

## CHAPTER ONE

### 1.0 INTRODUCTION

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This manual has been prepared to serve as a guide and source of materials for individuals involved in various Geotechnical investigations for INDOT or INDOT related projects.

### 1.1 PURPOSE

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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

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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

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Generally, the Engineer will apply the presented information under the guidance and supervision of the Manager, Office of Geotechnical Engineering. Monitoring of this manual’s use will be through the review of Design Recommendations and Reports by the Geotechnical Section, 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

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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 Section. It is anticipated that updates will be developed and distributed by the Geotechnical Section 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 Analysis
- Design Recommendations
- Geotechnical Reports