DIVISION 600

601.00 CONCRETE PAVEMENT CHECKLISTS

601.01 CONCRETE PAVEMENT CHECKLIST

SSHC References:

Section 600 Portland Cement Concrete Pavements
Section 603 Concrete Pavement
Section 1002 Portland Cement Concrete
Section 1010 White Opaque Polyethylene Film and White Burlap--Polyethylene Sheeting For Curing Concrete
Section 1011 Burlap For Curing Concrete
Section 1012 Liquid Membrane-Forming Compound For Curing Concrete
Section 1014 Joint Sealing Filler
Section 1015 Preformed Joint Filler
Section 1033 Aggregates

Inspection Crew:

Placement Inspector
Certified Plant Inspector

Inspection Equipment:

Slump Cone
Air Meter (pressure)
Cylinder Molds and Lids
Rod
Mallet
Strike Off Bar
Ruler
3 m (10 foot) straightedge
Subgrade Templet

Placement Procedures:

1. Preplacement check of equipment. Verify vibratory, paver and all other equipment are operational.
2. Check subgrade. Use nuclear density gauge to check density.
3. Check base or foundation course. Use nuclear density gauge to check density.
4. Check placement of steel if present.
5. Check Form setting and alignment, if used.
6. Slab thickness and crown should be checked 3 times a day.
7. Have contractor wet grade before concrete placement.
8. Keep track of time from placement on grade to machine finishing.
9. Test concrete for air content and make cylinders when the consistency of the concrete appears different and as a minimum according to the Sampling Guide.

10. Watch concrete placement for compliance with specifications.
11. Check machine installation of steel.
12. Should not use water as a finishing aid; approved chemical finishing aid/evaporation retardants are also authorized.
13. Check surface with straightedge. Remove depressions and irregularities.
14. Check tining for conformance to specification.
15. Stamp station numbers in the plastic concrete.
16. Check application of spray curing compound.
17. Inspect prepared joints prior to sealing.
18. Inspect sealed joints.
19. Observe contractor's performance of pavement smoothness testing.
20. Notify coring crew of placement.
21. Each day prepare DR Form 85, Pavement Laid Report.
22. Reset section corner markers. (See Subsection 104.03)

Construction Critical Area:

1. Maintain a uniform roll, of about 100 mm, of concrete ahead of the front screed and a minimum of a 50 mm roll ahead of the rear screed.
2. Placement of tie bars and key ways.
3. Verify string line is tight and in correct position.
4. Verify layout will place longitudinal joints at correct locations. (Usually should coincide with lane lines.)
5. Use 3 m (10 foot) straightedge behind paver to check smoothness.
6. The time the concrete is in the truck and the time it sits on the grade should not exceed the specifications limits.
7. Trucks that segregate concrete or have cement balls must not be used.
8. The timing of cure application and even coverage.
9. Timing of joint sawing.

Safety Areas:

NDR Tests:

1. NDR T 23 Making and Curing concrete test specimens.
2. NDR T 119 Slump of Portland Cement Concrete.
3. NDR T 141 Sampling of Fresh Concrete.
4. NDR T 152 Air Content of Freshly Mixed Concrete by the Pressure Method.

601.02 CONCRETE PLANT CHECKLIST

SSHC References:

Section 603 Concrete Pavement
Section 1002 Portland Cement Concrete
Section 1004 Portland Cement
Section 1005 Water for Concrete
Section 1006 Calcium Chloride
Section 1007 Concrete Admixtures
Section 1008 Fly Ash
Section 1009 Silica Fume
Section 1033 Aggregates

Inspection Crew:

Certified Plant Inspector

Inspection Equipment:

Large balance or Dunagan buoyancy apparatus (5 kg)
Small balance (2 kg)
Set of gram weights, 2 kilogram weights
Set of coarse aggregate sieves and a set of fine aggregate sieves
Mechanical shaker
2 burner gas or electric stove
Sampling bags and containers
Slump Cone
Air Meter (pressure)
Cylinder Molds and Lids
Rod
Mallet
Strike Off Bar
Ruler
Water Bottle

Plant Procedures:

1. Check Plant Certification Checklist before production begins. This may be accompanied with a check of the equipment.
2. Check cement, fly ash, and admixture certifications and if approved; before production begins and when new materials arrive.
3. Check aggregate piles for segregation and contamination. (*SSHC Subsection 1033.03)*
4. Take materials samples as required by the Sampling Guide and specifications.
5. Test materials as required by the Sampling Guide and specifications.
6. Each day check the batching operation as needed.
7. Collect Proportioning Reports daily.
8. Check truck ticket for correct volume as necessary.
9. Send copies of Proportioning Report to Concrete Materials Section of the Materials and Research Division daily. Keep truck tickets in project file.

Construction Critical Areas:

1. Cementitious material bins must be watertight and prevent contamination.
2. Coarse aggregate stockpiles must be watered.
3. Admixtures need to be protected from freezing.
4. Delivery trucks need to be checked for wash water before batching each load of concrete.

Safety Areas:

NDR Tests:

1. NDR T 23 Making and Curing concrete test specimens.
2. NDR T 119 Slump of Portland Cement Concrete.
3. NDR T 141 Sampling of Fresh Concrete.
4. NDR T 152 Air Content of Freshly Mixed Concrete by the Pressure Method.
5. NDR T 27 sieve Analysis of Fine and Coarse Aggregates
6. NDR T 248 Reducing Field Samples of Aggregate to Testing Size
7. NDR T 506 Determination of the Free Moisture Content of Aggregates
8. NDR T 504 Determination of Clay Lumps, Shale, and Soft Particles in Coarse Aggregate and of Clay Lumps in Fine Aggregate and Sand and Gravel Aggregates
9. NDR T 255 Total Moisture Content of Aggregates by Drying

601.03 CONCRETE PAVEMENT REPAIR CHECKLIST

SSHC References:

Section 600 Portland Cement Concrete Pavements
Section 605 Concrete Pavement Repair
Section 1002 Portland Cement Concrete
Section 1012 Liquid Membrane-forming Compound For Curing Concrete
Section 1013 Bituminous Liquid Compound For Curing Concrete
Section 1014 Joint Sealing Filler

Inspection Crew:

Pavement inspector
Certified Plant Inspector

Inspection Equipment:

Slump Cone
Air Meter (pressure)
Cylinder Molds and Lids
Rod
Mallet
Strike Off Bar
Ruler
3 m (10 foot) straightedge
Subgrade Templet
Water Bottle

Patching Procedures:

1. Mark areas of pavement removal.
2. Preplacement check of the equipment.
3. Check subgrade.
4. Check base or foundation course.
5. Check placement of steel.
6. Check Form setting and alignment, if used.
7. Have contractor wet grade before concrete placement.
8. Test concrete for air content and make cylinders when the consistency of the concrete appears different and as a minimum according to the Sampling Guide.
9. Watch concrete placement for compliance with specifications.
10. Should not use water as a finishing aid; an approved chemical finishing aid/evaporation retardants are also authorized.
11. Check tining for conformance to specification.
12. Watch curing operation for conformance to specifications.
13. Keep track of ambient temperature during curing period.

Construction Critical Area:

1. Specified mixing is required to insure uniform dispersion of admixtures.

2. Proper cure procedures are critical to insure the early strength is achieved.

Safety Areas:

NDR Tests:

1. NDR T 23 Making and Curing concrete test specimens.
2. NDR T 119 Slump of Portland Cement Concrete.
3. NDR T 141 Sampling of Fresh Concrete.
4. NDR T 152 Air Content of Freshly Mixed Concrete by the Pressure Method.