

SCSD#2 Jr High Slope Stabilization – Soldier Pile Wall

Sheridan, Wyoming

Client
Sheridan County School District #2

Size
2.14 acres

Completion Date
August 2011

Geotechnical Engineering
Inberg-Miller Engineering

Structural Engineering
Pillar Structural Engineering



The SCSD#2 Jr. High Slope Stabilization is a project to repair and stabilize a steep slope between Sheridan Jr. High School and Big Goose Creek in Sheridan, Wyoming. A large slope failure in the hillside next to the school occurred in 2009. In early 2010, Vista West Engineering began the slope stabilization design, coordinating work with geotechnical and structural engineers. Design of a soldier pile retaining wall was completed in August, 2010 and construction started in October, 2010. Excel Construction was the prime contractor with Schnabel Foundation and Boulderscape Inc. as the retaining wall subcontractors.

The project included excavation of unstable soils; installation of a soldier pile retaining wall and tieback system; subdrainage; slope grading; site restoration and re-vegetation; new surfacing; and guardrail/ fencing for public protection.

The new soldier pile retaining wall is 450 feet long with an exposed height varying from 8 to 23 feet. The wall was constructed with vertical steel soldier piles of up to 40' in length anchored in the hillside with concrete slurry. Timber lagging placed between the piles retains soils behind the wall. To further secure the wall against slope movement, tieback anchors were drilled 50-75' into the hillside, grouted in place and connected to each of the soldier piles. The face of the wall is covered with 12" of reinforced shotcrete for strength and an architectural block finish.

Resurfacing the hilltop for drainage, grading slopes to a stable 3:1 incline below the wall and re-establishing vegetation completes the remediation of the project. ADA steel railing and guardrail along the wall protect the public.

The completed project will correct a dangerous slope instability hazard to the Sheridan Jr. High School property, its students, faculty and the public and it will enhance the aesthetics of this hillside.

