Arkansas State Highway and Transportation Department
Transportation Research Committee

RESEARCH PROBLEM STATEMENT

DATE: 08/23/2010

PROJECT AREA: Design

TITLE: Evaluation of Environmentally Friendly Culvert Designs

PROBLEM STATEMENT:

Conventional culvert designs can be costly and a detriment to the environment when used in environmentally sensitive areas. In many streams in Arkansas stream mitigation is required when conventional culvert designs are used increasing the cost of the project. Conventional culvert design can also have adverse effects on stream function and habitat. Bottomless arch culverts and partially buried culverts could decrease the need for stream mitigation, decrease maintenance cost, and preserve aquatic habitat. The question then becomes are these environmentally friendly culvert designs economically feasible and reliable as conventional culvert design.

OBJECTIVES:

1) Conduct a literature search to document existing knowledge and use regarding environmentally friendly culvert design.
2) Locate and monitor any existing bottomless and partially buried culverts in Arkansas.
3) Compare the installation costs and maintenance cost of bottomless arch and partially buried culverts with conventional culverts.
4) Determine which culvert type is more economically feasible and environmentally sound.

Form of Research Implementation:

Successful completion will yield : (1) An initial assessment report regarding the suitability and desirability of bottomless arch and partially buried culverts. (2) Establish guide lines and criteria on the use of bottomless and partially buried culverts. (3) Draft construction specifications - including QC/QA requirements.

Total Estimated Cost and Project Duration: **$** 80,000 **and** 24 **months.**

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ADVISORY COUNCIL RANKING	TRC RANKING	Statement Combined with Statement Number(s)
4		