NRCS Design Consideration Affirmation

Tennessee Department of Environment and Conservation
General Aquatic Resource Alteration Permit for
Natural Resource Conservation Service-Designed
Streambank Stabilization as a Federal Action

Appendix A

NRCS Engineering Field Handbook, Chapter 16, Streambank and Shoreline Protection; December 1996

The project been designed in accordance with all applicable local, state and federal laws and regulations.

The size of the targeted waterbody is within the scope of application of Chapter 16.

The proposed project design seeks to:

Reduce the force of water against a streambank or shoreline; and/or
Improve the streambank's resistance to erosive forces.

Preference has been given to those methods that restore the ecological functions and values of stream or shoreline systems over engineered structures, as prescribed in Section 650-1600 (c)

Project design considered the following as first priorities:

Measures that are self-sustaining or reduce requirements for future human support
Measures that use native, living materials for restoration
Measures that restore the physical, biological, and chemical functions and values of streams or shorelines
Measures that improve water quality through reduction of temperature and chronic sedimentation problems
Measures that provide opportunities to connect fragmented riparian areas
Measures that retain or enhance the stream corridor or shoreline system

Planning and selection of streambank protection measures considered all data types, and recommendations to maximize ecological benefit and limit damage to the environment, as identified in Section 650-1601 (b).

Design of the selected streambank protection measures considered all site-specific data, and recommendations to maximize ecological benefit and limit damage to the environment, identified in Section 650.1601 (c)

All applicable categories and designs of protective measures for streambanks as provided in Section 650.1601 (d) were evaluated during the development of a site-specific site plan, as prioritized in Section 650-1600.

Project designer acknowledges that since revetment designs do not reduce the energy of the flow significantly, using revetments for spot protection may move erosion problems downstream or across the stream channel.

NRCS TN, Practice Standard 580, Streambank and Shoreline Protection; August 2012

All Federal, State and local requirements were addressed in the design.

An assessment of the unstable streambank or shoreline has been conducted in sufficient detail to identify the causes contributing to the instability.

The proposed protective measures are compatible with other improvements planned or being implemented by others.

The end sections of treatment areas have been designed to adequately bond to existing measures, terminate in stable areas, or be otherwise stabilized to prevent flanking of the measure.

Filter bedding has been proposed on structural measures where there is the potential for migration of material from behind the measure.

Protective measures are designed to allow stream flow access to the floodplain.

Protective measures are designed to maintain flow levels below or equal to those that existed prior to the installation.

Proposed establishment of vegetation on channel banks and in the floodplains immediately adjacent to the banks is in accordance with Conservation Practice Standard "Critical Area Planting," Code 342, and "Riparian Forest Buffer," Code 391.

All design deliverables have been met in the production of the project as identified in the Practice Standard 580 Statement of Work.

A copy of the Operation and Maintenance Contract that contains specific instructions for operating and maintaining the system has been completed and provided to the owners.

Companion practices associated with Practice Standard 580 have been incorporated into this design (Riparian Forest Buffer, Fencing).

"By signing, I affirm that the watershed activities proposed in this application have a site-specific design developed through full application of the Natural Resource Conservation Service (NRCS) Conservation Practice Standard 580 (Tennessee) and NRCS Engineering Field Handbook, Chapter 16 Streambank and Shoreline Protection, including but not limited to the elements listed herein. Furthermore, this activity is subject to NRCS oversight as a federal action."

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(Signature of NRCS staff with job approval authority for completing the site-specific design package)

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(Date)