Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

March 3, 2006

SUBJECT: FAS 400 (CH 10)
Project RS-400(103)
Section 05-00123-02-RS
Knox County
Contract No. 89363
Item 96
March 10, 2006 Letting
Addendum (A)

TO PROSPECTIVE BIDDERS:

Due to clarify information necessary to revise the following:

Proposal – Schedule of Prices, deleted pay item X4066490 BCSC SUPER IL9.5L LE, added pay item X4066424 BC SC SUPER "D" N50. Revised Summary of Quantities, revised Bituminous Mixture Requirement Table and deleted BDE Special Provision Superpave Bituminous Concrete Mixtures (Low ESAL).

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,

Michael L. Hine
Engineer of Design and Environment

By: Ted B. Walschleger
Engineer of Project Development
and Implementation

COUNTY NAME	CODE	DIST	SECTION NUMBER	PROJECT NUMBER	ROUTE
KNOX	095	04	05-00123-02-RS	RS-0400/103/000	FAS 400

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE DOLLARS	UNIT PRICE CENTS		TOTAL PRICE DOLLARS	TOTAL PRICE CTS
LR355215	BIT MATL BSE CSE	GALLON	73,336.000			=		
XX005363	COLD IP REC BIT MATLS	SQ YD	61,695.000			=		
X4066424	BC SC SUPER "D" N50	TON	7,933.000			=		
Z0037200	PAVEMENT GRINDING	SQ YD	4,400.000			=		
40200800	AGG SURF CSE B	TON	129.000			=		
40600100	BIT MATLS PR CT	GALLON	6,170.000			=		
40600300	AGG PR CT	TON	123.000			=		
40600980	BIT SURF REM BUTT JT	SQ YD	1,066.000			=		
40800010	BIT MATLS PR CT	GALLON	75.000			=		
40800040	INCIDENTAL BIT SURF	TON	101.000			=		
48101200	AGGREGATE SHLDS B	TON	1,218.000			=		
67100100	MOBILIZATION	L SUM	1.000			=		
70300100	SHORT-TERM PAVT MKING	FOOT	5,834.000			=		
70301000	WORK ZONE PAVT MK REM	SQ FT	648.000			=		
78000100	THPL PVT MK LTR & SYM	SQ FT	86.000			=		

Revised 3-3-06

ROUTE: CH-10
COUNTY: KNOX
SECTON: 05-00123-02-RS

SUMMARY OF QUANTITIES

I000

QUANTITY	UNIT	ITEM	CODE NUMBER	
7,933	TON	BCSC SUPERPAVE MIX D N50	X4066424	Revised 3-3-06
61,695	SY	CIR OF BITUMINOUS MATERIAL	XX005363	
73,336	GAL	BIT MATLS (BASE COURSE)	LR355215	
129	TON	AGG SURF CSE B	40200800	
6,170	GAL	BIT MATLS PR CT	40600100	
123	TON	AGG PR CT	40600300	
1,066	SY	BIT SURF REM BUTT JT	40600980	
75	GAL	BIT MATLS PR CT	40800010	
101	TON	INCIDENTAL BIT SURF	40800040	
1,218	TON	AGGREGATE SHLDS B	48101200	
5,834	FOOT	SHORT-TERM PAVT MKING	70300100	
648	SQ.FT.	WORK ZONE PAVT MK REM	70301000	
86	SQ.FT.	THPL PVT MK LTR & SYM	78000100	*
52,300	FOOT	THPL PVT MK LINE 4	78000200	*
440	FOOT	THPL PVT MK LINE 8	78000500	*
65	FOOT	THPL PVT MK LINE 12	78000600	*
32	FOOT	THPL PVT MK LINE 24	78000650	*
256	EACH	RAISED REFL PAVT. MKR	78100100	*
4,400	SY	PAVEMENT GRINDING	Z0037200	
1	Lsum	MOBILIZATION	67100100	

* SPECIALTY ITEMS

BITUMINOUS MIXTURE REQUIREMENTS

The following mixture requirements are applicable for this project.

Mixture Use(s):	Surface Course	Binder Course
AC/PG:	64-22	64-22
RAP% (Max)**	15%	25%
Design Air Voids:	4.0%Ndes=50	4.0%Ndes=50
Mixture Composition: (Gradation Mixture)	IL 9.5	IL9.5
Friction Aggregate:	Mixture D	n/a

**If>15% RAP is used, the Contractor may be required to use a softer grade of Asphalt as determined by the Materials Engineer

Revised 3-3-06

	File Name	PG #		Special Provision Title	Effective	Revised
	80069			Organic Zinc-Rich Paint System	Nov. 1, 2001	Aug. 1, 2003
	80116	35	X	Partial Payments	Sept. 1, 2003	
	80013			Pavement and Shoulder Resurfacing	Feb. 1, 2000	July 1, 2004
	53600	36	X	Pavement Thickness Determination for Payment	April 1, 1999	Jan. 1, 2004
*	80022	41	X	Payments to Subcontractors	June 1, 2000	Jan. 1, 2006
	80155	43	X	Payrolls and Payroll Records	Aug. 10, 2005	
	80130	45	X	Personal Protective Equipment	July 1, 2004	
*	80148			Planting Woody Plants	Jan. 1, 2006	
	80134			Plastic Blockouts for Guardrail	Nov. 1, 2004	
	80073			Polymer Modified Emulsified Asphalt	Nov. 1, 2002	
	80119			Polyurea Pavement Marking	April 1, 2004	
	80124			Portable Changeable Message Signs	Nov. 1, 1993	April 2, 2004
	80139			Portland Cement	Jan. 1, 2005	Nov. 1, 2005
	80083			Portland Cement Concrete	Nov. 1, 2002	
	80036			Portland Cement Concrete Patching	Jan. 1, 2001	Jan. 1, 2004
	419			Precast Concrete Products	July 1, 1999	Nov. 1, 2004
	80120			Precast, Prestressed Concrete Members	April 1, 2004	
	80084			Preformed Recycled Rubber Joint Filler	Nov. 1, 2002	
	80015			Public Convenience and Safety	Jan. 1, 2000	
	80121			PVC Pipeliner	April 1, 2004	April 1, 2005
	80122			Railroad, Full-Actuated Controller and Cabinet	April 1, 2004	
*	3426I			Railroad Protective Liability Insurance	Dec. 1, 1986	Jan. 1, 2006
*	80157			Railroad Protective Liability Insurance (5 and 10)	Jan. 1, 2006	
	80105			Raised Reflective Pavement Markers (Bridge)	Aug. 1, 2003	
	80011	46	X	RAP for Use in Bituminous Concrete Mixtures	Jan. 1, 2000	April 1, 2002
*	80151			Reinforcement Bars	Nov. 1, 2005	Nov. 2, 2005
	80032			Remove and Re-Erect Steel Plate Beam Guardrail and Traffic Barrier Terminals	Jan. 1, 2001	Jan. 1, 2005
	80085			Sealing Abandoned Water Wells	Nov. 1, 2002	
	80131			Seeding and Sodding	July 1, 2004	Aug. 1, 2005
	80152			Self-Consolidating Concrete for Cast-In-Place Construction	Nov. 1, 2005	
	80132			Self-Consolidating Concrete for Precast Products	July 1, 2004	Nov. 1, 2005
	80096			Shoulder Rumble Strips	Jan. 1, 2003	
	80140			Shoulder Stabilization at Guardrail	Jan. 1, 2005	
	80135			Soil Modification	Nov. 1, 2004	April 1, 2005
	80070			Stabilized Subbase and Bituminous Shoulders Superpave	April 1, 2002	Aug. 1, 2005
	80127			Steel Cost Adjustment	April 2, 2004	July 1, 2004
	80153			Steel Plate Beam Guardrail	Nov. 1, 2005	
	80143	50	X	Subcontractor Mobilization Payments	April 2, 2005	
	80086			Subgrade Preparation	Nov. 1, 2002	
	80136			Superpave Bituminous Concrete Mixture IL-4.75	Nov. 1, 2004	
	80010	51	X	Superpave Bituminous Concrete Mixtures	Jan. 1, 2000	April 1, 2004
	~~80039~~	~~58~~	~~X~~	~~Superpave Bituminous Concrete Mixtures (Low ESAL)~~	Jan. 1, 2001	April 1, 2004
	80075			Surface Testing of Pavements	April 1, 2002	Nov. 1, 2005
	80145			Suspension of Slipformed Parapets	June 11, 2004	
	80092			Temporary Concrete Barrier	Oct. 1, 2002	Nov. 1, 2003
	80087			Temporary Erosion Control	Nov. 1, 2002	
	80008			Temporary Module Glare Screen System	Jan. 1, 2000	
	80106			Temporary Portable Bridge Traffic Signals	Aug. 1, 2003	
	80098			Traffic Barrier Terminals	Jan. 1, 2003	
	5729I	63	X	Traffic Control Deficiency Deduction	April 1, 1992	Jan. 1, 2005
	20338			Training Special Provisions	Oct. 15, 1975	
	80107			Transient Voltage Surge Suppression	Aug. 1, 2003	

Deleted 3-3-06

~~SUPERPAVE BITUMINOUS CONCRETE MIXTURES (LOW ESAL) (BDE)~~ Deleted 3-3-06

Effective: January 1, 2001
Revised: April 1, 2004

Description. This work shall consist of constructing Bituminous Concrete Surface Course Superpave IL-9.5L and/or Bituminous Concrete Binder Course Superpave IL-19.0L according to Section 406 of the Standard Specifications and the special provision "Quality Control/Quality Assurance of Bituminous Concrete Mixtures", except as modified herein.

Materials.

(a) Coarse Aggregate. Coarse aggregate for the IL-19.0L shall meet the requirements of a Class I Type 3 binder course and the gradation specified below. For the IL-9.5L mixture, the coarse aggregate shall meet the requirements of a Class I Type 3 surface course except that gravel and Class C Quality, or better, aggregate may be used.

(b) Reclaimed Asphalt Pavement (RAP). RAP shall meet the requirements of the special provision, "RAP for Use in Bituminous Concrete Mixtures".

RAP containing steel slag will be permitted for use in top-lift surface mixtures only.

(c) Bituminous Material. The asphalt cement (AC), unless otherwise specified on the plans, shall be performance-graded (PG) 58-22. The AC shall meet the requirements of Article 1009.05 of the Standard Specifications for the grade specified.

If the Contractor is allowed to use more than 15 percent RAP, a softer PG binder may be required, as determined by the Engineer.

Laboratory Equipment.

(a) Superpave Gyratory Compactor. The superpave gyratory compactor (SGC) shall be used for all laboratory mixture compaction.

(b) Ignition Oven. The ignition oven shall be used for determination of AC content. The ignition oven shall also be used to recover aggregates for all required washed gradations.

The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors, which exceed 1.5 percent. If the calibration factor exceeds 1.5 percent other IDOT approved methods shall be utilized for determination of AC content.

Mixture Design. The Contractor shall submit mix designs for approval, for each required mixture. Mix designs shall be developed by Level III personnel who have successfully completed the course, "Superpave Mix Design Upgrade". Articles 406.10 and 406.13 of the

Standard Specifications shall not apply. The mixtures shall be designed according to the respective Illinois Modified AASHTO references listed below.

AASHTO MP 2 Standard Specification for Superpave Volumetric Mix Design

AASHTO R 30 Standard Practice for Mixture Conditioning of Hot-Mix Asphalt (HMA)

AASHTO PP 28 Standard Practice for Designing Superpave HMA

AASHTO T 209 Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures

AASHTO T 312 Preparing and Determining the Density of Hot Mix Asphalt (HMA) Specimens by Means of the Superpave Gyratory Compactor

AASHTO T 308 Determining the Asphalt Content of Hot Mix Asphalt (HMA) by the Ignition Method

(a) Mixture Composition. The job mix formula (JMF) shall fall within the following limits:

TABLE 1. Mixture Composition

Sieve	Percent Passing	
	9.5L	19.0L
25.0 mm (1 in.)		100
19.0 mm (3/4 in.)		95-100
12.5 mm (1/2 in.)	100	
9.5 mm (3/8 in.)	95 –100	
4.75 mm (#4)	52 – 80	38-65
2.36 mm (#8)	38 – 65	
600 µm (#30)	< 50% of the percentage passing the #4	< 50% of the percentage passing the #4
75 µm (#200)	4.0 – 8.0	3.0 – 7.0
AC%	4.0 – 8.0	4.0 – 8.0
RAP Materials	Maximum 30% (or as shown on the plans)	Maximum 30%
#200:AC ratio	1.0 max. design	1.0 max. design

It is recommended that the selected combined aggregate gradation not pass through the restricted zones specified in Illinois Modified AASHTO MP 2.

(b) Volumetric Requirements.

Mix	Design Compactive Effort	Design Air Voids Target (%)	VMA (Voids in the Mineral Aggregate) (min.)	VFA (Voids Filled with Asphalt)
IL 9.5L	N_{DES}=30	3.0%	14.0%	70 - 80%
IL 19.0L	N_{DES}=30	4.0%	13.0%	N/A

(c) Determination of Need for Anti-Stripping Additive. The mixture designer shall determine if an additive is needed in the mix to prevent stripping. The determination shall be made on the basis of tests performed according to Illinois Modified T 283 using 4 in. Marshall bricks. To be considered acceptable by the Engineer as a mixture not susceptible to stripping, the ratio of conditioned to unconditioned split tensile strengths (TSRs) shall be equal to or greater than 0.75. Mixtures, either with or without an additive, with TSRs less than 0.75 will be considered unacceptable.

If it is determined that an additive is required, the additive may be hydrated lime, slaked quicklime, or a liquid additive, at the Contractor's option. The liquid additive shall be selected from the Department's list of approved additives and may be limited to those, which have exhibited satisfactory performance in similar mixes.

Dry hydrated lime shall be added at a rate of 1.0 to 1.5 percent by weight of total dry aggregate. Slurry shall be added in such quantity as to provide the required amount of hydrated lime solids by weight of total dry aggregate. The exact rate of application for all anti-stripping additives will be determined by the Engineer. The method of application shall be according to Article 406.12 of the Standard Specifications.

Personnel. The QC Manager and Level I technician shall have successfully completed the Department's "Superpave Field Control Course".

Required Tests. Testing shall be conducted to control the production of the bituminous mixture. The Contractor shall use the test methods identified to perform the following mixture tests at a frequency not less than that indicated in Table 3.

TABLE 3. Required Plant Tests for Superpave (Low ESAL)

Parameter		Frequency of Tests	Test Method
Aggregate Gradation Hot bins for batch and continuous plants. Individual cold-feeds or combined belt-feed for drier drum plants. (% passing sieves: 12.5 mm (1/2 in.), 4.75 mm (No. 4), 2.36 mm (No. 8), 600 µm (No. 30), 75 µm (No. 200))		1 dry gradation per day of production (either morning or afternoon sample). and 1 washed ignition oven test on the mix per day of production (conduct in afternoon if dry gradation is conducted in the morning or vice versa). NOTE: The order in which the above tests are conducted shall alternate from the previous production day (example: a dry gradation conducted in the morning will be conducted in the afternoon on the next production day and so forth). The dry gradation and washed ignition oven test results shall be plotted on the same control chart.	Illinois Procedure (See Manual of Test Procedures for Materials).
Asphalt Content by Ignition Oven (Note 1.)		1 per half day of production	Illinois Modified AASHTO T 308
Air Voids	Bulk Specific Gravity of Gyratory Sample. Maximum Specific Gravity of Mixture	1 per half day of production for first 2 days and 1 per day thereafter (first sample of the day).	Illinois Modified AASHTO T 312 Illinois Modified AASHTO T 209

Note 1. The Engineer may waive the ignition oven requirement for AC content if the aggregates to be used are known to have ignition AC content calibration factors which exceed 1.5 percent. If the ignition oven requirement is waived, other Department approved methods shall be used to determine the AC content.

During production, the ratio of minus 75 µm (#200) sieve material to total asphalt cement shall be not less than 0.6 nor more than 1.2, and the moisture content of the mixture at discharge from the mixer shall not exceed 0.5 percent. If at any time the ratio of minus 75 µm (#200) material to asphalt or moisture content of the mixture falls outside the stated limits, production of mix shall cease. The cause shall be determined and corrective action satisfactory to the Engineer shall be initiated prior to resumption of production.

During production, any mixture containing an anti-stripping additive will be tested by the Engineer for stripping according to Illinois Modified T 283. If the mixture fails to meet the TSR criteria for acceptance, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria.

Control Charts/Limits. Control charts/limits shall be according to QC/QA Class I requirements, except density shall be plotted on the control charts within the following control limits:

TABLE 4. Density Control Limits	
Mixture	Individual Test
IL-9.5L	92.5 – 97.4%
IL-19.0L	93.0 – 97.4 %

Construction Requirements

Placing. The minimum compacted thickness of each lift shall be according to the following table:

Mixture	Minimum Compacted Lift Thickness, mm (in.)
IL-9.5L	32 (1 1/4)
IL-19.0L	57 (2 1/4)

Basis of Payment. This work will be paid for at the contract unit price per metric ton (ton) for BITUMINOUS CONCRETE SURFACE COURSE SUPERPAVE IL-9.5L (Low ESAL), or BITUMINOUS CONCRETE BINDER COURSE SUPERPAVE IL-19.0L (Low ESAL).

80039