

EXPERIMENTAL PROJECT WORK PLAN
EVALUATION OF CRAFCO MASTIC ONE® HOT APPLIED SEALANT

Location: Pondera County: Brady I-15 Interchange/Sollid Rd.:
Secondary 218 (RF 8.9-18.8)

Project Name: 9391000 Brady N&S (NB) and 9401000 Conrad-East

Project Number: IM 15-6(43)323 and STPS 218-1(11)0

Project Type: Pavement Crack Rehabilitation

Principal Investigators: Craig Abernathy; Experimental Project Manager (ExPM)

Technical Contact: Christie McOmber P.E.; Great Falls District

Objective

Evaluate the cost effectiveness, construction practice and durability of using polymer modified asphalt pavement repair (crack sealant).

Description

The work is applying a hot-applied asphalt pavement repair/crack filling mastic material on large, deflected transverse cracks on the Brady Interchange on-ramp, off-ramp and crossroad; and on the on large, deflected transverse cracks between mileposts 8.9 and 18.8 on the Sollid Road Secondary 218 in Pondera County.

The selected experimental feature, Crafcoc Mastic One (CMO); is designed for large cracks and distressed surface areas too small for re-paving. It is a hot-applied, pourable, self-adhesive ridged asphalt binder containing selected aggregate to ensure load bearing and skid resistant characteristics. It does not require compactions to achieve 100% density. Per the manufacturer's information; It is flexible and can withstand weather, traffic and thermal movement.

As stated, it is waterproof and provides an air-tight seal. It resists cracking, delamination and spalling and has a reported service life greater than 10 years.

Experimental Design

Deeper transverse cracks can deteriorate over time and affect the ride of the highway. When the fines get washed out below the crack and the edges begin to settle, repair could include pavement removal and replacement. On a pavement preservation project, this is cost prohibitive.

Support for the formal application as an experimental feature is based on information from MDT Maintenance which has used Crafcro Mastic One on their projects with positive results.

Labor and equipment costs for Mastic One may be less than normal crack sealing since the cracks do not have to be routed and traffic control is reduced; therefore actual lb./ft product applied and associated costs for both deflected and fatigue cracking is asked to be reported and added to the construction report when available.

This project will be to document the pavement prior to the CMO treatment. Crack preparation prior to application, Placement practice of the CMO and long-term visual documentation.

Evaluation Procedures

Research will document the installation for best practice and any installation concerns germane to the performance of the product. Additional site inspections may supplement the semi-annual inspections based on need.

Construction Documentation: Documentation will include information specific to the installation events during CMO placement.

Cost Analysis: TBD

Evaluation Schedule

Research will monitor performance for the duration of the project. This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction/installation report and final project report will be the responsibility of Research. A web page will be dedicated to display all reporting from the project.

2019: Installation/Construction Report

2019-2023: Semi-Annual Inspections/ Annual Evaluation Reports

*2024: Final Evaluation/Final Report

*The data collection and analysis phase of the project may be extended if the additional data may add value to the overall results of the project.

***Project Locations: Pondera County/Great Falls District**



- 9401000 Conrad-East/ STPS 218-1(11)0 - Secondary 218; Reference Point 8.9 and 18.8
- 9391000 Brady N&S (NB) - the 1-15 Brady Interchange on-ramp, off-ramp and crossroad

*All values approximate; not to scale