

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART I - GENERAL

1.01 ELECTRICAL GENERAL REQUIREMENTS

- A. This section applies to all electrical work. The contractors involved shall check all sections of the specifications in addition to the particular section covering their specific trade. Each distinct section of the specifications aimed for one trade may have detailed information with regards to other trades, therefore, it is imperative that all sections be reviewed to get a complete picture of all other trades' functions and work required.
- B. The Walgreen Co. drawings, which constitute an integral part of this contract, shall serve as the working plans. They indicate the general layout of the complete electrical system.
1. "Field verification, of scaled dimensions on plans, is directed since actual locations, distances and levels will be governed by actual field conditions." All measurements shall be verified at the site.
 2. The mechanical and electrical contractors shall check architectural, structural, plumbing, heating, ventilation, and air conditioning plans to avert possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflict, the contractor shall notify the architect and Walgreen Co. - Facilities Planning and Design Department, and secure written approval and agreement on necessary adjustment before the installation is started.
 3. Discrepancies shown between plans, or between plans and actual field conditions, or between plans and specifications shall promptly be brought to the attention of Walgreen Co. for a decision.
 4. Drawings and specifications are intended to cover the completed installation of systems to function as described. The omission of the expressed reference to any item of labor and material necessary to comply to practice codes, ordinances, etc shall not relieve the contractor from providing such additional labor and material.
 5. The contract drawings serve as working drawings for the general layout of the various services. However, layout of equipment accessories, specialties, piping systems, and conduit runs are diagrammatic unless specifically dimensioned and do not necessarily indicate every required valve, fitting, transition, turning vane, junction box, pull box, conduit size, etc. It will be the contractor's responsibility to provide all systems complete and operable. The contractor to make field verification of all services, systems, etc. as part of the total work required and the cost to be included in his base bid.
- C. Accessibility: Do not locate traps, controls, unions, pull boxes, etc. in any system at a location that will be inaccessible after construction is completed. Maintains accessibility for all components in mechanical, electrical, and plumbing systems.
- D. Cutting and Patching: All cutting required shall be done by the contractor whose work is involved, without extra cost to Walgreen Co. All patching and restoration including the furnishing and installation of access panels in ceiling, walls, etc. within the building lines shall be done by the respective, responsible contractor. No cutting of structural steel, concrete, or wood shall be done without prior approval and explicit directions of the architect and Walgreen Co. All duct openings in walls, floors, ceiling, and roof shall be cut and patched by the respective, responsible contractor.

- E. Relocation of Existing Duct, Conduits, Pipes and Utilities: The contractor, under whose jurisdiction the work may fall, shall provide labor, material, and tools required to cut, repair, protect, cap, or relocate existing pipes, conduits, or utilities interfering with or uncovered during work, per regulations of the authorities having jurisdiction.
- F. Excavation and Backfill: Excavation and removal of material, shoring, and backfilling required for the proper laying of all pipes and conduits inside the building and premises, and outside as may be necessary, shall be done by the contractor whose work is involved, without extra cost to Walgreen Co.
- G. Vibration Eliminators: Rotating or reciprocating equipment, ducts, piping, etc. shall be isolated from the structure by means of approved vibration absorbing units as provided or recommended by the equipment manufacturer or architect.
- H. Sleeves: Each contractor shall furnish required sleeves. Sleeves shall be extended 2" above the floor, wall, etc. unless noted otherwise and shall be galvanized steel pipe and of the required size. The contractor responsible for running pipes in the sleeve shall caulk the space between pipe and sleeve with oakum and seal with mastic cement or other approved material.
- I. Electric Motors: Each contractor shall provide all electric motors for their respective work. Verify building voltage prior to ordering motors. Motors shall be N.E.M.A. standard design for quiet operation and of ample size to operate at their proper load and full speed continuously without causing undue noise or vibration. All motors to be drip proof construction and have ball bearings. Provide all belted motors with guide rails, adjusting screws, anchor bolts, and cast iron bed plates. Furnish standard size V belts and pulleys. Provide full voltage magnetic starters for all three-phase motor-driven equipment. (General Electric CR7006 or Allen-Bradley Bul. 709.)
- J. Electrical Wiring: The electrical contractor shall furnish all wiring required for the operation of motors and controls.
- K. Damage to Other Work: Each contractor will be held rigidly responsible for all damages to their own or any other trades' work resulting from the execution of the involved contractor's work.
- L. Large Equipment: All large equipment which is to be installed in the building that may be too large to enter through stairways, doorways, or shaft shall be brought on the job and placed in the proper space before the enclosing structure is completed, unless arrangements are made with other contractors to permit access at a later date, without additional cost to Walgreen Co.
- M. Rough-in for Connection to Equipment: It shall be the responsibility of each contractor to study the architectural, structural, electrical, and mechanical drawings, conferring with the various trades involved and checking with the supplier of equipment in order to properly rough-in for all equipment.
- N. Material and Equipment: All material and equipment shall be new and of the best quality used for the purpose in good commercial practice, and shall be the standard product of reputable manufacturers. The material and equipment must meet approval of state and local codes in the area it is being used.
- O. Construction Superintendent: The term "construction superintendent" shall herein be referred to synonymously as Walgreen Co.'s construction superintendent.
- P. Performance of Work: All work outlined in the various mechanical and electrical sections shall be done by the contractor under whose jurisdiction the work may fall. See drawings and specifications.
- Q. Roof decks shall not be used to support piping, conduit, equipment (except roof mounted) devices, etc.

1.02 SUPPLEMENTARY CONDITIONS

- A. Refer to other requirements of mechanical and electrical work in Division 1 without exception.
- B. Visit to Site: Each contractor is directed to visit the site to verify dimensions and existing conditions of mechanical, electrical, and plumbing systems, and will thoroughly acquire information regarding grades, space conditions, limitations, and peculiarities of Construction required for the building and site and will give due consideration to same in preparation of proposal. No exceptions will be considered after award of a contract, nor will the contractor be entitled to any extra compensation for their failure to verify conditions at the site.
- C. Permits, Inspections, and Tests: All work is to be executed in compliance with, and each contractor is to observe and abide by, all applicable laws, regulations, ordinances, and rules of the national, state, county, and local governing agencies, or any other duly constituted public authority. Each contractor will, at all times, maintain proper facilities and provide safe access for inspection to all parts of the work and to the shops wherein the work is in preparation. No work will be enclosed or covered until approved by the architect, and should any work be enclosed or covered before all necessary inspections are completed, same will be opened for examination at the contractor's expense. All fees, licenses, tests, costs, etc. are contractor's responsibility.
- D. Rules, Regulations, and Codes:
 - 1. All material and equipment shall conform to the standards, where available, or the National Electrical Manufacturers Association (N.E.M.A.), National Fire Protection Association (N.F.P.A.), National Electrical Code (N.E.C.), and Underwriters Laboratories (U.L.).
 - 2. All work shall conform to all applicable federal, state, and local codes and utility companies' regulations.
- E. Workmanship and Installation: Walgreen Co. shall decide whether or not the finished work is satisfactory in their judgment. If any material and/or equipment has not been properly installed or finished, this contractor is obligated to replace the material or equipment wherever required and to reinstall the material or equipment in a manner entirely satisfactory at this contractor's expense (without additional cost to Walgreen Co.).
- F. Guarantee: Each contractor shall guarantee each complete system for a period of one (1) year from the date of acceptance of the work by Walgreen Co. to be free of defects of material and workmanship and that any faulty material or workmanship will be repaired or replaced without additional cost to Walgreen Co.
- G. Cooperation: There shall be complete cooperation with all trades in the matter of planning and execution of the work. Every reasonable effort shall be made to prevent conflict as to space requirements, dimensions, locations, leaving of opening, or other matters to obstruct or delay the work,

1.03 SUBSTITUTIONS

- A. Material Substitution: The name of an article or its make, as given in the specifications and drawings, is used to establish a standard for the guidance of the contractor. He may propose substitution of other material or equipment (unless specifically stated no substitution accepted).
- B. Should the contractor propose to furnish materials and equipment other than those specified, as permitted by the "acceptable alternate" clause, he shall submit a written request for any or all substitutions to Walgreen Co. Such a request shall be accompanied with complete descriptive and technical data for all items (manufacturer, brand name, catalog number, descriptive literature, and capacity tables), stating in each case what addition to or deduction from the main bid is to be made if such alternates are accepted.

- C. Where such substitutions alter the design or space requirements indicated on the plans, the contractor shall include all items of cost for the revised design and construction including cost of all allied trades involved.

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- D. Acceptance or rejection of the proposed substitutions shall be subject to the approval of Walgreen Co., and if specific approval in writing is not received, it is understood that the requirements as outlined in the Walgreen Co. plans are to be met.

END OF SECTION