

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

LAND SMOOTHING

(Acre)

CODE 466

DEFINITION

Removing irregularities on the land surface by use of special equipment.

SCOPE

This practice applies to operations classed as rough grading. Ordinarily, this does not require a complete grid survey. It does not apply to the "floating" done as a regular maintenance practice on irrigated land or the "planning" done as the final step in precision land forming (462) or in irrigation land leveling (464).

PURPOSE

Improve surface drainage, provide for more effective use of precipitation, obtain more uniform planting depths, provide for more uniform cultivation, improve equipment operation and efficiency, improve terrace alignment, and facilitate contour cultivation.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies on areas where depressions, mounds, old terraces, turn rows, and other surface irregularities interfere with the application of needed soil and water conservation and management practices.

It is limited to areas having adequate soil depth or where topsoil can be salvaged and replaced.

DESIGN CRITERIA

Grid surveys for designing land smoothing are not required; however, sufficient spot elevations and/or profiles must be taken and adequate planning done to ensure that water will move readily to shallow drainage field ditches or natural drainageways without ponding.

Soils to be smoothed must have a profile that will allow shallow excavation. Except for isolated high spots handled by prior rough grading, land-smoothing operations will be limited to maximum cuts of approximately 6 in. (.15m).

In fill areas where the depth of fill equals or exceeds 6 in. (.15m), a minimum 10 percent overfill will be constructed to allow for anticipated settlement.

The maximum length of slope shall be 600-ft. (180m) unless an NRCS engineer determines that (1) adequate drainage can be attained using a longer slope, and (2) erosion will be within allowable erosion losses. Other practices if needed to reduce the length of slopes, length of row drainage, or frequency of flooding will be included in the plan.

The extent of rough grading required and tolerances of the finished smoothing job shall be in keeping with the requirements of the planned cropping system.

PLANS AND SPECIFICATIONS

Plans and specifications for land smoothing shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose.

NATURAL RESOURCES CONSERVATION SERVICE
CONSTRUCTION SPECIFICATION

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Site Preparation

Prior to smoothing, the ground surface will be disked or otherwise scarified and all vegetation, trash, rocks or other material that would reduce the effectiveness of the smoothing operation will be removed from the site.

Smoothing

Rough grading of "high spots" and excavation of any necessary shallow drainage field ditches will be accomplished prior to final smoothing with the land plane or leveler, and the spoil from this operation will be placed and compacted in depressions as specified on the design.

Unless otherwise specified on the design, a minimum of three passes will be made over the entire area to be smoothed. One pass will be made along each diagonal and the last pass will be made in the direction of tillage. As a final step to the land smoothing operation, the land plane or leveler will make at least one pass over each shallow drainage field ditch parallel to the centerline of the ditch.

Construction operations will be carried out in such a manner that erosion and air pollution are minimized and held within legal limits.