

PennDOT SR 79

ALLEGHENY COUNTY, PENNSYLVANIA

ROCKFALL PROTECTION - SIMPLE DRAPERY

Product: [RockMesh® 6090](#)

RockMesh® was used by the Pennsylvania Department of Transportation on SR 79 near Pittsburgh, Pennsylvania as a rockfall mitigation system. The system consists of PVC coated double twisted mesh with steel cable integrated within the mesh during the manufacturing process. The incorporation of steel cable within the wire mesh provides multiple advantages in the installation and in the product characteristics. In the project, the maximum height of the rock slope protection was 120 feet high with a total surface area of 40,000 square yards.

Problem

With the improvement of an existing portion of SR 79 located in Collier and Robinson Townships, Allegheny County, Pennsylvania, three rock face areas run parallel to the roadway alignment and extend to a maximum height of 120 vertical feet. Rocks were observed within the catchment areas for each of the three designated rock slopes which indicates these slopes are currently subject to active rockfall events.

PennDOT required a rockfall drapery netting intervention in three distinct rock slope areas Of the project: located along SR 79 between Exit 59 (i.e., State Route 279) and Exit 57 (i.e., Carnegie, Pennsylvania).



Rock face before construction



Lacing cable at every mesh opening



Installed RockMesh® 6090

Client:

PENNSYLVANIA DEPT. OF TRANSPORTATION

Main Contractor:

TRUMBULL CORPORATION

Designer:

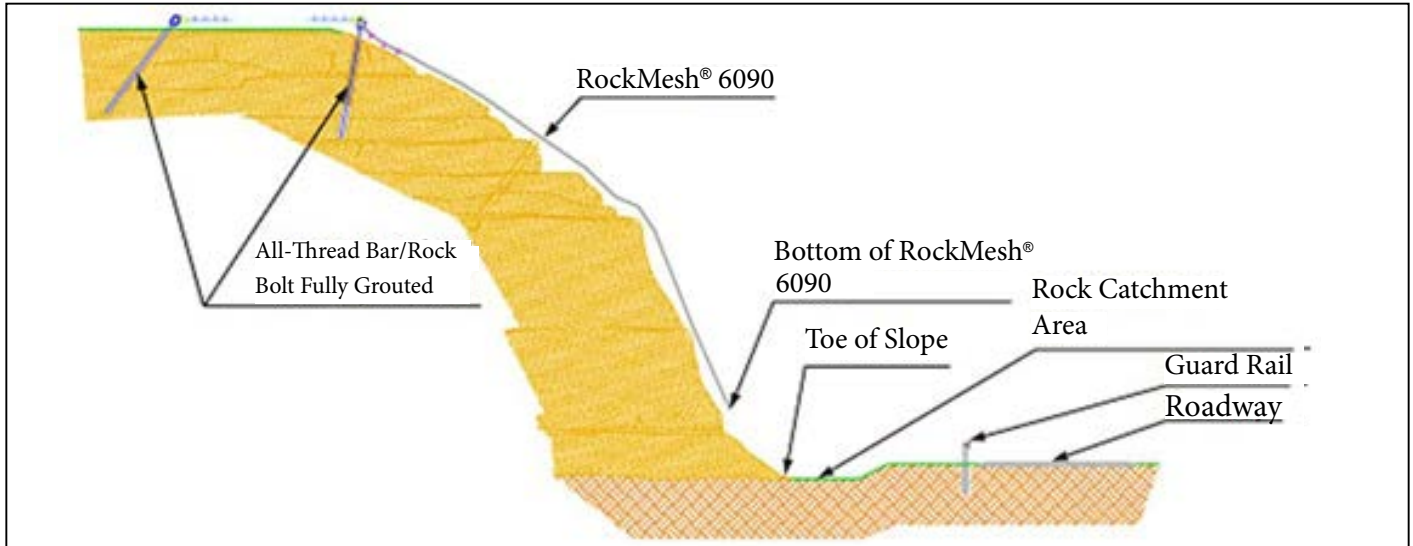
GOLDER ASSOCIATES INC.

Products used:

ROCKMESH® 6090 - 40,000 square yards

Date of Construction:

SPRING-FALL 2006



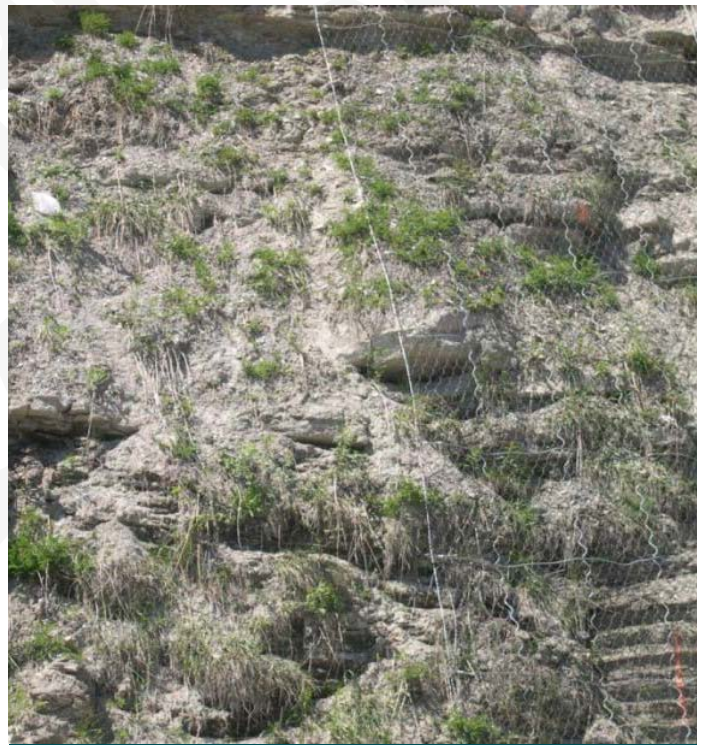
Typical cross section of the drapery netting

Solution

The Maccaferri RockMesh® 6090 was proposed for use on the project. The product consists of double twist steel wire mesh with 5/16 inch (8 mm) steel cables integrated longitudinally and laterally within the mesh during the manufacturing process. For the RockMesh® 6090, steel cables are inserted every 2 feet (0.6 m) in the longitudinal direction and 3 feet (0.9 m) in the lateral direction.

The lateral cables are secured at both ends with aluminum sleeves to eliminate the need for overlapping individual roll panels. The incorporation of steel cables within the wire mesh provides significant tensile and punch strength at very low elongations, critical for a rockfall drapery system adjacent to a major roadway such as PennDOT SR79.

PennDOT also required the rockfall drapery be PVC coated for greater durability and to blend into the existing rock surface. The RockMesh® 6090 was installed with all adjacent panel sections connected together using 5/16 inch (8 mm) lacing cables and secured at the end. Maccaferri retained Golder Associates, Inc. to perform the design in accordance with industry standards and PennDOT's initial drawings, by considering mesh weight, rock size and existing site conditions.



Rockfall mitigation system

Click here to contact our technical department for assistance on your project.

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