

**NATURAL RESOURCES CONSERVATION SERVICE**  
**DOCUMENTATION REQUIREMENTS FOR**  
**SEDIMENT BASIN**

**CODE 350**

**Design Criteria**

Design in accordance with the criteria listed in [Conservation Practice Standard 350, Sediment Basin; Chapters 8 and 11 in National Engineering Handbook Part 650 \(NEH 650\)](#), [Engineering Field Handbook](#); and the [Kansas supplements to Chapters 8 and 11 in NEH 650](#).

The sediment basin should be installed at the location as shown on the conservation plan map and location map.

**Surveys**

Record standard engineering notes on [Form KS-ENG-1, Terrace - 600](#), or Form NRCS-ENG-28, Loose Leaf Field Sheet, and NRCS-ENG-29, Loose Leaf Field Sheet, or [Forms KS-ENG-37 and KS-ENG-37a, Field Notes](#) (or equivalent).

Take and record ground elevation shots at 100-foot intervals, at all significant breaks in grade that occur between the regular stations, and to locate blocks and outlets. Alternatively, a topographic survey may be conducted for this purpose. A topographic survey is required for all sediment basins more than 4 feet in height.

The proposed sediment basin alignment may be surveyed and marked with flags at the downstream edge of the channel; at the no-cut, no-fill line; or at the center of the channel (or embankment). When connecting to an existing terrace, take ground elevation shots along the existing terrace to establish the proper grade rod to continue the terrace.

Determine the land slope in percent above each basin. Undulating topography may require multiple land slope determinations per sediment basin to accurately compute storage volume, using the station and slope method.

It is recommended that a stake and/or flag be set to locate the inlet structure (riser or hooded inlet). A rod reading for both the sediment basin

channel and the inlet should be recorded at this station.

It is recommended that at least 1 temporary bench mark be set.

Locate and identify special conditions which may affect the design and installation of the sediment basin. Safety procedures in [National Engineering Manual \(NEM\) Part 503](#) and [NEM Part KS503](#) should be strictly followed.

**Layout**

Sufficient stations, alignment, flags, and grade stakes will normally be set when the design survey is made to establish the location of the sediment basin. In some cases, it will be necessary to set special reference stakes along the line after design and prior to the water and sediment control basin installation. These should be described in the survey notes. Record information obtained from the surveys for design and layout on [Form KS-ENG-1](#) and/or attach the survey notes as appropriate.

Complete the "Layout by" and "Date" blocks.

**Design and Plans**

Develop the design in accordance with the "Design Criteria" section above.

Record design information on page 1 of [Form KS-ENG-1](#) including the following:

- Name of the owner and/or operator and location information.
- For multiple sediment basins in series, give the X value and Y value as used in the vertical interval equation, average land slope, vertical interval or spacing (and circle respective description), and horizontal interval or spacing (and circle respective description).

- Sediment basin design cross sections.
- The location map showing the plan view of the proposed sediment basin—attach a map (as needed) for more details.
- Any special instructions needed for installation of the sediment basin.
- Name of persons doing the design and dates completed.
- Sign the “Designed by,” “Checked by,” and “Approved by” blocks and enter the respective dates.

For the gradient portion of the sediment basin channel design, the design velocity should not exceed the maximum permissible velocity allowed for the soil classification (texture or Unified Soil Classification System [USCS]) of soils in the sediment basin channel.

The [Terrace \(Storage\) Spreadsheet](#) can be used to complete designs for sediment basins with underground outlets. Use information in [Chapter 11 in NEH 650](#) to design auxiliary spillways as needed for each sediment basin. Spillways may be natural or excavated based on site conditions.

### Checkout

Use [Form KS-ENG-1](#) or the Checkout Sheet that is in the [Terrace \(Storage\) Spreadsheet](#) for recording the information below.

- Channel and ridge profiles with readings at 100-foot intervals or more frequently (if necessary)—take at least 1 channel reading on the centerline of channels 15 feet wide or less. Take at least 2 readings in the channel (near the outer edges of the bottom) for widths from 15 to 30 feet. Take at least a centerline reading and readings near each of the outer edges of channels over 30 feet wide. Record the difference of the channel reading from the ridge reading in the height column.
- At least 1 cross section for each sediment basin design shown on the Design Cross Sections portion of [Form KS-ENG-1](#). Show the sediment basin number and station for each cross section taken.
- Use [Form KS-ENG-4, Earthwork Computation Sheet](#), or the [Earthwork Volume](#) spreadsheet to determine the volume of earthfill. The volume of earthfill will be based on the staked location.
- Sign the “Checked by” block and enter the “Date.”