Basis of Design

This section covers manufactured structures for electric facilities located outside of buildings, including vaults, handholes and pads.

Design Criteria

- Comply with requirements specified in Seattle Amendment 450-19(a)(1) and WAC 296-46-370 (Boxes and Fittings).
- Refer to section 16B for additional criteria when designing vaults and raceways for the primary distribution system.

Design Evaluation

The following information is required to evaluate the design:

- **Schematic Design Phase:** Provide a description of proposed equipment locations and types.
- **Design Development Phase:** Show proposed equipment sizes and conduit entrance locations. Provide draft specifications.
- **Construction Document Phase:** Provide a description/diagram of final locations and orientation and recommended equipment catalog numbers, including top layouts, grounding details, final conduit entrance details and cable racking details. Provide complete specifications.

Submittals

- Manufacturer’s catalog data

Products, Material and Equipment

Manufacturers

- Utility Vault Co.
- Renton Concrete Products
- Fog-Tite
- Quazite
Installation, Fabrication and Construction

- Size vault tops to match their vaults.
- Covers shall be factory-marked “ELECTRIC”.
- Excavation, bedding material, installation and backfill shall be according to manufacturer’s recommendations. Structures equipped with floors or solid bottoms shall be water tight throughout.
- Equip conduit entering through vault walls with end bells installed flush with the wall and made watertight. Conduits entering through the bottom of handholes & vaults shall comply with WAC 296-46-370.
- Conduit entry into the vaults shall be located as close as possible to end walls to facilitate cable routing along the walls and optimize interior vault space. Do not locate entry through the center line causing cables to occupy the central space of the vault blocking out space for future connections.
- Coordinate the vault identifier with Engineering Services. Label the vault in a permanent manner in a visible location, typically on the top of the vault. The Consultant shall specify the method by which the permanent identifier will be added to the vault. This is dependent upon the vault composition (cement, plastic composite, metal etc.)
- Access hatches and doors for vaults shall be lockable. When equipped with ladders, locks and doors shall be operable from the ladder.
- Ladders for vaults shall be equipped with an extension to allow safe access/egress. Single pole type extensions are unstable and are not acceptable.

END OF DESIGN GUIDE SECTION