

CASE STUDY

PROJECT NAME	Iron Horse Inn Ditch Rehabilitation
PROJECT LOCATION	Durango, Colorado
OWNER	Iron Horse Inn General Manager: Mike McCardell Durango, CO
PRODUCT DETAILS	+600 lf of 24" Trapezoidal Smart Ditch Sections
ANCHORING SYSTEM	Standard Anchors
Joint Type(s):	Gasketed Joint
Fitting(s) used/description:	N/A



IMPORTANT PROJECT DETAILS

Project Type:

New Installation

Type of Application: Drainage/Irrigation

SmartDitch was used to line an existing earthen irrigation/drainage ditch. The ditch was located on a hillside adjacent to the Iron Horse Inn Motel. During the irrigation season, water would saturate the earthen ditch and hillside allowing water to flood the parking lots and motel site below.

Why was SmartDitch used on this Project?

SmartDitch was chosen because of the following benefits:

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

What specific features of this product were important to the owner?

- > Water tight joints
- > Ease of installation
- > Durability
- > Cost effective solution to problems

What other competitive materials were bidding on this project?

None

Were other materials also used on this project?

No

INSTALLATION DETAILS

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 conveys mountain water run-off to the farms downstream and eventually ties into the Animas River. During the spring runoff and wet season, this ditch can flow at near capacity. During this time, the hillside that supports the ditch can become very saturated, causing water to mitigate through the soil and drain into the Inn's parking lots with flooding occurring at times. Through the years, the Inn's owners and management looked for many solutions to alleviate this problem and finally chose SmartDitch.

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 SmartDitch to be installed with several small curves. At each end of the line, SmartDitch 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 took approximately 2 days after clearing the 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 flowline of the sections a small amount at each joint. The anchors were easily installed using an electric powered hammer.

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.

PHOTOS



After installing and anchoring the SmartDitch sections, laborers backfill along the sides to match the existing grade.



A couple of months after the installation, the natural vegetation has grown right up to the edges of the SmartDitch sections. The natural vegetation combined with the SmartDitch sections provide a stable waterway for the irrigation channel and a strong barrier against erosion on the hillside.