



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 4, 2013

SUBJECT: FAP Route 347  
Section JR-HB-I-1  
DuPage County  
Contract No. 60N77  
Item No. 131, June 14, 2013 Letting  
Addendum A

## NOTICE TO PROSPECTIVE BIDDERS:

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

1. Replaced the Schedule of Prices.
2. Revised the Table of Contents to the Special Provisions.
3. Revised pages 66-80, 86-89 and 144 of the Plans.
4. Revised sheets 2, 3, 5-8, 14, 17 & 18 of the Plans.

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,

John D. Baranzelli, P. E.  
Acting Engineer of Design and Environment

A handwritten signature in cursive script, appearing to read 'Ted B. Walschleger', followed by the letters 'P.E.' in a smaller font.

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

cc: John Fortmann, Region 1, District 1; Mike Renner; D. Carl Puzey;  
Estimates

dp

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2005020	T-GYMNOCLA DIO 2-1/2	EACH	9.000				
X0326394	FLOOR DRAINS CLEANED	EACH	8.000				
X0326766	CLEAN RESEAL RLF JNT	FOOT	52.000				
X0327577	PROT-MAINT EX UP LUM	L SUM	1.000				
X4401198	HMA SURF REM VAR DP	SQ YD	707.000				
X5210025	ELAST BRNG ASY T2 SPL	EACH	40.000				
X5538600	SS CLEANED 36	FOOT	500.000				
X6060714	CONC MEDIAN SPL	SQ FT	2,895.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
X7030030	WET REF TEM TAPE T3 4	FOOT	12,173.000				
X7030045	WET REF TEM TAPE T3 8	FOOT	1,353.000				
Z0001500	APPROACH SLAB R&R	SQ YD	30.000				
Z0001899	JACK & REM EX BEARING	EACH	40.000				
Z0006014	BR DK LTX C OLY 2 1/2	SQ YD	1,155.000				
Z0012144	BR DECK SCAR 2 1/2	SQ YD	1,155.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0012754	STR REP CON DP = < 5	SQ FT	259.000				
Z0015802	PLUG EX DK DRAINS	EACH	16.000				
Z0016002	DECK SLAB REP (FD-T2)	SQ YD	3.000				
Z0018500	DRAINAGE STR CLEANED	EACH	1.000				
Z0030850	TEMP INFO SIGNING	SQ FT	154.000				
Z0062456	TEMP PAVEMENT	SQ YD	1,370.000				
Z0064600	SELECTIVE CLEARING	ACRE	0.400				
Z0073200	TEMP SHORING & CRIB	EACH	3.000				
Z0073510	TEMP TR SIGNAL TIMING	EACH	1.000				
20100500	TREE REMOV ACRES	ACRE	0.400				
20200100	EARTH EXCAVATION	CU YD	24.000				
20201200	REM & DISP UNS MATL	CU YD	5.000				
20400800	FURNISHED EXCAVATION	CU YD	15.000				
20800150	TRENCH BACKFILL	CU YD	22.000				
21101625	TOPSOIL F & P 6	SQ YD	86.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
25000300	SEEDING CL 3	ACRE	0.250				
25100630	EROSION CONTR BLANKET	SQ YD	86.000				
28000400	PERIMETER EROS BAR	FOOT	54.000				
28000500	INLET & PIPE PROTECT	EACH	1.000				
28000510	INLET FILTERS	EACH	1.000				
28100105	STONE RIPRAP CL A3	SQ YD	1,000.000				
28200200	FILTER FABRIC	SQ YD	1,000.000				
40600100	BIT MATLS PR CT	GALLON	587.000				
40600300	AGG PR CT	TON	1.000				
*ADD 40603340	HMA SC "D" N70	TON	49.000				
*DEL 40603595	P HMA SC "F" N90	TON	49.000				
44003100	MEDIAN REMOVAL	SQ FT	2,895.000				
44004250	PAVED SHLD REMOVAL	SQ YD	1,049.000				
50102400	CONC REM	CU YD	104.000				
50104650	SLOPE WALL REMOV	SQ YD	51.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50157300	PROTECTIVE SHIELD	SQ YD	379.000				
50300255	CONC SUP-STR	CU YD	138.800				
50300260	BR DECK GROOVING	SQ YD	1,159.000				
50300300	PROTECTIVE COAT	SQ YD	243.000				
50800205	REINF BARS, EPOXY CTD	POUND	20,360.000				
50800515	BAR SPLICERS	EACH	78.000				
51100100	SLOPE WALL 4	SQ YD	51.000				
52000110	PREF JT STRIP SEAL	FOOT	143.000				
52100520	ANCHOR BOLTS 1	EACH	80.000				
54002020	EXPAN BOLTS 3/4	EACH	342.000				
60100945	PIPE DRAINS 12	FOOT	60.000				
60500060	REMOV INLETS	EACH	1.000				
60900140	TY B INLET BOX 609006	EACH	1.000				
60900515	CONC THRUST BLOCKS	EACH	2.000				
63000001	SPBGR TY A 6FT POSTS	FOOT	50.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
63100085	TRAF BAR TERM T6	EACH	2.000				
63200310	GUARDRAIL REMOV	FOOT	185.000				
67000400	ENGR FIELD OFFICE A	CAL MO	6.000				
67100100	MOBILIZATION	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	20.000				
70301000	WORK ZONE PAVT MK REM	SQ FT	4,194.000				
70400100	TEMP CONC BARRIER	FOOT	550.000				
70400200	REL TEMP CONC BARRIER	FOOT	550.000				
70600260	IMP ATTN TEMP FRN TL3	EACH	3.000				
70600332	IMP ATTN REL FRN TL3	EACH	3.000				
78000200	THPL PVT MK LINE 4	FOOT	6,205.000				
78000500	THPL PVT MK LINE 8	FOOT	2,036.000				
78000600	THPL PVT MK LINE 12	FOOT	226.000				
78008210	POLYUREA PM T1 LN 4	FOOT	869.000				
78100100	RAISED REFL PAVT MKR	EACH	106.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER -

60N77

State Job # - C-91-357-11

Project Number

Route

County Name - DUPAGE - -

FAP 347

Code - 43 - -

\*REVISED: JUNE 4, 2013

District - 1 - -

Section Number - JR-HB-I-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78100105	RAISED REF PVT MKR BR	EACH	12.000				
78100200	TEMP RAIS REF PVT MKR	EACH	24.000				
78200410	GUARDRAIL MKR TYPE A	EACH	8.000				
78200530	BAR WALL MKR TYPE C	EACH	147.000				
78300100	PAVT MARKING REMOVAL	SQ FT	4,666.000				
78300200	RAISED REF PVT MK REM	EACH	142.000				
85000200	MAIN EX TR SIG INSTAL	EACH	1.000				

## TABLE OF CONTENTS

LOCATION OF IMPROVEMENT .....	1
DESCRIPTION OF IMPROVEMENT .....	1
TRAFFIC CONTROL PLAN .....	2
TRAFFIC CONTROL AND PROTECTION (ARTERIALS) .....	6
STATUS OF UTILITIES TO BE ADJUSTED.....	6
MAINTENANCE OF ROADWAYS .....	7
TEMPORARY PAVEMENT.....	7
TYPE III TEMPORARY TAPE FOR WET CONDITIONS .....	8
TEMPORARY INFORMATION SIGNING .....	8
SELECTIVE CLEARING .....	10
CLEANING EXISTING DRAINAGE STRUCTURES.....	10
TRAFFIC SIGNAL SPECIFICATIONS .....	11
INSTALLATION.....	19
HOT MIX ASPHALT MIXTURES, EGA MODIFIED PERFORMANCE GRADED (PG) ASPHALT BINDER.....	64
BITUMINOUS PRIME COAT FOR HOT-MIX ASPHALT PAVEMENT (FULL DEPTH) (D-1).....	65
FINE AGGREGATE FOR HOT- MIX ASPHALT (HMA) (D-1) .....	65
RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1) .....	71
GROUND TIRE RUBBER (GTR) MODIFIED ASPHALT BINDER (D-1).....	81
HMA MIXTURE DESIGN REQUIREMENTS (D-1) .....	82
HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH.....	86
FRICTION SURFACE AGGREGATE (D1).....	86
DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1).....	89
APPROACH SLAB REMOVAL & REPLACEMENT .....	91
PLUG EXISTING DECK DRAINS .....	91
CLEAN AND RESEAL RELIEF JOINT.....	91
ELASTOMERIC BEARING ASSEMBLY, TYPE II (SPECIAL) .....	92
FLOOR DRAINS TO BE CLEANED.....	92
TEMPORARY SHORING AND CRIBBING .....	93
JACK AND REMOVE EXISTING BEARINGS.....	94
DECK SLAB REPAIR.....	95
BRIDGE DECK LATEX CONCRETE OVERLAY .....	101



STRUCTURAL REPAIR OF CONCRETE .....	111
PROTECTION AND MAINTENANCE OF EXISTING UNDERPASS LUMINAIRES .....	121
GENERAL ELECTRICAL REQUIREMENTS .....	122
ANCHOR BOLTS (BDE) .....	127
CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE).....	128
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE) .....	130
GRANULAR MATERIALS (BDE) .....	140
HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE).....	141
LIQUIDATED DAMAGES (BDE) .....	143
PAVEMENT MARKING REMOVAL (BDE).....	143
PAYMENTS TO SUBCONTRACTORS (BDE).....	144
PLACING AND CONSOLIDATING CONCRETE (BDE).....	145
POLYUREA PAVEMENT MARKINGS (BDE) .....	148
PORTLAND CEMENT CONCRETE (BDE).....	148
QUALITY CONTROL/QUALITY ASSURANCE OF CONCRETE MIXTURES (BDE).....	189
REMOVAL AND DISPOSAL OF REGULATED SUBSTANCES (BDE) .....	205
REMOVAL AND DISPOSAL OF SURPLUS MATERIALS (BDE) .....	209
SEEDING (BDE) .....	210
SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE) .....	210
TRACKING THE USE OF PESTICIDES (BDE) .....	211
TRAFFIC CONTROL DEFICIENCY DEDUCTION (BDE).....	211
UTILITY COORDINATION AND CONFLICTS (BDE) .....	211
WARM MIX ASPHALT (BDE) .....	217
WEEKLY DBE TRUCKING REPORTS (BDE) .....	223
WORKING DAYS (BDE) .....	223

Revised 6-4-13

This page intentionally left blank.

Revised 6-4-13

This page intentionally left blank.

Revised 6-4-13

This page intentionally left blank.

Revised 6-4-13

This page intentionally left blank.

Revised 6-4-13

This page intentionally left blank.

Revised 6-4-13

## **RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES (D-1)**

Effective: November 1, 2012

Revise: January 2, 2013

Revise Section 1031 of the Standard Specifications to read:

### **“SECTION 1031. RECLAIMED ASPHALT PAVEMENT AND RECLAIMED ASPHALT SHINGLES**

**1031.01 Description.** Reclaimed asphalt pavement and reclaimed asphalt shingles shall be according to the following.

- (a) Reclaimed Asphalt Pavement (RAP). RAP is the material resulting by cold milling or crushing an existing hot-mix asphalt (HMA) pavement. RAP will be considered processed FRAP after completion of both crushing and screening to size. The Contractor shall supply written documentation that the RAP originated from routes or airfields under federal, state, or local agency jurisdiction.
- (b) Reclaimed Asphalt Shingles (RAS). Reclaimed asphalt shingles (RAS). RAS is from the processing and grinding of preconsumer or post-consumer shingles. RAS shall be a clean and uniform material with a maximum of 0.5 percent unacceptable material, as defined in Bureau of Materials and Physical Research Policy Memorandum “Reclaimed Asphalt Shingle (RAS) Sources”, by weight of RAS. All RAS used shall come from a Bureau of Materials and Physical Research approved processing facility where it shall be ground and processed to 100 percent passing the 3/8 in. (9.5 mm) sieve and 90 percent passing the #4 (4.75 mm) sieve . RAS shall meet the testing requirements specified herein. In addition, RAS shall meet the following Type 1 or Type 2 requirements.
  - (1) Type 1. Type 1 RAS shall be processed, preconsumer asphalt shingles salvaged from the manufacture of residential asphalt roofing shingles.
  - (2) Type 2. Type 2 RAS shall be processed post-consumer shingles only, salvaged from residential, or four unit or less dwellings not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP).

**1031.02 Stockpiles.** RAP and RAS stockpiles shall be according to the following.

- (a) RAP Stockpiles. The Contractor shall construct individual, sealed RAP stockpiles meeting one of the following definitions. No additional RAP shall be added to the pile after the pile has been sealed. Stockpiles shall be sufficiently separated to prevent intermingling at the base. All stockpiles (including unprocessed RAP and Processed FRAP) shall be identified by signs indicating the type as listed below (i.e. “Non- Quality, FRAP -#4 or Type 2 RAS”, etc...).

Revised 6-4-13

- (1) Fractionated RAP (FRAP). FRAP shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in FRAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. All FRAP shall be processed prior to testing sized into fractions with the separation occurring on or between the #4 (4.75 mm) and 1/2 in. (12.5 mm) sieves. Agglomerations shall be minimized such that 100 percent of the RAP in the coarse fraction shall pass the maximum sieve size specified for the mix the RAP will be used in.
- (2) Restricted FRAP (B quality) stockpiles shall consist of RAP from Class I, Superpave (High ESAL), or HMA (High ESAL). If approved by the Engineer, the aggregate from a maximum 3.0 inch single combined pass of surface/binder milling will be classified as B quality. All millings from this application will be processed into FRAP as described previously.
- (3) Conglomerate. Conglomerate RAP stockpiles shall consist of RAP from Class I, Superpave HMA (High and Low ESAL) or equivalent mixtures. The coarse aggregate in this RAP shall be crushed aggregate and may represent more than one aggregate type and/or quality but shall be at least C quality. This RAP may have an inconsistent gradation and/or asphalt binder content prior to processing. All conglomerate RAP shall be processed (FRAP) prior to testing. Conglomerate RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (4) Conglomerate "D" Quality (DQ). Conglomerate DQ RAP stockpiles shall consist of RAP from HMA shoulders, bituminous stabilized subbases or Superpave (Low ESAL)/HMA (Low ESAL) IL-19.0L binder mixture. The coarse aggregate in this RAP may be crushed or round but shall be at least D quality. This RAP may have an inconsistent gradation and/or asphalt binder content. Conglomerate DQ RAP stockpiles shall not contain steel slag or other expansive material as determined by the Department.
- (5) Non-Quality. RAP stockpiles that do not meet the requirements of the stockpile categories listed above shall be classified as "Non-Quality".

RAP/FRAP containing contaminants, such as earth, brick, sand, concrete, sheet asphalt, bituminous surface treatment (i.e. chip seal), pavement fabric, joint sealants, plant cleanout etc., will be unacceptable unless the contaminants are removed to the satisfaction of the Engineer. Sheet asphalt shall be stockpiled separately.

- (b) RAS Stockpiles. The Contractor shall construct individual, sealed RAS stockpiles meeting one of the following definitions. No additional RAS shall be added to the pile after the pile has been sealed. Type 1 and Type 2 RAS shall be stockpiled separately and shall be sufficiently separated to prevent intermingling at the base. Each stockpile shall be signed indicating what type of RAS is present.



However, a RAS source may submit a written request to the Department for approval to blend mechanically a specified ratio of type 1 RAS with type 2 RAS. The source will not be permitted to change the ratio of the blend without the Department prior written approval. The Engineer's written approval will be required, to mechanically blend RAS with any fine aggregate produced under the AGCS, up to an equal weight of RAS, to improve workability. The fine aggregate shall be "B Quality" or better from an approved Aggregate Gradation Control System source. The fine aggregate shall be one that is approved for use in the HMA mixture and accounted for in the mix design and during HMA production.

Records identifying the shingle processing facility supplying the RAS, RAS type and lot number shall be maintained by project contract number and kept for a minimum of three years.

**1031.03 Testing.** RAP/FRAP and RAS testing shall be according to the following.

- (a) RAP/FRAP Testing. When used in HMA, the RAP/FRAP shall be sampled and tested either during processing or after stockpiling.
- (1) During Stockpiling. For testing during stockpiling, washed extraction samples shall be run at the minimum frequency of one sample per 500 tons (450 metric tons) for the first 2000 tons (1800 metric tons) and one sample per 2000 tons (1800 metric tons) thereafter. A minimum of five tests shall be required for stockpiles less than 4000 tons (3600 metric tons).
  - (2) After Stockpiling. For testing after stockpiling, the Contractor shall submit a plan for approval to the District proposing a satisfactory method of sampling and testing the RAP/FRAP pile either in-situ or by restockpiling. The sampling plan shall meet the minimum frequency required above and detail the procedure used to obtain representative samples throughout the pile for testing.

Before extraction, each field sample whether RAP or FRAP, shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedure. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

- (b) RAS Testing. RAS shall be sampled and tested either during or after stockpiling.

During stockpiling, washed extraction, and testing for unacceptable materials shall be run at the minimum frequency of one sample per 200 tons (180 metric tons) for the first 1000 tons (900 metric tons) and one sample per 1000 tons (900 metric tons) thereafter. A minimum of five samples are required for stockpiles less than 1000 tons (900 metric tons). Once a  $\leq 1000$  ton (900 metric ton), five-sample/test stockpile has been established it shall be sealed. Additional incoming RAS shall be stockpiled in a separate working pile as designated in the Quality Control plan and only added to the sealed stockpile when the test results of the working pile are complete and are found to meet the tolerances specified herein for the original sealed RAS stockpile.

Revised 6-4-13

Before extraction, each field sample shall be split to obtain two samples of test sample size. One of the two test samples from the final split shall be labeled and stored for Department use. The Contractor shall extract the other test sample according to Department procedures. The Engineer reserves the right to test any sample (split or Department-taken) to verify Contractor test results.

**1031.04 Evaluation of Tests.** Evaluation of tests results shall be according to the following.

- (a) Evaluation of RAP/FRAP Test Results. All of the extraction results shall be compiled and averaged for asphalt binder content and gradation and, when applicable (for slag)  $G_{mm}$ . Individual extraction test results, when compared to the averages, will be accepted if within the tolerances listed below.

Parameter	RAP or FRAP	Conglomerate "D" Quality RAP
1 in. (25 mm)		± 5 %
1/2 in. (12.5 mm)	± 8 %	± 15 %
No. 4 (4.75 mm)	± 6 %	± 13 %
No. 8 (2.36 mm)	± 5 %	
No. 16 (1.18 mm)		± 15 %
No. 30 (600 μm)	± 5 %	
No. 200 (75 μm)	± 2.0 %	± 4.0 %
Asphalt Binder	± 0.4 % <sup>1/</sup>	± 0.5 %
$G_{mm}$	± 0.03 <sup>2/</sup>	

1/ The tolerance for FRAP shall be ± 0.3 %.

2/ For slag and steel slag

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, the RAP/FRAP shall not be used in HMA unless the RAP/FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

With the approval of the Engineer, the ignition oven may be substituted for extractions according to the Illinois Test Procedure, "Calibration of the Ignition Oven for the Purpose of Characterizing Reclaimed Asphalt Pavement (RAP)".

- (b) Evaluation of RAS Test Results. All of the test results, with the exception of percent unacceptable materials, shall be compiled and averaged for asphalt binder content and gradation. Individual test results, when compared to the averages, will be accepted if within the tolerances listed below.

Revised 6-4-13

Parameter	RAS
No. 8 (2.36 mm)	± 5 %
No. 16 (1.18 mm)	± 5 %
No. 30 (600 µm)	± 4 %
No. 200 (75 µm)	± 2.0 %
Asphalt Binder Content	± 1.5 %

If more than 20 percent of the individual sieves and/or asphalt binder content tests are out of the above tolerances, the RAS shall not be used in Department projects unless the RAS, RAP or FRAP representing the failing tests is removed from the stockpile. All test data and acceptance ranges shall be sent to the District for evaluation.

**1031.05 Quality Designation of Aggregate in RAP/FRAP.**

(a) RAP. The aggregate quality of the RAP for homogenous, conglomerate, and conglomerate “D” quality stockpiles shall be set by the lowest quality of coarse aggregate in the RAP stockpile and are designated as follows.

- (1) RAP from Class I, Superpave (High ESAL)/HMA (High ESAL), or (Low ESAL) IL-9.5L surface mixtures are designated as containing Class B quality coarse aggregate.
- (2) RAP from Superpave (High ESAL)/HMA (Low ESAL) IL-19.0L binder mixture is designated as Class D quality coarse aggregate.
- (3) RAP from Class I, Superpave (High ESAL)/HMA (High ESAL) binder mixtures, bituminous base course mixtures, and bituminous base course widening mixtures are designated as containing Class C quality coarse aggregate.
- (4) RAP from bituminous stabilized subbase and BAM shoulders are designated as containing Class D quality coarse aggregate.

(b) FRAP. If the Engineer has documentation of the quality of the FRAP aggregate, the Contractor shall use the assigned quality provided by the Engineer.

If the quality is not known, the quality shall be determined as follows. Fractionated RAP stockpiles containing plus #4 (4.75 mm) sieve coarse aggregate shall have a maximum tonnage of 5,000 tons (4,500 metric tons). The Contractor shall obtain a representative sample witnessed by the Engineer. The sample shall be a minimum of 50 lb (25 kg). The sample shall be extracted according to Illinois Modified AASHTO T 164 by a consultant prequalified by the Department for the specified testing. The consultant shall submit the test results along with the recovered aggregate to the District Office. The cost for this testing shall be paid by the Contractor. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent will be applied for all HMA applications. The fine aggregate portion of the fractionated RAP shall not be used in any HMA mixtures that require a minimum of “B” quality aggregate or better, until the coarse aggregate fraction has been determined to be acceptable thru a MicroDeval Testing.

**1031.06 Use of RAS, RAP or FRAP in HMA.** The use of RAS, RAP or FRAP shall be a Contractor's option when constructing HMA in all contracts.

(a) RAP/FRAP. The use of RAP/FRAP in HMA shall be as follows.

- (1) Coarse Aggregate Size (after extraction). The coarse aggregate in all RAP shall be equal to or less than the nominal maximum size requirement for the HMA mixture to be produced.
- (2) Steel Slag Stockpiles. RAP/FRAP stockpiles containing steel slag or other expansive material, as determined by the Department, shall be homogeneous and will be approved for use in HMA (High ESAL and Low ESAL) mixtures regardless of lift or mix type.
- (3) Use in HMA Surface Mixtures (High and Low ESAL). RAP/FRAP stockpiles for use in HMA surface mixtures (High and Low ESAL) shall have coarse aggregate that is Class B quality or better. RAP/FRAP shall be considered equivalent to limestone for frictional considerations unless produced/screened to minus 3/8 inch.
- (4) Use in HMA Binder Mixtures (High and Low ESAL), HMA Base Course, and HMA Base Course Widening. RAP/FRAP stockpiles for use in HMA binder mixtures (High and Low ESAL), HMA base course, and HMA base course widening shall be FRAP in which the coarse aggregate is Class C quality or better.
- (5) Use in Shoulders and Subbase. RAP/FRAP stockpiles for use in HMA shoulders and stabilized subbase (HMA) shall be RAP, Restricted FRAP, conglomerate, or conglomerate DQ.

(b) RAS. RAS meeting Type 1 or Type 2 requirements will be permitted in all HMA applications as specified herein.

(c) RAP/FRAP and/or RAS Usage Limits. Type 1 or Type 2 RAS may be used alone or in conjunction with RAP or FRAP in HMA mixtures up to a maximum of 5.0% by weight of the total mix.

When the Contractor chooses the RAP option, the percentage of the percentage of virgin asphalt binder replaced by the asphalt binder from the RAP shall not exceed the percentages indicated in the table below for a given N Design:

Max Asphalt Binder Replacement RAP Only

Table 1

HMA Mixtures <sup>1/, 2/</sup> Ndesign	Maximum % Asphalt Binder replacement (ABR)		
	Binder/Leveling Binder	Surface	Polymer Modified
30L	25	15	10
50	25	15	10
70	15	10	10
90	10	10	10
105	10	10	10
4.75 mm N-50			15
SMA N-80			10

Revised 6-4-13

- 1/ For HMA “All Other” (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.
- 2/ When the asphalt binder replacement exceeds 15 percent, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement would require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 percent, the required virgin asphalt binder grade shall be PG64-28.

When the Contractor chooses either the RAS or FRAP option, the percent binder replacement shall not exceed the amounts indicated in the tables below for a given N Design.

Max Asphalt Binder Replacement RAS or FRAP  
 Table 2

HMA Mixtures <sup>1/, 2/</sup>	Maximum % ABR		
Ndesign	Binder/Leveling Binder	Surface	Polymer <sup>3/, 4/</sup> Modified
30L	35	30	15
50	30	25	15
70	30	20	15
90	20	15	15
105	20	15	15
4.75 mm N-50			25
SMA N-80			15

1/ For HMA “All Other” (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.

2/ When the asphalt binder replacement exceeds 15 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement will require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28). When constructing full depth HMA and the ABR is less than 15 percent, the required virgin asphalt binder grade shall be PG64-28.

3/ When the ABR for SMA is 15 percent or less, the required virgin asphalt binder grade shall be SBS PG76-22.

4/ When the ABR for IL-4.75 mix is 15 percent or less, the required virgin asphalt binder grade shall be SBS PG76-22. When the ABR for the IL-4.75 mix exceeds 15 percent, the virgin asphalt binder grade shall be SBS PG70-28.

When the Contractor chooses the RAS with FRAP combination, the percent asphalt binder replacement shall split equally between the RAS and the FRAP, and the total replacement shall not exceed the amounts indicated in the tables below for a given N Design.

Revised 6-4-13

Max Asphalt Binder Replacement RAS and FRAP Combination  
 Table 3

HMA Mixtures <sup>1/, 2/</sup> Ndesign	Maximum % ABR		
	Binder/Leveling Binder	Surface	Polymer Modified <sup>3/, 4/</sup>
30L	50	40	30
50	40	35	30
70	40	30	30
90	40	30	30
105	40	30	30
4.75 mm N-50			40
SMA N-80			30

1/ For HMA “All Other” (shoulder and stabilized subbase) N-30, the percent asphalt binder replacement shall not exceed 50% of the total asphalt binder in the mixture.

2/ When the binder replacement exceeds 15 percent for all mixes, except for SMA and IL-4.75, the high and low virgin asphalt binder grades shall each be reduced by one grade (i.e. 25 percent binder replacement will require a virgin asphalt binder grade of PG64-22 to be reduced to a PG58-28).

3/ When the ABR for SMA is 15 percent or less, the required virgin asphalt binder shall be SBS PG76-22. When the ABR for SMA exceeds 15%, the virgin asphalt binder grade shall be SBS PG70-28.

4/ When the ABR for IL-4.75 mix is 15 percent or less, the required virgin asphalt binder grade shall be SBS PG76-22. When the ABR for the IL-4.75 mix exceeds 15 percent, the virgin asphalt binder grade shall be SBS PG70-28.

**1031.07 HMA Mix Designs.** At the Contractor’s option, HMA mixtures may be constructed utilizing RAP/FRAP and/or RAS material meeting the above detailed requirements.

All HMA mixtures will be required to be tested, prior to submittal for Department verification, according to Illinois Modified AASHTO T324 (Hamburg Wheel) and shall meet the following requirements:

Asphalt Binder Grade	# Repetitions	Max Rut Depth (mm)
PG76-XX	20,000	12.5
PG70-XX	20,000	12.5
PG64-XX	10,000	12.5
PG58-XX	10,000	12.5
PG52-XX	10,000	12.5
PG46-XX	10,000	12.5

Note: For SMA Designs (N-80) the maximum rut depth is 6.0 mm at 20,000 repetitions.  
 For IL 4.75 mm Designs (N-50) the maximum rut depth is 9.0 mm at 15,000 repetitions.

Revised 6-4-13

**1031.08 HMA Production.** All HMA mixtures shall be sampled within the first 500 tons (450 metric tons) on the first day of production or during start up with a split reserved for the Department. The mix sample shall be tested according to the Illinois Modified AASHTO T 324 and shall meet the requirements specified herein. Mix production shall not exceed 1500 tons (1350 metric tons) or one day's production, whichever comes first, until the testing is completed and the mixture is found to be in conformance. The requirement to cease mix production may be waived if the plant produced mixture demonstrates conformance prior to start of mix production for a contract.

To remove or reduce agglomerated material, a scalping screen, gator, crushing unit, or comparable sizing device approved by the Engineer shall be used in the RAS, RAP and FRAP feed system to remove or reduce oversized material. If material passing the sizing device adversely affects the mix production or quality of the mix, the sizing device shall be set at a size specified by the Engineer.

If the RAS, RAP and FRAP control tolerances or QC/QA test results require corrective action, the Contractor shall cease production of the mixture containing RAS, RAP or FRAP and either switch to the virgin aggregate design or submit a new RAS, RAP or FRAP design.

- (a) RAP/FRAP. The coarse aggregate in all RAP/FRAP used shall be equal to or less than the maximum size requirement for the HMA mixture being produced.
- (b) RAS. RAS shall be incorporated into the HMA mixture either by a separate weight depletion system or by using the RAP weigh belt. Either feed system shall be interlocked with the aggregate feed or weigh system to maintain correct proportions for all rates of production and batch sizes. The portion of RAS shall be controlled accurately to within  $\pm 0.5$  percent of the amount of RAS utilized. When using the weight depletion system, flow indicators or sensing devices shall be provided and interlocked with the plant controls such that the mixture production is halted when RAS flow is interrupted.
- (c) RAS, RAP and FRAP. HMA plants utilizing RAS, RAP and FRAP shall be capable of automatically recording and printing the following information.
  - (1) Dryer Drum Plants.
    - a. Date, month, year, and time to the nearest minute for each print.
    - b. HMA mix number assigned by the Department.
    - c. Accumulated weight of dry aggregate (combined or individual) in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
    - d. Accumulated dry weight of RAS, RAP and FRAP in tons (metric tons) to the nearest 0.1 ton (0.1 metric ton).
    - e. Accumulated mineral filler in revolutions, tons (metric tons), etc. to the nearest 0.1 unit.
    - f. Accumulated asphalt binder in gallons (liters), tons (metric tons), etc. to the nearest 0.1 unit.
    - g. Residual asphalt binder in the RAS, RAP and FRAP material as a percent of the total mix to the nearest 0.1 percent.

Revised 6-4-13

- h. Aggregate RAS, RAP and FRAP moisture compensators in percent as set on the control panel. (Required when accumulated or individual aggregate and RAS, RAP and FRAP are printed in wet condition.)
  - i. When producing mixtures with FRAP and/or RAS, a positive dust control system shall be utilized.
  - j. Accumulated mixture tonnage.
  - k. Dust Removed (accumulated to the nearest 0.1 ton)
- (2) Batch Plants.
- a. Date, month, year, and time to the nearest minute for each print.
  - b. HMA mix number assigned by the Department.
  - c. Individual virgin aggregate hot bin batch weights to the nearest pound (kilogram).
  - d. Mineral filler weight to the nearest pound (kilogram).
  - f. RAS, RAP and FRAP weight to the nearest pound (kilogram).
  - g. Virgin asphalt binder weight to the nearest pound (kilogram).
  - h. Residual asphalt binder in the RAS, RAP and FRAP material as a percent of the total mix to the nearest 0.1 percent.

The printouts shall be maintained in a file at the plant for a minimum of one year or as directed by the Engineer and shall be made available upon request. The printing system will be inspected by the Engineer prior to production and verified at the beginning of each construction season thereafter.

**1031.09 RAP in Aggregate Surface Course and Aggregate Shoulders.** The use of RAP or FRAP in aggregate surface course and aggregate shoulders shall be as follows.

- (a) Stockpiles and Testing. RAP stockpiles may be any of those listed in Article 1031.02, except "Non-Quality" and "FRAP". The testing requirements of Article 1031.03 shall not apply.
- (b) Gradation. One hundred percent of the RAP material shall pass the 1 1/2 in. (37.5mm) sieve. The RAP material shall be reasonably well graded from coarse to fine. RAP material that is gap-graded, FRAP, or single sized will not be accepted for use as Aggregate Surface Course and Aggregate Shoulders."

Revised 6-4-13



The Department may conduct additional Hamburg Wheel Tests on production material as determined by the Engineer. If the mixture fails to meet the Hamburg Wheel criteria, no further mixture will be accepted until the Contractor takes such action as is necessary to furnish a mixture meeting the criteria”

**Basis of Payment.** Revise the seventh paragraph of Article 406.14 of the Standard Specifications to read:

“For all mixes designed and verified under the Hamburg Wheel criteria, the cost of furnishing and introducing anti-stripping additives in the HMA will not be paid for separately, but shall be considered as included in the contract unit price of the HMA item involved.

No additional compensation will be awarded to the Contractor because of reduced production rates associated with the addition of the anti-stripping additive.”

## **HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH**

### **Description.**

This work shall consist of the removal of the existing bituminous surface and shall be performed in accordance with section 440 of the Standard Specifications, as shown on the Plans and as directed by the Engineer.

### **Method of Measurement.**

Hot-Mix asphalt surface removal will be measured for payment in place and the area computed in square yards. If multiple passes are required to mill to the required depth, only the first pass shall be measured.

### **Basis of Payment.**

This work will be paid for at the contract unit price per square yard for HOT-MIX ASPHALT SURFACE REMOVAL, VARIABLE DEPTH, regardless of the depth of the surface removed.

## **FRICITION SURFACE AGGREGATE (D1)**

Effective: January 1, 2011

Revised: February 26, 2013

Revise Article 1004.01(a)(4) of the Standard Specifications to read:

- “(4) Crushed Stone. Crushed stone shall be the angular fragments resulting from crushing undisturbed, consolidated deposits of rock by mechanical means. Crushed stone shall be divided into the following, when specified.
  - a. Carbonate Crushed Stone. Carbonate crushed stone shall be either dolomite or limestone. Dolomite shall contain 11.0 percent or more magnesium oxide (MgO). Limestone shall contain less than 11.0 percent magnesium oxide (MgO).

Revised 6-4-13

- b. Crystalline Crushed Stone. Crystalline crushed stone shall be either metamorphic or igneous stone, including but is not limited to, quartzite, granite, rhyolite and diabase.”

Revise Article 1004.03(a) of the Standard Specifications to read:

“**1004.03 Coarse Aggregate for Hot-Mix Asphalt (HMA).** The aggregate shall be according to Article 1004.01 and the following revisions.

- (a) Description. The coarse aggregate for HMA shall be according to the following table.

Use	Mixture	Aggregates Allowed
Class A	Seal or Cover	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) Crushed Steel Slag Crushed Concrete
HMA All Other	Shoulders	<u>Allowed Alone or in Combination:</u> Gravel Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete

Revised 6-4-13

HMA High ESAL Low ESAL	C Surface IL-12.5,IL-9.5, or IL-9.5L	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete	
HMA High ESAL	D Surface IL-12.5 or IL-9.5	<u>Allowed Alone or in Combination:</u> Crushed Gravel Carbonate Crushed Stone (other than Limestone) Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup> Crushed Concrete	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		25% Limestone	Dolomite
		50% Limestone	Any Mixture D aggregate other than Dolomite
75% Limestone	Crushed Slag (ACBF) <sup>1/</sup> or Crushed Sandstone		
HMA High ESAL	F Surface IL-12.5 or IL-9.5	<u>Allowed Alone or in Combination:</u> Crystalline Crushed Stone Crushed Sandstone Crushed Slag (ACBF) <sup>1/</sup> Crushed Steel Slag <sup>1/</sup>  No Limestone or no Crushed Gravel alone.	
		<u>Other Combinations Allowed:</u>	
		<i>Up to...</i>	<i>With...</i>
		50% Crushed Gravel, or Dolomite	Crushed Sandstone, Crushed Slag (ACBF) <sup>1/</sup> , Crushed Steel Slag <sup>1/</sup> , or Crystalline Crushed Stone  Revised 6-4-13

HMA High ESAL	SMA Ndesign 80 Surface	Crystalline Crushed Stone Crushed Sandstone Crushed Steel Slag
------------------	------------------------------	--

1/ When either slag is used, the blend percentages listed shall be by volume.

Add to Article 1004.03 (b) of the Standard Specifications to read:

“ When using Crushed Concrete, the quality shall be determined as follows. The Contractor shall obtain a representative sample from the stockpile, witnessed by the Engineer, at a frequency of 2500 tons (2300 metric tons). The sample shall be a minimum of 50 lb (25 kg). The Contractor shall submit the sample to the District Office. The District will forward the sample to the BMPR Aggregate Lab for MicroDeval Testing, according to Illinois Modified AASHTO T 327. A maximum loss of 15.0 percent by weight will be applied for acceptance. The stockpile shall be sealed until test results are complete and found to meet the specifications above.”

**DRAINAGE AND INLET PROTECTION UNDER TRAFFIC (DISTRICT 1)**

Effective: April 1, 2011

Revised: April 2, 2011

Add the following to Article 603.02 of the Standard Specifications:

- “(i) Temporary Hot-Mix Asphalt (HMA) Ramp (Note 1) ..... 1030
- “(j) Temporary Rubber Ramps (Note 2)

Note 1. The HMA shall have maximum aggregate size of 3/8 in. (95 mm).

Note 2. The rubber material shall be according to the following.

Property	Test Method	Requirement
Durometer Hardness, Shore A	ASTM D 2240	75 ±15
Tensile Strength, psi (kPa)	ASTM D 412	300 (2000) min
Elongation, percent	ASTM D 412	90 min
Specific Gravity	ASTM D 792	1.0 - 1.3
Brittleness, °F (°C)	ASTM D 746	-40 (-40)”

Revised 6-4-13

## **PAYMENTS TO SUBCONTRACTORS (BDE)**

Effective: June 1, 2000

Revised: January 1, 2006

Federal regulations found at 49 CFR §26.29 mandate the Department to establish a contract clause to require Contractors to pay subcontractors for satisfactory performance of their subcontracts and to set the time for such payments.

State law also addresses the timing of payments to be made to subcontractors and material suppliers. Section 7 of the Prompt Payment Act, 30 ILCS 540/7, requires that when a Contractor receives any payment from the Department, the Contractor shall make corresponding, proportional payments to each subcontractor and material supplier performing work or supplying material within 15 calendar days after receipt of the Department payment. Section 7 of the Act further provides that interest in the amount of two percent per month, in addition to the payment due, shall be paid to any subcontractor or material supplier by the Contractor if the payment required by the Act is withheld or delayed without reasonable cause. The Act also provides that the time for payment required and the calculation of any interest due applies to transactions between subcontractors and lower-tier subcontractors and material suppliers throughout the contracting chain.

Revised 6-4-13