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**A STUDY OF SOIL WEATHERING PROFILES IN
DETERMINING GEOTECHNICAL PROBLEMS
IN THE URBAN AREA OF KANDY**

A PROJECT REPORT PRESENTED



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ABSTRACT**A STUDY OF SOIL WEATHERING PROFILES IN DETERMINING
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BOARD OF STUDY OF ENGINEERING GEOLOGY AND HYDROGEOLOGY

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Prediction of geotechnical problems is important for the prevention of loss of life and reduce damage to sites of economic importance. Basically the geotechnical problems could be identified by studying principal soil types which have had the greatest impact on geotechnical work. Hence the main objective of determining geotechnical problems could be achieved by studying principal soil types. In fact especially in hilly areas this study could easily be carried out by studying soil weathering profiles. The study area is confined to the urban area of Kandy which is almost a hilly area and surrounded by part of the river, Mahaweli. Soil profiles located within the area were taken into consideration and they were marked on the Kandy city map prepared by Survey Department, Sri Lanka while taking pictures of those soil profiles, made investigation to understand their formation, texture, structure and strength at different sites.

The formation pertaining to rock weathering was obtained based on the geological map prepared by the Geological and Mining Bureau, Sri Lanka. The enhancement of understanding those properties was conducted by ascertaining and comparing them with the results of engineering behavior of soils in few of those sites already obtained by Soil Laboratory of Engineering Faculty of University of Peradeniya, Sri Lanka. The results indicated a fair comparison with the properties obtained under investigation of soil profiles. Apart from this activity, in order to understand the impact of the major geotechnical problems of occurring slope failures, soil profiles of a few "Landslide hazardous" areas in the other part of the country were investigated and it was found that the problem is less likely to occur in the urban area of Kandy than in those areas. However possibility of a hazardous landslide though rare, in a extreme rain fall condition may not be ruled out. Thereafter the study area was separated into 4 zones according to the condition of soils. In fact this nature is clearly revealed when the Aerial Photograph of Kandy is observed. Finally the results concluded that the frequency of geotechnical problems in the range of Primrose hill, Kandy view Garden, Bahirawakanda, Udawattakela, Dharmarajah hill, Bogambara confined to zone 1 and 2 are higher than in the rest of the area where existing soils can be used for any construction work without strengthening them, excessively.