Midwest States Regional In-Place Conference
Wednesday, September 11, 2013
Schaumburg, Illinois

FDR - “A Contractors Perspective”
Presented by Tom Johnson
Midstate Reclamation Inc.
Outline

• FDR- “Different Types”
• Applications- “No Bus Tour”
• Getting Started- “How to Implement”
I do not believe you can do today's job with yesterday's methods and be in business tomorrow.

We will change the way we build roads.
How to build from the top down

The use of Flexible Pavements
- Mechanical Stabilization
- Bituminous Stabilization
  - Asphalt Emulsion - Engineered, Anionic, Cationic
  - Foamed Asphalt / Expanded Asphalt
- Chemical Stabilization - (Liquid)
  - Calcium Chloride - CaCl2
  - Magnesium Chloride - MgCl2
  - Base One, Permazyne
- Chemical Stabilization - (Dry)
  - Lime - Hydrated, Quick or Slurry
  - Fly Ash - Type “F” or “C”
  - Portland Cement
  - Various Kiln Dusts
Definitions

**Soil Modification** - is merely a means to reduce the moisture content of a soil to expedite construction.

**Soil Stabilization** - is the alteration of soils to enhance their physical properties. Stabilization can increase the shear strength of a soil and/or control the shrink-swell properties of a soil, thus improving the load bearing capacity of a sub-grade to support pavements and foundations.
“The No Bus Tour”

Mechanical Stabilization
Waseca Cty, MN  2003
Engineered Emulsion  6” @5%
Chisago Cty 2001
Engineered Emulsion
6" Rap/ 2% Emulsion
Blue Earth Cty 2013
2.5% HFMS-2s & 1.5% Cement
Bemidji Airport 2006
Engineered Emulsion 6” @ 1% cement
Hwy 65, MN 2009
Add 2” base rock, Double Chip Seal
Soil Modification
Wal-Mart- Lakeville, MN
Excel Energy 2013
Pine Island, MN
Soil Modification
LeSueur County, MN
.5 mile Subgrade Repair
Where cutting-edge is commonplace.
Soil Stabilization
Nebraska

10” Depth/ 10% Fly Ash
Bowman County, North Dakota 2011

• 2 mile test project
• 8” Stabilization
• 5% Cement
• Double Chip Seal
Iowa Wind Farm
Fly Ash
Grain Pad
Fargo, ND
Sugar Beets
Stephen, MN
How to Implement In-Place Recycling Projects & Project Selection

**Right Method - Right Road - Right Time**

A good contractor will tell you if it is the right process
Project Selection

Do the homework before the test

40-45 6” cores for a design
Preform a DCP,
 knowing what the sub grade is,
just has important as the design

where cutting-edge is commonplace.
Specifications
Specifications

• Performance Base - Method
• Superintendent - who’s in charge
• Experience – make it a requirement
Not everything works out as planned
Don’t blame the technology