

## Appendix B. Submittal requirements for deep vaults and excavations

These requirements apply to deep excavations, including for deep vaults that are:

1. Within 5 feet of the skin of the water main or water service 2 inches or greater
2. More than 8 feet deep; and
3. More than 8 feet long.

### Engineered Utility Protection Plan

The Engineered Utility Protection Plan is always required for an excavation meeting the requirements above. The Engineered Utility Protection Plan must include:

1. A scaled site plan, which must show:
  - a. The location of the deep vault structure
  - b. Associated conduit bank and utilities
  - c. All water lines, service laterals, valves, and hydrants; and
  - d. Dimensions from these structures to outside skin of water infrastructure.
2. Standard drawings of the vault, showing dimensions and profile.
3. An excavation shoring plan. This must show:
  - a. Locations of required shoring members (both horizontal and vertical)
  - b. An explanation of how the project will maintain continuous positive pressure throughout the shoring process (installation through removal)
  - c. Stamp and seal from a Professional Engineer registered in Oregon.
4. Structural calculations that demonstrate how the shoring system will meet project needs. These calculations must be stamped and sealed by a Professional Engineer registered in Oregon.

### Pre-construction meeting

The plan reviewer may require a pre-construction meeting as a part of approving the permit when not required as part of a separate process or project general conditions. The meeting is between the Portland Water Bureau Public Works Inspector and the contractor who will excavate the site.