

3 ROOF MOUNTED HYBRID HOUSE AND CONDENSER
NTS

PIPING SCHEDULE RACK DTA				
PIPE DESIGNATION	HORIZONTAL SUCTION	VERTICAL SUCTION RISER AS REQUIRED	LIQUID	ESTIMATED TOTAL LENGTH**
1A	2.58	1.58 & 2.18	7/8	77
1.01A	7/8	1/2 & 1/2	1/2	28
A01	5/8	5/8	1/2	8
A02	1/2	1/2	1/2	8
A03	1/2	3/8	1/2	42
A04	1.38	1.18	1/2	50
1.1A	2.58	2.18	7/8	77
1.11A	1.58	7/8 & 1.18	1/2	38
A05	7/8	5/8	1/2	40
A06	1.18	7/8	1/2	23
A07	1.18	7/8	1/2	30
1.2A	2.18	2.18	5/8	40
1.21A	1.58	7/8 & 1.18	1/2	23
A08	7/8	5/8	1/2	40
A09	1.18	7/8	1/2	23
A10	1.18	7/8	1/2	30
1.3A	1.58	7/8 & 1.18	1/2	23
A11	7/8	5/8	1/2	40
A12	1.18	7/8	1/2	23
A13	1.18	7/8	1/2	30
2A	2.18	1.38 & 1.58	5/8	30
2.01A	1.58	1.38	1/2	30
A14	1.38	1.18	1/2	27
A14a	1.18	7/8	1/2	7
A14b	1.18	7/8	1/2	33
A15	1.18	7/8	1/2	41
2.1A	1.58	1.18	1/2	23
2.11A	1.18	1/2 & 5/8	1/2	65
A16	7/8	5/8	1/2	10
A17	7/8	5/8	1/2	27
2.2A	1.38	1.38	1/2	7
A18	7/8	5/8	1/2	19
A19	1.18	7/8	1/2	28
2.3A	1.18	1.18	1/2	40
A20	1.18	7/8	1/2	40
A21	5/8	3/8	1/2	40
1A5	1.58	1.18 & 1.38	7/8	74
AS01	7/8	5/8	1/2	33
AS02	1.18	7/8	1/2	46
1.1A5	1.58	1.38	5/8	28
AS03	1.18	7/8	1/2	71
AS04	1.18	7/8	1/2	21
AS04a	7/8	5/8	1/2	10
AS04b	7/8	5/8	1/2	23
2AS	2.58	1.38 & 1.58	7/8	110
AS05	1.18	7/8	1/2	28
2.1A5	2.18	1.68	7/8	0
2.11A5	1.38	5/8 & 7/8	5/8	49
AS06	1.38	7/8	1/2	20
AS07	1.18	5/8	1/2	31
2.2A5	1.18	1.18	5/8	25
AS08	5/8	1/2	1/2	20
2.3A5	1.18	5/8 & 7/8	1/2	23
2.3A5B	5/8	5/8	1/2	23
AS09	1/2	1/2	1/2	20
AS10	1/2	1/2	1/2	10
AS11	5/8	1/2	1/2	20
AS12	1.18	7/8	1/2	20

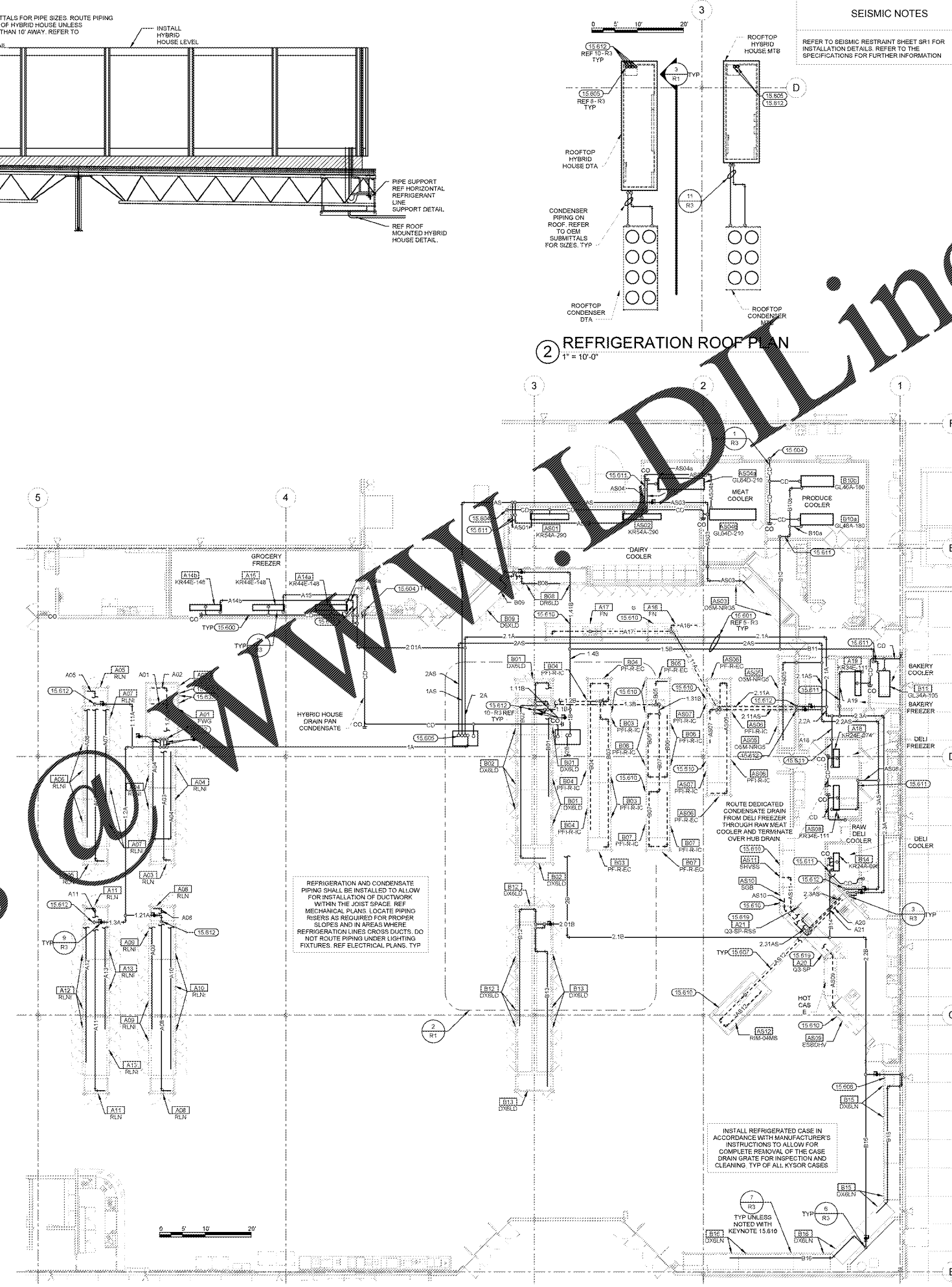
*RISER SIZE IS SHOWN EVEN WHERE A RISER IS NOT EXPECTED. THIS IS FOR REFERENCE ONLY AND TO BE USED IN THE EVENT THAT A PIPING CONFLICT CAUSES THE NEED FOR A RISER. IF RISER LENGTH EXCEEDS 4 FEET, IT MUST BE APPROVED BY ENGINEER OF RECORD.

**ESTIMATED TOTAL LENGTH INCLUDES HORIZONTAL AND VERTICAL PIPE SECTIONS. THIS IS ONLY AN ESTIMATE AND ACTUAL LENGTH WILL VARY.

PIPING SCHEDULE RACK MTB				
PIPE DESIGNATION	HORIZONTAL SUCTION	VERTICAL SUCTION RISER AS REQUIRED	ESTIMATE TOTAL LENGTH**	
1B	2.58	1.38 & 1.58	119	
1.1B	7/8	7/8	1/2	33
B01	5/8	1/2	1/2	8
B02	5/8	1/2	1/2	8
1.2B	1.38	5/8 & 7/8	41	
B03	1.38	1.18	1/2	38
B04	1.38	1.18	1/2	38
1.3B	1.38	1.38	5/8	53
B05	1/2	1/2	1/2	8
1.31B	1.38	1.18	1/2	3
B06	1.38	1.18	1/2	34
B07	1.18	1.18	1/2	41
1.4B	1.18	1.18	1/2	14
B08	1/2	1/2	1/2	20
B09	1/2	1/2	1/2	31
1.5B	1.18	7/8	1/2	45
B10	7/8	7/8	1/2	8
B10a	1.18	1.18	1/2	31
B10b	1.18	1.18	1/2	17
B11	1/2	1/2	1/2	30
2B	1.58	7/8 & 1.18	7/8	22
1.11B	7/8	7/8	1/2	7
1.11B	7/8	7/8	1/2	45
2.1B	5/8	1/2	1/2	20
2.1B	5/8	1/2	1/2	20
B14	1.58	1.38	1/2	88
2.2B	1.58	1.38	5/8	37
B15	1.38	7/8	1/2	53
B16	1.38	1.18	1/2	80

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

**ESTIMATED TOTAL LENGTH INCLUDES HORIZONTAL AND VERTICAL PIPE SECTIONS. THIS IS ONLY AN ESTIMATE AND ACTUAL LENGTH WILL VARY.



1 REFRIGERATION PLAN
1" = 10'-0"

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 PLAN(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 SH-1 RADIUS SUCTION LINE TRAP AT THE BASE OF THE RISER. PROVIDE AN INVERTED P-TRAP AT THE TOP OF ALL RISERS. REFER TO PIPING SCHEDULES FOR SIZES ON ALL RISERS.
- SUCTION BASE P-TRAPS SHALL BE SAME SIZE AS HORIZONTAL RISE. PROVIDE A 1/2" INCH INVERTED P-TRAP SHALL BE SAME SIZE AS HORIZONTAL RISE.
- PROVIDE DRAIN LINE FROM EACH CONDENSER. SAME SIZE AS BASE OUTLET TO FLOOR DRAIN. TERMINATE IN AIR GAP.
- INSTALL AN INVERTED SUCTION TRAP OUT OF CUSTOMER VIEW. MINIMUM OF 1" OFF FOR RISERS OVER 16'-0". REFER TO REFRIGERATION DETAILS.
- INSTALL A 1/2" 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.
- 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, MITER 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 FOOD PREP 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.

KEYNOTES

- 15.6000 RITCH 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 OVER COOL. SERVED. ROUTE THROUGH WEBS IN JOIST GIRDERS WHERE POSSIBLE. COORDINATE WITH HVAC, LIGHTING AND FIRE PROTECTION.
- 15.604 TERMINATE CONDENSATE DRAIN OVER HUB DRAIN OR SERVICE SINK WITH AIR GAP. COORDINATE WALL AND/OR ROOF OPENINGS FOR REFRIGERATION PIPING, WATER PIPING AND/OR ELECTRICAL CONDUIT WITH ARCHITECTURAL & STRUCTURAL. SEAL PENETRATIONS PER SPECS.
- 15.605 INSTALL RSM FURNISHED SYSTEM INCLUDING CONTROL BOX. REFER TO PLUMBING DRAWINGS FOR SUPPLY WATER CONNECTION TO CONTROL BOX.
- 15.607 REFRIGERATION LINES IN PVC PIPE BELOW FLOOR. PVC PIPE PROVIDED BY GENERAL CONTRACTOR.
- 15.610 INSTALL RSM FURNISHED LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR AND FULL PORT ISOLATION BALL VALVES IN A SERVICE ACCESSIBLE LOCATION INSIDE CASE DRAIN PAN.
- 15.611 INSTALL RSM FURNISHED LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR AND FULL PORT ISOLATION BALL VALVES ON TOP OF WALK-IN BOX.
- 15.612 INSTALL VERTICAL SUCTION DOUBLE RISER IN THIS LOCATION. REFER TO VERTICAL SUCTION DOUBLE RISER DETAIL AND PIPING SCHEDULES FOR SIZES.
- 15.615 LIQUID LINE SOLENOID, EVAPORATOR PRESSURE REGULATOR AND FULL PORT ISOLATION BALL VALVES FACTORY INSTALLED IN A SERVICE ACCESSIBLE LOCATION INSIDE CASE DRAIN PAN.
- 15.633 FACTORY INSTALLED PIPING RC SHALL REFER TO RCM LITERATURE FOR CASE PIPING AND VALVE CONNECTIONS. RC SHALL CONNECT TO RCM PROVIDED RISER STUDS AND REDUCE OR INCREASE FROM RISER STUDS SIZES TO MATCH RCM PIPING SCHEDULE. CAP UNLESS SECONDARY RISER AS NEEDED.

REFRIGERATION SYMBOLS

CO	CLEANOUT
CD	CONDENSATE DRAIN LINE
C	ELBOW - TURNED DOWN
○	ELBOW - TURNED UP
○	SUB-LOOP ISOLATION VALVE
○	SOLENOID VALVE
○	EVAPORATOR PRESSURE REGULATOR
— 1A —	LOOP DESIGNATION EXAMPLE
— A01 —	LOAD DESIGNATION EXAMPLE
—	REFRIGERATION PIPE FLOOR OR UNDER FLOOR
—	WALK-IN EVAPORATOR COIL
RCM	REFRIGERATION CASE MANUFACTURER
RSM	REFRIGERATION SYSTEM MANUFACTURER

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REFRIG PLAN
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