

OPEN CHANNEL

Design Survey

The following information shall be obtained and recorded in the field notes:

- a. Profile alignment and cross-sections of existing channel.
- b. Location and extent of vegetation and debris.
- c. Soils classification and investigation.
- d. Detailed topography at structure locations.
- e. Structure location, elevations and dimensions.

Design Data

The following shall be considered minimum in the design of all open channels. The information shall be recorded in the design notes. Appropriate data shall be transferred to the construction drawings.

- a. Hydrology of drainage area.
- b. Log of soil investigations, lab tests, and sediment yields and stability analysis.
- c. Hydraulics of channel and related structures.
- d. Structure design as needed.
- e. Quantity computations.
- f. Records indicating NRCS obligations regarding State and Federal regulations have been met including NEPA requirements.
- g. Revegetation planning.

Drawings and Specifications

The construction drawings shall include, but will not be limited to the following:

- a. Plan of open channel showing areas to be fence, revegetated, cleared and location of travel ways.
- b. Profile and cross-section of channel.
- c. Detailed plan and section views of all structures.
- d. Location of waste disposal area.
- e. Table of quantities.
- f. Location map.

Practice specifications along with applicable "Items of Work and Construction Details" should be provided for each item or phase of construction. Specifications on the drawings are adequate for small jobs.

Layout Survey Notes

The following information shall be recorded in the field notes:

- a. Centerline and slope stakes with reference stakes for channel.
- b. Alignment and reference stakes for structures.
- c. Location stakes or flags for fence location and areas to be cleared.
- d. Travel way layout stakes as needed.

Compliance Checks

The complexity of the structure will dictate the need for compliance checks during construction. All compliance checks shall be recorded in the field notes. Narratives of construction checks shall be recorded in the job diary or on a sheet in the field notes. Compliance checks shall include but will not be limited to the following:

- a. Profile of channel (100' maximum interval).
- b. Cross-sections of channel (300' maximum interval).
- c. Dimensions elevations and construction material for structures.
- d. Adequacy of clearing, Revegetation and disposal of waste material.
- e. Travel way and fence conformance with plans and specifications.
- f. Material test results.
- g. Statement of compliance.

As-Built Plans

As-Built plans shall be prepared for all open channels. These drawings shall reflect all significant changes in linear measurements, quantities, or design changes. If there were no significant changes, the original drawings shall be marked "As-Built".

Operation and Maintenance

An operation and maintenance plan will be prepared for each channel system. Detailed information regarding the operation of the channel, based on design assumptions, shall be outlined in the operation and maintenance plan.