Preparation For Surface Treatments

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Surface Treatment Options

- Fog Seal
- Scrub Seal
- Sand Seal
- Chip Seal
- Slurry Seal
- Parking Area Sealcoats
- Micro-Surfacing
- Thin (<1 ½”) Overlays
Preparation Measures

• MATERIALS Selection
• SEAL CRACKS
• DIGOUT & PATCH failed areas
• Notify the residents
• Place tow warnings on cars
• Clean the pavement
• Remove pavement markings
• Install temp. reflector markings
• Mask the “iron” (raise iron?)
Raise Iron?  Riser ring in place
Pavement Structural Section
Terminology Review…

Components of Pavement “Section”

HMA = hot mix asphalt
    (asphalt binder + aggregate)

AB = aggregate base

AS = aggregate subbase
Asphalt Binder Types

1. **Paving Asphalt** (pure asphalt; used HOT)
   - conventional (e.g. PG 64-10)
   - modified
     - asphalt rubber (ground tires)
     - polymer-modified (e.g. PG 70-22PM)

2. **Cutback Asphalt** (asphalt + cutter oil)
   - e.g. SC 800, MC 250

3. **Asphalt Emulsions** (asphalt + water)
   - e.g. SS, RS, QS
Use the right HMA Type for the traffic loading!

(Type A? Type B? Type C?)
Asphalt Mix Types

• Hot Mix Asphalt (HMA)
  – Type C (HS)
  – Type A
  – Type B
  – SuperPave – coming soon!
• Open Graded Friction Course (OGFC)
• Rubberized
  – R-HMA-G, R-HMA-O, R-HMA-HB
Crack Sealing

...our first line of defense
Cold Pour (emulsion)
Blowing

crack

clean
“Overbanding”
Minimize the “overband”!
Excessive Over-banding
Excessive?
Confusing?
Crack Sealing…

Discussion & Questions?
Digouts & Patching

“A stitch in time… saves nine.”
Patching

aka...

“Dig-outs”

“Plugging”

“R&R”
Jack-hammered Cut
Replace Temp. Patches with HMA
Temp. Cold Mix – replace it!
Use The Right HMA Mix For The Traffic Loading!

Type A? Type B? Type C?
Asphalt Mix Types

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  - Type A
  - Type B
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Always recompact the base material
Tack coat all vertical faces.
Full lane “patch”...
Don’t Over-Rake!
“Pinch” the edges first
Temperature Guidelines

325F - Plant Max.
300F - Typical Plant
↑ First Roller ("breakdown")
250F - Minimum for First Roller
↓ Compaction Rolling
175F - Quit Vib. Rolling
↓ Finish Rolling
150F - Truck or Bus Traffic OK; Next Lift OK

NOTE: WMA will change things!
Compaction Guideline

• Place enough loose mix that it takes at least 3 repeat roller passes to compact it ‘flush’ with that surrounding old pavement.
Cooling with water...OK??
Patching Guidelines

• Use hot mix (HMA); 50% thicker
• Place enough mix – allow for roll-down
• Don’t over-rake; just ‘bump’ the edges
• Roll promptly - while mix is hot!
• Make 3 repeat roller passes (minimum)
• Check for “flush” with straight-edge
• Fog Seal the patch surface?
Quick Patch Mix

OK to leave in??
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That’s All Folks!

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Resources

California Pavement Preservation Center (Chico State Univ.) www.csuchico.edu/cp2c/

California Chip Seal Assn. www.chipseal.org

U.C. Berkeley - ITS Classes www.techtransfer.berkeley.edu/index.php

California Asphalt Pavement Assn. (CalAPA) www.calapa.net