Conservation Practice Standard Overview

Irrigation Land Leveling (464)

Precision land forming is reshaping the surface of land to planned grades.

Practice Information

The purpose of land leveling is to permit uniform and efficient application of surface irrigation water without significant erosion, loss of water quality, or damage to soil and crops from water-logging. This practice requires a detailed engineering survey, design, and layout.

Implementation of this practice requires cutting and filling earth material to achieve the designed grades. The earth moving usually damages the topsoil somewhat, but the damage is generally temporary and may be offset by increased crop yields and subsequent increases in organic material returned to the soil. In all cases, following construction, the root zone of the soil must be sufficiently deep that, after leveling, an adequate, usable root zone remains that will permit satisfactory crop production with proper conservation measures. Limited areas of shallow soils may be leveled to provide adequate irrigation grades or an improved field alignment.

This practice applies to land that is suitable for irrigation and the proposed method of irrigation. In addition, water supplies and irrigation delivery facilities should be sufficient to make irrigation practical for the crops to be grown and the planned water application method.

The maintenance on leveled fields includes the periodic removal or grading of mounds and/or depressions. Land grading may periodically be needed to restore the design gradient.

Common Associated Practices

Irrigation Land Leveling (464) is commonly applied with conservation practices such as Irrigation System, Surface and Subsurface (443); Irrigation Water Management (449); and Irrigation System, Tailwater Recovery (447).

For further information, contact your local NRCS field office.

Helping People Help the Land
USDA is an equal opportunity provider and employer.

December 2012