

Table 3-2 Summary of alignment controls for forest roads

| Stabilized Road Width (m) | Design Speed (km/h) | Minimum Stopping Sight Distance ^a (m) | Minimum Passing Sight Distance for 2-Lane Roads (m) | Minimum Radius of Curve (m) | Suggested Maximum Road Gradient ^{b, c} | | | | |
|---------------------------|---------------------|--|---|-----------------------------|---|-------------------------|---------|-------------------------|-------------------------|
| | | | | | Favourable | | Adverse | | Switch-backs Favourable |
| | | | | | S | P ^d | S | P ^e | |
| 4 | 20 | 40 | | 15 | 16 % | 20% for distance <100 m | 9% | 12% for distance <100 m | 8% |
| 5 - 6 | 30 | 65 | | 35 | 12 % | 14% for distance <150 m | 8% | 10% for distance <100 m | 8% |
| | 40 | 95 | | 65 | | | | | |
| 8+ | 50 | 135 | 340 | 100 | 8% | 10% for distance <200 m | 6% | 8% for distance <100 m | 6% |
| | 60 | 175 | 420 | 140 | | | | | |
| | 70 | 220 | 480 | 190 | | | | | |
| | 80 | 270 | 560 | 250 | | | | | |

Notes Table 3-2:

These are suggested alignment controls for average conditions on forest roads. Variations can be expected, depending on, for example, site conditions and time of use.

^a For two-lane and single-lane one-way roads, multiply the minimum stopping sight distance by 0.5.

^b There are no absolute rules for establishing maximum road gradient. Maximum grades cannot generally be established without an analysis to determine the most economical grade for the site-specific conditions encountered. The maximum grade selected for design purposes may also depend on other factors such as: topography and environmental considerations; the

resistance to erosion of the road surface material and the soil in the adjacent drainage ditches; the life expectancy and standard of road; periods of use (seasonal or all-weather use); and road surfacing material as it relates to traction, types of vehicles and traffic, and traffic volume.

Apply other grade restrictions in special situations. For example:

- On horizontal curves sharper than 80 m radius, reduce the adverse maximum grade by 0.5% for every 10 m reduction in radius.
 - As required at bridge approaches, and at highway and railway crossings.
- ^c S = sustained grade; P = short pitch
- ^d Design maximum short-pitch favourable grades so that they are followed or preceded by a section of slack grade. The average grade over this segment of the road should be less than the specified sustained maximum.
- ^e Design maximum short-pitch adverse grades as momentum grades.