

Red Lake Watershed District  
Clearwater River Stream Bank Stabilization and Revitalization  
Project (Revised Workplan, February 2002)

Introduction

The Clearwater River Water Quality Project was awarded \$134,500.00 in matching grant funds by the Minnesota Pollution Control Agency for projects totaling \$269,000.00 in cost. This funding is provided through the Section 319 Nonpoint Source Implementation Program. The goal of this project is to make improvements to water quality in the Clearwater River Watershed while demonstrating effective methods to use in future stream and stream bank stabilization in the Red Lake Watershed District. Two sites were chosen for these projects: Section 27 in Greenwood Township, Clearwater County; and Section 6 in Gully Township, Polk County.

Work Plan

The following paragraphs describe each task, which has been or will be accomplished:

**Data collection**

This task will involve collecting data for use in designing and implementing erosion control measures. Work will include a site survey. Alignment, channel profiles, and cross-sections will be measured at each site. Additional field data on soils, vegetation, hydrology and geomorphology will be collected to allow determination of stream stability characteristics following the methods of the Rosgen classification system. This item may include field measurements of streamflow if necessary to supplement available streamflow records and statistical analyses. Photos will be taken of each site for use in design and for further use in the Information and Education components. Most of this has been accomplished.

**Analysis**

This task will provide a description of the problems occurring at each site. Specific goals and alternative solutions will be identified and analyzed for each site. Alternative solutions will be reviewed to ensure that selected designs meet site-specific needs as well as broad program goals.

**Design**

This task will involve applying selected alternative solutions to each site. Design measures will be implemented to achieve project goals—such as to improving stream stability, fish and wildlife habitat, and water quality, and concurrently reducing erosion and non-point source pollution.

**Construction Documents**

This task will involve developing the design and construction documents (plans, specifications, and bid documents) of the selected alternatives for each site. Engineer's estimates for the costs of implementation will also be provided.

**Right Of Way**

This task will include defining the land area necessary for implementing the selected erosion control measures. Easements will be secured for short-term access for data collection and construction activities, as well as long-term access for monitoring and demonstration tours.

**Permits**

This task will include applying for required federal, state, and local governmental unit permits including Corps of Engineers, MPCA, MDNR, and MWCA permits, as required.

**Selection of contractor**

This task will involve advertising and receiving bids or contractor quotes as required to complete the planned construction work at each site. Contractors will be selected from this process.

**Construction management and inspection**

This task will involve providing all construction management and inspection services. This work will include staking, performing construction observation and inspection, and certifying the quantities for pay requests.

**Monitoring**

This task will include implementing a monitoring program to assess the success of the work at each site. A plan will be provided utilizing the Standard Operating Procedures manual from the Red Lake Watershed District. Monitoring will include a combination of assessments. Physical assessments will include establishing bank pins, cross-section monuments, and benchmarks for reference in the ongoing monitoring of the project. Photo reference points will be established so that successive photo records will be taken from the same reference points. Biologic assessments may be performed and may include monitoring of vegetation and other biotic indices. Monitoring activities are planned to continue once a year into the indefinite future to ensure success and stability of the project and area.

### Information & Education

This task will include preparation of newsletter articles describing the demonstration project. A description of each site will be included in a handbook covering the range of design applications. The handbook will include site photos, design considerations, construction costs, results of monitoring, and other lessons learned from the process. Tours of the demonstration sites will be given as part of the information and education efforts. This task also includes formation and meeting times of project committees. The committees consist of permit agency and other interested agency workers, landowners, local officials and RLWD-SWCD representatives.

### Milestone schedule

Timeline for Greenwood 27 (original design of project)

Activities	Feb/Mar, 2000	Apr./ May, 2000	June/ July, 2000	July/Oct. 2000	Oct. 2000/Dec. 2001	2001	2002	2003
Analysis	X							
Design	X	X						
Construction Documents		X	X					
Right of Way			X					
Permits				X				
Selection of Contractor				X				
Construction Management And Inspec.					X			
Monitoring			X	X	X	X	X	X
Information & Education	X	X	X	X	X	X	X	X

Timeline for Greenwood 27 (additional work on project)

Activities	Feb/Mar 2002	Apr/July 2002	July/Oct 2002	2003	2004	2005	2006
Analysis	X						
Design	X						
Construction Documents		X					
Right of Way		X					
Permits		X					
Selection of Contractor	X						
Construction Management And Inspec.			X				
Monitoring	X	X	X	X	X	X	X
Information & Education	X	X	X	X	X	X	X

Timeline for Gully 6

	2001	Feb, 2002	Mar./ Apr., 2002	May/ July, 2002	July/ Oct. 2002	2003	2004	2005
Analysis		X						
Design		X	X					
Construction Documents			X	X				
Right of Way				X				
Permits				X				
Selection of Contractor				X				
Construction Management And Inspec.					X			
Monitoring	X	X	X	X	X	X	X	X
Information & Education	X	X	X	X	X	X	X	X

Budget

Greenwood 27 Project (original project design)

Activity	Responsibility	Match	Grant	Total
Design/Analysis/ Bid Documents	Clearwater Nonpoint Funding	\$10,000.00	\$14,000.00	\$24,000.00
Right-of-Way	Landowners	\$1,000.00		\$1,000.00
Work Easement	Landowners	\$5,000.00		\$5,000.00
Permits/ Advertising	Clearwater Nonpoint Funding	\$2,000.00		\$2,000.00
Construction	Landowners	\$5,000.00	\$70,500.00	\$132,000.00
	SWCD (special projects)	\$25,000.00		
	Clearwater Nonpoint Funding	\$31,500.00		
Monitoring/ Information/ Education	Clearwater Nonpoint Funding	\$5,000.00		\$5,000.00
Total		\$84,500.00	\$84,500.00	\$169,000.00

Gully 6

<b>Activity</b>	<b>Responsibility</b>	<b>Match</b>	<b>Grant</b>	<b>Total</b>
Design/Analysis/ Bid Documents	Clearwater Nonpoint Funding	\$7,768.00	\$6,768.00	\$14,536.00
Right-of-Way	Landowners	\$1,000.00		\$1,000.00
Work Easement	Landowners	\$2,000.00		\$2,000.00
Permits/ Advertising	Clearwater Nonpoint Funding	\$700.00		\$700.00
Construction	Landowners/SWCD/ Clearwater Nonpoint Funding	\$21,732.00	\$29,732.00	\$51,464.00
Monitoring/ Information/ Education	Clearwater Nonpoint Funding	\$2,000.00		\$2,000.00
Total		\$35,200.00	\$36,500.00	\$71,700.00

Additional Greenwood 27 Work

<b>Activity</b>	<b>Responsibility</b>	<b>Match</b>	<b>Grant</b>	<b>Total</b>
Design/Analysis/ Bid Documents	Clearwater Nonpoint Funding	\$3,500.00	\$3,500.00	\$7,000.00
Right-of-Way	Landowners	N/A	N/A	N/A
Work Easement	Landowners	N/A	N/A	N/A
Permits/ Advertising	Clearwater Nonpoint Funding	\$300.00		\$300.00
Construction	Landowners/SWCD/ Clearwater Nonpoint Funding	\$10,000.00	\$10,000.00	\$20,000.00
Monitoring/ Information/ Education	Clearwater Nonpoint Funding	\$1,000.00		\$1,000.00
Total		\$14,800.00	\$13,500.00	\$28,300.00