Shallow Foundation/Slab on Grade

Relative to other foundation types, shallow foundations such as on-grade slabs and foundations elevated on non-frost susceptible (NFS) gravel pads tend to be the least expensive foundation type in permafrost regions, provided NFS fill is readily available. These foundation types are best suited for structures with large floor loads such as garages and hangars. When installed on thaw-unstable ground, the foundations are susceptible to damage due to heat loss to the ground and settlement due to thawing; additional cooling and insulating measures must be implemented to maintain a frozen bearing subsurface.

Alternatively, shallow foundations and slab-on-grade foundations can be installed in over-excavated areas and backfilled with NFS gravel pads, provided insulation and cooling methods are implemented to protect the permafrost.



