

WALTHAM HIGH SCHOOL
WALTHAM, MA, U.S.A.

Slope Protection

Problem

Due to limited real estate locations and the necessity of urban development, new constructions are often being built near new and existing rock slopes which are inherently prone to rockfall. Such is the case for the new Waltham High School in Waltham, MA.

Designed to accommodate 1,830 students, a site expansion was needed to accommodate the new building. This created a 120ft high rock wall behind the building, which represented a serious rockfall risk to the students and faculty.

Solution

Based on the rock wall's height, geotechnical characteristics and the proximity of it to the school, a pinned drapery solution was the recommended method to address the hazard. The design accounted for more than 100,000 sq. ft. of Maccaferri's high strength composite mesh: SteelGrid HR30P used in combination with around 2000 anchors. The SteelGrid HR30P product consists of a high strength PVC coated composite cable mesh with high tensile cables longitudinally interwoven into a double twisted steel wire mesh every 30 cm. These cables are inserted into the mesh during fabrication, reducing manufacturing costs and improve the performance of the mesh. The interwoven cables provides the mesh with extra strength and better distribution of load from the anchors points.

The PVC coating provides the mesh with the ability to blend with the rock underneath creating a aesthetic pleasing solution. For this particular project, a black color for of the coating was the architect's choice to blend the solution with the igneous rock background.

Maccaferri worked closely with Maine Drilling & Blasting to increase the efficiency on the installation of the proposed solution.

This project was conducted in many phases and ended on fall of 2022, and both the client and architect are pleased with the result.

The black coloring of the mesh blends it perfectly with the background reducing its visual impact.

Client: CITY OF WALTHAM, MA

Designer / Consultant: Maccaferri Inc.

Contractor: MAINE DRILLING & BLASTING.

Products used (Qty.)

- Macarmour & Steelgrid 2000 anchors

Date of construction: 01/2022 - 10/2022

[Google Maps](#)

[Google Earth](#)



figure 3 construction site



figure 2 meshed slope



figure 1 mesh blending with slope background