

SPECIAL NOTE FOR 6 INCH BONDED CONCRETE OVERLAY ON ASPHALT

1) DESCRIPTION

6-Inch Bonded Concrete Overlay on Asphalt will be bid as JPC Pavement - 6 Inch. Conform to Section 501 and other applicable sections of the Standard Specifications as well as applicable standard drawings for JPC pavement except as described in this special note.

2) PREPARATION

After milling and asphalt leveling have been completed and prior to placing the concrete overlay, fill cracks greater than 1.0 inch width with grout.

Sweep the milled pavement clean of any loose debris. In addition to sweeping, air blast the pavement directly ahead of paving operations. Tack coat below the concrete will not be required prior to paving. The surface temperature of the asphalt pavement may be no more than 90°F at the point of placement. Sprinkling with water prior to paving may be used to reduce pavement temperature to acceptable levels, but no ponding of water may be present.

3) REINFORCEMENT

- a) Dowel or tie bars will not be required with the longitudinal or transverse sawed joints. Dowels (1.0" diameter) and tie bars will be required in accordance with the standard specs and standard drawings for construction joints.
- b) Macro Synthetic Fibers shall be used according to the following:
 - i) Provide macro-fibers that are monofilament, non-fibrillated fibers made from virgin polypropylene, polyethylene, or co-polymers that are inert to alkali attack.
 - ii) Ensure the fibers have a minimum tensile strength of 70 ksi, a minimum modulus of elasticity of 800 ksi, a minimum filament diameter of 0.012 inches, an aspect ratio between 70 and 150, and are between 1.0 and 2.5 inches in length.
 - iii) Store the fibers according to the manufacturer's recommendations and keep the material free from dust, dirt and moisture.
 - iv) Use a minimum dosage rate of fibers of 5.0 lb/yd³ of concrete. Determine the final proposed dosage rate through mix testing. Ensure the fiber reinforced concrete mix meets or exceeds a minimum Residual Strength Ratio of 20% with an equivalent flexural strength of 600±50 psi according to ASTM C 1609. Utilize a laboratory regularly inspected by the Cement and Concrete Reference Laboratory (CCRL) of the National Institute of Standards and Technology, or other approved reference laboratory, to perform the testing.
 - v) Fibers shall be measured by mass and be batched with an accuracy of -3% to +5% of the amount required from the approved mix design and the mass reported on the fiber reinforced concrete batch ticket.
 - vi) Ensure the final proposed mix is workable and able to be produced such that balling or clumping of the fibers is not a problem as determined by the Engineer.

- vii) Before use, submit documentation to the Project Engineer certifying both the fibers and mix meet or exceed the required properties. Sampling will be allowed for testing purposes.

4) HAND FINISHING.

Keep hand finishing of pavement to a minimum. Generally, hand methods of placement and finishing will only be permitted as follows:

- a) For pavement when a breakdown of some portion of the paving train occurs, making the hand finishing of that portion of the concrete already in place necessary.
- b) When the dimensions of the work make the use of a complete power operated paving impossible, or impracticable.

5) TEXTURING.

Provide concrete pavement with longitudinal texturing when slip form paving is used. Depth, spacing, and any other details in regards to texturing will be completed as per Specification 501.03.13 H) with the exception of the direction of texturing, and the spacing of longitudinal grooves. Spacing for the longitudinal grooves will be 3/4 inch. Obtain the Resident Engineer's approval as per the method of construction. A test area will not be necessary, but the Engineer does retain the authority to stop work if in the Engineer's opinion a problem occurs. Diamond grinding will not be considered an acceptable alternative. Ride Quality will also not be waived. No direct payment will be made for texturing of the pavement and it will be considered incidental to JPC Pavement.

6) CURING SEAL.

Provide a white membrane curing seal per Specification 501.03.15(A), except:

- a) Curing compound must be applied before any surface evaporation occurs.
- b) Apply the curing compound at the rate of one gallon to no more than 100 square feet total application, applied in two coats.

7) JOINTS.

- a) Longitudinal and Transverse Joints. Place 6 foot longitudinal and 6 foot transverse joint spacing throughout the JPC Pavement – 6 Inch.
- b) Commence joint sawing as soon as the concrete has developed sufficient strength so that joint can be cut without raveling or chipping. Provide joints with a width of 1/8 inch using lightweight early entry concrete saws. Extra saws may be needed to cut joints in a timely manner.
- c) Seal all joints with hot-poured elastic joint seal. All joints will be cut to depth of $T/3 \pm 1/8$ inch. Contractor should be aware that if the overlay thickness were increased, deeper cuts would be necessary.
- d) Construction Joints. Construct according to the standard specifications and standard drawings.

8) **MEASUREMENT.** The Department will measure the quantity of 6-Inch Bonded Concrete Overlay on Asphalt according to Subsection 501.05.

9) **PAYMENT.** The Department will make payment for the completed and accepted quantities under the following:

<u>Code</u>	<u>Pay Item</u>	<u>Pay Unit</u>
02075	JPC Pavement-6 Inch	Square Yard

Any preparation work required by section two of this note, with the exception of milling, shall be incidental to "JPC Pavement – 6 Inch". Macro synthetic fibers, as described in section 3 of this note, shall be incidental to "JPC Pavement – 6 Inch".