NATURAL RESOURCES CONSERVATION SERVICE

CONSERVATION PRACTICE GENERAL SPECIFICATION

FOREST TRAILS AND LANDINGS

(Ft. and Ac.)

CODE 655

GENERAL SPECIFICATIONS

Procedures, technical detail, and other information listed below provide additional guidance for carrying out selected components of the named practice. This material is referenced from the conservation practice standard for the named practice and supplements the requirements and considerations listed therein.

GENERAL DESIGN INFORMATION

Log Decks and Landings

Decks and landings are areas where logs are collected in a central location for storing, handling, and loading onto trucks. This includes landings along skid trails and access roads as well as concentration yards near mills.

Log landings will be no larger than necessary to handle loading activities. Numbers of landings will be minimized.

Care will be taken to properly locate decks and landings to minimize the potential for erosion and sedimentation. Log deck sites will be located prior to road construction in the area to be harvested. They will be located on dry, firm sites and have a slight slope (2 to 5%) to allow for drainage. They will not be located within 50 feet of riparian forest buffer zones or other sensitive areas.

Plan for good drainage on all road and trail approaches to the landing so that surface water does not drain onto the landing to cause ponding and mud holes.

If surface flow is entering the landing area from an uphill source, a diversion terrace or ditch will be constructed to intercept the flow of water and direct it away from the landing area.

Locate residue piles (logging debris, chipping residue, etc.) outside of ephemeral and intermittent drainages so that the natural flow will not be blocked.

Servicing equipment onsite will be done in such a way that waste oil, etc., will be collected and disposed of in accordance with disposal regulations. Garbage and trash will be removed and disposed of properly.

Landings will be re-vegetated as soon as possible after completion of the harvest. Refer to the Oklahoma NRCS Road/Trail/Landing Closure and Treatment (654) standard.

Maintenance of these areas can create desirable habitat for wildlife. Turkey and quail will use them for feeding, nesting, and brood rearing; and deer will be attracted to the food source. Where wildlife habitat is a consideration, these areas will be re-vegetated with food plant species that are desirable for wildlife which will also provide the needed erosion control. Refer to Oklahoma NRCS Upland Wildlife Management (645) standard.

Skid Trails

Skid trails are unsurfaced, single lane paths or narrow roads usually narrower and sometimes steeper than a truck haul road. They are used to skid trees or portions of trees from the stump to the log deck or landing. Primary skid trails are used many times to collect trees or logs from a harvest area and move

them to the landing. Secondary skid trails are used only 1 or 2 times to move trees or logs to the primary skid trail.

Skid trails will be planned to minimize damage to the residual timber stand, reduce erosion and sedimentation, and provide the most economical means for skidding. Because heavy equipment is usually used in skidding, considerable soil disturbance may occur.

Disruption of natural drainage patterns will be avoided. Trails through wet sites will be closely monitored.

Skidding will follow the contour as much as possible to reduce soil erosion potential. In areas where this is not possible, logs will be skidded uphill to a landing. This results in a cone-shaped pattern of skid trails which disperses water running downhill. If trees must be skidded downhill, erosion can be minimized by using smaller log decks with fewer, shorter, and less-traveled skid trails leading to any one deck. Ridge top trail locations are preferred.

Avoid long, steep grades. Keep skid trail grades below 15 percent whenever possible.

Skid trails will be located so that they occupy the least amount of area to log the site effectively.

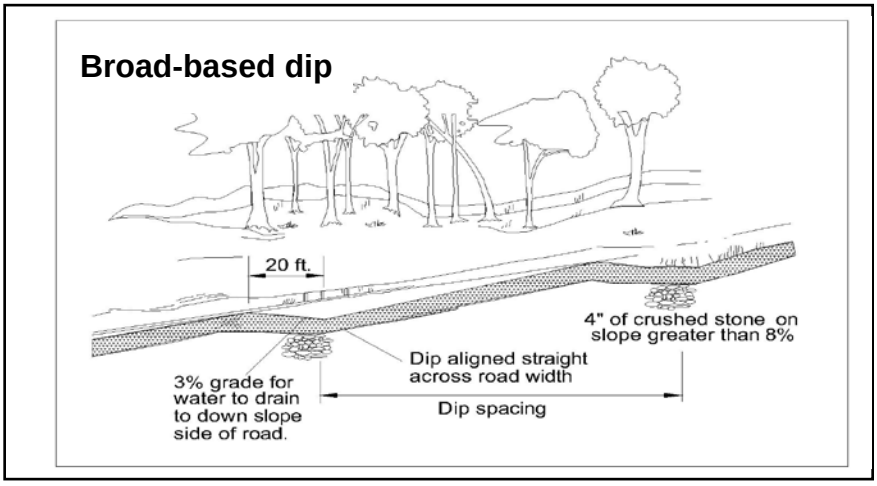
Stream channels will not be used as skid trails. Where stream crossings cannot be avoided, the stream will be crossed at right angles. Natural fords with firm bottoms, stable banks, and gentle slopes along approaches will be used whenever possible. Temporary crossings utilizing culverts, logs, or portable bridges will be removed upon completion of use.

Water flow across or along skid trails will be controlled with broad-based dips, rolling dips or wing ditches. These drainage measures will be of sufficient size, intervals, and gradient for adequate drainage and erosion control. They will divert water at least 50 feet from the stream at stream crossings.

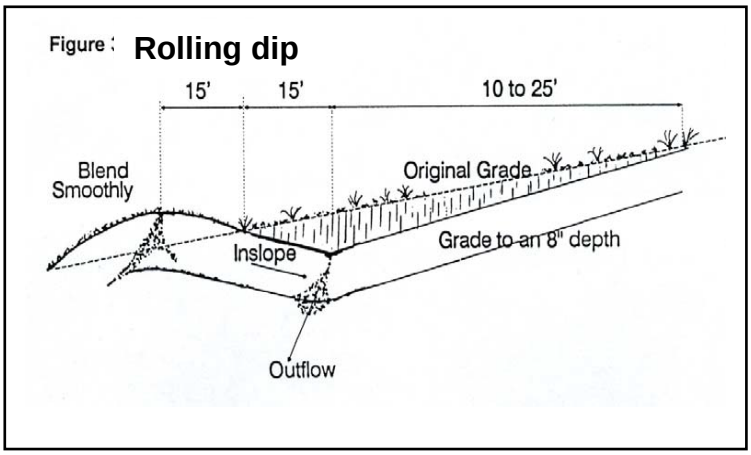
Water Management Measures (Drainage dips, wing ditches)

Drainage dips provide cross drainage and drainage of water that collects on road surfaces. Dips shall be of sufficient size, intervals and gradients for adequate drainage and erosion control, but wide enough to allow the safe passage of equipment. Wing ditches provide drainage of ditch water from roads on ridges, points of ridges, and gentle side slopes.

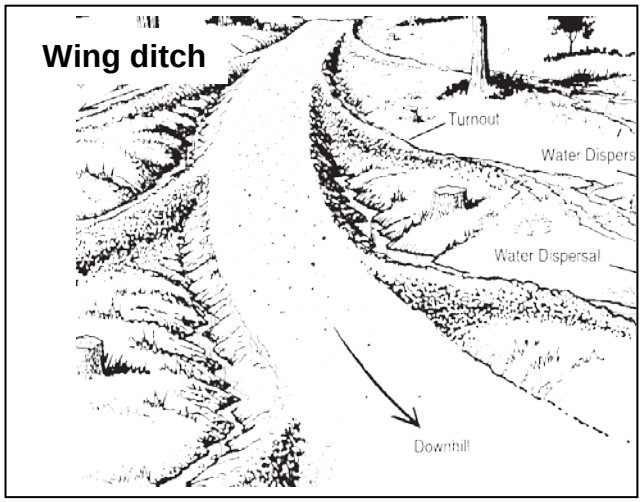
- **Broad-based dips:** Install dip at a grade of 2 to 3% toward the outlet, and release onto a stable area. Outslope only the dip, not the road. The road grade between dips is adjusted so there is a constant grade from the crest of the berm of one dip to the bottom of the next dip downslope. Limit broad-based dips to roads with grades of less than12%. Broad-based dips will not be used for cross drainage of springs, seeps or other live water. See table 1 for spacing.



- **Rolling dips:** Install dip at a grade of 2 to 3% toward the outlet, and release onto a stable area. See table 1 for spacing.



- **Wing Ditches:** Sometimes known as "turnouts" are used to disperse water collected in roadside ditches. They should intersect the roadside ditch line at the same depth and be outsloped to a maximum grade of 2%, leaving the road ditch line at a 30 to 45 degree angle to the roadbed. See table 1 for spacing.



Protect the discharge area of these water management measures with stone, grass sod, brush, logging debris, or other materials that will reduce the velocity of the runoff and control scouring.

Trails will be re-vegetated as soon as possible after completion of the harvest. Refer to the Oklahoma NRCS Road/Trail/Landing Closure and Treatment (654) standard.

Additional information and guidance considerations can be found in "Forestry Best Management Practice Guidelines for Water Quality in Oklahoma", published by the ODAFF, Oklahoma Forestry Services and "Best Management Practices for Forest Road Construction and Harvesting Operations in Oklahoma" published the Oklahoma State University Cooperative Extension Service.

Table 1 - Maximum Spacing (ft) of Broad Based Drainage Dips, Rolling Dips, And wing ditches.

% Slope	Broad-based Dips	Rolling Dips	Wing Ditches
2	300	180	200
3	233	180	200
4	200	180	200
5	180	180	200
6	167	150	100
7	157	150	100
8	150	150	100
9	144	150	100
10	140	150	100
10-15	-	135	75
15-20	-	120	75
+20	-	100	-