



RESEARCH PROJECT CAPSULE [16-5GT]

March 2016

TECHNOLOGY TRANSFER PROGRAM

Corrosion Map for Metal Pipes in Coastal Louisiana

JUST THE FACTS:

Start Date:
January 25, 2016

Duration:
15 months

End Date:
April 25, 2017

Funding:
TT-Fed/TT-Reg

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POINTS OF INTEREST:

*Problem Addressed / Objective of
Research / Methodology Used
Implementation Potential*

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PROBLEM

Transportation agencies often allow metal pipes as an option for drains under or along roadways. Metal pipes can corrode over time due to environmental conditions (corrosive nature of surrounding soil, high water table, saltwater intrusion, tidal flow, hurricane surge, etc.). It has also been observed that different metals corrode at different rates under the same environmental conditions.

Environmental conditions have led to a policy of disallowing the use of metal pipes for new drainage installations in DOTD District 02, a mostly coastal region including New Orleans. Portions of other southern DOTD districts have similar environmental conditions. Delineating "corrosion" zones within Louisiana may ensure better selection of durable material for drain pipes based on environmental conditions.

OBJECTIVE

The objective of this project is to create a guidance document with maps that delineate zones where metal pipe is prone to increased corrosion due to environmental conditions. Results from this project will provide a logical rationale to support DOTD restricting the use of metal drainage pipe in certain areas.

METHODOLOGY

A detailed review of current practices in Louisiana and other coastal states will be conducted. The research team will study environmental conditions and have access to data from the DOTD District Laboratories. The research team will then develop a plan for delineating zones using appropriate supporting data, e.g., pH and resistivity of soils. Based on recommendations from the Project Review Committee, the plan will be accepted or revised. Once an acceptable plan is agreed upon, the research team will prepare a map with delineated zones.

IMPLEMENTATION POTENTIAL

This research will help DOTD better understand its options when making decisions about the use of metal pipes for drains under or along roadways.



Corroded metal pipes