

**SHERIDAN HILLSLIDE PH 1**  
**SHERIDAN, WYOMING, U.S.A.**

Mass Gravity Retaining Walls

**Problem**

Multiple slopes located below Sheridan Junior High School and above Kendrick Park in Sheridan, Wyoming began to fail in 2017. Mathers Heuck, facilities director for Scott County School District 2, said the creek’s alignment was changed sometime in the 1950s. Maps from the late 1940s show the stream looping away from the slope and south through an area that now houses a YMCA. The changing waterways, along with complicated water tables in the area, may have contributed to the landslides over time.

In most cases along the slope, the lower bedrock is low-permeability claystone with sandy soil above it. This means water moves through the dirt and collects on top of bedrock, creating a slip plane. As the upper portion of the slope slides across the bedrock, moist layers of sandstone and coal are exposed above. These seams act like conduits and contribute even more water to the already failing soil. Because the top layer cannot drain efficiently, the weight on the top part of the hill has proven too much for the bottom of the hill to support, causing the hill to slide.

**Solution**

Hayward Baker Inc., the engineering consultant for the project, designed a series of walls that are planned along the hillside, extending from Lewis Street to Kendrick Park.

The crews from Hayward Baker, will remove approximately 40,000 yards of earth from the hillside with the aim of lightening the weight supported by the bottom part of the hill. In addition, the work crews will construct a system of horizontal drains that go into the hillside, helping to dissipate the water that collects on the hill.

Beginning below the waterline and extending to the 100-year flood elevation, JR Civil Construction installed approximately 1225 cy of Maccaferri polymer coated gabion gravity wall up to 12’ tall and 1240 LF long, utilizing a cofferdam system.

The most visible portion of the project, once it’s completed, will be the intermediate soil nail and soldier pile walls. These retaining walls constructed from the top down will apply pressure to the hillside and provide additional support for the hill along the creek. The walls will include a finish that makes them look like natural cascading boulders.

**Client:** City of Sheridan

**Designer / Consultant:** Hayward Baker

**Contractor:** JR Civil Construction

**Products used (Qty.)**

- Gabion 1225 cy

**Date of construction:** 07/2019 - 11/2019



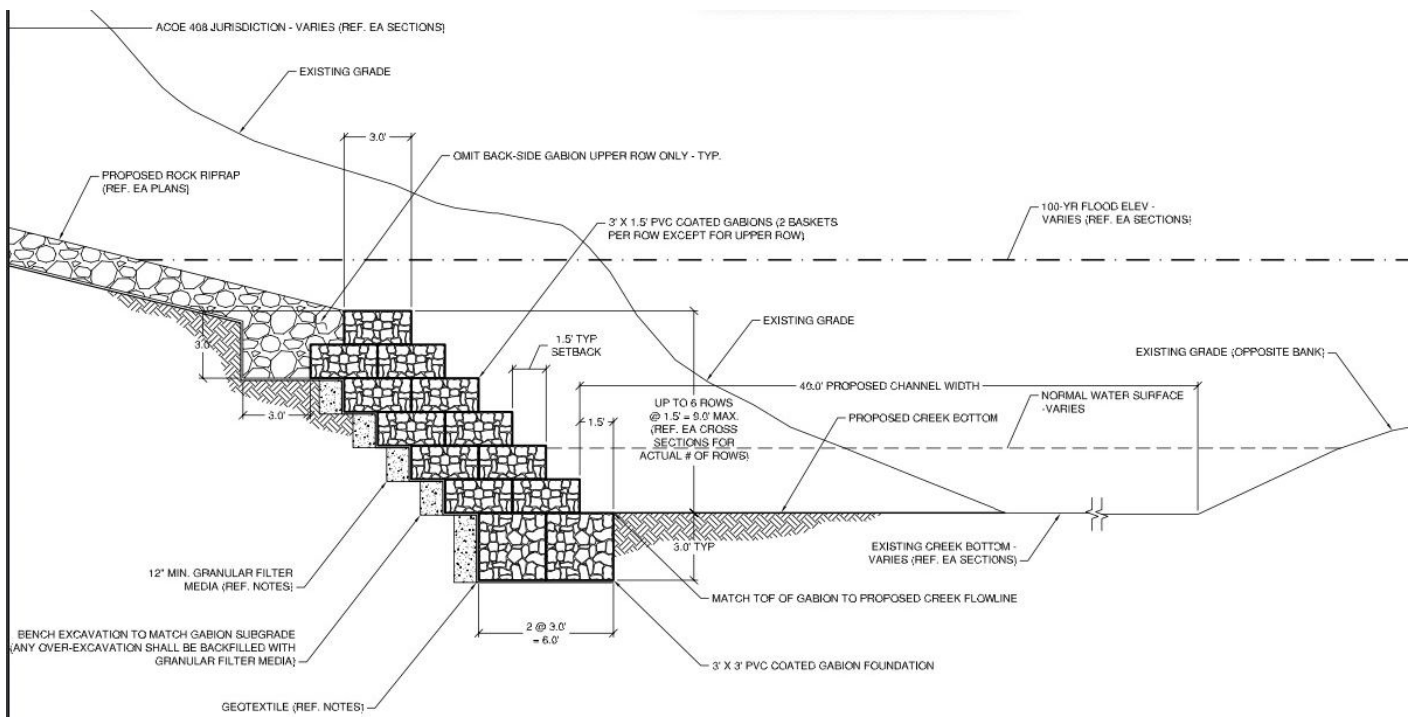
Before construction



Wall construction & slope drain



Final gabion & soil nail wall



Gravity Wall Cross Section