Suggested Field Considerations

These field considerations are guides to the important aspects of performing a slurry surfacing project. Thorough answers to these questions should be determined, as required, before, during, and after construction. The appropriate staff to do this will vary by job type and size. Some topics may need attention from several staff members. The intention is not to produce a report but to bring attention to important aspects and components of the slurry surfacing project process.

Note that some specifications described in the following content may not be the same as the specifications followed by your agency. Always check with your State agency's standards and specifications when using these guidelines.

Sections

Preliminary Responsibilities

❑ **Project Review**

— Is the project a good candidate for slurry surfacing?
— What is the depth and extent of any rutting?
— How much and what type of cracking exists?
— Is crack sealing needed?

- How much bleeding or flushing exists?
- Is the pavement raveling?
- What is the traffic level?
- Is the base sound and well drained?
- Have the project bid/plan quantities been reviewed?

❑ **Document Review**

- Bid specifications
- Mix design information
- Special provisions
- Construction manual
- Traffic control plan (TCP)

❑ **Materials Checks**

- Has a full mix design and compatibility test been completed?
- Is the binder from an approved source (if required)?
- Has the binder been sampled and submitted for testing?
- Does the aggregate meet all specifications?
- Is the aggregate clean and free of deleterious materials?
- Is the aggregate dry?
- Is the emulsion temperature within application temperature specifications?

Pre-seal Inspection Responsibilities

❑ **Surface Preparation**

- Is the surface clean and dry?
- Have all pavement distresses been repaired?
- Has the existing surface been inspected for drainage problems?

Equipment Inspection Responsibilities

- ❑ **Broom**
  - — Are the bristles the proper length?
  - — Can the broom be adjusted vertically to avoid excess pressure?
- ❑ **Slurry Seal Equipment**
  - — Has each machine been calibrated with the project's aggregate and emulsion?
  - — Who carried out calibration and what documentation has been provided?
  - — Is the machine fully functional?
  - — Has the machine been calibrated for this project's aggregate and certified? Is the spreader rubber clean and not worn?
  - — Is the texture rubber clean and set at the right angle?
  - — Are all paddles in the pug mill intact?
  - — Is the spreader box clean?
- ❑ **Rollers (if used)**
  - — Do the roller tire pressures comply with the manufacturer's specification?
  - — What type of roller will be used on the project (pneumatic-tired roller recommended)?
  - — Do the roller tire size, rating, and pressures comply with manufacturer's recommendations?
  - — Is the pressure in all tires the same?
  - — Do all tires have a smooth surface?
- ❑ **Stockpile**
  - — Is the stockpile site well drained and clean?
  - — Does the contractor have all of the equipment required at the stockpile site (loaders, tankers, etc.)?
- ❑ **Equipment for Continuous Run Operations**
  - — Is all equipment free of leaks?

— Are Flow Boys or other nurse units clean and functional?
— Are there enough units to allow continuous running with minimal stops for cleaning box rubbers?

Site Considerations

❑ Weather Requirements

— Have air and surface temperatures been checked at the coolest location on the project?
— Do air and surface temperatures meet agency requirements?
— Are adverse weather conditions expected? High temperatures, humidity, and wind will affect how long the emulsion takes to break.
— Is application of the slurry surfacing postponed if rain is likely?
— Are freezing temperatures expected within 24 hours of the completion of any application runs?

❑ Traffic Control

— Do the signs and devices used match the traffic control plan?
— Does the work zone comply with the agency's requirements?
— Are flaggers holding traffic for reasonable periods of time?
— Are unsafe conditions, if any, promptly reported to a supervisor (contractor or agency)?
— Does the pilot car lead traffic slowly, 24 mph or less?
— Are signs removed or covered when they no longer apply?

Application Considerations

❑ Determining Application Rates

— Have agency guidelines and requirements been followed?
— Have rut filling and leveling course application rates been calculated or estimated separately?

— Has a full mix design been done?
— Is more material applied to dried-out and porous surfaces?
— Is more material applied on roads with low traffic volumes?
— Is less material applied to smooth, non-porous, and asphalt-rich surfaces?
— Has moisture content been adjusted when calculating the application rate?

Project Inspection Responsibilities

❑ Slurry Surfacing Application

— Has a satisfactory test strip been done?
— Have field tests been carried out and are the results within specification?
— Are enough trucks on hand to keep a steady supply of material for the slurry machine?
— Does the application start and stop with neat, straight edges? Will an edge box be used?
— Does the application start and stop on building paper or roofing felt?
— Are drag marks present due to oversize aggregate or dirty rubbers?
— Are rubbers cleaned regularly and at the end of each day?
— Does the machine take a straight, even line with minimal numbers of passes to cover the pavement?
— Is the mix even and consistent?
— Are fines migrating to the surface?
— Is the application stopped as soon as any problems are detected?
— Does the application appear uniform?
— Does the surface have an even and uniform texture?
— Is the application rate checked based on amounts of aggregate and emulsion used?
— What is the time between spreading, foot traffic, and opening to vehicular traffic?

- ❑ **Rolling**
  - — Does rolling wait until the mat is stable? (Roller is 5-6 tonnes (7) maximum.)
  - — Is the entire surface rolled only once?
  - — Do the rollers travel slowly, 5 mph maximum?
- ❑ **Truck Operation**
  - — Are trucks staggered across the fresh seal coat to avoid driving over the same area?
  - — Do trucks travel slowly on the fresh seal?
  - — Are stops and turns made gradually?
  - — Do truck operators avoid driving over the new slurry?
  - — Do truck operators stagger their wheel paths when backing into the paving unit?
- ❑ **Longitudinal Joints**
  - — Is the meet line overlapped a maximum of 3 in.?
  - — Do the spreader box runners avoid running on the fresh mat?
  - — Are the meet lines made at the center of the road, center of a lane, or edge of a lane, not in the wheel paths?
- ❑ **Transverse Joints**
  - — Do all applications begin and end on building paper or roofing felt?
  - — Is the mixture not too wet at start up?
  - — Is the building paper or roofing felt disposed of properly?
- ❑ **Brooming**
  - — Does brooming begin after the slurry surfacing can carry traffic?
  - — Does brooming dislodge the slurry surfacing?
  - — Is the surface raveling? (Follow-up brooming should be done if raveling is high or if traffic is high.)

- ❑ **Opening the Slurry Surfacing to Traffic**
  - — Does the traffic travel slowly—24 mph or less—over the fresh slurry surfacing?
  - — Are reduced speed limit signs used when pilot cars are not used?
  - — After brooming, have pavement markings been placed before opening to traffic?
  - — Have all construction-related signs been removed when opening to normal traffic?
- ❑ **Clean Up**
  - — Has all loose aggregate from brooming been removed from the traveled way prior to opening to traffic?
  - — Have all binder spills been cleaned up?