

DIVISION 15 - GENERAL CONDITIONS

- A. GENERAL
1. THE DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WHAT IS CALLED FOR IN EITHER IS BINDING FOR BOTH.
 2. COMPLIANCE: ALL WORK SHALL COMPLY WITH LOCAL CODES AND STANDARDS, LATEST EDITIONS, AS APPLICABLE, WHERE NO CONFLICT DEVELOPS BETWEEN LAWS, ORDINANCES, STANDARDS OR THIS SPECIFICATIONS. WHERE DIFFERENCES OCCUR, THE MOST DEMANDING AND THE HIGHEST LEVEL OF MATERIAL OR WORKMANSHIP SHALL APPLY AS DETERMINED BY THE ARCHITECT.
 3. NOTIFY PROPER AUTHORITIES WHEN WORK IS READY FOR INSPECTIONS REQUIRED BY APPLICABLE CODES, RULES AND REGULATIONS, ALLOWING SUFFICIENT TIME FOR INSPECTIONS. RECEIVE, RECORD AND SUBMIT WRITTEN APPROVALS OF AUTHORITIES TO ARCHITECT WITHIN TEN DAYS OF EACH INSPECTION.
 4. MANUFACTURER'S MATERIAL OR EQUIPMENT LISTED IN SCHEDULES OR ON DRAWINGS ARE TYPES TO BE PROVIDED FOR ESTABLISHMENT OF SIZE, CAPACITY, GRADE, AND QUALITY. OTHER MANUFACTURERS MAY BE USED PROVIDED THAT THE EQUIPMENT IS EQUAL IN QUALITY AND CAPACITY TO THE SPECIFIED EQUIPMENT. THE BURDEN OF PROOF FOR EQUALITY OF EQUIPMENT SHALL REST WITH THE CONTRACTOR. IF OTHER ACCEPTABLE MANUFACTURERS ARE USED, COST OF ANY CHANGE IN CONSTRUCTION REQUIRED BY THEIR USE SHALL BE BORNE BY CONTRACTOR.
- B. SCOPE OF WORK
1. MECHANICAL SUB-CONTRACTOR SHALL PROVIDE FOR INSTALLATION OF HEATING AND VENTILATING EQUIPMENT AS SHOWN AND SPECIFIED.
 2. PROVIDE LOW VOLTAGE CONTROLS AS REQUIRED ACCOMPLISH THE SPECIFIED SEQUENCE OF CONTROL.
- C. MECHANICAL SUB-CONTRACTOR QUALIFICATIONS
1. THE MECHANICAL SUB-CONTRACTOR SHALL PROVIDE ACCEPTABLE PROOF OF EXPERIENCE BY SHOWING PROVIDING A LIST OF AT LEAST THREE (3) COMPARABLE PROJECTS COMPLETED WITHIN THE LAST 5 YEARS.
 2. FOR THE ACTUAL FABRICATION, INSTALLATION, AND TESTING OF THE WORK OF THIS SECTION, THE CONTRACTOR SHALL USE ONLY THOROUGHLY TRAINED AND EXPERIENCED PERSONNEL WHO ARE COMPLETELY FAMILIAR WITH THE REQUIREMENTS FOR THIS WORK AND WITH THE INSTALLATION RECOMMENDATIONS OF THE MANUFACTURERS OF THE SPECIFIED ITEMS.
 3. CONTRACTORS SHALL HAVE IN CHARGE OF THE WORK AT ALL TIMES DURING CONSTRUCTION, A THOROUGHLY COMPETENT SUPERINTENDENT WITH EXPERIENCE IN THE TYPE OF WORK TO BE INSTALLED UNDER THESE SPECIFICATIONS. CHANGES IN JOB SUPERINTENDENTS SHALL BE MADE ONLY UPON WRITTEN CONSENT OF THE ARCHITECT / ENGINEER.
 4. IN ACCEPTANCE OR REJECTION OF INSTALLED SYSTEMS, NO ALLOWANCE WILL BE MADE FOR LACK OF SKILL ON THE PART OF THE INSTALLERS.
- D. ROUGH-IN
1. VERIFY FINAL LOCATIONS FOR ROUGH-INS WITH FIELD MEASUREMENTS AND WITH THE REQUIREMENTS OF THE ACTUAL EQUIPMENT TO BE CONNECTED.
 2. REFER TO EQUIPMENT SPECIFICATIONS IN DIVISIONS 2 THROUGH 16 FOR ROUGH-IN REQUIREMENTS.
- E. MECHANICAL INSTALLATIONS
1. GENERAL: SEQUENCE, COORDINATE, AND INTEGRATE THE VARIOUS ELEMENTS OF MECHANICAL SYSTEMS, MATERIALS, AND EQUIPMENT. COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - a. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS FOR COMPLIANCE WITH REQUIREMENTS FOR INSTALLATION TOLERANCES AND OTHER CONDITIONS AFFECTING INSTALLATION AND APPLICATION OF MECHANICAL EQUIPMENT. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
 - b. COORDINATE MECHANICAL SYSTEMS, EQUIPMENT, AND MATERIALS INSTALLATION WITH OTHER BUILDING COMPONENTS.
 - c. VERIFY ALL DIMENSIONS BY FIELD MEASUREMENTS.
 - d. ARRANGE FOR CHASES, SLOTS, AND OPENINGS IN OTHER BUILDING COMPONENTS DURING PROGRESS OF CONSTRUCTION, TO ALLOW FOR MECHANICAL INSTALLATIONS.
 - e. SEQUENCE, COORDINATE, AND INTEGRATE INSTALLATIONS OF MECHANICAL MATERIALS AND EQUIPMENT FOR EFFICIENT FLOW OF THE WORK. GIVE PARTICULAR ATTENTION TO LARGE EQUIPMENT REQUIRING POSITIONING PRIOR TO CLOSING IN THE BUILDING.
 - f. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
 - g. COORDINATE CONNECTION OF MECHANICAL SYSTEMS WITH EXTERIOR UNDERGROUND UTILITIES AND SERVICES. COMPLY WITH REQUIREMENTS OF GOVERNING REGULATIONS, FRANCHISED SERVICE COMPANIES, AND CONTROLLING AGENCIES. PROVIDE REQUIRED CONNECTION FOR EACH SERVICE.
 - h. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT AS REQUIRED TO CONFORM WITH MANUFACTURER'S INSTRUCTIONS AND APPROVED SUBMITTAL DATA, INCLUDING COORDINATION DRAWINGS, TO GREATEST EXTENT POSSIBLE. CONFORM TO ARRANGEMENTS INDICATED BY THE CONTRACT DOCUMENTS, RECOGNIZING THAT PORTIONS OF THE WORK ARE SHOWN ONLY IN DIAGRAMMATIC FORM. VERIFY AND COORDINATE CONNECTION REQUIREMENTS WITH OTHER TRADES AND WITHIN DIVISION 15. WHERE COORDINATION REQUIREMENTS CONFLICT WITH INDIVIDUAL SYSTEM REQUIREMENTS, REFER CONFLICT TO THE ARCHITECT.
 - i. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT LEVEL AND PLUMB, PARALLEL AND PERPENDICULAR TO OTHER BUILDING SYSTEMS AND COMPONENTS, WHERE INSTALLED EXPOSED IN FINISHED SPACES. INSTALL PIPING HANGERS AND SUPPORTS AS REQUIRED TO PROVIDE REQUIRED SLOPES.
 - j. INSTALL MECHANICAL EQUIPMENT TO FACILITATE SERVICING, MAINTENANCE, AND REPAIR OR REPLACEMENT OF EQUIPMENT COMPONENTS. AS MUCH AS PRACTICAL, CONNECT EQUIPMENT FOR EASE OF DISCONNECTING, WITH MINIMUM OF INTERFERENCE WITH OTHER INSTALLATIONS.
 - k. INSTALL ACCESS PANEL OR DOORS WHERE UNITS ARE CONCEALED BEHIND FINISHED SURFACES.
 - l. INSTALL SYSTEMS, MATERIALS, AND EQUIPMENT GIVING RIGHT-OF-WAY PRIORITY TO SYSTEMS REQUIRED TO BE INSTALLED AT A SPECIFIED SLOPE.
- F. MECHANICAL IDENTIFICATION
1. ALL EQUIPMENT SHALL BE APPROPRIATELY IDENTIFIED WITH PERMANENT MARKERS.
- G. SUBMITTALS
1. SUBMITTALS (SHOP DRAWINGS) SHALL BE REQUIRED FOR ALL HVAC EQUIPMENT, AIR DEVICES, AND TEMPERATURE CONTROLS.
- H. OPERATION AND MAINTENANCE MANUALS
1. OPERATION AND MAINTENANCE MANUALS FOR THE TEMPERATURE CONTROL SYSTEM AND THE ENTIRE MECHANICAL SYSTEM SHALL BE PREPARED BY THE CONTRACTOR. THE OWNER SHALL BE FULLY INSTRUCTED IN THE OPERATION AND MAINTENANCE OF THE ENTIRE SYSTEM BY THE CONTRACTOR.

MECHANICAL EQUIPMENT LIST

- NOTE: EQUIPMENT SPECIFICATIONS ARE INTENDED TO ESTABLISH A STANDARD OF CAPACITY AND QUALITY. THE MECHANICAL SUB-CONTRACTOR MAY SUBSTITUTE ALTERNATE EQUIPMENT PROVIDED THAT IT MEETS THE SAME STANDARD OF CAPACITY AND QUALITY.
- THE MECHANICAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL OF THE ENGINEER FOR ANY SUBSTITUTE EQUIPMENT PRIOR TO INSTALLATION.
- THE MECHANICAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ADDITIONAL COSTS ASSOCIATED WITH THE INSTALLATION OF SUBSTITUTED EQUIPMENT.
- FR-1 / FR-2 EXISTING FURNACE TO BE RELOCATED AND REUSED. FURNACE SHALL BE INSPECTED IN PLACE AND CERTIFIED BY THE HVAC SUB-CONTRACTOR AS BEING SERVICABLE.
- FURNACE SHALL BE SECURED AND PROTECTED THROUGHOUT CONSTRUCTION UNTIL SUCH TIME AS THE NEW LOCATION HAS BEEN PREPARED FOR USE.
- FURNACE SHALL BE SERVICED PER MANUFACTURER RECOMMENDATIONS, VACUUMED AND PROVIDED WITH NEW 2" PLEATED MEDIA FILTER PRIOR TO BEING PUT BACK INTO SERVICE.
- EH-1 ELECTRIC WALL HEATER
BERKO MODEL VK204
2000 WATTS, 240 VOLTS, 1 PHASE
PROVIDE COMPLETE WITH VKKS-1(1" SEMI-RECESSED FRAME) AND VKK-SFK (1/4 GAUGE SECURITY FRONT COVER) AND UNIT MOUNTED THERMOSTAT.
- TYPICAL OF 2
- EH-2 ELECTRIC WALL HEATER
BERKO MODEL VK204
3000 WATTS, 240 VOLTS, 1 PHASE
PROVIDE COMPLETE WITH VKKS-1(1" SEMI-RECESSED FRAME) AND VKK-SFK (1/4 GAUGE SECURITY FRONT COVER) AND UNIT MOUNTED THERMOSTAT.
- TYPICAL OF 2
- EF-1 RESTROOM EXHAUST FAN / HEATER
BROAN MODEL 658
70 CFM, 0.25" S.P., 4.0 SONES
1300 WATT HEATER
11.9 AMPS, 120 VOLTS
- PROVIDE COMPLETE WITH LINE VOLTAGE THERMOSTAT IN LOCKING COVER FOR CONTROL HEATER.
- EF-2 JANITOR'S ROOM EXHAUST FAN
BROAN MODEL 683
80 CFM, 0.25" S.P., 2.5 SONES
0.5 AMPS, 120 VOLTS
- KH-1 KITCHEN RANGE HOOD EXHAUST
BROAN MODEL GP44ZSS
42" WIDE, 570 CFM - VERTICAL DISCHARGE
HALOGEN LIGHTS
3.5 AMPS, 120 VOLTS

GRILLES / REGISTERS

- NOTE: GRILLE AND REGISTER SPECIFICATIONS ARE INTENDED TO ESTABLISH A STANDARD OF CAPACITY AND QUALITY. THE MECHANICAL SUB-CONTRACTOR MAY SUBSTITUTE ALTERNATE EQUIPMENT PROVIDED THAT IT MEETS THE SAME STANDARD OF CAPACITY AND QUALITY.
- THE MECHANICAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL OF THE ENGINEER FOR ANY SUBSTITUTE EQUIPMENT PRIOR TO INSTALLATION.
- THE MECHANICAL SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL ADDITIONAL COSTS ASSOCIATED WITH THE INSTALLATION OF SUBSTITUTED EQUIPMENT.
- SA-1 FLOOR REGISTER
REGIO REGISTERS MODEL 816
14" x 6" INSIDE MEASURE / 16" x 8" OUTSIDE MEASURE
BLACK CAST IRON W/ HOLES
- PROVIDE COMPLETE WITH FACE ADJUSTABLE OPPOSED BLADE DAMPER.
- SA-2 KICKSPACE GRILLE
REGIO REGISTERS MODEL 416
14" x 2-1/4" INSIDE MEASURE / 16" x 3-1/2" OUTSIDE MEASURE
BLACK CAST IRON W/ HOLES
- PROVIDE COMPLETE WITH FACE ADJUSTABLE OPPOSED BLADE DAMPER.
- SA-3 DOUBLE DEFLECTION WALL REGISTER
KRUEGER MODEL 5880
14" x 6" TALL - HORIZONTAL FACE BLADES
PROVIDE COMPLETE WITH FRAME FOR SURFACE MOUNTING AND FACE ADJUSTABLE OPPOSED BLADE DAMPER
- SA-4 CURVED BLADE CEILING REGISTER
KRUEGER MODEL 5180 - 2C
10" x 10" - TWO DIRECTION THROW
PROVIDE COMPLETE WITH FRAME FOR SURFACE MOUNTING AND FACE ADJUSTABLE OPPOSED BLADE DAMPER
- RA-1 RETURN AIR GRILLE
KRUEGER 1600 SERIES
1/8" BARS ON 1/2" CENTERS
48" x 6"
- PROVIDE COMPLETE WITH FRAME FOR SURFACE MOUNTING.
TA-1 IS TYPICAL.
- RA-2 FLOOR GRILLE
REGIO REGISTERS MODEL 1426
12" x 24" INSIDE MEASURE / 14-1/2" x 26-1/2" OUTSIDE MEASURE
BLACK CAST IRON W/ HOLES
- LV-1 OUTSIDE AIR LOUVER
RUSKIN MODEL EL375DX
PROVIDE COMPLETE WITH 3/4" BIRD SCREEN AND STANDARD FRAME CONSTRUCTION

BAI

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REVISION NO.	DATE
BID SET	01/05/17

DRAWING TITLE:
MECHANICAL
EQUIPMENT LIST,
AIR DEVICES AND
INSTALLATION
SPECIFICATIONS

DATE: 01/05/17
SCALE: 1/4" = 1'-0"
PRJL NO: 6090
DRAWN BY: BAI
CHKD BY: MAD

DRAWING NO.

M-2

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