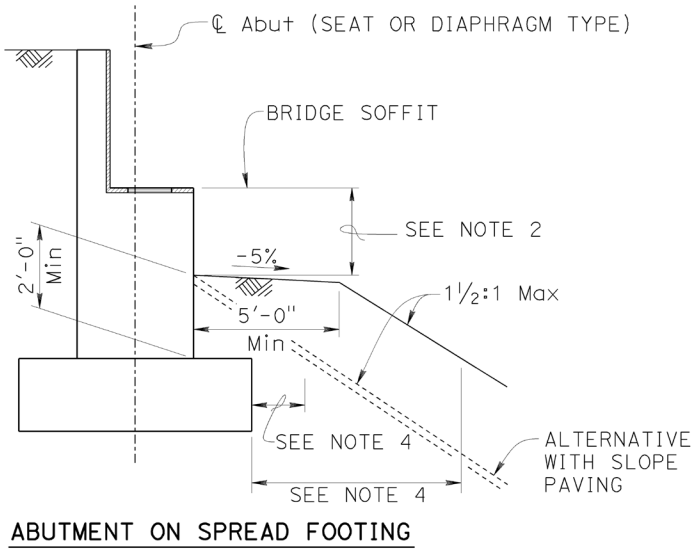
Bridge Design Details 6.2 June 2025

Seat & End Diaphragm Abutments



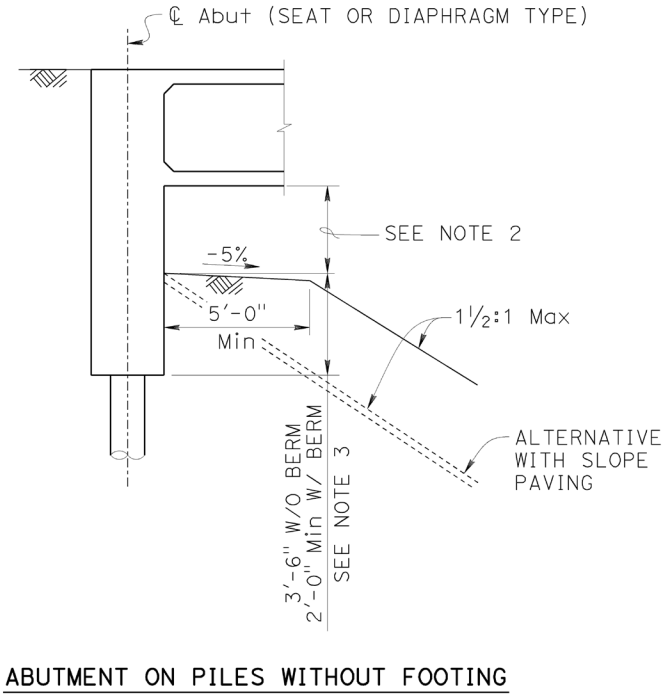


Figure 6.2.1 Abutment Foundation Embedment and Berm

Notes:

1. For Abutment reinforcement, see Bridge Design Aids: Section 1 Abutments.
2. The clearance between the top of finish grade slope and the soffit of the bridge should be 3’-0” minimum for abutments with a berm. This clearance allows room for compaction of the berm and for future maintenance inspections. If, for some reason, the berm is wider than 6’-0”, the minimum vertical clearance provided should be increased to provide the necessary room for construction. The clearance may be as little as 2’-0” for abutments without a berm (with slope paving); whereas the clearance can be as much as 4’-0” for typical bridges, depending upon individual project circumstances. Bridges with structure depths greater than 7’-0” would typically have more clearance, than the typical dimensions shown above, to provide a similar appearance as the shallower structures. The clearance is parallel to the deck when the cross slope is constant and level for crown slopes. The dimension shall be shown on the plans.
3. The bottom portion of abutments on piles without footings, shall be embedded a minimum of 3’-6” at the face of abutment when there is no berm (with slope paving). If the slope is flatter than 1½:1 (horizontal: vertical), the embedment can be decreased to as little as 2’-0”.
4. For abutments on spread footings, the horizontal clearance from the top of footing to the face of slope should be 5’-0” minimum, with a 2’-0” minimum cover at the edges of footing.
5. Front face slopes at abutments should be 1½ to 1 or flatter, except under very unusual circumstances.