DRISI

CALTRANS DIVISION OF RESEARCH, INNOVATION AND SYSTEM INFORMATION

Research Notes

Partnered Pavement Research Center (PPRC) 23: Mechanistic-Empirical Design

Testing and including more materials in the Caltrans Mechanistic-Empirical (ME) standard materials library

Pavement

MAY 2024

Project Title:
Partnered Pavement Research Center (PPRC) 23: Mechanistic-Empirical Design

Task Number: 4200

Start Date: November 7, 2023

Completion Date: September 30, 2026

Task Manager:
Junxia Wu
Transportation Engineer
junxia.wu@dot.ca.gov

WHAT IS THE NEED?

The requirement for this task order arises from the dynamic nature of pavement design and the continuous evolution of materials and construction processes used by Caltrans. The mechanistic-empirical (M-E) method, implemented through the CalME program, allows for efficient adaptation to new materials, construction techniques, and ensures continuous improvement of the Standard Materials Library. The task is essential for staying up to date, accommodating changes, and providing designers with updated guidance for flexible pavement projects.

WHAT ARE WE DOING?

This task involves expanding the CalME Standard Materials Library to enhance flexible pavement design in California. This task builds on the work already completed in previous contracts and will continue to identify and fill the remaining gaps.

This task includes the following subtasks:

- Identification of gaps in the current CalME Standard Materials Library
- Materials sampling and testing
- Update the Standard Materials Library
- Maintenance of test tracking system
- Developing design guidance

Caltrans

DRISI provides solutions and knowledge that improves California's transportation system

WHAT IS OUR GOAL?

The goal of this task order is to expand and improve the CalME Standard Materials Library, specifically focusing on flexible pavement design in California. The main objective is to provide comprehensive and up-to-date information for pavement designers, enabling them to make informed decisions about selecting the most suitable materials for flexible pavement projects. Ultimately, the goal is to contribute to the ongoing evolution and efficiency of pavement design practices in alignment with Caltrans' mission.

WHAT IS THE BENEFIT?

This task order brings significant advantages to Caltrans by improving adaptability, efficiency, and performance in flexible pavement design. Through the expansion and update of the CalME Standard Materials Library, the agency gains access to up-to-date and comprehensive data. This not only facilitates informed decision-making but also results in cost savings and allows the integration of innovative materials and construction practices.

WHAT IS THE PROGRESS TO DATE?

As of May 2024, the research team has made the following progress:

- Continue looking for potential sampling projects and start sampling.
- Developing list of upcoming projects with recycled materials and plan sampling
- Continue adding new materials to the library as more data become available through various research projects.
- Continue addressing requests from laboratory and collaboration with the DIME team of METS.