

MONTGOMERY CREEK STREAM RESTORATION

Project Details

Type of Application:

SmartDitch was used to rehabilitate an existing stream bed needed to provide water to the valley below for agricultural purposes.

Why was SmartDitch used on this Project?

SmartDitch was chosen because of its:

- Flow characteristics.
- The lightweight design allowed for the transportation of the material into the mountains. SmartDitch could be cradled in saddles allowing for the product to be installed above ground and in very rocky conditions.
- The SmartDitch anchoring systems provided flexibility in the installation to allow for the product to move during an earthquake.

Was SmartDitch the only material that would work for this project?

Prior repairs had been attempted using a steel slough and polyethylene film. The steel material was too rigid for the recurring seismic activity at the site. The polyethylene film was not durable enough.

Is this a unique application of SmartDitch?

For over 140 years, the Montgomery Stream provided water to the area farming fields. Located in the rocky canyon in the shadows of Boundry Peak on the California/Nevada border, the small stream's water flow had recently been disrupted due to seismic activity. Montgomery Creek crosses a small earthquake fault, and a previous earthquake caused a fissure across the stream. The fissure allowed the water in the stream to flow back into the ground stopping the flow of water down into the valley. Ranch owner Dave Doonan proposed utilizing SmartDitch in the existing stream bed that crossed the earthquake fault zone to restore the natural stream flow.

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

- Ease of Installation
- Ease of transportation
- Durability

Installation Details

SmartDitch's lightweight design allowed for easy transportation of the ditch system into the White Mountain region. Access to the project site was available only on a narrow rock lined trail, and the product needed to be transported on a small trailer pulled behind a four wheel Jeep. The fissure that crossed the stream disrupted the flow of the water for approximately 80 feet. The existing stream bed was mainly rock surrounded by small stones and boulders. To facilitate the installation of SmartDitch, the 24" Semi-Circular product was chosen due to its ability to be cradled in saddles and installed above ground. During construction the water flow was diverted by make shift dams around the

Details

- **PROJECT NAME:** Montgomery Creek Stream Restoration
- **PROJECT LOCATION:** Benton, California
- **OWNER ORGANIZATION:** Montgomery Creek Ranch Owner: Dave Doonan, Bishop, CA
- **PRODUCT DETAILS:** 24" Semi-Circular SmartDitch Setting on Saddles
- **ANCHORING SYSTEM :** Standard Anchoring System
- **JOINT TYPE(S) :** Gasketed Joint
- **PROJECT TYPE :** New Installation



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:



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stream bed and the SmartDitch sections were laid on the saddles. SmartDitch's standard anchors were utilized by driving them between the stones in the stream bed into the surrounding soil. To provide an additional measure of protection to the channel sections, stones and boulders were stacked up along side the SmartDitch. At the upstream end of the SmartDitch sections, stones were used to direct the flow of the stream into the SmartDitch channels. The flow of water in the stream was restored to its original course.



During an earthquake, a fissure had opened across the Montgomery Creek which allowed water to flow back into the ground. Previous attempts to rehabilitate the existing system bed included using a steel slough and polyethylene film.



Dave Doonan examines the stream bed to determine the path for installing the 24" semi-circular SmartDitch sections on saddles.



SmartDitch anchoring system is being driven between the stones in the stream bed and into the surrounding soil to provide a solid footing for the sections.



Upon completion, the SmartDitch channel successfully restored the stream flow back to natural path down the mountain.