**Application:** Dynamic and Hybrid Barriers  
**Product:** 2000 & 3000 kJ Dynamic (CTR) and Hybrid Barriers

**Problem**

Years of operation at the New Jersey Zinc Company smelter in Palmerton, PA had resulted in severe heavy metal pollution, including cadmium, lead, and zinc. This pollution left a large area devoid of almost all plant life. Due to the geology of the area, rockfall would likely have been a threat to the area. Due to the lack of vegetation to provide natural erosion protection, the threat of rockfall events increased greatly. Pennsylvania Route 248 runs right through the most threatened area and was at particular risk of a catastrophic rockfall event.

**Solution**

Due to the size and extent of the project area, a large amount of rockfall mitigation was required, including hundreds of thousands of square feet of rockfall drapery materials, and hundreds of feet of standard and hybrid rockfall barriers, ranging from 13 to 17 feet in height and from 109 to 327 feet in length, respectively. Maccaferri’s dynamic barriers provide lower deformation and greater residual height than other barriers on the market, and the Maccaferri hybrid barriers outperformed all other hybrid barrier systems in recently conducted Colorado DOT full-scale testing.

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**Client:** FEDERAL HIGHWAY ASSOCIATION (FHWA)  
**Main Contractor:** JANORD, INC.  
**Designer:** MACCAFERRI  
**Products used:** 2000 & 3000 KJ STANDARD & HYBRID BARRIERS  
**Date of Construction:** NOVEMBER 2011  

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