

CHAPTER 1

1.0 INTRODUCTION

This manual has been prepared to serve as a guide and source of materials for individuals involved in various geotechnical investigations for INDOT and transportation related projects within the state of Indiana.

1.1 PURPOSE

The purpose of this manual is to provide guidance to geotechnical engineers for consistent design of highway structures such as subgrades, embankments, culverts, bridge foundations, etc.

1.2 SCOPE

This manual provides background information in geotechnical engineering and design. It also includes guidance for performing geotechnical investigations, preparation of design recommendations, and submittal of the Geotechnical Report. It is based on past Indiana Department of Transportation (referred to herein as “INDOT” or “the Department”) experience, the experience of other groups and agencies with similar requirements, and the current state of the practice in geotechnical engineering.

The intent is that this manual will stand on its own; however, to avoid unnecessary duplication, reference is often made to other available manuals and publications of the Department, as well as other references which are readily available. Additionally, since it is impractical to be totally encompassing, and since the state of the practice is continually evolving, some documents are simply referenced as needed.

1.3 RESPONSIBILITY

Generally, the Engineer will apply the presented information under the administration of the Manager, Office of Geotechnical Services. Required level of administration from the Office of Geotechnical Services is dependent on road classification. State and National Highway System (NHS) road projects are required to be supervised by Office of Geotechnical Services. Projects that are not on State or NHS routes may be reviewed and supervised if requested by the Local Public Agency (LPA). Monitoring of this manual’s use will be through the review of Design Recommendations and Reports by the Geotechnical Division, as they are routinely submitted during the design of projects, and by the performance of completed projects following construction. In this respect, the Manager, Office of Geotechnical Services of the Division of Engineering Services and Design Support will be responsible to ensure the compliance of the manual for the report prepared by consultants or in-house.

1.4 REVIEW AND REVISION

Comments and/or recommendations, which may ultimately lead to revision of this manual, should be submitted in writing to the Manager, Office of Geotechnical Services. The comments and/or recommendations will be reviewed by the Geotechnical Division. It is anticipated that updates will be developed and distributed by the Geotechnical Division through memoranda as required; more complete reviews will be performed and revisions issued approximately every 3 to 5 years. This manual covers subject areas such as:

- Geotechnical Investigation, and Preliminary Survey
- Geology and Pedology
- Laboratory and Field Testing
- Geotechnical Analyses
- Design Recommendations
- Geotechnical Reports