June 8, 2011

SUBJECT: FAI Route 270 (I-270)

Project ACIM-ACBRI-270-5 (086) 002

Section 60-1B-1 Madison County Contract No. 76A91

Item No. 106, June 17, 2011 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 sheets 2-4, 6-14A, 19, 23, 24, 26, 27A, 30, 48, 49, 51, 52, 54, 59-61, 73-75, 77-84, 87, 88, 91, 96, 96A, 99, 100, 108, 113, 114, 116, 122-124, 127, 128, 130, 136, 139, 140, 142, 153, 161, 162, 164, 172, 173, 175, 183, 184, 186, 194, 195, 197, 209-211, 213-216, 219, 221-223, 228-231, 235-237, 240-243, 262-265, 270, 271, 281-283, 286, 290, 299, 300, 305, 320, 321, 329-344, 346-348, 537, 550, 629-632, 633-650, 672-683, 691-694, 696-707.
- 3. Added sheets 87A, 176A, 176B, 537A, 632A-632I.
- 4. Revised the Table of Contents to the Special Provisions.
- 5. Revised pages 4, 6, 44-47, 49-52, 212-214 of the Special Provisions.
- 6. Added pages 289-302 to 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

By: Ted B. Walschleger, P. E.

Tette Jake Lyon P.E.

**Engineer of Project Management** 

cc: Mary C. Lamie, Region 5, District 8; Mike Renner; D. Carl Puzey; Estimates

TBW:DB:jc

**NUMBER -**

76A91

C-98-068-07 State Job # -PPS NBR -8-85312-0000

MADISON- -

60-1B-1

Code -119 - -District -8 - -

County Name -

Section Number -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route **FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	х	Unit Price	=	Total Price
* K1005421	SEEDING SPL	ACRE	7.000				
* X0323013	TUBULAR STEEL GATE	EACH	1.000				
X0323014	EC C CONOGA 30003	FOOT	1,300.000				
X0323015	PIEZO E AXL SEN CL 2	FOOT	66.000				
X0323150	JUN BX AL AS 18X18X10	EACH	4.000				
X0325073	MOD EX CONTR CAB TY B	EACH	1.000				
X0325076	WIDE AREA NETWORK	L SUM	1.000				
X0325077	FIB OPT UTILIT MARKER	EACH	29.000				
X0325279	CLASS SI CONC (MISC)	CU YD	270.900				
X0325482	REM EXIST ITS EQUIPMT	EACH	1.000				
X0325483	SFP-GE-L SFP MODULE	EACH	1.000				
X0325484	SFP-GE-Z SFP MODULE	EACH	2.000				
X0325487	WIRED COMM DATA CONVT	EACH	1.000				
X0326091	LP 50 W/CAM LOW SYS	EACH	2.000				
X0326092	REL CCT SURV CAMERA	EACH	2.000				

ACIM-ACBRI-2705/086/002

**NUMBER -**

76A91

C-98-068-07 State Job # -PPS NBR -8-85312-0000

MADISON- -

Code -119 - -District -8 - -

County Name -

Section Number -

60-1B-1

\*REVISED: 6/7/2011

**Project Number** 

Route

**FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X0326094	REL EX ITS CONT CAB	EACH	1.000				
X0326104	RELO RADAR DETECT SYS	EACH	3.000				
X0326259	DIGITAL VIDEO ENCODER	EACH	4.000				
X0326342	DIGITAL VIDEO DECODER	EACH	1.000				
X0326542	METAL GRATING	L SUM	1.000				
X0326657	RELOCATE SIGN SPL	EACH	18.000				
X0326871	SOLAR EQUIPMENT	L SUM	1.000				
X0326912	3000 LAYER 2 SWITCH	EACH	2.000				
X0326935	CROSSHOLE SONIC LOG	EACH	30.000				
X0327096	ETHERNET MODEM	EACH	6.000				
X0327276	STAGED VEH DET SURV	L SUM	1.000				
X0327277	RELO KIOSK	EACH	1.000				
X0350810	BOLLARD REMOVAL	EACH	6.000				
X0502600	TEMP LIGHTING	L SUM	1.000				
X2010350	TREE REMOV ACRES SPL	ACRE	1.000				

**NUMBER -**

76A91

C-98-068-07 State Job # -PPS NBR -8-85312-0000

MADISON- -

Code -119 - -District -8 - -

County Name -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route **FAI 270** 

\*REVISED: 6/7/2011 Section Number -60-1B-1

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
* X2040805	FURNISHED EXCAV SPL	CU YD	52,768.000				
X2070304	POROUS GRAN EMB SPEC	CU YD	1,264.000				
* X2111000	TOPSOIL EXCAVATION	CU YD	3,455.000				
X2800510	INLET FILTER CLEANING	EACH	20.000				
X4832500	PCC SHOULDERS 12 SPL	SQ YD	616.000				
X5080600	MECHANICAL SPLICERS	EACH	2,512.000				
X5210180	HLMR BRG GUID EXP 550	EACH	20.000				
X5210255	HLMR BRG GUID EX 1700	EACH	20.000				
X5210490	HLMR BRNG FIXED 2000K	EACH	20.000				
X6370279	CONC BAR 1F 42HT SPL	FOOT	933.000				
X6380200	REL MOD GLAR SCRN SYS	FOOT	1,800.000				
X6650202	WOV W FENCE REMOV	FOOT	3,107.000				
X6660445	ROW/PROPERTY CORNERS	EACH	17.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	42.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				

**NUMBER -**

C-98-068-07 State Job # -PPS NBR -8-85312-0000

MADISON- -

Code -119 - -District -8 - -Section Number -60-1B-1

County Name -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X7030025	WET REF TEM TP T3 L&S	SQ FT	40.000				
X7030030	WET REF TEM TAPE T3 4	FOOT	71,045.000				
X7030040	WET REF TEM TAPE T3 6	FOOT	794.000				
X7030055	WET REF TEM TPE T3 24	FOOT	224.000				
* X7830070	GRV RCSD PVT MRKG 5	FOOT	50,363.000				
X7830076	GRV RCSD PVT MRKG 9	FOOT	2,472.000				
X7830078	GRV RCSD PVT MRKG 13	FOOT	241.000				
X8100065	CON T 4 PVC TY C	FOOT	5,115.000				
X8102020	CON P 4 PVC SCHED 80	FOOT	45.000				
X8260110	NAVIGATION LT SYSTEM	L SUM	1.000				
X8710075	FO CAB C 72 SM FO	FOOT	11,900.000				
Z0004002	BOLLARDS	EACH	4.000				
Z0004556	HMA SURFACE RM (DECK)	SQ YD	80.000				
Z0013798		L SUM	1.000				
Z0016200	DECK SLAB REP (PART)	SQ YD	160.000				

State Job # - C-98-068-07

PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

Project Number

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
* Z0016702	DETOUR SIGNING	L SUM	1.000				
Z0018002	DRAINAGE SCUPPR DS-11	EACH	76.000				
Z0018800	DRAINAGE SYSTEM	L SUM	1.000				
Z0019600	DUST CONTROL WATERING	UNIT	999.000				
Z0023902	REM PRESS RELIEF WELL	EACH	1.000				
Z0026346	NIGHT WORK ZONE LIGHT	L SUM	1.000				
Z0030260	IMP ATTN TEMP FRN TL3	EACH	12.000				
Z0030330	IMP ATTN REL FRD TL3	EACH	34.000				
Z0030850	TEMP INFO SIGNING	SQ FT	764.000				
Z0034210	MECH ST EARTH RET WL	SQ FT	19,560.000				
Z0034605	MODULAR EXPAN JT 21	FOOT	176.000				
Z0046304	P UNDR FOR STRUCT 4	FOOT	392.000				
Z0062456	TEMP PAVEMENT	SQ YD	115.000				
Z0065100	SETTLEMENT PLATFORMS	EACH	7.000				
Z0065765	SLOT DR 18" W/VAR SL	FOOT	903.000				

**NUMBER -**

C-98-068-07

PPS NBR -8-85312-0000

MADISON- -County Name -

Code -119 - -District -8 - -Section Number -60-1B-1

State Job # -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
*DELETE <del>Z0076600</del>	TRAINEES	HOUR	<del>5,000.000</del>		0.800		4,000.000
* Z0076602	TRAINEES (SPECIAL)	HOUR	5,000.000		3.500		17,500.000
20100500	TREE REMOV ACRES	ACRE	17.750				
* 20200100	EARTH EXCAVATION	CU YD	248,055.000				
20201200	REM & DISP UNS MATL	CU YD	10,237.000				
* 20400800	FURNISHED EXCAVATION	CU YD	308,654.000				
20700220	POROUS GRAN EMBANK	CU YD	10,237.000				
* 20800150	TRENCH BACKFILL	CU YD	2,655.000				
21001000	GEOTECH FAB F/GR STAB	SQ YD	15,356.000				
* 21101615	TOPSOIL F & P 4	SQ YD	172,164.000				
* 21101645	TOPSOIL F & P 12	SQ YD	16,396.000				
25000210	SEEDING CL 2A	ACRE	30.750				
* 25000305	SEEDING CL 3A	ACRE	19.250				
* 25000400	NITROGEN FERT NUTR	POUND	5,116.000				
* 25000500	PHOSPHORUS FERT NUTR	POUND	5,116.000				

NUMBER -

76A91

State Job # - C-98-068-07 PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

Project Number
ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	X	Unit Price	=	Total Price
* 25000600	POTASSIUM FERT NUTR	POUND	5,116.000				
* 25100115	MULCH METHOD 2	ACRE	146.000				
* 25100630	EROSION CONTR BLANKET	SQ YD	117,884.000				
25200200	SUPPLE WATERING	UNIT	1,800.000				
* 28000250	TEMP EROS CONTR SEED	POUND	11,370.000				
28000305	TEMP DITCH CHECKS	FOOT	1,060.000				
* 28000400	PERIMETER EROS BAR	FOOT	29,350.000				
28000500	INLET & PIPE PROTECT	EACH	58.000				
28000510	INLET FILTERS	EACH	32.000				
* 28100105	STONE RIPRAP CL A3	SQ YD	2,352.000				
28100107	STONE RIPRAP CL A4	SQ YD	1,645.000				
28200200	FILTER FABRIC	SQ YD	4,358.000				
30200650	PROCESS MOD SOIL 12	SQ YD	12,272.000				
30201500		TON	246.100				
31100200		CU YD	277.000				

**NUMBER -**

C-98-068-07 State Job # -

PPS NBR -8-85312-0000

MADISON- -County Name -

Code -119 - -District -8 - -Section Number -60-1B-1 **Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	х	Unit Price	=	Total Price
31100910	SUB GRAN MAT A 12	SQ YD	68,296.000				
31101900	SUB GRAN MAT C	TON	796.000				
31200100	STAB SUBBASE 4	SQ YD	57,810.000				
* 25100700	AGG BASE CSE A 8	SQ YD	17,088.000				
40201000	AGGREGATE-TEMP ACCESS	TON	1,000.000				
40300100	BIT MATLS PR CT	GALLON	4,291.000				
* 40300300	BIT MATLS C&S CT	GALLON	9,629.000				
40300500	COVER COAT AGG	TON	104.000				
40300600	SEAL COAT AGG	TON	104.000				
*DELETE 40600100	BIT MATLS PR CT	GALLON	<del>3,733.000</del>				
*DELETE 40600300	AGG PR CT	TON	<del>28.000</del>				
* 40603000	HMA BC IL-12.5 N50	TON	1,760.000				
40603335	HMA SC "D" N50	TON	633.000				
40701941	HMA PAVT FD 13	SQ YD	7,154.000				
40701961	HMA PAVT FD 14	SQ YD	23,390.000				A

**NUMBER -**

C-98-068-07 State Job # -

PPS NBR -8-85312-0000

MADISON- -County Name -

Code -119 - -District -8 - -Section Number -60-1B-1 **Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
42000541	PCC PVT 12 JOINTED	SQ YD	3,416.000				
42001300	PROTECTIVE COAT	SQ YD	12,837.000				
42100340	CONT REINF PCC PVT 12	SQ YD	33,402.000				
42100615	PAVT REINFORCEMENT	SQ YD	33,402.000				
42101020	WF BM TERM JT COMP 24	EACH	4.000				
42101030	WF BM TERM JT COMP 36	EACH	4.000				
42101300	PROTECTIVE COAT	SQ YD	66,796.000				
44000100	PAVEMENT REM	SQ YD	51,950.000				
44000157	HMA SURF REM 2	SQ YD	10,989.000				
* 44004000	PAVED DITCH REMOVAL	FOOT	1,395.000				
44004250	PAVED SHLD REMOVAL	SQ YD	25,709.000				
44201823	CL D PATCH T1 15	SQ YD	425.000				
44201827	CL D PATCH T2 15	SQ YD	425.000				
44201831	CL D PATCH T3 15	SQ YD	425.000				
44201833	CL D PATCH T4 15	SQ YD	425.000				

NUMBER -

76A91

State Job # - C-98-068-07 PPS NBR - 8-85312-0000

MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

County Name -

Project Number

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	х	Unit Price	=	Total Price
44213200	SAW CUTS	FOOT	10,280.000				
* 48100500	AGGREGATE SHLDS A 6	SQ YD	7,133.000				
48203005	HMA SHOULDERS 2	SQ YD	10,989.000				
48203039	HMA SHOULDERS 10 1/2	SQ YD	8,219.000				
48300700	PCC SHOULDERS 12	SQ YD	23,201.000				
48301000	PROTECTIVE COAT	SQ YD	47,659.000				
50100100	REM EXIST STRUCT	EACH	2.000				
50102400	CONC REM	CU YD	44.800				
50104650	SLOPE WALL REMOV	SQ YD	3,175.000				
50157300	PROTECTIVE SHIELD	SQ YD	10,700.000				
50200100	STRUCTURE EXCAVATION	CU YD	3,603.000				
50200300	COFFERDAM EXCAVATION	CU YD	16,671.000				
50202901	COFFERDAM LOCATION 1	EACH	1.000				
50202902	COFFERDAM LOCATION 2	EACH	1.000				
50300225	CONC STRUCT	CU YD	8,224.100				

**NUMBER -**

76A91

C-98-068-07 State Job # -PPS NBR -8-85312-0000

MADISON- -

Code -119 - -District -8 - -

County Name -

Section Number -60-1B-1 **Project Number** 

\*REVISED: 6/7/2011

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50300255	CONC SUP-STR	CU YD	6,469.800				
50300260	BR DECK GROOVING	SQ YD	19,272.000				
50300265	SEAL COAT CONC	CU YD	6,101.200				
50300300	PROTECTIVE COAT	SQ YD	23,216.000				
50500105	F & E STRUCT STEEL	L SUM	1.000				
50500405	F & E STRUCT STEEL	POUND	195,000.000				····
50500505	STUD SHEAR CONNECTORS	FACH	36,090,000				

50300255	CONC SUP-STR	CU YD	6,469.800	 	
50300260	BR DECK GROOVING	SQ YD	19,272.000		
50300265	SEAL COAT CONC	CU YD	6,101.200		
50300300	PROTECTIVE COAT	SQ YD	23,216.000		
50500105	F & E STRUCT STEEL	L SUM	1.000		
50500405		POUND	195,000.000		
50500505		EACH	36,090.000	 	 
* 50800105		POUND	745,206.000		 
50800205		POUND	3,490,790.000		
50800515		EACH	172.000		
50901750	PARAPET RAILING	FOOT	1,084.000		
51100100	SLOPE WALL 4	SQ YD	884.000		 
51200959	FUR M S PILE 14X0.312	FOOT	4,527.000		
51202305	DRIVING PILES	FOOT	4,527.000		
51203200	TEST PILE MET SHELLS	EACH	2.000		

NUMBER -

76A91

State Job # - C-98-068-07 PPS NBR - 8-85312-0000

MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

County Name -

Project Number
ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
51500100	NAME PLATES	EACH	1.000				
51602000	PERMANENT CASING	FOOT	2,920.000				
51603000	DRILLED SHAFT IN SOIL	CU YD	3,058.000				
51604000	DRILLED SHAFT IN ROCK	CU YD	388.000				
52100530	ANCHOR BOLTS 1 1/4	EACH	240.000				
52100540	ANCHOR BOLTS 1 1/2	EACH	160.000				
54002020	EXPAN BOLTS 3/4	EACH	16.000				
* 54003000	CONC BOX CUL	CU YD	163.100				
542A0223	P CUL CL A 1 18	FOOT	35.000				
542A1057	P CUL CL A 2 12	FOOT	16.000				
542A1069	P CUL CL A 2 24	FOOT	130.000				
* 542A1087		FOOT	61.000				
542D0223		FOOT	266.000				
54213657		EACH	4.000				
54213660		EACH	1.000				

**NUMBER -**

C-98-068-07 State Job # -PPS NBR -8-85312-0000

County Name -MADISON- -

Code -119 - -8 - -District -Section Number -60-1B-1 **Project Number** ACIM-ACBRI-2705/086/002 Route

**FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	х	Unit Price	 Total Price
54213663	PRC FLAR END SEC 18	EACH	2.000			
54213669	PRC FLAR END SEC 24	EACH	7.000			
* 550A0340	STORM SEW CL A 2 12	FOOT	1,679.000			
550A0360	STORM SEW CL A 2 15	FOOT	766.000			
550A0380	STORM SEW CL A 2 18	FOOT	768.000			
550A0410	STORM SEW CL A 2 24	FOOT	123.000			
550A0710	STORM SEW CL A 3 24	FOOT	129.000			
550A1010	STORM SEW CL A 4 24	FOOT	128.000			
55100900	STORM SEWER REM 18	FOOT	145.000			
55101200	STORM SEWER REM 24	FOOT	1,048.000			
55101600	STORM SEWER REM 36	FOOT	69.000			
58700300	CONCRETE SEALER	SQ FT	3,794.000			
59100100	GEOCOMPOSITE WALL DR	SQ YD	527.000			
60100060		EACH	36.000			
60107600		FOOT	30,500.000			

**NUMBER -**

C-98-068-07 State Job # -

County Name -MADISON- -

8-85312-0000

Code -119 - -8 - -District -Section Number -60-1B-1

PPS NBR -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	X	Unit Price	=	Total Price
60108100	PIPE UNDERDRAIN 4 SP	FOOT	1,350.000				
60200505	CB TA 4 DIA T5F OL	EACH	1.000				
60200805	CB TA 4 DIA T8G	EACH	2.000				
60201310	CB TA 4 DIA T20F&G	EACH	4.000				
60218400	MAN TA 4 DIA T1F CL	EACH	4.000				
* 60223800	MAN TA 6 DIA T1F CL	EACH	1.000				
* 60236200	INLETS TA T8G	EACH	1.000				
60253800	CB RECON NEW T8G	EACH	2.000				
60270050	DR STR T4 W/2 T20F&G	EACH	12.000				
60500050	REMOV CATCH BAS	EACH	4.000				
* 60615400	PAVED DITCH TA-15	FOOT	1,720.000				
*DELETE <del>60616150</del>	PAVED DITCH TA-60	FOOT	<del>105.000</del>				
63000001	SPBGR TY A 6FT POSTS	FOOT	21,200.000				
63000003	SPBGR TY A 9FT POSTS	FOOT	3,525.000				
63000005	SPBGR TY B	FOOT	200.000				

C-98-068-07

PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

State Job # -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
63100045	TRAF BAR TERM T2	EACH	6.000				
63100070	TRAF BAR TERM T5	EACH	6.000				
63100085	TRAF BAR TERM T6	EACH	6.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	8.000				
* 63200310	GUARDRAIL REMOV	FOOT	25,013.000				
63200400	CABLE ROAD GD REM	FOOT	4,508.000				
63500105	DELINEATORS	EACH	112.000				
63700275	CONC BAR 2F 42HT	FOOT	2,761.000				
63700805	CONC BAR TRANS	FOOT	30.000				
63700900	CONC BARRIER BASE	FOOT	2,761.000				
63801200	MOD GLARE SCRN SYS	FOOT	1,800.000				
64200105	SHOULDER RUMBLE STRIP	FOOT	20,705.000				
66500105	WOV W FENCE 4	FOOT	3,165.000				
66600105		EACH	41.000				
66700205		EACH	7.000				

NUMBER -

76A91

State Job # - C-98-068-07 PPS NBR - 8-85312-0000

MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

County Name -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
66700305	PERM SURV MKRS T2	EACH	5.000				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
67000600	ENGR FIELD LAB	CAL MO	42.000				
67100100	MOBILIZATION	L SUM	1.000				
70100800	TRAF CONT-PROT 701401	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	1,278.000				
70106800	CHANGEABLE MESSAGE SN	CAL MO	185.000				
* 70300220	TEMP PVT MK LINE 4	FOOT	93,362.000				
* 70300250	TEMP PVT MK LINE 8	FOOT	2,472.000				
70400100	TEMP CONC BARRIER	FOOT	17,025.000				
70400200	REL TEMP CONC BARRIER	FOOT	32,925.000				
* 72000100	SIGN PANEL T1	SQ FT	49.000				
72000200	SIGN PANEL T2	SQ FT	124.000				
72000300		SQ FT	1,624.000				
72400330		SQ FT	743.000				
72400710		SQ FT	10.000				

State Job # - C-98-068-07

PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - -

Section Number - 60-1B-1

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

Item Number	Pay Item Description	Unit of Measure	Quantity	X	Unit Price	=	Total Price
72400720	RELOC SIGN PANEL T2	SQ FT	24.000				·
72400730	RELOC SIGN PANEL T3	SQ FT	25.000				
72600100	MILEPOST MKR ASSEMBLY	EACH	12.000				
* 72700100	STR STL SIN SUP BA	POUND	15,683.000				
73000100	WOOD SIN SUPPORT	FOOT	236.000				
73300100	OVHD SIN STR-SPAN T1A	FOOT	80.000				
73301810	OSS WALKWAY TY A	FOOT	58.000				
* 73400100	CONC FOUNDATION	CU YD	27.700				
73400200	DRILL SHAFT CONC FDN	CU YD	44.800				
73600100	REMOV OH SIN STR-SPAN	EACH	1.000				
73700100	REM GR MT SIN SUPPORT	EACH	18.000				
73700200	REM CONC FDN-GR MT	EACH	18.000				
73700300	REM CONC FDN-OVHD	EACH	2.000				
78003110		FOOT	50,363.000				
	PREF PL PM TB LINE 8	FOOT	2,472.000				

State Job # - C-98-068-07

PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
78003150	PREF PL PM TB LINE 12	FOOT	241.000				
78005110	EPOXY PVT MK LINE 4	FOOT	37,914.000				
78100100	RAISED REFL PAVT MKR	EACH	516.000				
78100105	RAISED REF PVT MKR BR	EACH	102.000				
78200410	GUARDRAIL MKR TYPE A	EACH	144.000				
78200430	GUARDRAIL MKR TYPE C	EACH	18.000				
78200520	BAR WALL MKR TYPE B	EACH	36.000				
78200530	BAR WALL MKR TYPE C	EACH	23.000				
* 78201000	TERMINAL MARKER - DA	EACH	12.000				
78300100	PAVT MARKING REMOVAL	SQ FT	8,716.000				
80300100		FOOT	22,221.000				
80400100		EACH	2.000				
81012400		FOOT	137.000				
81012500		FOOT	985.000				
	CON T 2 PVC	FOOT	545.000				

NUMBER -

76A91

State Job # - C-98-068-07 PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
81012800	CON T 3 PVC	FOOT	45.000				
81018600	CON P 2 1/2 GALVS	FOOT	780.000				
81021350	CON P 3 PVC	FOOT	115.000				
81100300	CON AT ST 1 GALVS	FOOT	240.000				
* DELETE <del>81200120</del>	CON EMB STR 2 GALVS	FOOT	<del>10,500.000</del>				
* 81200230	CON EMB STR 2 PVC	FOOT	10,500.000				
81300530	JUN BX SS AS 12X10X6	EACH	6.000				
81304100	JUN BOX EM S 12X12X6	EACH	30.000				
81400200	HD HANDHOLE	EACH	4.000				
* 81400700	HANDHOLE PCC	EACH	4.000				
81400720	DBL HANDHOLE PCC	EACH	2.000				
81702110	EC C XLP USE 1C 10	FOOT	10,600.000				
* 81702130	EC C XLP USE 1C 6	FOOT	4,826.000				
* 81900200		FOOT	15,657.000				
* 82102250		EACH	86.000				

**NUMBER -**

C-98-068-07 State Job # -

PPS NBR -8-85312-0000

60-1B-1

County Name -MADISON- -

Code -119 - -8 - -District -

Section Number -

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
82500360	LT CONT BASEM 480V100	EACH	1.000				·
82500400	LT CONT BASM 480V100D	EACH	1.000				
83009210	LT P A 45MH 2-6MA	EACH	10.000				
* 83009500	LT P A 45MH 12MA	EACH	66.000				
* DELETE <del>81200120</del>	LT P A 45MH 15MA	EACH	<del>7.000</del>				
83060830	LT P GS 45MH TEN MT	EACH	2.000				
* 83600300	LIGHT POLE FDN 30D	FOOT	430.000				
83800205	BKWY DEV TR B 15BC	EACH	21.000				
84200500	REM LT UNIT SALV	EACH	10.000				
84200600	REM LT U NO SALV	EACH	49.000				
84200804	REM POLE FDN	EACH	35.000				
84500110	REMOV LIGHTING CONTR	EACH	1.000				
84500120	REMOV ELECT SERV INST	EACH	1.000				
84500130	REMOV LTG CONTR FDN	EACH	1.000				
86300300		EACH	1.000				

State Job # - C-98-068-07

PPS NBR - 8-85312-0000

County Name - MADISON- -

Code - 119 - District - 8 - Section Number - 60-1B-1

**Project Number** 

ACIM-ACBRI-2705/086/002

Route

**FAI 270** 

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
86300305	CONT CAB TYPE III SPL	EACH	1.000				
* 87001300	EC T XLP USE 3-1C 6	FOOT	16,255.000				
87100110	FO CAB C 62.5/125 6F	FOOT	3,818.000				
87300925	ELCBL C TRACER 14 1C	FOOT	8,550.000				
87800210	CONC FDN TY D SPL	FOOT	7.000				
87800215	CONC FDN TY D	EACH	1.000				
88600100	DET LOOP T1	FOOT	727.000				
89000100	TEMP TR SIG INSTALL	EACH	1.000				
89502300	REM ELCBL FR CON	FOOT	10.000				
89502350	REM & RE ELCBL FR CON	FOOT	11,732.000				

### **TABLE OF CONTENTS**

LOCATION OF PROJECT	
DESCRIPTION OF PROJECT	1
MONTHLY LABOR SUMMARY AND ACTIVITY REPORTING SYSTEM	1
COOPERATION BETWEEN CONTRACTORS	4
TEMPORARY ACCESS TO WATERWORKS ROAD	4
USACE GATE SALVAGE	4
USACE ENVIRONMENTAL CHECKLIST	4
COORDINATION WITH UNITED STATES COAST GUARD (USCG)	6
RELOCATED LEVEE WORK SEQUENCE	6
COMPLETION DATE PLUS WORKING DAYS	7
COMPLETION DATE INCENTIVE/DISINCENTIVE	7
WORK DURING PEAK HOURS	7
FAILURE TO OPEN TRAFFIC LANES TO TRAFFIC FOR PEAK PERIODS	8
GENERAL LEVEE CONSTRUCTION REQUIREMENTS	8
FURNISHED EXCAVATION, SPECIAL	8
SEEDING (SPECIAL)	10
SEEDING CLASS 3A	10
TOPSOIL EXCAVATION	11
TREE REMOVAL, ACRES (SPECIAL)	11
BOLLARDS	12
REMOVE PRESSURE RELIEF WELL	12
RELOCATE KIOSK	13
DUST CONTROL WATERING	13
EMERALD ASH BORER COMPLIANCE AGREEMENT	
EMBANKMENT	14
PEDESTRIAN TRAFFIC CONTROL AND PROTECTION	14
CROSSHOLE SONIC LOGGING	16
FENCE REMOVAL	20
HOT-MIX ASPHALT SURFACE TREATMENT (CLASS A-I, A-2, A-3)	20
STONE MATRIX ASPHALT (D-8)	21
TEMPORARY PAVEMENT	28
TEMPORARY HMA PAVEMENT	28
PORTLAND CEMENT CONCRETE SHOULDERS 12" (SPECIAL)	29
METAL GRATING	29
SLOTTED DRAIN 18" WITH VARIABLE SLOT	30

iviadio		County
Contract	No.	76A91

CONCRETE BARRIER, SINGLE FACE, 42 INCH HEIGHT (SPECIAL)	31
RIGHT-OF-WAY AND PROPERTY CORNERS	31
ENGINEER'S FIELD LABORATORY	34
ENGINEER'S FIELD OFFICE TYPE A (SPECIAL)	34
PORTABLE CHANGEABLE MESSAGE SIGN	38
TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	39
TRAFFIC CONTROL PLAN	40
WET TEMPORARY PAVEMENT MARKING TAPE, TYPE III	41
RELOCATE SIGN, SPECIAL	42
TEMPORARY INFORMATION SIGNING	42
GROOVING FOR RECESSED PAVEMENT MARKING	43
TEMPORARY LIGHTING	44
NAVIGATION LIGHTING SYSTEM	46
SEQUENCE OF TRAFFIC SIGNAL CONSTRUCTION	47
MAINTENANCE OF EXISTING ELECTRICAL DEVICES	48
LIGHT POLE, ALUMINUM, 45 FT. M.H., 2-6 FT. MAST ARMS	50
ELECTRIC CABLE ASSEMBLY IN TRENCH	51
TEMPORARY TRAFFIC SIGNAL INSTALLATION	52
DESCRIPTION OF ITS WORK	52
STAGED VEHICLE DETECTION AND SURVEILLANCE	56
CONCRETE FOUNDATION, TYPE D (SPECIAL)	58
RELOCATE EXISTING ITS CONTROLLER CABINET	58
MODIFY EXISTING CONTROLLER CABINET TYPE B	58
HANDHOLES	59
CONDUIT IN TRENCH 4" DIA., PVC TYPE C	59
CONDUIT PUSHED, 4" DIA., PVC SCHEDULE 80	60
FIBER OPTIC UTILITY MARKER	60
LIGHT POLE, STEEL, 50 FT. WITH CAMERA LOWERING SYSTEM	62
RELOCATE CLOSED CIRCUIT TELEVISION SURVEILLANCE CAMERA SYSTEM	65
RELOCATE RADAR DETECTOR SYSTEM	65
REMOVE EXISTING ITS EQUIPMENT	66
JUNCTION BOX, ALUMINUM, ATTACHED TO STRUCTURE	67
CONTROLLER CABINET TYPE III, SPECIAL	67
ETHERNET MODEM	68
DIGITAL VIDEO DECODER	68
DIGITAL VIDEO ENCODER	70
3000 LAYER 2 SWITCH	73

SFP-GE-L SFP MODULE	73
SFP-GE-Z SFP MODULE	73
WIRED COMMUNICATION DATA CONVERTOR	73
FIBER OPTIC CABLE IN CONDUIT, 72 COND. S.M. F.O.	74
FIBER OPTIC TERMINATION IN CABINET	74
FIBER OPTIC SPLICING IN CABINET	75
ELECTRIC CABLE IN CONDUIT, TRACER, NO. 14 1/C	75
FIBER OPTIC CABLE SPLICING, TESTING AND ACCEPTANCE STANDARDS, AND PROCEE	URES75
WIDE AREA NETWORK	76
TRAINING AND INSTALLATION	77
WARRANTY	78
FINAL SYSTEM ACCEPTANCE	79
CONTROLLER CABINET TYPE III	79
PIEZO AXLE SENSORS, CLASS-II	82
AXLE SENSOR TRANSMISSION CABLE IN CONDUIT	85
CONCRETE FOUNDATION, TYPE-D	85
DETECTOR LOOP LEAD-IN CABLE IN CONDUIT, CONOGA-30003	86
SOLAR POWER SYSTEM	87
DETECTOR LOOP, TYPE I	87
HEAVY-DUTY HANDHOLE	92
TRAFFIC SENSORS INSTALLATION INSTRUCTIONS	93
LAYOUT FOR ATR 8070	96
POSSIBLE SOURCES FOR SPECIFIED ITEMS	97
TEMPERATURE CONTROL FOR CONCRETE PLACEMENT	97
CONSTRUCTION AND MAINTENANCE SIGN SUPPORTS	97
STATUS OF UTILITIES TO BE ADJUSTED	98
DRAINAGE SYSTEM	98
HIGH LOAD MULTI-ROTATIONAL BEARINGS	99
MODULAR EXPANSION JOINT	104
CLEANING AND PAINTING NEW METAL STRUCTURES	107
DECK SLAB REPAIR	115
SURFACE PREPARATION AND PAINTING REQUIREMENTS FOR WEATHERING STEEL	120
MECHANICALLY STABILIZED EARTH RETAINING WALLS	121
PIPE UNDERDRAINS FOR STRUCTURES	128
POROUS GRANULAR EMBANKMENT, SPECIAL	129
MECHANICAL SPLICERS	129
DEMOLITION PLANS FOR REMOVAL OF EXISTING STRUCTURES	130

ALKALI-SILICA REACTION FOR CAST-IN-PLACE CONCRETE (BDE)	130
ALKALI-SILICA REACTION FOR PRECAST AND PRECAST PRESTRESSED CONCRETE (BDE)	132
APPROVAL OF PROPOSED BORROW AREAS, USE AREAS, AND/OR WASTE AREAS (BDE)	135
CEMENT (BDE)	135
CERTIFICATION OF METAL FABRICATOR (BDE)	137
CONCRETE ADMIXTURES (BDE)	138
CONCRETE JOINT SEALER (BDE)	141
CONCRETE MIX DESIGNS (BDE)	142
CONSTRUCTION AIR QUALITY – DIESEL RETROFIT (BDE)	143
CONSTRUCTION AIR QUALITY - DIESEL VEHICLE EMISSIONS CONTROL (BDE)	145
CONSTRUCTION AIR QUALITY - IDLING RESTRICTIONS (BDE)	146
DETERMINATION OF THICKNESS (BDE)	147
DIGITAL TERRAIN MODELING FOR EARTHWORK CALCULATIONS (BDE)	156
DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (BDE)	157
EQUIPMENT RENTAL RATES (BDE)	
FRICTION AGGREGATE (BDE)	166
HMA - HAULING ON PARTIALLY COMPLETED FULL-DEPTH PAVEMENT (BDE)	168
HOT-MIX ASPHALT – ANTI-STRIPPING ADDITIVE (BDE)	169
HOT-MIX ASPHALT - DENSITY TESTING OF LONGITUDINAL JOINTS (BDE)	170
HOT-MIX ASPHALT – DROP-OFFS (BDE)	171
HOT-MIX ASPHALT - FINE AGGREGATE (BDE)	171
IMPACT ATTENUATORS, TEMPORARY (BDE)	171
IMPROVED SUBGRADE (BDE)	173
LIQUIDATED DAMAGES (BDE)	175
METAL HARDWARE CAST INTO CONCRETE (BDE)	
MULCH AND EROSION CONTROL BLANKETS (BDE)	176
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM / EROSION AND SEDIM	ЛЕNТ
CONTROL DEFICIENCY DEDUCTION (BDE)	179
NIGHTTIME WORK ZONE LIGHTING (BDE)	180
PAVEMENT MARKING REMOVAL (BDE)	182
PAVEMENT PATCHING (BDE)	182
PAYMENTS TO SUBCONTRACTORS (BDE)	182
PIPE CULVERTS (BDE)	183
POST MOUNTING OF SIGNS (BDE)	187
PRECAST CONCRETE HANDLING HOLES (BDE)	187
RAISED REFLECTIVE PAVEMENT MARKERS (BDE)	188
RECLAIMED ASPHALT PAVEMENT (RAP) (BDE)	188

SEEDING (BDE)	. 195
SELF-CONSOLIDATING CONCRETE FOR CAST-IN-PLACE CONSTRUCTION (BDE)	. 197
SELF-CONSOLIDATING CONCRETE FOR PRECAST PRODUCTS (BDE)	201
SUBCONTRACTOR MOBILIZATION PAYMENTS (BDE)	202
SURFACE TESTING OF PAVEMENTS (BDE)	202
TEMPORARY EROSION CONTROL (BDE)	208
TRAFFIC BARRIER TERMINAL, TYPE 6 (BDE)	
TRAFFIC CONTROL SURVEILLANCE (BDE)	211
UTILITY COORDINATION AND CONFLICTS (BDE)	
BITUMINOUS MATERIALS COST ADJUSTMENTS (BDE) (RETURN FORM WITH BID)	
FUEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)	222
STEEL COST ADJUSTMENT (BDE) (RETURN FORM WITH BID)	226
PROJECT LABOR AGREEMENT	.230
404 PERMIT	. 243
NATIONWIDE PERMITS AND CONDITIONS	247
IEPA REGIONAL CONDITIONS	260
STORM WATER POLLUTION PREVENTION PLAN	278
HEAT OF HYDRATION CONTROL FOR CONCRETE STRUCTURES (SN 060-0345)	. 289
ON-THE-JOB TRAINING SPECIAL PROVISION	293
COORDINATION WITH UNITED STATES ARMY CORP OF ENGINEERS (USACE)	297
PILING	298
FREEZE-THAW AGGREGATES FOR CONCRETE SUPERSTRUCTURES POURED ON GRADE	.300
CONCRETE SUPERSTRUCTURE	300
ERECTION OF COMPLEX STEEL STRUCTURES	301

### **COOPERATION BETWEEN CONTRACTORS**

The Contractor for this contract is advised that other projects within or adjacent to the limits of this contract section may be under construction during construction operations for this contract. The Contractor for this section shall cooperate with the Contractor for the other projects in accordance with Article 105.08 of the Standard Specifications.

Projects that may be under construction while this contract is in force are as follows:

FAI Route 270, Section 60-2RS-3, Madison County, Contract No. 76D87 I-270 and IL 3 Interchange, Ramp Reconstruction

FAI Route 270, Section 60B-I-8, Madison County, Contract No. 76A92 I-270 over the Mississippi River, Deck Repair, Joint Repair and Bridge Painting.

FAI Route 270, Section Dist 8 ITS 2011-1, Madison County, Contract No. 76D09 I-270 from West of IL 203 to West of Chain of Rocks Canal Bridge, ITS improvements.

### **TEMPORARY ACCESS TO WATERWORKS ROAD**

The Contractor shall disregard all references to the proposed re-alignment of Waterworks Road shown in the plans. Proposed right-of-way at this location has not been secured; therefore access to Waterworks Road within the project limits must be maintained within existing right-of-way.

Although access to Waterworks Road shall be maintained at all times, the utilization of a one lane roadway with temporary signals is an acceptable option. Other possible options also exist, e.g. temporary adjustments to proposed I-270 side slopes. The method of maintaining access shall be approved by the Resident Engineer prior to any work commencing that will restrict Waterworks Road.

Aggregate Base Course, Type A 8", Subbase Granular Material, Type A 12", Aggregate Shoulders, Type A 6", Pipe Culverts, Class A, Type 1 18", Pipe Culverts, Class A, Type 2 24", earthwork and erosion control pay items and quantities have not been adjusted in the plans. These pay items shall be used for the construction and maintenance of the temporary access road as necessary. In addition, the quantities for the proposed box culvert extension at Station 1180+75 have not been adjusted in the plans. These quantities shall be adjusted once the temporary access road alignment has been determined. All other measures, e.g. temporary signals, shall be paid for according to Article 109.04 of the Standard Specifications.

### **USACE GATE SALVAGE**

The existing gate on Chouteau Place Road located directly north of the Trailhead Parking Lot will be removed with this project. Due to the fact that the gate is property of USACE, it shall be returned to USACE. The Resident Engineer will contact Karen Watwood at the USACE Riverlands Office to arrange for delivery of the removed gate.

### **USACE ENVIRONMENTAL CHECKLIST**

NAME OF PROJECT: I-270 over Chain of Rocks Canal

- 12. Does the activity result in the operation of a public drinking water system, wellhead, swimming pool or beach regulated by state EPA or Public Health agencies or federal agencies enforcing the Clean Water Act? NO
- 13. Will the activity involve construction, painting, venting or open burning that will require an Air Emissions Permit? YES

### NATURAL / CULTURAL RESOURCES REVIEW:

- Does the activity result in the removal of trees? YES
   If YES, list the species name and number to be removed. Various, approximately 4.25 acres
- 2. Are state and/or federal threatened/endangered/candidate species located in the project area? NO If YES, list the species:
- 3. Will the project result in the modification or destruction of wetlands or the discharge of dredge material into the waters of the United States? NO If YES, estimate the acreage to be altered.
- 4. Will the project result in the modification or destruction of Farmland? If YES, estimate the acreage to be altered. NO
- 5. Does the proposed project area contain known cultural properties? NO If YES, describe and list site numbers.
- 6. Has all or a portion of the proposed project area previously been professionally surveyed for cultural resources? YES If YES, list dates. 3/6/09 for initial survey limits, 12/8/09 for extended survey limits.

### COORDINATION WITH UNITED STATES COAST GUARD (USCG)

The Contractor shall be aware that there is a USCG Section 9 Bridge Permit for this project. Any work restricting canal traffic must be coordinated with USCG. See permit for additional details.

The Contractor will be required to submit a comprehensive workplan for USCG review and approval. All cofferdam and superstructure work, waterside equipment staging, and communication provisions with commercial navigation will have to be vetted through the USCG office prior to any waterborne work commencing. This review/approval process is vital to enabling the project to commence/proceed because the USCG must approve blocking or reduction of the navigation channel to facilitate work associated with this Section 9 bridge permit.

Due to the gravity of approving a blockage or reduction of the navigation channel; as part of their review/approval process USCG will coordinate with the commercial navigation industry and all stakeholders (federal, state, local agencies) to ensure the submitted workplans satisfy any necessary mandates.

### RELOCATED LEVEE WORK SEQUENCE

All work associated with the relocated Chain of Rocks Levee shall be completed to the satisfaction of the Engineer and USACE prior to initiating construction of Pier 4 or any activity that will reduce the effectiveness of the existing levee. The relocated levee work includes but is not limited to clearing, excavation, proposed box culvert extension at I-270 Station 1211+00, proposed box culvert at proposed Trail/Levee Access Road Station 260+59.9, construction of proposed relocated levee embankments, paved ditches, levee road, trail/levee access roads, and seeding.

b) Dry Saw Blade Operation. If the grooving is done with dry saw blades, the groove shall be flushed with high-pressure air to remove debris and dust generated during the cutting operation.

<u>Pavement Grooving</u>. Grooves shall be cut into the pavement prior to the application of the pavement marking. The grooves shall be cut such that the width is 1 in. (25 mm) wider than that of the line to be placed. Grooves for letters and symbols shall be cut in a shape so that the entire marking will fit. The position of the edge of the grooves shall be a minimum of 2 in. (50 mm) from the edge of concrete joints or HMA paving seams along edge or centerlines. The depth of the groove shall not be less than the manufacturer's recommendations for the marking material specified, but shall be installed to a minimum depth of 100 mils (2.54 mm) +/- 10 mils for pavement marking tapes and 40 mils (1.02 mm) +/- 10 mils for liquid markings.

On new HMA surfaces the Engineer shall determine if the new HMA has achieved the necessary strength and hardness to support grooving prior to the start of a grooving operation. Some HMA mixes may require 14 or more days to achieve adequate hardness to support a grooving operation. On existing HMA surfaces some existing HMA pavements may not be strong enough to support a grooving operation. For existing HMA pavements the Engineer shall determine if the existing HMA has the necessary strength and hardness to support grooving prior to the start of a grooving operation.

<u>Cleaning</u>. Immediately prior to the application of the pavement markings the groove shall be cleaned with high-pressure air blast.

<u>Method of Measurement</u>. This work will be measured for payment in place, in linear feet (meter) of the payement marking lines applied and accepted, for the groove width specified.

Grooving for letters, numbers and symbols will be measured in square feet (square meters) as specified in the plans.

<u>Basis of Payment</u>. This work will be paid for at the contract unit price per foot (meter) for GROOVING FOR RECESSED PAVEMENT MARKING of the groove width specified, and per square foot (square meter) for GROOVING FOR RECESSED PAVEMENT MARKING, LETTERS, NUMBERS AND SYMBOLS.

### **TEMPORARY LIGHTING**

Temporary lighting shall consist of designing and providing all labor, material and equipment necessary to furnish, install, maintain and remove temporary lighting in accordance with all the Standard Specifications, Highway Standards, the "MAINTENANCE OF EXISTING ELECTRICAL DEVICES" special provision, with the following exceptions/additions:

 The Contractor shall design and submit for the District's approval, a detailed plan showing the proposed locations of service installation, lighting controller, temporary poles/luminaires (including mounting heights and lamp wattages) and wiring for each phase/stage of construction.

The design shall be according to Chapter 56 of the Department's "Bureau of Design and Environment Manual" and shall include, but not be limited to; the location/relocation of all temporary and existing light poles for each phase/stage of construction, including lighting controller(s); modifications to lighting circuits; methods of cable splicing, luminaire fusing, and lighting protection. All I-270 traffic lanes and ramps be required to be lighted to and maintained at the Class A Freeway levels of 0.9 foot-candles.

The Contractor shall make a site inspection and shall determine the nature of the soil, rock formations, and the presence of conflicting structures and bear all expenses associated with unusual site conditions.

Lighting for each construction phase/stage needs to be substantially complete and in operation before the Contractor can proceed to the next phase/stage.

No temporary lighting work shall proceed until the Contractor's detailed temporary lighting design plan for each phase/stage is approved by the Engineer. The Contractor shall not purchase temporary lighting facilities until the Contractor has submitted shop drawings and received the Engineer's approval to proceed. Any temporary lighting materials used by the Contractor which come from stock, or salvaged from this project, rather than being purchased new for this project shall require written approval by the Engineer.

2. The Contractor may use the existing lighting system, or components scheduled for removal, for the installation and operation of the temporary lighting design as long as it will not interfere with the phasing/staging or final plan.

If the existing lighting system is a component of the temporary lighting design, the Contractor shall be responsible:

- For maintaining and repairing/replacing any items of the existing lighting system component of temporary lighting, and
- ii. For establishing the permanent lighting's operation and removing the temporary lighting after construction conflicts with permanent lighting are resolved, as shown on the plans.

If the existing service installation <u>is not used</u>, then the Contractor shall be responsible for all costs associated with providing service to the temporary lighting system as the project progresses through the various phases/stages of construction and circuit orientation changes. This shall include all costs of coordinating with the local utility for new and/or relocated electric service and metering.

- 3. Temporary lighting equipment and material not initially the property of the Department shall remain property of the Contractor and shall be removed from the site and disposed of according to Article 202.03, at no additional cost. The Contractor may utilize elements of the new permanent lighting as part of the temporary lighting.
- 4. Any existing underground cables maintained by the Department, which are in possible conflict with construction, shall be located and paid for separately as LOCATING UNDERGROUND CABLE.

- 5. An inspection and approval by the Engineer shall take place at each phase/stage before the temporary lighting is approved for operation.
- 6. The Contractor shall be responsible to maintain the temporary lighting throughout the project and no additional compensation will be allowed for this work, no matter how many times temporary lighting facilities are relocated. The Contractor shall furnish to the Engineer the names and phone numbers of two persons responsible for call-out work on the lighting system on a 24/7 basis.

All burnouts shall be replaced on a next day basis and temporary wiring shall be installed as necessary to keep all lights functioning every night. All work required to keep the temporary lighting system operational shall be at the Contractor's expense.

No temporary lighting circuit or portion thereof shall be removed from nighttime operation without the approval of the Engineer. The temporary lighting will be left in place until its removal is acceptable to the Engineer.

7. All the work detailed above shall be included in the cost of providing temporary lighting.

Charges to be considered by the Department for reimbursement are those identified and agreed to by the Engineer, in writing, at the time the Contractor's detailed temporary lighting design plan is approved. All such charges shall be paid for according to Article 109.05 of the Standard Specifications.

The Contractor shall be reimbursed for repair of accident damage according to the applicable portions of Article 107.30 of the Standard Specifications.

<u>Method of Measurement</u>. Measurement for Temporary Lighting shall be per lump sum and shall include all labor, material, and equipment necessary to design, furnish, install, maintain, relocate and remove the temporary lighting, and pay all utility charges associated with it.

<u>Basis of Payment.</u> Accepted Temporary Lighting shall be paid for at the contract lump sum price for TEMPORARY LIGHTING.

#### NAVIGATION LIGHTING SYSTEM

<u>Description</u>. This work shall consist of furnishing all labor, equipment and incidental material for installing a complete navigational lighting system as depicted on the plans and as described herein. This work shall include, but not be limited to; branch circuit conductors, raceways, control devices, connectors, pull/junction boxes, and luminaries. All work shall be performed and in full compliance with the specifications and details of IDOT, UL, NPFA, NEC, Corp of Engineers, US Coast Guard or other regulatory agencies as applicable.

Materials. Materials shall be according to sections 822, 826, 1067.07 and 1068.03.

<u>Waterway Navigation Luminaires</u>. Marine navigation lights shall be provided on each side of the span over the navigable channel. Lights shall meet all requirements of the U.S. Coast Guard and other regulatory bodies.

Two suspended red channel margin marker lights (180° lens) and one suspended center channel green lantern (360° lens) shall be displayed below the superstructure on each side of the bridge.

A mounting bracket with retrieval chain shall be provided to hold the lantern in proper operating position. The mounting bracket shall be galvanized steel with galvanized steel hardware complete with all required accessories.

Provide galvanized steel pipe hanger stem of the proper length. Provide a counterweight if required.

In addition to providing the permanent markers, the contractor shall be responsible for and maintain all circuits, switching, relamping, and power service for the temporary and permanent navigation lighting until the final and formal acceptance of the complete work. Marine obstruction lanterns shall be operated automatically from sunset to sunrise, and at other times when visibility is less than one mile.

<u>High Intensity Retro-Reflective Panels</u> – The upstream side of each channel margin shall be marked with red, high intensity retro-reflective square panels measuring 2 feet per side (4-square foot area). The retro-reflective material should be placed near the top of the pier column in order to effectively reflect the searchlight of an approaching vessel. High intensity retro-reflective square panels shall meet the performance requirements of ASTM D-4596 Types III or IV.

<u>Coordination with Other Markings and Indicators</u> – Exact placement and installation of retro-reflective panels shall be coordinated with the installations of vertical clearance gauges and other required markings along the channel piers.

<u>Method of Measurement</u>. Measurement for Navigation Lighting System shall be per lump sum and shall include all labor, material, and equipment necessary to design, furnish, install, and maintain Temporary and Permanent Lighting, and relocate if required and remove the Temporary Navigation Lighting System, and pay all utility charges associated with this item of work.

<u>Basis of Payment</u>. This work will be paid for at the contract unit price per lump sum for NAVIGATION LIGHTING SYSTEM, which price shall include full compensation for designing, furnishing and installing all cable, conduits, light fixtures and lamps, control devices, wireless monitoring and supports (unless otherwise provided for), and for all

### **SEQUENCE OF TRAFFIC SIGNAL CONSTRUCTION**

Effective: Unknown Revised: November 1, 2006

The Contractor shall plan and program the various items of work in this contract so that disruptions to the movement of traffic through the existing signalized intersections are kept to a minimum.

This page deliberately left blank.

### LIGHT POLE, ALUMINUM, 45 FT. M.H., 2-6 FT. MAST ARMS

<u>Description</u>. This work shall consist of furnishing and installing a light pole complete with arms, and all hardware and accessories required for the intended use of the light pole. This work shall be done in accordance with Section 830 of the Standard Specifications.

<u>Materials</u>. Materials shall be according to sections 830 and 1069 of the Standard Specifications.

<u>Basis of Payment.</u> This work will be paid for at the contract unit price per each for LIGHT POLE, ALUMINUM, 45 FT. M.H., 2-6 FT. MAST ARMS, which price shall include full compensation for furnishing and installing the light pole as specified and shown on the plans, and shall include all costs for labor, tools, equipment and incidentals necessary to complete the work.

### **ELECTRIC CABLE ASSEMBLY IN TRENCH**

<u>Description</u>. This work shall consist of furnishing and installing multi-conductor direct burial power cable, complete with all splicing, identifications, and terminations. This work shall be done in accordance with Section 870 of the Standard Specifications.

Materials. Materials shall be according to sections 870, 1066.06 and 1067.01.

<u>Method of Measurement</u>. Cable will be measured for payment according to Article 817.04 of the Standard Specification.

<u>Basis of Payment</u>. This work will be paid for at the contract unit price per foot for ELECTRIC CABLE ASSEMBLY IN TRENCH, 600V (XLP-TYPE USE) 3-1/C NO. 6, which price shall include full compensation for furnishing and installing the assembly cable as specified, and shall include all costs for labor, tools, equipment and incidentals necessary to complete the work.

### **TEMPORARY TRAFFIC SIGNAL INSTALLATION**

Effective: March 20, 1997 Revised: November 1, 2006

Temporary traffic signal installation shall be in accordance with Section 890 of the Standard Specifications, Standard 880001, and the Special Provision, <u>SEQUENCE OF TRAFFIC SIGNAL CONSTRUCTION</u>, with the following exceptions/additions:

- [1] The Contractor shall design and submit for the District's approval, a detailed plan showing the proposed locations of temporary poles, phasing, and signal heads for each phase of staged construction. A sufficient length of conductors shall be attached to the span wire to allow for movement of the signal heads during staging construction. Such movement of the traffic signal heads shall be included in this pay item.
- [2] Any existing underground cables maintained by the Department, which are in possible conflict with construction, shall be located and paid for separately as LOCATING UNDERGROUND CABLE.
- [3] Existing electrical devices at an intersection shall be maintained in accordance with the Special Provision, MAINTENANCE OF EXISTING ELECTRICAL DEVICES.
- [4] The Contractor, with the District's approval, may use the existing controller for the operation of temporary traffic signals. The cost of installing and removing the existing controller shall be included in the contract unit price. The Contractor, under this provision, shall be responsible for maintaining and repairing/replacing any items of the controller that are damaged for the entire duration when the Contractor is using it.

The existing traffic signal controller shall remain the property of the State of Illinois. Upon removal of the temporary signals, the controller shall be returned to the proposed location of construction or delivered to the Illinois Department of Transportation as directed.

#### **DESCRIPTION OF ITS WORK**

This project is part of the regional Intelligent Transportation System (ITS). The equipment deployed as a part of this project will provide IDOT the ability to monitor and verify traffic conditions on the urban interstate system. The images and data gathered by this equipment will be made available to the public via an internet web-site.

"When open holes, broken pavement, trenches over 3 in. (75 mm) deep and 4 in. (100 mm) wide or other hazards are present within 8 ft (2.4 m) of the edge of an open lane, the Contractor shall furnish traffic control surveillance during all hours when the Contractor is not engaged in construction operations."

The balance of this page deliberately left blank.

This page deliberately left blank.

# **UTILITY COORDINATION AND CONFLICTS (BDE)**

Effective: April 1, 2011

Revise Article 105.07 of the Standard Specifications to read:

"105.07 Cooperation with Utilities. The Department reserves the right at any time to allow work by utilities on or near the work covered by the contract. The Contractor shall conduct his/her work so as not to interfere with or hinder the progress or completion of the work being performed by utilities. The Contractor shall also arrange the work and shall place and dispose of the materials being used so as not to interfere with the operations of utility work in the area.

The Contractor shall cooperate with the owners of utilities in their removal and rearrangement operations so work may progress in a reasonable manner, duplication or rearrangement of work may be reduced to a minimum, and services rendered by those parties will not be unnecessarily interrupted.

The Contractor shall coordinate with any planned utility adjustment or new installation and the Contractor shall take all precautions to prevent disturbance or damage to utility facilities. Any failure on the part of the utility owner, or their representative, to proceed with any planned utility adjustment or new installation shall be reported promptly by the Contractor to the Engineer."

Revise the first sentence of the last paragraph of Article 107.19 of the Standard Specifications to read:

"When the Contractor encounters unexpected regulated substances due to the presence of utilities in unanticipated locations, the provisions of Article 107.40 shall apply; otherwise, if the Engineer does not direct a resumption of operations, the provisions of Article 108.07 shall apply."

Revise Article107.31 of the Standard Specification to read:

"107.31 Reserved."

# HEAT OF HYDRATION CONTROL FOR CONCRETE STRUCTURES (SN 060-0345) Effective May 17, 2011

<u>Description.</u> This work shall consist of controlling the heat of hydration for concrete structures when the least dimension for a drilled shaft, foundation, footing, or substructure concrete pour exceeds 5.0 ft (1.5 m). This work shall be according to Section 1020 and the following.

- (a) Temperature Restrictions. The maximum temperature of the concrete after placement shall not exceed 150° F (66° C). The maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface shall not exceed 35° F (19 ° C). The Contractor shall perform temperature monitoring to ensure compliance with the temperature restrictions.
- (b) Thermal Control Plan. The Contractor shall provide a thermal control plan a minimum of 28 calendar days prior to concrete placement for review by the Engineer. Acceptance of the thermal control plan by the Engineer shall not preclude the Contractor from specification compliance, and from preventing cracks in the concrete. At a minimum, the thermal control plan shall provide detailed information on the following requested items and shall comply with the specific specifications indicated for each item.
  - (1) Concrete mix design(s) to be used. Also any grout mix design if post-cooling with embedded pipe.

The mix design requirements in Articles 1020.04 and 1020.05 shall be revised to include the following additional requirements to control the heat of hydration.

- a. The concrete mixture shall be uniformly graded and preference for larger size aggregate shall be used in the mix design. The use of CA 3 or CA 5, per Article 1020.04, will not be permitted when the nominal maximum aggregate size exceeds two-thirds the clear distance between parallel reinforcement bars, or between the reinforcement bar and the form. Nominal maximum aggregate size is defined as the largest sieve which retains any of the aggregate sample particles. Article 1004.02(d)(2), when applicable, and information in the "Portland Cement Concrete Level III Technician Course Manual of Instructions for Design of Concrete Mixtures" shall be used to develop the uniformly graded mixture.
- b. The following shall apply to all concrete except Class DS concrete or when self-consolidating concrete is desired. For Central-Mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 520 lbs/cu yd (309 kg/cu m) of cement and finely divided minerals summed together. For Truck-Mixed or Shrink-Mixed concrete, the Contractor shall have the option to develop a mixture with a minimum of 550 lbs/cu yd (326 kg/cu m) of cement and finely divided minerals summed together. A water-reducing or high range water-reducing admixture shall be used in the Central-Mixed, Truck-Mixed or Shrink-Mixed concrete mixture. For any mixture to be placed underwater, the minimum cement and finely divided minerals shall be 550 lbs/cu yd (326 kg/cu m) for Central-Mixed concrete, and 580 lbs/cu yd (344 kg/cu m) for Truck-Mixed or Shrink-Mixed concrete.

For Class DS concrete, CA 11 may be used. If CA 11 is used, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 605 lbs/cu yd (360 kg/cu m) summed together.

If CA 11 is used and either Class DS concrete is placed underwater or a self-consolidating concrete mixture is desired, the Contractor shall have the option to develop a mixture with a minimum cement and finely divided minerals of 635 lbs/cu yd (3 kg/cu m) summed together.

- c. The minimum portland cement content in the mixture shall be 375 lbs/cu yd (222 kg/cu m). When the total of organic processing additions, inorganic processing additions, and limestone addition exceed 5.0 percent in the cement, the minimum portland cement content in the mixture shall be 400 lbs/cu yd (237 kg/cu m). However, the minimum portland cement may be reduced to as low as 330 lbs/cu yd (196 kg/cu m) if the concrete has adequate freeze/thaw durability. The Contractor shall provide freeze/thaw test results according to AASHTO T 161 Procedure A or B, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Freeze/thaw testing will not be required for concrete that will not be exposed to freezing and thawing conditions as determined by the Engineer.
- d. The maximum cement replacement with fly ash shall be 40.0 percent. The maximum cement replacement with ground granulated blast-furnace slag shall be 65.0 percent. When cement replacement with ground granulated blast-furnace slag exceeds 35.0 percent, only Grade 100 shall be used.
- e. The mixture may contain a maximum of two finely divided minerals. The finely divided mineral in portland-pozzolan cement or portland blast-furnace slag cement shall count toward the total number of finely divided minerals allowed. The finely divided minerals shall constitute a maximum of 65.0 percent of the total cement plus finely divided minerals. The fly ash portion shall not exceed 40.0 percent. The ground granulated blast-furnace slag portion shall not exceed 65.0 percent. The microsilica or high-reactivity metakaolin portion used together or separately shall not exceed 5.0 percent.
- f. The time to obtain the specified strength may be increased to a maximum 56 days, provided curing is extended to a minimum of 14 days.

The minimum grout strength for filling embedded pipe shall be as specified for the concrete, and testing shall be according to AASHTO T 106.

(2) The selected mathematical method for evaluating heat of hydration thermal effects, which shall include the calculated adiabatic temperature rise, calculated maximum concrete temperature, and calculated maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface. The time when the maximum concrete temperature and maximum temperature differential will occur is required if the time frame will be more than seven days.

Acceptable mathematical methods include ACI 207.2R "Report on Thermal and Volume Change Effects on Cracking of Mass Concrete" as well as other proprietary methods. The Contractor shall perform heat of hydration testing on the cement and finely divided minerals to be used in the concrete mixture. The test shall be according to ASTM C 186 or other applicable test methods, and the result for heat shall be used in the equation to calculate adiabatic temperature rise.

The Contractor has the option to propose a higher maximum temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface, but the proposed value shall not exceed 50° F (28° C). In addition, based on strength gain of the concrete, multiple maximum temperature differentials at different times may be proposed. The proposed value shall be justified through a mathematical method.

(3) Proposed maximum concrete temperature or temperature range prior to placement.

Article 1020.14 shall apply except a minimum 40° F (4° C) concrete temperature will be permitted.

(4) Pre-cooling, post-cooling, and surface insulation methods that will be used to ensure the concrete will comply with the specified maximum temperature and specified or proposed temperature differential. For reinforcement that extends beyond the limits of the pour, the Contractor shall indicate if the reinforcement is required to be covered with insulation.

Refer to ACI 207.4R "Cooling and Insulating Systems for Mass Concrete" for acceptable methods that will be permitted. A copy of the ACI document shall be provided to the Engineer at the construction site. If embedded pipe is used for post-cooling, the material shall be polyvinyl chloride or polyethylene. The embedded pipe system shall be properly supported, and the Contractor shall subsequently inspect glued joints to ensure they are able to withstand free falling concrete. The embedded pipe system shall be leak tested after inspection of the glued joints, and prior to concrete placement. The leak test shall be performed at maximum service pressure or higher for a minimum of 15 minutes. All leaks shall be repaired. The embedded pipe cooling water may be from natural sources such as streams and rivers, but shall be filtered to prevent system stoppages. When the embedded pipe is no longer needed, the surface connections to the pipe shall be removed to a depth of 4 in. (100 mm) below the surface of the concrete. The remaining pipe shall be completely filled with grout. The 4 in. (100 mm) deep concrete hole shall be filled with nonshrink grout. Form and insulation removal shall be done in a manner to prevent cracking and ensure the maximum temperature differential is maintained. Insulation shall be in good condition as determined by the Engineer and properly attached.

(5) Dimensions of each concrete pour, location of construction joints, placement operations, pour pattern, lift heights, and time delays between lifts.

Refer to ACI 207.1R "Guide to Mass Concrete" for acceptable placement operations that will be permitted. A copy of the ACI document shall be provided to the Engineer at the construction site.

(6) Type of temperature monitoring system, the number of temperature sensors, and location of sensors.

A minimum of two independent temperature monitoring systems and corresponding sensors shall be used.

The temperature monitoring system shall have a minimum temperature range of 32° F (0° C) to 212° F (100° C), an accuracy of  $\pm$  2° F ( $\pm$ 1° C), and be able to automatically record temperatures without external power. Temperature monitoring shall begin once the sensor is encased in concrete, and with a maximum interval of one hour. Temperature monitoring may be discontinued after the maximum concrete temperature has been reached, post-cooling is no longer required, and the maximum temperature differential between the internal concrete core and the ambient air temperature does not exceed 35° F (19° C). The Contractor has the option to select a higher maximum temperature differential, but the proposed value shall not exceed 50° F (28° C). The proposed value shall be justified through a mathematical method.

As a minimum, a temperature sensor shall be located at the theoretical hottest portion of the concrete, normally the geometric center, and at the exterior face that will provide the maximum temperature differential. At the exterior face, the sensor shall be located 2 to 3 in. (50 to 75 mm) from the surface of the concrete. Sensors shall also be located a minimum of 1 in.(25 mm) away from reinforcement, and equidistant between cooling pipes if either applies. A sensor will also be required to measure ambient air temperature. The entrant/exit cooling water temperature for embedded pipe shall also be monitored.

Temperature monitoring results shall be provided to the Engineer a minimum of once each day and whenever requested by the Engineer. The report may be electronic or hard copy. The report shall indicate the location of each sensor, the temperature recorded, and the time recorded. The report shall be for all sensors and shall include ambient air temperature and entrant/exit cooling water temperatures. The temperature data in the report may be provided in tabular or graphical format, and the report shall indicate any corrective actions during the monitoring period. At the completion of the monitoring period, the Contractor shall provide the Engineer a final report that includes all temperature data and corrective actions.

- (7) Indicate contingency operations to be used if the maximum temperature or temperature differential of the concrete is reached after placement.
- (c) Temperature Restriction Violations. If the maximum temperature of the concrete after placement exceeds 150° F (66° C), but is less than 158° F (70° C), the concrete will be accepted if no cracking or other unacceptable defects are identified. If cracking or unacceptable defects are identified, Article 105.03 shall apply. If the concrete temperature exceeds 158° F (70° C), Article 105.03 shall apply.

If a temperature differential between the internal concrete core and concrete 2 to 3 in. (50 to 75 mm) from the exposed surface exceeds the specified or proposed maximum value allowed, the concrete will be accepted if no cracking or other unacceptable defects are identified. If unacceptable defects are identified, Article 105.03 shall apply.

When the maximum 150° F (66° C) concrete temperature or the maximum allowed temperature differential is violated, the Contractor shall implement corrective action prior to the next pour. In addition, the Engineer reserves the right to request a new thermal control plan for acceptance before the Contractor is allowed to pour again.

(d) Inspection and Repair of Cracks. The Engineer will inspect the concrete for cracks after the temperature monitoring is discontinued, and the Contractor shall provide access for the Engineer to do the inspection. A crack may require repair by the Contractor as determined by the Engineer. The Contractor shall be responsible for the repair of all cracks. Protective coat or a concrete sealer shall be applied to a crack less than 0.007 in. (0.18 mm) in width. A crack that is 0.007 in. (0.18 mm) or greater shall be pressure injected with epoxy according to Section 590.

<u>Basis of Payment</u>. This work shall not be paid for separately, but shall be included in the unit price per cubic yard (cubic meter) for DRILLED SHAFT IN SOIL, DRILLED SHAFT IN ROCK or CONCRETE STRUCTURES as appropriate.

#### ON-THE-JOB TRAINING SPECIAL PROVISION

Effective: April 1, 2010

This On-the-Job Training Special Provision (OJT special provision) supplements Recurring Special Provisions, Check Sheet #3: SPECIAL PROVISION FOR EEO and in the implementation of CFR 230, Subpart A.

It is the policy of IDOT to require full utilization of all available training and skill-improvement opportunities to assure the increased participation of minority groups, disadvantaged persons and women in all phases of the highway construction industry. The intent of the OJT special provision is to recruit entry-level individuals, when feasible, and provide them with meaningful training intended to lead to journey-level employment. IDOT and its sub-recipients, in carrying out the responsibilities of a federally assisted contract, shall determine which federal-aid construction contract shall include "Training Special Provisions." Under the Training Special Provisions, the Contractor shall make every reasonable effort to enroll minority, disadvantaged persons and women trainees to the extent such persons are available within a reasonable recruitment area. This training provision is not intended, and shall not be used to discriminate against any applicant for training.

As part of the Contractor's equal employment opportunity affirmative action program, training shall be provided as follows:

The Contractor shall provide training opportunities aimed at developing full journeyman in the type of trade or job classification involved. The number of trainees to be trained under this contract is 10. In the event the Contractor subcontracts a portion of the contract work, he shall determine how many, if any, of the trainees are to be trained by the subcontractor, provided however, that the Contractor shall retain the primary responsibility for meeting the training requirements imposed by this special provision. The Contractor shall also insure that this Training Special Provision is made applicable to such subcontract. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

Prior to commencing construction, the Contractor shall submit to the Illinois Department of Transportation for approval the number of trainees to be trained in each selected classification and training program to be used. Furthermore, the Contractor shall specify the starting time for training in each of the classifications.

The Contractor will be credited for each trainee employed by him on the contract work who is currently enrolled or becomes enrolled in an approved program and will be reimbursed for such trainees as provided hereinafter.

Training and upgrading of minorities and women toward journeyman status is a primary objective of this Training Special Provision. Accordingly, the Contractor shall make every effort to enroll minority trainees and women (e.g. by conducting systematic and direct recruitment through public and private sources likely to yield minority and women trainees) to the extent such persons are available within a reasonable area of recruitment. The Contractor will be responsible for demonstrating the steps that he has taken in pursuance thereof, prior to a determination as to whether the Contractor is in compliance with this Training Special Provision. This training commitment is not intended, and shall not be used, to discriminate against any applicant for training, whether a member of a minority group or not.

No employee shall be employed as a trainee in any classification in which he has successfully completed a training course leading to journeyman status or in which he has been employed as a journeyman. The Contractor should satisfy this requirement by including appropriate questions in the employee application or by other suitable means. Regardless of the method used, the Contractor's records should document the findings in each case.

The minimum length and type of training for each classification will be as established in the training program selected by the Contractor and approved by the Illinois Department of Transportation and the Federal Highway Administration. The Illinois Department of Transportation and the Federal Highway Administration shall approve a program, if it is reasonably calculated to meet the equal employment opportunity obligations of the Contractor and to qualify the average trainee for journeyman status in the classification concerned by the end of the training period. Furthermore, apprenticeship programs registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau and training programs approved by not necessarily sponsored by the U.S. Department of Labor, Manpower Administration, Bureau of Apprenticeship and Training shall also be considered acceptable provided it is being administered in a manner consistent with the equal employment obligations of Federal-aid highway construction contracts. Approval or acceptance of a training program shall be obtained from the State prior to commencing work on the classification covered by the program. Accordingly, form SBE 1146 shall be submitted and approved prior to commencing work. It is the intention of these provisions that training is to be provided in the construction crafts rather than clerk-typists or secretarial-type positions. Training is permissible in lower level management positions such as office engineers, estimators, timekeepers, etc., where the training is oriented toward construction applications. Training in the laborer classification may be permitted provided that significant and meaningful training is provided and approved by the Illinois Department of Transportation and the Federal Highway Administration. Some offsite training is permissible as long as the training is an integral part of an approved training program and does not comprise a significant part of the overall training.

Except as otherwise noted below, the Contractor will be reimbursed \$3.50 per hour of training given an employee on this contract in accordance with an approved training program. As approved by the Engineer, reimbursement will be made for training of persons in excess of the number specified herein. This reimbursement will be made even though the Contractor receives additional training program funds from other sources, provided such other source does not specifically prohibit the Contractor from receiving other reimbursement.

Reimbursement for offsite training indicated above may only be made to the Contractor where he does one or more of the following and the trainees are concurrently employed on a Federal-aid project; contributes to the cost of the training, provides the instruction to the trainee or pays the trainee's wages during the offsite training period.

No payment shall be made to the Contractor if either the failure to provide the required training, or the failure to hire the trainee as a journeyman, is caused by the Contractor and evidences a lack of good faith on the part of the Contractor in meeting the requirement of this Training Special Provision. It is normally expected that a trainee will begin his training on the project as soon as feasible after start of work utilizing the skill involved and remain on the project as long as training opportunities exist in his work classification or until he has completed his training program.

It is not required that all trainees be on board for the entire length of the contract. A Contractor will have fulfilled his responsibilities under this Training Special Provision if he has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled on the contract for a significant period.

Trainees will be paid at least 60 percent of the appropriate minimum journeyman's rate specified in the contract for the first half of the training period, 75 percent for the third quarter of the training period, and 90 percent for the last quarter of the training period, unless apprentices or trainees in an approved existing program are enrolled as trainees on this project. In that case, the appropriate rates approved by the Departments of Labor or Transportation in connection with the existing program shall apply to all trainees being trained for the same classification who are covered by this Training Special Provision.

The Contractor shall furnish the trainee a copy of the program he will follow in providing the training. The Contractor shall provide each trainee with a certification showing the type and length of training satisfactorily complete.

The Contractor shall provide for the maintenance of records and furnish periodic reports documenting his performance under this Training Special Provision.

## Reports

The Contractor shall provide for the maintenance of records and furnish weekly reports documenting the Contractor's performance under this provision on form SBE 1014. All trainee notifications must be submitted prior to the start of the project. If a trainee has been previously approved by IDOT, the Contractor must still notify IDOT of the name of the individual(s) and proposed craft the trainees will be trained in, as well as, indicate which project the trainees will be working on. The trainee notifications or listing of the proposed trainees must be submitted via fax, mail or electronically to the District EEO Office. If the Contractor fails to submit the trainee notification or list of proposed trainees prior to the onset of the project, the Contractor will be subject to the sanctions as outlined in this OJT special provision. Weekly reports shall include at least the following information:

Contractor's name and address

Period, which the report covers

Job Number, Description, and Federal Aid number

Information for each employee being trained on the project, including:

- Trainee Name and Individual Identification Number
- Ethic Group
- Work Classification
- Status
- Hours and Days Worked
- Hours this Week
- Hours to Date

IDOT monitors contracts with training special provisions through onsite visits, investigations, weekly training and construction reports. These reports are generated by the Contractor and are to be disseminated to the Resident Engineer Office. If there are problems, the District EEO Office will contact the Contractor to address the deficiencies.

If there are deficiencies, the Contractor must provide a corrective action plan addressing the deficiencies.

No payment will be made under the bid item "Training" if the Contractor fails to provide the required training.

Payment will not be made if the Contractor fails to submit trainee reports in a timely manner.

### Method of Measurement

The unit of measurement is in hours.

# **Basis of Payment**

This work will be paid for at the contract unit price of \$3.50 per hour for TRAINEES (SPECIAL). The estimated total number of hours, unit price, and total price have been included in the schedule of prices.

# **Liquidated Damages**

Progress payments shall be withheld for failing to comply with all OJT special provision requirements unless IDOT accepts evidence of the Contractor's good faith efforts.

If the training hours have not been obtained and evidence of good faith efforts have not been displayed upon project completion, the Contractor will be assessed liquidated damages in the amount of \$7.00 per hour for those hours not realized. If the Department approves the Contractor's good faith efforts, these liquidated damages will not be assessed.

In the event the Contract will exceed the trainee goal on the project, the Contractor must submit a request to District EEO Office to obtain an extension of hours. The maximum amount of hours beyond those enumerated in the contract cannot exceed 500 hours per 1,000. For instance, if the goal was 1,000, the Contractor can be granted an extra 500 hours subject to the advance approval of the District EEO Office, and concurrence from the FHWA.

Trainee reports must be submitted in accordance with the Instruction to Contractors for Completing Form SBE 1014.

Failure to submit timely reports will result in trainee hours not credited. In the cases of voluntary or involuntary trainee termination or when the trainee completes the hours specified in the program, the contractor must complete the final trainee report within five working days. The Contractor's failure to submit the proper reports in a timely manner may result in the loss of reimbursement for the training hours for that month

Failure to satisfactorily comply with the OJT special provision requirements will be reflected in the contractor's performance evaluation.

# COORDINATION WITH UNITED STATES ARMY CORP OF ENGINEERS (USACE)

In order to meet the conditions of the USACE with regard to property owned by USACE, the Contractor is required to submit the following for approval prior to commencement of construction:

- **a.** A general site plan (including an updated environmental checklist) describing how the property will be utilized for the duration of the project;
- **b.** A safety plan describing how public health and safety will be maintained in the construction area for the duration of the project;
- **c.** A recreation plan outlining how the project will avoid and minimize the impacts to public recreation in the vicinity of the construction area;
- **d.** A communications plan discussing how the above information is to be provided to the navigation and recreation communities as well as the general public as a whole:
- **e.** A preliminary navigation plan describing how the flow of vessel traffic will be maintained in the Chain of Rocks Canal for the duration of the project. This preliminary plan shall include the scope of work which will affect the canal traffic, the potential impacts to canal traffic and the anticipated schedule of any canal closures or restrictions.
- f. A preliminary demolition plan for the existing structures SN 060-0036 & 0037. The preliminary demolition plan shall include the scope of work which will affect the canal and bike trail, the potential impacts to the canal and bike trail traffic and the anticipated schedule of any canal and bike trail closures or restrictions.

Due to the fact that the Contractor may not begin any construction activities involving USACE-owned land until items a. through f. above have been approved by the USACE, it is in the Contractor's best interest to provide these items to the Department at, or prior to, the pre-construction conference. Upon receipt, the Department will forward these documents to USACE for review and approval.

Compliance with item e. above does not nullify the requirement of preparation of a detailed navigation plan for USACE and USCG approval prior to any work commencing in the Canal. This detailed plan shall include a description of how canal traffic will be affected including a provision of a helper boat and the name and contact number of the Contractor who will provide this service.

Compliance with item f. above does not nullify the requirement of preparation of a detailed demolition plan for Department, USACE, and USCG approval prior to any demolition work commencing. The detailed demolition plan, prepared by an Illinois registered Structural Engineer for the existing structures SN 060-0036 & 0037, must include any impacts to canal and bike trail traffic. See special provision "Demolition Plans for Removal of Existing Structures" for additional details.

In addition, it is assumed that items a. through f. above will require periodic update by the Contractor as the project progresses. The Contractor shall be aware that he is to make these updates to the affected items, and provide the updates to the Department for forwarding to the USACE.

#### **PILING**

Effective: May 11, 2009 Revised: January 22, 2010

Revise Article 512.04(a) of the Standard Specifications to read:

- "(a) Splicing. Splicing of metal shell piles shall be as follows.
  - (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
  - (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer."

Revise Article 512.05(a) of the Standard Specifications to read:

- "(a) Splicing. Splicing of steel piles shall be as follows.
  - (1) Planned Splices. Planned field or shop splices may be used when allowed per Article 512.10 or when the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3 m). The location of planned splices shall be approved by the Engineer and located to minimize the chance they will occur within the 10 ft (3 m) below the base of the footing, abutment, or pier.
  - (2) Unplanned Splices. Unplanned field splices shall be used as required to furnish lengths beyond those specified in Article 512.16. The length of additional segments shall be specified by the Engineer."

Revise the first three paragraphs of Article 512.10 of the Standard Specifications to read:

"512.10 Driving Equipment. The equipment for driving piles shall be adequate for driving piles at least 10 ft (3 m) longer than the longest estimated pile length specified in the contract plans without splicing, unless the estimated pile length exceeds 55 ft (17 m) or prevented by vertical clearance restrictions.

The use of shorter length equipment or the use of preplanned splices (necessitated by estimated pile lengths exceeding 55 ft (17 m) or vertical clearance restrictions) shall meet the approval of the Engineer. The equipment for driving piles shall be according to the following.

(a) Hammers. Piles shall be driven with an impact hammer such as a drop, steam/air, hydraulic, or diesel. The driving system selected by the Contractor shall not result in damage to the pile. The impact hammer shall be capable of being operated at an energy which will maintain a pile penetration rate between 1 and 10 blows per 1 in. (25 mm) when the nominal driven bearing of the pile approaches the nominal required bearing.

For hammer selection purposes, the minimum and maximum hammer energy necessary to achieve these penetrations may be estimated as follows.

$$E \ge \frac{32.90 \, R_N}{F_{\text{eff}}}$$
 (English)

$$E \leq \frac{65.80 \,\mathrm{R}_{\mathrm{N}}}{\mathrm{F}_{\mathrm{eff}}}$$
 (English)

$$E \ge \frac{10.00 \, R_N}{F_{\text{eff}}}$$
 (metric)

$$E \leq \frac{20.00 \,\mathrm{R}_{\mathrm{N}}}{\mathrm{F}_{\mathrm{eff}}} \quad (\mathrm{metric})$$

Where:

 $R_N$  = Nominal required bearing in kips (kN)

E = Energy developed by the hammer per blow in ft lb (J)  $F_{eff}$  = Hammer efficiency factor according to Article 512.14."

Add the following sentence to the beginning of the fourth paragraph of Article 512.11 of the Standard Specifications:

"Except as required to satisfy the minimum tip elevations required in 512.11(b) above, piles are not required to be driven more than one additional foot (300 mm) after the nominal driven bearing equals or exceeds the nominal required bearing; more than three additional inches (75 mm) after the nominal driven bearing exceeds 110 percent of the nominal required bearing; or more than one additional inch (25 mm) after the nominal driven bearing exceeds 150 percent of the nominal required bearing."

Revise the first paragraph of Article 512.14 of the Standard Specifications to read:

"512.14 Determination of Nominal Driven Bearing. The nominal driven bearing of each pile shall be determined by the WSDOT formula as follows.

$$R_{NDB} = \frac{6.6 F_{eff} E Ln (10 N_b)}{1000}$$
 (English)

$$R_{NDB} = \frac{21.7 \; F_{\text{eff}} \; E \; Ln \left(10 N_b\right)}{1000} \; \; (\text{metric})$$

Where:

 $R_{NDB}$  = Nominal driven bearing of the pile in kips (kN)

 $N_b$  = Number of hammer blows per inch (25 mm) of pile penetration

E = Energy developed by the hammer per blow in ft lb (J)

 $F_{\text{eff}}$  = Hammer efficiency factor taken as:

0.55 for air/steam hammers

0.47 for open-ended diesel hammers and steel piles or metal shell piles

0.37 for open-ended diesel hammers and concrete or timber piles

0.35 for closed-ended diesel hammers

0.28 for drop hammers"

Add the following to Article 512.18 of the Standard Specifications.

"(h) When the lengths specified in Article 512.16 exceed the estimated lengths specified in the contract plans by at least 10 ft (3m), additional field splices (for metal shell and steel piles) required to provide the lengths specified in Article 512.16 will be paid for according to Article 109.04."

# FREEZE-THAW AGGREGATES FOR CONCRETE SUPERSTRUCTURES POURED ON GRADE

Effective: April 30, 2010

Revise the first sentence of Article 1004.029(f) to read as follows.

"When coarse aggregate is used to produce portland cement concrete for base course, base course widening, pavement, driveway pavement, sidewalk, shoulders, curb, gutter, combination curb and gutter, median, paved ditch, concrete superstructures on grade such as bridge approach slabs, or their repair using concrete, the gradation permitted will be determined from the results of the Department's Freeze-Thaw Test (Illinois Modified AASHTO T161)."

### **CONCRETE SUPERSTRUCTURE**

<u>Description.</u> In addition to the requirements of Section 503 of the Standard Specifications, this work shall also consist of furnishing, installing, and removing a solar shield on the outside face of the fascia girders during deck placement and curing to minimize thermal gradient effects; as shown on the plans, as specified herein, and as directed by the Engineer.

<u>Materials.</u> Materials shall meet the requirements of Article 503.02 and as set forth below:

The mix design for Class BS concrete shall have a maximum compressive strength of 5000 psi at 14 days.

The solar shield shall consist of a white cotton mat that is draped over the outside face of the fascia girders. The solar shield shall be properly fastened to withstand wind speeds of 40 mph. Two sets of shop drawings shall be submitted to the Engineer for approval

<u>Construction Requirements.</u> All work shall be according to the applicable requirements of Section 503 of the Standard Specifications except as modified below.

Concrete bridge deck placement shall not be permitted between November 1st and April 1st.

Concrete bridge deck placement from June 1<sup>st</sup> through September 30<sup>th</sup> shall be confined between the hours of 7pm and 7am.

Bridge deck concrete curing and protection shall meet the requirements of Article 1020.13 except the wet curing period shall be 14 days.

Temperature control for deck placement shall meet the requirements of Article 1020.14 (b) except that concrete may be placed when the air temperature is above 45 °F and rising, and concrete placement shall stop when the falling temperature reaches 50 °F or below.

<u>Method of Measurement.</u> This work will be measured for payment per Article 503.21 except that the solar shield shall be included in the cost of Concrete Superstructure, but shall not be included in the measurement for payment.

<u>Basis of Payment:</u> This work will be paid for at the contract unit price per cubic yard as specified in Article 503.22 for CONCRETE SUPERSTRUCTURE. Furnishing, installation and removing the solar shields, will not be paid for separately, but shall be included in the cost of CONCRETE SUPERSTRUCTURE.

#### **ERECTION OF COMPLEX STEEL STRUCTURES**

Description: In addition to the requirements of Article 505.08(e), the following shall apply.

The Contractor or sub-Contractor performing the erection of the structural steel is herein referred to as the Erection Contractor.

<u>Erector Qualifications</u>: The Erection Contractor shall be certified as an Advanced Certified Steel Erector (ACSE), by the AISC Certification Program. The Erection Contractor shall submit evidence of current ACSE certification to the Engineer with the submittal of the proposed erection plan.

<u>Erection Plan</u>: The Erection Contractor shall retain the services of an engineering firm, prequalified with the Illinois Department of Transportation in the Complex Structures category, for the completion of a project-specific erection plan. An Illinois Licensed Structural Engineer employed by this pre-qualified engineering firm, herein referred to as the Erection Engineer, shall sign and seal the erection plan, drawings, and calculations for the proposed erection of the structural steel.

The erection plan shall be complete in detail for all phases, stages, and conditions anticipated during erection. The erection plan shall include structural calculations and supporting documentation necessary to completely describe and document the means, methods, temporary support positions, and loads necessary to safely erect the structural steel in conformance with the contract documents and as outlined herein.

The erection plans shall address and account for all items pertinent to the steel erection including such items as sequencing, falsework, temporary shoring and/or bracing, girder stability, crane positioning and movement, means of access, pick points, girder shape, permissible deformations and roll, interim/final plumbness, cross frame/diaphragm placement and connections, bolting and anchor bolt installation sequences and procedures, geometry control, adjustment procedures, jacking devices, and blocking and anchoring of bearings. The Erection Contractor shall be responsible for the stability of the partially erected steel structure during all phases of the steel erection.

The erection plan and procedures shall be developed in accordance with the AASHTO LRFD Bridge Construction Specifications, 3rd Edition and 2010 Interim Revisions. Calculations for all items pertinent to the steel erection shall be in accordance with the 2010 AASHTO LRFD Bridge Design Specifications.

The surface of the levee shall be protected from damage due to construction activities and shall not be penetrated from temporary works or construction equipment.

The erection plans and procedures shall be submitted to the Engineer for review and acceptance prior to starting the work. Review, acceptance and/or comments by the Department, USACE, and the USCG shall not be construed to guarantee the safety or final acceptability of the work or compliance with all applicable specifications, codes, or contract requirements, and shall neither relieve the Contractor of the responsibility and liability to comply with these requirements, nor create liability for the Department, USACE, nor the USCG. The Contractor is responsible for meeting all IDOT, USACE, and USCG requirements. No additional compensation or time will be allowed for USGC or USACE restrictions. The erection plans and procedures shall be submitted 90 days prior to beginning work. The Contractor shall not proceed with work until written approval from each of the approval agencies has been received. Approval agencies are IDOT, USACE, and the USCG. Significant changes to the erection plan in the field must be approved by the Erection Engineer and accepted by the Engineer for the Department.

<u>Basis of Payment</u>: This work shall not be paid for separately but shall be included in the applicable pay items according to Art. 505.13 of the Standard Specifications.