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SLOPE INSTABILITY AND CONSTRUCTION DAMAGES AT MERCANTILE MARINE ACADEMY CHITTAGONG DISTRICT, BANGLADESH

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ABSTRACT

Slope instability and accompanying civil construction damages in Mercantile Marine Academy, Juldia area, Chittagong district were investigated from 2nd to 31st July, 1978 on the request of Bangladesh Public Works Department.

Siltstone of Neogene age, dipping at 5° to 11° to the N 40° to 50° E is exposed in the area. Hill slopes are covered by 1 to 2½ feet thick colluvial soils whereas alluvial soil are present in board depression in between hills.

Landslopes in the investigated area are differentiable into upper moderate to steep slope area (more than 9° slope) and lower gentle to moderate slope area (less than 9° slope).

Creep and landslide, these two types of slope instability phenomena are causing slope failures which are responsible for most of the construction damages in the area. Differential settlement, shrinkage and swell are also causing some damages in minor scales. Instability phenomena are mostly confined to slopes having inclination above 9°. The two major contributing factors to slope instability are slope steepness and rainwater infiltration inside slope materials.

Remedial measures must include stoppage of disturbance on slopes as far as practicable and development of judicious surface and subsurface drainage to stop infiltration of rainwater.