

IRON HORSE INN DITCH REHABILITATION

Problem

The Historical Iron Horse Inn has been a fixture of the Durango, CO area for over 40 years. Located along Highway 550 on the north edge of Durango, the hotel is uniquely situated along the Animas River. Running along hillside and Highway 550 an earthen irrigation ditch borders the Inn's property. This ditch collects stormwater from the adjacent highway and conveys mountain water runoff to the farms downstream and eventually ties into the Animas River.

During the spring runoff and wet season, this ditch flows at near capacity. The hillside that supports the ditch would become very saturated, causing water to mitigate through the soil and drain into the Inn's parking lots with flooding occurring at times. The velocity of the flow and the saturation also raised the prospect of the hillside eroding in the future.

Solution

Through the years, the Inn's owners and management looked for many solutions to alleviate this problem including sealing the ditch with bentonite clay or lining it with concrete. After reviewing multiple options, the owners chose to line the ditch with SmartDitch. SmartDitch is a corrugated HDPE liner that is designed to fit into an existing or new construction ditch.

The approximately 600 lineal foot long ditch is sandwiched between Highway 550 and the Inn. For maximum flow capabilities, the 24" Deep Trapezoidal SmartDitch product was chosen. Vegetation and silt had to be cleared from the flow line of the earthen ditch prior to installation. A small backhoe and laborers with hand tools accomplished this task. The course of the ditch snaked along through the right-away requiring the liner to be installed with several small curves. At each end of the line, the liner was connected to the existing headwalls where the ditch connected to concrete pipe used for road crossings. Sand backfill was brought in to fill in the voids along the sides of the channel sections prior to installation of the anchors.

The installation of the +600 line of SmartDitch took approximately 2 days after the clearing vegetation and debris from the existing ditch. The installation crew consisted of two laborers with a Bobcat Skid-Steer loader used to bring in the sand backfill. The curves were installed by offsetting the flow line of the sections a small amount at each joint. The anchors were easily installed using an electric powered hammer.

Natural vegetation was encouraged to grow along the ditch minimize the possibility of erosion along the sides and in the area between the ditch and the highway. During the following wet season, the water flowed through the lined section with no difficulties and no detectable saturation of the surrounding soil. Because of SmartDitch's HDPE construction, maintenance on this ditch will be minimal, ensuring years of trouble free operation.

Benefits

- ◆ Water tight joints to reduce or eliminate the soil saturation
- ◆ Stable channel design to prevent hillside erosion
- ◆ Superior flow characteristics to improve the flow of the water for drainage purposes
- ◆ Durable material that reduces maintenance issues



SmartDitch is manufactured in the USA. It is a safe, economical, long-lasting, and environmentally sound irrigation channel lining solution. For more information on the SmartDitch and the MegaDitch HDPE Channel Lining Systems contact:



866.576.2783 SMARTDITCH.COM



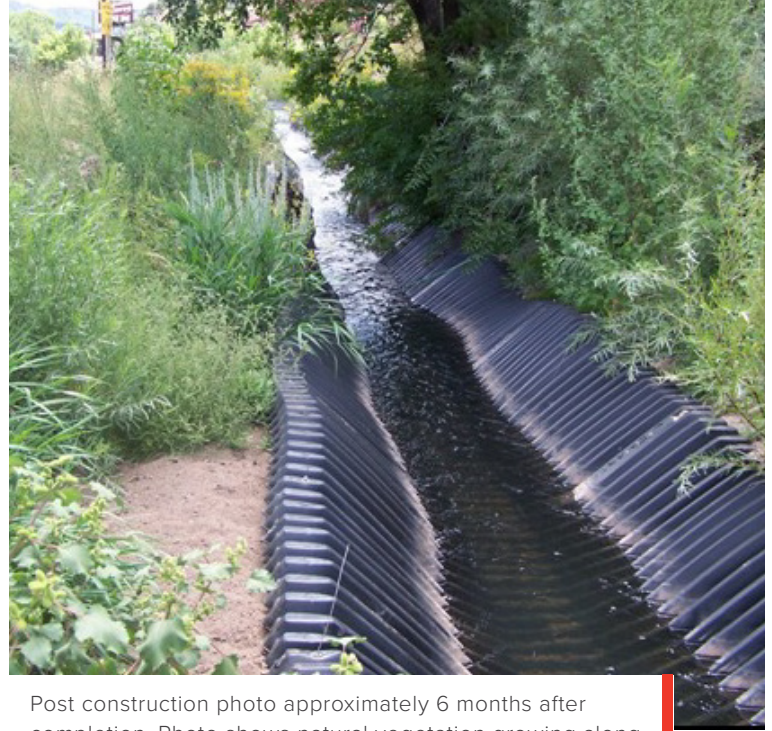
Site overview during construction. Photo shows the installation after the first day. The sections have been installed in the ditch with additional sections awaiting installation. This photo is prior to backfilling and final grading and shows the condition of the ditch after cleaning up the debris.



Site during installation of SmartDitch. Photo shows the quick and easy process of anchoring and installing SmartDitch sections.



Site during construction. Photo shows the backfill being installed along the side of the liner sections.



Post construction photo approximately 6 months after completion. Photo shows natural vegetation growing along the sides.