NATIONAL CONCRETE CONSORTIUM

MISSOURI DOT

State Report Answers

April 26-28, 2011 TTCC/NCC Meeting

1) Summarize your state's current QC/QA requirements for pavements.

Please see the attached table.

(See attached file: Sampling Freq Table.xls)

2) Identify any differences in QC/QA requirements on projects with accelerated schedules.

There are no differences.

3) Summarize the requirements for allowable time between batching and placement for agitated and non-agitated concrete mixes.

Missouri no longer has specified time restrictions for when concrete needs to be discharge. MoDOT requires the concrete to comply with the following requirements:

a) The concrete shall not be segregated or be damaged during transporting and discharging
b) Place concrete with a minimum amount of handling
c) All handling and discharging of concrete shall occur prior to initial set of the concrete
d) Truck mixed concrete shall not exceed 300 revolutions after the beginning of mixing

4) Summarize acceptance and payment adjustment clauses related to QC/QA requirements.

For full depth concrete pavement, the amount of payment is calculated using the Percent Within Limits (PWL) method. There are two items evaluated, compressive strength and pavement thickness. For unbonded concrete overlays, the amount of payment is calculated using the Percent Within Limits (PWL) method with compressive strength as the only pay factor.

Smoothness adjustments are based on Profile Index values. Payment is based on the following tables:

Table I - Pavements with a posted speed over 45 mph

Profile Index, Inches Per Mile	Percent of Contract Price
10.0 or less	105
10.1 - 15.0	103
15.1 - 25.0	100
25.1 or greater	100[a]

[a] After correction to 25.0 inches per mile (395 mm/km) or less.

Table II - Pavements with a posted speed of 45 mph or less

Profile Index, Inches Per Mile	Percent of Contract Price
20.0 or less	103
20.1 - 45.0	100
45.1 or greater	100[b]

[b] After correction to 45.0 inches per mile (711 mm/km) or less.

For marred surface areas, a minimum deduction of 20% of the contract unit price is made for the affected areas. The deduction is applied to the section of pavement extending from the edge of pavement to a longitudinal joint or between longitudinal joints. If the length of the section affected is less than 10 feet, the deduction will be computed for 10 feet.

New concrete pavement that has been ground to remove bumps is considered a marred surface. If the contractor elects to grind from the edge of pavement to the longitudinal joint or between longitudinal joints for 0.1 miles or more, but not the entire section (i.e. a day's production), would not be considered a marred surface but would not be eligible for smoothness incentive. If the contractor elects to grind from the pavement edge to the longitudinal joint or between longitudinal joints for an entire section (i.e. a days production), would not be considered a marred surface and would be eligible for smoothness incentive.

If you have any questions, please feel free to contact me at (573) 751-2629.

Thanks,
Brett Trautman
Missouri DOT

PCCP Sampling Frequency

September 17, 2007

Plan Thickness >=8 inches

Property	Test	Test Method	Contractor Frequency (QC) *Independent Sample*	Engineer Frequency (QA) *Independent Sample*	Retained Samples (QA) *Spilt Sample*
Harden	Compressive Strength	AASHTO T 22	1 core per sublot	1 core per lot	n/a
	Pavement Thickness	AASHTO T 148	1 core per sublot	1 core per lot	n/a
	Macro Texture Depth[1]	ASTM E 965	1 test per sublot	1 test per lot	n/a
Fresh	Air Content	AASHTO T 152	1 test per 500 cubic yard	1 test per day	n/a
	Slump	AASHTO T 119	1 test per 500 cubic yard	1 test per day	n/a
Aggregate	Aggregate Gradation (Coarse & Fine)	AASHTO T 11 & T 27	1 test per week	1 test per project	At Least Test 10%
	Deleterious Content (Coarse)	MoDOT TM 71	1 test per 7,500 square yards	1 test per week	At Least Test 10%
	Absorption (Coarse)	AASHTO T 85	1 test per 2,000 cubic yard	1 test per 10,000 cubic yards	At Least Test 20%
	Thin & Elongated (Coarse) [+3/4 in. @ 5:1]	ASTM D 4791	1 test per 10,000 cubic yard	1 test per project	At Least Test 20%

[1] If wire comb and diamond grinding not preformed.

Plan Thickness < 8 inches

Property	Test	Test Method	Contractor Frequency (QC) *Independent Sample*	Engineer Frequency (QA) *Independent Sample*	Retained Samples (QA) *Spilt Sample*
Harden	Compressive Strength	AASHTO T 22	1 set of cylinders per 7,500 square yards[2]	1 set of cylinders per 30,000 square yards[2]	n/a
	Pavement Thickness	On Fresh Concrete	1 test per 7,500 square yards	1 test per 30,000 square yards	n/a
	Macro Texture Depth[1]	ASTM E 965	1 test per sublot	1 test per lot	n/a
Fresh	Air Content	AASHTO T 152	1 test per 500 cubic yard	1 test per day	n/a
	Slump	AASHTO T 119	1 test per 500 cubic yard	1 test per day	n/a
Aggregate	Aggregate Gradation (Coarse & Fine)	AASHTO T 11 & T 27	1 test per week	1 test per project	At Least Test 10%
	Deleterious Content (Coarse)	MoDOT TM 71	1 test per 7,500 square yards	1 test per week	At Least Test 10%
	Absorption (Coarse)	AASHTO T 85	1 test per 2,000 cubic yard	1 test per 10,000 cubic yards	At Least Test 20%
	Thin & Elongated (Coarse) [+3/4 in. @ 5:1]	ASTM D 4791	1 test per 10,000 cubic yard	1 test per project	At Least Test 20%

[1] If wire comb and diamond grinding not preformed.
[2] Mold two 6- by 12-inch cylinders or three 4- by 8-inch cylinders