

MN. Experiences with Innovative Micro Surfacing

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MN/DOT Office of Materials

Topics

- Flexible Micro Surfacing
- Construction Joint Repair
- Having Fun!
- Work!

More Flexible Micro Surfacing



- Softer base asphalt
 - PG 64-22 normal
 - PG 48-34 used
- Higher AC content
 - 8.3% AC normal
 - 10.2% AC used

Findings

- Slower to crack than traditional Micro Surfacing
 - Did crack
 - Seems to self heal during warm weather
- Did not rut or flush



Future Efforts



- Change MN/DOT specifications
- Lower Softening Point
 - Current requirement 135°F
 - Possible to 128°F
 - Higher pen.
 - Current 40-90
 - Possible to 90- 150
 - Allow higher AC content
 - Use as a pre-overlay treatment

Construction Joint Repair





Equipment Modifications



Joint Repair



- I-494 in Twin Cities
 - ADT 140,000 to 150,000
- Total length each way 28,079' by 3 passes
- MN/DOT Type II (ISSA II)
- Estimated lbs/f 2.5
- Actual 3.6 lbs/f

Joint Repair

- Placement speed
 - Average +600'/minute
- Working hours
 - 11:00 PM to 5:00 AM
 - Full striping required before opening to traffic.
- Cost per Foot
 - Micro \$0.498
 - HMA patching \$4.83



Joint Repair



Fun!



- Fog sealing HMA shoulders
 - CRS-2pd 0.12 to 0.16 g/y²
- CRS-2pd is CRS-2p diluted 3 part emulsion to 1 part water
- Minimum residual 50% AC



Having Fun!

- Research effects that Rumble strips have on life of HMA

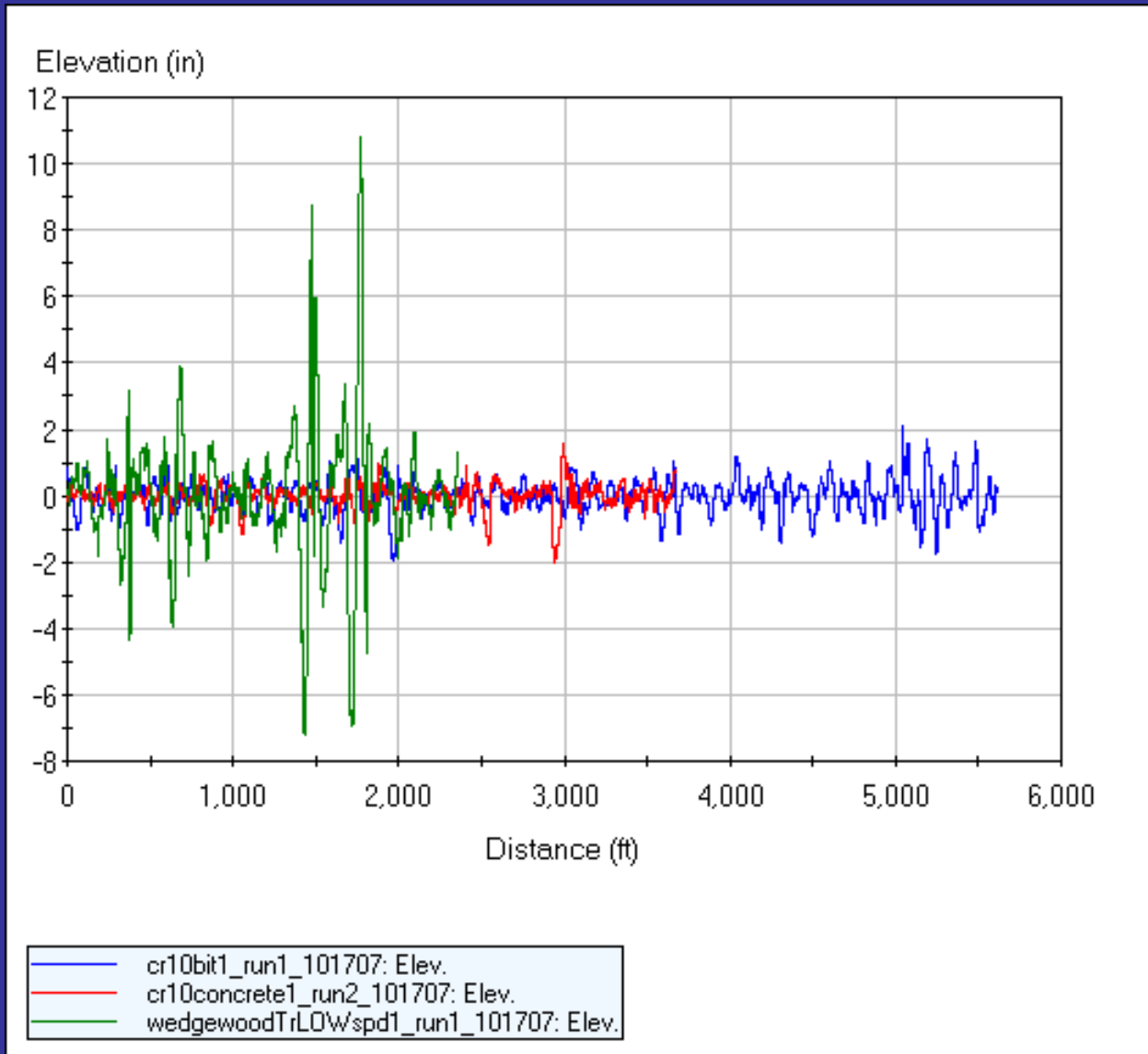


More Fun!

- Research effort into how to PM for Recreational Trails
 - Looking at current methods
 - Modified highway methods
 - New methods
- Working to develop an IRI rating system for trails



Much More Fun



Work!



Questions?



Thank You!

