



| UTC Project Information | |
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| Project Title | DEVELOPMENT OF INNOVATIVE TWO-LAYERED SYSTEM FOR UPGRADE OF STEEL CULVERTS (UHPC SHOTCRETE + SPRAYABLE SELF-HEALING CONCRETE) |
| University | Florida International University |
| Principal Investigator | Atorod Azizinamini, Ph.D., P.E. |
| PI Contact Information | aazizina@fiu.edu |
| Funding Source(s) and Amounts Provided (by each agency or organization) | IBT-ABC-UTC funds : \$42,500 Match funds : \$42,500 |
| Total Project Cost | \$ 85,000 |
| Agency ID or Contract Number | 69A3552348322 |
| Start and End Dates | January 1, 2025 - Active |
| Brief Description of Research Project | <p>This research proposes using Ultra-High-Performance Concrete (UHPC) shotcrete combined with sprayable self-healing concrete to upgrade steel culverts, addressing challenges related to aging, deterioration, and increased traffic. An accompanying project will also be carried out at IBT/ABC-UTC that will be complementing this project. Overall, the research results will accomplish the project vision and objectives.</p> <p>Many U.S. steel culverts are approaching the end of their service life due to corrosion, wear, and soil erosion, which can result in structural failure and significant environmental and economic impacts. This study aims to optimize effectiveness of sprayable UHPC by applying self-healing concrete mixtures, evaluate their mechanical and durability properties, and assess their combined performance when applied to steel culverts.</p> |
| Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here | The outcomes will be tracked and reported once they are identified. |

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| Impacts/Benefits of Implementation (actual, not anticipated) | The impacts will be tracked and reported once they are identified. |
| Web Links <ul style="list-style-type: none">• Reports• Project website | https://abc-utc.fiu.edu/development-of-innovative-two-layered-system-for-upgrade-of-steel-culverts-uhpc-shotcrete-sprayable-self-healing-concrete/ |