Scaffold Depot

Safe Work Practices / Procedures / Instruction

EXCAVATION AND TRENCHES

Underground Utilities

Before excavating or drilling with powered tools and equipment, the location of all underground utility services in the area must be accurately determined, and any danger to workers from the services must be controlled. Excavation or drilling work in proximity to an underground service must be undertaken in conformity with the requirements of the owner of the service. Pointed tools must not be used to probe for underground gas and electrical services. Powered equipment used for excavating must be operated so as to avoid damage to underground utility services, or danger to workers.

Removal of Surface Encumbrances

Trees, utility poles, rocks and similar objects adjacent to an area to be excavated must be removed or secured if they could endanger workers.

Sloping, Benching and Shoring Requirements

Before a worker enters any excavation over 1.2 m (4 ft) in depth or, while in the excavation, approaches closer to the side or bank than a distance equal to the depth of the excavation, the employer must ensure that the excavation sides are sloped or supported as specified by a professional engineer, or that the sides of the excavation are:

- Sloped at angles, dependent on soil conditions, which will ensure stable faces, but in no case may the slope or combination of vertical cut and sloping exceed that shown in Figure 20-1 as found in WorkSafeBC OHS Regulation;
- Benched as shown in Figure 20-2 as found in WorkSafeBC OHS Regulation;
- Supported in accordance with the minimum requirements of Section 20.85 of WorkSafeBC OHS Regulation;
- Supported by manufactured or prefabricated trench boxes or shoring cages, or other effective means.

Figure 20-1: Sloping in Lieu of shoring

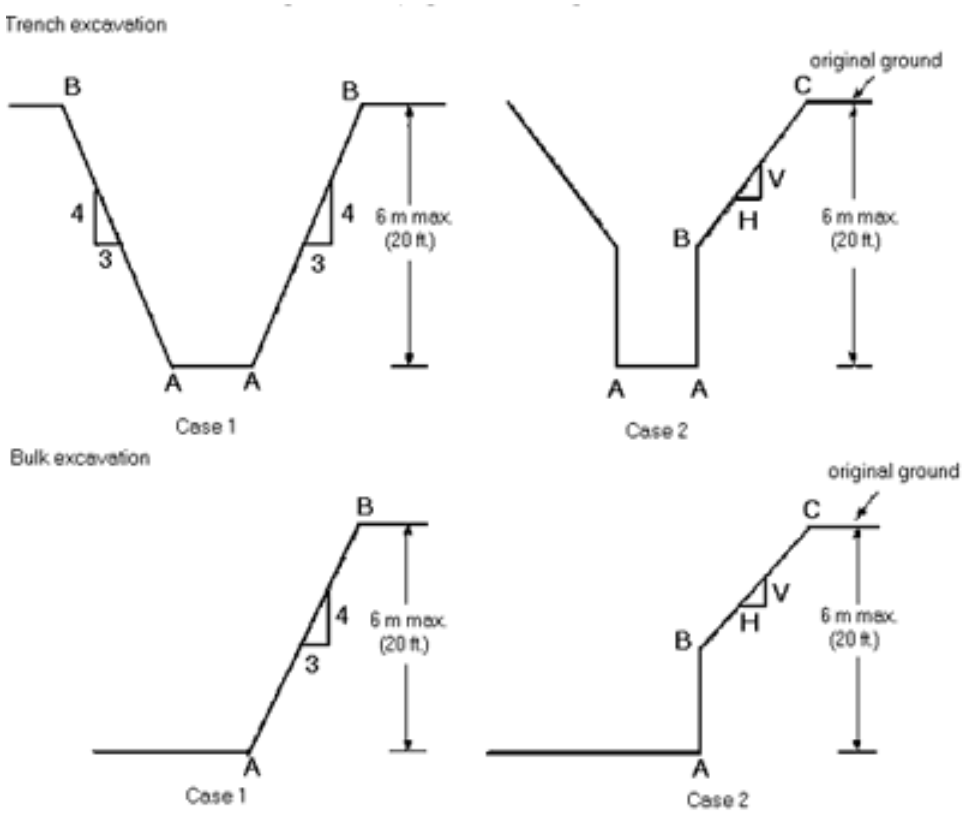


Figure 20-2: Benching in lieu of shoring

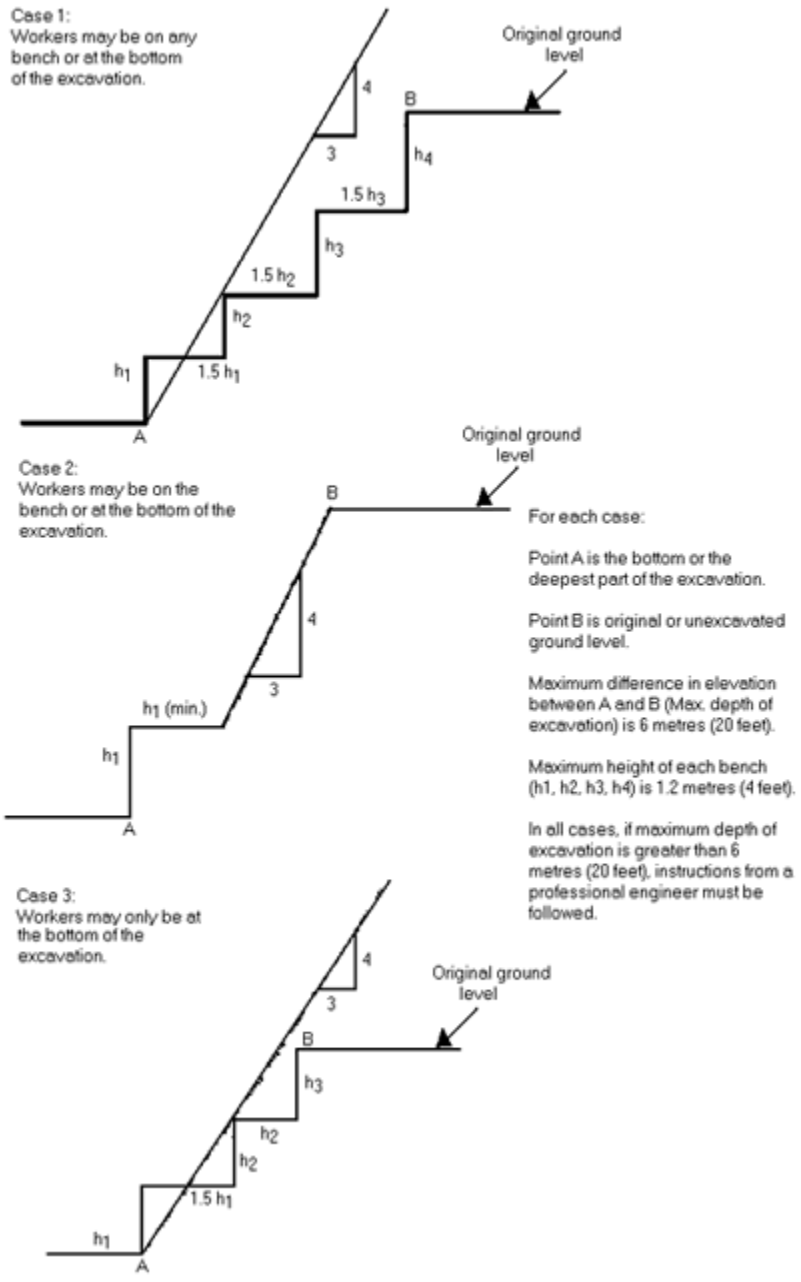
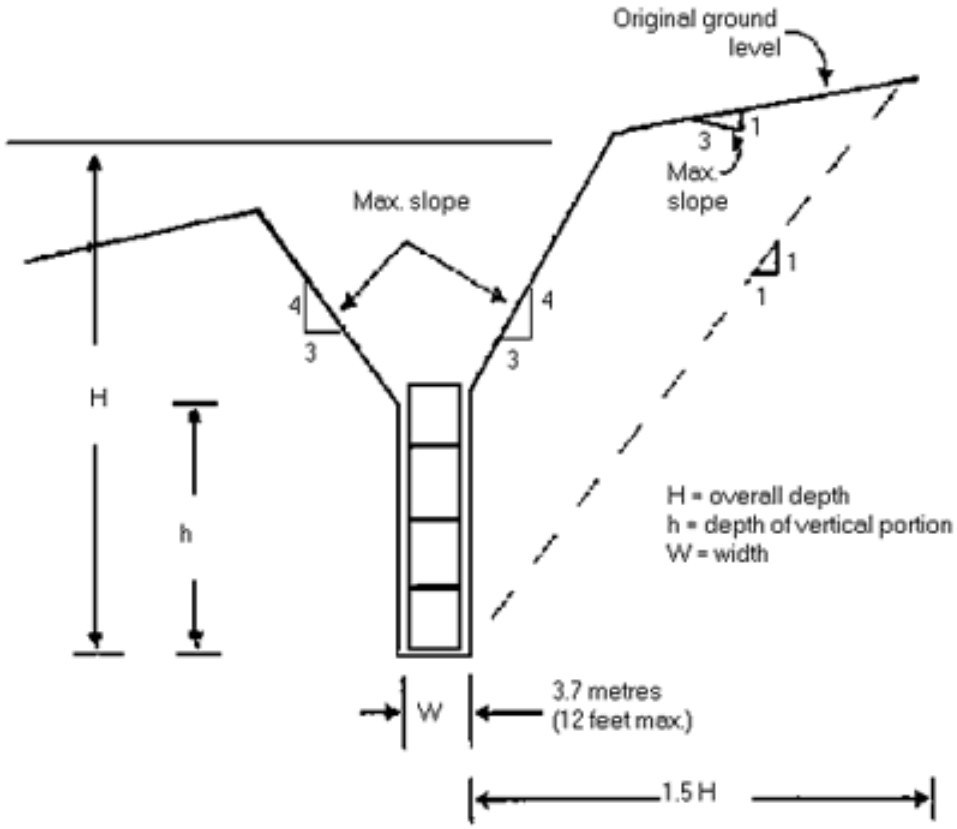


Figure 20.3 Combined supporting and sloping



Shoring must be adequate for excavation depth H.
Depth H cannot exceed 6 metres (20 feet).

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Engineering Requirements

Excavation work must be in accordance with the written instructions of a professional engineer if:

- The excavation is more than 6 m (20 ft) deep;
- Support structures other than as specified in Section 20.81 of WorkSafeBC OHS Regulation are used in the excavation;
- An improvement or structure is adjacent to the excavation;
- The excavation is subject to vibration or hydrostatic pressure likely to result in ground movement hazardous to workers; or
- The ground slopes away from the edge of the excavation at an angle steeper than 3 horizontal to 1 vertical.

Spoil Piles

If the average depth of a spoil pile which is adjacent to a supported excavation exceeds 60 cm (2 ft), the selection of the shoring or shielding must take into account the resulting increase in lateral soil pressure.

Excavated materials must be kept back a minimum distance of 2 ft. from the edge of a trench excavation and 4 ft from any other excavation.

Entry and Exit

Safe means of entry and exit must be provided for an excavation a worker enters. If workers are required to enter a trench over 1.2 m (4 ft) deep, the safe point of entry and exit must be located within 8 m (25 ft) of the workers and the excavation must be safely supported or sloped to the entry and exit location.

Where walkways are used to provide access, entry or exit into or over an excavation they must be properly secured to prevent dislodgment. In addition, the open side of an access route into an excavation used by mobile equipment must have a curb.

Guarding

If an excavation is a hazard to workers, it must be effectively covered or guarded. In some cases, excavations may require the need to place fencing systems around the excavation to provide adequate protection, in particular from public access.

Excavation Crossings

Excavations which require the placement of a walkway overtop the excavation must have such walkways measuring no less than 20 in. in width. If the excavation is greater than 4 ft. in depth, the walkway requires the application of guardrails applied to both sides of the walkway as per Part 4 of WorkSafeBC OHS Regulation.