

15020

PLUMBING GENERAL PROVISIONS

1.0 GENERAL INFORMATION:

The General Requirements and Supplementary Conditions are part of this contract and govern this division.

The permanent heating system shall not be used for construction until final sheetrock taping and sanding is finished and unless the system is made dust free with filters at all return openings. Filters shall be replaced as needed to maintain a clean system. If the system is found dirty it shall be cleaned before final acceptance. All extended warranties will need to cover the time in use and before final acceptance to the owner.

If the mechanical contractor finds any discrepancies in the plans or specifications that should be brought to the attention of the consultant, he will do so before bidding the project. Questions are to be submitted to Mechanical Concepts LLC, (Richard Bowman) E-mail rb@richardbowman.us PHONE 316-733-2718 or FAX 877-839-4680.

1.1 MECHANICAL SCOPE OF WORK:

Provide all mechanical systems indicated by the drawings, specified or as reasonably implied. Unless specified otherwise, provide all labor, materials and equipment necessary for a complete and operations system. Provide all incidental items required as part of the work even though not specified or indicated.

1.2 GENERAL CONTRACTOR SCOPE OF WORK PERTAINING TO MECHANICAL CONTRACT:

- A. PAINTING: All painting except as specified under other sections. Paint all exposed ductwork in finished areas.
- B. FLOOR, ROOF, CEILING AND WALL OPENINGS, SLEEVES, AND CHASES: Provide all cutting and patching for Mechanical and Plumbing. openings and chases with proper framing and reinforcing as required for Mechanical equipment. Patch all floors, walls and ceilings caused by the mechanical renovation.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

- C. STRUCTURAL FRAMING/REINFORCING: Provide additional structural framing and reinforcing as required for all roof mounted or suspending mechanical equipment. Coordinate with Mechanical Contractor for sizes and weights.
 - D. ACCESS PANELS: Provide and install access panels where required to be furnished under this division.
 - G. ROOFING: Mop In all mechanical curbs and vents provided by the Mechanical Contractor.
 - H. CEILINGS: Remove and replace acoustical ceilings as required by the mechanical contractor for him to install his work.
 - G. CUTTING AND PATCHING OF CONCRETE AND ASPHALT PAVING: Cut and patch concrete and asphalt paving required to install Mechanical Work.
 - H. LANDSCAPING: Re-seed all grass areas and replaces all damaged landscaping caused by construction.
 - I. ROOFTOP SUPPORTS: Provide pipe columns, structural steel members design by metal building provider to support rooftop units.
- 1.3 ELECTRICAL CONTRACTOR SCOPE OF WORK PERTAINING TO MECHANICAL CONTRACT:
- A. Provide all power wiring as required by mechanical equipment. Control wiring by TCC.
 - B. Provide all disconnects and starters to mechanical equipment if said equipment doesn't have these as an integral part or is not called out by these specifications to be provided by the Mechanical Contractor.
 - C. Provide all smoke detectors and wiring associated with them.
 - D. Provide and install switches and interlocks for exhaust fans.
 - E. Provide 115/1/60 utility outlets as required by code for maintenance of mechanical equipment.
 - F. TCC to mount all thermostats and control devices provided by Mechanical contractor and provide a technician to work with the Mechanical

***BOOT BARN
Warehouse Expansion
Wichita, Kansas***

Contractor to assure a working temperature control system. E.C. to provide conduit and boxes.

- G. Coordinate with the Mechanical, Plumbing, lighting layout and Electrical requirements.
- H. The Mechanical Contractor shall furnish to the Electrical Contractor all wiring diagrams and locations of the mechanical equipment. The Mechanical Contractor shall work closely with the Electrical Contractor so as to avoid conflicts with lighting and panels.

1.4 DEFINITIONS:

- A. Contractor: The contractor performing, furnishing and installing of the work under this Division of the specifications.
- B. Provide: Contractor is responsible to furnish and install components completely in every respect.
- C. Manufacture: Acceptable Manufactures listed in the specifications and on the plan sheets.
- D. Plan Sheets and Specifications: Plans and specifications are complimentary. Requirements indicated in either are binding and the most stringent is to be used.
- E. Other work: Mechanical contractor is to review the entire set of plans and specifications and to notify the Architect if discrepancies are found and obtain written instructions for changes necessary. Any changes in the work covered by this Division of the Specifications made necessary by the failure or neglect of the Contractor to report such discrepancies will be made by, and at the expense of the Contractor.

1.5 QUALITY ASSURANCE:

- A. Acceptable Manufactures: Acceptable Manufactures are listed in applicable sections of the Specifications and on the drawings. The basis of design shall be the manufacture listed on the equipment schedules. All other manufactures are required to meet all of the requirements of the contract documents, and standards of quality and performance as established by the basis of the design manufacture's product.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

1.6 REGULATORY AGENCIES:

- A. Permits and Fees: Pay for all permits and fees necessary as required by the City or Local regulatory agency. Development fees, and/or assessments due to be paid by the owner.
- B. Codes: All work shall comply the all federal, state and local codes and ordinances and regulations. All work shall comply with the latest adopted editions of the Uniform Plumbing Code, International Mechanical Code, International Building Code and National Fire Protection Association. In addition, work will be in conformance with generally accepted practices of ASHRAE and SMACNA.

1.7 SUBMITTALS AND SHOP DRAWINGS:

- A. Submit (7) copies of shop drawings for all major pieces of equipment as indicated in respective sections. Two (2) copies shall be returned to the contractor. Shop drawings are to be marked Job Specific and reviewed and signed by the Contractor.
- B. The intent of the shop drawings by the Contractor is to demonstrate to the Architect / Engineer that the Contractor understands the design concept and demonstrates his understanding by indicating and detailing fabrication methods to be used.
- C. Provide electrical schematic and connection diagrams for each motor, control or other electrical system.
- D. If deviations, discrepancies or conflicts between the shop drawings submittals and contract documents the Contract documents shall take precedent.
- E. The Architect/ Engineer will review shop drawings and indicate any corrections. Engineer's review shall not relieve contractor of the responsibility of compliance with contract documents or errors in shop drawings. The Contractor/Supplier shall have responsibility with quantities and physical clearances of the respective equipment.

1.8 PRODUCT DELIVERY, STORAGE AND HANDLING:

- A. Make provisions the delivery and safe storage of all material and make the required arrangements with other trades to coordinate moving large pieces of equipment into the building.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

- B. All material stored outside are to be covered and protected from the elements.
- C. All material to be "Furnished by Others" to the Contractor for installation shall be checked and their delivery noted. After delivery Contractor is responsible for its safekeeping.

1.9 **JOB CONDITIONS:**

- A. Examination of Premises: Examine the premises prior to bidding and become fully familiar with the existing conditions.
- B. Plans are schematic in nature. Layout of ductwork is based on best available information. The contractor shall field verify all structural conditions for ceiling space and exact duct route before fabrication.
- C: Provide electrical contractor with all amperage loads to equipment, and changes to any equipment if substitutions are furnished, failure to provide the above information may result in additional cost the Electrical Contractor and will be paid by the Mechanical Contractor.
- D. Existing Utilities: Verify existing utilities and the actual location of them in reference to the proposed work. Any deviation between the actual conditions and the plan locations shall be reviewed with the Architect. Notify Kansas One Call and have all utilities staked before any excavation.
- E: Housekeeping: Maintain housekeeping for the Mechanical portion of work. If General Contractor has to provide cleanup after Mechanical Contractor, he can expect compensation if he so desired.
- F. Protection: Protect new material and equipment from damage before, during and after installation. Clean all equipment of dirt and debris which may have accumulated during construction.

1.91 **EXCAVATION AND BACKFILLING:**

- A. Do all excavation for water, gas, sewer, drainage etc. Notify Kansas One Call and have all utilities staked before any excavation.
- B. Contractor shall do all shoring and bracing necessary per OSHA requirements to perform the work as required for safety.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

- C. Backfill and tamp the earth around pipes and bring to required level.
- D. Fill carefully to prevent future settlement.
- E. Provide all necessary fill material, sand, crushed rock, gravel as needed to assure prevention of settlement.
- F. Contractor shall warrant excavation against settling for a minimum period of one year.

1.92 WELDING:

All welding shall be by a certified welder and said welder shall have current certification papers upon site for inspection.

1.94 TESTING:

- A. Furnish testing equipment and test all piping and duct systems under methods and conditions as specified, in the applicable piping or duct sections.
- B. Make all necessary replacements and repairs and repeat tests until entire system is approved and satisfactory.

1.95 GUARANTEE:

Guarantee all materials, workmanship and the successful operations of all equipment against defects for a period of one (1) year from date of final acceptance by the owner. Guarantee to repair or replace at Contractor's expense any or all work which may be defective during that time provided that such defect is, in the opinion of the Architect/ Engineer, due to imperfect materials or workmanship and not to carelessness or improper use. Turn over to the owner at time of final acceptance all extend warranties provided by manufactures.

2.0 PRODUCTS:

- A. All mechanical equipment shall be listed and manufactured according to UL, ETL, AGA or other approved independent testing authority. Air conditioning equipment shall be ARI certified.
- B. It shall be the responsibility of all pressure vessel manufactures to provide an ASME stamp on their products when called for by ASME Code for Kansas State Law.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

- C. All plumbing fixtures and accessories designated as such on drawings, shall conform with the requirements of the American With Disabilities Act.
 - D. System design is based upon the first manufacture listed on the plans and other named manufactures are considered equivalent. Any cost attributed in changes in ductwork, piping, plumbing, space clearances or other trades is to be borne by the Contractor when another manufacture is used in lieu of the manufacture listed.
 - E. Unless specifically mentioned, all material and equipment shall be of best quality used for the purpose in commercial practice. All material and equipment shall be new, unused and without damage.
- 2.1 SUBSTITUTION OF EQUIPMENT AND MATERIALS:
- A. Unless request for changes in base bid specifications are received and approved ten (10) days prior to the opening of bids, the successful Contractor will be held to furnish specified items under the base bid.
- 2.2 WORKMANSHIP:
- A. All work shall be performed by skilled craftsman in a through and workman like manner. Attention of detail shall be followed in regard to maintenance clearances, other trades, exact location of lighting, fixtures, ceiling grid etc. Coordinate ceiling cavity space carefully with all trades as ceiling space is limited.
 - B. Layout and size all chases, openings, anchors and recesses required for the proper installation of the work.
 - C. Piping and equipment located in areas subject to low temperature shall be installed in a manner preventing freezing. Install all piping on warm side of building insulation to prevent freezing.
 - D. Seal all floor, wall and roof penetrations watertight with suitable sealant. Seal penetrations through fired rated assemblies with minimum 1" thickness 3M brand fire barrier caulk CP-25 (or approved manner) to maintain rating of assembly. Provide chrome plated escutcheons at all piping penetrations to finished materials.
 - E. Install fresh air openings with a minimum of 10'0" away from any exhaust opening, plumbing vent, flue, and gas relief opening.

BOOT BARN
Warehouse Expansion
Wichita, Kansas

- F. Check all interior mounted accessories such as turning vanes, dampers etc. to lose connections that could result in rattles. After installation failure to check these items could result in rework at Contractor's expense.
- G. If HVAC is separate from Plumbing, provide Plumbing Contractor with all BTU ratings on all equipment, verify floor drain locations where r required by mechanical equipment and verify duct locations in relation to plumbing.
- H. Startup equipment per manufactures' instructions. Review equipment and instruct owner in proper operation of the equipment.

2.25 OWNER'S MANUAL:

- A. Provide (3) manuals to the Architect before final inspection. Manuals shall be 8 1/2 by 11 3 ring binders including the following
- B. Submittals, operation and maintenance instructions, parts list, wiring diagrams, sequence of operation.
- C. Cover or cover sheet shall include the name addresses and telephone numbers (business and emergency) of the responsible contractors.
- D. Manual shall have index and tab dividers for each major equipment section.

3.0 **COMMISSIONING:**

- A. The contractor shall perform commissioning activities with the owner. This shall include a manufacturer's service technician representative to start-up equipment and verify that it meets all manufacturer guidelines. The contract documents shall spell out the scope of the commissioning process. The commissioning process will occur prior to Final Acceptance.
- B. The intent is to obtain a more rapid "shakedown" of project HVAC systems to prevent the multi-year problems, with the intended goal being a fine-tuned fully functional project HVAC system for the district. At a minimum, the following will be a part of the commissioning:
 - 1. Starting equipment
 - 2. Balancing equipment

***BOOT BARN
Warehouse Expansion
Wichita, Kansas***

3. Education of owner

4. Organize training with Supervisor of Building Equipment and Grounds

C. Operational training:

Train.

1. On-site engineer or custodian or Owner

4.0 REQUIRED SUBMITTAL

A. Operation and maintenance manuals (3 sets)

B. Equipment shop drawings (7 sets)

C. Control layout and operations (7 sets)

D. Schedule of equipment warranties (7 sets)

E. Balancing report (3 sets)

End of Section 15020