

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

**WATERING FACILITY
WATERING RAMPS**

(No.)

CODE 614B

SCOPE

The work shall consist of furnishing all the materials and completing all construction operations for the installation of a livestock or wildlife watering ramp in order to provide a stabilized access to water from a fenced pond or stream, as specified on the plans or as staked in the field.

Construction operations shall be carried out in such a manner that erosion and air and water pollution are minimized and held within legal limits. State and local laws concerning pollution abatement must be followed. The completed job shall present a workmanlike finish and shall conform to the lines, grades, and elevations shown in the drawings and as staked in the field.

All operations shall be carried out in a safe and skillful manner. Safety and health regulations shall be observed and appropriate safety measures used.

PUBLIC AND PRIVATE UTILITIES

Utilities are defined to be public or private, overhead and underground power or communication lines, and any pipelines. The landowner/operator/contractor shall conduct their own search and discovery for utilities in order to lessen or avoid potential damages, injuries or loss of life. Prior to construction, the landowner/operator should complete an OK-ENG-45 UTILITIES INVENTORY FORM to document known utilities in order to comply with State law prior to any ground disturbance and return it to a USDA-NRCS representative.

QUALITY CONTROL

Quality Control of all materials and construction procedures is the responsibility of the landowner/operator and contractor. NRCS will make periodic review(s) of the work for the benefit of the agency which will include the final construction check.

MATERIALS

All materials shall conform to appropriate ASTM specifications.

Geotextile. The geotextile shall be a Class I nonwoven geotextile fabric with a minimum weight of 8 ounces per square yard. The fabric shall also meet the following requirements:

Property	Test Method	Requirement
Tensile Strength	ASTM D4632	180 lb. - min.
Elongation at Failure	ASTM D4632	≥ 50%
Puncture	ASTM D4833	80 lb. - min.
Ultraviolet Light (% residual tensile strength)	ASTM D4355	70 % - min.
Apparent Opening Size (AOS)	ASTM D4751	#40 sieve - max.
Permittivity	ASTM D4491	0.70/sec - min.

Conservation practice general specifications are reviewed periodically and updated if needed. To obtain the current version of this specification, contact the Natural Resources Conservation Service.

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Geocells. The geocells shall be an approved plastic (PE) three-dimensional cellular containment grid. The depth of the geocells shall be equal to the thickness of the rock, as shown on the plans.

Rock. All rock must meet the gradation requirements shown on the plans and be able to withstand exposure to air, water, freezing, and thawing. Individual rock fragments shall be dense, sound and free from cracks, seams, and other defects conducive to accelerated weathering. Only angular to subrounded rock shall be used. The least dimension of an individual rock fragment shall be not less than one-third the greatest dimension of the fragment.

The source of rock for riprap must be approved by the Government and material shall meet or exceed the criteria of NRCS Rock Type 3, which are detailed below:

- Bulk specific gravity (saturated surface-dry basis)—Not less than 2.3 when tested in accordance with ASTM C 127 on samples prepared as described for soundness testing.
- Absorption—Not more than 4 percent when tested in accordance with ASTM C 127 on samples prepared as described for soundness testing. NRCS-OKLA 263E-2 June 2010
- Soundness—The weight loss in 5 cycles shall be not less than 20 percent when sodium sulfate is used or more than 25 percent when magnesium sulfate is used.

In lieu of the above criteria, rock sources which possess a current Oklahoma Department of Transportation Stone for Riprap certification may be accepted.

FOUNDATION PREPARATION

The foundation area shall be cleared of trees, logs, stumps, roots, brush, boulders, sod, loose rocks, clods larger than 3/8 inch in size, and other objectionable materials.

The complete work shall conform to the lines, grades, and elevations shown on the drawings. The cross-section shall be excavated to the neat lines and grades shown on the plans. No abrupt deviations from design grade or horizontal alignment shall be permitted.

The topsoil and sod shall be stockpiled during construction and reinstalled upon project completion, as appropriate. All disturbed areas shall be vegetated or otherwise provided with a cover to protect the areas against soil erosion.

Access Ramps shall be located to minimize excavation. Excavation shall be as required to allow for the placement of rock or other materials to the lines, grades, and elevations shown on the plans.

INSTALLATION

Access ramps to provide animal access to a fenced pond should be installed during construction of the pond or soon after completion to avoid dewatering. For existing ponds, dewatering of the site to a level below the bottom of the ramp will be required.

Geotextile. Prior to placement of the geotextile, the soil surface shall be prepared reasonably smooth and free of loose rocks, holes, projections, mud or standing water. The geotextile shall not be placed until it can be properly anchored and covered within 48 hours.

Install the geotextile material on the excavated surface of the access ramp as shown on the plans or as staked in the field. Installation shall be in accordance with the manufacturer's recommendations, including the use of staples, clips, and anchor pins. Geotextile shall be placed with the length perpendicular to the direction of flow. All laps shall be a minimum of 18 inches and installed with the upper perpendicular length overlapping the lower adjoining segment. Geotextile shall be pinned as recommended by the manufacturer.

In no case shall material be dropped onto an uncovered geotextile from a height greater than 3 feet.

Geocell. Installation shall be in accordance with the manufacturer's recommendations, including the use of staples, clips, and anchor pins.

Rock. Rock may be placed by equipment or by hand. Placement must ensure that rocks are reasonably homogeneous with larger rocks uniformly distributed and in firm contact with one another and smaller rocks filling in the voids.

VEGETATION

A protective cover of vegetation shall be established on all exposed disturbed areas, including earthfill areas, excavated areas, spoil areas, and borrow areas, according to the guidelines in Conservation Practice Standard 342, Critical Area Planting. Vegetation must be in accordance with the recommendations documented in the Vegetative Data Worksheet (OK-ECS-4) for the given field location and conservation plan, or according to specifications developed for the project.

ADDITIONAL CONSTRUCTION DETAILS

Refer to the appropriate approved design plans for site specific additional items of work and construction details.