

1. DESIGN STANDARDS:

- 1.1 Coordination with Rice University Building Design Standards Division 1: Design professional must coordinate general contract conditions with Rice University Building Design Standards Division 1. Division 1 requirements may include:
 - 1.1.1 Campus Master Plan Maintenance
 - 1.1.2 Existing Condition Documentation
 - 1.1.2.1 Campus Underground Utilities
 - 1.1.2.2 Utility Company Coordination (where required)
 - 1.1.2.3 Campus Utilities Tie-in and New Work Record Drawings
 - 1.1.3 Work Sequence. Include a required work sequence when appropriate. Allow contractor to submit an alternate work sequence for approval.
 - 1.1.4 Contractor's Use of Premises
 - 1.1.5 Allowances
 - 1.1.6 Unit Prices. Include on bid form when appropriate
 - 1.1.7 Alternates (Additives).
 - 1.1.8 Field Engineering. Requirements for field engineering should be kept to a minimum.
 - 1.1.9 Remodeling Procedures
 - 1.1.10 General Contractor's Requirements
 - 1.1.11 Demonstration and Training. Demonstration and training should be included for new or specialized equipment.
 - 1.1.12 Coordination Drawings. For complex projects, furnish the electrical layer for a combined trades coordination ceiling plenum drawing.
- 1.2 Coordination with Architect: The design professional should coordinate certain project requirements that may be identified in the Architectural Division 1 specifications. If not identified in Architectural Division 1 specifications, these project requirements should be discussed with the Architect prior to formulation of the Division 16 General Conditions. Project requirements that require coordination with the Architect include:
 - 1.2.1 Submittal Review Process
 - 1.2.2 Submittal and Record Drawings Electronic File Format

- 1.2.3 Testing and Commissioning
 - 1.2.4 Owner's Instructions
 - 1.2.5 Project Close-out Requirements
2. PRODUCT STANDARDS:
- 2.1 Access Doors: Design professional to coordinate with Architect for access door types and criteria for access door locations
 - 2.2 Rice University Standard is tunnels for new buildings. Discuss any proposed extension of the tunnel system with Rice University Project Manager.
3. PERFORMANCE STANDARDS:
- 3.1 The term "must", will be used on non-negotiable criteria. For criteria identified as "should" or "is preferred", system designer can propose alternatives.
 - 3.2 The following submissions should be provided by the design professional at the Design Development Construction Document Phases.
 - 3.2.1 Building electrical demand must be defined before the existing Campus electrical distribution system capacity can be evaluated by Rice University.
 - 3.2.2 A detailed description of the proposed load , including a load analysis of connected load as well as the applied National Electrical Code diversity factors will need to be furnished to Rice University.
 - 3.2.3 Where the load analysis for the new building or new portion of the existing building relies in part on a determination of the existing load (e.g. National Electric Code, 220.35, Optional Calculations for Determining Existing Loads), and the 1-year maximum demand data is not available, the maximum demand load (average power demand over a 15 minute period) must be continuously recorded over a minimum 30-day period, as required by National Electric Code 220.35, exception.
 - 3.2.4 Schematic drawings of electrical connection points for the proposed building to the Campus electrical distribution system will be required.
 - 3.3 Coordination Drawings: The design professional must require coordination drawings for major conduit runs and any busway runs. The design professional should require coordination drawings for any unusual installation or any installation that will require a close coordination of additional trades in order for the proposed equipment to properly fit, to be properly located (per Architectural requirements) and to provide the required

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NEC working spaces for the division 16 contractor and the required serviceability clearances required for the division 15 contractor(s). Discuss with Rice University project manager any additional items that may be required to be shown on the coordination drawings.

- 3.4 Three copies of Owning and Operating Manuals in ring binders should be delivered to the Rice University's Project Manager. They must include:
 - 3.4.1 Required Test Reports
 - 3.4.1 Operating and Maintenance Manuals
 - 3.4.2 Approved shop drawings for all items of equipment requiring shop drawings.
 - 3.4.3 Warranties
 - 3.4.4 Equipment List with vendor's addresses and telephone numbers and identification code.
- 3.5 The design and implementation of the equipment locations must be arranged such that equipment is serviceable while all portions of equipment are energized. The design professional must detail equipment working spaces such that the maintenance personnel are not required to do any of the following while servicing the equipment:
 - 3.5.1 De-energize equipment item(s) to be serviced.
 - 3.5.2 De-energize any equipment that may be facing the equipment to be serviced or provide any temporary ungrounded surfaces on the far side of the working space in front of the equipment.
 - 3.5.3 Establish written procedures in order to comply with NEC 110.26 clearance requirements.
 - 3.5.4 Work must be in conformance with NFPA 70E, Standard for Electrical Safety Requirements for Employee Workplaces.
- 3.6 Removal of Existing Equipment. Rice University may wish to retain certain existing items of equipment that are to be removed during remodeling of buildings on the campus. For remodeling type projects, the design professional shall discuss with the Rice University's Project Manager regarding right of first refusal for removed items. If Rice University's Project Manger determines that Rice University wants to retain existing equipment items, the design profession shall include in the contract a reference that Rice University retains the right of first refusal for removed items. If Rice University determines that they do not wish to retain these items for their use, it is the intention of Rice University for the Contractor to remove these items of equipment.
- 3.7 Factory Witness Testing: Rice University may require attendance of factory witness

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testing for certain large equipment items such as Generators or UPS systems. Coordinate factory witness testing requirements with Rice University Project Manager.

- 3.8 Job-Site Acceptance Testing: Rice University may require attendance of job-site acceptance testing for certain large equipment items such as Generators or UPS systems. Coordinate job-site witness testing requirements with Rice University Project Manager.