

SPECIFICATION:

- 1. SCOPE OF WORK
1.1. THE SCOPE OF THE PROJECT IS TO REPLACE THE EXISTING HEATING AND COOLING COILS WITH NEW, IN TWO EXISTING AIR-HANDLING UNITS.
1.2. MODIFY THE STEAM, CONDENSATE AND CHILLED WATER PIPING TO/FROM THE COILS FROM SPECIFIC TE-IN LOCATIONS.
1.3. UPGRADE THE EXISTING PNEUMATIC CONTROL SYSTEMS FOR BOTH AIR HANDLING UNIT HEATING/COOLING/DAMPER CONTROL FUNCTIONS WITH A NEW DDC SYSTEM AND THE ABILITY FOR FUTURE CONNECTION TO THE CITY OF WINNIPEG METASYS CENTRAL CONTROL.
1.4. SHOP DRAWINGS - SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS TO BE PROVIDED INCLUDING A COIL SUPPORT STRUCTURE FOR THE 10th FLOOR COOLING/HEATING COILS.
1.5. CODES AND STANDARDS - COMPLETE WORK IN ACCORDANCE WITH THE DESIGN DRAWINGS, ACCEPTED GOOD-INDUSTRY PRACTICE AND THE FOLLOWING CODES AND STANDARDS.
1.6. SCHEDULE
1.7. ACCESS TO THE FAN ROOMS - REVIEW ACCESS TO THE FAN ROOMS DURING A MANDATORY SITE VISIT.
2. PRODUCTS
2.1. DUCTWORK AND HVAC ACCESSORIES
2.2. DAMPERS
2.3. HEATING COILS
2.4. COOLING COILS

- 2.4. PIPING
1. USE CARBON STEEL PIPING FOR ALL UTILITIES.
2. STEAM AND CHILLED WATER - USE SCHEDULE 40 CARBON STEEL TO ASTM A53 GR. B, SEAMLESS. THREADED CONNECTIONS UP TO 2" DIAMETER, BUTT WELD CONNECTIONS 2-1/2" AND LARGER.
2.5. INSULATION
1. INSULATE ALL CHILLED WATER PIPING, STEAM PIPING AND CONDENSATE PIPING AS NOTED BELOW.
2.6. PIPING ACCESSORIES
1. PIPE HANGERS - PROVIDE PIPE HANGERS FOR ALL NEW PIPING.
2.7. HUMIDIFIERS
1. PROVIDE NEW HUMIDIFIERS FOR EACH OF THE TWO AIR HANDLING UNITS COMPLETE WITH ALL NECESSARY ACCESSORIES.
2.8. COIL SUPPORT STRUCTURE - DESIGN A COIL SUPPORT STRUCTURE FOR THE 10th FLOOR AHU AT THE BASE OF THE COOLING COILS.

- 4. EXECUTION
4.1. GENERAL - INSTALL ALL COMPONENTS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4.2. RUN ALL PIPING PERPENDICULAR AND PARALLEL TO BUILDING LINES.
4.3. PIPING
1. WELDING TO BE COMPLETED BY PERSONNEL QUALIFIED AND SKILLED TO COMPLETE THE WORK.
4.4. INSULATION - INSTALL IN ACCORDANCE WITH TIAC STANDARDS
4.5. COILS - INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4.6. CONTROL WIRING - COMPLETE ALL WIRING IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE.
2nd FLOOR AHU
1. GENERAL - INSTALL A JOHNSON CONTROLS STANDARD FEC CONTROLLER IN THE 2nd FLOOR TO CONTROL THIS AIR HANDLING UNIT.
2. DAMPER CONTROL
3. HEATING AND COOLING COIL CONTROL
4. HUMIDITY CONTROL
5. OPERATOR INTERFACE

CONTROLS GENERAL:

- 1. PROVIDE A FULLY FUNCTIONAL CONTROLS SYSTEM, TO FAIL SAFE, TO MEET THE OPERATIONAL CRITERIA NOTED BELOW.
2. SUBMIT SHOP DRAWINGS FOR ALL COMPONENTS AND SYSTEMS TO BE INSTALLED. INDICATE CONTROL STRATEGY WITHIN THE SHOP DRAWINGS.
3. COORDINATE FOR A 120V POWER SOURCE WITH THE BUILDING OPERATIONS STAFF. THERE IS CURRENTLY AN ELECTRICAL PANEL WITHIN THE ROOM THAT HOUSES EACH AIR-HANDLING UNIT WITH OPEN CIRCUITS.
4. ALL WIRING TO MEET THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE AND BE COMPLETED BY JOURNEMEN COMPETENT IN THE FIELD.
5. SUPERVISORY CONTROLLER MUST BE ABLE TO INTEGRATE TO THE EXISTING ADVANCED METASYS SYSTEM EXTENDED ARCHITECTURE (ADX) PLATFORM.
6. COMMISSION ALL SYSTEMS. PROVE OPERATION OF ALL CONTROLS FEATURES INSTALLED. PROVIDE A COMMISSIONING REPORT SUBSEQUENT TO THE COMMISSIONING ACTIVITIES PROVING COMPLIANCE AND FULL OPERATION.
7. STANDARD OF ACCEPTANCE - JOHNSON CONTROLS. OTHERS WILL NOT BE ACCEPTED.
2nd FLOOR AHU
1. GENERAL - INSTALL A JOHNSON CONTROLS STANDARD FEC CONTROLLER IN THE 2nd FLOOR TO CONTROL THIS AIR HANDLING UNIT.
2. DAMPER CONTROL
3. HEATING AND COOLING COIL CONTROL
4. HUMIDITY CONTROL
5. OPERATOR INTERFACE

- 12th FLOOR AHU
1. GENERAL - INSTALL A JOHNSON CONTROLS NCE COMPONENT. PROGRAM THE NCE UNIT TO CONTROL THE AIR HANDLING UNIT AS NOTED BELOW.
2. DAMPER CONTROL
3. HEATING AND COOLING COIL CONTROL
4. HUMIDITY CONTROL
5. OPERATOR INTERFACE

Table with 3 columns: COILS, 2nd FLOOR, 10th FLOOR. Rows include: AIRFLOW (CFM), ENTERING AIR TEMP (DB/WB), LEAVING AIR TEMP (DB/WB), AIR PRESSURE DROP, COOLING MEDIUM, EWT, LWT, WATER FLOW, WPD, TOTAL COOLING (BTU/hr), AIR FLOW (CFM), ENTERING AIR TEMP, LEAVING AIR TEMP, AIR PRESSURE DROP, HEATING MEDIUM, INLET PRESSURE, STEAM FLOW.

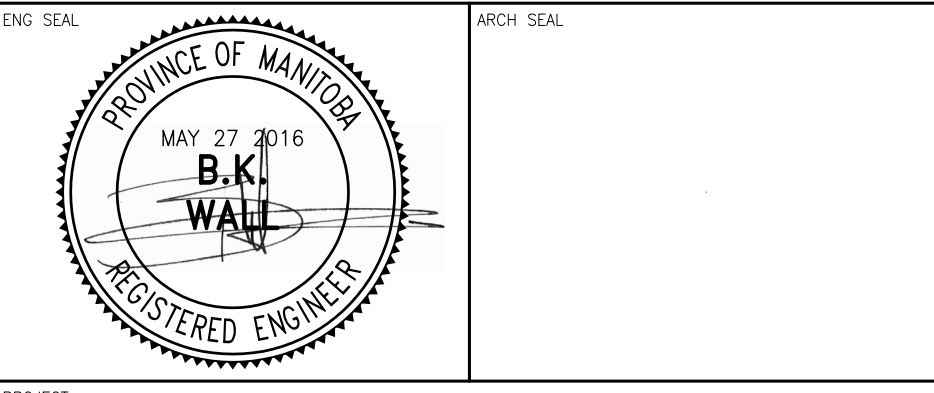
MINIMUM COIL PERFORMANCE REQUIREMENTS - MATCH EXISTING COIL CONSTRUCTION AND MEET MINIMUM PERFORMANCE REQUIREMENTS NOTED ABOVE.

TABLE 1: MAXIMUM HORIZONTAL SPACING BETWEEN PIPE SUPPORTS FOR STANDARD WEIGHT STEEL PIPE*. Table with 3 columns: NOMINAL PIPE SIZE (in), Spacing, and Capacity.



Table with 8 columns and 8 rows, likely a grid or schedule table.

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MECHANICAL ROOM, 10th FLOOR ROOF CONTROL - SPECIFICATIONS - SCHEDULE BID OPPORTUNITY No. 467-2016

Table with columns: DRAWN BY, CHECKED BY, DATE, SHEET NO. Values: KCV, BKW, MAY 27 2016, M105.