



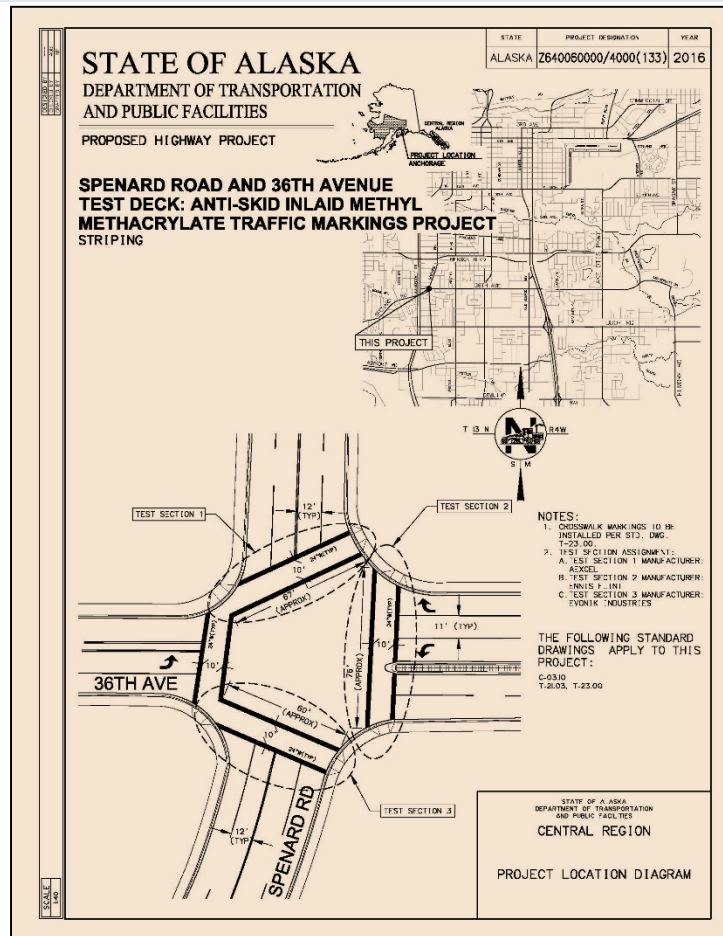
Alaska Department of Transportation & Public Facilities

Testing of Anti-Skid Pavement Markings at Spenard Road and 36th Avenue

Central Region Quarterly Design Meeting
October 23, 2018
Jon Knowles



Roadmap



- Pavement Markings
- The Team
- Installation
- Testing Procedure
- Results
- Next Steps



Pavement Markings

- Purpose
 - Direction
 - Warn
- Some Marking Flavors
 - Paint
 - Preformed Tape
 - Methyl Methacrylate (MMA)
- Why Anti-Skid?
 - Safety
 - Slippery When Wet
 - Motorcyclists
 - Pedestrians
 - Bicyclists





The Team

- Material Manufacturer
 - Aexcel Corporation
 - Ennis-Flint
 - Transpo Industries, Inc.
- Construction
 - Long Nguyen
 - Mahear Aboueid
 - Earl Breyfogle
 - QAP (Traffic Control)
- Research and Design
 - Anna Bosin
 - Scott Thomas
 - Sarah Savlucci
 - Jon Knowles
 - Sarah Riopelle





Installation



- Mill
- Mix
- Mask
- Pour
- Spread
- Aggregate
- Roll
- Beads



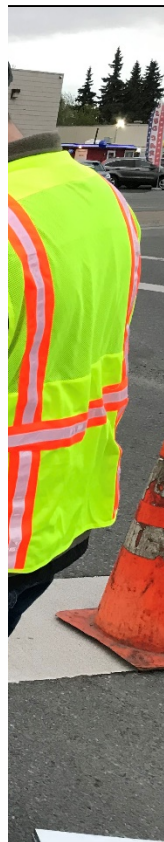
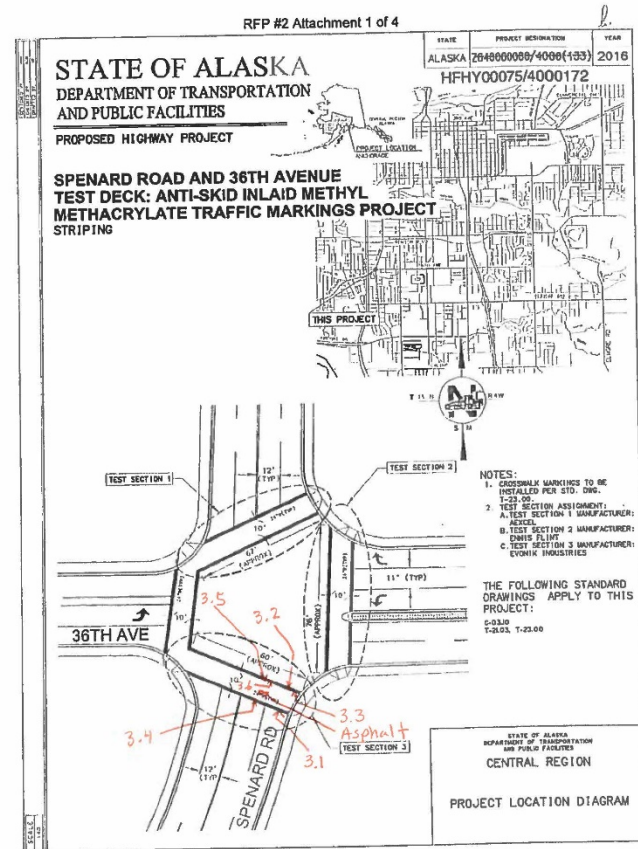
Installation Challenges





Testing Procedure

- British Pendulum Tester
 - (quantifies surface friction)
 - Level
 - Zero out
 - Slide length adjustment
 - Water down surface
 - Let the pendulum swing
 - Catch on the backswing
- Locations
 - Southbound
 - Westbound
 - Northbound





Results

- British Pendulum Number (BPN)
 - MMA 45 BPN
 - Asphalt ~ 80 BPN
- September 2017
 - Lower than asphalt, but better
 - Ennis-Flint
- May 2018
 - Lower BPN
 - Aexcel and Ennis-Flint

Summary of British Pendulum Tester Results by Manufacturer

Aexcel Corporation

Site Number	9/6/2017 BPN Avg	5/15/2018 BPN Avg	Difference	Location Detail
1.1	70.3	63.3	7.0	center of lane
1.2	62.0	52.7	9.3	center of lane
1.3	66.0	67.0	-1.0	center of lane
1.4	77.3	66.7	10.7	wheel path
1.5	55.7	56.0	-0.3	wheel path
1.6	55.0	42.3	12.7	center of lane
	64.4	58.0	6.4	

Ennis-Flint

Site Number	9/6/2017 BPN Avg	5/15/2018 BPN Avg	Difference	Location Detail
2.1	75.7	58.0	17.7	center of lane
2.2	66.0	61.0	5.0	center of lane
2.3	77.7	56.7	21.0	wheel path
2.4	86.3	57.3	29.0	center of lane
2.5	72.3	58.3	14.1	wheel path
	75.6	58.3	17.4	

Transpo Industries, Inc.

Site Number	9/6/2017 BPN Avg	5/15/2018 BPN Avg	Difference	Location Detail
3.1	57.7	47.0	10.7	center of lane
3.2	56.0	51.3	4.7	center of lane
3.3	58.7	44.3	14.3	wheel path
3.4	52.3	58.7	-6.3	center of lane
3.5	51.7	46.0	5.7	center of lane
3.6	53.7	49.3	4.3	wheel path
	55.0	49.4	5.6	



Next Steps

- **Test in Spring 2019**
 - Traffic Control
 - Good Weather
 - Documentation
- **Possible Future Recommendation**
 - Revise Special Provisions
 - Consistent application

