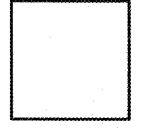
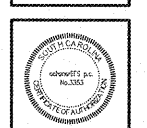




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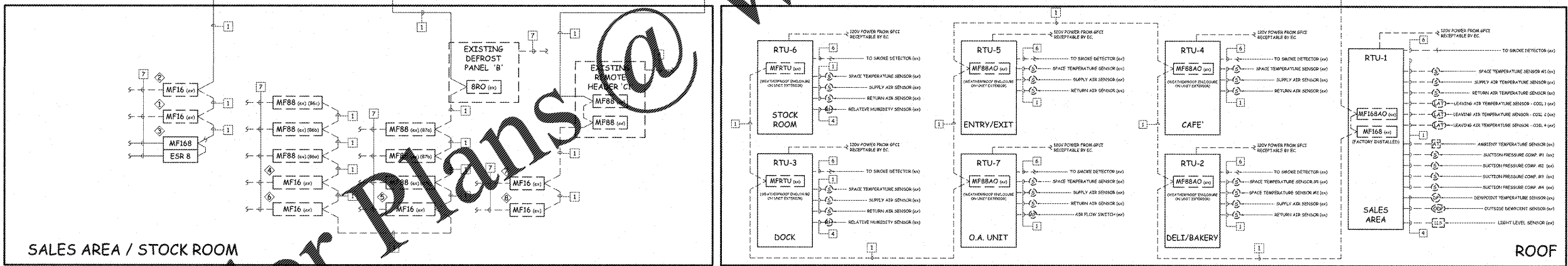
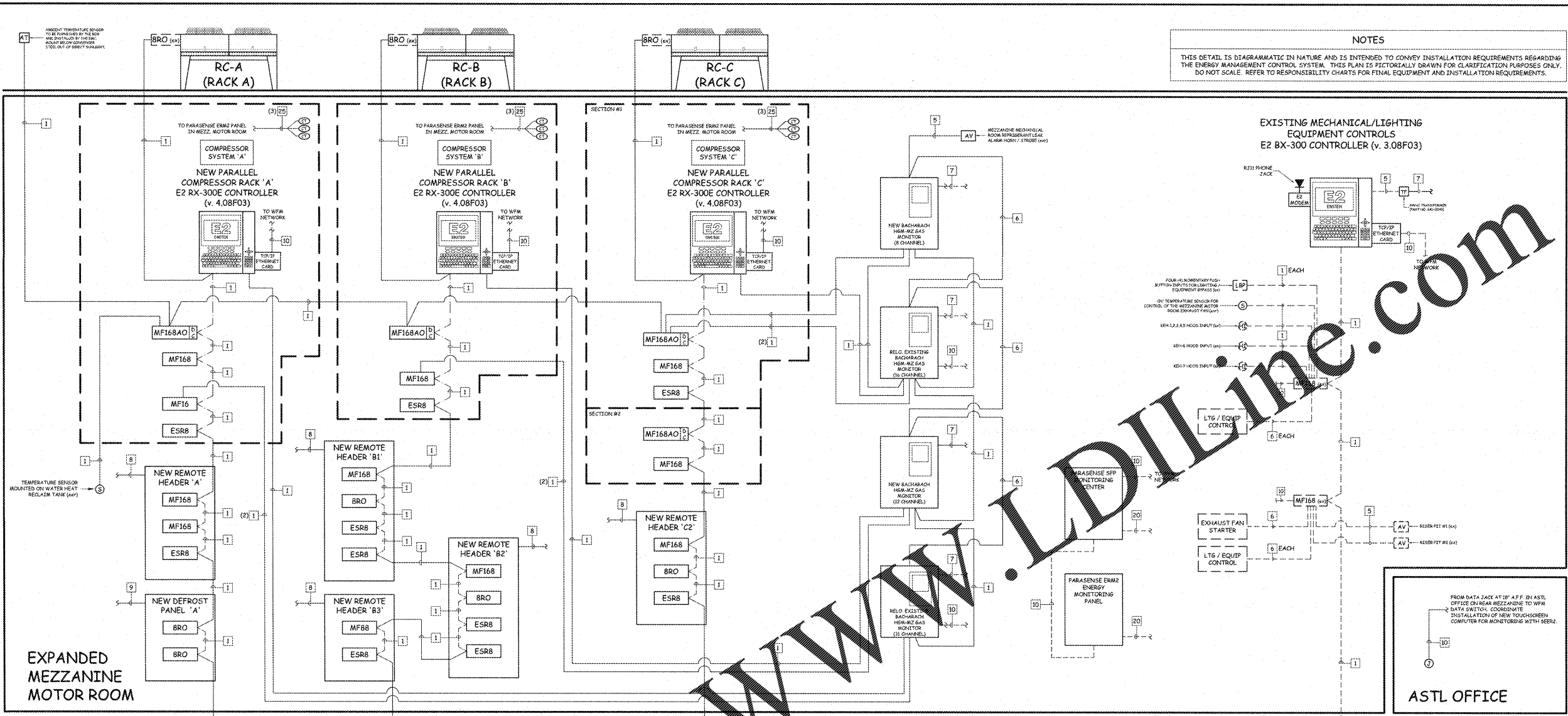
WHOLE FOODS MARKET
REFRIGERATION RACK UPGRADE
PATRIOTS PLAZA SHOPPING CENTER
923 HOUSTON NORTH COURT
MT. PLEASANT, SOUTH CAROLINA 29464

DATE: JUNE 22, 2020
REVISED: JUNE 22, 2020
FOR CONSTRUCTION

DESIGNED BY:	APPROVED:
RSK	DAO
PROJECT NO:	RECORD:
WF102021	
DATE:	
JUNE 22, 2020	
FOR CONSTRUCTION	
ENERGY MANAGEMENT RISER DIAGRAM AND NOTES	

REVISION: REM.3.2
Sheet 5 of 8

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.



1 ENERGY MANAGEMENT RISER DIAGRAM

1. ALL SOLID LINES ARE NEW FIELD WIRING, UNLESS OTHERWISE NOTED. ALL DASHED WIRING IS EXISTING WIRING TO BE REINSTALLED.
2. ALL SHIELDED WIRES USED FOR SENSORS SHALL BE CUT OFF AND TAPED BACK ON THE OTHER END OF THE WIRE. SHIELDED WIRES PROVIDED IN THE MAIN PANELS.
3. ALL CONTROL WIRES SHALL BE A MINIMUM OF 14 AWG (UNSHIELDED) OR 18 AWG (SHIELDED) CABLES. ALL WIRING TO BE IN CONDUIT. POWER WIRING SHALL NOT BE RUN IN THE SAME CONDUIT AS CONTROL WIRES.
4. VERIFY ALL TEMPERATURE SETTINGS WITH WHOLE FOODS MARKET (WHOLE FOODS MARKET REPRESENTATIVE).
5. INSTALLATION SHALL MEET ALL LOCAL, STATE, AND NATIONAL CODES AND REQUIREMENTS. THE RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
6. COMMUNICATIONS CABLE MUST BE DATE LABELED. 100 T-TAPPING.

2 GENERAL NOTES

1. THE CONTROLLER INPUT/OUTPUT BOARDS SHOWN ARE DIAGRAMMATIC IN NATURE AND ARE INTENDED TO CONVEY THE TYPICAL INSTALLATION WIRING REQUIREMENTS. USE THE OIC CONTROL EQUIPMENT LIST FOR THE ACTUAL INPUT/OUTPUT BOARD CONFIG.
2. IT IS THE RESPONSIBILITY OF THE REM TO PROVIDE THE SPECIFIED INPUT AND OUTPUT BOARDS AS SHOWN ON PLAN REM.1. REFRIGERATION LEGENDS & ENERGY MANAGEMENT SCHEDULES WITH THE INPUTS AND OUTPUTS AS SPECIFIED IN THE REFRIGERATION EQUIPMENT SPECIFICATIONS FOR ALL REFRIGERATION EQUIPMENT. THE REM SHALL COORDINATE ANY DISCREPANCIES WITH WHOLE FOODS MARKET TO FABRICATION OF EQUIPMENT.
3. ALL LOOSE OIC COMPONENTS FOR REFRIGERATION CONTROL TO BE FURNISHED BY THE REM AS SPECIFIED WITHIN THE REFRIGERATION EQUIPMENT SPECIFICATIONS.
4. ALL LOOSE BACKRASH COMPONENTS FOR THE REFRIGERANT LEAK DETECTION SYSTEM TO BE FURNISHED BY WHOLE FOODS MARKET/SEERZ.
5. ALL LOOSE OIC COMPONENTS FOR MECHANICAL CONTROL TO BE FURNISHED BY THE REM AS SPECIFIED WITHIN THE REFRIGERATION EQUIPMENT SPECIFICATIONS.
6. REFER TO THE REFRIGERATION INSTALLATION SPECIFICATIONS AND REFRIGERATION EQUIPMENT SPECIFICATIONS FOR INFORMATION REGARDING THE ENERGY MANAGEMENT AND ENERGY MONITORING SYSTEMS.

3 GENERAL RESPONSIBILITY NOTES

4 KEY LEGEND AND WIRING SCHEDULE

WIRING SCHEDULE	DESCRIPTION
1	120V POWER FROM GFCI RECEPTABLE BY EC
2	120V POWER FROM GFCI RECEPTABLE BY EC
3	120V POWER FROM GFCI RECEPTABLE BY EC
4	120V POWER FROM GFCI RECEPTABLE BY EC
5	120V POWER FROM GFCI RECEPTABLE BY EC
6	120V POWER FROM GFCI RECEPTABLE BY EC
7	120V POWER FROM GFCI RECEPTABLE BY EC
8	120V POWER FROM GFCI RECEPTABLE BY EC
9	120V POWER FROM GFCI RECEPTABLE BY EC
10	120V POWER FROM GFCI RECEPTABLE BY EC
11	120V POWER FROM GFCI RECEPTABLE BY EC
12	120V POWER FROM GFCI RECEPTABLE BY EC
13	120V POWER FROM GFCI RECEPTABLE BY EC
14	120V POWER FROM GFCI RECEPTABLE BY EC
15	120V POWER FROM GFCI RECEPTABLE BY EC
16	120V POWER FROM GFCI RECEPTABLE BY EC
17	120V POWER FROM GFCI RECEPTABLE BY EC
18	120V POWER FROM GFCI RECEPTABLE BY EC
19	120V POWER FROM GFCI RECEPTABLE BY EC
20	120V POWER FROM GFCI RECEPTABLE BY EC

5 ELECTRICAL CONTRACTOR - EC

1. THE EC SHALL PROVIDE AND INSTALL ALL NECESSARY NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING AND POWER WIRING FOR ALL CONTROL EQUIPMENT FOR REFRIGERATION, MECHANICAL, AND LIGHTING EQUIPMENT CONTROL SYSTEMS, MECHANICAL CONTROL SYSTEM, AND LIGHTING/EQUIPMENT CONTROL SYSTEMS.
2. THE EC SHALL PROVIDE AND INSTALL ALL NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING IN E.I.T. CONDUIT WITH COMPRESSION FITTINGS AND NEMA 1 JUNCTION BOXES/WIRING TROUSERS. FLEXIBLE METAL CONDUIT RACEWAYS NO GREATER THAN 4" IN LENGTH SHALL BE UTILIZED FOR ALL FINAL EQUIPMENT CONNECTIONS WHERE FLEXIBILITY IS REQUIRED. SEPARATE BRANDED CONDUIT RACEWAYS SHALL BE PROVIDED FOR ALL NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING FROM EACH OTHER AND ALL POWER WIRING.
3. THE EC SHALL PROVIDE ALL NEW FIELD WIRING AND COMPONENTS AS REQUIRED FOR THE COMPLETE MODIFICATION OF THE MECHANICAL CONTROL SYSTEM. INSTALLATION SHALL INCLUDE, BUT NOT BE LIMITED TO, RELOCATING AND REWIRING ALL MECHANICAL, CONTROL, CONNECTORS AND ALL ASSOCIATED FIELD TERMINATIONS. SEE ELECTRICAL (E) PLANS BY BRANDY ENGINEERING, INC. FOR FURTHER INFORMATION.
4. THE EC SHALL PROVIDE, INSTALL, AND TERMINATE THE NECESSARY SENSOR WIRING FROM THE FACTORY WIRED PARASENSE CTS ON THE NEW PARALLEL COMPRESSOR RACKS TO THE EXISTING PARASENSE ERMS PANEL IN THE EXPANDED MEZZANINE MOTOR ROOM.
5. THE EC SHALL BE RESPONSIBLE FOR ALL NEW CONDUIT, POWER WIRE CONDUCTORS, AND SHIELDED CABLE TO EACH REFRIGERATION SYSTEM AS SPECIFIED.
6. THE EC SHALL REMOTE ALL EXISTING NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING IN ITS ENTIRETY THAT IS NOT REUSED FOR THE SCOPE OF THIS PROJECT.
7. SEE ALL NOTES FOR THE REFRIGERATION EQUIPMENT MANUFACTURER.

6 REFRIGERATION INSTALLATION CONTRACTOR - RIC

1. THE RIC SHALL BE RESPONSIBLE FOR SUPERVISING THE COMPLETE INSTALLATION OF THE ENERGY MANAGEMENT SYSTEM. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO, THE START UP, TUNING, AND PROGRAMMING OF THE ENTIRE REFRIGERATION CONTROL SYSTEM, MECHANICAL CONTROL SYSTEM, AND LIGHTING/EQUIPMENT CONTROL SYSTEMS.
2. THE RIC SHALL PROVIDE AND INSTALL ALL NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING RELOCATIONS/EXTENSIONS WITHIN THE EXPANDED MEZZANINE MOTOR ROOM FROM THE EXISTING PARALLEL COMPRESSOR RACKS TO THE CORRESPONDING NEW PARALLEL COMPRESSOR RACKS AND NEW REMOTE HEADERS. THE RIC SHALL BE RESPONSIBLE FOR ALL CONDUIT, CONDUITORS, AND SHIELDED CABLE FOR THESE NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING EXTENSIONS WITHIN THE MEZZANINE MOTOR ROOM ONLY. ALL OTHER REQUIRED NETWORK COMMUNICATIONS, SENSOR, AND CONTROL WIRING EXTENSIONS SHALL BE BY THE EC AS SHOWN ON THE REFRIGERATION/EQUIPMENT (REM) PLANS AS REQUIRED FOR A COMPLETE INSTALLATION.
3. THE RIC SHALL PROVIDE ALL COORDINATION BETWEEN THE VARIOUS TRADES, INCLUDING REFRIGERATION, MECHANICAL, AND ELECTRICAL, TO ENSURE THAT ALL EQUIPMENT IS PROPERLY CONTROLLED AND THAT ALL CONTROL MODES HAVE BEEN ACCOUNTED FOR.
4. THE RIC SHALL INSTALL ALL LOOSE BACKRASH HIGH-AZ GAS MONITORS, 4-20MA INTERFACE BOARDS, AND REFRIGERANT LEAK DETECTION END FILTERS FOR THE REFRIGERANT LEAK DETECTION SYSTEM FURNISHED BY WFM/SEERZ. ALL 1/4" OD FLEX TUBING SHALL BE PROVIDED, INSTALLED, AND TERMINATED BY THE RIC. ALL FIELD COMMUNICATIONS, SENSOR, AND CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY THE EC. ALL FINAL CONNECTIONS BY THE EC.
5. UPON COMPLETION OF THE EMS INSTALLATION, THE RIC SHALL PROVIDE ACCURATE AND COMPLETE AS-BUILT DOCUMENTATION TO WHOLE FOODS MARKET AND WHOLE FOODS MARKET/SEERZ. THIS DOCUMENTATION MUST INCLUDE AN 18" X 24" PLAN INDICATING THE LOCATIONS OF ALL THE SENSORS, REMOTE INPUT/OUTPUT BOARDS, CONTROLLERS, AND MODER FOR THE REFRIGERATION CONTROL SYSTEM.
6. THE RIC SHALL FURNISH AND INSTALL A 48" X 36" PLAN WITH FRAME AND CLEAR PLEXIGLASS COVER SHOWING THE FINAL LOCATIONS OF ALL REFRIGERATION CIRCUITS, HIGHLIGHTED FOR EACH CORRESPONDING PARALLEL COMPRESSOR RACK. THIS PLAN SHALL BE PLACED IN THE EXPANDED MEZZANINE MOTOR ROOM.
7. REFER TO ALL NOTES FOR REFRIGERATION EQUIPMENT MANUFACTURER.

7 REFRIGERATION EQUIPMENT MANUFACTURER - REM

1. THE REM SHALL FURNISH AND FACTOR INSTALL THE E2 RX-3000 REFRIGERATION SYSTEM CONTROLS AND CONTROL COMPONENTS IN THE NEW PARALLEL COMPRESSOR RACK CONTROL PANELS AS SPECIFIED. THE INSTALLATION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE INSTALLATION OF THE OIC CONTROLLER, MULTI-FLEX INPUT/OUTPUT BOARDS, MULTI-FLEX ESR-4 BOARDS, INTER-COMMUNICATIONS, POWER SUPPLY, PRESSURE TRANSDUCERS, TEMPERATURE SENSORS, POWER AND CONTROL WIRING FROM THE CONTROL SYSTEM TO CONTROL DEVICES MOUNTED ON THE BACK, AND LOCAL REAR COMMUNICATIONS WIRING BETWEEN INPUT/OUTPUT BOARDS AND THE CONTROLLER (Belden 9872 2 #12 SHIELDED CABLE). ALL FIELD COMMUNICATIONS, SENSOR, AND CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY THE EC WITH EXCEPTION TO ALL LOCALIZED WIRING RELOCATIONS AND EXTENSIONS WITHIN THE EXPANDED MEZZANINE MOTOR ROOM WHICH SHALL BE BY THE RIC. ALL FINAL CONNECTIONS BY THE RIC.
2. THE REM SHALL FURNISH AND FACTOR INSTALL THE NECESSARY OIC CONTROLS IN THE NEW REMOTE HEADERS AND NEW ELECTRIC DEFROST PANELS AS SPECIFIED. THE INSTALLATION SHALL INCLUDE, BUT NOT BE LIMITED TO, THE INSTALLATION OF THE MULTI-FLEX INPUT/OUTPUT BOARDS, MULTI-FLEX ESR-4 BOARDS, REMOTE HEADERS ONLY, POWER SUPPLY, PRESSURE TRANSDUCERS, TEMPERATURE SENSORS, POWER, AND CONTROL WIRING FROM THE CONTROL SYSTEM TO CONTROL DEVICES MOUNTED ON THE BACK AND LOCAL REAR COMMUNICATIONS WIRING BETWEEN INPUT/OUTPUT BOARDS AND MULTI-FLEX ESR-4 BOARDS (Belden 9872 2 #12 SHIELDED CABLE). ALL FIELD COMMUNICATIONS, SENSOR, AND CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY THE EC WITH EXCEPTION TO ALL LOCALIZED WIRING RELOCATIONS AND EXTENSIONS WITHIN THE EXPANDED MEZZANINE MOTOR ROOM WHICH SHALL BE BY THE RIC. ALL FINAL CONNECTIONS BY THE RIC.
3. THE REM SHALL FURNISH ALL LOOSE OIC MULTI-FLEX INPUT/OUTPUT BOARDS WITH ENCLLOSURES, MULTI-FLEX ESR-4 BOARDS WITH ENCLLOSURES, POWER SUPPLIES, AND TEMPERATURE SENSORS FOR REFRIGERATION CONTROL TO THE RIC FOR INSTALLATION. ALL FIELD COMMUNICATIONS, SENSOR, AND CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY THE EC. ALL FINAL CONNECTIONS BY THE RIC.
4. THE REM SHALL FURNISH ALL LOOSE OIC TEMPERATURE SENSORS FOR MECHANICAL CONTROL TO THE RIC FOR INSTALLATION. ALL SENSOR WIRING SHALL BE PROVIDED AND INSTALLED BY THE EC. ALL FINAL CONNECTIONS BY THE RIC.

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