

# Slurry/Micro Construction and Inspection



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# Workmanship Guidelines

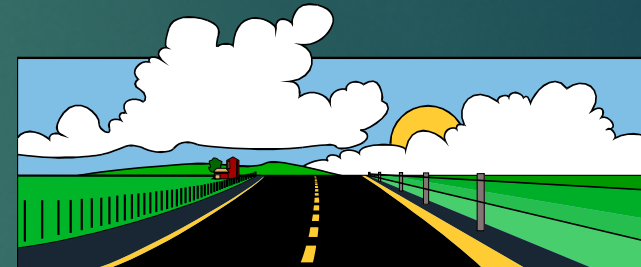
- ▶ Proper Prep; Weeding, Crack Sealing, Patching, Striping Removal
- ▶ Pre Cleaning & Post Sweeping
- ▶ Appearance – During and After
- ▶ Hand Work
- ▶ Housekeeping – Lay-down Box - Squeegee
- ▶ Drag Marks
- ▶ Transverse and Longitude Joints
- ▶ Color Variance
- ▶ Placement – Thickness – Gradation
- ▶ Resident Management

# PAVEMENT PRESERVATION Philosophy



Right Treatment

Right Pavement



Right Time

“

# Proper Project Selection

## 3. Current Surface Texture Considerations

Good Surface Textures	Moderate Surface Textures	Bad Surface Textures
Minor Loss of Smaller Fines	Loss of Small to Medium Fines	Loss or Shedding of Large Stones
Chip Seal	Brand New AC	Extremely Smooth
2 to 5 Year Old AC	10 to 15 year Old AC	20 + Year Old AC
Diamond Grinding	Cold Planing (Grinding)	Deep Conform Grinds
		Seal Coat or Seal Coat Residual
		Freshly Placed FOG Seal
		Flushing
		Bleeding
		Delamination
		Flaking
		Pumping

# Proper Project Selection

Extreme Alligating - Too Far  
Gone  
*(Likely Sub-Grade Issues)*



Bad Candidates:



Wheel Path Deformation as  
well as Surface Bleeding

# Proper Project Selection

## Good Candidates:



No Apparent Defects



## Borderline Candidates:



Minor Repairs and Crack Fill  
Potentially a Cape Seal Candidate

# Proper Project Selection

## 4. Selection of Micro-Surfacing Material Type

Material Type	Roadway /Surface Candidate	Other Potential Uses
<b>Type III (3)</b>	Highways Freeways Rural County Roadways Arterial Roadways Collector Roadways	Leveling Course Minor Rut Filling First Coat, Covered by a Type 2
<b>Type II (2)</b>	Rural County Roads Arterial Roadways Collector Roadways Residential Roadways	Bike lanes on Arterial Roadways
<b>Type I (1)</b> <i>(Not Typically used for Micro-Surfacing)</i>	Home Owner Associations Parking Lots Bike Lanes on Road Edges	Crack Filler prior to Type 2 or 3

**Type I (1)**

**Type II (2)**

**Type III (3)**

# Surface Preparation

- ▶ Repair failed areas (dig-outs)
- ▶ Crack Seal
- ▶ Remove Thermoplastic Striping
- ▶ Pre and Post sweeping
- ▶ Covering all manholes, water valves and monuments





Repairing failed areas



# Crack Sealing



# Striping removal



*Note: Removal operations should be cautious to minimize surface scarring so that the scarification does not reflect through the finished surface.*

# Pre and Post Sweeping



The Surface should be thoroughly cleaned utilizing commercial sweepers in reachable areas and hand brooms in areas not reachable by machine. A vacuum sweeper may be used on surfaces where debris should be removed from minor cracks.

# Covering all Manholes and Water Valves



All Manholes, Water Valves, Monuments, and other Access Lids (i.e. All Iron) should be sufficiently protected as to prevent adhesion and/or penetration of Micro-Surfacing.



# Proper Prep Work

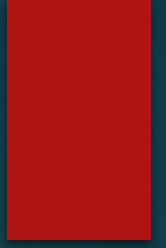


# Test Strip

## Is a Test Strip Necessary for the Project?:

- ▶ Is the project large enough in size to justify a test strip?
- ▶ Has the contractor placed the exact same materials under similar traffic conditions, utilizing a similar application rate?
- ▶ Was the material placed in close enough proximity that it may be evaluated for acceptance?
- ▶ Was the Micro-Surfacing placed within a historically reasonable timeline to be relevant for acceptance?
- ▶ Is the test strip being performed the same time of day or night as the project specified work times.

# Test Strip



## During the Test Strip:

- ▶ The Test Strip should utilize the predicted percentage settings of Emulsion and Additives (i.e. Cement, Sulfate, etc.).
- ▶ Material should be placed at the determined application rate.
- ▶ Each mixer unit / application box to be used on the project should lay material down for the test strip.
- ▶ If the project specifications call for pneumatic tired rolling, a pneumatic roller should be used on the test strip as well.



# Test Strip

## Test Strip Evaluation Criteria:

- ▶ Is there signs of deformation, shoving or bleeding?
- ▶ Is there any excessive raveling occurring? (*Some ravel is normal*)
- ▶ Is there any delamination or stripping apparent?
- ▶ Based on the length of the Test Strip do the calibrations produce the same application rate as actual materials laid?
- ▶ If multiple mixer units are being utilized on the project, does each unit produce material with the same consistency, color, and texture?
- ▶ Is the Final Appearance within acceptable industry standards?



# Visual Inspection



Color of mat during and after



# Hand Work



# Joints and Consistency





Drag Marks – oversized rock, stockpile management or dirty box?

# Transverse Joints Examples

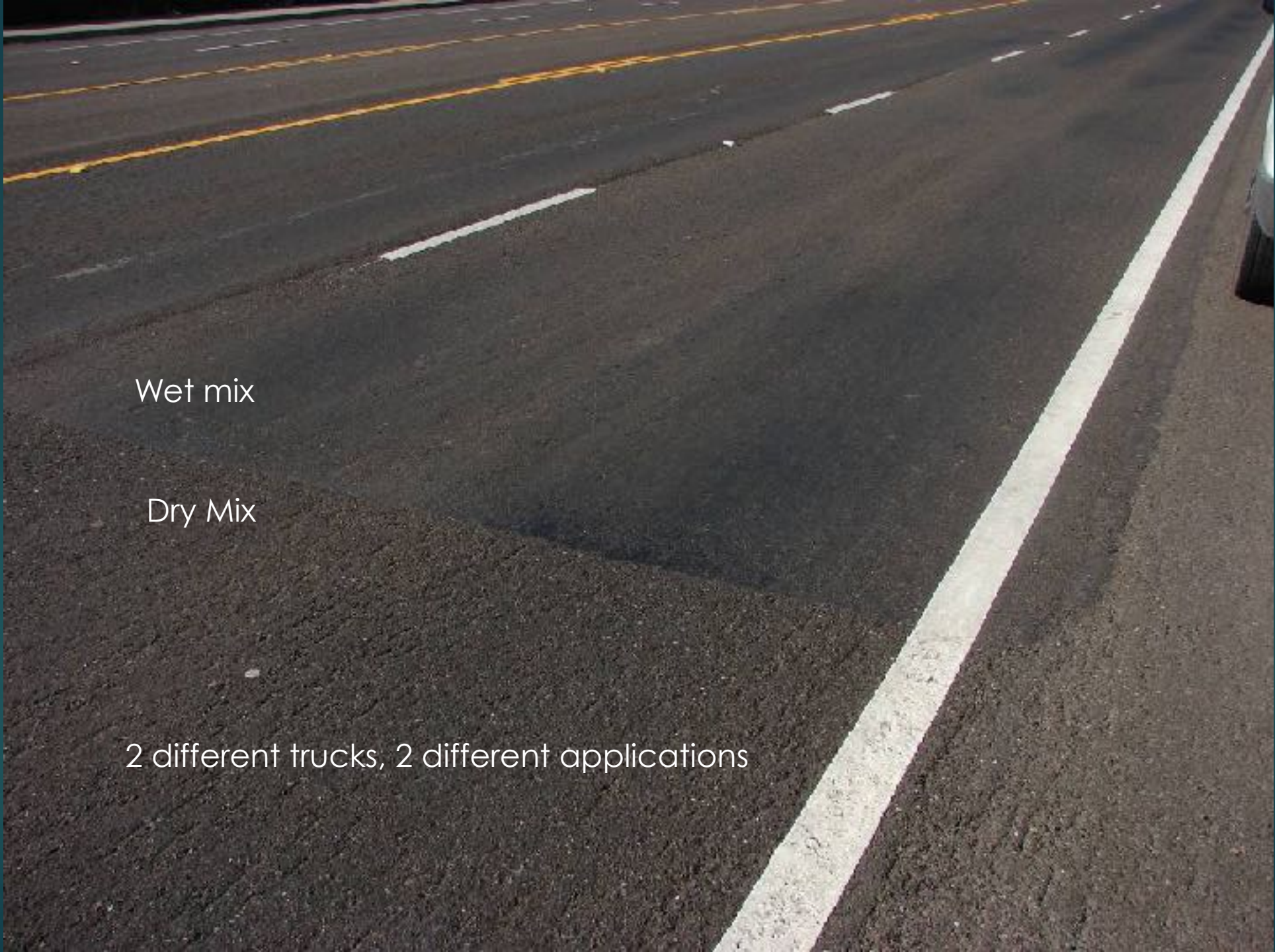




Wet mix

Dry Mix

2 different trucks, 2 different applications



# Managing Residential Streets



- Notify residents
- Traffic Control



Highway Patrol



# Cape Seal



# Finished Product



City of Vancouver, WA



HOA



City of Napa

Type III Micro – Arterial





# The Process



# In Summary...

- ▶ Project Selection
- ▶ Prep Work
- ▶ Material Testing
- ▶ Inspection, Inspection, Inspection
- ▶ “You get what you inspect.”

# Pavements

Design & Analysis

Materials Quality Assurance

Sustainability

Pavement Management & Performance

Materials & Construction Technology

Life Cycle Cost Analysis

Mechanistic Empirical Design Guide

Surface Characteristics Smoothness

Pavement Preservation

Overview

Education and Resources

Library

Home / Programs / Pavements / Design & Analysis / Pavement Preservation / Pavement Preservation Checklist Series

## Pavement Preservation Checklist Series

- [Construction Inspection Checklist #01 Crack Seal Application](#), FHWA-IF-02-005 2002
- [Construction Inspection Checklist #02 Chip Seal Application](#), FHWA-IF-02-016 2002
- [Construction Inspection Checklist #03 Thin Hot Mix Application](#), FHWA-IF-02-049 2002
- [Construction Inspection Checklist #04 Fog Seal Application](#), FHWA-IF-03-001 2003
- [Construction Inspection Checklist #05 Microsurfacing Application](#), FHWA-IF-03-002 2003
- [Construction Inspection Checklist #06 Joint Sealing Portland Cement Concrete Pavements](#), FHWA-IF-03-003 2003
- [Construction Inspection Checklist #07 Diamond Grinding of Portland Cement Concrete Pavements](#), FHWA-IF-03-040 2005
- [Construction Inspection Checklist #08 Dowel Bar Retrofit for Portland Cement Concrete Pavements](#), FHWA-IF-03-041 2005
- [Construction Inspection Checklist #09 Partial-Depth Repair of Portland Cement Concrete Pavements](#), FHWA-IF-03-042 2005
- [Construction Inspection Checklist #10 Full-Depth Repair of Portland Cement Concrete Pavements Checklist](#), FHWA-IF-03-043 2005
- [Construction Inspection Checklist #11 Hot In-Place Asphalt Recycling Application](#), FHWA-HIF-13-061 2013
- [Construction Inspection Checklist #12 Cold In-Place Asphalt Recycling Application Checklist](#), FHWA-IF-13-062 2013
- [Construction Inspection Checklist #13 Slurry Seal Application Checklist](#), FHWA-IF-06-014 2006
- [Construction Inspection Checklist #14 Fabric Interlayer Application Checklist](#), FHWA-HIF-11-010 2010
- [Construction Inspection Checklist Full Depth Reclamation](#), FHWA-HIF-13-038 2013

### Events

- [Pavement Management Quarterly Webinar](#)  
Webinar  
October 19, 2017  
2:00-4:00 Eastern
- [View all Upcoming Pavement Events](#)

### More Information

- [Foundation for Pavement Preservation](#)
- [Pavement Publications](#)
- [System Preservation](#)

### Contact

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