



RAP CHIP SEAL

2 YEARS OLD

21 LBS/SY

0.32 GAL/SY



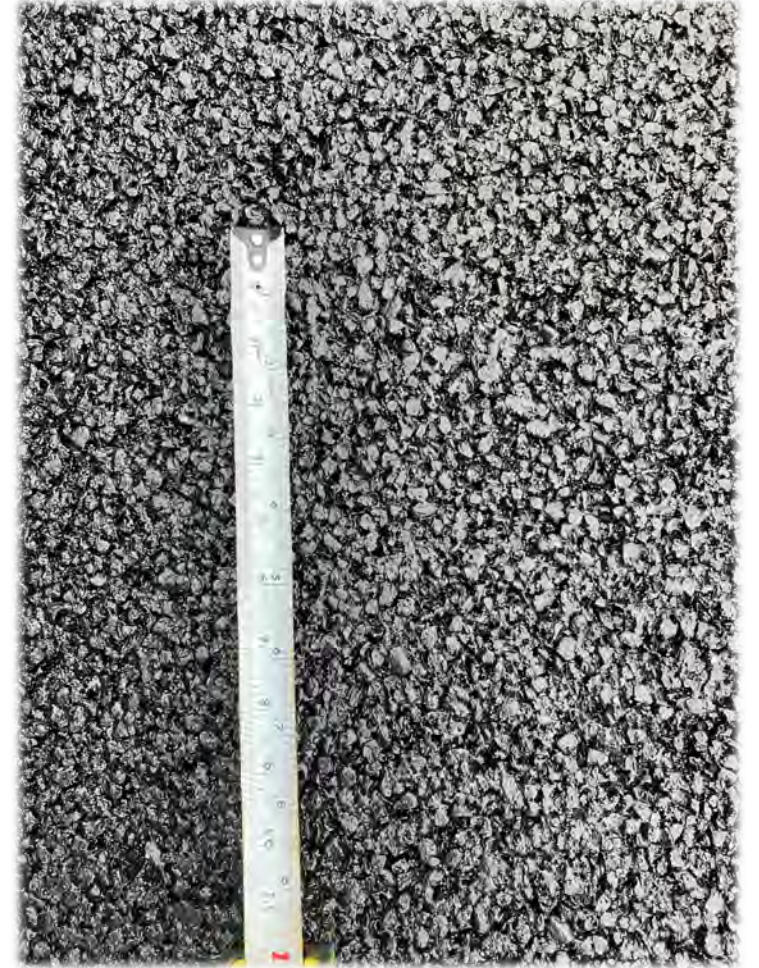
TEST SECTION PROJECT



2" FAA 43



4.75 mm Thinlay



Ultra Thin Bonded

ALL BISMARCK 1804 SECTIONS

- Evaluations:
 - Visual observations
 - Condition data collected with NDDOT's Pathway van
 - After evaluations, finding more “tools in the toolbox” to be used for pavement preservation practices.



Questions?

Tyler Wollmuth
Materials & Research - NDDOT

BMD Validation... What type of Project?



- Thermal Cracking a concern with an overlay
- Transverse Cracks reflect in year 1
- Picked a cement treated FDR with widening
- 4" HMA on 10" cement treated base

BMD STAKEHOLDER TEAM

- Knife River Materials
- Mayo Construction
- Border States Paving
- Northern Improvement
- Sundre Sand & Gravel
- Terracon
- Aaron Swan Labs
- NDDOT
- DAPA
- NCAT
- FHWA



STAKEHOLDER MEETING TOPICS

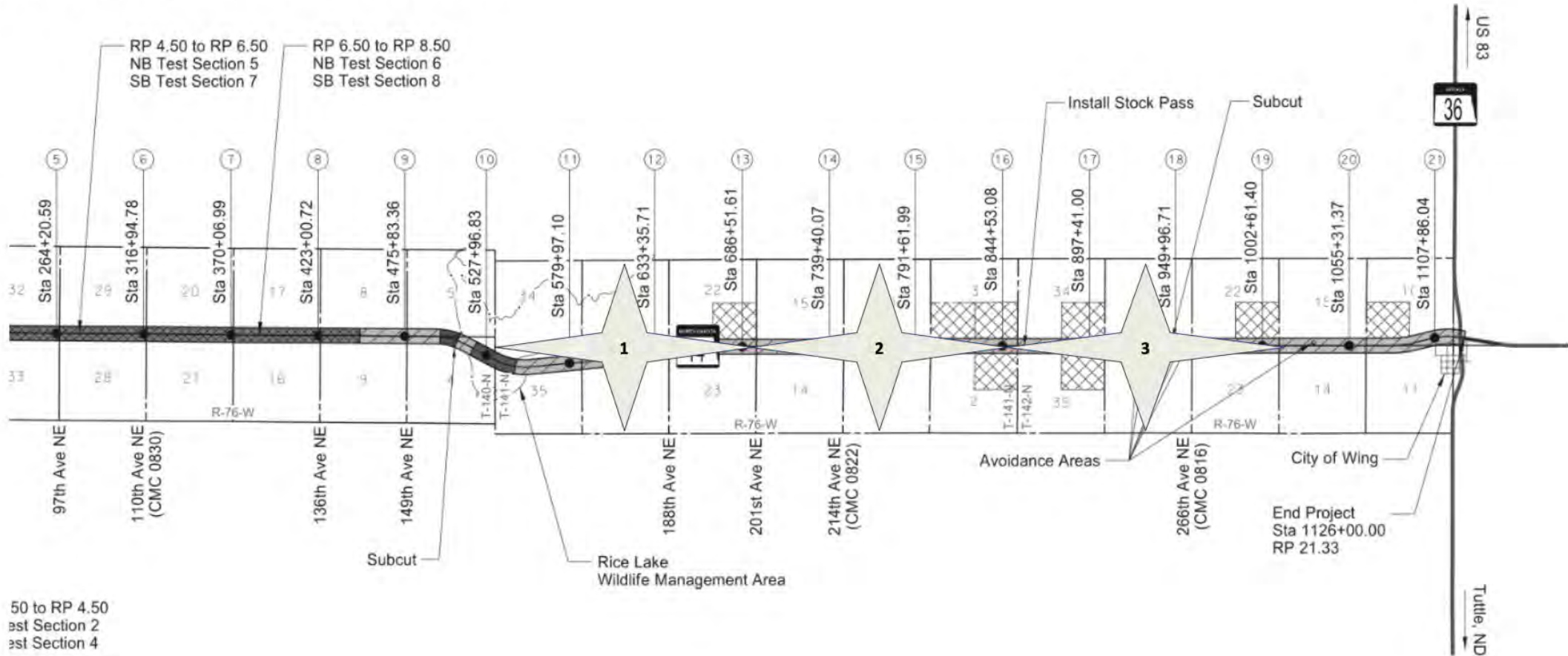
- Contractors asked for 1500 to 2000 tons of production before changing the mix
- Keep the variables to a minimum
- Portable plants typically only have 1 main liquid asphalt tank
- Crushing extra material to account for mix design variations would cost \$\$



8 TEST SECTIONS

- Each section is 2 miles in length
- 2 binder types, 58S-28 & 58H-34
- Vary the AC Binder content by 0.5% from optimum, add RAP in 2 sections
- 5.5%, 6.0%, 6.5%, 4.5%+RAP
- Same Aggregate gradation thru-out

Roller Test Sections



50 to RP 4.50
Test Section 2
Test Section 4

11 to RP 2.50
Test Section 1
Test Section 3

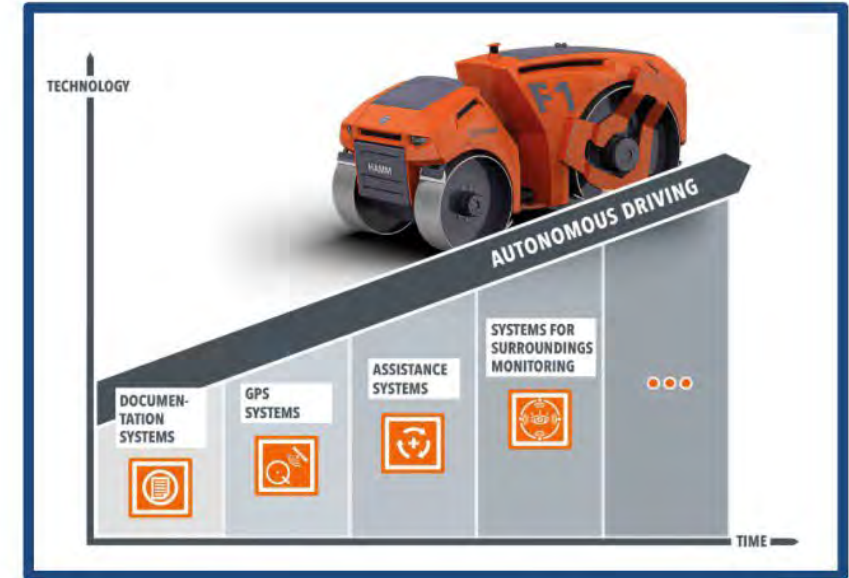
Roller Test Sections



#1 Traditional Operator



#2 Semi-Autonomous



#3 Full-Autonomous