

**FY 2019/2020 QC Category No. 8A**  
**STATEWIDE INSPECTION GUIDELIST**  
**Concrete Pavement**

**QC Plan & Delivery Tickets**

1. Ensure the QC Plan is approved prior to paving operations. Ensure the required pre-paving meeting is held. [Spec. 105-5, CPAM 3.2.6.3 (2)]
2. Ensure the electronic delivery ticket is furnished for each batch of concrete before unloading at the placement site. [Spec 346-6.3]

**Weather & Lighting**

3. All paving operations cease when rain is imminent and have all available personnel cover the surface of the unhardened concrete with a protective covering, to protect the finish. [Spec 350-6]
4. Ensure protection of the fresh concrete pavement from inclement weather. [Spec. 350-6 & 400-7.1]
5. Ensure sufficient lighting is provided during night work. [Spec. 8-4.1]

**Subgrade**

6. The subgrade is completed for a distance of at least 500 feet ahead of the paving operation. [Spec 350-4]
7. The subgrade is maintained in a smooth and compact condition and is within 2% of the optimum moisture content at the time concrete is placed. [Spec. 350-4]

**General Paving & Finished Surface**

8. The pavement is constructed by a slip-form paver or fixed form. [Spec 350-1]
9. Ensure if any uncontrolled cracks appear during the life of the Contract, the cracked concrete is removed and replaced and effective solutions are implemented immediately to eliminate further cracks. [Spec. 350-1]
10. Ensure workers do not walk in the freshly placed concrete with their boots or shoes coated with earth or other deleterious substances. [Spec. 350-8.1]
11. The pavement is constructed to the full width of the lane or slab in a single construction operation. [Spec. 350-8.3]

**Slip-form Paver**

12. The slip-form paver is self-propelled and equipped to spread, strike-off, consolidate, screed, and float finish the freshly placed concrete in one complete pass. [Spec. 350-3.2]
13. The slip-form paver uses automatic guidance and grade controls with the exceptions noted in the Spec. [Spec. 350-3.2]

**Forms**

14. The forms are set to line and grade and such that they rest firmly upon the subgrade surface, throughout their entire length. [Spec 350-5]
15. Forms are maintained 500 feet on each side of the roadway in advance of the concrete pavement being placed and are true to line and grade. [Spec. 350-5.3]
16. Forms are cleaned after each use and prior to placing concrete against them. A release agent is applied in accordance with the manufacturer's recommendations. [Spec. 350-5.4]
17. Ensure the forms are not removed from freshly placed concrete for at least 12 hours after placement. After removing the forms, immediately apply curing compound to the sides of the slab. [Spec. 350-11.4]

**Rebar**

18. Where the Plans call for reinforced concrete pavement (RCP), ensure the re-bars are free from any material which can impair bonding of the steel with the concrete such as dirt, oil, paint, grease, mill scale, and any loose or thick rust. [Spec. 350-7.1]
19. Ensure all the re-bars of RCP are placed in accordance with the Plans and the bars are securely wired together at the transverse and longitudinal intersections. Lap splices are not less than 20 times the nominal diameter of the bar and only in the longitudinal members. [Spec. 350-7.3]

**Consolidation & Vibration**

20. The concrete is consolidated for the full width of the strip being placed with either surface pan type or internal type vibrators. [Spec. 350-3.3]
21. For surface vibrators, the frequency is at least 3,500 impulses per minute. [Spec. 350-3.3]
22. If using internal type vibrators (tube or spud vibrators): for tube vibrators, use a frequency of at least 5,000 impulses per minute and for spud vibrators, use a frequency of at least 7,000 impulses per minute. [Spec. 350-3.3]
23. The concrete is thoroughly consolidated against and along the faces of all forms, and along the full length on both sides of all joint assemblies by means of a hand-operated, spud-type vibrator. [Spec. 350-8.4]
24. The final finish is applied using a seamless length of damp burlap over the full width of the strip of constructed pavement as the water sheen disappears from the surface of the pavement and just before the concrete achieves its initial set. [Spec. 350-10.1]

**Smoothness & Grade**

25. Ensure the pavement surface is true to grade and uniform in appearance with a longitudinal line type texture by the grinding operation. Smoothness is tested by the 10 foot rolling straightedge, a 10 foot long rolling straightedge, or a California Type Profilograph for acceptance as defined in the Specifications. All deficiencies are corrected and retested to ensure conformity. [Spec. 352-4, 5, 6]
26. Ensure all joints are checked with straightedge before concrete becomes non-plastic and make corrections if any smoothness deficiency is found. [Spec. 350-10.2]

### **Curing & Curing Compound**

27. The device for application of membrane curing compound is self-propelled and capable of uniformly applying the curing compound at the specified rate. [Spec 350-3.4]
28. Ensure the concrete is cured in accordance with the requirements of the Specifications. Do not leave the concrete exposed for a period in excess of 30 minutes between stages of curing or during the curing period. [Spec. 350-11.1]
29. Ensure the freshly placed concrete is continuously cured for a period of 72 hours, exclusive of any periods when the temperature of the surface of the concrete falls below 50°F. [Spec 350-11.1]

### **Joint Construction & Sealing**

30. Ensure the longitudinal joints are constructed in accordance with the details shown in the Plans and the tie bars or tie bolt assemblies are placed correctly in depth, spacing, location, and angles. Ensure the dowel bars are the correct diameter and length. [Spec. 350-12.2]
31. Transverse construction joints are placed at the end of all pours and other locations where paving operations are stopped for as long as 30 minutes. [Spec. 350-12.3.1]
32. Accomplish the transverse contraction joint sawing in two steps. Make the initial cut 1/8 inch wide by a depth at least 1/3 of the pavement thickness and as soon as possible in no case longer than 12 hours after placing the concrete. [Spec. 350-12.3.2]
33. Dowel load-transfer devices are placed in all transverse joints and the position of the devices shall be confirmed by suitable means acceptable to the Engineer. Ensure the fasteners hold the dowel cage in place. Ensure method being used to confirm that the dowel bars are properly placed. [Spec. 350-12.4]
34. For sawed joints that will receive sealant, ensure the joint is flushed with a jet of water to remove any remaining slurry. [Spec. 350-12.6.1.1]
35. When using a hot-poured sealer, the heating kettle is of the indirect heating or double boiler type, using oil as a heat transfer medium. [Spec 350-12.7.1]

### **Thickness**

36. Determine the thickness by one of the methods in Section 350-14.1. If the pavement is cored, the pavement removed by the borings shall be repaired promptly. [Spec. 350-14.1]
37. On concrete slab replacement projects, measure the thickness of each removed slab by taking one thickness measurement per side of the perimeter of the removed slab (4 total measurements for each replacement slab section). Calculate the average of the measured thicknesses for a slab to determine the "thickness of the removed slab". Use the calculated "thickness of the removed slab" for payment purposes as defined in Specification 353-11.

### **Traffic**

38. After placement of the concrete, traffic is kept off the pavement for a minimum of 14 calendar days or for such period as otherwise provided in the contract documents. [Spec. 350-16]