

ROCKFALL PROTECTION SOLUTION AT NGAU CHI WAN PARK NGAU CHI WAN, WONG TAI SIN DISTRICT, KOWLOON, HONG KONG

Dynamic Barriers

Problem

Ngau Chi Wan Park is located at No. 71 Fung Shing Street, Ngau Chi Wan, Wong Tai Sin District, Kowloon. Formerly a landfill site, the Park started to be constructed in late January 2008 in two phases and was finally completed in mid February 2010. The Park occupies an area of about 4 hectares. The Park is honored the 2010 Asian Townscape Awards by the UN-Habitat Regional Office for Asia and the Pacific and Asian Habitat Society.

The park is mostly surrounded by steep hill slopes which poses high potential for rock fall hazards to occur. The authorities required a system that fulfills the following requirements:- [1] mitigate the rock fall hazards [2] solution that blends with the greenery [3] a system that requires minimal maintenance and repair upon rock fall impact.

The contract to construct the park was awarded to Able Engineering Co. Ltd. which in turn is required to propose the rockfall hazard mitigation solution for the authorities approval.

Solution

Maccaferri is involved in the project since preliminary design stage up until handover of the dynamic barriers to the client.

The accepted proposal involves construction of dynamic barriers at the toe of the slope for complete capture of rockfall debris, ease of construction and maintenance works throughout the barrier lifespan. The impact energy assessed from rockfall trajectory simulation indicates that the barrier capacity should be minimum 2,000kj to 3,000kj.

Maccaferri dynamic barriers are proven to have low maintenance cost due to durability of the system to be withstand multiple impacts and only damaged components needs to be replaced after assessment by a competent person have been carried out.

Client: Architectural Services Department (ArcSD)

Contractor: Able Engineering Co. Ltd.

Products used (Qty.)

- Dynamic Barriers	E:2,000kj & 3,000kj
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Date of construction: 06/2009 - 08/2009



Installation of dynamic barrier in progress (view from downslope)



Installation of dynamic barrier in progress (view from downslope)



Complete installation of dynamic barrier (view from downslope)



Complete installation of dynamic barrier (view from downslope)