



TEMPORARY EXCAVATIONS

Temporary excavations for basements or other structures near property lines have a potential to cause damage to the adjacent property and structures. To confirm that stable temporary cut slopes can be constructed the Bureau of Development Services reviews excavations for conformance with Portland City Code 24.70 and Oregon Structural Special Code Sections 3304 and 3307. These code sections are intended to protect property and structures. On-site safety is the responsibility of the contractor; please refer to Occupational Safety and Health Administration (OSHA) standards. The following provides minimum requirements for temporary excavation cut slopes and provides alternative excavation options.

Minimum Excavation Requirements

The minimum excavation requirements presented here are intended for typical flat residential sites and for excavations away from existing foundations. If the site is sloped or located in an area of high groundwater or soft soils, a registered design professional (e.g. Geotechnical Engineer or Engineering Geologist) must be retained by the applicant to provide temporary excavation recommendations. A registered design professional must also be retained if the excavation is located next to a foundation.

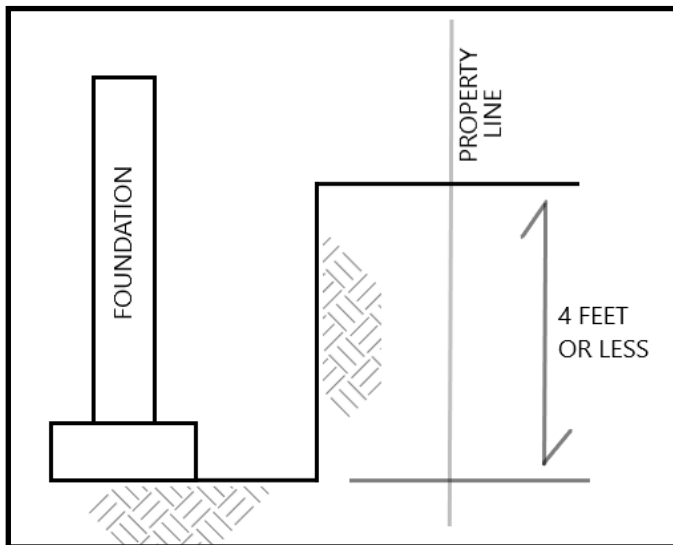


Figure 1 - Excavation is less 4 feet

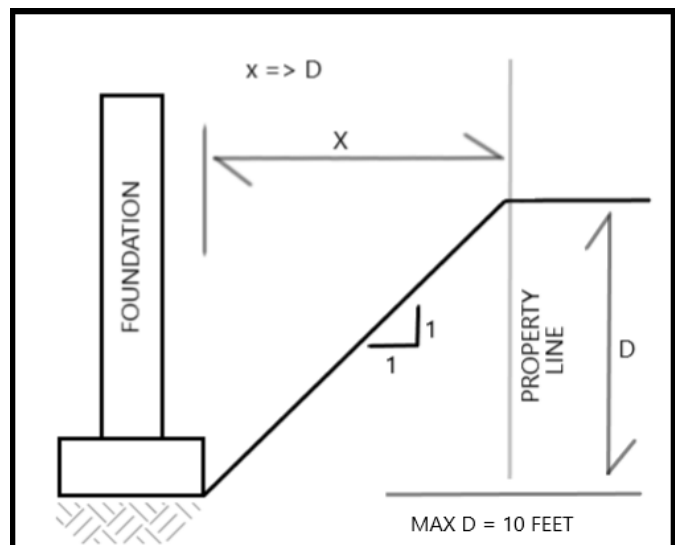


Figure 2 - 1H:1V Cut Slope

Figures 1 and 2 illustrate minimum excavation requirements. If the excavation is less than 4 feet in height and there are no structures above the excavation, as shown in Figure 1, BDS generally considers a vertical temporary cut reasonably stable. If the excavation is 4 to 10 feet deep, the excavation must be cut at a slope inclination of 1 Horizontal to 1 Vertical (1H:1V) or flatter. The distance between the heel of the foundation wall and the property line, represented as “X” in Figure 2, must be greater than the total excavation depth, represented as “D”.

Excavation Configurations

Requiring a Design Professional

If the minimum excavation requirements discussed above can not be met or if the design of the building can not be revised to meet the minimum requirements, then the excavation configurations illustrated in Figures 3 to 5 may be suitable.

These excavation configurations require appropriate site conditions and a subsurface evaluation and design completed by a registered design professional (e.g. Geotechnical Engineer or Engineering Geologist). Soil special inspection is required for these excavation configurations. A separate building permit is required to underpin structures that are on adjacent properties, see Figure 5.

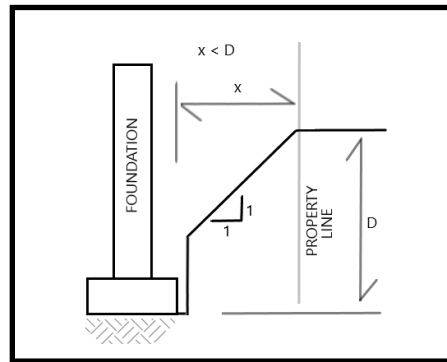


Figure 3 - Over Steepen Slope Configurations

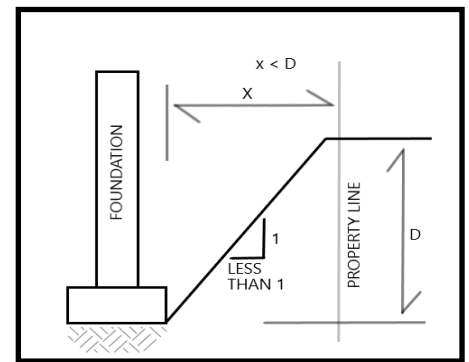


Figure 4 - Shoring

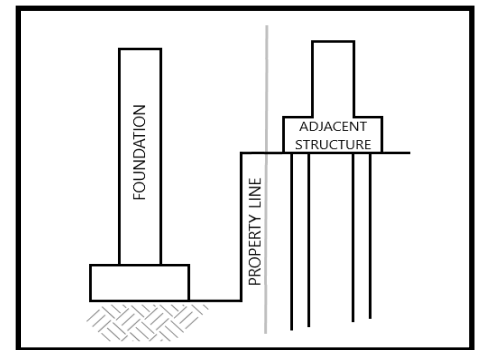


Figure 5 - Underpinned

Temporary Easement

An alternative to the options above is to obtain a temporary construction easement that allows the excavation to encroach on to the neighboring property, provided the excavation does not remove support of existing structures. The easement must be signed by both property owners, as the grantor and grantee, and must specify the area and nature of the easement. The neighboring property owner **is not** obligated to grant the easement. A design professional is not required for this excavation option.

Summary

Excavation cut slopes and shoring must be based on conditions encountered at the site during construction. The contractor performing the work is ultimately responsible for the stability of the excavation and safety on site. In summary the cut slope(s) illustrated in:

- Figures 1, 2, and 6 are acceptable for typical flat sites without a registered design professional.
- Figures 3, 4, and 5 a may be acceptable with the involvement of a registered design professional.
- Figure 6 is only acceptable with a temporary construction easement.

The guidance provided here is intended to outline the Bureau's interpretation of the referenced code sections and should be used as information only. Approval of proposed cut slopes are at the discretion of the building official based on the site conditions.

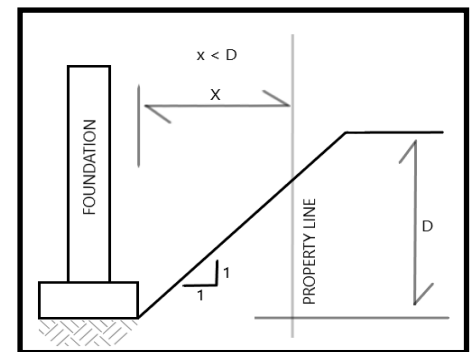


Figure 6 -
Temporary Construction Easement