

application

location

products

Temporary MSE Wall

Bob Creek Bridge, HWY 101, OR

Geolon® HS400 & HP570

THE CHALLENGE

Oregon's U.S. Highway 101 is one of the most beautiful coastal drives in the country. Along its winding route, several bridges are being rebuilt as part of the state's ongoing bridge rehabilitation program. One of those bridges is known as the Bob Creek Bridge. It is located just south of Cape Perpetua, the highest point on Oregon's coast, near the town of Yachuts. To divert traffic during bridge construction, a temporary bridge was constructed using polypropylene and polyester geosynthetics.

THE DESIGN

Each MSE embankment was 198.4 ft (60.5 m) in length, with heights varying from 4 ft (1.2 m) to 15 ft (4.6 m) near the creek. This does not include a minimum below grade embedment depth of 2 ft (0.6 m). Each lift was 18 inches in height with a top-lift embedment length of 2 ft (0.6 m) to achieve

the required soil reinforcement pullout Factor of Safety of 1.5.

CONSTRUCTION

The project involved the construction of two mechanically stabilized earth (MSE) embankments that served as abutments for a temporary bridge during reconstruction. The General Contractor, James W. Foster Co., was awarded the contract based on

designs provided by Mirafi engineers utilizing 7,000 SY of Mirafi's high strength woven polyester (PET), HS400, and 3,500 SY of HP570, a high tenacity woven polypropylene (PP) geotextile.

JOB OWNER:

Oregon DOT

ENGINEER

**Mirafi Engineering,
David Hall, PE, SE**

CONTRACTOR:

James W. Foster, Co.

The eastern corner of the south MSE embankment.

The temporary bridge will be used for eight weeks during the new bridge construction.

7,000 SY of Geolon® HS400 and 3,500 SY of Geolon® HP570 were used to complete the bridge.



Diverted traffic used the MSE bridge while the permanent Bob Creek Bridge was being rebuilt.

PERFORMANCE

The MSE embankment was built to divert traffic around the construction of a new bridge span over Bob Creek. The project was completed in six weeks and will be in use for the eight weeks it takes to build the new bridge span.



Compacting the soil before layering more Geolon® HS400.

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