

SECTION 600 GEOTECHNICAL ENGINEERING

601 INTRODUCTION

The first part of this section is intended to give an overview of what is required in a geotechnical report used for roadway and structural design. It does not cover the specific methods of testing, sampling or analysis required. Standard SI practices and the “Municipality Roads Section Guidelines for Subsurface Investigations for Civil Engineering Purposes” current revision should be used for guidance in this area.

The second part of this section outlines the pavement design procedure.

602 GENERAL

The Consultant shall obtain approval from the Road Section, Traffic Police and any other concerned Agencies prior to commencing a geotechnical investigation.

Generally a geotechnical investigation is carried out in two phases. The initial phase consists of preliminary drilling and testing to gather enough project specific information to advance the roadway and structure design. The final stage, if required, is performed for design features requiring specific geotechnical recommendations.

603 GEOTECHNICAL REPORT

Once the preliminary horizontal and vertical alignment and structure locations have been defined, the engineer will prepare a preliminary subsurface exploration and testing program. Providing information such as foundation types, safe slope angles and preliminary pavement thickness allows the initial design to be advanced and refined. The initial program also identifies the type, severity and extent of any geotechnical design problems.

The geotechnical report should consist of results and recommendations from the initial drilling and testing program as well as any information from prior investigations. Prior investigations and data

may be obtained through the Abu Dhabi Municipality Road Section as well as other Municipality and Government Agencies.

The geotechnical report is to contain the information shown in Table 600.01 as a minimum.

Table 600.01 GEOTECHNICAL REPORT <i>Table of Contents</i>	
• Introduction	
• Location Map	
• Proposed Construction	
• Previous Information and/or Investigations	
• Field Investigation And Laboratory Testing	
• Include Boring Location Plan	
• Site and Subsurface Conditions	
• Climate	
• Significant Geotechnical Features	
• Regional Geology and Seismicity	
• Analysis and Recommendations	
• Retaining Wall Recommendations	
• Excavation and Ground Compaction Factors	
• Expected Settlements	
• Groundwater Observations	
• Allowable Foundation Loads	
• Foundation Recommendations	
• Borrow/Material Source	
• Slope Stability	
• Soil Corrosivity to Buried Structures	
• Subgrade Support for Pavement Design	
• Topsoil Plating Recommendations	
• Treatment for Problem Soils	
• Any Relevant Geotechnical Aspects Affecting Future Performance of the Works	
• Appendices	
• Boring Logs	
• Summary of Test Results	
• Other Pertinent Information	

Pertinent information should be included in the appendices. In certain circumstances, such as a major bridge design or other major structure, an additional report may be required to define special geotechnical aspects of foundation design.