



NOTES
 THIS DETAIL IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO CONVEY INSTALLATION REQUIREMENTS REGARDING THE ENERGY MANAGEMENT CONTROL SYSTEM. THIS PLAN IS PICTORIALY DRAWN FOR CLARIFICATION PURPOSES ONLY. DO NOT SCALE. REFER TO RESPONSIBILITY CHARTS FOR FINAL EQUIPMENT AND INSTALLATION REQUIREMENTS.

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 ALL CHAIRBOURNE STREET
 PORTSMOUTH, VIRGINIA

SEAL
 PROFESSIONAL ENGINEER
 STATE OF NORTH CAROLINA
 09/10/2019

Harris Teeter
 Neighborhood Food & Pharmacy

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ENERGY MANAGEMENT RISER DIAGRAM AND NOTES

8 REFRIGERATION EQUIPMENT MANUFACTURER - REM
 1. THE REFRIGERATION CASE MANUFACTURER SHALL FURNISH ALL NEW REFRIGERATED CASE FIXTURES FITTED WITH (1) TEMPERATURE SENSORS AS SPECIFIED.

9 REFRIGERATION CASE MANUFACTURER - RCM

1 ENERGY MANAGEMENT RISER DIAGRAM

- ALL SOLID LINES ARE NEW FIELD WIRING UNLESS OTHERWISE NOTED. ALL DASHED WIRING IS EITHER EXISTING OR TO BE INSTALLED BY THE EC.
- DAYTON AIR SWITCH (DAS) IS TO BE USED IN ADDITION TO ANY OTHER SWITCHES LOCATED IN ELECTRICAL DUCTS AND APPLICABLE TO ALL NEW WIRING.
- NEW SPACED TEMPERATURE SENSORS AND AIR FLOW SWITCHES ARE TO BE LOCATED ON COLLAR PIPES AND AIR HANDLING UNITS IN THE MEZZANINE MOTOR ROOM AND STOCK ROOM AS SHOWN ON THIS PLAN. THE EC SHALL PROVIDE THE SENSORS AND SWITCHES AND THE WIRING TO THE CONTROL SYSTEM.
- SUPPLY AIR TEMPERATURE SENSORS ARE TO BE RELOCATED TO A MEZZANINE MOTOR ROOM IN THE MEZZANINE MOTOR ROOM AS SHOWN ON THIS PLAN. THE EC SHALL PROVIDE THE SENSORS AND THE WIRING TO THE CONTROL SYSTEM.
- ALL SENSORS AND SWITCHES SHALL BE OUT OF AND TYPED BACK ON THE SUPPLY AIR DUCTS. THE EC SHALL PROVIDE THE WIRING TO THE CONTROL SYSTEM.
- ALL CONTROL WIRING SHALL BE A MINIMUM OF 14 AWG (18VDC) UNLESS OTHERWISE NOTED. ALL WIRING SHALL BE IN CONDUIT. POWER WIRING SHALL NOT BE IN THE SAME CONDUIT AS CONTROL WIRING.
- VERIFY ALL TEMPERATURE SETTINGS WITH HARRIS TEETER REPRESENTATIVE.
- INSTALLATION SHALL MEET ALL LOCAL, STATE, AND FEDERAL CODES AND IS THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
- NEW SMOKE DETECTOR (RTU-3) POWER FROM FIRE CONTROL SYSTEM BY THE EC. ALL FINAL CONNECTIONS AT FIRE ALARM CONTROL PANEL, AS APPLICABLE.
- CONNECTIONS SHALL BE MADE AS SHOWN ON THIS PLAN.
- REFER TO PLAN SHEETS FOR LIGHTING/EQUIPMENT AND TO ELECTRICAL (E) PLANS BY BRANNETT ENGINEERING, INC. FOR LIGHTING AND EQUIPMENT RELAY SCHEDULE.

4 KEY LEGEND AND WIRING SCHEDULE

WIRING SCHEDULE	LEGEND
16AI (10V)	WIRING INSTALLED BY THE EC
16AI (12V)	WIRING INSTALLED BY THE EC
16AI (24V)	WIRING INSTALLED BY THE EC
16AI (48V)	WIRING INSTALLED BY THE EC
MF168	WIRING INSTALLED BY THE EC
MF88	WIRING INSTALLED BY THE EC
4AO	WIRING INSTALLED BY THE EC
16AI (10V)	WIRING INSTALLED BY THE EC
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4AO	WIRING INSTALLED BY THE EC

5 HVAC CONTRACTOR - HVAC

- THE EC SHALL PROVIDE AND INSTALL ALL NECESSARY NEW NETWORK COMMUNICATION (SENSOR AND CONTROL) WIRING AND CONDUIT REQUIRED TO POWER AND CONTROL ALL NEW AND EXISTING REFRIGERATION, HVAC, AND LIGHTING/EQUIPMENT CONTROL SYSTEMS. THE EC SHALL BE RESPONSIBLE FOR CONDUIT, POWER WIRE CONNECTIONS, AND SENSORS AND SWITCHES TO BE INSTALLED ON THE EXISTING PARALLEL COMPRESSOR RACKS AS REQUIRED FOR A COMPLETE INSTALLATION.
- THE EC SHALL PROVIDE AND INSTALL ALL NETWORK COMMUNICATION WIRING, SENSOR WIRING, AND CONTROL WIRING IN CONDUIT RATHER THAN IN THE APPROXIMATE LOCATIONS. PVC CONDUIT WITH KIDNEY JOINT CONDUIT TRANSITS THROUGH ALL CONCRETE SLABS.
- UNDERGROUND AND ABOVE GROUND CONDUIT SHALL BE INSTALLED WITH CONDUIT FITTINGS AND NEW 1 INCH TUBING BONES WIRING THROUGH FLEXIBLE METALLIC CONDUIT RATHER THAN RIGID TUBING. IN ALL CASES, THE EC SHALL BE RESPONSIBLE FOR ALL FINAL EQUIPMENT CONNECTIONS AND WIRING TO BE INSTALLED.
- SENSOR AND SWITCH WIRING WITHIN WALLS IN CONDENSER/COILS IN REFRIGERATED MEAT ROOMS. REFER TO PLAN SHEETS FOR THE MEAT ROOMS. MEAT ROOMS SHALL BE INSTALLED WITHIN WALLS IN CONDENSER/COILS IN REFRIGERATED MEAT ROOMS. REFER TO PLAN SHEETS FOR THE MEAT ROOMS. MEAT ROOMS SHALL BE INSTALLED WITHIN WALLS IN CONDENSER/COILS IN REFRIGERATED MEAT ROOMS. REFER TO PLAN SHEETS FOR THE MEAT ROOMS.
- THE EC SHALL PROVIDE AND INSTALL ALL NETWORK COMMUNICATION, SENSOR, AND CONTROL WIRING FROM EACH OTHER AND ALL POWER WIRING.
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- THE EC SHALL BE RESPONSIBLE FOR ALL NEW CONDUITS, POWER WIRE CONNECTIONS, AND SENSORS AND SWITCHES TO BE INSTALLED ON THE EXISTING PARALLEL COMPRESSOR RACKS AS REQUIRED FOR A COMPLETE INSTALLATION.
- THE EC SHALL REMOVE ALL EXISTING NETWORK COMMUNICATION, SENSOR, AND CONTROL WIRING IN ITS ENTIRETY IF NOT TO BE USED FOR THE PROJECT.
- SEE ALL NOTES FOR THE REFRIGERATION EQUIPMENT MANUFACTURER.

6 ELECTRICAL CONTRACTOR - EC

- THE EC SHALL BE RESPONSIBLE FOR SUPPLYING THE COMPLETE INSTALLATION AND REVISIONS OF THE ENERGY MANAGEMENT SYSTEM. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE START-UP, PROGRAMMING, AND COMMISSIONING OF THE ENTIRE REFRIGERATION CONTROL SYSTEM, HVAC CONTROL SYSTEM, AND LIGHTING CONTROL SYSTEM.
- THE EC SHALL PROVIDE ALL CONNECTIONS BETWEEN THE VARIOUS TRUCKS, PANELS, REFRIGERATION, HVAC, AND ELECTRICAL TO INSURE THAT ALL EQUIPMENT IS PROPERLY CONTROLLED AND THAT ALL CONTROLS ARE BEING ACCOMMODATED. THIS SHALL INCLUDE VERIFYING ALL HVAC EQUIPMENT TO BE CONTROLLED, IDENTIFYING ALL SPACES OF MEAT ROOMS, HEAT REGULATOR, FAN ETC. AND ENSURING THAT APPROPRIATE SENSORS HAVE BEEN SUPPLIED TO ENABLE PROPER CONTROL OF SAME.
- VERIFY COMPLETION OF THE HVAC INSTALLATION AND REVISIONS. THE EC SHALL PROVIDE A COMPLETE AS-BUILT DOCUMENTATION TO THE OWNER AND THE ENDUSER. THIS DOCUMENTATION SHALL INCLUDE AN AS-BUILT PLAN INDICATING THE LOCATION OF ALL THE SENSORS, RELAYS, REFRIGERATION CONTROL SYSTEMS, AND ADDITIONAL REFRIGERATION CONTROL SYSTEMS.
- THE EC SHALL FURNISH AND INSTALL ONE (1) 4" x 3" PLAN WITH FRAME AND CLEAR FLOOR-LEVEL COVER SHOWING THE TOTAL LOCATIONS OF ALL THE REFRIGERATION CONTROLS. THIS SHALL BE FOR EACH COMPONENT PARALLEL COMPRESSOR RACK. THE PLAN SHALL BE PLACED BY THE EC IN THE MEZZANINE MOTOR ROOM.
- SEE ALL NOTES FOR THE REFRIGERATION EQUIPMENT MANUFACTURER.

7 REFRIGERATION INSTALLATION CONTRACTOR - RTC

- THE EC SHALL BE RESPONSIBLE FOR SUPPLYING THE COMPLETE INSTALLATION AND REVISIONS OF THE ENERGY MANAGEMENT SYSTEM. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE START-UP, PROGRAMMING, AND COMMISSIONING OF THE ENTIRE REFRIGERATION CONTROL SYSTEM, HVAC CONTROL SYSTEM, AND LIGHTING CONTROL SYSTEM.
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- SEE ALL NOTES FOR THE REFRIGERATION EQUIPMENT MANUFACTURER.

8 REFRIGERATION EQUIPMENT MANUFACTURER - REM

- THE REFRIGERATION CASE MANUFACTURER SHALL FURNISH ALL NEW REFRIGERATED CASE FIXTURES FITTED WITH (1) TEMPERATURE SENSORS AS SPECIFIED.

9 REFRIGERATION CASE MANUFACTURER - RCM