



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 7, 2010

SUBJECT: FAP Route 310 (US 67/IL 267)
Project ACNHF-HPS-1570 (001)
Section 60-16
Madison County
Contract No. 76311
Item No. 17, June 11, 2010 Letting
Addendum B

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised pages 148 - 152 of the Special Provisions.

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Very truly yours,

Scott E. Stitt, P.E.
Acting Engineer of Design and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger P.E.".

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Mary C. Lamie, Region 5, District 8; Mike Renner; R. E. Anderson;
Estimates

TBW:DB:jc

HOT MIX ASPHALT PAY FOR PERFORMANCE USING PERCENT WITHIN LIMITS (BMPR)

Effective: April 4, 2008

Revised: April 8, 2010

Description. This special provision describes the procedures used for production, placement and payment for hot-mix asphalt (HMA). This special provision shall apply to all pay items for High ESAL and Low ESAL HMA and SMA mixtures that individually have a minimum quantity of 8000 tons (7260 metric tons) and are placed at a minimum nominal thickness equal to or greater than three times the nominal maximum aggregate size. This special provision shall not apply to shoulders, temporary pavements and patching. This work shall be according to the Standard Specifications except as specified herein.

Delete Articles:

406.06(b), 2 nd Paragraph	(Temperature requirements)
406.06 (e) 3 rd Paragraph	(Pavers speed requirements)
406.07	(Compaction)
1030.05(a)(4, 5, 7, 8, 9, & 10)	(QC/QA Documents)
1030.05(d)(2)a.	(Plant Tests)
1030.05(d)(2)b.	(Dust-to-Asphalt and Moisture Content)
1030.05(d)(2)d.	(Small Tonnage)
1030.05(d)(2)f.	(HMA Sampling)
1030.05(d)(3)	(Required Field Tests)
1030.05(d)(4)	(Control Limits)
1030.05(d)(5)	(Control Charts)
1030.05(d)(6)	(Corrective Action for Required Plant Tests)
1030.05(d)(7)	(Corrective Action for Field Tests (Density))
1030.05(e)	(Quality Assurance by the Engineer)
1030.05(f)	(Acceptance by the Engineer)
1030.06(a) paragraphs 3 (Before start-up...), 7(After an acceptable...), 8 (If a mixture...), & 9 (A nuclear/core...):	

The following documents have been added or modified to replace the equivalent documents in the current Manual of Test Procedures for Materials.

Existing	Replacement
ERS - HMA QC/QA Initial Daily Plant & Random Samples; Appendix E2	PFP Hot-Mix Asphalt Random Jobsite Sampling
ERS - Determination of Random Density Test Site Locations; Appendix E3	PFP Random Density Procedure
ERS - Quality Level Analysis; Appendix E1	PFP Quality Level Analysis

Definitions:

- (a) Quality Control (QC): All production and construction activities by the Contractor required to achieve the required level of quality.
- (b) Quality Assurance (QA): All monitoring and testing activities by the Engineer required to assess product quality, level of payment, and acceptability of the product.
- (c) Percent Within Limits (PWL): The percentage of material within the quality limits for a given quality characteristic.

Revised 06/07/2010

- (d) Quality Characteristic: The characteristics that are evaluated by the Department for payment using PWL. The quality characteristics for this project are field Voids in the Mineral Aggregate (VMA), voids, and density. Field VMA will be calculated using the combined Aggregates Bulk Specific Gravity (G_{sb}) from the mix design
- (e) Quality Level Analysis (QLA): QLA is a statistical procedure for estimating the amount of product within specification limits.
- (f) Sublot: A sublot for field VMA, and voids, will be 1000 tons (910 metric tons), or adjusted to achieve a minimum of 10 tests. If a sublot consists of less than 200 tons (180 metric tons), it shall be combined with the previous sublot.
- (g) Density Testing Interval: The interval for density testing will be 0.2 mile (320 m) for lift thickness equal to or less than 3 in. (75 mm) and 0.1 mile (160 m) for lift thickness greater than 3 in. (75 mm). If a density testing interval is less than 200 ft (60 m), it will be combined with the previous test interval.
- (h) Lot: A lot consists of 10 sublots or 30 density intervals. If seven or less sublots or 19 or less density intervals remain at the end of production of a mixture, the test results for these sublots will be combined with the previous lot for evaluation of percent within limits and pay factors. Lots for mixture testing are independent of lots for density testing.
- (i) Density Test: A density test consists of a core taken at a random longitudinal and transverse offset within each density testing interval. The HMA maximum theoretical gravity (G_{mm}) will be based on the running average of four including the current day of production. Initial G_{mm} will be based on the average of the first four test results. The random transverse offset excludes the outer 1.0 ft (300 mm) from an unconfined edge. For confined edges, the random transverse offset excludes a distance from the outer edge equal to the lift thickness or a minimum of 2 in. (50 mm).

Pre-production Meeting:

The Engineer will schedule a pre-production meeting a minimum of seven calendar days prior to the start of production. The HMA QC Plan, test frequencies, random test locations, and responsibilities of all parties involved in testing and determining the PWL will be addressed. Personnel attending the meetings will include the following:

- (a) Resident Engineer
- (b) District Mixture Control Representative
- (c) QC Manager
- (d) Contractor Paving Superintendent
- (e) Any consultant involved in any part of the HMA sampling or testing on this project

Quality Control (QC) by the Contractor:

The Contractor's quality control plan shall include the schedule of testing for both quality characteristics and non-quality characteristics required to control the product such as binder content and mixture gradation. The schedule shall include sample location. The minimum test frequency shall not be less than outlined in the Minimum Quality Control Sampling and Testing Requirements table below.

Revised 06/07/2010

Minimum Quality Control Sampling and Testing Requirements

Quality Characteristic	Minimum Test Frequency	Sampling Location
Mixture Gradation	1/day	per QC Plan
Binder Content		
G _{mm}		
G _{mb}		
Density	per QC plan	per QC Plan

Revise Article 1030.05(d)(4) to read:

“(4)The QC Manager shall notify the Engineer when the following individual corrective action limits are exceeded and describe corrective action.

Corrective Action Limits

Gradation:	High & Low ESAL	SMA
½ inch	± 6 %	± 6 %
¾ inch		± 4 %
No. 4	± 5 %	± 5 %
No. 8	± 5 %	± 4 %
No. 30	± 4 %	± 4 %
No. 200	± 1.5 %	± 1.5 %
Voids	± 1.2 %	± 1.2 %
Field VMA ^{1/}	- 0.7 % or + 2.0 %	- 0.7 % or + 2.0 %
HMA Binder Content	± 0.3 %	± 0.2 %
Dust/AC Ratio	Min. 0.6 - Max 1.2	--
HMA Moisture Content	Max 0.3%	Max 0.3%”

1/ Based on minimum required VMA from mix design.

Initial Production Testing. The Contractor shall split and test the first two samples with the Department for comparison purposes regardless of whether a test strip is used. The Contractor and Engineer’s laboratory shall complete all tests and report all results to the Engineer within two working days of sampling. PFP will begin after an acceptable test strip, if one is used.

Quality Assurance (QA) by the Engineer: The Engineer will test each subplot for field VMA, voids, dust/ac ratio and density to determine payment for each lot. A subplot shall begin once an acceptable test-strip has been completed and the AJMF has been determined. If the test strip is waived, a subplot shall begin with the start of production. All Department testing will be performed in a qualified laboratory by personnel who have successfully completed the Department HMA Level I training.

Voids, field VMA, and Dust/AC ratio: The mixture subplot size is 1000 tons (910 metric tons). The Engineer will determine the random tonnage and the Contractor shall be responsible for obtaining the sample according to the “PFP Hot-Mix Asphalt Random Jobsite Sampling” procedure.

Density: The Engineer will identify the random locations for each density testing interval. The Contractor shall be responsible for obtaining the cores according to the “PFP Random Density Procedure”. The locations will be identified after final rolling and cores shall be obtained under the supervision of the Engineer.

Revised 06/07/2010

Upon completion of coring, all water shall be removed from the core holes prior to filling. All core holes shall be filled with a rapid hardening mortar or concrete which shall be mixed in a separate container prior to placement in the hole.

Test Results: The Department test results for the first subplot, or density testing interval, of every lot will be available to the Contractor within five working days from the time the secured sample from the subplot or density testing interval has been delivered, by the Contractor, to a Department's Testing Facility or a location designated by the Engineer. Test results for the completed lot will be available to the Contractor within 14 working days from the time the last subplot or density testing interval has been delivered to a Department testing facility or a location designated by the Engineer.

The Engineer will maintain a complete record of all Department test results. Copies will be furnished upon request. The records will contain, as a minimum, the originals of all Department test results and raw data, random numbers used and resulting calculations for sampling locations, and quality level analysis calculations.

Dispute Resolution: Dispute resolution testing will only be permitted when the difference between the Contractor and Department split test results exceed the precision limits listed below:

Test Parameter	Limits of Precision
Voids	1.0 %
VMA	1.5%
No. 200 (75 μ m)	1.5 %
Binder Content	0.2 %
Core Density	1.0 %

If dispute resolution is necessary, the Contractor shall submit a request in writing within four working days of receipt of the results of the quality index analysis for the lot. The request for dispute resolution must include the Contractor's quality control and split sample test results. The Engineer will document receipt of the request. The Bureau of Materials and Physical Research (BMPR) laboratory will be used for dispute resolution testing.

For density disputes, the Engineer will locate and mark the dispute resolution core locations by adding 1 ft (300 mm) longitudinally to the location of the original cores tested using the same transverse offset. The Engineer will witness the coring process and take possession of the cores and submit them to the BMPR laboratory for testing.

If three or more consecutive mix sublots are contested, corresponding density results will be recalculated with the new G_{mm} .

All dispute resolution results will replace original quality assurance test results for pay factor recalculation. The lot pay factor for the lot under dispute resolution will be recalculated.

If the recalculated lot pay factor is less than or equal to the original lot pay factor, laboratory costs listed below will be borne by the Contractor.

Revised 06/07/2010

Test	Cost
Mix Testing	\$700.00 / subplot
Core Density	\$100.00 / core

Acceptance by the Engineer and Basis of Payment: The Engineer may cease production and reject material produced under the following circumstances:

- (a) If the Contractor is not following the approved quality control plan
- (b) If PWL for any quality characteristic is below 50 percent for any lot
- (c) If visible pavement distress occurs such as, but not limited to, segregation or flushing
- (d) If any test exceeds the acceptable limits listed below:

Acceptable Limits

Parameter	Acceptable Range
Field VMA	-1.0 -+3.0% ^{1/}
Voids	2.0 – 6.0% ^{2/}
Density: IL-19.0, IL-25.0, IL-9.5, IL-12.5 IL-4.75, SMA	90.0 – 98.0% 92.0 – 98.0%
Dust / AC Ratio	0.4 – 1.5 ^{3/}

- 1/ Based on minimum required VMA from mix design.
- 2/ The acceptable range for SMA mixtures shall be 2.0% - 5.0%
- 3/ Does not apply to SMA

Payment will be based on the calculation of the Composite Pay Factor for each mix according to the “PFP Quality Level Analysis” document. Payment for full depth pavement will be based on the calculation of the Full Depth Pay Factor according to the “PFP Quality Level Analysis” document.

The Contractor’s minimum pay will be limited to 92% even if the calculated final pay is less than 92%. However the Contractor will still have the possibility of receiving the maximum 103% if the calculated final pay so indicates.

Dust / AC Ratio. In addition to the PWL on VMA, voids, and density, a monetary deduction will be made using the pay adjustment table below for dust/AC ratios that deviate from the 0.6 to 1.2 range.

Dust / AC Pay Adjustment Table

Range	Deduct / subplot
$0.6 \leq X \leq 1.2$	\$0
$0.5 \leq X < 0.6$ or $1.2 < X \leq 1.4$	\$1000
$0.4 \leq X < 0.5$ or $1.4 < X \leq 1.6$	\$3000
$X < 0.4$ or $X > 1.6$	Shall be removed and replaced

Revised 06/07/2010