

DESIGN AND EVALUATION OF CHANNELIZED STREAM RESTORATION ALTERNATIVES IN THE CRISP CREEK WATERSHED

Site Identification Guidance

The primary purpose of this project is to demonstrate how stream restoration activities can be managed in an agricultural setting to provide environmental improvements while also benefiting the landowner. Environmental benefits include improved canal bank stability, water quality, and aquatic habitat. Potential benefits to the landowner may include reduction of marginally farmable areas, improved drainage of adjacent fields, improved grading of other nearby fields, reduced need for channel maintenance, and reduction in overdrainage associated with incised canals. The ideal site for this project will have many site specific characteristics, and individual sites will need review by the project team. However, a few general guidelines may help landowners identify possibilities.

Ideal Site Characteristics

- The ideal channel will be a major drainageway in an agricultural field. Evidence that the channel was once a natural, perennial stream is desirable. This may include flowing water year-round and possibly some meandering pattern in the current drainageway.
- The site may include a main canal and several smaller tributaries or side ditches. Ideally, the total channel length will exceed a minimum of 3,000 continuous feet.
- Streams or channels with mature buffers, trees, or a forested wetland along the banks are not targeted for this project. Channels with a single row of trees on one side may be considered, but only if other significant factors contribute.
- The best sites will have a downstream connection with a forest, unmanaged natural stream area, or wetland area. Sites that connect to a larger managed canal, or are isolated by a culvert, bridge, or major road crossing may also be considered. Sites that may intersect a necessary agricultural road or other constraints that would prevent a continuous project reach are not desirable.
- It is preferable to have access to land on both sides of the targeted channel or channels. A site that has a single landowner on both sides and over the entire reach would be preferred over sites with multiple landowners.

See other side for additional site factors

Other Site Factors for Landowners

Landowners should be assured that the design team is comprised of Agricultural Engineers that have studied and implemented the concepts of both drainage and restoration. Drainage and farm operation will not be impacted beyond agreed limits. Landowners will be compensated by the NCEEP for land entered into this project. The greatest benefit to landowners will be achieved on channels or sites with certain characteristics that may include:

- A channel or canal that requires frequent maintenance. Regular dipping or repairs of unstable banks can be costly and time consuming. A restored channel will eliminate the need for maintenance activities.
- Adjacent or nearby fields are marginally productive. The design team will work with landowners to identify ways to improve nearby areas as a part of the project.
- The landowner is interested in streamlining some agricultural operations. The design team would work with landowners to identify sites that will fit in with long term land use plans.