

SEISMIC NOTES
REFER TO SEISMIC RESTRAINT SHEET SR1 FOR
INSTALLATION DETAILS. REFER TO THE
SPECIFICATIONS FOR FURTHER INFORMATION

REFRIGERATION GENERAL NOTE
REFER TO GROCERY FIXTURE PLANS(S) FOR
REFRIGERATED CASE LOCATIONS AND OTHER WORK
BY REFRIGERATION CONTRACTOR

GENERAL NOTES

- REFRIGERANT SUCTION AND LIQUID LINES ARE SHOWN COMBINED AS A SINGLE LINE PER CIRCUIT. REFER TO REFRIGERATION SCHEDULES FOR SIZES.
- ALL VERTICAL SUCTION LINES MUST HAVE A SHORT RADIUS SUCTION LINE TRAP AT THE BASE OF THE RISER. PROVIDE AN INVERTED P-TRAP AT THE BASE OF ALL RISERS. REFER TO PIPING SCHEDULES FOR SIZES ON ALL RISERS.
- SUCTION BASE P-TRAPS SHALL BE THE SAME SIZE AS HORIZONTAL RUNS. PROVIDE AN INVERTED P-TRAP AT THE BASE OF ALL RISERS. REFER TO PIPING SCHEDULES FOR SIZES ON ALL RISERS.
- PROVIDE PVC DRAIN LINE FROM EACH CASE. SAME SIZE AS CASE. OUTLET TO FLOOR DRAIN. TERMINATE WITH AIR GAP.
- INSTALL AN INTERFERE-FREE TRAP OUT OF CUSTOMER VIEW AT THE END OF 7'-0" AFF FOR RISERS OVER 16'-0". REFER TO REFRIGERATION DETAILS.
- INSTALL A FULL PORT ISOLATION BALL VALVE UPSTREAM OF LIQUID LINE SOLENOID VALVE AND DOWNSTREAM OF EVAPORATOR PRESSURE REGULATOR FOR EACH REFRIGERATION CIRCUIT.
- INSTALL THE LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR, AND FULL PORT ISOLATION BALL VALVES ON TOP OF WALK-IN BOX.
- LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR, AND FULL PORT ISOLATION BALL VALVES INSTALLED ON TOP OF WALK-IN SHALL BE INSULATED.
- REFER TO SPECIFICATION 15600 FOR INSULATION THICKNESS. INSIDE DIAMETER OF INSULATION SHALL MATCH PIPE DIAMETER TO MINIMIZE AIR GAPS BETWEEN PIPING AND INSULATION. PROVIDE FACTORY PRE-MANUFACTURED INSULATION FITTINGS AT ALL TRAPS, ELBOWS, AND TEES. INSULATE VALVES AND REDUCERS WITH FIELD FABRICATED INSULATION FITTINGS PER MANUFACTURER'S INSTRUCTIONS. WHERE PRE-MANUFACTURED FITTINGS ARE UNAVAILABLE, FITTER CUT FITTINGS SHALL BE USED WITH OWNER'S MECHANICAL CONSTRUCTION MANAGER APPROVAL.
- REFER TO ARCHITECTURAL DRAWINGS FOR PIPING INSTALLATION AND SEALING REQUIREMENTS FOR DEVICES SHOWN ON COOLER/FREEZER PANELS. DO NOT INSTALL PIPING WITHIN COOLER/FREEZER PANELS.
- DO NOT INSTALL PIPING DIRECTLY UNDER SKYLIGHT WELLS UNLESS INDICATED OTHERWISE ON PLANS.
- ROUTE ALL UTILITY SERVICE LINES (PIPES AND CONDUIT) WITHIN STUD WALLS WHEREVER POSSIBLE ON COOLER/FREEZER PANELS. IN VOID PIPING AREAS WHERE UTILITIES MUST BE EXPOSED, CONTRACTOR TO HAVE THE OPTION OF THE FOLLOWING:
 - A. SURFACE MOUNT UTILITIES WITH NON-CORROSIVE ANCHORS. SEAL BOTH SIDES OF PIPE/CONDUIT TO PANEL CONTINUOUSLY WITH SEALANT.
 - B. INSTALL UTILITIES 1/2" OFF FACE OF PANEL TO ALLOW FOR CLEANING. USE ONLY NON-CORROSIVE MATERIALS FOR SPACERS AND ANCHORS.
 - C. COVER UTILITIES WITH 20 GAUGE STAINLESS STEEL BENT PLATES MOUNTED TO WALL WITH NON-CORROSIVE ANCHORS. APPLY CONTINUOUS SEALANT ALONG EDGES AND JOINTS.
- ALL CONTRACTOR PROVIDED ROOF EQUIPMENT SCREWS SHALL HAVE NEOPRENE WASHERS.

REFRIGERATION SYMBOLS

CO	CLEANOUT
CD	CONDENSATE DRAIN LINE
C	ELBOW - TURNED DOWN
C	ELBOW - TURNED UP
CO	SUB-LOOP ISOLATION VALVE
SV	SOLENOID VALVE
EP	EVAPORATOR PRESSURE REGULATOR
1A	LOOP DESIGNATION EXAMPLE
AD1	LOAD DESIGNATION EXAMPLE
REFRIG	REFRIGERATION PIPE FLOOR OR UNDERSLAB LEVEL
WALK-IN	WALK-IN EVAPORATOR COIL
RCM	REFRIGERATION CASE MANUFACTURER
RSM	REFRIGERATION SYSTEM MANUFACTURER

KEYNOTES

- PITCH CONDENSATE DRAIN 1" PER 10 FT TOWARD DRAIN. PROVIDE COPPER PIPING WITH ELECTRIC HEAT TAPE AND INSULATION ON CONDENSATE LINES EXPOSED TO FREEZING.
- SLOPE REFRIGERANT LINES DOWN TOWARD COMPRESSORS AT 1" PER 20 FT. LOCATE HIGHEST POINT OF REFRIGERANT LINES JUST BELOW ROOF DECK OVER COIL SERVED. ROUTE THROUGH WEBS IN JOIST ORDERS WHERE POSSIBLE. COORDINATE WITH HVAC, LIGHTING AND FIRE PROTECTION.
- TERMINATE CONDENSATE DRAIN OVER HUB DRAIN OR SERVICE SINK WITH AIR GAP.
- INSTALL FURNISHED MASTING SYSTEM INCLUDING CONTROL BOX. REFER TO PLUMBING DRAWINGS FOR SUPPLY WATER CONNECTION TO CONTROL BOX.
- REFRIGERATION LINES IN PVC PIPE BELOW FLOOR. PVC PIPE PROVIDED BY GENERAL CONTRACTOR.
- INSTALL RSM FURNISHED LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR AND FULL PORT ISOLATION BALL VALVES IN A SERVICE ACCESSIBLE LOCATION INSIDE CASE DRAIN PAIL.
- INSTALL RSM FURNISHED LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR AND FULL PORT ISOLATION BALL VALVES ON TOP OF WALK-IN BOX.
- INSTALL VERTICAL SUCTION DOUBLE RISER IN THIS LOCATION. REFER TO VERTICAL SUCTION DOUBLE RISER DETAIL AND PIPING SCHEDULES FOR SIZES.
- FACTORY INSTALLED PIPING, RC SHALL REFER TO RCN LITERATURE FOR CASE PIPING AND VALVE CONNECTIONS. RC SHALL CONNECT TO RCN PROVIDED RISER STUDS AND REDUCE OR INCREASE FROM RISER STUDS SIZES TO MATCH RCN PIPING SCHEDULE. CAP LNUSED SECONDARY RISER AS NEEDED.
- ROUTE PIPING THROUGH REFRIGERATION CONTRACTOR PROVIDED PVC CHASE. REFER GROCERY ARCHITECTURAL FOR SIZE AND PVC REFRIGERATION CHASE DETAIL.

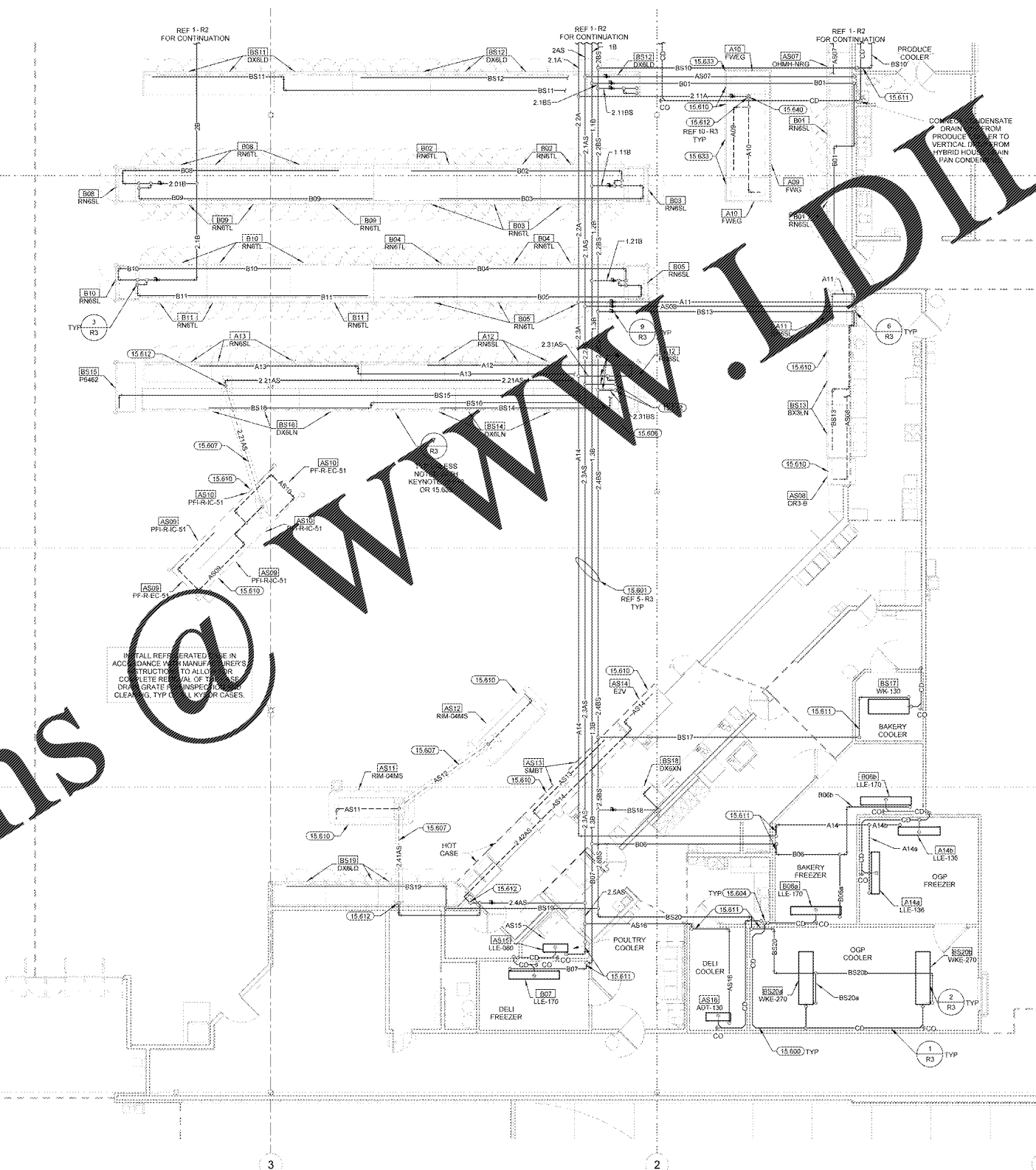
PIPING SCHEDULE RACK DTA

PIPE DESIGNATION	HORIZONTAL SUCTION	VERTICAL SUCTION RISER AS REQUIRED**	LIQUID	ESTIMATED TOTAL LENGTH***
1A	2 5/8	1 3/8 & 1 5/8	7/8	55
1.01A	1 1/8	1/2 & 5/8	1/2	36
A01	7/8	5/8*	1/2	10
A02	7/8	5/8*	1/2	16
1.02A	1 1/8	1/2 & 5/8	1/2	42
A03	7/8	5/8*	1/2	10
A04	7/8	5/8*	1/2	16
1.1A	2 1/8	2 1/8*	5/8	41
A05	1 5/8	1 3/8	1/2	22
A05a	1 1/8	7/8	1/2	9
A05b	1 1/8	7/8	1/2	26
A06	1 5/8	1 1/8	1/2	47
2A	2 5/8	1 3/8 & 1 5/8	7/8	34
2.01A	1 1/8	1/2 & 5/8	1/2	52
A07	7/8	5/8*	1/2	10
A08	7/8	5/8*	1/2	16
2.1A	2 5/8	2 1/8*	7/8	36
2.11A	1 1/8	1/2 & 5/8	1/2	50
A09	7/8	5/8*	1/2	10
A10	7/8	5/8*	1/2	16
2.2A	2 5/8	2 1/8*	5/8	34
A11	1/2	3/8	1/2	75
2.3A	2 5/8	2 1/8*	5/8	14
2.31A	1 5/8	1 5/8*	1/2	7
A12	1 3/8	1 1/8	1/2	69
A13	1 3/8	1 1/8	1/2	77
A14	1 3/8	1 3/8	1/2	126
A14a	1 1/8	7/8	1/2	22
A14b	1 1/8	7/8	1/2	17
1AS	2 1/8	1 1/8 & 1 3/8	7/8	31
1.01AS	2 1/8	1 5/8*	7/8	44
AS01	1 3/8	1 1/8	5/8	61
AS02	1 1/8	7/8	1/2	27
AS02a	7/8	5/8	1/2	10
AS02b	7/8	5/8	1/2	25
AS03	7/8	5/8	1/2	22
1.1AS	7/8	5/8*	1/2	51
AS04	5/8	1/2	1/2	84
1.2AS	5/8	5/8*	1/2	25
AS05	1/2	3/8	1/2	72
AS06	5/8	1/2	1/2	62
2AS	2 5/8	1 3/8 & 1 5/8	1 1/8	58
AS07	1 3/8	1 1/8	5/8	92
2.1AS	2 5/8	2 1/8*	7/8	38
AS08	1/2	3/8	1/2	92
2.2AS	2 5/8	2 1/8*	7/8	14
2.21AS	1 1/8	5/8 & 7/8	1/2	109
AS09	7/8	5/8*	1/2	17
AS10	7/8	5/8*	1/2	12
2.3AS	2 5/8	1 5/8*	7/8	15
2.4AS	2 1/8	1 5/8*	20	
2.41AS	1 5/8	7/8 & 1 1/8	56	
AS11	1 1/8	7/8*	1/2	15
AS12	1 3/8	7/8*	1/2	32
2.42AS	7/8	3/8	1/2	40
AS13	5/8	1/2	1/2	19
AS14	1/2	1/2*	1/2	30
2.5AS	7/8	5/8*	1/2	5
AS15	7/8	5/8*	1/2	22
AS16	7/8	5/8*	1/2	49

* RISER SIZE IS SHOWN EVEN IF A RISER IS NOT EXPECTED. THIS IS FOR REFERENCE ONLY. TO BE USED IN THE EVENT THAT A PIPING CONFLICT OCCURS. IT WILL NEED FOR DESIGNER. IF UNEXPECTED RISER LENGTH EXCEEDS 4 FEET, IT MUST BE APPROVED BY ENGINEER OF RECORD.

** THE LISTED SIZES INDICATES A VERTICAL SUCTION DOUBLE RISER.

*** ESTIMATED TOTAL LENGTH INCLUDES HORIZONTAL AND VERTICAL PIPE SECTIONS. THIS IS ONLY AN ESTIMATE AND ACTUAL LENGTH WILL VARY. NOT TO BE USED FOR BIDDING PURPOSES.



1 FRONT REFRIGERATION PLAN
1/8" = 1'-0"

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