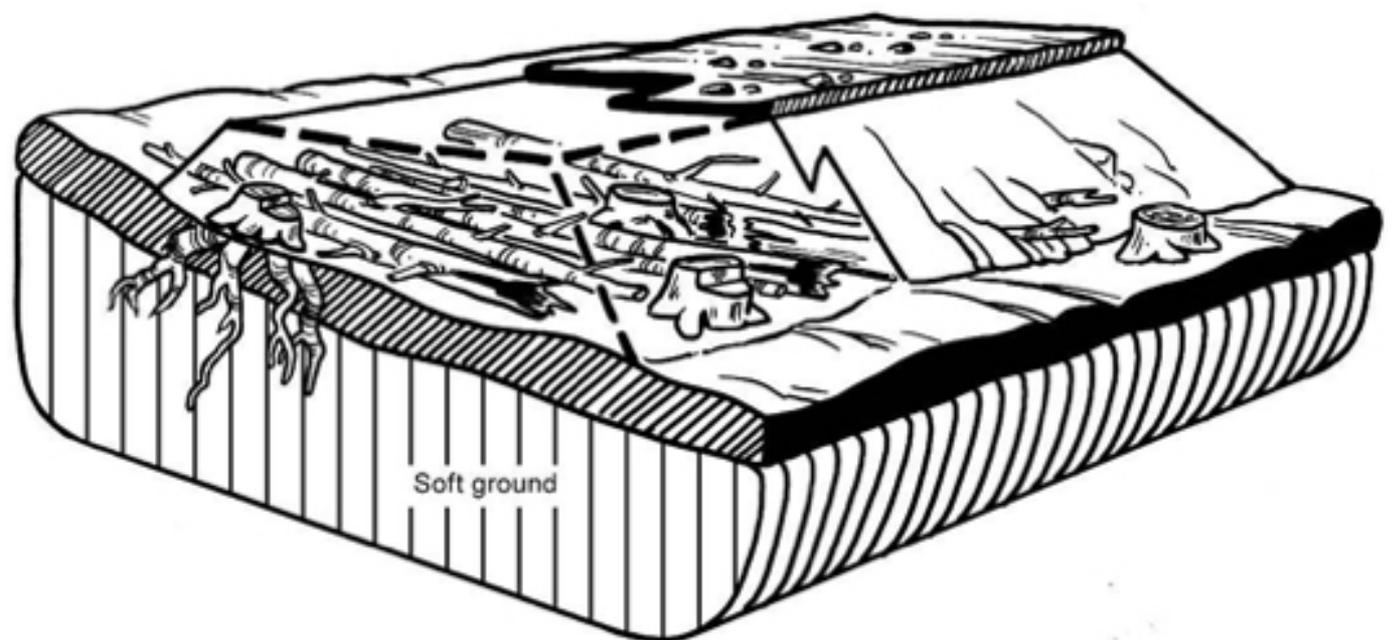


5.7 Overlanding

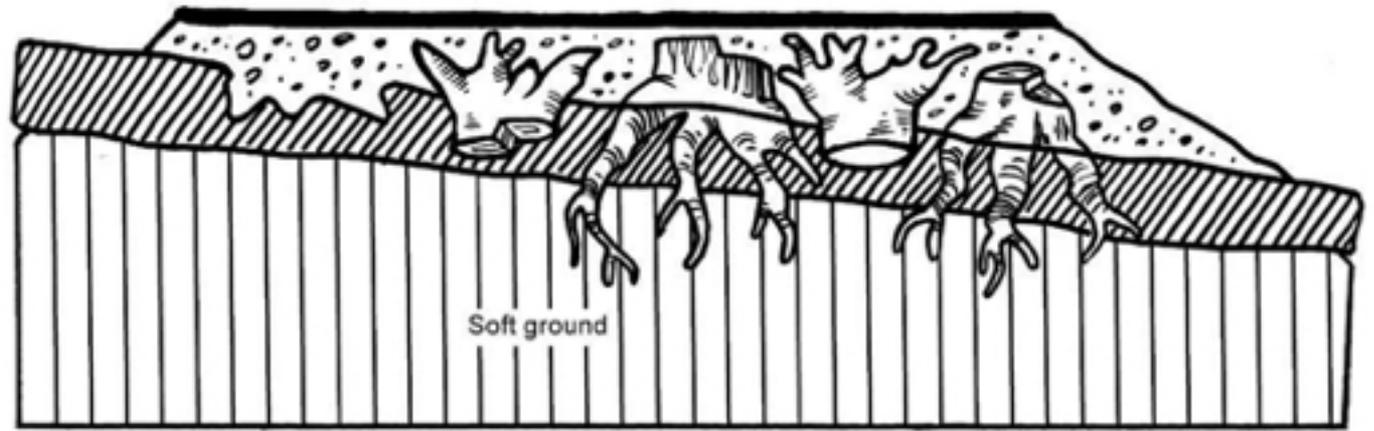
Overlanding is a construction technique used where the underlying soils are too weak to support the road prism (Figure 5-11 and Figure 5-12). The road fill is placed on undisturbed organic soil, stumps, and vegetative material, using geosynthetic fabric, corduroy, or puncheon (small logs and limbs) as the separating material mat. It is important that the vegetative mat remain undisturbed to prevent the unsuitable saturated soils below the mat from mixing with the imported subgrade material.

Figure 5-11 Overlanding cross-section with corduroy



Ensure that the amount of fill that is placed and compacted during overlanding is sufficient for the anticipated loads. The depth of material is a function of soil properties (particularly bearing capacity), vehicle loading, season of use, and life expectancy of the road. Use geosynthetics or puncheon to reduce the amount of road fill required and to also reduce future road maintenance.

Figure 5-12 Overlanding cross-section with inverted stumps



5.7.1 Construction of Short-Term Roads

The introduction of stumps, roots, and embedded logs into the road fill under the traveled portion of the road can reduce the long-term stability of the fill. The buried organic material will deteriorate over time and begin to settle. This removes support for the applied wheel loading and results in rutting of the road surface. Water ponding in the ruts may saturate the road fill and lead to failures. Thus, restrict the use of roots, stumps, and embedded logs in the road fill to the construction of short-term roads (e.g., up to five years), subject to deactivation at the end of their operational lives. Consider extending the life of a short-term road (e.g., up to 10 years) only if regular inspections indicate that the road fill is stable and can still support the design vehicle axle loads.

If the road fill begins to show signs of failure, or after the extended time period has passed, deactivate or reconstruct the road.

5.7.2 Winter Construction of Permanent Roads

Where another option does not exist, permanent roads may have to be constructed in the winter. Prevent the placement of snow, ice, and frozen material in the road fill. These materials cannot be easily compacted and will settle when they thaw. In turn, this thawing will saturate the fill and create voids that readily collapse. The resulting fill is not only unstable and low in strength, but also highly erodible and often a source of sediment, potentially causing severe damage to streams during the spring break-up period. For more information, see [Construction & Use of Snow & One-Season Winter Roads](#).

5.7.3 Turnouts & Widening

Construct turnouts and widenings at locations and to specifications in accordance with the road design to allow safe passage of expected vehicle types on single lane roads. Consideration for direction of industrial traffic and adverse versus favorable grades is important for user safety. For design details on turnouts and widenings, see [Chapter 3: Road Survey & Design](#).

5.7.4 Location of Borrow Pits

Borrow pits are developed where additional material for subgrade construction or surfacing is required. Locate them outside of riparian management areas.