

September 14, 2012

SUBJECT: FAP Route 349(US 30) Project F-0349(017) Section 11 WRS-3 Kendall County Contract No. 60I32 Item No. 43. September 21, 2012 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. Replace the Schedule of Prices
- 2. Revised the Table of Contents to the Special Provisions
- 3. Revised pages 2-5, 22-31, 129 & 130 of the Special Provisions
- 4. Revised sheets 1, 2, 4, 6, 27-29, 37, 79, 80, 321, 322, 325 & 456-460 of the Plans.
- 5. Added sheets 325A and 339A to the Plans.

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

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

Very truly yours,

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

Tet Dalachbyon DE.

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

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

dr

C-91-015-10 State Job # -

**Project Number** F-0349/017/

Route

FAP 349

County Name -KENDALL--Code -93 - -District -1 - -

\* REVISED SEPTEMBER 14, 2012

Section Number - 11 WRS-3

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
A2000316	T-ACER MIY MOR 2	EACH	11.000				
A2001316	T-ACER SACCH 2	EACH	6.000				
A2002008	T-AESCUL FLV YSB 2 BB	EACH	10.000				
A2002564	T-CARP CAROL SF 5'	EACH	5.000				
A2004716	T-GLED TRI-I SM 2	EACH	5.000				
A2005556	T-NYSSA SYLVAT CL 6'	EACH	10.000				
A2006516	T-QUERCUS BICOL 2	EACH	3.000				
A2006616	T-QUERCUS IMBR 2	EACH	13.000				
A2008468	T-ULMUS AMER PRINC 2	EACH	3.000				
B2001616	T-CRAT CRU-I TF 2	EACH	31.000				
B2013468	T-MALUS GRDC 2C TF BB	EACH	16.000				
C2C020G3	S-CORNUS STOLO CG 3G	EACH	20.000				
C2C09624	S-SAMBUCUS CANAD 2'C	EACH	25.000				
C2012436	S-VIBURN LENT 3'	EACH	15.000				
REV E20210G1	V-PARTHEN QUIN EM 1G	EACH	2,105.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
K0029634	WEED CONTR PRE-EM GRN	POUND	30.000				
XX000836	PRES TEST & DISINFECT	L SUM	1.000				
XX004622	REM LUMINAIRE SALVAGE	EACH	4.000				
XX004731	CON TO EX WM	EACH	2.000				
*REV X0301423	NOISE AB WALL GRD MT	SQ FT	171,237.000				
X0323003	TEMP ELECT SERV INST	EACH	1.000				
X0324097	COARSE SAND PLACE 2	SQ YD	412.000				
X0326160	POR GRAN EMB SUB SPEC	CU YD	100.000				
X2070304	POROUS GRAN EMB SPEC	CU YD	432.000				
X2080250	TRENCH BACKFILL SPL	CU YD	20.000				
X4021000	TEMP ACCESS- PRIV ENT	EACH	3.000				
X4022000	TEMP ACCESS- COM ENT	EACH	4.000				
X4201000	HES PCC PVT 9 1/2 J	SQ YD	1,739.000				
X4401198	HMA SURF REM VAR DP	SQ YD	285.000				
X5428860	CIP RC END SEC 60 SPL	EACH	1.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
X5538000	SS CLEANED 18	FOOT	222.000				
X5538200	SS CLEANED 24	FOOT	829.000				
X5610712	WATER MAIN REMOV 12	FOOT	225.000				
X5610716	WATER MAIN REMOV 16	FOOT	665.000				
X6020096	MH TA 6D W/2 T1FCL RP	EACH	8.000				
X6024240	INLETS SPL	EACH	1.000				
X6025600	MAN ADJUST SPL	EACH	6.000				
X6026622	VV REMOVED	EACH	2.000				
X6061900	CONC MED TSB6.12 SPL	SQ FT	3,349.000				
X6330705	RUB RAIL	FOOT	244.000				
X6700410	ENGR FLD OFF A SPL	CAL MO	24.000				
X6700600	ENGR FIELD LAB SPL	CAL MO	24.000				
X7010216	TRAF CONT & PROT SPL	L SUM	1.000				
*DEL <del>X7010240</del>	TR CONT SURVEILL SPL	CAL DA	<del>687.000</del>				
X7240500	RELOC EX SIGNS	EACH	1.000				

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Section Number - 11 WRS-3

ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	-	Total Price
		mououro	Quantity	~	Onternee	_	
X8100105	CONDUIT SPLICE	EACH	1.000				
X8210015	TEMP LUM HPSV 400	EACH	5.000				
X8360360	LP F M 15BC 10" X 8'	EACH	2.000				
X8570226	FAC T4 CAB SPL	EACH	1.000				
X8570231	FAC T5 CAB SPL	EACH	1.000				
X8600105	MASTER CONTROLLER SPL	EACH	1.000				
X8620200	UNINTER POWER SUP SPL	EACH	3.000				
X8710024	FOCC62.5/125 MM12SM24	FOOT	2,312.000				
X8730250	ELCBL C 20 3C TW SH	FOOT	1,513.000				
X8772115	ТЕМР МА А 15	EACH	3.000				
Z0004552	APPROACH SLAB REM	SQ YD	131.000				
Z0013798	CONSTRUCTION LAYOUT	L SUM	1.000				
Z0018004	DRAINAGE SCUPPR DS-12	EACH	4.000				
Z0018500	DRAINAGE STR CLEANED	EACH	4.000				
Z0026407	TEMP SHT PILING	SQ FT	1,948.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
Z0030240	IMP ATTN TEMP NRD TL2	EACH	8.000				
Z0030340	IMP ATTN REL NRD TL2	EACH	8.000				
Z0030850	TEMP INFO SIGNING	SQ FT	127.000				
Z0033020	LUM SFTY CABLE ASMBLY	EACH	14.000				
Z0033028	MAINTAIN LIGHTING SYS	CAL MO	6.000				
Z0033056	OPTIM TRAF SIGNAL SYS	EACH	1.000				
Z0046304	P UNDR FOR STRUCT 4	FOOT	355.000				
Z0056644	SS1WATMN 8	FOOT	12.000				
Z0056668	SS 2 WAT MN 12	FOOT	15.000				
Z0062456	TEMP PAVEMENT	SQ YD	27,348.000				
Z0065100	SETTLEMENT PLATFORMS	EACH	5.000				
Z0068200	STEEL CASINGS 30	FOOT	188.000				
Z0073345	SLEEPER SLAB	FOOT	302.000				
Z0073510	TEMP TR SIGNAL TIMING	EACH	3.000				
20100110	TREE REMOV 6-15	UNIT	663.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
2010021	TREE REMOV OVER 15	UNIT	387.000				
2010050		ACRE	0.500				
2010120		EACH	30.000				
2010130	D TREE PRUN 1-10	EACH	20.000				
2010135	TREE PRUN OVER 10	EACH	20.000				
2020010		CUYD	43.640.000				
2020120	REM & DISP UNS MATL	CU YD	48,770.000				
2040080	FURNISHED EXCAVATION	CU YD	21,900.000				
2070022	POROUS GRAN EMBANK	CU YD	180.000				
2080015	TRENCH BACKFILL	CU YD	8,460.000				
2090011	POROUS GRAN BACKFILL	CU YD	26.000				
2100100	GEOTECH FAB F/GR STAB	SQ YD	3,106.000				
2110150	5 TOPSOIL EXC & PLAC	CU YD	8,647.000				
REV 2110164	5 TOPSOIL F & P 12	SQ YD	4,696.000				
2110169	5 TOPSOIL F & P 30	SQ YD	16,451.000				

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Section Number - 11 WRS-3

ltem Number	Pay Item Description	Unit of Measure	Quantity	×	Unit Price	_	Total Price
Rumber	Fay item Description	Measure	Quantity	~	Unit Frice	=	Total Frice
21101805	COMPOST F & P 2	SQ YD	412.000				
21301048	EXPLOR TRENCH 48	FOOT	20.000				
25000210	SEEDING CL 2A	ACRE	18.500				
25000310	SEEDING CL 4	ACRE	2.250				
25000314	SEEDING CL 4B	ACRE	0.750				
25000400	NITROGEN FERT NUTR	POUND	1,906.000				
25000600	POTASSIUM FERT NUTR	POUND	1,906.000				
25000750	MOWING	ACRE	17.000				
25000775	SELECT MOWING STAKES	EACH	8.000				
25100115	MULCH METHOD 2	ACRE	6.500				
25100125	MULCH METHOD 3	ACRE	15.500				
25100630	EROSION CONTR BLANKET	SQ YD	168,620.000				
25100635	HD EROS CONTR BLANKET	SQ YD	9,905.000				
25200110	SODDING SALT TOLERANT	SQ YD	17,850.000				
25200200	SUPPLE WATERING	UNIT	40.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
28000200	EARTH EXC - EROS CONT	CU YD	360.000				
28000250	TEMP EROS CONTR SEED	POUND	10,139.000				
28000305	TEMP DITCH CHECKS	FOOT	1,468.000				
28000400	PERIMETER EROS BAR	FOOT	10,934.000				
28000500	INLET & PIPE PROTECT	EACH	20.000				
28000510	INLET FILTERS	EACH	280.000				
28001000	AGGREGATE - EROS CONT	TON	681.000				
28100105	STONE RIPRAP CL A3	SQ YD	32.000				
28100107	STONE RIPRAP CL A4	SQ YD	22.000				
28100109	STONE RIPRAP CL A5	SQ YD	1,698.000				
28200200	FILTER FABRIC	SQ YD	2,698.000				
30300001	AGG SUBGRADE IMPROVE	CU YD	9,047.000				
30300112	AGG SUBGRADE IMPR 12	SQ YD	102,355.000				
31101200	SUB GRAN MAT B 4	SQ YD	20,854.000				
31101810	SUB GRAN MAT B 12	SQ YD	9,250.000				

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ltem		Unit of					
Number	Pay Item Description	Measure	Quantity	X	Unit Price	=	Total Price
31200502	STAB SUBBASE HMA 4.5	SQ YD	101,522.000				
35102000	AGG BASE CSE B 8	SQ YD	87.000				
35501308	HMA BASE CSE 6	SQ YD	80.000				
35501316	HMA BASE CSE 8	SQ YD	177.000				
40600100	BIT MATLS PR CT	GALLON	22,173.000				
40600895	CONSTRUC TEST STRIP	EACH	4.000				
40600982	HMA SURF REM BUTT JT	SQ YD	312.000				
40603335	HMA SC "D" N50	TON	39.000				
40800050	INCIDENTAL HMA SURF	TON	165.000				
42000411	PCC PVT 9 1/2 JOINTD	SQ YD	77,443.000				
42001300	PROTECTIVE COAT	SQ YD	5,451.000				
42001420	BR APPR PVT CON (PCC)	SQ YD	1,067.000				
42300400	PCC DRIVEWAY PAVT 8	SQ YD	85.000				
42400200	PC CONC SIDEWALK 5	SQ FT	52,998.000				
42400410	PC CONC SIDEWALK 8	SQ FT	605.000				

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Section Number - 11 WRS
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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
42400800	DETECTABLE WARNINGS	SQ FT	207.000				
44000100	PAVEMENT REM	SQ YD	91,143.000				
44000200	DRIVE PAVEMENT REM	SQ YD	528.000				
44000300	CURB REM	FOOT	42.000				
44000400	GUTTER REM	FOOT	66.000				
44000500	COMB CURB GUTTER REM	FOOT	9,550.000				
44000600	SIDEWALK REM	SQ FT	1,607.000				
44003100	MEDIAN REMOVAL	SQ FT	12,954.000				
44004250	PAVED SHLD REMOVAL	SQ YD	4,732.000				
44201773	CL D PATCH T1 11	SQ YD	252.000				
44201777	CL D PATCH T2 11	SQ YD	378.000				
44201781	CL D PATCH T3 11	SQ YD	1,134.000				
44201783	CL D PATCH T4 11	SQ YD	756.000				
48101620	AGGREGATE SHLDS B 10	SQ YD	366.000				
48203021	HMA SHOULDERS 6	SQ YD	320.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
48300410	PCC SHOULDERS 9 1/2	SQ YD	878.000				
50100300	REM EXIST STRUCT N1	EACH	1.000				
50100400	REM EXIST STRUCT N2	EACH	1.000				
50105220	PIPE CULVERT REMOV	FOOT	1,040.000				
50200100	STRUCTURE EXCAVATION	CU YD	432.000				
50300225	CONC STRUCT	CU YD	163.000				
50300255	CONC SUP-STR	CU YD	642.000				
50300260	BR DECK GROOVING	SQ YD	848.000				
50300280	CONCRETE ENCASEMENT	CU YD	16.000				
50300300	PROTECTIVE COAT	SQ YD	1,550.000				
50401005	F & E P P CON I-BM 48	FOOT	1,081.000				
50800205	REINF BARS, EPOXY CTD	POUND	151,380.000				
50800515	BAR SPLICERS	EACH	702.000				
50900105	ALUM RAILING TY L	FOOT	137.000				
50901720	BICYCLE RAILING	FOOT	145.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	Unit Price	=	Total Price
50901750	PARAPET RAILING	FOOT	140.000				
51201800	FUR STL PILE HP14X73	FOOT	754.000				
51202305	DRIVING PILES	FOOT	754.000				
51203800	TEST PILE ST HP14X73	EACH	2.000				
51204650	PILE SHOES	EACH	28.000				
51500100	NAME PLATES	EACH	1.000				
542A1060	P CUL CL A 2 15	FOOT	52.000				
542A5473	P CUL CL A 1 EQRS 18	FOOT	98.000				
5421A018	P CUL CL A 1 18 TEMP	FOOT	57.000				
54213447	END SECTIONS 12	EACH	4.000				
54213450	END SECTIONS 15	EACH	4.000				
54213453	END SECTIONS 18	EACH	1.000				
54213459	END SECTIONS 24	EACH	3.000				
54213465	END SECTIONS 30	EACH	1.000				
54213471	END SECTIONS 36	EACH	2.000				

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ltem Number	Pay Item Description	Unit of Measure	Quantity	x	
54213477	END SECTIONS 42	EACH	1.000		
54214503	PRC FL END S EQ RS 18	EACH	4.000		
54214509	PRC FL END S EQ RS 24	EACH	1.000		
54215430	CIP RC END SEC 30	EACH	1.000		
54215436	CIP RC END SEC 36	EACH	2.000		
54215460	CIP RC END SEC 60	EACH	1.000		
E 400 A 040		FOOT	46.000		

Number	Pay Item Description	Measure	Quantity	x	Unit Price	=	Total Price
54213477	END SECTIONS 42	EACH	1.000				
54214503	PRC FL END S EQ RS 18	EACH	4.000				
54214509	PRC FL END S EQ RS 24	EACH	1.000				
54215430	CIP RC END SEC 30	EACH	1.000				
54215436	CIP RC END SEC 36	EACH	2.000				
54215460	CIP RC END SEC 60	EACH	1.000				
5422A018	P CUL CL A 2 18 TEMP	FOOT	46.000				
5422A024	P CUL CL A 2 24 TEMP	FOOT	5.000				
550A0320	STORM SEW CL A 2 8	FOOT	10.000				
550A0330	STORM SEW CL A 2 10	FOOT	234.000				
550A0340	STORM SEW CL A 2 12	FOOT	4,820.000				
550A0360	STORM SEW CL A 2 15	FOOT	990.000				
550A0380	STORM SEW CL A 2 18	FOOT	1,090.000				
550A0410	STORM SEW CL A 2 24	FOOT	1,683.000				
550A0430	STORM SEW CL A 2 30	FOOT	4,517.000				
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550A0450	STORM SEW CL A 2 36	FOOT	1,331.000				
550A0470	STORM SEW CL A 2 42	FOOT	80.000				
550A0500	STORM SEW CL A 2 60	FOOT	21.000				
550A4000	SS CL A 1 EQRS 18	FOOT	6.000				
550A4900	SS CL A 2 EQRS 24	FOOT	400.000				
550A5100	SS CL A 2 EQRS 30	FOOT	1,075.000				
55100300	STORM SEWER REM 8	FOOT	12.000				
55100500	STORM SEWER REM 12	FOOT	363.000				
55100700	STORM SEWER REM 15	FOOT	169.000				
55101200	STORM SEWER REM 24	FOOT	343.000				
55101800	STORM SEWER REM 42	FOOT	66.000				
55201300	STORM SEWERS JKD 36	FOOT	88.000				
55201800	STORM SEWERS JKD 60	FOOT	84.000				
56100900	WATER MAIN 12	FOOT	300.000				
56101000	WATER MAIN 16	FOOT	756.000				

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56105200	WATER VALVES 12	EACH	2.000				
56105300	WATER VALVES 16	EACH	3.000				
56109434	DI WT MNF 8 90.0 DB	EACH	1.000				
56400300	FIRE HYDNTS TO BE ADJ	EACH	3.000				
56400500	FIRE HYDNTS TO BE REM	EACH	2.000				
56400600	FIRE HYDRANTS	EACH	2.000				
59100100	GEOCOMPOSITE WALL DR	SQ YD	210.000				
59300100	CONTR LOW-STRENG MATL	CU YD	13.000				
60100060	CONC HDWL FOR P DRAIN	EACH	6.000				
60107600	PIPE UNDERDRAINS 4	FOOT	4,132.000				
60108100	PIPE UNDERDRAIN 4 SP	FOOT	126.000				
60218400	MAN TA 4 DIA T1F CL	EACH	5.000				
60218600	MAN TA 4 DIA T4F&G	EACH	3.000				
60219540	MAN TA 4 DIA T24F&G	EACH	66.000				
60221100	MAN TA 5 DIA T1F CL	EACH	16.000				

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### **COMPLETION DATE PLUS WORKING DAYS**

Effective: September 30, 1985 Revised: January 1, 2007

Revise Article 108.05 (b) of the Standard Specifications as follows:

"When a completion date plus working days is specified, the Contractor shall complete all contract items and safely open all roadways to traffic by 11:59 PM on August 31, 2014 + 5 working days except as specified herein.

The Contractor will be allowed to complete all clean-up work and punch list items within 5 working days after the completion date for opening the roadway to traffic. Under extenuating circumstances the Engineer may direct that certain items of work, not affecting the safe opening of the roadway to traffic, may be completed within the working days allowed for clean up work and punch list items. Temporary lane closures for this work may be allowed at the discretion of the Engineer.

No permanent lane closures shall begin until March 1, 2013.

Article 108.09 or the Special Provision for "Failure to Complete the Work on Time", if included in this contract, shall apply to both the completion date and the number of working days.

### MAINTENANCE OF ROADWAYS

Effective: September 30, 1985 Revised: November 1, 1996

Beginning on the date that work begins on this project, the Contractor shall assume responsibility for normal maintenance of all existing roadways within the limits of the improvement. This normal maintenance shall include all repair work deemed necessary by the Engineer, but shall not include snow removal operations. Traffic control and protection for maintenance of roadways will be provided by the Contractor as required by the Engineer.

If items of work have not been provided in the contract, or otherwise specified for payment, such items, including the accompanying traffic control and protection required by the Engineer, will be paid for in accordance with Article 109.04 of the Standard Specifications.

### STATUS OF UTILITIES TO BE ADJUSTED

Effective: January 30, 1987 Revised: July 1, 1994

Utility companies involved in this project have provided the following estimated dates:

				Estimated
				Dates for Start and
				Completion of
Name of	Туре	Passon	Location	Relocation or
Nicor	Relocate 12" high pressure gas	Gas main under noise wall	Sta. 307+00 to	Duration:
	main		Sta. 308+10 LT	Approx. 45
				construction
Nicor	Relocate 12" high pressure gas main	Storm sewer crosses gas main	Sta. 329+10 RT	See above.
Nicor	Relocate 12" high pressure gas main	Storm sewer and end section crosses gas main	Sta. 344+16 RT	See above.
Nicor	Relocate 10" high pressure gas main	Gas Main in conflict with new hand hole for 2" traffic signal conduit.	Sta. 207+46 RT	See above.
Nicor	Relocate 10" high pressure gas main	Gas Main in conflict with new 2" traffic signal conduit.	Sta. 207+46 to Sta. 209+84.46 RT	See above.
Nicor	Adjust existing carsonite marker with ETS	carsonite marker under temporary widened pavement	Sta. 209+84.46 40.83' RT	See above.
Nicor	Adjust existing 12" gas valve	gas valve under new pavement	Sta. 210+07.95 32.96' RT	See above.
Nicor	Adjust existing carsonite marker with ETS	carsonite marker under temporary widened pavement and new pavement	Sta. 210+12 41.25 RT	See above.
Nicor	Adjust existing carsonite marker	carsonite marker under temporary widened pavement and new curb and gutter	Sta. 211+24.05 54.36 RT	See above.
Nicor	Adjust existing carsonite marker	carsonite marker under temporary widened pavement and new curb and gutter	Sta. 211+43 37.64' RT	See above.
Nicor	Adjust existing gas valve	gas valve under new widened pavement	Sta. 211+46.51 40.68' RT	See above.
Nicor	Adjust existing carsonite marker	carsonite marker under temporary widened pavement and behind new back of curb grading	Sta. 212+17.90 39.25' RT	See above.
Com Ed	Releaste underground electric	conflict with poise wall	Sta 217,00 to	Duration:
Com Eu	line		Sta. 323+00 RT	Approx. 25 construction days.
Com Ed	Relocate underground electric line	conflict with noise wall and ditch cuts	Sta. 335+00 to Sta. 352+83 RT	See above.
Com Ed	Relocate underground line	conflict with ditch cut	Sta. 355+00 to Sta. 355+57 RT	See above.
Com Ed	Raise existing aerial lines next to the proposed street lighting poles per IDOT's requirements.	Conflict with street lighting poles and mast arms	Sta. 355+50 to 365+55 LT	See above.
Com Ed	Raise existing aerial lines next to the proposed street lighting poles per IDOT's requirements.	Conflict with street lighting poles and mast arms	Sta. 355+76 RT to Sta. 355+76 LT	See above.
Com Ed	Relocate power pole	conflict with back of curb	Sta. 358+70 67 RT	See above.
Com Ed	Remove stub pole	conflict with back of curb	Sta. 358+71 64 RT	See above.

				Contract 60152
Com Ed	Remove guy wire	Conflict with noise abatement wall	Sta. 353+88 LT	See above.
Com Ed	Remove power pole	Conflict with noise abatement wall	Sta. 354+11 LT	See above.
ComEd	Relocate Aerial Line	Conflict with noise abatement wall	Sta. 354+11 to Sta. 354+81 LT	See above.
Com Ed	Relocate power pole	conflict with sidewalk	Sta. 358+82 59' LT	See above.
Com Ed	Relocate power pole	conflict with back of curb	Sta. 359+90 60' RT	See above.
Com Ed	Cable crossing	south ditch cut	Sta. 372+62 RT & LT	See above.
Com Ed	Relocate underground 50' underground line	conflict with proposed traffic signal	Sta. 373+60 RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 379+74 63' RT	See above.
Com Ed	Adjust electric line crossing	conflict with new ditches	Sta. 412+73 RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 414+38 59' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 416+56 58' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 418+20 57' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 419+48 58' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 420+88 58' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 422+81 58' RT	See above.
Com Ed	Relocate underground 150' underground line	conflict with ditch cut	Sta. 422+81 to Sta. 423+85 59' RT	See above.
Com Ed	Relocate underground 100' underground line	conflict with ditch cut	Sta. 423+58 to Sta. 424+76 61' RT	See above.
Com Ed	Relocate power pole	conflict with ditch cut	Sta. 424+76 59' RT	See above.
Com Ed	Rebuild as alley/south	conflict with primary wire clearance	Sta. 428+58 59' RT	See above.
Com Ed	Rebuild as alley/south	conflict with primary wire clearance	Sta. 430+55 59' RT	See above.
Com Ed	Rebuild as alley/south	conflict with primary wire clearance	Sta. 432+45 59' RT	See above.
Com Ed	Rebuild as alley/south	conflict with primary wire clearance	Sta. 434+36 58' RT	See above.
Com Ed	Relocate underground line	Conflict with street lighting foundation	Sta. 211+60 RT	See above.
	Delegate undergravited	conflict with paics well	Sto. 211:02 to	Duration
AIĞI	telephone cable		Sta. 311+02 to Sta. 313+08 LT	Approx. 60 construction days.
AT&T	Adjust manhole	conflict with ditch grading	Sta. 322+25 LT	See above.
AT&T	Adjust manhole	conflict with ditch grading	Sta. 331+43 LT	See above.
AT&T	Relocate underground telephone cable	conflict with ditch grading	Sta. 339+00 to Sta. 351+00 LT	See above.
AT&T	Relocate underground telephone cable	conflict with ditch grading, end section, and 60" storm sewer	Sta. 344+25 LT	See above.

				Contract 60132
AT&T	Relocate manhole	conflict with ditch grading	Sta. 340+63 LT	See above.
AT&T	Adjust manhole	conflict with ditch grading	Sta. 349+80 LT	See above.
AT&T	Adjust manhole	conflict with new	Sta. 359+03 LT	See above.
		reconstructed pavement		
AT&T	Relocate and abandon	conflict with noise wall	Sta. 307+00 to	See above.
	underground telephone cable		Sta. 313+09 RT	
AT&T	Relocate and abandon	conflict with noise wall	Sta. 315+18 to	See above.
	underground telephone cable		Sta. 352+83 RT	
AT&T	Relocate telephone pedestal	conflict with noise wall	Sta. 313+09 RT	See above.
AT&T	Relocate telephone pedestal	conflict with noise wall	Sta. 315+18 RT	See above.
AT&T	Relocate and abandon	conflict with manhole	Sta. 329+18 RT	See above.
	underground telephone cable			
AT&T	Relocate telephone pedestal	conflict with noise wall	Sta. 336+18 RT	See above.
AT&T	Relocate and abandon	conflict with ditch grading	Sta. 344+10 RT	See above.
	underground telephone cable	5 5		
AT&T	Relocate telephone pedestal	conflict with noise wall	Sta. 347+60 RT	See above.
AT&T	Remove manhole	conflict with ditch grading	Sta. 354+82 RT	See above.
AT&T	Relocate underground	conflict with ditch grading	Sta. 369+26 to	See above.
	telephone cable	3	373+05 RT	
AT&T	Relocate telephone pedestal	Conflict with traffic signals	Sta. 373+50 RT	See above.
		and sidewalk		
AT&T	Relocate underground	conflict with storm sewer and	Sta. 209+30 to	See above.
	telephone cable	structures	209+85 LT	
AT&T	Adjust manhole	conflict with new	Sta. 209+95 LT	See above.
	,	reconstructed pavement		
AT&T	Relocate underground	conflict with new	Sta. 208+90 to	See above.
	telephone cable	reconstructed pavement	Sta. 213+20 LT	
COMCAST	Relocate underground cable	conflict with noise wall and	Sta. 316+56 to	Duration:
	television cable	ditch grading	Sta. 323+35 RT	Approx. 55
				construction
				days.
COMCAST	Relocate cable television	conflict with noise wall	Sta. 319+14 RT	See above.
	pedestal			
COMCAST	Relocate cable television	conflict with noise wall	Sta. 322+07 RT	See above.
	pedestal			
COMCAST	Relocate cable television	conflict with noise wall	Sta. 323+40 RT	See above.
	pedestal			
COMCAST	Relocate underground cable	conflict with noise wall	335+00 to	See above.
	television cable		352+08 RT	
COMCAST	Relocate underground cable	conflict with noise wall	Sta. 335+00 to	See above.
	television cable		Sta. 352+83 RT	
COMCAST	Relocate underground cable	conflict with ditch grading	Sta. 344+10 RT	See above.
	television cable			
COMCAST	Relocate telephone pedestal	conflict with noise wall	Sta. 347+60 RT	See above.
COMCAST	Relocate cable television	conflict with ditch grading	Sta. 385+14 RT	See above.
	pedestal			

The above represents the best information available to the Department and is included for the convenience of the bidder. The applicable portions of Articles 105.07 and 107.31 of the Standard Specifications shall apply under their specific pay items.

"603.07 Protection Under Traffic. After the casting has been adjusted and the Class PP concrete has been placed, the work shall be protected by a barricade and two lights according to Article 701.17(e)(3)b."

# COARSE AGGREGATE FOR BACKFILL, TRENCH BACKFILL AND BEDDING (D-1)

Effective: November 1, 2011

This work shall be according to Section 1004.05 of the Standard Specifications except for the following:

Reclaimed Asphalt Pavement (RAP) maybe blended with gravel, crushed gravel, crushed stone crushed concrete, crushed slag, chats, crushed sand stone or wet bottom boiler slag. The RAP materials shall be crushed and screened. Unprocessed RAP grindings will not be permitted. The RAP shall be uniformly graded and shall pass the 1.0 in. (25 mm) screen. When RAP is blended with any of the coarse aggregate listed above, the blending shall be done mechanically with calibrated feeders. The feeders shall have an accuracy of  $\pm$  2.0 percent of the actual quantity of material delivered. The final blended product shall not contain more than 40 percent by weight RAP.

The coarse aggregate listed above shall meet CA 6 and CA 10 gradations prior to being blended with the processed and uniformly graded RAP.

# CONCRETE NOISE ABATEMENT WALLS (ABSORPTIVE AND REFLECTIVE) (DIST 1)

Effective: September 5, 2008 Revised: January 12, 2011

This work shall consist of furnishing the design, shop drawings, materials, post anchorage, and construction of noise abatement walls (noise walls) according to these special provisions, the contract plans, and and/or as directed by the Engineer.

<u>General.</u> The noise abatement walls shall consist of panels spanning between vertical posts supported by concrete foundations (ground mounted) or attached to/supported by another structure (structure mounted) as shown on the plans. The design, material, fabrication and construction shall comply with this Special Provision and the requirements specified by the noise wall supplier selected by the Contractor for use on this project. The walls shall have no omissions or gap except as detailed.

The Contractor shall verify the locations for proposed ground mounted wall for conflicts and realign or redesign the wall to avoid any conflicts. The Contractor shall inform the Engineer in writing of any conflicts before realigning or redesigning the wall.

Post spacing shall avoid existing and proposed underground utilities and storm sewers.

Wall components shall be fabricated and erected to produce a precast concrete reflective noise wall system and/or an absorptive noise reduction system at the locations indicated herein. The noise reduction system shall satisfy the acoustical requirements stated in these special provisions. An absorptive noise reduction system may be used as an alternate to a reflective noise wall system. Wooden walls will not be allowed as substitutes.

All appurtenances behind, in front of, under, over, mounted upon, or passing through, such as drainage structures, fire hydrant access, highway signage, emergency access, utilities, and storm sewers, shall be accounted for in design of the wall.

<u>Submittals.</u> The Contractor shall prepare a wall and foundation design submittal and submit to the Engineer; the Department's Bureau of Bridges and Structures will review the submittal for approval. The noise walls shall be designed and constructed to extend to the minimum lines, grades, and dimensions of the wall envelope, with no omissions or gaps, as shown on the contract plans and as directed by the Engineer.

Complete design calculations for wall panels, posts, foundations, and all connections and shop drawings shall be submitted to the Department for review and approval no later than 90 days prior to beginning construction of the wall. The time required for the preparation and review of these submittals shall be charged to the allowable contract time. Delays caused by untimely submittals or insufficient data will not be considered justifications for any time extensions. No additional compensation will be made for any additional material, equipment or other items found necessary to comply with the project specifications as a result of the Engineer's review. The Contractor will be required to submit the necessary shop drawings. All submittals shall be signed and sealed by a Structural Engineer licensed in Illinois and include, but not be limited to, the following items:

Submittals shall include all details, dimensions, quantities, and cross sections necessary for the construction of the noise abatement walls and will include but not be limited to:

- (1) A plan view of the wall indicating the stations and offsets required to locate the drilled shaft foundations. The proposed foundation diameter(s) and spacing(s) shall be indicated with all changes to the horizontal alignment shown. Each panel and post shall be numbered and any changes in type or size shall be noted. The centerline of any utilities passing under the wall and locations of expansion joints, access doors, lighting, signing, curb cuts, and drainage structures shall also be shown.
- (2) An elevation view of the wall, indicating the elevations of the top of the posts and panels as well as the elevations of the bottom of the panels, tops of the shaft foundations, all steps in wall system, the finished grade line, and vertical clearances to existing utilities and storm sewers. Each post size and length, panel type and size, and foundation depth shall be designated.
- (3) A typical cross section(s) that shows the panel, post, foundation or bridge parapet, and the elevation relationship between existing ground conditions and the finished grade as well as slopes adjacent to the wall.
- (4) All general notes required for constructing the wall.
- (5) All details for the steps in the bottom of panels shall be shown. The bottom of the panels shall be located at or below the theoretical bottom of panel line shown on the contract plans. The theoretical bottom of panel line is assumed to be 8 in. (200 mm) below the finished grade line at front face of the wall for ground mounted noise walls and at the top of the structure for structure mounted noise walls, unless otherwise shown on the contract plans.

- (6) Tops of the panels and posts shall extend to or above the theoretical top of wall line shown on the contract plans. All panel tops shall be cast and placed horizontally with any changes in elevation accomplished by stepping adjacent panel sections at posts. Steps shall not exceed 1 ft. (300 mm) in height, except within the last 50 ft. (15 m) where 2 ft. (600 mm) steps will be permitted.
- (7) All panel types shall be detailed. The details shall show panel orientation, all dimensions necessary to cast and fabricate each type of panel, the reinforcing steel, and location of post or foundation connection hardware as well as lifting devices embedded in the panels and posts. The Noise Reduction Coefficient (NRC) of each panel of the absorptive face shall be noted.
- (8) All post types shall be detailed. The details shall show all dimensions necessary to cast and/or fabricate each type of post, the reinforcing steel, connecting plates, and anchorage details. Post spacing for walls shall be limited to a distance that does not over stress the supporting structure.
- (9) Details of wall panels with appurtenances attached to or passing through the wall, as shown on the contract plans, such as utilities, emergency access doors, framed openings, drainage structures, signs, etc. shall be shown. Any modifications to the design or location of these appurtenances to accommodate a particular system shall also be submitted.
- (10) All architectural panel treatment, including color, texture, and form liner patterns shall be shown. All joints shall be placed horizontal or vertical.
- (11) The details for the connection between panels and posts as well as their connection to the foundation, independent beam, retaining wall, and/or bridge parapet shall be shown. Foundation details including details showing the dimensions, reinforcement and post anchorage system for the drilled shaft foundations shall be shown.
- (12) Testing, certifications and reports from independent laboratories showing that the panel's sound Transmission Loss (TL) and NRC for the panel and post deflection satisfy the criteria shown in the design criteria section of this specification. The testing for the flame spread, smoke density and freeze-thaw/salt scaling requirements described in the materials section of this specification shall also be submitted.
- (13) Manufacturer recommended installation requirements, a sequence of construction and a detailed bill of materials shall be included.
- (14) The color of the wall panels and support posts identified by Federal Standard 595-B color number.

The Contractor shall deliver to the Department, attention Mr. Rick Wanner (847-705-4172), a 2 ft x 2 ft (600 mm x 600 mm) sample of the colors, textures and patterns proposed for use on the project for approval. The samples must be made at the same plant that will be making the product for the noise walls under this contract and be representative of those which will be tested per this specification. Once the color sample is approved, a batch shall be designated by batch number and date and will remain the standard for the entire project.

The Contractor shall submit site access plans showing access and limits of the work areas for the installation of the wall. Any required traffic controls shall be according to the requirements in Revised 9/14/12

the special provision for TRAFFIC CONTROL PLAN.

The initial submittal shall include three (3) sets of shop drawings and calculations. One set of drawings will be returned to the Contractor with any corrections indicated. The Contractor shall do no work or ordering of materials for the structure until the Engineer has approved the submittal.

<u>Design Criteria</u>. The wall system shall be designed to withstand wind pressure, applied perpendicular to the panels in either direction, according to the AASHTO <u>Guide Specifications</u> for Structural Design of Sound Barriers, 1989 and interims. The concrete and steel components shall be designed according to the AASHTO Standard Specifications for Highway Bridges with a design life of 35 years unless otherwise noted. The wall system shall be designed to withstand active earth pressure and live load surcharge at locations indicated on the plans. The Contractor shall be responsible for the structural adequacy of the panels, posts, foundations, and connections as well as overall wall overturning stability. Prestressed and/or post tensioned panel concepts will not be permitted.

The design wind loading shall be as specified on the plans but not less than 35 psf  $(1.7 \text{ kN/m}^2)$  when located on bridge structures, retaining walls or traffic barriers. This loading can be reduced to 25 psf  $(1.2 \text{ kN/m}^2)$  for ground mounted walls where it is located more than a distance equal to the height of the wall away from the edge of pavement. When a sound wall is also required to support earth pressures, the service design active earth pressure shall be based on an equivalent fluid pressure of 40 pounds per cubic foot (641 kg/m<sup>3</sup>) and a live load surcharge pressure equal to not less than 2 ft (600 mm) of earth pressure. The earth pressure fill height shall be defined by the proposed grade line elevation and the theoretical bottom of panel line. For structure mounted noise walls, the dead weight must not exceed 55 psf (2.6 kPa) of wall face area.

For ground mounted walls, reinforcement of the concrete foundation shafts shall consist of a minimum of 8-#5 (#15) vertical bars symmetrically placed and tied with #3 (#10) ties at 6 in. (150 mm) centers. An additional tie shall be provided at the top and bottom of the foundation. As an alternative to the ties, a #3 (#10) spiral at a 6 in. (150 mm) pitch with an additional 1 1/2 turns at the top and bottom of the foundation or an equivalent  $4 \times 4$ –W12.3 x W7.4 welded wire fabric may be substituted. The post shall be connected to the foundation by embedding the post inside the concrete foundation shaft. Embedded posts shall extend into the foundation shafts a minimum of 80 percent of the shaft length. The posts may alternatively be mounted to the foundation shafts with base plates and anchor bolts as required by design. The minimum number of anchor bolts per post shall be 4-1 in. (M24) diameter bolts with a minimum embedment of 18 in. (450 mm).

The material and construction of the foundations (drilled shafts) for ground mounted noise walls shall be according to Section 516 except that the payment for the drilled shaft and reinforcement will be included with the payment for the NOISE ABATEMENT WALL, GROUND MOUNTED.

The shaft foundation dimensions shall be determined using Broms method of analysis. Soil borings from prior soil investigations are shown in the plans. The design shall utilize a factor of safety of 2.0, applied to the soil shear strength if cohesive or the unit weight if granular, and account for the effects of a sloping ground surface and water table indicated on the plans. The following should be assumed for the foundation design:

Effective unit weight Internal friction angle Cohesion intercept 70 pcf (1120 kg/m<sup>3</sup>) 30 degrees 0 ksf (0 kg/m<sup>3</sup>)

The post spacing for structure mounted noise walls shall be as shown on the plans but in no case greater than 15 feet (4.6 m) center to center. Except where otherwise indicated on the plans, the maximum post spacing for ground mounted noise walls shall be as specified in the Contractor's approved design.

The maximum allowable panel deflection shall be no more than the panel length (L) divided by 240 (L/240). The vertical posts shall have a maximum deflection of (H/180) where H is the height of the post above the foundation. A lateral load report shall be submitted to the Engineer indicating that the above noted design lateral loads can be applied to the panels and/or posts without exceeding noted deflection tolerance. The test shall apply lateral loads to the panel simulating uniform wind pressure.

The design shall account for the presence of all appurtenances mounted on or passing through the wall such as drainage structures, existing or proposed utilities, emergency access doors and other items.

Corrugations, ribs, or battens on the panel must be oriented vertically when erected. The panels shall be designed to prevent entrapment and ponding of water. The walls shall not have openings allowing the perching or nesting of birds or the collection of dirt, debris or water.

The walls shall not have handholds or grips promoting climbing of the walls. Any bolts or fasteners used to connect material to the supporting panel, posts, or foundations shall be recessed or embedded in concrete, hidden from view and weather exposure. No external mechanical fastening devices such as frames or clips shall be used for these connections. The post to foundation connection shall utilize a corrosion protection system that is designed to last 75 years.

The noise abatement material shall be designed to achieve a sound TL equal to or greater than 20 dB in all one-third octave bands from 100 hertz to 5000 hertz, inclusive, when tested according to ASTM E-90. The sound absorptive material shall have a minimum NRC as indicated in Table 1.

Table	1
-------	---

Noise Wall No.	From	То	Noise Wall Side	NRC*	Comments
North Noise Wall #1	307+00	344+10	Highway	Absorptive - 0.80	Contractor may elect to
	307+00	344+10	Residential	Reflective	absorptive
North Noise Wall #2	343+35	345+15	Highway	Absorptive- 0.80	
	343+35	345+15	Residential	Absorptive- 0.65	
North Noise Wall #3	344+40	348+54	Highway	Absorptive- 0.80	Contractor may elect to
	344+40	348+54	Residential	Reflective	absorptive
South Noise Wall #1	307+00	343+50	Highway	Absorptive - 0.80	Contractor may elect to
	307+00	343+50	Residential	Reflective	absorptive
South Noise Wall #2	342+89	346+61	Highway	Absorptive - 0.80	
	342+89	346+61	Residential	Absorptive - 0.65	
South Noise Wall #3	346+00	352+08	Highway	Absorptive - 0.80	Contractor may elect to
	346+00	352+08	Residential	Reflective	absorptive

\* For the side of the wall specified as reflective, no minimum NRC is required.

The NRC shall be determined per ASTM E795, tested according to ASTM C423 (mounting type A). The ratio of noise absorptive material on the panel surface to total wall area (including posts) shall be greater than 90 percent. NRC testing shall be performed on coated samples, utilizing the stain that will be applied for color.

<u>Access Doors</u>. All access doors shall be designed to fit within the design of the noise wall as shown on the plans. Doors shall be complete with hardware and locking devices. Each door shall provide a 3 ft (0.9 m) wide by 7 ft (2.1 m) high minimum clear access opening. Both door jambs shall be securely fastened to anchored posts. Front and back face of the installed door shall be flush with the faces of the noise wall.

Perimeter and internal door frame shall consist of welded hot dip galvanized steel channels and miscellaneous angle stiffeners and plates designed to provide support for noise wall panels to match the noise wall material as specified in this special provision. Infill noise panel geometry and color shall match the adjacent noise wall panels. Noise wall panels shall be fastened to steel frames as per panel manufacturer's recommendations. The door, jambs, head, hinges, door appurtenances, and adjacent ground mounted posts shall be designed to withstand the wind pressure of 25 psf (122 kg/m<sup>2</sup>) with the door in fully open and fully closed positions and

support the weight of the door and a 300 lb (136 kg) vertical load on the non-hinged side of the door. Provide steel bracing as required. Door bottom shall be equipped with drainage holes to avoid accumulation of trapped moisture.

Door jambs and head section shall be hot dip galvanized steel. Door hinges shall be barrel type, edge mount, extra heavy-duty, hot dip galvanized steel or stainless steel. The hinges shall be designed to support the weight of door assembly, wind loads on the open door, and a 300 lb (136 kg) vertical load on the non-hinged side of the door.

Door pulls shall be provided on both sides of access door(s). Door locking hardware shall be hasp-type to be used with a padlock and shall be located according to local fire department or ComEd requirements as applicable. A solid steel Knox-Box shall be provided and mounted near the hasp location at the steel post on the locking hardware side of door. The Knox-box for emergency access doors shall be according to local fire department requirements. The Knox-box for access door at the Dynamic Messaging Sign (DMS) shall be according to ComEd requirements.

Doors shall be equipped with lifting bolts or beams as required for safe lifting of door units.

<u>Materials.</u> Noise wall materials shall conform to the supplier's standards, AASHTO Specifications for noise walls, and the following:

- (a) Reinforcement bars shall satisfy ASTM A706 Grade 60 (400). Welded wire fabric shall be according to AASHTO M 55.
- (b) Anchor bolts shall conform to ASTM F1554 Grade 55 or 105.
- (c) The precast elements shall be according to applicable portions of Section 1042 (Exception: Coarse Aggregate shall meet the requirements of Article 1004.02(f)). Additionally, dry cast concrete element will not be permitted. Wooden or steel materials will not be allowed as substitutes for the panels.
- (d) For sound absorptive panels, the manufacturer shall provide test information from an independent lab that the panels are durable. This information shall be either a freeze/thaw test according to AASHTO T 161 (ASTM C 666) Procedure A or B, or it shall be a salt scaling test according to ASTM C 672.

For the freeze/thaw test, a minimum of three specimens shall have been tested. The maximum weight (mass) loss after 300 cycles shall be 7.0 percent. The panel shall have no cracks, delamination (applies to composite material panel), or other excessive physical distress upon completion of the test.

For the salt scaling test, the test method shall be modified as outlined in Appendix D of the Guidelines for Evaluating the Performance of Highway Sound Barriers by the Highway Innovative Technology Evaluation Center (HITEC), A Service Center of the Civil Engineering Research Foundation, CERF REPORT: HITEC 96-04, Product 24 (October 1996). The maximum weight (mass) loss after 50 cycles using a 3 percent sodium chloride solution shall be 0.2 psf (0.1 kg/m<sup>2</sup>). The panel shall have no cracks, delamination (applies to composite material panel), or other excessive physical distress upon completion of the test.

For sound reflective panels, evidence of durability by one of the two previously mentioned tests is required for all materials except Class PC concrete.

- (e) The manufacturer for the noise abatement wall shall provide their quality control plan for testing the product, and test results shall be provided upon request by the Engineer. Manufacturers on the Approved List of Certified Precast Concrete Producers who are approved for noise abatement walls will be considered in compliance with this requirement.
- (f) Steel plates and posts shall conform to AASHTO M 270 (M 270 M) Grade 36 (250) or 50 (345). All portions of the post shall be galvanized according to AASHTO M111 and ASTM A385. Steel bolts, nuts, washers, and anchor bolts shall be galvanized according to AASHTO M232. The portion of steel posts exposed to view shall then be painted with a paint system in the shop according to the special provision for Surface Preparation and Painting of Galvanized Steel Traffic Structures. The cost for Surface Preparation and Painting of Galvanized Steel Traffic Structures shall be included in the contract unit price for NOISE ABATEMENT WALL of the type required. The color of the paint system shall closely match the panels.
- (g) Lifting inserts cast into the panels shall be hot dipped galvanized.
- (h) Non shrink grout shall be according to Article 1024.
- (i) The color of both sides of the panels, posts and other visible elements shall be a light brown earth tone unless stated otherwise on the contract plans. Colors shall be achieved through the use of integral pigments or stains, which are in compliance with the environmental regulation of the State of Illinois. Components manufactured with integral pigment shall be tested and certified in conformance to ASTM C979. Stains shall be non film forming, penetrating stains. Stains shall be applied to concrete at the cured age of the manufacturer's recommendation. Surface preparation and application shall be according to manufacturer written recommendations. Coloring of concrete elements shall be accomplished using a single component water based, sound absorptive, penetrating, architectural stain that is weather resistant. Stains and/or pigments must be applied at the manufacturing plant; application in the field on site will not be allowed. The final color shall be consistent with the quality and appearance of the approved sample.
- (j) The finish shall consist of a rolled Ashlar Stone finish and shall have a minimum 0.75 in (19 mm) impression.
- (k) With the exception of the steel and Portland cement concrete elements of the wall, all materials shall be tested for flame spread and smoke density developed according to ASTM E84. The material must exhibit a flame-spread index less than 10 and a smoke density developed value of 10 or less.

<u>Fabrication</u>. All precast units shall be manufactured according to Section 504 and the following requirements and tolerances with respect to the dimensions shown on the approved shop drawings.

- (a) The minimum reinforcement bar cover shall be 1 1/2 in (40 mm).
- (b) All reinforcement shall be epoxy coated
- (c) Panel dimensions shall be within 1/4 in (6 mm).
- (d) All hardware embedded in panels or posts shall be within 1/4 in (6 mm).

- (e) Angular distortion with regard to panel squareness, defined as the difference between the two diagonals, shall not exceed 1/2 in (13 mm).
- (f) Surface defects on formed surfaces measured on a length of 5 ft (1.5 m) shall not be more than 0.10 in (2.5 mm).
- (g) Posts shall be installed plumb to within 1/2 in (13 mm) of vertical for every 15 ft (5 m) of height and to within 1/2 in (13 mm) of the station and offset indicated on the approved shop drawings.
- (h) Drilled shaft foundations shall be placed within 2 in (50 mm) of the station and offset indicated on the approved shop drawings.
- (i) Panel reinforcement and lifting devices shall be set in place to the dimension and tolerances shown on the plans and these special provisions prior to casting.

The date of manufacture, the production lot number, and the piece-mark shall be clearly noted on each panel.

Absorptive material shall be permanently attached to their supporting elements and no external mechanical fastening systems such as frames or clips shall be used. Any bolts or fasteners used shall be recessed or embedded below the surface.

The panels, posts and other visible elements shall be fabricated with a light brown earth tone color following the procedures noted in the materials section of this special provision unless otherwise shown on the contract plans.

Any chipping, cracks, honeycomb, or other defects, to be allowed, shall be within acceptable standards for precast concrete products according to Section 1042.

<u>Construction</u>. The Contractor shall obtain technical assistance from the supplier during wall erection to demonstrate proper construction procedures and shall include any costs related to this technical assistance in the contract unit price for Noise Abatement Wall of the type specified. The instructions provided by the wall supplier are guidelines and do not relieve the contractor of the responsibility to adhere to contract requirements.

It is recommended that all bottom panels be installed for a length of wall prior to placing middle or top panels. After bottom panels are in-place, finish grading can be accomplished with heavy equipment by reaching over the in-place panels.

Site excavations and/or fill construction shall be completed to plan elevations and profiles prior to the start of wall foundation construction. All underground utility or drainage structure installation shall be completed prior to foundation installation. The ground elevations as shown on the plans and the approved noise wall shop drawings shall be verified by the contractor and discrepancies corrected prior to material fabrication. Buried utilities shall be marked to verify proper clearance from the drilled foundations. The Contractor should consider overhead obstruction such as electric and telephone wires prior to wall erection.

For ground mounted walls, if the soils encountered during drilling of the foundations do not satisfy the design strengths shown on the contract plans, the Engineer shall be notified to evaluate the required foundation modifications. The shaft foundation will normally require additional length, which may be paid separately under Article 104.03. All drilled shaft excavations shall be filled with concrete within 6 hours of their initiation. The concrete for the drilled shaft foundations shall be placed against undisturbed, in-place soils. The concrete at the top of the shaft shall be shaped to provide the panels on each side of the post adequate bearing area and correct elevation per the approved shop drawings.

The panels shall be delivered to the project site in full truckload quantities. They may be offloaded individually or by forklift with a solid steel plate spanning between the forks. Providing uniform, fully distributed bearing support to the underside of the panels. Units shall be shipped, handled and stored in such a manner as to minimize the danger of staining, chipping, spalling, development of cracks, fractures, and excessive bending stresses. Panels shall be stored and shipped in bundles, on edge. Any touch up and repair is at the Contractor's expense and shall be carried out according to the manufacturer's recommendations or as directed by the Engineer.

<u>Method of Measurement</u>. Noise abatement walls will be measured in square feet (square meters) from the wall envelope, defined by the theoretical top of wall line to the theoretical bottom of panel line for the length of the wall (ground mounted or structure mounted) as shown on the contract plans.

Basis of Payment. This work will be paid for at the contract unit price per square foot (square meter) for NOISE ABATEMENT WALL, GROUND MOUNTED and/or NOISE ABATEMENT WALL, STRUCTURE MOUNTED.

Drilled shafts, concrete, reinforcement bars and other elements for structures supporting NOISE ABATEMENT WALL, STRUCTURE MOUNTED will not be paid for under this item, but will paid as specified elsewhere under their specific pay items.

### **EMBANKMENT I**

Effective: March 1, 2011

<u>Description</u>. This work shall be according to Section 205 of the Standard Specifications except for the following.

<u>Material</u>. All material shall be approved by the District Geotechnical Engineer. The proposed material must meet the following requirements.

- a) The laboratory Standard Dry Density shall be a minimum of 90 lb/cu ft (1450 kg/cu m) when determined according to AASHTO T 99 (Method C).
- b) The organic content shall be less than ten percent determined according to AASHTO T 194 (Wet Combustion).
- c) Soils which demonstrate the following properties shall be restricted to the interior of the embankment and shall be covered on both the sides and top of the embankment by a minimum of 3 ft (900 mm) of soil not considered detrimental in terms of erosion potential or excess volume change.

- The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions defined in Environmental Requirements and Wattage Sections shall be of a minimum value of 100 cd/m<sup>2</sup>.
- 2. The manufacturer shall make available independent laboratory test results to verify compliance to Voltage Range and Luminous Intensity Distribution Sections.
- 3. Twelve (12) 1.25 watt LED units shall be mounted on 1-inch x 22-inch metal cone printed circuit boards (MCPCB). The viewing angle shall be 120 degrees. LED shall have a color temperature of 5200k nominal, CRI of 80 with a life expectancy of 75,000 hrs.
- (g) Quality Assurance.

The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification. QA process and test result documentations shall be kept on file for a minimum period of seven (7) years. The LED Light Engine that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications. Each LED Light Engine shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of acceptance. LED Light Engines that exhibit luminous intensities less than the minimum value specified in Photometric Section within the first thirty-six (36) months from the date of acceptance shall be replaced or repaired.

### TEMPORARY INFORMATION SIGNING

Effective: November 13, 1996 Revised: January 2, 2007

<u>Description</u>. This work shall consist of furnishing, installing, maintaining, relocating for various states of construction and eventually removing temporary informational signs. Included in this item may be ground mount signs, skid mount signs, truss mount signs, bridge mount signs, and overlay sign panels which cover portions of existing signs.

Materials. Materials shall be according to the following Articles of Section 1000–Materials:

	<u>ltem</u>	Article/Section
a.)	Sign Base (Notes 1 & 2)	1090
b.)	Sign Face (Note 3)	1091
c.)	Sign Legends	1092
d.)	Sign Supports	1093
e.)	Overlay Panels (Note 4)	1090.02

Note 1. The Contractor may use 5/8 inch (16 mm) instead of 3/4 inch (19 mm) thick plywood.

- Note 2. Type A sheeting can be used on the plywood base.
- Note 3. All sign faces shall be Type A except all orange signs shall meet the requirements of Article 1106.01.
- Note 4. The overlay panels shall be 0.08 inch (2 mm) thick.

# GENERAL CONSTRUCTION REQUIREMENTS

Installation. The sign sizes and legend sizes shall be verified by the Contractor prior to fabrication.

Signs which are placed along the roadway and/or within the construction zone shall be installed according to the requirements of Article 701.14 and Article 720.04. The signs shall be 7 ft (2.1 m) above the near edge of the pavement and shall be a minimum of 2 ft (600 mm) beyond the edge of the paved shoulder. A minimum of two (2) posts shall be used.