

Form KS-ENG-3 determines whether the pond capacity will provide an adequate water supply for livestock. It can be used for an existing pond (including pond cleanout) or as part of a complete new design. The complete design for a new pond will include other considerations and documentation as required by Conservation Practice Standard 378, Pond.

The storage capacity of the pond needs to be determined. A rough estimate can be made by multiplying the Surface Area (acres) x Factor (0.4) x Maximum Water Depth (feet) = Storage (acre-feet). For a more accurate storage capacity, collect more survey data at the site and use AutoCAD, the Excel program for Earthwork Volume, or other method.

Enter the county on "kseng3" sheet and the acres and curve number on the "acres and CN" sheet. The annual precipitation; mean annual runoff; and 50%, 80%, and 90% chance runoff data will automatically fill in from the lookup tables. The volume (acre-feet) of runoff will fill in.

The Antecedent Moisture Condition (AMC) II Runoff Curve Numbers (CN) for an earth dam (pond) are used on the "acres and CN" sheet. The annual yield of runoff lookup tables are based on the National Engineering Handbook, Part 650, Engineering Field Handbook (EFH), Chapter 2, page KS-2-36.

The Conservation Practice Standard 378, Pond, states that the pond storage shall not exceed the mean annual runoff from the drainage area. To provide for a more reliable water supply, values from 80% to 90% chance runoff are recommended.

Explain in the "Remarks" section on Form KS-ENG-3 such items as the following:

1. Does the pond capacity represent the entire pond or a portion of the borrow area or cleaned out area that has an adequate area, depth, and volume?
2. Will a gravity flow line provide water to a watering facility (tank) below? How does the pipeline inlet elevation compare to the elevations used for depth in the pond capacity?
3. Has the pond been a reliable source of livestock water in the past? For a new pond, have similar size ponds, drainage areas, and soils provided reliable water sources at other locations in the county?
4. If the water capacity is less than the 80% chance runoff and you feel the water supply is adequate, state your reasons.