

GEOTECHNICAL MAPPING METHODOLOGY OF URBAN AREAS IN SOUTHERN BRAZIL

1Davison Dias, R., 1Trevisan Santos, G., 1Universidade Federal de Santa Catarina, Florianópolis, Brasil

The thick weathering profile of tropical soils and great variety of brazilian soil types required the development of a methodological approach to define soil classes, suitable for geotechnical studies of large areas. The paper presents the methodology being used in southern Brazil to evaluate geotechnical units and their geomechanical behavior. It was applied to geotechnical mapping of northern Rio Grande do Sul, Porto Alegre, Novo Hamburgo, Campo Bom and Porto Alegre metropolitan area. Presently it is being adopted in Santa Catarina state and Curitiba city. First the available geological and pedological maps are analyzed at the office. Based on the characteristics derived from these maps a third chart is prepared: Evaluation of Geotechnical Units, which will direct the field studies necessary for sample aquisition and detailed definition of the limits between geotechnical units available borings with SPT tests are also analyzed. The units in the final Geotechnical Maps are classified by six characters XYZxyz, where the capital letters correspond to the superficial soil horizons pedologically classified and the small caps correspond to soil horizons with bed rock relict structures, according to geological classification.