

DIVISION 15 - MECHANICAL
SECTION 15010 - GENERAL PROVISIONS

15011 GENERAL

a. The general conditions, modifications thereto and supplementary articles, information to bidders, special conditions, and other pertinent documents issued by the Architect are a part of these specifications and shall be complied with in every respect.

15012 SCOPE OF WORK

a. This specification includes the furnishing of all labor, materials, tools, equipment, drayage, rigging, fees, permits, etc., unless specifically furnished by others, necessary or reasonably required for the complete installation and operation of all the work as shown on the drawings or as required and/or as herein specified. The entire work shall be delivered complete in perfect working order to the entire satisfaction of the Architect.

b. The scope of work shall include the general listings as shown below. This Contractor shall furnish and install all required pipe, fittings, valves, hangers, supports, sleeves, inserts, traps and other such items, equipment and appurtenances as may be required for complete and operative systems, including all parts auxiliary to the systems, whether or not specifically set forth herein and/or shown on the drawings.

1. Systems of sanitary waste and vent piping
2. Plumbing fixtures and accessories
3. Rough-in special equipment and accessories
4. Miscellaneous equipment and accessories
5. Insulation
6. Systems of heating
7. Systems of ventilation and air-conditioning
8. Tests, inspections, balancing and adjustment

15013 SHOP DRAWINGS

a. In accordance with supplementary general conditions, the Mechanical Contractor shall furnish the Architect five (5) complete sets of certified shop drawings. Submittal must be in one installment in looseleaf binder with title sheet and numbered index at the beginning. Index shall list item, manufacturer and vendor. Piecemeal submittal will be returned without consideration.

b. All submittals must be on the manufacturer's standard certified submittal sheets. Each item must be marked with symbol, letter, or number designating it in the specifications or on the plans and items must be arranged in the order specified or scheduled.

c. All performance data, details, dimensions, special features and accessories must be clearly marked. All differences between equipment specified and that submitted must be clearly indicated. Substitutions will not be considered without prior approval from the Engineer. Shop drawings are required even though the equipment is as specified. Provide shop drawings on the following items:

1. Plumbing equipment and accessories with rough-in drawings
2. Mechanical equipment
3. Air devices
4. Miscellaneous equipment and accessories
5. Samples shall be submitted when specified or otherwise requested

15014 ELECTRIC MOTORS, HEATERS, MISCELLANEOUS DEVICES, AND CONNECTIONS, GENERALLY

a. Unless otherwise noted, all motors shall be of the squirrel cage, 40 degrees C., continuous rated, standard frame, of horsepower, speed, phase and voltage hereinafter specified. Motors shall be General Electric, Wagner, Century or equal.

b. The Contractor furnishing the motor, heater and miscellaneous devices shall install it on suitable foundation complete and ready for electrical connections. The Contractor furnishing the motor shall furnish and deliver to the Electrical Contractor all starting equipment required for operation of the equipment, unless otherwise provided for in the Electrical Section of these specifications. Each and every motor shall be furnished with a starter with over and under voltage protection, unless otherwise specified herein. The labor and material for the electrical connection of all motors, heaters, devices and the erection and connection of all motor starters and panelboards shall be done by the Electrical Contractor. The Contractor furnishing the motors, heaters, devices, and starters shall provide all labor and material for the installation of the interlock wiring between starters and all automatic controllers unless otherwise provided for under the Electrical Section of these specifications.

c. Starters which are interlocked for automatic operation have On-Off-Auto switches. All starters shall have pilot lights.

d. All controls and devices installed outdoors shall be completely weatherproofed.

e. This Contractor shall notify the Electrical Contractor of any changes required in the electric plans because of substitution of equipment and/or variation in electrical requirements due to changes in equipment manufacture and shall accept all responsibility for such changes and variations.

15015 AUTOMATIC CONTROLS, GENERALLY

a. Unless otherwise specified, this Contractor shall furnish all necessary controls and all labor and material for installation of all controls. All controls shall be installed strictly according to the electrical section of these specifications.

15016 CODES, PERMITS AND FEES

a. This work shall comply with all requirements of applicable building codes.

b. Contractors shall arrange with the proper authorities and/or utility companies for water and electric services paying all charges pertaining thereto, including metering requirements.

c. All necessary licenses or permits for the carrying out of this work must be secured and paid for by the Contractor. He shall be responsible for any damage sustained due to his failure to secure such license or permits. He shall furnish all meters and pressure regulators for water, electric and gas service in the event that they are not provided by the utility company and shall pay all taxes applicable to his work or materials. He shall pay any connection or service charges required by the utilities.

d. Should any part of the drawings or specifications be found to be in conflict with applicable codes or ordinances, the Contractor shall notify the Architect before submitting his bid. After entering the contract, the Contractor shall complete all work necessary to meet the requirements of all codes or ordinances without additional expense to the Owner.

15017 SPECIAL INSPECTION

a. The Contractor shall notify the Architect when the work reaches the following stages of construction, so that special inspection of the work may be accomplished prior to the covering up of these items:

1. All underground or under slab items in place and tested, but not covered.
2. Interior items prior to being concealed.
3. Tests.

b. The Contractor shall give to the proper authorities all requisite notices relating to the work under his charge, shall afford all authorized inspectors every facility for inspection and all violations of the law shall be the responsibility of this Contractor.

15018 VISITING SITE

a. The Contractor shall visit the site of this building before submitting a proposal on this work, and shall thoroughly familiarize himself with the existing conditions. Failure on his part to do this will not be cause for extras after the contract is signed, by reason of unforeseen conditions.

15019 CROSS CONNECTIONS

a. No plumbing fixtures, devices, or piping shall be installed which will provide a cross connection or interconnection between the water supply system for drinking of domestic purposes and a polluted supply such as a drainage system, or a soil or waste pipe which will permit or make possible the backflow of sewage, polluted water, or waste into the water supply system.

15020 WORK BY OTHERS

a. The following work as well as that referred to elsewhere in specifications relating to the work under this section of these specifications will be provided by others.

1. Chases, recesses and other openings in the building construction required for the location of pipes, or other mechanical equipment, will be provided by the General Contractor. The Mechanical Contractor shall advise the General Contractor of the sizes and locations, and furnish the necessary drawings in sufficient time to allow for provisions of same; otherwise, the additional cost caused thereby shall be paid by the Mechanical Contractor.

15021 APPLICABLE GENERAL SPECIFICATIONS AND REGULATIONS

a. All mechanical work and equipment, in whole or in part, shall conform to the applicable portions of the latest edition of the following ordinances, codes, and regulations in effect on the date of invitation for bids, which shall form a part of this specification.

1. Building Codes:

- a. International Building Code
- b. Arkansas & International Plumbing Code
- c. National Electric Code

2. Industry Standards, Codes and Specifications:
 - a. IEEE - Institute of Electrical and Electronics Engineers
 - b. ASTM - American Society of Testing Materials
 - c. AWWA - American Water Works Association
 - d. NBS - National Bureau of Standards
 - e. NEMA - National Electrical Manufacturers Association
 - f. NFPA - National Fire Protection Association
 - g. SMACNA- Sheet Metal and Air Conditioning Contractors National Association
 - h. UL - Underwriters Laboratory
 - i. OSHA - Occupational Safety and Health Act

15022 MATERIALS AND EQUIPMENT

a. Standard Products. Each item of equipment furnished under this specification shall be essentially the standard product of the manufacturer. Where two or more units of the same kind or class of equipment are required, these shall be the products of a single manufacturer; however, the component part of the equipment need not be the products of one manufacturer. All material and equipment shall be of the best quality normally used in good commercial practice and shall be the product of a reputable manufacturer. Each major component shall bear a nameplate giving the name and address of the manufacturer and the catalog number or designation.

b. Material and Equipment Schedule. As soon as practicable, and within thirty (30) days after the award of the contract and before beginning the fabrication of any material or the installation of any equipment a complete schedule of the materials and equipment proposed for installation shall be submitted to the Architect for approval. The schedule shall include manufacturer's names, catalog data, diagrams, drawings and other descriptive data as required or requested by the Architect.

c. Substitution of Materials:

1. The type and capacity of the various types specified herein by manufacturer's name and catalog number indicate the minimum acceptable qualifications required for this installation. Products of other manufacturers, with comparable qualifications, will be acceptable unless specifically stated otherwise. No preference will be given the make of items listed, provided all essential requirements of this specification relative to materials, capacity and performance are met. The bidder shall furnish a statement giving a complete description of all points wherein the equipment he proposes to furnish differs from the specifications, as well as any exception he may take to the specifications. Failure to furnish such a statement within 30 days after award of the contract will be interpreted to mean that interpreted to mean that the bidder agrees to furnish items named in the specification.

2. If the substituted equipment actually furnished under these specifications requires the use of larger or more connections, or if they are different arrangement than those shown on drawings or specified under these specifications, such additional or larger connections shall be installed to the complete satisfaction of the Architect without added cost to the Owner.

d. Handling and Storage of Materials:

1. The Contractor shall be responsible for the proper care of his materials, equipment, etc., delivered at the sites. Building materials, equipment, etc., may be stored on the premises, but the placing of same shall be subject to the approval of the Architect.

2. When any room in the building is used by the Contractor as a shop storeroom, etc., he shall be held responsible for any repairs, patching or cleaning arising from such use. He shall protect and be responsible for any damage to his work or material, from the date of agreement until the final acceptance is made, and shall make good without cost to the Owner any damage or loss that may occur during this period. He shall handle all material as directed, so that it may be inspected by the Architect.

15023 DRAWINGS

a. General. The drawings are diagrammatic and indicate the extent and general arrangement of the various systems. If any departures from these drawings are deemed necessary by this Contractor, detailed drawings and descriptions of these departures and a statement of the reason therefore shall be submitted to the Architect for approval as soon as practicable. No departures from the arrangements shown on the drawings shall be made without the prior written approval of the Architect.

b. Coordination of Drawings and Work. The drawings showing the extent and arrangement of the work of a particular trade must be used, together with the drawings showing the extent and arrangement of the work of the other trades, and this Contractor shall lay out his work with the consideration for the other trades and shall be responsible for calling to the attention of the Architect any interferences encountered. Such interference shall be investigated and called to the attention of the Architect before any equipment is installed and before any material is fabricated. Relocation resulting from interferences shall be made at no additional cost to the Owner. This Contractor shall cooperate with the other Contractors and Sub-contractors on the job and shall arrange and carry on his work in such manner that none of the Contractors shall be hindered or delayed at any time.

c. Shop Drawings. Shop drawings and required field drawings as hereafter specified shall be submitted to the Architect for review and shall be submitted in pentad unless otherwise specified in the individual subsections. All shop drawings submitted shall bear signed certification to the effect that the Contractor has carefully checked these shop drawings and found them to be correct with respect to dimensions and available space and that the equipment complies with all requirements of the specifications. The Architect will not review any shop drawings which are not accompanied by this certification.

d. Construction Drawings. At the completion of this project, the Contractor shall provide the Owner two (2) sets of plans, showing all piping systems, control system, fixtures and equipment installed by this Contractor. These drawings shall be correct in every detail and shall incorporate all changes made in the course of the conduct of the construction. These drawings shall be prepared in such a manner as to enable the Owner to properly operate, maintain and repair both exposed and concealed work.

15024 UTILITIES, LOCATIONS AND ELEVATIONS

a. Locations and elevations of the various utilities, included within the scope of this work, have been obtained from utility maps and/or other substantially reliable sources and are offered separate from the Contract Documents as a general guide only, without guarantee as to accuracy. This Contractor shall examine the site and shall verify to his own satisfaction the location and elevation of all utilities and shall adequately inform himself of their relation to the work before entering into a contract.

15025 TESTS

a. General. All piping and other mechanical systems provided under this contract shall be tested by the Contractor and approved by the Architect before acceptance. All piping located underground shall be tested by the Contractor and inspected by the Architect before backfilling. All equipment, fuel, water, electricity and personnel required for tests shall be furnished by the Contractor without additional cost to the Owner. Testing equipment shall be as required for the particular test and all equipment and gauges shall be accurate and in good working order. All equipment subject to damage at given test pressures shall be removed from line before pressure is applied.

15026 SOIL CONDITIONS

a. This specification and the drawings in no way imply as to the condition of the soil to be encountered. When excavating may be required in execution of the work, this Contractor agrees that he has informed himself regarding conditions affecting the work and labor and materials required, without recourse to any representation as to soil conditions that may appear, or seem to be implied, in any portion of the Contract Documents.

15027 CLEANING AND ADJUSTING

a. This Contractor shall not allow his waste materials or rubbish to accumulate in or about the premises, but shall promptly remove same. At the completion of the work, this Contractor shall remove all remaining rubbish, tools, scaffolding, and surplus materials, from and about the premises, and shall leave all work clean and ready for the intended usage. All fixtures, equipment, piping, valves and fittings shall be cleaned of grease, metal cuttings and sludge. Any stoppage, discoloration, or other damage to parts of the building, its finish or furnishings due to this Contractor's failure to properly clean or adjust the systems, shall be repaired and/or replaced by him without additional compensation from the Owner. All automatic control devices shall be adjusted for proper operation and water flow to fixtures and equipment shall be balanced.

15028 TRENCHING AND BACKFILLING

a. Separate trenches shall be provided for each utility or service to the building or buildings. All excavations shall be made by open cut. The banks of trenches shall be kept as nearly vertical as practicable, and trenches over five feet deep and where required shall be properly sheeted and braced.

b. Trenches shall be properly sheeted and braced and water shall be removed as necessary to fully protect workmen and adjacent structures, and to permit proper installation of the work. Under no circumstances shall pipe be laid, or appurtenances installed, in water; trenches shall be kept from water until pipe joint material has hardened. The presence of ground water in the soil, or the necessity of sheeting or bracing trenches shall not constitute a condition for which any increase may be made in the contract price. Sheetting left in place shall be cut off not less than two feet (2') below finished grade.

c. Material to be excavated herein under the trenches for utilities shall be undclassified and shall include all earth or other material encountered. The contract is understood to include the removal of all such materials to the depth and extent indicated on the drawings and/or as specified herein.

d. Trenches shall be graded evenly on the bottom to insure uniform bearing for the full length of all pipe. Bell holes shall be cut as necessary for joint making. Where the bottom of the trench is rock, cement, gravel, or other similar hard materials, such hard materials shall be excavated to at least three inches (3") of firmly compacted sand or fine gravel, or with concrete.

e. Trenches shall not be backfilled until all required tests have been performed and section tested meets the requirements as specified herein. Trenches shall be carefully backfilled with the excavated materials, consisting of earth, loam, sandy clay, sand and gravel, soft shale, or other approved materials, free from large clod of earth or stone, deposited by hand in thoroughly compacted six inch (6") layers, loose thickness, until the pipe has a cover of not less than one foot (1'). The remainder of the pipe shall be backfilled and compacted thoroughly with a runner of suitable weight or with an approved mechanical tamper, or if the backfill material is granular, settling with water will be permissible. Areas which are subsequently to receive pavements, walks, or other surfacing shall be tamped solidly in layers not to exceed six inches (6") loose thickness. Along all portions of the trenches, except areas to receive pavements, walks, or other surfacing, the ground shall be graded to a reasonable uniformity and the mounding over the trenches left in a uniform and neat condition.

15029 CUTTING AND PATCHING

a. This Contractor shall do all cutting and patching made necessary to his work, but in no case shall cut through or into any structural member without written permission of the Architect. This Contractor shall furnish and pay for the installation of all sleeves required for his work.

15030 EQUIPMENT FURNISHED UNDER OTHER SECTIONS

a. This Contractor shall provide all necessary material and labor for the connection to the mechanical systems of all fixtures and equipment requiring such connections, and with fixtures and equipment that are furnished by the Owner or are specified under other sections of these specifications. All drainage connections to these and this equipment shall be trapped. If any such fixture or equipment are not delivered prior to final acceptance, the services shall be capped or plugged at walls or floors as directed, and shall be left ready for future connection. All branch water, gas, and other service lines to fixtures and equipment items shall be individually valved.

15031 DEFECTIVE WORK

a. If inspections or tests show defects, such defective work or material shall be replaced and inspections and tests repeated. All repairs shall be made with new material. Caulking of screwed joints or holes in piping work will not be acceptable.

15032 GUARANTEE

a. This Contractor shall furnish a written certificate, guaranteeing all materials, equipment, and labor furnished by him to be free of all defects for a period of one (1) year from, and after, the date of final acceptance of the work by the Owner, and this Contractor shall further guarantee that if any defects appear within the stipulated guaranty period, such work shall be replaced without charge.

b. This guarantee shall be extended to include the capacity and integrated performance of the component parts of the various systems, in strict accordance with the true intent and purpose of the specifications. The Contract shall conduct such tests as are hereinbefore specified, or as may be required by the Architects, to demonstrate the capacity and performance ability of the various systems and their component parts.

c. This guarantee shall also include the repair of any leaks in the refrigeration system. This guarantee shall include the cost of evacuating and recharging the refrigeration system and the cost of replacement of refrigerant.

15033 NOISE AND VIBRATION CONTROL

a. It is intended that the systems as installed shall be free from objectionable noise and vibration when the system is operating. This Contractor shall isolate equipment, piping, etc., as required, as to insure an acceptable noise and vibration level in all of the systems.

15034 OPEN ENDS

a. This Contractor shall keep all ends of pipe, including hose extending through and above the roofs, drains, equipment and fixture branches, closed with caps or plugs so as to prevent dirt or building material from entering the pipe and traps during the course of construction. The use of cloth, paper, or cans for plugs shall be prohibited.

15035 SERVICE AND MAINTENANCE CONTRACT

a. This Contractor shall provide the Owner with a one (1) year service and maintenance contract which shall begin when the Owner accepts the systems as complete.

b. This Contractor shall provide all necessary service and maintenance on the systems for the term of the contract. The cost of filters is not included in this contract. This service and maintenance shall be provided at no additional cost to the Owner for labor and material.

15036 OPERATION AND MAINTENANCE INSTRUCTIONS

a. Provide three (3) complete sets of operating and maintenance instructions which shall include performance data, unit details and accessories, parts lists, and manufacturers' installation and maintenance instructions with all data clearly marked. Data shall include warranties on all equipment as specified herein. Warranties shall be delivered for insertion in manuals prior to final acceptance of systems. Data shall be in a neat bound manual with complete index under front cover. All unit sizes and performance data must be clearly marked.

b. Each system shall be operated for the instruction of the Maintenance Manager, including adjustments necessary.

PIPING GENERAL
SECTION 15110 - PIPING GENERAL

15111 FITTINGS

a. Pipes shall be cut accurately to measurements established at the building and shall be worked into place without springing or forcing. All piping after cutting and before threading shall be reamed and have all burrs removed and shall be cleaned before installation. Nipples shall be of the same material and composition as the adjacent pipe and shall be extra heavy when unthreaded shoulder is less than one inch (1"). No all thread nipples will be allowed.

b. Exposed lines shall be run parallel with, or perpendicular to, building lines, and wherever possible shall be grouped together for easier service and identification. Sanitary, waste, and similar lines which require a definite grade for drainage shall be given precedence in routing over all other lines. Whenever possible, horizontal and vertical runs shall be held as close as possible to the walls, ceilings, struts, members, etc., so as to occupy the minimum space consistent with the proper requirements for insulation, expansion, removal of pipe and access to valves, dampers, etc. All concealed work shall finish off within the limits permitted by the vertical or horizontal chases. All water lines shall be graded to permit drainage, with drain valves installed at low point or elsewhere to permit complete drainage of the piping systems or equipment. This Contractor shall take note of the architectural and structural features of the building, shall arrange for the concealment of all piping in finished areas of the building and the placement of piping as indicated within the concrete framing system sections.

c. Particular care shall be exercised to avoid leaving tool marks where connections are exposed in toilet rooms and other conspicuous places.

d. PIPE JOINTS:

1. All screw joints shall be made with tapered threads properly cut, shall be made perfectly tight with a stiff mixture of graphite and oil, applied with a brush to the pipe threads only, and in no case to the fittings. Caulking of screwed joints will not be allowed.

2. Type "L" copper pipe joints shall be made up with the use of "Siflos" solder. Pipe ends shall be cut square, reamed to remove all burrs and cleaned bright with fine sandpaper and steel wool. Solder shall take up by capillary action, and joint shall be made tight without a built-up head.

15112 PIPE SUPPORTS

a. All pipe shall be supported from the building structure by means of approved hangers and supports so as to maintain required grade and pitch, prevent vibration and provide for expansion and contraction.

b. Hangers shall be secured to approved inserts wherever possible and practicable. Expansion shields may be used in special cases only. Hangers shall be Fee and Mason figure 360 or 361 for bare copper pipe and figure 205, 212, or 215 for steel, cast iron or insulated copper pipe. Spacing of the hangers shall not exceed ten feet for pipe 1 1/4" and larger and eight feet for pipe spaced not over five feet apart and located near a hub, and copper tubing which shall have hangers spaced not over six feet apart. Chain, strap, perforated bar, or wire hangers will not be permitted. Trapeze hangers may be used in lieu of separate hangers on pipes running parallel to each other and close together. Inserts shall be set of a type to receive a machine bolt head or nut after installation. Inserts shall permit adjustment of the bolt in one horizontal direction and shall be installed before the concrete is poured. Vertical runs of pipe shall be supported by wrought iron clamps. Chromium plated pipes shall have a clearance of not less than 3/4 inch not more than one inch when run on the face of finish title and the pipe shall be supported by cast brass supports finished to match the pipe.

15113 THERMAL EXPANSION OF PIPE

a. Swing joints, turns, expansion loops or long offsets shall be provided where shown on drawings or where necessary to allow for the proper expansion of piping. Broken pipe fittings due to rigid connections must be removed and replaced at the Mechanical Contractor's expense. Swing joints shall consist of not less than four fittings on horizontal mains and three fittings on risers and runouts to risers. Connections to equipment shall be made in such a manner that movement of the risers will cause no strain or movement of the equipment.

15114 PIPE ANCHORS

a. Pipe anchors shall consist of heavy steel collars with lugs and bolts for clamping the pipe and for attaching anchor braces, unless otherwise shown on drawings. Anchor braces shall be installed in the most effective manner to secure the desired results, using turnbuckles where required. No supports, anchors or strays shall be attached in places where they will injure the construction either in the installation or by weight or expansion of the pipe.

15115 PIPE SLEEVES

a. All pipes passing through masonry construction shall be fitted with sleeves. Each sleeve shall extend through its respective floor or wall, and shall be cut flush with each surface, except floor sleeves which shall be extended to a minimum of one inch above floor. Unless otherwise specified, sleeves shall be two pipe sizes larger than the passing pipe, when the pipe is uncovered, and one pipe size larger than the overall outside diameter of the pipe insulation when insulated. Sleeves in floor slabs or walls below grade shall be standard galvanized steel pipe and caulked watertight. Sleeves in other masonry walls shall be 20 gauge galvanized steel or nonferrous metal or other approved material; all sleeves shall be properly installed and securely fastened in place prior to pouring concrete. Sleeves or pipes shall not be installed in spread footing. Install pipe below footing; above footing with sleeve; or step footing to accommodate sleeve above.

15116 ESCUTCHEONS

a. Chrome-plated brass escutcheons shall be provided on all pipes passing through building construction in exposed spaces.

15117 WELDING OPTION

a. All joints between sections of black steel pipe and between pipe and fittings 1 1/2" and larger may be fusion-welded. Welding shall be in accordance with recommendations of the American Welding Society. All changes in direction and intersections of lines shall be made with welding fittings. Mitering of pipe to form elbows, notching straight runs to form tees, or any similar construction will not be permitted.

15118 UNIONS

a. Unions or flanges shall be used at connections to all equipment to facilitate dismantling and elsewhere as required in the erection of the pipe on installation of valves, but shall not be installed in concealed spaces unless suitable access is provided.

b. Unions on ferrous pipe 2" or smaller shall be Crane No. 1280, 150 pound, malleable iron, ground joint unions. Unions on brass or copper pipe 2" or smaller shall be Crane 125 pound, brass, ground joint unions. Unions on ferrous piping 2 1/2" or larger shall be Crane 125 pound, cast iron, gasket type, flanged unions. Gaskets for flanged unions shall be of the best quality fiber, plastic or leather. Unions on galvanized piping shall be galvanized and unions on black piping shall be black. Where copper to steel pipe unions, couplings, or joints are required, they shall be made outside foundation walls of building, except those joints occurring on equipment inside of building, which shall be placed in accessible places.

15119 INSULATING COUPLINGS

a. Provide wrapped insulating couplings (Dielectric unions) at all connections between steel water lines and copper water lines and in the cold and hot water connections to each hot water heater.

15120 FLASHING

a. Plumbing vent pipes shall be flashed and made watertight at the roof with 16 ounce, soft, sheet copper or a pound sheet lead. Flashing shall extend not less than 8 inches from the vent pipes in all directions and extend up the vent pipes a minimum of 6 inches at which point threaded standard cast iron or malleable iron recess roof couplings shall be installed to form counter flashing or rain guards. Flashing for cast iron pipe vents shall be turned down into the pipes or hubs at least 1", and shall extend not less than 6" above the finished roof.



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PROJECT TITLE REPAIR & RENOVATE MEDICAL CLINIC PH V LITTLE ROCK AIR FORCE BASE JACKSONVILLE, ARKANSAS CHANGE ORDER TO PHASE V - 100% SUBMITTAL		SHEET TITLE MECHANICAL SPECIFICATIONS	
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