



Tensar's SierraScape® system reconnects people quickly due to the project's short downtime, whilst being a cost effective and aesthetically pleasing solution.



Wall and Slopes Nº 457

Slope Rehabilitation at Panhala Waghbil Road

📍 Panhala Fort, India

CONSTRUCTED IN 2022

Benefits

Rapid & economical solution

compared to a reinforced concrete wall

Flexible alignment

enables construction of the structure around an existing drain

Lightweight facing

crucial due to limited construction access

Integrates naturally

into the fort's historical structure

Tensar reconnects people with history

The Tensar SierraScape® reinforced soil system was provided as solution for the slope rehabilitation along the road connecting to the historical Panhala Fort, Kolhapur, Maharashtra affected by a landslide in July 2021.

CLIENT'S CHALLENGE

The Panhala Waghbil road which had failed, was the only connection to the historical fort and the town situated surrounding it. Therefore, its repair was vital. Being an archaeological site, any reconstruction of the slope which would affect the actual fort structure was not allowed. Sluice drain from the lake on the hilltop and roadside surface drain needed to be accommodated in the repair scheme. Site accessibility was also a big challenge.

TENSAR SOLUTION

A multi-tiered reinforced soil slope featuring the SierraScape system was proposed by Tensar and it represented an excellent solution from a technical, economical and construction standpoint. The lower cost and rapid construction of the SierraScape system, along with the simple construction approach provided significant cost savings when compared to traditional forms of construction.



Slope failure cut off the only access to the historical fort and impaired the road which required rapid construction solution to reduce downtime

PROJECT BACKGROUND

Panhala also known as “Panhalgad” is located in the Sahyadri mountain range, 20 km northwest of Kolhapur city in the state of Maharashtra, India. Panhala is a historical fort and an important tourist attraction in the Kolhapur district. In July 2021, Panhala and the surrounding region was subjected to heavy downpour for several days which caused a huge inflow of runoff. There were three sluice outlets coming out of the Sadoba lake located on the hilltop which discharged the water in the valley passing through the slope body. The insufficient or choked drainage systems had caused the inflow to saturate the slope fill. The primary reason for the road slope failure was attributed to the ingress of rainwater and insufficient drainage arrangement. Public Works Department’s officials approached Tensor for an economical and proven solution for the rehabilitation works.

Main contractor

Sopan D. Patil Engineers & Contractor

Consultant

Design Circle Office,
Maharashtra PWD

Client

Public Works Department
(PWD), Kolhapur

REINFORCED SOIL STRUCTURE’S CROSS SECTION

