



## RESTORATION PROJECT SUPPLEMENTAL QUESTIONS

Answer ALL questions; please use N/A or "don't know" instead of leaving blanks.

### ELIGIBILITY

A. Submit a letter from Ecosystem Enhancement Program documenting that you have discussed your proposed project with them. *Information on this item can be found in [CWMTF Application Instructions and Considerations](#)*

### PROJECT STATUS

#### A. Project design

\_\_\_\_\_ will be started after the CWMTF grant has been awarded.

\_\_\_\_\_ is being prepared, is approximately \_\_\_\_\_% complete, and is expected to be complete (date)\_\_\_\_\_.

\_\_\_\_\_ has been completed and is ready for soliciting construction bids.

\_\_\_\_\_ has been completed and construction bids have been obtained.

#### B. Project permits

\_\_\_\_\_ will be started after the CWMTF grant has been awarded.

\_\_\_\_\_ are in preparation, are approximately \_\_\_\_\_% complete, and are expected to be complete (date) \_\_\_\_\_.

\_\_\_\_\_ have been completed and can be submitted to permitting agencies.

\_\_\_\_\_ have been completed and permits have been obtained.

#### C. Conservation agreements or easements

\_\_\_\_\_ will be initiated after the CWMTF grant has been awarded.

\_\_\_\_\_ are in preparation, are approximately \_\_\_\_\_% complete, and are expected to be complete (date) \_\_\_\_\_.

\_\_\_\_\_ have been completed and can be recorded.

\_\_\_\_\_ have been completed and recorded.

\_\_\_\_\_ will not be needed for this project. (Explain: \_\_\_\_\_)

D. What are the constraints (such as structures, rights-of-way, etc) on the successful completion of the project?

E. What issues will need to be addressed prior to or in conjunction with the proposed restoration (such as treating upland erosion, retrofitting culverts or bridges)?

F. List all property owners along the stream segment to be restored. Indicate whether they have been contacted and are willing to participate in the project.

## **LAND USE**

- A. Provide the title and date of a local land use plan for the county or municipality in which the project will occur, if a plan exists.
- B. Identify any environmental laws, rules or regulations (existing or pending) that restrict the use or marketability of the property on which the project will occur.

## **WATERSHED CHARACTERISTICS**

- A. What is the area, in acres, of the watershed that contributes stormwater runoff to or through the project site?
- B. What percentage of the watershed area is impervious?
- C. What are current land uses in the watershed? *Provide a discussion and the percentages of different land uses in the watershed.*
- D. How are land uses in the watershed expected to change in the next 5 to 20 years?

## **EXISTING STREAM CONDITION**

- A. Is the stream laterally unstable? Vertically unstable?
- B. Is the instability localized, or systemic?
- C. Describe the instabilities, including locations, extent, and probable causes.
- D. Is access of livestock to the stream contributing to its instability? Provide locations and describe the situations.
- E. Describe erosion and depositional patterns of the stream (e.g., aggrading, degrading, head cuts, bank erosion).

F. Complete the table below for existing conditions representative of the stream reach:

<b>Measure</b>	<b>Representative Value, or Range of Values</b>
Bankfull mean depth	
Bankfull width	
Bankfull cross-sectional area	
Width/depth ratio	
Maximum bankfull depth	
Width of flood prone area	
Entrenchment ratio	
Channel material D <sub>50</sub>	
Water surface slope	
Channel sinuosity	
Bank height ratio (low bank height/bankfull height)	
Bank Erosion Hazard Index (BEHI)	
Bankfull cross-sectional area	

### PROPOSED PROJECT

A. Complete the table below.

Refer to *CWMTF Application Instructions and Considerations* for definitions, which are taken from *Stream Mitigation Guideline*, April 2003, by the U.S. Army Corps of Engineers, Wilmington District (District), North Carolina Division of Water Quality (DWQ), U.S. Environmental Protection Agency, Region IV (EPA), Natural Resources Conservation Service (NRCS) and the North Carolina Wildlife Resources Commission (WRC).

<b>Type of Work</b>	<b>Linear Feet of Stream</b>	<b>Cost* per linear foot</b>
Stream restoration		
Stream enhancement 1		
Stream enhancement 2		
Stream stabilization		
Total		

\*Provide calculations for these estimated unit costs and describe the scope of the costs applied to the calculations (e.g., estimated cost includes construction, design, permitting, and/or easement acquisition/preparation).

B. If the project will use a stream stabilization technique, how many linear feet of stream bank will be stabilized? Provide locations and describe the stabilization technique.

C. Describe the general restoration methods proposed (e.g., floodplain or bench construction, local bank stabilization only, construction of new channel, vanes, revetments, lifts, fencing, riparian plantings.)

D. What is the degree of incision?

E. If the stream is incised, check the restoration priority

- 1) \_\_\_\_\_ Priority 1: reconnect to original floodplain and restoring natural channel profile and form.
- 2) \_\_\_\_\_ Priority 2: establish new floodplain at the existing level or higher while restoring natural channel profile and form.
- 3) \_\_\_\_\_ Priority 3: convert to a different stream type
- 4) \_\_\_\_\_ Priority 4: stabilize stream banks in place

F. Will this project modify the stream's dimension, pattern, or profile? Describe the proposed modifications.

G. Complete the following table for estimated before and after conditions

Stream type before restoration *	
Stream type after restoration *	
Estimated average bank erosion rate before project (tons/linear foot/year)	
Estimated average bank erosion rate after project (tons/linear foot/year)	

\* Based on the Rosgen stream classification system (Rosgen, 1996)

H. How was the average bank erosion rate calculated?

I. If field data was gathered, provide raw data and a written analysis.

*CWMTF requires that vegetated riparian buffers be established to protect the restored stream and that a permanent legal instrument, such as a conservation easement be recorded to enable enforcement of the buffers' protection. See [www.cwmtf.net/easement.htm](http://www.cwmtf.net/easement.htm) ("Conservation Easement Example" on the CWMTF website) for a template that can be used for this purpose. Also see [www.cwmtf.net/easements.htm](http://www.cwmtf.net/easements.htm) ("Information on Conservation Easements") for additional information about preparing conservation easements.*

J. What riparian buffer width, as measured from the top of the restored streambank, is proposed? On both sides of the stream?

K. Who will be named as "holder" of the conservation easements (or other instrument)?

L. Who will monitor the riparian buffers for conformance with the conservation easements? (Note that monitoring is the responsibility of the holder, but CWMTF

encourages holders to engage other parties to monitor the buffers on the holders' behalf.)

**READ CWMTF APPLICATION INSTRUCTIONS AND CONSIDERATIONS FOR  
POTENTIAL CONTRACT CONDITIONS FOR CWMTF RESTORATION  
PROJECTS**