Longitudinal Joint Construction

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Plan the Longitudinal Joints

- Discuss at Pre-pave
  - Surface Lift Layout Plan
    - Consider need to offset joints between layers
    - Avoid wheel paths and striping
  - Joint Construction Practices
    - Paving
    - Rolling
00745.61 (a) Location – Place the HMAC in panel widths which hold the number of longitudinal joints to a minimum. Offset the longitudinal joints in one panel by at least 6 inches from the longitudinal joints in the panel immediately below.
Final Lift Joint Layout Plan
Poor Planning and joints can land in wheel path
Echelon Paving

- Eliminates the number of cold joints
- Provides best opportunity for tight joint

Joint passes between quarters
Traffic typically limits
Paving - Type of Joint

- Know the proper overlap for the type of joint planned to be paved

Butt Joint (paver construction)

Butt Joint (milled or cutback)
Typical Overlap on Longitudinal Joints

Thickness of Rolldown

1-1.5 in

For milled joint reduce to 0.5 in

Uncompacted Mat

Compacted Mat
Reference Line for Paver
Without Reference

Hard to Match next pass
End Gate

- Ensure End Gate is seated flat on existing surface.
Augers and Tunnels

Both should be within 12 to 18 inches of End Gate
Auger Overload – likely to segregate
Segregation without proper auger and tunnel setup
Rolling Unsupported Edge

Option 1
Hang over 4-6"

Option 2
1st Pass 4”-6” inside

2nd Pass hang over 4”-6”

Roller

Roller

4”- 6”
Rolling Unsupported Edge

Edge of drum inside of unsupported edge can cause cracking near the edge

Caution – We Don’t Want This
Go to Option 1
4-6 inch overhang on first pass
Paver Automation (Joint Matcher)

- Achieves thickness of mat needed
  - If hot side is not starved of material, the roller drum will bridge on cold mat
  - Target a final height difference of 0.01 inch on hot side.
Destined for Failure

Hot side of joint starved of material leading to bridging
Ski Best for Smoothness
Don’t Rake the Longitudinal Joint
Rolling Supported Edge

1st pass off the joint
approx 6-8 inches

2nd pass overlaps on cold mat 3-6 inches
Rolling Supported Edge

- Watch for stress cracks at edge of the drum
  - Typically happens on unsupported edge, but has been known to occur on supported edge as well.

- Try first pass overhang on cold side 3-6 inches
Rolling Supported Edge

- Alternative Method
  - Concern with this method is if insufficient mix is laid at joint, then bridging will occur.

1st pass overlaps on cold mat 3-6 inches