NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE STANDARD

FOREST TRAILS AND LANDINGS

(Ac.)

CODE 655

DEFINITION

A temporary or infrequently used route, path or cleared area within a forest.

PURPOSE

- Provide infrequent access to forest stands for management activities including fire suppression.
- Provide periodic access for removal and collection of forest products.

CONDITIONS WHERE PRACTICE APPLIES

Trails and landings are applicable on forested areas. Refer to the Oklahoma NRCS Access Roads (560) standard for roads that will be designed and used frequently for vehicular traffic.

CRITERIA

General Criteria Applicable To All Purposes

Trails and landings will be of a size, gradient, number, and location to accomplish the intended purpose.

They shall be located to minimize adverse onsite and off-site impacts such as accelerated erosion, riparian area degradation, stream channel and streambank damage, hydrology modification, aesthetics, unacceptable damage to advance regeneration, residual growing stock or wildlife habitat.

Timing and use of equipment will be commensurate with site and soil conditions to maintain site productivity and minimize soil erosion, displacement and compaction.

Slash, debris, and vegetative material left on the site after use will not present an unacceptable fire or pest hazard or interfere with the intended purpose.

Drainage and erosion control measures for trails shall be used and located to minimize water flows and erosion rates to acceptable levels.

Trails and landings shall be revegetated to control erosion as needed. Refer to the Oklahoma NRCS Critical Area Planting (342) standard for guidance. Locally invasive and noxious plants will not be used for revegetation.

Measures will be used to control or protect against locally invasive species. If pesticides are used, refer to the Oklahoma NRCS Pest Management (595) standard.

SKID TRAILS

Location. Do not use stream channels as roads, road ditches, or skid trails.

Minimize skidding across stream channels. When it is necessary to cross, it should be done as perpendicular as possible to the stream.

Ridge tops are good locations for skid trails.

Benches are also good locations for skid trails, junctions, and switchbacks.

Skid trails in valleys should be located above the high water line and located no closer then 50 feet from the stream.

Avoid making skid trails on wet sites.

Avoid constructing skid trails on extremely steep areas (over 15% slopes). Especially on

soils subject to high amounts of erosion.

Implementation and Construction.

Avoid skidding in wet weather. Install rocked fords, log bridges, or temporary culverts when crossing stream channels.

Periodically turn skid roads across the contour to provide drainage breaks.

Skidding distances should not exceed those in the following table on non-constructed skid trails. The shorter distances should be used where large harvest volumes and steeper slopes are encountered.

Skidding Method	Maximum Distance
Tracked vehicle skidding	300'-600'
Rubber tired skidder	500'-1000'

Skidding distances of 600' and 2000' respectively, are allowable for the equipment listed in the table on constructed skid trails.

Uphill skidding should be limited to 50% of the trips needed to haul logs up slopes less than 10%. Limit the number of trips uphill to 30% on 10-25% slopes and reduce the limit to 20% on trips up 25-35% slopes.

Constructed skid trails will be limited to a 14% grade or less. They will not exceed 12 feet in width and the total clearing width will not exceed 20 feet.

Drainage on constructed skid trails can be provided by natural reverse grades, construction of dips, installation of culverts, construction of water bars, and by outsloping of skid trails. Refer to the OSU Extension Service - Forestry Extension Report #5, "Best Management Practices for Forest Road Construction and Harvesting Operations in Oklahoma", Oklahoma Department of Agriculture - Forestry Division, "Forest Manager's Guide for Water Quality Management in Oklahoma", and Oklahoma NRCS Access Road (560) standard.

Close skid trails promptly when logging is completed. Compacted areas will be scarified to a minimum depth of 6 inches except on soils with a depth of less than 10 inches. Plant these areas to suitable cover. Refer to the Oklahoma NRCS Critical Area Planting (342) standard for guidance. Apply mulch on these areas as needed to control soil erosion.

Stream Crossings.

The following guidelines are intended for crossing small streams that flow only during part of the year or minor hillside channels that carry water only during rainstorms.

Culverts - Use properly sized and installed culverts. Refer to the Oklahoma NRCS Access Road (560) standard or page 10 of the Forestry Extension Report #5 for the design. Do not obtain fill material from within the stream channel.

Log and Brush-Lined Fords - Use brush or cull logs to armor temporary stream crossings on minor hillside channels.

Remove all temporary crossings, such as culverts and brush and log-lined fords after harvest is complete. Close access points to skid trails with a large ditch and dike or other structure. Spread slash and mulch on bare areas.

Landings (During Harvest).

Locate landings on well-drained, gently sloping ground in advance of road construction.

Landings should be located where an optimum skid trail pattern can be developed to suit the terrain.

Maximum skidding distances need to be considered when locating landings.

Landings should be located on natural breaks in the terrain such as on benches or moderate slopes.

Keep landings outside of streamside management zones (SMZs) and away from stream channels. Landings should be located no closer than 130 feet from any stream channel and be located on the opposite side of the skid trail from the channel.

Landings should not be located on unsuitable soils, below the high water mark of existing streams, or in obvious wet areas.

Season of operation should also be considered when locating landings.

Avoid locating landings on steep hillsides where excessive cuts and fills are required.

Slope the landing gently (1-2%) to allow for drainage where needed.

Avoid concentration of run-off down slope from the landing.

Landings should be 50' x 75' minimum on slopes of 10% or less.

Truck and equipment entry and exit should be located on each end to facilitate the ease of handling harvested timber.

Do not spill oil and fuel onto the site.

Landings (After Harvest).

Install a shallow ditch above the landing to divert run-off where needed.

When skidding and hauling is complete, grade out any ruts to form a smooth surface.

Cover bare soil with slash.

Slash, debris and vegetative material left on the site after harvesting will not present an unacceptable fire or pest hazard or interfere with the intended purpose.

Water bars, rolling dips, and other drainage measures for trails shall be of sufficient size, intervals, and gradient for adequate drainage and erosion control.

Trails and landings shall be sufficiently revegetated to control erosion. Establish permanent vegetative cover where necessary to protect highly disturbed areas. Refer to the Oklahoma NRCS Critical Area Planting (342) standard.

CONSIDERATIONS

Assure safe ingress and egress to site.

Locate landings and trails to preserve aesthetic qualities.

Landings and trails may be used for wildlife food and cover plantings.

Favor native species for revegetating trails and landings.

Landings and trails may be utilized as firebreaks.

Consider cultural resources and environmental concerns such as threatened and endangered species of plants and animals, natural areas and wetlands.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes and narrative statements in the conservation plan, or other acceptable documentation.

Specifications for revegetation of landings and trails should include species, timing and method of application.

OPERATION AND MAINTENANCE

Periodic inspections of landings and trails will be conducted and maintained as necessary.

Landings and trails utilized as firebreaks will be properly maintained to accomplish this purpose. Refer to the Oklahoma NRCS Firebreak (394) standard.

Landings and trails shall be closed when needed for erosion control, safety and liability, and reduced maintenance costs. Refer to the Oklahoma NRCS Use Exclusion (472) standard.

Landings and trails no longer needed, and not used as a firebreak, can be retired. They shall be sufficiently revegetated as needed.

REFERENCES

OSU Extension Service, Forestry Extension Report No. 5, "Best Management Practices for Forest Road Construction and Harvesting Operations in Oklahoma".

Oklahoma Department of Agriculture - Forestry Division, "Forest Manager's Guide for Water Quality Management in Oklahoma".