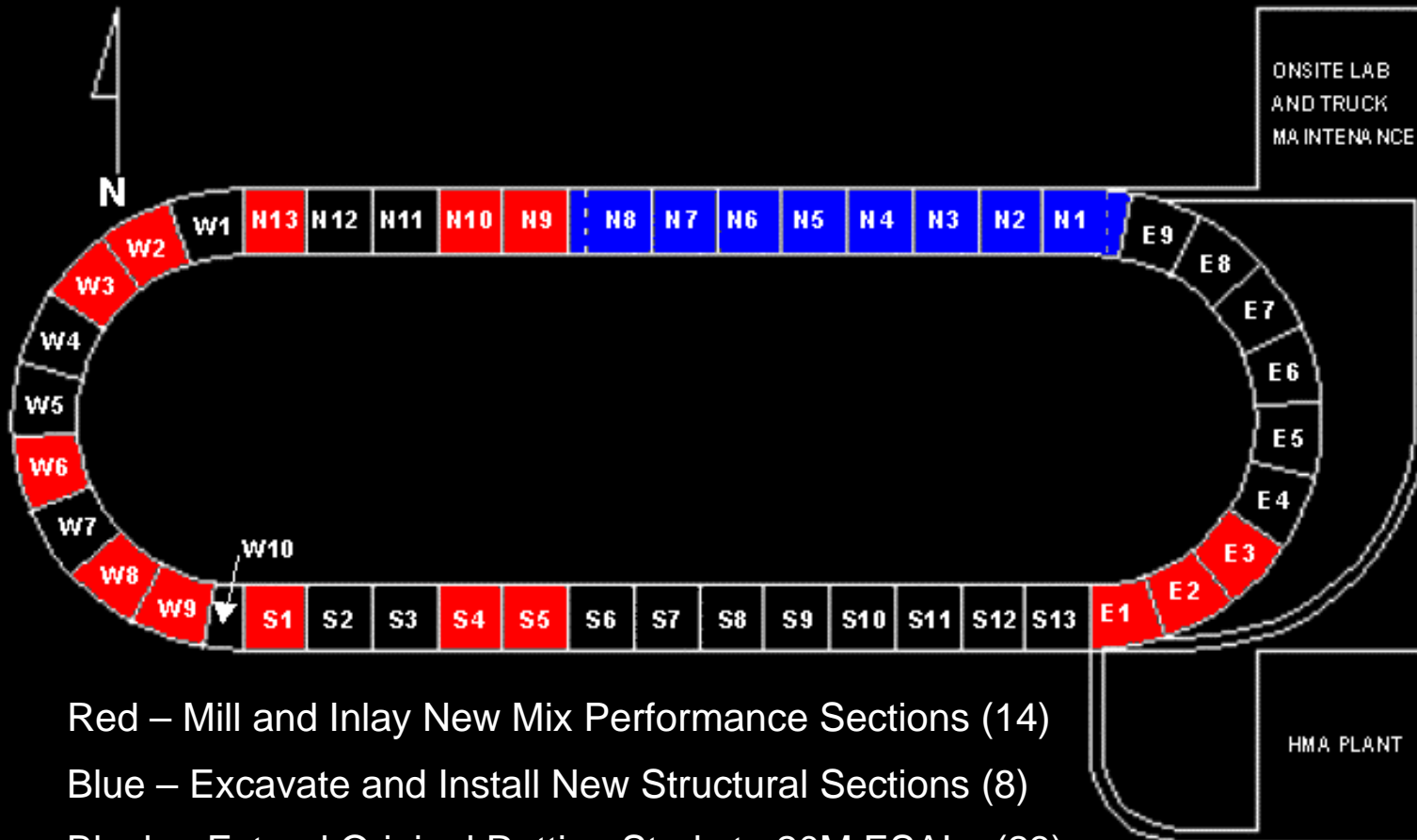


# NCAT TEST TRACK UPDATE



# 2003 MIXED EXPERIMENT

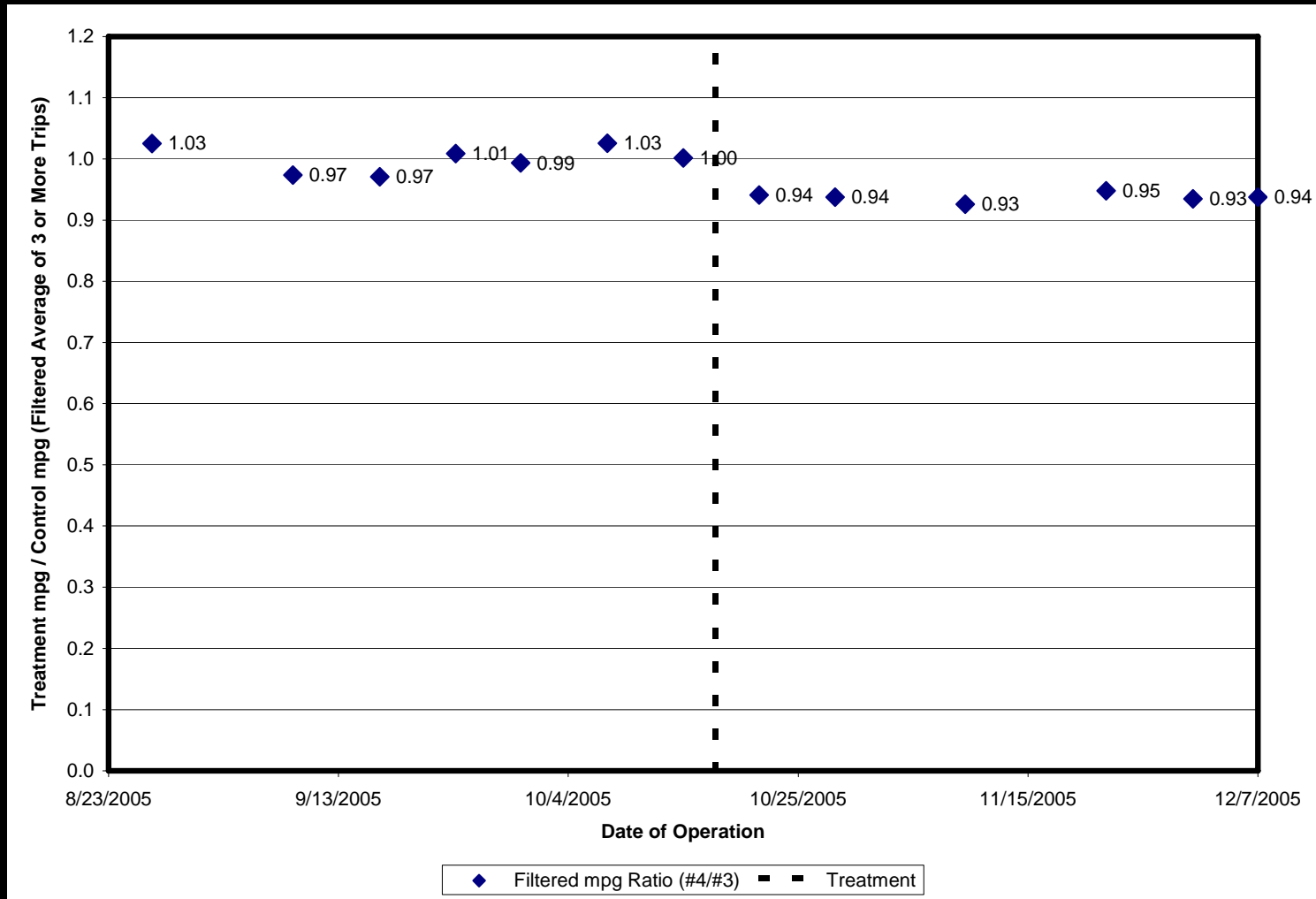


- Red – Mill and Inlay New Mix Performance Sections (14)
- Blue – Excavate and Install New Structural Sections (8)
- Black – Extend Original Rutting Study to 20M ESALs (23)

# 2003 TRUCKING OPERATIONS

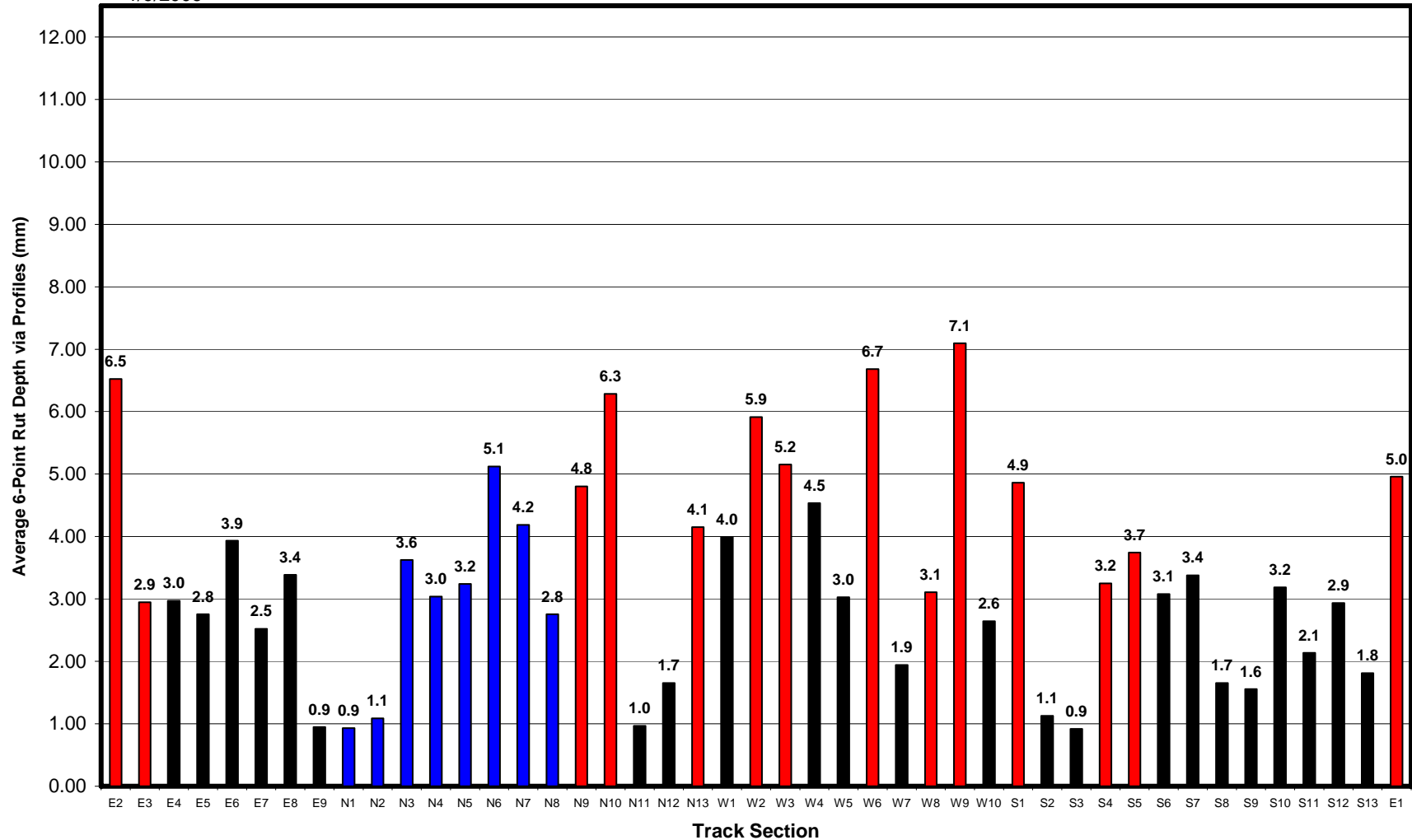


# FUEL ECONOMY STUDIES

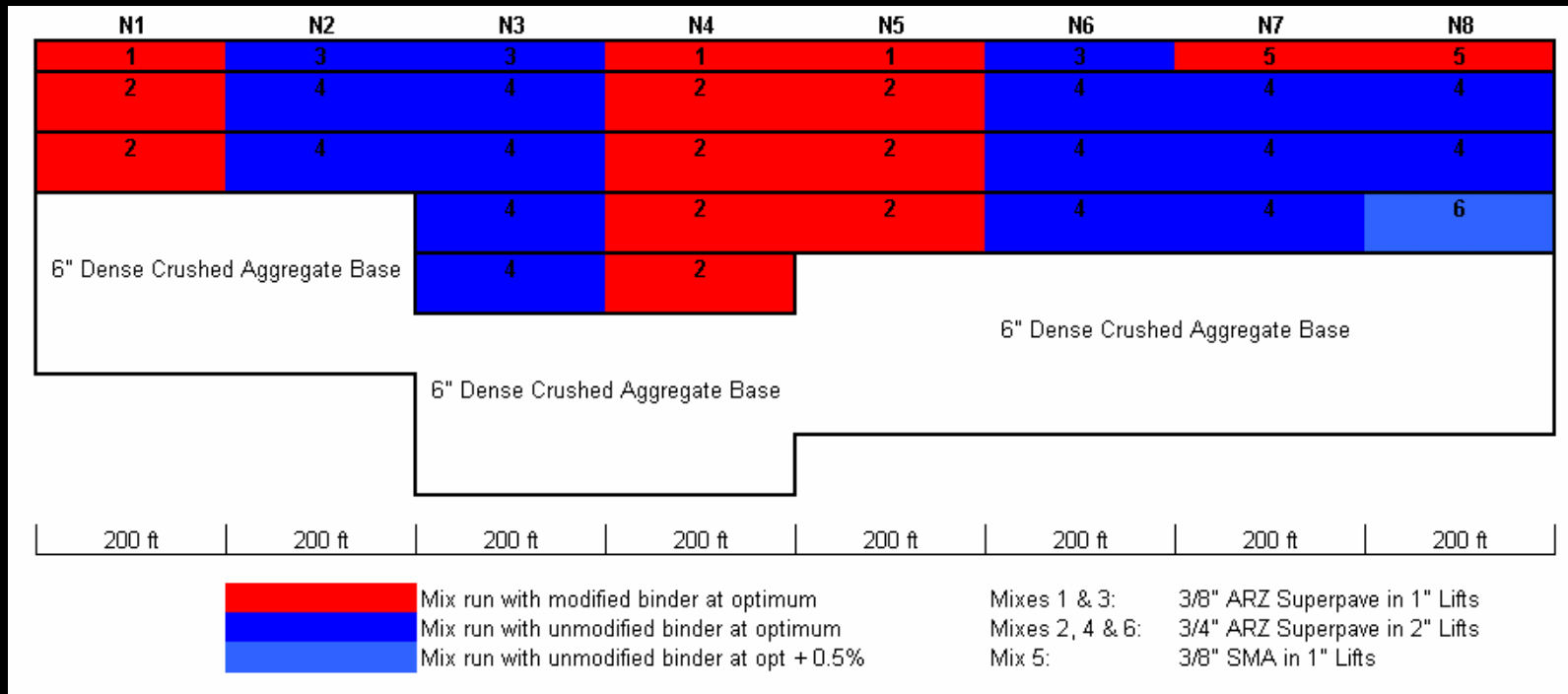


# RUTTING PERFORMANCE

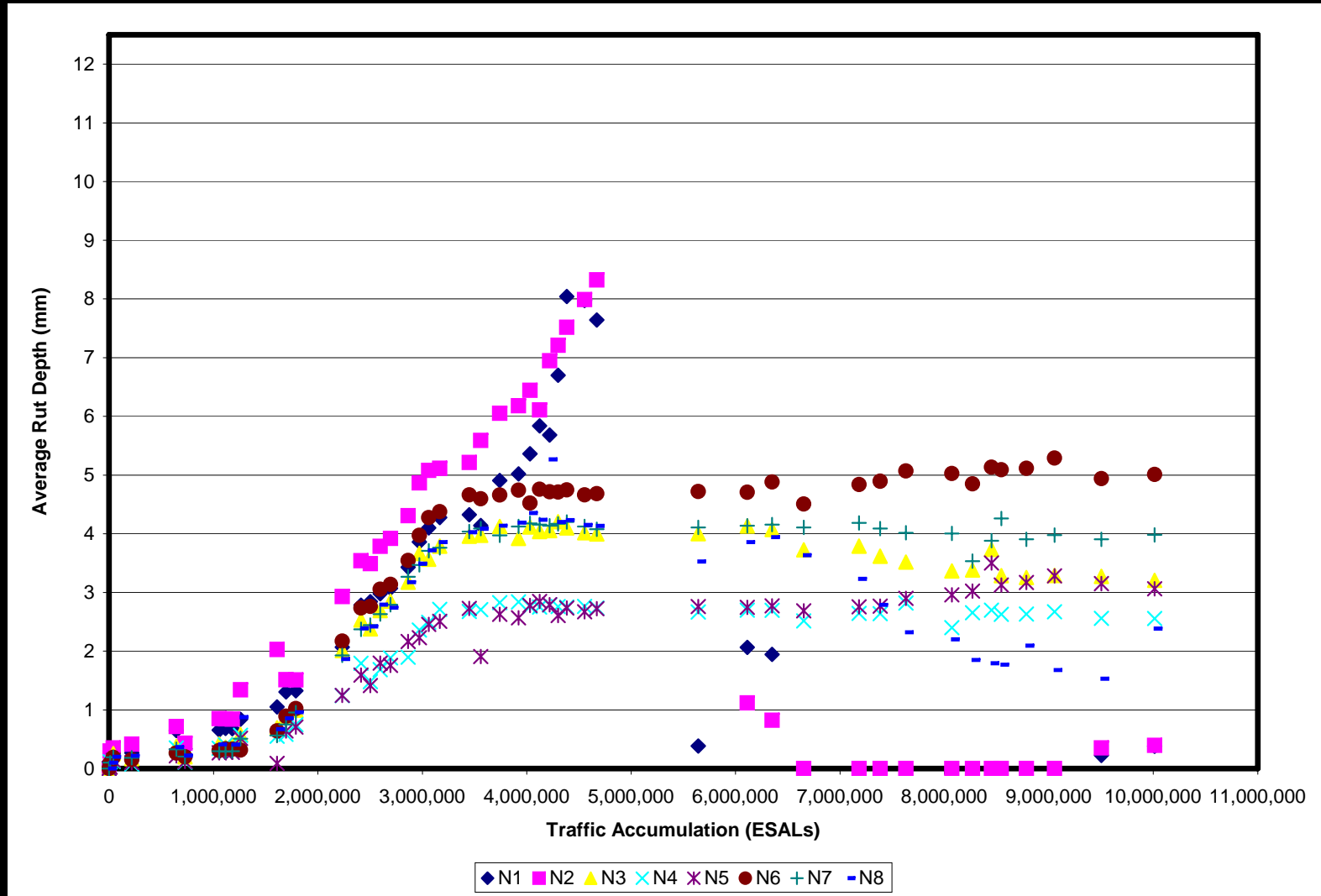
1/9/2006



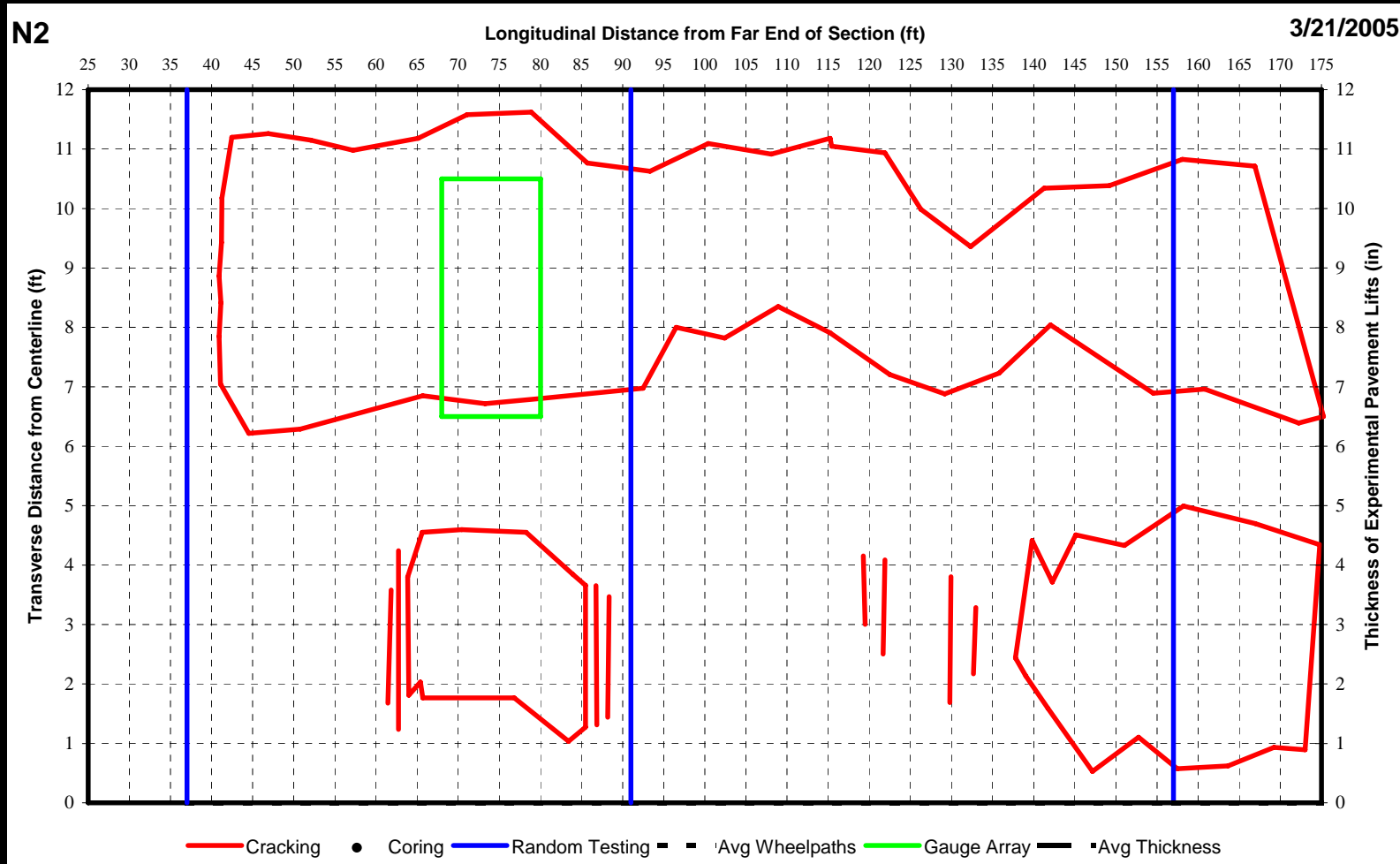
# STRUCTURAL STUDY



# STRUCTURAL STUDY RUTTING

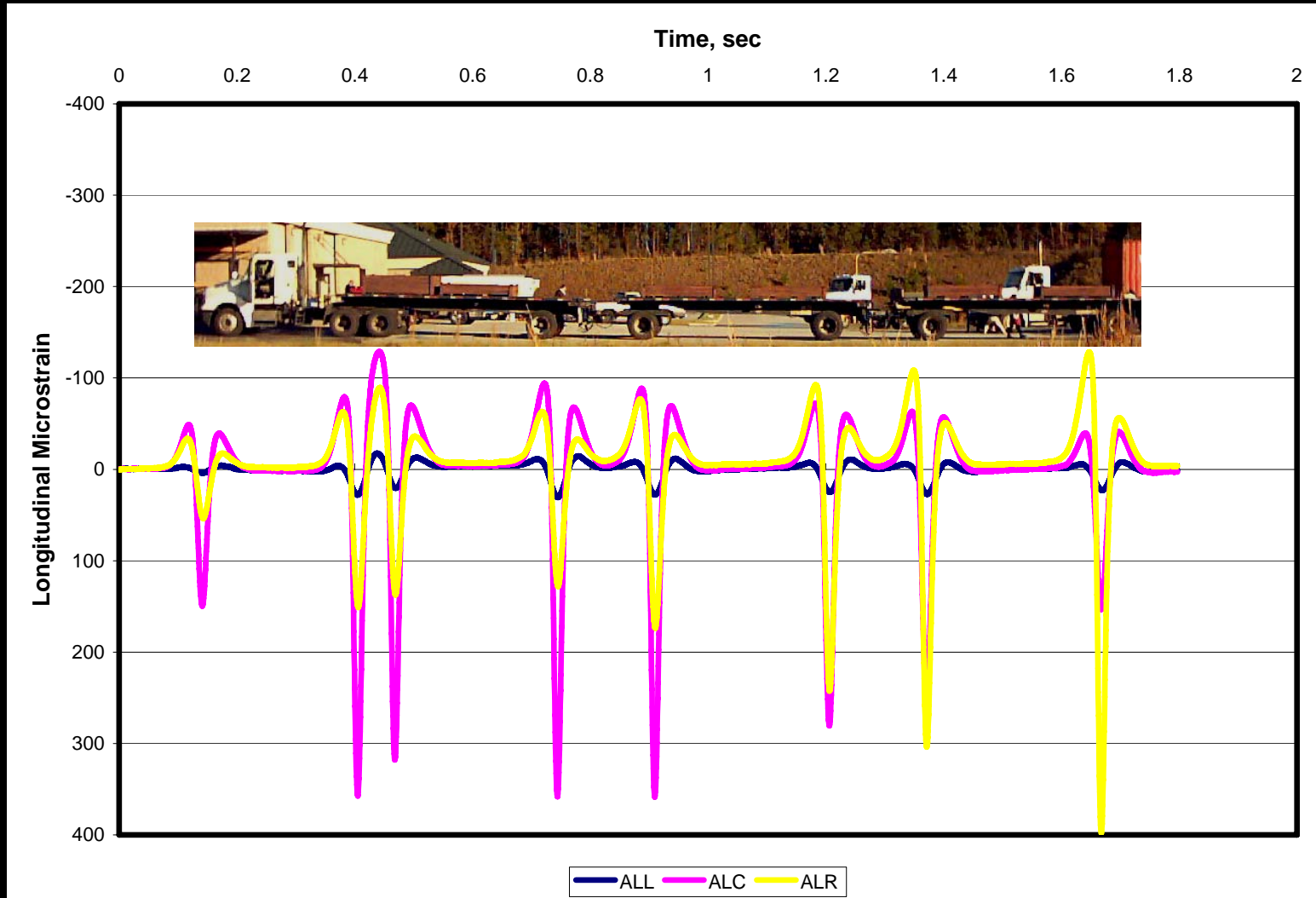


# SURFACE DISTRESS MAPPING





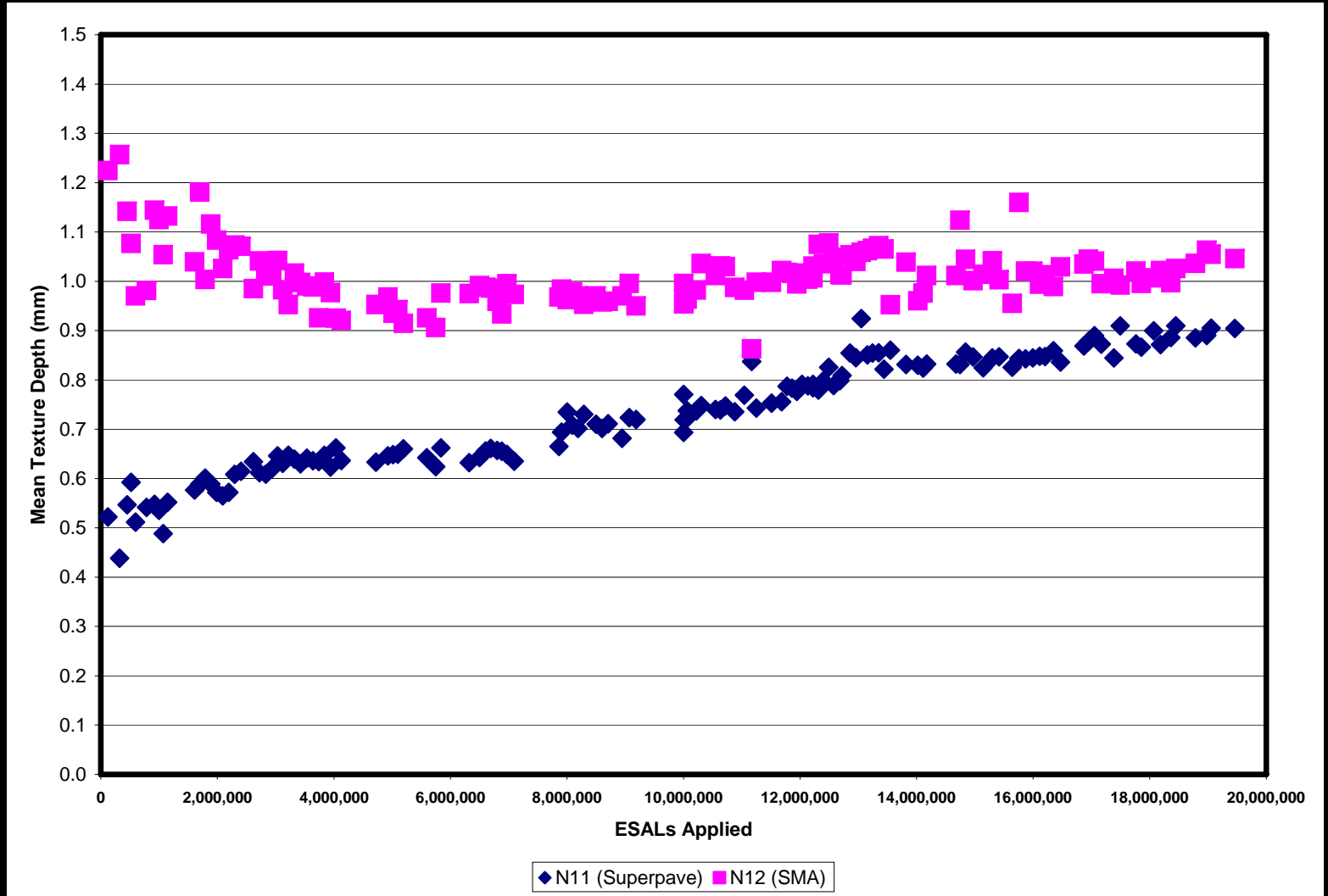
# MEASURED PAVEMENT RESPONSE



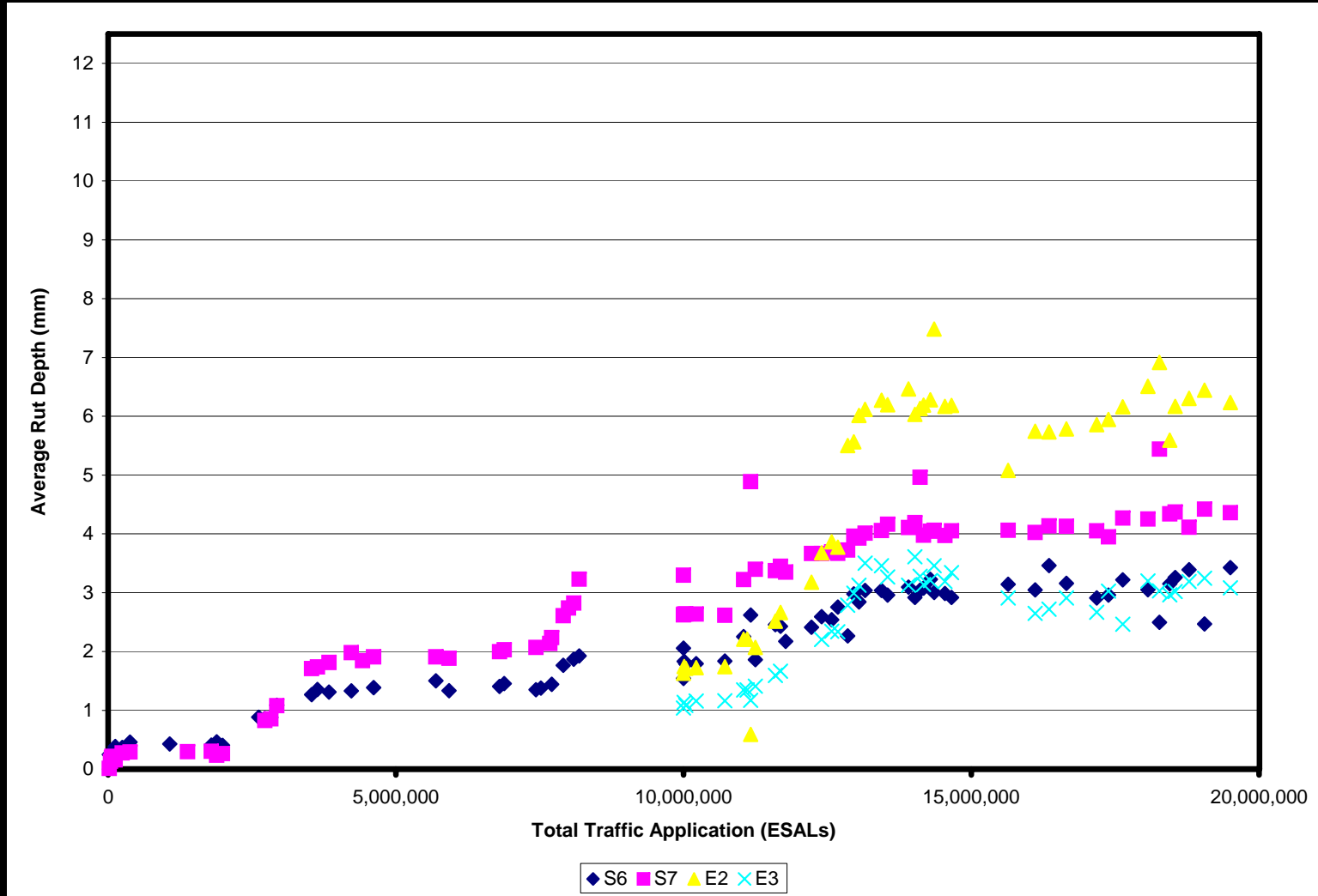
# STRUCTURAL STUDY FINDINGS

- Pavement Response **Measured** at Known Temperatures
- Mechanistic Pavement Analysis Approach **Validated**
- Pavement Response **Predicted** at All Temperatures
- Damage (Strains) **Accumulated** with Each Axle Pass
- Mechanistic-Empirical Pavement Design **Calibrated**
  
- Both 5" Sections Failed (Slightly Later than Expected)
- Some Fatigue Cracking in 7" Sections (Much Later)
- No Cracking Observed in Either 9" Section

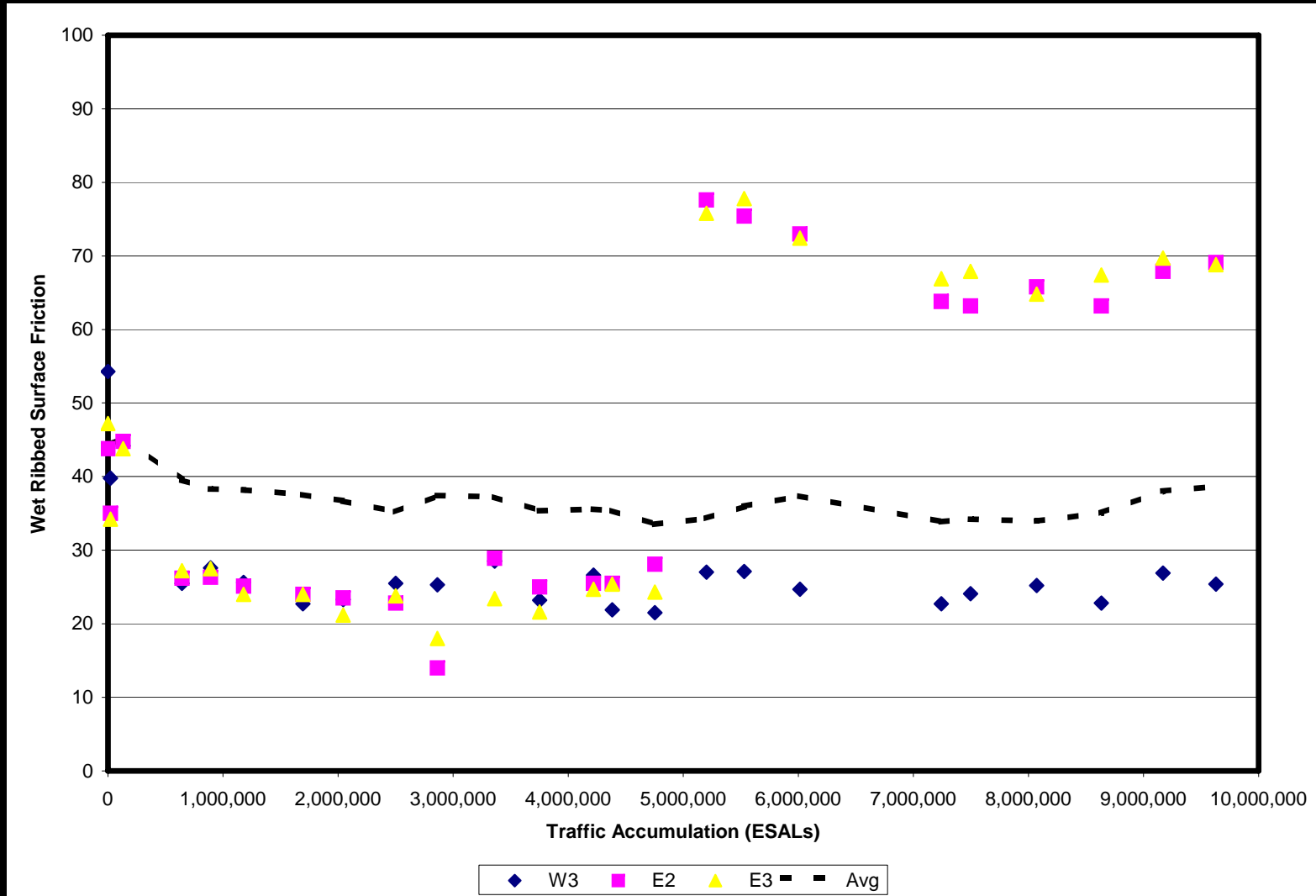
# Superpave vs SMA



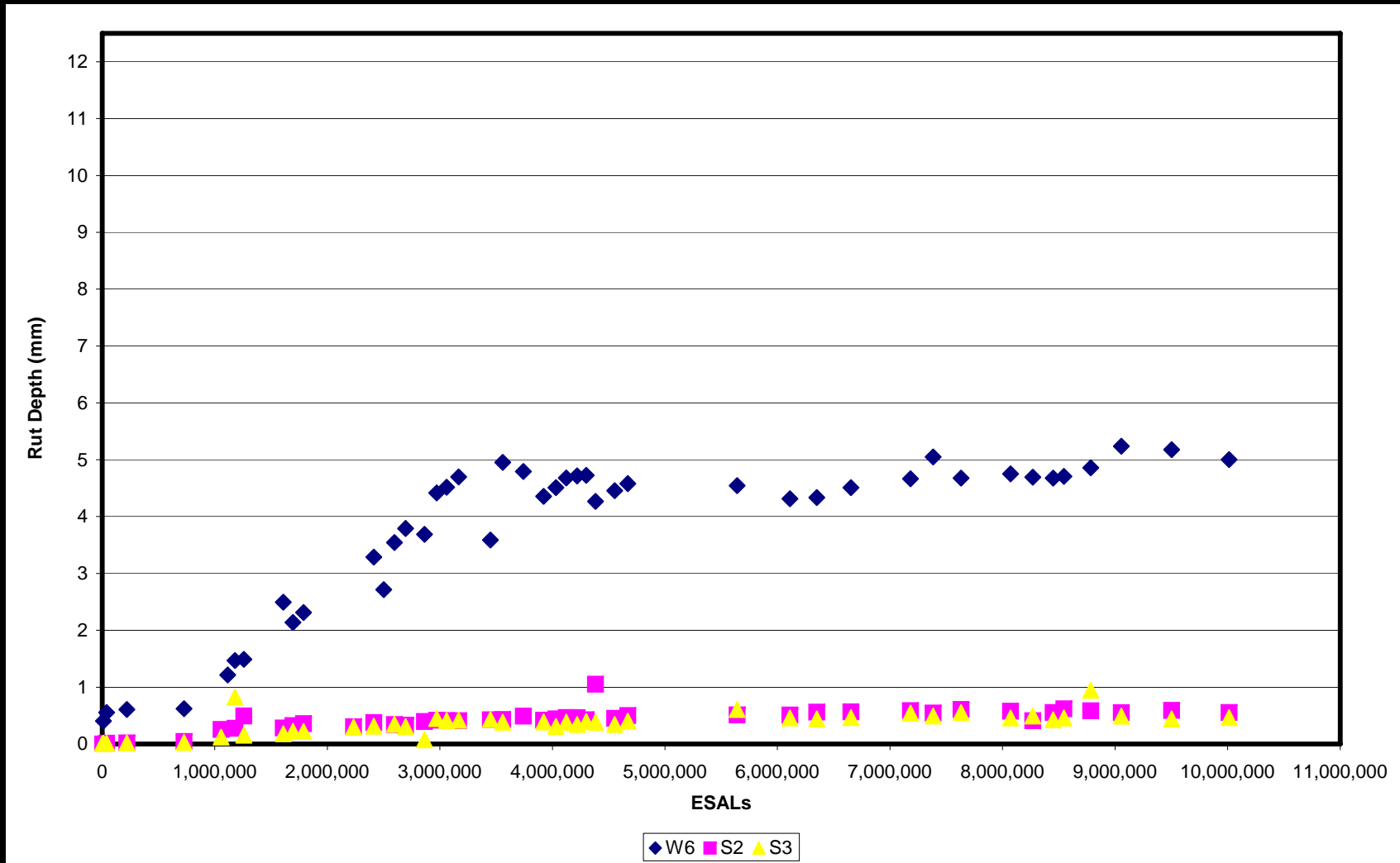
# APT VALIDATION EXPERIMENT



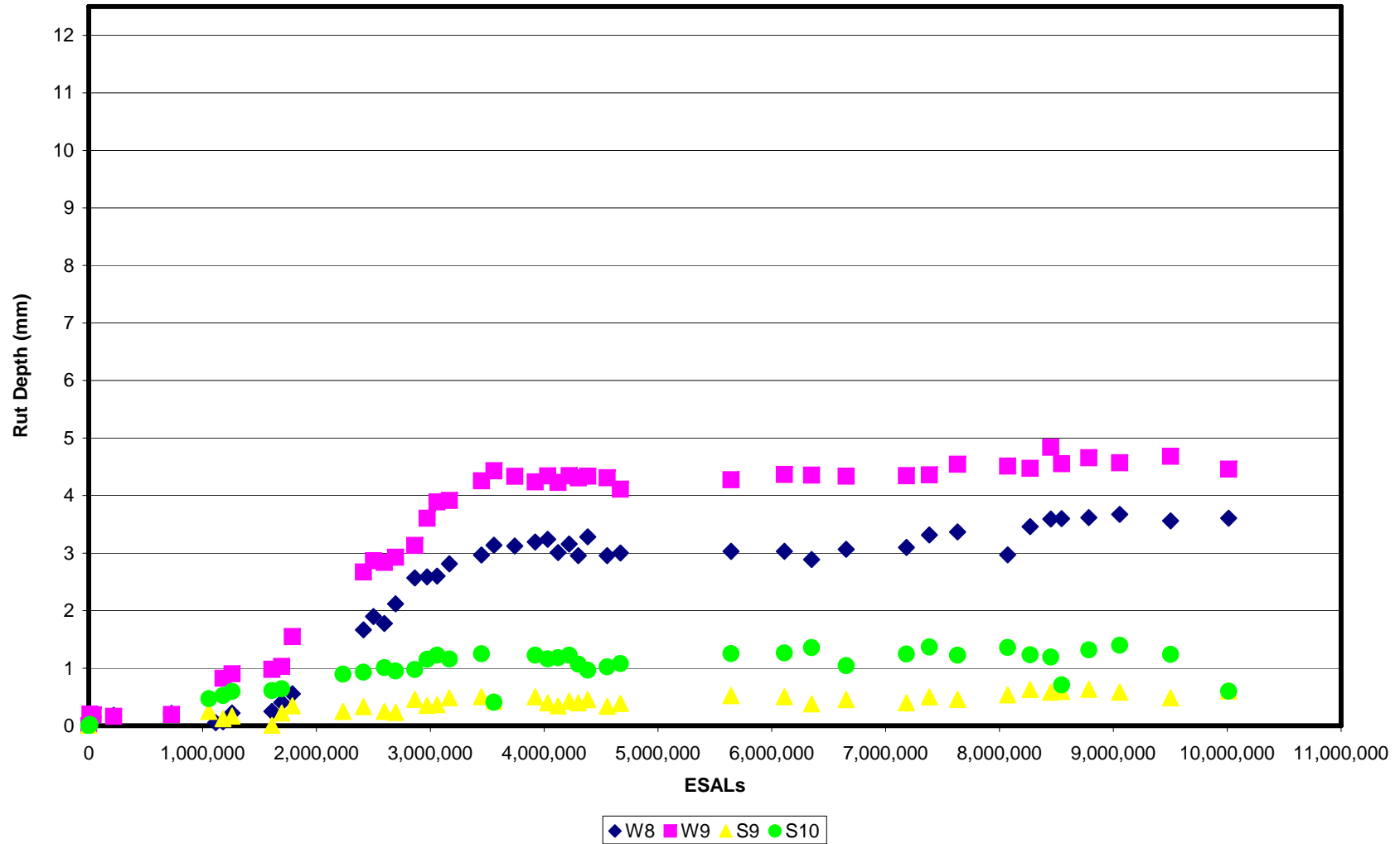
# FRICTION LOSS EXPERIMENTS



# #4 NMAS LOW VOLUME MIX



# 300K ESAL MIX COMPARISON



# MIX STUDY FINDINGS

- Fine Graded Mix Performance Comparable to Coarse
- Change to Modified Asphalt Cut Rutting in Half
- Experimental Mixes Field Proven (e.g., Gravel SMA)
- Aggregates Safely Evaluated (e.g., Polishing)
- Field Correlations Prove Laboratory Test Methods
- Findings Lead to Sponsor Specification Changes



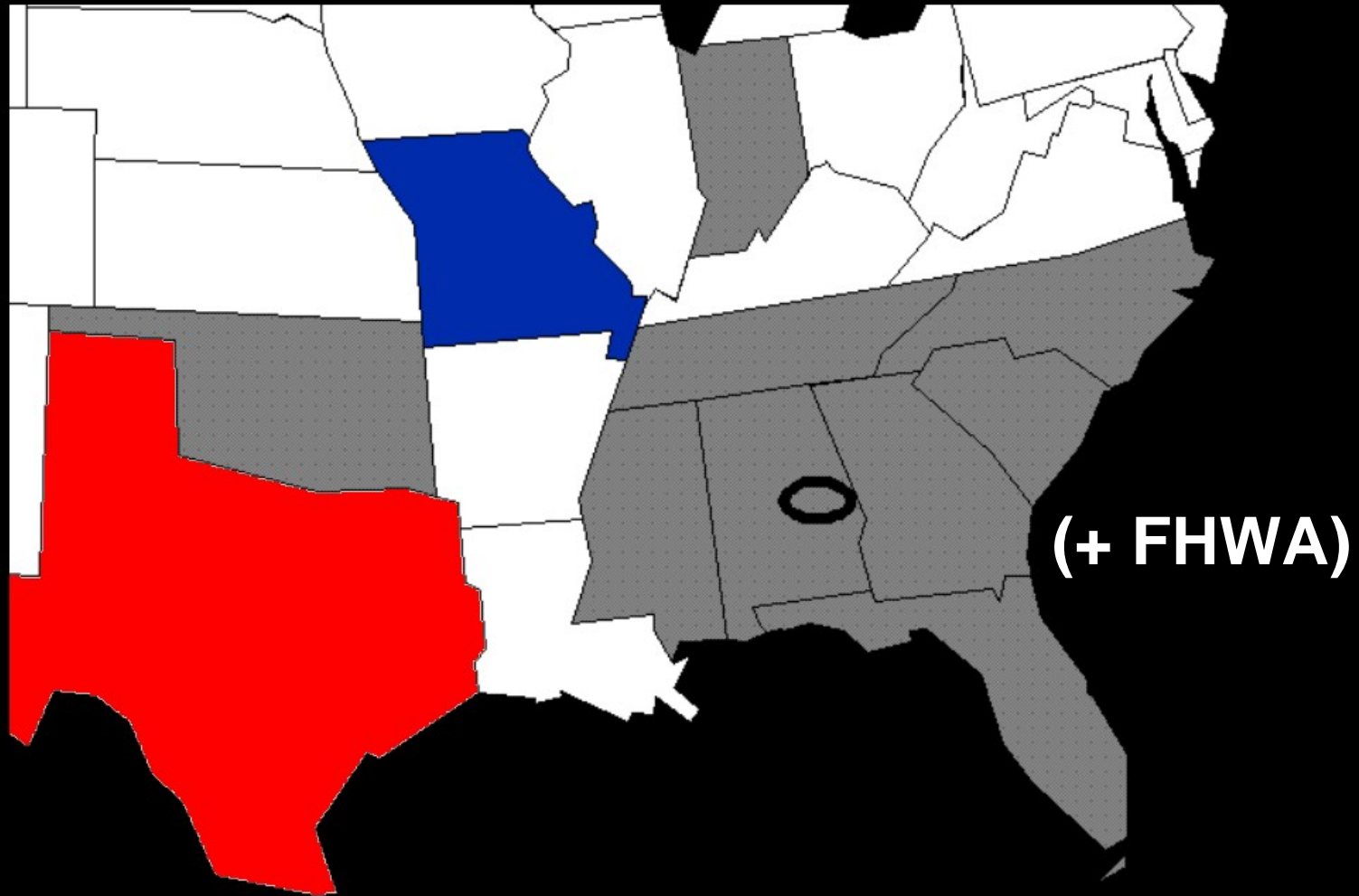
# WARM MIX SECTIONS (E9, N1 & N2)



# QUIET PAVEMENTS (INSIDE LANE)



# 2006 TRACK SPONSORS



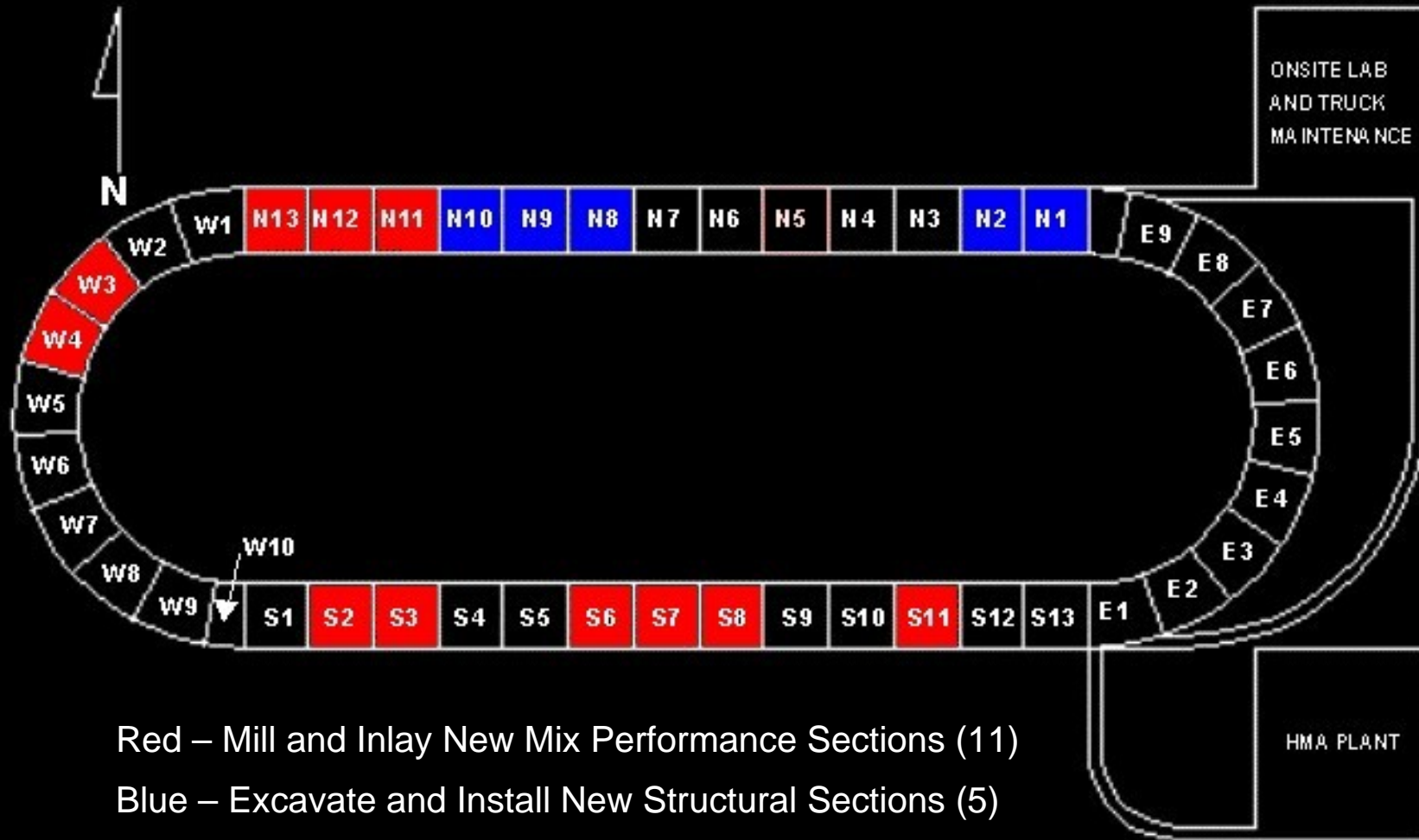
# 2006 TRACK OBJECTIVES

- Continuation/Expansion of Structural Experiment
  - Top-Down Cracking
  - Perpetual Pavement Designs
  - Weak Subgrades
- Document Effectiveness of **Intelligent Compaction**
- Flat and Elongated Coarse Aggregate Effects in OGFC
- **Twin Layer** Placement of Dual Drainage Layers
- RAP Percentage and Binder Grade
- Gravel Open Graded Friction Coarse
- Effect of Varying Air Voids on Performance
- Pavement Preservation Techniques in Texas (+**Infrared**)





# REPLACEMENT SECTIONS



Red – Mill and Inlay New Mix Performance Sections (11)

Blue – Excavate and Install New Structural Sections (5)

# 2006 STRUCTURAL EXPERIMENT

N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
PG76-22 SUP	PG67-22 SUP	PG67-22 SUP	PG76-22 SUP	PG76-22 SUP	PG67-22 SUP	PG76-22 SMA PG67-22 SUP	PG76-28 SMA	PG76-28 SMA	PG70-22 SMA
							PG76-28 SUP	PG76-28 SUP	PG70-22 SUP
Limerock Base	Limerock Base			Granite Base	Granite Base	Granite Base	PG64-22 SUP	PG64-22 SUP	
		Granite Base	Granite Base				PG64-22 RICH		PG64-22 SUP
				Stiff Subgrade	Stiff Subgrade	Stiff Subgrade	Soft Subgrade		Stiff Subgrade
		Stiff Subgrade	Stiff Subgrade					PG64-22 RICH	
Stiff Subgrade	Stiff Subgrade							Soft Subgrade	



# STRUCTURAL MILLING



# 2006 TRACK STATUS

- March 31<sup>st</sup> then April 28<sup>th</sup> Letting
- Estimate Bracket \$1.45M to \$1.8M
- One Contractor Bid Job @ \$2.3M
- Waiting on ALDOT Award Decision
- Contingency Plan if Not Awarded
- Fleet Operations Begin September 5<sup>th</sup>

# NEW OFF-ROAD TEST TRACK

