

ELECTRICAL SERVICE ENTRANCES

Primary Service Connections to Building:

The Energy Service Division within F&S shall be consulted for the primary electrical distribution voltage available on the Urbana Campus. This information shall be available via the Utility Program Statement required for each project at the U of I. Extensions of the electrical distribution system, including underground duct, conductors, and electrical manholes, shall be furnished and installed by that Project. All primary electrical feeders routed inside a building shall be galvanized rigid steel conduit, properly bonded and grounded, and with high voltage warning signs.

Source of Electrical Power: The campus electrical distribution system on the Urbana campus is the required source of electrical power for building projects. Special circumstances and remote locations that incur excessive costs may necessitate the use of service provided by the local utilities. The direct use of local utilities for electrical service shall be accomplished only with the approval of the Director of the Energy Service Division within F&S.

Special Requirements:

Extensions of the electrical distribution system shall be included in capital projects, as defined in the Utility Program Statement.

Provide a single line drawing showing the complete final building distribution system, suitably framed in 24" x 36" size under glass to be mounted in the substation or main switchgear room.

Raceway should be rigid steel conduit, as it passes through the foundation wall, into the service entrance box.

Service Entrance Pull Box: The primary service shall enter the building through a multi-cell concrete duct envelope in the basement wall and not directly into the unit sub-station. Provide a No. 12 gauge sheet steel pullbox over the ducts. Box size shall be determined by the number of ducts to be covered as well as the sizes of cables entering or leaving the box. Provide a steel barrier to separate the ducts for use of low voltage fire alarm and signal cables. The box shall have a screw-on cover and shall

be painted with two coats of gray enamel paint with "high voltage" stenciled on cover. The depth of box shall be a minimum of 9 times the diameter of the primary cable.

Because this is a service entrance box, bushings and grounding are required in this box. Cables are required to be identified in the box.

Comment: In the past, the U of I has had several problems with water entering the building through the service entrance box. Conduits should have an upward slope coming to the building, the exterior of the raceway should be sealed at the foundation wall and the interior of the raceway should also be sealed, with or without wiring installed.

Documentation and Submittals: The AE shall review the *Project Submittal Requirements*.