



# Friction (Skid) Testing and Requests



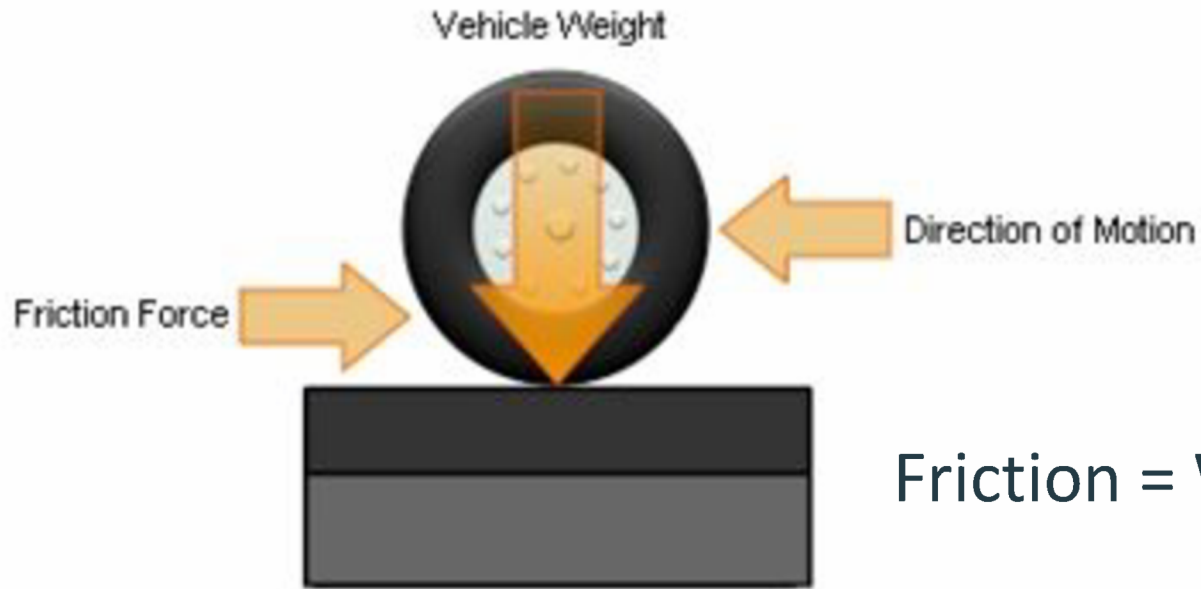
**John Cummings**  
**Pavement A&E Section**  
**Materials Control, Soils & Testing Division**

# Overview

- What is Friction?
- Friction vs Texture
- Types of Friction Testing
- Test Results and Analysis
- When and How to Request Testing



# What is Friction?



$$\text{Friction} = \text{Weight} / \text{Force}$$



# What is Friction Testing?

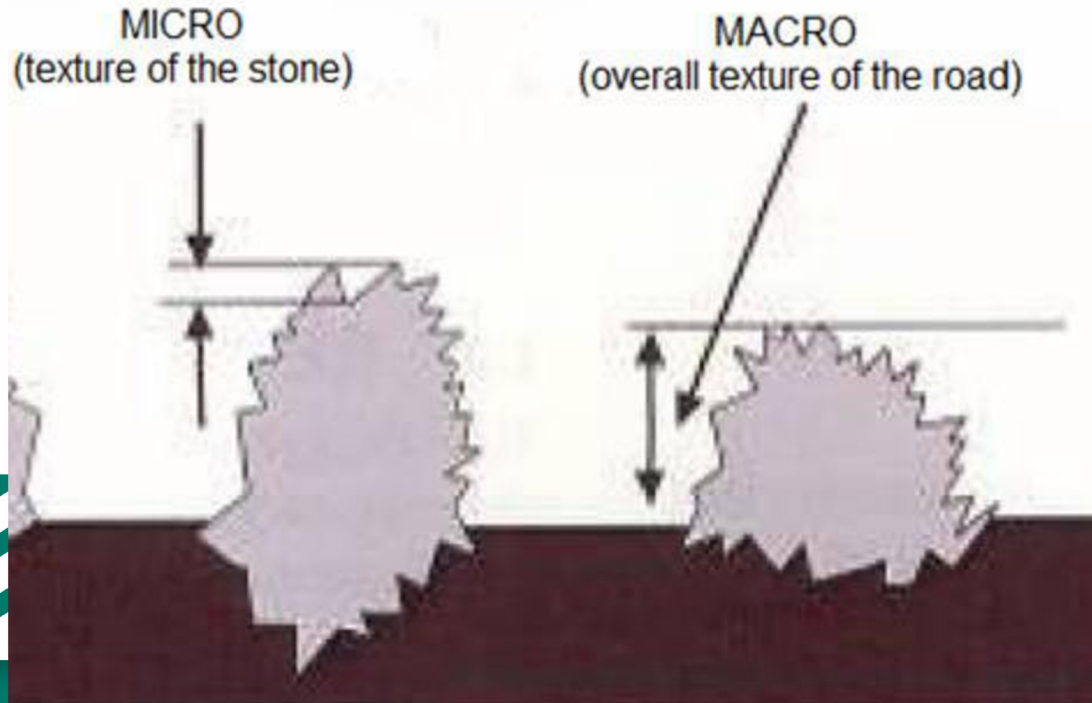


**Doug McGee**  
Public Affairs  
WYDOT - Cheyenne

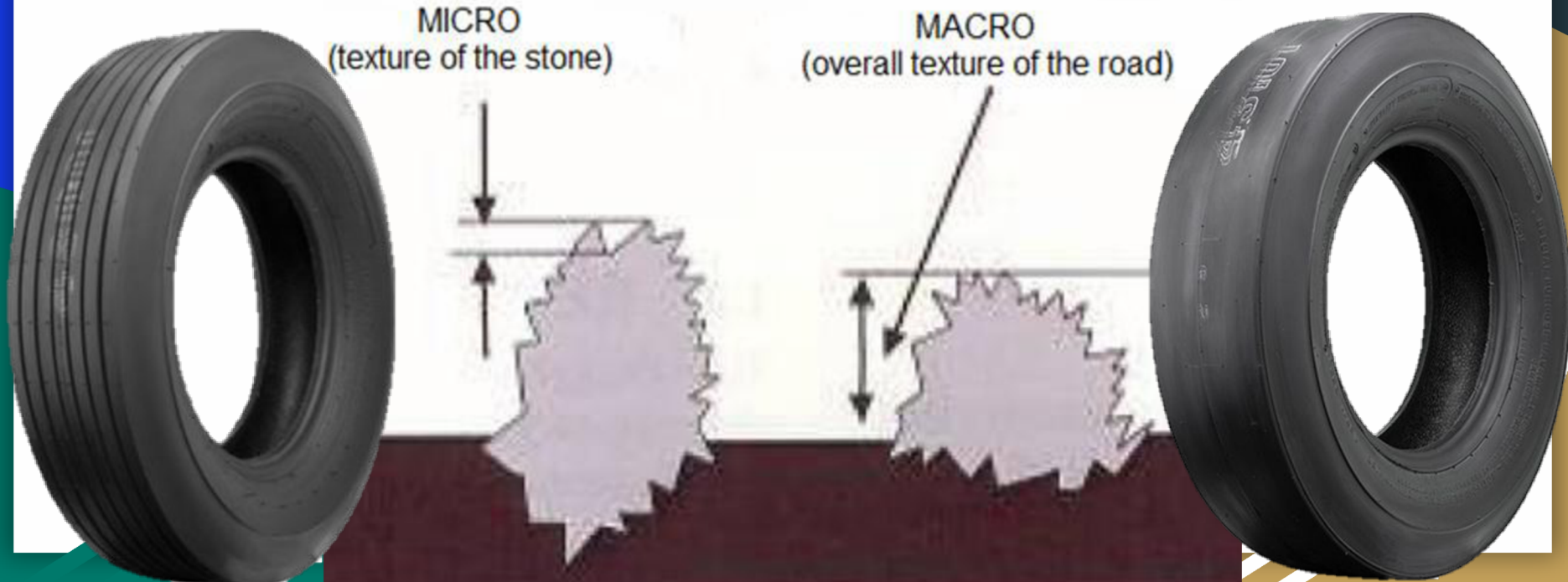
# Friction vs Texture

- **Friction depends on speed**
  - more speed demands more friction
- **Texture is constant**
  - Microtexture - felt but not seen
  - Macrotexture - seen but not felt


# Friction vs Texture



# Friction vs Texture





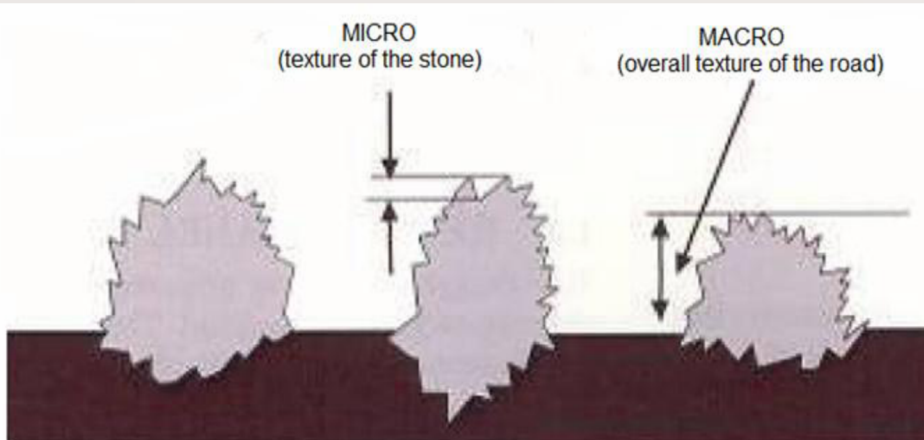
The image shows two black tires standing upright against a light blue background with horizontal lines. The tire on the left has a ribbed tread pattern, while the tire on the right has a smooth tread. A black banner with cyan text is at the bottom.

**Ribbed (ASTM E 501) and Smooth (ASTM E 524)  
Tires.**

# Friction and Texture

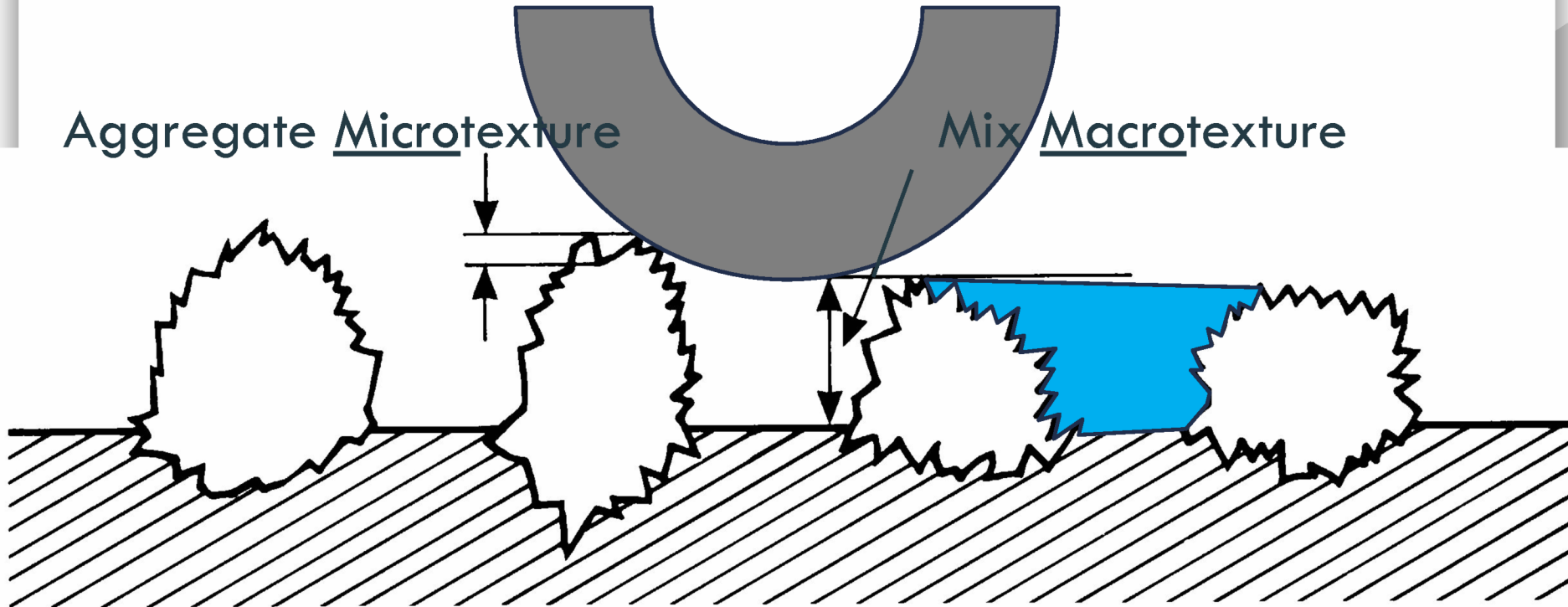


- Friction is speed dependent, texture is not.
- Types of Texture:
  - **Microtexture:** Not visible to naked eye, Ribbed tire more sensitive to micro.
  - **Macrotexture:** Visible to naked eye, Smooth tire more sensitive to macro





# Pavement Texture









Friction

Vehicle Speed

Wheel Speed

Traction

Load

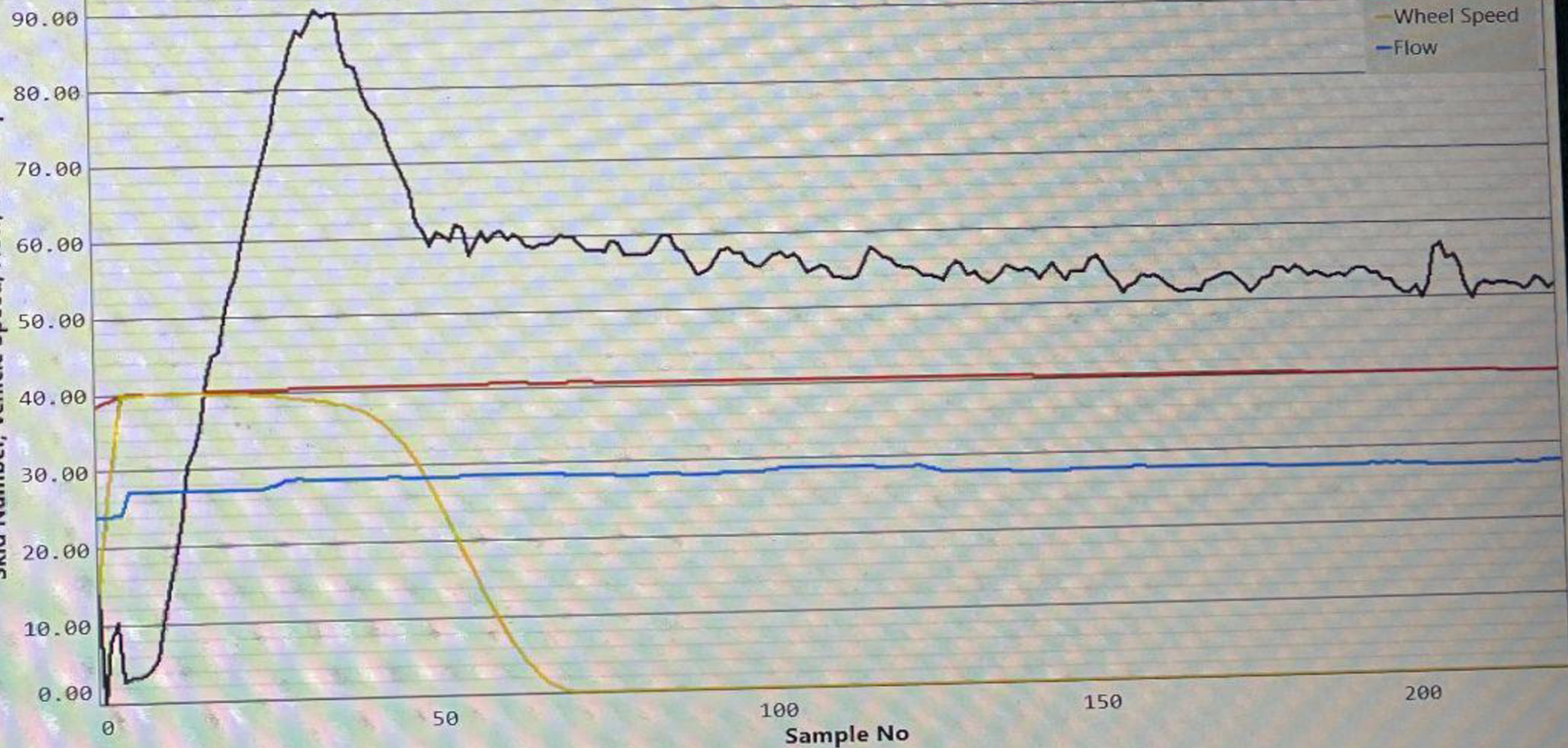
Flow

% Slip

Legend

- Skid Number
- Vehicle Speed
- Wheel Speed
- Flow

Skid Number, Vehicle Speed, Flow, Wheel Speed

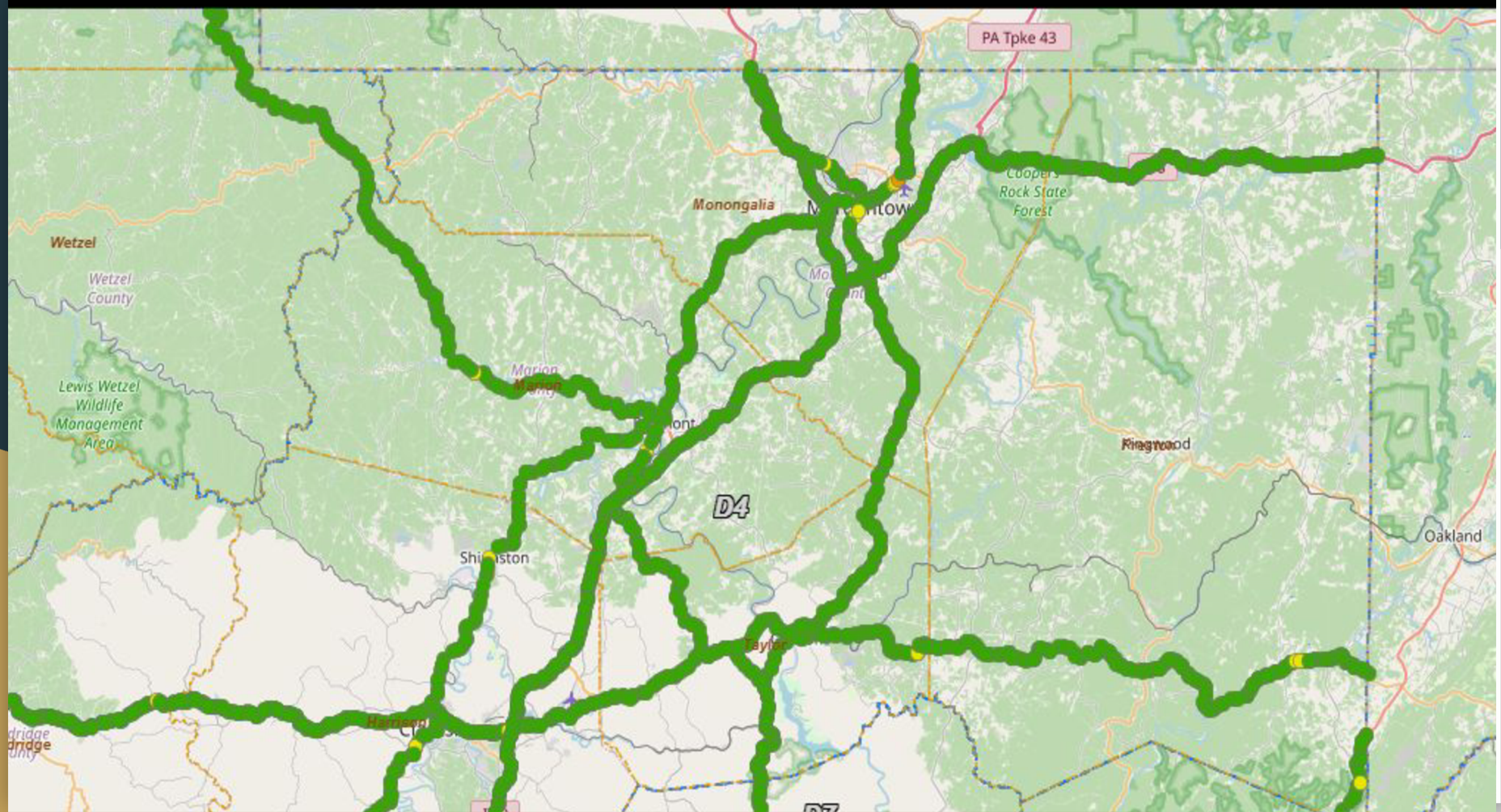


# Types of Friction Testing:

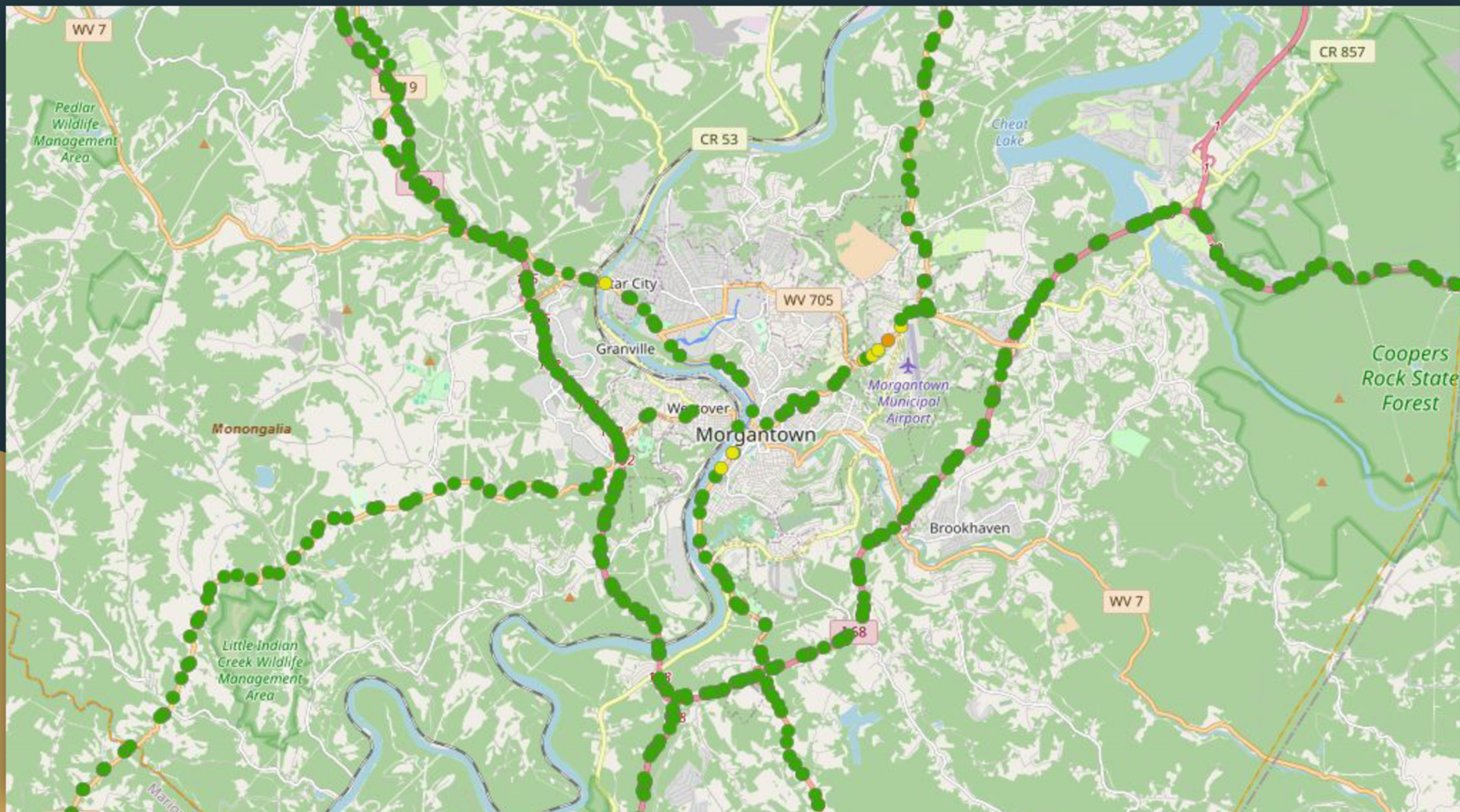
# Types of Friction Testing:

- **Network Testing**
  - Interstates and US Routes Annually











# Types of Friction Testing:

- **Network Testing**
  - Interstates and US Routes Annually
- **Accident Investigation**
  - Upon Request

# Types of Friction Testing:

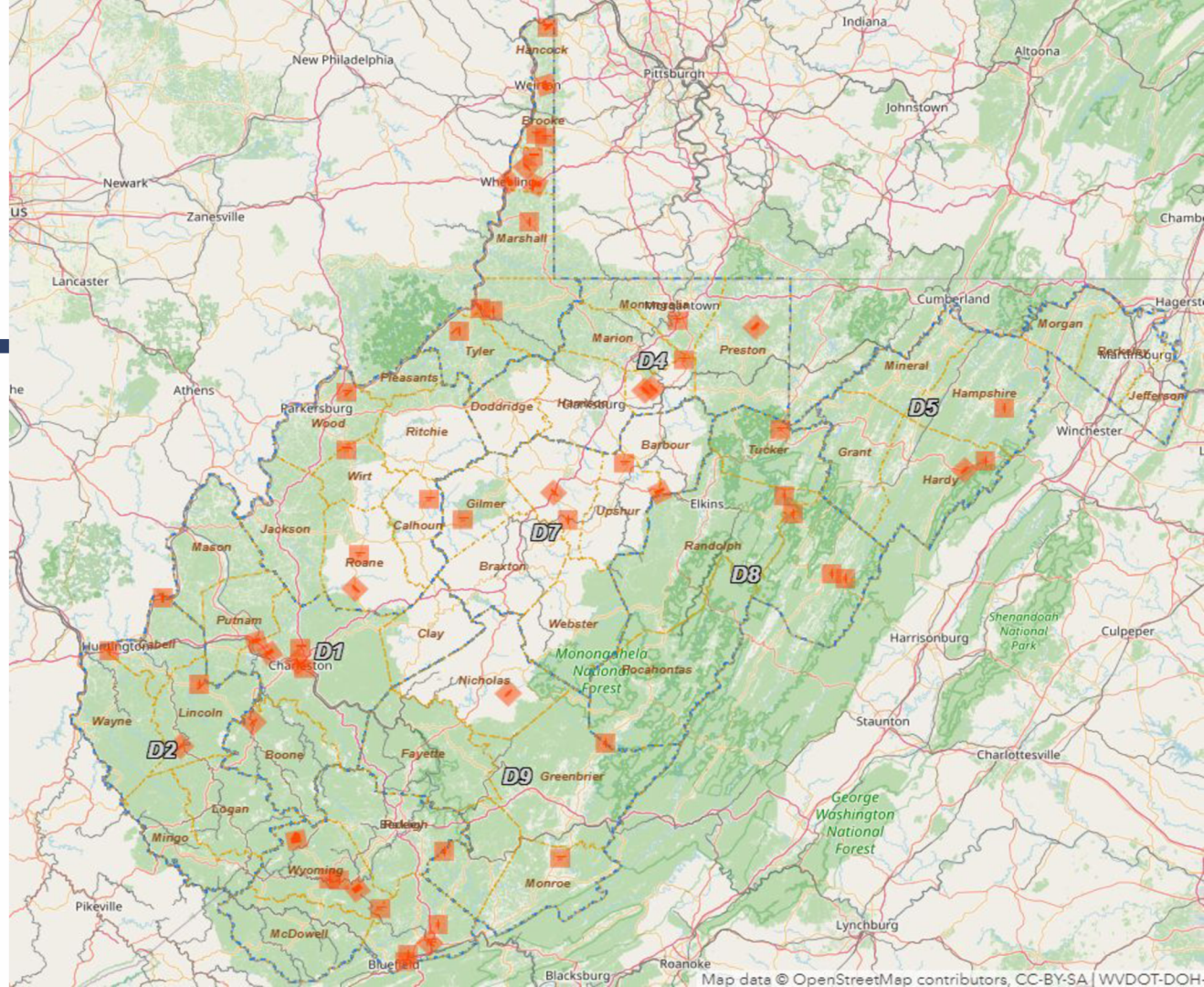
- **Network Testing**
  - Interstates and US Routes Annually
- **Accident Investigation**
  - Upon Request
- **406 - High Friction Surface Treatment**
  - < 90 days after Completion

# Calcined Bauxite, used in HFST



# HFST in West Virginia

100+  
sites



# Types of Friction Testing:

- **Network Testing**
  - Interstates and US Routes Annually
- **Accident Investigation**
  - Upon Request
- **406 - High Friction Surface Treatment**
  - Tested < 90 days after Completion??
- **402 - Skid Resistant Aggregate**
  - Tested > 30 days after Completion



# How to Request Testing:

MCST Used Only:

Rec.:

Tested:

Report:

MIR:

## Pavement Testing Request

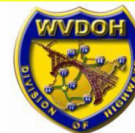
Type of Testing:	<input type="text" value="Smoothness"/>	Substantial Complete Date:	<input type="text"/>
Project Name:	<input type="text"/>	Contract ID:	<input type="text"/>
Authorization:	Federal Project #:	State Project #:	
<input type="text"/>	<input type="text"/>	<input type="text"/>	
District Requesting:	County:	Beginning GPS Coordinates:	
<input type="text" value="District 1"/>	<input type="text" value="Barbour"/>	<input type="text"/>	<input type="text"/>
Surface Type:	Mix Design (JMF):	Thickness:	Length:
<input type="text" value="Microsurface"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Paving Contractor:	Aggregate Source:		
<input type="text"/>	<input type="text"/>		
Project Manager:	Phone Number:	Email:	
<input type="text"/>	<input type="text"/>	<input type="text"/>	

Please Attach all Location Maps and other information to this email.



Generate Email:

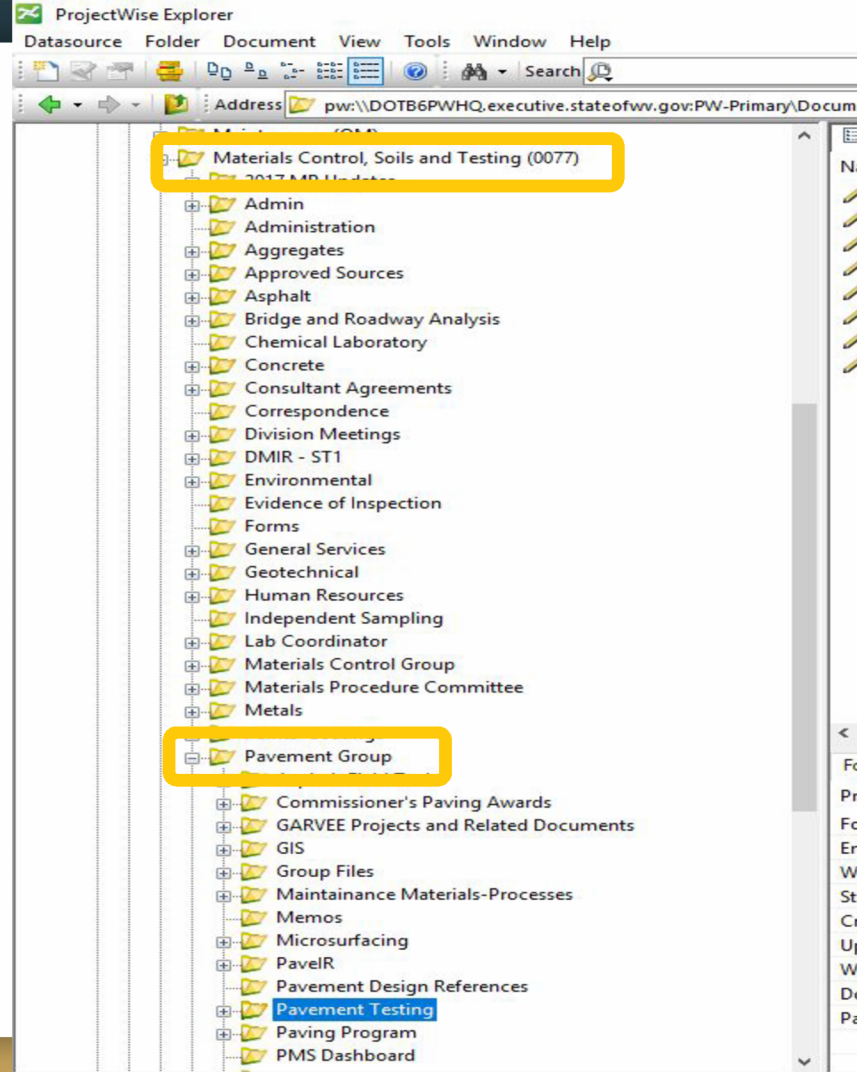
Submit



\* Any form Received with missing information will be considered as incomplete.

\* If you have any questions call the Pavement Group at (304)558-9884

# How to Request Testing:



# How to Request Testing:

File Message Insert Options Format Text Review Help ProjectWise Tell me what you want to do

Paste Cut Copy Format Painter Clipboard

Basic Text

Names

Include

Tags

Follow Up

High Importance

Low Importance

From: E029462@wv.gov

To: DOH MCSnT Roadway <dohmcsntroadway@wv.gov>

Cc: Caudill, Joseph D <joseph.d.caudill@wv.gov>

Subject: 1234567 Smoothness Request Barbour County

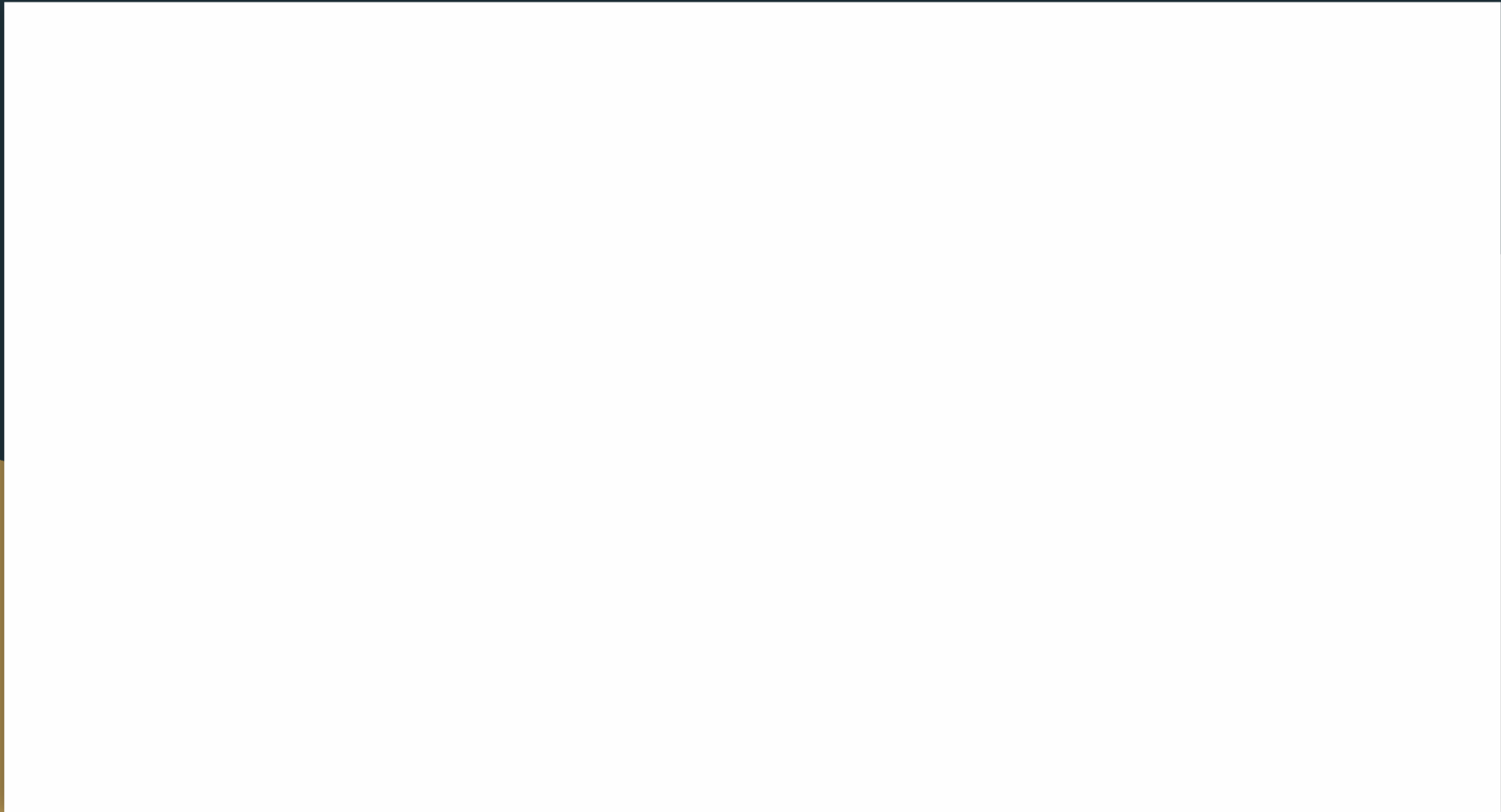
Attached: Pavement Testing Request form V1.1[2].pdf 2 MB

Location maps for 5th st.- 2nd Ave.pdf 104 KB

Surface Testing Request

Don't forget to attach map





Questions?

