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Background
Background

• Performance is function of quality & condition
• High quality prevents confounded outcomes
• Regionally appropriate materials, designs
• Verify designs using actual onsite stockpiles
• Same placement team at all south, north sites
• Utilized best practices & test procedures
• Successful placements at all south, north sites.
Thinlays
Thinlays

- Close cousins to the 2003 Mississippi thinlay
- Virgin is 70% stone screenings, 30% hard sand
- ≈6% total binder content, 80% virgin liquid
- 20% aged binder from 11% FRAP, 3% PCRAS
- Rigorous AC, gradation, volumetric analysis
- Broom existing surface (with, without mill)
- Reduced tracking emulsion tack at 0.10 GSY
- 94% core corrected nuclear gauge mat target.
Crack Sealing
Crack Sealing
Crack Sealing
Crack Sealing
Chip Seals
Chip Seals

- Vulcan (south), Martin Marietta (north) granite
- Ergon (south), Flint Hills (north) emulsions
- Quarry designs, onsite verifications by Paragon
- Vance Brothers placement contractor (Colas)
- Off section equipment setup, calibration
- Emulsion/chip rate determinations by NCAT
- Northern inspection team provided by MnDOT.
Chip Seals
Chip Seals
Micro Surface
Micro Surface
Micro Surface

- Regular calibration of micro paver is key
- We won’t place thinlays with printed tickets!
- Summer 2016 MnROAD test procedure trial
- Chute sample, roadside mixing, lab testing
- Oven moisture, furnace for residual binder
- Gradation of uncoated aggregate blend
- Draft test procedure submitted to ALDOT.
Micro Surface
Micro Surface
Micro Surface
Micro Surface
Micro Surface
Future
Future

- [http://www.pooledfund.org/Details/Study/627](http://www.pooledfund.org/Details/Study/627)
- Cost of PG18 is $50k/year for 3 years ($150k)
- More (public/private) sponsors, new sections
- Support for implementation of products
- Life extending & condition improving benefits
- Best practices & guide specifications
- Training, technical support, field projects.
THANKS!

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