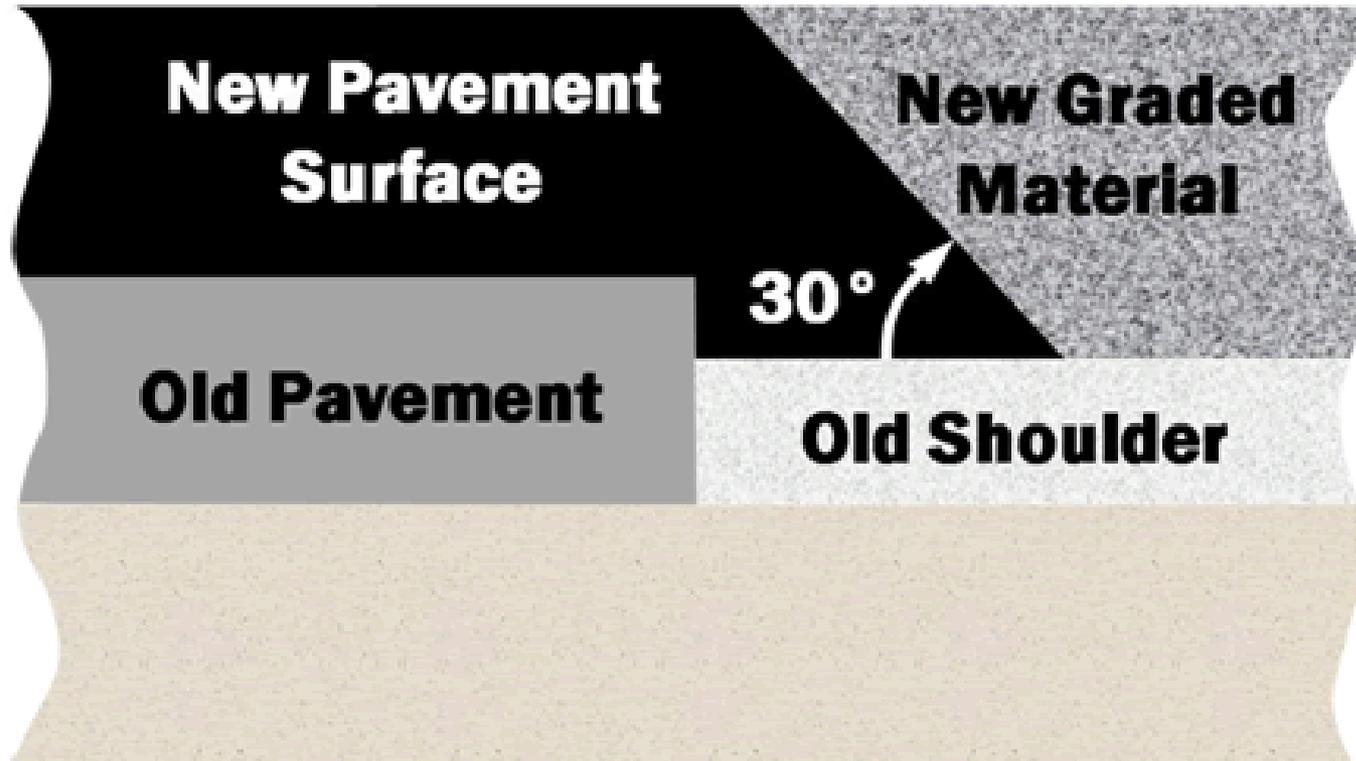


Safety Edge

NDDOT MR 11-01



Safety Edge

NDDOT MR 11-01

- Planned for use on 5 NDDOT projects
 - MER-2-011(029)041- Delayed Until 2012
 - MER-2-011(030)045- On Hold, No Date Given
 - MER-2-013(044)249- Delayed Until 2012
 - MER-2-046(041)014- Delayed Until 2012
 - SER-2-003(018)008- Completed on 7/22/2011

SER-2-003(018)008

- Project Location/Design
 - ND3 – 1 ½ Miles West of Ashley
 - Emergency Grade Raise
 - 1500 Feet of Asphalt Paving
 - 4 ½ Inches of HBP Placed in 2 Equal Lifts
 - Paved 28 Feet Wide
 - 4 Foot Aggregate Shoulders

SER-2-003(018)008

- “Safety Edge” Special Provision – SP 617(08)
 - Contractor Required to:
 - Use the “Ramp Champ” Provided by FHWA
 - Follow Manufacturer’s Recommendation for Installation, Operation, and Adjustment.
 - Notify M&R 10 Days Prior to Start of Paving
 - Use the Ramp Champ to Construct the 30° Safety Edge, or other Methods if the Ramp Champ was not available.
 - Return the Ramp Champ to M & R

“Ramp Champ” Installed



“Ramp Champ” Adjustment



“Ramp Champ” in Operation



Paving 1st Lift with “Ramp Champ”



Paving 2nd Lift with “Ramp Champ”



Compactive Effort



Safety Edge



Results

- Measurements 100 Foot Intervals
- North Edge
 - Average 22°
 - Max 35°
 - Min 17°
- South Edge
 - Average 25°
 - Max 28°
 - Min 15°



Finished Edge



Control ND II (RP 47)



NDDOT Typical Edge



Summary

- **Ramp Champ :**
 - Relatively easy for Contractor to install.
 - Formed a smooth slope with some level of compaction.
 - Even with adjustment, it was not possible to maintain 30° edge.
 - Device, or paving conditions resulted in inconsistent pavement edge; ranging from 15° to 35° - most often less than 30°.
- **“Safety Edge”:**
 - 1st project constructed provided mixed results.
 - Resultant edge is somewhere between the desired outcome and the current NDDOT standard edge, which is much flatter than the “Safety Edge”.
 - Four additional projects are planned for 2012 and will use the Ramp Champ to construct the “Safety Edge”.
 - M&R will be there to observe and report on the projects.