

# Effects of NRCS Conservation Practices - National

## Irrigation Land Leveling

Reshaping the surface of land to be irrigated, to planned lines and grades.

Code: 464

Units: ac.

AL-Aso Land  
 O-Other  
 W-Water  
 D-Developed  
 FS-Farmstead  
 Pr-Protected  
 P-Pasture  
 R-Range  
 F-Forest  
 C-Crop

Typical Landuse:

C F R P Pr FS D W O AL

<u>Soil Erosion</u>	<u>Effect</u>	<u>Rationale</u>
Soil Erosion - Sheet and Rill Erosion	1	Reshaping the surface of the land provides the opportunity for more uniform flow.
Soil Erosion - Wind Erosion	0	Not Applicable
Soil Erosion - Ephemeral Gully Erosion	1	Reshaping the surface of the land provides the opportunity for more uniform flow.
Soil Erosion - Classic Gully Erosion	0	Not Applicable
Soil Erosion - Streambank, Shoreline, Water Conveyance C	0	Not Applicable
<u>Soil Quality Degradation</u>		
Organic Matter Depletion	-2	The process of cuts and fills alters the soil profile.
Compaction	-2	Equipment used for cuts and fills will cause compaction, which may be substantial in the short term.
Subsidence	0	Not Applicable
Concentration of Salts or Other Chemicals	-1	Cuts may alter the soil profile moving salts into the root zone from deeper layers.
<u>Excess Water</u>		
Excess Water - Seeps	0	Not Applicable
Excess Water - Runoff, Flooding, or Ponding	1	Uniform slopes reduce ponding. May increase runoff.
Excess Water - Seasonal High Water Table	2	Because of more uniform infiltration and less ponding
Excess Water - Drifted Snow	0	Not Applicable
<u>Insufficient Water</u>		
Insufficient Water - Inefficient Use of Irrigation Water	4	Leveling facilitates more uniform application of irrigation water.
Insufficient Water - Inefficient Moisture Management	0	Not Applicable
<u>Water Quality Degradation</u>		
Pesticides in Surface Water	2	A uniform surface reduces the amount of runoff.
Pesticides in Groundwater	2	A uniform surface reduces deep percolation.
Nutrients in Surface water	2	The uniform surface that results from this practice increases infiltration and reduces the potential for transport of nutrients to surface water.
Nutrients in Groundwater	2	The action smoothes the surface which reduces ponding and the transport of nutrients to ground water.
Salts in Surface Water	0	The action allows more efficient use of irrigation water, but does not affect the amount of salt leaving the field.
Salts in Groundwater	2	Uniform surface eliminates ponding and associated infiltration, decreasing salt transport to ground water.
Excess Pathogens and Chemicals from Manure, Bio-solic	2	Uniform surface reduces transport to surface water
Excess Pathogens and Chemicals from Manure, Bio-solic	2	The uniform surface grade reduces ponding and excessive infiltration of contaminated water.

Excessive Sediment in Surface Water	1	Land surface is formed to a non-erosive grade.
Elevated Water Temperature	0	Not Applicable
Petroleum, Heavy Metals and Other Pollutants Transport	1	Uniform surface reduces transport to surface water.
Petroleum, Heavy Metals and Other Pollutants Transport	1	The uniform surface grade reduces ponding and excessive infiltration of contaminated water.
<u>Air Quality Impacts</u>		
Emissions of Particulate Matter (PM) and PM Precursors	0	Intensive disturbance of soil can release particulate matter, but this is a short-term effect. Better irrigation capability via land leveling should have a corresponding positive effect by allowing for better soil moisture management.
Emissions of Ozone Precursors	0	Not Applicable
Emissions of Greenhouse Gases (GHGs)	-1	Intensive disturbance of soil can release stored soil carbon as carbon dioxide, but this is a short-term effect.
Objectionable Odors	0	Not Applicable
<u>Degraded Plant Condition</u>		
Undesirable Plant Productivity and Health	2	Site modification to improve irrigation application enhances the health and vigor of desired species.
Inadequate Structure and Composition	0	Not Applicable
Excessive Plant Pest Pressure	1	Increased irrigation efficiency improves crop health and vigor which decrease weed competition.
Wildfire Hazard, Excessive Biomass Accumulation	0	Not Applicable
<u>Fish and Wildlife - Inadequate Habitat</u>		
Inadequate Habitat - Food	0	Not Applicable
Inadequate Habitat - Cover/Shelter	0	Not Applicable
Inadequate Habitat - Water	1	Not Applicable
Inadequate Habitat - Habitat Continuity (Space)	0	Not Applicable
<u>Livestock Production Limitation</u>		
Inadequate Feed and Forage	0	Not Applicable
Inadequate Shelter	0	Not Applicable
Inadequate Water	0	Not Applicable
<u>Inefficient Energy Use</u>		
Equipment and Facilities	0	Not Applicable
Farming/Ranching Practices and Field Operations	2	More efficient water distribution, will result in reduced energy use for pumping.

<b><u>CPPE Practice Effects:</u></b>	<i>0 No Effect</i>
<i>5 Substantial Improvement</i>	<i>-1 Slight Worsening</i>
<i>4 Moderate to Substantial Improvement</i>	<i>-2 Slight to Moderate Worsening</i>
<i>3 Moderate Improvement</i>	<i>-3 Moderate Worsening</i>
<i>2 Slight to Moderate Improvement</i>	<i>-4 Moderate to Substantial Worsening</i>
<i>1 Slight Improvement</i>	<i>-5 Substantial Worsening</i>