



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

October 23, 2009

SUBJECT: FAI Route 55 (I-55)  
Project ACIM-055-4 (169) 164  
Section (57-4)R, HBY, HBR (57-4VB) DM  
McLean County  
Contract No. 70757  
Item No. 177, November 6, 2009 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, 3, 7, 54, 64 and 65 of the Plans.
3. Added sheets 175A and 175B to the Plans.
4. Revised pages ii - v of the Table of Contents to the Special Provisions.
5. Revised pages 36, 37, 39, 50, 63, 66, 67, 71, 72, 73, 74 and 75 of the Special Provisions.

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

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

Very truly yours,

Charles Ingersoll, Chief  
Bureau of Design and Environment

A handwritten signature in cursive script, reading "Ted B. Walschleger" followed by a small "P.E." to the right.

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

cc: Joseph E. Crowe, Region 3, District 5; Bill Frey; R. E. Anderson;  
Estimates

TBW:DB:jc

ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 70757

State Job # - C-95-037-09  
 PPS NBR - 5-32200-0200  
 County Name - MCLEAN- -  
 Code - 113 - -  
 District - 5 - -  
 Section Number - (57-4)R, HBY, HBR, (57-4VB)DM

Project Number  
 ACIM-0554/169/164

Route  
 FAI 55

\* REVISED : OCTOBER 22, 2009

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2001116	T-ACER RUB OG 2	EACH	13.000				
A2007116	T-QUERCUS RUBRA 2	EACH	9.000				
B2000762	T-AMEL X GF AB SF 4'	EACH	12.000				
B2005214	T-MALUS SUT TF 1-3/4	EACH	34.000				
B2006314	T-SYRG RT IS TF 1-3/4	EACH	18.000				
C2C00424	S-ARONIA ARB BRIL 2'C	EACH	60.000				
C2001524	S-CORNUS RACEMOSA 2'	EACH	60.000				
C20059G2	S-RHUS GLABRA 2G	EACH	50.000				
C2012724	S-VIBURN PRUN 2'	EACH	60.000				
D2002160	E-PICEA PUNGENS 5'	EACH	29.000				
D2003160	E-PSUEDO MENZI 5'	EACH	20.000				
MX030149	OSS WALKWAY TY A	METER	55.700				
MX030463	OSS WALKWAY CANT TA	METER	16.300				
MX032646	TREE REM AND CLEARING	HA	0.100				
MX033509	CONC RETAINING WALL	SQ M	87.200				

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MX033738	DIWM CL52 POLY EN 300	METER	138.000				
MX033757	URETH PAVT MK LN 100	METER	19,258.000				
MX033758	URETH PAVT MK LN 200	METER	1,727.000				
MX033761	ANCHOR BOLTS M30	EACH	36.000				
MX033780	WORK ZONE PAVT MK REM	METER	42,280.000				
MX033784	CONC BAR REM REPL	METER	26.000				
MX033785	TEMP PIPE CUL 375	METER	65.000				
MX033786	GATE VALVE & BOX 300	EACH	2.000				
MX033787	DI SFM 52 PLY ENC 400	METER	104.000				
MX502030	STRUCT EXC RET WALL	CU M	192.000				
MX542190	P CUL 3 RC-A ERS 375	METER	3.500				
MX606040	PAVED DITCH SPEC	SQ M	1.000				
MX637140	CONC BAR 1F 865HT SPL	METER	162.000				
MX704200	REM TEMP CONC BARRIER	METER	1,326.000				
MX734100	CONC FOUNDATION GR MT	CU M	5.000				

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MX830150	LPGS 12.0MH 2.4DA-TW	EACH	35.000				
MX830155	LPGS 12MH 2.4DA-TW SP	EACH	5.000				
MX871017	FO CAB 36F SM	METER	4,981.000				
MZ004700	BIT MIX FOR MAINT	M TON	300.000				
MZ031106	TEMP M S EARTH RET WL	SQ M	551.000				
MZ037300	PAVT GROOVING	SQ M	1,448.000				
M2020010	EARTH EXCAVATION	CU M	26,508.000				
M2040100	BORROW EXCAV	CU M	25,373.000				
* M2060110	GRAN EMBANK SPEC	M TON	1,780.000				
M2070400	POROUS GRAN EMB SPEC	CU M	306.000				
M2080150	TRENCH BACKFILL	CU M	894.000				
M2101000	GEOTECH FAB F/GR STAB	SQ M	1,254.000				
M2500210	SEEDING CL 2A	HA	2.200				
M2500300	SEEDING CL 3	HA	0.700				
M2500312	SEEDING CL 4A	HA	0.800				

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M2500320	SEEDING CL 5	HA	0.800				
M2500400	NITROGEN FERT NUTR	KG	370.000				
M2500500	PHOSPHORUS FERT NUTR	KG	370.000				
M2500600	POTASSIUM FERT NUTR	KG	370.000				
M2510115	MULCH METHOD 2	HA	3.700				
M2510630	EROSION CONTR BLANKET	SQ M	21,154.000				
M2510635	HD EROS CONTR BLANKET	SQ M	3,539.000				
M2800400	PERIMETER EROS BAR	METER	5,017.000				
M3020456	PROCESS MOD SOIL 300	SQ M	143,730.000				
M3021500	LIME	M TON	3,881.000				
M3110010	SUB GRAN MAT A	M TON	457.000				
M3112010	SUB GRAN MAT C	M TON	914.000				
M3120500	STAB SUBBASE HMA 100	SQ M	140,267.000				
M3510010	AGG BASE CSE A	M TON	1,020.000				
M3552200	HMA BASE COURSE	M TON	4,234.000				

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M4020010	AGG SURF CSE A	M TON	23.000				
M4021200	AGGREGATE-TEMP ACCESS	M TON	20.000				
M4060100	BIT MATLS PR CT	LITER	14,912.000				
M4060982	HMA SURF REM BUTT JT	SQ M	138.000				
M4063305	HMA SC "C" N30	M TON	331.000				
M4063315	HMA SC "C" N70	M TON	180.000				
M4075240	HMA PAVT FD 240	SQ M	1,061.000				
M4075280	HMA PAVT FD 280	SQ M	2,694.000				
M4205000	BR APPR PAVT	SQ M	706.000				
M4205050	BR APPROACH PAVT SPL	SQ M	742.000				
M4210300	CON REINF PCC PVT 300	SQ M	62,313.000				
M4210330	CON REINF PCC PVT 330	SQ M	24,536.000				
M4214300	PVT REINFORCEMENT 300	SQ M	62,313.000				
M4214330	PVT REINFORCEMENT 330	SQ M	24,536.000				
M4215040	WF BM TM JT COMP 10.8	EACH	2.000				

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M4218000	PROTECTIVE COAT	SQ M	142,572.000				
M4400735	HMA SURF REM 35	SQ M	2,147.000				
M4402000	PAVEMENT REM	SQ M	61,804.000				
M4402060	APPROACH SLAB REM	SQ M	2,024.000				
M4402530	PAVED SHLD REMOVAL	SQ M	23,393.000				
M4425235	CL A PATCH T2 300	SQ M	100.000				
M4425335	CL A PATCH T3 300	SQ M	100.000				
M4425435	CL A PATCH T4 300	SQ M	100.000				
M4429200	PATCH REINFORCEMENT	SQ M	300.000				
M4429400	SAW CUTS	METER	50.000				
M4812000	AGGREGATE SHLDS B	M TON	2,165.000				
M4820400	HMA SHOULDERS	M TON	860.000				
M4830300	PCC SHOULDERS 300	SQ M	42,495.000				
M4830330	PCC SHOULDERS 330	SQ M	9,015.000				
M5010240	CONC REM	CU M	569.900				

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M5010465	SLOPE WALL REMOV	SQ M	1,707.000				
M5010570	PROTECTIVE SHIELD	SQ M	796.000				
M5020100	STRUCTURE EXCAVATION	CU M	1,023.000				
M5030350	CONC STRUCT	CU M	508.500				
M5030360	CONC SUP-STR	CU M	619.600				
M5030390	BR DECK GROOVING	SQ M	2,139.000				
M5030450	PROTECTIVE COAT	SQ M	2,536.000				
M5080205	REINF BARS, EPOXY CTD	KG	127,580.000				
M5110100	SLOPE WALL 100	SQ M	930.000				
M5120128	FUR M S PILE 305X4.55	METER	216.000				
M5120129	FUR M S PILE 305X6.35	METER	858.000				
M5120176	FUR M S PILE 356X6.35	METER	462.500				
M5120335	DRIVING PILES	METER	1,536.500				
M5120900	TEMP SHT PILING	SQ M	1,252.400				
M5200064	PREF JOINT SEAL 64	METER	109.700				



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M5200225	PREF JT STRIP SEAL	METER	16.900				
M5210022	ANCHOR BOLTS M24	EACH	148.000				
M542E016	END SECTIONS 375	EACH	2.000				
M542E116	PRC FL-END SEC 375	EACH	4.000				
M542E120	PRC FL-END SEC 450	EACH	1.000				
M542E128	PRC FL-END SEC 600	EACH	2.000				
M542E144	PRC FL-END SEC 900	EACH	1.000				
M542E716	PRCF ES AR EQRS 375	EACH	2.000				
M542F012	MET END SEC 300	EACH	2.000				
M542H025	P CUL CL A 1 375	METER	50.100				
M542M040	P CUL CL A 6 600	METER	84.500				
M5500030	STORM SEW CL A 1 300	METER	1,423.000				
M5500050	STORM SEW CL A 1 450	METER	1,331.500				
M5500065	STORM SEW CL A 1 600	METER	68.300				
M5500465	STORM SEW CL A 2 600	METER	172.500				

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M5500485	STORM SEW CL A 2 900	METER	18.000				
M5870300	CONCRETE SEALER	SQ M	19.800				
M6010125	PIPE DRAINS 300	METER	36.000				
M6010605	PIPE UNDERDRAINS 100	METER	14,954.000				
M6010705	PIPE UNDERDRN 100 SP	METER	808.000				
M6021410	MAN A 1.2D T1F CL	EACH	18.000				
M6021470	MAN A 1.2D T20F&G	EACH	1.000				
M6021610	MAN A 1.5D T1F CL	EACH	2.000				
M6021735	MAN A 1.5D SPL F&G	EACH	2.000				
M6060010	CLASS SI CONC OUTLET	CU M	1.000				
M6060015	CLASS SI CONC INLET	CU M	0.600				
M6060260	CONC GUTTER TA	METER	135.100				
M6060280	CONC GUTTER TA SPL	METER	17.600				
M6300101	SPBGR TY A 1.83 POSTS	METER	1,536.000				
M6320030	GUARDRAIL REMOV	METER	2,292.000				

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M6370155	CONC BAR 1F 815HT	METER	323.000				
M6370255	CONC BAR 2F 815HT	METER	3,715.000				
M6370259	CONC BAR 2F 815HT SPL	METER	457.000				
M6370805	CONC BAR TRANS	METER	57.000				
M6410115	SIGHT SCR (WF) TP 1.8	METER	33.000				
M6420015	SHOULDER RUMBLE STRIP	METER	12,477.000				
M6650100	WOV W FENCE 1.2	METER	642.000				
M6650420	WOV W FENCE REMOV	METER	110.000				
M7030220	TEMP PVT MK LINE 100	METER	56,034.000				
M7030520	PAVT MARK TAPE T3 100	METER	1,862.000				
M7040100	TEMP CONC BARRIER	METER	9,857.000				
M7040200	REL TEMP CONC BARRIER	METER	18,239.000				
M7200100	SIGN PANEL T1	SQ M	9.000				
M7200300	SIGN PANEL T3	SQ M	292.000				
M7270100	STR STL SIN SUP BA	KG	1,169.000				

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M7300100	WOOD SIN SUPPORT	METER	32.000				
M7330010	OVHD SIN STR-SPAN T1A	METER	95.800				
M7330235	OSS CAN 2CA 0.90X1.68	METER	26.100				
M7340100	CONC FOUNDATION	CU M	101.000				
M7340200	DRILL SHAFT CONC FDN	CU M	17.800				
M7800205	PAINT PVT MK LN 100	METER	750.000				
M7800215	PAINT PVT MK LN 150	METER	94.000				
M7800225	PAINT PVT MK LN 300	METER	2.000				
M7800415	PREF PL PM TB LN 150	METER	4,843.000				
M7830100	PAVT MARKING REMOVAL	SQ M	143.000				
M7830105	PAVT MARKING REMOVAL	METER	10,001.000				
M8100060	CON T 50 GALVS	METER	1,105.000				
M8101050	CON P 50 GALVS	METER	135.000				
M8110160	CON AT ST 50 GALVS	METER	48.000				
M8120230	CON EMB STR 50 PVC	METER	2,452.000				

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M8120270	CON EMB STR 100 PVC	METER	4,360.000				
M8130185	JBX SS AS 300X250X150	EACH	2.000				
M8130228	JBX SS AS 400X400X150	EACH	1.000				
M8130445	JBX SS ES 450X150X150	EACH	5.000				
M8160230	UD 2#6XLP 1#6XLPG 25P	METER	340.000				
M8170040	EC C XLP USE 1C 6	METER	7,725.000				
M8190200	TR & BKFIL F ELECT WK	METER	765.000				
M8307900	LT P GS 9.0MH TN MT	EACH	2.000				
M8307940	LT P GS 15.2MH TN MT	EACH	1.000				
M8360100	LIGHT POLE FDN 600	METER	3.400				
M8360200	LIGHT POLE FDN 750	METER	2.000				
XX002954	LT POLE FDN INT BW	EACH	35.000				
XX003567	FUR INST COLL ST BOLL	EACH	1.000				
XX004377	STEAMER FIRE HYDRANTS	EACH	2.000				
X0323082	DRAINAGE SCUPPR DS-33	EACH	4.000				

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X0323120	BRIDGE MONITORING	EACH	2.000				
X0323583	SPEED INDICATOR SIGN	CAL DA	630.000				
X0324181	DISCON SN LTG/RM WIRE	EACH	6.000				
X0324760	BKWY SIGN SUPPORT COU	EACH	4.000				
X0325846	ABAND EX WATER MAIN	L SUM	1.000				
X0326707	TEMP PRO SYS BCYCL TR	L SUM	1.000				
X0326708	TUNNL LGHTNG CON SYS	L SUM	1.000				
X0326709	TUN LUM 150W HPSV	EACH	12.000				
X0326710	TUN LUM 450W HPSV	EACH	194.000				
X0326711	VIDEO CAMERA CONT SYS	L SUM	1.000				
X0326712	ABAN FILL EX SAN SEW	EACH	1.000				
X0326713	SANITARY SEWER CONN	EACH	2.000				
X0350800	BOLLARDS	EACH	2.000				
X0469600	CONN TO EX WATER MAIN	EACH	2.000				
X0974300	SIGN REMOVAL	EACH	18.000				

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X5051401	F&E STRUCT STL BR N1	L SUM	1.000				
X5051402	F&E STRUCT STL BR N2	L SUM	1.000				
X8410102	TEMP LIGHTING SYSTEM	L SUM	1.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0014700	CULVERT TO BE CLEANED	EACH	16.000				
Z0030030	IMP ATTEN FRD NAR TL3	EACH	4.000				
Z0030240	IMP ATTN TEMP NRD TL2	EACH	2.000				
Z0030260	IMP ATTN TEMP FRN TL3	EACH	12.000				
Z0030330	IMP ATTN REL FRD TL3	EACH	22.000				
Z0030340	IMP ATTN REL NRD TL2	EACH	4.000				
Z0038700	PERMNT BENCH MARKS	EACH	2.000				
Z0056220	SAND MOD IMP ATT REM	EACH	240.000				
28000300	TEMP DITCH CHECKS	EACH	21.000				
28000500	INLET & PIPE PROTECT	EACH	76.000				
40702700	FURNISH PROFILOGRAPH	L SUM	1.000				

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42101070	WF BM TERM JT COM VAR	EACH	6.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
50101500	REM EXIST SUP-STR	EACH	2.000				
50105200	REM EXIST CULVERTS	EACH	15.000				
50300100	FLOOR DRAINS	EACH	8.000				
50500505	STUD SHEAR CONNECTORS	EACH	9,678.000				
50600300	CLEAN PAINT STEEL BR	L SUM	1.000				
50606400	C&D LEAD PT CL RES	L SUM	1.000				
50800515	BAR SPLICERS	EACH	1,442.000				
51203200	TEST PILE MET SHELLS	EACH	4.000				
51500100	NAME PLATES	EACH	4.000				
52100010	ELAST BEARING ASSY T1	EACH	18.000				
52100020	ELAST BEARING ASSY T2	EACH	8.000				
60100060	CONC HDWL FOR P DRAIN	EACH	46.000				



ILLINOIS DEPARTMENT OF TRANSPORTATION  
 SCHEDULE OF PRICES  
 CONTRACT  
 NUMBER - 70757

State Job # - C-95-037-09  
 PPS NBR - 5-32200-0200  
 County Name - MCLEAN- -  
 Code - 113 - -  
 District - 5 - -  
 Section Number - (57-4)R, HBY, HBR, (57-4VB)DM

Project Number  
 ACIM-0554/169/164

Route  
 FAI 55

\* REVISED : OCTOBER 22, 2009

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
60238710	INLETS TA W/SPL GRATE	EACH	3.000				
60247160	DR STR T1 W/2 T20F&G	EACH	51.000				
60247170	DR STR T2 W/2 T22F&G	EACH	1.000				
60247300	JUNCTION BOX SPL	EACH	47.000				
60260050	SAN MAN RECONST	EACH	2.000				
60500060	REMOV INLETS	EACH	19.000				
60900315	TY D INLET BOX 609006	EACH	2.000				
60900515	CONC THRUST BLOCKS	EACH	2.000				
63100045	TRAF BAR TERM T2	EACH	5.000				
63100070	TRAF BAR TERM T5	EACH	3.000				
63100085	TRAF BAR TERM T6	EACH	3.000				
63100089	TRAF BAR TERM T6B	EACH	2.000				
63100167	TR BAR TRM T1 SPL TAN	EACH	7.000				
63400205	GUARD POSTS REMOV	EACH	55.000				
66600105	FUR ERECT ROW MARKERS	EACH	6.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
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Project Number  
 ACIM-0554/169/164

Route  
 FAI 55

\* REVISED : OCTOBER 22, 2009

Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
66700205	PERM SURV MKRS T1	EACH	3.000				
67000400	ENGR FIELD OFFICE A	CAL MO	27.000				
67000600	ENGR FIELD LAB	CAL MO	27.000				
67100100	MOBILIZATION	L SUM	1.000				
70100405	TRAF CONT-PROT 701321	EACH	1.000				
70100420	TRAF CONT-PROT 701411	EACH	7.000				
70100450	TRAF CONT-PROT 701201	L SUM	1.000				
70100460	TRAF CONT-PROT 701306	L SUM	1.000				
70100500	TRAF CONT-PROT 701326	L SUM	1.000				
70100800	TRAF CONT-PROT 701401	L SUM	1.000				
70103700	TRAF CONT COMPL	L SUM	1.000				
70103800	TRAF CONTROL SPL	L SUM	1.000				
70103815	TR CONT SURVEILLANCE	CAL DA	100.000				
70106500	TEMP BR TRAF SIGNALS	EACH	1.000				
72400900	REMOV SIGN PANEL	EACH	16.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
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Project Number  
 ACIM-0554/169/164

Route  
 FAI 55

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
73600100	REMOV OH SIN STR-SPAN	EACH	6.000				
73600200	REMOV OH SIN STR-CANT	EACH	1.000				
73700300	REM CONC FDN-OVHD	EACH	13.000				
78100100	RAISED REFL PAVT MKR	EACH	1,622.000				
78100105	RAISED REF PVT MKR BR	EACH	52.000				
78200405	GUARDRAIL MARKERS	EACH	46.000				
78200500	BARRIER WALL MARKERS	EACH	42.000				
78201000	TERMINAL MARKER - DA	EACH	7.000				
78300200	RAISED REF PVT MK REM	EACH	822.000				
80400100	ELECT SERV INSTALL	EACH	4.000				
81400100	HANDHOLE	EACH	3.000				
82102250	LUM SV HOR MT 250W	EACH	80.000				
82107300	UNDERPAS LUM 150W HPS	EACH	7.000				
82500520	LT CONT CBRCS 60-480	EACH	2.000				
82500605	LT CONTROL PC RELAY	EACH	1.000				

ILLINOIS DEPARTMENT OF TRANSPORTATION  
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 CONTRACT  
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 Code - 113 - -  
 District - 5 - -  
 Section Number - (57-4)R, HBY, HBR, (57-4VB)DM

Project Number  
 ACIM-0554/169/164

Route  
 FAI 55

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Item Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
84200500	REM EX LT UNIT SALV	EACH	10.000				
84200802	REM POLE FOUNDATION	EACH	10.000				
84500110	REMOV LIGHTING CONTR	EACH	1.000				
84500120	REMOV ELECT SERV INST	EACH	1.000				
87900200	DRILL EX HANDHOLE	EACH	1.000				

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(e) If 3 or more of the last average density values fail for a given mixture then the speed of the paver shall be decreased to the satisfaction of the Engineer.

If the Contractor is not controlling the compaction process and is making no effort to take corrective action, the operation, as directed by the Engineer, shall stop.”

### **INLETS, TYPE A, WITH SPECIAL GRATE**

This work be completed in accordance with Section 602 of the Standard Specifications and as herein modified.

The special grate shall be a Type 8 grate according to Highway Standard 604036.

This work, including the inlets, type A and the grate, shall be paid for at the contract unit price per each for INLETS, TYPE A, WITH SPECIAL GRATE.

### **JUNCTION BOX, SPECIAL**

This item shall include all materials, labor, and equipment necessary to install the junction box for the 100 mm traffic location surveillance barrier wall duct. The details for the junction box are shown in the plans.

This item shall be paid for at the contract unit price per each for JUNCTION BOX, SPECIAL which price shall include all labor, equipment and material to construct the junction box as shown in the plans.

### **LIGHT POLE FOUNDATION INTEGRAL WITH BARRIER WALL**

This item shall consist of furnishing materials, **equipment** and labor to construct a light pole foundation, in place, integral with the concrete median barrier wall at the locations shown on the plans, as specified herein, and in accordance with Standard 637001 and the applicable sections of the Standard Specifications.

Concrete shall be Class SI complying with Section 1020 of the Standard Specifications. Epoxy coated reinforcement bars shall comply with Article 1006.10 of the Standard Specifications.

Anchor rods shall be **full length** hot-dip galvanized and shall comply with Article 1070.02 of the Standard Specifications. The hook type anchor rod shall be made by hot bending the rod.

Unless otherwise indicated, conduit shall be heavy wall rigid polyvinylchloride (PVC) conduit, (Schedule 40) UL listed and in conformance with Article 1088.01 of the Standard Specifications and Federal Specification WC-1094A. Conduits shall be of the number and size indicated.

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The top portion of the foundation shall be integrated with the barrier wall, as detailed in Standard 637001 and as directed by the Engineer. This portion of the foundation shall be of the same shape as the concrete barrier. Any required sheeting, cribbing, **forms** or other associated work required to complete the foundation work shall be included.

The foundation reinforcement, the conduits, and the anchor rods shall be secured in place to each other and properly positioned in the augured hole so that at time of pouring of concrete mixture in place the above said components retain their proper positions. Special attention shall be given to the positioning of the anchor rods. It is of utmost importance that the anchor rod projections on top of the foundation, after placement of the concrete, remain in a perfectly vertical position.

This work will be measured for payment at the contract unit price per each for LIGHT POLE FOUNDATION INTEGRAL WITH BARRIER WALL, which shall be payment in full for all labor, equipment and material necessary to perform the work specified herein, except the portion of the foundation integrated with the concrete barrier shall be paid for per meter as CONCRETE BARRIER, DOUBLE FACE, 815 MM HEIGHT.

#### **LIGHT POLE, GALVANIZED STEEL, 12.0M. M.H., 2.4M DAVIT ARM-TWIN**

This work shall consist of furnishing and installing steel light poles on proposed foundations that are integral with a proposed median barrier wall as shown in the plans. This work shall be in accordance with Section 830 of the Standard Specifications and the details in the plans **and as modified herein**.

The proposed light pole standard under this pay item shall be installed on the proposed concrete foundations integral with the proposed median barrier wall that is 430mm in width located from Station 38+443 to Station 40+640.

The furnishing and installation of the proposed light poles shall be paid for per the contract unit price EACH for LIGHT POLE, GALVANIZED STEEL, 12.0M. M.H., 2.4M DAVIT ARM-TWIN and shall include all labor, equipment, and materials to complete the installation of the light pole. No additional compensation will be allowed.

#### **LIGHT POLE, GALVANIZED STEEL, 12.0M. M.H., 2.4M DAVIT ARM-TWIN (SPECIAL)**

This work shall consist of furnishing and installing steel light poles on proposed foundations that are integral with a proposed median barrier wall as shown in the plans. This work shall be in accordance with Section 830 of the Standard Specifications and the details in the plans **and as modified herein**.

The proposed light pole standard under this pay item shall be installed on existing foundations in an existing median barrier wall that is 225mm in width located from Station 40+706 to Station 40+961. There are five (5) existing foundations that are to receive the proposed light poles. Per the detail in the plans, a modified base plate to fit a 114.3mm (4 ½") X 368.3mm (14 ½") bolt pattern shall be furnished with the light pole to fit on the existing foundation and accommodate the existing narrow median.

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## LUMINAIRE TESTING

Description: This work shall consist of independent laboratory testing to verify Roadway and Tunnel Luminaires are manufactured and furnished to IDOT according to Section 821 of the Standard Specifications and as modified herein.

Testing: Luminaires shall be tested at a properly accredited and fully certified laboratory approved for each of the required tests. All costs associated with luminaire testing shall be included in the bid price of the luminaire.

Roadway and tunnel luminaires used on the project shall be tested, unless noted otherwise. In addition, each luminaire wattage and distribution within a given luminaire type shall be tested. Only one luminaire for each type, wattage, and distribution shall be tested except, one additional luminaire shall be tested for each quantity of 50 luminaires supplied to the project.

The Contractor shall propose, for approval by the Engineer, testing at either the luminaire manufacturer's test laboratory or an independent test laboratory. The qualifications of the laboratory to perform each of the required tests must be furnished to the Engineer at the time the request is made to select a lab.

In addition, the Contractor shall propose a qualified independent witness, for approval by the Engineer, familiar with the luminaire requirements and test procedures, to witness the required tests. The Contractor shall provide all travel costs for the independent witness to and from the test location for all required testing. The Contractor shall supply documentation to the Engineer of the independent witness' qualifications at the time of request for selection approval.

No luminaires shall be shipped for testing until the Engineer's written approval is received for the approved lab and witness. The Contractor is responsible to find a suitable independent witness and provide advanced notice for travel and testing. No extension of time will be allowed for delays incurred as a result of luminaire testing.

The independent witness shall select from the project luminaires at the manufacturer's facility or at the Contractor's storage facility, the luminaires for testing. In all cases, the selection of luminaires shall be a random selection from the entire completed lot of luminaires required for the contract. Selections from partial lots will not be allowed.

The testing performed shall include photometric and electrical testing. Photometric testing shall be according to IES recommendations and as a minimum, shall yield an isofootcandle chart, with max candela point and half candela trace indicated, an isocandela diagram, maximum plane and maximum cone plots of candela, a candlepower table (house and street side), a coefficient of utilization chart, a luminous flux distribution table, and complete calculations based on specified requirements and test results. **The luminaire's BUG rating shall also be included in the report.**

Electrical testing shall conform to NEMA and ANSI standards and as a minimum, shall yield a complete check of wiring connections, a ballast dielectric test, total ballast losses in watts and percent of input, a lamp volt-watt trace, regulation data, a starter test, lamp current crest factor, power factor (minimum over the design range of input voltage at nominal lamp voltage) and, a table of ballast characteristics showing input amperes, watts and power factor, output volts, amperes, watts and lamp crest factor as well as ballast losses over the range of values required to produce the lamp volt-watt trace.

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**STRINGLINE**  
Eff. 11-27-1991

Rev. 09-01-2006

Some or all of the cold-milling, leveling binder, or hot-mix asphalt binder course on this section is intended as the first step toward establishing the proposed profile grade. In these locations which are shown in the plans, the cold milling and leveling binder or hot-mix asphalt binder course will be controlled by stringline(s) erected, maintained and removed and disposed of by the Contractor.

The cost of providing, erecting, maintaining, removing, disposing of and employing the stringline as the grade control will not be paid for separately but shall be considered as included in the COLD-MILLING, LEVELING BINDER (MACHINE METHOD) or HOT-MIX ASPHALT BINDER COURSE pay item involved.

### **STRUCTURE EXCAVATION, RETAINING WALL**

This work shall be completed according to Section 502 of the Standard Specifications, as detailed in the plans, or as directed by the Engineer.

Included in this work shall be labor, equipment, and materials required to complete the structure excavation for the retaining wall along the bike path at Linden Street.

This work shall be paid for at the contract unit price per cubic meter for STRUCTURE EXCAVATION, RETAINING WALL. No other structure excavation required in this contract will be included in this pay item but will be paid for separately as specified in the contract plans.

### **SURFACE PREPARATION AND PAINTING OF NEW GALVANIZED STEEL POLES**

Description. This specification is for steel light poles to be hot-dip galvanized and painted. The requirements for cleaning and painting new structural steel shall apply to steel light poles according to the applicable portions of Section 506 of the Standard Specifications, except as modified herein.

Materials. All paint materials to be used shall be produced by the same manufacturer. The paint manufacturer and galvanizer shall coordinate work and products to provide a successful coating system. The paint materials selected shall be suitable for an outside environment with exposure to deicing chemicals, salts, and diesel exhaust fumes. Touch-up of the galvanizing and paint system shall be permitted.

Surface Preparation. All exterior surfaces of the twin davit arm poles shall be painted. One exception is the slip joint surfaces which shall not be painted and shall not receive surface preparation after galvanizing. In addition, all surfaces of the pole base plate and handhole cover shall be painted.

Galvanized steel surfaces to be painted shall be clean and free of oil, grease, and other foreign substances. Surface preparation shall include, but not be limited to the following:

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The Tunnel Lighting Control System shall also consist of **an enclosure foundation**, an adjacent Communication Equipment cabinet and all associated equipment. The Communication Equipment cabinet shall house the DSL connection and router to allow interaction with both the Tunnel Lighting Controller and a separate on-site Video Camera Control System (Video Surveillance System). The Contractor shall supply the router and Video Surveillance System connection. The Video Camera Control System is not part of Tunnel Lighting Control System and shall be provided separately.

The communications link shall enable remote interrogation and programming of the connected systems from the IDOT District 5 office. The Tunnel Lighting Control System shall also consist of Supervisory Control and Data Acquisition (SCADA) software needed for remote interrogation and programming, a SCADA PC Workstation, and all necessary programming. The SCADA PC Workstation is to be installed in IDOT's District 5 office.

The Tunnel Lighting Controller shall be certified to comply with the standards of UL/ANSI 508A for industrial control equipment.

The Tunnel Lighting Control System shall be PLC Multipoint T54 based system or approved equal.

### 1.1 LIGHT SWITCHING LEVELS

The Tunnel Lighting Controller shall be capable of independently switching 5 levels of lighting circuits in response to the available daylight. The controller shall be capable of utilizing illuminance sensor input, measured in footcandles (Fc). The following table shows the light level settings corresponding to tunnel illumination.

CONDITION	LEVEL	ON FC	OFF FC	OPERATION
NIGHT	1	50	60	Crossover with Level 2
DAYTIME	2	60	50	Crossover with Level 1
DAYTIME	3	200	180	Additive to Level 2
DAYTIME	4	600	540	Additive to Level 3
DAYTIME	5	10000	8000	Additive to Level 4

### 2.0 ILLUMINANCE SENSOR

The illuminance sensor shall provide analog measurement in Foot-candles. The sensor shall be calibrated to measure from 0 to 3000 Fc. The sensor shall provide a proportional 4-20 milliamp current output to the controller and shall have a measuring range of 0 to 10000 Fc. The range shall be changeable in the field to either ½ or twice the factory settings. Sensor shall be Blue-Enhanced Photo Diode type. The components shall be rated for -20° to 60°C. The sensor shall be housed in thermostatically controlled heated enclosure and be mounted on a roadway lighting pole facing towards each tunnel portal. The heating system shall switch ON at 10°C and OFF at 27°C.

The Contractor shall supply one (1) illuminance sensor that is in addition to illuminance sensors shown in the plans. This additional sensor shall be delivered to the Engineer on the job site to be stored and utilized as a spare.

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The NEMA 3R enclosure shall be lockable and meet the applicable requirements of Section 1074 of the Standard Specifications.

#### 4.1 INTERNAL VOLTAGE

Input power shall be from 480/277VAC 3 phase primary and terminate on the primary buss inside the Tunnel Lighting Controller. A 480/120VAC control transformer shall provide internal 120VAC. The control transformer shall be sized large enough to supply the needs of the entire Tunnel Lighting Control System (both Cabinets) while keeping the operation of the transformer safely below its nameplate rating. This shall include the load contributions from control equipment, convenience receptacles, cabinet heaters, auxiliary lighting, ventilation fans, and all other sources.

A 10A 120VAC/24VDC power supply shall provide low voltage control power at 24VDC. Both transformer and power supply shall have proper overcurrent protection and be appropriately grounded and bonded.

Control power supply shall be appropriately fused with power distributed using correct wire sizing and sized no smaller than 14ga wire. High and low voltage components shall be separated in the enclosure by a barrier.

A 120V dual convenience outlet shall be provided in each cabinet, (**see 6.2 for more details**). **All** 20A receptacle **and auxiliary** circuits shall be appropriately labeled on the panel board in the Tunnel Lighting Control Cabinet. The receptacle in the Tunnel Lighting Control Cabinet shall be labeled "For Programming Use Only".

#### 4.2 PANELBOARD

Two 250A 480Y277 panelboards and main circuit breaker shall be mounted in the Tunnel Lighting Controller cabinet. **The** lighting load shall **consist of** high pressure sodium (HPS) tunnel luminaires fed by 480V circuits protected by 3 pole 20A circuit breakers. Control circuits shall be protected by 1 pole 20A circuit breakers.

#### 4.3 WIREWAY

Internal wireway shall be used to allow for adequate wire routing and organization within the Tunnel Lighting Controller cabinet from feeder panelboards and out to lighting circuits. Wireway shall have sufficient density of slots to allow wiring to pass to terminated devices. 14ga wire shall be used for internal control wiring.

#### 4.4 LIGHTING CONTACTORS

Lighting contactors shall be rated for 600V, 60 HZ, 3 phase, 6 pole operation. Contactors shall be minimally rated for 30A loads. Each contactor shall be fed from multiple branch breakers. The contactor's coils shall be electrically held and operate at 120VAC. The contactors shall have silver alloy double-break contacts. Contactors must accommodate oversize power conductors without wire termination devices such as lugs. Two single pole normally open auxiliary contacts shall be provided for indication and feedback to the Tunnel Lighting Controller.

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#### 4.5 CONTACTOR OPERATORS AND INDICATORS

In addition to the operator interface display, the dead-front operators shall include HAND / OFF / AUTO selector switches. In HAND mode, the associated contactor shall be energized. In OFF mode, the associated contactor shall be de-energized. In AUTO mode, the contactor shall receive control commands from the Tunnel Lighting Controller. Status LEDs confirming contactor status shall be provided and shall be integrated into the HAND/ OFF/ AUTO selector switches. Operator legend and indication nameplates shall be provided.

#### 4.6 TERMINAL BLOCKS

All contactor load wiring shall be connected to terminal blocks at the bottom of the Tunnel Lighting Controller enclosure. A ground terminal shall be installed for each circuit group. All internal grounds shall terminate to a central point ground lug.

#### 4.7 ENCLOSURE FOUNDATION

**The Tunnel lighting Controller cabinet and the Communication Equipment cabinet shall be located on a common foundation. The foundation shall be in accordance with Section 878 of the Standard Specifications and the most recent Standard 878001. The foundation shall be constructed to accommodate the footprint of both cabinets while providing for the applicable dimensions as shown in the standard.**

#### 5.0 SUPERVISORY MONITORING

A Supervisory Control and Data Acquisition (SCADA) software program shall be provided which will be used to monitor the Tunnel Lighting Controller on a SCADA PC Workstation in IDOT District 5 office. The system shall include all the T54 lighting controller outputs and internal registers to present the status of the system and provide control over the lighting. The SCADA PC Workstation shall be capable of executing the output commands to the Tunnel Lighting Controller.

#### 5.1 CONTROL PARAMETERS

The SCADA PC Workstation shall be capable of changing Tunnel Lighting Controller parameters using password protected displays. Each parameter shall be range checked before downloading to the controller.

<u>Parameter</u>	<u>Range</u>
Operation	Night or Contrast
ON/OFF Delay	0-99 minutes
On Setpoint	0-10,000 Fc
Off Setpoint	0-10,000 Fc
Hold On Timer	0-240 Minutes
Hold Off Timer	0-240 Minutes
Stagger	0-120 Seconds

#### 5.2 LIGHTING CONTROL ALARMS

The SCADA PC Workstation shall monitor selected alarm points in the system. These alarm points can be physical inputs, outputs or internally calculated values. Alarms shall have a priority, which shall establish system failure, equipment failure, warnings and normal events. There shall be a color coded sequence to the alarms. The alarm handler shall latch intermittent alarms in the alarm log. Active alarms shall be bright Red and blinking. Acknowledged alarms shall be solid Red. When an alarm returns to normal, the text shall be solid and green. Normal on and off events shall be gray text.

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The communication equipment shall be neatly mounted in the Communication Equipment cabinet adjacent to the Tunnel Lighting Controller. The communication equipment shall include the router with video surveillance camera connection and DSL connection. All equipment shall be neatly organized and permanently labeled. Free space shall be maintained in the other side of the cabinet for future equipment.

## 7.0 EXPERIENCE RECORD

The Contractor shall furnish to the Engineer as part of the shop drawing submittal a reference list from the Tunnel Lighting Control System and SCADA system supplier of successful projects showing at least 5 years of experience using the same system. Each project shall also list the name of a contact person who can verify how the system has performed since it was installed.

## 7.1 START-UP TRAINING

The Contractor shall arrange for a factory authorized technician to perform system start-up including Tunnel Lighting Control System checkout and commissioning. In addition, a minimum of 2 hours of training shall be provided to the system operators and Engineer. The Engineer shall be given 2 weeks advance notice of system start-up and also of when the training shall take place.

An operations manual for the Tunnel Lighting Control System shall be given to the Engineer prior to system start-up. Also the factory authorized technician training shall be recorded and made available to the Engineer on a DVD video file.

## 7.2 WARRANTY

The Tunnel Lighting Control System shall be unconditionally warranted for two years. The Contractor shall convey this warranty in writing to the Engineer at the time shop drawings are submitted.

## 8.0 BASIS OF PAYMENT

The work of furnishing and installing tunnel lighting controller shall be paid for at the contract unit price lump sum for **TUNNEL LIGHTING CONTROL SYSTEM** and shall include all labor, material and equipment necessary to complete the work outlined above including start-up, training, and an unconditional two-year warranty.

## **TUNNEL LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR**

Description. This work shall consist of furnishing and installing a tunnel lighting luminaire according to Sections 821 and 1067 of the Standard Specifications and as shown on the plans, except as modified below.

**The Contractor shall provide all labor, material and equipment necessary to complete the work.**

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**Materials**

**Housing**

**The luminaire shall be gasketed and sealed, UL listed for wet locations and shall have an IEC ingress protection rating of not less than IP55.**

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**Basis of Payment.** This work will be paid for at the contract unit price per each for TUNNEL LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR and shall include all luminaires, conduit, fittings, electric cable, junction boxes, mounting hardware and any other material needed to complete the tunnel lighting system from the first junction box installed on the U.S. 51 structure to all luminaires. No additional compensation will be allowed.

Material utilized from the service installation to the first junction box installed on the U.S. 51 structure “**JB1**” shall be paid for under the respective pay items.

### **TUNNEL LUMINAIRE, 400 WATT, HIGH PRESSURE SODIUM VAPOR**

#### **Description:**

This work shall consist of furnishing and installing a tunnel lighting luminaire according to Sections 821 and 1067 of the Standard Specifications and as shown on the plans, except as modified below.

**The Contractor shall provide all labor,, material and equipment necessary to complete the work.**

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**Materials.**

**Housing.**

**The luminaire shall be gasketed and sealed, UL listed for wet locations and shall have an IEC ingress protection rating of not less that IP55.**

Revised 10/23/2009

**Basis of Payment.** This work will be paid for at the contract unit price per each for TUNNEL LUMINAIRE, 400 WATT, HIGH PRESSURE SODIUM VAPOR and shall include all luminaires, conduit, fittings, electric cable, junction boxes, mounting hardware and any other material needed to complete the tunnel lighting system from the first junction box installed on the U.S. 51 structure to all luminaires. No additional compensation will be allowed.

Material utilized from the service installation to the first junction box installed on the U.S. 51 structure "JB1" shall be paid for under the respective pay items.

### **UNDERPASS LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR**

**Description.** This work shall consist of furnishing and installing a underpass lighting luminaire according to Sections 821 and 1067 of the Standard Specifications and as shown in the plans and as modified herein. **The Contractor shall provide all labor, material and equipment necessary to complete the work.**

**A non-reflective black shield shall be installed above the bike path luminaire to direct the light away from the slopewall and confine it to the bike path.**

#### **Materials.**

##### **Housing.**

**The luminaire shall be gasketed and sealed, UL listed for wet locations and shall have an IEC ingress protection rating of not less than IP55.**

**Basis of Payment.** This work will be paid for at the contract unit price per each for UNDERPASS LUMINAIRE, 150 WATT, HIGH PRESSURE SODIUM VAPOR and shall include all luminaires, conduit, fittings, electric cable, junction boxes, mounting hardware and any other material needed to complete the underpass lighting system from the first junction box installed on the Linden Street structure to all luminaires. No additional compensation will be allowed.

Material utilized from the service installation to the first junction box installed on the Linden Street structure shall be paid for under the respective pay items.

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