

**NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD**

**RECREATION LAND GRADING AND SHAPING**

(Ac.)

CODE 566

**DEFINITION**

Reshaping the surface of the land to support recreation land use.

**PURPOSE**

This practice may be applied as part of a resource management system to support one or more of the following purposes:

- Establish or improve effective use of the land area for recreation.
- Minimize on-site and off-site damage to resources from recreation land use.

**CONDITIONS WHERE PRACTICE APPLIES**

On land areas where surface irregularities, slopes, obstructions, or surface drainage interfere with planned recreational use, or where such use requires designed land surfaces.

**CRITERIA**

**General Criteria Applicable to All Purposes**

All planned work shall comply with federal, state, local and tribal laws and regulations.

**Federal, State and Local Laws and Permits**

*Design and construction activities shall comply with all federal, state, and local laws, rules, and regulations governing activities in or along streams, pollution abatement, health, and safety.*

*The owner or operator shall be responsible for securing all required permits or*

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*approvals and for performing all planned work in accordance with such laws and regulations. NRCS employees are not to assume responsibility for procuring these permits, rights, or approvals, or for enforcing laws and regulations. NRCS may provide the landowner or operator with technical information needed to obtain the required rights or approvals to construct, operate, and maintain the practice.*

*Permits may be required from the following agencies when obstruction removal is performed within the boundaries of a stream or floodplain or if burning is required:*

- 1. U.S. Army Corps of Engineers*
- 2. WV Department of Natural Resources*
- 3. WV Public Lands Corporation*
- 4. US Fish and Wildlife Service*
- 5. Local state and county ordinances*

*Work near waters where there is a present or possible presence of endangered or threatened species require notification and collaboration with the USFWS prior to implementation.*

*Work in or adjacent to "Waters of the US" may require a WV Public Land Corporation Application, a Nation Wide Permit or appropriate Individual Section 404 permit from the USCOE prior to implementation of the project. All required permits shall be approved prior to construction implementation.*

The grading or shaping shall be conducive to the overall recreation area and aesthetically

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Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service [State Office](#) or visit the electronic [Field Office Technical Guide \(e-FOTG\)](#) located on our web site. *Note: Bold italics is information added or changes made to the National Conservation Standard by WV.*

blend with the general landscape and surroundings.

The grading or shaping shall be configured to minimize adverse on-site and off-site impacts such as accelerated erosion, riparian zone degradation, stream channel and streambank damage, hydrology modification, other water resource damage, aesthetics or unacceptable damage to wildlife habitat, fragmentation, or restrict wildlife movement.

***The plan shall show location, slope and elevation of surfaces to be graded and drainage practices and diversion required. It shall include location and magnitude of 'cuts' and 'fills' where exact finished grades are required.***

**Grading and Shaping.** If only shaping is required, the cuts and fills may be estimated by observation or by a minimum amount of surveying. If grading to uniform surfaces is required, the design shall be based on a complete topographic or grid survey. Grading and shaping for specific uses, such as athletic fields shall be according to the requirements of the intended use.

Cuts and fills shall be balanced to the greatest extent possible.

Soil compaction and displacement shall be kept to a minimum.

***Side slopes of fills and cuts shall be no steeper than 2H:1V unless in rock or hard shale. Design slopes should vary in accordance with the stability of the soil except as herein provided.***

***All fills and finished grade shall be compacted in accordance with requirements of the facility as determined by the engineer.***

***Surface of most areas shall have a continuous slope without grade reversals to an outlet designed to accommodate drainage. The length and degree of designed slope shall be within limits suitable to the soil type without causing erosion or ponding.***

***Depth of grading shall be controlled to prevent undue exposure of or cuts into parent material.***

**Surface drainage.** Plans shall include measures for removing or otherwise providing for control of excess surface water.

**Erosion control.** Plans shall include provisions for control of erosion. Disturbed areas shall be established to vegetation as soon as practicable after construction. If soil or climatic conditions precludes the use of vegetation, and protection is needed, non-vegetative means, such as mulches or gravel, may be used. Seedbed preparation, seeding, fertilizing, and mulching shall be according to the appropriate conservation practice standard in the local Field Office Technical Guide, ***(Conservation Practice Critical Area Treatment (342))***. Use vegetation adapted to the site that will accomplish the desired purpose. Preference shall be given to native plant species. If native plant materials are not adaptable or proven effective for the planned use, then non-native species may be used.

***Surface drainage, waterways, diversions, subsurface drains and underground outlets shall meet the requirements of the applicable NRCS practice standard.***

## CONSIDERATIONS

Consider adjoining land uses and the proximity to residences, utilities, cultural resource areas, threatened and endangered species of plants and animals, wetlands or other environmentally sensitive areas, and areas of special scenic value.

Consider the effects of increased recreation and activities on the quality of both surface and ground water quality.

Consider maintaining or improving habitat for fish and wildlife where applicable.

Where feasible and appropriate, soil material suited for plant growth should be salvaged, stockpiled and protected for use as final cover material.

## PLANS AND SPECIFICATIONS

Plans and specifications for recreation land grading and shaping shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. Plans and specifications shall include construction plans,

drawings, job sheets or other similar documents. These documents shall specify the requirements for installing the practice, including the kind, amount and quality of materials to be used.

**Specifications may be developed from applicable NEH-20 or West Virginia 700 series specifications. For small jobs the attached construction specification may be used.**

## **OPERATION AND MAINTENANCE**

An Operation and Maintenance (O&M) plan shall be prepared for and reviewed with the landowner or operator. The plan shall specify that the treated areas and associated practices are inspected annually and after significant storm events to identify repair and maintenance needs.

**Minimum items needed in the plan are:**

- 1. Periodic inspections.**
- 2. Maintenance of the area by mowing or chemical or biological weed control, as appropriate. Natural vegetative covers with minimum water use should have a preference over other landscaping material.**
- 3. Repair of eroding areas.**
- 4. Repair of settlement areas where stump holes were filled or buried vegetative waste deteriorated.**

## **REFERENCES**

**WV5-Engineering Field Handbook, Appendix A- Quick Reference Design and Construction Support Data for Conservation Practices**

**WV Conservation Practice Recreation Land Grading and Shaping (566) Scope of Work NEH-20 or WV "700" Series Specifications**

**NRCS National and State Utility Safety Policy (NEM Part 503-Safety, Subpart A - Engineering Activities Affecting Utilities 503.00 through 503.06)**

**<http://policy.nrcs.usda.gov/> Handbooks: Title 210 – Engineering; NRCS National Engineering Handbook; Part 650 Engineering Field Handbook**

**Title 190- Ecological Sciences; Part 601- National Cultural Resources Procedures Handbook**

**610- Environmental Compliance Handbook**

**WV e-FOTG Section IV- Practice Standards and Specifications**

**<http://www.nrcs.usda.gov/technical/efotg/> (click on WV from the US map)**

**NATURAL RESOURCES CONSERVATION SERVICE**  
**CONSERVATION PRACTICE GENERAL SPECIFICATIONS**

**Recreation Land Grading and Shaping**

**(ACRE)**

**No. 566**

The land to be graded shall be cleared of excess vegetative matter and trash. Special attention shall be given to saving and maintaining key trees and other vegetation that have scenic value, provide shade, reduce erosion and runoff, provide den or food for wildlife, or add to the quality of the area.

Surface soil shall be removed from the area to the depth shown on the drawings and stockpiled on the outer perimeter of the work area. Upon completion of grading operations the surface soil will be spread over the area shown on the drawings.

If required, the ground surface shall be plowed or disked prior to the grading or shaping operation.

Lift thickness, compaction, overfill allowance, and moisture content of the fill material shall be as described on the drawings.

All grading and shaping operations shall be done to the neat lines and grades shown on the drawings.

Construction shall be done in such a way that chemicals, fuels, lubricants, and waste materials will not pollute air and water. Erosion, air pollution, and water pollution shall be minimized and held within legal limits.

Construction methods and vegetative measures that prevent erosion and control sediment shall be used.

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A protective cover of vegetation shall be established on all exposed surfaces where soil and climatic conditions permit. Lime and fertilizer shall be spread at the specified rate and shall be disked into the soil to a depth of 4 inches to prepare a seedbed. Seed and mulch shall be applied at the specified rate. In some cases, temporary vegetation may be used for protection until conditions are suitable for establishment of permanent vegetation.

Where soil or climatic conditions do not permit the establishment of vegetation, and protection is needed, non-vegetative means such as mulches or gravel may be used.

All work shall be done such that the installed practice gives a completed and finished appearance.