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CASE HISTORY

Ref. No.: CH/17/06/V-09-17-28	**Year:** 2017-18
Name of the Work: Rockfall Mitigation Works and Soil Nailing in Tumkur	
Client: Sadbhav Engineering Pvt Ltd	
Proof Consultant: LASA/NHAI	
Site Address: NH209 near Tumkur, Karnataka	
Type of Work: Hydro seeding to enhance natural vegetation, Rockfall Mitigation Works and supported by Rock fall Mitigation and Subsequent Nailing.	
Start Date: December 2017	**Completion Date:** February 2018
Value of Work: Rs.41,97,027	
Nature of work:	To make road accessibility convenient and considerably easy the geometric alignment of road was passing through a hill cut with reference to keep the surrounding ecological system in mind it was proposed to provide hydro seeding in locations to enhance natural growth of vegetation. In the central portion of curve Rock fall Mitigation were required and supporting soil nailing was carried out in order to stabilize the slope and also to control erosion of soil in the vegetation growth area. The site was located at Jempanhalli village on NH209 near Tumkur, Karnataka. Hydro seeding technique was used to spread mulch of two composite naturally enhancing mediums as under. High performance flexible growth medium (HP-FGM) which is 100% biodegradable, composed of 100% recycled , thermally refined virgin wooden fibers, crimp interlocking biodegradable fibers , mineral activators and wetting agents including high viscosity colloidal polysaccharides crossed linked biopolymers and water absorbents along with standard perspective agronomics formulations such as fertilizers, extended term dyes, soil Ph modifiers, bio stimulant materials and seeds which were hydraulically applied for faster growth of vegetation. Biotech soil media (BSM) a combination of thermally refined

	bark and wood fibers with appropriate blend of biopolymers, bio char, and sea weed extract, humic acid, endomycorrhizae and other beneficial constituents. All BSM blends were naturally derived and renewable and engineered to optimize moisture retention, growth and establishment of vegetation. These hydro seeding components were used specifically keeping in perspective the natural enhancement and growth of vegetation. Before application of hydro seeding drilling of Soil nailing was carried out. The soil nails were located in strategically designed positions in order to hold in position turf reinforcement mat (MacMat-R) as it proved to be more sustainable to control soil erosion than compared to other conventional methods. The depth of hill cut to be treated was about 19m vertical. This location was prone to rock fall zone hence needed simple drapery protection system stabilized with soil nails. The project was completed within one month including all the closures.

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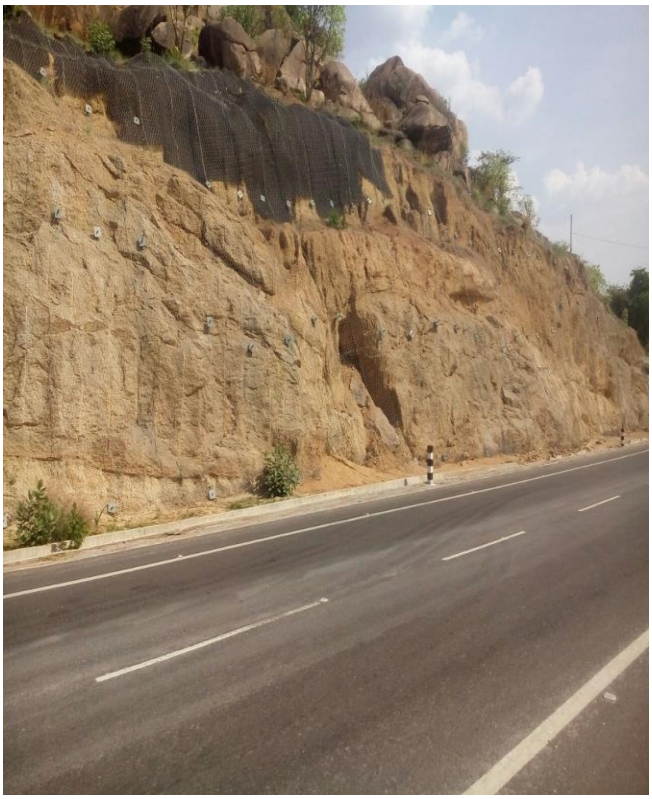
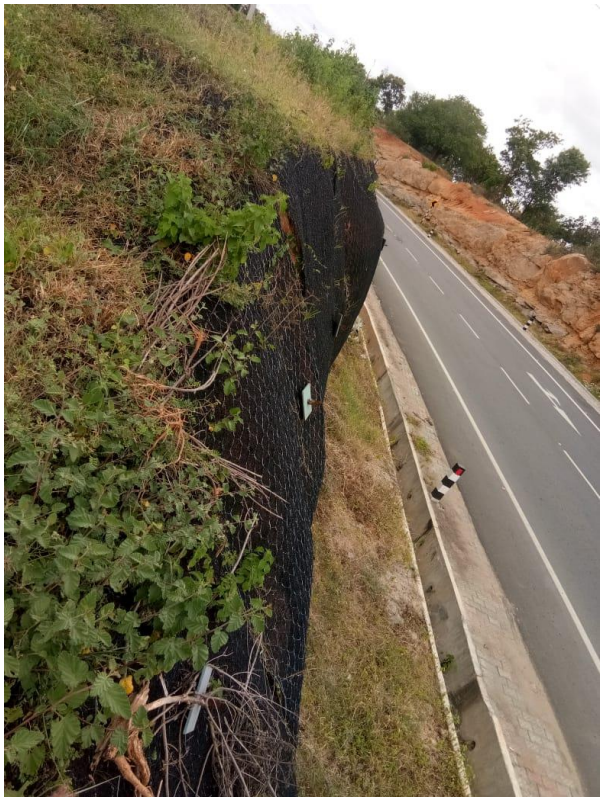
Hydro seeding to enhance natural vegetation, Rock fall Mitigation Works and supported by Soil Nailing





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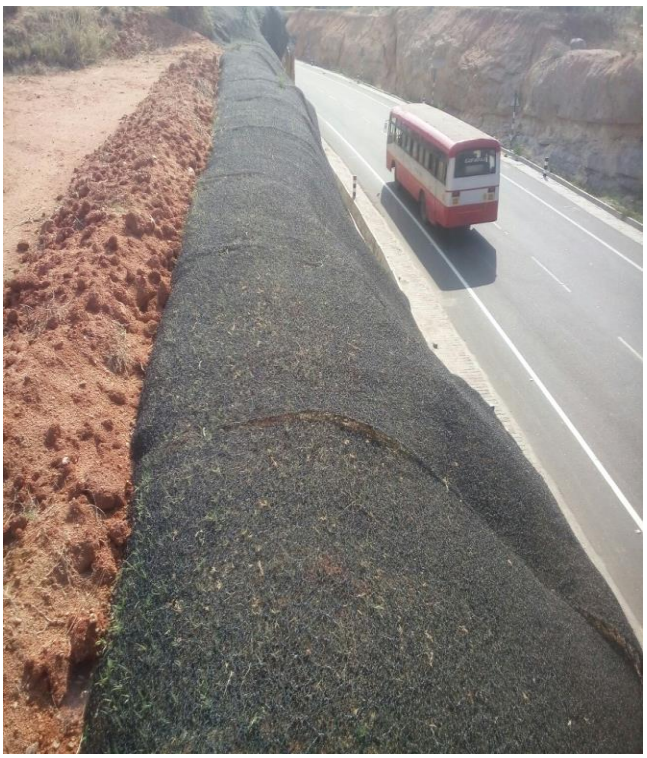

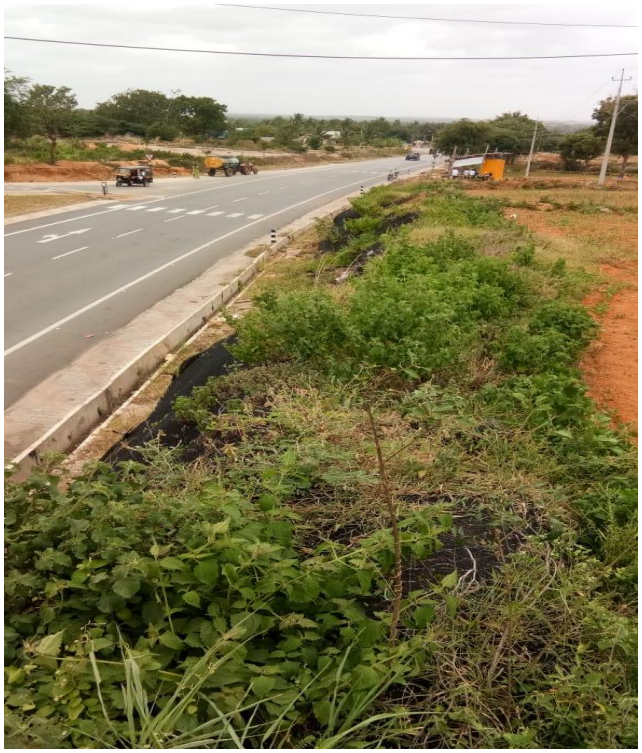

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BEAUTY OF HYDRO SEEDING

COMBINATION OF ROCK MITIGATION AND HYDRO SEEDING