	TIME	5	9	10CD	9	CD	129	7/8	1 3/8							
	6	SPARE						OT	TIME	4	9	10CD	9	CD	102	5/8	1 3/8							
	7	32	ID05SU	DAIRY	38	7,84	34	OT	TIME	5	9	10CD	9	CD	134	7/8	1 3/8							
	8	357 FT^2	(2)GL36A135	SEAFOOD PREP	55	49,98	30	OT	TIME	3	17	12CD	11	CD	182	7/8	1 5/8							
	9	8x12x10+3DRS	KR26A125	DELI COOLER	34	10,40	24	OT	TIME	1	4	10CD	9	BD	131	1/2	7/8	5/8						
	10	18x24x13	(2)MK26A172	PRODUCE COOLER	40	30,50	30	KG	TIME	1	9	20CD	9	BD	164	5/8	1 3/8							
	11	14x20x10	GL56A225	KITCHEN COOLER	34	17,90	24	OT	TIME	1	9	10CD	9	CD	300	1/2	1 3/8							
	12	12	DSFM	SEAFOOD	31	3,60	24	OT	TIME	2	7				136	1/2	1 1/8	1 1/8						
	13	40	IM5SL	MEAT	31	43,80	27	OT	TIME	1	9	10CD	9	BD	218	5/8	1 3/8							
	14A	8	BGFO	FLORAL		10,07	25	OT	TIME		SOV	42EB	9	BD										
	14B	1	ASD	FLORAL		12,50	25																	
	14C	6x14x10	LH26A94	FLORAL COOLER	34	7,30	24																	
		LOOP 14																						
	15	LOOP	SYSTEMS 15-27			111,94	28																	
DR						396,68	22																	

120V ELEC: FAN AMP	LT AMP	AS HTR	SUP AMP	DEFROST/ FANS: 208V/1	208V/3	RISER SIZE	EVAP TXV EGVE
						1 1/8	
						1 1/8	
						1 1/8	
						1 1/8	
						1 1/8	
						5/8	
						1 3/8	
						7/8	
						1 1/8	
						7/8	
						1 1/8	
						7/8	

REMOTE CONDENSER		
REFER:	12CD	
MODEL:	LCV V 840BK	
CNTRL:	CPC EINSTEIN	
FAN CNTR:	CPC V08 KB412	
THR (BTUH):	746779	
HR (BTUH):		
TD (DEG):	15,2	
WGT (LBS):	2670	
CHG (LBS):	246	
FPI:	8	
DIM:	220"x96"x55"	
FLA:	35,2 @ 200V	
FANS:	2x4 850 RPM	
DAMPERS:		
FIN COAT:		
LEGS:		
NOTES:	50% REDUCTION	
SUCTION GROUP:	DL	
COMPRESSOR:	ZF08K4E	ZF24K4E
QUANTITY:	7	1 1
COMPRESSOR ASSY:	53GL	45GL
COMPRESSOR HP:	3	7,5
SUCTION TEMP:	-23	-23
SUBCOOLING TEMP:		
CAPACITY (BTUH):	7994	22645
POWER (KW):	2,260	5,986
HEAT OF REJ (BTUH):	15706	43076
ECON/SC CAP FAC:		
ECON/SC CAP:		
ECON POWER FAC:		
ECON POWER:		
INVERTER(VSD):		
DEM COOL / LIQ INJ:	99FZ	99FZ
SUCTION HEADER:		
ACCUMULATOR:		
UNLOADER:		
SUCTION SIZE:	7/8	1 3/8
FILTER MODEL:	RSF487T	RSF4811T
FILTER CORE:	RPE488D	RPE488D
DISCHARGE SIZE:	1/2	7/8
CHECK VALVES:		
WIRE SIZE:	12	8
CONTACTOR:	NEMA 0	NEMA 2
BREAKER:	15	50
RLA:	9,7	30,9
CRANKCASE HTR:		
CSR:		
HEAD FAN KIT:		

RACK MODEL:	CS0207SDK		
SYSTEM (MBH)	REQ	AVAL	%
DL	1/2	7/8	
DR	396,7	469,7	84

NOTES: 500,3

1.) REFERENCE JOB # 310088 / 5985 FOR SPECIAL HEIGHT REQUIREMENTS.
MAXIMUM OF 54" HEIGHT. DIMENSIONS SHOULD BE 150"L x 64"W x 54"H. EST. WT. 6300#

UNIT ACCESS.	KIT	VENDOR/MODEL	UNIT ACCESS.	WM	KIT	VENDOR/MODEL	UNIT ACCESS.	KIT	VENDOR/MODEL
CSR (If Applied)	YES	On this Rack.	EQL LINE BV		16WF	7/8	ELECTRICAL ASSY	14PB	
OIL REGULATOR	28WD	TRAXOIL	BV TO COND		20DF	2) 2 1/8	MECH DEFROST TIMER		
CRANKCASE HTRS	NO		BV FRM COND		20DF	2) 2 1/8	ELEC DEFROST PANEL		
SUCTION FILTER	SPOR	SPORLAN STEEL	BV TO HT RCLM				DEF PANEL ELEC ASSY		
RACK ASSEMBLY	06SP		BV FRM HR				SINGLE PHS PROT	01EK	
RACK ACCESS	ALL		LIQ DRIER ASSY		44WM	C19217GR	CONTROL POWER CONN	01PW	
RECEIVER	HS32	STANDARD REC	LIQ DRIER BYPASS				COMP TIME DELAY		Thru controller
RECEIVER ACC	02RA		DIFFERENTIAL VLV		52WM	LDR-20 1 1/8	HIGH PRSSR CNTRL	70DP	
VIBRATION ISOL	07SS	PADS	DIFF NORM OPEN		NO		LOW PRSSR CTRL		
SAT MOD			LIQ DRAIN REG (Wint Ctrl)		34FV	A82 1 5/8P 2 1/8C	OIL FAILURE CTRL		
OIL RESERVOIR	99OR		REC PRESS REG		59RP	A9 5/8	HR LOCKOUT		
SHIP LOOSE OIL	15PO	POE OIL	SURGE PIPING				HIGH SUCT CNTRL		
OIL SEPARATOR	97WD	S5608					BASIC ALARM KIT	07EC	
OIL FILTER	02OF	ROF 413	SPLIT SUCTION MOD				HUSSMANN ALARM BOARD		
OIL COOLING			SUCT MAN INSUL		06SI		LIQUID LEVEL INDICATOR	01AN	Analog Horiz. Rec.
DISCH LINE SIZE	2 1/8	2 5/8 DISCH HDR	LIQU MAN INSUL				ALARM BELL		
LIQUID LINE SIZE	2 1/8	3 1/8 LIQ HDR					CIRCUIT ORIENTATION	VSMR	VERT OKTS SPUN
HEAT RECLAIM							CONTROLLER	NO	CPC EINSTEIN
HR X OVER							PROGRAMMING	NO	No Programming
HR VOLT MOD							COND RELAY BRD	NO	AT CONDENSER
SPLIT COND	55WN	16D17B-SC	SUBCOOLER						
COMP METAL CAPS	NO		2/3 TXV (Part # & Model)				PRE-PURGE VALVE		
PAINT HEADS	NO		1/3 TXV (Part # & Model)				POST PURGE VALVES		
EQUALIZE OIL FLOATS	NO		Solenoid #1 (Part # & Model)				PUMP OUT LOCATION	3	On 3RD Compressor
OIL PRESS DIFF VLV			Solenoid #2 (Part # & Model)						
WEEP HOLES	NO		Subcooler EPR Valve.				FILL COMP/SEPAR W/OIL		No Oil / Ship Dry

REV	DATE	BY	STAT	DESCRIPTION	PRINT DATE	10/22/2020	Version:	2002 V1
A	8/14/2002	JRH	CC	Changes per 8/8 email.				

Last Update of This Legend: *7/25/2002*

RACK D CONTINUED

STORE: HY-VEE #2
LOCATION: LEE'S SUMMIT, MO
QUOTE / JOB #: 95954

CUSTOMER	HY-VEE
CONTACT	
SALESPERSON	FRED COOK
ENGINEER	SHANNAH EITTER, P.E., LEED AP

GRP	SYS #	REFRIGERATOR/UNIT COOLER: SIZE	MODEL	DESCRIPTION	DIS AIR TMP	REQ'D CAP (MBH)	EVP TMP	DEF TYPE	DEF TER	INPUTS: DI	AI	BRANCH KITS: INSTALLED: VLV	SL	CS	LL	FIELD INSTALL: SL	LL	SBV	LBV	ELECTRIC DEFROST 208V: KIT	KIT	(REMOTE): KIT	KIT	KIT
	15	40	ID05SU	DAIRY	38	9,80	34																	
	16	28	ID05SU	DAIRY	38	6,86	34																	
	17	8	ID5NL	DAIRY	33	8,48	28																	
	18	8	ID5NL	DAIRY	33	8,48	28																	
	19	20	ID05SU	DAIRY	38	4,90	34																	
	20	8	ID5NL	DAIRY	33	8,48	28																	
	21	8	ID5NL	DAIRY	33	8,48	28																	
	22	8	ID5NL	DAIRY	33	8,48	28																	
	23	48	ID05SU	DAIRY	38	11,76	34																	
	24	8	ID5NL	DAIRY	33	8,48	28																	
	25	8	ID5NL	DAIRY	33	8,48	28																	
	26	8	ID5NL	DAIRY	33	8,48	28																	
	27	44	ID05SU	DAIRY	38	10,78	34																	
		LOOP 15				111,94	28																	

120V ELEC: FAN AMP	LT AMP	AS HTR	SUP AMP	DEFROST/ FANS: 208V/1	208V/3	RISER SIZE	EVAP TXV EGVE

REMOTE CONDENSER	
REFER:	
MODEL:	
CNTRL:	
FAN CNTR:	
THR (BTUH):	
HR (BTUH):	
TD (DEG):	
WGT (LBS):	
CHG (LBS):	
FPI:	
DIM:	
FLA:	
FANS:	
DAMPERS:	
FIN COAT:	
LEGS:	
NOTES:	
SUCTION GROUP:	
COMPRESSOR:	
QUANTITY:	
COMPRESSOR ASSY:	
COMPRESSOR HP:	
SUCTION TEMP:	
SUBCOOLING TEMP:	
CAPACITY (BTUH):	
POWER (KW):	
HEAT OF REJ (BTUH):	
ECON/SC CAP FAC:	
ECON/SC CAP:	
ECON POWER FAC:	
ECON POWER:	
INVERTER(VSD):	
DEM COOL / LIQ INJ:	99FZ 99FZ
SUCTION HEADER:	
ACCUMULATOR:	
UNLOADER:	
SUCTION SIZE:	
FILTER MODEL:	
FILTER CORE:	
DISCHARGE SIZE:	
CHECK VALVES:	
WIRE SIZE:	
CONTACTOR:	
BREAKER:	
RLA:	
CRANKCASE HTR:	
CSR:	
HEAD FAN KIT:	

RACK MODEL:	CS0200SDK		
SYSTEM (MBH)	REQ	AVAL	%

NOTES:

UNIT ACCESS.	KIT	VENDOR/MODEL	UNIT ACCESS.	KIT	VENDOR/MODEL	UNIT ACCESS.	KIT	VENDOR/MODEL
CSR (If Applied)								
OIL REGULATOR								
CRANKCASE HTRS								
SUCTION FILTER								
RACK UNIT								
RACK ACCESS								
RECEIVER								
RECEIVER ACC								
VIBRATION ISOL								
SAT MOD								
OIL RESERVOIR								
SHIP LOOSE OIL								
OIL SEPARATOR								
OIL FILTER								
OIL COOLING								
DISCH LINE SIZE								
LIQUID LINE SIZE								
HEAT RECLAIM								
HR X OVER								
HR VOLT MOD								
SPLIT COND								
COMP METAL CAPS								
PAINT HEADS								
EQUALIZE OIL FLOATS								
OIL PRESS DIFF VLV								
WEEP HOLES								

Last Update of This Legend: *7/25/2002*

COMPONENT MANUFACTURER

		SOLENOID VLV:	SPORLAN
		BALL VALVE:	MUELLER FP
SPEC USED / DATE	4/16/2002	CHECK VALVE:	MUELLER
MECH NOTES PAGE	NO		

STORE DESIGN CONDITIONS		PAGE:	1 OF 1
AMBIENT TEMP:	100	DATE:	8/6/2002
INSIDE TEMP/RH:	75/55	BY:	JRH
ALTITUDE (FEET):	0	QUOTE:	95954
COND. TEMP:	115	FILE:	
REFRIGERANT:	R404A	RACK PHYSICAL SPECS	
COMP TYPE:	Copeland Scroll	DIMEN:	
COMP VOLT:	208/3/60	WEIGHT:	
CNTRL VOLT:	120/1/60	RECEIVER SPECS	
COND VOLT:	208/3/60	DIMEN:	
120	208 460	CAP:	
MCA:		OIL COOLER	
MOPD:		MODEL:	
FLA:		CNTRL:	
CONTACTOR	SQUARE D	DIMEN:	
BREAKER	SQUARE D	WEIGHT:	
NEMA / DP	NEMA	RLA:	

SUCTION GROUP:							
COMPRESSOR:							
QUANTITY:							
COMPRESSOR ASSY:							
COMPRESSOR HP:							
SUCTION TEMP:							
SUBCOOLING TEMP:							
CAPACITY (BTUH):							
POWER (KW):							
HEAT OF REJ (BTUH):							
ECON/SC CAP FAC:							
ECON/SC CAP:							
ECON POWER FAC:							
ECON POWER:							
INVERTER(VSD):							
DEM COOL / LIQ INJ:	99FZ	99FZ					
SUCTION HEADER:							
ACCUMULATOR:							
UNLOADER:							
SUCTION SIZE:							
FILTER MODEL:							
FILTER CORE:							
DISCHARGE SIZE:							
CHECK VALVES:							
WIRE SIZE:							
CONTACTOR:							
BREAKER:							
RLA:							
CRANKCASE HTR:							
CSR:							
HEAD FAN KIT:							

SET POINT STANDARDS USED BY THE CONTROLS DEPARTMENT

LOW TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MED TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
RACK					KITCHEN CLR	34	4	60	O
KITCHEN FRZR	-5	3	18	KG	DAIRY CLR	36	2	60	O
MAIN W/I FRZR	-10	2	20	KG	CHINESE CLR	36	3	45	O
CHINESE FRZR	-5	2	45	E	BAKERY CLR	36	2	60	O
BAKERY FRZR	-5	6	18	KG	SEAFOOD CLR	36	1	30	E
PROTOCOL					PROD CLR	36	2	60	O
KITCHEN FRZR	-5	2	45	E	PROD PREP	55	2	90	O
MAIN W/I FRZR	-10	2	45	E	MEAT CLR	50	3	45	E
CHINESE FRZR	-5	4	45	E	MEAT PREP	55	1	150	O
BAKERY FRZR	-5	6	45	E	FLORAL CLR	34	3	40	O
					SALAD BAR	36	1	30	O
					BEER CLR	36	2	60	O
W/I = WALK-IN					DELI CLR	34	2	60	O

LT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
DSFM	31	3	46	O	C2X-EP, LEP, XLEP	31	2	30	O
ESGMS, ESGSS	27	1	90	O	C5X-EP, LEP	31	2	30	O
SMG, SMGV	24	1	70	O	C4X-EP, LEP	31	2	30	O
SSGVE	24	1	70	O	D5X, D5NX-LEP	30	3	30	O
RACK					D5X-ULEP	30	4	20	O
RL SERIES - FF	-5	1	20	KG	D6X-ULEP	30	4	25	O
RL SERIES - IC	-12	1	20	KG	D5SX-ULEP	33	1	60	O
PROTOCOL					DD6X-ULEP	37	1	50	O
RL SERIES - FF	-5	1	45	E	IM-R	32	6	20	O
RL SERIES - IC	-12	1	45	E	M4X-EP	29	4	30	O
					M5X-EP	30	4	30	O
					PWWE	34	4	45	O
IC = ICE CREAM					Q1-S5	26	4	30	O
FF = FROZEN FOOD					R3HV-MF	24	4	40	O

DUAL TEMP CASES LT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	DUAL TEMP CASES MT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
FW, FWE	-12	1	60	E	FW, FWE	24	1	60	E
FWG, FWEG	-12	1	60	E	FWG, FWEG	24	1	60	E

DEFROST TYPE: E = ELECT | KG = KOOL GAS | O = OFFTIME

NOTICE OF NONRESPONSIBILITY
All plumbing and electrical and refrigeration drawings are furnished as a guide to assist the Architect and our Customer with store fixtures and its operation requirements only. Hussmann assumes no further responsibility. All specifications involving refrigeration equipment and line sizing are subject to change without notice. The use of this drawing for structural or architectural purposes is not authorized. It is the responsibility of the Architect, Structural, Electrical and Mechanical Engineers to verify and coordinate accuracy of all dimensions and refrigeration line sizing with contractors at the job site and insure that installations conform to specifications and all applicable codes.

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Chino, CA 91710
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HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935
EMPLOYEE OWNED

LOCATION
LEE'S SUMMIT #2, MO

NORTH PLAN NORTH

REFRIGERATION LEGEND AND LINE SIZING SCHEMATIC

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET:
R4.0

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

COD Selection

ATLANTA REFRIGERATION PROTOCOL UNIT LEGEND

STORE: HY-VEE
LOCATION: LEE'S SUMMIT #2
QUOTE #: 95954 JOB #:

ASHRAE DESIGN CITY: KANSAS CITY, MO

CUSTOMER
SALESMAN
ENGINEER: SHANNAH EITTER, P.E., LEED AP

OFC = On Fan Circuit

REFRIGERATOR / UNIT COOLER									WALK-INS		CASE ELECTRICAL (115/1)				(208/1)	DEF CONTROL VLVS @ EVAPORATOR			TEMP CONTROL	LIQ	SUCT	CIRCUIT PIPING (OLP ONLY)	
UNIT LTR	SYS #	SIZE	MODEL	DESCRIPTION	DISCH TEMP	CAP MBH	MID EVP TEMP	DEF TYPE	DEF TERM	EXP VALVE QTY	EXP VALVE MODEL	HEAT EXCH	FAN AMP	LT AMP	AS SUP AMP	SUP AMP	DEF AMP	LIQ	SUCT	GAS	EPR	LIQ BV	LIQ SLND	SUCT BV	SUCT EPR/SLND
	1	60	IDD6SU	BEER	37	17.40	34	CT	TIME																
	2	12x8x10	KR26A089	KEG COOLER	33	8.40	21	CT	TIME																
	3	1	FB1SSTR	HIBACHI		2.50	20	CT	TIME																
	4	SPARE																							
	5	SPARE																							
	6	20x44x10-1/4 DRS	(3)KR46A216	BEER COOLER	33	59.21	21	CT	TIME																
	7	1	LIS CELLAR FCU	WINE ROOM	56	10.00	40	CT	TIME																
	8	25	IM05R	GRAB AND GO	30	29.00	25	CT	TIME																
	9	29	IM05R	GRAB AND GO	30	33.64	25	CT	TIME																
	10	2	FSP964ZR-FSP7242R	SUSHI		13.57	20	CT	TIME																
	11	38	IDSSL	PRODUCE	32	38.76	28	CT	TIME																
	12	62	IDSSL	PRODUCE	32	63.24	28	CT	TIME																
	13	12	ESGMS	DELI	27	3.24	22	CT	TIME																
A						260.96	18																		
	1	18x30x10	(3)KR54E155	ICE CREAM FREEZER	-15	33.90	-22	EL	TEMP																
	2	36	RGGS (EXIST)	MEAT		9.22	17	CT	TIME																
	3	8	RGGF (EXIST)	SEAFOOD		2.05	17	CT	TIME																
	4	10x26x10	(2)KR34E111	BAKERY FREEZER	-5	18.60	-15	EL	TEMP																
	5	16x16x10	KR54E185	KITCHEN FREEZER	-5	17.00	-15	EL	TEMP																
	6	16	SGGS	MEAT		4.10	17	CT	TIME																
BL						84.86	-25																		
	6	18x30x10	(3)QL46D180	MEAT COOLER	28	34.00	21	EL	TEMP																
	7	10x18x10	GL56D25	SEAFOOD COOLER	28	14.30	21	EL	TEMP																
	8	983 FT^2	(4)GL46A180	MEAT PREP	55	137.62	30	CT	TIME																
BM						155.92	19																		
	1	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	2	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	3	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	4	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	5	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	6	2x15	RLN-RLNI	ICE CREAM	-12	16.68	-19	EL	TEMP																
	7	18	RLN	ICE CREAM	-12	19.17	-19	EL	TEMP																
	8	18	RLN	ICE CREAM	-12	19.17	-19	EL	TEMP																
	9	10	RLN	ICE CREAM	-12	10.65	-19	EL	TEMP																
	10	10	RLN	ICE CREAM	-12	10.65	-19	EL	TEMP																
	11	13	RLN	ICE CREAM	-12	13.85	-19	EL	TEMP																
	12	8/2-E	FW	DUAL TEMP FROZEN	-12	6.20	-20	EL	TEMP																
	13	8/2-E	FW	DUAL TEMP FROZEN	-12	6.20	-20	EL	TEMP																
	14	1	FWE	DUAL TEMP FROZEN	-12	2.12	-20	EL	TEMP																
	15	1	FWE	DUAL TEMP FROZEN	-12	2.12	-20	EL	TEMP																
C						190.21	-23																		

	UNIT A				OLP	UNIT B					OLP	UNIT C					OLP
UNIT SPECS	208/3/60	R448A	OLP UNIT	DEW COND	119	SAT	208/3/60	R448A	OLP UNIT	DEW COND	119	SAT	208/3/60	R448A	OLP UNIT	DEW COND	114	SAT
SUCTION GROUP	A	A	A				BL	BL	BL	BM	BM		C	C				
COMPRESSOR	ZB26K7CE	ZB26KCE	ZB57CE				ZF20S5VE	ZF26KVE	ZF26KVE	ZF20S5VE	ZB57CE		ZF20S5VE	ZF26KVE				
COMP QUANTITY	1	1	4				1	1	1	1	2		1	5				
DEW SUCTION TEMP	22	22	22				21	21	21	23	23		-19	-19				
CAPACITY (BTUH)	59,197	25,170	59,197				28,675	28,675	33,784	82,371	82,371	60,460	30,277	35,665				
POWER (KW)	7.15	3.50	7.15				5.32	5.32	6.42	7.69	7.18	6.14	5.08	6.14				
HEAT OF REJ (BTUH)	83,589	37,110	83,589				46,826	46,826	55,705	108,613	84,981		47,605	56,626				
COMPRESSOR RLA	31.90	11.90	31.90				24.50	24.50	27.30	28.10	31.90		24.50	27.30				
OIL REGULATOR																		
UNLOADER																		
HEAD FANS																		
BREAKER/CONT																		
LIQUID INJ - SL(B)																		

							DEMAND COOL REQ'D					DEMAND COOL REQ'D					
	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD
	A	281.0	321.2	87.5%	455,095	15	BL	84.9	91.1	93.1%	427,932	15	C	190.2	208.7	91.1%	330,734	10
					0	MID COND	BM	185.9	203.3	91.4%	0	MID COND					0	MID COND
						115						115						110

UNIT	208V	460V	208V PAN	MAIN FRM DIMS**	PUMP FRAME	208V	460V	208V PAN	MAIN FRM DIMS**	PUMP FRAME	208V	460V	208V PAN	MAIN FRM DIMS**	PUMP FRAME			
RLA				166"L x 46"W x 34"H					166"L x 46"W x 34"H					166"L x 46"W x 34"H				
MCA				MAIN FRM WT	PUMP FRM WT				MAIN FRM WT	PUMP FRM WT				MAIN FRM WT	PUMP FRM WT			
MOPD				2,500					2,500					2,500				
AIC / SCCR RATING	10,000	10,000	10,000	AIC / SCCR RATING		10,000	10,000	10,000	AIC / SCCR RATING		10,000	10,000	10,000					

Print Date: 10/22/2020 *Version:* 2.64 *Last Revision to this legend:* 1/12/2018

ATLANTA REFRIGERATION PROTOCOL UNIT LEGEND

STORE: HY-VEE
LOCATION: LEE'S SUMMIT #2
QUOTE / JOB #:

STORE DESIGN CONDITIONS	
VOLTAGE:	208/3/60
AMBIENT TEMP:	100
INSIDE DESIGN:	75 F/ 55% RH
ALTITUDE:	1034 FT
REFRIGERANT:	R448A

PAGE:	1
DATE:	7/15/2019
BY:	STE
COND METHOD	AIR COOLED
QUOTE#:	95954
JOB#:	

UNIT ACCESSORIES AND MODIFICATIONS

A				B				C			
UNIT TYPE	COMPRESSOR TYPE		UNIT TYPE	COMPRESSOR TYPE		UNIT TYPE	COMPRESSOR TYPE				
PROTOCOL	OLP HE	COPELAND SCROLL	PROTOCOL	OLP HE	COPELAND SCROLL	PROTOCOL	OLP HE	COPELAND SCROLL			
#	KIT	DESCRIPTION	#	KIT	DESCRIPTION	#	KIT	DESCRIPTION			
1	OLP6FR	FRAME OLP 6 COMP	1	OLP6FR	FRAME OLP 6 COMP	1	OLP6FR	FRAME OLP 6 COMP			
1	572K	ASSM ZB57KCETFS 208V	1	252K	ASSM ZF20S4VE-TFS 208V	1	252K	ASSM ZF20S4VE-TFS 208V			
1	268K	ASM ZB26KCE-208 V	1	25VK	ASSM ZF25KVE-TFS 208V	5	26VK	ASSM ZF26KVE-TFC 208V LT			
4	578K	ASSM ZB57KCETFS 208V	1	28VK	ASSM ZF28KVE-TFC 208V LT	0		COMPRESSOR ASSEMBLY			
0		COMPRESSOR ASSEMBLY	1	252K	ASSM ZF20S4VE-TFS 208V	0		COMPRESSOR ASSEMBLY			
0		COMPRESSOR ASSEMBLY	2	578K	ASSM ZB57KCETFS 208V	0		COMPRESSOR ASSEMBLY			
0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY			
		NO HEAT RECLAIM KIT			NO HEAT RECLAIM KIT			NO HEAT RECLAIM KIT			
		NO SPLIT CONDENSER KIT			NO SPLIT CONDENSER KIT			NO SPLIT CONDENSER KIT			
		NO LIQUID DRIER KIT			NO LIQUID DRIER KIT			NO LIQUID DRIER KIT			
		NO FACTORY RECEIVER KIT			NO FACTORY RECEIVER KIT			NO FACTORY RECEIVER KIT			
		NO MAIN CONVENIENCE SWITCH KIT			NO MAIN CONVENIENCE SWITCH KIT			NO MAIN CONVENIENCE SWITCH KIT			
		NO ECONOMIZER/SUBCOOLER KIT			NO ECONOMIZER/SUBCOOLER KIT			NO ECONOMIZER/SUBCOOLER KIT			
		NO HOT GAS DEFROST KIT			NO HOT GAS DEFROST KIT			NO HOT GAS DEFROST KIT			

NO PROGRAMMING	NO PROGRAMMING	NO PROGRAMMING

PROTO-ABE KITS (REVIEW PROCEDURE IN ADJACENT COMMENT BOX)

NOTES: 01. CONVENIENCE SWITCH / NON-FUSED DISCONNECT KIT DOES NOT PROVIDE PROTECTION FOR UNITS. CUSTOMER RESPONSIBLE FOR UNIT PROTECTION.
02. SUCTION STOP SOLENOIDS, GAS DEFROST SOLENOIDS & EPR'S ARE FIELD SUPPLIED AND INSTALLED.
03. CONDENSER TO BE ORDERED WITH FLOODING VALVES AND ISOLATION BALL VALVES.
04. CONDENSER POWER NOT FED FROM THE PROTOCOL UNIT.
05. A LIQUID LINE MUST BE RUN FROM THE RECEIVER TO THE PROTOCOL UNITS THAT HAVE LIQUID INJECTED COMPRESSORS.
06. RECEIVERS REQUIRED FOR KRACK REMOTE CONDENSERS.
07. LIQUID LINE FILTER/DRIER IS FACTORY SUPPLIED FIELD INSTALLED DUE TO THE LACK OF RECEIVER IN THE PROTOCOL UNIT.
08. HIGH PRESSURE CONTROL CUT OUT IS 395#. WHICH REQUIRES 450# PRESSURE RELIEF VALVES ON RECEIVER.
09. ALL PROTOCOLS ARE DESIGNED FOR LOOP PIPING APPLICATIONS ONLY.

TEMPERATURE CONTROL METHODS (IN PREFERRED ORDER)	REV	DATE	BY	STAT	NOTES
A. SUCTION PRESSURE WITH SPR DRIVEN BY					
MOST CRITICAL TEMP FIXTURE					
B. SUCTION PRESSURE					
C. FIELD INSTALLED EPR ON CRITICAL LOADS.					
D. T-STATS AND FIELD CASE INSTALLED SOLENOIDS.					

~NOTICE These refrigeration schedules (legends) are furnished only as a guide to assist the Customer and its architect, installing contractor and maintenance contractor with the operating requirements of the listed refrigeration equipment. It is the responsibility of the Customer or their architect to verify the accuracy of all dimensions, components and refrigeration line sizing with the contractors at the job site to ensure that all installations conform to project specifications and applicable codes. These schedules should not be used for structural or architectural purposes. Hussmann may change refrigeration equipment and line sizing specifications without notice.

GENERAL SHEET NOTES

- THESE REFRIGERATION SCHEMATICS ARE FURNISHED ONLY AS A GUIDE TO ASSIST THE CUSTOMER AND ITS ARCHITECT, INSTALLING CONTRACTOR AND MAINTENANCE CONTRACTOR WITH THE OPERATING REQUIREMENTS OF THE LISTED REFRIGERATION EQUIPMENT.
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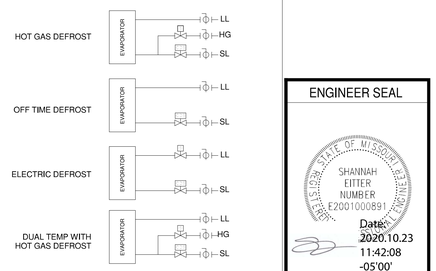
- FACTORY INSTALLED STUBS MAY DIFFER IN SIZE TO THOSE SHOWN ON SCHEMATICS. CONNECTIONS TO BE DETERMINED BY INSTALLER.

LINE SIZING VALVES KEY

NOTE: SEE LEGEND FOR VALVE TYPES & SIZES



NOTE:
1. ALL ISOLATION & CONTROL VALVES ARE SUPPLIED BY HUSSMANN & FIELD INSTALLED UNLESS OTHERWISE NOTED.
2. REFRIGERATION OIL WILL BE SHIPPED LOOSE WITH RACKS/PROTOCOL FOR FIELD INSTALLATION. QUANTITY IS FOR EQUIPMENT ONLY. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR OIL REQUIRED TO FILL TRAPS, COATS LINES, ETC.

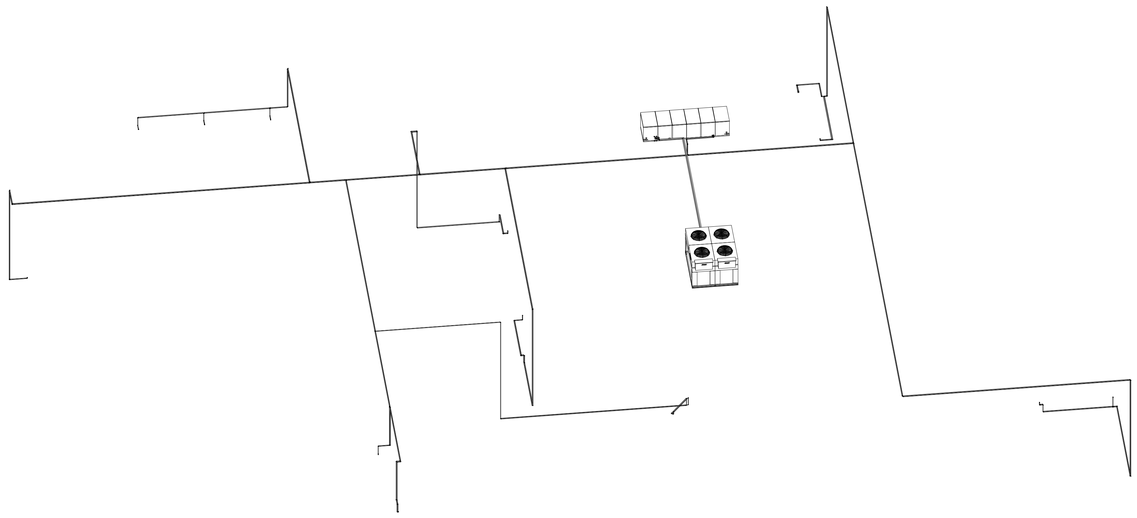
SET POINT STANDARDS USED BY THE CONTROLS DEPARTMENT

LOW TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MED TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
RACK					**KITCHEN CLR**	34	4	60	O
KITCHEN FRZR	-5	3	18	KG	**DAIRY CLR**	36	2	60	O
MAIN W/I FRZR	-10	2	20	KG	**CHINESE CLR**	36	3	45	O
CHINESE FRZR	-5	2	45	E	**BAKERY CLR**	36	2	45	E
BAKERY FRZR	-5	6	18	KG	**SEAFOOD CLR**	36	1	30	E
PROTOCOL					**PROD CLR**	36	2	60	O
KITCHEN FRZR	-5	2	45	E	**PROD PREP**	55	2	90	O
MAIN W/I FRZR	-10	2	45	E	**MEAT CLR**	50	3	45	E
CHINESE FRZR	-5	4	45	E	**MEAT PREP**	55	1	150	O
BAKERY FRZR	-5	6	45	E	**FLORAL CLR**	34	3	40	O
					SALAD BAR	36	1	30	O
					BEER CLR	36	2	60	O
W/I = WALK-IN					**DELI CLR**	34	2	60	O

LT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
DSFM	31	3	46	O	**C2X-EP, LEP, XLEP**	31	2	30	O
ESGMS, ESGSS	27	1	90	O	**C5X-EP, LEP**	31	2	30	O
SMG, SMGV	24	1	70	O	**C5X-EP, LEP**	31	2	30	O
SSGVE	24	1	70	O	**D5X, DSNX-LEP**	30	3	30	O
RACK					**D5X-ULEP**	30	4	20	O
RL SERIES - FF	-5	1	20	KG	**D6X-ULEP**	30	4	25	O
RL SERIES - IC	-12	1	20	KG	**DD5X-ULEP**	33	1	60	O
PROTOCOL					**DD6X-ULEP**	37	1	50	O
RL SERIES - FF	-5	1	45	E	**IM-R**	32	6	20	O
RL SERIES - IC	-12	1	45	E	**M4X-EP**	29	4	30	O
					M5X-EP	30	4	30	O
					PWWE	34	4	45	O
IC = ICE CREAM					**Q1-SS**	26	4	30	O
FF = FROZEN FOOD					**R3HV-MF**	24	4	40	O

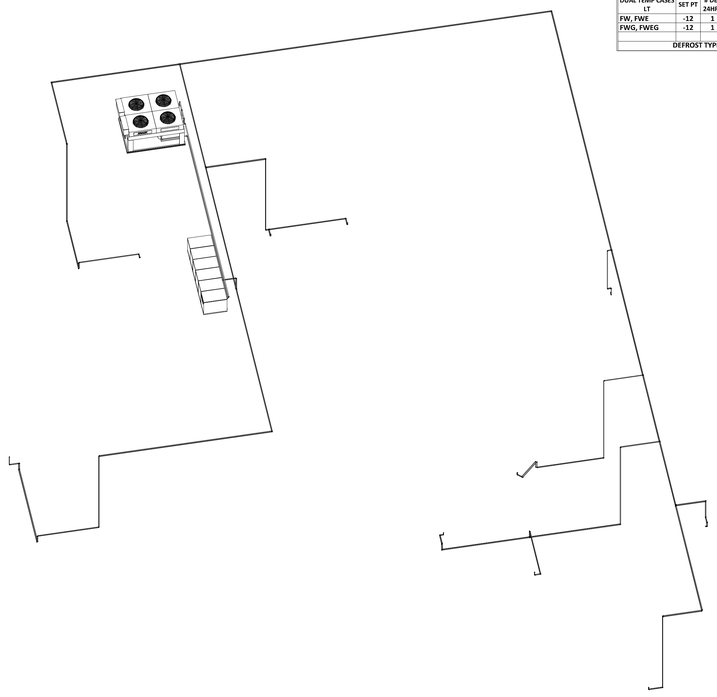
DUAL TEMP CASES LT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	DUAL TEMP CASES MT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
FW, FWE	-12	1	60	E	**FW, FWE**	24	1	60	E
FWG, FWEG	-12	1	60	E	**FWG, FWEG**	24	1	60	E

DEFROST TYPE: E = ELECT | KG = KOOL GAS | O = OFFTIME



REFRIGERATION PROTOCOL "A" LINE SIZING SCHEMATIC

SCALE: NTS



REFRIGERATION PROTOCOL "E" LINE SIZING SCHEMATIC

SCALE: NTS

REVISION			
		DATE	BY
1	2020 PRODUCE CASE REMODEL	08.20.20	

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DELIVERY WITHIN SERVICES
LEE'S SUMMIT, MISSOURI
08/20/2020

ENGINEER SEAL

SHANNAH EITTER NUMBER E2001000891
Date: 2020.10.23 11:42:08 -05'00'

HUSSMANN
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5110 Fax

NOTICE OF NONRESPONSIBILITY
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LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

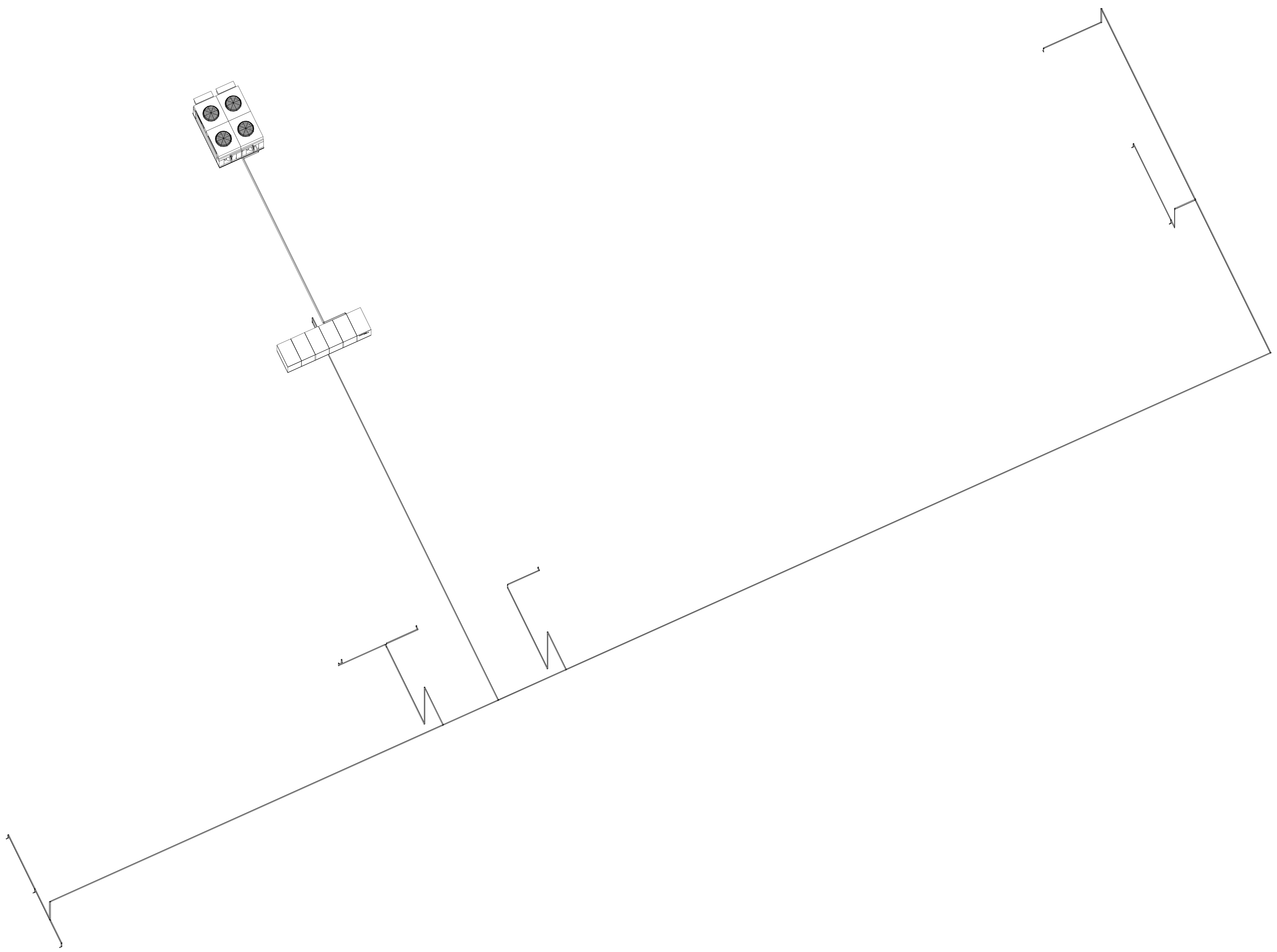
REFRIGERATION LEGEND AND LINE SIZING SCHEMATIC

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET: R4.1

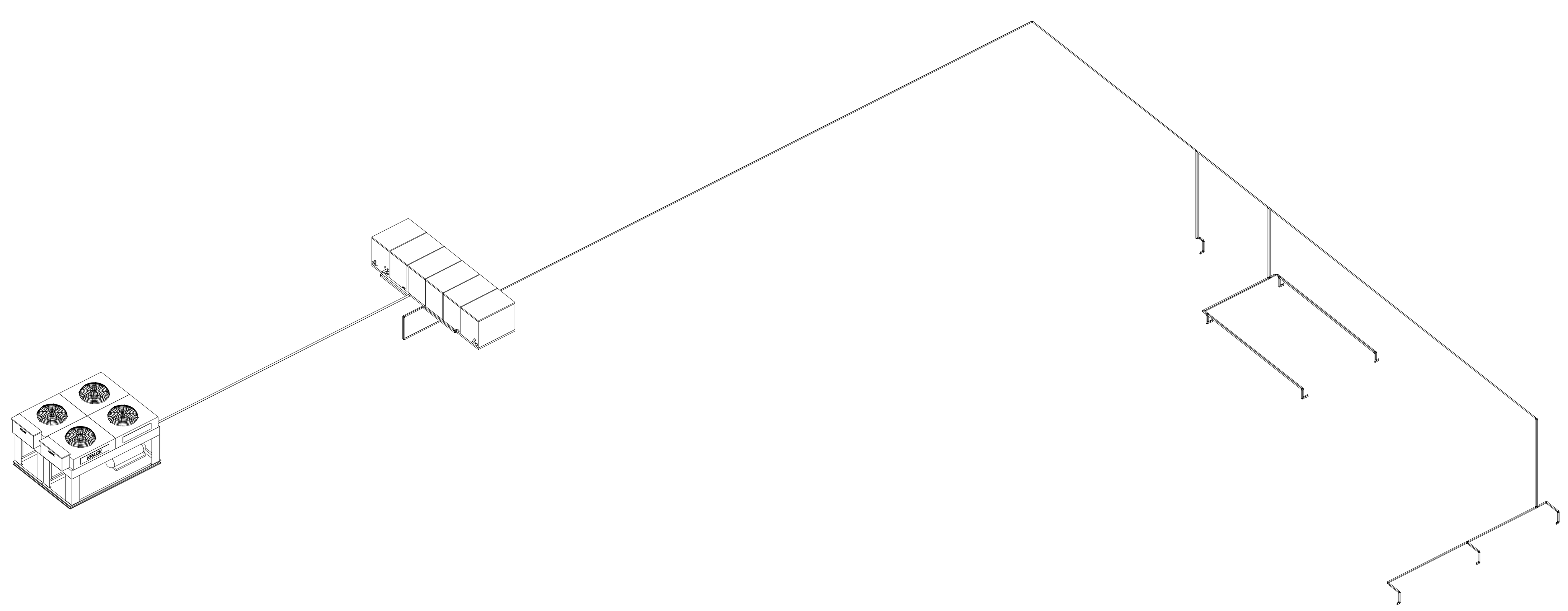
PRELIMINARY - NOT FOR CONSTRUCTION

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt



REFRIGERATION PROTOCOL "B" LOW TEMP LINE SIZING SCHEMATIC

SCALE: NTS



REFRIGERATION PROTOCOL "B" MEDIUM TEMP LINE SIZING SCHEMATIC

SCALE: NTS

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

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LINE SIZING VALVES KEY

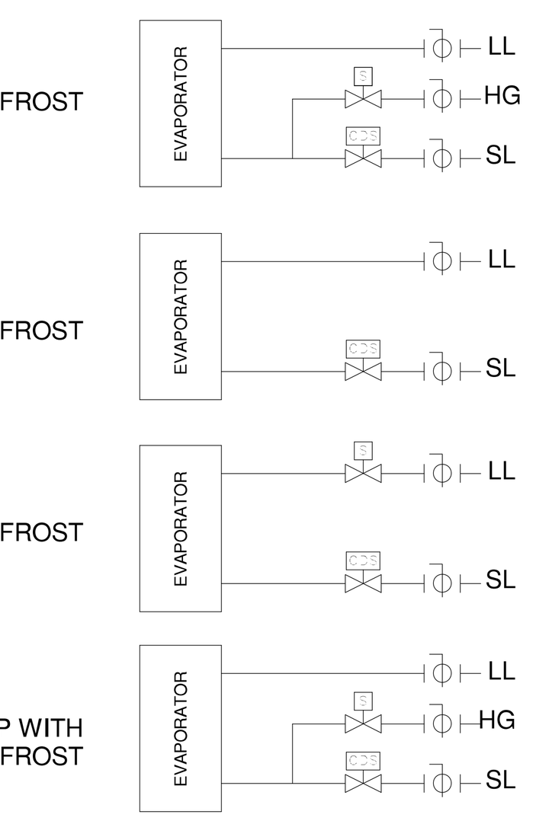
NOTE: SEE LEGEND FOR VALVE TYPES & SIZES

HOT GAS DEFROST

OFF TIME DEFROST

ELECTRIC DEFROST

DUAL TEMP WITH HOT GAS DEFROST



NOTE:
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SET POINT STANDARDS USED BY THE CONTROLS DEPARTMENT

LOW TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MED TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
RACK					KITCHEN CLR	34	4	60	O
KITCHEN FRZR	-5	3	18	KG	DAIRY CLR	36	2	60	O
MAIN W/I FRZR	-10	2	20	KG	CHINESE CLR	36	3	45	O
CHINESE FRZR	-5	2	45	E	BAKERY CLR	36	2	60	O
BAKERY FRZR	-5	6	18	KG	SEAFOOD CLR	36	1	30	E
PROTOCOL					PROD CLR	36	2	60	O
KITCHEN FRZR	-5	2	45	E	PROD PREP	55	2	90	O
MAIN W/I FRZR	-10	2	45	E	MEAT CLR	50	3	45	E
CHINESE FRZR	-5	4	45	E	MEAT PREP	55	1	150	O
BAKERY FRZR	-5	6	45	E	FLORAL CLR	34	3	40	O
					SALAD BAR	36	1	30	O
					BEER CLR	36	2	60	O
W/I = WALK-IN					DELI CLR	34	2	60	O
LT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
DSFM	31	3	46	O	C2X-EP, LEP, XLEP	31	2	30	O
ESGMS, ESGSS	27	1	90	O	C5X-EP, LEP	31	2	30	O
SMG, SMGV	24	1	70	O	C6X-EP, LEP	31	2	30	O
SSGVE	24	1	70	O	D5X, D5NX-LEP	30	3	30	O
RACK					D5X-ULEP	30	4	20	O
RL SERIES - FF	-5	1	20	KG	D6X-ULEP	30	4	25	O
RL SERIES - IC	-12	1	20	KG	DD5X-ULEP	33	1	60	O
PROTOCOL					DD6X-ULEP	37	1	50	O
RL SERIES - FF	-5	1	45	E	IM-R	32	6	20	O
RL SERIES - IC	-12	1	45	E	M4X-EP	29	4	30	O
					M5X-EP	30	4	30	O
					PWWE	34	4	45	O
IC = ICE CREAM					Q1-SS	26	4	30	O
FF = FROZEN FOOD					R3HV-MF	24	4	40	O
DUAL TEMP CASES LT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	DUAL TEMP CASES MT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
FW, FWE	-12	1	60	E	FW, FWE	24	1	60	E
FWG, FWEG	-12	1	60	E	FWG, FWEG	24	1	60	E
DEFROST TYPE: E = ELECT | KG = KOOL GAS | O = OFFTIME									

REVISION		DATE BY
1	2020 PRODUCE CASE REMODEL	08/28/20

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
PROFESSIONAL ENGINEER

Date: 2020.10.23 11:42:29 -05'00'

HUSSMANN®

Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

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LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

Hy-Vee
EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION LEGEND AND LINE SIZING SCHEMATIC

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
	95954

SHEET:
R4.2

COD Selection

ATLANTA REFRIGERATION
PROTOCOL UNIT LEGEND

STORE: HY-VEE
LOCATION: LEE'S SUMMIT #2
QUOTE #: 95954
JOB #: 0

ASHRAE DESIGN CITY:
KANSAS CITY, MO

CUSTOMER	0
SALESMAN	0
ENGINEER	SHANNAH EITTER, P.E., LEED AP

UNIT LTR	SYS #	SIZE (REFRIGERATOR / UNIT COOLER)	MODEL	DESCRIPTION	DISCH TEMP	CAP MBH	MID EVP TEMP	DEF TYPE	DEF TERM	WALK-INS EXP VALVE QTY	WALK-INS EXP VALVE MODEL	WALK-INS HEAT EXCH	CASE ELECTRICAL FAN AMP	LT AMP	AS AMP	SUP AMP	(208/1) DEF AMP	DEF CONTROL VLVS @ EVAPORATOR LIQ	SUCT	GAS	TEMP CONTROL EPR	CIRCUIT PIPING (OLP ONLY) LIQ BV	LIQ SLND	SUCT BV	SUCT EPR/SLND
	1	32	IM05EC	PRODUCE	30	33.28	25	OT	TIME																
	2	26	TY36XR	PRODUCE	28	41.46	20	OT	TIME																
	3	24	ID5SU	DELI	33	30.84	28	OT	TIME																
	4	8x12x10	KR26A125	BAKERY COOLER	34	8.00	26	OT	TIME																
	5	2	GHSS636R	BAKERY		8.80	20	OT	TIME																
	6	36	GMDSVR	BAKERY		12.55	20	OT	TIME																
	7	8	GMDSVR (EXIST)	BAKERY		3.15	20	OT	TIME																
	8	20	Q1SS (EXIST)	DELI	26	11.20	20	OT	TIME																
	9	SPARE						OT	TIME																
	10	315 FT^2	LH26A94	PRODUCE PREP	55	20.48	30	OT	TIME																
	11	2	VICTORY (EXIST)	MEAT		2.00	20	OT	TIME																
E						171.76	18																		

	UNIT D					OLP	UNIT E					OLP	UNIT F					OLP
UNIT SPECS		R448A		DEW COND	119	SAT	208/3/60	R448A	OLP UNIT	DEW COND	119	SAT		R448A		DEW COND	114	SAT
SUCTION GROUP							E	E	E	E								
COMPRESSOR							ZBD45KCE	ZB30KCE	ZB45KCE	ZB48KCE								
COMP QUANTITY							1	2	1	1								
DEW SUCTION TEMP							22	22	22	22								
CAPACITY (BTUH)							45,798	30,898	45,798	51,949								
POWER (KW)							5.63	3.86	5.63	6.29								
HEAT OF REJ (BTUH)							65,022	44,069	65,022	73,414								
COMPRESSOR RLA							20.20	14.10	20.20	22.80								
OIL REGULATOR																		
UNLOADER																		
HEAD FANS																		
BREAKER/CONT																		
LIQUID INJ - SL(B)																		
	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD	SYSTEM	REQ	AVAIL	%	THR	DESIGN TD
					0	15	E	171.8	205.3	83.6%	291,597	15					0	10
					0	MID COND					0	MID COND					0	MID COND
						115						115						110
UNIT	208V	460V	575V	MAIN FRM DIMS**		PUMP FRAME	208V	460V	575V	MAIN FRM DIMS**		PUMP FRAME	208V	460V	575V	MAIN FRM DIMS**		PUMP FRAME
RLA										166"L x 46"W x 34"H								
MCA				MAIN FRM WT		PUMP FRM WT				MAIN FRM WT		PUMP FRM WT				MAIN FRM WT		PUMP FRM WT
MOPD										2,500								
AIC / SCCR RATING	10,000	10,000	10,000	AIC / SCCR RATING			10,000	10,000	10,000	AIC / SCCR RATING			10,000	10,000	10,000			

Print Date: 10/16/2020 Version: 3.6A *Last Revision to this legend: 1/12/2018*

ATLANTA REFRIGERATION
PROTOCOL UNIT LEGEND

STORE: HY-VEE
LOCATION: LEE'S SUMMIT #2
QUOTE / JOB #:

STORE DESIGN CONDITIONS	
VOLTAGE:	208/3/60
AMBIENT TEMP:	100
INSIDE DESIGN:	75 F/55% RH
ALTITUDE:	1024 FT
REFRIGERANT:	R448A

PAGE:	2
DATE:	7/16/2019
BY:	STE
COND METHOD	AIR COOLED
QUOTE#:	95954
JOB#:	0

UNIT ACCESSORIES AND MODIFICATIONS

D #	D KIT	D DESCRIPTION	E #	E KIT	E DESCRIPTION	REMOTE PANEL A #	REMOTE PANEL A KIT	REMOTE PANEL A DESCRIPTION
UNIT TYPE: PROTOCOL OLP HE		COMPRESSOR TYPE: COPELAND SCROLL	UNIT TYPE: PROTOCOL OLP HE		COMPRESSOR TYPE: COPELAND SCROLL	UNIT TYPE: PROTOCOL HE		COMPRESSOR TYPE: COPELAND SCROLL
		PROTOCOL RACK FRAME	1	OLP6FR	FRAME OLP 6 COMP			PROTOCOL RACK FRAME
0		COMPRESSOR ASSEMBLY	1	45ZK	ASSM ZBD45KCE-TF5 208V	0		COMPRESSOR ASSEMBLY
0		COMPRESSOR ASSEMBLY	2	30BK	ASM ZB30KCE-208 V	0		COMPRESSOR ASSEMBLY
0		COMPRESSOR ASSEMBLY	1	45BK	ASM ZB45KCE-208 V	0		COMPRESSOR ASSEMBLY
0		COMPRESSOR ASSEMBLY	1	49BK	ASSM ZB48KCE-TF5 208V	0		COMPRESSOR ASSEMBLY
0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY
0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY	0		COMPRESSOR ASSEMBLY
					NO HEAT RECLAIM KIT			
					NO SPLIT CONDENSER KIT			
					NO LIQUID DRIER KIT			
					NO FACTORY RECEIVER KIT			
					NO MAIN CONVENIENCE SWITCH KIT			
					NO ECONOMIZER/SUBCOOLER KIT			
					NO HOT GAS DEFROST KIT			
NO PROGRAMMING			NO PROGRAMMING			NO PROGRAMMING		

PROTO-AIRE KITS (REVIEW PROCEDURE IN ADJACENT COMMENT BOX)

UNIT D	
COND LOCATION	
REFER	
CONDENSER	
FAN CNTR	
THR (MBH):	0
H R (MBH):	0
ACTUAL TD (DEG)	
WGT (LBS):	
CHG (LBS):	
FPI	
DIM:	
RLA:	
FANS:	
RECEIVER:	
NOTES:	
FRAME KIT:	
UNIT E	
COND LOCATION	REMOTE
REFER	F22310
CONDENSER	LAVF 22310
FAN CNTR	
THR (MBH)	291597
H R (MBH):	145798
ACTUAL TD (DEG)	10.4
WGT (LBS):	1437 + Receiver
CHG (LBS):	106.6
FPI	10
DIM:	112"L x 90.5"W x 54"H
RLA:	21.6A (MOP 35A 208/3/60)
FANS	2x2 1140 RPM
RECEIVER:	
NOTES:	
FRAME KIT:	
UNIT REMOTE PANEL A	
COND LOCATION	
REFER	
CONDENSER	
FAN CNTR	0
THR (MBH)	0
H R (MBH):	0
ACTUAL TD (DEG)	
WGT (LBS):	
CHG (LBS):	
FPI	
DIM:	
RLA:	
FANS	
RECEIVER:	
NOTES:	
FRAME KIT:	

NOTES: 01. CONVENIENCE SWITCH / NON-FUSED DISCONNECT KIT DOES NOT PROVIDE PROTECTION FOR UNITS. CUSTOMER RESPONSIBLE FOR UNIT PROTECTION.
02. SUCTION STOP SOLENOIDS, GAS DEFROST SOLENOIDS & EPR'S ARE FIELD SUPPLIED AND INSTALLED.
03. CONDENSER TO BE ORDERED WITH FLOODING VALVES AND ISOLATION BALL VALVES.
04. CONDENSER POWER NOT FED FROM THE PROTOCOL UNIT.
05. A LIQUID LINE MUST BE RUN FROM THE RECEIVER TO THE PROTOCOL UNITS THAT HAVE LIQUID INJECTED COMPRESSORS.
06. RECEIVERS REQUIRED FOR KRACK REMOTE CONDENSERS.
07. LIQUID LINE FILTER/DRIER IS FACTORY SUPPLIED FIELD INSTALLED DUE TO THE LACK OF RECEIVER IN THE PROTOCOL UNIT.
08. HIGH PRESSURE CONTROL CUT OUT IS 395#, WHICH REQUIRES 450# PRESSURE RELIEF VALVES ON RECEIVER.
09. ALL PROTOCOLS ARE DESIGNED FOR LOOP PIPING APPLICATIONS ONLY.

TEMPERATURE CONTROL METHODS (IN PREFERRED ORDER)	REV	DATE	BY	STAT	NOTES
A. SUCTION PRESSURE WITH SPR DRIVEN BY					
MOST CRITICAL TEMP FIXTURE					
B. SUCTION PRESSURE					
C. FIELD INSTALLED EPR ON CRITICAL LOADS.					
D. THERMOSTATS AND FIELD/CASE INSTALLED SOLENOIDS.					

**NOTICE These refrigeration schedules (legends) are furnished only as a guide to assist the Customer and its architect, installing contractor and maintenance contractor with the operating requirements of the listed refrigeration equipment. It is the responsibility of the Customer or their architect to verify the accuracy of all dimensions, components and refrigeration line sizing with the contractors at the job site to ensure that all installations conform to project specifications and applicable codes. These schedules should not be used for structural or architectural purposes. Hussmann may change refrigeration equipment and line sizing specifications without notice.

REFRIGERATION PROTOCOL "C" LINE SIZING SCHEMATIC

SCALE: NTS

REFRIGERATION RACK "D" LOOP 14 LINE SIZING SCHEMATIC

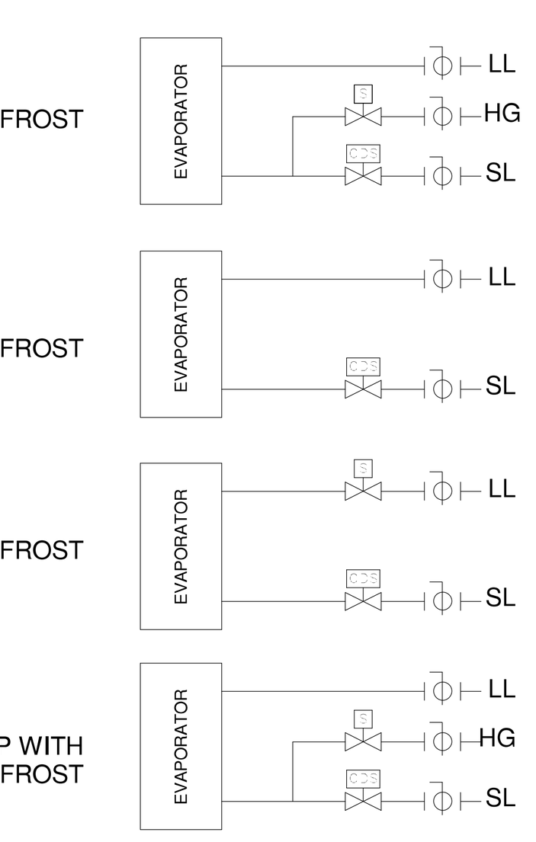
SCALE: NTS

GENERAL SHEET NOTES

- THESE REFRIGERATION SCHEMATICS ARE FURNISHED ONLY AS A GUIDE TO ASSIST THE CUSTOMER AND ITS ARCHITECT, INSTALLING CONTRACTOR AND MAINTENANCE CONTRACTOR WITH THE OPERATING REQUIREMENTS OF THE LISTED REFRIGERATION EQUIPMENT.
- IT IS THE RESPONSIBILITY OF THE CUSTOMER OR THEIR ARCHITECT TO VERIFY THE ACCURACY OF ALL DIMENSIONS COMPONENTS AND LINE SIZING WITH THE CONTRACTOR AT THE JOB SITE TO INSURE THAT ALL INSTALLATIONS CONFORM TO PROJECT SPECS AND APPLICABLE CODES.
- THESE SCHEMATICS SHOULD NOT BE USED FOR STRUCTURAL OR ARCHITECTURAL PURPOSES.
- FACTORY INSTALLED STUBS MAY DIFFER IN SIZE TO THOSE SHOWN ON SCHEMATICS. CONNECTIONS TO BE DETERMINED BY INSTALLER.

LINE SIZING VALVES KEY

NOTE: SEE LEGEND FOR VALVE TYPES & SIZES



NOTE:
1. ALL ISOLATION & CONTROL VALVES ARE SUPPLIED BY HUSSMANN & FIELD INSTALLED UNLESS OTHERWISE NOTED.
2. REFRIGERATION OIL WILL BE SHIPPED LOOSE WITH RACKS/PROTOCOL FOR FIELD INSTALLATION. QUANTITY IS FOR EQUIPMENT ONLY. REFRIGERATION CONTRACTOR IS RESPONSIBLE FOR OIL REQUIRED TO FILL TRAPS, COATS LINES, ETC.

SET POINT STANDARDS USED BY THE CONTROLS DEPARTMENT

LOW TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MED TEMP	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
RACK					KITCHEN CLR	34	4	60	O
KITCHEN FRZR	-5	3	18	KG	DAIRY CLR	36	2	60	O
MAIN W/I FRZR	-10	2	20	KG	CHINESE CLR	36	3	45	O
CHINESE FRZR	-5	2	45	E	BAKERY CLR	36	2	60	O
BAKERY FRZR	-5	6	18	KG	SEAFOOD CLR	36	1	30	E
PROTOCOL					PROD CLR	36	2	60	O
KITCHEN FRZR	-5	2	45	E	PROD PREP	55	2	90	O
MAIN W/I FRZR	-10	2	45	E	MEAT CLR	50	3	45	E
CHINESE FRZR	-5	4	45	E	MEAT PREP	55	1	150	O
BAKERY FRZR	-5	6	45	E	FLORAL CLR	34	3	40	O
					SALAD BAR	36	1	30	O
					BEER CLR	36	2	60	O
W/I = WALK-IN					DELI CLR	34	2	60	O
LT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	MT CASES	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
DSFM	31	3	46	O	C2X-EP, LEP, XLEP	31	2	30	O
ESGMS, ESGSS	27	1	90	O	C5X-EP, LEP	31	2	30	O
SMG, SMGV	24	1	70	O	C6X-EP, LEP	31	2	30	O
SSGVE	24	1	70	O	D5X, D5NX-LEP	30	3	30	O
RACK					D5X-ULEP	30	4	20	O
RL SERIES - FF	-5	1	20	KG	D6X-ULEP	30	4	25	O
RL SERIES - IC	-12	1	20	KG	DD5X-ULEP	33	1	60	O
PROTOCOL					DD6X-ULEP	37	1	50	O
RL SERIES - FF	-5	1	45	E	IM-R	32	6	20	O
RL SERIES - IC	-12	1	45	E	M4X-EP	29	4	30	O
					M5X-EP	30	4	30	O
					PWWE	34	4	45	O
IC = ICE CREAM					Q1-SS	26	4	30	O
FF = FROZEN FOOD					R3HV-MF	24	4	40	O
DUAL TEMP CASES LT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE	DUAL TEMP CASES MT	SET PT	# DEF 24HRS	DUR (MIN)	DEF TYPE
FW, FWE	-12	1	60	E	FW, FWE	24	1	60	E
FWG, FWEG	-12	1	60	E	FWG, FWEG	24	1	60	E

DEFROST TYPE: E = ELECT | KG = KOOL GAS | O = OFFTIME

REVISION		DATE BY
1	2020 PRODUCE CASE REMODEL	08/28/20

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
REGISTERED PROFESSIONAL ENGINEER
Date: 2020.10.23 11:42:54 -05'00'

HUSSMANN®
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

NOTICE OF NONRESPONSIBILITY
All plumbing and electrical and refrigeration drawings are furnished as a guide to assist the Architect and our Customer with store fixtures and its operating requirements only. Hussmann assumes no further responsibility. All specifications involving refrigeration equipment and line sizing are subject to change without notice. The use of this drawing for structural or architectural purposes is not authorized. It is the responsibility of the Architect, Structural, Electrical and Mechanical Engineers to verify and coordinate accuracy of all dimensions and refrigeration line sizing with contractors at the job site and insure that installations conform to specifications and all applicable codes.

LOCATION
LEE'S SUMMIT #2, MO

HyVee EMPLOYEE OWNED
HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

NORTH PLAN NORTH

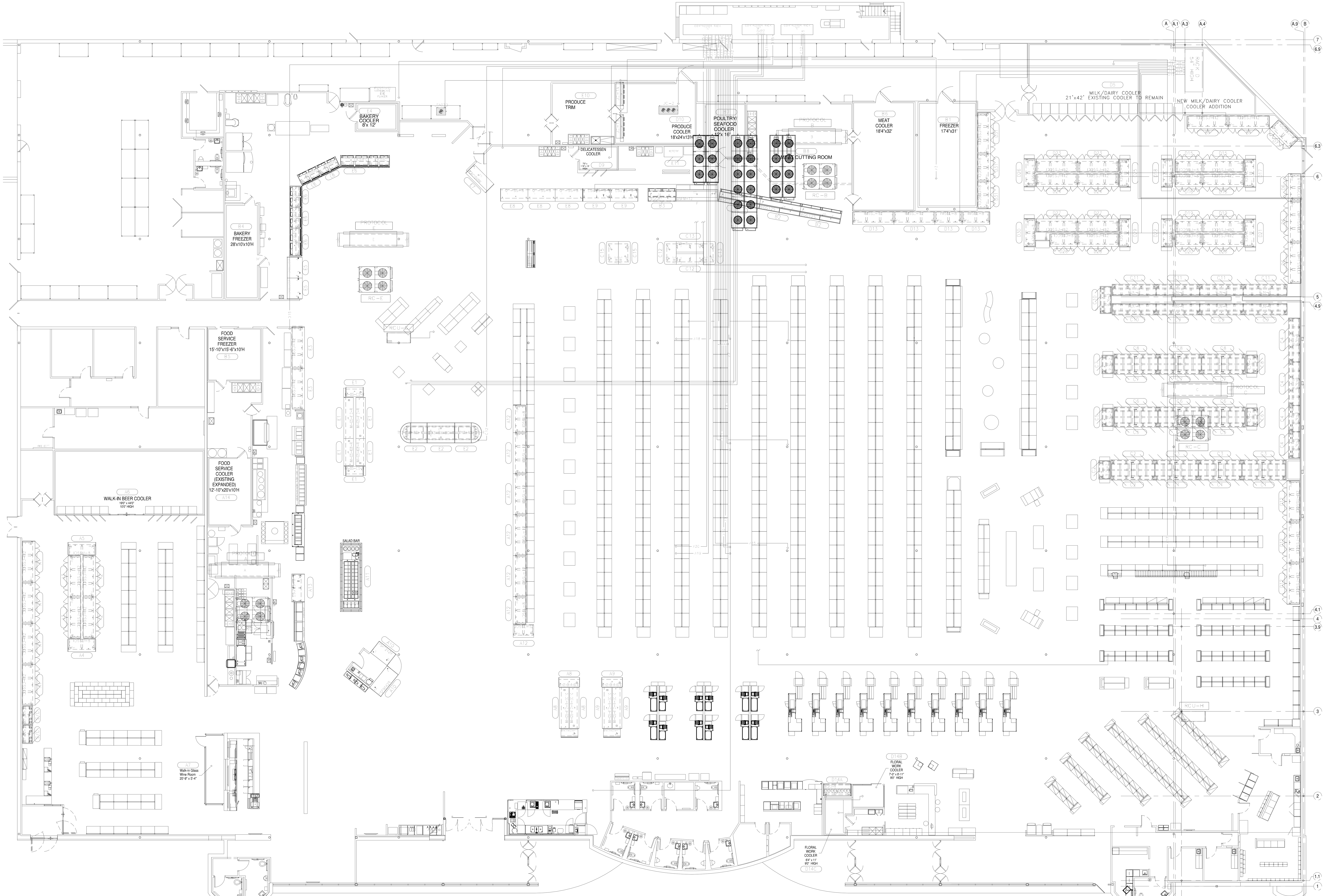
PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION LEGEND AND LINE SIZING SCHEMATIC

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET:
R4.3

REVISION		DATE BY
1	2020 PRODUCE CASE REMODEL	08/28/20



REFRIGERATION EXISTING FLOOR PLAN

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
REGISTERED PROFESSIONAL ENGINEER
Date: 2020.10.23 11:43:22 -05'00'

HUSSMANN®

Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
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HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION EXISTING FLOOR PLAN

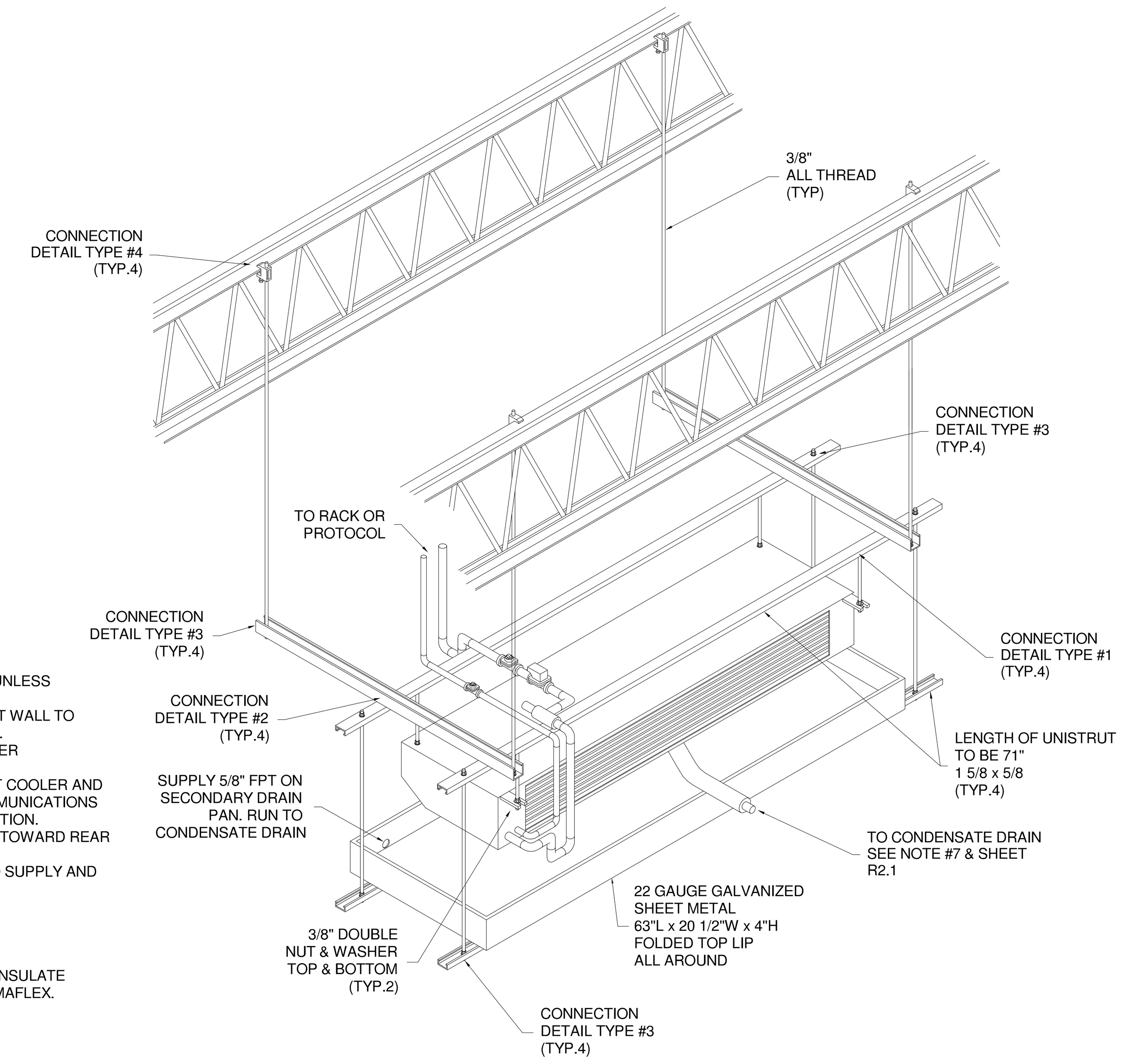
DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET:
R4.4

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

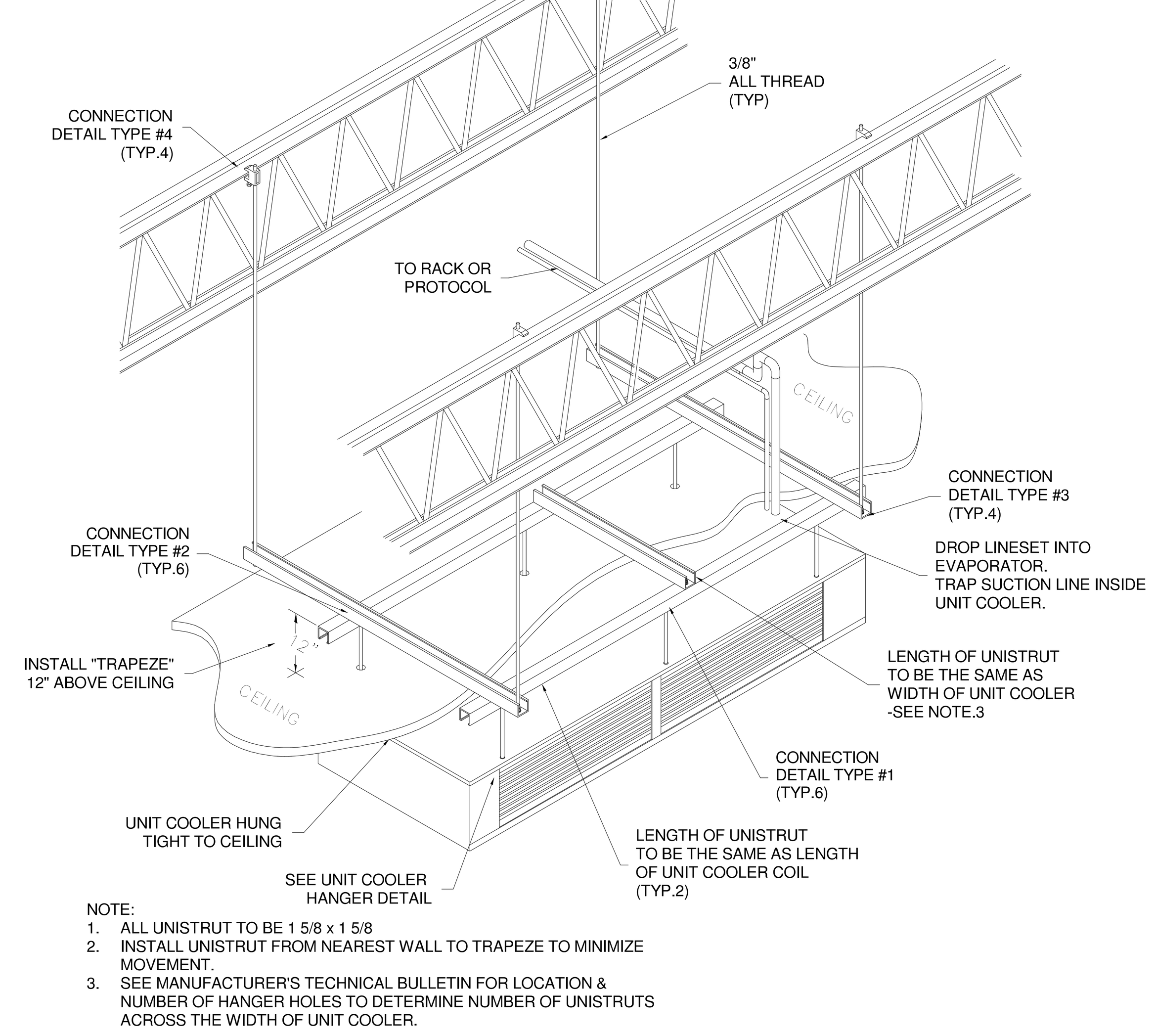
RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI

REVISION		
1	2020 PRODUCE CASE REMODEL	08.26.20



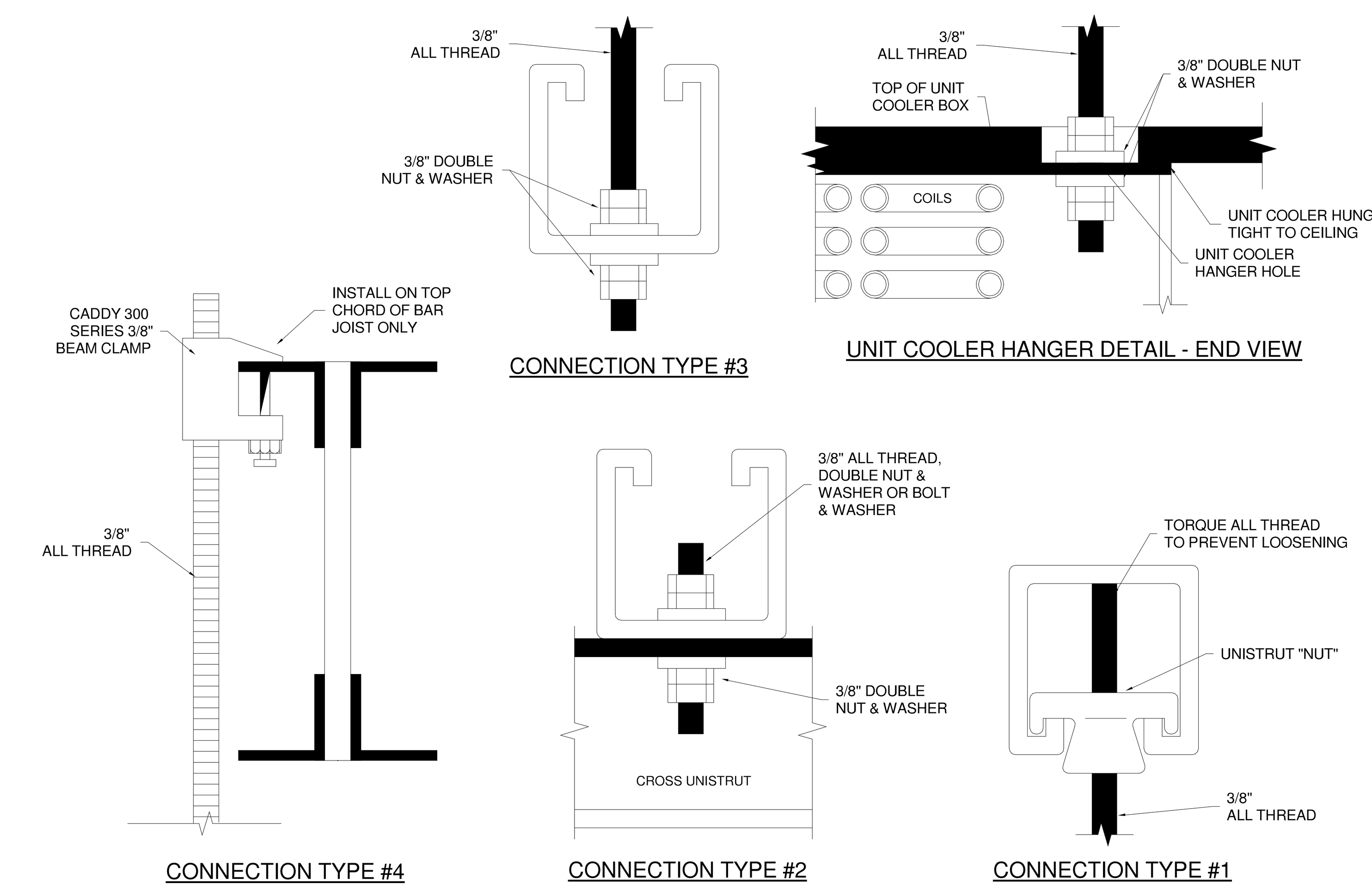
NOTE:
1. ALL UNISTRUT TO BE 1 5/8 X 1 5/8 UNLESS OTHERWISE SPECIFIED.
2. INSTALL UNISTRUT FROM NEAREST WALL TO TRAPEZE TO MINIMIZE MOVEMENT.
3. DO NOT INSTALL UNIT COOLER OVER COMMUNICATION EQUIPMENT.
4. COORDINATE PLACEMENT OF UNIT COOLER AND OVERFLOW DRAIN PAN WITH COMMUNICATIONS CONTRACTOR PRIOR TO INSTALLATION.
5. INSTALL UNIT COOLER WITH FANS TOWARD REAR OF CLOSET.
6. REFRIGERATION CONTRACTOR TO SUPPLY AND INSTALL SPORLAN TXV WITH:
A. SQE BODY
B. #2 CARTRIDGE
C. KT-43-VC POWER ELEMENT
(VERIFY REFRIGERANT)
7. REFRIGERATION CONTRATOR TO INSULATE CONDENSATE LINES WITH 1/2" ARMAFLEX.

11 COMMUNICATIONS CLOSET UNIT COOLER "TRAPEZE" DETAIL
SCALE: NTS

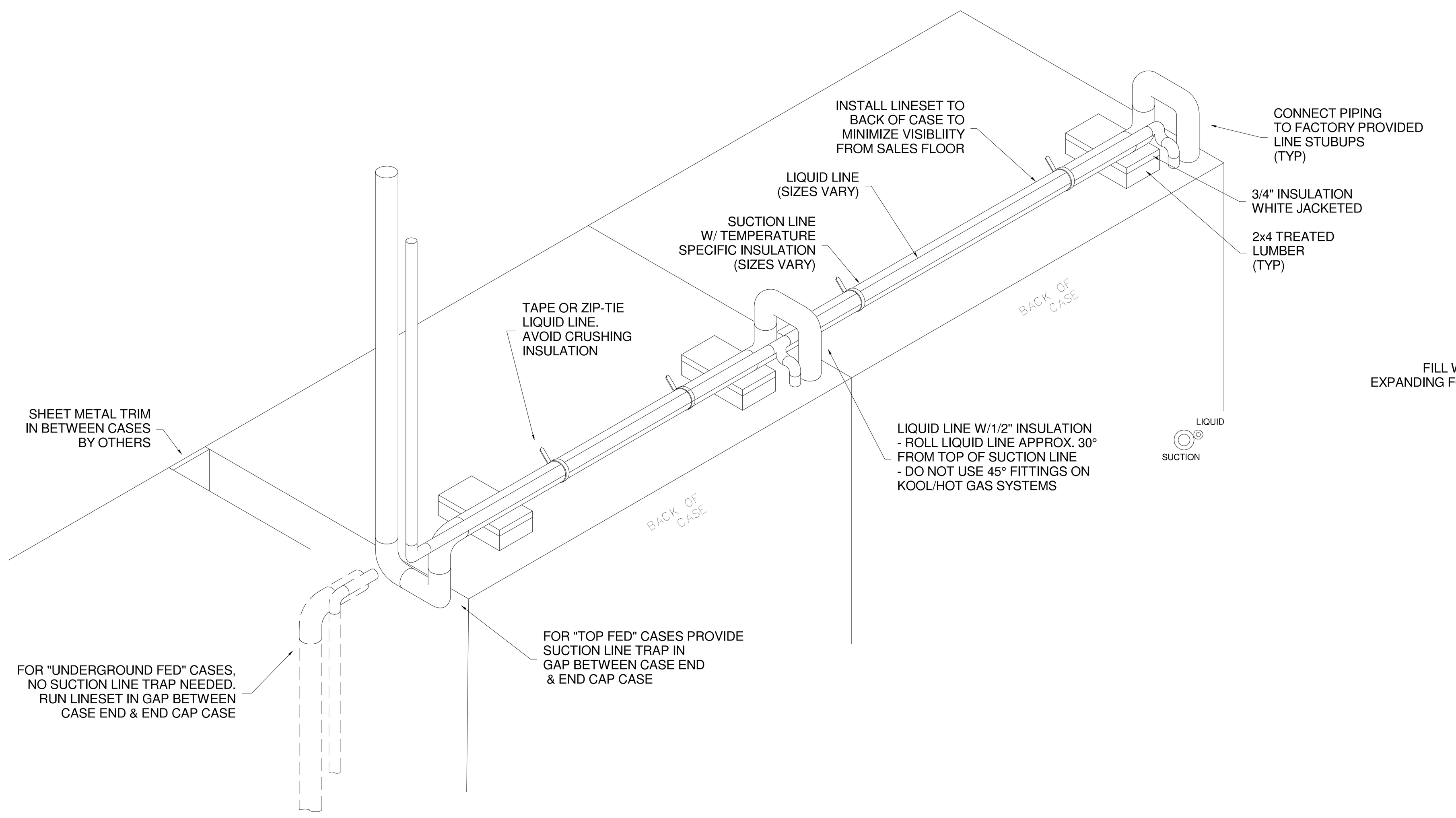


NOTE:
1. ALL UNISTRUT TO BE 1 5/8 X 1 5/8
2. INSTALL UNISTRUT FROM NEAREST WALL TO TRAPEZE TO MINIMIZE MOVEMENT.
3. SEE MANUFACTURER'S TECHNICAL BULLETIN FOR LOCATION & NUMBER OF HANGER HOLES TO DETERMINE NUMBER OF UNISTRUTS ACROSS THE WIDTH OF UNIT COOLER.

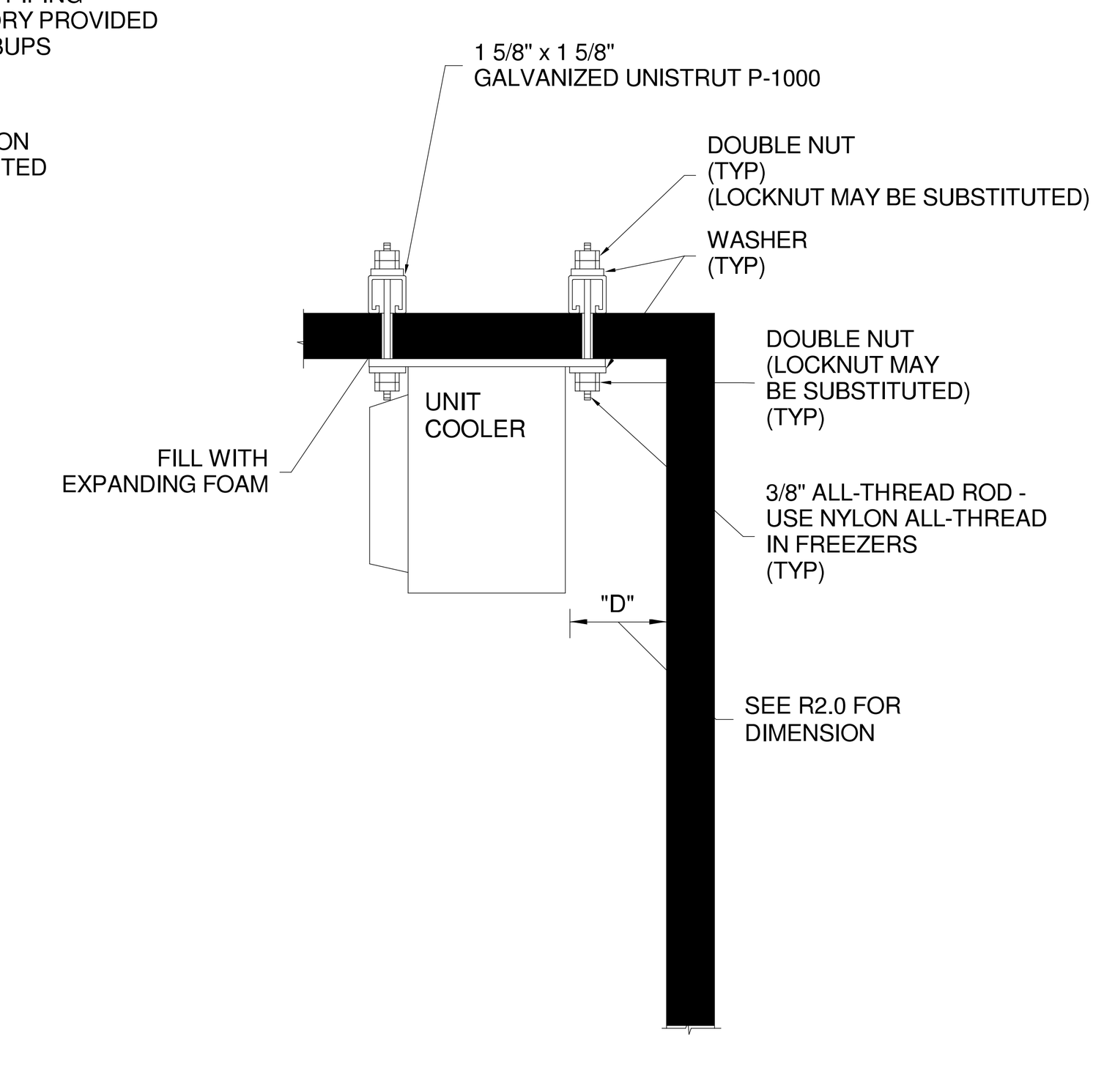
10 MEAT PREP UNIT COOLER "TRAPEZE" DETAIL
SCALE: NTS



7 "TRAPEZE" CONNECTION DETAILS
SCALE: NTS

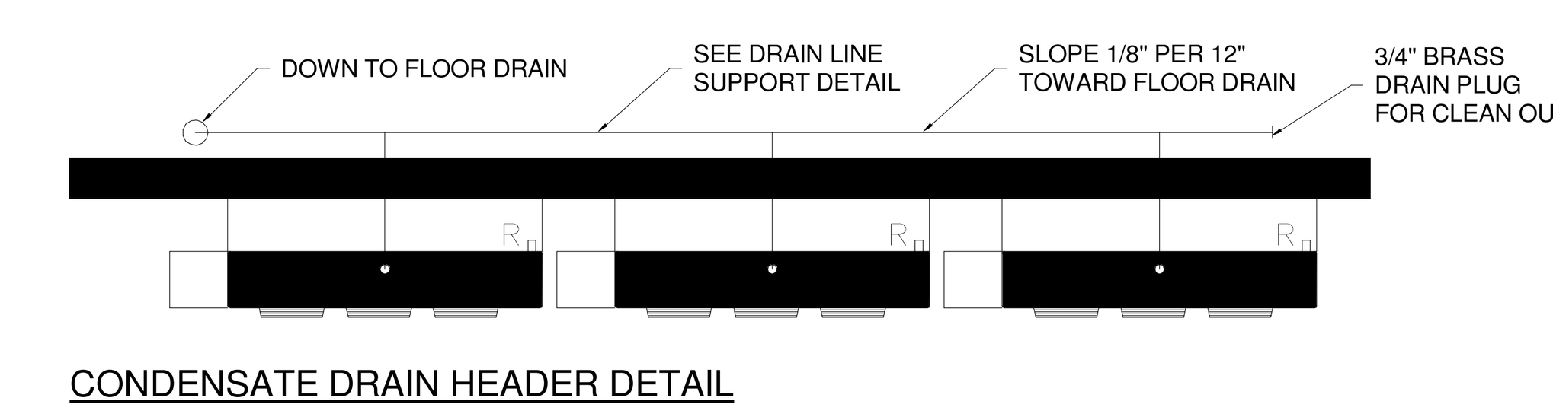


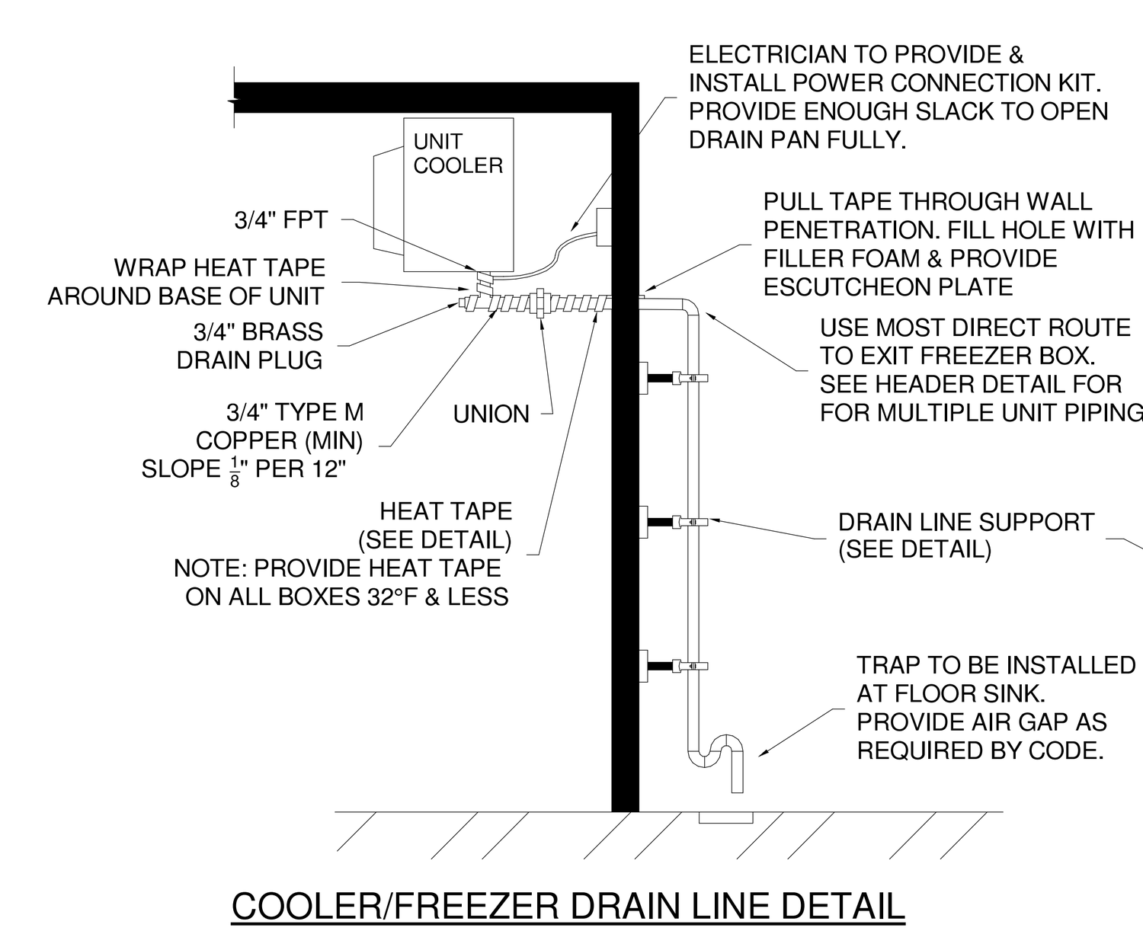
6 TOP PIPED CASE DETAIL
SCALE: NTS



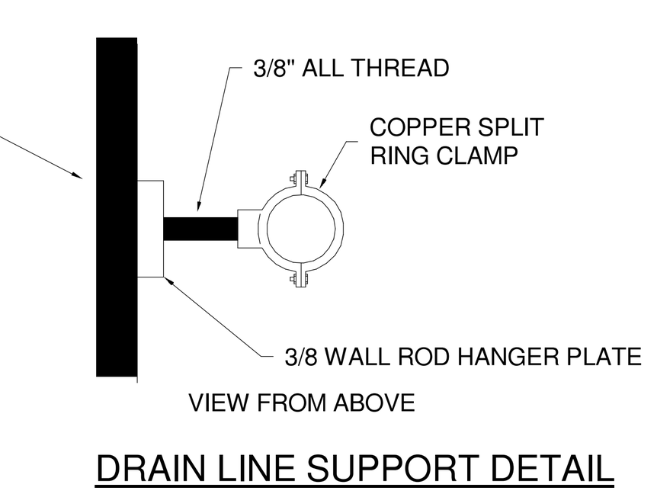
NOTE:
1. UNISTRUT TO TRAVERSE COOLER/FREEZER JOINTS.
2. UNITS OVER 300 LBS MUST BE ADDITIONALLY SUPPORTED FROM BAR JOIST.
3. FASTEN TEMPERATURE SENSOR TO EVAPORATOR COIL.

5 UNIT COOLER MOUNTING DETAIL
SCALE: NTS

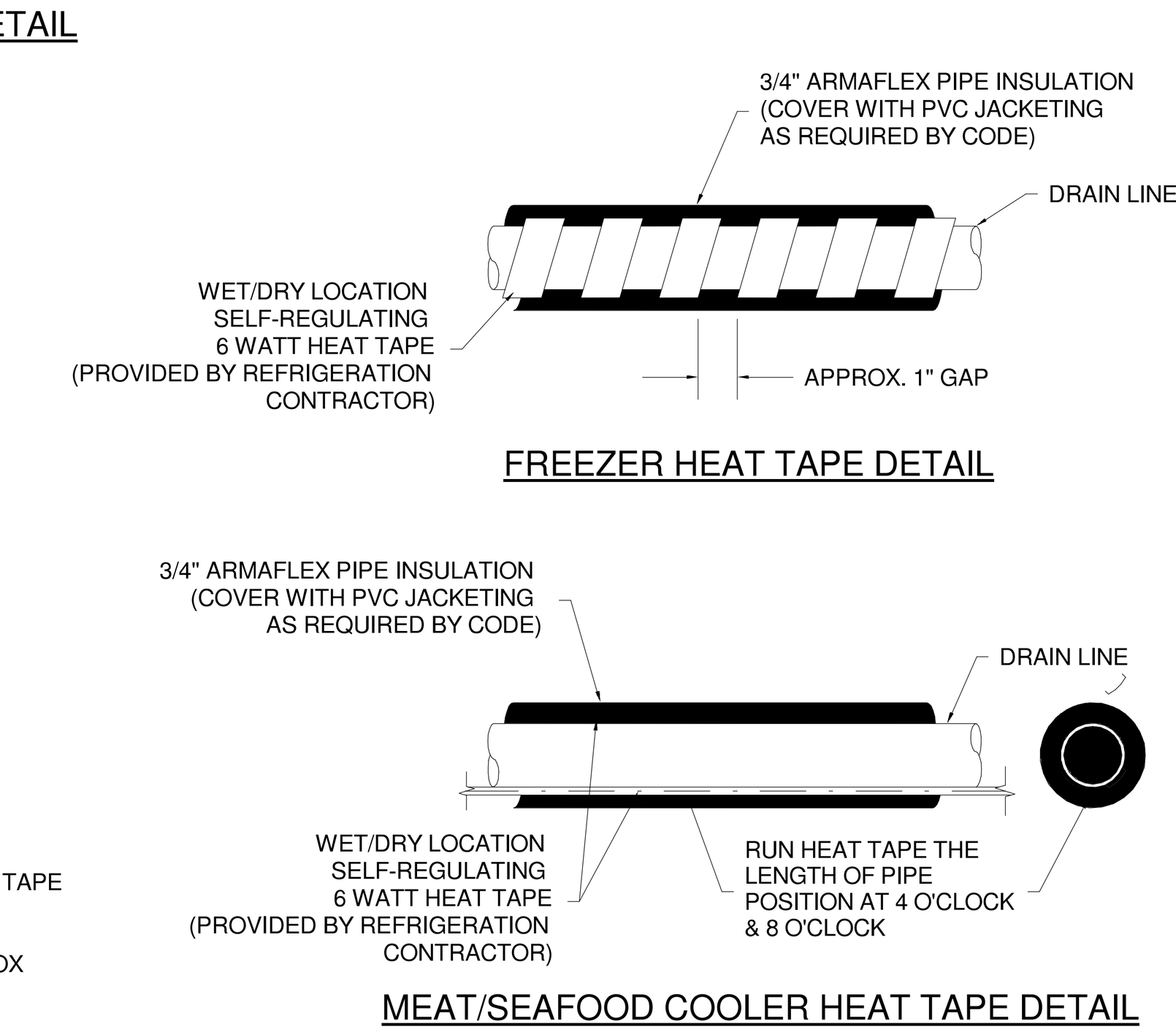




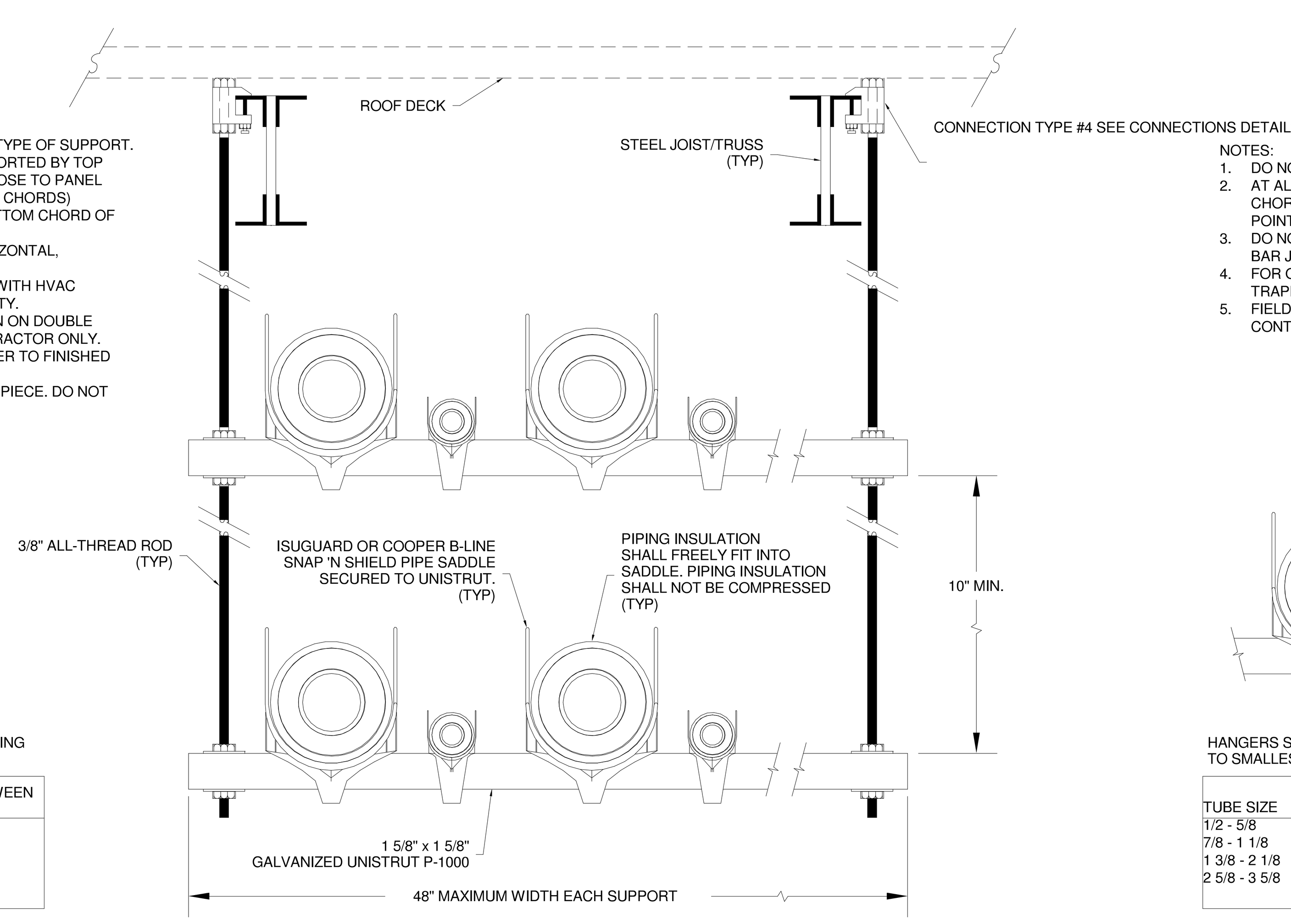
NOTE:
1. PROVIDE ONE TRAP PER REFRIGERATION SYSTEM
2. DO NOT PUT TRAPS IN SERIES
3. CONNECT MULTIPLE DRAINS ON THE EXTERIOR OF THE FREEZER BOX WHERE POSSIBLE



NOTE:
1. UNISTRUT CUSH-CLAMPS ARE ALSO ACCEPTABLE
2. COPPER BELL CLAMPS ARE ACCEPTABLE WHERE HEAT TAPE AND INSULATION IS NOT REQUIRED
3. ON HORIZONTAL PIPE RUNS, INSTALL ONE SUPPORT DIRECTLY ADJACENT TO FREEZER PANEL JOINTS (APPROX 6FT SPACING)



4 COOLER / FREEZER CONDENSATE DRAIN LINE DETAILS
SCALE: NTS

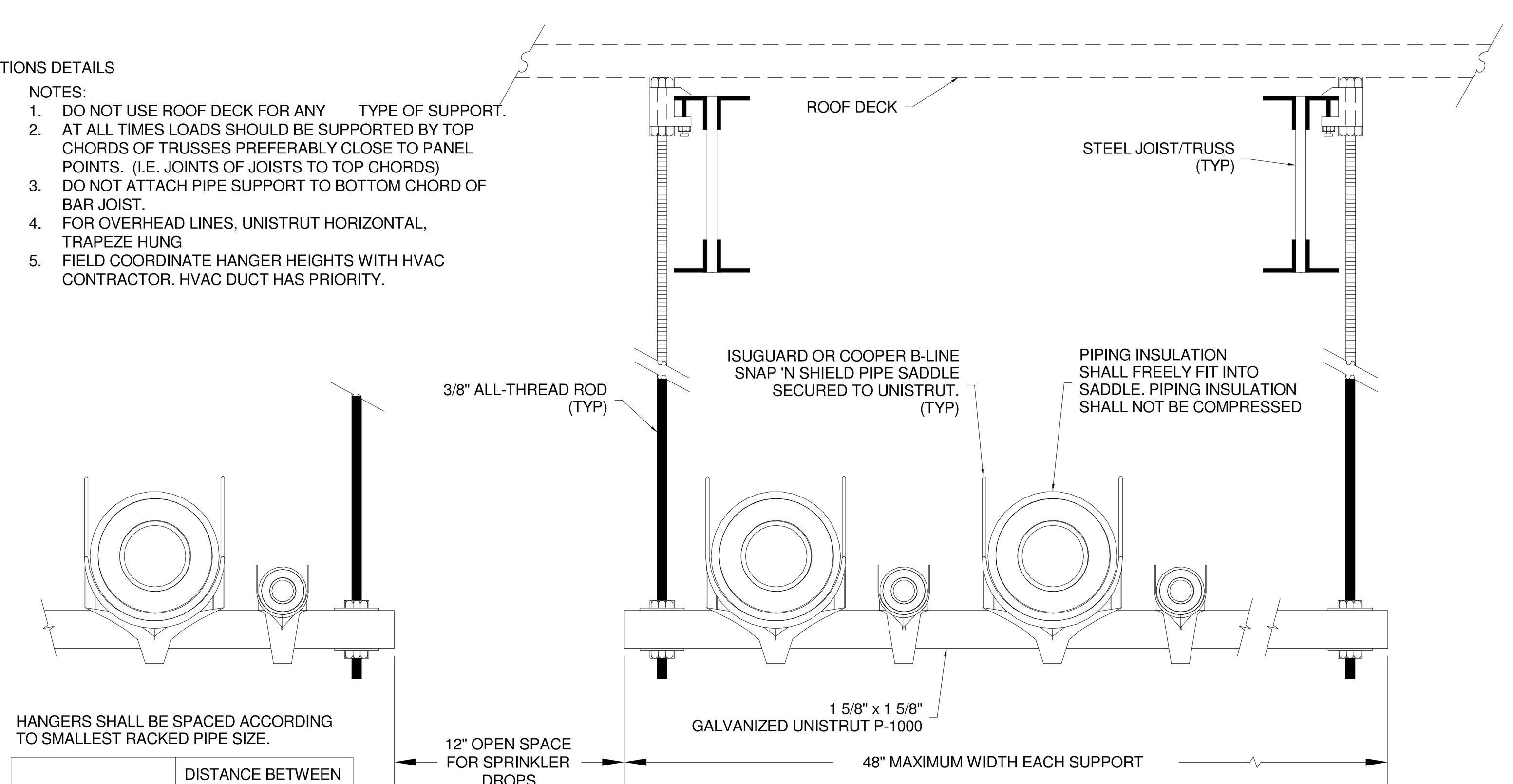


NOTES:
1. DO NOT USE ROOF DECK FOR ANY TYPE OF SUPPORT.
2. AT ALL TIMES LOADS SHOULD BE SUPPORTED BY TOP CHORDS OF TRUSSES PREFERABLY CLOSE TO PANEL POINTS. (I.E. JOINTS OF JOISTS TO TOP CHORDS)
3. DO NOT ATTACH PIPE SUPPORT TO BOTTOM CHORD OF BAR JOIST.
4. FOR OVERHEAD LINES, UNISTRUT HORIZONTAL, TRAPEZE HUNG.
5. FIELD COORDINATE HANGER HEIGHTS WITH HVAC CONTRACTOR. HVAC DUCT HAS PRIORITY.
6. NO OTHER TRADE SERVICES TO BE RAN ON DOUBLE HANGERS, FOR REFRIGERATION CONTRACTOR ONLY.
7. MINIMUM 6'-6" FROM BOTTOM OF HANGER TO FINISHED FLOOR FOR WORKING CLEARANCE
8. ALL THREAD SHALL BE ONE COMPLETE PIECE. DO NOT USE ANY TYPE OF COUPLING.

HANGERS SHALL BE SPACED ACCORDING TO SMALLEST RACKED PIPE SIZE.

TUBE SIZE	DISTANCE BETWEEN SUPPORTS
1/2 - 5/8	6'
7/8 - 1 1/8	8'
1 3/8 - 2 1/8	10'
2 5/8 - 3 5/8	12'

3 HORIZONTAL DOUBLE HANGER REFRIGERANT LINE SUPPORT
SCALE: NTS



NOTES:
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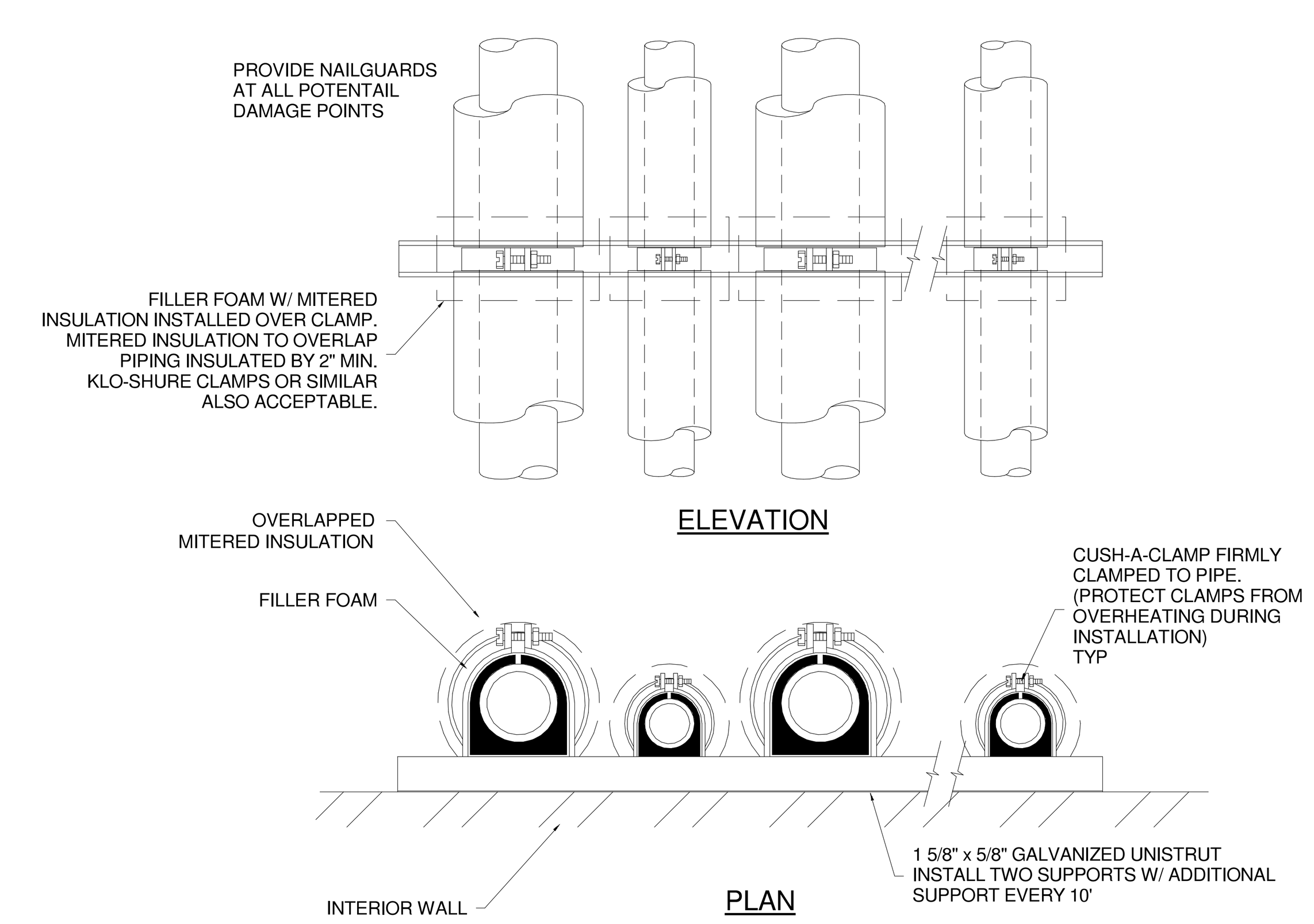
2. AT ALL TIMES LOADS SHOULD BE SUPPORTED BY TOP CHORDS OF TRUSSES PREFERABLY CLOSE TO PANEL POINTS. (I.E. JOINTS OF JOISTS TO TOP CHORDS)
3. DO NOT ATTACH PIPE SUPPORT TO BOTTOM CHORD OF BAR JOIST.
4. FOR OVERHEAD LINES, UNISTRUT HORIZONTAL, TRAPEZE HUNG
5. FIELD COORDINATE HANGER HEIGHTS WITH HVAC CONTRACTOR. HVAC DUCT HAS PRIORITY.

HANGERS SHALL BE SPACED ACCORDING TO SMALLEST RACKED PIPE SIZE.

TUBE SIZE	DISTANCE BETWEEN SUPPORTS
1/2 - 5/8	6'
7/8 - 1 1/8	8'
1 3/8 - 2 1/8	10'
2 5/8 - 3 5/8	12'

2 HORIZONTAL REFRIGERANT LINE SUPPORT
SCALE: NTS



1 REFRIGERANT LINE SUPPORT
SCALE: NTS

ENGINEER SEAL

SHANNAH EITTER NUMBER E2001000891
Date: 2020.10.23 11:43:52 -05'00'

Hussmann Corporation
13770 Ramona Avenue
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(909) 590-4910
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HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

LOCATION
LEE'S SUMMIT #2, MO

EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

PIPING DETAILS

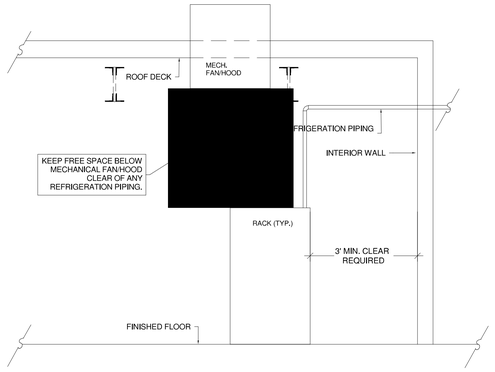
DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET:
R5.0

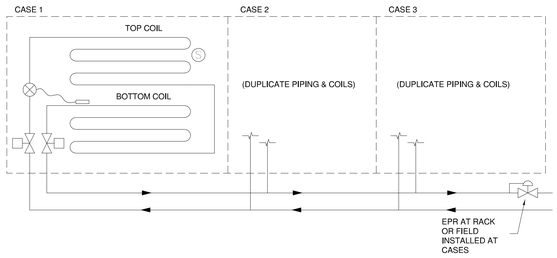
BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
BY
2020

REVISION			
1	2020 PRODUCE CASE REMODEL	08.26.20	



14 MECHANICAL / RACK CLEARANCE
SCALE: NTS



LEGEND

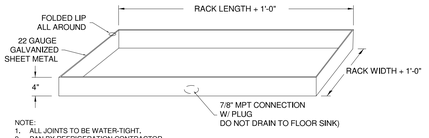
- THERMOSTATIC EXPANSION VALVE
- SOLENOID VALVE
- EVAPORATOR PRESSURE REGULATOR (EPR)
- COMPUTER PROCESS CONTROL THERMISTOR

NOTES:
1. ALL COMPONENTS IN CASE ARE FACTORY SUPPLIED AND INSTALLED.
2. ELECTRICIAN TO PROVIDE (1) 120V CONTROL CIRCUIT TO EACH CASE.
3. CASE MOUNTED SOLENOIDS ARE WIRED IN PARALLEL.

SEQUENCE OF OPERATION

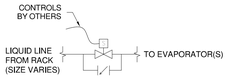
- EACH CASE IS SUPPLIED WITH FACTORY MOUNTED LIQUID AND SUCTION SOLENOIDS. THESE SOLENOIDS ARE CONTROLLED TOGETHER AS A PAIR WITH A SINGLE REFRIGERATION OUTPUT FROM THE CONTROLLER.
- EACH CASE COMES WITH ONE FACTORY INSTALLED TEMPERATURE PROBE TO BE CONNECTED TO THE CONTROLLER.
- THE EXTERNALLY MOUNTED EPR IS USED TO PROVIDE A BASE PRESSURE FOR THE ENTIRE LINE UP. THIS EPR HAS A STARTING SET POINT OF 17 F.
- ALL CASES WILL BE DEFROSTED SIMULTANEOUSLY BY DE-ENGERGIZING THE CASE MOUNTED-SOLENOIDS.
- FURTHER ADJUSTMENT MAY BE REQUIRED BASED ON FEEDBACK FROM THE MEAT DEPARTMENT MANAGER.

13 BORGEN MEAT CASE SETUP
SCALE: NTS



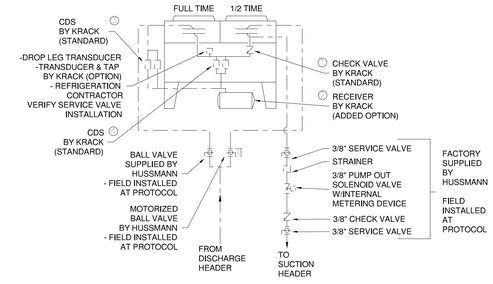
NOTE:
1. ALL JOINTS TO BE WATER-TIGHT.
2. PAN BY REFRIGERATION CONTRACTOR.
3. SEE R3.0 EQUIPMENT SCHEDULE FOR RACK DIMENSIONS.

12 RACK DRAIN PAN
SCALE: NTS



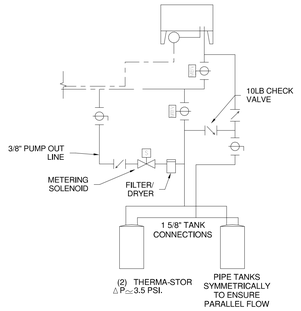
NOTES:
1. INSTALL OUTSIDE OF FREEZER BOX
2. APPLICABLE TO KOOL GAS SYSTEMS ONLY

11 KOOL-GAS DOOR SWITCH CONTROL VALVE DETAIL
SCALE: NTS



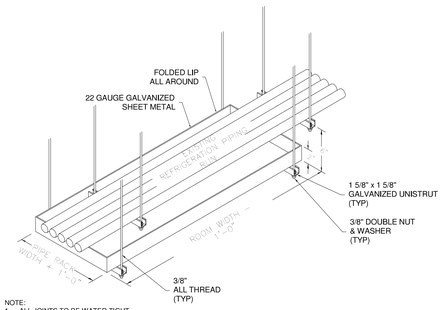
NOTES:
1. ADD GRAVITY DAMPERS TO THE PUMP OUT SIDE OF THE CONDENSER WHEN THE PUMP OUT LINE IS CONNECTED TO THE SUCTION HEADER WITH A SUCTION TEMPERATURE GREATER THAN 0 F°
2. PIPE PUMP OUT LINE TO THE SUCTION HEADER WITH THE LOWEST SUCTION PRESSURE WHERE AT LEAST ONE COMPRESSOR WILL BE OPERATING AT ALL TIMES. I.E. DO NOT CONNECT TO A SATELLITE COMPRESSOR
3. DO NOT USE VALVES THAT COME WITH CONDENSER. USE THE SUPPLIED SHIPPED LOOSE CDS VALVES

10 PROTOCOL SPLIT CONDENSER DETAIL
SCALE: NTS



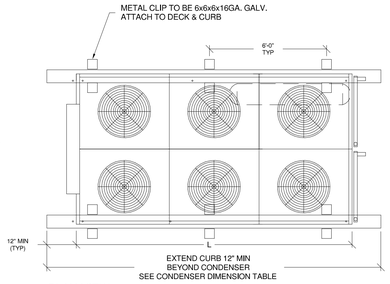
NOTES:
1. M8V – 24V MOTORIZED BALL VALVE
2. MOTORIZED BALL VALVES, CHECK VALVES & PUMPOUT LINE VALVES ARE FACTORY PROVIDED & FIELD INSTALLED.

9 PROTOCOL HEAT RECLAIM PIPING DIAGRAM
SCALE: NTS

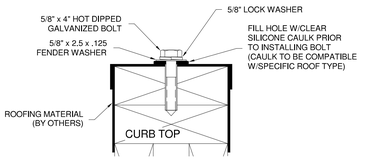


NOTE:
1. ALL JOINTS TO BE WATER-TIGHT.
2. PAN BY REFRIGERATION CONTRACTOR.

8 REFRIGERATION LINE CONDENSATE PAN
SCALE: NTS



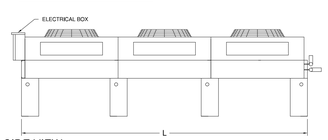
PLAN VIEW



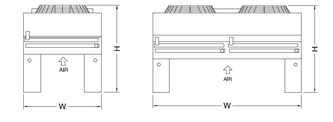
LAG BOLT DETAIL

CONDENSER DIMENSIONS

ONE FAN WIDE	L	W	H
LAV*-11***	56	45-1/4	54
LAV*-12***	112	45-1/4	54
LAV*-13***	166	45-1/4	54
LAV*-14***	220	45-1/4	54
LAV*-15***	274	45-1/4	58-1/2
LEV*-16***	328	45-1/4	58-1/2
TWO FANS WIDE			
LAV*-22***	112	90-1/2	54
LAV*-23***	166	90-1/2	54
LAV*-24***	220	90-1/2	54
LAV*-25***	274	90-1/2	58-1/2
LEV*-26***	328	90-1/2	58-1/2

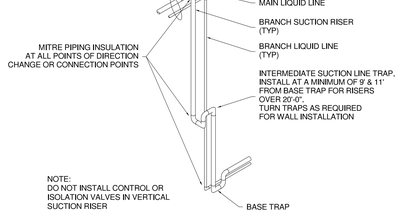


SIDE VIEW

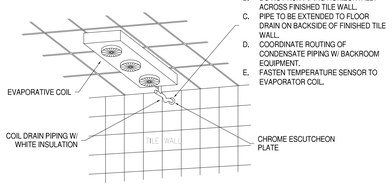


END VIEW SINGLE WIDE
END VIEW DOUBLE WIDE

CONDENSER DIMENSIONS

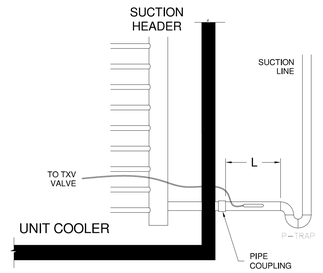


7 INTERMEDIATE SUCTION LINE TRAP
SCALE: NTS



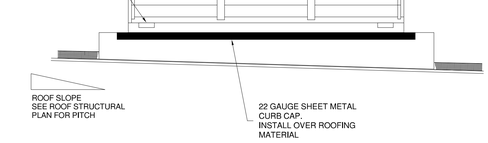
A. EXTEND CONDENSATE DRAIN PERPENDICULAR TO WALL FROM COIL.
B. DO NOT RUN PIPING HORIZONTALLY ACROSS FINISHED TILE WALL.
C. PIPE TO BE EXTENDED TO FLOOR DRAIN ON BACKSIDE OF FINISHED TILE WALL.
D. COORDINATE ROUTING OF CONDENSATE PIPING W/ BACKROOM EQUIPMENT.
E. FASTEN TEMPERATURE SENSOR TO EVAPORATOR COIL.

5 TYPICAL EVAPORATIVE COIL PIPING DETAIL
SCALE: NTS

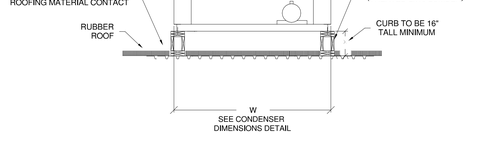


NOTE: MOUNTING TXV SENSING BULB
1. ON SUCTION LINES 7/8 AND SMALLER, MOUNT BULB AT THE 12 O'CLOCK POSITION. ON SUCTION LINES 1 1/8 AND LARGER, MOUNT BULB AT THE 4' O'CLOCK OR 8 O'CLOCK POSITION.
2. DO NOT MOUNT AT 6 O'CLOCK POSITION.
3. PROVIDE CLEAN, CONTINUOUS CONTACT POINT FOR ENTIRE BULB LENGTH.
4. DO NOT MOUNT AFTER P-TRAP.
5. DO NOT INSTALL ON ANY BRAZED JOINT.
6. INSTALL SUCTION LINE SUCH THAT THE LENGTH "L" IS LONG ENOUGH FOR BULB INSTALLATION.
7. INSULATE BULB WITH SAME INSULATION AS PIPING.
8. INSTALL BULB AFTER SYSTEM IS VERIFIED LEAK FREE AND PRIOR TO SYSTEM STARTUP.

3 TXV SENSING BULB DETAIL
SCALE: NTS



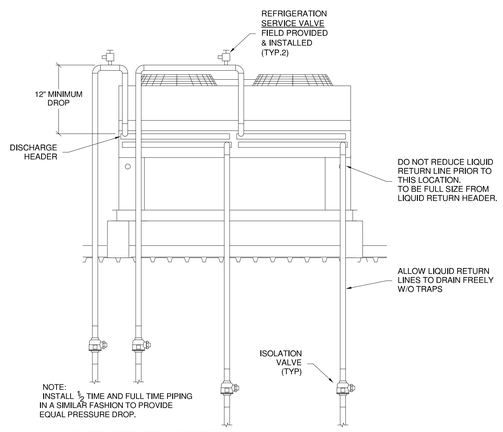
ELEVATION SIDE VIEW



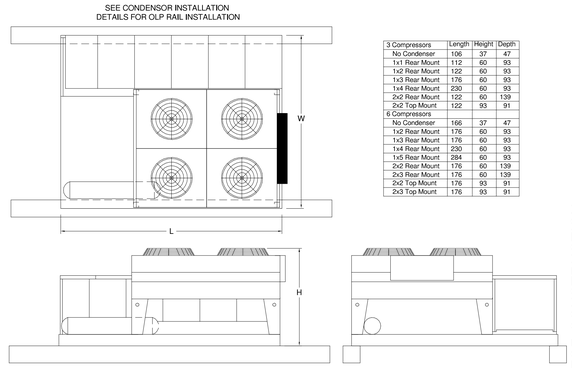
ELEVATION END VIEW

NOTE:
1. SEE R3.0 FOR CONDENSER MODEL DETAILS.
2. VERIFY QUANTITY AND LOCATION OF CONDENSER LEGS.
3. CONDENSER LEGS FACTORY SUPPLIED AND FIELD INSTALLED.
4. REMOVE ALL SHIPPING MATERIAL PRIOR TO STARTUP.

6 CONDENSER INSTALLATION DETAILS
SCALE: NTS

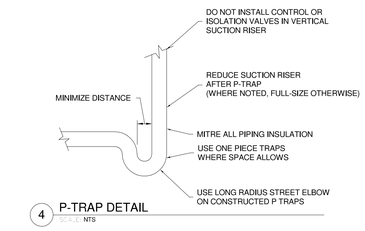


2 CONDENSER PIPING DETAIL
SCALE: NTS



3 Compressors	Length	Height	Depth
No Condenser	106	37	47
1x1 Rear Mount	112	60	93
1x2 Rear Mount	122	60	93
1x3 Rear Mount	176	60	93
1x4 Rear Mount	230	60	93
2x2 Rear Mount	122	60	139
2x2 Top Mount	122	93	91
6 Compressors			
No Condenser	166	37	47
1x2 Rear Mount	176	60	93
1x3 Rear Mount	176	60	93
1x4 Rear Mount	230	60	93
1x5 Rear Mount	284	60	93
2x2 Rear Mount	176	60	139
2x3 Rear Mount	176	60	139
2x2 Top Mount	176	93	91
2x3 Top Mount	176	93	91

1 OLP PROTOCOL DIMENSIONS
SCALE: NTS



4 P-TRAP DETAIL
SCALE: NTS

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
ENGINEER
Date: 2020.10.23 11:44:22 -05'00'

HUSSMANN
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5110 Fax

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LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

PIPING DETAILS

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET:
R5.1

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT 2_Refrig_R20.rvt

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DIVISION OF FIRE SERVICES
LEE'S SUMMIT, MISSOURI
10/26/2020

REVISION			
		BY	
1	2020 PRODUCE CASE REMODEL	08.26.20	

HVAC LOW VOLTAGE NOTES

Electrician to provide and pull all HVAC low voltage cable

Controls Contractor shall terminate all HVAC network and low voltage cable

Bacnet/485 Network Cable to be 22/3 shielded, plenum rated, stranded conductors (MWC-5171-FBL-RIB Metro Wire or equal)

All other cable to be 18/8, 18/4, 18/2 shielded, plenum rated, stranded conductors (MWC-5386-F, MWC-5192-F, MWC-5190)

Pull all cables into equipment control cabinets and down into temp and/or humidity locations. Leave 10' coiled up on each end with cable ID labels on each end.

All low voltage cable shall be installed in bridle rings, j-hooks, or cable tray.

Controls Contractor to supply and mount HVAC panel, I/O panels, and generator override panel.

Provide 2 rough ins vertically with conduit in between for RTU's with temperature and humidity sensors, pull 18/8 into bottom rough in. Refer to H drawings for rough in heights.

HVAC Low Voltage Cable Schedule

Cable ID #	Cable	To:	From:	Description	Notes
		RTUs Cable Pulls			
1TH	18/8	RTU 1	Temp/Humidity Sensor Location	Inputs	
2TH	18/8	RTU 2	Temp/Humidity Sensor Location	Inputs	
3T	18/8	RTU 3	Temp Sensor Location	Inputs	
3DA	18/2	RTU 3	Discharge Air Sensor	Inputs	
4T	18/8	RTU 4	Temp Sensor Location	Inputs	
4DA	18/2	RTU 4	Discharge Air Sensor	Inputs	
5T	18/8	RTU 5	Temp Sensor Location	Inputs	
5DA	18/2	RTU 5	Discharge Air Sensor	Inputs	
7T	18/8	RTU 7	Temp Sensor Location	Inputs	
7DA	18/2	RTU 7	Discharge Air Sensor	Inputs	
8T	18/8	RTU 8	Temp Sensor Location	Inputs	
8DA	18/2	RTU 8	Discharge Air Sensor	Inputs	
9T	18/8	RTU 9	Temp Sensor Location	Inputs	
11TH	18/8	RTU 11	Temp/Humidity Sensor Location	Inputs	
12TH	18/8	RTU 12	Temp/Humidity Sensor Location	Inputs	
		UH-1 &2			
UH1	18/8	UH-1	Temp Sensor Location	Inputs	
UH-2	18/8	UH-2	Temp Sensor Location	Inputs	
UH-2	18/8	UH-2	Temp Sensor Location	Inputs	
		Kitchen Hoods			
H1S	18/2	Space Temp Sensor Location	Hood 1 Control Panel	See Hood Detail H Drawings	
H1E	18/2	Exhaust Temp Sensor	Hood 1 Control Panel	See Hood Detail H Drawings	
H1D	18/2	Supply Air Sensor	Hood 1 Control Panel	See Hood Detail H Drawings	
H2S	18/2	Space Temp Sensor Location	Hood 2 Control Panel	See Hood Detail H Drawings	
H2E	18/2	Exhaust Temp Sensor	Hood 2 Control Panel	See Hood Detail H Drawings	
H2D	18/2	Supply Air Sensor	Hood 2 Control Panel	See Hood Detail H Drawings	
H4S	18/2	Space Temp Sensor Location	Hood 4 Control Panel	See Hood Detail H Drawings	
H4E	18/2	Exhaust Temp Sensor	Hood 4 Control Panel	See Hood Detail H Drawings	
H5S	18/2	Space Temp Sensor Location	Hood 5 Control Panel	See Hood Detail H Drawings	
H5E	18/2	Exhaust Temp Sensor	Hood 5 Control Panel	See Hood Detail H Drawings	
		VAV's			
6-1T		VAV 6-1	Temp Sensor Location	Inputs	
6-2T		VAV 6-2	Temp Sensor Location	Inputs	
6-3T		VAV 6-3	Temp Sensor Location	Inputs	
6-4T		VAV 6-4	Temp Sensor Location	Inputs	
6-5T		VAV 6-5	Temp Sensor Location	Inputs	
10-1T		VAV 10-1	Temp Sensor Location	Inputs	
10-2T		VAV 10-2	Temp Sensor Location	Inputs	
10-3T		VAV 10-3	Temp Sensor Location	Inputs	
10-4T		VAV 10-4	Temp Sensor Location	Inputs	
10-5T		VAV 10-5	Temp Sensor Location	Inputs	
		Main Comm Room			
CRT1	18/2	Room Temp Sensor	HVAC Panel	Room Sensor for Temp Alarm	See Note on H1.0A

HVAC LOW VOLTAGE NOTES

Bacnet/485 Network Cable to be 22/3 shielded, plenum rated, stranded conductors (MWC-5171-FBL-RIB Metro Wire or equal)

Network will start at HVAC panel and follow riser diagram (any changes need to be noted for As Built)

Electrician to provide and pull all HVAC low voltage cable

Controls Contractor shall terminate all HVAC network and low voltage cable

Network for Hoods will terminate in the hood control cabinet

Network for RTU's will terminate in the RTU control panel on roof

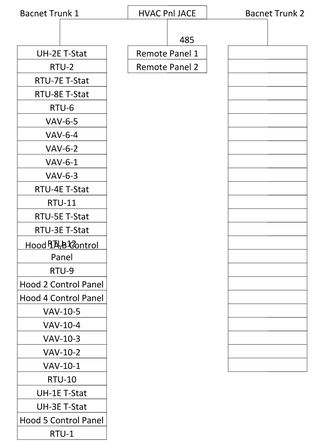
Network for VAV's will terminate in the VAV damper section next to electric

Network for UH's will terminate in Thermostat location on wall

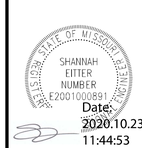
Leave 10' of network cable coiled up on each end with labels showing what device cable daisy chains to

All Network cabling shall be run in bridle rings, j-hooks, or cable tray.

RISER DIAGRAM



ENGINEER SEAL



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FAX: (515) 267-2935

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

CONTROL WIRE PULLS

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET:

E6.1

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

GENERAL NOTES

1. SEE PROJECT SPECIFIC EQUIPMENT SPECIFICATIONS BOOKLET PROVIDED BY HY-VEE FOR CASE DIMENSIONS, SIZES AND LOCATIONS OF REFRIGERATION STUBS, DEFROST DATA, AND WIRING DIAGRAMS.
2. ELECTRICIAN TO PULL AND TERMINATE ALL SENSOR WIRES (22 GA., 2 CONDUCTOR BELDEN NO.8761 OR EQUAL) FROM SENSORS LOCATIONS TO DESIGNATED BOARDS LOCATED IN CORRESPONDING REFRIGERATION RACKS AND PROTOCOLS. VERIFY LOCATION WITH REFRIGERATION CONTRACTOR.
3. ELECTRICIAN TO MAKE ALL TERMINAL CONNECTIONS TO THE 16 AI BOARD AND 8RO BOARDS.
4. ELECTRICIAN TO CONNECT ALL SENSORS AND CONTROL SWITCHES.
5. ELECTRICIAN TO CONNECT CPC CONTROLLERS TO 16AI AND 8RO BOARDS (22GA, 3 CONDUCTOR BELDEN NO.8761).
6. CPC CONTROLLERS, 16AI BOARDS, AND 8RO BOARDS ARE SUPPLIED AND MOUNTED BY HUSSMANN.
7. ALL SENSORS AND CONTROL SWITCHES SUPPLIED AND MOUNTED BY REFRIGERATION CONTROLS CONTRACTOR.
8. REFER TO CONSTRUCTION ELECTRICAL DRAWINGS FOR INFORMATION ON REFRIGERATED CASE FANS, CASE LIGHTS, ETC.
9. ELECTRICIAN TO MAKE ELECTRICAL TRANSFORMER CONNECTIONS TO ALL CPC CONTROLLERS, 16 AI BOARDS, AND 8RO BOARDS.
10. ELECTRICIAN TO CONNECT 8RO BOARDS TO CORRESPONDING CONNECTION POINTS INCLUDING CONDENSER FANS.
11. ELECTRICIAN TO PROVIDE 110 VOLT CIRCUIT TO EACH CONTROLLER (TYPICAL 3) AND TO REFRIGERANT AND ALARM PANEL. FIELD VERIFY LOCATION.
12. ALL NETWORK COMMUNICATIONS WIRING SHOULD BE BELDEN #8761 OR EQUIVALENT. DO NOT RUN COMMUNICATIONS WIRING WITH LINE VOLTAGE.
13. ALL CONTROL WIRE TO BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
14. ELECTRICIAN TO PROVIDE (1) 18-2 CABLE TO THE PRODUCE PREP ROOM FROM THE CONTROLLER FOR A CLEAN SWITCH.
15. ELECTRICIAN TO SUPPLY (1) 18-2 SHIELDED CABLE FROM THERM-A-STOR WATER RECLAIM TANKS TO ASSOCIATED RACK/PROTOCOL. VERIFY TERMINATION LOCATION WITH REFRIGERATION CONTROLS CONTRACTOR. SEE R5 SHEETS FOR DETAILS.
16. ELECTRICIAN TO PROVIDE (1) 1" CONDUIT FOR EACH REFRIGERATION CONDENSER FROM PROTOCOL ELECTRICAL PANEL THROUGH ROOF. NO LINE VOLTAGE WIRING SHALL BE RUN IN THIS CONDUIT.
17. TEMPERATURE SENSORS FOR WALKIN COOLERS/FREEZERS ARE FIELD PROVIDED & INSTALLED BY REFRIGERATION CONTROLS CONTRACTOR. FIELD VERIFY LOCATION.
18. TEMPERATURE SENSORS FOR EXISTING CASES NOT EQUIPPED SHALL PROVIDED & INSTALLED BY REFRIGERATION CONTRACTOR.

RACK/PROTOCOL KEYNOTES

A. ELECTRICIAN TO PROVIDE AND INSTALL A 3 POSITION SWITCH IN MEAT PREP, CONTRACTOR AND/OR RELAY AND ANY OTHER NECESSARY HARDWARE TO ALLOW THE REFRIGERATION TO OPERATE IN ONLY ONE OF THESE THREE MODES: 1) EVAPORATOR FANS OFF-REFRIGERATION OFF 2) EVAPORATOR FANS ON-REFRIGERATION OFF 3) EVAPORATOR FANS ON-REFRIGERATION ON REFRIGERATION CONTROLLED BY A FIELD INSTALLED RELAY WHOSE CONTACTS ARE CONNECTED TO A 22GA BELDON CABLE. THE BELDEN CABLE TO BE TERMINATED AT ASSOCIATED RACK.

B. PROVIDE 120-160 CIRCUIT FOR LINE VOLTAGE THERMOSTAT & LIQUID LINE SOLENOID VALVE IN PRODUCE PREP. WIRING BY ELECTRICAL CONTRACTOR. THERMOSTAT BY REFRIGERATION CONTRACTOR, AND LIQUID LINE SOLENOID PROVIDED SHIPPED LOOSE WITH REFRIGERATION EQUIPMENT. POWER CAN BE ROUTED FROM EVAPORATOR FAN CIRCUIT.

C. ELECTRICIAN TO PROVIDE 120 VOLT CIRCUIT AND INTER CONNECTING WIRING FOR FREEZER DOOR SWITCH. REFRIGERATION CONTRACTOR TO SUPPLY AND INSTALL, SOLENOID AND DOOR SWITCH (PART # DS1109) WIRING DIAGRAM SUPPLIED WITH DOOR SWITCH.

D. ELECTRICIAN TO RUN 18-2 BELDEN CABLE FROM FREEZER DOOR SWITCH BACK TO THE PROTOCOL CONTROLLER FOR THIS FREEZER AND TAG FOR WALK IN FREEZER.

E ELECTRICIAN TO RUN 18-2 BELDEN CABLE TO ASSOCIATED RACK/PROTOCOL. ELECTRICIAN TO CONNECT CASE TERMINATION KLIXONS IN SERIES AND CONNECT TO 16AI BOARD ON CORRESPONDING TERMINAL.

F ELECTRICIAN TO PROVIDE (1) 18-2 CABLE TO THE FIXTURE FROM THE CONTROLLER FOR A CLEAN SWITCH. CONTROLS CONTRACTOR TO PROVIDE MOMENTARY SWITCH.

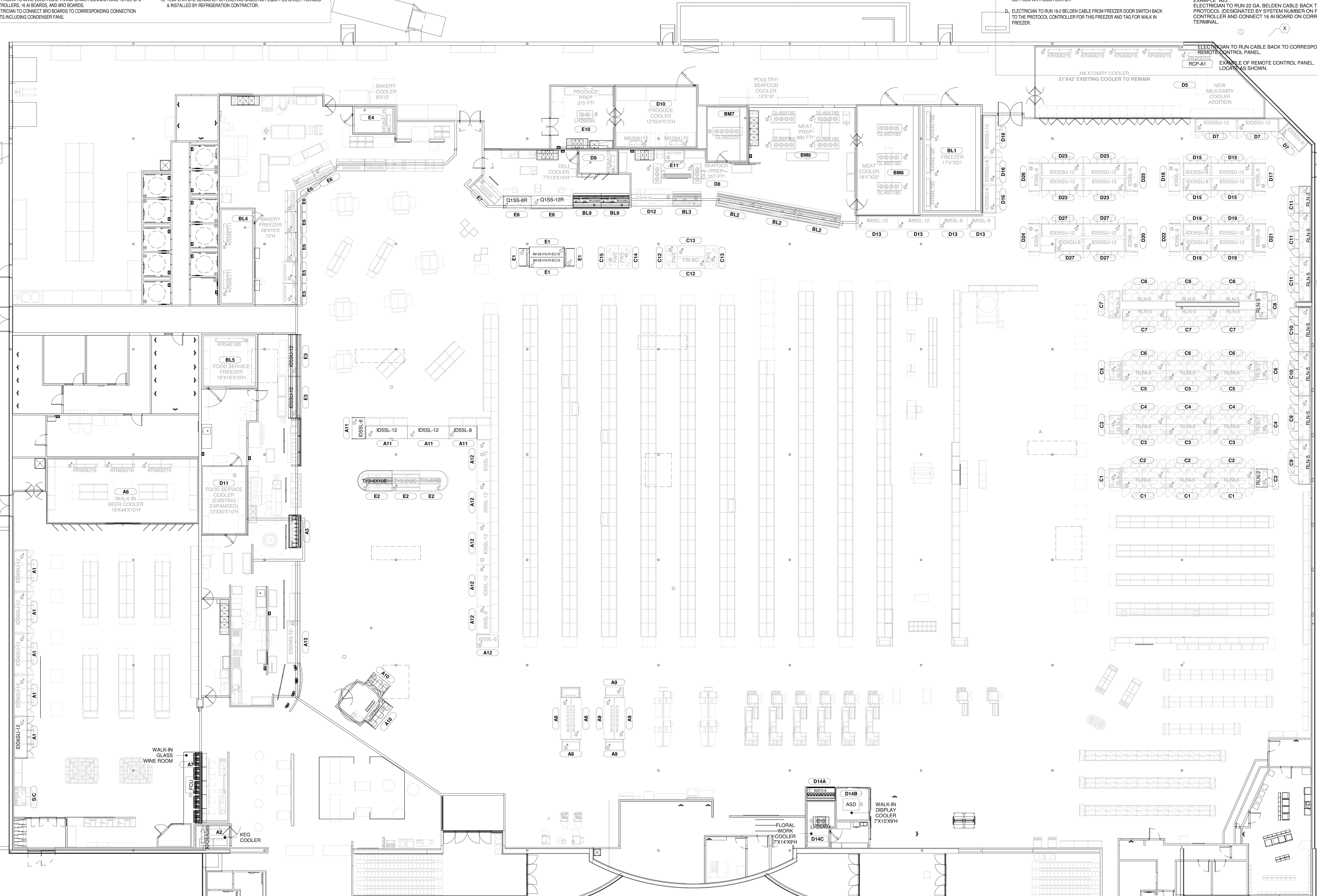
G DUAL TEMP SWITCH FIELD PROVIDED AND INSTALLED BY REFRIGERATION CONTROLS CONTRACTOR. (PROTOCOL ONLY)

A THROUGH Z:
(S) CABLE TO BE LABELED WITH <u>SYSTEM NUMBER</u> AND <u>LETTER DESIGNATION</u> SPECIFIC TO SENSOR LOCATION, WHERE THE FIRST LETTER DESIGNATES THE RACK OR PROTOCOL LABEL AND THE NUMBER IS THE SYSTEM # AND THE LAST LETTER IS THE SPECIFIC SENSOR DESIGNATION - LABEL EXAMPLE "A23C"
IF ONLY ONE SENSOR FOR A SYSTEM IS REQUIRED - LABEL EXAMPLE "A23".
ELECTRICIAN TO RUN 22 GA. BELDEN CABLE BACK TO RACK OR PROTOCOL (DESIGNATED BY SYSTEM NUMBER ON PLAN) CPC CONTROLLER AND CONNECT 16 AI BOARD ON CORRESPONDING TERMINAL.

(X) ELECTRICIAN TO RUN CABLE BACK TO CORRESPONDING REMOTE CONTROL PANEL.

RCP-A1 EXAMPLE OF REMOTE CONTROL PANEL. LOCATE AS SHOWN.

REVISION		DATE	BY
1	2020 PRODUCE CASE REMODEL	08/28/20	



CONTROL WIRE PULLS

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
REGISTERED PROFESSIONAL ENGINEER
Date: 2020.10.23 11:45:30 -05'00'

HUSSMANN
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

LOCATION
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HY-VEE EMPLOYEE OWNED
HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

NORTH PLAN NORTH

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PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET: E7.1

RACK/PROTOCOL KEYNOTES

1. FOR HOT GAS DEFROST SYSTEMS: ELECTRICIAN TO RUN 14-4 CONDUCTOR (WHITE, BLACK, BLUE, RED, #14THHN) FROM PROTOCOL OUTPUT BOARD AT PROTOCOL TO SYSTEM CDS VALVE AT CASES. FIELD VERIFY CDS VALVE LOCATION WITH REFRIGERATION CONTRACTOR.

   ELECTRICIAN TO RUN ONE 120V/1PH CIRCUIT FROM PROTOCOL OUTPUT BOARD AT PROTOCOL TO SYSTEM HOT GAS SOLENOID VALVE AT CASES. FIELD VERIFY HOT GAS SOLENOID VALVE LOCATION WITH REFRIGERATION CONTRACTOR.
2. FOR OFF TIME OR ELECTRIC DEFROST SYSTEMS: ELECTRICIAN TO RUN 14-4 CONDUCTOR (WHITE, BLACK, BLUE, RED, #14THHN) FROM PROTOCOL OUTPUT BOARD AT PROTOCOL TO SYSTEM CDS VALVE AT CASES. FIELD VERIFY CDS VALVE LOCATION WITH REFRIGERATION CONTRACTOR.
3. FOR OFF TIME DEFROST SYSTEM ELECTRICIAN TO PROVIDE (1) 120V/1PH CIRCUIT FROM ASSOCIATED RACK/PROTOCOL TO FIELD INSTALLED SOLENOID VALVE. VERIFY TERMINATION LOCATIONS WITH REFRIGERATION CONTRACTOR.
4. ELECTRICIAN TO PROVIDE (1) 220V CIRCUIT FROM ASSOCIATED ROOFTOP CONDENSING UNIT TO TO FIELD INSTALLED THERMOSTAT AND LIQUID LINE SOLENOID, WIRED IN SERIES. VERIFY LOCATION WITH REFRIGERATION CONTRACTOR. VERIFY TERMINATION LOCATION IN ROOFTOP CONDENSING UNIT WITH REFRIGERATION CONTRACTOR.
5. ELECTRICIAN TO PROVIDE SPLIT CONDENSER WIRING. SEE E7.3 FOR DETAIL.
6. ELECTRICIAN TO PROVIDE HEAT RECLAIM WIRING. SEE E7.3 FOR DETAIL.

(X) ELECTRICIAN TO RUN CABLE BACK TO CORRESPONDING REMOTE CONTROL PANEL.

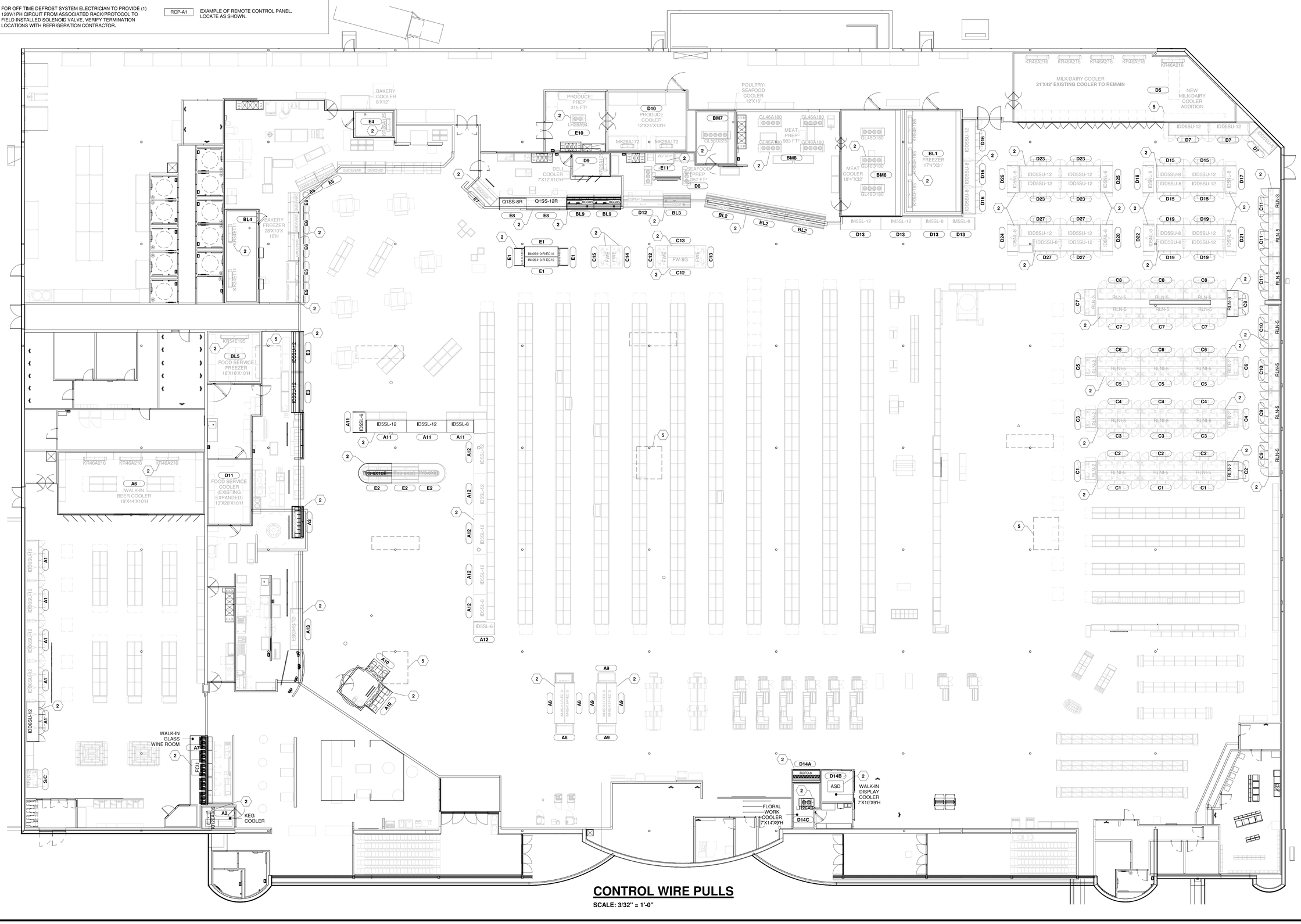
RCP-A1 EXAMPLE OF REMOTE CONTROL PANEL. LOCATE AS SHOWN.

GENERAL NOTES

1. TERMINATIONS BY ELECTRICIAN
2. ALL HARDWARE PROVIDED BY CONTROLS CONTRACTOR
3. CONTROL WIRES SHALL NOT BE RUN WITH POWER WIRING

RELEASE FOR CONSTRUCTION
AS NOTED ON PLANS REVIEW
DEVELOPMENT SERVICES
LEE'S SUMMIT, MISSOURI
08/22/2023

REVISION		BY
1	2020 PRODUCE CASE REMODEL	08/22/20



CONTROL WIRE PULLS

SCALE: 3/32" = 1'-0"

ENGINEER SEAL

STATE OF MISSOURI — SHANNAH EITTER — NUMBER E2001000891 — REGISTERED PROFESSIONAL ENGINEER

Date: 2020.10.23 11:46:21 -05'00'

HUSSMANN®

Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5110 Fax

NOTICE OF NONRESPONSIBILITY

All plumbing and electrical and refrigeration drawings are furnished as a guide to assist the Architect and our Customer with store fixtures and its operating requirements only. Hussmann assumes no further responsibility. All specifications involving refrigeration equipment and line sizing are subject to change without notice. The use of this drawing for structural or architectural purposes is not authorized. It is the responsibility of the Architect, Structural, Electrical and Mechanical Engineers to verify and coordinate accuracy of all dimensions and refrigeration line sizing with contractors at the job site and insure that installations conform to specifications and all applicable codes.

LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935

Hy-Vee EMPLOYEE OWNED

NORTH PLAN NORTH

CONTROL WIRE PULLS

PRELIMINARY - NOT FOR CONSTRUCTION

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
3/32" = 1'-0"	95954

SHEET: E7.2

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt

PROTOCOL A BUSBAR

PROTOCOL BUSBAR LAYOUT SHEET — **PROTOCOL A**

CUSTOMER: HY-VEE
STORE NAME: LEE'S SUMMIT #2
JOB #: 0
QUOTE # : ####
REV:

115 VOLT CASE LOADS — 208/3 V BUSBAR #1

	CKT	L1		L2		L3		CKT	
CONTROL & RECEPTACLE		9.0	31.9						ZBD57KCE
60 IDD6SU FANS	1			6.0	31.9				COMP #1
60 IDD6SU LTS	1					5.7	31.9		BREAK 40A / CONT. 40A
KR26A089 FANS	2	1.8	11.9						ZB26KCE
FB10SS7R FANS/AS	3			1.7	11.9				COMP #2
FB10SS7R LTS	3					0.7	11.9		BREAK 20A / CONT. 30A
			31.9						ZB57KCE
					31.9				COMP #3
							31.9		BREAK 40A / CONT. 40A
		0.8	2.4					9	29 IM05R FANS
				0.9	4.4			9	29 IM05R LTS
(3)KR46A216 FANS 1P15A	6					9.6	8.3	10	FSP9642R+FSP7242R
25 IM05R FANS	8	2.4	4.0					12	62 ID5SL FANS
25 IM05R LTS	8			4.4	7.2			12	62 ID5SL LTS

	L1	L2	L3
CASE LINE LOADS	20.4	24.6	24.3
COMP	75.7	75.7	75.7
MAX DEFROST			
HIGH LEG MCA	120.1	125.4	125.0
HIGH LEG RLA	96.1	100.3	100.0

208/3 V BUSBAR #2

	CKT	L1		L2		L3		CKT	
ZB57KCE		31.9							
COMP #4				31.9	2.5			11	38 ID5SL FANS
BREAK 40A / CONT. 40A						31.9	4.4	11	38 ID5SL LTS
ZB57KCE		31.9							
COMP #5				31.9					
BREAK 40A / CONT. 40A						31.9			
ZB57KCE		31.9							
COMP #6				31.9					
BREAK 40A / CONT. 40A						31.9			
CONDENSER		21.6							
BREAKER				21.6					
3P-30A						21.6	2.0	A	CRANKCASE HEATERS
12 ESGMS FANS	13	0.3	2.0						2P20A
12 ESGMS LTS	13			0.8					

	L1	L2	L3
CASE LINE LOADS	2.3	3.3	6.4
COMP RLA	117.3	117.3	117.3
MAX DEFROST			
HIGH LEG MCA	149.5	150.8	154.6
HIGH LEG RLA	119.6	120.6	123.7

JOB #: 0
QUOTE # : ####
REV:

208/3 V BUSBAR #3

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
MAX DEFROST			
HIGH LEG MCA	0.0	0.0	0.0
HIGH LEG RLA	0.0	0.0	0.0
UNIT MCA :	269.6	276.2	279.6
UNIT RLA :	215.7	221.0	223.7

UNIT DATA: RLA 223.7 MCA 279.6 MOPD 350

Busbar rated for 200A maximum at 240VAC (High Leg MCA not to exceed 200A)
If Breaker/Contactors are required for Defrost instead of Powerlinks, contact engineering for space availability.

PROTOCOL B BUSBAR

PROTOCOL BUSBAR LAYOUT SHEET — **PROTOCOL B**

CUSTOMER: HY-VEE
STORE NAME: LEE'S SUMMIT #2
JOB #: 0
QUOTE # : ####
REV:

115 VOLT CASE LOADS — 208/3 V BUSBAR #1

	CKT	L1		L2		L3		CKT	
CONTROL & RECEPTACLE		9.0	24.5						ZFD25KVE
(3)KR54E185 FANS	1			6.0	24.5				COMP #1
FAN KILL RELAY						6.0	24.5		BREAK 40A / CONT. 40A
KR54E185 DEF HTR	1	21.7	24.5						ZF25KVE
2P30A PL#1				21.7	24.5				COMP #2
KR54E185 DEF HTR	1					21.7	24.5		BREAK 40A / CONT. 40A
2P30A PL#1		21.7	27.3						ZF28KVE
KR54E185 DEF HTR	1			21.7	27.3				COMP #3
2P30A PL#1						21.7	27.3		BREAK 40A / CONT. 40A
(2)KR34E111 FANS	4	2.4	2.0					5	KR54E185 FANS
FAN KILL RELAY				2.4	2.0				FAN KILL RELAY
KR34E111 DEF HTR	4					26.0	21.7	5	KR54E185 DEF HTR
2P40A PL#1		26.0	21.7						2P30A PL#1

	L1	L2	L3
CASE LINE LOADS	13.4	10.4	6.0
COMP	76.3	76.3	76.3
MAX DEFROST	43.4	43.4	43.4
HIGH LEG MCA	166.4	162.6	157.1
HIGH LEG RLA	133.1	130.1	125.7

208/3 V BUSBAR #2

	CKT	L1		L2		L3		CKT	
ZFD25KVE		28.1	2.4					6	(3)GL46D180 FANS
COMP #4				28.1	2.4				FAN KILL RELAY
BREAK 40A / CONT. 40A						28.1	27.8	6	(2)GL46D180 DEF HTR
ZB57KCE		31.9	27.8						2P40A PL#1
COMP #5				31.9	13.9			6	GL46D180 DEF HTR
BREAK 40A / CONT. 40A						31.9	13.9		2P20A PL#1
ZB57KCE		31.9	1.0					7	GL56D225 FANS
COMP #6				31.9	1.0				FAN KILL RELAY
BREAK 40A / CONT. 40A						31.9	17.4	7	GL56D225 DEF HTR
CONDENSER		21.6	17.4						2P30A PL#1
BREAKER				21.6	4.8			8	(4)GL46A180 FANS 1P15A
3P-30A						21.6			
					9.6			9	16 BGGS LTS

	L1	L2	L3
CASE LINE LOADS	3.4	17.8	0.0
COMP RLA	113.5	113.5	113.5
MAX DEFROST	27.8	13.9	41.7
HIGH LEG MCA	180.9	181.5	194.0
HIGH LEG RLA	144.7	145.2	155.2

JOB #: 0
QUOTE # : ####
REV:

208/3 V BUSBAR #3

	CKT	L1		L2		L3		CKT	
							PS2	PS2	PS2
			PS2						PS2
					PS1			PS1	PS1
							PS1		PS1

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
MAX DEFROST			
HIGH LEG MCA	0.0	0.0	0.0
HIGH LEG RLA	0.0	0.0	0.0
UNIT MCA :	347.3	344.1	351.1
UNIT RLA :	277.8	275.3	280.9

UNIT DATA: RLA 280.9 MCA 351.1 MOPD 400

Busbar rated for 200A maximum at 240VAC (High Leg MCA not to exceed 200A)
If Breaker/Contactors are required for Defrost instead of Powerlinks, contact engineering for space availability.

PROTOCOL C BUSBAR

PROTOCOL BUSBAR LAYOUT SHEET — **PROTOCOL C**

CUSTOMER: HY-VEE
STORE NAME: LEE'S SUMMIT #2
JOB #: 0
QUOTE # : ####
REV:

115 VOLT CASE LOADS — 208/3 V BUSBAR #1

	CKT	L1		L2		L3		CKT	
CONTROL & RECEPTACLE		9.0	24.5						ZFD25KVE
5 DR RLNI FANS/HTRS	1			8.3	24.5				COMP #1
5 DR RLNI FANS/HTRS	1					8.3	24.5		BREAK 40A / CONT. 40A
2+5 DR RLN+RLNI FANS/HTRS	1	11.3	27.3						ZF28KVE
2+15 DR RLN+RLNI LTS	1			2.9	27.3				COMP #2
							27.3		BREAK 40A / CONT. 40A
			27.3						ZF28KVE
					27.3				COMP #3
5 DR RLNI FANS/HTRS	3					8.3	27.3		BREAK 40A / CONT. 40A
5 DR RLNI FANS/HTRS	3	8.3	2.9					4	2+15 DR RLN+RLNI LTS
2+5 DR RLN+RLNI FANS/HTRS	3			11.3	8.3			5	5 DR RLNI FANS/HTRS
2+15 DR RLN+RLNI LTS	3					2.9	8.3	5	5 DR RLNI FANS/HTRS
5 DR RLN FANS/HTRS	4	8.3	11.3					5	2+5 DR RLN+RLNI FANS/HTRS
5 DR RLN FANS/HTRS	4			8.3	2.9			5	2+15 DR RLN+RLNI LTS
2+5 DR RLN+RLNI FANS/HTRS	4					11.3			

	L1	L2	L3
CASE LINE LOADS	51.1	42.0	39.2
COMP	79.1	79.1	79.1
MAX DEFROST			
HIGH LEG MCA	162.7	151.4	147.8
HIGH LEG RLA	130.2	121.1	118.3

208/3 V BUSBAR #2

	CKT	L1		L2		L3		CKT	
ZF28KVE		27.3	8.3					6	5 DR RLNI FANS/HTRS
COMP #4				27.3	8.3			6	5 DR RLNI FANS/HTRS
BREAK 40A / CONT. 40A						27.3	11.3	6	2+5 DR RLN+RLNI FANS/HTRS
ZF28KVE		27.3	2.9					6	2+15 DR RLN+RLNI LTS
COMP #5				27.3	8.3			7	5 DR RLN FANS/HTRS
BREAK 40A / CONT. 40A						27.3	8.3	7	5 DR RLN FANS/HTRS
ZF28KVE		27.3	13.1					7	8 DR RLN FANS/HTRS
COMP #6				27.3	2.9			7	18 DR RLN LTS
BREAK 40A / CONT. 40A						27.3	8.3	8	5 DR RLN FANS/HTRS
CONDENSER		21.6	8.3					8	5 DR RLN FANS/HTRS
BREAKER				21.6	13.1			8	8 DR RLN FANS/HTRS
3P-?A						21.6	2.9	8	18 DR RLN LTS

	L1	L2	L3
CASE LINE LOADS	32.6	32.6	30.7
COMP RLA	103.5	103.5	103.5
MAX DEFROST			
HIGH LEG MCA	170.1	170.1	167.8
HIGH LEG RLA	136.1	136.1	134.2

JOB #: 0
QUOTE # : ####
REV:

208/3 V BUSBAR #3

	CKT	L1		L2		L3		CKT	
5 DR RLN FANS/HTRS	9	8.3							
5 DR RLN FANS/HTRS	9			8.3					
10 DR RLN LTS	9	2.5							
5 DR RLN FANS/HTRS	10			8.3					
5 DR RLN FANS/HTRS	10					8.3	13.1	11	8 DR RLN FANS/HTRS
10 DR RLN LTS	10	2.5	8.3					11	5 DR RLN FANS/HTRS
5 DR RLNI FANS/HTRS	2			8.3	2.3			11	13 DR RLN LTS
5 DR RLNI FANS/HTRS	2					8.3			
2+5 DR RLN+RLNI FANS/HTRS	2	11.3							
2+15 DR RLN+RLNI LTS	2			2.9					
8+E FW FANS/HTRS	12					2.4			
8+E FW FANS/HTRS	13	2.4							
FWE FANS/HTRS	14			0.6					
FWE FANS/HTRS	15					0.6			

	L1	L2	L3
CASE LINE LOADS	35.3	30.7	32.8
MAX DEFROST			
HIGH LEG MCA	44.2	38.4	40.9
HIGH LEG RLA	35.3	30.7	32.8
UNIT MCA :	376.9	359.9	356.5
UNIT RLA :	301.5	287.9	285.2

UNIT DATA: RLA 301.5 MCA 376.9 MOPD 400

Busbar rated for 200A maximum at 240VAC (High Leg MCA not to exceed 200A)
If Breaker/Contactors are required for Defrost instead of Powerlinks, contact engineering for space availability.

REMOTE DEFROST PANEL C BUSBAR

PROTOCOL BUSSBAR LAYOUT SHEET — **REMOTE PANEL C**

CUSTOMER: HY-VEE
STORE NAME: LEE'S SUMMIT #2
JOB #: 0
QUOTE # : 95954

115 VOLT CASE LOADS — 208/3 V BUSS-BAR #1

	CKT	L1		L2		L3		CKT	
CONTROL & RECEPTACLE		12.0	23.5					3	2+5 DR RLN+RLNI DEF HTR
5 DR RLNI DEF HTR	1			16.8	23.5				2P30A PL#1
2P30A PL#1						16.8	16.8	4	5 DR RLN DEF HTR
5 DR RLNI DEF HTR	1	16.8	16.8						2P30A PL#1
2P30A PL#1				16.8	16.8			4	5 DR RLN DEF HTR
2+5 DR RLN+RLNI DEF HTR	1					23.5	16.8		2P30A PL#1
2P30A PL#1		23.5	23.5					4	2+5 DR RLN+RLNI DEF HTR
5 DR RLNI DEF HTR	2			16.8	23.5				2P30A PL#1
2P30A PL#1						16.8	16.8	5	5 DR RLNI DEF HTR
2+5 DR RLN+RLNI DEF HTR	2	23.5	16.8						2P30A PL#1
2P30A PL#1				23.5	16.8			5	5 DR RLNI DEF HTR
5 DR RLNI DEF HTR	3					16.8	16.8		2P30A PL#1
2P30A PL#1		16.8	23.5					5	2+5 DR RLN+RLNI DEF HTR
5 DR RLNI DEF HTR	3			16.8	23.5				2P30A PL#1
2P30A PL#1						16.8			

	L1	L2	L3
CASE LINE LOADS	12.0	0.0	0.0
MAX DEFROST	40.4	40.4	40.4
HIGH LEG MCA	65.5	50.5	50.5
HIGH LEG RLA	52.4	40.4	40.4

115 VOLT CASE LOADS — 208/3 V BUSS-BAR #2

	CKT	L1		L2		L3		CKT	
5 DR RLNI DEF HTR	6	16.8	16.8					8	5 DR RLN DEF HTR
2P30A PL#1				16.8	16.8				2P30A PL#1
5 DR RLNI DEF HTR	6					16.8	16.8	8	5 DR RLN DEF HTR
2P30A PL#1		16.8	16.8						2P30A PL#1
2+5 DR RLN+RLNI DEF HTR	6			23.5	26.9			8	8 DR RLN DEF HTR
2P30A PL#1						23.5	26.9		2P30A PL#1
5 DR RLN DEF HTR	7	16.8	16.8					9	5 DR RLN DEF HTR
2P30A PL#1				16.8	16.8				2P30A PL#1
5 DR RLN DEF HTR	7					16.8	16.8	9	5 DR RLN DEF HTR
2P30A PL#1		16.8	16.8						2P30A PL#1
8 DR RLN DEF HTR	7			26.9	16.8			10	5 DR RLN DEF HTR
2P30A PL#1						26.9	16.8		2P30A PL#1
PS1	PS1	PS1	26.9					11	8 DR RLN DEF HTR
PS1				PS1	26.9				2P30A PL#1

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
MAX DEFROST	33.6	40.4	40.4
HIGH LEG MCA	42.1	50.5	50.5
HIGH LEG RLA	33.6	40.4	40.4

115 VOLT CASE LOADS — 208/3 V BUSS-BAR #3

	CKT	L1		L2		L3		CKT	
5 DR RLNI DEF HTR	2	16.8	21.9					12	8+E FW DEF HTR
2P30A PL#1				16.8	21.9				2P30A PL#1
5 DR RLN DEF HTR	10					16.8	21.9	13	8+E FW DEF HTR
2P30A PL#1		16.8	21.9						2P30A PL#1
PS2	PS2				6.5			14	FWE DEF HTR
PS2							6.5		2P30A PL#1
5 DR RLN DEF HTR	11	16.8	6.5					15	FWE DEF HTR
2P30A PL#1				16.8	6.5				2P30A PL#1
							PS5	PS5	PS5
			PS5						PS5
PS3	PS3			PS3	PS6			PS6	PS6
PS3						PS3	PS6		PS6
PS4	PS4	PS4	PS7					PS7	PS7
PS4				PS4	PS7				PS7

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
MAX DEFROST	21.9	21.9	21.9
HIGH LEG MCA	27.4	27.4	27.4
HIGH LEG RLA	21.9	21.9	21.9

THIS PANEL'S SUPPLEMENTAL PROTECTION IS SIZED FOR X OF THE LARGEST SYSTEMS TO BE IN DEFROST AT ONE TIME.

UNIT DATA: RLA 107.9 MCA 134.9 MOPD 150

PROTOCOL E BUSBAR

PROTOCOL BUSBAR LAYOUT SHEET — **PROTOCOL E**

CUSTOMER: HY-VEE
STORE NAME: LEE'S SUMMIT #2
JOB #: 0
QUOTE # : ####
REV:

115 VOLT CASE LOADS — 208/3 V BUSBAR #1

	CKT	L1		L2		L3		CKT	
CONTROL & RECEPTACLE		9.0	20.2						ZBD45KCE
32 IM05EC FANS	1			2.4	20.2				COMP #1
32 IM05EC LTS	1					4.0	20.2		BREAK 30A / CONT. 30A
26 TY36XR FANS	2	7.0	14.1						ZB30KCE
26 TY36XR LTS	2			2.1	14.1				COMP #2
24 ID5SU FANS	3					1.9	14.1		BREAK 20A / CONT. 30A
24 ID5SU LTS	3	2.8	14.1						ZB30KCE
KR26A125 FANS 1P15A	4			1.6	14.1				COMP #3
2 GHSS636R FANS	5					4.1	14.1		BREAK 20A / CONT. 30A
36 GMDSVR FANS	6	6.5							
LH26A94 FANS 1P15A	10			1.8					

	L1	L2	L3
CASE LINE LOADS	25.3	7.9	10.1
COMP	48.4	48.4	48.4
MAX DEFROST			
HIGH LEG MCA	92.1	70.4	73.1
HIGH LEG RLA	73.7	56.3	58.5

208/3 V BUSBAR #2

	CKT	L1		L2		L3		CKT	
ZB45KCE		20.2							
COMP #4				20.2					
BREAK 30A / CONT. 30A						20.2			
ZB48KCE		22.8							
COMP #5				22.8					
BREAK 40A / CONT. 30A						22.8			
COMP #6				0.0					
						0.0			
CONDENSER		21.6							
BREAKER				21.6					
3P-30A						21.6			

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
COMP RLA	64.6	64.6	64.6
MAX DEFROST			
HIGH LEG MCA	80.8	80.8	80.8
HIGH LEG RLA	64.6	64.6	64.6

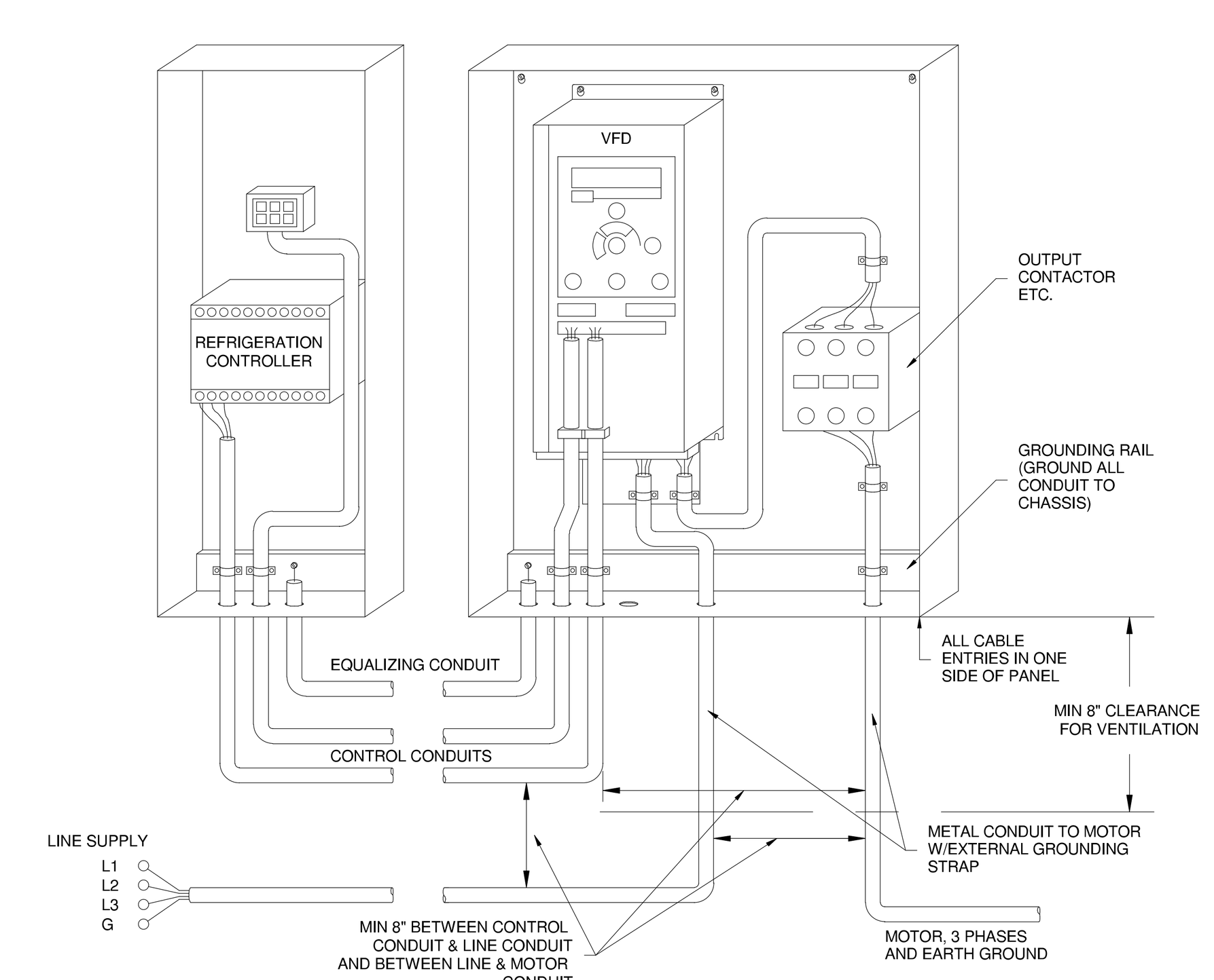
JOB #: 0
QUOTE # : ####
REV:

208/3 V BUSBAR #3

	L1	L2	L3
CASE LINE LOADS	0.0	0.0	0.0
MAX DEFROST			
HIGH LEG MCA	0.0	0.0	0.0
HIGH LEG RLA	0.0	0.0	0.0
UNIT MCA :	172.9	151.1	153.8
UNIT RLA :	138.3	120.9	123.1

UNIT DATA: RLA 138.3 MCA 172.9 MOPD 200

Busbar rated for 200A maximum at 240VAC (High Leg MCA not to exceed 200A)
If Breaker/Contactors are required for Defrost instead of Powerlinks, contact engineering for space availability.

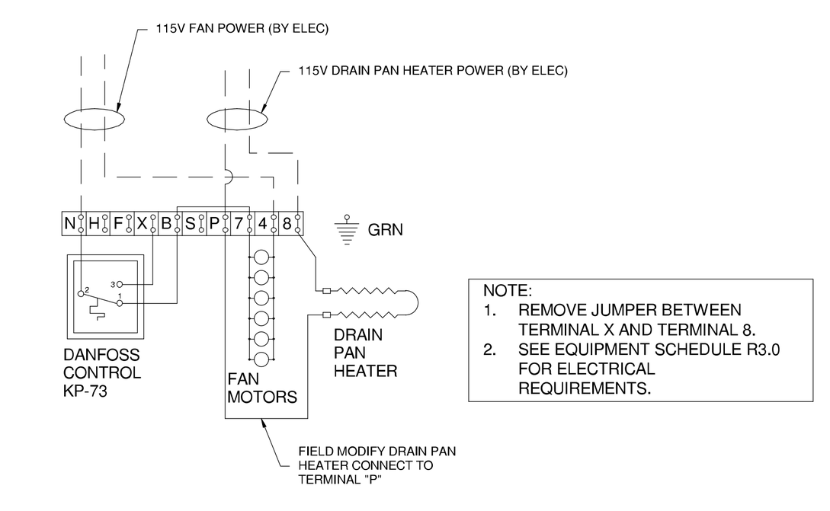


8 VFD INSTALLATION DETAIL
SCALE: NTS

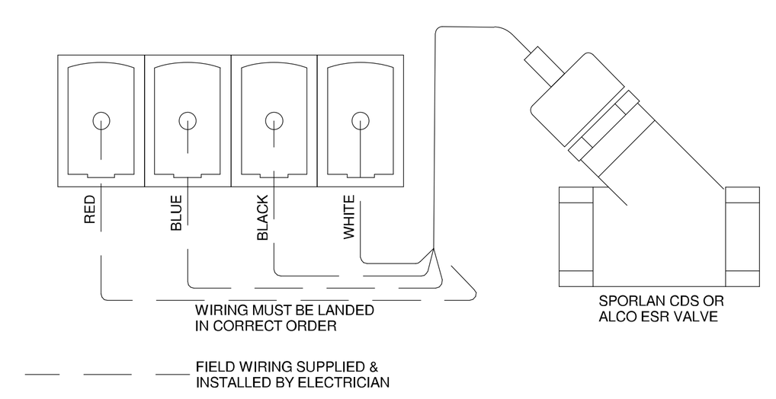
NOTES
1. GROUND ALL COMPONENTS APPROPRIATELY. SEE INSTALLATION MANUAL SUPPLIED WITH DRIVE FOR SPECIFIC INSTRUCTIONS.
2. MAINTAIN MINIMUM CLEARANCES AS NOTED.
3. LINE SIDE, MOTOR SIDE AND CONTROL WIRING SHALL BE IN SEPARATE METAL CONDUIT.
4. VERIFY LINE SIDE CONNECTIONS ARE LANDED CORRECTLY. APPLYING POWER TO THE MOTOR SIDE TERMINALS WILL DAMAGE THE VFD.
5. VERIFY MOTOR ROTATION AND MAKE CHANGES ON MOTOR SIDE.
6. TORQUE ALL CONNECTIONS AS INDICATED IN INSTALLATION MANUAL.
7. SHIELDED TWISTED PAIR CABLE IS RECOMMENDED FOR CONTROL CABLING BUT SPECIFIC CABLING PROTOCOL REQUIREMENTS SHOULD BE VERIFIED.
8. CONTROL CABLE SHOULD AVOID CLOSE PROXIMITY TO HIGH VOLTAGE WIRING. WHEN UNAVOIDABLE, CROSS HIGH VOLTAGE CONDUIT IN A PERPENDICULAR FASHION.
9. VERIFY ACTUAL CONTROL REQUIREMENTS W/REFRIGERATION CONTROLS CONTRACTOR.
10. DO NOT USE ALUMINUM CONDUCTOR.

GENERAL NOTES

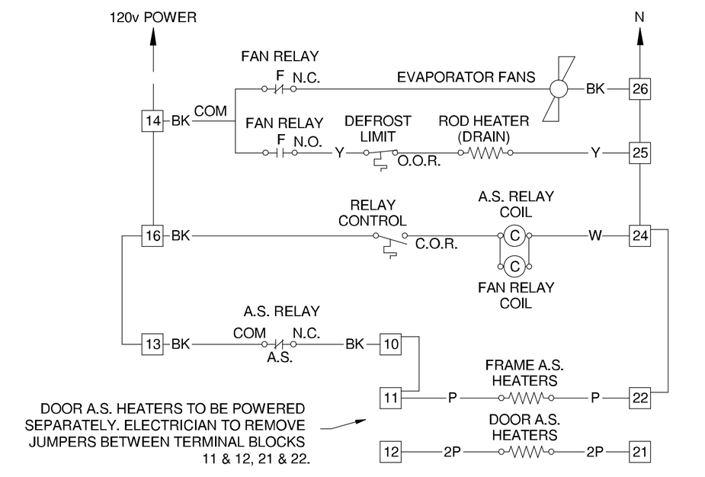
1. A "78FP" ON THE CIRCUIT DESCRIPTION INDICATES THAT THERE ARE TWO 1P20A MINI BREAKERS IN THE CORRESPONDING BREAKER POSITION.
2. REMOTE PANELS FACTORY SUPPLIED, FIELD INSTALLED BY ELECTRICAL CONTRACTOR. COORDINATE EXACT LOCATION W/REFRIGERATION & REFRIGERATION CONTROLS CONTRACTORS.



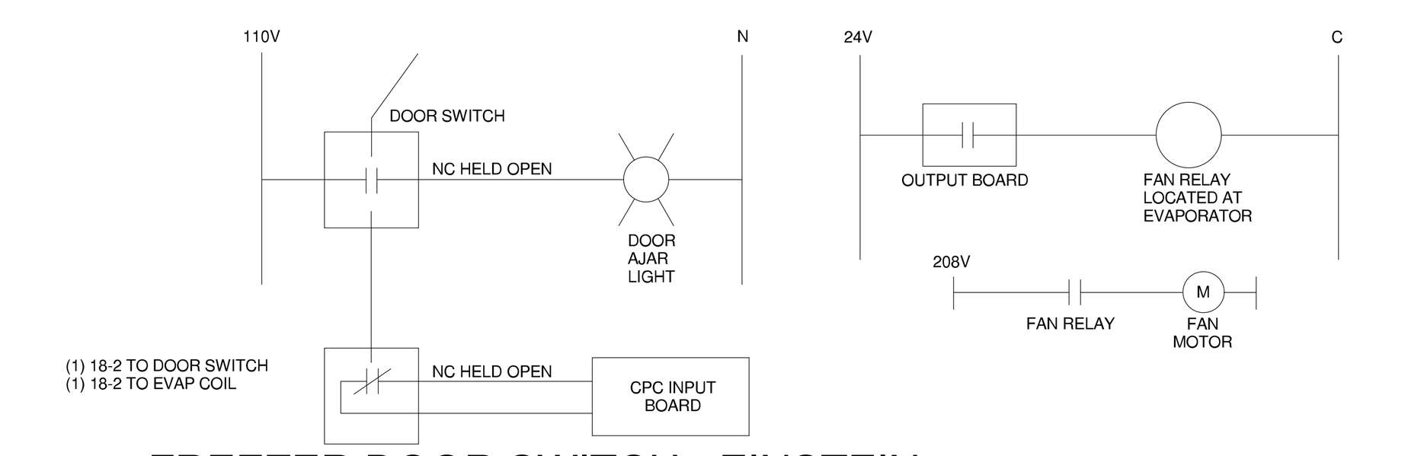
7 KR COIL GAS DEFROST DRAIN PAN HEATER WIRING DETAIL
SCALE: NTS



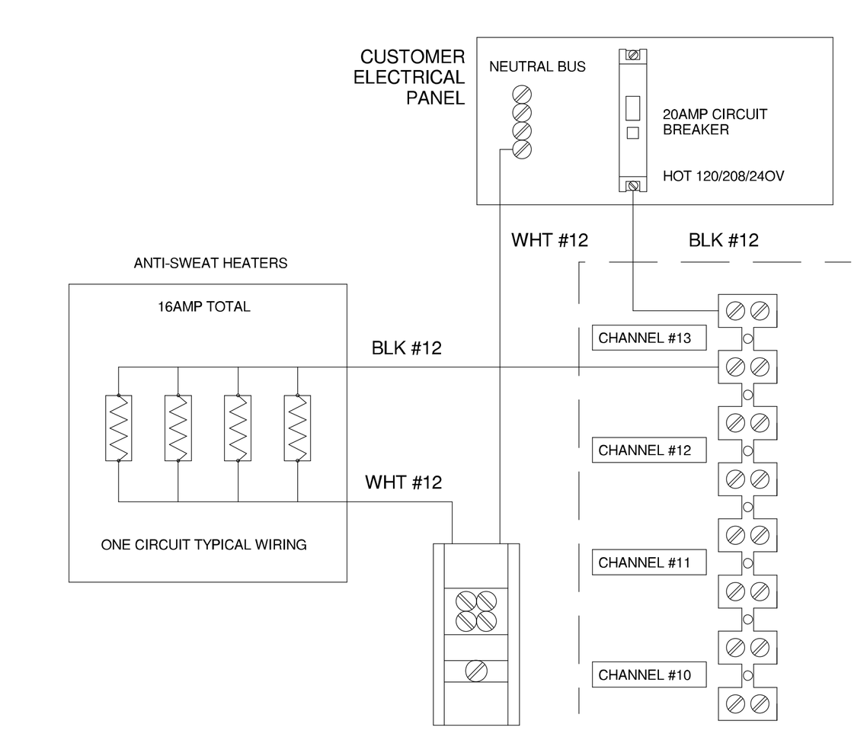
6 EEPR TERMINATION DETAIL
SCALE: NTS



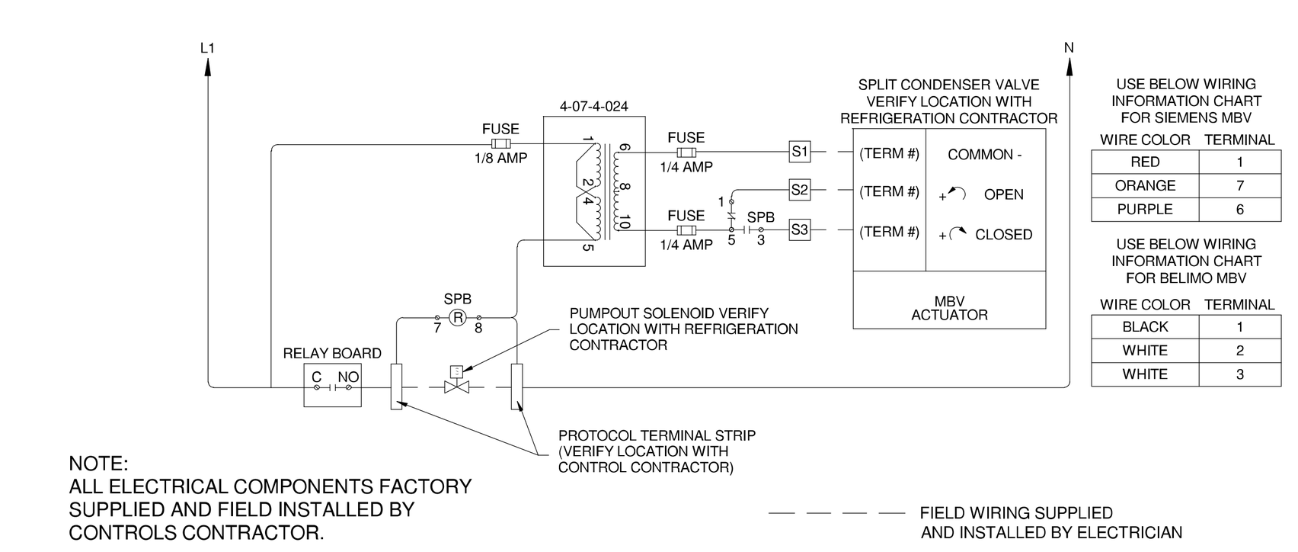
5 RLN, RLNI ANTI-SWEAT WIRING DETAIL
SCALE: NTS



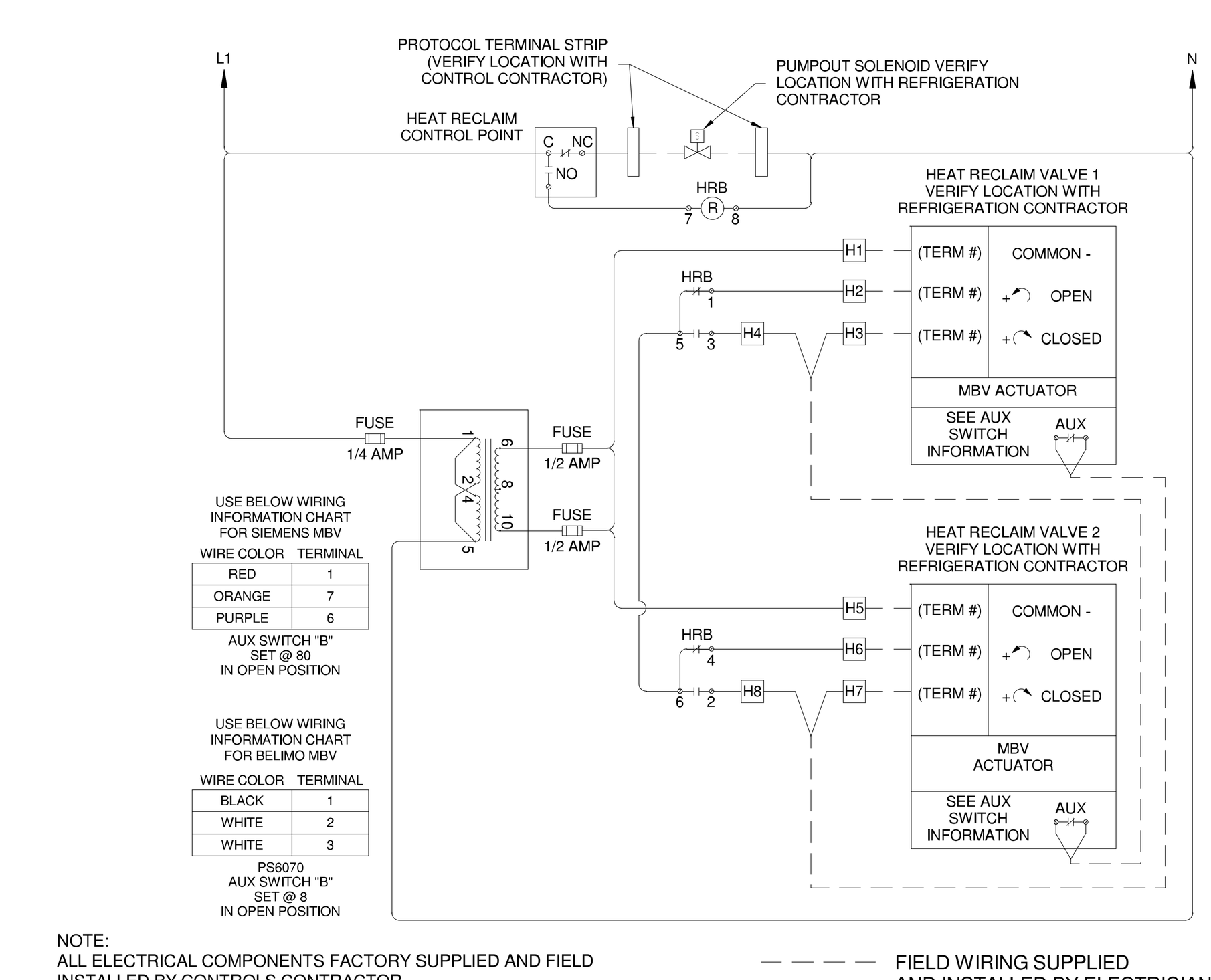
4 FREEZER DOOR SWITCH - EINSTEIN
SCALE: NTS



3 TYPICAL PMAC WIRING LAYOUT
SCALE: NTS



2 PROTOCOL SPLIT CONDENSER WIRING DETAIL
SCALE: NTS



1 PROTOCOL HEAT RECLAIM WIRING DETAIL
SCALE: NTS

REVISION		DATE	BY
1	2020 PRODUCE CASE REMODEL	08/28/20	

ENGINEER SEAL
STATE OF MISSOURI
SHANNAH EITTER
NUMBER E2001000891
PROFESSIONAL ENGINEER
Date: 2020.10.23 11:47:03 -05'00'

HUSSMANN
Hussmann Corporation
13770 Ramona Avenue
Chino, CA 91710
(909) 590-4910
(909) 590-5113 Fax

LOCATION
LEE'S SUMMIT #2, MO

HY-VEE, INC.
5820 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
TELEPHONE: (515) 267-2800
FAX: (515) 267-2935
EMPLOYEE OWNED

NORTH — PLAN NORTH

PRELIMINARY - NOT FOR CONSTRUCTION

REFRIGERATION CONTROL DETAILS AND BUSBAR LAYOUT

DRAWN:	DATE:
PSC	11/06/2017
SCALE:	JOB NUMBER:
12" = 1'-0"	95954

SHEET: E7.3

BIM 360://Hy-Vee Lee's Summit #2/LEE'S SUMMIT_2_Refrig_R20.rvt