Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 09/11/2016  PROJECT AREA: Maintenance

TITLE: Development of Metal Pipes Corrosion Maps for Arkansas

PROBLEM STATEMENT:
Metal culverts or pipes used along or across the Arkansas highway system can corrode over time. The rate of metal corrosion varies around the AHTD districts and it depends on various material properties and environmental conditions, which include soil type, ground water table, rainfall, acidity level of soils, etc. Catastrophic incidents such as a complete wash out of metal culverts along with roadway can be prevented if proper metals can be selected during the construction project. A user friendly corrosion map help to reduce such catastrophic damage and save human life and properties. Also, selecting less expensive metals in less corrosive areas can be cost effective to the AHTD. The objective of this study is to develop a user friendly corrosion map for all AHTD districts by analyzing relevant historical soil, materials and environmental data. Required mathematical models followed by user-friendly maps will be developed to accomplish the goals of this study.

OBJECTIVES:
1. Analyze soils, materials and environmental data from historical and new construction projects.
2. Develop a user friendly corrosion map for Arkansas

FORM OF RESEARCH IMPLEMENTATION:
1. Report containing technical findings and user-friendly corrosion maps
2. Train users how to use the corrosion map.

REVIEWER: Davin Webb  Estimated Project Duration: 24

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Standing Subcommittee Ranking  Advisory Council Ranking  Statement Combined with Statement Number(s)

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