

## Representative Projects

### Project Name

#### Kooi Road Streambank Stabilization

### Client

#### Sheridan County

### Contact

#### Ken Muller, PE

### Key Elements

Land Survey  
Hydrologic Analysis  
Hydraulic Analysis  
USACE Permitting  
WDEQ Turbidity Waiver  
Riprap Sizing  
Design Drawings  
Contract Documents  
Surface Water Sampling  
Construction Administration

## Civil Engineering Services

ECS Engineers was retained by Sheridan County to provide design and construction administration services for the stabilization of portions of the Tongue River along Kooi Road. A flood event in 2011 caused potential stability issues which if left unrepaired, could have led to the road being washed out during a future flood event.

ECS conducted site surveys of the reach of the river which required stream bank stabilization. The erosion was occurring within a meander of the river, adjacent to the road. Due to space constraints, ECS determined installing sheet pile with riprap above the sheet pile served as the best measure for erosion protection. ECS sized sheet pile and riprap for placement along the bank as well as developed a grading plan to ensure the channel geometry and county road widths were maintained.

ECS worked closely with the contractor during construction to ensure disturbance was minimized. ECS also coordinated with the landowner to ensure the project didn't impact them and ensured it met the landowner's approval.

