

**DESIGN,  
IMPLEMENTATION &  
MAINTENANCE  
CHALLENGES FOR A ROAD  
COMMISSION**

October 14, 2011  
Reducing the Impacts of  
Road Stream Crossings and Dams



**THE ALLEGAN COUNTY ROAD COMMISSION (ACRC) IS RESPONSIBLE FOR 1,797 MILES OF ROAD, 146 BRIDGES AND AN ESTIMATED 4,000+ CULVERTS**

# DESIGN CHALLENGES

- EXPLAINING TO THE PUBLIC THE NEED FOR PERMITS AND DESIGN REQUIREMENTS
- FINDING A COST EFFECTIVE AND SAFE SOLUTION FOR REPLACEMENT WITH A PROPERLY SIZED AND INSTALLED CULVERT
- COMPLETING THE PROJECT IN A TIMELY MANNER

# DESIGN CHALLENGES

- THE GENERAL PUBLIC AND MANY LOCAL GOVERNMENT OFFICIALS TYPICALLY DON'T KNOW THAT MOST CULVERT REPLACEMENTS REQUIRE PERMITS OR WHAT THE DESIGN CRITERIA IS FOR CULVERT REPLACEMENTS.
- IN ALLEGAN COUNTY THE ROAD COMMISSION FUNDS CULVERT REPLACEMENTS ON PRIMARY ROADS AND CULVERTS LESS THAN 36" DIAMETER ON LOCAL ROADS. THE TOWNSHIPS ARE RESPONSIBLE FOR CULVERTS 36" AND LARGER. BRIDGES ARE FUNDED WITH STATE AND FEDERAL MONEY MATCHED BY THE ACRC.
- IT CAN BE DIFFICULT TO EXPLAIN WHY A PROPERLY SIZED REPLACEMENT CULVERT MAY BE SUBSTANTIALLY LARGER THAN THE EXISTING STRUCTURE.

# IMPLEMENTATION CHALLENGES

-IT LOOKS GOOD ON PAPER, BUT IS IT CONSTRUCTABLE AND WILL IT FUNCTION AS DESIGNED?

- THERE ARE ALWAYS ISSUES TO CONSIDER DURING CONSTRUCTION DUE TO NEW INFORMATION, EXTRA COSTS OR CONFLICTS WITH EXISTING FACILITIES IMPACTED BY THE PROJECT.

- SOMETIMES THE NEED TO COMPLETE THE PROJECT OUTWEIGHS THE IDEAL TIME FOR CONSTRUCTION.

# MAINTENANCE CHALLENGES

- KNOWING WHERE YOUR STRUCTURES ARE.
- HAVING THE RESOURCES TO PROPERLY MAINTAIN YOUR SYSTEM.

# OVERVIEW

- THE BIGGEST CHALLENGE IN DESIGN, IMPLEMENTATION & MAINTENANCE OF ROAD STREAM CROSSINGS IN MICHIGAN RELATES TO FUNDING. WITH REDUCED FUNDING LEVELS COMES REDUCTIONS IN STAFFING AND THE RESOURCES NECESSARY TO BE PROACTIVE IN MAINTAINING OR REPLACING ROAD STREAM CROSSINGS WHICH IMPACT THE SAFETY OF THE ROADWAY ALONG WITH ENVIRONMENTAL CONCERNS LIKE FISH PASSAGE, HABITAT AND WATER QUALITY. MANY TIMES WE'RE FORCED TO WAIT UNTIL THERE IS A PROBLEM THAT CAN'T BE IGNORED BEFORE IT IS ADDRESSED.

# QUESTIONS

## CONTACT INFORMATION

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