



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

November 7, 2017

SUBJECT: FAU 2298 (Longmeadow Parkway)
Section 16-00215-11-PV
Kane County
Contract No. 61E05
Item 71
November 17, 2017 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. Revised pages 15 – 29 of the Schedule of Prices.**
- 2. Added pages 297a – 297f to the Special Provisions.**
- 3. Revised sheets 9, 13, 17, 18, 23, 33, 36 – 40, 43, 44, 51, 207, 208, 209, 211, 214, 216, 220, 222, 224, 226, 228, 230, 232, 233, 235 – 243, 292, 297, 298, 299, 370, 377, 390, 391, 394 - 397 of the Plans.**

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

Very truly yours,

Maureen M. Addis, P.E.
Engineer of Design and Environment

A handwritten signature in black ink, reading "Ted B. Walschleger, P.E." with a stylized flourish at the end.

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

FAU 2298
 16-00215-11-PV
 KANE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 15
 RUN DATE - 11/01/17
 RUN TIME - 183034

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
50500505	STUD SHEAR CONNECTORS	EACH	1,293.000 X	=		=	
50800205	REINF BARS, EPOXY CTD *	POUND	343,760.000 X	=		=	
50800515	BAR SPLICERS	EACH	54.000 X	=		=	
50901720	BICYCLE RAILING	FOOT	517.000 X	=		=	
50901750	PARAPET RAILING	FOOT	362.000 X	=		=	
50901760	PIPE HANDRAIL	FOOT	165.000 X	=		=	
51200959	FUR M S PILE 14X0.312	FOOT	3,160.000 X	=		=	
51202305	DRIVING PILES	FOOT	3,160.000 X	=		=	
51203600	TEST PILE ST HP12X53	EACH	2.000 X	=		=	
51500100	NAME PLATES	EACH	4.000 X	=		=	
52100010	ELAST BEARING ASSY T1	EACH	10.000 X	=		=	
52100400	STEEL BEARING ASSMBLY	EACH	10.000 X	=		=	
52100540	ANCHOR BOLTS 1 1/2	EACH	40.000 X	=		=	
52200010	TEMP SHT PILING	SQ FT	2,400.000 X	=		=	
52200020	TEMP SOIL RETEN SYSTM	SQ FT	168.000 X	=		=	

* Revised 11/7/17

FAU 2298
 16-00215-11-PV
 KANE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 16
 RUN DATE - 11/01/17
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
52200105	FUR SOLDIER PILES WS	FOOT	4,059.000 X	=		=	
52200200	DRILL SET SLD PI SOIL	CU FT	23,942.000 X	=		=	
52200250	UNTREATED TIMBER LAG	SQ FT	8,924.000 X	=		=	
52200500	MECH ST EARTH RET WL	SQ FT	24,815.000 X	=		=	
54001001	BOX CUL END SEC C1	EACH	2.000 X	=		=	
54003000	CONC BOX CUL	CU YD	471.000 X	=		=	
54010604	PCBC 6X4	FOOT	937.500 X	=		=	
54011003	PCBC 10X3	FOOT	20.000 X	=		=	
542A0217	P CUL CL A 1 12	FOOT	253.000 X	=		=	
542A0220	P CUL CL A 1 15	FOOT	232.000 X	=		=	
542A1063	P CUL CL A 2 18	FOOT	116.000 X	=		=	
542A1069	P CUL CL A 2 24	FOOT	146.000 X	=		=	
542A8221	P CUL CL A 2 EQRS 36	FOOT	170.000 X	=		=	
54213657	PRC FLAR END SEC 12	EACH	20.000 X	=		=	
54213660	PRC FLAR END SEC 15	EACH	18.000 X	=		=	

Revised 11/7/17

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
54213663	PRC FLAR END SEC 18	EACH	2.000 X	=	=	=	=
54213669	PRC FLAR END SEC 24	EACH	9.000 X	=	=	=	=
54213681	PRC FLAR END SEC 36	EACH	1.000 X	=	=	=	=
54213687	PRC FLAR END SEC 42	EACH	1.000 X	=	=	=	=
54214521	PRC FL END S EQ RS 36	EACH	1.000 X	=	=	=	=
5422C024	P CUL CL C 2 24 TEMP	FOOT	695.000 X	=	=	=	=
54245205	INLET BOX 542511	EACH	1.000 X	=	=	=	=
54245605	INLET BOX 542536	EACH	1.000 X	=	=	=	=
54260311	TRAVERS PIPE GRATE	FOOT	22.000 X	=	=	=	=
54263336	CONC ES 542011 36 1:3	EACH	1.000 X	=	=	=	=
550A0050	STORM SEW CL A 1 12	FOOT	749.000 X	=	=	=	=
550A0070	STORM SEW CL A 1 15	FOOT	173.000 X	=	=	=	=
550A0120	STORM SEW CL A 1 24	FOOT	197.000 X	=	=	=	=
550A0340	STORM SEW CL A 2 12	FOOT	5,461.000 X	=	=	=	=
550A0360	STORM SEW CL A 2 15	FOOT	1,139.000 X	=	=	=	=

Revised 11/7/17

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
550A0380	STORM SEW CL A 2 18	FOOT	93.000 X	=		=	
550A0410	STORM SEW CL A 2 24	FOOT	2,009.000 X	=		=	
550A0450	STORM SEW CL A 2 36	FOOT	258.000 X	=		=	
550A0470	STORM SEW CL A 2 42	FOOT	1,751.000 X	=		=	
550A0480	STORM SEW CL A 2 48	FOOT	276.000 X	=		=	
550A0500	STORM SEW CL A 2 60	FOOT	1,482.000 X	=		=	
550B0330	STORM SEW CL B 2 10	FOOT	354.000 X	=		=	
55101200	STORM SEWER REM 24	FOOT	48.000 X	=		=	
56103000	D I WATER MAIN 6	FOOT	552.000 X	=		=	
59100100	GEOCOMPOSITE WALL DR	SQ YD	1,298.000 X	=		=	
60100060	CONC HDWL FOR P DRAIN *	EACH	3.000 X	=		=	
60108204	PIPE UNDERDR T 2 4 *	FOOT	18,717.000 X	=		=	
60108500	PIPE UNDERDRAIN 12 SP	FOOT	2,032.000 X	=		=	
60109600	BACKSLOPE DRAIN T1 4	FOOT	3,000.000 X	=		=	
60109601	BACKSLOPE DRAIN T1 6	FOOT	794.000 X	=		=	

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FAU 2298
 16-00215-11-PV
 KANE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 19
 RUN DATE - 11/01/17
 RUN TIME - 183034

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
60200105	CB TA 4 DIA T1F OL	EACH	3.000 X	=		=	
60200805	CB TA 4 DIA T8G	EACH	6.000 X	=		=	
60201105	CB TA 4 DIA T11F&G	EACH	21.000 X	=		=	
60201340	CB TA 4 DIA T24F&G	EACH	41.000 X	=		=	
60203805	CB TA 5 DIA T1F OL	EACH	1.000 X	=		=	
60204505	CB TA 5 DIA T8G	EACH	1.000 X	=		=	
60204805	CB TA 5 DIA T11F&G	EACH	1.000 X	=		=	
60205040	CB TA 5 DIA T24F&G	EACH	3.000 X	=		=	
60218400	MAN TA 4 DIA T1F CL	EACH	30.000 X	=		=	
60221100	MAN TA 5 DIA T1F CL	EACH	13.000 X	=		=	
60221700	MAN TA 5 DIA T8G	EACH	4.000 X	=		=	
60223800	MAN TA 6 DIA T1F CL	EACH	6.000 X	=		=	
60224446	MAN TA 7 DIA T1F CL	EACH	3.000 X	=		=	
60224456	MAN TA 8 DIA T24F&G	EACH	4.000 X	=		=	
60224458	MAN TA 8 DIA T8G	EACH	4.000 X	=		=	

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FAU 2298
 16-00215-11-PV
 KANE

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 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 20
 RUN DATE - 11/01/17
 RUN TIME - 183034

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				DOLLARS	CENTS	DOLLARS	CTS
60224459	MAN TA 8 DIA T1F CL	EACH	3.000	=		=	
60224469	MAN TA 9 DIA T1F CL	EACH	2.000	=		=	
60224476	MAN TA 9 DIA T24F&G	EACH	1.000	=		=	
60234200	INLETS TA T1F OL	EACH	2.000	=		=	
60236200	INLETS TA T8G	EACH	5.000	=		=	
60236800	INLETS TA T11F&G	EACH	16.000	=		=	
60237470	INLETS TA T24F&G	EACH	27.000	=		=	
60500040	REMOV MANHOLES	EACH	2.000	=		=	
60602800	CONC GUTTER TB	FOOT	664.000	=		=	
60603800	COMB CC&G TB6.12	FOOT	8,855.000	=		=	
60605000	COMB CC&G TB6.24	FOOT	14,503.000	=		=	
60608582	COMB CC&G TM4.24	FOOT	4,090.000	=		=	
60619600	CONC MED TSB6.12	SQ FT	28,233.000	=		=	
63000001	SPBGR TY A 6FT POSTS	FOOT	1,163.000	=		=	
63000007	SPBGR TY B 6FT POSTS	FOOT	25.000	=		=	

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FAU 2298
 16-00215-11-PV
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 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 21
 RUN DATE - 11/01/17
 RUN TIME - 183034

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
63000360	LSG OV CUL 18'9" SPAN	FOOT	337.500 X	=		=	
63100045	TRAF BAR TERM T2	EACH	2.000 X	=		=	
63100085	TRAF BAR TERM T6	EACH	3.000 X	=		=	
63100167	TR BAR TRM T1 SPL TAN	EACH	9.000 X	=		=	
63200310	GUARDRAIL REMOV	FOOT	737.000 X	=		=	
66900200	NON SPL WASTE DISPOS	CU YD	5,320.000 X	=		=	
66900210	HAZARD WASTE DISPOSAL	CU YD	1,150.000 X	=		=	
66900450	SPL WASTE PLNS/REPORT	L SUM	1.000 X	=		=	
66900530	SOIL DISPOSAL ANALY	EACH	7.000 X	=		=	
66901000	BACKFILL PLUGS	CU YD	20.000 X	=		=	
67000400	ENGR FIELD OFFICE A	CAL MO	20.000 X	=		=	
67100100	MOBILIZATION	L SUM	1.000 X	=		=	
70103815	TR CONT SURVEILLANCE	CAL DA	240.000 X	=		=	
70300100	SHORT TERM PAVT MKING	FOOT	1,008.000 X	=		=	
70300150	SHRT TRM PAVT MK REM	SQ FT	336.000 X	=		=	

Revised 11/7/17

FAU 2298
 16-00215-11-PV
 KANE

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 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 22
 RUN DATE - 11/01/17
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ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
70300220	TEMP PVT MK LINE 4	FOOT	72,943.000 X	=		=	
70300280	TEMP PVT MK LINE 24	FOOT	88.000 X	=		=	
70300520	PAVT MARK TAPE T3 4	FOOT	37,818.000 X	=		=	
70300570	PAVT MARK TAPE T3 24	FOOT	52.000 X	=		=	
70400100	TEMP CONC BARRIER	FOOT	4,663.000 X	=		=	
70400200	REL TEMP CONC BARRIER	FOOT	5,438.000 X	=		=	
70600260	IMP ATTN TEMP FRN TL3	EACH	10.000 X	=		=	
70600332	IMP ATTN REL FRN TL3	EACH	14.000 X	=		=	
72000100	SIGN PANEL T1 *	SQ FT	693.000 X	=		=	
72000200	SIGN PANEL T2	SQ FT	172.000 X	=		=	
72000300	SIGN PANEL T3	SQ FT	136.000 X	=		=	
72300100	INSTALL EX SIGN PANEL	SQ FT	6.000 X	=		=	
72400100	REMOV SIN PAN ASSY TA	EACH	28.000 X	=		=	
72400200	REMOV SIN PAN ASSY TB	EACH	2.000 X	=		=	
72501000	TERMINAL MARKER - DA	EACH	8.000 X	=		=	

* Revised 11/7/17

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
72700100	STR STL SIN SUP BA	POUND	1,620.000 X	=		=	
72800100	TELES STL SIN SUPPORT *	FOOT	1,463.000 X	=		=	
72900100	METAL POST TY A	FOOT	69.000 X	=		=	
72900200	METAL POST TY B	FOOT	224.000 X	=		=	
73000100	WOOD SIN SUPPORT	FOOT	182.000 X	=		=	
73400100	CONC FOUNDATION	CU YD	4.000 X	=		=	
78000100	THPL PVT MK LTR & SYM	SQ FT	458.000 X	=		=	
78000200	THPL PVT MK LINE 4	FOOT	23,836.000 X	=		=	
78000400	THPL PVT MK LINE 6	FOOT	1,283.000 X	=		=	
78000600	THPL PVT MK LINE 12	FOOT	614.000 X	=		=	
78000650	THPL PVT MK LINE 24	FOOT	105.000 X	=		=	
78001100	PT PVT MK LTRS & SYMB	SQ FT	18.000 X	=		=	
78001110	PAINT PVT MK LINE 4	FOOT	5,710.000 X	=		=	
78001180	PAINT PVT MK LINE 24	FOOT	23.000 X	=		=	
78009000	MOD URETH PM LTR-SYM	SQ FT	649.000 X	=		=	

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FAU 2298
 16-00215-11-PV
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 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 24
 RUN DATE - 11/01/17
 RUN TIME - 183034

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
78009004	MOD URETH PM LINE 4	FOOT	7,222.000 X				
78009006	MOD URETH PM LINE 6	FOOT	1,444.000 X				
78009008	MOD URETH PM LINE 8	FOOT	3,029.000 X				
78009012	MOD URETH PM LINE 12	FOOT	592.000 X				
78009024	MOD URETH PM LINE 24	FOOT	150.000 X				
78100100	RAISED REFL PAVT MKR	EACH	299.000 X				
78100200	TEMP RAIS REF PVT MKR	EACH	2,757.000 X				
78100300	REPLACEMENT REFLECTOR	EACH	138.000 X				
78200005	GRDRAIL REF TYPE A	EACH	46.000 X				
78200011	BARR WALL REF TYPE C	EACH	187.000 X				
78300200	RAISED REF PVT MK REM	EACH	150.000 X				
80400200	ELECT UTIL SERV CONN	L SUM	1.000 X				
80500010	SERV INSTALL GRND MT	EACH	4.000 X				
81028200	UNDRGRD C GALVS 2	FOOT	1,616.000 X				
81028210	UNDRGRD C GALVS 2 1/2	FOOT	804.000 X				

Revised 11/7/17

FAU 2298
 16-00215-11-PV
 KANE

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 SCHEDULE OF PRICES
 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 25
 RUN DATE - 11/01/17
 RUN TIME - 183034

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
81028220	UNDRGRD C GALVS 3	FOOT	261.000 X	=			
81028240	UNDRGRD C GALVS 4	FOOT	1,439.000 X	=			
81028320	UNDRGRD C PVC 1	FOOT	2,982.000 X	=			
81028340	UNDRGRD C PVC 1 1/2	FOOT	30.000 X	=			
81028370	UNDRGRD C PVC 3	FOOT	30.000 X	=			
81028380	UNDRGRD C PVC 3 1/2	FOOT	960.000 X	=			
81028390	UNDRGRD C PVC 4	FOOT	335.000 X	=			
81028410	UNDRGRD C PVC 6	FOOT	514.000 X	=			
81028790	UNDRGRD C CNC 4	FOOT	14,138.000 X	=			
81100705	CON AT ST 2.5 PVC GS	FOOT	886.000 X	=			
81101105	CON AT ST 5 PVC GALVS	FOOT	886.000 X	=			
81300965	JUN BX SS AS 60X42X12	EACH	2.000 X	=			
81400100	HANDHOLE	EACH	19.000 X	=			
81400200	HD HANDHOLE	EACH	12.000 X	=			
81400300	DBL HANDHOLE	EACH	5.000 X	=			

Revised 11/7/17

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				DOLLARS	CENTS	DOLLARS	CTS
81702100	EC C XLP USE 1C 12	FOOT	100.000 X	=			
81702120	EC C XLP USE 1C 8	FOOT	5,165.000 X	=			
81702130	EC C XLP USE 1C 6	FOOT	10,470.000 X	=			
81702150	EC C XLP USE 1C 2	FOOT	1,080.000 X	=			
81702160	EC C XLP USE 1C 1/0	FOOT	40.000 X	=			
81702200	EC C XLP USE 1C 250	FOOT	3,840.000 X	=			
81702230	EC C XLP USE 1C 500	FOOT	150.000 X	=			
82102250	LUM SV HOR MT 250W	EACH	2.000 X	=			
84200600	REM LT U NO SALV	EACH	7.000 X	=			
84500120	REMOV ELECT SERV INST	EACH	1.000 X	=			
85000200	MAIN EX TR SIG INSTAL	EACH	2.000 X	=			
85700200	FAC T4 CAB	EACH	1.000 X	=			
87300925	ELCBL C TRACER 14 1C	FOOT	10,618.000 X	=			
87301225	ELCBL C SIGNAL 14 3C	FOOT	957.000 X	=			
87301245	ELCBL C SIGNAL 14 5C	FOOT	3,207.000 X	=			

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ECMS002 DTGECM03 ECMR003 PAGE 27
 RUN DATE - 11/01/17
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				DOLLARS	CENTS	DOLLARS	CTS
87301255	ELCBL C SIGNAL 14 7C	FOOT	2,339.000 X	=		=	
87301305	ELCBL C LEAD 14 1PR	FOOT	4,612.000 X	=		=	
87301805	ELCBL C SERV 6 2C	FOOT	920.000 X	=		=	
87301900	ELCBL C EGRDC 6 1C	FOOT	1,819.000 X	=		=	
87501000	TS POST 14	EACH	1.000 X	=		=	
87501200	TS POST 16	EACH	2.000 X	=		=	
87700170	S MAA & P 26	EACH	1.000 X	=		=	
87700190	S MAA & P 30	EACH	1.000 X	=		=	
87700230	S MAA & P 38	EACH	1.000 X	=		=	
87700250	S MAA & P 42	EACH	2.000 X	=		=	
87700400	S MAA & P 60	EACH	1.000 X	=		=	
87702930	STL COMB MAA&P 40	EACH	1.000 X	=		=	
87702980	STL COMB MAA&P 50	EACH	1.000 X	=		=	
87800100	CONC FDN TY A *	FOOT	12.000 X	=		=	
87800150	CONC FDN TY C	FOOT	8.000 X	=		=	

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 16-00215-11-PV
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 SCHEDULE OF PRICES
 CONTRACT NUMBER - 61E05

ECMS002 DTGECM03 ECMR003 PAGE 28
 RUN DATE - 11/01/17
 RUN TIME - 183034

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				DOLLARS	CENTS	DOLLARS	CTS
87800400	CONC FDN TY E 30D	FOOT	24.000 X	=		=	
87800415	CONC FDN TY E 36D	FOOT	66.000 X	=		=	
87800420	CONC FDN TY E 42D	FOOT	21.000 X	=		=	
88030020	SH LED 1F 3S MAM	EACH	12.000 X	=		=	
88030050	SH LED 1F 3S BM	EACH	6.000 X	=		=	
88030080	SH LED 1F 4S MAM	EACH	2.000 X	=		=	
88030100	SH LED 1F 5S BM	EACH	1.000 X	=		=	
88030110	SH LED 1F 5S MAM	EACH	7.000 X	=		=	
88200100	TS BACKPLATE	EACH	5.000 X	=		=	
88200110	TS BACKPLATE LOUVERED	EACH	10.000 X	=		=	
88200510	TS BACKPLATE RET-REFL	EACH	9.000 X	=		=	
88500100	INDUCTIVE LOOP DETECT	EACH	14.000 X	=		=	
88600100	DET LOOP T1	FOOT	427.000 X	=		=	
88600700	PREFORM DETECT LOOP	FOOT	917.000 X	=		=	
88700200	LIGHT DETECTOR	EACH	2.000 X	=		=	

Revised 11/7/17

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				DOLLARS	CENTS	DOLLARS	CTS
88700300	LIGHT DETECTOR AMP	EACH	1.000 X		=		

TOTAL \$

- NOTE:
1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
 2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.
 3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
 4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.

Revised 11/7/17

HOT MIX ASPHALT – QUALITY CONTROL FOR PERFORMANCE (BDE)

Effective: April 1, 2017

Revised: November 1, 2017

Description. This special provision describes the procedures for production, placement and payment of hot-mix asphalt (HMA) under the quality control for performance (QCP) program; as well as the requirements for intelligent compaction. This special provision shall apply to the HMA mixtures specified in the plans. This work shall be according to the Standard Specifications except as modified herein.

Delete Articles:	406.06(b)(1), 2 nd Paragraph	(Temperature Requirements)
	406.06(b)(2)d.	(Temperature Requirements)
	406.06(b)(3)b.	(Temperature Requirements)
	406.06(e), 3 rd Paragraph	(Paver Speed Requirements)
	406.07(b)	(Rolling)
	406.07(c)	(Density)
	1030.05(a)(4, 5, 9,)	(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)(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), 2 nd paragraph	(Before start-up...)

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) Pay Parameters. Pay parameters shall be field voids in the mineral aggregate (Field VMA), voids, and density. Field VMA will be calculated using the combined aggregates bulk specific gravity (G_{sb}) from the mix design.
- (d) Mixture Lot. A mixture lot shall begin once an acceptable test strip has been completed and the adjusted job mix formula has been determined. If the test strip is waived, a mixture lot shall begin with the start of production. A mixture lot shall consist of four

sublots unless it is the last or only lot, in which case it may consist of as few as one subplot.

- (e) Mixture Sublot. A mixture subplot for Field VMA, voids, and dust/AC shall be a maximum of 1000 tons (910 metric tons).
 - (1) If the remaining quantity is greater than 200 tons (180 metric tons) but less than 1000 tons (910 metric tons), the last mixture subplot will be that quantity.
 - (2) If the remaining quantity is 200 tons (180 metric tons) or less, the quantity shall be combined with the previous mixture subplot.
- (f) Density Interval. Density intervals shall be every 0.2 miles (320 m) for lift thicknesses of 3 in. (75 mm) or less and 0.1 miles (160 m) for lift thicknesses greater than 3 in. (75 mm). If a density interval is less than 200 ft (60 m), it will be combined with the previous density interval.
- (g) Density Sublot. A density subplot shall be the average of five consecutive density intervals.
 - (1) If less than three density intervals remain outside a density subplot, they shall be included in the previous density subplot.
 - (2) If three or more density intervals remain, they shall be considered a density subplot.
- (h) Density Test. A density test shall consist of a core taken at a random location within each density interval.

When establishing the target density, the HMA maximum theoretical gravity (G_{mm}) shall be based on the running average of four Department test results. Initial G_{mm} shall be based on the average of the first four test results. If less than four G_{mm} results are available, an average of all available Department G_{mm} test results shall be used.

Pre-Production Meeting. The Engineer will schedule a pre-production meeting prior to the start of production. The HMA QC Plan, test frequencies, and responsibilities of all parties involved in testing will be addressed. The Engineer will provide the random locations, tonnages, and subplot selected from each lot in a sealed envelope for the Contractor to sign at the pre-production meeting or prior to paving. The locations, tonnages, and subplot selected from each lot may be adjusted due to field conditions according to the Department's Manual of Test Procedures for Materials "PFP and QCP Hot-Mix Asphalt Random Jobsite Sampling" and "PFP and QCP Random Density Procedure". The signed sealed envelope will be given to the Contractor after paving is complete, along with documentation of any adjustments. Personnel attending the meetings may 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 QC plan shall include the schedule of testing for both pay parameters and non-pay parameters required to control the product such as asphalt binder content and mixture gradation. The minimum test frequency shall be according to Table 1.

Table 1

Minimum Quality Control Sampling and Testing Requirements		
Quality Characteristic	Minimum Test Frequency	
Mixture Gradation	1 per subplot	
Asphalt Binder Content		
Dust/AC Ratio		
Field VMA		
Voids		G_{mb}
		G_{mm}

The Contractor's splits in conjunction with other quality control tests shall be used to control production.

The Contractor shall submit split jobsite mix sample test results to the Engineer within 48 hours of the time of sampling. All QC testing shall be performed in a qualified laboratory by personnel who have successfully completed the Department's HMA Level I training.

Intelligent Compaction. When a "Number of Roller Passes" is specified in the HMA Mixture Requirements table on the plans, the Contractor may opt to use intelligent compaction (IC) in lieu of density testing. Coring according to the Department's Manual of Test Procedures for Materials "PFP and QCP Random Density Procedure" is required and will be used for pay adjustments for density sublots that are not in compliance with the contract specifications.

The IC equipment shall be mounted on the breakdown roller(s) and shall record GPS location data, roller pass counts, roller speeds, and HMA mat temperatures. Each day, the accuracy of the GPS and temperature data shall be verified and documented. If the verification fails or is not performed, the IC data will not be used for the affected density sublots.

The IC data for each density subplot shall be analyzed using Veta software to determine the average roller speed, percent roller coverage, and average mat surface temperature for the final roller pass. The Contractor shall submit these summary results, and if requested the raw data

from the IC equipment and the data analysis software, to the Engineer within 24 hours of each day of paving using IC.

The required number of roller passes shall be as specified on the plans. The roller speeds shall be according to Article 406.07. The minimum roller coverage shall be 90 percent. The average HMA mat temperature for the initial break down roller pass shall be according to Table 2.

Table 2

Asphalt Mixture Type	Temperature Range (°F (°C))
Warm Mix Asphalt	215-275 °F (102-135 °C)
IL-4.75	300-350 °F (155-175 °C)
HMA using SBS PG76-22	300-350 °F (155-175 °C)
HMA using SBS PG76-28	300-350 °F (155-175 °C)
HMA using SBS PG70-22	300-350 °F (155-175 °C)
HMA using SBS PG70-28	300-350 °F (155-175 °C)
Other HMA not listed above	260-325 °F (125-165 °C)

Quality Assurance (QA) by the Engineer. Quality Assurance by the Engineer will be as follows.

- (a) Voids, Field VMA, and Dust/AC Ratio. The Engineer will determine the random tonnage and the Contractor shall be responsible for obtaining the sample according to the Department's Manual of Test Procedures for Materials "PFP Hot-Mix Asphalt Random Jobsite Sampling Procedure".
- (b) Density: After final rolling, the Engineer will identify the random core locations within each density testing interval according to the Department's Manual of Test Procedures for Materials "PFP and QCP Random Density Procedure".

The Contractor shall cut the 4 in. (100 mm) cores within the same day and prior to opening to traffic unless otherwise approved by the Engineer. All core holes shall be filled immediately 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. Any depressions in the surface of the filled core holes greater than 1/4 in. (6 mm) at the time of final inspection will require removal of the fill material to the depth of the lift thickness and replacement.

The Engineer will witness and secure all mixture and density samples. The Contractor shall transport the secured sample to a location designated by the Engineer.

The Engineer will select at random one split sample from each lot for testing of voids, Field VMA and dust/AC ratio. The Engineer will test a minimum of one sample per project. The Engineer will test all of the pavement cores for density unless intelligent compaction is used. All QA testing will be performed in a qualified laboratory by personnel who have successfully completed the Department's HMA Level I training. QA test results will be available to the

Contractor within ten working days from receipt of secured cores and split mixture samples and after the last subplot from each lot.

The Engineer will maintain a complete record of all Department test results and copies will be provided to the Contractor with each set of subplot results. The records will contain, at 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.

If QA results do not meet the precision limits listed in Table 3, the Department will verify the results by retesting the retained split sample. The retest will replace the original results.

If the QA results do not meet the 100 percent subplot pay factor limits or still do not compare to QC results within the precision limits in Table 3, after retesting the Engineer will test all split mix samples for the lot.

Table 3

Test Parameter	Limits of Precision
G _{mb}	0.030
G _{mm}	0.026
Field VMA	1.0 %

Acceptance by the Engineer. All of the Department's tests shall be within the acceptable limits listed in Table 4.

Table 4

Parameter		Acceptable Limits
Field VMA		-1.0 – +3.0% ^{1/}
Voids		2.0 – 6.0%
Density	IL-9.5, IL-19.0, IL-4.75, IL-9.5FG ^{3/}	90.0 – 98.0%
	SMA	92.0 – 98.0%
Dust / AC Ratio		0.4 – 1.6 ^{2/}

1/ Based on minimum required VMA from mix design

2/ Does not apply to SMA.

3/ Acceptable density limits for IL-9.5FG placed less than 1 1/4 in. (32 mm) shall be 89.0% - 98.0%

In addition, no visible pavement distresses shall be present such as, but not limited to, segregation, excessive coarse aggregate fracturing or flushing.

Basis of Payment. Payment will be based on the calculation of the composite pay factor using QA test results for each mixture according to the Department's Manual of Test Procedures for Materials "QCP Pay Calculation" document.

If intelligent compaction is successfully implemented, the Contractor will receive 100 percent for the density pay factor in Equation 1 of the "QCP Pay Calculation" document for each applicable HMA mixture; otherwise, the density tests and pay adjustments will apply. The pay factor for each density subplot will be based upon either intelligent compaction or density tests and the two will not be mixed.

Dust/AC Ratio. 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. If the tested mixture subplot is outside of this range, the Department will test the remaining sublots for dust/AC pay adjustment.

Table 5

Dust/AC Pay Adjustment Table ^{1/}	
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

1/ Does not apply to SMA.

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