

Geotechnical Report
Design-Build Geotechnical Study
SR 222 over I-40
Project No. 24001-0147-44
Pin No. 114219.00
Fayette County

Summary

The Geotechnical Engineering Section has completed a preliminary site investigation and literature review for the referenced design build project. The proposed project consists of widening and improvements along State Route-222 both north and south of Interstate 40. Replacement of the existing overpass and modifications to the alignment of exit ramps from Interstate 40 to State Route 222.

The literature review included published geologic and topographic maps and geotechnical reports prepared for TDOT for previous improvements to I-40 near the proposed project area. The relative geotechnical reports are included in this report as an attachment.

In summary, there are no geotechnical and or geologic conditions along the alignment that would restrict the implementation of the improvements. A thorough geotechnical investigation will be required prior to final design. This document and the attached geotechnical report is being provided for informational purposes only and are not warranted to be comprehensive, complete or correct and do not constitute a complete and accurate geotechnical investigation of the proposed project. This report and the attached information should be sufficient information for the design/build teams to determine what amount of additional geotechnical information would be required to design the geotechnical aspects of the project.

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Introduction

The Geotechnical Engineering Section has completed a preliminary site investigation and literature review for the referenced design build project. The proposed project consists of widening and improvements along State Route-222 and modifications to the alignment of the four ramps. Proposed ramp realignment includes the installation of one retaining wall. The State Route 222 bridge over Interstate 40 will also be replaced.

Geology, Soils, and Site Conditions

The site is located within the Gulf Coastal Plain province of West Tennessee which is characterized by Loess deposits. Soils in the area are composed of alternating layers of clay, silt, sand, and gravel that grade into one another. Rock is not present in the area.

Drilling requirements for the project will include standard auger borings to determine soil type with the collection of T-99 Proctors and CBR samples for embankment construction and slope stability analysis. Additional drilling in order to obtain both undisturbed (Shelby Tubes) and split spoon (SPT) samples will be needed for the retaining wall and bridge foundation investigation. For locations west of the Tennessee River Divide (Region 4), bridge foundation drilling should include investigation of embankment stability, liquefaction, soil acidity, and the feasibility of using steel HP or Pipe piles.

Previous Geotechnical Report Prepared for TDOT In The Project Area

A geotechnical report was prepared for the Solar Farm Information and Welcome Center in Haywood County, Tennessee which lies approximately 1.6

miles east of Exit 42. This report is being provided for informational purposes only and do not purport to provide a complete geotechnical assessment of the project area. **A thorough geotechnical investigation will be required prior to final design.** This report and the attached information should be sufficient information for the design/build teams to determine what amount of additional geotechnical information would be required to design the geotechnical aspects of the project.

Any questions concerning this report should be directed to the Geotechnical Engineering Section.

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MLO:JC:
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