On the slope protection measures - Japanese Experiences -

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Abstract

Civil engineering community is not fully aware that man-made slope forms an important part of infrastructure and a vital asset to society. It is rare that well-documented database for existing man-made slopes exists.

Slope protection measures are a multi-disciplinary field, ranging from non-mechanical measures such as vegetation to solid reinforcement measures such as anchoring. In between shotcrete is widely adopted in practice as a slope protection measures. Proper selection of plant for vegetation needs a vegetation specialist. Slope stability analysis is predominantly carried out by geotechnical engineers. Design of shotcrete on slope is often a subject for concrete engineering.

This paper presents case histories of slope protection measures in Japan. The first group of case history focuses on restoration work of slope failed due to earthquake with various slope protection works, demonstrating current design and construction practice in slope protection work in Japan.

The second group of case history is related to maintenance. Japanese infrastructure ushers in the age of maintenance, including slope protection works. A research group recently issues a guideline for maintenance and repair of slope protection works, including the concept of risk ranking and suggested inspection items. This paper presents selected case histories of maintenance and upgrading slope protection work.

Fig. 1 Typical slope protection work

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References

Research Group of Construction Technology for Slope Maintenance and Repair (2020) Guideline for maintenance and repair of slope protection work,98p. (in Japanese)